

Bench Mark: Cross cut in Island in the southwest quadrant of the Emerson Street and McCormick Blvd. Intersection. Elev. 599.75.

Existing Structure: S.N. 016-0655, Original Construction date 1961. The structure consists of a 3 span precast, prestressed concrete deck beam structure supported on individual drilled shaft column bents and closed concrete stub abutments on drilled shafts. The existing structure length is 245'-9 5/8" back to back of abutments and the width is 62'-0". Structure to be removed and replaced. Traffic to be detoured during construction.

Salvage: Light poles. See lighting plans

Staging: Remove existing structure.  
Install temporary soil retention system.  
Relocate sewers. Construct bridge.

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAU 1312	0707-B	Cook	80	35
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT-		

Contract # 60B98

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi  
fy = 60,000 psi (Reinforcement)

PRECAST UNITS

f'c = 6,000 psi  
f'ci = 5,000 psi  
f's = 270,000 psi (1/2" φ low lax. strands)  
fsi = 201,960 psi (1/2" φ low lax. strands)

DESIGN SPECIFICATIONS

2007 AASHTO LRFD Bridge Design Specifications

LOADING HL-93

Allow 50#/sq. ft. for future wearing surface.

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1  
Bedrock Acceleration Coefficient (A) = 0.04g  
Site Coefficient (S) = 1.0

DESIGN SCOUR ELEVATION TABLE

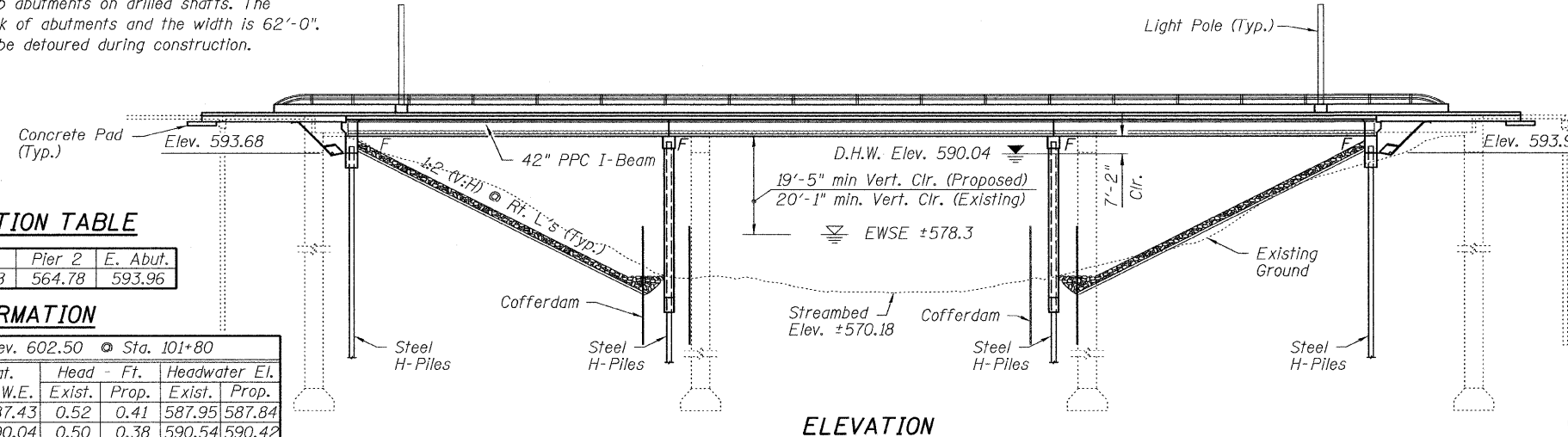
Design Scour Elevation (ft.)	W. Abut.	Pier 1	Pier 2	E. Abut.
	593.68	564.78	564.78	593.96

