

Bench mark: Chiseled square on headwall,
Sta. 848+90.89, 210.8433' Rt. Elev. 741.385

Existing structure: SN 101-1032 Sta 846+49
2-cell 9'x7' box culvert 48'-0" long.
Traffic to be detoured during construction.

No salvage.

Proposed improvements: Existing structure
to be removed and replaced with a 2-cell
11'x7' precast concrete box culvert
with cast-in-place end sections.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL QUANTITY
Stone Riprap, Class A4	Sq Yd	245.0
Filter Fabric	Sq Yd	245.0
Removal of Existing Structures No. 2	Each	1
Reinforcement Bars	Pound	19,440
Reinforcement Bars, Epoxy Coated	Pound	390
Name Plates	Each	1
Concrete Box Culverts	Cu Yd	97.0
Precast Concrete Box Culverts, 11'x7'	Foot	132.0

DESIGN SPECIFICATIONS

AASHTO 2002 Specifications

LOADING HS20-44

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

DESIGN STRESSES

FIELD UNITS

$f'_c = 3,500$ psi
 $f_y = 60,000$ psi (Reinforcement)
PRECAST UNITS
 $f'_c = 5,000$ psi
 $f_y = 65,000$ psi (Welded Wire Fabric)

GENERAL NOTES:

- Slope flow line of the extension at the same rate as the flow line of the box.
- See plan and profile sheet for more information.
- See culvert location plans for more information.
- Reinforcement bars shall conform to the requirements of ASTM A706 Gr 60. See Special Provisions.
- Exposed edges shall have a 3/4" chamfer.
- Culvert flows must be maintained throughout the project. Normal flow shall be allowed to pass at the rate it enters the job site. High flows shall be allowed pass to without causing damage to upstream properties.
- The contractor shall clean out culvert stream flow to the right of way lines. The cost shall be included in the contract unit price for Precast Concrete Box Culverts, 11'x7'.
- Structure excavation and grading around ends of culvert shall be included in the contract unit price for Precast Concrete Box Culverts, 11'x7'.
- The precast concrete box culvert shall conform to the requirements of AASHTO M273 (design fill height = 2'-0"). See Special Provisions.

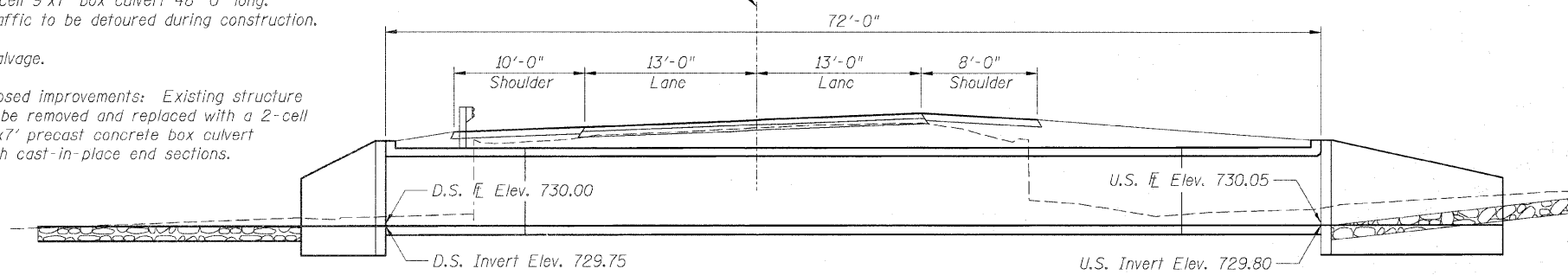
INDEX OF DRAWINGS

Sheet No.	Sheet Title
1.	General Plan & Elevation
2.	North End Plan
3.	South End Plan
4.	Sections I
5.	Sections II
6.	Elevation & Details
7.	Wingwalls A & D Details
8.	Wingwalls B & C Details
9.	Reinforcement Details

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	Upstream	Downstream
	726.80	726.75

