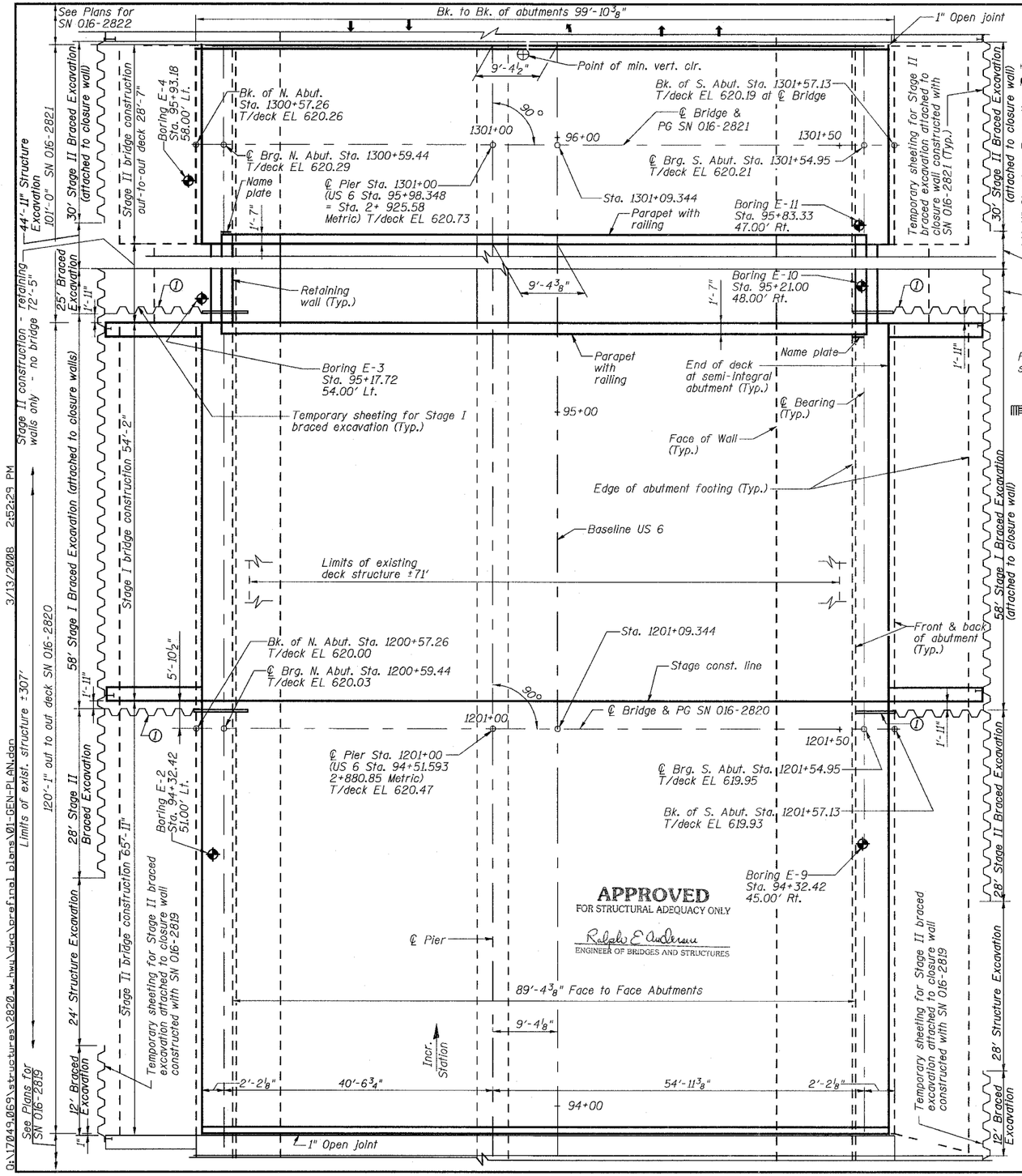
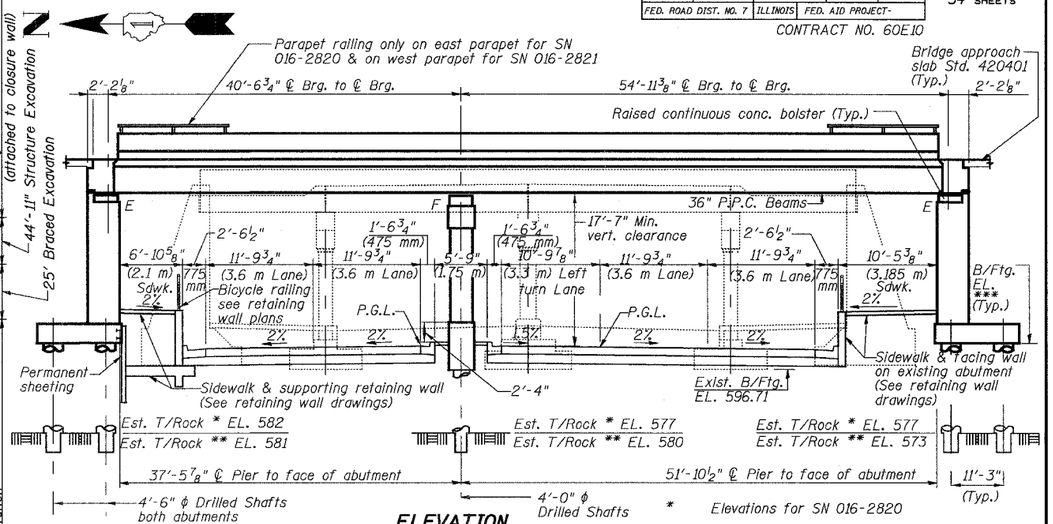




