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Small Craft Harbours Branch

Technical Specifications

PRINCE RUPERT (RUSHBROOK), BC FLOAT AND WHARF REPAIRS

Project Location

299 George Hills Way
Prince Rupert, BC
V8J 1X2

Prepared by

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1. GENERAL

1. PWGSC's General Conditions and related contract documents form an integral part of this section.

2. DEFINITIONS

1. Throughout contract documents, the words "Sites," "Contracting Authority," "Owner," "Engineer/Departmental Representative," "Contractor," "Department," or "Harbour Authority," shall be defined as follows:
 1. Sites
"Sites" referred to herein are Rushbrook Small Craft Harbour, 299 George Hills Way, Prince Rupert, BC.
 2. Contracting Authority
"Contracting Authority" referred to herein is Public Services and Procurement Canada (PSPC).
 3. Owner
"Owner" referred to herein is the Department of Fisheries and Oceans Canada – Small Craft Harbours, Suite 200-401 Burrard Street, Vancouver, BC V6C 3S4.
 4. Engineer/Departmental Representative
"Engineer/Departmental Representative" referred to herein is commonly an employee of the Owner assigned by the Owner as the Engineer and Technical Authority for the project. The Engineer may be a sub-contract Engineer for technical and inspection purposes and the Technical Authority must still be an employee of the Owner.
 5. Contractor
"Contractor" referred to herein is the party accepted by the Owner, with whom a formal contract is signed, to complete the work of this project.
 6. Department
The Department of Fisheries and Oceans, Canada.
 7. Harbour Authority (HA)
Port Edward Harbour Authority, 200 Bayview Dr., Port Edward, BC V0V 1G0.

3. SITE LOCATIONS

1. Rushbrook Small Craft Harbours (the Project Sites) are located in Prince Rupert, British Columbia.

4. TIMING REQUIREMENTS

1. All work may commence **immediately upon contract award.**
2. All Mandatory Work Items including clean-up and demobilization must be completed by **February 18th, 2022.**
3. The Contractor is expected to be familiar with the site including current and historical weather conditions and is to make allowances as necessary in order to complete the work as specified during the indicated work dates.

5. WORK INCLUDED

1. The work under this contract shall include the supply of equipment, labour and materials for the performance of all work as required by the Contract Documents. All replaced items, cut-offs and waste material shall be disposed by the contractor in strict accordance with provincial, local, and municipal regulations and Part 8 of the National Building Code and with the Canadian Construction Safety Code.
2. The work to be carried out under this contract includes the repair floats in the Rushbrook Harbour.
3. A list of owner supplied materials is provided in Section 01 11 02.

6. DESCRIPTION OF ITEMS

The following section describes each work item, as listed in the Unit Price Sheet.

1. Mandatory Work Items

1. **Mobilization/Demobilization- Rushbrook Harbour**

The lump sum cost of mobilization/demobilization includes all labour, equipment and materials (except for Owner Supplied) to complete the following:

1. Move all crew and equipment to Rushbrook Small Craft Harbour.
2. Crew expenses such as goods and accommodations.
3. Site clean-up daily throughout construction.
4. Disposal of any general waste and replaced materials not included in other items.
5. Any overhead costs not covered in other items.

2. Mooring Well Repair

The unit rate cost per lineal metre for this item includes all labour, equipment and materials to complete the following:

1. Supply and install new pile well assemblies as shown in drawings, including steel brackets, UHMW and connection hardware. Supply and install hardware. Cutting of rubstrips to length and steel plates included to suit site conditions.

3. Stringer Replacement

The unit rate cost of the stringer replacement includes all labour, equipment, and materials to complete the following:

1. Remove and dispose of the existing 140mm x 241mm x 8990mm long stringer. Replacement of 140mm x 241mm stringer, splice blocks and associated hardware.
2. Installation of Owner supplied 140mm x 241mm stringer including cutting and field treating required to fit site conditions.
3. All hardware shall be supplied by the Contractor.

4. Bull Rail Replacement

The unit rate cost per lineal metre for this item includes all labour, equipment and materials to complete the following:

1. Remove and dispose of existing untreated 89mm x 141mm bull rail.
2. Install Owner supplied 89mm x 141mm ACZA treated timber bull rail as shown on the drawings, including cutting and field treating as required to fit existing conditions.
3. Connect tie rails to outer stringers, using existing bolt holes, with contractor supplied 3/4" through bolts complete with nuts and washers.

5. Wheel Guards Replacement

The unit rate cost per lineal metre for this item includes all labour, equipment and materials to complete the following:

1. Remove and dispose 9200mm of existing 240mm x 240mm wheel guard on the wharfhead and 15000mm of existing 140mm x 240mm wheel guard from the pavement to the approach as shown on the drawing RB-HR-002.
2. Supply and install 24200mm of 240mm x 240mm wheel guard as per drawing RB-HR-002.
3. Painting wheel guard.

6. Handrail Replacement

The lump sum cost for this item includes all labour, equipment and materials to complete the following:

1. Remove and dispose of existing hand rail and components including two (2) 89mm x 89mm posts.
2. Supply and install handrail components with treated timber as shown on drawing. Change only items identified in the inspection report.
3. Handrail component dimensions as follows:
 - Railing cap: 38mm x 141mm
 - Upper Rail: 38mm x 89mm
 - Mid Rail: 38mm x 141mm

Railing Post: 89mm x 89mm

7. Half Size Fiberglass Pontoon Installation

The unit rate cost to install half size air filled flotation pontoon at Rushbrook Harbour includes all labour, equipment and materials to complete the following:

1. Supply and install four (4) half size fiberglass pontoon as shown on the drawings.
2. Install 610mm x 1144mm x 1144mm long half size fiberglass pontoon in open space between existing 1.22m x 2.44m and 1.22m x 1.22m foam buoyancy billets.
3. Half size fiberglass pontoons will be installed in open float spaces. No removal or disposal of existing foam buoyancy billets required.

