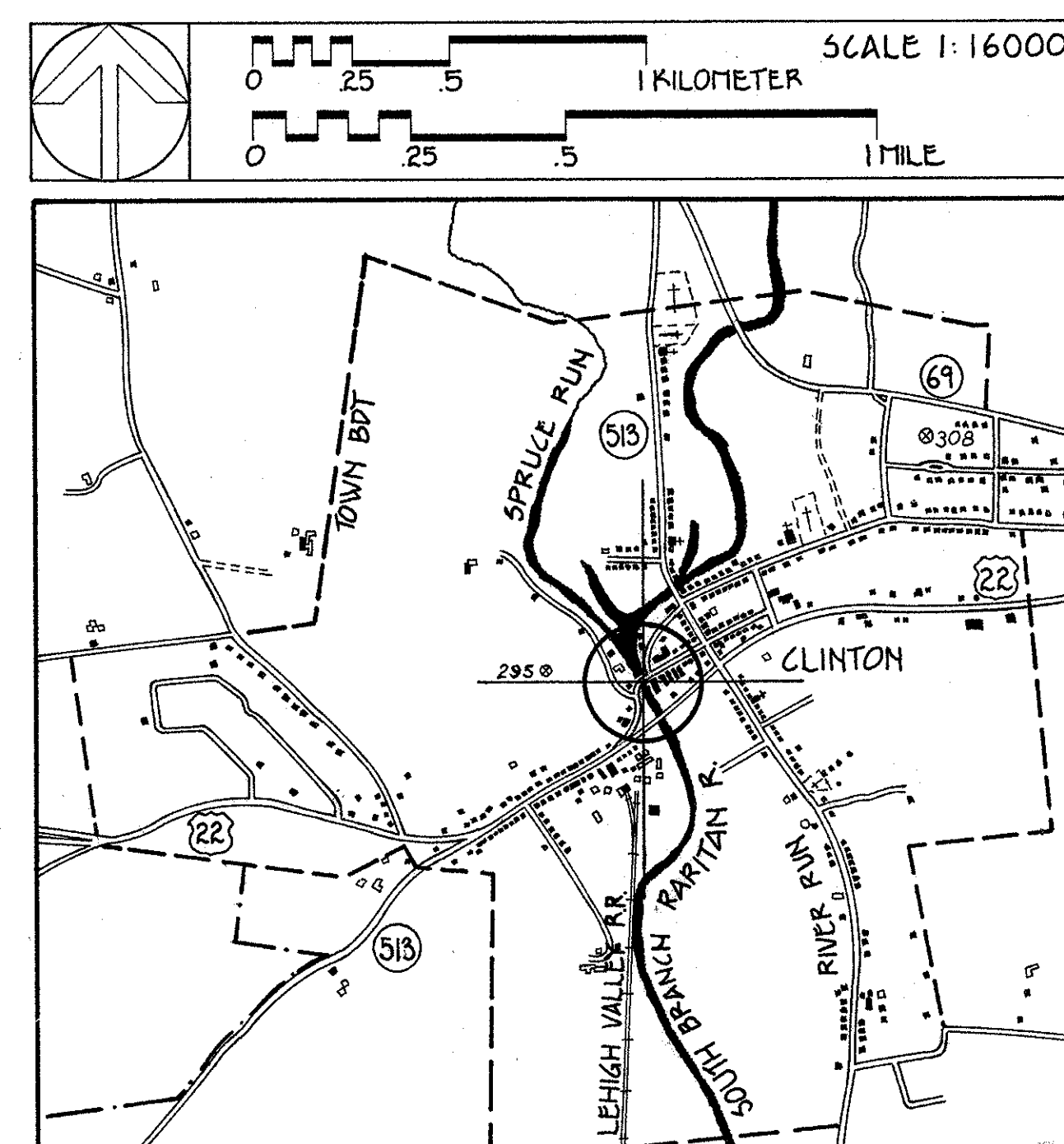
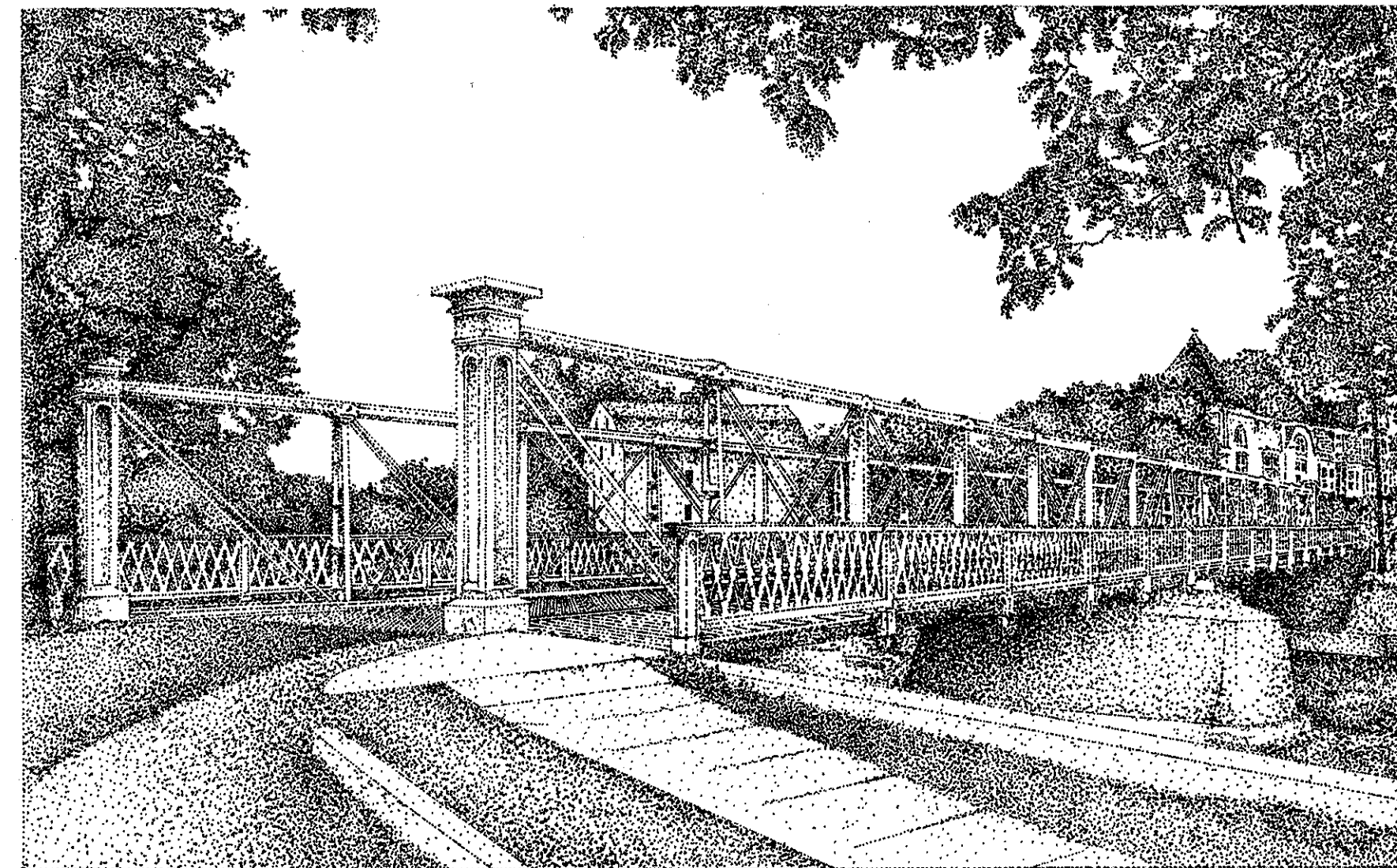


