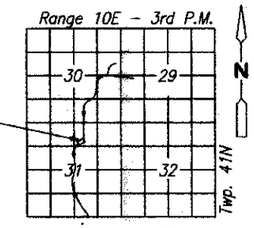
BENCHMARK: BM-12 CHISELED SQUARE ON NORTHWEST WINGWALL OF CONCRETE BRIDGE. ELEV = 788.84 (NGVD 1929) / ELEV = 788.57 (NAVD 1988)

EXISTING STRUCTURE: S.N. 016-6091 BUILT IN THE MID 1960's. THE VILLAGE IS NOT IN POSSESSION OF THE ORIGINAL DESIGN PLANS. 38'-0" SIMPLE SPAN PRE-CAST, PRE-STRESSED CONCRETE DECK BEAMS, 39'-10" BACK TO BACK ABUTMENTS, SUPPORTED ON UNTREATED TIMBER PILES. EXISTING BRIDGE IS TO BE REMOVED AND REPLACED WITH A CAST-IN-PLACE DOUBLE BOX CULVERT WITH CAST-IN-PLACE WINGWALLS. EXISTING TIMBER PILES ARE TO BE CUT AT OR BELOW THE BOTTOM IF THE PROPOSED BOX CULVERT. TRAFFIC IS TO BE DETOURED DURING CONSTRUCTION. ALL ELEVATIONS ARE SHOWN IN NAVD 88 DATUM.

F.A. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1176	10-00059-00-BR	COOK	11	9
	HANOVER PARK ILLINOIS	CONTRACT NO. 63754		



LOCATION SKETCH

D.H.W. Elev. 788.68

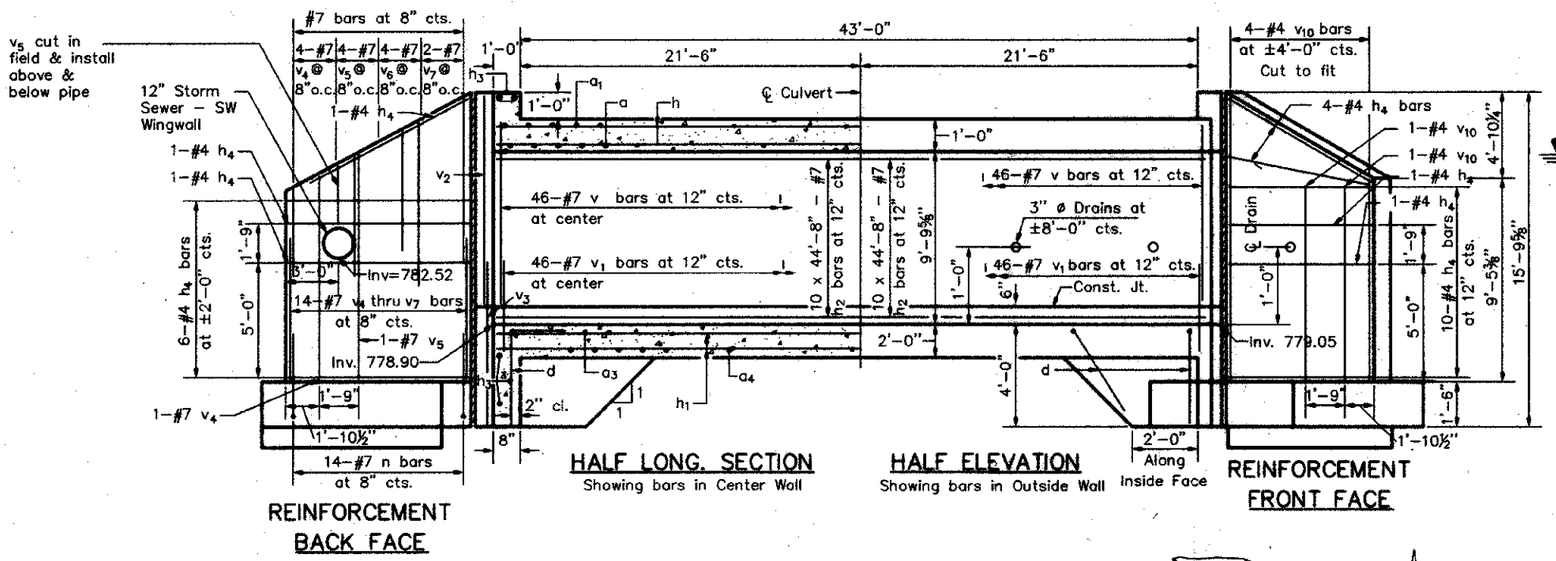
I certify that to the best of knowledge, information and belief, this bridge/box culvert design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with requirements of the current AASHTO Standard Specifications for Highway Bridges.

