



**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**

<b>Title - Sujet</b> Fab & Del 9m RIB w/Cabin	
<b>Solicitation No. - N° de l'invitation</b> M2989-172215/A	<b>Date</b> 2016-08-17
<b>Client Reference No. - N° de référence du client</b> M2989-172215	
<b>GETS Reference No. - N° de référence de SEAG</b> PW-\$XLV-166-7032	
<b>File No. - N° de dossier</b> XLV-6-39067 (166)	<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 2016-09-13</b>	
<b>Time Zone</b> <b>Fuseau horaire</b> Pacific Daylight Saving Time PDT	
<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> Castle, David G.	<b>Buyer Id - Id de l'acheteur</b> xlvl66
<b>Telephone No. - N° de téléphone</b> (250) 363-0110 ( )	<b>FAX No. - N° de FAX</b> ( ) -
<b>Destination - of Goods, Services, and Construction:</b> <b>Destination - des biens, services et construction:</b> ROYAL CANADIAN MOUNTED POLICE SEE HEREIN	

**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 - Pacific  
Region  
401 - 1230 Government Street  
Victoria, B. C.  
V8W 3X4

<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/ de l'entrepreneur (taper ou écrire en caractères d'imprimerie)</b>	
<b>Signature</b>	<b>Date</b>

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M2989-172215/A  
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Amd. No. - N° de la modif.  
File No. - N° du dossier  
XLV-6-39067

Buyer ID - Id de l'acheteur  
xlV166  
CCC No./N° CCC - FMS No./N° VME

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## **PART 1 - GENERAL INFORMATION**

### **1.1 Security Requirements**

There is no security requirement associated with this bid solicitation.

### **1.2 Statement of Work**

The Royal Canadian Mounted Police have a requirement for the supply and delivery of one (1), 9.8 meter to 10 meter, Aluminum Rigid Hull Inflatable vessel with enclosed cabin, including outboard motors and trailer in accordance with the Technical Statement of Requirement at Annex A. All deliverables are desired to be delivered on or before Nov 30, 2016.

Delivery of unit is to 2881 Nanaimo St. Victoria, BC. V8T 4Z8

There is an option to acquire one (1) additional boat with trailer.

### **1.3 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 of receipt of the results of the bid solicitation process. The debriefing may be in writing, by telephone or in person.

### **1.4 Trade Agreements**

This requirement is subject to the provisions of the Agreement on Internal Trade (AIT).

## **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-manua>) 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 (2016-04-04) 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  
A9125T, 2007-05-25, Valid Labour Agreement

### **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.

### **2.3 Enquiries - Bid Solicitation**

All enquiries must be submitted in writing to the Contracting Authority no later than 4 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.

#### **2.5 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 five (5) working days before the bid closing date. Canada will have the right to accept or reject any or all suggestions.

## **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  
Section II: Financial Bid – One (1) hard copy  
Section III: Certifications - One (1) 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 (216mm 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.

### **3.2 Section I - Technical Bid**

In their technical bid, bidders should demonstrate their understanding of the requirements contained in the bid solicitation and explain how they will meet these requirements. Bidders should demonstrate their capability in a thorough, concise and clear manner for carrying out the work.

In order to demonstrate their capabilities, the bidders must use the **ANNEX H - TECHNICAL EVALUATION PLAN, using column B ONLY** in responding to the technical requirements of the solicitation.

The technical bid must demonstrate that the proposed crafts will be mechanically sound, completely seaworthy, and operable and fit in all respects for the purposes intended.

#### **3.2.1 Bidder's Check List and Technical Confirmation**

The Bidders must submit a fully completed **Annex G - BID PACKAGE CHECKLIST** as part of their Technical Bid.

#### **3.2.2 Inspection and Test Plan (ITP)**

1. Bidders must provide with their bid the inspection plan and testing procedures that will be used to verify, test and inspect all of the components and systems on the boat from initial construction to completion. The ITP must be in accordance with **Annex C** attached to this RFP.
2. Bidders must outline the process by which they will address and solve problems or delays with the fabrication, various installations, testing and delivery of the boat.

#### **3.2.3 Drawings and Other Documentation**

**Prescribed drawings format and documentation to be provided with the bid:**

- A general arrangement.
- Structural Drawings showing Deck Plan, a Centerline profile.

- A detailed Lines Plan.
- A drawing of the fuel supply arrangement.
- A drawing of bilge pumping system
- Electrical one-line diagram.
- The lightship weight.
- Draft Stability Calculation of the proposed vessel

### 3.2.4 Subcontractors

As part of their Technical Bid, Bidders must submit a completed **Annex E, Subcontractor List**.

### 3.2.5 Vessel Construction Experience

The Bidder must provide objective evidence of experience in the construction of vessels of the size, type and complexity which are the subject of this RFP. To demonstrate this experience, the Bidder must provide

- (a) detailed list of such vessels built pursuant to TP 1332, Construction Standards for Small Vessels, Non-pleasure craft latest edition, within the last 5 years;
- (b) photographs of vessels of listed;
- (c) (for listed TP 1332, non-pleasure craft sold within the last 5 years only) purchaser's name and contact information, and the date of sale.

The Bidder must also provide details on how the materials and equipment used in the construction, manufacture of the proposed vessel is suited to the operating and environmental conditions that the vessel may encounter.

### 3.2.6 Naval Engineering Capability

The Bidder must provide objective evidence that it has either in-house capabilities, or has a written commitment for the duration of the Contract from a qualified sub-contractor to provide marine drafting and engineering services. Qualified sub-contractor is defined as having the provided these services on similar vessel construction projects (same size, type and complexity).

### 3.2.7 Contractor's Quality Management System

1. The Bidder must provide objective evidence that it has a Quality Assurance Program, which must be in place during the performance of the Work, and which addresses the quality control elements below.
2. The objective evidence may be in the form of a copy of the Bidder's Quality Assurance Manual which addresses these elements.
3. The Bidder must also provide a minimum of one (1) samples of completed quality records used on the most recent marine vessel construction at its facility.
4. The quality control elements must include, as a minimum:

Quality Assurance Manual or Quality Assurance Program Descriptions  
Inspection and Test Plan  
Final Inspection  
Quality Records

### 3.2.8 Insurance Requirements

The Bidder must provide a letter from an insurance broker or an insurance company licensed to operate in Canada stating that the Bidder, if awarded a contract as a result of the bid solicitation, can be insured in accordance with the Insurance Requirements specified in *Part 6 - Resulting Contract, Clause 6.19*.

If the information is not provided in the bid, 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.

## 3.3 Section II - Financial Bid

Bidders must submit their financial bid in accordance with the **Detailed Financial Bid Presentation Sheet at Annex D**.

### **3.3.1 Exchange Rate Fluctuation**

C3011T, 2013-11-06, Exchange Rate Fluctuation

### **3.3.2 Financial Capability**

A9033T, 2012-07-16, Financial Capability

### **3.3.3 Unscheduled Work**

Bidders must provide the information requested in Annex D, Article D-2. The unscheduled work rates will be included in the Basis of Payment but will not form part of the bid evaluation.

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

Bidders must submit the certifications required under Part 5.

## **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**

##### **4.1.1.1 Mandatory Technical Criteria**

In order to be compliant, the Bidder's proposal must, to the satisfaction of Canada:

- a) Meet all requirements of the Annex A, TSOR; and
- b) Provide all information as requested in PART 3 - BID PREPARATION INSTRUCTIONS

#### **4.1.2 Financial Evaluation**

SACC *Manual* Clause A0222T (2013-04-25), Evaluation of Price.

### **4.2 Basis of Selection**

A bid must comply with the requirements of the bid solicitation and meet all mandatory technical evaluation criteria to be declared responsive as per Annex H - Evaluation plan. The responsive bid with the lowest evaluated price will be recommended for award of a contract.

A mandatory requirement is described using the words "shall", "must", "will" "is required" or "is mandatory."



## **PART 5 - CERTIFICATIONS**

Bidders must provide the required certifications and associated 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 in carrying out any of its obligations under the Contract, 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 verify the Bidder's certifications. Failure to comply and to cooperate with any request or requirement imposed by the Contracting Authority may 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 Integrity Provisions - Declaration of Convicted Offences**

In accordance with the Ineligibility and Suspension Policy (<http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html>), the Bidder must provide with its bid the required documentation, as applicable, 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 – Required Documentation**

In accordance with the Ineligibility and Suspension Policy (<http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html>), the bidder must provide the required documentation, as applicable, to be given further consideration in the procurement process.

#### **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](http://www.labour.gc.ca/eng/standards_equity/eq/emp/fcp/list/inelig.shtml)" 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 Requirement**

There is no security requirement applicable to this Contract.

### **6.2 Statement of Work**

The Contractor must perform the Work in accordance with the Technical Statement of Requirement at Annex "A".

#### **6.2.1 Optional Goods**

The Contractor grants to Canada the irrevocable option to acquire up to one (1) additional boat with trailer, as described at Annex A of the Contract under the same conditions and at the prices stated in the Contract. The option may only be exercised by the Contracting Authority and will be evidenced, for administrative purposes only, through a contract amendment.

The Contracting Authority may exercise the option within twelve (12) months after contract award by sending a written notice to the Contractor.

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

#### **6.3.1 General Conditions**

**2030, (2016-04-04)** Goods (Higher Complexity) apply to and form part of the Contract.

#### **6.3.2 Supplemental General Conditions**

**1028, 2010-08-16**, Ship Construction - Firm Price, apply to and form part of the Contract.

**Conduct of Work.** The Supplemental General Conditions 1028, Article 02 (2010-08-16) Conduct of Work, Paragraph 1. Canadian Labour is deleted in its entirety.

**Warranty.** The Supplemental General Conditions 1028, Article 12 (2010-08-16) – Warranty, Paragraph 3 is deleted and replaced with the following:

The warranty periods for the vessel, from the date of its delivery to and acceptance by Canada, are:

- a) Twelve (12) months for the boat propelling machinery and auxiliaries, fittings and equipment of all kinds (excluding Government Supplied Material).
- b) Twenty four (24) months for the vessel hull and welding.

### **6.4 Term of Contract**

#### **6.4.1 Delivery Date**

All the deliverables must be received on or before \_\_\_\_\_.

#### **6.4.2 Delivery Locations**

RCMP E Division  
2881 Nanaimo St.  
Victoria, BC V8T 4Z8

#### **6.4.3 Shipping Instructions – Delivery at Destination**

1. Goods must be consigned to the destination specified in the contract and delivered CIP, Carriage and Insurance Paid, to the destination listed in 6.4.2 Incoterms 2000 for shipments from a commercial contractor.
2. The Contractor is responsible for all delivery charges from the Contractor's facility to destination, including administration costs, insurance and risk of transport.

#### **6.4.4 Delivery and Unloading**

1. Delivery trucks must be equipped with an unloading device which will permit unloading at sites with no hydraulic, stationary or other type of unloading facility.
2. When making deliveries, sufficient personnel must be provided to permit unloading of any type of vehicle without the assistance of federal government personnel.

#### **6.5 Authorities**

##### **6.5.1 Contracting Authority**

The Contracting Authority for the Contract is:

Name: Dave Castle  
Title: Supply Specialist, Acquisitions, Marine  
Public Works and Government Services Canada  
Acquisitions Branch  
Address: Suite 401 - 1230 Government Street, Victoria B.C. V8W 3X4  
Telephone: 250-363-0110  
Facsimile: 250-363-3960  
E-mail address: david.castle@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 Inspection Authority**

The Inspection Authority for the Contract is provided upon contract award

The Inspection Authority is the representative of the department or agency for whom the Work is being performed under the Contract and is responsible for inspection of the Work and acceptance of the finished work. The Inspection Authority may be represented on-site by a designated inspector and any other Government of Canada inspector who may from time to time be assigned in support of the designated Inspector.

##### **6.5.4 Contractor's Representative**

Name and telephone numbers of the person responsible for:

General Enquiries:

Name: \_\_\_\_\_ Telephone Number: \_\_\_\_\_

Facsimile Number: \_\_\_\_\_ E-mail address: \_\_\_\_\_

Delivery Follow-up:

Name: \_\_\_\_\_ Telephone Number: \_\_\_\_\_

Facsimile Number: \_\_\_\_\_ E-mail address: \_\_\_\_\_

## 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 of \$ \_\_\_\_\_. Customs duties and Goods and Services Tax or Harmonized 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.

### 6.6.2 Charge-out Labour Rate / Material Mark-up

The following rates are included in the Basis of Payment and must remain valid for the duration of the contract:

Charge-out Labour Rate: \_\_\_\_\_

Mark-up on Materials and Sub-Contracts: 10%

### 6.6.3 Unscheduled Work:

#### a) Price Breakdown:

The Contractor must, upon request, provide a price breakdown for all unscheduled work, by specific activities with trades, person-hours, material, subcontracts and services.

#### b) Pro-rated Prices:

Hours and prices for unscheduled work will be based on comparable historical data applicable to similar work at the same facility, or will be determined by pro-rating the quoted work costs in the Contract when in similar areas of the vessel.

#### c) Payment for Unscheduled Work:

The Contractor will be paid for unscheduled work arising, as authorized by Canada. The authorized unscheduled work will be calculated as follows:

6.6.3.1 Number of hours (to be negotiated) X \$\_\_\_\_\_, being the Contractor's firm hourly charge-out labour rate which includes overhead and profit, plus net laid-down cost of materials to which will be added a mark-up of 10 percent, customs duties are included and applicable taxes are extra. The firm hourly charge-out labour rate and the material mark-up will remain firm for the term of the Contract and any subsequent amendments.

6.6.3.2 Notwithstanding definitions or usage elsewhere in this document, or in the Contractor's Cost Management System, when negotiating *Hours* for unscheduled work, PWGSC will consider only those hours of labour directly involved in the production of the subject work package. Elements of *Related Labour Costs* identified in 6.3.3.3, will not be negotiated, but will be compensated for in accordance with 6.3.3.3.

6.6.3.3 Allowance for *Related Labour Costs* such as: Management, Direct Supervision, Purchasing and Material Handling, Quality Assurance and Reporting, First Aid, Gas Free Inspecting and Reporting, and Estimating will be included as *Overhead* for the purposes of determining the *Charge-out Labour Rate* set out in clause 6.6.2

6.6.3.4 The 10% mark-up rate for materials will also apply to subcontracted costs. The mark-up rate includes any allowance for material and subcontract management not allowed for in the Charge-out Labour Rate. The Contractor will not be entitled to a separate labour component for the purchase and handling of materials or subcontract administration.

### 6.6.4 Payment for Fuels, Oils and Lubricants

The Contractor is responsible for the supply and cost of all fuel, lubricating oil, hydraulic oil and other lubricants sufficient for fully charging all systems as required for operating the machinery and other equipment and for performing all tests and trials.

#### **6.6.5 Field Engineering and Supervisory Services**

If Field Service Representatives (FSR) and/or Supervisory Services are required for the Work, the cost of all such services is to be included in the price for the Work.

#### **6.6.6 Limitation of Price**

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.

#### **6.6.7 Method of Payment - Single Payment**

Canada will pay the Contractor upon completion and delivery of the work in accordance with the payment provisions of the Contract if:

- a. an accurate and complete invoice and any other documents required by the Contract have been submitted in accordance with the invoicing instructions provided in the Contract;
- b. all such documents have been verified by Canada;
- c. the Work delivered has been accepted by Canada.

#### **6.7 Invoicing Instructions**

1. The Contractor must submit invoices in accordance with the information required in Section 13 of 2030 General Conditions Higher Complexity Goods, article 6.6.7 Method of Payment.
2. Invoices must be distributed as follows:
  - a. The original and one (1) copy must be forwarded to the following address for certification and payment.  
Royal Canadian Mounted Police  
Regional Fleet Management  
1101 – 45337 Calais Crescent  
Chilliwack, BC V2R 2S7
  - b. One (1) copy of the original invoice must be forwarded to the Contracting Authority identified in section 6.5.1.

#### **6.7.1 Warranty Holdback**

A warranty holdback of 3% will be applied to the claim(s) for payment. This holdback is payable by Canada upon the expiry of the warranty holdback period of twelve (12) months applicable to the Work. Goods and Services Tax or Harmonized sale Tax (GST/HST), as appropriate, is to be calculated and paid on the total amount of the claim before the 3 percent holdback is applied. At the time that the holdback is released, there will be no GST/HST payable, as it was included in the previous payments.

#### **6.7.2 Outstanding Work Holdback**

In addition to any amount held under the Warranty Holdback Clause, a holdback of twice the estimated value of outstanding work will be held until completion of the Work. Applicable Taxes will be calculated on this outstanding work holdback amount and paid at the time that the outstanding work holdback is released.

## 6.8 Certifications

Compliance with the certifications 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 or 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 Welding Certification – Contract

1. The Contractor must ensure that welding is performed by a welder certified by the Canadian Welding Bureau (CWB) in accordance with the requirements of the following Canadian Standards Association (CSA) standards:
  - (a) CSA W47.2-M1987 (R2003), Certification for Companies for Fusion Welding of Aluminum division 2.1.
2. In addition, welding must be done in accordance with the requirements of the applicable drawings and specifications.
3. Before the commencement of any fabrication work, and upon request from the Inspection Authority, the Contractor must provide approved welding procedures and/or a list of welding personnel he intends to use in the performance of the Work. The list must identify the CWB welding procedure qualifications attained by each of the personnel listed and must be accompanied by a copy of each person's current CWB welding certification.

## 6.10 Project Schedule

1. The Contractor must provide a detailed project schedule in MS Project format or equivalent to the Contracting Authority and the Technical Authority **5 days after award of Contract**. This schedule must highlight the specific dates for the events listed below.
  - (a) hull materials delivered to Contractor and sustained construction commenced;
  - (b) hull and deck completed, but not closed in to allow for full inspection of the structure and welding. The Contractor must supply a hard copy of the material certificates and construction drawings to the Technical/Inspection Authority one week prior to inspection by the Technical/Inspection Authority;
  - (c) outfitting/electrical 75% complete but all equipment and components delivered to the Contractor and available for full inspection. The Contractor must supply a hard copy of the list of equipment and electrical supplies to the Technical/Inspection Authority one week prior to inspection by the Technical/Inspection Authority;
  - (d) technical manuals delivered to Canada for approval (no less than 14 days prior to the planned delivery date);
  - (e) Contractor's tests and trial and final sea trials required by the SOW;
  - (f) boat and trailer delivered to Canada for approval;
  - (g) the start and the end of the twelve (12) month warranty period.

*Note: Technical Manuals will not be returned once approved.*

2. The schedule is to be regularly updated and available in the Contractor's office for review by Canada's authorities to determine the progress of the Work.

