

SPECIFICATIONS FOR CONSTRUCTION OF  
    TREATED TIMBER STRUCTURES

1025. 1. DESCRIPTION

The work will consist of hauling timber to the construction site, placing timber, field framing, treating cut surfaces and holes, placing bridge iron, and painting all exposed bridge iron.

1025. 3. SUPPLY OF MATERIALS

## 3.1 Materials to be supplied by the Minister at the source(s) of supply specified in the Special Provision:

Treated Timber  
Timber Preservative  
Bridge Iron  
Steel Beam Guard Rail  
Identification Plaque, Cadmium Plated Screws

## 3.2 Materials to be supplied by the Contractor:

Rust Inhibiting Paint  
Shimming Material

1025. 7. CONSTRUCTION METHODS

## 7.1 Handling and Storage of Materials

Treated timber brought to the site shall be carefully handled to avoid damaging the outer fibres. Dropping of the timber from the truck to the ground will not be allowed.

Special tools and slings shall be employed to prevent the penetration or bruising of the treated surfaces. The use of tongs, chains or other sharp tools for handling purposed will not be allowed.

The timber shall be stored in an orderly fashion and may be stacked in neat regular piles. Large pieces shall be spaced to allow the use of slings. Piled materials shall be closely stacked to prevent warping. The bottom pieces in each pile shall be placed on blocks to prevent bending of the timber.

Bridge iron shall be separated according to size and length and stored in suitable bins for ease of inspection, checking and handling.

## 7.2 Field Framing

Cutting, framing and boring of treated timber will be done by the supplier before treatment, however field cutting, fitting and matching may be required as indicated on the plans. The Contractor shall make the necessary cuts and holes, in a true and workmanlike manner.

All timber from which the seal of treatment has been removed due to mishandling by the Contractor will be rejected and replacement shall be made at the Contractor's expense, or if permitted by the Engineer, the Contractor shall apply timber preservative to the damaged surface. The Contractor shall apply one heavy coat of timber preservative to all areas where the seal of treatment has been removed or partially removed in the process of field cutting and framing.

1025. 7. CONSTRUCTION METHODS (Cont'd)

## 7.3 Placing Treated Timber

Treated timber shall be placed in the structure to the alignment and position indicated on the plans.

The Contractor shall measure the depth of all stringers above the daps and shall shim the daps with material approved by the Engineer on those stringers which measure less than the required measurement.

Butting stringers shall be fitted so that no gap remains between them. At hose joints where the butting stringers are not fully in contact with each other, the gaps shall be completely shimmed with material approved by the Engineer.

If, during the nailing of the deck, it is found that some areas of the deck do not bear properly on the stringers, these areas shall be shimmed with plywood to obtain full bearing of the deck to the stringers.

If precast girders do not bear properly on the timber pile caps, the Contractor shall place shims under the cap or under the girders to obtain full bearing of the girders to the cap.

All shims shall be treated with Timber Preservative.

Supplying and placing shims will be considered incidental to the Unit Price for "Placing Treated Timber" and no separate payment will be made for this work.

The individual sticks of decking shall be nailed together with sufficient force so that there are no gaps remaining between the rows of decking. To this end, the Contractor shall:

- (i) use hammers of the same weight and
- (ii) rotate his personnel who are nailing the deck across the width of the bridge.

In addition, the Contractor shall measure the distance between the leading face of the completed decking and the proposed position of the end floor plank at least once during the nailing of every 3 m of decking to ensure that:

- (i) the advance of the decking is uniform and
- (ii) the decking ends up parallel with the end floor plank.

The measurements shall be taken along each side of the bridge as well as along the centreline of the bridge.

## 7.4 Placing Bridge Iron

Bridge iron shall be placed and secured in the locations indicated on the plans. Nails, drift bolts and spikes shall be driven with sufficient force to set the heads flush with the surface of the timber. Recesses formed for countersinking shall be filled with timber preservative before the bolt is placed. All machine bolt assemblies and lag screws shall be drawn up snug and tight. The Contractor shall apply two coats of rust inhibiting paint to all exposed parts of the bridge iron after it has been secured in place. The steel plates under butting stringers and the pile straps shall be completely painted with two coats of rust inhibiting paint before being placed.

1025. 7. CONSTRUCTION METHODS (Cont'd)

## 7.4 Placing Bridge Iron (Cont'd)

The size of holes drilled in treated timber shall be as follows:

Drift Bolts

Holes shall be bored through the first timber with a bit 2 mm less in diameter than the nominal diameter of the bolt.

Machine Bolts

Holes shall be bored with a bit 2 mm larger in diameter than the nominal diameter of the bolt.

Lag Screws

Holes shall be bored to a depth of 40 mm shorter than the length of the lag screw with a bit 2 mm less in diameter than the nominal diameter of the lag screw.

Spikes

Boring of holes for spikes will not be required except where spikes are to be driven near an edge of a timber. In such cases, the holes shall be bored only through the first timber with a bit 3 mm less in diameter than the nominal diameter of the spikes.

## 7.5 Structure Identification Plaque

A brass identification plaque (c/w cadmium plated screws) for every structure will be supplied by the Department to the construction site.

The Contractor shall install the plaque on the outside of the exterior stringer nearest the northeast corner of the bridge.

The installation of the identification plaque(s) will be considered incidental to the unit price for "Placing Bridge Iron" and no separate payment will be made for this work.

1025. 9. METHOD OF MEASUREMENT

(a) Placing treated timber will be measured on a volume basis. The quantity to be paid for will be the number of cubic metres of timber, complete in place and accepted. The volume of timber will be computed using the actual width, thickness and length of each piece as shown on the plans.

(b) Placing bridge iron will be measured on a mass basis. The total number of kilograms paid for will be determined from the plans using the nominal masses of the various types of bridge iron as given in recognized handbooks.

1025. 11. BASIS OF PAYMENT

(a) Placing treated timber will be paid for at the Contract Unit Price per cubic metre for "Placing Treated Timber", measured as specified herein, which price will be payment in full for performing all operations herein described for timber and all other items incidental to this work.

1025. 11. BASIS OF PAYMENT (Cont'd)

- (b) Placing bridge iron will be paid for at the Contract Unit Price per kilogram for "Placing Bridge Iron", measured as specified herein, which price will be payment in full for performing all operations herein described for bridge iron and all other items incidental to this work.