8. Fiberglass Pontoon Installation

The unit rate cost to install air filled flotation pontoon at Rushbrook Harbour includes all labour, equipment and materials to complete the following:

1. Supply and install ten (10) fiberglass pontoon as shown on drawings.
2. Install 635mm x 1169mm x 2400mm long fiberglass pontoon in open space between existing 1.22m x 2.44m and 1.22m x 1.22m foam buoyancy billets.
3. Fiberglass pontoons will be installed in open float spaces. No removal or disposal of existing foam buoyancy billets required.

9. Polyethylene Flotation Installation

The unit rate cost to install Polyethylene Flotation at Rushbrook Harbour includes all labour, equipment and materials to complete the following:

1. Supply and install Polyethylene Flotation into empty spaces as marked on the drawing.
2. Dimensions: 584mm x 584mm x 1181mm

Weight: 30lbs

Molded one piece virgin polyethylene float. Polyethylene Floatation Pontoon must provide 860lbs of floatation.

10. Wharf Decking Replacement

The unit rate cost per square meter for this item includes all labour, equipment and materials to complete the following:

1. Remove and dispose all damaged decking.
2. Install 80 square meter of Owner supplied decking with new 102mm x 305mm timber decking including hardware and disposal of existing timber.
3. All decking to be replaced on Wharf identified on drawing.
4. Including cutting/trimming of deck planks as necessary to suit site conditions and field treatment of cut ends.

7. OPTIONAL ITEMS

11. Rub Boards Replacement

The unit rate cost per lineal metre for this item includes all labour, equipment and materials to complete the following:

1. Remove and dispose of all existing ACZA treated timber rub boards.
2. Install Owner supplied 51mm x 203mm x 2438mm long [2" x 12" x 8'] rub boards.
3. Contractor shall supply all required hardware.

12. Fiberglass Pontoon Installation

The unit rate cost to install air filled flotation pontoon at Rushbrook Harbour includes all labour, equipment and materials to complete the following:

4. Supply and install eighteen (18) Fiberglass Pontoon as shown on drawings.

5. Install 635mm x 1169mm x 2400mm long Fiberglass Pontoon in open space between existing 1.22m x 2.44m and 1.22m x 1.22m foam buoyancy billets.
6. Fiberglass Pontoons will be installed in open float spaces. No removal or disposal of existing foam buoyancy billets required.

13. Miscellaneous

The unit rate for this item is the hourly rate of equipment and man hours that are already mobilized and equipped on site to complete general rough carpentry work similar in nature to the above timber float repair scope of work. The Departmental Representative shall direct the work under this line item upon award.

END OF SECTION

1. GENERAL

1. PWGSC's General Conditions and related contract documents form an integral part of this section.

2. OWNER SUPPLIED MATERIAL

This section provides a list of Owner Supplied materials. All other materials required to complete the contract shall be supplied by the Contractor. The following materials shall be supplied by the Owner at the Port Edward Small Craft Harbour 200 Bayview Dr., Port Edward, BC before construction begins.

1. Mandatory Work Items

1. Bull Rail Replacement:
ACZA treated timber. 89mm x 141mm x 5944mm QTY: 265
2. Stringer Replacement:
Creosote treated timber. 241mm x 140mm x 8990mm long QTY: 1
3. Wharf Decking Replacement:
ACZA treated timber 102mm x 305mm x 4877mm long QTY: 22
ACZA timber treated 102mm x 305mm x 7315mm long QTY: 24

2. Optional Work Items

1. Rub Board Replacement:
ACZA treated timber. 51mm x 203mm x 2438mm long QTY: 663

END OF SECTION

1. GENERAL

1. PWGSC's General Conditions and related contract documents form an integral part of this section.

2. COMMENCEMENT AND COMPLETION

1. Work shall commence upon **Contract Award**.
2. All work including clean-up and demobilization must be completed by **February 18th, 2022**.

3. INSPECTION OF SITE

1. It is the responsibility of each bidder to obtain all necessary information pertaining to local site conditions and existing works, beyond the information provided in this Specification and accompanying drawing(s).

4. PERMITS, CERTIFICATIONS, LAWS AND ORDINANCES

1. The contractor must, at their own expense, procure all permits, certificates and licenses required of him by law for the execution of their work under this contract. He shall comply with all Federal, Provincial or Municipal laws, ordinances or rules and regulations relating to the performance of their work and in force during the duration of this contract.
2. The Contractor is required to give all required notices, comply with all local, municipal, provincial, and federal laws, ordinances, codes, by-laws, rules and regulations relating to the work.
3. All work to be done in accordance with Work Safe BC regulations.
4. The Contractor shall comply with Federal and Provincial laws, orders and regulations concerning the control and abatement of water and air pollution.
5. The Contractor shall comply with the requirements of any local or other Noise By-Laws.