## 6.11 Progress Reports

1. The Contractor must submit monthly reports on the progress of the Work in an electronic format to the Technical Authority and to the Contracting Authority.
2. The progress report must contain two (2) Parts:
  - (a) PART 1: The Contractor must answer the following three questions:
    - (i) is the project on schedule?
    - (ii) is the project within budget?

- (iii) is the project free of any areas of concern in which the assistance or guidance of Canada may be required?

Each negative response must be supported with a clarification.

- (b) PART 2: A narrative report, brief, yet sufficiently detailed to enable the Technical Authority to evaluate the progress of the Work, containing as a minimum:
- (i) a description of the progress of each task and of the Work as a whole during the period of the report. Sufficient sketches, diagrams, photographs, etc., must be included, if necessary, to describe the progress accomplished.
  - (ii) reasons for any variation from the schedule.

#### 6.12 SACC Manual Clauses

B9035C - Progress Meetings	2008-05-12
B5007C - Procedures for Design Change or Additional Work	2010-01-11
D3015C - Dangerous Goods/Hazardous Products	2007-11-30
D0018C - Delivery and Unloading	2007-11-30
C0711C - Time Verification	2008-05-12

#### 6.13 Trade Qualifications

The Contractor must use qualified, certified (where applicable) and competent tradespeople and supervision to ensure a uniform high level of workmanship. The Contracting Authority may request to view and record details of the certification and/or qualifications held by the Contractor's tradespeople. This request should not be unduly exercised but only to ensure qualified tradespeople are on the job.

#### 6.14 Quality Management Systems

1. The Contractor must have in place a Quality Assurance Program approved by the Inspection Authority during the performance of the Work which addresses the quality control elements below.
2. The quality control elements must include, as a minimum:
  - Quality Assurance Manual or Quality Assurance Program Descriptions
  - Inspection and Test Plan
  - Final Inspection
  - Quality Records
3. The Contractor's facilities may be audited by Canada, or its authorized representative, during the performance of the Work to ensure that the approved system is in place and in accordance with the foregoing requirement.
4. The Contractor will be required to submit completed quality assurance documentation with each claim for payment as applicable.

#### 6.15 Post Contract Award/Pre-Production Meeting

Within three (3) working days of the receipt of the contract, the Contractor must contact the Contracting Authority to determine the details of a pre-production meeting. The meeting will be held at the Contractor's plant or via telephone or video conference. The Cost of holding such a pre-production meeting must be included in the price of the bid. Please note that the travel and living expenses for Government Personnel will be arranged and paid for by the Canada.

#### 6.16 Manuals

1. The Contractor must obtain and deliver to the Technical Authority for approval, all Data Books, Operating Instruction Books, Maintenance Manuals and Spare Parts Lists (including part numbers and ordering instructions) for all machinery and equipment fitted on the Vessel as required. Once approved by the TA, the Contractor must provide two (2) complete copies in accordance with and as specified in the **TSOR, Section 28**.

2. Where manuals are examined by Canada, such examination does not relieve the Contractor of any responsibility under the Contract for ensuring the correctness of all details and adequacy of performance of the Vessel, nor does it obligate Canada to accept, in whole or in part, an item of Work completed in accordance with such manual, nor does it mean such an item of Work meets the requirements of the TSOR.

#### **6.17 Inspection, Test & Trials**

1. During Construction of the vessel, the Contractor must arrange for regular inspections and upon completion of the construction of the vessel, the Contractor must arrange trials. All Inspections and test and trials performed must be in accordance with the TSOR and the **Annex C** - Inspection/Quality Assurance/Quality Control. The Inspection Authority must approve any additional testing not specified in the TSOR.
2. The Contractor must update as required the Inspection and Test Plan (ITP) provided with its bid and submit to the Contracting Authority and the Inspection Authority seven (7) days after contract award for review and approval.
0. Once approved, any modification to the ITP must be pre-approved by the Inspection Authority. A revised ITP will be required should any modification be made.

#### **6.18 Government Supplied Material (GSM)**

As per the Annex A – Technical Statement of Requirement, **Articles 13.3(d), 13.8 and 15.0** the Contractor must install the noted GSM.

#### **6.19 Insurance Requirements**

The Contractor must comply with the insurance requirements specified in **Articles 6.19.1** and **6.19.2** below. The Contractor must maintain the required insurance coverage for the duration of the Contract. Compliance with the insurance requirements does not release the Contractor from or reduce its liability under the Contract.

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

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

##### **6.19.1 Commercial General Liability Insurance**

1. The Contractor must obtain Commercial General Liability Insurance, and maintain it in force throughout the duration of the Contract, in an amount usual for a contract of this nature, but for not less than \$2,000,000 per accident or occurrence and in the annual aggregate.
2. The Commercial General Liability policy must include the following:
  - (a) Additional Insured: Canada is added as an additional insured, but only with respect to liability arising out of the Contractor's performance of the Contract. The interest of Canada should read as follows: Canada, as represented by Public Works and Government Services Canada.
  - (b) Bodily Injury and Property Damage to third parties arising out of the operations of the Contractor.



- (c) Products and Completed Operations: Coverage for bodily injury or property damage arising out of goods or products manufactured, sold, handled, or distributed by the Contractor and/or arising out of operations that have been completed by the Contractor.
- (d) Personal Injury: While not limited to, the coverage must include Violation of Privacy, Libel and Slander, False Arrest, Detention or Imprisonment and Defamation of Character.
- (e) Cross Liability/Separation of Insureds: Without increasing the limit of liability, the policy must protect all insured parties to the full extent of coverage provided. Further, the policy must apply to each Insured in the same manner and to the same extent as if a separate policy had been issued to each.
- (f) Blanket Contractual Liability: The policy must, on a blanket basis or by specific reference to the Contract, extend to assumed liabilities with respect to contractual provisions.
- (g) Employees and, if applicable, Volunteers must be included as Additional Insured.
- (h) Employers' Liability (or confirmation that all employees are covered by Worker's compensation (WSIB) or similar program).
- (i) Broad Form Property Damage including Completed Operations: Expands the Property Damage coverage to include certain losses that would otherwise be excluded by the standard care, custody or control exclusion found in a standard policy.
- (j) Notice of Cancellation: The Insurer will endeavour to provide the Contracting Authority thirty (30) days written notice of policy cancellation.
- (k) If the policy is written on a claims-made basis, coverage must be in place for a period of at least 12 months after the completion or termination of the Contract.
- (l) Owners' or Contractors' Protective Liability: Covers the damages that the Contractor becomes legally obligated to pay arising out of the operations of a subcontractor.
- (m) Litigation Rights: Pursuant to subsection 5(d) of the Department of Justice Act, S.C. 1993, c. J-2, s.1, if a suit is instituted for or against Canada which the Insurer would, but for this clause, have the right to pursue or defend on behalf of Canada as an Additional Named Insured under the insurance policy, the Insurer must promptly contact the Attorney General of Canada to agree on the legal strategies by sending a letter, by registered mail or by courier, with an acknowledgement of receipt.

For the province of Quebec, send to: Director Business Law Directorate,  
Quebec Regional Office (Ottawa),  
Department of Justice,  
284 Wellington Street, Room SAT-6042, Ottawa, Ontario, K1A 0H8

For other provinces and territories, send to: Senior General Counsel,  
Civil Litigation Section, Department of Justice  
234 Wellington Street, East Tower  
Ottawa, Ontario K1A 0H8

A copy of the letter must be sent to the Contracting Authority. Canada reserves the right to co-defend any action brought against Canada. All expenses incurred by Canada to co-defend such actions will be at Canada's expense. If Canada decides to co-defend any action brought against it, and Canada does not agree to a proposed settlement agreed to by the Contractor's insurer and the plaintiff(s) that would result in the settlement or dismissal of the action against Canada, then Canada will be responsible to the Contractor's insurer for any difference between the proposed settlement amount and the amount finally awarded or paid to the plaintiffs (inclusive of costs and interest) on behalf of Canada.

## 6.19.2 Marine Liability Insurance

1. The Contractor must obtain Protection & Indemnity (P&I) insurance that must include excess collision liability and pollution liability. The insurance must be placed with a member of the International Group of Protection and Indemnity Associations or with a fixed market in an amount of not less than the limits determined by the Marine Liability Act, S.C. 2001, c. 6. Coverage must include crew liability, if it is not covered by Worker's Compensation as detailed in paragraph (2.) below.
2. The Contractor must obtain Worker's Compensation insurance covering all employees engaged in the Work in accordance with the statutory requirements of the Territory or Province or state of nationality, domicile, employment, having jurisdiction over such employees. If the Contractor is assessed any additional levy, extra assessment or super-assessment by a Worker's Compensation Board, as a result of an accident causing injury or death to an employee of the Contractor or subcontractor, or due to unsafe working conditions, then such levy or assessment must be paid by the Contractor at its sole cost.
3. The Protection and Indemnity insurance policy must include the following:
  - (a) Additional Insured: Canada is added as an additional insured, but only with respect to liability arising out of the Contractor's performance of the Contract. The interest of Canada as additional insured should read as follows: Canada represented by Public Works and Government Services Canada.
  - (b) Waiver of Subrogation Rights: Contractor's Insurer to waive all rights of subrogation against Canada as represented by Department of Fisheries and Oceans and Public Works and Government Services Canada for any and all loss of or damage to the watercraft however caused.
  - (c) Notice of Cancellation: The Insurer will endeavour to provide the Contracting Authority thirty (30) days written notice of cancellation.
  - (d) Cross Liability/Separation of Insureds: Without increasing the limit of liability, the policy must protect all insured parties to the full extent of coverage provided. Further, the policy must apply to each Insured in the same manner and to the same extent as if a separate policy had been issued to each.
  - (e) Litigation Rights: Pursuant to subsection 5(d) of the Department of Justice Act, S.C. 1993, c. J-2, s.1, if a suit is instituted for or against Canada which the Insurer would, but for this clause, have the right to pursue or defend on behalf of Canada as an Additional Named Insured under the insurance policy, the Insurer must promptly contact the Attorney General of Canada to agree on the legal strategies by sending a letter, by registered mail or by courier, with an acknowledgement of receipt.

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284 Wellington Street, Room SAT-6042, Ottawa, Ontario, K1A 0H8

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Ottawa, Ontario K1A 0H8

A copy of the letter must be sent to the Contracting Authority. Canada reserves the right to co-defend any action brought against Canada. All expenses incurred by Canada to co-defend such actions will be at Canada's expense. If Canada decides to co-defend any action brought against it, and Canada does not agree to a proposed settlement agreed to by the Contractor's insurer and the plaintiff(s) that would result in the settlement or dismissal of the action against Canada, then Canada will be responsible to the Contractor's insurer for any difference between the proposed settlement amount and the amount finally awarded or paid to the plaintiffs (inclusive of costs and interest) on behalf of Canada.

## 6.20 Applicable Laws

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

## 6.21 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.

1. The Articles of Agreement;
2. The Supplemental General Conditions **1028, 2010-08-16**, Ship Construction - Firm Price;
3. The General Conditions **2030, 2016-04-04**, Goods (Higher Complexity);
4. Annex A - Statement of Work;
5. Annex B – Question & Answer;
6. Annex C, Inspection/Quality Assurance/Quality Control;
7. Annex D, Basis of Payment;
8. The Contractor's bid dated \_\_\_\_\_.

## 6.22 Acceptance

1. The Inspection Authority, in conjunction with the Contractor, will prepare a list of outstanding work items at the end of the vessel's construction period. This list will form the annexes to the formal acceptance document for the vessel. A vessel acceptance meeting or telephone conference will be convened by the Inspection Authority on the work completion date of the vessel to review and sign off the form PWGSC-TPSGC 1105, Contractor's Certification.
2. The Inspection Authority must complete the above form and obtain the signatures of the Contractor and the Contracting Authority. The form will then be distributed by the Inspection Authority as follows:
  - a. one copy to the Contracting Authority;
  - b. one copy to the Technical Authority;
  - c. one copy to the Contractor.

## ANNEX A - STATEMENT OF WORK

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29.0	TRAILER

## **1.0 SCOPE**

- 1.1 Requirement: The Royal Canadian Mounted Police (RCMP) has a requirement for one (1) all welded 9.8 – 10 metre aluminum Rigid Hull Inflatable vessel with enclosed cabin, including outboard motors and trailer. The vessel must be delivered to 2881 Nanaimo Street, Victoria, British Columbia V8T 4Z8
- 1.2 Background: The primary role for this vessel will be border enforcement, including tactical operations and surveillance, interception, boarding, emergency response and Search and Rescue (SAR) operations.

## **2.0 GENERAL**

- 2.1 The vessel must be of commercial construction and suitably stiffened for the coastal waters of British Columbia within a twenty-five (25) mile range. All parts and equipment must be of a marine grade capable of withstanding the rigors of a severe marine environment.
- 2.2 Vessel must be designed and constructed for ease of maintenance, repair and must be readily supportable by local commercial facilities and suppliers. All components, all mechanical, auxiliary, electronic and electrical equipment installed on the boat, must be supportable by parts and service within fifteen (15) days.
- 2.3 CFM: All materials, equipment and components must be Contractor Furnished Materials (CFM), unless specified otherwise.
- 2.4 GSM: Only materials which are specifically designated as Government Supplied Materials (GSM) will be provided by Canada. The RCMP will provide such materials to the Contractor and the Contractor must be responsible for the care and custody, correct installation, and delivery of such materials back to Canada together with the completed vessel.
- 2.5 Wherever actual brand or model names are referenced, equivalent or superior equipment may be considered. Bidder must provide supporting documentation to validate choice.
- 2.6 Contractor must standardize on selection of equipment, fittings and fabrication methods to facilitate replacement, inter-changeability of parts, maintenance procedures and operator training. All components and equipment must be current production models.
- 2.7 Contractor must provide a letter to confirm vessel has been constructed and outfitted to the standards addressed herein. Letter must be on company letterhead.
- 2.8 Inspector: The term "Inspector" means the Inspection Authority identified in the Contract, or his representative.
- 2.9 Contracting Authority: The term "Contracting Authority" means the Contracting Authority identified in the Contract.

## **3.0 BIDDER'S PROPOSAL**

- 3.1 The Bidder must submit a proposal that clearly demonstrates the vessel and equipment offered meets or exceeds the mandatory requirements specified herein.
- 3.2 The Bidder must submit the following drawings showing all vessel dimensions and clearly labelled to identify the type of drawing being offered. Maximum details must be provided to effectively demonstrate the bidder has met the requirements herein:
- A) General Arrangement
  - B) Side Profile
  - C) Cabin Interior
  - D) Fuel Tank location, including filling and venting arrangements
  - E) Bilge pump arrangement
  - F) Lines plan

## **4.0 VESSEL PARTICULARS**

### **4.1 Physical Characteristics:**

- A) Length of Hull - bow to transom (excluding collar) – 9.8 meters (minimum) - 10 meters (maximum)
- B) Breadth Overall – (collar deflated) – 3.1 meters (minimum) – 3.2 meters (maximum)
- D) Draft (outboard motor lowered) maximum 1.0 meters
- E) Draft (outboard motor raised) maximum 0.6 meters

### **4.2 Normal Load Condition:**

- A) Crew – four (4) persons – 120 kg/person
- B) Fuel tanks full
- C) Equipment and supplies – 300 kg.

#### **4.3 Vessel Tonnage Measurement**

It is a MANDATORY REQUIREMENT that the registered tonnage of the vessel must not be greater than five (5) tons - the Contractor must complete and provide the "Simplified Tonnage Measurement" form demonstrating that this requirement has been met.

### **5.0 OPERATIONAL PERFORMANCE**

- 5.1 The completed vessel must be of sufficient strength to withstand the lateral, vertical impact- loading that equates to the conditions of the Operational Profile when in Normal or Maximum Load Conditions.
- 5.2 Minimum speed – 40-50 knots
- 5.3 Cruising speed – 30 knots
- 5.4 Range: approximately 250 nautical miles at cruising speed with 10% fuel reserve
- 5.5 Full plane within 4 seconds at full acceleration.
- 5.6 Full power - (3) hours
- 5.7 Cruising power - (10) hours (recommended RPM by engine manufacturer)
- 5.8 Slow speed operation – (10) hours (approx. 1500 RPM)
- 5.9 The Maximum Load Condition(s) must be calculated to determine the maximum number of persons and weight allowable for each of the design categories identified in the Transport Canada "Small Craft Stability Standard ISO12217-1. Maximum Load Condition(s) must be clearly identified on capacity plate.

### **6.0 ENVIRONMENTAL CONDITIONS**

- 6.1 Vessel must be capable of operating both day and night and must maintain a stable platform when operated at varying speeds during any of the following conditions:
  - A) Average ambient air temperature: -10 degrees C to 35 degrees C
  - B) Average water temperature: 0 degrees C to 25 degrees C
  - C) Wave heights: 0 - 5.0 meters
  - D) Wind speed: 0 - 35 knots
  - E) Operate in freezing spray or freezing rain with accumulations of up to 6.0 mm.
  - F) Operate fully in depths of 1 metre with outboard motor(s) lowered.
  - G) Basic maneuvering in depths of 0.80 metre with outboard motor(s) in partially raised position.

### **7.0 CONSTRUCTION STANDARDS**

- 7.1 The vessel must be constructed and comply at a minimum with the current issue of Transport Canada TP 1332 "Construction Standards for Small Vessels" and American Bureau Yacht Council (ABYC) where applicable.
- 7.2 Canadian Standards Association C22.2 NO.183.2-M1983 (R1999) "Standards for D.C. Electrical Installations" and American Bureau Yacht Council (ABYC) where applicable.
- 7.3 The vessel must be constructed and comply to Transport Canada voyage classification of "Near Coastal II" / Design Category "B" and the ISO standard- 6185-2014 "Offshore Inflatable Boat"- Type VIII. Full structural and stability testing must be carried out as addressed in ISO standard.
- 7.4 All aluminum welding must be performed by a company that is certified in accordance with CSA Standard W47.2M 1987, Certification for Companies for Fusion Welding of Aluminum, Division 1 or 2.1. The minimum weld design must be in accordance with ABS Rules for Building and Classing Aluminum Vessels and CSA W59.2- M1992 "Welded Aluminum Construction"
- 7.5 Transport Canada Marine Safety Regulation TP 1324 – Coated Fabrics
- 7.6 Canada Shipping Act, Collision Regulation (COLREGS).
- 7.7 Transport Canada TP 13136 – Trailer

### **8.0 CONSTRUCTION PRACTICES**

- 8.1 All materials and equipment must be stored, installed and tested in accordance with the manufacturers' guidelines, recommendations and requirements.
- 8.2 Vessel and all components must be free of local vibration that could endanger crew, damage boat structure or interfere with the operation or maintenance of machinery & systems.
- 8.3 All equipment must be accessible for use, inspection, cleaning and maintenance. Measures must be taken to avoid wear and damage incident to construction, and to prevent corrosion and deterioration. Equipment subject

to freezing must be kept drained, except during sea trials. Equipment must be kept clean and protected from the environment.

