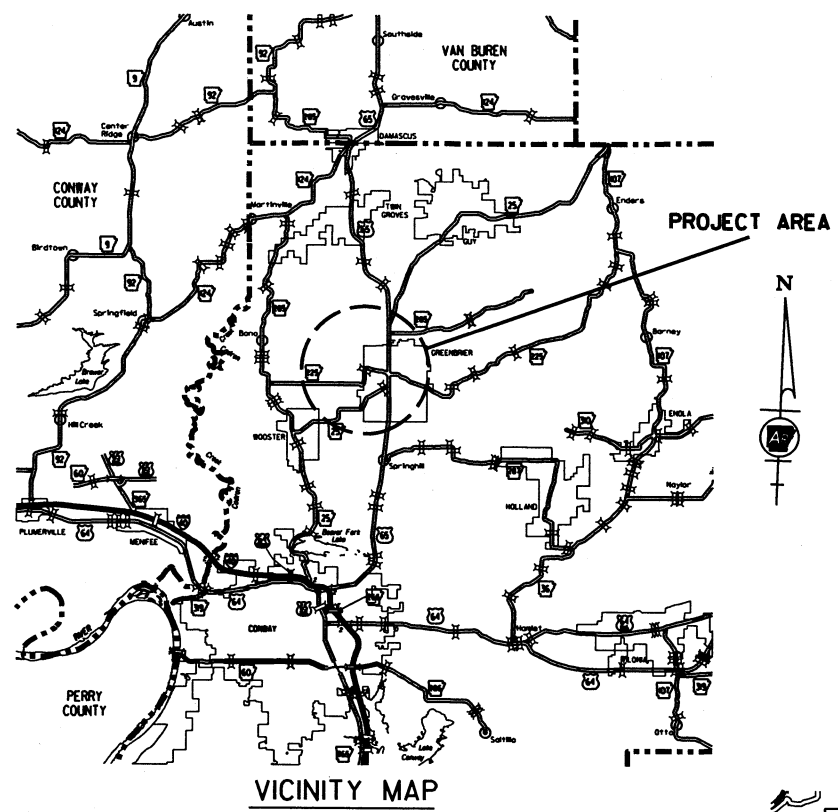


ARKANSAS DEPARTMENT OF TRANSPORTATION  
CONSTRUCTION PLANS FOR STATE HIGHWAY

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. 080505	1	25

2 GREENBRIER CREEK STR. & APPRS. (S)

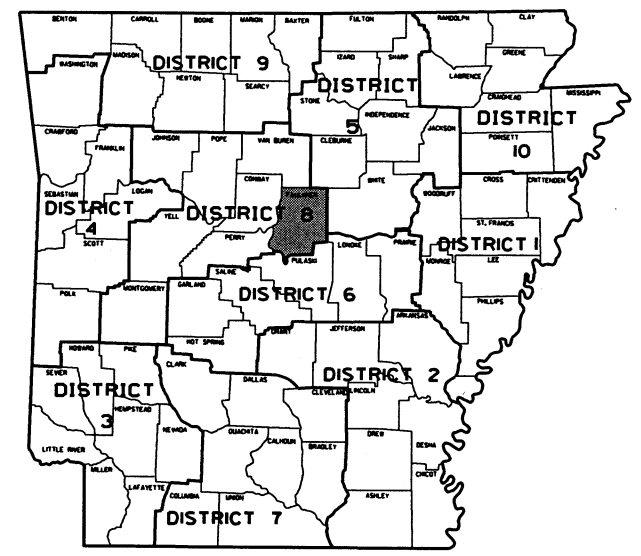


# GREENBRIER CREEK STR. & APPRS. (S)

FAULKNER COUNTY  
ROUTE 225 SECTION I

JOB 080505

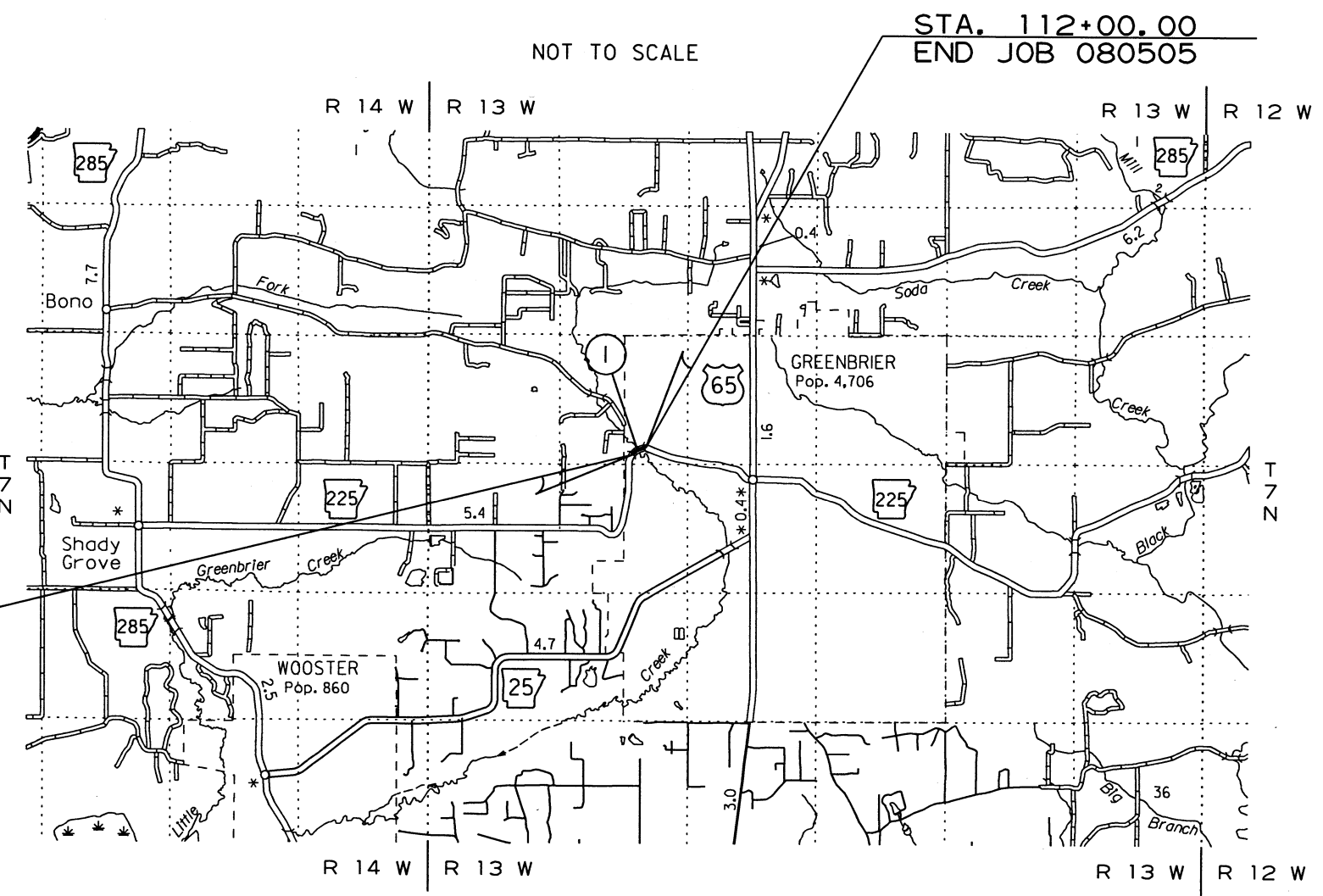
FEDERAL AID PROJ. STPB-0023(50)



ARK. HWY. DIST. NO. 8

DESIGN TRAFFIC DATA

DESIGN YEAR	2039
2019 ADT	1600
2039 ADT	2300
2039 DHV	253
DIRECTIONAL DISTRIBUTION	0.60
TRUCKS	9%
DESIGN SPEED	40 MPH



STRUCTURES OVER 20'-0" SPAN

- 1 STA. 109+22 CONSTRUCT QUAD. 12' x 7' x 72' R.C. BOX WITH 3:1 WINGS LT. AND RT. Q25 = 2610 CFS; D.A. = 2370 ACRES SPAN = 51'-2"

STA. 107+00.00  
BEGIN JOB 080505  
LOG MILE 4.41

APPROVED



3-26-19  
DEPUTY DIRECTOR  
AND CHIEF ENGINEER

	BEGIN PROJECT	MID-POINT OF PROJECT	END PROJECT
LATITUDE	N 35°14'15"	N 35°14'16"	N 35°14'16"
LONGITUDE	W 92°24'15"	W 92°24'13"	W 92°24'10"

LENGTH OF PROJECT CALCULATED ALONG C.L.			
GROSS LENGTH OF PROJECT	500.00	FEET	OR 0.095 MILES
NET ROADWAY	448.83		0.085 MILES
NET BRIDGES	51.17		0.010 MILES
NET PROJECT	500.00		0.095 MILES

