

Bench Mark: BM 107 - Chiseled square on south end of east abutment.
Elev. 439.63 (NAVD 88)

Existing Structure: The Veterans Bridge, S.N. 082-6001, was built in 1951 and renamed the Martin Luther King Bridge in 1968. The 4010'-3 7/8" long structure consists of a three-span cantilevered through truss, seven steel approach spans of various configurations on the Missouri Approach, two simply supported deck truss spans, alternating four-span continuous beam spans and simple beam spans on the Illinois Approach. The structure width varies and currently carries one westbound lane and two eastbound lanes with a concrete median barrier. The deck on the suspended span and the adjacent three panels of each cantilever arm consists of a partially filled steel grid deck. The deck on the remainder of the structure is concrete, acting compositely in some locations. The piers have various concrete wall and steel bent or tower configurations founded on piles or footings on a rock. Abutment A is supported by a spread footing, whereas, Abutment B is pile supported. The bridge underwent a major rehabilitation in 1987 in which the grid deck was replaced and the limits extended from L14-L14' to L17-L17'. Other rehabilitative efforts were made to the floorsystem, joints, and drainage system, in addition to painting the entire structure. Several other rehabilitation contracts have been performed including scour mitigation and changes to the lane configuration.

Traffic: Nightly lane closures and full bridge closure will be utilized to facilitate rehabilitation work.

Salvage: No salvage

LOADING HS20-44 (NEW CONSTRUCTION)

Allow 0#/#sq. ft. for future wearing surface.

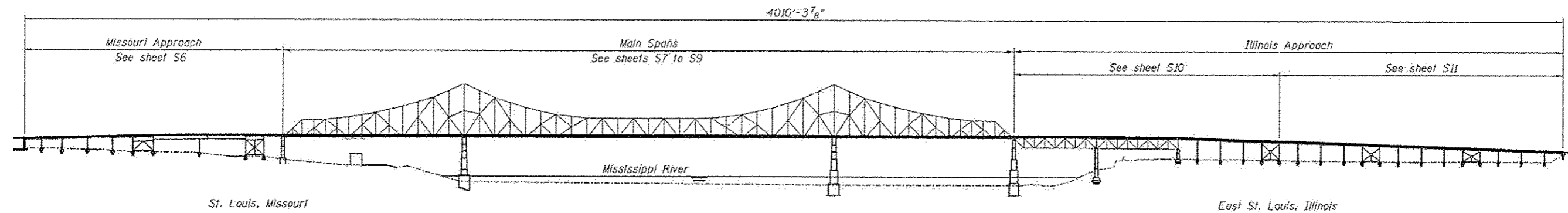
DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications for Highway Bridges, 17th Edition and the AASHTO Manual for Bridge Evaluation, 2nd Edition, with 2011 and 2013 Interims

DESIGN STRESSES (NEW CONSTRUCTION)

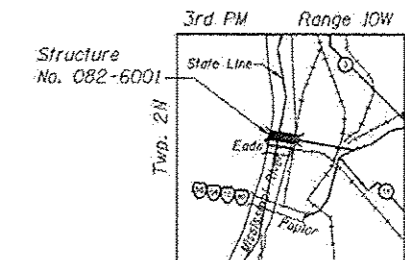
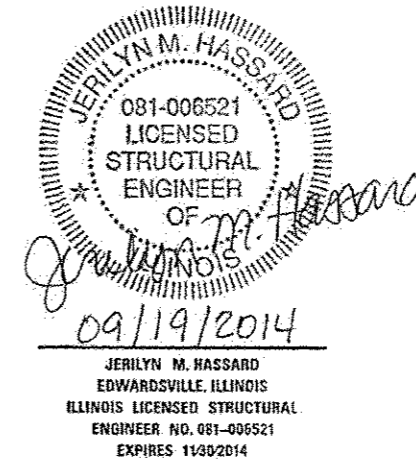
FIELD UNITS

f'c = 3,500 psi
f'c = 4,000 psi (Lightweight Concrete)
fy = 60,000 psi (Reinforcement)
fy = 36,000 psi (M270 Grade 36 Structural Steel)
fy = 50,000 psi (M270 Grade 50 Structural Steel)

