

ALASKA RAILROAD, TRESTLE MP 187.6 (IRON CREEK)
Track Mile Post 187.6, spanning Iron Creek
Willow vicinity
Matanuska-Susitna Borough
Alaska

HAER AK-67
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WRITTEN HISTORICAL AND DESCRIPTIVE DATA

FIELD RECORDS

HISTORIC AMERICAN ENGINEERING RECORD
ALASKA SUPPORT OFFICE
National Park Service
U.S. Department of the Interior
240 West 5th Avenue, Room 114
Anchorage, AK 99501

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Location: Track Mile Post 187.6 spanning Iron Creek, Willow vicinity, Matanuska-Susitna Borough, Alaska

UTM: 655,771.43m E; 6,581,301.69m N; Zone 5

Present Use: The bridge (AHRs No. TYO-0096) is currently used by the Alaska Railroad for its original function, allowing trains to cross Iron Creek.

Significance: Alaska Railroad, Trestle MP 187.6 (Iron Creek), originally built by the Alaska Engineering Commission in 1917, is a typical example of the many standard timber trestle bridges erected by the commission to extend the railroad from Anchorage north through interior Alaska to Fairbanks. The trestle is eligible for the National Register of Historic Places as an example of these standard timber trestles on the Alaska Railroad.

Part 1. Historical Information

A. Physical History:

1. Date(s) of Completion: The original structure, a 75'-long, five-span timber trestle, was built in September 1917 by the Alaska Engineering Commission. A sixth span was added during the 1940s.

2. Architect/Engineer: No specific architect or engineer is known. The bridge is likely to have been constructed from standard plans. Standard drawings predating the construction of this bridge are unsigned.

3. Original and Subsequent Owners: Alaska Railroad Corporation

4. Builder, Contractor, Suppliers: Alaska Engineering Commission (AEC). No specific private contractor or material suppliers are known.

5. Original Plans and Construction: No original plans of the bridge are known. It is likely to have been constructed from standard plans in a manner typical of all AEC timber trestles.

6. Alterations and Additions: The bridge has been repaired and upgraded many times since its original construction. Available documentation shows that new piles were driven in 1935, 1943, and 1950. A sixth span was added during the 1940s. A 1950 "Authorization for Expenditure" (No. 931) was for retiring the bridge substructure

(replacing caps and braces), replacing untreated piling, and adding a “fourth stringer to each chord to increase loading capacity.” A 1971 authorization (No. 1-0072) was for new ties and guardrails.¹

Originally constructed with local untreated timber, the bridge now contains creosote-treated timber. The composite beams originally were made up of three rows of beams bolted together, and now there are four rows. The 1950 upgrade was part of the railroad-wide program that replaced 70-pound rails with 115-pound rails. The bridge also has several more recent features. A fiber optics cable installed in 1997 runs along the outer face of the eastern beam. On top of the bridge, flat steel straps (a change from the original 4" x 8" timber) are bolted to the ties along the top edge of each side of the bridge. Other recorded repairs and alterations undoubtedly occurred.

B. Historical Context:

Alaska Railroad, Trestle MP 187.6 (Iron Creek) is just one small element of the twenty-one year effort to connect the vast Alaskan interior with a port from which goods could be shipped south. After the Klondike gold rushes of 1897 and 1898, access to the interior was limited to two routes: the Yukon River via Nome, and the White Pass & Yukon Railway through Canada to Skagway. To speculators, politicians, and the Alaskan public, it became increasingly obvious that Alaska’s economic future depended on a new, more direct connection, traveling through Alaskan territory and terminating in an ice-free port.

To this end, the town of Seward, on Resurrection Bay along the southeastern coast of the Kenai Peninsula, was established in 1902 as the southern terminus of a proposed railroad linking it with the gold-mining center of Fairbanks in the interior. The Alaska Central Railway Company began surveying a route that extended over 400 miles, from Resurrection Bay, across the mountains of the northern Kenai Peninsula, west up Turnagain Arm, north through the Matanuska-Susitna Valley, over Broad Pass, and on to Fairbanks. Initial engineering reports suggested that conditions were favorable for the construction of the railroad: light winters, easy grade conditions, abundant timber, labor rates similar to those in Seattle, and “nominal” costs for transportation of goods from Seattle to Seward. Construction costs were estimated to be less than \$35,000 per mile.

