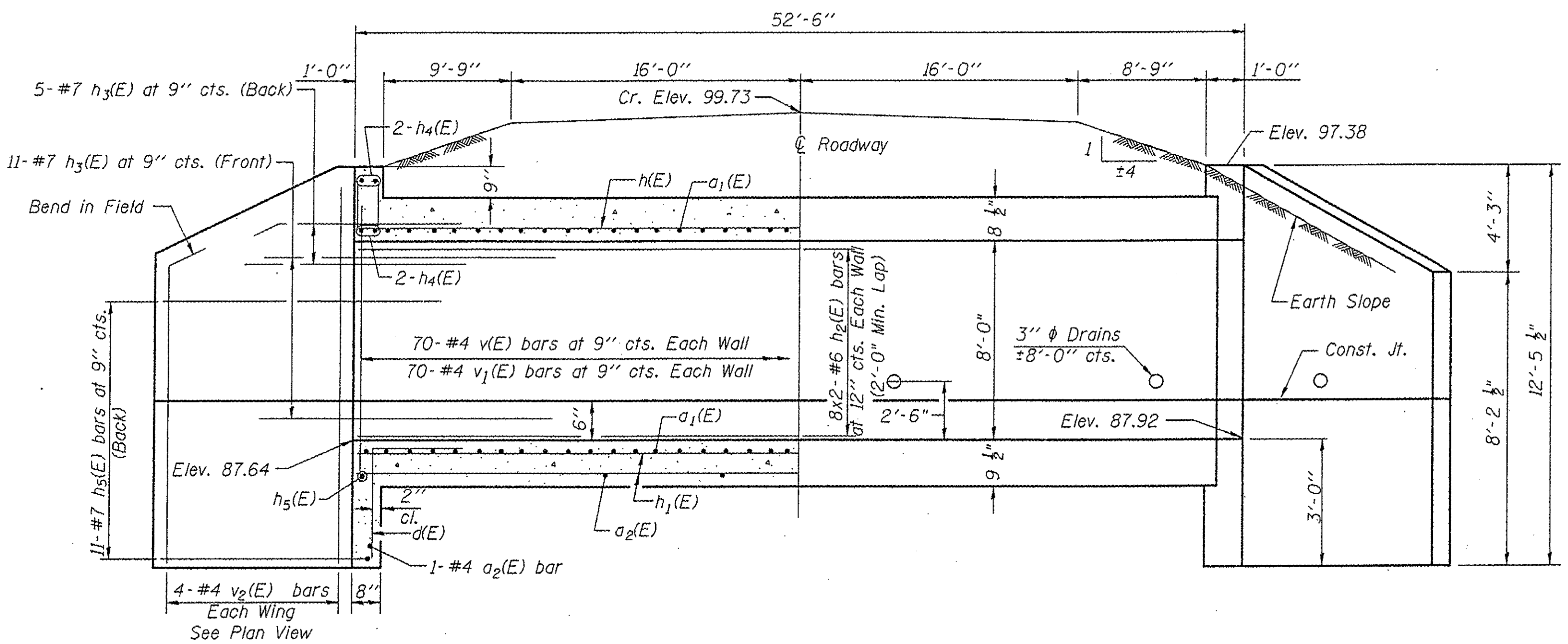
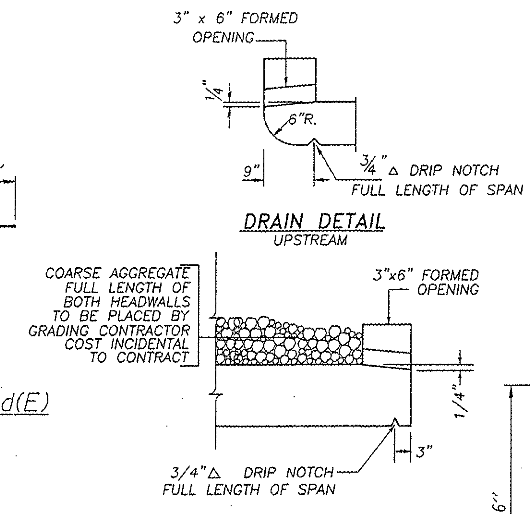
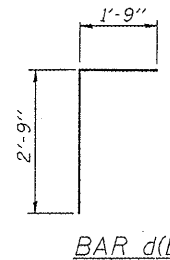
SHEET 4
Contract 85544