ELEVATION
(Looking East)

* Elevations for SN 016-2820

** Elevations for SN 016-2821

*** Bottom of footing Elevations; 600.00 from west end to stage joint and 601.00 from stage jt. to east end.

BENCH MARK:

"X" cut on the southeasterly corner of the R.R. bridge pier in the centerline of 159th Street at the east face of the bridge, approximately 98 feet west of Center Street Elevation. 603.25.

EXISTING STRUCTURE:

Existing structure is a 307'± wide combination railroad and intermodal yard grade separation structure over 159th Street (U.S. Rte. 6). The structure consists of 4 cast-in-place reinforced concrete slab spans supported by gravity abutments, and three reinforced concrete piers. This structure will be replaced by two separate railroad bridges and two bridges for intermodal truck traffic. The existing Structure No. is 016-0385. and was built in 1925.

Staged construction will be utilized to maintain rail and intermodal yard traffic. US 6 will be closed during construction. Limited portion of existing south abutment will be kept. Remainder of existing structure to be removed.

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 p.s.i.
fY = 60,000 p.s.i. (Reinf.)

PRECAST PRESTRESSED UNITS

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

SEISMIC DATA

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

LOADING

HS-20-44 for Superstructure
Substructure - Cooper E90 Live Loading without impact as stipulated by AREMA Service Load Design.

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

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications for Highway Bridges.

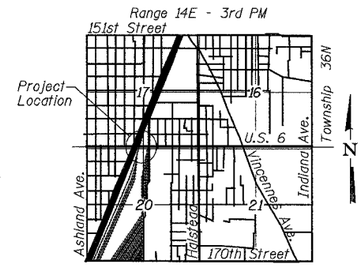
American Railway Engineering & Maintenance-of-way association (AREMA) Manual for Railway Engineering, 2004.

Canadian National/Illinois Central Railroad Guidelines for Design of substructures.

CN	CN
STATION 2+925.58 BUILT 2009 BY STATE OF ILLINOIS F.A.P. RT. 351 SEC. 3277R LOADING HS20-44 STR. NO. 016-2821	STATION 2+880.85 BUILT 2009 BY STATE OF ILLINOIS F.A.P. RT. 351 SEC. 3277R LOADING HS20-44 STR. NO. 016-2820
NAME PLATE See Std. 515001	**NAME PLATE** See Std. 515001

See Sheet 2 for vertical profile information.

① See Abutment removal details Drawing (Sheet 28 of 54) for General Configuration of sloped back of existing Abutments and Footing.



LOCATION SKETCH

STATE OF ILLINOIS
NARENDRA P. PATEL
081-004780
LICENSED STRUCTURAL ENGINEER
CHICAGO

Narendra P. Patel

NARENDRA P. PATEL, SE
LICENSE NO. 081-004780
EXPIRES: 11/30/2008
DATE: 03-14-2008

PLAN

DESIGNED	EV
CHECKED	NPP
DRAWN	EV
CHECKED	NPP

REVISIONS NAME	DATE

URS
100 South Wacker Drive, Suite 500
Chicago, IL 60606
(312) 939-1000

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 351	2008-001VB	COOK	579	411
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 1
54 SHEETS

CONTRACT NO. 60E10

ILLINOIS DEPARTMENT OF TRANSPORTATION
US RTE 6 FROM I-294 TO IL RTE 1

GENERAL PLAN & ELEVATION

STRUCTURES FOR CN INTERMODAL YARD VEHICLES OVER U.S. RTE. 6 (159TH STREET)

STATION 95+02.14
STRUCTURE NOS. 016-2820 & 016-2821

SCALE:
DATE: 9/27/2007