

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
CONSTRUCTION PLANS FOR STATE HIGHWAY

**FREEMAN BRANCH
STR. & APPRS. (S)**

CARROLL COUNTY

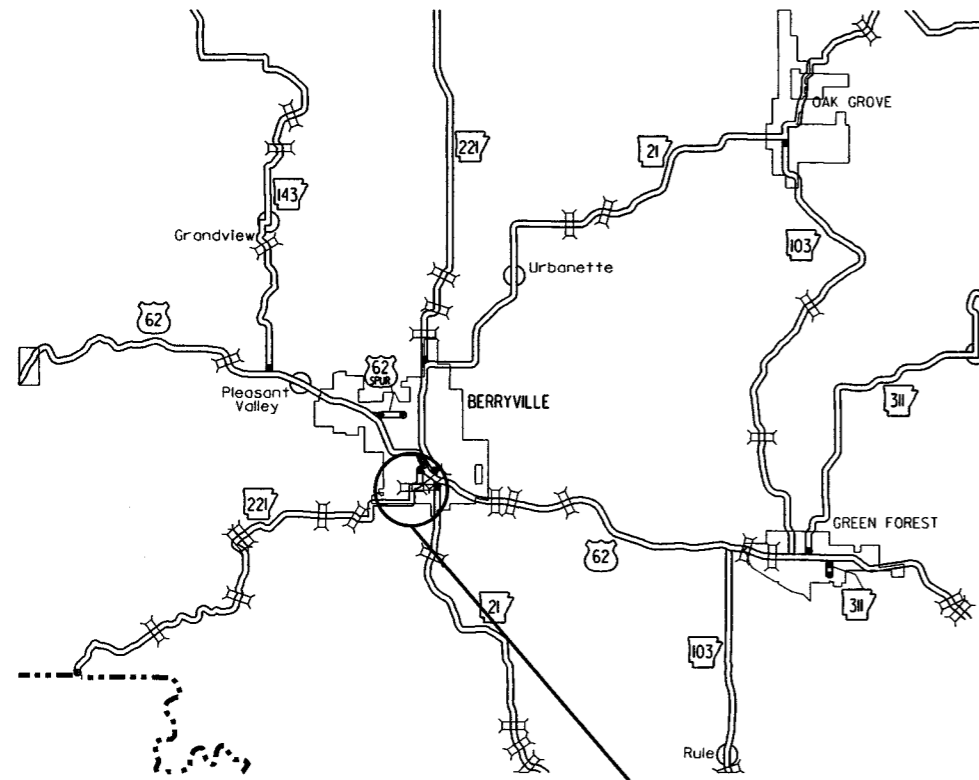
ROUTE 221 SECTION 0

JOB 090346

FEDERAL AID PROJ. NHPP-0008(32)

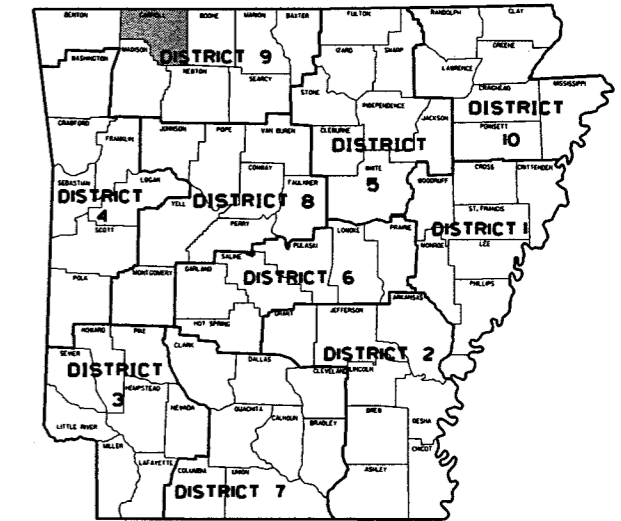
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 090346	1	56

② FREEMAN BRANCH STR. & APPRS. (S)



VICINITY MAP

PROJECT LOCATION

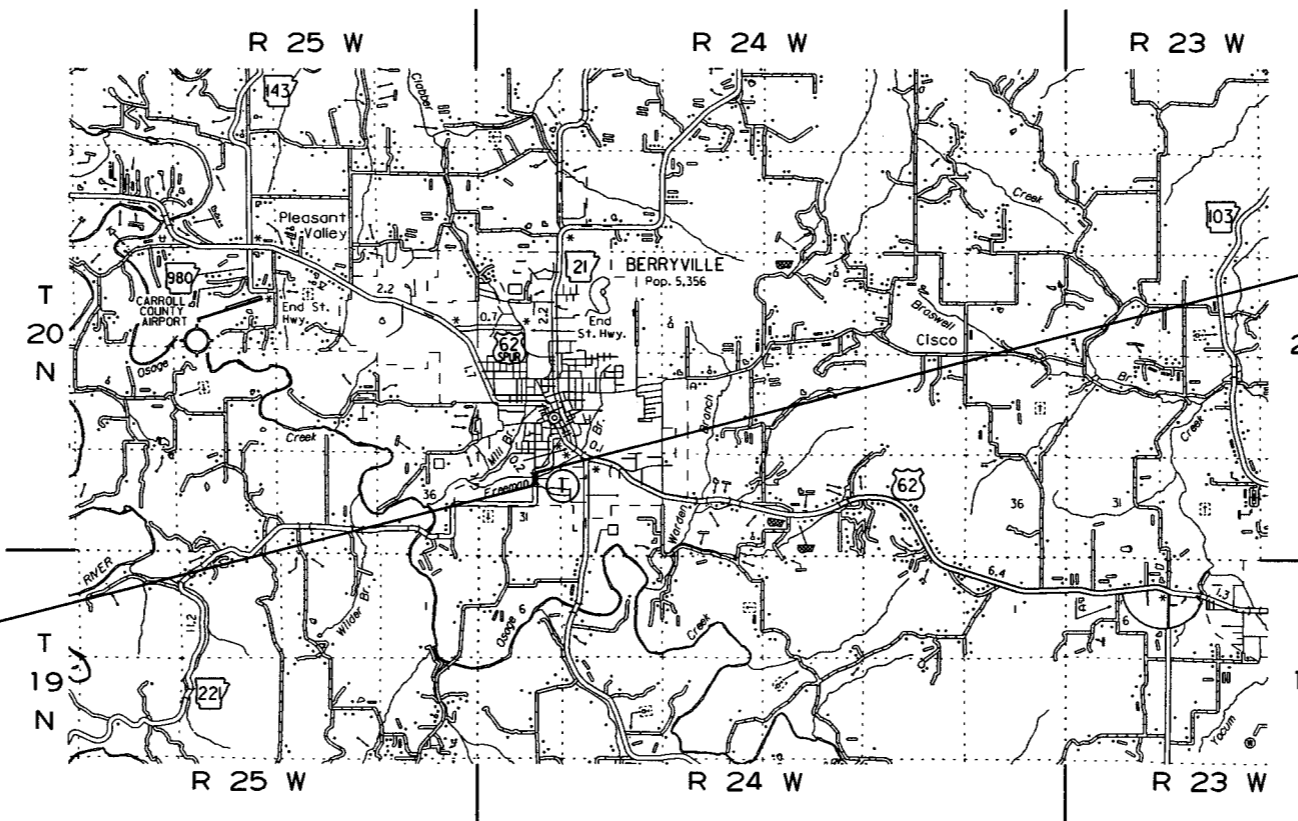


ARK. HWY. DIST. NO. 9

NOT TO SCALE

STRUCTURES OVER 20'-0" SPAN

- ① STA. 109+90 CONSTRUCT TRI. 10' X 7' X 59" R.C. BOX CULVERT (15° RT. FWD. SKEW) WITH 3:1 WINGS
025 = 1210 C.F.S. D.A. = 1107 ACRES
SPAN = 33'-11"



