

Bench Mark:
 BM #3 Elevation = 571.36 (Feet)
 A square cut in northwest wingwall of south bound Illinois route 53 bridge.

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET NO. 51
F.A.P.	4B-1-R	WILL	87	SHEETS 517
846			49	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

CONTRACT NO. 62269

Existing Structure:
 The existing structure No. 099-0242 (SB) was built in 1978 under construction route FA-5 and section 4B-1-R. The existing bridge consists of three-spans precast concrete box beam (14 beams) in each span. The structure length is 105'-8" Bk. to Bk. of Abutments and 43'-2" Out to Out Deck. The substructure consists of two abutments, two piers, and two curtain walls between this Bridge and N.B. Bridge (099-0090).
 The piers and abutments are on spread footings over solid rock. The superstructure of existing bridge to be removed and replaced. Traffic shall be deflected by providing cross over away from the structure location, see roadway plans.
 No salvage.

DESIGN SPECIFICATIONS

Superstructure:
 2007 AASHTO LRFD Bridge Design Specifications

Substructure:
 AASHTO Standard Specifications For Highway Bridges 17th. Edition 2002

LOADING HL-93 (Struct. Steel, Deck & Bearings)

LOADING HS20-44 (Substructure)

Allow 50 psf for future wearing surface.

DESIGN STRESSES

Existing

$f'_c = 3,500$ psi (concrete)
 $f_y = 60,000$ psi (reinforcement)

Proposed

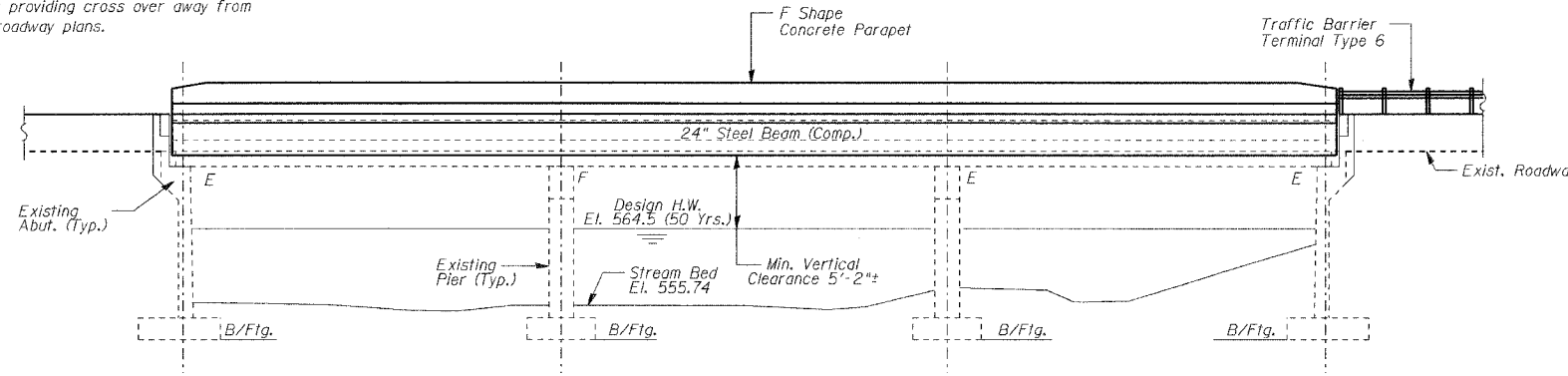
$f'_c = 3,500$ psi (concrete)
 $f_y = 60,000$ psi (reinforcement)
 $f_y = 50,000$ psi (structural steel) (M270 GR.50)
 $f_y = 36,000$ psi (diaphragms) (M270 GR.36)