HARRY R ALLEN 81-4597 Northbrook Illinois STRUCTURAL ENGINEER

MY LICENSE EXPIRES 11/30/2014

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a	180	#8	16'-8"	
a_1	90	#8	14'-2"	
a_2	48	#4	9'-0"	
a_3	46	#7	15'-8"	
a_4	46	#7	7'-0"	
a_5	46	#7	12'-8"	
a_6	46	#7	4'-0"	
d	70	#4	5'-6"	
h	88 @ 20'-0" 44 @ 14'-8"	#7	44'-8"	
h_1	114 @ 20'-0" 57 @ 14'-8"	#7	44'-8"	
h_2	60 @ 20'-0" 30 @ 14'-8"	#7	44'-8"	
h_3	10 @ 20'-0" 10 @ 11'-4"	#7	26'-8"	
h_4	88	#4	8'-10"	
h_8	6 @ 20'-0" 6 @ 8'-4"	#4	26'-8"	
n	56	#7	8'-0"	
t	84	#7	7'-6"	
v	138	#7	9'-1½"	
v_1	138	#7	7'-0"	
v_2	8	#5	11'-7½"	
v_3	8	#5	6'-4"	
v_4	17	#7	9'-3"	
v_5	17	#7	9'-11"	
v_6	16	#7	11'-4"	
v_7	8	#7	12'-9"	
v_8	57	#4	4'-2"	
v_9	56	#5	3'-4"	
v_{10}	18	#4	12'-9"	
w	24	#5	8'-10"	
w_1	8	#5	8'-10"	
couplers	92	#7	8"	
Concrete Box Culverts			Cu. Yd.	238.0
Reinforcement Bars, Epoxy Coated			Pound	40,915

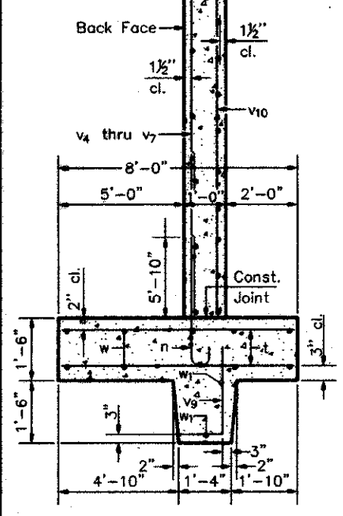


REINFORCEMENT BACK FACE

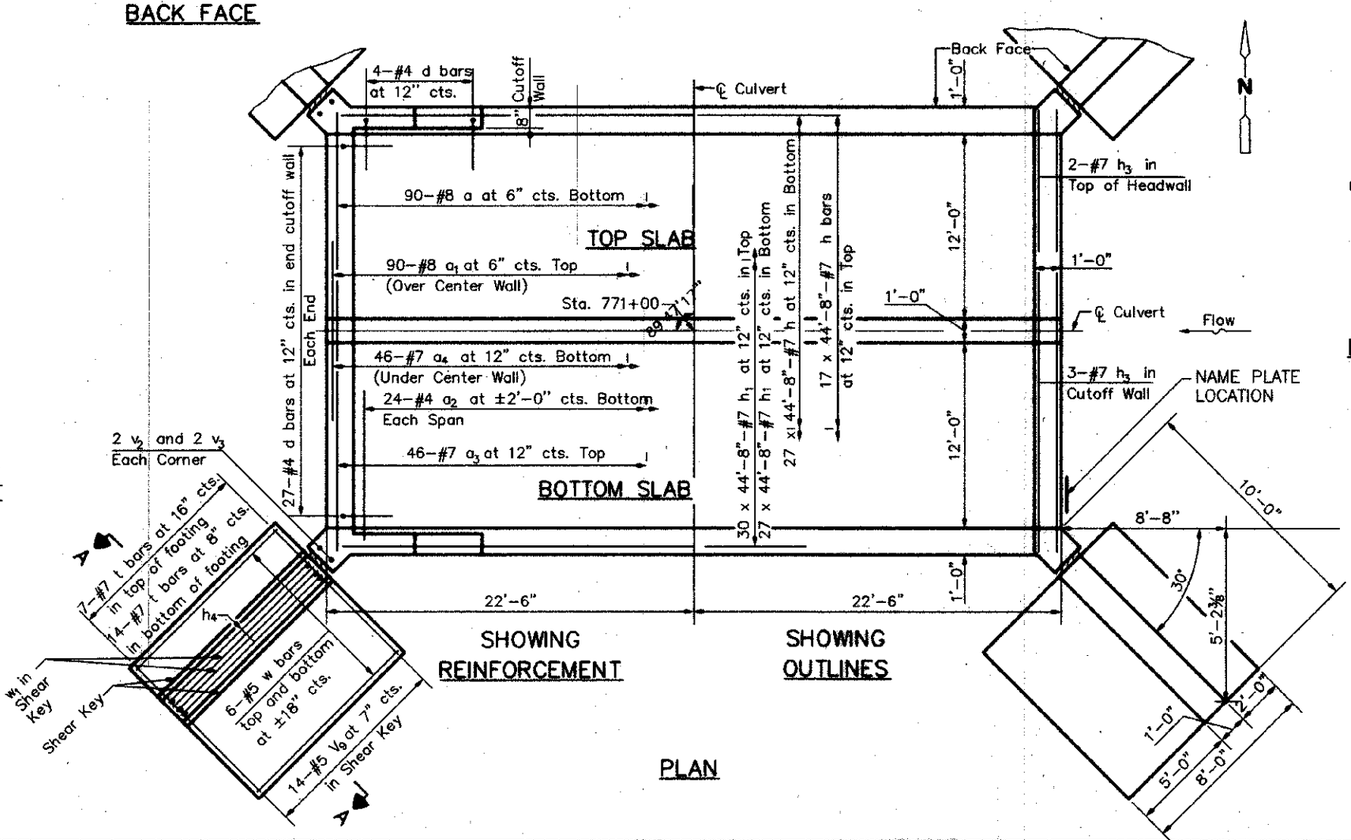
HALF LONG. SECTION
Showing bars in Center Wall

