

F1571-155024/A

Tofino 4th Street Float Reconstruction

Specifications / Statement of Work

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END OF SECTION

001100 Summary of Work

Part 1 General

1.1 RELATED REQUIREMENTS

- .1 Section 00 20 60 – DEMOLITION OF STRUCTURES.
- .2 Section 00 51 00 – STEEL HARDWARE.
- .3 Section 00 98 00 – TIMBER PILES.
- .4 Section 00 99 00 – TIMBER REPAIRS.
- .5 Section 01 35 43 – ENVIRONMENTAL PROCEDURES.

1.2 DEFINITIONS

- .1 Throughout contract documents, the words “Owner,” “Contracting Authority,” “Harbour Authority”, “Engineer,” or “Department,” shall be defined as follows:
 - .1 Owner and Contracting Authority
Small Craft Harbours Program of the Department of Fisheries and Oceans,
200-401 Burrard Street Vancouver B.C. V6C 3S4
 - .2 Harbour Authority
The Tofino Harbour Authority, Box 826, Tofino, B.C. V0R 2Z0.
 - .3 Engineer
An employee of the Owner or Consultant assigned by the Owner as the Engineer for this project, or the Engineer’s representative assigned by the Engineer as his representative for the project.
 - .4 Contractor
The party accepted by the Owner with whom a formal contract is entered to complete the work of this project.
 - .5 Department
The Department of Fisheries and Oceans, Canada.

1.3 DRAWINGS

- .1 4214-D-01.5: EXISTING CONDITIONS
- .2 4214-D-03.5: FLOAT GENERAL ARRANGEMENT
- .3 4214-D-10.5: PLAN AND SECTION, FLOAT ‘G’
- .4 4214-D-20.5: PLAN AND SECTION, FLOAT ‘A’.
- .5 4214-D-30.5: PLAN AND SECTION, FLOAT ‘B’.

- .6 4214-D-40.5: PLAN AND SECTION, FLOAT 'C'.
- .7 4214-D-50.5: PLAN AND SECTION, FLOAT 'D'.
- .8 4214-D-60.5: PLAN AND SECTION, FLOATS 'E' & 'F'.
- .9 4214-D-70.5: PILE DOLPHIN AND BLOCKING DETAILS
- .10 4214-D-80.5: MOORING WELL TYPICAL DETAILS
- .11 4214-D-90.5: FLOAT CONNECTION DETAILS

1.4 LOCATION

- .1 Tofino 4th Street Harbour (the Project Site) is located at the foot of Fourth Street in Tofino on the west coast of Vancouver Island about 80km west of Port Alberni, British Columbia.
- .2 It is the Contractor's responsibility to become familiar with existing site conditions and to confirm all dimensions prior to submitting final bid.

1.5 MATERIALS

- .1 Unless specified, the Contractor is responsible for the supply of all materials necessary for the completion of the Work.
- .2 The following materials shall be supplied by the Owner and are available for retrieval by the Contractor at the Project Site following award:
 - .1 UHMW rubstrips (100mm x 25mm x 1000mm) – QTY: 125 pieces
- .3 The Contractor is responsible for confirming that all Owner supplied materials necessary for the Work have been received.
- .4 Contractor and Owner supplied materials are to be made available for inspection by the Engineer at either at the manufacturer's or the Contractor's facilities.
- .5 The Contractor is to provide a minimum of 72 hours notice to the Engineer prior to shipping of materials to the Project Site to allow sufficient time for inspection of materials.

1.6 WORK COVERED BY CONTRACT DOCUMENTS

- .1 Work covered in this section consists of the removal of existing mooring piles, replacement with new timber mooring dolphins and mooring wells, replacement of decking, bullrails, fascia and assorted repairs to float joists, cross-ties, edge

stringers, flanges and floatation pontoons. The Work is further identified as “Tofino 4th Street Float Reconstruction”.

- .2 Work shall commence no earlier than September 10, 2015.
- .3 Work shall be completed no later than January 15, 2016.
- .4 Contractor is responsible for the successful completion of the Work and will ensure no delays to the project, damage to existing floats or costs to the Owner are incurred in the process.
- .5 The work generally consists of, but is not limited to the following, as itemized in the SCHEDULE of QUANTITIES AND PRICES.

.1 **Mobilization/Demobilization**

The lump sum cost for this item shall include the supply of materials, equipment, tools, services, labour and all things necessary to complete the following:

- .1 Mobilization/ demobilization of crew and equipment to the Project Site.
- .2 Receipt of Owner supplied materials.
- .3 Any project costs not covered in other items.
- .4 Site clean up.

.2 **Mooring Dolphin Removal**

The lump sum cost for this item shall include the supply of materials, equipment, tools, services, labour and all things necessary to complete the following:

- .1 Extraction of 137 existing timber piles, associated blocking, gallow timber and hardware as per Section 00 20 60 - DEMOLITION OF STRUCTURES.

.3 **Mooring Pile Installation**

The unit rate cost per pile for this item includes all labour, equipment, and material to complete the following:

- .1 Supply and install one (1) 350mm diameter x 19.8m long creosote timber pile as per Section 00 98 00 – TIMBER PILES.
- .2 Pile locations as per drawings or as directed by the Engineer.
- .3 Final pile cut off, treatment and installation of aluminium hat included.