Plagued by difficulty in finding investors and by costs far exceeding their optimistic projections, Alaska Central was deeply in debt by the time financial panic struck in 1907. Fifty-one miles of track had been constructed north of Seward in 1908 when the company’s creditor, the Sovereign Bank of Canada, voluntarily liquidated its holdings and bankrupted the railroad. By 1909, bondholders in the Sovereign Bank had resurrected the project under a new company name, the Alaska Northern Railway. Just two years and only 20 track miles later, it also went bankrupt, with track ending at Kern Creek near Mile Post 71.

In 1912, President Taft convinced Congress to appoint a commission to investigate Alaska’s transportation problems, and the Alaska Railway Commission was formed. Members visited various locations in the state and prepared a report recommending construction of a Government

¹ Alaska Railroad, Bridge File 187.6, n.d., on file, Alaska Railroad Corporation, Anchorage.

Railroad from Kern Creek through the Matanuska coal fields to the Kuskokwim Valley. In 1914, Congress passed the Alaska Railway Act, authorizing the president to locate, construct, and operate railroads in Alaska, and the Alaska Coal-Land Leasing Act, opening coalfields to small mining operations. The commission pursued negotiations to buy Alaska Northern Railway's holdings, eventually agreeing on a price of \$1,150,000, a fraction of the private investment made in the preceding decade. In 1914, President Wilson appointed members to the new Alaska Engineering Commission, which set up offices in Seattle and organized teams to resurvey the proposed line and repair the existing track.

Seeking to quickly provide a shipping terminus for coal from the Matanuska Valley, the Alaska Engineering Commission began to prepare terminal facilities and constructed a dock at Ship Creek, just over 100 miles north of Seward. With the prospect of employment on the railroad, the population of the area surged. To keep the terminal area clear of squatters, the government auctioned land at Ship Creek, creating the town of Anchorage. Railroad headquarters were established there in 1917, the year after the earliest standardized drawings for construction of timber trestle bridges like the one over Valentine Creek were produced. Construction crews pushed the line out of Anchorage, north toward Fairbanks and south to meet the line from Seward, in part by using equipment and track left over from building the Panama Canal. Finally on July 15, 1923, a golden spike driven by President Warren G. Harding signified completion of the line known to many as the "Government Railroad."

Despite high expectations, the economy in the Territory of Alaska did not surge with completion of the long-awaited railroad; instead, it stagnated between the two world wars, with declining population and little development. Rather than have a private company operate the railroad as originally planned, the government was forced to keep it going until the economy improved. But conditions worsened still with the onset of the Depression and non-essential lines such as the Chickaloon and Chatanika branches were shut down. Finally, in 1938, the Federal government authorized a construction program including a new depot in Anchorage, and the *Anchorage Times* exalted that "The Feds Are Here to Stay." World War II also helped to temporarily revive the railroad, with a new line to the military post at Whittier, but following the war it was again in decline. During the 1950s, a major rebuilding effort was undertaken for the bridges and the track. It was during this period that the 70-pound rails were replaced with 115-pound rails, and many timber bridges were reconstructed or bridge pilings and other superstructure components were replaced.

During the early Cold War years, large military bases at Anchorage, Fairbanks, and Kodiak contributed to stable local economies. In 1969, the Alaskan economy changed forever with the discovery of huge oil fields on the North Slope. The boom that followed brought thousands of people to work on construction of the Trans-Alaska Pipeline. Oil money paid for a massive increase in state government employment, and for the state purchase of the Alaska Railroad. The Alaska Railroad Corporation continues to serve the state, hauling natural resources like coal and oil and carrying hundreds of thousands of passengers annually.

Part II. Architectural Information

A. General:

1. Architectural Character: The current bridge is a six span, 84'-long timber trestle that runs north-south carrying railroad tracks over Iron Creek. It is supported by two end and five intermediate bents.

2. Condition of Fabric: Fair.

B. Site:

1. General Setting and Orientation: Alaska Railroad, Trestle MP 187.6 (Iron Creek) is inaccessible by road and trail, and runs north-south over Iron Creek in a relatively flat, wooded landscape. Surrounding vegetation is composed primarily of deciduous trees and undergrowth, with conifers sparsely intermixed. The area on each side of the track has been cleared of trees for visibility and maintenance. The track itself is raised above the surrounding grade on a bed of gravel and runs straight into the distance from each end of the bridge.

