

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	"SET" NO.	SHEET NO.
F.A.P. 324	23B-1	MCHENRY	97	66	5 SHEETS

Contract # 62892

INDEX OF SHEETS

- 1 GENERAL PLAN, GENERAL NOTES AND TOTAL BILL OF MATERIAL
- 2 SLAB REINFORCEMENT PLAN
- 3 SECTIONS
- 4 BORING LOGS
- 5 BORING LOGS

GENERAL NOTES

1. Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60 (IL Modified). See Special Provisions.
2. Layout of slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.

TOTAL BILL OF MATERIAL

Item	Unit	Total
Removal of Existing Superstructures	Each	1
Concrete Box Culverts	Cu. Yd.	314
Name Plates	Each	1
Filter Fabric	Sq. Yd.	187
Stone Riprap, Class A4	Sq. Yd.	131
Reinforcement Bars	Pound	76,140
Asbestos Bearing Pad Removal	Each	2
Porous Granular Embankment	Cu. Yd.	719

** Based on IDOT's PPC Deck Beam Replacement Plans, C-91-166-04.

WATERWAY INFORMATION

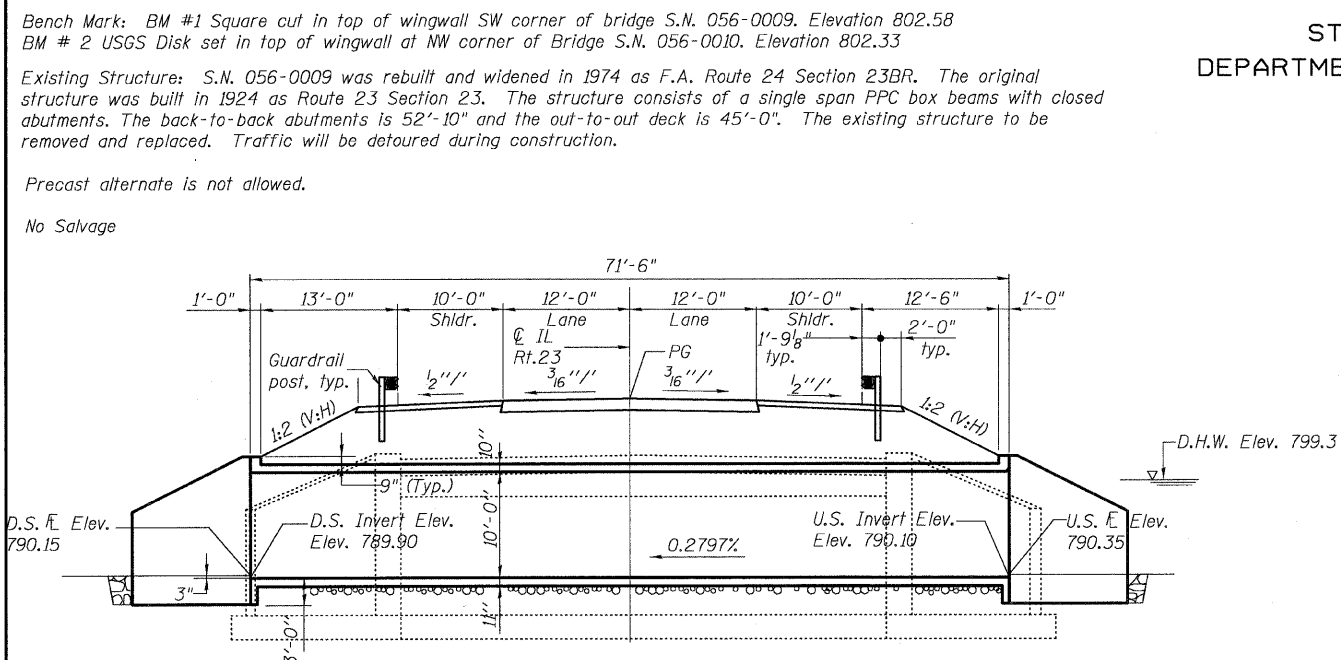
Drainage Area = 174.5 mi² Exist. Low Grade Elev. 800.30 @ Sta. 81+00
Prop. Low Grade Elev. 803.60 @ Sta. 81+00