.4 **A - Timber Installation**

The unit rate cost per timber for this item includes all labour, equipment, and material to complete the following:

- .1 Supply and install one new piece of 300mm x 300mm x 1220mm creosote blocking/gallow timber complete with two (2) bolted connections to adjacent piles/timbers.
- .2 Bolt arrangement as per Drawing 4214-D-70.5 PILE DOLPHIN TYPICAL DETAILS.

.5 **B - Timber Installation**

The unit rate cost per timber for this item includes all labour, equipment, and material to complete the following:

- .1 Supply and install one new piece of 300mm x 300mm x 1830mm creosote blocking/gallow timber complete with up to three (3) bolted connections to adjacent piles/timbers.
- .2 Bolt arrangement as per Drawing 4214-D-70.5 PILE DOLPHIN TYPICAL DETAILS.

.6 **C - Timber Installation**

The unit rate cost per timber for this item includes all labour, equipment, and material to complete the following:

- .1 Supply and install one new piece of 300mm x 300mm x 3050mm creosote blocking/gallow timber complete with up to four (4) bolted connections to adjacent piles/timbers.
- .2 Bolt arrangement as per Drawing 4214-D-70.5 PILE DOLPHIN TYPICAL DETAILS.

.7 **D - Timber Installation**

The unit rate cost per timber for this item includes all labour, equipment, and material to complete the following:

- .1 Supply and install one new piece of 300mm x 300mm x 3660mm creosote blocking/gallow timber complete with up to four (4) bolted connections to adjacent piles/timbers.
- .2 Bolt arrangement as per Drawing 4214-D-70.5 PILE DOLPHIN TYPICAL DETAILS.

.8 **Rubstrip Installation**

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

- .1 Remove existing and install one lineal metre of Owner Supplied UHMW rubstrip in mooring well locations as per Drawings. Cutting of rubstrips to length included.
- .2 Supply and install hardware as per Section 00 51 00 - STEEL HARDWARE.
- .3 Rub strip arrangement in mooring wells as per Drawing 4214-D-80.5 MOORING WELL TYPICAL DETAILS.

.9 **Joist Replacement**

The unit rate cost per joist for this item includes all labour, equipment, and material to complete the following:

- .1 Remove one existing joist and associated hardware in location indicated on Drawings and as per Section 00 20 60 DEMOLITION OF STRUCTURES.
- .2 Supply and install one new 242mm x 140mm x 4880mm creosote joist with four (4) new bolted connections to adjacent timbers as indicated on Drawings.
- .3 Temporary removal and reinstallation of any electrical/water service lines as is necessary to complete repair.
- .4 Salvaged joist and hardware to become property of the Contractor.

.10 **Cross-tie Replacement**

The unit rate cost per cross-tie for this item includes all labour, equipment, and material to complete the following:

- .1 Remove one existing cross-tie and associated hardware in location indicated on Drawings.
- .2 Supply and install one new 242mm x 140mm x 2740mm creosote cross-tie with four (4) new bolted connections as indicated on Drawings.
- .3 Temporary removal and reinstallation of any electrical/water service lines as is necessary to complete repair.
- .4 Salvaged cross-tie and hardware to become property of the Contractor.

.11 **Flange Replacement**

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

- .1 Remove existing flange timber and hardware.
- .2 Supply and install new 140mm x 200mm creosote flange with new hardware as per existing including one (1) bolted connection at each cross-tie and four (4) bolts at stringer splice locations.
- .3 Flanges to be installed as per lengths defined by existing flange splice locations shown on Drawings.
- .4 Contractor responsible for verifying hardware requirements and flange splice locations.
- .5 Unless shorter lengths specified, flanges to be supplied with a minimum length of 6100mm.
- .6 Salvaged flange and hardware to become property of the Contractor.

.12 **Flange Splice Replacement**

The unit rate cost per splice location for this item includes all labour, equipment, and material to complete the following:

- .1 At each flange splice location, remove existing upper and lower flange splices and hardware.
- .2 Supply and install new 140mm x 140mm x 1220mm creosote upper and lower splice blocks at flange splice locations between new and existing flanges as shown on Drawings.
- .3 Each flange splice location has four (4) bolted connections as per existing.
- .4 Contractor responsible for verifying hardware requirements and flange splice locations.
- .5 Salvaged splice timbers and hardware to become property of Contractor.

.13 **Edge Stringer Replacement**

The unit rate cost per edge stringer for this item includes all labour, equipment, and material to complete the following:

- .1 Remove existing edge stringer and hardware.

- .2 Supply and install new 140mm x 242mm x 9144mm creosote edge stringer with new hardware as per existing at cross-tie and stringer splice locations.
- .3 Edge stringer to be installed in location shown on Drawings and to be cut to suit existing stringer splice location.
- .4 Contractor responsible for verifying hardware requirements and stringer splice locations.
- .5 Salvaged edge stringer and hardware to become property of Contractor.

.14 **Floataion Pontoon Supply and Installation**

The unit rate cost per pontoon for this item includes all labour, equipment, and material to complete the following:

- .1 Remove obstructions to pontoon installation.
- .2 Supply one 1220mm x 2440mm x 610mm fibreglass floataion pontoon or equivalent Aqua can Dock Float (Model #2346 (x4)) floataion pontoons as indicated on Drawings.
- .3 Install one 1220mm x 2440mm x 610mm Owner Supplied fibreglass floataion pontoon in location indicated on Drawings.
- .4 Supply and installation of nylon webbing and hardware to secure pontoons to adjacent cross-ties in a minimum of two (2) locations.

Webbing: 2 inch (50mm) wide standard nylon webbing.

