

STINNETT ROAD BRIDGE

**Texas Historic Bridges Recording Project
Spanning Canadian River at County Route 225
Borger Vicinity
Hutchinson County
Texas**

HAER No. TX-42

**HAER
TEX
117-BORG.V
1-**

BLACK AND WHITE PHOTOGRAPHY

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD

**National Park Service
Department of the Interior
1849 C St., NW
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Location: Spanning the Canadian River at County Route 225, Borger vicinity, Hutchinson County, Texas.
UTM: 14/287840/3958210
USGS: Phillips, Texas, quadrangle.

Date of Construction: 1926.

Builder: Austin Bridge Company, Dallas, Texas.

Present Owner: Hutchinson County.

Present Use: Vehicular bridge.

Significance: This unusually long (approximately 2,400 feet) one-lane bridge is composed of thirty riveted and bolted steel Warren pony trusses, each about 80 feet long. It was constructed in 1926 by Austin Bridge Company of Dallas, Texas, to provide access to Borger area oil fields, and continues to serve Hutchinson County residents as part of a secondary route between Borger and Stinnett.

Historian: Robert W. Jackson, August 1996.

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Introduction

Hutchinson County was a sparsely settled ranching and agricultural area until the discovery of the vast Panhandle oil field in the early 1920s. Many small towns, such as Stinnett and Borger, sprang up almost overnight as petroleum-related industries and oil-boom entrepreneurs began to move into the area. Borger was the largest of these boom towns, and was laid out in 1926 by its founder, A. P. (Ace) Borger. Stinnett, however, became the county seat following a special election on September 18, 1926. These two communities were just one part of a panhandle population boom, with Hutchinson County increasing in number of residents from 721 in 1920 to 14,848 in 1930.¹ It was during this period of rapid change and increased economic activity that Austin Bridge Company received Contract C-855 to construct the Stinnett Road Bridge.

In its semi-monthly publication, *The Alarm Clock*, the company noted in May 1926 that “at the present time from 100 to 500 vehicles per day are being towed across the river by teams. The bridge is to be paid for with tolls, and is to become a free bridge as soon as we get our money back.” It is unknown at what point the structure became a free bridge, but due to a sharp reduction in the oil field activity for which it was originally constructed, it currently carries a limited amount of traffic.

Description

The Stinnett Road Bridge has one traffic lane approximately 16 feet wide and is curved toward its south end, which makes it difficult for motorists to see opposing traffic until it is too late to avoid a conflict. Presumably, vehicles occasionally have to back up in order to allow other traffic to cross. However, only a few vehicles cross the bridge per hour on an average day, and there are only a limited number of residences and no commercial activity on this secondary road. Most traffic between Borger and Stinnett utilizes the shorter and more direct State Route 207, located a few miles west of County Route 225.

The Stinnett Road Bridge is not unusual in terms of its basic design in that the Warren pony truss is a very common bridge type. In its original form, the Warren truss is composed of a series of equilateral triangles, without any vertical members. The diagonals function both as compression and tension members, and without counters or verticals the midspan members can suffer from stress reversal under certain loads.

British engineers James Warren and Willoughby Monzani built the first Warren truss in 1846, and patented the design in England in 1848. Unaware of the British patent, Squire Whipple built the first Warren truss in America a few years after it was introduced in England. Due to the potential problems caused by stress reversal at midspan, such as excessive wear at pin connections, the design was initially slow to catch on in America. However, as bolts and rivets

¹ H. Allen Anderson, “Hutchinson County,” in *The New Handbook of Texas*, ed. Ron Tyler, vol. 3 (Austin: Texas State Historical Association, 1996), p. 806.

began to replace pin connections toward the end of the nineteenth century, the form began to gain wider acceptance. Warren trusses were often built with vertical members which stiffen the entire structure, and in this configuration the design eventually became very popular.²

Like most surviving Warren trusses, the thirty 80-foot-long pony trusses comprising the Stinnett Road Bridge were built with vertical members.³ A combination of rivets and bolts connect the members via gusset plates. The inclined end posts, top chord and bottom chord of the trusses are solid steel I-beams, while the verticals are channels riveted together with batten plates. The I-beams are stamped "Bethlehem," indicating that they were rolled by the Bethlehem Steel Company of Bethlehem, Pennsylvania, while the channels are stamped "Colorado," indicating that they were rolled by the Colorado Fuel and Iron Company of Pueblo, Colorado. The diagonals are channels, connected either by battens or by lacing bars. The bridge's substructure is composed of steel reinforced concrete piers.

