

Bench Mark: Chiseled square of SW corner of SB IL 171 bridge wingwall over Des Plaines River. El. 622.14.

Existing Structure: S.N. 016-2457 (Southbound) was originally built in 1964 under Section 0707-675HB. The structure consists of a 7" concrete deck with a 1 1/2" microsilica overlay. The structure consists of a twelve span mainline bridge and a three span ramp bridge (Ramp E), supported by 13 multi-column concrete piers (End piers 4, 16 & 41 not included), predominantly founded on steel BP-piles with a select few on the north side of the structure supported on spread footings. The mainline structure is 973'-3 5/8" centerline of pier to centerline of pier, with an out to out deck width which varies from 36'-0" to 79'-1" with no skew angle. The Ramp E Structure has an out to out deck width of 28'-0", with a varying skew angle. Traffic to be maintained utilizing crossovers.

No salvage.

All elevations in the proposed plans are based on NAVD88 Datum. Elevations in the existing plans are based on the NGVD29 Datum. NGVD29 Elev. 584.50 = NAVD88 Elev. 584.22.

LOADING HS20-44

No future wearing surface allowed.

DESIGN STRESSES

FIELD UNITS (New Construction)

f'c = 3,500 psi
 fy = 60,000 psi (Reinforcement)
 fy = 50,000 psi (AASHTO M270 Grade 50)

FIELD UNITS (Exst. Construction)

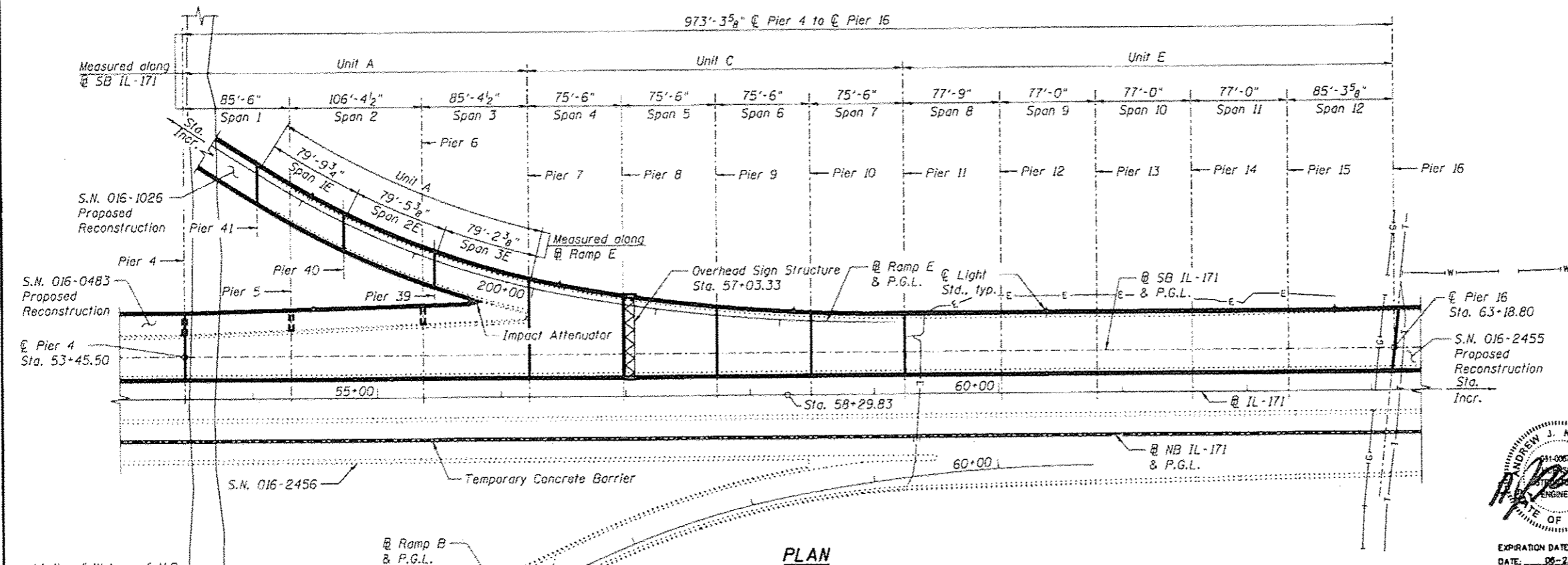
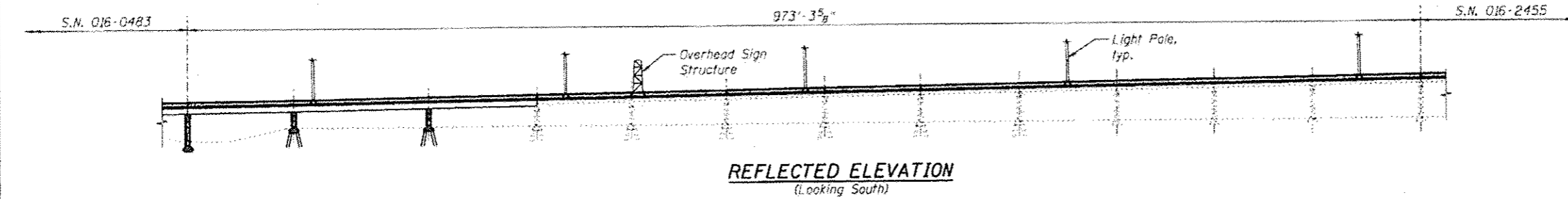
f'c = 3,500 psi
 fy = 40,000 psi (Reinforcement)
 fy = 36,000 psi (Structural Steel)