C. Architectural Description:

1. Dimensions: The bridge is 84' long, 10' wide at the ties, and approximately 12' above the creek bed.

2. Description: Alaska Railroad, Trestle MP 187.6 (Iron Creek) is primarily supported by creosoted timber piles driven into the creek bed. The piles are arranged in seven rows of five piles each, perpendicular to the tracks above. Each row of piles is capped by a beam and diagonally braced on both sides, forming structural bents. The outer piles in each of the bents are battered to increase lateral stability, and the diagonal members are through-bolted to each pile and to the beam ends, which cantilever beyond the structure above. Remnants of at least two previous generations of wood piles are visible in the creek below the bridge.

At each end of the bridge, a bulkhead of horizontal timbers retains the soil adjacent to the first bent. Two composite beams, each made up of four rows of beams through-bolted together, rest on the bents and support evenly spaced ties. The butt joints in each row within the composite beam occur at every other bent and are staggered in every other row, allowing the composite to act as a continuous beam for the length of the bridge. A fiber optics cable installed in 1997 runs along the outer face of the eastern berm. On top of the bridge, flat steel straps (a change from the original 4" x 8" timbers) are bolted to the ties along the top edge of each side of the bridge, and steel tracks are located on the ties directly above the beams. Plywood laid between the tracks in the 1990s provides moose running down the tracks in front of a train a better surface for crossing the bridge.

Part III. Sources of Information

A. Original Architectural Drawings: No original drawings of this bridge are known. The Alaska Railroad Corporation has original standard drawings showing timber trestle bridge construction for Trestle MP 187.6 and similar structures along the same track line. The drawing sets are dated 1916, 1920, 1940, and 1978. Those from before 1917 seem mostly likely to yield information about the original construction of this bridge. These are labeled “Department of the Interior, Alaska Engineering Commission, Ship Creek, Alaska” and include:

Standard Pile Trestle, April 1916 (unsigned):

132.1: Intermediate Bent

132.2: End Bent

132.3: Side Elevation. Heights of 10 Ft. and less

132.4: Side Elevation. Heights above 10 Ft.

132.6: Plan of Deck.

Standard Pile Trestle, August 1916 (unsigned), modified in May 1918 (initialed F.H.C.):

147.1: Intermediate Bent, Loading E-44

147.2: End Bent. Loading- E-44

147.3: Side Elevation–Heights of 10 Ft. and Less. Loading- E-44

147.4: Side Elevation–Heights above 10 Ft. Loading- E-44

147.6: Plan of Deck. Loading- E-44

B. Early Views: None known.

C. Bibliography/References Cited:

Alaska Railroad. Bridge File 187.6, n.d. On file, Alaska Railroad Corporation, Anchorage.

Brown, C. Michael and Michael S. Kennedy. *The Alaska Railroad: Probing the Interior*. History and Archaeology Series No. 25. 1975. Office of Statewide Cultural Programs, Alaska Division of Parks, Anchorage.

Hanable, William S. Draft, National Register of Historic Places Nomination for the Alaska Railroad, 1975. On file, Alaska Office of History and Archaeology, Anchorage.

Letter from Robert F. Crecco, Secretary’s Designee to the Advisory Council on Historic Preservation to William J. Murtagh, Keeper of the National Register, 1976. On file, Alaska Office of History and Archaeology, Anchorage.

D. Likely Sources Not Yet Investigated: None known.

F. Supplemental Material



Figure 1: Downstream view, looking west. Michael Yarborough, photographer, July 1, 2002.

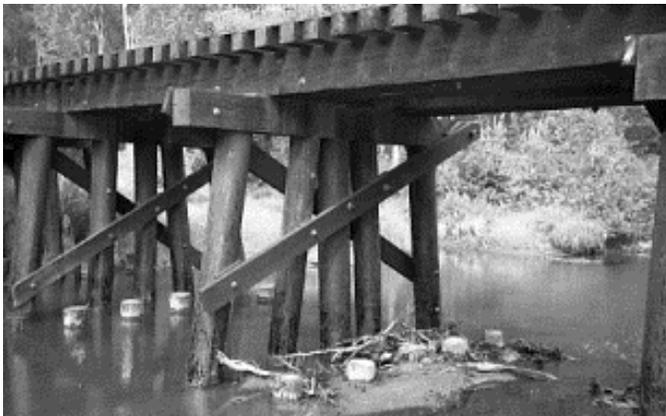


Figure 2: View of bents. Michael Yarborough, photographer, July 1, 2002.



