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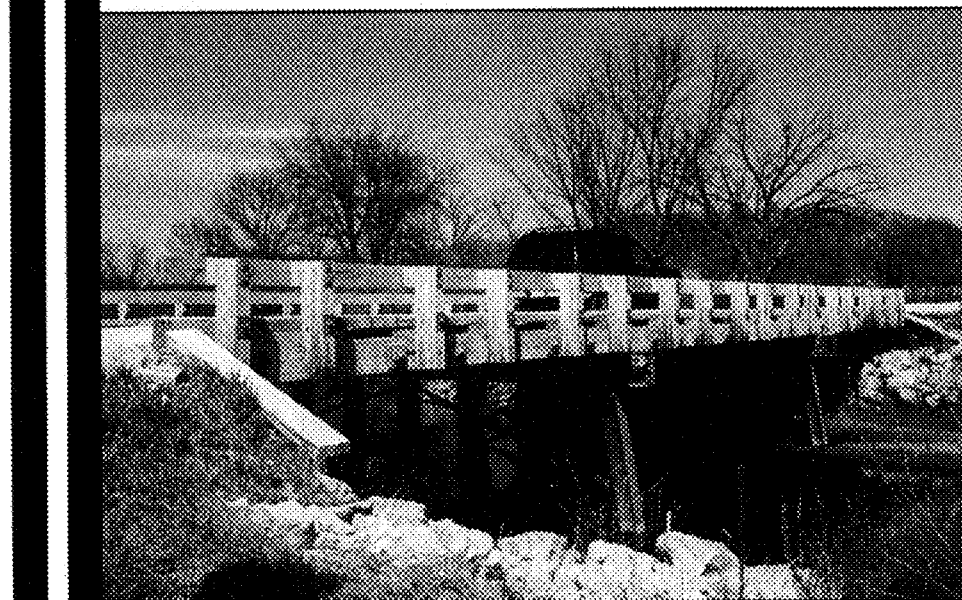
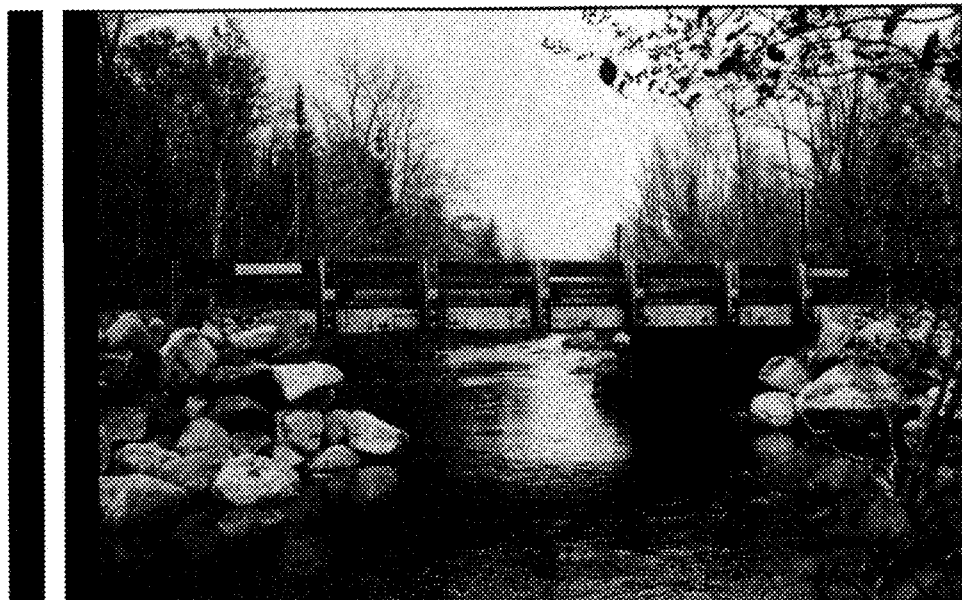
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General
Technical
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FPL-GTR-94



National Conference on Wood Transportation Structures



Abstract

The Federal Highway Administration and the USDA Forest Service, Forest Products Laboratory, jointly sponsored the National Conference on Wood Transportation Structures, October 23-25, 1996, in Madison, Wisconsin. This was a direct result of 5 years of cooperation in conducting research related to timber transportation structures. The objective of the conference was to present state-of-the-art information on wood utilization in transportation applications. The conference included a plenary session, reviewing timber bridges throughout the world, followed by concurrent paper sessions on various topics. This report includes the papers presented at this conference.

Keywords: Timber, bridge, transportation structures, stress laminated, metal-plate-connected (MPC) truss, design, wood, fiber-reinforced plastic (FRP), railing, sound barrier, economics, glulam, glued-laminated timber, laminated veneer lumber (LVL), connector, portable bridge, shear, preservative, grading, pile, non-destructive evaluation (NDE), rehabilitation, load rating, mechanical properties

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Preface

Interest in timber transportation structures has significantly increased in the past several years. Much of this interest has resulted from the programs and activities of the USDA Forest Service Timber Bridge Initiative (TBI), passed by the U.S. Congress in 1989, and the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991. The TBI is aimed primarily at stimulating local economies and enhancing rural transportation systems through the use of locally available wood species for timber bridge and highway structural applications. From 1992 to 1997, the ISTEA authorizes expenditures by the Federal Highway Administration (FHWA) for research and information transfer related to timber transportation structures.

After 5 years of cooperation in conducting research related to timber transportation structures, FHWA and the USDA Forest Service, Forest Products Laboratory (FPL), are hosting this conference to further disseminate information related to wood utilization in transportation applications. This information will be useful to practicing engineers in government and private practice and members of the academic and industry communities. The objective of the conference is to provide a forum for the exchange of state-of-the-art information on timber transportation structures.

The conference includes a plenary session, reviewing timber bridges throughout the world, followed by concurrent sessions on various topics. Papers presented in the sessions are included in this report and printed as submitted by the authors. The conference sessions include the following topics:

- Emerging Bridge Systems
- Timber Bridge Case Studies
- Timber Bridge Performance and Design
- Non-Bridge Structures
- Material Properties and Grading
- Reinforced Glulam Beams
- Timber Bridge Design Considerations
- Wood Preservatives
- Inspection
- Timber Bridge Design
- Timber Bridge Programs
- Standardized Design
- New Wood Treatments
- Load Rating, Maintenance, and Rehabilitation
- Timber Bridge Economics and Perceptions

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