WEST MAIN STREET BRIDGE

CLINTON • 1870 • NEW JERSEY

THIS BRIDGE REPRESENTS AN EARLY TYPE OF IRON TRUSS THAT DOMINATED BRIDGE CONSTRUCTION FROM THE 1850s TO THE 1870s. FABRICATED IN 1870 BY WILLIAM AND CHARLES COWIN OF LAMBERTVILLE, PA, THE BRIDGE FOLLOWS THE PRATT CONFIGURATION IN THE ARRANGEMENT OF ITS TRUSSING MEMBERS. IT IS OF COMPOSITE CONSTRUCTION WITH ALL COMPRESSION MEMBERS MADE OF CAST IRON AND ALL TENSION MEMBERS MADE OF WROUGHT IRON. IN THE PRATT TRUSS, THE VERTICAL POSTS AND HORIZONTAL UPPER CHORD ARE IN COMPRESSION AND ARE MADE OF CAST IRON; THE DIAGONALS AND BOTTOM CHORD ARE IN TENSION AND ARE MADE OF WROUGHT IRON. CAST-IRON MEMBERS AND LOWER CHORD CONNECTIONS ARE BASED ON TRUSS BRIDGE PATENTS RECEIVED BY FRANCIS C. LINTHROP, OF TRENTON, N.J., DURING THE 1860s AND 1870s.