STA. 107+33.00
BEGIN JOB 090346
LOG MILE 9.87

STA. 110+67.66
END JOB 090346



APPROVED



7-28-16
DEPUTY DIRECTOR
AND CHIEF ENGINEER

	BEGIN PROJECT	MID-POINT OF PROJECT	END PROJECT
LONGITUDE	N 36°21'22"	N 36°21'25"	N 36°21'26"
LATITUDE	W 93°34'16"	W 94°34'16"	W 93°34'16"

	GROSS LENGTH OF PROJECT	334.66	FEET	OR	0.063	MILES
NET	" " ROADWAY	300.74	" "	" "	0.057	" "
NET	" " BRIDGES	33.92	" "	" "	0.006	" "
NET	" " PROJECT	334.66	" "	" "	0.063	" "

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				6	ARK.			
						JOB NO. 090346	2	56

2 INDEX OF SHEETS, GOV. SPECS., AND GEN. NOTES

INDEX OF SHEETS

SHEET NO.	TITLE	DRWG. NO.	DATE
1	TITLE SHEET		
2	INDEX OF SHEETS, GOVERNING SPECIFICATIONS, AND GENERAL NOTES		
3 - 4	TYPICAL SECTIONS OF IMPROVEMENT		
5 - 13	SPECIAL DETAILS		
14 - 17	TEMPORARY EROSION CONTROL DETAILS		
18 - 21	MAINTENANCE OF TRAFFIC DETAILS		
22	PERMANENT PAVEMENT MARKING DETAILS		
23 - 25	QUANTITIES		
26	SUMMARY OF QUANTITIES AND REVISIONS		
27 - 28	SURVEY CONTROL DETAILS		
29 - 30	PLAN AND PROFILE SHEETS		
31	CONCRETE DITCH PAVING	CDP-1	11-17-10
32	CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING	PCC-1	2-27-14
33	METAL PIPE CULVERT FILL HEIGHTS & BEDDING	PCM-1	2-27-14
34	PLASTIC PIPE CULVERT (HIGH DENSITY POLYETHYLENE)	PCP-1	2-27-14
35	PLASTIC PIPE CULVERT (PVC F949)	PCP-2	2-27-14
36	PAVEMENT MARKING DETAILS	PM-1	5-12-16
37	DETAILS OF PIPE UNDERDRAIN	PU-1	4-10-03
38	REINFORCED CONCRETE BOX CULVERT DETAILS	RCB-1	7-26-12
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40	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	TC-1	9-02-15
41	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	TC-2	9-02-15
42	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	TC-3	9-02-15
43	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION-TEMPORARY PRECAST BARRIER	TC-4	2-27-14
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48	TEMPORARY EROSION CONTROL DEVICES	TEC-4	7-26-12
49	WIRE FENCE TYPE C AND D	WF-4	8-22-02
50 - 56	CROSS SECTIONS		

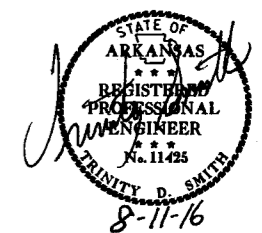
GOVERNING SPECIFICATIONS

ARKANSAS STATE HIGHWAY COMMISSION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 2014, AND THE FOLLOWING SPECIAL PROVISIONS AND SUPPLEMENTAL SPECIFICATIONS:

NUMBER	TITLE
ERRATA	ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS
FHWA-1273	REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - NOTICE TO CONTRACTORS
FHWA-1273	SUPPLEMENT - SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES (23 U.S.C. 140)
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - GOALS AND TIMETABLES
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - FEDERAL STANDARDS
FHWA-1273	SUPPLEMENT - POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS
FHWA-1273	SUPPLEMENT - WAGE RATE DETERMINATION
100-3	CONTRACTOR'S LICENSE
108-1	LIQUIDATED DAMAGES
108-2	WORK ALLOWED PRIOR TO ISSUANCE OF WORK ORDER
303-1	AGGREGATE BASE COURSE
400-1	TACK COATS
410-1	CONSTRUCTION REQUIREMENTS AND ACCEPTANCE OF ASPHALT CONCRETE PLANT MIX COURSES
604-1	RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
620-1	MULCH COVER
JOB 090346	BIDDING REQUIREMENTS AND CONDITIONS
JOB 090346	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB 090346	BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB 090346	CARGO PREFERENCE ACT REQUIREMENTS
JOB 090346	COMPACTED EMBANKMENT
JOB 090346	CONSTRUCTION IN SPECIAL FLOOD HAZARD AREAS
JOB 090346	DOCUMENTATION OF PAYMENTS MADE TO DISADVANTAGED BUSINESS ENTERPRISES
JOB 090346	ISSUANCE OF PROPOSALS
JOB 090346	MANDATORY ELECTRONIC CONTRACT
JOB 090346	MANDATORY ELECTRONIC DOCUMENT SUBMITTAL
JOB 090346	OFF-SITE RESTRAINING CONDITIONS FOR BATS
JOB 090346	SHORING FOR CULVERTS
JOB 090346	SOIL STABILIZATION
JOB 090346	SPECIAL CLEARING REQUIREMENTS
JOB 090346	STORM WATER POLLUTION PREVENTION PLAN
JOB 090346	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB 090346	UTILITY ADJUSTMENTS
JOB 090346	WARM MIX ASPHALT
JOB 090346	WELLHEAD PROTECTION

GENERAL NOTES

- GRADE LINE DENOTES FINISHED GRADE WHERE SHOWN ON PLANS.
- ALL PIPE LINES, POWER, TELEPHONE, AND TELEGRAPH LINES TO BE MOVED OR LOWERED BY THE RESPECTIVE OWNERS AS PER AGREEMENT WITH SUCH OWNERS.
- ANY EQUIPMENT OR APPURTENANCE THAT INTERFERES WITH THE PROPOSED CONSTRUCTION AND WHICH MAY BE THE PROPERTY OF UTILITY SERVICE ORGANIZATIONS SHALL BE MOVED BY THE OWNERS UNLESS OTHERWISE PROVIDED.
- ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE STANDARD SPECIFICATIONS.
- ALL TREES THAT DO NOT DIRECTLY INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE SPARED AS DIRECTED BY THE ENGINEER. CARE AND DISCRETION SHALL BE USED TO INSURE THAT ALL TREES NOT TO BE REMOVED SHALL BE HARMED AS LITTLE AS POSSIBLE DURING THE CONSTRUCTION OPERATIONS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A FENCE TO CONTROL LIVESTOCK IN AREAS WHERE PASTURES ARE SEVERED. WIRE FENCE MAY BE CONSTRUCTED INITIALLY, OR IN LIEU THEREOF, THE CONTRACTOR AT HIS OWN EXPENSE, MAY ELECT TO PROVIDE TEMPORARY FENCING SUITABLE TO CONTAIN LIVESTOCK.
- THIS PROJECT IS COVERED UNDER A SECTION 404 NATIONWIDE 14 PERMIT. REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS, EDITION OF 2014, FOR PERMIT REQUIREMENTS.
- ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENTS REMOVED SHALL BE PAID FOR UNDER THE ITEM NO. 210 - UNCLASSIFIED EXCAVATION.
- THE EXISTING ASPHALT PAVEMENT TO BE REMOVED FROM THE REMAINING PAVEMENT SHALL BE SEPARATED BY SAWING ALONG A NEAT LINE. AFTER SAWING, THE PAVEMENT TO BE REMOVED SHALL BE CAREFULLY REMOVED IN A MANNER THAT WILL NOT DAMAGE THE PAVEMENT THAT IS TO REMAIN. ANY DAMAGE OF THE ASPHALT PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