5. MINIMUM STANDARDS

1. In the absence of other standards specified in the contract documents, all work is to conform to, or exceed, the minimum standards of the Canadian Government Specifications Boards, the Canadian Standards Association, the American Society for Testing of Materials, or the National Building Code of Canada, whichever is applicable.
2. All work to be done in accordance with Work Safe BC regulations.

6. INTERFERENCE WITH OPERATION

1. The Contractor shall obey all navigation regulations and conduct operations so as to interfere as little as possible with the use of berthing spaces, fairways and passages. Install and maintain any and all protection to navigation as may be required by any properly constituted authority or by the Owner. During the course of construction and clean-up, do not dispose of surplus, waste or demolished materials in navigable waters.
2. The Contractor shall upon instruction of the Owner or Engineer, promptly remove any of the Contractor's equipment located outside the specified work area and obstructing any harbour operation.

7. COMPLIANCE WITH STANDARD SPECIFICATIONS CODES AND REGULATIONS

1. Unless expressly stated to the contrary, all materials, equipment and articles furnished by the Contractor shall comply with the applicable provisions of the standards of the Canadian Standards Association (CSA) or the Canadian Government Specification Board (CGSB) with the applicable provisions of the American Society for Testing Materials (ASTM), National Dredging Association (NFPA), American Concrete Institute (ACI) and the American Water Works Association (AWWA).
2. The Contractor shall follow all regulations in accordance with the Fisheries Act. Care shall be taken not to release any deleterious materials to fish habitat, into the water.
3. All work to be done in accordance with Work Safe BC regulations.

8. CONTRACTOR'S PERSONNEL

1. The Contractor's representative on site shall be completely familiar with the method of work to be employed. Such personnel shall remain on site for the duration of the work.

9. RESPONSIBILITY TO PERSONNEL

1. The Contractor shall have full responsibility for the board, lodging and transportation of their personnel and subcontractors. The cost for this shall be incorporated into their unit prices. He shall comply with all labor requirements, and Worker's Compensation regulations.

10. BARRIERS, LIGHTS AND WATCHING

1. The Contractor shall provide all requisite barriers, fences, warning signs, lights and watching for the protection of persons and property on or adjacent to the site.

11. SITE ACCESS

1. The Contractor shall provide access to the work for the Owner's inspectors and surveyors as required.
2. General site access shall be coordinated with the Owner.
3. The owner will occupy the site for the duration of construction. Pedestrian access to floats must be maintained at all times by the contractor.
4. The Contractor shall maintain routes of travel, with the Owner being the sole judge as to what may be deemed reasonable.
5. The Contractor shall erect and maintain barriers, fences, lights, warning devices, and other protective devices as may be required for prevention of theft or damage of goods and protection of the public and workmen, or if so ordered by the Owner.

12. CONSTRUCTION AREA

1. The Contractor shall regulate construction traffic on public areas and comply with all local ordinances in connection therewith, including load limitation and removal of debris.
2. The Contractor shall confine their operations on the site to those areas actually required for the work including routes and regulations approved by the Owner for haulage of materials.

13. NIGHT WORK

1. The Contractor shall keep proper lights each night between the hours of sunset and sunrise upon all floating plants, false-work and other obstructions where necessary, and upon all buoys of such size and in such locations as required by a governing authority. When work is done at night, maintain from sunset to sunrise such lights on or about the work and plant as necessary for the proper observation of the work and the efficient prosecution thereof.

14. CLEAN UP

1. At all times the Contractor shall keep the site free from accumulation of waste material and debris and leave the site clean and tidy on completion.

15. TEMPORARY SERVICES

1. On site the Contractor shall make their own arrangements for supply of water and electricity.
2. The Contractor shall supply for their own use; sanitary, first aid, and all other temporary services and facilities required for the work.

16. PROGRESS REPORT

1. The Contractor shall keep a daily record of progress of the work available for inspection by the Engineer.
2. The daily record shall include particulars of weather conditions, number of men working, plant and equipment working and work performed.

17. ENGINEER'S ACCESS

1. The Contractor shall provide access to the work for the Engineer's inspectors and surveyors as required.

18. PERMITS AND ROYALTIES

1. Permits and licenses required for the Contractors work are the responsibility of the Contractor and shall be for the Contractor's account. The Contractor shall have the appropriate business license.

19. PROTECTION OF EXISTING STRUCTURES

1. Existing structures, adjacent marine facilities, roads, services, piping or equipment within the work area which are not to be replaced shall be properly protected from any injury or damage, direct or indirect. Any damage that is caused as a result of the operations of the Contractor shall be repaired and made good at the Contractor's expense to the satisfaction of the Engineer.

20. WEATHER

1. Time lost by the Contractor due to stoppage on account of adverse weather conditions may be allowed, at the discretion of the Engineer, as an extension of time for the completion of the work over and above the date of completion specified in the contract agreement.

21. SOIL DATA AND EXISTING TOPOGRAPHY

1. The Contractor shall notify the Engineer of any subsurface conditions at the place of the work that may differ materially from those indicated in the contract documents.

22. UTILITIES AND SERVICES

1. The Contractor shall be responsible for any damage to overhead, underwater and/or underground utilities and/or services caused by the Contractor's operations and shall repair and make good the repairs at the Contractor's own expense.
2. The Contractor shall be responsible, unless otherwise agreed to by the Engineer, for all temporary or construction services and utilities, and first aid facilities.

23. CARE OF FINISHED WORK

1. The Contractor shall protect all finished work from injury, defacement, unauthorized entry, or trespass until such time as the work described in the contract documents is substantially complete.

