COAL CREEK TRUSS LEG BEDSTEAD PONY TRUSS BRIDGE
Spanning Coal Creek
Skedee Vicinity
Pawnee County
Oklahoma

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD
Submitted to:
Oklahoma State Historic Preservation Office
800 Nazih Zuhdi Drive
Oklahoma City, Oklahoma 73105

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Tanya McDougall, Photographer, October 2011

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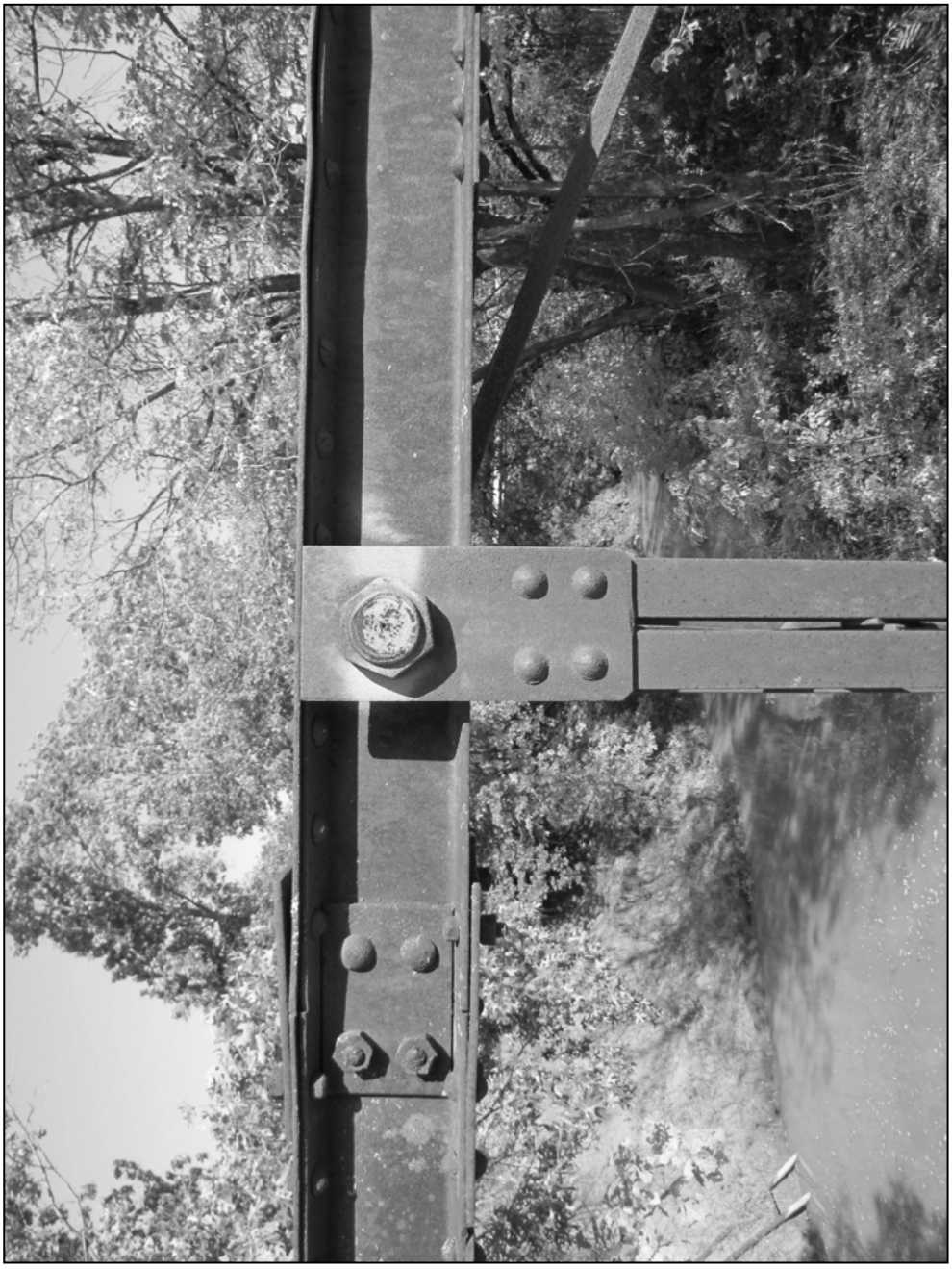

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# COAL CREEK TRUSS LEG BEDSTEAD PONY TRUSS BRIDGE

**Location:** Spanning Coal Creek, carrying facility N3500, in the Skedee vicinity
Pawnee County, Oklahoma.
UTM: 14/E0700367/N4035482
Quad: Masham