- 8.4 Prior to painting, vessel must be free of construction marks such as gouges, magic marker, pencil, scratches, stains and welding smoke. All exposed metal surfaces (excluding deck) must be prepared and painted in such a way to insure long lasting adhesion with no paint blisters. Marine quality paint or coating for commercial use must be used. A minimum of two top coats must be applied.

## **9.0 ERGONOMIC DESIGN**

- 9.1 The design of the vessel must incorporate accessibility, visibility, readability, crew efficiency and comfort for a range of physiques from approx. 5' to 6'4" in height, wearing cold weather clothing and equipment. All rough edges and sharp angled corners must be rounded and ergonomically adapted.
- 9.2 Weather tight stowage for small items of equipment must be provided in void spaces, and where practical, inside console(s). All stowage compartments must be self-locking, secured by positive means and operable by gloved or insensitive hands. One Master key and two spare must be provided.

## **10.0 MATERIALS - GENERAL**

- 10.1 All materials must be corrosion resistant and suitable for use as detailed in the Environmental Conditions. All materials normally subjected to sunlight must resist degradation caused by ultraviolet radiation.
- 10.2 Any dissimilar metals must be insulated from each other.
- 10.3 Aluminum alloy types 5086, H116 must be used for plate; aluminum alloy 6061-T6 (anodized grade), suitable for type 5356 filler alloy, must be used for extruded shapes and welded tubing and pipe. Non-structural items of trim and outfit such as hatch frames, castings, consoles and hardware items must be of other aluminum alloys best suited for commercial marine salt water use such as dual rated 5083/86 or 5052.
- 10.4 Stainless steel type 316L or 316 must be used for all stainless steel applications.
- 10.5 Any fasteners directly threaded into aluminum alloys must be coated and threaded into the appropriate thickness of aluminum.
- 10.6 Where nuts can become inaccessible after assembly of the vessel, nuts must be captured to allow reassembly and prevent backing off. Unless otherwise specified, self-locking nut must be installed to prevent loosening of fasteners due to shock and vibration.

## **11.0 HULL DESIGN AND CONSTRUCTION**

- 11.1 Hull design must be a "V" style mono hull with a reverse chine flat that extends from transom to bow area. Lifting strakes must be fitted to allow for shallow water accessibility  
To re direct waves and spray away from vessel spray strakes must be fitted. Hull shape must not impede water flow to the propulsion unit.
- 11.2 Hull design must have a sufficient number of watertight compartments and/or flotation foam to allow for adequate stability and positive buoyancy in a flooded condition. Low smoke and flame spread or fire retardant flotation foam must be used.
- 11.3 Hull must be constructed of 1/4" plate for bottom and chine. Hull sides and decking must be a minimum 3/16" plate.
- 11.4 Hull must be transversely framed from keel to deck with reinforced longitudinal girders running from transom to as far forward as practical. Transom must be reinforced to support weight of engines and the accompanying thrust.
- 11.5 Welding must be continuous in the hull, deck, bow and transom and other areas subject to corrosion, vibration and impact.
- 11.6 Hull bottom on center line must be reinforced with a minimum 3/8" thick welded aluminum "beaching shoe" to allow for emergency beaching/grounding. Vertical stiffener must be fitted inside on centerline. Sea keeping capabilities and performance must not be affected.
- 11.7 The bow stem must be equipped with two eyes for securely attaching the bow line, trailer hook, safety line, etc.
- 11.8 Two water proof LED lights that are a spot/flood combination must be recessed into bow area below collar, one each side. They must be angled for slower speed travel 20-24 knots. Brand "Rigid" or equal.
- 11.9 The hull above the water line must be prepped and painted. Color must be a dark grey. Below the water line a suitable anti-fouling coating must be applied. Color must be flat black.

## **12.0 DECK CONSTRUCTION AND OUTFITTING**

- 12.1 Deck and the hull must be constructed of similar materials.

- 12.2 Deck must be self-draining by use of scuppers installed at transom. They must be designed for quick and effective drainage of deck area when vessel is at slow speed or stationary. Bow deck must have separate self-drainage.
- 12.3 Deck above the water tight compartments must have bolted hatches to allow easy access for repair of buoyancy compartments below. Hatches must be fitted to eliminate a tripping hazard. Material must be aluminum.
- 12.4 Deck area in companionway must have removable panel where practical, to allow for the inspection, maintenance, repair of hull and equipment below.
- 12.5 All walking decks must have a commercial grade, marine suitable non-skid coating applied. Color must be matte black. Non-skid tape is not acceptable.
- 12.6 All fasteners must be flush mounted to eliminate tripping and snagging hazards.
- 12.7 Four lift up type tie downs must be fitted to secure equipment along inside of aft deck. They must be of a suitable size and quality to withstand severe strain when in use. Material must be stainless steel.
- 12.8 Four pop-up type cleats for mooring, anchoring and towing must be securely mounted flush to deck. Location must be one cleat each side of sliding door and one each side at cabin edge aft. Size must be a minimum of eight inches. Material must stainless steel.
- 12.9 Four double bit bollards must be securely mounted. One on each side of bow, one on each side of transom. Bollard size must allow for one full turn and three figure eights when securing lines. Material must be welded aluminum.
- 12.10 Cruciform tow post used for EMERGENCY towing rated for 3000 lbs. (1360 kg.) must be permanently mounted to aft deck ahead of vessel thrust point. A hand cranked tow reel must be fitted at transom with 100 metres of buoyant 3/4 inch towline with eye/chaffing gear fitted at the tow end line. Tow reel must be equipped with a cover that can be quickly removed. An aluminum screen protection barrier must be installed to prevent aft egress and recoil of towing line. Hand rails of a suitable height must be installed on each side of screen barrier. Material must be welded aluminum pipe. Color must be flat black for all items.
- 12.11 A welded aluminum stowage box for anchor/ lines must be installed at bow. Locker must be self-draining, ventilated, fitted with suitable gasket, properly hinged and lockable. Color must be dark grey. Top of locker must have a commercial grade, marine suited non-skid applied. Color must be flat black. Aluminum hand rails of a proper height must be installed. Color must be flat black.
- 12.12 To prevent glare, all surfaces forward of cabin must be painted. Color must be flat black.

### **13.0 CABIN - GENERAL**

- 13.1 Cabin must be fully enclosed with a forward cuddy. Adequate working deck space must be arranged at both bow and transom. Cabin color must be dark grey.
- 13.2 Cabin width must extend to tube cradles with a minimum length of 2.75 meters and a minimum width of 2.43 meters. Base of cabin side(s) must be designed as walking deck(s) for the safe passage of crew members to bow and transom areas. Cabin roof aft must extend beyond cabin door to provide shelter.
- 13.3 All interior including cuddy must be properly insulated with thermal insulation. It must be neatly installed and firmly secured. Insulation coverage to include window frames. A wall cladding material must be securely fitted over the insulation. It must be fire retardant, low maintenance and able to withstand low temperatures without cracking or breakage. Color must be dark grey.
- 13.4 A complete Head system must be installed. A shelf for stowage must be fitted above toilet. The size must encompass the maximum width and length allowed in area. Shelf must be hinged on one end and the other end equipped with a quick release mechanism to hold shelf in an up or down position. Privacy curtains must be installed. Head and pump out arrangement must meet both Federal and Provincial Regulations.
- 13.5 Arrangements must be made for proper stowage of a light weight diesel generator with a built in fuel tank. Location must be near aft, below deck. Stowage area must be sound insulated and properly vented. The fuel tank must be hydrostatically or air tested approved. Tank must bear manufacturers' name, capacity and testing data. The generator brand - Genex 3.5KW or equal.
- 13.6 Floor covering in cabin including cuddy must be shock and sound absorbing rubber with embossed tread. Covering must not absorb water. Color must be black.
- 13.7 A total of sixteen welded aluminum grab rails must be fitted, securely attached and located for quick access. They must be painted the color in contrast to grab rail location. Color must be grey or flat black. Please see below the following locations:

- (2) - crew seats -one at each
- (1) - helm station- one on side of console going into forward cuddy
- (2) - co-pilot station- one on console, one on side of console going into forward cuddy



- (2) - side sliding door (interior) - one just forward of each
- (2) - cabin ceiling full length offset from passage way (one port, one starboard)
- (1) - aft sliding door (interior) starboard side
- (1) - aft sliding door (exterior) starboard side
- (1) - cuddy hatch (interior) starboard side
- (1) - cuddy hatch (exterior) above
- (1) - roof perimeter (exterior)
- (2) - cabin aft (outer exterior) vertical port and starboard

13.8 Contractor must install two (2) dual purpose Carbine/Shotgun racks to be supplied as GFE (Government Furnished Equipment). One rack must be mounted inside cuddy at hatch door positioned for quick access. Other rack must be mounted at aft seat starboard side below window ledge.

13.9 Every effort must be made to minimize sound inside cabin from ambient noise including sound from hull moving through water and waves. Noise level inside cabin with doors open must not exceed 80 db when operating at full speed in one meter waves. Any sound dampening material must not hinder inspection of the interior hull and cabin. Material must be non-combustible /flammable and resistant to absorbing any type of liquid or vapor.

## **13.1 CABIN - Windows**

### **13.1.1 Windows**

13.1.1 - Window design must allow for maximum lines of sight when coming alongside larger vessels/structures and when turning whether in a seated or standing position. Where practical all windows must be configured to reduce "blind spots".

13.1.2 - Windows must be ¼ inch thick laminated glass fitted into anodized aluminum frames. They must be Category "B" certified ICO6185 standards as per Transport Canada.

13.1.3 - Hardware for windows must be of a commercial grade able to withstand frequent use without damage. Material must be stainless steel. Sliding windows must have removable screens and must slide open to maximum capacity.

13.1.4 - Windshield must be an aft rake design with a minimum of two windows. Design of windshield must eliminate "blind spots" where practical.

13.1.5 - Each windshield must be equipped with a heavy-duty commercial grade wiper system with pantograph arm installed above windshield. Washer system must have a fluid reservoir of ten liters minimum. The helm and co-pilot stations each must have a control to operate all wipers.

13.1.6 – a minimum of sixteen windows must be located as follows:

- Two – crew seats – one at each
- One – helm station – one on side of console going into forward cuddy
- Two – co-pilot station – one on console, one on side of console going into forward cuddy
- Two – side sliding door (interior) - one just forward of each
- Two – cabin ceiling full length offset from passage way. (one port, one starboard)
- One – aft sliding door (interior) starboard side
- One – aft sliding door (exterior) starboard side
- One – cuddy hatch (interior) starboard side
- One – cuddy hatch (exterior) above

### **13.2 Doors**

13.2.1 - All doors must be designed to remain in an open position and close with ease. They must be weather tight, lockable and fitted with a suitable size sill to offset water from deck and overhead. Doors must allow exit/entry of person in full gear with ease. Material must be metal. Color must be same as cabin exterior.

13.2.2 - Doors must be located as follows:

- Two (2) (slide aft) - one at helm and one at co-pilot station to access side decks
- One (1) (slide port) - cabin aft to access aft deck

### 13.3 Consoles - General

13.3.1 - Two (2) separate welded aluminum consoles with walk thru access must be provided. Helm must be located on starboard side and co-pilot station on port side. Consoles must be painted with textured, coating resistant to wear from abrasion, scratching and chipping. The brand Zolatone or equal. Color must be matte black.

13.3.2 - Console face must be at an angle that maximizes a comfortable operating position with good visibility of all console equipment in a standing or seated position. Layout must be arranged in an ergonomic manner, to provide easy access to all light switches, controls, electrical panels and easy viewing of navigation, communication and propulsion instruments. Prior to installation Contractor must provide a drawing of proposed lay-out for review and approval by Technical/Inspection Authority.

13.3.3 - All electrical equipment and hardware must be installed in accordance with the manufacturer specifications and must be capable of operating simultaneously with any electronic equipment without causing interference to it or to the magnetic compass.

13.3.4 - Displays for the electronic equipment must be mounted on forward dash. A suitable size opening to access the equipment above for repair or replacement must be provided.

13.3.5 - Three brackets must be securely mounted on ceiling, center forward of consoles. The POLICE radio must be located in the center with a VHF radio on each side. Location must allow for easy access. POLICE radio and antennae will be supplied as Government Furnished Material (GFM)

### 13.4 Console - Helm Station

13.4.1 – The Contractor must supply and install the following items:

- A) Raymarine GC125 Touch multifunction display complete, interfaced with radar, sounder and FLIR camera.
- B) Raymarine Raystar 125 Plus GPS Sensor - model (E32119).
- C) Raymarine Raynet HS5 - model (A80007) with associated cabling and adaptors.
- D) Raymarine DSM30 Digital Sounder Module - model (E63074) with P319 low profile through hull transducer - model (E66013).
- E) Raymarine - AIS 350 Automatic Identifier (receive only) - model (E32157).
- F) Raymarine – Two ea. 218 DSC marine VHF radios with a 6DBA antennae-model (E43032)

### 13.5 Console - Co-Pilot Station

The Contractor must supply and install the following items:

- A) Raymarine GS165 Touch multifunction display complete pkg., interfaced with radar, sounder and camera..
- B) Thermal Imaging camera system. Camera must have pan/tilt capability with controls installed at co-pilot station. The brand Infinity optics FLIR – model (RNG-37X-TI). Keyboard controller – model (X5S IP PTZ/DVR/NVR) must be installed at co-pilot station. Image/controller must be interfaced with both the helm and co-pilot multifunction displays as well as other supported systems.
- C) Standard Horizon Loud Hailer/Fog Horn - model (VLH-3000).
- D) Cell phone signal boosting system with the on/off switch mounted on console. The antenna must be roof mounted.

### 13.6 Seating

13.6.1 - All seats must have welded aluminum framing with shock mitigation marine suspension. Upholstery must be of marine grade materials, resistant to tears, punctures and the deterioration due to environmental exposure. They must be able to support a weight of 130 kg safely. Color must be black.

13.6.2 - The helm and co-pilot seats must be designed to allow a standing or sitting position while providing full comfort and lateral support. Seats must have a high back adjustable fore, aft, and height. They must be equipped with folding arm rests and seat belts. Pistol grip style hand grips must be provided on co-pilot seat only. Shockwave S3 corbin high back drop down model – SW-S3-T1302 or equal. A suitable size foot rest must be provided at each console designed to not interfere when in a standing position.

13.6.3 - Two additional seats must be installed directly behind helm and co-pilot stations. Seats must have a high back, be adjustable fore, aft and height. They must be equipped with folding arm rests, seat belts and pistol hand grips. Shockwave S3 corbin high back drop down model – SW-S3-1300 or equal. A suitable size foot rest must be provided for each seat.

13.6.4 - Each seat must be securely mounted on a welded aluminum stowage box. An opening with a hinged door on the front face must be arranged with a suitable mechanism to hold in an open position. Size of the

opening must be maximized for quick and easy access. Boxes must be designed to best utilize interior space and maximize stowage capacity. Color must be black.

13.6.5 - A small work table must be mounted on back of co-pilot seat to provide a work area for crew member aft. It must be fold down with a minimum size of 14 inches wide and 12 inches deep. A robust locking mechanism with quick release must be fitted to keep table stable. It must be at proper height for quick access and comfort when in use.

13.6.6 - A large work table must be mounted behind helm for the purpose of a mobile work station. Table must be fold down and hinged to cabin wall. Size must allow for lap top computer with table dimensions of 20 inches wide and 14 inches deep minimum. A robust locking mechanism with quick release must be fitted to keep table stable. It must be at proper height for quick access and comfort when in use.

13.6.7 - All seat locations must have a cup/water bottle holder designed to fold close against cabin wall(s). Material must be metal.

13.6.8 - To allow for the safe stowage of small items such as binoculars, gloves, etc. an open-topped metal bin must be mounted on cabin wall at each seat (excluding helm). Location must be low to deck with quick access. Pinch points caused from shifting of seats must be considered in location of bins. Height of bin must be a minimum of five inches.

### 13.7 Interior Lighting

13.7.1 - To facilitate night time operations progressive dimmers for all equipment where practical, must be installed.

13.7.2 - Companionway ceiling must have lighting capable of illuminating the entire main cabin in either white or red light. A separate switch must be used for each color.

13.7.3 - Each seat overhead must have both a white and red LED light with dimmers installed. They must operate separate with a switch installed at each light.

13.7.4 - A chart lamp with red LED lighting and dimmer must be installed at each seat position.

13.7.5 - Cuddy and head must be fitted with an overhead 12 volt red/white light.

### 13.8 Heating and Cooling

13.8.1 - One complete diesel heating system to defrost windshield, side windows and heat cabin interior must be installed. Defroster must have a three speed fan blowing either warm or cold air, capable of clearing entire windshield. Heat ducts must be located at all four seat positions close to deck. Heat duct material must be heavy duty. System must be controlled by a dash mounted thermostat. The brand Espar D4 Airtronic heater system or equal.

13.8.2 - An air conditioning unit must be installed to provide effective cooling inside cabin and cuddy. All outlets facing the companionway must be guarded or inset to avoid being damaged. The air conditioning unit must have isolation valves installed in such a manner that its entire system can be winterized to allow for operating the vessel in below freezing conditions.

13.8.3 - Four commercial grade fans must be installed to provide effective cooling inside cabin and cuddy. Fan must be multi directional providing a high level of air flow with no noise. It must have quick connect / disconnect type fittings for easy change-out. Each fan must be located in cabin corner securely mounted to prevent shifting when in rough weather or when being trailered. Material must be metal.

13.8.4 - A hatch must be securely fitted on cabin roof to provide additional interior ventilation. Size must be a minimum of eighteen inches fitted with removable screen. Hatch cover must be weather tight, lockable and equipped with a suitable and robust mechanism to allow door to remain in an open position and close with ease. Location must be the center of cabin.

13.8.5 - A minimum of two vents, one in the cuddy and one in the head must be installed to provide natural air flow from outside. Vents must be weather tight, adjustable and the proper size to provide effective air flow thru out. Vents must be controlled from inside. Material must be heavy duty.

### 13.9 Cuddy

13.9.1 - Cuddy must be designed to provide maximum stowage with one side designated as a large lockable area. Shelving must be supplied and installed from ceiling to deck best suited for a marine environment. Shelving must be easily removed without the use of hand tools.

13.9.2 - Any electric or electronic components inside cuddy must be protected from damage from shifting of stowage items.