24. DISPOSAL

All material designated to be replaced or removed will become the property of the Contractor and will be disposed of in an environmentally acceptable manner so that they neither become a menace to marine navigation nor a nuisance to the public on adjacent or any other property.

1. All replaced items, cut-offs and waste material shall be disposed by the Contractor in strict accordance with provincial, local, and municipal regulations and Part 8 of the National Building Code and with the Canadian Construction Safety Code.
2. Conduct clean-up and disposal operations to comply with local ordinances and antipollution laws.
3. The Contractor is responsible for all costs related to the disposal of any material.

25. MATERIAL HANDLING AND STORAGE

1. Any materials damaged by the Contractor during handling, transportation and storage shall be replaced at the Contractor's expense.
2. While the Contractor is mobilized on site, the Contractor is responsible for protecting all materials (including Owner supplied materials) from damage and theft. As a minimum, the Contractor shall provide fencing around any stored materials that are accessible to the general public.

26. CONSTRUCTING WORK SCHEDULE

1. The Contractor shall work whatever shifts required in order to ensure the work meets regulatory windows and is completed by the completion date of the contract.
2. The Contractor shall normally perform all work within daylight hours, except in instances where the Contractor has requested and received approval for shift changes from the Owner.

3. Within 7 days of award the Contractor shall supply a week by week schedule of proposed activities related to the contract.
4. The Contractor must notify the Owner immediately whenever a variation from the construction schedule is expected to occur or when the submission of the submittals will be delayed.

27. SETTING OUT OF WORK

1. The Contractor is expected to familiarize themselves with the site, facilities and amenities within.
2. The Contractor shall not enter on nor occupy with men, tools, equipment or material, any ground outside the property of the Harbour Authority without the written consent of the party owning such ground. Other Contractors or employees or representatives of the Department may, for all necessary purposes, enter upon the work and premises used by the Contractor, and the Contractor shall conduct their work so as not to impede unnecessarily any work being done by others nor adjacent to the site.

28. AS-BUILT DRAWINGS

1. The Contractor shall mark up one set of plans with any changes or amendments implemented during the Contract. These plans shall be submitted to the engineer before the Final Certificate of completion is issued.

29. SITE SECURITY

1. The Contractor is responsible for all materials and equipment either supplied by the Contractor, the Client Department, or the Owner. The Contractor is responsible for the repair and replacement of stolen or damaged items.

30. SITEWORK

1. All heavy construction equipment shall be free of leaks and cleaned prior to construction.
2. The Contractor shall have absorbent pads on site in case of any oil leaks or contaminants entering the water.
3. The Contractor shall develop a construction plan that minimizes disruption to harbour operations.

4. Contractor must maintain routes of travel for pedestrian access to all areas of the floats at all times during construction.

31. CO-OPERATION WITH HARBOUR AUTHORITY

1. The Contractor shall give the Harbour Authority **minimum 1 week notice** for start of construction.
2. The Contractor shall give the Harbour Authority **minimum 48 hours' notice** for work that requires vessels to be moved.
3. The Contractor shall give the Harbour Authority **minimum 48 hours' notice** for work that may interrupt harbour operations including access to floats.

32. CONDITION OF STRUCTURE

1. Existing structures, adjacent marine facilities, roads, and all other structures, services, piping or equipment within the work area shall be properly protected from any injury or damage, direct or indirect. Any damage that is caused as a result of the operations of the Contractor shall be repaired and made good at the Contractors expense to the satisfaction of the Owner.

33. INSPECTION OF STRUCTURE

1. The Owner or inspector, shall inspect the completed works. The Contractor shall be responsible for the costs of any re-inspections that may be required due to errors or omissions of the Contractor.

END OF SECTION

1. GENERAL

1. PWGSC's General Conditions and related contract documents form an integral part of this section.

2. REFERENCE DOCUMENTS

Unless specified otherwise, Health and Safety Requirements shall conform to the current edition of the following standards:

1. Government of Canada
Canada Labour Code, Part II
Canada Occupational Health and Safety Regulations.
2. Health Canada/Workplace Hazardous Materials Information System (WHMIS)
 1. Material Safety Data Sheets (MSDS).
3. National Building Code of Canada (NBC):
Part 8, Safety Measures at Construction and Demolition Sites.
4. Canadian Standards Association (CSA):
CSA S269, Falsework for Construction Purposes.
CSA S269.2, Access Scaffolding for Construction Purposes.
CSA-S350, Code of Practice for Safety in Demolition of Structures.
5. Province of British Columbia:
Workers Compensation Act. Part 3 Occupational Health and Safety.
Occupational Health and Safety Regulations.

3. GENERAL CONDITIONS

1. Provide safety barricades around work site as required to provide a safe working environment for workers and protection for pedestrian traffic.
2. Ensure that non-authorized persons are not allowed to circulate in designated construction areas of the work site.

3. Provide appropriate means by use of barricades, fences, and warning signs as required.
4. Secure site at night time as deemed necessary to protect site against entry.
5. Mark floating equipment with lights in accordance with International Rules of Road and maintain radio watch on board.
6. Place and maintain buoys, markers and lights required to define work and disposal areas.

4. RESPONSIBILITY

1. Assume responsibility as the Prime Contractor under this Contract.
2. Be responsible for health and safety of persons on site, safety of property on site and for protection of persons adjacent to site and environment to extent that they may be affected by conduct of Work.
3. Comply with and enforce compliance by employees with safety requirements of contract documents, applicable federal, provincial, territorial and local statutes, regulations, and ordinances, and with site-specific Health and Safety Plan.