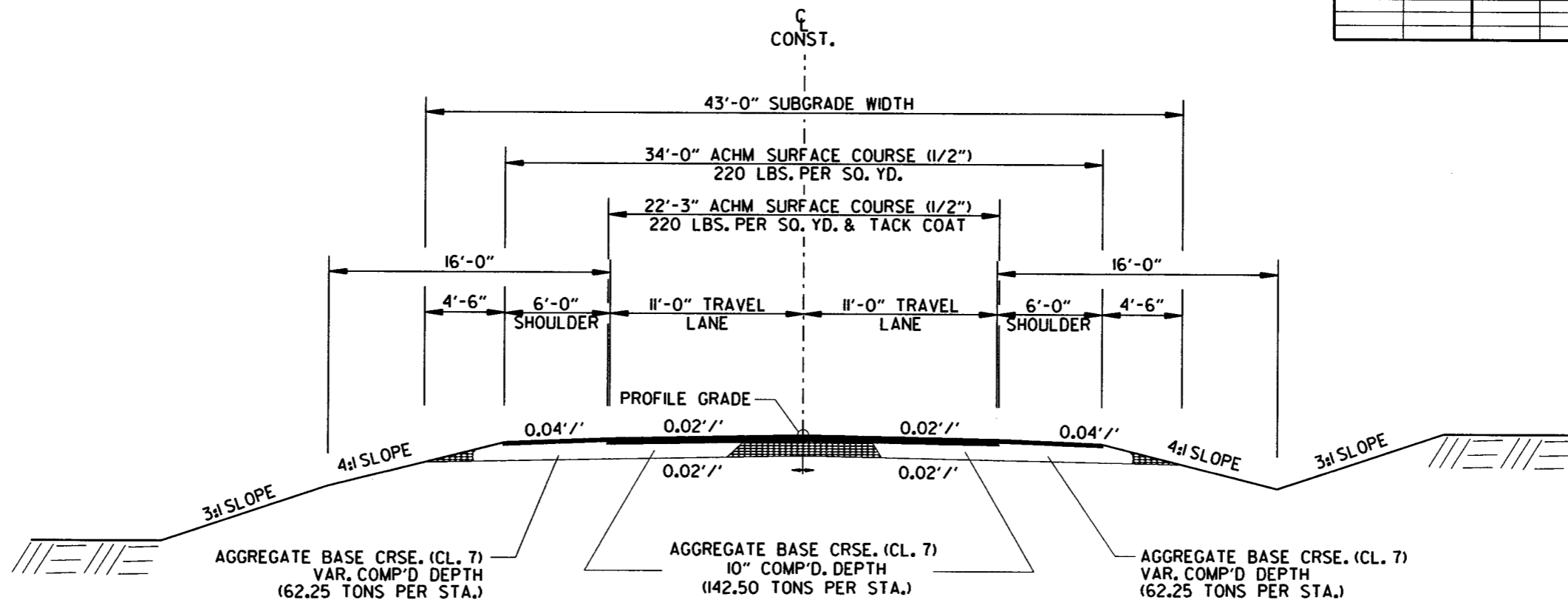
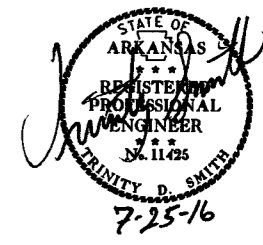


8/11/2016

R090346.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 090346	3	56

② TYPICAL SECTIONS OF IMPROVEMENT



HWY. 221

NOTES:

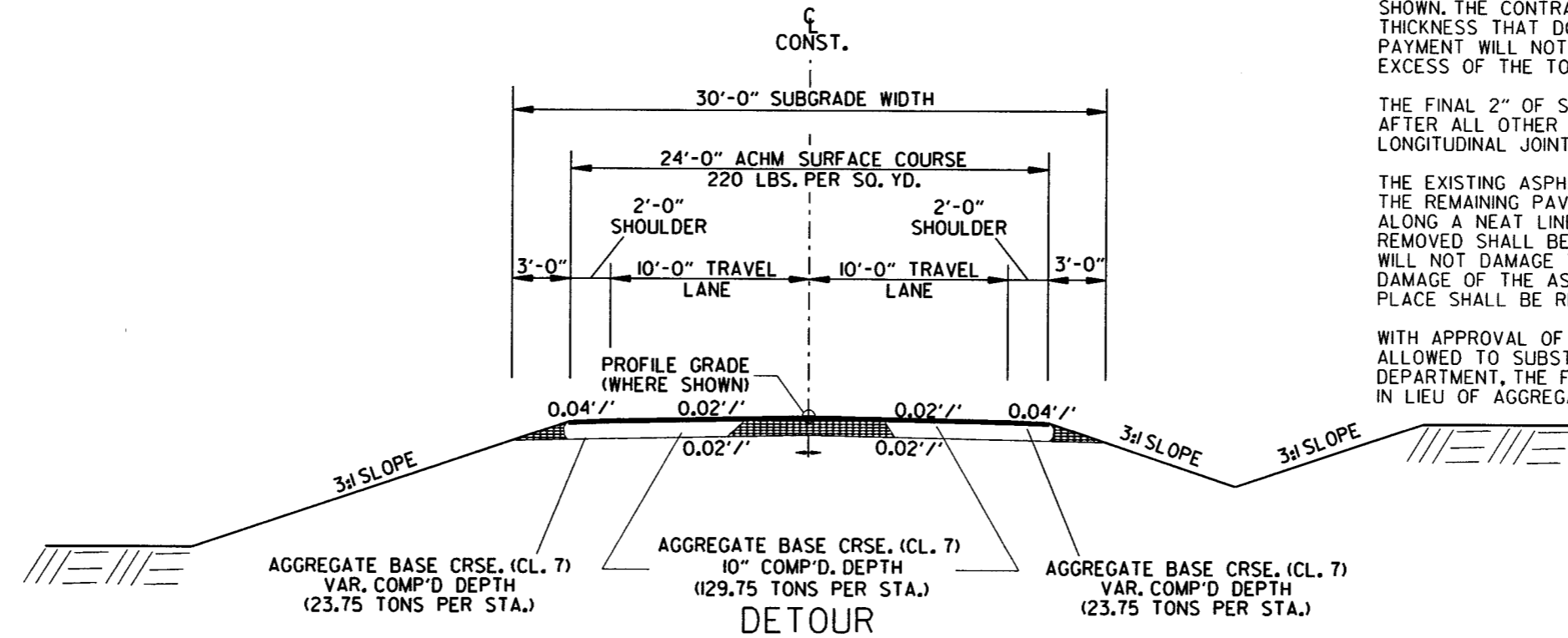
REFER TO CROSS SECTIONS FOR DEVIATION FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.