AFTER 1870, ENGINEERS AND FABRICATORS FAVORED BRIDGES MADE EXCLUSIVELY OF WROUGHT IRON AS THIS MATERIAL PERFORMED EQUALLY WELL WHETHER SUBJECTED TO TENSILE OR COMPRESSIVE STRESSES. AFTER 1890, WROUGHT IRON WAS SUPPLANTED BY THE STRONGER MATERIAL STEEL. WEST MAIN STREET BRIDGE, ONE OF FEW KNOWN SURVIVING EXAMPLES OF THIS TYPE, IS REPRESENTATIVE OF THE SHORT-LIVED ERA (20 YEARS) OF COMPOSITE CAST-AND WROUGHT-IRON BRIDGE CONSTRUCTION. IT HAS BEEN IN SERVICE FOR OVER 100 YEARS WITH ONLY MINOR MODIFICATIONS THUS ATTESTING TO THE SOUNDNESS OF ITS DESIGN, QUALITY OF CRAFTSMANSHIP AND CARE OF MAINTENANCE. IT REMAINS A DISTINCTIVE FEATURE OF THE TOWN OF CLINTON, N.J.



THIS RECORDING PROJECT IS PART OF THE HISTORIC AMERICAN ENGINEERING RECORD (HAER), A LONG-RANGE PROGRAM TO DOCUMENT HISTORICALLY SIGNIFICANT INDUSTRIAL AND ENGINEERING SITES IN THE UNITED STATES. THE HAER PROGRAM IS ADMINISTERED BY THE NATIONAL PARK SERVICE, U.S. DEPARTMENT OF THE INTERIOR.

FIELD WORK ON THE BRIDGE WAS COMPLETED DURING THE SUMMER OF 1975 BY THE NATIONAL PARK SERVICE UNDER THE DIRECTION OF DOUGLAS L. GRIFFIN, CHIEF OF HAER. MEASURED DRAWINGS, HISTORICAL REPORTS AND PHOTOGRAPHS WERE PREPARED UNDER THE DIRECTION OF ERIC DELONY, PRINCIPAL ARCHITECT, HAER. THE 1975 MEASURING TEAM CONSISTED OF ROBERT M. VOGEL, CURATOR, DIVISION OF MECHANICAL & CIVIL ENGINEERING, MUSEUM OF HISTORY & TECHNOLOGY, SMITHSONIAN INSTITUTION; ARNOLD DAVID JONES, HAER ARCHITECT; STUDENT ARCHITECT R. BELMONT FREEMAN (UNIV. OF PENNSYLVANIA) AND VOLUNTEER ROBERT K. HOLTON, ESSEX FALLS, N.J. STUDENT ARCHITECT CAROLYN GIVENS (UNIV. OF KANSAS) COMPLETED MEASURED DRAWINGS OF THE BRIDGE DURING THE SUMMER OF 1985. FORMAL PHOTOGRAPHY WAS DONE BY JACK BOUCHER.

DELINEATED BY: CAROLYN GIVENS, 1985
 CAST-IRON WROUGHT-IRON BRIDGES
 RECORDING PROJECT
 HISTORIC AMERICAN ENGINEERING RECORD
 UNITED STATES DEPARTMENT OF THE INTERIOR