5. GENERAL REQUIREMENTS

1. Comply with specified codes, acts, bylaws, standards and regulations to ensure safe operations at site.
2. In event of conflict between any provision of the above authorities, the most stringent provision will apply. Should a dispute arise in determining the most stringent requirement, the Departmental Representative will advise on the course of action to be followed.
3. Mark floating equipment with lights in accordance with requirements and directives of Queen's Harbour Master.
4. Develop written site-specific Health and Safety Plan based on hazard assessment prior to beginning site Work and continue to implement, maintain, and enforce plan until final demobilization from site. Health and Safety Plan must address project specifications.
5. Departmental Representative may respond in writing, where deficiencies or concerns are noted and may request re-submission with correction of deficiencies or concerns

6. COMPLIANCE REQUIREMENTS

1. Small Craft Harbours may terminate the Contract without liability to Small Craft Harbours where the Contractor, in the opinion of Small Craft Harbours, refuses to comply with a requirement of the Workers' Compensation Act or the Occupational Health and Safety Regulations.
2. It is the Contractor's responsibility to ensure that all workers are qualified, competent and certified to perform the work as required by the Workers' Compensation Act or the Occupational Health and Safety Regulations.
3. Comply with Workers Compensation Act, B.C.
4. Comply with Occupational Health and Safety Regulations.
5. Comply with Canada Labour Code, Canada Occupational Safety and Health Regulations.

7. WORKER'S COMPENSATION BOARD COVERAGE

1. Comply fully with the Workers' Compensation Act, regulations and orders made pursuant thereto, and any amendments up to the completion of the work.
2. Maintain Workers' Compensation Board coverage during the term of the Contract, until and including the date that the Certificate of Final Completion is issued.

8. SUBMITTALS

1. Submit site-specific Health and Safety Plan: Within 7 days after date of Notice to Proceed and prior to commencement of Work. Health and Safety Plan must include:
 1. Results of site specific safety hazard assessment.
 2. Results of safety and health risk or hazard analysis for site tasks and operation found in work plan.
 3. Risk Management and Safety Procedure for possible events including but not limited to storm, fire, and fall.
2. Submit one copy of Contractor's authorized representative's work site health and safety inspection reports to Departmental Representative weekly.

3. Submit copies of reports or directions issued by Federal, Provincial and Territorial health and safety inspectors.
4. Submit copies of incident and accident reports.
5. Submit WHMIS MSDS - Material Safety Data Sheets if requested.
6. Departmental Representative may review Contractor's site-specific Health and Safety Plan and provide comments to Contractor within 5 days after receipt of plan. Revise plan as appropriate and resubmit plan to Departmental Representative within 5 days after receipt of comments from Departmental Representative.
7. Departmental Representative review of Contractor's final Health and Safety plan should not be construed as approval and does not reduce the Contractor's overall responsibility for construction Health and Safety.
8. Medical Surveillance: where prescribed by legislation, regulation or safety program, submit certification of medical surveillance for site personnel prior to commencement of Work, and submit additional certifications for any new site personnel to Departmental Representative.
9. Submit on-site Contingency and Emergency Response Plan which addresses standard operating procedures to be implemented during emergency situations if requested.

9. FILING OF NOTICE

1. File Notice of Project with Provincial authorities prior to beginning of Work.

10. SAFETY ASSESMENT

1. Perform site specific safety hazard assessment related to project.

11. MEETINGS

1. Schedule and administer Health and Safety meeting prior to commencement of Work.

12. PROJECT/SITE CONDITIONS

1. Work at site will involve contact with:

1. Harbour Manager.
2. Departmental Representative.

13. UNFORSEEN HAZARDS

1. When unforeseen or peculiar safety-related factor, hazard, or condition occur during performance of Work, follow procedures in place for Employee's Right to Refuse Work in accordance with Acts and Regulations of Province having jurisdiction and advise Departmental Representative verbally and in writing.

14. HEALTH AND SAFETY CO-ORDINATOR

1. Employ and assign to Work, competent and authorized representative as Health and Safety Coordinator. Health and Safety Coordinator must:
 1. Have site-related working experience specific to activities associated with the repairs.
 2. Have working knowledge of occupational safety and health regulations.
 3. Be responsible for completing Contractor's Health and Safety Training Sessions and ensuring that personnel not successfully completing required training are not permitted to enter site to perform Work.
 4. Be responsible for implementing, enforcing daily and monitoring site-specific Contractor's Health and Safety Plan.
 5. Be on site during execution of Work.

15. POSTING OF DOCUMENTS

1. Ensure applicable items, articles, notices and orders are posted in conspicuous location on site in accordance with Acts and Regulations of Province having jurisdiction, and in consultation with Departmental Representative.

16. CORRECTION OF NON-COMPLIANCE

1. Immediately address health and safety non-compliance issues identified by authority having jurisdiction or by Departmental Representative.

2. Provide Departmental Representative with written report of action taken to correct non-compliance of health and safety issues identified.
3. Departmental Representative may stop Work if non-compliance of health and safety regulations is not corrected.

17. WORK STOPPAGE

1. Give precedence to safety and health of public and site personnel and protection of environment over cost and schedule considerations for Work.