13.9.3 - A suitable size microwave must be supplied and mounted in a practical area that accounts for accessibility and maximizes usage of space. The type, location and mounting must consider impact from the vessel maneuvering. When in use power to all other operating systems must not be affected. Prior to installation Technical/Inspection Authority to approve location.

13.9.4 - A hatch above to access bow deck must be provided. Hatch frame must be fitted with suitable material to minimize injury when exiting/entering in full gear. Hatch cover must be hinged on the port side, weather tight,

lockable and securely dogged to stay in an open position and close with ease. Cover must be easy to open from both inside & out. Material must be welded aluminium. Color must be same as cabin.

#### **14.0 COLLAR - INFLATABLE**

14.1 - Collar must be constructed of current and proven material that meets or exceeds the criteria for strength, elasticity, resistance to wear and longevity. Any minor damage must be repairable without complete removal of collar. Collar must be securely attached to hull using mechanical fasteners. Material must be Neoprene Hypalon or equal. Color must be black.

14.2 - Collar must have a minimum of five separate chambers of approximately equal volume. Each chamber must be fitted with a suitable inflation system and over-pressure relief valves calibrated to 3 psi (the Halkey Roberts model 690BV inflation valve and the Mirada model B51019 - 4.5 psi over pressure relief valve) or equal.

14.3 - A semi-auto inflation and monitoring system must be supplied and installed. The system must allow for ease of deflation/re-inflation for all chambers with a minimum pumping ability of 550 liters' per minute able to exceed the maximum psi in each chamber.

14.4 - Rub strakes must be securely attached to collar to protect against abrasion and puncture. Area must cover entire length of top, sides and underneath of collar. Extruded neoprene rubber or equal. Color must be black.

14.5 - Grab lines must be fitted along the centerline on both port and starboard sides attached by removable D-Rings. Grommets must be the proper size and securely attached to allow frequent use without becoming detached. Both the grab lines and D-rings must be easily removed as a single unit. Material must be nylon braided rope construction ½" diameter. Color must be black.

14.6 - For additional protection a skirt from bow area to mid ship must be bolted to the flange at bottom of collar. Material must be heavy-duty and puncture resistant. Color must be black.

14.7 - A complete collar repair kit including a manual air pump must be provided.

14.8 - The collar must be supported by parts and service in Canada within 48 hours of receiving the service call.

#### **15.0 PROPULSION SYSTEM**

15.1 The Contractor must supply and install a twin outboard engine system with a combined power of 700 horsepower. Fuel must be regular unleaded fuel (no high-octane). Outboard Engine system must be of a commercial grade capable of meeting or exceeding the Operational Requirements addressed herein. Engines selected should be of the latest generation high (fuel) efficiency design.

Bidder must provide supporting documentation to clearly demonstrate choice of Outboard Engine system.

15.2 As a minimum the following criteria must be considered in choice of engine:

- Minimum noise level,
- Minimum weight
- High alternator output
- Fuel efficient
- Low maintenance
- Proven reliability for service and support

15.3 The instrumentation package for each engine must be digital and include as a minimum, a tachometer, hour meter, trim gauge, fuel gauge, battery indicator meter, water pressure gauge. Size must allow for easy visibility. To facilitate night operations progressive dimmers must be installed where applicable. Audible alarms and warning indicator lights must be installed where applicable.

- 15.4 Engine(s) control must be dual binnacle type with the additional capability of trim and tilt. Engine controls must conform for commercial use. Control cables must be encased in protective hose. Ignition switch must be keyed and positioned not to collect water. Master Kill switch with lanyard must be included.
- 15.5 The engines must be mounted on an outboard engine bracket/hull extension that must support the motors and accompanying thrust. Drain plug must be installed in the lowest part at the aft end. A zinc anode mount and zinc anode must be mounted on the aft plate. Material must be welded aluminum.
- 15.6 Tie bar must be supplied and installed with the proper length to allow engines full movement in either direction. Material must be stainless steel.
- 15.7 A switch to operate the drive leg trim in unison or separately must be installed at helm. The brand SYNCRO trim switch or equal.
- 15.8 Propellers must be stainless steel. Contractor must inform the Technical/Inspection Authority prior to sea trials of appropriate pitch and diameter to meet the Operational and Performance requirements.
- 15.9 An engine guard must be designed to protect the motors from impact. It must be heavy duty constructed of welded aluminum pipe suitable for salt water use. Guard must not interfere when engines are tilted or in any steering configuration. Non-skid coating must be applied to top of engine guard. Color must be flat black.
- 15.10 Trim tabs must be installed on transom. The electronic indicator control must be installed at helm.
- 15.11 The complete outboard engine system must be approved and installed in accordance with the engine manufacturer's recommendations.
- 15.12 As a minimum the installation of the controls, lubrication, fuel systems, battery connections must be verified by the outboard engine authorized representative.
- 15.13 All components of the propulsion system must be warranted by the original equipment manufacturer for the standard term. Engines and components must not be used, nor trials performed on the engines that would in any way void the manufacturer's warranty.
- 15.14 Outboard engines must be supportable by parts and service in Canada within five days.
- 15.15 Choice of engines must not exceed maximum outboard rating allowed for proposed hull design as per Transport Canada.

## **16.0 FUEL SYSTEM**

- 16.1 Fuel system must meet with all requirements of TP 1332 "Construction Standards for Small Vessels" and the most current American Boat and Yacht Council Standards (ABYC).
- 16.2 Twin fuel tanks must be fitted with baffles and located below deck. They must be hydrostatically tested, approved and bear manufacturers' name, capacity and testing data.
- 16.3 Fuel system must be arranged to allow for maintenance and repair. Fuel lines must be protected from chafe and wear and arranged such that each engine may be supplied from either tank. The fuel shut-off valves must be located to prevent accidental shut-off. They must be readily visible, accessible and clearly labelled in English and French.
- 16.4 A fuel/water separator filter is to be mounted "in-line" to each engine with easy access to drain the sediment bowl, a RACOR 320 or equal.
- 16.5 Fuel fills must be the type for a high flow nozzle. They must be surface mounted on the side decks located to prevent any over fill draining unto deck. Each must be clearly labelled for fuel type.
- 16.6 Fuel system area must be equipped with a proper bilge blower system with both passive and powered ventilation. A gas/fume detector must be installed.

## **17.0 STEERING / PIPING SYSTEMS**

- 17.1 Steering system must be supplied and installed based on engine manufacturers' recommendations.
- 17.2 Where flexible connections are required for steering and fuel systems, suitable hose of a sufficient size, strength and length must be installed to prevent pulsing. The steering hoses must be routed below deck fitted with no pinch or chafing points. Ends must be either permanently crimped or reusable hose ends used. Fittings and clamps must be stainless steel. Exposed hoses must best suited for marine application.
- 17.3 The wheel/console location must be of robust construction, to eliminate fore and aft or lateral movement of wheel/steering shaft fixture. The steering wheel must be stainless steel and properly padded to provide a grip surface. The brand MOMO marine steering wheel or equal.

## **18.0 ELECTRICAL SYSTEM**

- 18.1 Electrical system must meet the Canadian Standards Association C22.2 NO.183.2-M1983 (R1999) "Standards for D.C. Electrical Installations" and American Bureau Yacht Council (ABYC) where applicable.
  - 18.1.1 - All electrical equipment and hardware must be installed in accordance with the manufacturer specifications and must be capable of operating simultaneously with any electronic equipment without causing interference to it or to the magnetic compass.

18.1.2 - Electrical system must be designed, installed, and protected for marine application. All wires must be tinned copper strands (CSI type) UL 1426. All wiring must be properly secured and fastened to protect from chafing. Wiring in or behind consoles must be grouped separate and color coded for each system. Each group must be clearly labeled in English.

18.1.3 - A 12 volt circuit breaker panel with a breaker for each accessory plus six spare for additional equipment must be installed. The panel must have a digital ammeter to indicate voltage, draw, and charge remaining. Each breaker must be clearly labeled in English. Panel must be equipped with a cover.

18.1.4 - Four (4) GFCI protected 110 VAC power receptacles must be installed. One at each seat (excluding helm) and one inside cuddy.

18.1.5 - Four (4) 12 volt splash proof auxiliary receptacles must be installed on cabin exterior. One each side of transom, one each side of opening into cuddy. Prior to installation the Technical/ Inspection Authority to approve locations.

18.1.6 - A shore power system with 75 foot extension cord must be installed. Receptacle must be installed on aft wall starboard side.

## 18.2 Battery

18.2.1 - Twelve volt DC distribution system must be provided to power the engine starting and boat service loads including all navigation, instrumentation, interior/exterior lighting, electrical equipment and bilge pumps. Starting battery must be used for engine service loads only.

18.2.2 - Batteries must be of marine quality 12 volt Deep-Cycle maintenance free equipped with rollover caps with the capacity to service engines and ancillary vessel loads. The brand - Premium Group 8D Deep Cycle or equivalent, house service battery with an auto charging relay must be provided.

18.2.3 - Batteries must be connected in accordance with the motor manufacturer's technical specifications. They must be wired to cross connect for twin engine start-up of either engine from either battery. A three kilowatt inverter must be installed.

18.2.4 - Selector switch for batteries must be certified and mounted in a safe location to prevent snagging or accidental switching.

18.2.5 - Batteries must be contained in a suitable size compartment. Size and location must allow for easy access and removal of batteries. The area must weather tight and fitted with a suitable means of gas venting.

## 18.3 Cabling Installation

18.3.1 - Cables for all power and lighting must be ample size for their particular service. They must be grouped into wiring harnesses where possible color coded, routed below deck or under side decks hidden. PVC conduit pipe must be used for all below deck cabling. Cabling running to the ceiling/roof must be in a raceway easily accessible for maintenance and repairs.

18.3.2 - Cabling/conductors passing through structures without watertight glands must be protected against chafing by the use of abrasive resistant grommets. Cables and conductors must be installed in PVC pipes or wire races of a sufficient size to pass other wires without obstruction. Wires not run through wire ways must be installed with clamps and straps spaced at 18 inches on horizontal runs and 14 inches on vertical runs. Tie wraps are not acceptable.

18.3.3 - All conduit must have a guiding thread to allow for additional wiring at a later date.

## 19.0 RADAR ARCH / CABIN ROOF

19.1 A low profile arch must be constructed of welded aluminum pipe and securely mounted to cabin roof. Position of arch must be forward where practical, to allow all lights mounted be fully visible to oncoming traffic. Suitable size and type of conduit must be installed inside stanchions to accommodate wiring. Waterproof connectors must be fitted and labeled. Arch must be painted same color as cabin exterior.

19.2 Arch must be equipped with following:

19.2.1 - Raymarine 48 inch 12kw Super HD Digital open array radar scanner RA3048SHD model (T52086) or equal.

19.2.2 – POLICE siren with PA (Public Address) system. The brand Whelan model WPA 100 with a SA 31 speaker and a WPA control head or equal..

19.2.3 – A trumpet style horn operated by a spring loaded switch located at helm.

19.2.4 - Six (6) high grade commercial LED flood lights – two port, two starboard, two aft. Switch must be installed at helm.

19.2.5 - Two (2) flashing blue lights that must provide a 360 degree arc when illuminated. Lights must be able to flash at regular intervals at a frequency of 50 to 70 flashes per minute. Switch must be installed at helm.

19.3 Cabin roof must be equipped with the following:

19.3.1 - Cabin roof must be coated with a durable commercial grade non-skid coating. Color must be same as cabin - Grey.

19.3.2 - The thermal night vision camera. Location must provide 360 degree visibility.

19.3.3 – Loud Hailer/Fog Horn – brand Standard Horizon – model (VLH 3000).

19.3.4 - To gain access to the roof a step up arrangement with a minimum of two individual steps must be provided on the cabin exterior both port and starboard. Steps must be folding with a weight capacity of a minimum of 130 kg. Location of steps must allow for quick access. Material must be metal. South Park Corporation model (LF S46ZC) or equal.

19.3.5 - Two (2) high grade commercial LED flood lights located forward at roof line. Flood lights must provide a minimum of 1000 lumens. Switch must be installed at helm.

19.3.6 - Two (2) remote controlled search lights one on port side and one on starboard side positioned to provide maximum visibility. Search light must be capable of 360 degree rotation and 140 degree motorized tilt with a minimum of 1,000,000 candelas. Controls for starboard light must be at helm station. Port light controls must at co-pilot station.

19.3.7 - One (1) flashing blue light must be mounted forward on roof. Light must be able to flash at regular intervals at a frequency of 50 to 70 flashes per minute. Location must not interfere with FLIR camera or cause any glare. Switch must be installed at helm.

## **20.0 NAVIGATION**

20.1 Navigation lighting 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 which may occur when lying alongside a vessel or a pier. Must meet the Canadian Shipping Act, Collision Regulation (COLREGS). The Aqua series 33 LED lights or equal.

20.2 Navigation lights must be permanently fitted to cabin located to not interfere with vision from helm or co-pilot station.

20.3 Non-white (red or green) lighting must be wired together on a separate breaker of the 12 volt DC electrical system.

20.4 An all-round mast light must be mounted on arch. It must be a fold down type that can be easily removed without tools. Wiring must be reinforced to allow for frequent removal. Switch must be installed at helm.

20.5 A direct read compass with light must be mounted on dash center of steering wheel. The compass must be equipped with its own waterproof marine-grade dimmer switch and must be adjustable for deviation. The Ritchie Helmsman model (current) or equal.

## **21.0 PUMPING AND DRAINAGE**

21.1 A 12 V electric bilge pump with a minimum 2000 gal/h capacity must be fitted in each hull compartment. Each pump must be equipped with an automatic float switch. To prevent debris from entering a suitable metal cage must be provided.

21.2 At each pump location must have a float switch with audible alarm to indicate high water as well as a manual flapper switch. Location and installation of switches must allow for inspection, maintenance and repair.

21.3 Bilge pump control system as a minimum must include a panel with three way on-off-auto switches, with indicator lights for the operation, monitoring of pumps and the audible visual alarm to indicate high water level. The indicator light for pump(s) operation must be installed at helm. Switches must be installed on breaker panel located inside cuddy.

21.4 All pump overboard outlets must be located midship. Check valves and handles must be stainless and fitted close to discharge outlets and located for easy access.

21.5 A fixed manual pump, diaphragm type must be installed aft to remove any water in the compartments and arranged to discharge directly overboard aft.

21.6 Hull drainage - a non-corrosive threaded plug must be provided in the lowest point to drain the hull aft compartment when out of the water.

## **22.0 LIFESAVING & EMERGENCY EQUIPMENT**

22.1 The following items must be supplied and installed with proper stowage /securing arrangements. All fittings must be heavy duty stainless steel. All items must be readily accessible.

- Three (3) Fire extinguishers (Class 1 BC, marine type) – 2 x cabin, 1 x aft deck area
- Two (2) Boat hooks (8 ft. long retractable) – 1 x aft deck door, 1 forward deck door.
- Two (2) Paddles – inside head on wall.
- One (1) Anchor (Fortress model 11 X or equal) with 100 feet nylon rode
- One (1) Drogue sea anchor with 100 feet 1/2" braided nylon line
- Six (6) Mooring lines 20 feet X 1/2" braided nylon line with eye spliced on one end

- One (1) Lifebuoy with buoyant heaving line of a minimum of 15 metres – mounted in transom area
- Twelve (12) Pyrotechnical distress signals – 3 x Type A, 6 x Type B, 3 x Type C
- One (1) Watertight flashlight
- One (1) Re-boarding device
- One (1) Marine first aid kit – Transport Canada regulations for vessel length
- One (1) EPIRB: ACR Global fix TM 406 MHZ EPIRB with integral GPS. Model (RLB-35)  
Product Number - (2744 Category II)

### **23.0 SEA TRIALS - CONTRACTOR**

- 23.1 Contractor must inspect construction quality, test all on board equipment, systems and hull performance to ensure all are fully functional.
- 23.2 The propulsion system must be operated as per the engine manufacture recommendations to accumulate the hours sufficient for the initial engine service check. An authorized engine manufacturer representative must carry out the service check. Service report must be provided to both the Technical Authority and the Contracting Authority.
- 23.3 Contractor must submit a Test and Trials Plan a minimum of fourteen days prior to Canada sea trials. Plan will include a description of all the acceptance trials to be performed.
- 23.4 Prior to sea trials the complete vessel must be weighed and the weight recorded on the Test and Trials form.
- 23.5 Stability examination as per TP 1332 requires the Contractor to record all stability and structural calculations. Copy must be provided in Operator Technical Manual.

### **24.0 SEA TRIALS - CANADA**

- 24.1 Contractor must notify the Contracting Authority and Inspector no less than 14 days prior to sea trials. Canada reserves the right to witness or decline attendance of sea trials. Absence does not relieve the Contractor of its responsibility to conduct and record sea trials. Upon completion the sea trial report must be forwarded to Canada for review prior to delivery of vessel.
- 24.2 Contractor must be responsible for supply of fuel, crew, instrumentation and equipment required to conduct sea trials.
- 24.3 During the trials the vessel must overall demonstrate excellent handling characteristics such as, but not limited to, no slide out in hard turns, maintaining course with no deviation. There must be no constant pounding nor excessive bow immersion.
- 24.4 As a minimum, the following trials must be conducted in the Normal Load Condition specified at:
- A) Speed Trials - The Contractor must demonstrate that the vessel meets or exceeds the mandatory speed requirement. The speed trials must be done over a course at least one nautical mile in length. Two runs must be made over the course, one in each direction, with the speeds for the two runs averaged. The use of GPS data (averaged) is acceptable.
  - B) Endurance Trials:
    - Maximum speed: The vessel is to be operated at maximum engine speed for not less than 1 hour, however, on agreement with the Inspector, a lesser time may be accepted.
    - Maximum continuous speed: The vessel must be operated for not less than 2 hours at the maximum engine speed recommended for continuous operation by the engine manufacturer, which must achieve not less than the cruising speed. This trial may be incorporated with the maximum speed trial, on agreement with the Inspector, if the continuous speed is not less than the maximum speed.

During the endurance and other trials it must be demonstrated that all parts of the propulsion system are in full operation. Characteristics such as engine rpm and vessel speed, oil pressure, and temperatures must be recorded. All systems must be operated to check for proper installation.

- C) Astern Propulsion - The vessel must be operated and maneuvered using astern propulsion to establish performance. During the backing performance tests the throttles must be set to provide 1/3 of the rated engine horsepower.
- D) Steering Gear - The complete steering system must be operated at increasing boat speeds with the vessel being maneuvered through a series of turns port and starboard. Maneuvering trials must be conducted in the.