THE THICKNESS OF AGGREGATE BASE COURSE SHALL BE WITHIN PLUS OR MINUS ONE INCH OF THE PLAN THICKNESS SHOWN. THE CONTRACTOR WILL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.

THE FINAL 2" OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT LANE LINES.

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WITH APPROVAL OF THE ENGINEER, THE CONTRACTOR WILL BE ALLOWED TO SUBSTITUTE, AT NO ADDITIONAL COST TO THE DEPARTMENT, THE FIRST LIFT OF ACHM SURFACE COURSE (1/2") IN LIEU OF AGGREGATE BASE COURSE ON THE SHOULDERS.



DETOUR

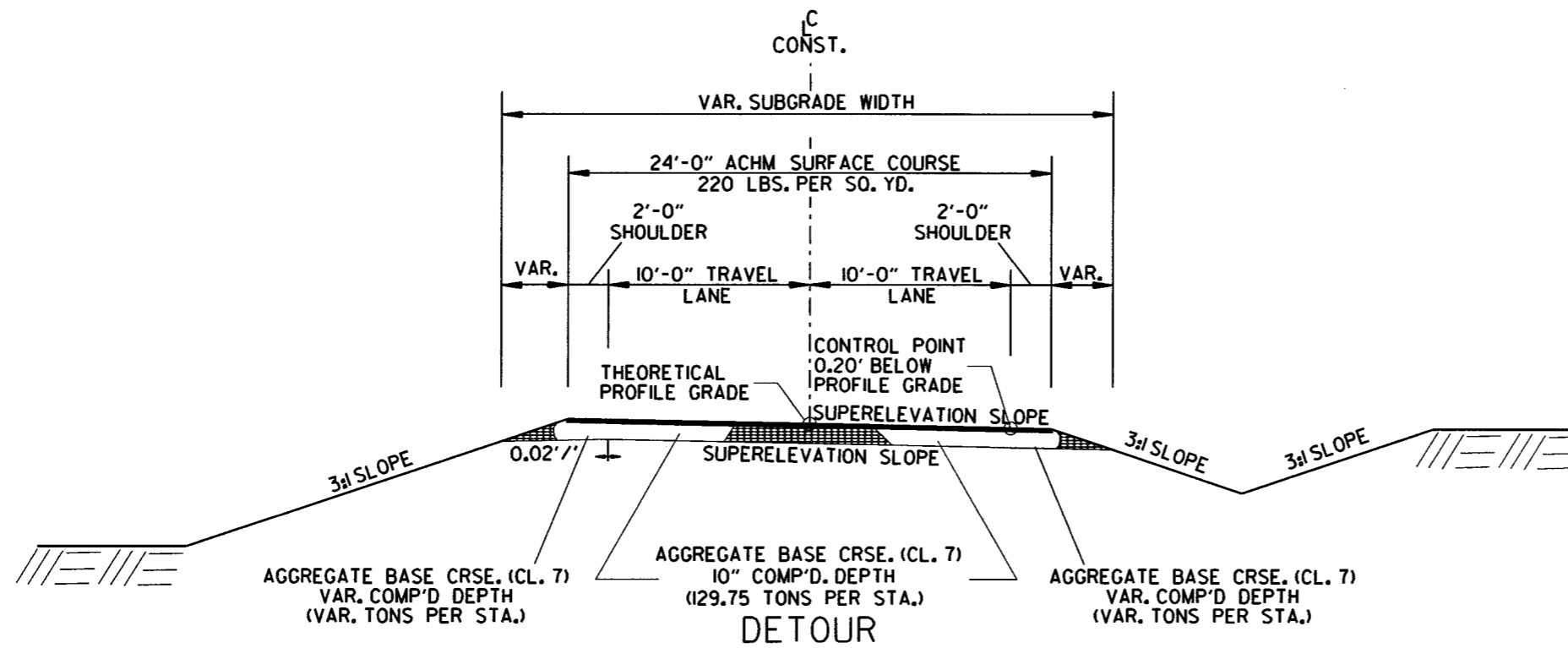
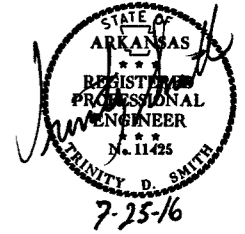
7/21/2016

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TYPICAL SECTIONS OF IMPROVEMENT

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. DIST. NO.	STATE	FED. PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 090346	4	56

② TYPICAL SECTIONS OF IMPROVEMENT



NOTES:

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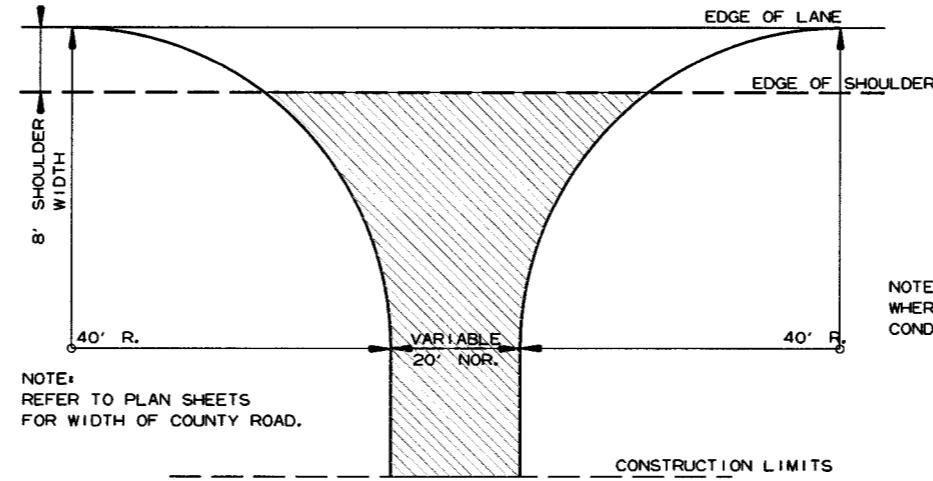
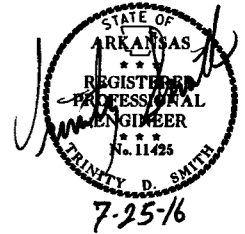
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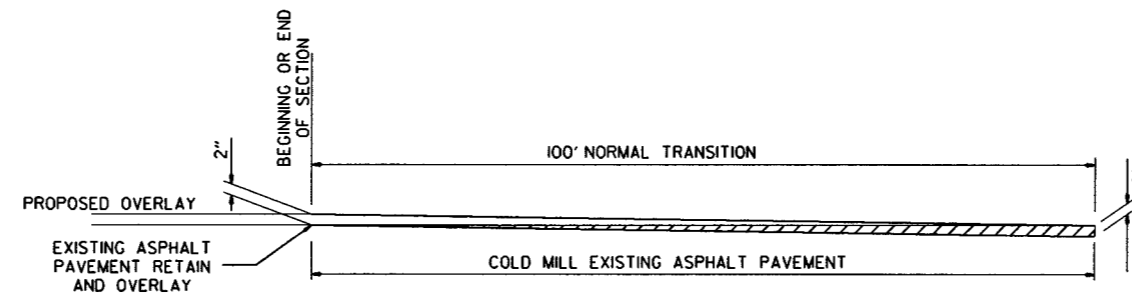
2 SPECIAL DETAILS



NOTE: TURNOUTS SHALL BE MODIFIED WHERE NECESSARY TO MEET LOCAL CONDITIONS AS DIRECTED BY THE ENGINEER.