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications for Highway Bridges

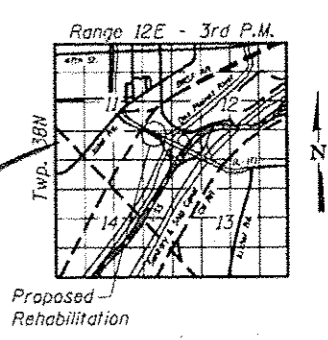
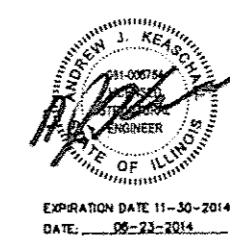
SEISMIC DATA

Seismic Performance Category (SPC) = A
 Bedrock Acceleration Coefficient (A) = 0.04g
 Site Coefficient (S) = 1.0



EXISTING UTILITY LEGEND

- E—E— Underground Electric Line
- T—T— Underground Telephone Line
- G—G— Underground Gas Line
- W—W— Underground Water Line



APPROVED
 For Structural Adequacy Only

De Carl Kuyper
 Engineer of Bridges & Structures

SCOPE OF WORK

1. Remove existing concrete deck and microsilica concrete overlay and replace with new 8" reinforced concrete deck.
2. Remove and replace existing overhead sign structure.
3. Retrofit steel superstructure fatigue prone details.
4. Remove existing wind bracing (bottom lateral ST sections and, where shown, the corresponding gusset plates).
5. Remove and dispose of existing electrical conduits, light poles and junction boxes attached to the beams and/or deck. Add new conventional light poles.
6. Repair spalls, delaminations, and open cracks in substructures using structural repair of concrete and epoxy crack injection.
7. Replace leaning elastomeric bearings and bolsters on north side of Pier 11 as shown.
8. Perform miscellaneous repairs including repairing unseated anchor bolts and removing debris.
9. Replace or repair damaged or corroded cross frames, diaphragms and connection plates as shown.
10. Widen Piers 5 and 6.
11. Install new girders, diaphragms and cross frames for widening.
12. Make new deck composite in positive moment areas only by adding shear studs to all girders and beams where not already installed.
13. Remove and replace existing expansion joints. Replace filled in joints at Piers 8 and 39 with new expansion joints.

GENERAL PLAN AND ELEVATION
SB IL-171 OVER DES PLAINES RIVER VALLEY
FAP 372 - SECTION 2013-0388-R
COOK COUNTY
STATION 58+29.83
STRUCTURE NO. 016-2457

benesch
 engineers • scientists • planners

Alfred Benesch & Company
 205 North Michigan Avenue, Suite 2400
 Chicago, Illinois 60601
 312-565-0450 Job No. 10093

FILE NAME * 0162457-60J16-001.gpd.dgn	USER NAME * ksnyder	DESIGNED - DTS	CHECKED - AJK	DRAWN - RMG	CHECKED - AJK	REVISIONS	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SHEET NO. 50 OF 5083 SHEETS	F.A.P. RTE. 372	SECTION 2013-0388-R	COUNTY COOK	TOTAL SHEETS 821	SHEET NO. 376	CONTRACT NO. 60J16
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