



SECTION 02852/BRIDGES GLUED-LAMINATED VEHICULAR

Western Wood Structures, Inc. (WWS), incorporated in 1969 as a structural wood products sales company, offers pre-engineered, glued-laminated timber vehicular and pedestrian bridges to meet a diverse set of specified needs. Timber bridges are naturally beautiful, durable and cost-effective, and clients are given the flexibility to select a bridge style and rail system that best suits the project setting. Stamped design calculations and assembly drawings are supplied with all orders. WWS bridges are pre-fabricated prior to pressure-treatment to ensure a long and useful service life. WWS also offers field supervision to assist in the assembly and installation of the bridge superstructure.



Top: Overpeck Park Entrance Bridges; Teaneck, NJ **Left:** Storm Mountain Bridge; Steamboat Springs, Colorado
Center: Halter Ranch Winery Covered Bridge; Paso Robles, CA **Right:** Norton Creek Bridge; Highlands, NC

SECTION 02852

BRIDGES: GLUED-LAMINATED VEHICULAR

1.0 GENERAL REQUIREMENTS

1.1 Description: This section includes the design, fabrication and supply of the pre-manufactured, glued-laminated vehicular bridge(s) as shown and described on the contract drawings. The bridge is to be of pressure-treated glulam and timber construction and the supplier shall furnish all materials including connecting steel and hardware for a complete installation.

1.2 Design Criteria:

Dead Load: : _____ psf

Vehicle Load: _____ psf

Snow Load: _____ psf

Wind and seismic loads per AASHTO specifications.

1.3 Qualifications: The bridge supplier must be a company specializing in the design and fabrication of timber bridges with a minimum of five (5) years documented experience. Approved manufacturers include:

Western Wood Structures, Inc.
P.O. Box 130
Tualatin, Oregon 97062-0130
(800) 547-5411

1.4 Submittals:

1.4.1 Submit shop drawings and product data under the provisions of section 01300. Shop drawings shall include: general layout of structure, footing plan, elevation and cross section, and fabrication details for all wood members and steel assemblies. Include all pertinent dimensions, wood grades, drilled holes, fasteners, cambers, connectors, and types of preservative treatment. Shop drawings to be stamped by a registered engineer, licensed to practice in the state where the bridge is being constructed.

1.4.2 Submit design calculations stamped by a registered engineer licensed to practice in the state where the bridge is being constructed.

1.4.3 Furnish an AITC or APA-EWS Certificate of Conformance stating that the glulams conform to the specifications.

1.4.4 Furnish a WCLIB or WWPA Certificate of Conformance for all sawn lumber

1.4.5 Furnish a Certificate of Treatment stating that the glulams and sawn timber have been pressure-treated in accordance with the specifications.

1.4.6 Provide a written warranty against defects in material and workmanship for a period of five (5) years.

2.0 PRODUCTS

2.1 Materials:

2.1.1 Glulam shall be West Coast Douglas Fir. Grades as required by the design. The appearance shall be Industrial, except handrails and rail posts to be Architectural. Adhesive shall be 100% water-proof phenolic resin glue.

2.1 Materials (continued):

2.1.2 Sawn timber shall be West Coast Douglas Fir, #1, S4S, unseasoned.

2.1.3 Steel and Hardware. Manufacturer to supply all necessary steel and hardware required to assemble the bridge. Steel to be ASTM A-36 and hardware to be ASTM A-307. Welding by certified welders per AWS specifications D1.5. All steel and hardware to be hot-dipped galvanized per ASTM A-123.

2.2 Fabrication:

2.2.1 All glulam members and sawn timber to be incised and fully fabricated prior to preservative treatment in a plant with facilities for performing work specified. Factory drill all holes to the extent possible. Field cuts and bores to be treated with Copper Naphthenate per AWPA M4. The incising of handrails may be waived if appearance is important.

2.2.2 All wood components shall be preservative treated to meet the requirements of AWPA UC4B for above ground use, and AWPA UC4C for ground contact. Issue a certificate of treatment. Conform to WWPI Best Management Practices (BMP) for the use of treated wood in aquatic and other sensitive environments for all treated wood material.

3.0 EXECUTION

3.1 Delivery, storage, and handling:

3.1.1 The purchaser or installer is responsible for handling and protection of bridge members after arrival at destination. All bridge materials shall be unloaded and handled with a forklift or crane using nylon slings.

3.1.2 If bridge materials are to be stored at the site, they must be placed on a level surface and stickered to prevent warpage and twisting.

3.1.3 Any damage must be reported immediately to the bridge supplier's engineering department.

3.2 Installation:

3.2.1 Install the timber bridge according to manufacturer's shop details and installation drawings. Set structural members in locations and to elevations indicated. Make provisions for erection loads and provide temporary bracing to maintain bridge true and plumb, and in true alignment until completion of erection.

3.2.2 Do not field cut, drill, or alter structural members without written approval from the timber bridge company's professional engineer.

4.0 FOUNDATIONS

4.1 Bridge supplier shall provide bridge live load and dead load reactions, anchor bolt locations and abutment layout to purchaser. The purchaser is responsible for the final design of the bridge foundations.

4.2 Alternately, the purchaser may contract with the bridge supplier for the design of the bridge foundations. Purchaser is responsible for obtaining all needed soils, hydraulic and survey information required to design footings.

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