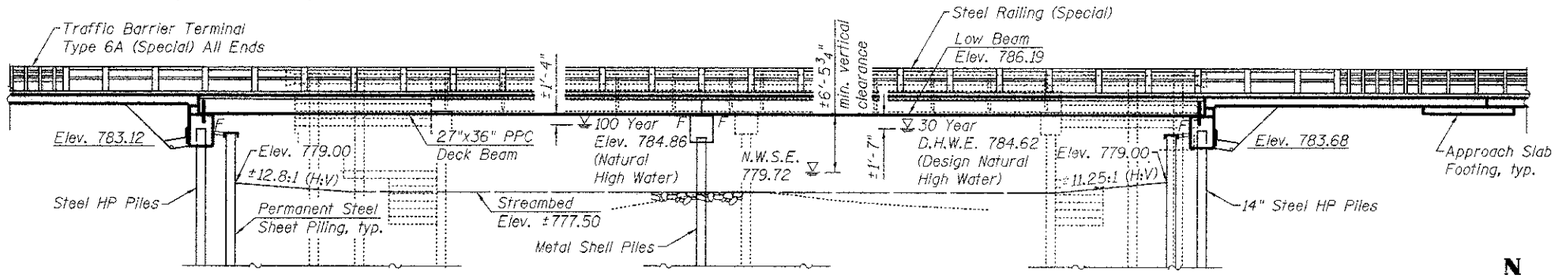
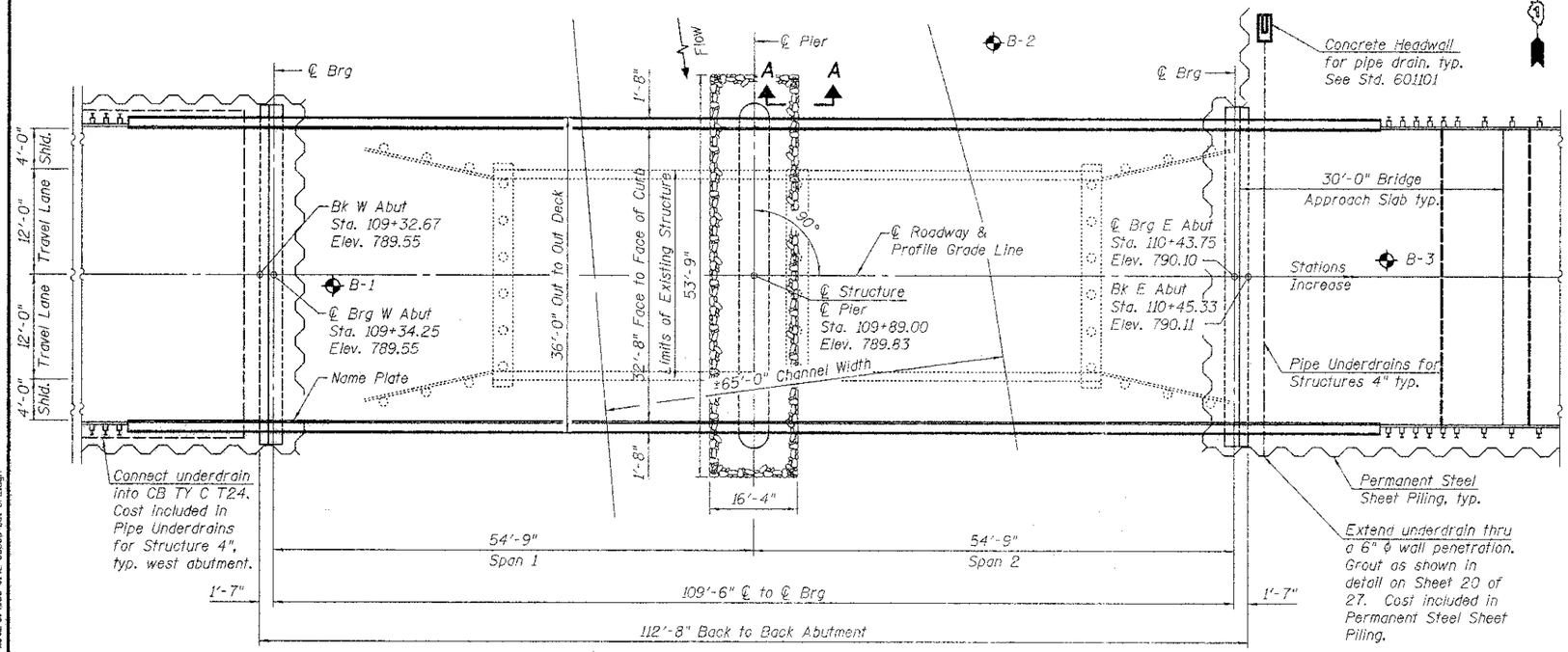
Benchmark: Chiseled square on east curb at east end of curb on the east side of the entrance to Nippersink Public Library. Approximately 890 feet west of the Structure. Elev. 793.44

Existing Structure: S.N. 056-3045 built in 1958. The superstructure consists of two spans of eight 17"x36" prestressed precast deck beams with side mounted railing and a HMA overlay. The substructure consists of R.C. closed abutments on creosoted timber piles with timber lagging and a R.C. pile bend pier with metal shell piles. Structure measures 69'-3" bk to bk abutments and 24'-0" out to out. Existing structure is to be removed Traffic will be detoured.