Figure 3: View of tracks, looking south. Michael Yarborough, photographer, July 1, 2002.

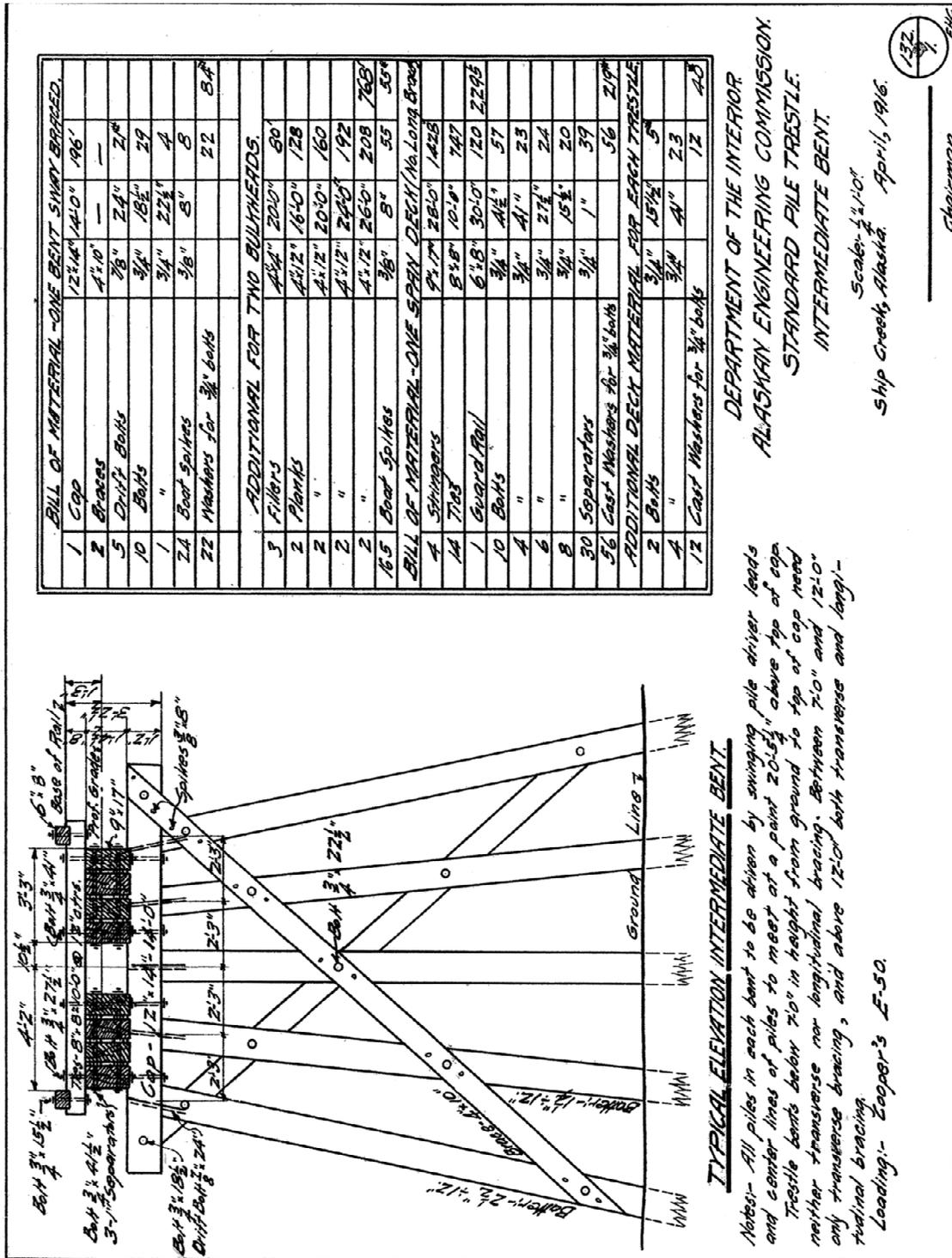


Figure 4: Standard Pile Trestle, Intermediate Bent, April 1916, Sheet 132.1.