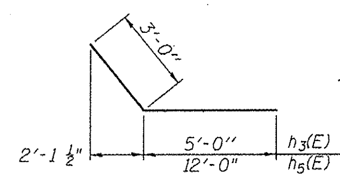
HALF LONG. SECTION

HALF ELEVATION

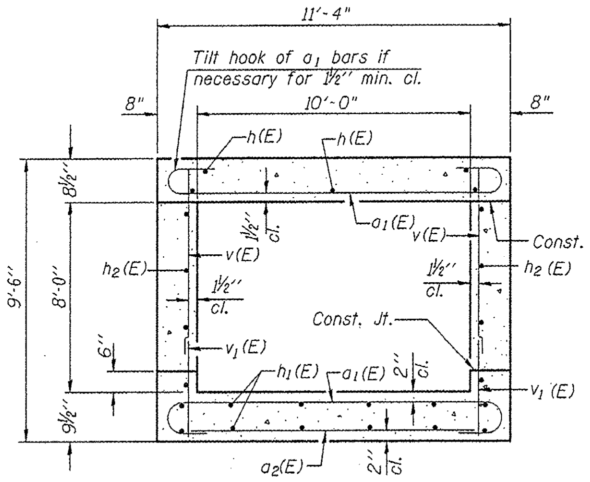




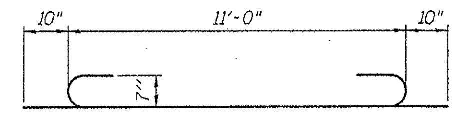
BAR d(E)



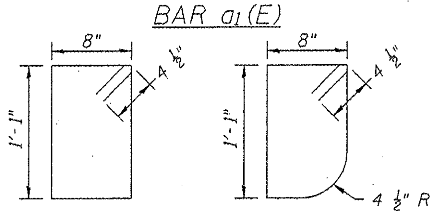
BARS $h(E)_3$ & $h(E)_8$



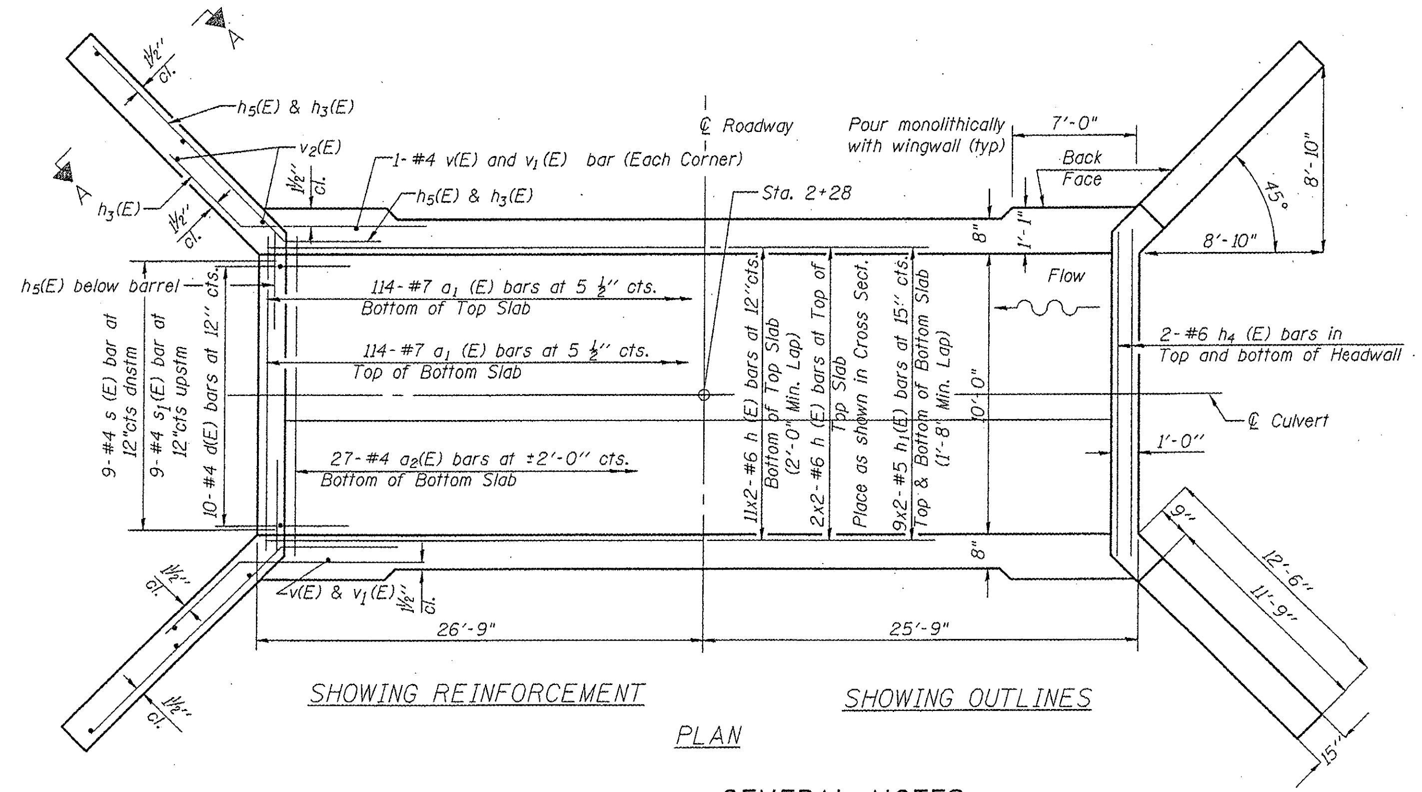
SECTION THRU BARREL



BAR a_1(E)