Hardware: 1-1/2 inch (38mm) galvanized roofing nails.

- .5 Adjust air in pontoon and adjacent pontoons as necessary to bring float to a minimum freeboard of 350mm measured from the top of stringer.
- .6 Ensure pontoon bung is firmly sealed.

.15 **Bullrail Replacement**

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

- .1 Remove existing bullrail, risers and hardware.
- .2 Supply and install new 140mm x 90mm ACZA bullrail timber complete with hardware and 140mm x 140mm ACZA risers and bullrail splices as indicated on Drawings.

- .3 Install riser with one (1) bolted connection and a maximum spacing of 1500mm from adjacent risers.
- .4 Install bullrail splice at each bullrail joint with two (2) bolted connections.
- .5 Bullrail timber to be supplied in minimum lengths of 6100mm.
- .6 Salvaged bullrail, risers, bullrail splices and hardware to become property of the Contractor.

.16 **Decking Replacement**

The unit rate cost per plank for this item includes all labour, equipment, and material to complete the following:

- .1 Remove existing decking.
- .2 Supply and install one new 38mm x 292mm x 2440mm ACZA deck plank complete with hardware.
- .3 Cutting/trimming of deck planks as necessary to suit site conditions including field treatment of cut ends.
- .4 Salvaged decking and hardware to become property of Contractor.

.17 **Fascia Repair**

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

- .1 Remove existing fascia.
- .2 Supply and install new 38mm x 292mm ACZA fascia timber complete with hardware.
- .3 Cutting/trimming of fascia as necessary to suit site conditions including field treatment of cut ends.
- .4 Salvaged fascia and hardware to become property of the Contractor.

1.7 NOTIFICATION

.1 Schedule:

- .1 Within 7 days of award, Contractor is to submit to the Owner a work schedule identifying at a minimum the following:
 - .1 Available date(s) and location(s) for inspection of materials.
 - .2 Delivery date(s) of materials to project site.
 - .3 Mobilization date.
 - .4 Sequencing and timing of pile removal and installation activities.
 - .5 Sequencing and timing of float repair and carpentry activities.
 - .6 Dates of limited access to floats for harbour users.
- .2 72 hours minimum written notice to the Owner is required for changes to submitted schedule.

.2 Harbour User Access:

- .1 Contractor is to facilitate user access to the harbour during construction.
- .2 Limited pedestrian and vessel user access to no more than one (1) float finger (Floats C, D and E for example) at a time is permitted during the Work.
- .3 Pedestrian and vessel user access to the header float (Floats A and B) is to be maintained at all times with the exception of limiting approximately 1/3 of Float A for ½ day as necessary to complete Work beneath and around the gangway.
- .4 The Contractor shall provide 72 hours minimum written notice to the Harbour Authority prior to limiting user access to floats.

.3 Contractor Access:

- .1 The Contractor shall be provided with the locations for moorage of barge, tug and skiff and parking for two (2) work vehicles at the Project Site during the Work.
- .2 Four (4) adjacent parking stalls shall be designated at the Project Site for the storage of materials during the Work.
- .3 Identification of locations for barge and vessel moorage, parking and material storage subject to notice from the Harbour Authority.

- .4 Co-ordinate Progress Schedule and co-ordinate with Owner during construction.
- .5 Co-operate with Owner in scheduling operations to minimize conflict and to facilitate Owner usage.

1.8 DOCUMENTS REQUIRED

- .1 Maintain at job site, one copy each document as follows:
 - .1 Contract Drawings, Specifications and any Addenda.
 - .2 Change Orders and other Modifications to Contract.
 - .3 Copy of Approved Work Schedule.
 - .4 Health and Safety Plan and Other Safety Related Documents.
 - .5 All regulatory permits required for the work.
 - .6 Associated Best Management Practices documentation.

END OF SECTION

002060 Demolition

Part 1 General

1.1 SCOPE OF WORK

- .1 This section refers to all demolition and removal of existing structural timbers and hardware including timber piling, rubstrips and any other items identified for removal in the course of completing float reconstruction work.

Part 2 Products

2.1 EQUIPMENT

- .1 Furnish all labour, materials, tools, plant and services required incidental to the completion to the full extent of the drawings and specifications for execution of all demolition salvage and protection work specified herein.
- .2 Demonstrate that tools and machinery are being used in manner which allows for salvage of materials in best condition possible or reinstatement of temporarily relocated structures.

Part 3 Execution

3.1 REMOVAL OF DEMOLISHED MATERIAL

- .1 All materials, which are not to be salvaged for the Owner, shall become the Contractor's property and the Contractor must remove such materials from the site.
- .2 If not specifically identified, the Engineer shall decide as to which material shall be salvaged and which materials shall be disposed of.
- .3 Timber piles shall be completely extracted from the seabed.

3.2 SALVAGED MATERIAL

- .1 Material to be salvaged for the Owner shall be stored as directed by the Engineer.
- .2 Remove items to be reused, stockpile and re-install as directed by Engineer.
- .3 Designate appropriate security resources/measures to prevent vandalism, damage and theft of salvaged items.
- .4 Contractor is responsible for lost, stolen or damaged materials.

3.3 PROTECTION OF STRUCTURES TO REMAIN

- .1** Protect remaining structural elements, services and equipment against damage from demolition works.
- .2** Contractor is liable for any damage caused to structures not specified for removal as a result of completing work.