CL IL Rt. 75



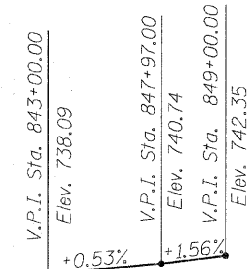
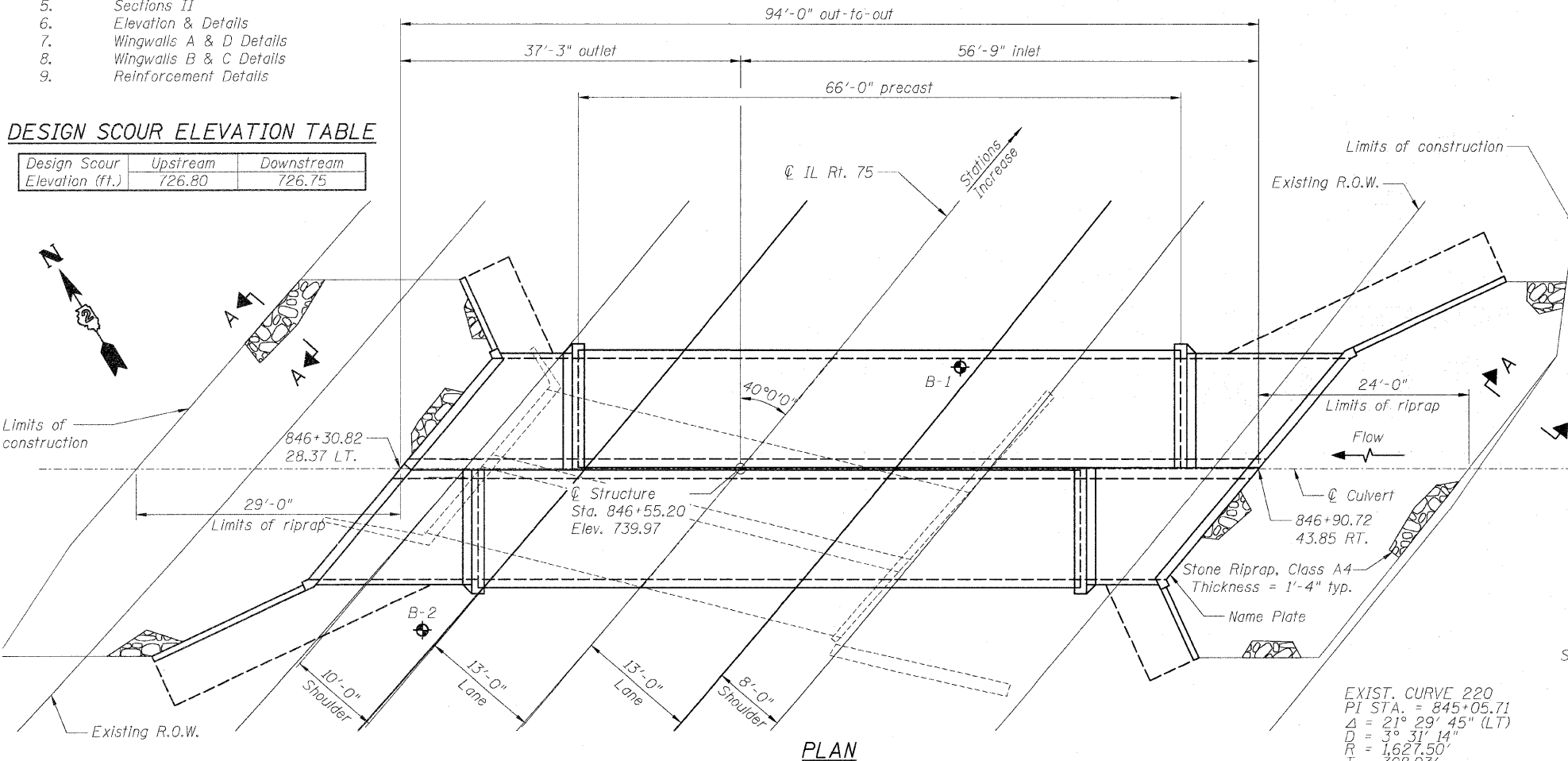
LONGITUDINAL SECTION

Measured perpendicular to CL of roadway

STATION 846+55.20
BUILT 20__ BY __
STATE OF ILLINOIS
F.A.P. RT. 505 SEC. 115RS-2
LOADING HS20-44
STRUCTURE NO. 101-1084

NAME PLATE

See Std. 515001



PROFILE GRADE

(Along CL IL 75)

I certify that to the best of my knowledge, information and belief, this culvert 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 requirements of the current "AASHTO Standard Specifications for Highway Bridges".

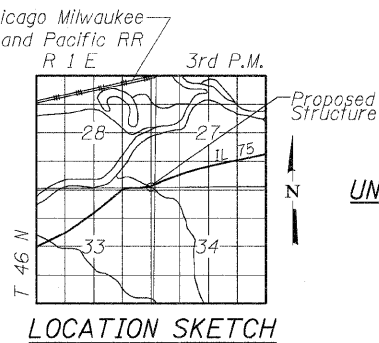
Brian J. Malone 7-15-2009
Illinois Structural No. 081-006002



Expires 11-30-2010

EXIST. CURVE 220
PI STA. = 845+05.71
 $\Delta = 21^\circ 29' 45''$ (LT)
 $D = 3^\circ 31' 14''$
 $R = 1,627.50'$
 $T = 308.93'$
 $L = 610.59'$
 $E = 29.06'$
I.R. = _____
S.E. RUN = _____
P.C. STA. = 841+96.78
P.T. STA. = 848+07.38

HORIZONTAL CURVE DATA



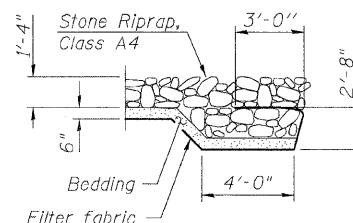
LOCATION SKETCH

WATERWAY INFORMATION

Drainage Area = 1.414 sq. mi. Low Grade Elev. 738.15 @ Sta. 839+42

Flood	Freq. Yr.	Q C.F.S.	Opening	Sq. Ft.	Nat. Prop.	H.W.E.	Head - Ft.	Headwater El.
Ten year	10	551	79.6	97.3	734.5	1.0	0.3	735.5
Design	50	936	86.8	106.0	734.9	2.5	1.8	737.3
Base	100	1117	90.0	110.0	735.1	3.4	2.4	738.4
Max. calc.	500	1581	101.9	124.5	735.7	4.0	3.5	739.6

10-year velocity through Existing structure = 5.85 fps
10-year velocity through Proposed structure = 4.87 fps



SECTION A-A



Wight & Company
2500 North Frontage Road . Darien . IL 60561
630.969.7000 630.969.7979 fax
Design Firm Registration 184-000451

SHEET NO. 1	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9 SHEETS	505	115RS-2	WINNEBAGO	120	43
STA. 791+50 TO STA. 796+00		CONTRACT NO. 64E89			
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT			

GENERAL PLAN & ELEVATION
ILLINOIS ROUTE 75 OVER
UNNAMED TRIBUTARY TO PECATONICA RIVER
F.A.P. ROUTE 505 - SECTION 115RS-2
WINNEBAGO COUNTY
STATION 846+55.20
STRUCTURE NO. 101-1084