WEST MAIN STREET BRIDGE, 1870
 SPANNING THE SOUTH BRANCH OF THE RARITAN RIVER
 HUNTERDON COUNTY

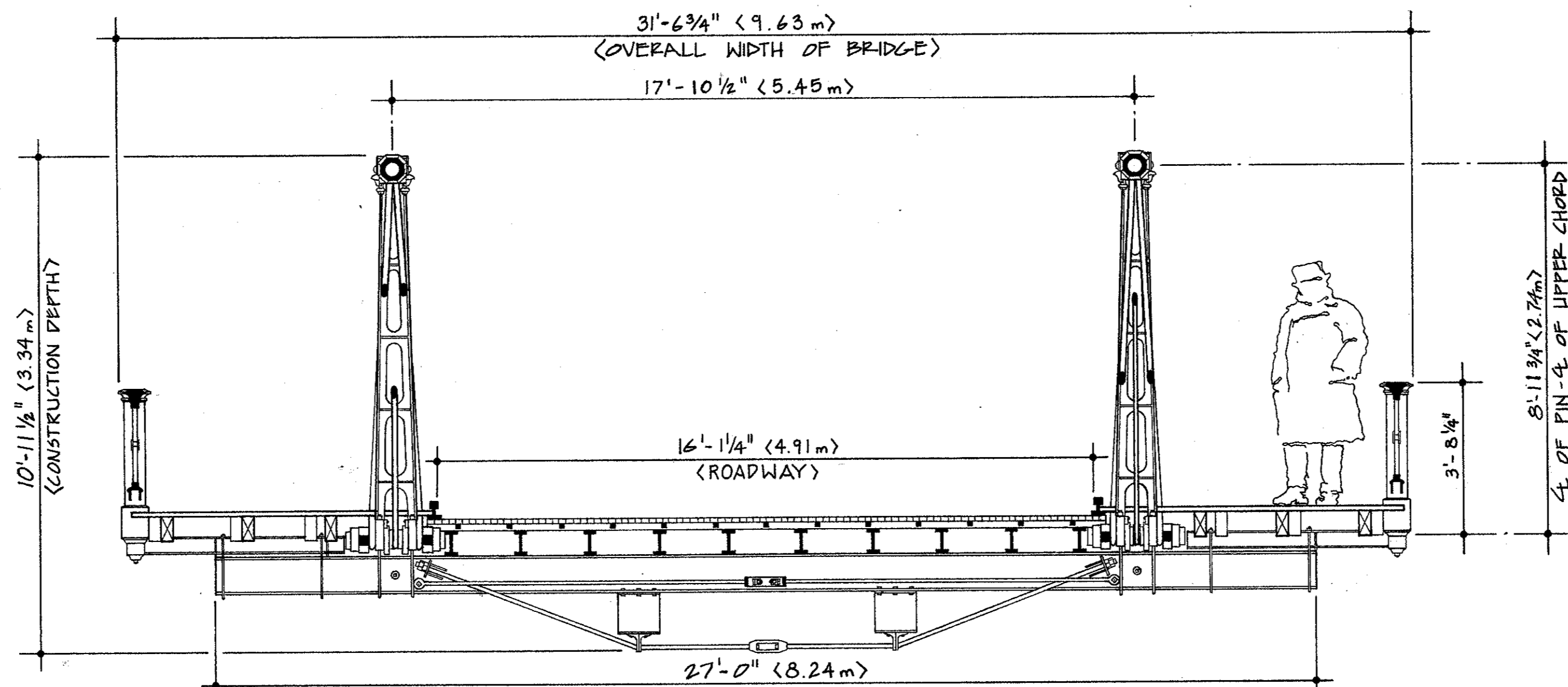
HISTORIC AMERICAN
 ENGINEERING RECORD

SHEET
 1 of 3

NEW JERSEY

CLINTON

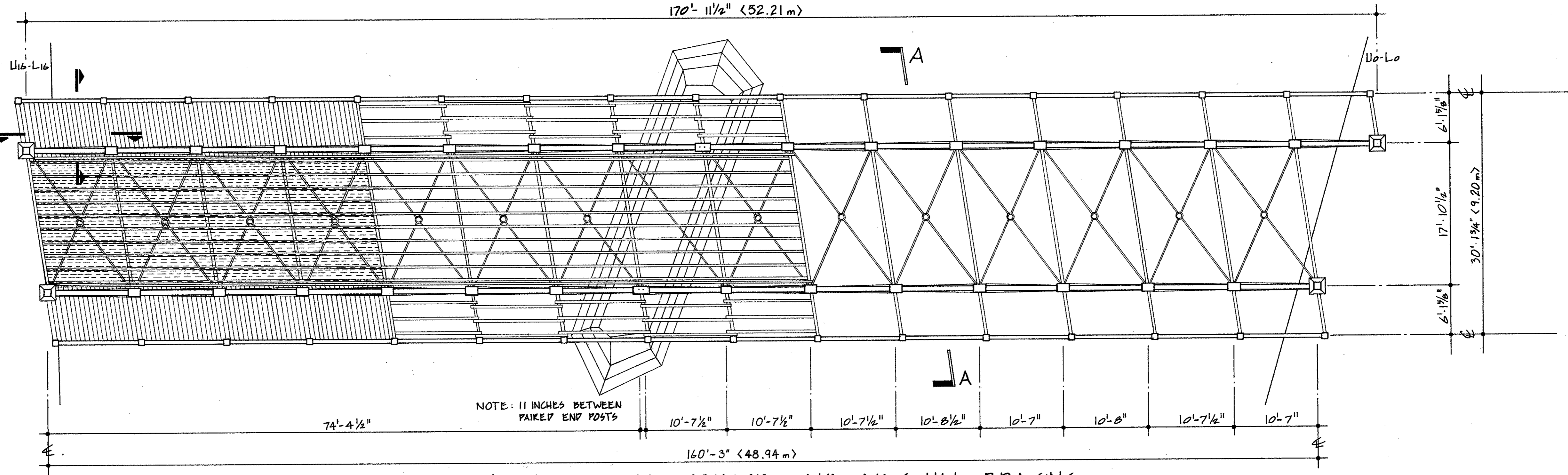
IF REPRODUCED, PLEASE CREDIT: HISTORIC AMERICAN ENGINEERING RECORD, NATIONAL PARK SERVICE, NAME OF DELINEATOR, DATE OF THE DRAWING