- 24.5 At the conclusion of sea trials the boat must be thoroughly cleaned and inspected for damage. Contractor must repair any damage to the satisfaction of Canada. Outboard engine cooling systems must be flushed through with fresh water.
- 24.6 The Contractor must maintain records of testing for each boat for a minimum of two years. A copy of the completed Tests and Trials sheets must be included in the Operator Technical Manual for each vessel.

## **25.0 FINAL INSPECTION**

- 25.1 Final Inspection must not be performed until all tests have been satisfactorily completed with data available for review. The boat must be ready for delivery in all respects, except for final preparation for shipment. The Contractor must provide personnel, as required, to resolve questions and to demonstrate equipment operation maintenance accessibility, removal and Installation. The Contractor must document the results of the final inspection and submit these results to Canada. Serial numbers and other identifying information must be recorded for each boat and engine.

## **26.0 PACKAGING AND SHIPPING**

- 26.1 Prior to shipping, the boat must be cleaned throughout, preserved and covered as follows:
- A) Vessel interior must be cleaned thoroughly including inside all hatches, all stowage boxes, consoles, cuddy.
  - B) Bilges must be dry and free of oil and debris, and the fuel tanks must be drained if required.
  - C) The propulsion system must be preserved in accordance with manufacturer recommendations for storage in an environment that will be subjected to freezing temperatures for up to one year.
  - D) The batteries must be disconnected for shipping or storage.
  - E) A durable warning tag must be wire tied to the steering wheel indicating vessel has been reserved for shipping and storage and must not be started until the propulsion machinery has been reactivated.
  - F) During shipping and storage the vessel must be secured to prevent movement or damage.
  - G) The vessel must be properly covered with shrink wrap to minimize damage during transit.
  - H) Every effort must be made to ensure all contact points between vessel and trailer are properly padded to prevent any damage during transit.
  - I) Vessel must be transported by commercial carrier. Trailer must not be used to deliver the vessel to delivery destination.

## **27.0 ACCEPTANCE**

- 27.1 Upon delivery, RCMP will inspect vessel and trailer to confirm there has been no damage resulting from shipping. Contractor must repair the damage to the satisfaction of the RCMP.

## **28.0 OPERATOR TECHNICAL MANUAL**

- 28.1 The Contractor upon delivery of vessel must provide one hard copy and one CD/USB of a manual that provides a physical and functional description of the craft, its machinery and equipment. Each manual must have the sections and subsections clearly identified in the same sequence as addressed below. Manual must include, but not be limited to, sections such as the following:

- A) General Information
- B) Technical Information
- C) Initial Spare Parts List
- D) Preventive Maintenance List

### **28.2 Technical Manual - Requirements**

#### **A) General Information Section**

This section must include a description of the arrangement and function of all structures, systems, fittings and accessories, with subsections and illustrations as appropriate, for example:

- A.1 Operating procedures
- A.2 Basic operating characteristics, including as a minimum, temperatures, pressures, flow rates, etc.
- A.3 Installation criteria and drawings, assembly and disassembly instructions with comprehensive illustrations showing each step.
- A.4 Recommended planned maintenance which clearly illustrates the maintenance required, hourly, daily, monthly and annually for all components including the engine, drive train and hull. Complete troubleshooting procedures must be included.

#### **B) Technical Information Section**

This must include a complete set of detailed owner/operator instructions, drawings, parts lists and supplemental data for all components of the boat (whether acquired from external sources or custom-manufactured), including:

- Hull, Collar
- Outboard Engine(s)
- Systems, with schematics or one-line diagrams, (steering, fuel, electrical, etc.)
- Electronics
- Fittings, accessories and ancillary equipment.

### C) Initial Spare Parts List

This must include a list of recommended initial on board spare parts to be stocked for the craft. As a minimum, this list must include the following items:

- Propulsion: Propeller, filters, starting battery, throttle/ shift cables, any special engine tools
- Electrical: fuses, light bulbs
- Boat Structures and Fittings: Miscellaneous commonly used fasteners.

## **29.0 TRAILER**

**29.1** The trailer must be of 10" aluminum I beam construction. It must be designed to safely support the vessel in the loaded condition from stem to transom plus 25% percent reserve. Loaded condition must be full fuel, extra equipment plus 300 kgs. Overall vessel height must not exceed 4.0 meters either in loaded or light condition (no fuel or equipment onboard) when trailering.

**29.2** Trailer must be equipped with the following :

A) Marine grade pressure treated bunks cut to the dead rise of the hull with UHMW polymer roller and guides in a V-assembly with UHMW polymer on the cross members. Six (6) removable attachment points must be provided.

B) Tandem axle, 10,000 lbs. each axle with safety lube lubrication system and Timken bearings.

C) Solid galvanized wheels size 17.5" with 235/75R 17.5" medium truck tires. All stainless steel fasteners, positive pressure air tight bearing protection with grease nipples.

D) Electric / hydraulic brake actuator, 1600 psi jurisdiction compliant braking system. Calipers, rotors and mounting brackets must be stainless steel with the appropriate brake pads. Spare tire with rim mounted on front of trailer.

E) Bow winch two speed assembly (3,500 lb. Capacity) on aluminum stand with (14,000 lb. capacity) a winch rope and non-corroding safety hook.

F) Side wind style jack with drop leg (8000 lb. capacity) and a (2500 capacity) castor wheel with anti reversing mechanism.

G) Heavy duty adjustable yoke with turn buckle, four ratchet tie down straps, four D-ring tie downs.

H) Safety turnbuckle system to allow for the direct attachment from vessel second bow eye to an eye on trailer frame.(not winch stand)

I) Lighting must be marine grade submersible LED lights (double jacketed water tight system) with a 7 pole flat prong round plug

J) Heavy- duty stand-on fenders constructed of tread plate with rubber matt mud flaps and 25,000 lb capacity weld/bolt on 2 5/16" ball coupler, Class III compliant.

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K) A minimum of two individual steps installed to gain access to the vessel bow. Steps must be folding with a weight capacity of a minimum of 130 kg. Location of steps must allow for quick access. Material must be metal. The brand South Park Corporation- model (LF S46ZC) or equal.

L) Tool box constructed of tread plate sized to safely carry lug wrench, jack, spare strap, spare hub with bearings and grease.

M) Trailer guides with a minimum height of four feet. Material must be white PVC.

N) The trailer must be roadworthy and certified street legal for roads in the province of British Columbia.

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**ANNEX B - QUESTION & ANSWER**

Solicitation # M2989-172215/A

*To be completed as required during the bid solicitation period.*

Item	Spec-RFP description	Questions	Answers

## ANNEX C - INSPECTION/QUALITY ASSURANCE/QUALITY CONTROL

### 1. Conduct of Inspection

- (a) Inspections will be conducted in accordance with the ITP provided and accepted by the Inspection Authority and as detailed in this Annex.
- (b) The Contractor must provide its own staff or subcontractors to conduct inspections, tests and trials; excepting that Technical Authority or Inspection Authority personnel may be designated in the specifications, in which case the Contractor must ensure that its own staff are provided in support of such inspection/test/trial.
- (c) As applicable, the Contractor must ensure that the required conditions stated in the specification prevail at the commencement of, and for the duration of, each inspection/test/trial.
- (d) The Contractor must ensure that personnel required for equipment operation and records taking during the inspection/test/trial are briefed and available at the start and throughout the duration of the inspection/test/trial. Tradesmen or FSRs who may be required to effect minor changes or adjustments in the installation must be available at short notice.
- (e) The Contractor is to coordinate the activities of all personnel taking part in each inspection/test/trial and ensure that safe conditions prevail throughout the inspection/test/trial.

### 2. Inspection Records and Reports

- (a) The Contractor on the inspection record, test or trials sheets as applicable must record the results of each inspection. The Contractor must maintain files of completed inspection records.
- (b) The Contractor's Quality Control (QC) representative (and the FSR when required) must sign as having witnessed the inspection, test or trial on the inspection record. The Contractor must forward originals of completed inspection records, together with completed test(s) and/or trials sheets to the Inspection Authority as they are completed.
- (c) Unsatisfactory inspection/test/trial results, for which corrective action cannot be completed during the normal course of the inspection/test/trial, will require the Contractor to establish and record the cause of the unsatisfactory condition to the satisfaction of the Inspection Authority. Canada representatives may assist in identification where appropriate.
- (d) Corrective action to remove cause of unsatisfactory inspections must be submitted to the Contracting Authority and to the Inspection Authority in writing by the Contractor, for approval before affecting such repairs and rescheduling of the unsatisfactory inspection/test/trial. Such notices must be included in the final records passed to the Contracting Authority and to the Inspection Authority.
- (e) The Contractor must undertake rectification of defects and deficiencies in the Contractor's installation or repair as soon as practicable. The Contractor is responsible to schedule such repairs at its own risk.
- (f) The Contractor must reschedule unsatisfactory inspections after any required repairs have been completed.
- (g) Quality Control, Inspection and Test records that substantiate conformance to the specified requirements, including records of corrective actions, must be retained by the Contractor for three (3) years from the date of completion or termination of the Contract and must be made available to the Contracting Authority and to the Inspection Authority upon request.

### **3. Inspection and Trials Process**

#### **3.1 Drawings and Purchase Orders**

- (a) Upon receipt of two (2) copies of each drawing or purchase order, the designated Inspection Authority will review its content against the provisions of the SOW. Where discrepancies are noted, the Inspection Authority will formally advise all concerned, in writing using a Discrepancy Notice. The resolution of any such discrepancy is a matter for consultation between the Contractor and other Government of Canada Authorities.

#### **3.2 Inspection**

- (a) Upon receipt and acceptance of the Contractor's ITP, inspection will consist of a number of Inspection Points supplemented by such other inspections, tests, demonstrations and trials as may be deemed necessary by the Inspection Authority to permit him to certify that the work has been performed in compliance with the provisions of the specification. The Contractor must be responsible for notifying the designated Inspection Authority of when the work will be available for inspection, sufficiently in advance to permit the designated Inspection Authority to arrange for the appropriate inspection.
- (b) The Inspection Authority will inspect the materials, equipment and work throughout the project against the provisions of the specification and, where non-conformances are noted, will issue appropriate INSPECTION NON-CONFORMANCE REPORTS.
- (c) The Contract requires the implementation of a Quality Assurance/Quality Control system, so the Inspection authority must require that the Contractor provide a copy of its internal inspection report pertaining to a work item before conducting the requested inspection. If third party inspections are required by the Contract (e.g. inspections by a certified CWB 178.2 welding inspector), the reports of these inspections are required before the Work is inspected by the Inspection Authority.
- (d) The QA/QC system is a requirement, so if the documentation is presented to the Inspection Authority before an inspection stating that the Work is satisfactory but the Inspection Authority finds that the Work has not been satisfactorily inspected, the Inspection Authority must issue an Inspection Non-conformance Report against the Work and another against the failure of the Contractor's QA/QC system.
- (e) Before carrying out any inspection, the Inspection Authority must review the requirements for the Work and the acceptance and/or rejection standards to be applied. Where more than one standard or requirement is called up and they are potentially conflicting, the Inspection Authority must refer to the order of precedence in the Contract to determine the standard or requirement to be applied.

#### **3.3 Inspection Non-conformance report**

- (a) An Inspection Non-conformance report will be issued for each non-conformance noted by the Inspection Authority. Each report will be uniquely numbered for reference purposes, will be signed and dated by the Inspection Authority, and will describe the non-conformance.
- (b) When the non-conformance has been corrected by the Contractor and has been re-inspected and accepted by the Inspection Authority, the Inspection Authority will complete the Report by adding an applicable signed and dated notation.
- (c) At the end of the project, the content of all Inspection Non-conformance Reports which have not been signed-off by the Inspection Authority will be transferred to the Acceptance documents before the Inspection Authority's certification of such documents.

#### **3.4 Tests, Trials, and Demonstrations**

- (a) To enable the Inspection Authority to certify that the Work has been performed satisfactorily, in accordance with the Contract and specifications, the Contractor must schedule, co-ordinate, perform, and record all specified tests, trials and demonstrations required by the Inspection

Authority and the Specifications and any additional tests and trials performed by the Contractor required by the Inspection Authority.

- (b) Where the specifications contain a specific performance requirement for any component, equipment, sub-system or system, the Contractor must test such component, equipment, sub-system or system to the satisfaction of the Inspection Authority, to prove that the specified performance has been achieved and that the component, equipment, sub-system or system performs as required by the specifications.
- (c) Tests, trials and demonstrations must be conducted in accordance with a logical, systematic schedule which must ensure that all associated components and equipment are proven before sub-systems demonstration or testing, and that sub-systems are proven before system demonstration or testing.
- (d) Where the Specifications do not contain specific performance requirements for any component, equipment, sub-system or system, the Contractor must demonstrate such component, equipment, sub-system or system to the satisfaction of the Inspection Authority.
- (e) The Contractor must co-ordinate each test, trial and demonstration with all interested parties, including the Inspection, Contracting and Technical Authorities; regulatory authorities; Classification Society; Sub-contractors; etc. The Contractor must provide the Inspection Authority and other Government of Canada Authorities with a minimum of ten (10) working days' notice of each scheduled test, trial, or demonstration.
- (f) The Contractor must keep written records of all tests, trials, and demonstrations conducted required by the QA System.
- (g) The Contractor must in all respects be responsible for the conduct of all tests and trials in accordance with the requirements of the Contract.
- (h) The Contracting Authority and the Inspection/Technical Authority reserve the right to defer starting or continuing with any sea trials for any reasonable cause including but not limited to adverse weather, visibility, equipment failure or degradation, lack of qualified personnel and inadequate compliance with safety standards.

**ANNEX D - DETAILED FINANCIAL BID PRESENTATION SHEET**

**D-1 Proposed Work Location:**

Contractor's Facility \_\_\_\_\_

**D-2 Evaluation of Price**

The price of the bid will be evaluated in Canadian dollars, customs duties are included and applicable taxes are extra, Incoterms 2000 Carriage and Insurance Paid (CIP) to destination.

<b>a.</b>	<b>Known Work</b> – One(1) boat, outboard motors & One (1)Trailer) For work as stated in Part 1 article 1.2, and specified in Annex A entire TSOR.  <b>For a FIRM price of:</b>	\$ _____
<b>b.</b>	<b>Delivery to destination</b> - Incoterms 2000 CIP as per Clause 6.4.3 to: Victoria,BC  <b>For a FIRM price of:</b>	\$ _____
<b>c.</b>	<b>Unscheduled Work</b> <i>Labour Cost:</i> Estimated labour hours at a firm <i>Charge-out Labor Rate</i> , including overhead and profit: 50 person hours X \$_____ per hour for a PRICE of: <b>See articles D-3 and D3.1 below.</b>	\$ _____
	<b>EVALUATION PRICE [a + b + c ]</b>  For an EVALUATION PRICE of: (customs duties are included and applicable taxes are excluded)	\$ _____

**D-3 Unscheduled Work**

Unscheduled work arising, as authorized by the Minister, will be calculated in the following manner:

"Number of hours (to be negotiated) X \$ \_\_\_\_\_ your firm hourly *Charge-out Labour Rate* which includes *Overhead* and profit, plus net laid-down cost of materials to which will be added a 10% mark-up, plus Goods and Services Tax or Harmonized Sales Tax as applicable, of the total cost of material and labour.

The firm hourly *Charge-out Labour Rate* and the material mark-up will remain firm for the duration of the Contract and any subsequent amendments."

**D-3.1** Notwithstanding definitions or usage elsewhere in this document, or in the Bidder's Cost Management System, when negotiating *Hours* for unscheduled work, PWGSC will consider only those hours of labour directly involved in the production of the subject work package.

Elements of *Related Labour Costs* identified in D-3.2 will not be negotiated, but must be included within the *Charge-out Labour Rate*. It is therefore incumbent upon the Bidder to enter values in the above table which will result in fair compensation, regardless of the structure of their Cost Management System.

**D-3.2** Allowance for *Related Labour Costs* such as: Management, Direct Supervision, Purchasing and Material Handling, Quality Assurance and Reporting, First Aid, Gas Free Inspecting and Reporting, and Estimating must be included as *Overhead* for the purposes of determining the *Charge-out Labour Rate* entered in line D-2b and Article D-3 above.

**D-3.3** A 10% mark-up rate will be allowed for materials and this rate will also apply to subcontracted costs. The mark-up rate includes any allowance for material and subcontract management not allowed for in



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the Charge-out Labour Rate. A separate labour component for the purchase and handling of materials or subcontract administration is not allowable.

**D-4 Boat Delivery Proposal**

While the delivery of the boat and all deliverables to destination required by the Contract is desired for **November 30, 2016**.

The best delivery that could be offered is \_\_\_\_\_ weeks after Receipt of Order (ARO).

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### ANNEX E - SUBCONTRACTOR LIST

Specification Item	Description of Goods/Services (Including Make, Model Number as	Name of Supplier	Address of Supplier

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**ANNEX F - INFORMATION REQUIRED FOR THE VERIFICATION OF INTEGRITY PROVISIONS**

Please provide a 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 G – BID PACKAGE CHECKLIST

**REQUIREMENT: Request for Proposals (RFP): for the fabrication and delivery of 9m to 10m Aluminum RHIB with cabin for the RCMP.**

**Instruction to Bidders: Table G-1 is a check list for self-verification purposes.**

### Table G-1 Bidder's Bid Package Check List

#### G1.1

Notwithstanding deliverable requirements specified anywhere else within this bid solicitation and its associated Technical Specifications, the following are the only mandatory deliverables that must be submitted with the Bid documents at the time of bid closing. The following are mandatory and the Bidder must be compliant on each item to be considered responsive.