SEISMIC DATA

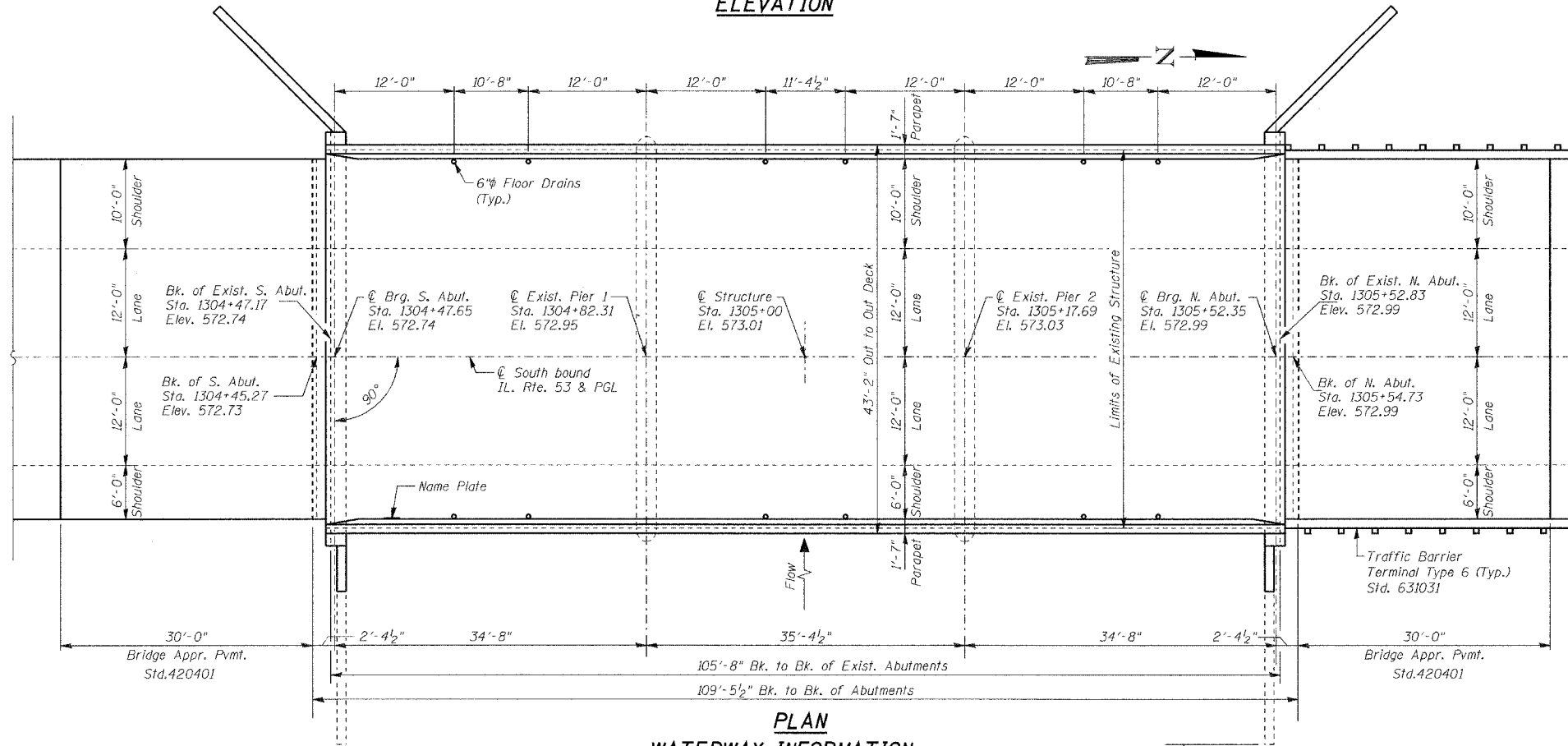
Seismic performance category (S.P.C.) = A
 Bedrock acceleration coefficient (A) = .04g
 Site coefficient (s) = 1.0

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ELEVATION

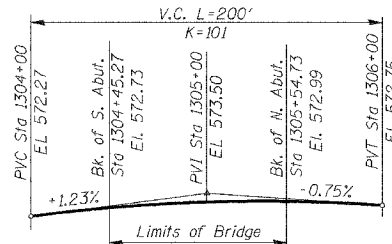


PLAN WATERWAY INFORMATION

Drainage Area = 45.1 sq.mi		Low Grade Elev. 569.7 Ft.		Sta. 1301+00		
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.	Nat. H.W.E.	Head - Ft. Exist. Prop.	Headwater El. Exist. Prop.
Design	50	2910	901	564.5	0.1	564.6
Base	100	3260	959	565.1	0.2	565.3
Overtopping						
Max. Calc.	500	4080	1095	566.7	0.3	567.0

All elevations are in highway datum.

DESIGNED	NDS/GMK
CHECKED	MTP/SMK/GBC
DRAWN	NDS/GMK
CHECKED	SMK/GBC



PROPOSED PROFILE GRADE

(at @ of SB)

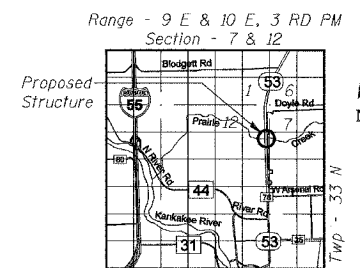
STATION 1305+00
 RE-BUILT 20 BY
 STATE OF ILLINOIS
 F.A.P. 846 SEC. 4B-1-R
 LOADING HL-93 (HS20)
 STR. NO. 099-0242

NAME PLATE

See Std. 515001
 Existing Name Plate shall be cleaned and relocated next to New Name Plate. Cost included with Name Plates.



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 State of Illinois
 License No. 081-004047
 Expires: 11-30-2008



LOCATION SKETCH

ILLINOIS DEPARTMENT OF TRANSPORTATION

GENERAL PLAN & ELEVATION

FAP 846
 SB IL. ROUTE 53 OVER PRAIRIE CREEK
 STATION 1305+00 SECTION 4B-1-R
 WILL COUNTY

STRUCTURE NO. 099-0242

SCALE: NONE
 DATE: AUGUST 2007