3.4 SERVICES

- .1** All services that must be removed from existing structures in order to perform work must be removed so as not to damage them.
- .2** All service materials including miscellaneous hangers, fasteners and supplies required to reinstall the services shall be supplied by the Contractor and will be of equivalent quality to the new conditions of such materials being replaced.
- .3** All materials that are not reusable shall be disposed of by the Contractor.
- .4** The Contractor shall be responsible for the handling and storage of services lines, lamps standards and other equipment during construction. All materials damaged by the Contractor shall be replaced at the Contractor's expense.

3.5 CLEANING AND RESTORATION

- .1** Keep site clean and organized throughout demolition procedure.
- .2** Upon completion of project or as appropriate, reinstate gangway, floats, walkways, light standards, electrical and water services and other items affected by Work to condition which existed prior to beginning of Work.

END OF SECTION

005100 Steel Hardware

Part 1 General

1.1 SCOPE OF WORK

- .1 This section refers to the steel fastenings and hardware indicated in the Contract Drawings and related specifications.

1.2 RELATED REQUIREMENTS

- .1 Section 00 98 00 – TIMBER PILES
- .2 Section 00 99 00 – TIMBER REPAIRS

Part 2 Products

2.1 STEEL

- .1 Small fastenings will conform to the standard for Wire Nails, Spikes, and Staples CSA B111.
- .2 Drift bolts, machine bolts, washers and miscellaneous iron will conform to the standard for General Purpose Structural Steel CAN3 G40.21-M81.
- .3 Items manufactured or fabricated from scrap steel of unknown chemical or physical properties will not be accepted for use in the work.

2.2 HARDWARE

- .1 All hardware including bolts, drift bolts, carriage bolts, lag bolts, pipe sleeves, nuts and washers etc. will be hot dipped galvanized in accordance with the ASTM A153. Galvanize to 610g/m² (2oz/ft²).
- .2 All bolts will be of the full dimension specified or shown on the plan.
- .3 Unless otherwise specified, all machine bolts will be provided with round steel plate washers under head and nut.
- .4 All bolts shall be 19mm (3/4”) National course thread, unless shown otherwise.
- .5 All 19mm washers shall be 6mm thick and 75mm diameter galvanized steel.
- .6 All 25mm washers shall be a minimum of 8mm thick and 100mm diameter galvanized steel.
- .7 All bolts to have 100mm (4”) of thread unless shown otherwise.

Part 3 Execution

3.1 ASSEMBLY

- .1 All bolts shall be tightened to 100 Newton Meters (80 ft/lbs).
- .2 Care shall be taken not to damage the treated wood finish. All treatment damaged by the Contractor shall be repaired at the Contractor's expense as per Section 00 99 00 Timber Repairs.
- .3 Pre-drilling:
 - .1 All ends of timbers not fastened by bolts shall be predrilled prior to installation to prevent splitting.
- .4 Holes for machine bolts will be bored to provide a driving fit.

3.2 DECKING

- .1 Lay boards heart side down, spaced 6 mm apart.
- .2 Secure each contact point with 2 – 100mm galvanized RDOX nails.
- .3 Pre-drill deck boards for spikes nearest to both board ends.

3.3 FASCIA

- .1 Secure each contact point with 2 – 100mm galvanized RDOX nails.
- .2 Contact points every 500mm maximum.

3.4 RUBSTRIPS

- .1 All rubstrips to be fastened with countersunk #14 stainless pan head wood screws, 50mm (2 in) long.
- .2 Fasteners to have a maximum spacing of 500mm and are to be located such that they do not interfere with piling wear surfaces.

END OF SECTION

009800 TIMBER PILES

Part 1 General

1.1 RELATED REQUIREMENTS

- .1 Section 00 99 00 – TIMBER REPAIRS
- .2 Section 00 51 00 – STEEL HARDWARE
- .3 Section 01 35 43 – ENVIRONMENTAL PROCEDURES

1.2 REFERENCE STANDARDS

- .1 Unless specified otherwise, use most current edition of the following standards:
 - CSA B111 Wire Nails, Spikes and Staples
 - CAN/CSA-G164-M Hot Dip Galvanizing of Irregularly shaped articles
 - CAN/CSA-056-M Round Wood Piles
 - CAN/CSA-080 Wood Preservation
 - ASTM A 123-89a Specification for Zinc (Hot dipped galvanized) Coatings on Iron and Steel Products
 - ASTM A307 Specification of Carbon Steel Bolts and Studs

1.3 SCOPE OF WORK

- .1 This section refers to all pile driving to complete the contract as specified.
- .2 Complete all work as shown on the drawings.
- .3 Confirm pilings suit elevations shown.
- .4 Implement pile driving works following appropriate BMP's.

Part 2 Products

2.1 MATERIALS

- .1 Round wood piles to CAN3-056, with minimum butt size of 350mm within +/- 20mm.
- .2 Type of peeling: clean peeled.
- .3 Pile species: Coast Douglas Fir.
- .4 Preservative Treatment: to CAN/CSA – 080 full cell creosote treatment to a minimum net retention of 225 kg/cu meter (14 lb/ft³).

- .5 The Engineer shall be the sole judge as to quality and dimension of piles. Rejected piles shall be removed from the Project Site of work at the Contractor's expense.

2.2 MISCELLANEOUS MATERIALS

- .1 Wire nails, spikes, staples in accordance with Section 00 51 00 – STEEL HARDWARE.

2.3 HANDLING

- .1 Piling shall be handled and stored so as to avoid over stressing or injury, and any piles bent or damaged, or in any way made defective in the opinion of the Engineer, shall be made good to the satisfaction of the Engineer or replaced.

