

Bench Mark: TBM 1 - Chiseled "□" on top of east end of south parapet of Bridge St. bridge over North Shore Channel, Sta. 99+04.60, 19.5' Lt., Elev. 604.18.

Existing Structure: SN 016-6953, built in 1978, consists of a three span PPC I-Beam superstructure on stub abutments founded on piles and pier bents with circular columns, cap beams and crash walls on piles. The superstructure consists of 6-42" PPC I-Beams with a 172'-0" back-to-back abutments length and a 40'-0" out-to-out width. The existing beams and substructure units are to remain and will be widened to accommodate one new line of PPC I-Beams and a new concrete deck. Westbound Traffic to be maintained using Stage Construction. Eastbound traffic to be detoured.

Existing light poles shall be salvaged.

NORTH SHORE CHANNEL  
RE-BUILT 20\_\_ BY  
CITY OF EVANSTON  
SEC. 08-00251-00-BR  
BRIDGE STREET STA. 100+00  
STR. NO. 016-6953 LOADING HS-20

**LOADING HS-20**  
Pedestrian live load of 85 psf applied to sidewalks  
Allow 50#/sq. ft. for future wearing surface.

**DESIGN SPECIFICATIONS**  
AASHTO Standard Specifications  
For Highway Bridges

**DESIGN STRESSES**  
**FIELD UNITS**  
f'c = 3,500 psi  
fy = 60,000 psi (Reinforcement)

**PRECAST PRESTRESSED UNITS**  
f'c = 6,000 psi  
f'ci = 5,000 psi  
fpu = 270,000 psi (1/2" φ low lax. strands)  
fpbt = 201,960 psi (1/2" φ low lax. strands)

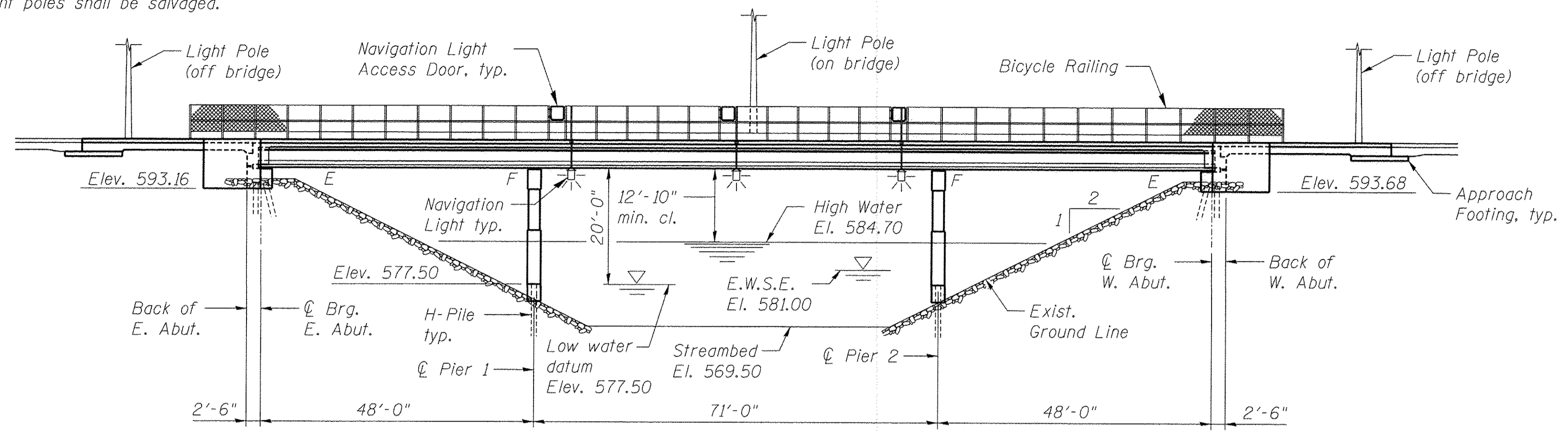
**SEISMIC DATA**  
Seismic Performance Category (SPC) = A  
Bedrock Acceleration Coefficient (A) = 0.036g  
Site Coefficient (S) = 1.0