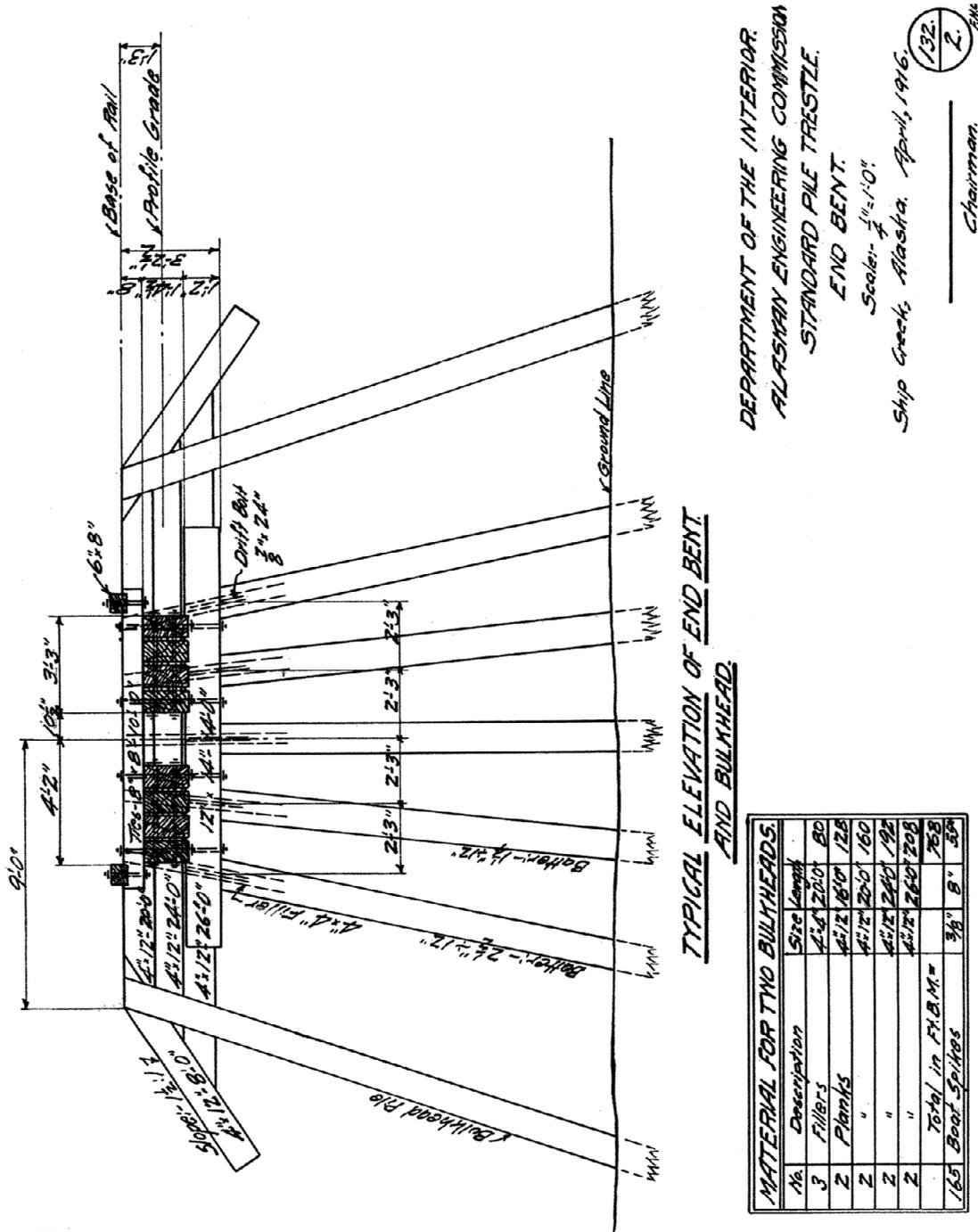