END OF SECTION

1. GENERAL

1. PWGSC's General Conditions and related contract documents form an integral part of this section.
2. Description
 1. This Section describes environmental procedures that are required for the Contract. Contractor shall be responsible for adhering to these special procedures while completing all work under this Contract.
 2. Environmental degradation arising from construction activities shall be prevented, abated, controlled, and minimized by complying with all applicable federal, provincial, and local laws and regulations concerning environmental pollution control and abatement, as well as the specific requirements in the Project Permits.
 3. Contractor shall comply with all permit conditions. Although provincial laws and municipal by-laws generally do not apply on federal lands, Contractor will respect provincial laws and municipal bylaws and rules at the Site.
 4. Contractor is responsible for environmental protection during all construction activities at all locations it performs work.
3. References
 1. Definitions:
 1. Environmental Pollution and Damage: presence of chemical, physical, biological elements or agents which adversely affect human health and welfare; unfavorably alter ecological balances of importance to human life; affect other species of importance to humans; or degrade environment aesthetically, culturally and/or historically.
 2. Environmental Protection: prevention/control of pollution and habitat or environment disruption during construction.
4. In Water Work
 1. Construction equipment to be operated on land or from floating barge equipment.
 2. Waterways to be kept free of excavated fill, waste material and debris.
5. Notification

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1. Engineer will notify Contractor in writing of observed noncompliance with Federal, Provincial or Municipal environmental laws or regulations, permits, and other elements of Contractor's Environmental Protection plan.
 2. Contractor: after receipt of such notice, Engineer of proposed corrective action and take such action for approval by Engineer.
 1. Take action only after receipt of written approval by Engineer.
 3. Engineer will issue stop order of work until satisfactory corrective action has been taken.
 4. No time extensions granted or equitable adjustments allowed to Contractor for such suspensions.
6. Measurement and Payment
1. Environmental Procedures are considered incidental to the work and will not be measured separately. No separate payment will be made under the Section.
7. Environmental Responsibility
1. Contractor shall demonstrate in the performance of the work that it is environmentally responsible by complying with environmental legislation, regulations, and authorizations.
 2. Follow all Departmental Representative instructions and policies, practices, and procedures established by Departmental Representative with respect to the environment that are communicated by Departmental Representative to Contractor from time to time.
 3. Be observant for, and immediately notifying Departmental Representative of, any environmental problems that develop at the Work Site.
 4. Take all reasonable and necessary measures in the performance of the work to avoid causing negative impacts to the environment. Where negative impacts occur, Contractor shall immediately advise Departmental Representative and shall be solely liable to undertake all reasonable and necessary measures to minimize the effect of such negative impacts and restoring the site to pre-impact conditions.
 5. Maintain key pollution control systems in working condition throughout the project and undertake all works such that there are no unauthorized discharges of liquids or solids to the marine environment, or of gas to the atmosphere.
 6. Maintain a neat work area free of unnecessary debris, tools, equipment, or materials; dispose of sewage, refuse, and chemical wastes in compliance with the Best Management Practices and applicable federal, provincial, and

municipal or local legislation, regulations, or laws; and remove all tools, equipment, supplies, and wastes from the site upon completion of the work.

7. Ensure that workers and supervisory staff are knowledgeable with the provisions of the proposed Spill Emergency Response Plan and are adequately trained to implement the measures contained therein.

2. EXECUTION

1. Cleaning

1. Leave work area clean at end of each day.
2. Ensure public waterways, storm and sanitary sewers remain free of waste and volatile materials.
3. Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment to the approval of the Owner.

2. Fires

1. Fires and burning of rubbish on Site is not permitted.

3. Spill or Release of Deleterious Substances

1. Contractor shall immediately contain and assess the spill, provide appropriate notifications, and take the necessary steps to prevent further discharge. Contractor is responsible for immediate cleanup of the spill and restoration of the area to the satisfaction of Departmental Representative and other regulatory agencies, where involved.
2. All workers shall be fully aware of the spill presentation and response procedures including notification of Departmental Representative.
3. Departmental Representative shall be immediately informed of all spills that occur at the Work Site.
4. Further information on dangerous goods emergency cleanup and precautions including a list of companies performing this work can be obtained from the Transport Canada 24-hour number (613) 996-6666 collect.
5. Spill kits will be kept at the Work Site at all times.
6. Contractor shall take due care to ensure no deleterious materials, including sediment laden runoff, leave the Work Site or enter any surface water or storm water at or near the Work Site.
7. The application of paints, corrosion protective coatings, wood preservatives or any other potentially deleterious substance should occur away from water

wherever possible to ensure no accidental release of deleterious chemicals by runoff or overspray.

8. Any equipment remaining on site overnight shall have appropriately placed drip pans or other spill/leak containment measures.

4. Noise and Light Control

1. All construction equipment shall be operated with exhaust system in good repair to minimize noise.
2. Ensure that noise control devices (i.e. mufflers and silencers) on construction equipment are properly maintained.
3. Contractor shall implement use of lighting shrouds for work to be completed during night-time hours to minimize lighting disruptions to local residents.

5. Painting

1. Timber specified to be painted will receive one brushed undercoat. After 48 hours, two brushed finish coats of 2-part urethane paint will be applied with a minimum of 48 hours between finish coats. Paint will be applied to clean, dry surfaces only.
2. Provide paint specifications to Owner to be approved before construction.
3. Paint colours will match the following:
 1. “Signal Red”
 2. “Safety Yellow”

6. Notifications

1. The Department Representative will notify Contractor, in writing, of observed noncompliance with Federal, Provincial or Municipal environmental laws or regulations, permits, and other elements of Contractor’s Environmental Protection plan.
2. The Contractor shall inform the Engineer of proposed corrective action after receipt of such notice, and take such action approval by the Engineer.
3. Departmental Representative will issue stop order of the work until satisfactory corrective action has been taken.