Flood Freq. Yr.	Structure	Q C.F.S.		Opening SqFt.		Nat. H.W.E.	Head - Ft.		Headwater El.	
		Exist.	Prop.	Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
10	Main Channel	3441	2559	767.0	1057.0					
	Overflow 1	1874	2133	389.2	304.9					
	Overflow 2	n/a	623	n/a	95.5					
	Total	5315	5315	1156.2	1457.4	798.61	1.13	0.70	799.74	799.31
50	Main Channel	4951	4328	875.0	1228.3					
	Overflow 1	2679	2453	429.9	330.8					
	Overflow 2	17*	866	n/a	130.1					
	Total	7647	7647	1304.9	1689.2	799.33	1.39	0.77	800.72	800.10
100	Main Channel	5858	5015	914.0	1287.4					
	Overflow 1	2546	2582	442.6	340.2					
	Overflow 2	177*	983	n/a	142.6					
	Total	8581	8581	1356.6	1770.2	799.59	1.71	0.80	801.32	800.39
Max. Calc. 500	Main Channel	6944	6824	995.0	1402.5					
	Overflow 1	3076	2676	469.1	359.6					
	Overflow 2	699*	1219	n/a	168.5					
	Total	10719	10719	1464.1	1930.7	800.13	2.03	0.87	802.16	801.00

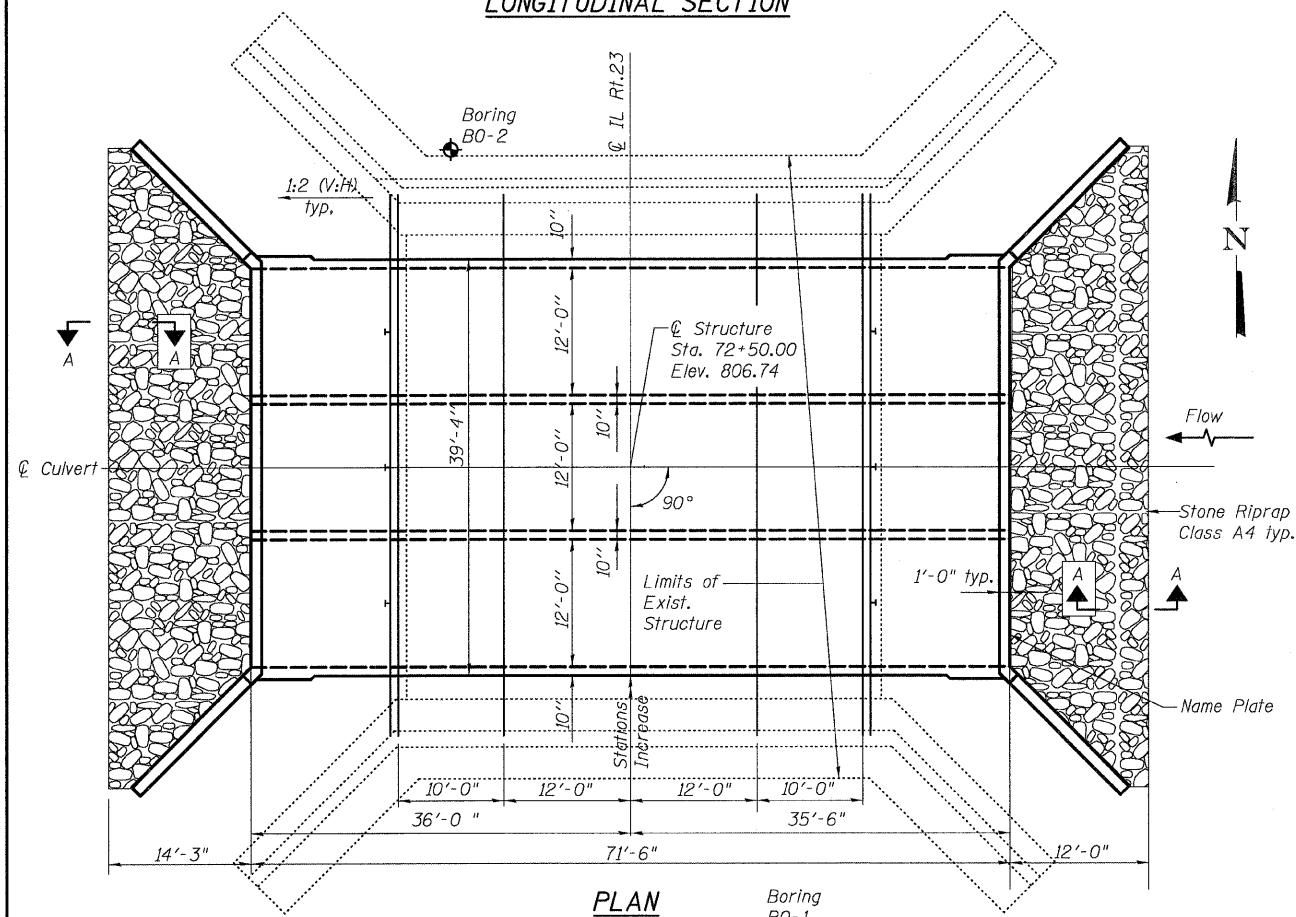
10 year velocity through existing bridge (main channel) = 3.76 fps
10 year velocity through proposed bridge (main channel) = 2.12 fps