 ACHM SURFACE COURSE (1/2") (220 LBS. PER SQ. YD.) AND AGGREGATE BASE COURSE (CLASS 7) 7" COMP. DEPTH

DETAIL FOR COUNTY ROAD TURNOUTS
OPEN SHOULDER SECTION



DETAIL FOR TRANSITIONS

MID-SECTION

R.C. BOX SECTION		DESIGN FILL DEPTH (FT.)		CLEAR SPAN (FT.)		CLEAR HEIGHT (FT.)		TOP SLAB THK.		BOTTOM SLAB THK.		SIDE WALL THK.		INTERIOR WALL THK.		OVER ALL WIDTH		OVER ALL HEIGHT		SECTION LENGTH (FT.)		TOP SLAB REINFORCING STEEL		BOTTOM SLAB REINFORCING STEEL		SIDE WALL REINFORCING STEEL		INTERIOR WALL REINFORCING STEEL		TOP SLAB DISTRIBUTION REINF. STEEL		BOTTOM SLAB DISTRIBUTION REINF. STEEL		SIDE WALL DISTRIBUTION REINF. STEEL		INTERIOR WALL DISTRIBUTION REINF. STEEL							
D	S	H	T	B	C	W	OW	OH	SL	a	Bent b	c	SPACING	NO. REQ'D	d	Bent b1	f	SPACING	NO. REQ'D	SIZE	SPACING	NO. REQ'D	LENGTH	SIZE	SPACING	NO. REQ'D	LENGTH	SIZE	SPACING	NO. REQ'D	LENGTH	SIZE	SPACING	NO. REQ'D	LENGTH	SIZE	SPACING	NO. REQ'D	LENGTH				
A	5	5	4	8.0	9	6.0	8	11'-8"	5'-5"	54.83	4	11'-4"	6	11'-6"	4	11'-4"	16	41	4	11'-4"	4	11'-6"	4	11'-4"	18	36	4	8.5	154	5'-1"	4	12	108	5'-1"	4	12	23	4	12	8	4	12	8

CLASS "S" CONCRETE	REINFORCING STEEL (GR. 60)	ADTL. REINF. PER LONG LAP LOCATION (S)
CU. YDS. PER LIN. FT.	LBS. PER LIN. FT.	LBS.
0.86	97	72

SHEET 1 OF 2
DETAILS OF R.C. BOX CULVERT
DOUBLE BARREL BOX CULVERT
STA. 107+52
SPECIAL DETAILS



INLET SLOPE SECTION(S)

R.C. BOX SECTION		DESIGN FILL DEPTH (FT.)		CLEAR SPAN (FT.)		CLEAR HEIGHT (FT.)		TOP SLAB THK.		BOTTOM SLAB THK.		SIDE WALL THK.		INTERIOR WALL THK.		OVER ALL WIDTH		OVER ALL HEIGHT		SECTION LENGTH (FT.)		TOP SLAB REINFORCING STEEL		BOTTOM SLAB REINFORCING STEEL		SIDE WALL REINFORCING STEEL		INTERIOR WALL REINFORCING STEEL		TOP SLAB DISTRIBUTION REINF. STEEL		BOTTOM SLAB DISTRIBUTION REINF. STEEL		SIDE WALL DISTRIBUTION REINF. STEEL		INTERIOR WALL DISTRIBUTION REINF. STEEL			
D	S	H	T	B	C	W	OW	OH	SL	a	Bent b	c	SPACING	NO. REQ'D	d	Bent b1	f	SPACING	NO. REQ'D	SIZE	SPACING	NO. REQ'D	LENGTH	SIZE	SPACING	NO. REQ'D	LENGTH	SIZE	SPACING	NO. REQ'D	LENGTH	SIZE	SPACING	NO. REQ'D	LENGTH	SIZE	SPACING	NO. REQ'D	LENGTH

CLASS "S" CONCRETE	REINFORCING STEEL (GR. 60)	ADTL. REINF. PER LONG LAP LOCATION	ADDITIONAL CONCRETE FOR HDWL	TOTAL ADDITIONAL REINF. FOR HDWL
CU. YDS. PER LIN. FT.	LBS. PER LIN. FT.	LBS.	CU. YDS.	LBS.

Bar Lap - Add one long lap for each Slope Section, and one additional long lap for Slope Sections greater than 40'-0" in length.

Design Fill Depth	Range of Actual Fill Depth
2	0.0 ft - 2.0 ft
5	>2.0 ft - 5.0 ft
10	>5.0 ft - 10.0 ft
15	>10.0 ft - 15.0 ft
20	>15.0 ft - 20.0 ft
25	>20.0 ft - 25.0 ft
30	>25.0 ft - 30.0 ft
35	>30.0 ft - 35.0 ft
40	>35.0 ft - 40.0 ft

Data shown for Mid-Section, Slope Section(s), and Skewed End Section is based on the design fill depth shown in the table, see PLAN AND PROFILE SHEETS for actual fill depth.

INLET SKEWED END SECTION

SKEW (DEGREE)	SLOPE	FILL DEPTH (FT.)	CLEAR SPAN (FT.)	CLEAR HEIGHT (FT.)	SECTION LENGTH	TOP SLAB THK.	HDWL THK.	BOTTOM SLAB THK.	SIDE WALL THK.	INTERIOR WALL THK.	OVER ALL WIDTH	OVER ALL HEIGHT	TOP SLAB REINFORCING STEEL				BOTTOM SLAB REINFORCING STEEL				SIDE WALL REINFORCING STEEL		INTERIOR WALL REINFORCING STEEL		TOP SLAB DISTRIBUTION REINFORCING STEEL		BOTTOM SLAB DISTRIBUTION REINFORCING STEEL		SIDE WALL DISTRIBUTION REINFORCING STEEL		INTERIOR WALL DISTRIBUTION REINFORCING STEEL										
													SIZE	SPACING	LENGTHS VARY	NO. REQ'D	SIZE	SPACING	LENGTHS VARY	NO. REQ'D	SIZE	SPACING	NO. REQ'D	LENGTH	SIZE	SPACING	NO. REQ'D	LENGTH	SIZE	SPACING	NO. REQ'D	LENGTH	SIZE	SPACING	NO. REQ'D	LENGTH	SIZE	SPACING	NO. REQ'D	LENGTH	
15	3:1	5	5	4	3'-7"	8	3	9	6	8	11'-8"	5'-5"	4	6	11'-4"	3	4	5	4	9	4	11	4	8.5	11	4	12	8	5'-1"	4	12	23	4	12	23	4	12	4	12	8	3'-5"

CLASS "S" CONCRETE (includes HDWL)	REINFORCING STEEL (GR. 60) (includes HDWL)
CU. YDS.	LBS.
3.30	489

Any Bar Lap Required for the Skewed End Section shall be considered subsidiary to the item "Reinforcing Steel - Roadway (Gr. 60)."