**Present Owner:** Pawnee County, Oklahoma
ODOT Structure Number 59N3500D0390003

**Present Use:** Abandoned Vehicular Bridge

**Significance:** The Coal Creek Truss Leg Bedstead Pony Truss Bridge was constructed in 1907 by the Canton Bridge Company of Canton, Ohio, as a one-lane vehicular bridge over Coal Creek in Pawnee County, Oklahoma. Due to the self-supporting vertical endposts of the leg bedstead type, which made it easy to install and inexpensive to construct, counties found it favorable for improving rural roads during the early 1900s. The Coal Creek Bridge is a good example of its type and embodies design characteristics typical of the Canton Bridge Company, including the large exposed nuts attaching the diagonals to the top chord.

**Project Information:** Historic American Engineering Record (HAER) Level II equivalent documentation was performed in October 2011. Tanya McDougall, Architectural Historian, conducted the on-site recordation and compiled the historical information. During the on-site recordation, photographs following National Park Service (NPS) standards for digital photographs were taken of the structure, and observations on existing conditions were noted. This HAER recordation serves as mitigation for the demolition of this structure.

**List of Preparers:**

| | |
|---|---|
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Geo-Marine, Inc.
Plano, Texas

## PART I. HISTORICAL INFORMATION

### A. Physical History:

1. **Date of Construction:** 1907

2. **Architect/Engineer:** Not Known

3. **Builder/Contractor/Supplier:** Canton Bridge Company

4. **Original Plans:** Original plans were not found for this structure.

5. **Alterations and Additions:** The structure has remained mostly unaltered with the exception of missing railing on both sides of the truss. In addition, due to deterioration, portions of the wood deck are missing.

### B. Historical Context:

#### 1. Introduction

Pawnee County, named for the Pawnee Tribe, is located in northcentral Oklahoma. Development of the county has its beginning with the Reconstruction Treaties of 1866, which established an agreement with the Cherokee Tribe to allow other Native American tribes to settle on a strip of land in eastern Oklahoma known as the Cherokee Outlet. Between 1873 and 1875, the Pawnee Tribe was relocated from Nebraska to the Outlet, and the Tribe Agency was established near what would be the town of Pawnee (Wilson 2011). In 1891 the Pawnee agreed to take allotments and the area was opened to settlement. Pawnee County, originally named Q County, was organized in 1893, and the town of Pawnee was chosen as the county seat (Lambert and Frank 1994:140).

Early settlers of Pawnee County developed an agricultural economy with the primary crops being cotton, wheat, oats, and corn. However, by the early 1900s, oil drillers began exploring the area for petroleum resources. The first successful discovery well was drilled in 1904, in the southeast part of the county near Cleveland, Oklahoma. Due to the success of the discovery well, known as the Uncle Bill Lowery Number One, interest in the county's oil and gas resources quickly gained momentum. By 1905, the county was producing 11,000 barrels of oil and 11,000,000 cubic feet of natural gas (Lambert and Frank 1994:166).

With the rapid growth of the oil industry in the early 1900s and established agricultural industry, it soon became apparent that the existing transportation outlets in Pawnee County were inadequate. In 1902, the Atchison, Topeka, and Santa Fe Railway constructed a line from Kansas entering Pawnee County at Ralston south to Skedee. Shipping points developed along the rail line, but local travel remained difficult

(Lambert and Frank 1994:146). Although some light duty and unimproved roads did exist, many early roads in Pawnee County were often little more than cleared paths. The issue of good roads was not specific to Pawnee County, but was a great concern throughout Oklahoma Territory. It was well understood that the lack of good roads hindered the growth of towns, cities, and emerging industries (Burke 2011:7; King 1993). Prior to statehood in 1907, good-roads associations were formed in most cities. These associations advocated for road development and improvements and lobbied to political leaders to take action.

In 1906, Sidney Suggs, the president of the Oklahoma-Indian Territory Good-Roads Association, urged members of the Oklahoma Constitutional Convention to create a state highway department (Burke 2011:7). The effort was well received and the Oklahoma constitution provided for the establishment of a state highway department (Burke 2011:7). Although a state highway department was established after statehood, due to the lack of funding and personnel, the department was unable to take on the massive job of improving Oklahoma's roads. For the first few years after statehood, the responsibility for constructing and improving roads was left to the local level (Oklahoma Department of Highways 1970). It was during this transitional period that the Coal Creek Bridge was constructed in Pawnee County.

