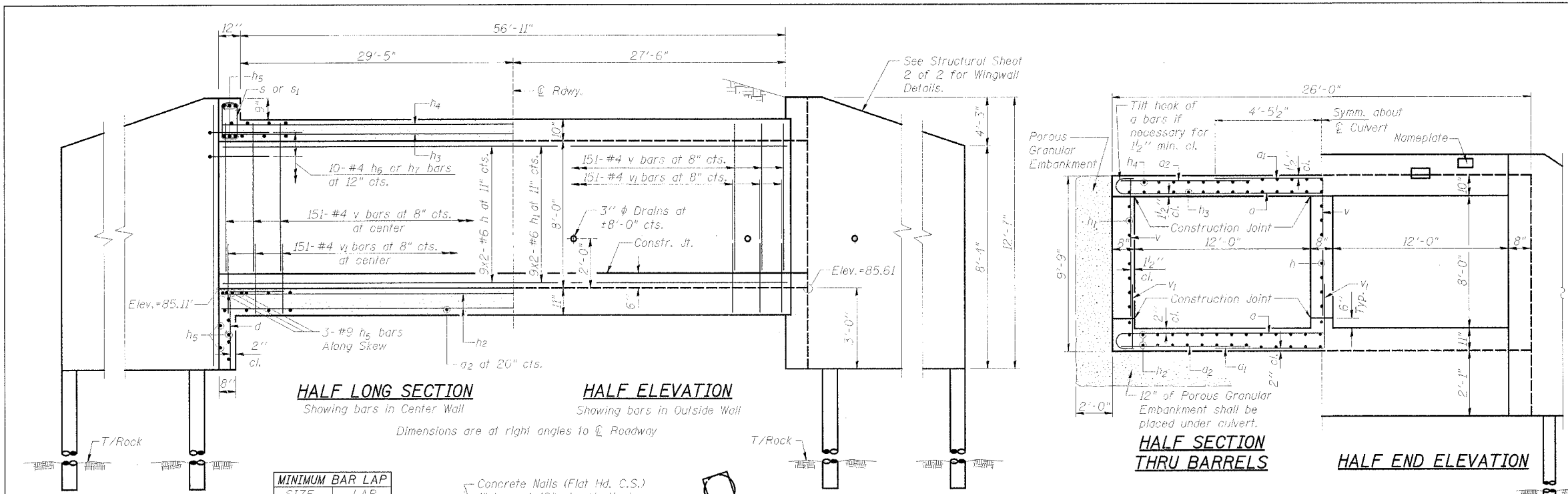


DATE	SECTION	COUNTY	DATE	SHEET
10/67	99-0019-00-BR	JO DAVIESS	9	5
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT - F.A.S. 1067	STRUCTURAL SHEET 1 OF 2	



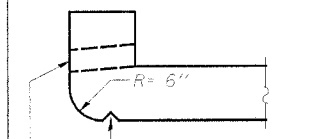
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a	202	#7	27'-5"	C
a ₁	240	#8	8'-11"	—
a ₂	240	#4	9'-9"	—
d	50	#4	4'-6"	—
h	18	#6	51'-0"	—
h ₁	36	#6	51'-0"	—
h ₂	92	#5	50'-10"	—
h ₃	54	#5	50'-10"	—
h ₄	54	#4	50'-8"	—
h ₅	24	#9	43'-8"	—
h ₆	20	#4	6'-8"	—
h ₇	20	#4	5'-9 1/2"	—
h ₈	12	#8	28'-10"	—
h ₉	12	#8	8'-7"	—
h ₁₀	24	#5	28'-10"	—
h ₁₁	16	#4	28'-6"	—
h ₁₂	24	#5	8'-7"	—
h ₁₃	16	#4	8'-7"	—
s	43	#4	4'-11"	—
s ₁	43	#4	4'-9"	—
sp	12	#3	11'-1"	—
v	453	#4	8'-0"	—
v ₁	453	#4	2'-9"	—
v ₂	8	#4	12'-3"	—
v ₃	144	#9	11'-1"	—
v ₄	36	#5	12'-3"	—
v ₅	32	#5	10'-10"	—
v ₆	32	#5	9'-5"	—
v ₇	12	#5	10'-7"	—
v ₈	12	#5	9'-2"	—
v ₉	12	#5	7'-9"	—
v ₁₀	12	#5	6'-4"	—
v ₁₁	28	#5	12'-3"	—
v ₁₂	12	#5	10'-7"	—
v ₁₃	12	#5	7'-1"	—
v ₁₄	72	#7	7'-0"	—
Concrete Box Culverts		Cu. Yds.	270.0	
Reinforcement Bars		Lbs.	51,740	
Name Plate		Each	1	
Porous Granular Embankment		Cu. Yds.	257	
Drilled Shafts in Soil		Cu. Yds.	2.5	
Drilled Shafts in Rock		Cu. Yds.	6.5	