No	Part	Article	Description	Condition	Document provided
<b><u>Section I- Technical Bid</u></b>					
1		Front page	<u>Request for Proposal</u> document part 1 page 1 completed and signed;	Mandatory with the bid	<input type="checkbox"/>
2	3	3.2.1	Annex G - Bidder package Check list	Mandatory with the bid	<input type="checkbox"/>
3	3	3.2.3	Drawing and other documentations	Mandatory with the bid	<input type="checkbox"/>
4	3	3.2.5	Vessel construction experience	Mandatory with the bid	<input type="checkbox"/>
5	Annex H	All	Technical Bid - Annex H Bidders RFP Reply and Evaluation Plan	Mandatory with the bid	<input type="checkbox"/>
<b><u>Section II- Financial Bid</u></b>					
6	Annex D	All	Annex D- Detailed Financial Bid Presentation Sheet	Mandatory with the bid	<input type="checkbox"/>

#### **G1.2 Supporting Deliverable Requirements**

If the following information which supports the bid is not submitted with the Bid; it will be requested by the Contracting Authority, and it must be provided within 48 hours (2 business days) of the written request:

No	Part	Article	Description	Condition	Document provided
<b><u>Section I- Technical Bid</u></b>					
1	3	3.2.2	Inspection and Test Plan	48 hrs of written request	<input type="checkbox"/>
2	3	3.2.4	Subcontractor list	48 hrs of written request	<input type="checkbox"/>
3	3	3.2.6	Marine Drafting and Engineering capability	48 hrs of written request	<input type="checkbox"/>
4	3	3.2.7	Contractor Quality Management system	48 hrs of written request	<input type="checkbox"/>
5	3	3.2.8	Insurance requirement	48 hrs of written request	<input type="checkbox"/>

6	6	6.5.4	Contractor representative	48 hrs of written request	
<b>Section III- Certification</b>					
7	6	6.9	Welding certification	48 hrs of written request	<input type="checkbox"/>
8	5	5.2.1	Annex F Information required for the Verification of Integrity Provisions	48 hrs of written request	<input type="checkbox"/>
9	6	6.20	Applicable Laws	48 hrs of written request	<input type="checkbox"/>

### G1.3 Contract Deliverable Requirements

The following information may be requested by the Contracting Authority, and it must be provided within the conditions stated in the table below of the written request:

No	Part	Article	Description	Condition	Document provided
<b><u>Other documentation after contract award ( Reminder)</u></b>					
1	6	6.10	Project Schedule	5 days after contract award	
2	6	6.17	Inspection and Test Plan	7 days after contract award	
3	6	6.19	Insurance certificate	10 days after contract award	

## ANNEX H –TECHNICAL EVALUATION PLAN

### H-1.0 Technical Bid Format

The bidder is to respond to the RFP by using the **Table H-1 of this ANNEX - Column B ONLY**

This is a model for the bidder to use. Table's contents are fictional and represent a sample only.

STATEMENT OF WORK	BIDDER " NAME" RESPONSE
2.0 General	2.0 General
2.1 The seventeen foot vessel must be a cock pit design with stowage below the closed bow deck commonly referred as a "Cuddy" style	The proposed seventeen foot vessel features an open cockpit design with stowage below the closed bow deck, commonly referred in the industry as to a "Cuddy" style vessel.
2.2 Not applicable	2.2 Not applicable
2.3 Not applicable	2.3 Not applicable
2.4 All components, equipment and material must be contractor supplied unless addressed as Government Supplied Material (GSM)	Unless stated otherwise, a;; components, equipment and material will be supplied by the " <b>Bidder names</b> "
4.0 Vessel particulars Seventeen foot	4.0 Vessel particulars Seventeen foot
4.1.1 Physical length	4.1.1 Physical length
a) Length- 6.0 to 6.2 M	a) Length- 6.19 M
b) Breadth overall Min 2.4 M	b) Breadth overall Min 2.42 M
c) Dead rise Min 16 degrees	c) Dead rise Min 18 degrees
d) Draft (Outboard down) max 0.9. M	d) Draft (Outboard down) max 0.80. M
e) Draft (Outboard Up) Max 0.5 M	e) Draft (Outboard Up) Max 0.42 M
f) Freeboard between 0.9. to 1.00 M	f) Freeboard between 0.95

### H-1.1 Mandatory Requirements Evaluation

The bidder must use the Technical Statement of requirement Annex "A" numbering sequence for the tables below.

The Bidder shall provide, as part of its Technical Proposal, all documents essential to demonstrate compliance with each technical mandatory requirement, including, without limitation, photographs, maps, drawings, calculations, Original Equipment Manufacturer (OEM) specifications, documents, purchase orders (less cost data), job or Quality Control or Quality Assurance record sheets, personnel resumes, current trade certificates and, other such evidence.

The Bidder itself must meet the requirements of each evaluation item listed below, except as otherwise expressly provided in the evaluation item. If an evaluation item expressly provides that it or any element of it may be met by a subcontractor to the Bidder, then the Bidder shall provide documented evidence of such compliance by its subcontractor. In that event, the Bidder shall also provide evidence that it has a binding commitment with that

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subcontractor under which the subcontractor will perform services under subcontract with the Bidder under any contract issued pursuant to this RFP, and that such services are of the same type as are specified in the relevant evaluation item.

**(Table H-1- Column C- filled by the technical evaluators)**

**Table H-1 Mandatory Requirement**

<b>COLUMN A</b>	<b>Bidder Proposal</b>	<b>COLUMN B</b>
<b>Description</b>		<b>BidRef Page</b>
<b>2.0 General</b>		
<p>2.1 The vessel must be of commercial construction and suitably stiffened for the coastal waters of British Columbia within a twenty-five (25) mile range. All parts and equipment must be of a marine grade capable of withstanding the rigors of a severe marine environment.</p> <p>2.2 Vessel must be designed and constructed for ease of maintenance, repair and must be readily supportable by local commercial facilities and suppliers. Components, all mechanical, auxiliary, electronic and electrical equipment installed on the boat, must be supportable by parts and service within fifty (15) days.</p> <p>2.3 CFM: All materials, equipment and components must be Contractor Furnished Materials (CFM), unless specified otherwise.</p> <p>2.4 GSM: Only materials which are specifically designated as Government Supplied Materials (GSM) will be provided by Canada. The RCMP will provide such materials to the Contractor and the Contractor must be responsible for the care and custody, correct installation, and delivery of such materials to Canada together with the completed vessel.</p> <p>2.5 Wherever actual brand or model names are referenced, equivalent or superior equipment may be considered. Bidder must provide supporting documentation to validate choice.</p> <p>2.6 Contractor must standardize on selection of equipment, fittings and fabrication methods to facilitate replacement, inter-changeability of parts, maintenance procedures and operator training. All components and equipment must be current production models.</p> <p>2.7 Contractor must provide a letter to confirm vessel has been constructed and outfitted to the standards addressed herein. Letter must be on company letterhead.</p>		

<p><b>3.0 BIDDER'S PROPOSAL</b></p> <p>3.1 The Bidder must submit a proposal that clearly demonstrates the vessel and equipment offered meets or exceeds the mandatory requirements specified herein.</p> <p>3.2 The Bidder must submit the following drawings showing all vessel dimensions and clearly labelled to identify the type of drawing being offered. Maximum details must be provided to effectively demonstrate the bidder has met the requirements herein:</p> <ul style="list-style-type: none"> <li>A) General Arrangement</li> <li>B) Side Profile</li> <li>C) Cabin Interior</li> <li>D) Fuel Tank location, including filling and venting arrangements</li> <li>E) Bilge pump arrangement</li> <li>F) Lines plan</li> </ul>	<p style="text-align: center;"><b>Bidder Proposal</b></p>
<p><b>4.0 VESSEL PARTICULARS</b></p> <p><b>4.1 Physical Characteristics:</b></p> <ul style="list-style-type: none"> <li>A) Length of Hull - bow to transom (excluding collar) – 9.8 metres (minimum) – 10 metres (maximum)</li> <li>B) Breadth Overall – (collar deflated) – 3.1 metres (minimum) – 3.2 metres (maximum)</li> <li>C) Draft (outboard motor lowered) maximum 1.0 metres</li> <li>D) Draft (outboard motor raised) maximum 0.6 metres</li> </ul> <p><b>4.2 Normal Load Condition:</b></p> <ul style="list-style-type: none"> <li>A) Crew – four (4) persons – 120 kg/person</li> <li>B) Fuel tanks full</li> <li>C) Equipment and supplies – 300 kg.</li> </ul> <p><b>4.3 Vessel Tonnage Measurement</b></p> <p>It is a MANDATORY REQUIREMENT that the registered tonnage of the vessel must not be greater than five (5) tons - the Contractor must complete and provide the "Simplified Tonnage Measurement" form demonstrating that this requirement has been met.</p>	



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**5.0 OPERATIONAL PERFORMANCE**

5.1 The completed vessel must be of sufficient strength to withstand the lateral, vertical impact- loading that equates to the conditions of the Operational Profile when in Normal or Maximum Load Conditions.

5.2 Minimum speed – 40-50 knots

5.3 Cruising speed – 30 knots

5.4 Range: approximately 250 nautical miles at cruising speed with 10% fuel reserve

5.5 Full plane within 4 seconds at full acceleration.

5.6 Full power - (3) hours

5.7 Cruising power - (10) hours (recommended RPM by engine manufacturer)

5.8 Slow speed operation – (10) hours (approx. 1500 RPM)

5.9 The Maximum Load Condition(s) must be calculated to determine the maximum number of persons and weight allowable for each of the design categories identified in the Transport Canada "Small Craft Stability Standard ISO12217-1. Maximum Load Condition(s) must be clearly identified on capacity plate.

**6.0 ENVIRONMENTAL CONDITIONS**

6.1 Vessel must be capable of operating both day and night and must maintain a stable platform when operated at varying speeds during any of the following conditions:

- A) Average ambient air temperature: -10 degrees C to 35 degrees C
- B) Average water temperature: 0 degrees C to 25 degrees C
- C) Wave heights: 0 - 4.0 metres
- D) Wind speed: 0 - 40 knots
- E) Operate in freezing spray or freezing rain with accumulations of up to 6.0 mm.
- F) Operate fully in depths of 1 metre with outboard motor(s) lowered.
- G) Basic maneuvering in depths of 0.80 metre with outboard motor(s) in partially raised position.

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**7.0 CONSTRUCTION STANDARDS**

7.1 The vessel must be constructed and comply at a minimum with the current issue of Transport Canada TP 1332 "Construction Standards for Small Vessels" and American Bureau Yacht Council (ABYC) where applicable.

7.2 Canadian Standards Association C22.2 NO.183.2-M1983 (R1999) "Standards for D.C. Electrical Installations" and American Bureau Yacht Council (ABYC) where applicable.

7.3 The vessel must be constructed and comply to Transport Canada voyage classification of "Near Coastal II" / Design Category "B" and the ISO standard- 6185-2014 "Offshore Inflatable Boat"- Type VIII. Full structural and stability testing must be carried out as addressed in ISO standard.

7.4 All aluminum welding must be performed by a company that is certified in accordance with CSA Standard W47.2M 1987, Certification for Companies for Fusion Welding of Aluminum, Division 1 or 2.1. The minimum weld design must be in accordance with ABS Rules for Building and Classing Aluminum Vessels and CSA W59.2- M1992 "Welded Aluminum Construction"

7.5 Transport Canada Marine Safety Regulation TP 1324 – Coated Fabrics

7.6 Canada Shipping Act, Collision Regulation (COLREGS).

7.7 Transport Canada TP 13136 – Trailer

**8.0 CONSTRUCTION PRACTICES**

8.1 All materials and equipment must be stored, installed and tested in accordance with the manufacturers' guidelines, recommendations and requirements.

8.2 Vessel and all components must be free of local vibration that could endanger crew, damage boat structure or interfere with the operation or maintenance of machinery & systems.

8.3 All equipment must be accessible for use, inspection, cleaning and maintenance. Measures must be taken to avoid wear and damage incident to construction, and to prevent corrosion and deterioration. Equipment subject to freezing must be kept drained, except during sea trials. Equipment must be kept clean and protected from the environment.

8.4 Prior to painting, vessel must be free of construction marks such as gouges, magic marker, pencil, scratches, stains and welding smoke.

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All exposed metal surfaces (excluding deck) must be prepared and painted in such a way to insure long lasting adhesion with no paint blisters. Marine quality paint or coating for commercial use must be used. A minimum of two top coats must be applied with a minimum of 4 to 5 mil thickness per application.

### **9.0 ERGONOMIC DESIGN**

9.1 The design of the vessel must incorporate accessibility, visibility, readability, crew efficiency and comfort for a range of physiques from approx. 5' to 6'4" in height, wearing cold weather clothing and equipment. All rough edges and sharp angled corners must be rounded and ergonomically adapted.

9.2 Weather tight stowage for small items of equipment must be provided in void spaces, and where practical, inside console(s). All stowage compartments must be self-locking, secured by positive means and operable by gloved or insensitive hands. One Master key and two spare must be provided.

### **10.0 MATERIALS - GENERAL**

10.1 All materials must be corrosion resistant and suitable for use as detailed in the Environmental Conditions. All materials normally subjected to sunlight must resist degradation caused by ultraviolet radiation.

10.2 Any dissimilar metals must be insulated from each other.

10.3 Aluminum alloy types 5086, H116 must be used for plate; aluminum alloy 6061-T6 (anodized grade), suitable for type 5356 filler alloy, must be used for extruded shapes and welded tubing and pipe. Non-structural items of trim and outfit such as hatch frames, castings, consoles and hardware items must be of other aluminum alloys best suited for commercial marine salt water use such as dual rated 5083/86 or 5052.

10.4 Stainless steel type 316L or 316 must be used for all stainless steel applications.

10.5 Any fasteners directly threaded into aluminum alloys must be coated and threaded into the appropriate thickness of aluminum.

10.6 Where nuts can become inaccessible after assembly of the vessel, nuts must be captured to allow reassembly and prevent

<p>backing off. Unless otherwise specified, self-locking nut must be installed to prevent loosening of fasteners due to shock and vibration.</p>	
<p><b><u>11.0 HULL DESIGN AND CONSTRUCTION</u></b></p> <p>11.1 Hull design must be a "V" style mono hull with a reverse chine flat that extends from transom to bow area. Lifting strakes must be fitted to allow for shallow water accessibility</p> <p>To re direct waves and spray away from vessel spray strakes must be fitted. Hull shape must not impede water flow to the propulsion unit.</p> <p>11.2 Hull design must have a sufficient number of watertight compartments and/or flotation foam to allow for adequate stability and positive buoyancy in a flooded condition. Low smoke and flame spread or fire retardant flotation foam must be used.</p> <p>11.3 Hull must be constructed of 1/4" plate for bottom and chine. Hull sides and decking must be a minimum 3/16" plate.</p> <p>11.4 Hull must be transversely framed from keel to deck with reinforced longitudinal girders running from transom to as far forward as practical. Transom must be reinforced to support weight of engines and the accompanying thrust.</p> <p>11.5 Welding must be continuous in the hull, deck, bow and transom and other areas subject to corrosion, vibration and impact.</p> <p>11.6 Hull bottom on center line must be reinforced with a minimum 3/8" thick welded aluminum "beaching shoe" to allow for emergency beaching/grounding. Vertical stiffener must be fitted inside on centerline. Sea keeping capabilities and performance must not be affected.</p> <p>11.7 The bow stem must be equipped with two eyes for securely attaching the bow line, trailer hook, safety line, etc.</p> <p>11.8 Two water proof LED lights that are a spot/flood combination must be recessed into bow area below collar, one each side. They must be angled for slower speed travel 20-24 knots. Brand "Rigid" or equal.</p> <p>11.9 The hull above the water line must be prepped and painted. Color must be a dark grey. Below the water line a suitable anti-fouling coating must be applied. Color must be flat black.</p>	
<p><b><u>12.0 DECK CONSTRUCTION AND OUTFITTING</u></b></p> <p>12.1 Deck and the hull must be constructed of similar materials.</p> <p>12.2 Deck must be self-draining by use of scuppers installed at transom. They must be designed for quick and effective drainage of</p>	

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deck area when vessel is at slow speed or stationary. Bow deck must have separate self-drainage.

12.3 Deck above the water tight compartments must have bolted hatches to allow easy access for repair of buoyancy compartments below. Hatches must be fitted to eliminate a tripping hazard. Material must be aluminum.

12.4 Deck area in companionway must have removable panel where practical, to allow for the inspection, maintenance, repair of hull and equipment below.

12.5 All walking decks must have a commercial grade, marine suitable non-skid coating applied. Color must be matte black. Non-skid tape is not acceptable.

12.6 All fasteners must be flush mounted to eliminate tripping and snagging hazards.

12.7 Four lift up type tie downs must be fitted to secure equipment along inside of aft deck. They must be of a suitable size and quality to withstand severe strain when in use. Material must be stainless steel.

12.8 Four pop-up type cleats for mooring, anchoring and towing must be securely mounted flush to deck. Location must be one cleat each side of sliding door and one each side at cabin edge aft. Size must be a minimum of eight inches. Material must stainless steel.

12.9 Four double bit bollards must be securely mounted. One on each side of bow, one on each side of transom. Bollard size must allow for one full turn and three figure eights when securing lines. Material must be welded aluminum.

12.10 Cruciform tow post used for EMERGENCY towing rated for 3000 lbs. (1360 kg.) must be permanently mounted to aft deck ahead of vessel thrust point. A hand cranked tow reel must be fitted at transom with 100 metres of buoyant 3/4 inch topline with eye/chaffing gear fitted at the tow end line. Tow reel must be equipped with a cover that can be quickly removed. An aluminum screen protection barrier must be installed to prevent aft egress and recoil of towing line. Hand rails of a suitable height must be installed on each side of screen barrier. Material must be welded aluminum pipe. Color must be flat black for all items.

12.11 A welded aluminum stowage box for anchor/ lines must be installed at bow. Locker must be self-draining, ventilated, fitted with suitable gasket, properly hinged and lockable. Color must be dark grey. Top of locker must have a commercial grade, marine suited non-skid applied. Color must be flat black. Aluminum hand rails of a proper height must be installed. Color must be flat black.

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12.12 to prevent glare, all surfaces forward of cabin must be painted.  
Color must be flat black.

### **13.0 CABIN - GENERAL**

- 13.1 Cabin must be fully enclosed with a forward cuddy. Adequate working deck space must be arranged at both bow and transom. Cabin color must be dark grey.
- 13.2 Cabin width must extend to tube cradles with a minimum length of 2.75 meters and a minimum width of 2.43 meters. Base of cabin side(s) must be designed as walking deck(s) for the safe passage of crew members to bow and transom areas. Cabin roof aft must extend beyond cabin door to provide shelter.
- 13.3 All interior including cuddy must be properly insulated with thermal insulation. It must be neatly installed and firmly secured. Insulation coverage to include window frames. A wall cladding material must be securely fitted over the insulation. It must be fire retardant, low maintenance and able to withstand low temperatures without cracking or breakage. Color must be dark grey.
- 13.4 A complete Head system must be installed. A shelf for stowage must be fitted above toilet. The size must encompass the maximum width and length allowed in area. Shelf must be hinged on one end and the other end equipped with a quick release mechanism to hold shelf in an up or down position. Privacy curtains must be installed. Head and pump out arrangement must meet both Federal and Provincial Regulations.
- 13.5 Arrangements must be made for proper stowage of a light weight diesel generator with a built in fuel tank. Location must be near aft, below deck. Stowage area must be sound insulated and properly vented. The fuel tank must be hydrostatically or air tested approved. Tank must bear manufacturers' name, capacity and testing data. The generator brand - Genex 3.5KW or equal.
- 13.6 Floor covering in cabin including cuddy must be shock and sound absorbing rubber with embossed tread. Covering must not absorb water. Color must be black.
- 13.7 A total of sixteen welded aluminum grab rails must be fitted, securely attached and located for quick access. They must be painted the color in contrast to grab rail location.  
Color must be grey or flat black. Please see below the following locations:

- (2) - crew seats -one at each
- (1) - helm station- one on side of console going into forward cuddy
- (2) - co-pilot station- one on side of console going into forward cuddy
- (2) - side sliding door (interior) - one just forward of each
- (2) - cabin ceiling full length offset from passage way (one port,one starboard)
- (1) - aft sliding door (interior) starboard side
- (1) - aft sliding door (exterior) starboard side
- (1) - cuddy hatch (interior) starboard side
- (1) - cuddy hatch (exterior) above
- (1) - roof perimeter (exterior)
- (2) - cabin aft (outer exterior) vertical port and starboard

13.8 Contractor must install two (2) dual purpose Carbine/Shotgun racks to be supplied as GFE (Government Furnished Equipment). One rack must be mounted inside cuddy at hatch door positioned for quick access. Other rack must be mounted at aft seat starboard side below window ledge.