## 2. Development of the Coal Creek Truss Bedstead Pony Truss Bridge

The Coal Creek Truss Leg Bedstead Pony Truss Bridge is located in a rural area in northeast Pawnee County, carrying road N3500. The bridge was built as a one-lane leg bedstead truss bridge, a common bridge design in the early 1900s. This bridge type has vertical endposts that extend past the bottom chord to the ground. The vertical endposts make the bridge virtually self-supporting, which simplified its construction and reduced the cost. Counties found the cost-efficient design beneficial for improving rural roads (King 1993).[1]

Bids to construct the Coal Creek Bridge were accepted by the Pawnee County Board of County Commissioners on January 8, 1907 (Pawnee County Clerk [PCC] 1907: County Commissioner Minutes [CCM] 3:10). The project was awarded to the Canton Bridge Company of Canton, Ohio, for the contract amount of $1,600. The contract did not include the bridge floor, which was most likely awarded to a local contractor. Approval of the award was issued on July 7, 1907 (PCC 1907:CCM 3:30).

The Canton Bridge Company, headquartered in Canton, Ohio, was a well-established firm, building bridges throughout Oklahoma by the early 1900s.[2] The company was organized in 1892 and designed, fabricated, and erected structural steel work of various sizes through the 1920s (*Evening Independent* 23 December 1922). Most bridge builders active in Oklahoma were capable of constructing a leg bedstead truss, but the Canton Bridge Company applied the distinctive feature of attaching diagonals to the top chord with two large exposed nuts (King 1993). The Coal Creek Bridge exhibits this feature.

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[1] Although the leg bedstead was an inexpensive and simple design to construct, this type of bridge could also become weak and unstable. To strengthen the structure, bracing was added to the substructure and the legs were either set in concrete or in rock-filled tubes (King 1993).

[2] In 1902, the Canton Bridge Company constructed a leg bedstead bridge near Blackwell in Kay County (King 1993).

The area surrounding the Coal Creek Bridge has remained rural, but during the 1930s, the Gulf Pumping Station was located at the northeast end of the bridge (U.S. Geological Survey 1930, 1935). It is unknown when the Gulf Pumping Station was constructed; however, it demonstrates the presence of the oil industry in the area and the effect that the development of better roads had on facilitating growth in the county.

## PART II. STRUCTURAL/DESIGN INFORMATION

### A. General Description:

The Coal Creek Truss Leg Bedstead Pony Truss Bridge is a one-lane vehicular bridge carrying road N3500. The structure runs north and south to accommodate the southwest-flowing drainage of Coal Creek.

The bridge has three spans, which include two approach spans and one center span. The structure has a total length of 87 feet (ft) and a total width of 14.7 ft. The center span, which is the leg bedstead truss, is the longest span and measures 50 ft. The top chord of the truss consists of two channels connected by lattice bars, and the endposts consist of two channels connected by V-lacing. The three-panel truss has a center panel with lateral bracing flanked by vertical and diagonal members. The vertical members consist of angles connected by lattice bars, and the diagonal members consist of angles connected by battens. Original railing consisted of a single channel running parallel to the structure; however, due to deterioration, portions are missing on both sides of the truss. The structure's wood deck is constructed of wood floor planks running perpendicular to the bridge and measure approximately 10 inches wide and approximately 2.7 inches thick.

The structure is supported by the truss legs, a stone abutment on the north end, and a wood plank abutment on the south end. The truss legs have been placed in concrete and have lateral bracing, which was likely added to provide additional support.

1. **Character:** The leg bedstead design of the structure is indicative of its rural setting and period of construction. The structure demonstrates the efforts made during early statehood to improve rural roads and encourage local development.
2. **Condition of Fabric:** The Coal Creek Truss Leg Bedstead Pony Truss Bridge retains its character and integrity. However, the structure does show signs of extensive deterioration, particularly along the wood deck where several holes are present. The metal elements of the bridge have remained mostly intact with the exception of missing railing on both sides of the truss. The stone abutment on the north end of the bridge also shows signs of deterioration with a horizontal crack running through the center.

**B. Site Information:** The immediate area surrounding the Coal Creek Truss Leg Bedstead Pony Truss Bridge is undeveloped and covered by native vegetation. The nearest structures are located approximately 380 feet west and approximately 480 feet east of the bridge. The structure to the west appears to be a single-family dwelling that was constructed post-1954, and the structures to the east were likely associated with the Gulf Pumping Station, which is no longer extant.

## PART III. SOURCES OF INFORMATION

### A. Primary Sources:

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LOCATION MAP

COAL CREEK TRUSS LEG BEDSTEAD PONY TRUSS BRIDGE
PAWNEE COUNTY, OKLAHOMA
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