Existing Name Plate to be salvaged. See Roadway General Notes.



ELEVATION



PLAN

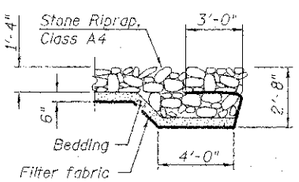
DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	West Abut.	Pier	East Abut.
	770.41	764.41	770.41

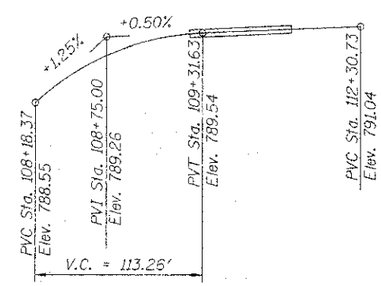
WATERWAY INFORMATION

Drainage Area = 68.7 square miles Low Grade Elev. 786.20 @ Sta. 105+50

Flood	Freq. Yr.	Q Ft³/s.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
	10	1610	324.47	591.68	784.02	0.64	0.27	784.66	784.29
Design	30	2294	362.39	654.93	784.62	1.08	0.50	785.70	785.12
Base	100	2735	382.67	689.44	784.86	1.44	0.71	786.30	785.57
Overtop Existing	101	2780	384.61	-	784.89	1.48	-	788.00	-
Overtop Proposed	405	3920	-	778.88	785.55	-	1.24	-	788.20
Max. Calc.	500	4521	446.39	806.52	785.75	2.55	1.51	788.30	787.26

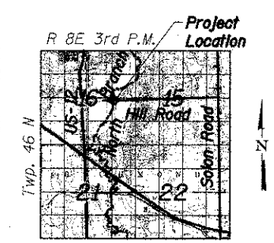


SECTION A-A



PROFILE GRADE

(T.R. 21 along ℄ of Roadway)



LOCATION SKETCH

GENERAL NOTES

The Illinois Department of Transportation is not the owner of record for this bridge. Those seeking historic, as-built, or other existing documents and plans must contact the owner of record to make arrangements for access to this information.

Calculated weight of Structural Steel = 62,070 pounds.

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions.

Reinforcement bars designated (E) shall be epoxy coated.

Concrete Sealer shall be applied to the designated areas of the abutment.

Layout of slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.

The embankment configuration shown shall be the minimum that must be placed and compacted prior to construction of the abutments.

The Contractor is advised that the existing structure contains members that are in deteriorated condition with reduced load carrying capacity. It is the Contractor's responsibility to account for the condition of the existing structure when developing construction procedures for removal.

See Erosion Control sheet for locations of Cofferdams.

INDEX OF SHEETS

1	General Plan and Elevation
2	General Data
3	Top of Approach Slab Elevations
4	Superstructure
5	Superstructure Details
6-7	Bridge Approach Slab Details
8-9	Wyoming 2-Tube Bridge Railing Details
10	27"x36" PPC Deck Beam
11	27"x36" PPC Deck Beam Details
12	Abutment Details
13	Pier Details
14	HP Pile Details
15	Metal Shell Pile Details
16-20	Retaining Wall Details
21-26	Soil Boring Log
27	Existing General Plan and Elevation

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (M202 Grade 50)

PRECAST PRESTRESSED UNITS

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

DESIGN SPECIFICATIONS

2010 AASHTO LRFD Bridge Design Specifications with 2010 Interims

NIPPERSINK CREEK
BUILT 20__ BY
McHENRY COUNTY
DIVISION OF TRANSPORTATION
SEC 08-00356-00-BR
TWP. RT. 21 STA. 109+89.00
STRUCTURE NO. 056-3192
LOADING HL-93

NAME PLATE

See Std. 515001

LOADING HL-93

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

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S D1) = 0.077
Design Spectral Acceleration at 0.2 sec. (S DS) = 0.127
Soil Site Class = D

ANTHONY J. STANCZYK
081-005818
LICENSED
STRUCTURAL
ENGINEER
STATE OF ILLINOIS
EXP 11/2012

I certify that to the best of my 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 the requirements of the current AASHTO LRFD Bridge Design Specifications.

GENERAL PLAN
T.R. 21 (HILL ROAD)
OVER N. BRANCH NIPPERSINK CREEK
MCHENRY COUNTY
STA. 109+89.00
S.N. 056-3192

FILE NAME = S:\JOL\6806-6899\6842\067\Micros\CADD Sheets\Structural\056 3192-63666-001-GPE.dgn

STRAND ASSOCIATES, INC. 1170 SOUTH HOUBOLT ROAD JOLIET, ILLINOIS 60431 (815) 744-4200 PROFESSIONAL DESIGN FIRM NO. 184-001273

USER NAME = brianf	DESIGNED RRD	REVISED - 10-26-2012 RRD	MCHENRY COUNTY DIVISION OF TRANSPORTATION HILL ROAD BRIDGE OVER NORTH BRANCH NIPPERSINK CREEK
	CHECKED AJS	REVISED -	
PLOT SCALE =	DRAWN BJF	REVISED -	
PLOT DATE = 10/26/2012	CHECKED RRD	REVISED -	

GENERAL PLAN AND ELEVATION
STRUCTURE NO. 056-3192

SHEET NO. 1 OF 27 SHEETS

TR	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
21	08-00356-00-BR	MCHENRY	77	31
		CONTRACT NO. 63666		
		ILLINOIS FED. AID PROJECT		