**NAME PLATE**  
(See Std. 515001)

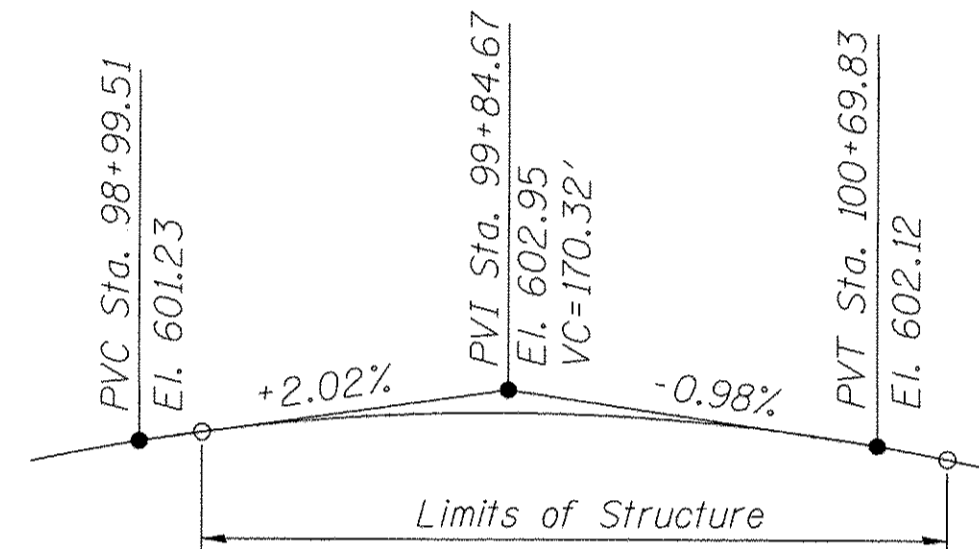
Existing Name Plate shall be cleaned and relocated next to the new Name Plate.  
Cost included with Name Plates.

**WATERWAY INFORMATION**

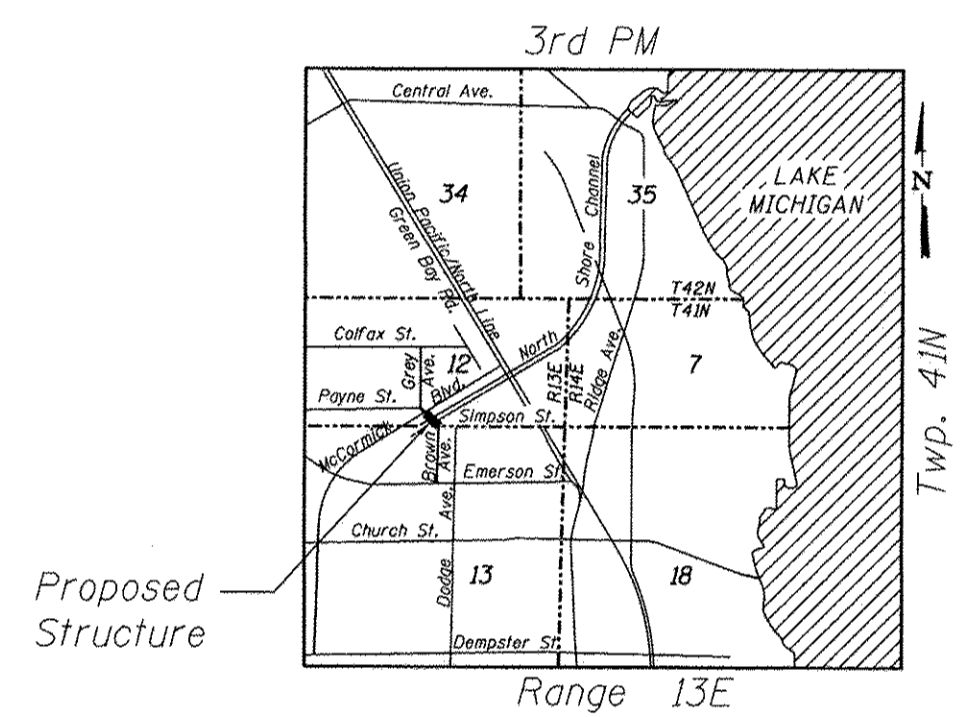
Design Flow 1000 C.F.S.  
Maximum H.W. Elevation 584.7  
Design Water Elevation 584.7  
Required Opening 1040 SQ. FT.  
Present Opening 1040 SQ. FT.  
Provided Opening 1080 SQ. FT.