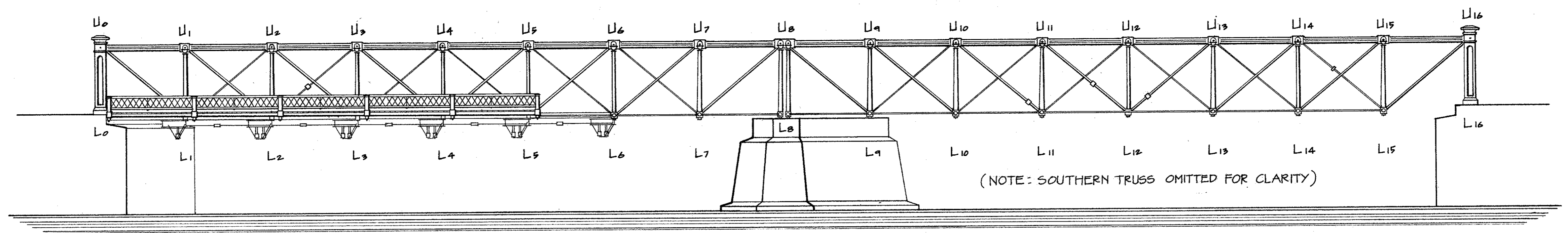
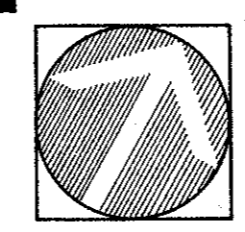
SECTION A-A



NOTE: SEE SHEET 3 OF 3 FOR DETAILS OF END-POST AND VERTICAL COLUMN AT PANEL POINTS U₁₆-L₁₆ AND U₁₅-L₁₅.

