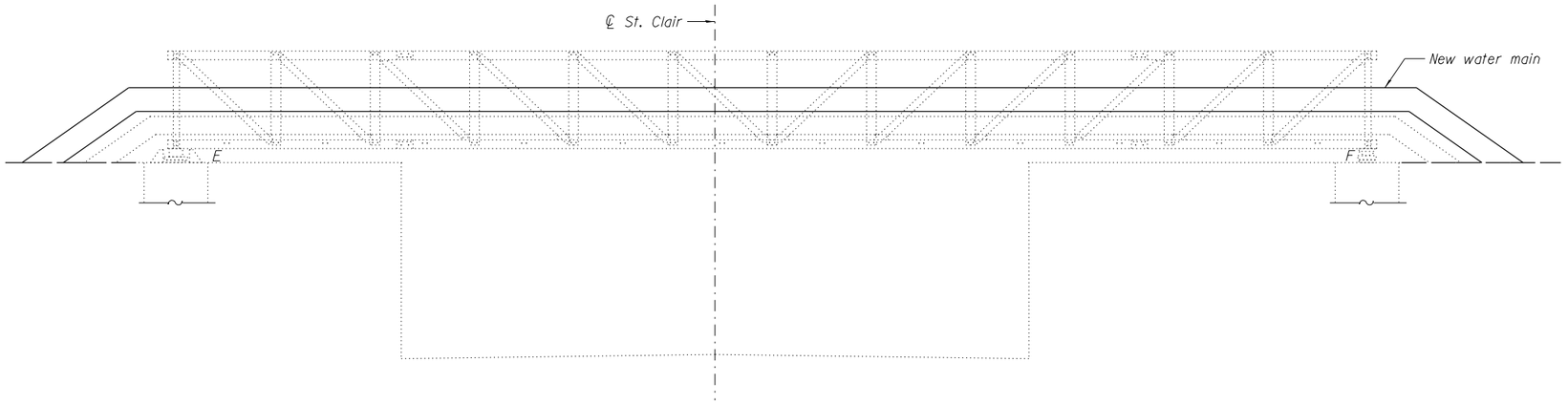
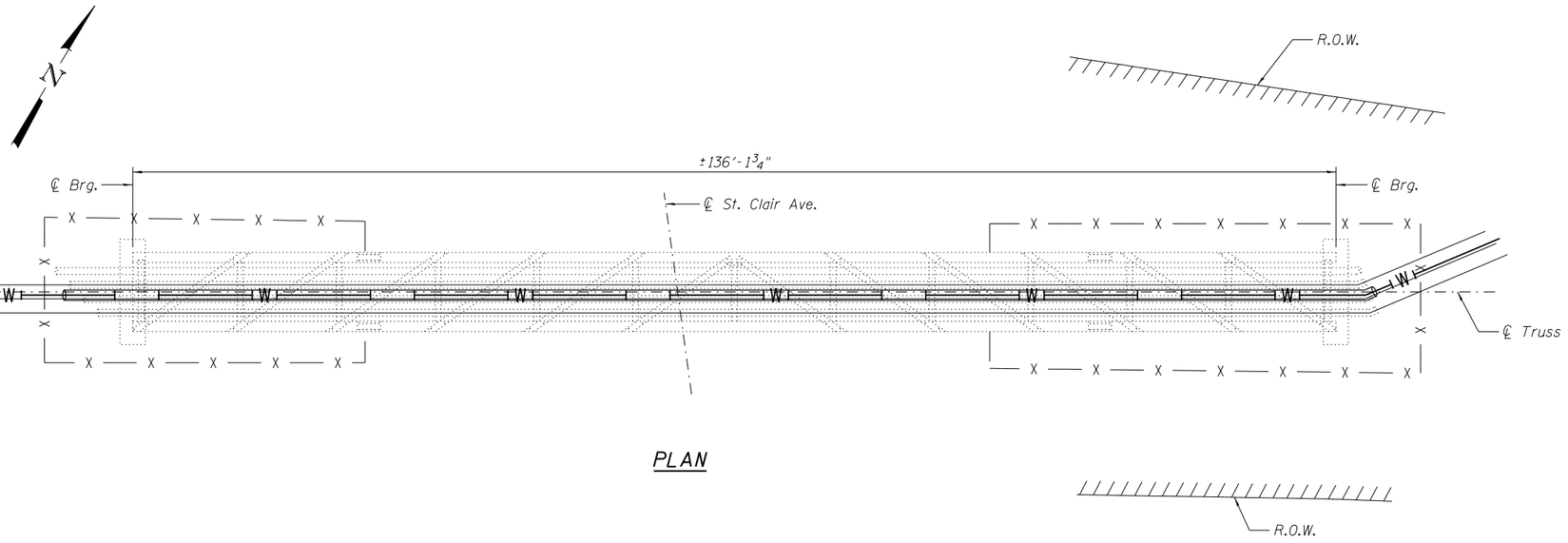
Benchmark:

Existing Structure: The existing structure is a truss bridge carrying 3-12" ϕ force main crossing over St. Clair Ave. The trusses are spaced apart at 6'-6" c.c. in a square configuration. Each truss has 12 equal bays for a total distance of ±136'-1 3/4" c.c. of bearings. Pratt-type Single-Diagonal bracing system was used.



ELEVATION



PLAN

GENERAL NOTES

Fasteners shall be ASTM A325 Type 1, mechanically galvanized bolts. Bolts 3/4" in. ϕ, holes 13/16" in. ϕ, unless otherwise noted.

All new fasteners shall be high strength bolts. Holes shall be subpunched or subdrilled 11/16" dia. and reamed in the field to 13/16" dia. for 3/4" dia. bolts, unless otherwise noted. Holes shall be subpunched or subdrilled 13/16" dia. and reamed in the field to 15/16" dia. for 7/8" dia. bolts, unless otherwise noted.

No field welding is permitted except as specified in the contract documents.

Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

Existing structural steel shall only be cleaned and painted as required by the Special Provision "Cleaning and Painting Contact Surface Areas of Existing Steel Structures".

All new structural steel shall be shop painted with inorganic zinc rich primer per AASHTO M300, Type I.

The Contractor shall take precautions to safeguard the existing water main from additional truss deflections during the installation of the new force main. A detailed procedure of installation shall be submitted to the Engineer for approval prior to construction.

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Furnishing and Erecting Structural Steel	Pounds	5,910

DESIGN SPECIFICATIONS

2012 AASHTO LRFD Bridge Design Specifications, 6th Edition with 2013 Interim Revisions
2009 LRFD Guide Specifications for the Design of Pedestrian Bridges
2002 AASHTO Standard Specifications for Highway Bridges and
FHWA Seismic Retrofitting Manual for Highway Bridges 1995 for Seismic Design Criteria only.

DESIGN STRESSES

EXISTING CONSTRUCTION

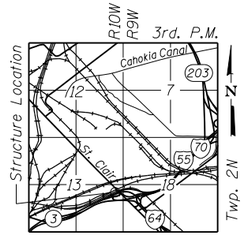
fc' = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 36,000 (M270 Grade 36)

NEW CONSTRUCTION

fy = 36,000 psi (M270 Grade 36)

SEISMIC DATA

Seismic Performance Category (SPC) = A
Horizontal Bedrock Acceleration Coefficient = 0.085
Site Coefficient (S) = 2.0



LOCATION SKETCH

GENERAL PLAN & ELEVATION
PIPE BRIDGE OVER ST. CLAIR AVE.
MADISON COUNTY

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LIN ENGINEERING, LTD. Consulting Engineers Springfield, Illinois	USER NAME = seb	DESIGNED - RGB	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PIPE BRIDGE PLAN & DETAILS MISSOURI AVENUE DEEP WELL FACILITY
		DRAWN - AJF	REVISED -		
	PLOT SCALE = 0:2.0000 ':' / in.	CHECKED - LMS	REVISED -		
	PLOT DATE = 9/23/2014	DATE - 08/22/2014	REVISED -		SCALE: SHEET 01 OF 04 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
64	82-4T-1	ST. CLAIR	185	51
		CONTRACT NO. 76G99		
	ILLINOIS FED. AID PROJECT			