END OF SECTION

1. WORKMANSHIP

1. All fabrication and erection of structural steel shall comply with CSA Standard CAN3 S16.1, latest revision.

2. MATERIALS

1. Hollow structural steel sections shall conform to CSA Standard G40.20/G40.21-M, Class "C", Grade 350W.
2. All other rolled sections and miscellaneous plate shall be grade 300W, unless noted otherwise on the drawings, in conformance with CSA Standard G40.20/G40.21-M.
3. All structural steel members shall be made of the size and weight shown on the drawings unless written approval for any change is first obtained from the Engineer.
4. Bolts, washers and nuts shall conform to ASTM specification A325.

3. WELDING

1. Welding practice and qualifications of welders and erectors of welded construction shall conform to the requirements of CSA Standards W47, W48, and W59 latest editions. The metallurgy of weld metal shall be similar to the parent material.
2. Unless noted otherwise, all welds shall develop the full strength of the connected members, and shall be continuous seal welds with a minimum 6 mm leg length.
3. Where on the drawings it is called for double sided welding; the welding details called for on the near side shall be duplicated on the far side if not called up otherwise.

4. INSPECTION

1. The Contractor shall furnish all facilities for inspecting and testing the weight, dimensions and quality of workmanship at the shop where the material is fabricated.
2. The Engineer shall be notified well in advance of the start of work, in order to allow sufficient time for inspection of material and workmanship.

5. SHOP DRAWINGS

1. Submittal of shop drawings will not be required.

6. COATINGS

1. All bolts, inserts, washers, connection brackets and nuts shall be hot dip galvanized in accordance with ASTM Specifications A-153 or A-123 or CSA G 164-M (minimum zinc coating 610 g/m²).

END OF SECTION

1. SCOPE OF WORK

1. PWGSC's General Conditions and related contract documents form an integral part of this section.
2. All work shall be carried out in accordance with Specification CAN/CSA 086.1-M, latest revision and in accordance with Best Management Practices (BMP) for the use of treated wood in aquatic environments.
3. Lumber identification: by grade stamp of an agency certified by Canadian Lumber Standards Accreditation Board.

2. PRODUCT

1. Lumber Material
 1. Lumber grades shall conform to the requirements of the N.L.G.A. Standard Grading Rules for Canadian Lumber, latest revision.
 2. All lumber except deck planks and handrails shall be D.Fir-L(N), No. 1 Structural grade or better as called for on the drawings. Deck planks and handrails shall be D.Fir-L(N), No. 2 Structural grade or better.
 3. All lumber, unless specified otherwise, shall be properly air dried and seasoned, containing not more than 19% moisture.
2. Fasteners
 1. All bolts, nuts and washers shall be hot dip galvanised in accordance with Specification CAN/CSA G164-M.
 2. Bolt holes in timber shall be bored to provide driving fit. Holes for drift bolts shall be 2 mm undersize and longer than the drift bolts.
 3. All bolts to meet the requirements of Standard ASTM - A307.
3. Wood Preservatives
 1. All preservative treatment, inspection and re-treatment shall be in accordance with Specification CAN/CSA 080-M, latest edition.
 2. All lumber except pile caps, stringers, braces and chocks shall be given a ACZA preservative treatment in accordance with the Best Management Practices.
 3. Pile caps, stringers, braces and chocks shall be given a full-cell creosote treatment in accordance with the Best Management Practices for Creosote, to a net retention of 224 kg per m³ (14 lb/c.f.) and to a minimum penetration of 22 mm (7/8 inch).
 4. All treated timbers shall be incised before treatment.

3. EXECUTION

1. All timber, which has been given a preservative treatment, shall be carefully handled to avoid breaking through the treated surfaces. Cant hooks and rafting dogs shall not be used on timbers. No spikes shall be driven into timbers except to tack the timbers in their final position. If spikes are used, they shall be fully driven and left in.
2. Bolt holes and countersunk holes shall be filled with ACZA preservative and the bolts shall be dipped in ACZA preservative concentrate before the bolts are placed. Bolt holes with a final position at an elevation below high water level shall be filled with approved mastic before the bolts are placed.
3. All structural timber used in the work shall be carefully and accurately placed in accordance with the drawings.
4. Deck planks shall be fastened with two galvanized ARDOX spiral nails at each contact with one nail at each side of the plank and pre drilled to prevent splitting. Nails shall be 100 mm long for deck planks on the floats and 200 mm long for deck planks, rub board nailing, and bolting for bull rails on the approach and wharf head.
5. Field Treating
 1. All field cut creosote members shall also be protected by covering the ends with caps consisting of 12mm (1/2") of roof patch mastic and two thickness of tar-saturated fabric and a cap consisting of .050 inch thick copper sheeting. The cap shall extend 100mm from the end of the timber. Attach with minimum ten copper nails (copper deters marine borders). All field drilled holes in creosote timbers shall be protected by installing a bolt fully covered in Roof Patch mastic.
 2. All salt treated members that are modified (cut or drilled shall be field treated with two coats of copper naphthenate or pentachlorophenol. When field treating by brushing, spraying, dipping or soaking, do so in such manner that the preservative does not drip into the water or into the ground.
 3. Ensure field preservatives are properly stored and protected in case of spillage. (ie: Place in tray).