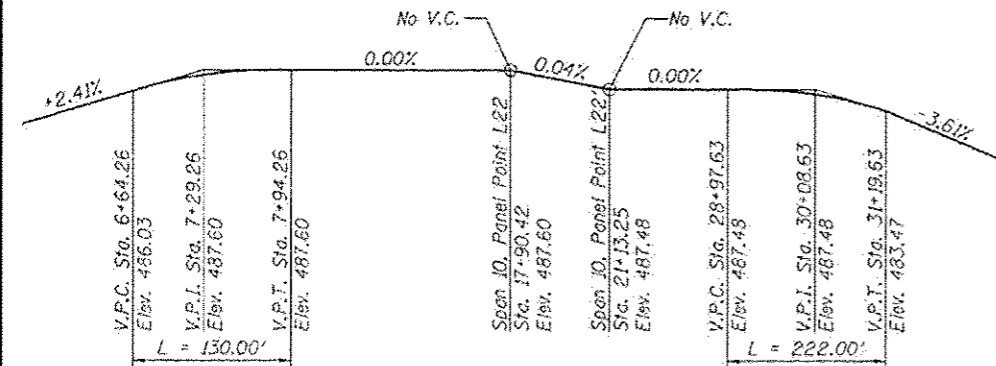


ELEVATION - MARTIN LUTHER KING BRIDGE

(Looking North)

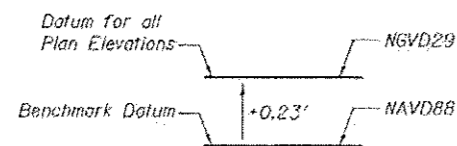


LOCATION MAP



PROFILE GRADE

(@ Bridge)



ELEVATION REFERENCES

Note: All elevations refer to U.S.C.&G. Survey - 1929 General Adjustment (NGVD29). Reference is given to the North American Vertical Datum of 1988 (NAVD88) due to the benchmark being referenced to this datum.

DESIGN STRESSES (1951 ORIGINAL)

Design Traffic Lanes: Four - 10' Lanes, No shoulders
Design Specifications: AASHTO 1944
Loading: H20-44
Reinforced Concrete:
Deck Slab: f'c = 1,000 psi, N=10
Substructure: f'c = 1,000 psi, N=10
Structure Steel:
Carbon (A7): fs = 18,000 psi
Silicon: fs = 24,000 psi

DESIGN STRESSES (1987 REHABILITATION)

Design Traffic Lanes: Four - 10' Lanes, No shoulders
Design Specifications: No allowance for future wearing surface, AASHTO 1983 and Manual for Maintenance Inspection for Bridges - 1983, Both with 1984, 1985 and 1986 Interims, HS20-44
Loading:
Reinforced Concrete:
Deck Slab: f'c = 3,500 psi, N=9
Lightweight Concrete: f'c = 2,500 psi
Substructure: f'c = 1,400 psi, N=9
Reinforcing Steel: fy = 60,000 psi, fs = 24,000 psi
Structure Steel: f'c = 20,000 psi, (M-183), fs = 27,000 psi, (M-223/Grade 50)
High Strength (H.S.) Bolts: 17,000 psi, (M-164) for Class A Contact Surfaces

GENERAL PLAN
MARTIN LUTHER KING BRIDGE
OVER MISSISSIPPI RIVER (PUBLIC WATER)
F.A.P. ROUTE 799 - SEC. 1BR, DRS-2
ST. CLAIR COUNTY
STATION 20+00.00
STRUCTURE NO. 082-6001

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|--|------------------------|----------------|---------|---|---|--------------------|------------|---------------------------|--------------|-----------|
| | USER NAME = | DESIGNED - MEL | REVISED | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | GENERAL PLAN S.N. 082-6001 MLK BRIDGE OVER MISSISSIPPI RIVER | F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| | PLDT SCALE = | CHECKED - JMH | REVISED | | | 799 | 1BR, DRS-2 | ST. CLAIR | 156 | 19 |
| | PLDT DATE = 09/17/2014 | DRAWN - AEC | REVISED | SHEET NO. 51 OF 5139 SHEETS | | CONTRACT NO. 76803 | | ILLINOIS FED. AID PROJECT | | |