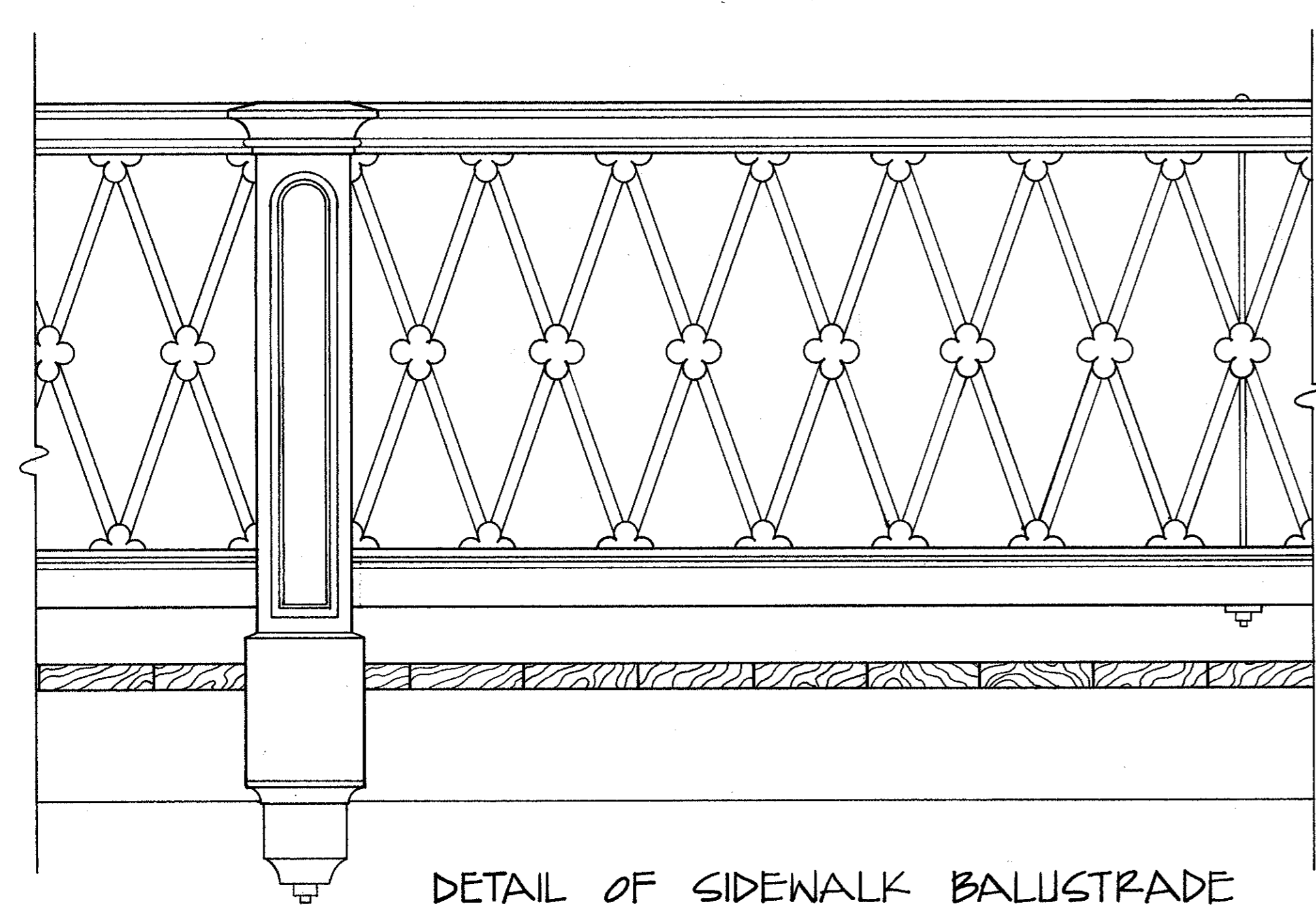


PLAN SHOWING DECKING, STRINGERS AND DIAGONAL BRACING



NORTH ELEVATION

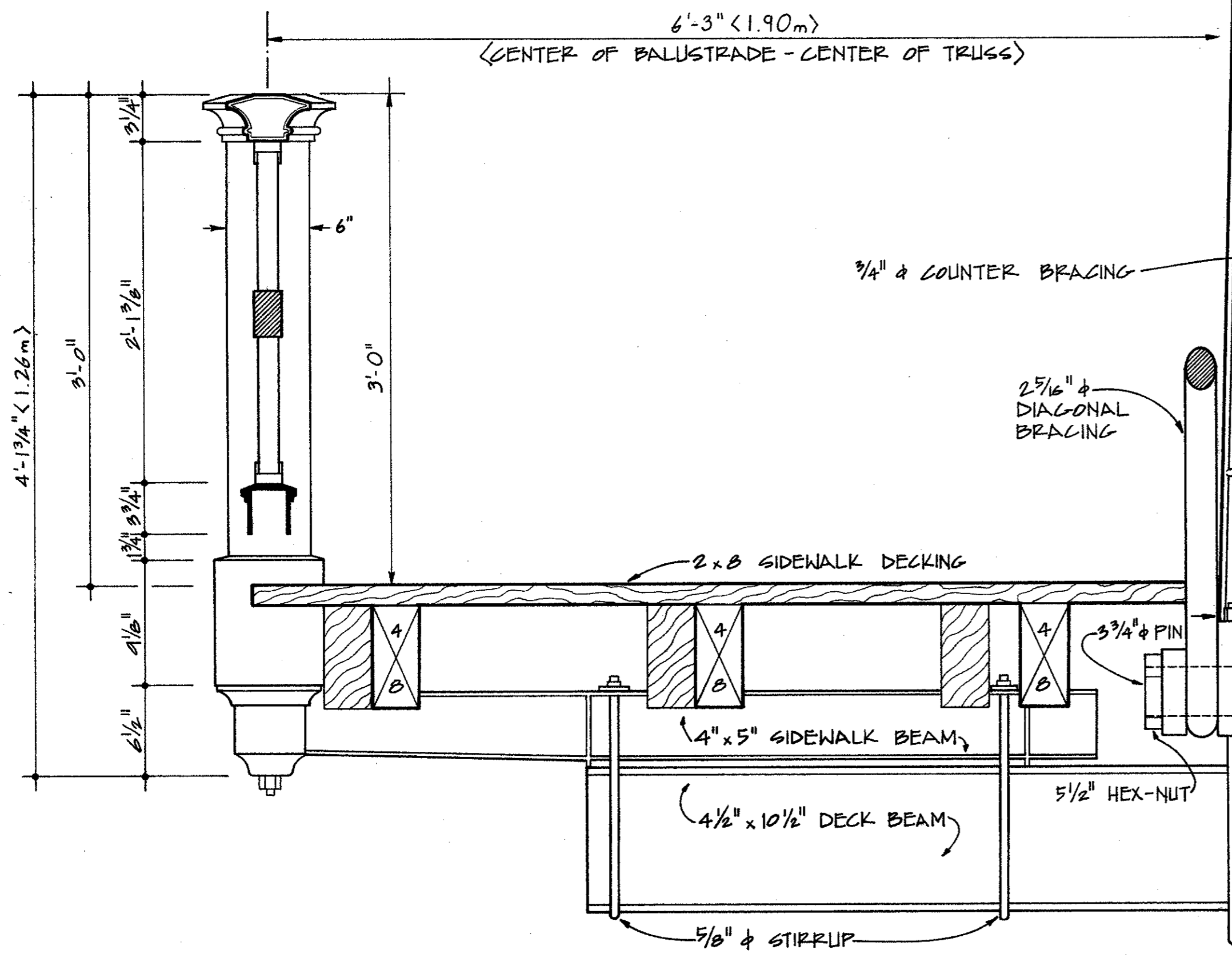