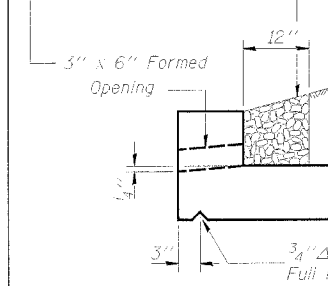
MINIMUM BAR LAP

SIZE	LAP
#4	1'-4"
#5	1'-8"
#6	2'-0"
#7	3'-5"
#8	4'-6"

REINFORCEMENT



DRAIN DETAIL



LOADING

HS20-44

DESIGN STRESSES

f_y = 60,000 p.s.i.
f'_c = 3,500 p.s.i.

NAME PLATE LETTERING
REFER TO STA. 515001

WATERWAY INFORMATION

DRAINAGE AREA	1.96 Sq. Mi.
DESIGN DISCHARGE (20 YR.)	801 CFS
EXISTING OPENING	79 Sq. Ft.*
REQUIRED OPENING	136.6 Sq. Ft.*
PROPOSED OPENING	136.6 Sq. Ft.*
CREATED HEAD (20 YR.)	< 0.5 Ft.
100 YR. DISCHARGE	1202 CFS
CREATED HEAD (100 YR.)	< 1.0 Ft.
HIGH WATER ELEV. (100 YR.)	91.82 Ft.
* UNDER 20 YR. H.W.E.	

DESIGN SPECIFICATIONS

DESIGN IN ACCORDANCE WITH 2002 AASHTO SPECIFICATIONS.

SHOWING REINFORCEMENT

PLAN

DESIGN SPECIFICATIONS

DESIGN IN ACCORDANCE WITH 2002 AASHTO SPECIFICATIONS.

SHOWING OUTLINES

PLAN

Cut a bars to fit skew Use balance of bar in opposite end.

DESIGN SPECIFICATIONS

DESIGN IN ACCORDANCE WITH 2002 AASHTO SPECIFICATIONS.



Brian K. Converse
DATE: 2/2/2007
EXPIRES 11/30/08

I CERTIFY THAT TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, THIS BRIDGE DESIGN IS STRUCTURALLY ADEQUATE FOR THE DESIGN LOADS SHOWN ON THE PLANS. THE DESIGN IS AN ECONOMICAL ONE COMPLIES WITH REQUIREMENTS OF THE CURRENT AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.

STATION 11+93.74
DOUBLE BARREL 12'-0" x 8'-0" BOX CULVERT
WILLOW ROAD OVER MUDDY PLUM RIVER
SECTION 99-0019-00-BR
JO DAVIESS COUNTY
WHA # 1222D06

*Length of Spiral = 183'-6"
No Allowance for Lap, Minimum Spiral Lap 1/2 Turns.
Place 1/2 Extra Turn @ Top & Bottom of Spiral.

Notes:
No Precast Allowed.
Class SI concrete shall be used throughout.
Exposed edges shall be beveled 3/4".
For backfill & embankment, See Special Provisions.
Reinforcement bars shall conform to the requirements of ASTM A705 Grade 60 (Illinois Modified) See Special Provisions.
2x3-#5 bars Indicates Two Lines of bars with Three Lengths Per Line.
All Structure Excavation shall be incidental to the cost of "Concrete Box Culverts."
** See Structural Sheet 2 of 2 for Details.