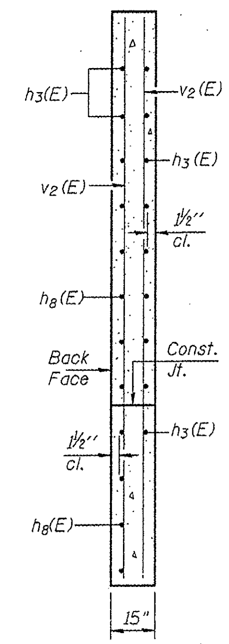


BAR s(E)   BAR s_1(E)



SHOWING REINFORCEMENT   SHOWING OUTLINES

PLAN



SECTION A-A

GENERAL NOTES

EXPOSED EDGES SHALL BE BEVELED 3/4".

REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-31, M-42 OR M-53, GRADE 60.

AT LEAST 7 FEET OF BARREL SHALL BE POURED MONOLITHICALLY WITH WINGWALLS.

FOR BACKFILLING AND EMBANKMENT, SEE STANDARD SPECIFICATIONS.

A DEPOSIT OF GRAVEL OR BROKEN STONE SHALL BE PLACED BEHIND DRAIN HOLES, IN ACCORDANCE WITH ARTICLE 503.12 OF THE STANDARD SPECIFICATIONS. A DOUBLE LAYER OF GEOTECHNICAL FILTER FABRIC SHALL BE PLACED AGAINST THE DRAIN HOLE AND AROUND THE DEPOSIT TO PREVENT LEAKAGE OF BACKFILL MATERIAL THROUGH THE 3" DIAMETER OPENING. FILTER FABRIC SHALL BE IN ACCORDANCE WITH SECTION 282 OF THE STANDARD SPECIFICATIONS, WITH THE EXCEPTION THAT UNDER METHOD OF MEASUREMENT AND BASIS OF PAYMENT THIS ITEM WILL BE CONSIDERED INCIDENTAL TO THE CONCRETE BOX CULVERT.

WINGWALL REINFORCEMENT SHALL BE BENT OR CUT TO FIT.

BARS INDICATED THUS 11 x 2 – #6 ETC. INDICATES 11 LINES OF BARS WITH 2 LENGTHS PER LINE.

WENDLER ENGINEERING SERVICES, INC.
Illinois Professional Design Firm No. 184-000848

STATE OF ILLINOIS – RICHARD A. BAUMANN – 4732 – DIXON, ILL. – LICENSED STRUCTURAL ENGINEER

6-2-11
DATE

RICHARD A. BAUMANN
DIXON, ILLINOIS
ILLINOIS LICENSED STRUCTURAL ENGINEER NO. 081-004732
EXPIRES 11-30-2012

DESIGN STRESSES
fy = 60,000 psi
f'c = 3,500 psi
Design Specifications: 2008 AASHTO

LOADING HL-93

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a_1(E)	228	#7	12'-8"	⊂⊃
a_2(E)	29	#4	11'-0"	—
d (E)	20	#4	4'-6"	⌐
h (E)	26	#6	27'-0"	—
h_1(E)	36	#5	26'-10"	—
h_2(E)	32	#6	27'-0"	—
h_3(E)	64	#7	8'-0"	_/
h_4(E)	8	#6	11'-0"	—
h_5(E)	48	#7	15'-0"	_/
s(E)	9	#4	4'-3"	□
s_1(E)	9	#4	4'-2"	□
v (E)	144	#4	8'-0"	—
v_1 (E)	144	#4	2'-3"	—
v_2(E)	16	#4	12'-3"	—
Concrete Box Culverts			Cu. Yd.	83.6
Reinforcement Bars Epoxy coated			Pound	13350

MIN. BAR LAP

BAR	BARREL	WINGWALL
#4	1'-4"	1'-8"
#5	1'-8"	2'-2"
#6	2'-0"	2'-7"
#7	2'-9"	3'-5"
#8	3'-8"	4'-6"

SECTION 10-00091-01-DR
SHANNON ROUTE (FAS 78)
CARROLL COUNTY

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