Notes:

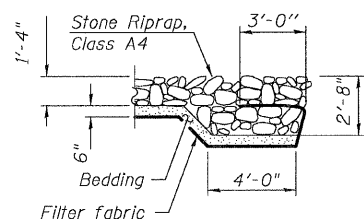
1. * Indicates flow over the road in existing condition.
2. A 2 foot berm/wall will be built at the upstream side of Overflow 2 structure, to maintain existing drainage patterns.
3. Overflow 1 is the 3-cell box culvert in the overflow channel, Overflow 2 is the 4-cell box culvert north of Overflow 1.



LONGITUDINAL SECTION



PLAN



SECTION A-A

STATION 72+50
BUILT 200 BY
STATE OF ILLINOIS
F.A.P. RT. 324 SEC. 23B-1
LOADING HS20
STR. NO. 056-0083

LETTERING FOR NAME PLATE

See Plan View & Std. 515001
for Name Plate location

LOADING HS20-44

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

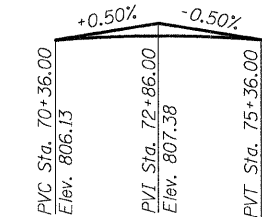
DESIGN SPECIFICATIONS

2002 AASHTO

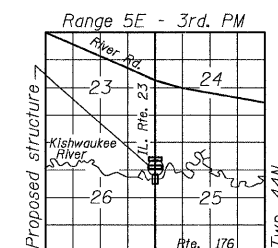
DESIGN STRESSES

FIELD UNITS

f_c = 3,500 psi
f_y = 60,000 psi (reinforcement)



PROFILE GRADE
(along C/L 23)



LOCATION SKETCH

GENERAL PLAN, GENERAL NOTES
AND TOTAL BILL OF MATERIAL,
ILL. ROUTE 23 OVER
KISHWAUKEE RIVER
OVERFLOW NO. 1
F.A.P. RT. 324
MCHENRY COUNTY
STATION 72+50.00
STRUCTURE NO. 056-0083

DESIGNED	CJB
CHECKED	PWO
DRAWN	DRP
CHECKED	PJM

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	D.S. Invert	U.S. Invert
	786.90	787.10

APPROVED
FOR STRUCTURAL ADEQUACY ONLY

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