INLET WINGWALL TABLE

OVER ALL WIDTH	CLEAR HEIGHT	FOOTING THK.	WING WALL THK.	BOX SKEW (DEG.)	SLOPE	HDWL LENGTH	HEEL	WALL HEIGHT		WINGWALL ANGLE (DEGREE)		FOOTING WIDTH AT WALL END	WIDTH OF WING FOOTINGS AT HDWL		FOOTING DIMENSION PARALLEL WITH HDWL		LENGTH OF WINGWALLS		LENGTH OF FOOTING HEEL		CLASS "S" CONCRETE (Includes apron)	REINFORCING STEEL (includes apron and laps if required)
								AT HDWL	AT WING END	WING A	WING B		WING A	WING B	WING A	WING B	WING A	WING B	WING A	WING B		
OW	H	WB	CW	SK	SL	K	HL	WH1	WH2	AP1	AF2	WE	WF1	WF2	G1	G2	W1	W2	W3	W4	CU.YD	LBS.
11'-8"	4'-0"	0'-9"	0'-8"	15	3:1	11'-0 1/2"	1'-0"	4'-10"	1'-4"	15	45	2'-2"	2'-4 3/4"	2'-6 7/8"	0'-5 7/8"	0'-3 1/4"	10'-6"	14'-6"	12'-4 5/8"	16'-4 5/8"	4.91	464

MID-SECTION BAR LAP TABLE

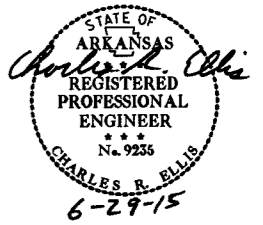
# of Long Laps Req'd.	SL = Section Length
0	< 40.0 ft
1	>40.0 ft - 78.0 ft
2	>78.0 ft - 116.0 ft
3	>116.0 ft - 154.0 ft
4	>154.0 ft - 192.0 ft
5	>192.0 ft - 230.0 ft
6	>230.0 ft - 268.0 ft
7	>268.0 ft - 306.0 ft
8	>306.0 ft - 344.0 ft

Min. Bar Lap Length	Bar Dia.
#4	1'-9"
#5	2'-2"
#6	2'-7"
#7	3'-6"
#8	4'-7"

Bar Dia.	Bar Dia.
#4	3"
#5	3 3/4"
#6	4 1/2"
#7	5 1/4"
#8	6"

This drawing to be used in conjunction with SHEET 1 OF 4, "GENERAL DETAILS OF R.C. BOX CULVERT", "GENERAL NOTES & LONGITUDINAL SECTION LENGTH SCHEDULE", SHEET 3 OF 4, "GENERAL DETAILS OF R.C. BOX CULVERT", "DETAILS OF MULTI-BARREL R.C. BOX CULVERT", SHEET 4 OF 4, "GENERAL DETAILS OF R.C. BOX CULVERT", "DETAILS OF WINGWALLS", and STANDARD DRAWING RCB-2. For additional information and outlet sections, see Sheet 2 of 2.

TABULAR DATA BY: A.M.S. DATE: 6/23/15
 CHECKED BY: EJS DATE: 6/23/15



OUTLET SLOPE SECTIONS

R.C. BOX SECTION	DESIGN FILL DEPTH (FT.)	CLEAR SPAN (FT.)	CLEAR HEIGHT (FT.)	TOP SLAB THK.	BOTTOM SLAB THK.	SIDE WALL THK.	INTERIOR WALL THK.	OVER ALL WIDTH	OVER ALL HEIGHT	SECTION LENGTH (FT.)	TOP SLAB REINFORCING STEEL				BOTTOM SLAB REINFORCING STEEL				SIDE WALL REINFORCING STEEL "f0"		INTERIOR WALL REINFORCING STEEL "f1"		TOP SLAB DISTRIBUTION REINF. STEEL "g"		BOTTOM SLAB DISTRIBUTION REINF. STEEL "e"		SIDE WALL DISTRIBUTION REINF. STEEL "d1"		INTERIOR WALL DISTRIBUTION REINF. STEEL "d2"					
											LENGTH = OW - 4" + BENDS								LENGTH = OW - 4" + BENDS				LENGTH = OH - 4"		LENGTH = OH - 4"		LENGTH = SL		LENGTH = SL		LENGTH = SL		LENGTH = SL	
											a	Bent b	c	NO. REQ'D	d	Bent b1	f	NO. REQ'D	SIZE	SPACING	NO. REQ'D	LENGTH	SIZE	SPACING	NO. REQ'D	LENGTH	SIZE	SPACING	NO. REQ'D	LENGTH	SIZE	SPACING	NO. REQ'D	LENGTH
HW	ADDITIONAL REINF. FOR HDWL		"h" BARS																															
HW	LBS.		SIZE	Y	LENGTH	NO. REQ'D																												

CLASS "S" CONCRETE	REINFORCING STEEL (GR. 60)	ADTL. REINF. PER LONG LAP LOCATION	ADDITIONAL CONCRETE FOR HDWL	TOTAL ADDITIONAL REINF. FOR HDWL
CU. YDS. PER LIN. FT.	LBS. PER LIN. FT.	LBS.	CU. YDS.	LBS.

② Bar Lap - Add one long lap for each Slope Section, and one additional long lap for Slope Sections greater than 40'-0" in length.

OUTLET SKEWED END SECTION

SK	SLOPE	FILL DEPTH (FT.)	CLEAR SPAN (FT.)	CLEAR HEIGHT (FT.)	SECTION LENGTH	TOP SLAB THK.	HDWL THK.	BOTTOM SLAB THK.	SIDE WALL THK.	INTERIOR WALL THK.	OVER ALL WIDTH	OVER ALL HEIGHT	TOP SLAB REINFORCING STEEL				BOTTOM SLAB REINFORCING STEEL				SIDE WALL REINFORCING STEEL		INTERIOR WALL REINFORCING STEEL		TOP SLAB DISTRIBUTION REINFORCING STEEL		BOTTOM SLAB DISTRIBUTION REINFORCING STEEL		SIDE WALL DISTRIBUTION REINFORCING STEEL		INTERIOR WALL DISTRIBUTION REINFORCING STEEL												
													a				c				f0		f1		g		e		d1		d2												
													SIZE	SPACING	LENGTHS VARY	NO. REQ'D	SIZE	SPACING	LENGTHS VARY	NO. REQ'D	SIZE	SPACING	NO. REQ'D	LENGTH	SIZE	SPACING	NO. REQ'D	LENGTH	SIZE	SPACING	NO. REQ'D	LENGTH	SIZE	SPACING	NO. REQ'D	LENGTH	SIZE	SPACING	NO. REQ'D	LENGTH	SIZE	SPACING	NO. REQ'D
15	3:1	5	5	4	3'-7"	8	3	9	6	8	11'-8"	5'-5"	4	6	3	4	5	4	9	2	4	11	2	4	8.5	11	5'-1"	4	12	8	5'-1"	4	12	23	4	12	23	4	12	4	12	8	3'-5"
			k1		k2		h																																				
			SIZE	LENGTH	NO. REQ'D	SIZE	LENGTH	NO. REQ'D	SIZE	LENGTH	Y	NO. REQ'D																															
			4	11'-5"	6	4	11'-5"	6	4	1'-7"	0'-7"	14																															

CLASS "S" CONCRETE (includes HDWL)	REINFORCING STEEL (GR. 60) (includes HDWL)
CU. YDS.	LBS.
3.30	489