END OF SECTION

1. GENERAL

1. Related Sections
 1. Section 00 10 00 – Schedule of Quantities and Prices
 2. Section 01 11 00 – Summary of Work
2. Measurement Procedures
 1. Measurement will be based on number of pontoons supplied.
3. References
 1. Canadian Plywood Association (CANPLY)
 1. Plywood Handbook-2002
 2. Canadian Standards Association (CSA International)
 1. CSA B111-1974(R2003), Wire Nails, Spikes and Staples.
 2. CSA O112 Series-M1977(R2006), CSA Standards for Wood Adhesives.
 3. CSA O121-M1978(R2003), Douglas Fir Plywood.
 3. National Lumber Grades Authority (NLGA)
 1. NLGA Standard Grading Rules for Canadian Lumber (Interpretation Included) – December, 2005.
 4. The Engineering Wood Association (APA)
4. Drawings
 1. Full Pontoon Detail
 2. Half Pontoon Detail
5. Submittals
 1. Product Data: submit manufacturer's printed product literature, specifications and datasheet.
 2. Manufacturer's Instructions: submit manufacturer's installation instructions.

2. PRODUCTS

1. Materials
 1. Lumber:

1. Lumber to be graded and stamped in accordance with applicable grading rules and standards of associations or agencies approved to grade lumber by Canadian Lumber Standards Accredited Boards of CSA.
 2. Species: Douglas Fir.
 3. Grade: Structural No. 1 or better (kiln dried)
 4. Grading: authority NLGA.
2. Glue: to CSA O112 Series. Frame joints to be glued with waterproof cold setting resorcinol or phenol resorcinol resin or equivalent marine grade glue.
 3. Plywood:
 1. Douglas Fir plywood: to CSA O121.
 2. Grade: solid two sided.
 3. Thickness: 13mm
 4. Grading authority: CANPLY Plywood Handbook.
 4. Fasteners: Stainless steel wood screws, and hot dip galvanized spikes, staples to CSA B111
 5. Glass fibre exterior coating:
 1. Glass fibre cloth: 340 g/m³ fabric.
 2. Polyester resin: general purpose, air dry type.
 3. Do not use colouring additives in resin.
 4. Final finish coat: gel coat resin.
 6. Pump hole: cast bronze, stainless steel or UV stable plastic suitable for marine use.
 1. Decking fitting: 76 mm inside diameter.
 2. Plug: screw type with two key holes.
 3. Plug threads: to be greased before placing. Leaving plugs loose during shipment.
 7. Fabrication
 1. Overall dimensions of finished pontoon: length 2400 mm, breadth 1169 mm and height 635 mm.

3. EXECUTION

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1. Construction
 1. Manufacturer's Instructions: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and datasheet.
 2. Frame
 1. Construct frame in accordance with details as indicated
 2. Secure each joint by gluing each contact surface and fastened with #8 stainless steel wood screws.
 3. Sheathing
 1. Sheath frame with single sheets of 13 mm plywood.
 2. Secure sheathing to frame with glue and #8 38 mm stainless steel wood screws at 152 mm centres.
 3. Use filler as reviewed by Departmental Representative.
 1. Use glue and filler to fill and eliminate minor imperfections between frame and sheathing. Fill and sand smooth imperfections in surface.
 4. Round edges to 16 mm radius as long as this radius is suitable for glassing the specified weight of cloth tape and sheathing.
 4. Exterior Coating
 1. Cover exterior surfaces of pontoon with layer of glass fibre cloth impregnated with polyester resin. Chopped fibre glass will not be permitted
 2. Method of application of cloth and resin to ensure that bond between coating and plywood is stronger than bond between plywood layers when tested to failure.
 3. Minimum thickness of finished coating: 1.6 mm.
 4. Cover surfaces of cloth must be completely penetrated with resin and exceed minimum thickness where necessary to achieve full cover.
 5. Do not apply resin when temperature is below 10 degrees C or when plywood has moisture content in excess of 8% by mass.
 6. Overlap glass cloth at joints: 51 mm minimum.
 7. Do not make joints in glass cloth parallel to and within 51 mm of any edge.
 8. Use two plies of glass cloth on pontoon edges and carry extra ply at least 51 mm from edges.
 9. Work out air bubbles, cloth wrinkles, resin runs, and foreign material.

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10. Sand surface lightly and inspect for air bubbles, pin holes and resin runs after resin surface is thoroughly dry.
 1. Sand out such imperfections completely.
 2. Patch with glass cloth and resin to cover area two times size of imperfection.
 11. Apply two final coats of hard setting clear finish coat to surfaces of pontoon.
 12. Site Tolerances: plus or minus 25 mm on overall dimensions.
5. Interior Finishing
1. Prior to installing the top plywood plate, apply one coat of resin in the interior of the pontoon.
 2. Install one piece of polystyrene foam minimum 300mm x 300mm x 300mm, inside the pontoon prior to attaching the top plywood plate.
6. Field Quality Control
1. Site Tests/Inspections:
 1. Provide Departmental Representative with minimum of 5 days' notice of date of beginning Work on pontoons and provide access to Work for inspection.
 2. Pontoons constructed in whole or in part without inspection will not be accepted.
 3. Final inspection of pontoon will be made in place.
 4. Evidence of water in pontoon regardless of amount will be cause for rejection.

END OF SECTION