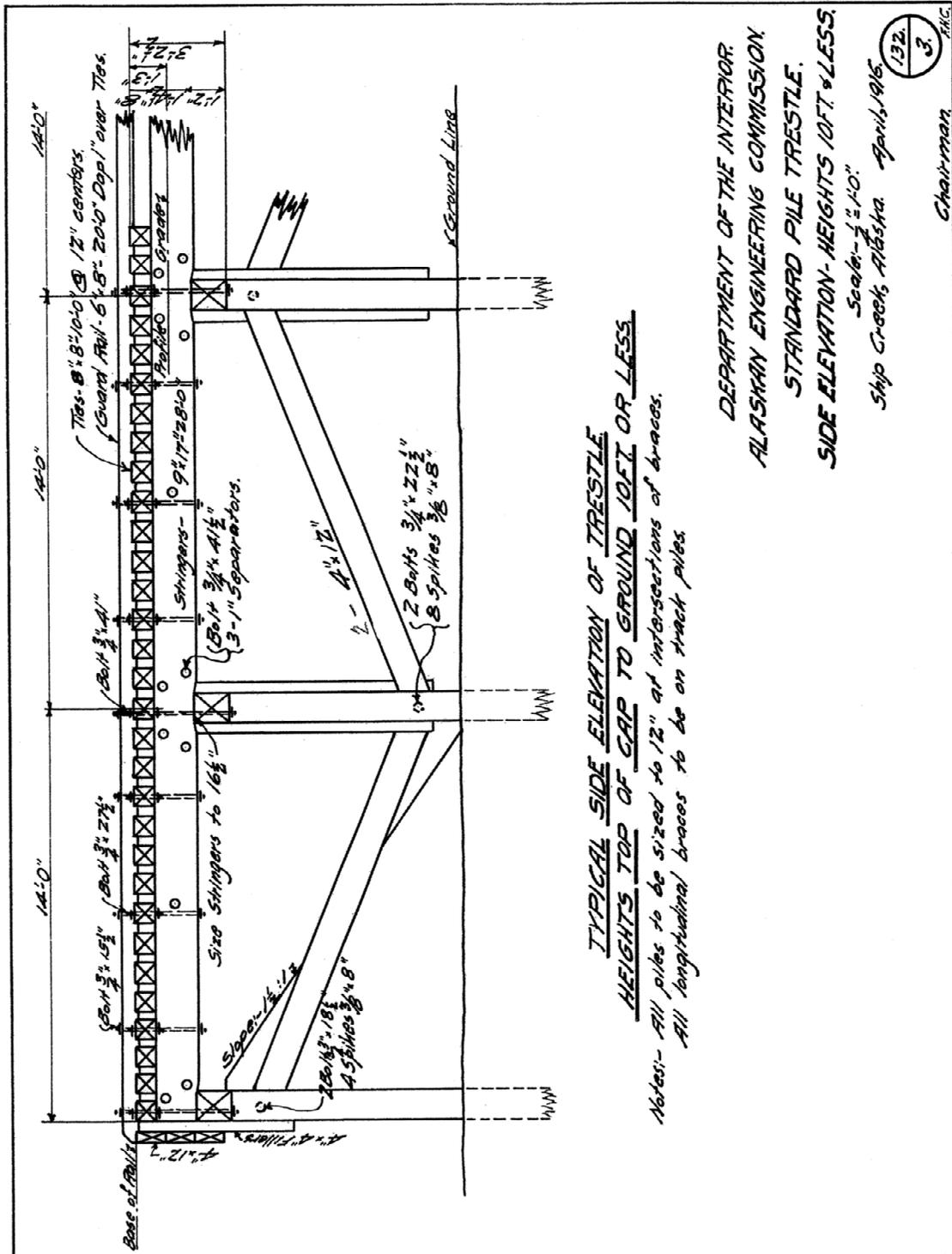