OUTLET WINGWALL TABLE

OVER ALL WIDTH	CLEAR HEIGHT	FOOTING THK.	WING WALL THK.	BOX SKEW (DEG.)	SLOPE	HDWL LENGTH	HEEL	WALL HEIGHT		WINGWALL ANGLE (DEGREE)		FOOTING WIDTH AT WALL END	WIDTH OF WING FOOTINGS AT HDWL		FOOTING DIMENSION PARALLEL WITH HDWL		LENGTH OF WINGWALLS		LENGTH OF FOOTING HEEL		CLASS "S" CONCRETE (Includes apron)	REINFORCING STEEL (Includes apron and laps if required)
								AT HDWL	AT WING END	WING A	WING B		WING A	WING B	WING A	WING B	WING A	WING B				
								WH1	WH2	AF1	AF2		WF1	WF2	G1	G2	W1	W2	W3	W4		
11'-8"	4'-0"	0'-9"	0'-8"	15	3:1	11'-0 1/2"	1'-0"	4'-10"	1'-4"	15	45	2'-2"	2'-4 3/4"	2'-6 7/8"	0'-5 7/8"	0'-3 1/4"	10'-6"	14'-6"	12'-4 5/8"	16'-4 5/8"	5.46	464
OW	H	WB	CW	SK	SL	K	HL	WH1	WH2	AF1	AF2	WE	WF1	WF2	G1	G2	W1	W2	W3	W4	CU.YD	LBS.
11'-8"	4'-0"	0'-9"	0'-8"	15	3:1	11'-0 1/2"	1'-0"	4'-10"	1'-4"	15	45	2'-2"	2'-4 3/4"	2'-6 7/8"	0'-5 7/8"	0'-3 1/4"	10'-6"	14'-6"	12'-4 5/8"	16'-4 5/8"	5.46	464

Min. Bar Lap Length

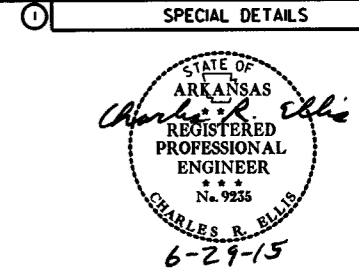
#4	1'-9"
#5	2'-2"
#6	2'-7"
#7	3'-6"
#8	4'-7"

Bar Fin Dia. Table

#4	3"
#5	3 3/4"
#6	4 1/2"
#7	5 1/4"
#8	6"

① Any Bar Lap Required for the Skewed End Section shall be considered subsidiary to the Item "Reinforcing Steel - Roadway (Gr. 60)."

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AD PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		7	56
				JOB NO.	090346		7 56	



TABULAR DATA BY: A.M.S. DATE: 6/23/15
 CHECKED BY: EOR DATE: 6/23/15

MID-SECTION

Table with columns: R.C. BOX SECTION, DESIGN FILL DEPTH (FT.), CLEAR SPAN (FT.), CLEAR HEIGHT (FT.), TOP SLAB THK., BOTTOM SLAB THK., SIDE WALL THK., INTERIOR WALL THK., OVER ALL WIDTH, OVER ALL HEIGHT, SECTION LENGTH (FT.), TOP SLAB REINFORCING STEEL, BOTTOM SLAB REINFORCING STEEL, SIDE WALL REINFORCING STEEL, INTERIOR WALL REINFORCING STEEL, TOP SLAB DISTRIBUTION REINFORCING STEEL, BOTTOM SLAB DISTRIBUTION REINFORCING STEEL, SIDE WALL DISTRIBUTION REINFORCING STEEL, INTERIOR WALL DISTRIBUTION REINFORCING STEEL.

Table with columns: CLASS 'S' CONCRETE, REINFORCING STEEL (GR. 60), ADTL. REINF. PER LONG. LAP PER LONG. LAP LOCATION (S), CU. YDS. PER LIN. FT., LBS. PER LIN. FT., LBS., TOTAL ADTL. REINF. FOR HDWL.

SHEET 1 OF 2
DETAILS OF R.C. BOX CULVERT
TRIPLE BARREL BOX CULVERT
STA. 109+90
SPECIAL DETAILS

Data shown for Mid-Section, Slope Sections, and Skewed End Section is based on the design fill depth shown in the table, see PLAN AND PROFILE SHEETS for actual fill depth.

INLET SLOPE SECTIONS(S)

Table with columns: R.C. BOX SECTION, DESIGN FILL DEPTH (FT.), CLEAR SPAN (FT.), CLEAR HEIGHT (FT.), TOP SLAB THK., BOTTOM SLAB THK., SIDE WALL THK., INTERIOR WALL THK., OVER ALL WIDTH, OVER ALL HEIGHT, SECTION LENGTH (FT.), BOTTOM SLAB REINFORCING STEEL, SIDE WALL REINFORCING STEEL, INTERIOR WALL REINFORCING STEEL, TOP SLAB DISTRIBUTION REINFORCING STEEL, BOTTOM SLAB DISTRIBUTION REINFORCING STEEL, SIDE WALL DISTRIBUTION REINFORCING STEEL, INTERIOR WALL DISTRIBUTION REINFORCING STEEL.

Table with columns: CLASS 'S' CONCRETE, REINFORCING STEEL (GR. 60), ADTL. REINF. PER LONG. LAP PER LONG. LAP LOCATION, ADDITIONAL CONCRETE FOR HDWL, TOTAL ADTL. REINF. FOR HDWL.

Bar Lap - Add one long.lap for each Slope Section, and one additional long.lap for Slope Sections greater than 40'-0" in length.

Table with columns: Design Fill Depth, Range of Actual Fill Depth.

INLET SKEWED END SECTION

Table with columns: SKEW (DEGREE), SLOPE, DESIGN FILL DEPTH (FT.), CLEAR SPAN (FT.), CLEAR HEIGHT (FT.), SECTION LENGTH, TOP SLAB THK., HDWL THK., BOTTOM SLAB THK., SIDE WALL THK., INTERIOR WALL THK., OVER ALL WIDTH, OVER ALL HEIGHT, TOP SLAB REINFORCING STEEL, BOTTOM SLAB REINFORCING STEEL, SIDE WALL REINFORCING STEEL, INTERIOR WALL REINFORCING STEEL, TOP SLAB DISTRIBUTION REINFORCING STEEL, BOTTOM SLAB DISTRIBUTION REINFORCING STEEL, SIDE WALL DISTRIBUTION REINFORCING STEEL, INTERIOR WALL DISTRIBUTION REINFORCING STEEL.

Table with columns: CLASS 'S' CONCRETE (includes HDWL), REINFORCING STEEL (GR. 60) (includes HDWL), CU. YDS., LBS.

Any Bar Lap Required for the Skewed End Section shall be considered subsidiary to the item "Reinforcing Steel - Roadway (Gr. 60)."

INLET WINGWALL TABLE

Table with columns: OVER ALL WIDTH, CLEAR HEIGHT, FOOTING THK., WING WALL THK., BOX SKEW (DEG.), SLOPE, HDWL LENGTH, HEEL, WALL HEIGHT AT HDWL, WALL HEIGHT AT WING END, WINGWALL ANGLE (DEGREE), WINGWALL WIDTH AT WALL END, WIDTH OF WING FOOTINGS AT HDWL, FOOTING DIMENSION PARALLEL WITH HDWL, LENGTH OF WINGWALLS, LENGTH OF FOOTING HEEL, CLASS 'S' CONCRETE, REINFORCING STEEL.