13.9 Every effort must be made to minimize sound inside cabin from ambient noise including sound from hull moving through water and waves. Noise level inside cabin with doors open must not exceed 80 db when operating at full speed in one meter waves. Any sound dampening material must not hinder inspection of the interior hull and cabin. Material must be non-combustible /flammable and resistant to absorbing any type of liquid or vapor.

### **13.1 CABIN - Windows**

#### **13.1.1 Windows**

13.1.1 - Window design must allow for maximum lines of sight when coming alongside larger vessels/structures and when turning whether in a seated or standing position. Where practical all windows must be configured to reduce "blind spots".

13.1.2 - Windows must be ¼ inch thick laminated glass fitted into anodized aluminum frames. They must be Category "B" certified ICO6185 standards as per Transport Canada.

13.1.3 - Hardware for windows must be of a commercial grade able to withstand frequent use without damage. Material must be stainless steel. Sliding windows must have removable screens and must slide open to maximum capacity.

13.1.4 - Windshield must be an aft rake design with a minimum of two

windows. Design of windshield must eliminate "blind spots" where practical.

13.1.5 - Each windshield must be equipped with a heavy-duty commercial grade wiper system with pantograph arm installed above windshield. Washer system must have a fluid reservoir of ten liters minimum. The helm and co-pilot stations each must have a control to operate all wipers.

13.1.6 – a minimum of sixteen windows must be located as follows:

- Two – crew seats – one at each
- One – helm station – one on side of console going into forward cuddy
- Two – co-pilot station – one on console, one on side of console going into forward cuddy
- Two – side sliding door (interior) - one just forward of each
- Two – cabin ceiling full length offset from passage way. (one port, one starboard)
- One – aft sliding door (interior) starboard side
- One – aft sliding door (exterior) starboard side
- One – cuddy hatch (interior) starboard side
- One – cuddy hatch (exterior) above

### 13.2 Doors

13.2.1 - All doors must be designed to remain in an open position and close with ease. They must be weather tight, lockable and fitted with a suitable size sill to offset water from deck and overhead. Doors must allow exit/entry of person in full gear with ease. Material must be metal. Color must be same as cabin exterior.

13.2.2 - Doors must be located as follows:

- Two (2) (slide aft) - one at helm and one at co-pilot station to access side decks
- One (1) (slide port) - cabin aft to access aft deck

### 13.3 Consoles – General

13.3.1 - Two (2) separate welded aluminum consoles with walk thru access must be provided. Helm must be located on starboard side and co-pilot station on port side. Consoles must be painted with textured, coating resistant to wear from abrasion, scratching and chipping. The brand Zolatone or equal. Color must be matte black.

13.3.2 - Console face must be at an angle that maximizes a comfortable operating position with good visibility of all console equipment in a standing or seated position. Layout must be arranged in



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an ergonomic manner, to provide easy access to all light switches, controls, electrical panels and easy viewing of navigation, communication and propulsion instruments. Prior to installation Contractor must provide a drawing of proposed lay-out for review and approval by Technical/Inspection Authority.

13.3.3 - All electrical equipment and hardware must be installed in accordance with the manufacturer specifications and must be capable of operating simultaneously with any electronic equipment without causing interference to it or to the magnetic compass.

13.3.4 - Displays for the electronic equipment must be mounted on forward dash. A suitable size opening to access the equipment above for repair or replacement must be provided.

13.3.5 - Three brackets must be securely mounted on ceiling, center forward of consoles. The POLICE radio must be located in the center with a VHF radio on each side. Location must allow for easy access. POLICE radio and antennae will be supplied as Government Furnished Material (GFM)

#### 13.4 Console - Helm Station

13.4.1 – The Contractor must supply and install the following items:

- A) Raymarine GC125 Touch multifunction display complete, interfaced with radar, sounder and FLIR camera.
- B) Raymarine Raystar 125 Plus GPS Sensor - model (E32119).
- C) Raymarine Raynet HS5 - model (A80007) with associated cabling and adaptors.
- D) Raymarine DSM30 Digital Sounder Module - model (E63074) with P319 low profile through hull transducer - model (E66013).
- E) Raymarine - AIS 350 Automatic Identifier (receive only) - model (E32157).
- F) Raymarine – Two ea. 218 DSC marine VHF radios with a 6DBA antennae-model (E43032)

#### 13.5 Console - Co-Pilot Station

The Contractor must supply and install the following items:

- A) Raymarine GS165 Touch multifunction display complete pkg., interfaced with radar, sounder and camera..
- B) Thermal Imaging camera system. Camera must have pan/tilt

capability with controls installed at co-pilot station. The brand Infinity optics FLIR – model (RNG-37X-TI). Keyboard controller – model (X5S IP PTZ/DVR/NVR) must be installed at co-pilot station. Image/controller must be interfaced with both the helm and co-pilot multifunction displays as well as other supported systems.

- C) Standard Horizon Loud Hailer/Fog Horn - model (VLH-3000).
- D) Cell phone signal boosting system with the on/off switch mounted on console. The antenna must be roof mounted.

### 13.6 Seating

13.6.1 - All seats must have welded aluminum framing with shock mitigation marine suspension. Upholstery must be of marine grade materials, resistant to tears, punctures and the deterioration due to environmental exposure. They must be able to support a weight of 130 kg safely. Color must be black.

13.6.2 - The helm and co-pilot seats must be designed to allow a standing or sitting position while providing full comfort and lateral support. Seats must have a high back adjustable fore, aft, and height. They must be equipped with folding arm rests and seat belts. Pistol grip style hand grips must be provided on co-pilot seat only.

Shockwave S3 corbin high back drop down model – SW-S3-T1302 or equal. A suitable size foot rest must be provided at each console designed to not interfere when in a standing position.

13.6.3 - Two additional seats must be installed directly behind helm and co-pilot stations. Seats must have a high back, be adjustable fore, aft and height. They must be equipped with folding arm rests, seat belts and pistol hand grips. Shockwave S3 corbin high back drop down model – SW-S3-1300 or equal. A suitable size foot rest must be provided for each seat.

13.6.4 - Each seat must be securely mounted on a welded aluminum storage box. An opening with a hinged door on the front face must be arranged with a suitable mechanism to hold in an open position. Size of the opening must be maximized for quick and easy access. Boxes must be designed to best utilize interior space and maximize stowage capacity. Color must be black.

13.6.5 - A small work table must be mounted on back of co-pilot seat to provide a work area for crew member aft. It must be fold down with a minimum size of 14 inches wide and 12 inches deep. A robust locking mechanism with quick release must be fitted to keep table stable. It

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must be at proper height for quick access and comfort when in use.

13.6.6 - A large work table must be mounted behind helm for the purpose of a mobile work station. Table must be fold down and hinged to cabin wall. Size must allow for lap top computer with table dimensions of 20 inches wide and 14 inches deep minimum. A robust locking mechanism with quick release must be fitted to keep table stable. It must be at proper height for quick access and comfort when in use.

13.6.7 - All seat locations must have a cup/water bottle holder designed to fold close against cabin wall(s). Material must be metal.

13.6.8 - To allow for the safe stowage of small items such as binoculars, gloves, etc. an open-topped metal bin must be mounted on cabin wall at each seat (excluding helm). Location must be low to deck with quick access. Pinch points caused from shifting of seats must be considered in location of bins. Height of bin must be a minimum of five inches.

#### **Interior Lighting**

13.7.1 - To facilitate night time operations progressive dimmers for all equipment where practical, must be installed.

13.7.2 - Companionway ceiling must have lighting capable of illuminating the entire main cabin in either white or red light. A separate switch must be used for each color.

13.7.3 - Each seat overhead must have both a white and red LED light with dimmers installed. They must operate separate with a switch installed at each light.

13.7.4 - A chart lamp with red LED lighting and dimmer must be installed at each seat position.

13.7.5 - Cuddy and head must be fitted with an overhead 12 volt red/white light.

#### **Heating and Cooling**

13.8.1 - One complete diesel heating system to defrost windshield, side windows and heat cabin interior must be installed. Defroster must have a three speed fan blowing either warm or cold air, capable of clearing entire windshield. Heat ducts must be located at all four seat positions close to deck. Heat duct material must be heavy duty. System must be controlled by a dash mounted thermostat. The brand Espar D4 Airtronic heater system or equal.

13.8.2 - An air conditioning unit must be installed to provide effective cooling inside cabin and cuddy. All outlets facing the companionway must be guarded or inset to avoid being damaged. The air conditioning unit must have isolation valves installed in such a manner that its entire

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system can be winterized to allow for operating the vessel in below freezing conditions.

13.8.3 - Four commercial grade fans must be installed to provide effective cooling inside cabin and cuddy. Fan must be multi directional providing a high level of air flow with no noise. It must have quick connect / disconnect type fittings for easy change-out. Each fan must be located in cabin corner securely mounted to prevent shifting when in rough weather or when being trailered. Material must be metal.

13.8.4 - A hatch must be securely fitted on cabin roof to provide additional interior ventilation. Size must be a minimum of eighteen inches fitted with removable screen. Hatch cover must be weather tight, lockable and equipped with a suitable and robust mechanism to allow door to remain in an open position and close with ease. Location must be the center of cabin.

13.8.5 - A minimum of two vents, one in the cuddy and one in the head must be installed to provide natural air flow from outside. Vents must be weather tight, adjustable and the proper size to provide effective air flow thru out. Vents must be controlled from inside. Material must be heavy duty.

### 13.9 Cuddy

13.9.1 - Cuddy must be designed to provide maximum stowage with one side designated as a large lockable area. Shelving must be supplied and installed from ceiling to deck best suited for a marine environment. Shelving must be easily removed without the use of hand tools.

13.9.2 - Any electric or electronic components inside cuddy must be protected from damage from shifting of stowage items.

13.9.3 - A suitable size microwave must be supplied and mounted in a practical area that accounts for accessibility and maximizes usage of space. The type, location and mounting must consider impact from the vessel maneuvering. When in use power to all other operating systems must not be affected. Prior to installation Technical/Inspection Authority to approve location.

13.9.4 - A hatch above to access bow deck must be provided. Hatch frame must be fitted with suitable material to minimize injury when exiting/entering in full gear. Hatch cover must be hinged on the port side, weather tight, lockable and securely dogged to stay in an open position and close with ease. Cover must be easy to open from both inside & out. Material must be welded aluminum. Color must be same as cabin.

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#### **14.0 COLLAR - INFLATABLE**

14.1 Collar must be constructed of current and proven material that meets or exceeds the criteria for strength, elasticity, resistance to wear and longevity. Any minor damage must be repairable without complete removal of collar. Collar must be securely attached to hull using mechanical fasteners. Material must be Neoprene Hypalon or equal. Color must be black.

14.2 Collar must have a minimum of five separate chambers of approximately equal volume. Each chamber must be fitted with a suitable inflation system and over-pressure relief valves calibrated to 3 psi (the Halkey Roberts model 690BV inflation valve and the Mirada model B51019 - 4.5 psi over pressure relief valve) or equal.

14.3 A semi-auto inflation and monitoring system must be supplied and installed. The system must allow for ease of deflation/re-inflation for all chambers with a minimum pumping ability of 550 litres per minute able to exceed the maximum psi in each chamber.

14.4 Rub strakes must be securely attached to collar to protect against abrasion and puncture. Area must cover entire length of top, sides and underneath of collar. Extruded neoprene rubber or equal. Color must be black.

14.5 Grab lines must be fitted along the centerline on both port and starboard sides attached by removable D-Rings. Grommets must be the proper size and securely attached to allow frequent use without becoming detached. Both the grab lines and D-rings must be easily removed as a single unit. Material must be nylon braided rope construction 1/2" diameter. Color must be black.

14.6 For additional protection a skirt from bow area to mid ship must be bolted to the flange at bottom of collar. Material must be heavy-duty and puncture resistant. Color must be black.

14.7 A complete collar repair kit including a manual air pump must be provided.

14.8 The collar must be supported by parts and service in Canada within 48 hours of receiving the service call.

#### **15.0 PROPULSION SYSTEM**

15.1 The Contractor must supply and install a twin outboard engine system with a combined power of 700 horsepower. Fuel must be regular unleaded fuel (no high-octane). Outboard Engine system must be of a commercial grade capable of meeting or exceeding the

Operational Requirements addressed herein. Engines selected should be of the latest generation high (fuel) efficiency design. Bidder must provide supporting documentation to clearly demonstrate choice of Outboard Engine system.

15.2 As a minimum the following criteria must be considered in choice of engine:

- Minimum noise level,
- Minimum weight
- High alternator output
- Fuel efficient
- Low maintenance
- Proven reliability for service and support

15.3 The instrumentation package for each engine must be digital and include as a minimum, a tachometer, hour meter, trim gauge, fuel gauge, battery indicator meter, water pressure gauge. Size must allow for easy visibility. To facilitate night operations progressive dimmers must be installed where applicable. Audible alarms and warning indicator lights must be installed where applicable.

15.4 Engine(s) control must be dual binnacle type with the additional capability of trim and tilt. Engine controls must conform for commercial use. Control cables must be encased in protective hose. Ignition switch must be keyed and positioned not to collect water. Master Kill switch with lanyard must be included.

15.5 The engines must be mounted on an outboard engine bracket/hull extension that must support the motors and accompanying thrust. Drain plug must be installed in the lowest part at the aft end. A zinc anode mount and zinc anode must be mounted on the aft plate. Material must be welded aluminum.

15.6 Tie bar must be supplied and installed with the proper length to allow engines full movement in either direction. Material must be stainless steel.

15.7 A switch to operate the drive leg trim in unison or separately must be installed at helm. The brand SYNCRO trim switch or equal.

15.8 Propellers must be stainless steel. Contractor must inform the Technical/Inspection Authority prior to sea trials of appropriate pitch and diameter to meet the Operational and Performance requirements.

15.9 An engine guard must be designed to protect the motors from impact. It must be heavy duty constructed of welded aluminum pipe

<p>           suitable for salt water use. Guard must not interfere when engines are tilted or in any steering configuration. Non-skid coating must be applied to top of engine guard. Color must be flat black.         </p> <p>           15.10 Trim tabs must be installed on transom. The electronic indicator control must be installed at helm.         </p> <p>           15.11 The complete outboard engine system must be approved and installed in accordance with the engine manufacturer's recommendations.         </p> <p>           15.12 As a minimum the installation of the controls, lubrication, fuel systems, battery connections must be verified by the outboard engine authorized representative.         </p> <p>           15.13 All components of the propulsion system must be warranted by the original equipment manufacturer for the standard term. Engines and components must not be used, nor trials performed on the engines that would in any way void the manufacturer's warranty.         </p> <p>           15.14 Outboard engines must be supportable by parts and service in Canada within five days.         </p> <p>           15.15 Choice of engines must not exceed maximum outboard rating allowed for proposed hull design as per Transport Canada.         </p>	
<p> <b>16.0 Fuel System</b> </p> <p>           16.1 Fuel system must meet with all requirements of TP 1332 "Construction Standards for Small Vessels" and the most current American Boat and Yacht Council Standards (ABYC).         </p> <p>           16.2 Twin fuel tanks must be fitted with baffles and located below deck. They must be hydrostatically tested, approved and bear manufacturers' name, capacity and testing data.         </p> <p>           16.3 Fuel system must be arranged to allow for maintenance and repair. Fuel lines must be protected from chafe and wear and arranged such that each engine may be supplied from either tank. The fuel shut-off valves must be located to prevent accidental shut-off. They must be readily visible, accessible and clearly labelled in English and French.         </p> <p>           16.4 A fuel/water separator filter is to be mounted "in-line" to each engine with easy access to drain the sediment bowl, a RACOR 320 or equal.         </p> <p>           16.5 Fuel fills must be the type for a high flow nozzle. They must be surface mounted on the side decks located to prevent any over fill draining unto deck. Each must be clearly labelled for fuel type.         </p> <p>           16.6 Fuel system area must be equipped with a proper bilge blower         </p>	

<p>system with both passive and powered ventilation. A gas/fume detector must be installed.</p> <p><b>17.0 Steering/Piping Systems</b></p> <p>17.1 Steering system must be supplied and installed based on engine manufacturers' recommendations.</p> <p>17.2 Where flexible connections are required for steering and fuel systems, suitable hose of a sufficient size, strength and length must be installed to prevent pulsing. The steering hoses must be routed below deck fitted with no pinch or chafing points. Ends must be either permanently crimped or reusable hose ends used. Fittings and clamps must be stainless steel. Exposed hoses must best suited for marine application.</p> <p>17.3 The wheel/console location must be of robust construction, to eliminate fore and aft or lateral movement of wheel/steering shaft fixture. The steering wheel must be stainless steel and properly padded to provide a grip surface. The brand MOMO marine steering wheel or equal.</p>	
<p><b>ELECTRICAL SYSTEM</b></p> <p>18.1 Electrical system must meet the Canadian Standards Association C22.2 NO.183.2-M1983 (R1999) "Standards for D.C. Electrical Installations" and American Bureau Yacht Council (ABYC) where applicable.</p> <p>18.1.1 - All electrical equipment and hardware must be installed in accordance with the manufacturer specifications and must be capable of operating simultaneously with any electronic equipment without causing interference to it or to the magnetic compass.</p> <p>18.1.2 - Electrical system must be designed, installed, and protected for marine application. All wires must be tinned copper strands (CSI type) UL 1426. All wiring must be properly secured and fastened to protect from chafing. Wiring in or behind consoles must be grouped separate and color coded for each system. Each group must be clearly labeled in English.</p> <p>18.1.3 - A 12 volt circuit breaker panel with a breaker for each accessory plus six spare for additional equipment must be installed. The panel must have a digital ammeter to indicate voltage, draw, and charge remaining. Each breaker must be clearly labeled in English. Panel must be equipped with a cover.</p> <p>18.1.4 - Four (4) GFCI protected 110 VAC power receptacles must be installed. One at each seat (excluding helm) and one inside cuddy.</p>	



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18.1.5 - Four (4) 12 volt splash proof auxiliary receptacles must be installed on cabin exterior. One each side of transom, one each side of opening into cuddy. Prior to installation the Technical/ Inspection Authority to approve locations.