Part 3 Execution

3.1 EQUIPMENT

- .1 Prior to commencement of pile installation operation, submit to Engineer for review details of equipment for installation of piles.
- .2 Impact hammers: Give manufacturer's name, type, rated energy per blow at normal working rate. Include mass of striking parts of hammer, mass of driving cap and type and elastic properties of hammer and pile cushions.
- .3 Hammer: Hammer size and energy is to be determined by the Contractor. Hammer is to be capable of being adjusted to deliver reduced impact, or appropriate to obtain required resistance without damaging pile during installation.
- .4 Leads: Pile driver leads to provide free movement of hammer. Provide support to pile while being driven to the satisfaction of the Engineer.
- .5 Followers: Provide follows of such size, shape, length and mass to permit driving in desired location to required and resistance. Provide followers with socket or hood carefully fitted to top of pile to minimize loss of energy and prevent damage to pile.

3.2 FIELD MEASUREMENTS

- .1 Maintain accurate records of driving for each pile, including:
 - .1 Type and make of hammer, stroke or related energy.
 - .2 Other driving equipment including cap and cushion.
 - .3 Pile size and length, location of pile in pile group, designation of pile group.

- .4 Number of blows per 300mm (12”) for entire length of pile and number of blows per 25mm (1”) for last 100mm (4”), or appropriate blow counts at the end of driving when refusal is reached at a rock surface.
- .5 Final tip and cut off elevation.
- .6 Other pertinent information such as interruption of continuous driving, pile damage, etc.

3.3 INSTALLATION

- .1 Hold piles securely and accurately in position indicated on Drawings.
- .2 Deliver hammer blows along axis of pile. Ensure pile is not over stressed.
- .3 Cut off piles neatly at elevations as indicated.
- .4 Provide sufficient length above cut off elevation so that part damaged during driving is cut off and that end can be suitable shaped to fit connection points.
- .5 Piles shall not be cut off at final elevation until the Engineer has reviewed the driving record and approved the pile.
- .6 Timber pile shall be driven to the following depths or until refusal:

Mooring Piles:9.1m

3.4 PREPARATION AND HANDLING

- .1 Protect treated piles to avoid breaking through the treated surface. Cant hooks and rafting dogs may be used only in the end of piles. Not spikes shall be driven into piles below high-water level.
- .2 All cuts or breaks in the surfaces of creosote treated piles shall be treated with two separate coats of creosote oil.
- .3 Where bolt holes must be bored through creosote treated piles, the holes shall be filled with creosote oil and the bolts shall be dipped in hot creosote oil before the bolts are placed.
- .4 Other alternative field wood treatment to be approved by the Engineer before application.

3.5 DRIVING TOLERANCES

- .1 Drive piles in their intended locations as shown on drawings and specifications.
- .2 Pile heads to be within 75mm (3”) of locations as indicated on drawings.
- .3 Piles to be within 2% of specified axial alignment.

- .4 Pile cut of elevations to be within 25mm (1") of elevations shown on drawings.
- .5 Pile driving record to be supplied by the Contractor.

3.6 PILE COMPLETION

- .1 Apply two coats of hot creosote to top of dry pile, allowing as much creosote to soak in as possible. Apply a coat of coal tar pitch or mastic after creosote application.
- .2 Install 0.8mm annealed aluminium sheeting on all new piles. Cut square sheet to 150mm larger than pile top diameter, turn edges down and secure to the pile with a minimum of ten (10) copper nails.
- .3 Treat all end cut offs and field drilled holes with creosote preservative.
- .4 Treat cuts, breaks or abrasions on surface of treated piles, bolt holes and field cuts in accordance with CAN/CSA-080.
- .5 Alternative wood treatments to be approved by the Owner.

3.7 PILE FASTENERS

- .1 All bolts, nuts, washers, drift pins, spikes and nails shall be hot dip galvanized in accordance with CAN/CSA G164-M.
- .2 Bolt holes in timber piles shall be bored to provide a driving fit.
- .3 Holes for drift pins shall be 2mm undersize and longer than the drift pins.
- .4 Hole sizes of lag screws to be in accordance with CAN/CSA 086.1-M.
- .5 Unless otherwise specified, connection bolts, lag screws or drift bolts shall be placed through the centre of timber piles and shall not be less than seven (7) times the bolt diameter from the end of the timber pile.
- .6 Nails, spikes and staples to meet requirements of CAN/CSA B111-M.
- .7 At bolt locations, piles to be cut to provide flat surface for plate washers.
- .8 Where timber piles have to be cut for plate washers, the cut surface shall be treated with two coats of hot creosote oil and a further coat of mastic before washers are placed. Alternative wood treatments to be approved by the Owner.

END OF SECTION

009900 TIMBER REPAIRS

Part 1 General

1.1 RELATED REQUIREMENTS

- .1 Section 00 98 00 – TIMBER PILES
- .2 Section 00 51 00 – STEEL HARDWARE

1.2 SCOPE OF WORK

- .1 This section refers to the supply, modification and field treatment of all timbers indicated in the Contract drawings and related specifications.

Part 2 Products

2.1 GENERAL

- .1 Except as otherwise noted, only new materials will be used in, and remain an integral part of the structures.
- .2 The Engineer may inspect materials and products at all stages of manufacture and transportation to the Project Site. Satisfactory inspection at any stage does not preclude future rejection if the materials or products are subsequently found to lack uniformity or fail to conform to the requirements specified.
- .3 Acceptance will not be made until the materials or products are satisfactorily installed in the completed structures specified.
- .4 The Contractor shall be responsible to repair all materials damaged through their handling, storage and/or installation.
- .5 Except as otherwise noted, salvaged materials deemed to be reusable by the Owner shall remain property of the Owner.