MID-SECTION BAR LAP TABLE

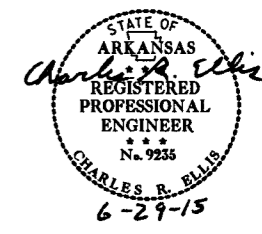
Table with columns: # of Long. Laps Req'd., Section Length, REINF. STEEL QTY. PER WING (LBS).

Table with columns: Min. Bar Lap Length, Bar Pin Dia. Table.

This drawing to be used in conjunction with SHEET 1 OF 4, "GENERAL DETAILS OF R.C. BOX CULVERT", "GENERAL NOTES & LONGITUDINAL SECTION LENGTH SCHEDULE", SHEET 3 OF 4, "GENERAL DETAILS OF R.C. BOX CULVERT", "DETAILS OF MULTI-BARREL R.C. BOX CULVERT", SHEET 4 OF 4, "GENERAL DETAILS OF R.C. BOX CULVERT", "DETAILS OF WINGWALLS", and STANDARD DRAWING RCB-2.

For additional information and outlet sections, see Sheet 2 of 2.

Table with columns: DATE REVISED, DATE FILMED, DATE REVISED, DATE FILMED, FEDERAL PROJ. NO., STATE, FED. AID PROJ. NO., SHEET NO., TOTAL SHEETS.



TABULAR DATA BY: A.M.S. DATE: 6/23/15
CHECKED BY: EOR DATE: 6/23/15

OUTLET WINGWALL TABLE

OVER ALL WIDTH		CLEAR HEIGHT	FOOTING THK.	WING WALL THK.	BOX SKEW (DEG.)	SLOPE	HDWL LENGTH	HEEL	WALL HEIGHT		WING WALL ANGLE (DEGREE)		FOOTING WIDTH AT WALL END		WIDTH OF WING FOOTINGS AT HDWL		FOOTING DIMENSION PARALLEL WITH HDWL		LENGTH OF WINGWALLS		LENGTH OF FOOTING HEEL		CLASS "S" CONCRETE (Includes apron)	REINFORCING STEEL (Includes apron and laps if required)
OW	H	WB	CW	SK	SL	K	HL	WH1	WH2	AF1	AF2	WE	WF1	WF2	G1	G2	W1	W2	W3	W4	CU.YD	LBS.		
32'-9"	7'-0"	0'-9"	0'-8"	15	3:1	32'-5 1/4"	2'-0"	7'-10"	2'-4"	15	45	3'-2"	3'-7 3/4"	4'-1"	0'-8 7/8"	1'-0"	17'-0"	23'-0"	20'-2 3/8"	26'-2 3/8"	13.37	1057		

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 090346							9	56



TABULAR DATA BY: A.M.S. DATE: 6/23/15
 CHECKED BY: FOR DATE: 6/23/15

#	Length
#4	1'-9"
#5	2'-2"
#6	2'-7"
#7	3'-6"
#8	4'-7"

#	Pin Dia.
#4	3"
#5	3 3/4"
#6	4 1/2"
#7	5 1/4"
#8	6"

Any Bar Lap Required for the Skewed End Section shall be considered subsidiary to the item "Reinforcing Steel - Roadway (Gr. 60)."

OUTLET SKEWED END SECTION

SKEW (DEGREE)	SLOPE	DESIGN FILL DEPTH (FT.)	CLEAR SPAN (FT.)	CLEAR HEIGHT (FT.)	SECTION LENGTH	TOP SLAB THK.	HDWL THK.	BOTTOM SLAB THK.	SIDE WALL THK.	INTERIOR WALL THK.	OVER ALL WIDTH	OVER ALL HEIGHT	TOP SLAB REINFORCING STEEL				BOTTOM SLAB REINFORCING STEEL				SIDE WALL REINFORCING STEEL		INTERIOR WALL REINFORCING STEEL		TOP SLAB DISTRIBUTION REINFORCING STEEL		BOTTOM SLAB DISTRIBUTION REINFORCING STEEL		SIDE WALL DISTRIBUTION REINFORCING STEEL		INTERIOR WALL DISTRIBUTION REINFORCING STEEL															
													a		c		d		f		f0		f1		g		e		d1		d2															
													SIZE	SPACING	LENGTHS VARY	NO. REQ'D	SIZE	SPACING	LENGTHS VARY	NO. REQ'D	SIZE	SPACING	LENGTHS VARY	NO. REQ'D	SIZE	SPACING	LENGTHS VARY	NO. REQ'D	SIZE	SPACING	LENGTHS VARY	NO. REQ'D	SIZE	SPACING	LENGTHS VARY	NO. REQ'D	SIZE	SPACING	LENGTHS VARY	NO. REQ'D	SIZE	SPACING	LENGTHS VARY	NO. REQ'D	SIZE	SPACING
15	3:1	5	10	7	6'-5"	10	3	10	8.5	8	32'-9"	8'-8"	5	5	17	8	8	11	4	5	17	4	5.5	16	5	8.5	19	8'-4"	4	12	28	8'-4"	4	11	71	4	11	71	4	12	7	LONG 10'-6"	14	LONG 7'-8"	14	SHORT 4'-10"

CLASS "S" CONCRETE (Includes HDWL)	REINFORCING STEEL (GR 60) (Includes HDWL)
CU. YDS.	LBS.
18.15	3372

OUTLET SLOPE SECTION(S)

R.C. BOX SECTION	DESIGN FILL DEPTH (FT.)	CLEAR SPAN (FT.)	CLEAR HEIGHT (FT.)	TOP SLAB THK.	BOTTOM SLAB THK.	SIDE WALL THK.	INTERIOR WALL THK.	OVER ALL WIDTH	OVER ALL HEIGHT	SECTION LENGTH (FT.)	LENGTH = OW - 4' + BENDS				LENGTH = OW - 4' + BENDS				SIDE WALL REINFORCING STEEL "d"		INTERIOR WALL REINFORCING STEEL "f1"		TOP SLAB DISTRIBUTION REINFORCING STEEL "g"		BOTTOM SLAB DISTRIBUTION REINFORCING STEEL "e"		SIDE WALL DISTRIBUTION REINFORCING STEEL "d1"		INTERIOR WALL DISTRIBUTION REINFORCING STEEL "d2"															
											a		b		c		d		bent1		f		NO. REQ'D		NO. REQ'D		NO. REQ'D		NO. REQ'D		NO. REQ'D		NO. REQ'D		NO. REQ'D									
											SIZE	L	SIZE	L	SIZE	L	SIZE	L	SIZE	L	SIZE	L	SIZE	L	SIZE	L	SIZE	L	SIZE	L	SIZE	L	SIZE	L	SIZE	L	SIZE	L	SIZE	L				

CLASS "S" CONCRETE	REINFORCING STEEL (GR. 60)	ADTL. REINF. PER LONG LAP LOCATION	ADDITIONAL CONCRETE FOR HDWL	TOTAL ADTL. REINF. FOR HDWL
CU. YDS. PER LIN. FT.	LBS. PER LIN. FT.	LBS.	CU. YDS.	LBS.

Bar Lap - Add one long lap for each Slope Section, and one additional long lap for Slope Sections greater than 40'-0" in length.

The required number of bars and lengths shown are for estimating purpose only. The actual number and length required shall be determined in field.

Unless otherwise noted, all dimensions are in inches.

SHEET 2 OF 2
 DETAILS OF R.C. BOX CULVERT
 TRIPLE BARREL BOX CULVERT
 STA. 109+90

SPECIAL DETAILS