18.1.6 - A shore power system with 75 foot extension cord must be installed. Receptacle must be installed on aft wall starboard side.

### 18.2 Battery

18.2.1 - Twelve volt DC distribution system must be provided to power the engine starting and boat service loads including all navigation, instrumentation, interior/exterior lighting, electrical equipment and bilge pumps. Starting battery must be used for engine service loads only.

18.2.2 - Batteries must be of marine quality 12 volt Deep-Cycle maintenance free equipped with rollover caps with the capacity to service engines and ancillary vessel loads. The brand - Premium Group 8D Deep Cycle or equivalent, house service battery with an auto charging relay must be provided.

18.2.3 - Batteries must be connected in accordance with the motor manufacturer's technical specifications. They must be wired to cross connect for twin engine start-up of either engine from either battery. A three kilowatt inverter must be installed.

18.2.4 - Selector switch for batteries must be certified and mounted in a safe location to prevent snagging or accidental switching.

18.2.5 - Batteries must be contained in a suitable size compartment.

Size and location must allow for easy access and removal of batteries. The area must weather tight and fitted with a suitable means of gas venting.

### 18.3 Cabling Installation

18.3.1 - Cables for all power and lighting must be ample size for their particular service. They must be grouped into wiring harnesses where possible color coded, routed below deck or under side decks hidden. PVC conduit pipe must be used for all below deck cabling. Cabling running to the ceiling/roof must be in a raceway easily accessible for maintenance and repairs.

18.3.2 - Cabling/conductors passing through structures without watertight glands must be protected against chafing by the use of abrasive resistant grommets. Cables and conductors must be installed in PVC pipes or wire races of a sufficient size to pass other wires without obstruction. Wires not run through wire ways must be installed with clamps and straps spaced at 18 inches on horizontal runs and 14 inches on vertical runs. Tie wraps are not acceptable.

18.3.3 - All conduit must have a guiding thread to allow for additional

wiring at a later date.	
<p><b>19.0 RADAR ARCH / CABIN ROOF</b></p> <p>19.1 A low profile arch must be constructed of welded aluminum pipe and securely mounted to cabin roof. Position of arch must be forward where practical, to allow all lights mounted be fully visible to oncoming traffic. Suitable size and type of conduit must be installed inside stanchions to accommodate wiring. Waterproof connectors must be fitted and labeled. Arch must be painted same color as cabin exterior.</p> <p>Arch must be equipped with following:</p> <p>19.2.1 - Raymarine 48 inch 12kw Super HD Digital open array radar scanner RA3048SHD model (T52086) or equal.</p> <p>19.2.2 - POLICE siren with PA (Public Address) system. The brand Whelan model WPA 100 with a SA 31 speaker and a WPA control head or equal..</p> <p>19.2.3 - A trumpet style horn operated by a spring loaded switch located at helm.</p> <p>19.2.4 - Six (6) high grade commercial LED flood lights – two port, two starboard, two aft. Switch must be installed at helm.</p> <p>19.2.5 - Two (2) flashing blue lights that must provide a 360 degree arc when illuminated. Lights must be able to flash at regular intervals at a frequency of 50 to 70 flashes per minute. Switch must be installed at helm.</p> <p>Cabin roof must be equipped with the following:</p> <p>19.3.1 - Cabin roof must be coated with a durable commercial grade non-skid coating. Color must be same as cabin - Grey.</p> <p>19.3.2 - The thermal night vision camera. Location must provide 360 degree visibility.</p> <p>19.3.3 - Loud Hailer/Fog Horn – brand Standard Horizon – model (VLH 3000).</p> <p>19.3.4 - To gain access to the roof a step up arrangement with a minimum of two individual steps must be provided on the cabin exterior both port and starboard. Steps must be folding with a weight capacity of a minimum of 130 kg. Location of steps must allow for quick access. Material must be metal. South Park Corporation model (LF S46ZC) or equal.</p> <p>19.3.5 - Two (2) high grade commercial LED flood lights located forward at roof line. Flood lights must provide a minimum of 1000 lumens. Switch must be installed at helm.</p>	

19.3.6 - Two (2) remote controlled search lights one on port side and one on starboard side positioned to provide maximum visibility. Search light must be capable of 360 degree rotation and 140 degree motorized tilt with a minimum of 1,000,000 candelas. Controls for starboard light must be at helm station. Port light controls must at co-pilot station.  
 19.3.7 - One (1) flashing blue light must be mounted forward on roof. Light must be able to flash at regular intervals at a frequency of 50 to 70 flashes per minute. Location must not interfere with FLIR camera or cause any glare. Switch must be installed at helm.

**20.0 NAVIGATION**

20.1 Navigation lighting 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 which may occur when lying alongside a vessel or a pier. Must meet the Canadian Shipping Act, Collision Regulation (COLREGS). The Aqua series 33 LED lights or equal.  
 20.2 Navigation lights must be permanently fitted to cabin located to not interfere with vision from helm or co-pilot station.  
 20.3 Non-white (red or green) lighting must be wired together on a separate breaker of the 12 volt DC electrical system.  
 20.4 An all-round mast light must be mounted on arch. It must be a fold down type that can be easily removed without tools. Wiring must be reinforced to allow for frequent removal. Switch must be installed at helm.  
 20.5 A direct read compass with light must be mounted on dash center of steering wheel. The compass must be equipped with its own waterproof marine-grade dimmer switch and must be adjustable for deviation. The Ritchie Helmsman model (current) or equal.

**21.0 PUMPING AND DRAINAGE**

21.1 A 12 V electric bilge pump with a minimum 2000 gal/h capacity must be fitted in each hull compartment. Each pump must be equipped with an automatic float switch. To prevent debris from entering a suitable metal cage must be provided.  
 21.2 At each pump location must have a float switch with audible alarm to indicate high water as well as a manual flapper switch. Location and installation of switches must allow for inspection, maintenance and repair.

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<p>21.3 Bilge pump control system as a minimum must include a panel with three way on-off-auto switches, with indicator lights for the operation, monitoring of pumps and the audible visual alarm to indicate high water level. The indicator light for pump(s) operation must be installed at helm. Switches must be installed on breaker panel located inside cuddy.</p> <p>21.4 All pump overboard outlets must be located midship. Check valves and handles must be stainless and fitted close to discharge outlets and located for easy access.</p> <p>21.5 A fixed manual pump, diaphragm type must be installed aft to remove any water in the compartments and arranged to discharge directly overboard aft.</p> <p>21.6 Hull drainage - a non-corrosive threaded plug must be provided in the lowest point to drain the hull aft compartment when out of the water.</p>	
<p><b><u>22.0 LIFESAVING &amp; EMERGENCY EQUIPMENT</u></b></p> <p>22.1 The following items must be supplied and installed with proper stowage /securing arrangements. All fittings must be heavy duty stainless steel. All items must be readily accessible.</p> <ul style="list-style-type: none"> <li>• Three (3) Fire extinguishers (Class 1 BC, marine type) – 1 x cabin, 1 x cuddy</li> <li>• Two (2) Boat hooks (8 ft. long retractable) – 1 x aft deck door, 1 forward deck door.</li> <li>• Two (2) Paddles – inside head on wall</li> <li>• One (1) Anchor (Fortress model 11 X or equal) with 100 feet nylon rode</li> <li>• One (1) Drogue sea anchor with 100 feet 1/2" braided nylon line</li> <li>• Six (6) Mooring lines 20 feet X 1/2" braided nylon line with eye spliced on one end</li> <li>• One (1) Lifebuoy with buoyant heaving line of a minimum of 15</li> </ul>	

<p>metres – mounted in transom area</p> <ul style="list-style-type: none"> <li>• Twelve (12) Pyrotechnical distress signals – 3 x Type A, 6 x Type B, 3 x Type C</li> <li>• One (1) Watertight flashlight</li> <li>• One (1) Re-boarding device</li> <li>• One (1) Marine first aid kit – Transport Canada regulations for vessel length</li> <li>• One (1) EPIRB: ACR Global fix TM 406 MHZ EPIRB with integral GPS. Model (RLB-35) Product Number - (2744 Category II)</li> </ul>	
<p><b>23.0 SEA TRIALS - CONTRACTOR</b>          23.1 Contractor must inspect construction quality, test all on board equipment, systems and hull performance to ensure all are fully functional.          23.2 The propulsion system must be operated as per the engine manufacture recommendations to accumulate the hours sufficient for the initial engine service check. An authorized engine manufacturer representative must carry out the service check. Service report must be provided to both the Technical Authority and the Contracting Authority.          23.3 Contractor must submit a Test and Trials Plan a minimum of fourteen days prior to Canada sea trials. Plan will include a description of all the acceptance trials to be performed.          23.4 Prior to sea trials the complete vessel must be weighed and the weight recorded on the Test and Trials form.          23.5 Stability examination as per TP 1332 requires the Contractor to record all stability and structural calculations. Copy must be provided in Operator Technical Manual.</p>	
<p><b>24.0 SEA TRIALS - CANADA</b>          24.1 Contractor must notify the Contracting Authority and Inspector no less than 14 days prior to sea trials. Canada reserves the right to</p>	

witness or decline attendance of sea trials. Absence does not relieve the Contractor of its responsibility to conduct and record sea trials. Upon completion the sea trial report must be forwarded to Canada for review prior to delivery of vessel.

24.2 Contractor must be responsible for supply of fuel, crew, instrumentation and equipment required to conduct sea trials.

24.3 During the trials the vessel must overall demonstrate excellent handling characteristics such as, but not limited to, no slide out in hard turns, maintaining course with no deviation. There must be no constant pounding nor excessive bow immersion.

24.4 As a minimum, the following trials must be conducted in the Normal Load Condition specified at [4.2]:

A) Speed Trials - The Contractor must demonstrate that the vessel meets or exceeds the mandatory speed requirement. The speed trials must be done over a course of at least one nautical mile in length. Two runs must be made over the course, one in each direction, with the speeds for the two runs averaged. The use of GPS data (averaged) is acceptable.

B) Endurance Trials:

- Maximum speed: The vessel is to be operated at maximum engine speed for not less than 1 hour, however, on agreement with the Inspector, a lesser time may be accepted.
- Maximum continuous speed: The vessel must be operated for not less than 2 hours at the maximum engine speed recommended for continuous operation by the engine manufacturer, which must achieve not less than the cruising speed. This trial may be incorporated with the maximum speed trial, on agreement with the Inspector, if the continuous speed is not less than the maximum speed.

During the endurance and other trials it must be demonstrated that all parts of the propulsion system are in full operation. Characteristics such as engine rpm and vessel speed, oil pressure, and temperatures must be recorded. All systems must be operated to check for proper installation.

C) Astern Propulsion - The vessel must be operated and maneuvered using astern propulsion to establish performance.

<p>During the backing performance tests the throttles must be set to provide 1/3 of the rated engine horsepower.</p> <p>D) Steering Gear - The complete steering system must be operated at increasing boat speeds with the vessel being maneuvered through a series of turns port and starboard. Maneuvering trials must be conducted in the.</p> <p>24.4 At the conclusion of sea trials the boat must be thoroughly cleaned and inspected. Outboard engine cooling systems must be flushed through with fresh water.</p> <p>24.5 The Contractor must repair any damage to the vessel or ancillary equipment resulting from sea trials to the satisfaction of the RCMP.</p> <p>24.6 The Contractor must maintain records of testing for each boat for a minimum of two years. A copy of the completed Tests and Trials sheets must be included in the Operator Technical Manual for each vessel.</p>	
<p><b><u>25.0 FINAL INSPECTION</u></b></p> <p>25.1 Final inspection must not be performed until all tests have been satisfactorily completed with data available for review. The boat must be ready for delivery in all respects, except for final preparation for shipment. The Contractor must provide personnel, as required, to resolve questions and to demonstrate equipment operation maintenance accessibility, removal and installation. The Contractor must document the results of the final inspection and submit these results to Canada. Serial numbers and other identifying information must be recorded for each boat and engine.</p>	
<p><b><u>26.0 PACKAGING AND SHIPPING</u></b></p> <p>26.1 Prior to shipping, the boat must be cleaned throughout, preserved and covered as follows:</p> <ul style="list-style-type: none"> <li>A) Vessel interior must be cleaned thoroughly including inside all hatches, all stowage boxes, consoles, cuddy.</li> <li>B) Bilges must be dry and free of oil and debris, and the fuel tanks must be drained if required.</li> <li>C) The propulsion system must be preserved in accordance with manufacturer recommendations for storage in an environment that will be subjected to freezing temperatures for up to one year.</li> <li>D) The batteries must be disconnected for shipping or storage.</li> <li>E) A durable warning tag must be wire tied to the steering wheel indicating vessel has been reserved for shipping and storage</li> </ul>	

<p>and must not be started until the propulsion machinery has been reactivated.</p> <ul style="list-style-type: none"> <li>F) During shipping and storage the vessel must be secured to prevent movement or damage.</li> <li>G) The vessel must be properly covered with shrink wrap to minimize damage during transit.</li> <li>H) Every effort must be made to ensure all contact points between vessel and trailer are properly padded to prevent any damage during transit.</li> <li>I) Vessel must be transported by commercial carrier. Trailer must not be used to deliver the vessel to delivery destination.</li> </ul>	
<p><b>27.0 ACCEPTANCE</b>  <b>27.1</b> Upon delivery, RCMP will inspect vessel and trailer to confirm there has been no damage resulting from shipping. Contractor must repair the damage to the satisfaction of the RCMP.</p>	
<p><b>28.0 OPERATOR TECHNICAL MANUAL</b>  <b>28.1</b> The Contractor upon delivery of vessel must provide one hard copy and one CD/USB of a manual that provides a physical and functional description of the craft, its machinery and equipment. Each manual must have the sections and subsections clearly identified in the same sequence as addressed below. Manual must include, but not be limited to, sections such as the following:      A) General Information      B) Technical Information      C) Initial Spare Parts List      D) Preventive Maintenance List</p> <p><b>28.2 Technical Manual - Requirements</b>  <b>A) General Information Section</b>      This section must include a description of the arrangement and function of all structures, systems, fittings and accessories, with subsections and illustrations as appropriate, for example:      A.1 Operating procedures      A.2 Basic operating characteristics, including as a minimum, temperatures, pressures, flow rates, etc.</p>	



<p>A.3 Installation criteria and drawings, assembly and disassembly instructions with comprehensive illustrations showing each step.</p> <p>A.4 Recommended planned maintenance which clearly illustrates the maintenance required, hourly, daily, monthly and annually for all components including the engine, drive train and hull. Complete troubleshooting procedures must be included.</p> <p><b>B) Technical Information Section</b>                  This must include a complete set of detailed owner/operator instructions, drawings, parts lists and supplemental data for all components of the boat (whether acquired from external sources or custom-manufactured), including:</p> <ul style="list-style-type: none"> <li>• Hull, Collar</li> <li>• Outboard Engine(s)</li> <li>• Systems, with schematics or one-line diagrams, (steering, fuel, electrical, etc.)</li> <li>• Electronics</li> <li>• Fittings, accessories and ancillary equipment.</li> </ul> <p><b>C) Initial Spare Parts List</b>                  This must include a list of recommended initial on board spare parts to be stocked for the craft. As a minimum, this list must include the following items:</p> <ul style="list-style-type: none"> <li>• Propulsion: Propeller, filters, starting battery, throttle/ shift cables, any special engine tools</li> <li>• Electrical: fuses, light bulbs</li> <li>• Boat Structures and Fittings: Miscellaneous commonly used fasteners.</li> </ul>	
<p><b><u>29.0 TRAILER</u></b>  <b>29.1</b> The trailer must be of 10" aluminum I beam construction. It must be designed to safely support the vessel in the loaded condition from stem to transom plus 25% percent reserve. Loaded condition must be full fuel, extra equipment plus 300 kgs. Overall vessel height must not exceed 4.0 meters either in loaded or light condition (no fuel or equipment onboard)</p>	

when trailering.

**29.2 Trailer must be equipped with the following :**

- A) Marine grade pressure treated bunks cut to the dead rise of the hull with UHMW polymer roller and guides in a V-assembly with UHMW polymer on the cross members. Six (6) removable attachment points must be provided.
- B) Tandem axle, 10,000 lbs. each axle with safety lube lubrication system and Timken bearings.
- C) Solid galvanized wheels size 17.5" with 235/75R 17.5" medium truck tires. All stainless steel fasteners, positive pressure air tight bearing protection with grease nipples.
- D) Electric / hydraulic brake actuator, 1600 psi jurisdiction compliant braking system. Calipers, rotors and mounting brackets must be stainless steel with the appropriate brake pads. Spare tire with rim mounted on front of trailer.
- E) Bow winch two speed assembly (3,500 lb. Capacity) on aluminum stand with (14,000 lb. Capacity) a winch rope and non-corroding safety hook.
- F) Side wind style jack with drop leg (8000 lb. capacity) and a (2500 capacity) castor wheel with anti-reversing mechanism.
- G) Heavy duty adjustable yoke with turn buckle, four ratchet tie down straps, four D-ring tie downs.
- H) Safety turnbuckle system to allow for the direct attachment from vessel second bow eye to an eye on trailer frame.(not winch stand)
- I) Lighting must be marine grade submersible LED lights (double

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<p>jacketed water tight system)          with a 7 pole flat prong round plug</p> <p>J) Heavy-duty stand-on fenders constructed of tread plate with rubber matt mud flaps and 25,000 lb capacity weld/bolt on 2 5/16" ball coupler, Class III compliant.</p> <p>K) A minimum of two individual steps installed to gain access to the vessel bow. Steps must be folding with a weight capacity of a minimum of 130 kg. Location of steps must allow for Quick access. Material must be metal. The brand South Park Corporation- model (LF S46ZC) or equal.</p> <p>L) Tool box constructed of tread plate sized to safely carry lug wrench, jack, spare strap, spare hub with bearings and grease.</p> <p>M) Trailer guides with a minimum height of four feet. Material must be white PVC.</p> <p>N) The trailer must be roadworthy and certified street legal for roads in the province of British Columbia.</p>	
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<b>Evaluator's Certification</b>	
print name	signature
	date

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