2.2 TIMBER

- .1 All timber for the purpose intended shall conform to the requirements of the N.L.G.A. Standard Grading Rules for Canadian Lumber.
- .2 Refer to drawings and specifications for timber dimensions and treatment.
- .3 All timber shall be Coast Douglas Fir. No 1 Structural Grade or better, unless specified otherwise.
- .4 All decking shall be S1S2E (rough cut), heart side down.
- .5 All joists, cross-ties, stringers, blocking, bullrail, risers and fascia boards shall be S2E (rough cut).

2.3 TREATMENT OF MATERIAL

.1 Creosote-treated Materials:

- .1** All creosote treated timber will be treated in accordance with CSA 080 and will follow the Best Management Practices for Creosote as outlined in “Best Management Practices for the use of Treated Wood in Aquatic Environments”.
- .2** All creosote treated materials will have a minimum retention of 225kg per cubic metre (14lb. Per cubic foot).

.2 Salt-treated Materials:

- .1** All salt-treated timber to be treated in accordance with CSA 080-1989, “Wood Preservation”, and its current amendments CSA 080.14, for materials in contact with ground or water. (Only non-leachable ACA salts will be accepted).
- .2** All salt treatment will follow the Best Management Practices for ACA and ACZA as outlines in “Best Management Practices for the use of Treated Wood in Aquatic Environments”.
- .3** All salt-treated timber will have a minimum retention of 6.4 kg/m³ (0.40 lb. Per cubic foot) and a depth of penetration of 10mm as specified in CSA 080.14.

2.4 FIELD TREATING

.1 Creosote-treated timber members that have fresh cut surfaces exposed in the structure shall be treated as specified:

- .1** All cuts or breaks in the surfaces shall be treated with two (2) separate coats of creosote oil.
- .2** Where bolt holes must be bored through creosote treated piles, the holes shall be filled with creosote oil and the bolts shall be dipped in hot creosote oil before bolts are placed.
- .3** Alternative field wood treatment to be approved by the Engineer before application.
- .4** Ensure preservatives are properly stored and protected in case of spillage.

.2 Salt-treated timber members that have fresh cut surfaces exposed in the structure shall be treated as specified:

- .1** All field cut surfaces to be treated with two (2) coats of Copper Naphthenate.
- .2** When field treating by brushing, spraying, dipping or soaking do so in such a manner that the preservative does not drip into the water or onto the ground.
- .3** Ensure preservatives are properly stored and protected in case of spillage.

Part 3 Execution

3.1 HANDLING OF MATERIALS

- .1 Treated material will not be accepted if damaged in any manner in handling, including damage from strapping or slings.
- .2 The Contractor shall be responsible to repair or replace all materials damaged by handling, storage and/or installation of materials.

3.2 EXISTING STRUCTURES

- .1 Any structures damaged by the Contractor during the works shall be repairs and made good at the Contractor's expense to the satisfaction of the Engineer.

3.3 SERVICES

- .1 All services that must be removed from existing structures in order to perform work must be removed so as not to damage them.
- .2 All service materials including miscellaneous hangers, fasteners and supplies required to reinstall the services shall be supplied by the Contractor and will be of equivalent quality to the new conditions of such materials being replaced.
- .3 All materials that are not reusable shall be disposed of by the Contractor.
- .4 The Contractor shall be responsible for the handling and storage of services lines, lamps standards and other equipment during construction. All materials damaged by the Contractor shall be replaced at the Contractor's expense.

END OF SECTION

013543 ENVIRONMENTAL PROCEDURES

Part 1 General

1.1 RELATED REQUIREMENTS

- .1 Not used.

1.2 REFERENCES

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

1.3 IN WATER WORKS

- .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.
- .3 Do not skid logs or construction materials across waterways.

1.4 NOTIFICATION

- .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.

Part 2 Products

2.1 NOT USED

- .1 Not Used.

Part 3 Execution

3.1 PILE DRIVING

- .1 Pile driving shall be conducted in accordance with the following Best Management Practices:
 - .1 Machinery is to arrive on the Project Site in a clean, washed condition and be free of fluid leaks.
 - .2 Complete works using appropriate timing windows related to species that may be affected by the works and or methods used.
 - .3 Underwater pressure waves not to exceed 30 kPa during driving.
 - .4 A vibratory hammer is to be used if driving conditions permit.
 - .5 Any water-based equipment or machinery moored or used during the Project must not ground on the intertidal foreshore or subtidal river or sea bed. The only exception to this condition is that use may be made of vertical spuds or other anchors to hold the water-based machinery or equipment in place.
 - .6 Wash, refuel and service machinery and store fuel and other materials for the machinery at least 30 metres away from the water in order to prevent any deleterious substance from entering the water.
 - .7 Pile cut-offs, waste or any miscellaneous unused materials must be recovered for either disposal in a designated facility or placed in storage.
 - .8 Report any incidents of habitat damage to the Environmental Monitor or DFO to ensure that appropriate action (restoration) is taken.
 - .9 If fish spawn in the area or on equipment all work should stop and the Environmental Monitor or DFO notified.

3.2 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 disposal.
- .3 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment to the approval of the Owner.