Austin Bridge Company

The bridge was built by one of the most prolific of all Texas-based bridge companies in the twentieth century. The roots of Austin Bridge Company may be traced to George L. Austin, who came to Dallas in 1889 as agent for George E. King Bridge Company of Des Moines, Iowa. George was joined by his brother Frank in 1894, and they began to advertise as "George L. Austin and Brother, Agents of George E. King Bridge Co." Because bridge work in Texas had become scarce in the middle 1890s, George moved to Atlanta in 1896 and began contracting in that state. Frank remained in Dallas and in 1898 the agency name was changed to "Austin Brothers, Southern Agents of George E. King Bridge Co."⁴

Business began to improve in Texas toward the end of the century. In order to keep up with the ever increasing office work, in 1900 Frank hired a young man named Charles R. Moore from Waco, Texas, to work as a stenographer. The Austin brothers decided soon thereafter to share the profits from the Texas and Georgia operations, and in 1902 adopted the name "Austin Brothers, Contractors". Moore began being identified about this time in company publications as "Traveling Agent, Contracting Agent, and Chief Engineer of the firm," and when the company

² Carl Condit, *American Building Art: The Nineteenth Century* (New York: Oxford University Press, 1960), pp. 117-18; James Cooper, *Iron Monuments to Distant Posterity: Indiana's Metal Bridges, 1870-1930* (Indianapolis: Pierson Printing, 1987), p. 84.

³ T. Allen Comp and Donald Jackson, "Bridge Truss Types: A Guide to Dating and Identifying," *History News* 32, No. 5 (May 1977).

⁴ All of the information in this report concerning Austin Bridge Company is taken from Shannon Miller, *Austin Bridge Company and Associated Companies: The First Fifty Years, 1918-1968* (Dallas: Taylor Publishing Company, 1974).

was incorporated in 1914, he was made secretary of the new corporation and became a member of the board of directors.

Prior to incorporation, the company sold road machinery and contracted for erection of bridges fabricated by others. About 1908, connections with the George E. King Bridge Company were severed, and in 1910 property was purchased on Coombs Street in Dallas for the erection of a steel fabrication plant. Fabrication held more interest to Frank Austin than did contracting, and following several losses due to poor job handling and bad weather he suggested to Moore that they should discontinue the contracting business and instead concentrate on the fabrication of structural steel for bridges and buildings. Moore's response was to buy the contracting and construction portion of the business, and on March 1, 1918, the charter for the Austin Brothers Bridge Company was filed with the Texas secretary of state. Moore served as president, with Frank Austin acting as treasurer. The other officers were W. J. Wyatt, vice president, and B. M. Hey, secretary. John B. Templeton, who started as chief assistant to the president at this time, was elected a director and secretary of the company in 1920, vice president in 1922, executive vice president in 1947, and president in 1953.

Nearly fifty contracts were awarded to the company in 1918, and in 1920 there was a considerable expansion of facilities when the Wyatt Metal and Boiler Works' property at 1813 Clarence Street, just across the Santa Fe railroad tracks from the main plant, was purchased. Most of the contracts during this period were for small bridges ordered by counties or private companies, but business was good due to the explosive growth of automobile registrations.

In 1921, C. R. Moore contracted with Nueces County for an approximately 8,166-foot-long causeway across Nueces Bay. This was the largest and most profitable project the company ever attempted, and it ushered in a decade of rapid growth and change for the firm. In March 1923 the name of the company was shortened to "Austin Bridge Company," and under that name a new shop was erected in 1926. Additional property in West Dallas was purchased in 1929, a year in which the company won 166 construction contracts. The company survived the depression and experienced considerable expansion through the following decades, and continues in business to this day.

Conclusion

Although the Stinnett Road Bridge is not unusual in terms of its design, nor a rare example of the work of its builder, it is an unusually long collection of Warren pony trusses and is unique in its visual impact. The fact that it bears a fairly light traffic load may account for its continued existence, because such a long one-lane bridge would never survive the demands of heavy, two-way traffic. At present, it survives as an interesting artifact from a tumultuous period in Hutchinson County history, and as a useful crossing of the Canadian River.

SOURCES CONSULTED

- Anderson, H. Allen. "Hutchinson County." In *The New Handbook of Texas*, ed. Ron Tyler, vol. 3. Austin: Texas State Historical Association, 1996.
- Comp, T. Allen, and Donald Jackson. "Bridge Truss Types: A Guide to Dating and Identifying." *History News* 32, No. 5 (May 1977).
- Condit, Carl. *American Building Art: The Nineteenth Century*. New York: Oxford University Press, 1960.
- Cooper, James. *Iron Monuments to Distant Posterity: Indiana's Metal Bridges, 1870-1930*. Indianapolis: Pierson Printing, 1987.
- Miller, Shannon. *Austin Bridge Company and Associated Companies: The First Fifty Years, 1918-1968*. Dallas: Taylor Publishing Company, 1974.

APPENDIX: Suggestions for Further Research

Due to limitations in the scope of the Texas Historic Bridges Recording Project, several questions which arose during the research and writing of this report remain unanswered. It is suggested that scholars interested in this bridge consider pursuing the following:

1. At what point did this bridge become a free bridge, and how much revenue was generated while it was a toll bridge?
2. How much did the bridge cost?
3. How long did it take to erect and what was the method of erection?