WATERWAY INFORMATION

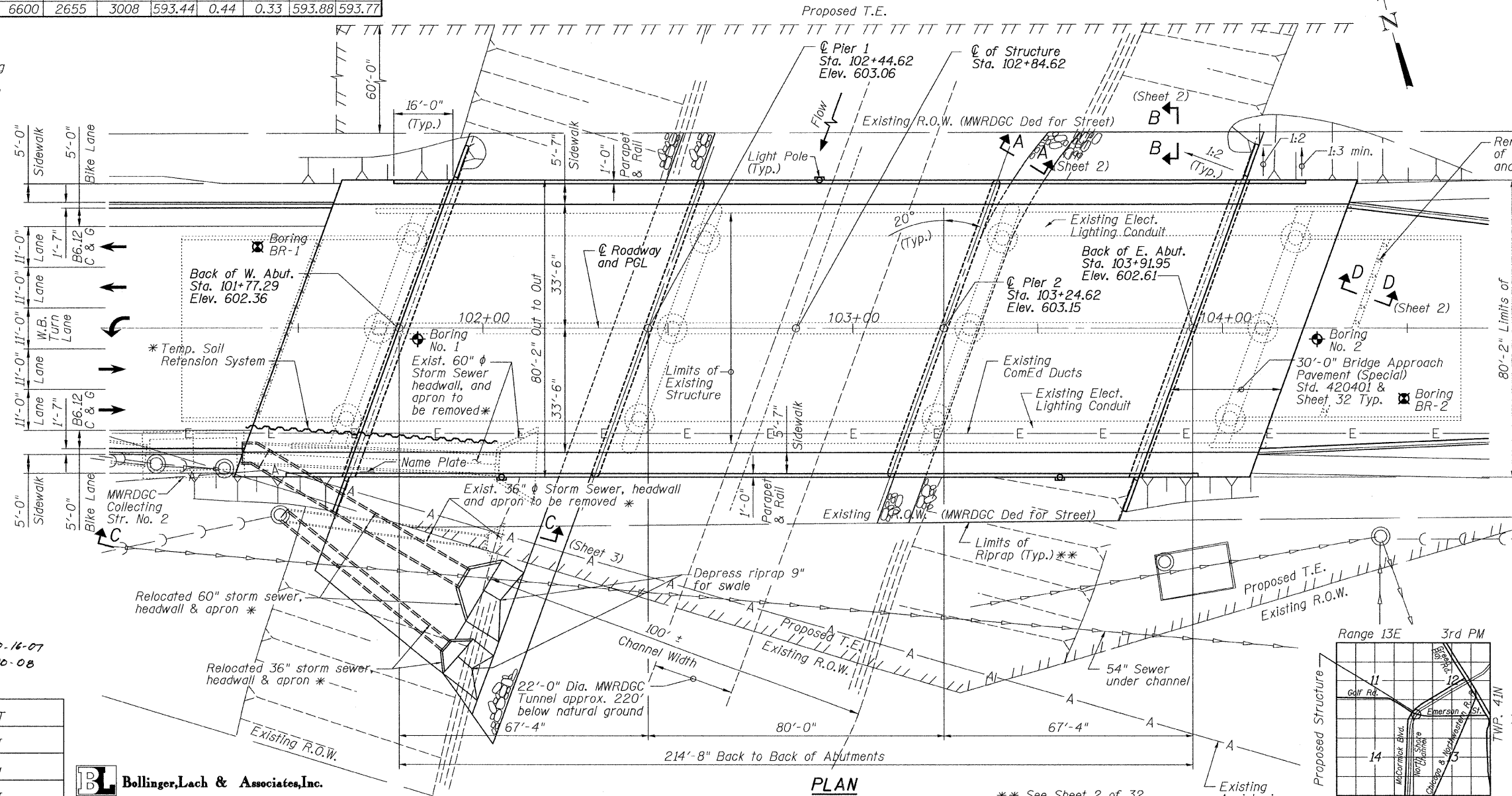
Drainage Area = Indeterminate		Low Grade Elev. 602.50		Sta. 101+80		
Flood Yr.	Q	Opening C.F.S.	Sq. Ft.	Nat. H.W.E.	Head - Ft.	Headwater El.
10	3220	1708	1976	587.43	0.52	587.95
Design	50	4600	2099	590.04	0.50	590.54
Base	100	5180	2223	590.84	0.46	591.30
Overtopping						
Max. Calc.	500	6600	2655	593.44	0.44	593.88

LEGEND

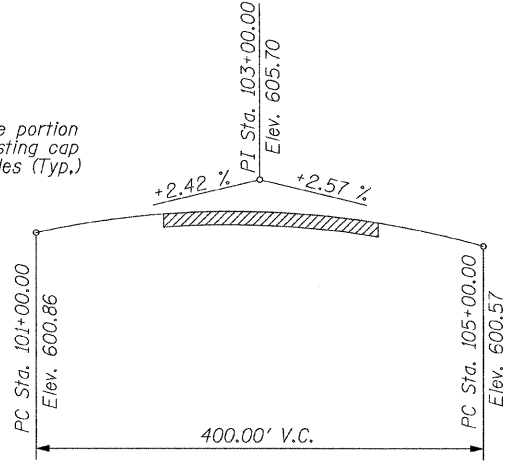
- 2007 Boring
- 1960 Boring



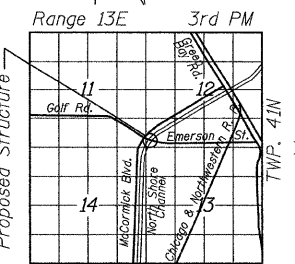
ELEVATION



PLAN



PROFILE GRADE EMERSON STREET  
Along C of Roadway



LOCATION SKETCH

APPROVED  
FOR STRUCTURAL ADEQUACY ONLY

Robert E. Anderson (TSP)  
ENGINEER OF BRIDGES AND STRUCTURES

GENERAL PLAN  
EMERSON STREET OVER  
NORTH SHORE CHANNEL  
(PUBLIC BODY OF WATER)  
F.A.U. ROUTE 1312 SECTION 0707-B  
COOK COUNTY STA. 102+84.62  
STRUCTURE NUMBER 016-2858



DATE SIGNED: 10-16-07  
EXP. DATE: 11-30-08

DESIGNED	SRT
CHECKED	JJI
DRAWN	GM
CHECKED	JJI

Bollinger, Lach & Associates, Inc.

\* See Sheet 3 of 32 and Drainage Plans

\*\* See Sheet 2 of 32, Erosion Control Plans and Special Provisions