Figure 5: Standard Pile Trestle, End Bent, April 1916, Sheet 132.2.



TYPICAL SIDE ELEVATION OF TRESTLE
HEIGHTS TOP OF GAP TO GROUND 10 FT. OR LESS.

Notes:- All piles to be sized to 12" at intersections of braces.
All longitudinal braces to be on track piles.

DEPARTMENT OF THE INTERIOR
ALASKAN ENGINEERING COMMISSION
STANDARD PILE TRESTLE.
SIDE ELEVATION - HEIGHTS 10 FT. & LESS.

Scale - 1/2" = 1'-0"
Ship Creek Alaska April, 1916.
Chairman

Figure 6: Standard Pile Trestle, Side Elevation – Heights of 10 Ft. and Less, April 1916, Sheet 132.3.

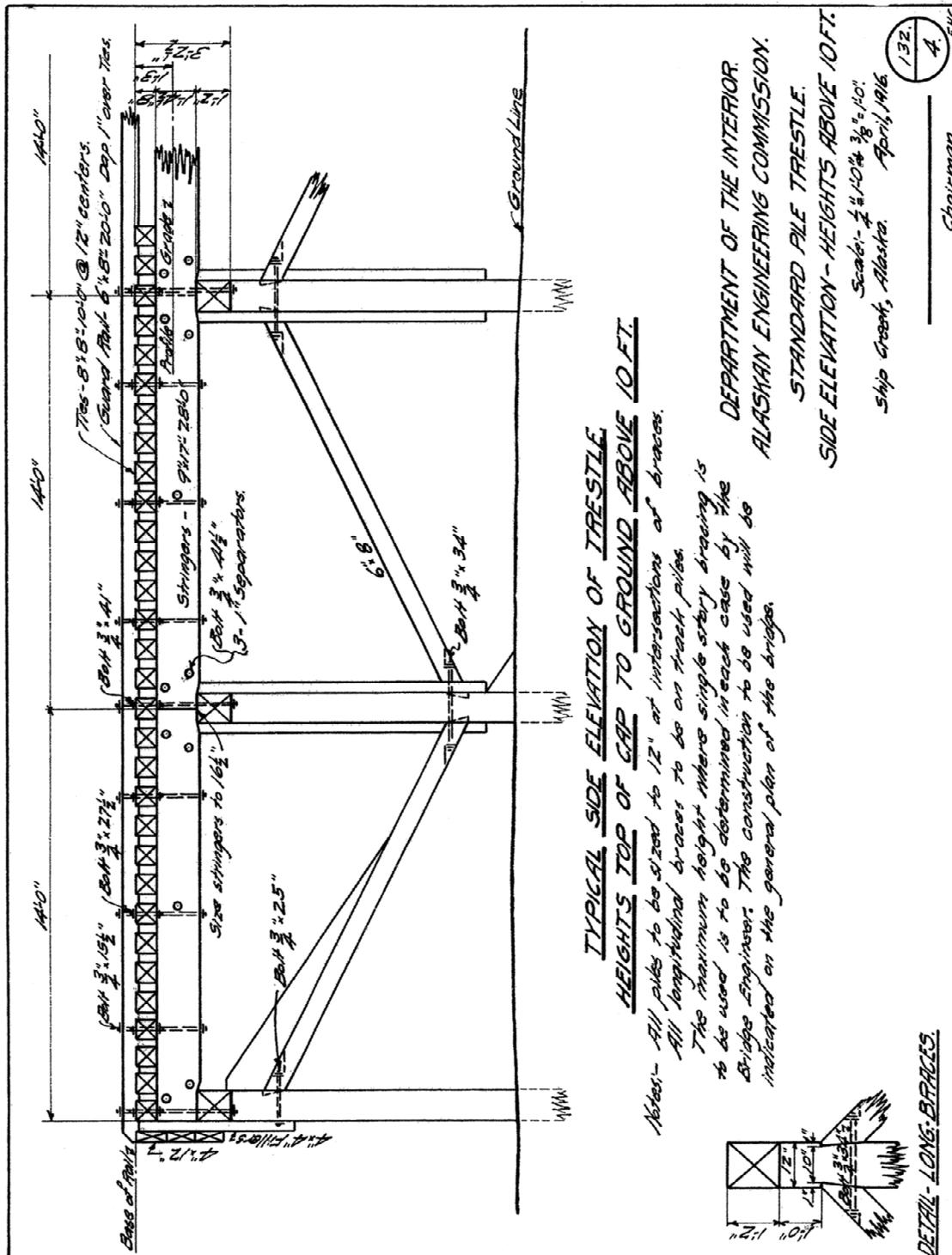


Figure 7: Standard Pile Trestle, Side Elevation. Heights Above 10 Ft, April 1916, Sheet 132.4.