HALF ELEVATION
Showing bars in Outside Wall

REINFORCEMENT FRONT FACE



SECTION A-A



SHOWING REINFORCEMENT

SHOWING OUTLINES

PLAN

DESIGN STRESSES

FIELD UNITS
f'_c = 3,500 psi
f_y = 60,000 psi (reinforcement)

LOADING HL93

No Load Allowance for future wearing surface.

DESIGN SPECIFICATIONS

AASHTO LRFD Bridge Design Specifications, Customary U.S. Units, 5th Edition

HIGHWAY CLASSIFICATION

Longmeadow Lane
ADT: 1200
Functional Class: Local Street
Design Speed: 35 mph

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft)	Upstream	Downstream
	775.05	774.90

BUILT 2013 BY
VILLAGE OF HANOVER PARK
LONGMEADOW LANE
SEC. 10-00059-00-BR
LOADING HL93
STR. NO. 016-6046

NAME PLATE FOR BRIDGES LETTERING

See Std. 515001

WATERWAY INFORMATION

Drainage Area = 4.4 sq. mi. Low Grade Elev. 788.46 @ Sta. 770+80.6

Flood	Freq. Yr.	Q C.F.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	346	120.5	160.8	785.78	-0.09	-0.03	785.69	785.75
Design	30	540	176.8	195.8	787.25	-0.06	-0.04	787.19	787.21
	50	639	201.7	209.8	787.83	-0.05	-0.04	787.78	787.79
Base	100	820	221.8	231.1	788.74	0.03	-0.06	788.77	788.68
Max. Calc.	500	1,220	221.8	235.2	792.17	-0.08	0.13	792.09	792.30

REVISIONS: DATE	BY	DESCRIPTION
10-22-12	JR	REVISED PLANS PER COMMENTS FROM IDOT, HANOVER PARK, & NORTH COOK SWCD.
11-08-12	JR	REVISED PLANS PER COMMENTS FROM IDOT DATED 11-02-12.

DATE	BY	DESCRIPTION

PLOTTED BY: DRD
CHECKED BY: RTP
DRAWN BY: DRD
CHECKED BY: RTP
APPROVED BY: DW

pmg Engineers
Pavia-Marting & Co.
910 W. Lake St.
Roselle, IL 60172
630-529-8000 fax: 630-894-4910
Design Firm Professional Registration #184002376

TITLE: LONGMEADOW LANE BOX CULVERT REPLACEMENT
HANOVER PARK, IL
S.N. 016-6046 GENERAL PLAN & ELEVATION

SCALE: NONE
DATE: 8/6/2012
JOB NO: 02841.DS
SHEET 11 OF 20

Nov 09, 2012 - 9:25a k:\systemx\Cad\02841.DS\02841DS-11 - GPE Plan.dwg