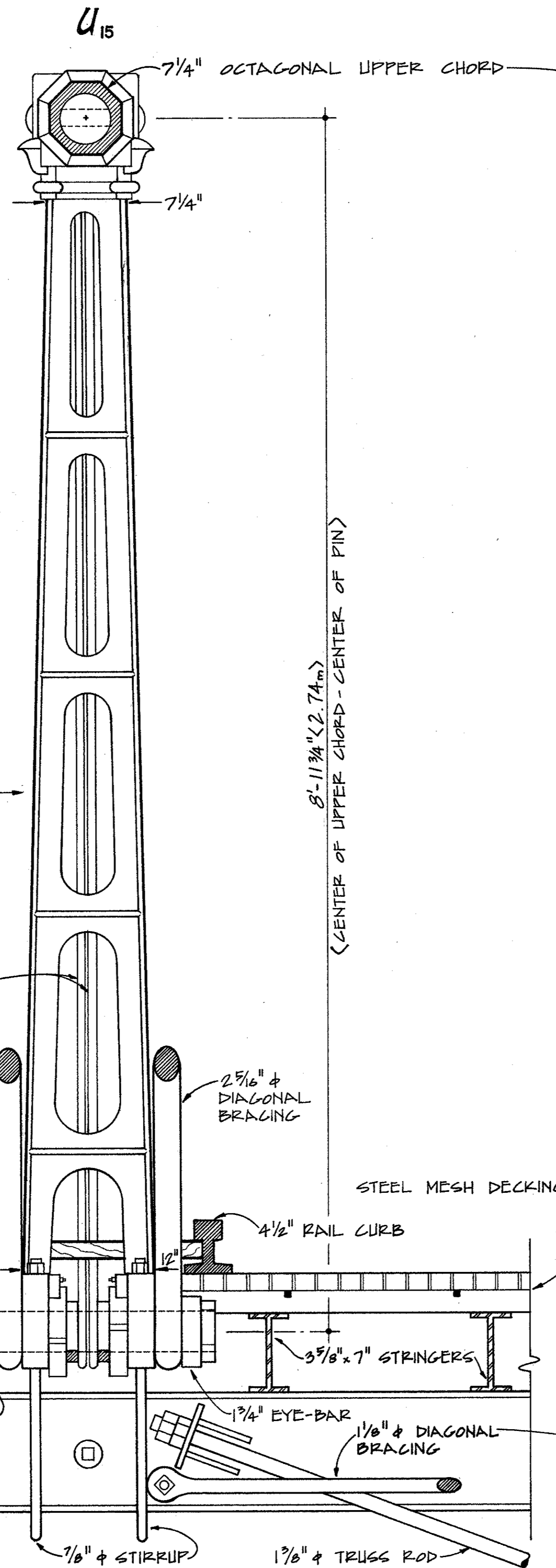
DETAIL OF SIDEWALK BALUSTRADE

0 1 2
SCALE: 1 1/2" = 1'-0"
ALL DRAWINGS THIS SHEET

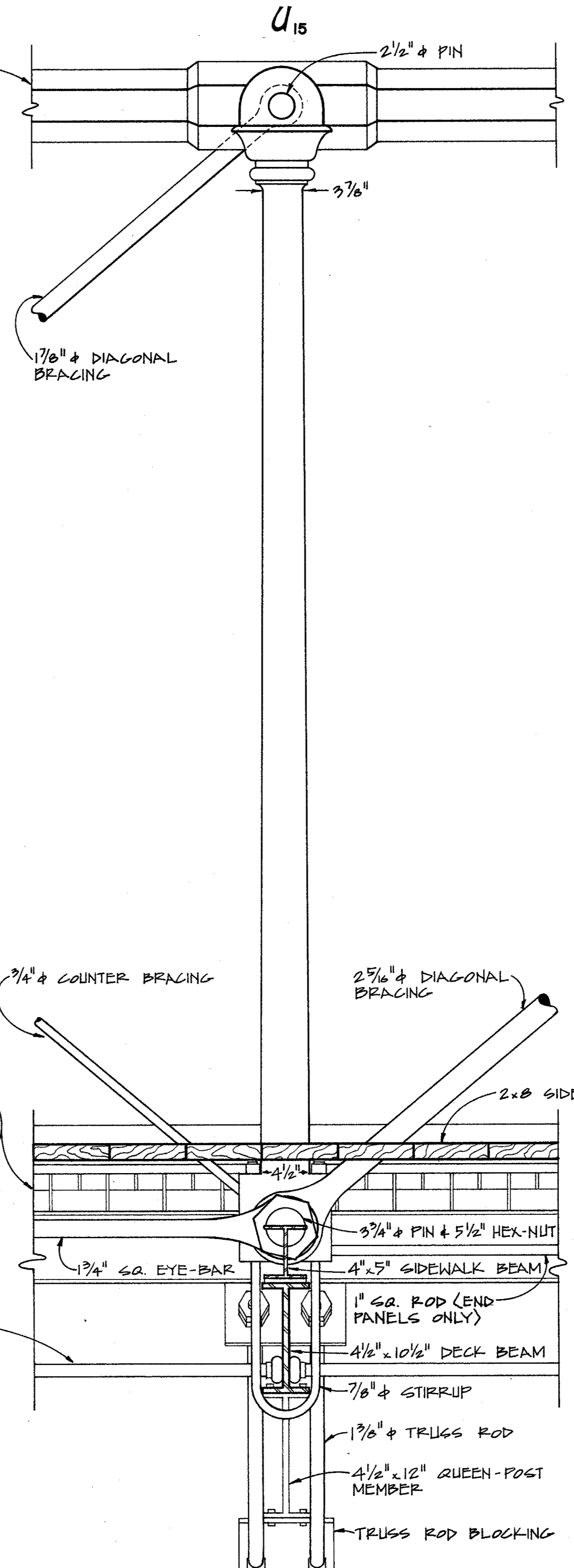
0 1 2 3 4 5