END OF SECTION

01 35 29.06 HEALTH AND SAFETY REQUIREMENTS

Part 1 General

1.1 RELATED REQUIREMENTS

- .1** Section 01 11 00 – SUMMARY OF WORK
- .2** Section 21 30 10 – FIRE PROTECTION

1.2 REFERENCES

- .1** Canada Labour Code, Part 2, Canada Occupational Safety and Health Regulations
- .2** Province of British Columbia
 - .1** Workers Compensation Act, RSBC 1996 - Updated [2012].
- .3** National Building Code of Canada (NBC):
 - .1** Part 8, Safety Measures at Construction and Demolition Sites.

1.3 WORKERS' COMPENSATION BOARD COVERAGE

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

1.4 COMPLIANCE WITH REGULATIONS

- .4** PWGSC may terminate the Contract without liability to PWGSC where the Contractor, in the opinion of PWGSC, refuses to comply with a requirement of the Workers' compensation Act or the Occupational Health and Safety Regulations.
- .5** 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.

1.5 ACTION AND INFORMATIONAL 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.
 - .1** Results of safety and health risk or hazard analysis for site tasks and operation found in work plan.
 - .2** Submit 2 copies 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, and Provincial health and safety inspectors.

- .4 Submit copies of incident and accident reports.
- .5 Submit WHMIS MSDS - Material Safety Data Sheets in accordance with WHMIS requirements.
- .6 Departmental Representative will review Contractor's site-specific Health and Safety Plan and provide comments to Contractor. Revise plan as appropriate and resubmit plan to Departmental Representative.
- .7 Departmental Representative's 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 On-site Contingency and Emergency Response Plan: address standard operating procedures to be implemented during emergency situations.

1.6 FILING OF NOTICE

- .6 The General Contractor is to complete and submit a Notice of Project as required by Provincial authorities.
- .1 Provide copies of all notices to the Department Representative.

1.7 SAFETY ASSESSMENT

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

1.8 MEETINGS

- .1 Schedule and administer Health and Safety meeting with Departmental Representative prior to commencement of Work.

1.9 REGULATORY REQUIREMENTS

- .1 Comply with specified codes, acts, bylaws, standards and regulations to ensure safe operations at site.
- .2 In event of conflict between any provisions 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.

1.10 WORK PERMITS

- .1 Obtain all speciality permit(s) related to project before start of work if required.

1.11 PROJECT/SITE CONDITIONS

- .1 Work at site will involve contact with:
 - .1 Gitga'at First Nation.

1.12 GENERAL REQUIREMENTS

- .1** 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.
- .2** Departmental Representative may respond in writing, where deficiencies or concerns are noted and may request re-submission with correction of deficiencies or concerns.
- .7** Contractor shall agree to install proper site separation and identification in order to maintain time and space at all times throughout life of project.
- .3** Provide safety barricades and lights around work site as required to provide a safe working environment for workers and protection for pedestrian and vehicular traffic.
- .4** Ensure that non-authorized persons are not allowed to circulate in designated construction areas of the work site.
 - .1** Provide appropriate means by use of barricades, fences, warning signs, traffic control personnel, and temporary lighting as required.
 - .2** Secure site at night time or provide security guard as deemed necessary to protect site against entry.

1.13 RESPONSIBILITY

- .1** Assume responsibility as the Prime Contractor for work 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.

1.14 COMPLIANCE REQUIREMENTS

- .1** Comply with Workers Compensation Act, B.C.
- .2** Comply with Canada Labour Code, Canada Occupational Safety and Health Regulations.

1.15 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.

1.16 HEALTH AND SAFETY CO-ORDINATOR

- .1** Employ and assign to Work, competent and authorized representative as Health and Safety Co-ordinator. Health and Safety Co-ordinator must:
 - .1** Have site-related working experience specific to activities associated with working near or in the marine environment.
 - .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.

1.17 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.

1.18 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. The General Contractor/subcontractors will be responsible for any costs arising from such a "stop work order".

1.19 HEALTH AND SAFETY PLAN

- .8 Conduct a site-specific hazard assessment based on review of Contract documents, required work, and project site. Identify any known and potential health risks and safety hazards.
- .1 Prepare and comply with a site-specific project Health and Safety Plan based on hazard assessment, including, but not limited to, the following:
 - .1 Primary requirements:
 - .1 Contractor's safety policy.
 - .2 Identification of applicable compliance obligations.
 - .3 Definition of responsibilities for project safety/organization chart for project.
 - .4 General safety rules for project.
 - .5 Job-specific safe work, procedures.
 - .6 Inspection policy and procedures.
 - .7 Incident reporting and investigation policy and procedures.
 - .8 Occupational Health and Safety Committee/Representative procedures.
 - .9 Occupational Health and Safety meetings.
 - .10 Occupational Health and Safety communications and record keeping procedures.

- .2 Summary of health risks and safety hazards resulting from analysis of hazard assessment, with respect to site tasks and operations which must be performed as part of the work.
- .3 List hazardous materials to be brought on site as required by work.
- .4 Indicate Engineering and administrative control measures to be implemented at the site for managing identified risks and hazards.
- .5 Identify personal protective equipment (PPE) to be used by workers.
- .6 Identify personnel and alternates responsible for site safety and health.
- .7 Identify personnel training requirements and training plan, including site orientation for new workers.
- .2** Develop the plan in collaboration with all subcontractors. Ensure that work/activities of subcontractors are included in the hazard assessment and are reflected in the plan.
- .9 Revise and update Health and Safety Plan as required, and re-submit to the Departmental Representative.
- .3** Departmental Representative's review: the review of Health and Safety Plan by Public Works and Government Services Canada (PWGSC) shall not relieve the Contractor of responsibility for errors or omissions in final Health and Safety Plan or of responsibility for meeting all requirements of construction and Contract documents.