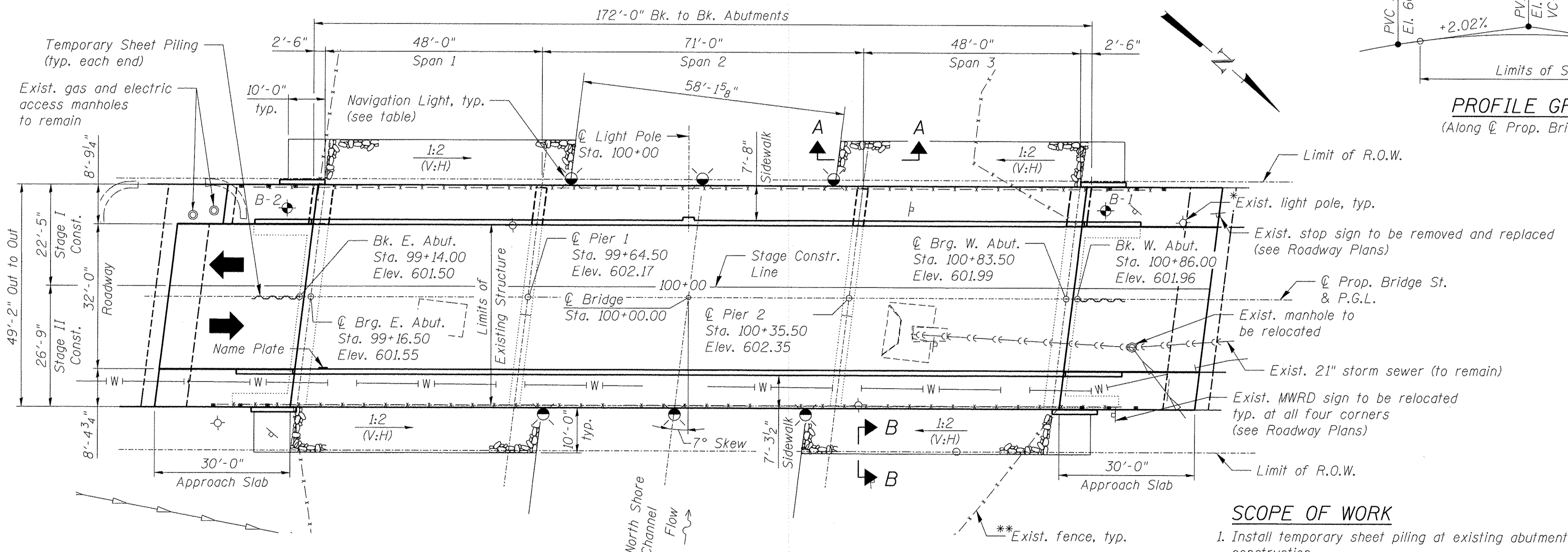
**ELEVATION**



**PROFILE GRADE**  
(Along C/L Prop. Bridge St.)



**LOCATION SKETCH**



**PLAN**

\* Existing light poles shall be removed and all signs attached to light poles shall be relocated (see Roadway Plans).

\*\* Existing fences at ends of existing abutments shall be modified to accommodate widened structure (see Roadway Plans).

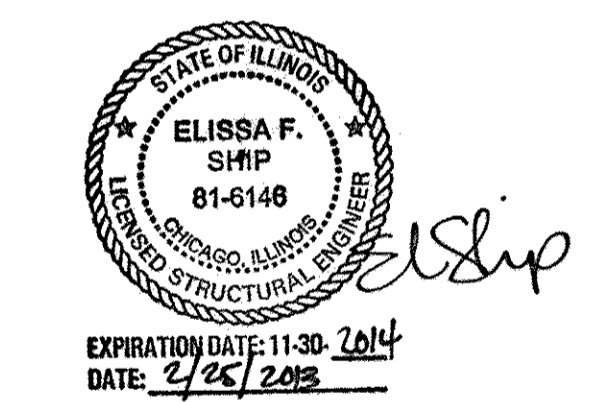
**NOTES:**

- For Sections A-A and B-B, see sheet S2.
- See Lighting Plans for Navigation Light details.

NAVIGATION LIGHT TABLE		
Bridge Side	Color	Station
West	Red	99+74.00
West	Green	100+03.00
West	Red	100+32.00
East	Red	99+68.00
East	Green	99+97.00
East	Red	100+26.00

**SCOPE OF WORK**

- Install temporary sheet piling at existing abutments to facilitate stage construction.
- Remove existing deck, approach slabs, abutment backwalls and wingwalls.
- Abutments will be converted from stub to semi-integral.
- Remove water main and lighting conduits supported by existing structure.
- Repair pier wall deterioration utilizing cofferdams.
- Widen abutments and piers to the south.
- Construct new return wingwalls outside the limits of the deck width.
- Erect new beam line.
- Cast the widened deck with raised sidewalks and separation barriers.
- Install tall bicycle railing, parapet railing and light poles and Navigation Lights.
- Place rip rap along widened slopewalls.
- Extend Pier footing down 3'-0".



I certify that to the best of knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with requirements of the current AASHTO Standard Specifications for Highway Bridges.

**GENERAL PLAN AND ELEVATION**  
**BRIDGE STREET OVER**  
**NORTH SHORE CHANNEL**  
**"PUBLIC WATERS"**  
**SEC. 08-00251-00-BR**  
**COOK COUNTY**  
**STATION 100+00**  
**STRUCTURE NO. 016-6953**

**benesch**  
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FILE NAME = 0166953.001.GPE.dgn	USER NAME = eship	DESIGNED - MJF/MFB	REVISSED -
		CHECKED - EFS	REVISSED -
		DRAWN - RMG/MFB	REVISSED -
		CHECKED - EFS	REVISSED -
	PLOT SCALE =		
	PLOT DATE = 2/22/2013		

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**GENERAL PLAN AND ELEVATION**  
**STRUCTURE NO. 016-6953 BRIDGE ST. OVER THE NORTH SHORE CHANNEL**  
SHEET NO. 51 OF 550 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	08-00251-00-BR	COOK	118	54
CONTRACT NO. 63817			ILLINOIS FED. AID PROJECT	

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