SCALE IN METERS 1:8



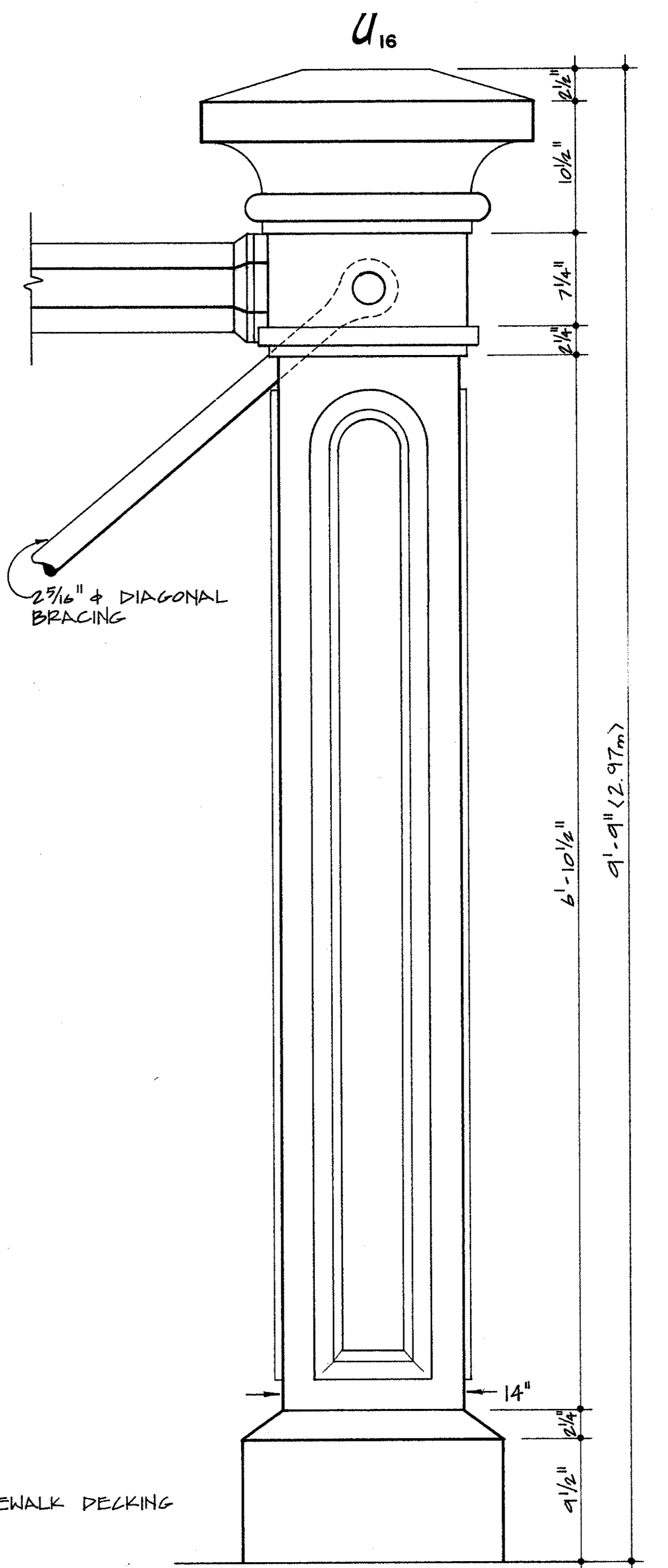
DETAIL OF BALUSTRADE & SIDEWALK



DETAIL OF VERTICAL POST
L15



L15



DETAIL OF CAST-IRON END POST
L16