1.20 EMERGENCY PROCEDURES

- .10 List standard operating procedures and measures to be taken in emergency situations. Include an evacuation plan and emergency contacts (i.e. names/telephone numbers) of:
 - .1 Designated personnel from own company.
 - .2 Regulatory agencies applicable to work and as per legislated regulations.
 - .3 Local emergency resources.
 - .4 Departmental Representative.
- .1** Include the following provisions in the emergency procedures:
 - .1 Notify workers and the first-aid attendant, of the nature and location of the emergency.
 - .2 Evacuate all workers safely.
 - .3 Check and confirm the safe evacuation of all workers.
 - .4 Notify the fire department or other emergency responders.
 - .5 Notify adjacent workplaces or residences which may be affected if the risk extends beyond the workplace.
 - .6 Notify Departmental Representative [site staff].
- .2** Provide written rescue/evacuation procedures as required for, but not limited to:
 - .1 Work at high angles.
 - .2 Work in confined spaces or where there is a risk of entrapment.

- .3 Work with hazardous substances.
 - .4 Underground work.
 - .5 Work on, over, under and adjacent to water.
 - .6 Workplaces where there are persons who require physical assistance to be moved.
- .3** Design and mark emergency exit routes to provide quick and unimpeded exit.
 - .4** Revise and update emergency procedures as required, and re-submit to the Departmental Representative.

1.21 HAZARDOUS PRODUCTS

- .1 Comply with requirements of Workplace Hazardous Materials Information System (WHMIS) regarding use, handling, storage and disposal of hazardous materials, and regarding labelling and provision of Material Safety Data Sheets (MSDS) acceptable to the Departmental Representative and in accordance with the Canada Labour Code.

1.22 OVERLOADING

- .1 Ensure no part of work is subjected to a load which will endanger its safety or will cause permanent deformation.

1.23 FALSEWORK

- .1 Design and construct falsework in accordance with CSA S269.1- 1975 (R2003).

1.24 SCAFFOLDING

- .1 Design, construct and maintain scaffolding in a rigid, secure and safe manner, in accordance with CSA Z797-2009 and B.C. Occupational Health and Safety Regulations.

1.25 BLASTING

- .1 Blasting or other use of explosives is not permitted without prior receipt of written instruction by Departmental Representative.

1.26 POWDER ACTUATED DEVICES

- .1 Use powder actuated devices only after receipt of written permission from Departmental Representative.

1.27 FIRE SAFETY AND HOT WORK

- .1 Obtain Departmental Representative's authorization before any welding, cutting or any other hot work operations can be carried out on site.
- .2 Hot work includes cutting/melting with use of torch, flame heating roofing kettles, or other open flame devices and grinding with equipment which produces sparks.

1.28 FIRE SAFETY REQUIREMENTS

- .11 Store oily/paint-soaked rags, waste products, empty containers and materials subject to spontaneous combustion in ULC approved, sealed containers and remove from site on a daily basis.
- .12 Handle, store, use and dispose of flammable and combustible materials in accordance with the National Fire Code of Canada.

1.29 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.

Part 2 Products

2.1 NOT USED

- .1 Not used.

Part 3 Execution

3.1 NOT USED

- .1 Not used.

END OF SECTION

35 51 23 PONTOONS

Part 1 General

1.9 RELATED SECTIONS

- .1 Section 00 10 00 – Schedule of Quantities and Prices
- .2 Section 01 11 00 – Summary of Works

1.10 MEASUREMENT PROCEDURES

- .1 Measurement will be based on number of pontoons supplied.

1.11 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 Engineered Wood Association (APA)

1.12 REFERENCE DRAWINGS

- .1 Fiberglass Pontoon Frame

1.13 SUBMITTALS

- .1 Product Data: submit manufacturer's printed product literature, specifications and datasheet.
- .2 Manufacturer's Instructions: submit manufacturer's installation instructions.

Part 2 Products

2.1 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 Accreditation Board 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 adhesive or equivalent marine grade glue.
- .3 Plywood:
 - .1 Douglas Fir plywood: to CSA O121.
 - .2 Grade: solid two sides.
 - .3 Thickness: 13 mm.
 - .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/m² fabric.
 - .2 Polyester resin: general purpose, air dry type.
 - .3 Do not use colouring additives in resins.
 - .4 Final finish coat: gel coat resin.
- .6 Pump hole: cast bronze, stainless steel or UV stable plastic suitable for marine use.
 - .1 Deck fitting: 76 mm inside diameter.
 - .2 Plug: screw type with two key holes.
 - .3 Plug threads: to be greased before placing. Leave plugs loose during shipment.

2.2 FABRICATION

- .1 Overall dimensions of finished pontoon: length 2400 mm, breadth 1169 mm and height 635 mm.

Part 3 Execution

3.1 CONSTRUCTION

- .1 Manufacturer's Instructions: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and datasheet.

3.2 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.

3.3 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 surfaces.
- .4 Round edges to 16 mm radius as long as this radius is suitable for glassing the specified weight of cloth tape and sheathing.

3.4 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.
- .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.

3.5 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 300 mm², inside the pontoon prior to attaching the top plywood plate.

3.6 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