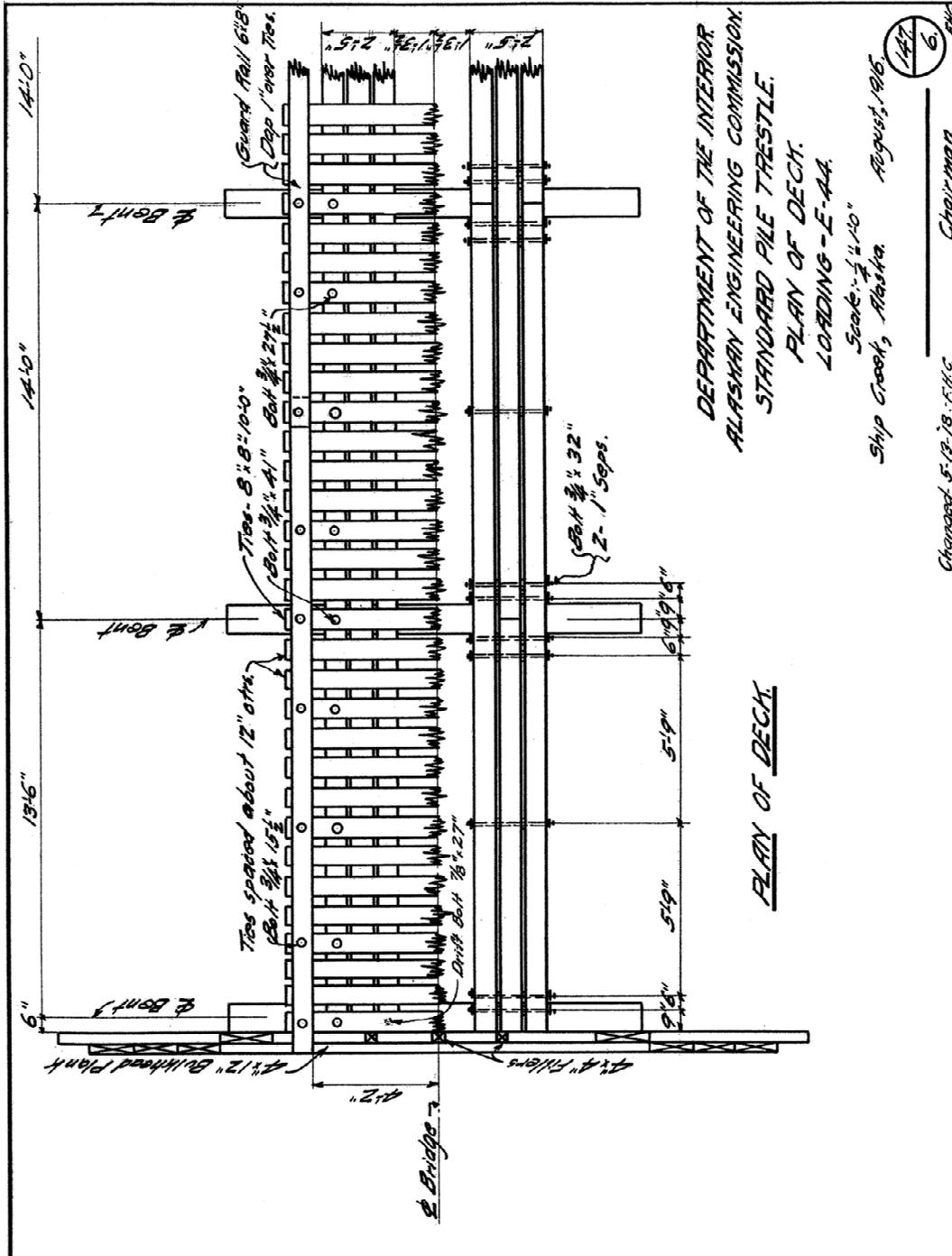


Figure 13: Standard Pile Trestle, Plan of Deck, Loading E-44, August 1916, Sheet 147.6.

Part IV. Project Information

The Alaska Railroad Corporation proposes replacing the existing 84' timber trestle (six, 14' spans) with a 56' steel/concrete ballast deck bridge (two 28' spans). Creosote-treated timber piling will be replaced with steel pipe. The purpose of the project is to rehabilitate the bridge foundation, improve safety, improve water conveyance, and decrease maintenance costs. The project will adversely impact the bridge, which has been determined eligible for the National Register of Historic Places.

Amanda A. Walsh, Architect, with Michael Yarborough, Archeologist, and Rogan Faith, Historian, prepared the historical report. Michael Yarborough took the photographs.