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PART 1 - GENERAL

- 1.1 Related Work
- .1 Refer to other Specification Sections for related information.
  - .2 Refer to **Section 01 33 00** for Shop Drawing/Submissions requirements.
- 1.2 Reference Standards
- .1 CAN/CSA-080 Series M89 (or latest edition)- Wood Preservation (including CSA preliminary standard 080.31-M1989).
  - .2 Copper naphthenate containing 2% copper for Brush or Spray Treatment for Field Cuts.
  - .3 NLGA standard grading rules for Canadian Lumber 1980 edition or most recent edition at time of tendering.
  - .4 CAN/CSA-G164-M92 (or latest edition) - Hot Dip Galvanizing of Irregularly Shaped Articles.
  - .5 ASTM A307-94 (or latest edition), Specification for Carbon Steel Bolts and Studs, 60,000 psi Tensile.
  - .6 ASTM B111-1974 (or latest edition), Wire Nails, Spikes and Staples
  - .7 CSA 086.1-94 (or latest edition), Engineering Design in Wood (Limit States Design)
  - .8 ASTM D4637-96 (or latest edition), EPDM Sheet Used In Single-Ply Roof Membrane.
- 1.3 Submissions
- .1 At least two weeks prior to finalizing timber order, submit drawings, clearly indicating installation details. Show splice locations, splice details, fastening arrangements.
  - .2 Submit methodology for field treatment.
  - .3 Provide submissions in accordance with **Section 01 33 00**.
- 1.4 Measurement for Payment
- .1 Timber will be measured in accordance with **Section 01 29 00**.

PART 2 - PRODUCTS

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2.1 Materials

- .1 Softwood Timber: Graded and stamped to National Lumber Grading Authority (NLGA) No. 1 Structural. Eastern Hemlock, Western Hemlock or Douglas Fir Species, only, will be used.
- .2 Hardwood Timber: Sound merchantable grade yellow birch, hard maple, red or white oak conforming to grading rules approved by the National Hardwood Lumber Association.
- .3 Timber Treatment:
  - .1 Preservative treatment to CAN/CSA-080 Series - M89 for Marine Construction Coastal Waters. Where assay retentions are not indicated, they are to be taken as 1.5 times the indicated gauge retention.
  - .2 Make arrangements for testing of timber by:
    - .1 Plant Inspection: Provide treatment plant identification, date of treatment, list of various pieces in the charge, charge number, plant assay testing results, concentration and type of preservative used, duration of treatment, gauge retention, species of wood; and make arrangements with the treatment plant to locate bundles, move bundles, break open bundles and carry out other measures to facilitate the inspection.
    - .2 Filling in and submitting a preprinted form, agreed to by the *Departmental Representative*, containing the above information.
- .4 Miscellaneous Hardware Hardware must meet the following specifications:
  - .1 Machine bolts, lag bolts, drift bolts, anchor bolts, nuts, round plate washers: to ASTM A307.
  - .2 Spikes: to CSA B111.

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- .3 Hot dip galvanized hardware, bolts, nuts, washers and spikes to CSA G164, with minimum zinc coating of 600 g/m<sup>2</sup>,.
- .4 All hardware will be galvanized unless otherwise shown on plans.

PART 3 - EXECUTION

3.1 General

- .1 Supply and install dimension timbers to details shown on drawings or as specified. Treated timber to be supplied in pre-cut lengths to suit.
- .2 Treated timber gangway components are to be installed as per the existing installation unless specified otherwise.
- .3 All countersunk holes to be recessed 25 mm and shall receive two coats of Copper naphthenate , allowing sufficient time between applications to permit total absorption. The cost of supply and application of Copper naphthenate will not be measured for payment but will be considered incidental to the work.

3.2 Handling Timber

- .1 Timber will be protected during handling, shipping, offloading and field handling, by use of suitable equipment and procedures. Use rope or fabric strap slings on site for moving bundles or individual timbers, rather than metal grabs, chains or cables.

3.3 Handling  
Treated Timber

- .1 Handle treated material to avoid damage causing alteration in original treatment.
- .2 Treat in field, spike holes, boreholes, plugged holes, cuts and any damage to treated material, using Copper naphthenate , as specified herein, regardless of plant treatment type. Fill all unused bored holes and any other holes with tight fitting treated wooden plugs prior to any exposure to water containing marine borers.

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|-----|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|     | .3                            | Treat boreholes, using a pressurized container with an extension rod, to produce a fine spray in the holes with one application. Alternately a cylindrical brush may be used.                                                                                                                                  |                                                                                                                                                                                                                                         |
|     | .5                            | Treat field cuts and any abrasions with minimum of two liberal applications of copper naphthenate, using either spray or brush.                                                                                                                                                                                |                                                                                                                                                                                                                                         |
|     | .6                            | Environmental Concern: Ensure no spillage or excess application of field preservative. Provide workmen with sufficient training and protective gear to properly and safely handle the treated materials and to apply field treatment, so as to prevent undue hazard to themselves, others, or the environment. |                                                                                                                                                                                                                                         |
| 3.4 | <u>Gangway Deck Plank</u>     | .1                                                                                                                                                                                                                                                                                                             | Install decking in accordance with CSA 086.1 controlled random pattern.                                                                                                                                                                 |
|     |                               | .2                                                                                                                                                                                                                                                                                                             | Attach decking to each timber support with galvanized spikes. Use one spike per timber per support excepting as follows:<br>Two at ends of splice<br>Two at ends of timber<br>Two per timber per support for timbers wider than 150 mm. |
|     |                               | .3                                                                                                                                                                                                                                                                                                             | Pre-drill holes to receive deck spikes.                                                                                                                                                                                                 |
| 3.5 | <u>Gangway Support Timber</u> | .1                                                                                                                                                                                                                                                                                                             | Fasten new gangway support timber to existing steel frame with new galvanized hardware sized to match existing.                                                                                                                         |