2/14/2019

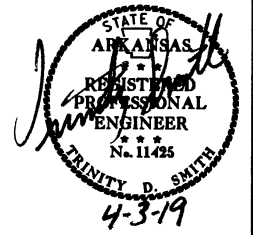
R080505.DGN

INDEX OF SHEETS

SHEET NO.	TITLE
1	TITLE SHEET
2	INDEX OF SHEETS, STANDARD DRAWINGS, GOVERNING SPECIFICATIONS, AND GENERAL NOTES
3	TYPICAL SECTIONS OF IMPROVEMENT
4 - 10	SPECIAL DETAILS
11 - 12	TEMPORARY EROSION CONTROL DETAILS
13 - 14	MAINTENANCE OF TRAFFIC DETAILS
15	PERMANENT PAVEMENT MARKING DETAILS
16 - 18	QUANTITIES
19	SUMMARY OF QUANTITIES AND REVISIONS
20	SURVEY CONTROL DETAILS
21	PLAN AND PROFILE SHEETS
22 - 25	CROSS SECTIONS

DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
							JOB NO. 080505	2 25

② INDEX OF SHEETS, STANDARD DRAWINGS, GOVERNING SPECS., & GENERAL NOTES



ROADWAY STANDARD DRAWINGS

DRWG. NO.	TITLE	DATE
CDP-1	CONCRETE DITCH PAVING	12-08-16
PBC-1	PRECAST CONCRETE BOX CULVERTS	01-28-15
PCC-1	CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING	02-27-14
PCM-1	METAL PIPE CULVERT FILL HEIGHTS & BEDDING	02-27-14
PCP-1	PLASTIC PIPE CULVERT (HIGH DENSITY POLYETHYLENE)	02-27-14
PCP-2	PLASTIC PIPE CULVERT (PVC F949)	02-27-14
PM-1	PAVEMENT MARKING DETAILS	06-01-17
PU-1	DETAILS OF PIPE UNDERDRAIN	12-08-16
RCB-1	REINFORCED CONCRETE BOX CULVERT DETAILS	07-26-12
RCB-2	EXCAVATION PAY LIMITS, BACKFILL, & SOLID SODDING FOR BOX CULVERTS	11-20-03
SE-2	TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC	10-18-96
TC-1	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	04-13-17
TC-2	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	09-02-15
TC-3	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	09-02-15
TEC-1	TEMPORARY EROSION CONTROL DEVICES	11-16-17
TEC-3	TEMPORARY EROSION CONTROL DEVICES	11-03-94
WF-2	WIRE FENCE WATER GAPS	04-20-79
WF-4	WIRE FENCE TYPE C AND D	08-22-02

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
100-4	DEPARTMENT NAME CHANGE
102-2	ISSUANCE OF PROPOSALS
108-1	LIQUIDATED DAMAGES
108-2	WORK ALLOWED PRIOR TO ISSUANCE OF WORK ORDER
303-1	AGGREGATE BASE COURSE
306-1	QUALITY CONTROL AND ACCEPTANCE
400-1	TACK COATS
400-4	DESIGN AND QUALITY CONTROL OF ASPHALT MIXTURES
400-5	PERCENT AIR VOIDS FOR ACHM MIX DESIGNS
400-6	LIQUID ANTI-STRIP ADDITIVE
410-1	CONSTRUCTION REQUIREMENTS AND ACCEPTANCE OF ASPHALT CONCRETE PLANT MIX COURSES
410-2	DEVICES FOR MEASURING DENSITY FOR ROLLING PATTERNS
600-2	INCIDENTAL CONSTRUCTION
604-1	RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
605-1	CONCRETE DITCH PAVING
606-1	PIPE CULVERTS FOR SIDE DRAINS
620-1	MULCH COVER
800-1	STRUCTURES
802-2	CONCRETE FOR STRUCTURES
804-2	REINFORCING STEEL FOR STRUCTURES
JOB 080505	ASSESSMENT OF WORKING DAYS - MAINTENANCE OF TRAFFIC
JOB 080505	BIDDING REQUIREMENTS AND CONDITIONS
JOB 080505	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB 080505	CARGO PREFERENCE ACT REQUIREMENTS
JOB 080505	CONSTRUCTION IN SPECIAL FLOOD HAZARD AREAS
JOB 080505	DISADVANTAGED BUSINESS ENTERPRISE BIDDER'S RESPONSIBILITIES
JOB 080505	FLEXIBLE BEGINNING OF WORK
JOB 080505	GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB 080505	MAINTENANCE OF TRAFFIC
JOB 080505	MANDATORY ELECTRONIC CONTRACT
JOB 080505	MANDATORY ELECTRONIC DOCUMENT SUBMITTAL
JOB 080505	NESTING SITES OF MIGRATORY BIRDS
JOB 080505	PLASTIC PIPE
JOB 080505	PRICE ADJUSTMENT FOR ASPHALT BINDER
JOB 080505	SETTLEMENT AGREEMENTS
JOB 080505	SHORING FOR CULVERTS
JOB 080505	SOIL STABILIZATION
JOB 080505	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB 080505	UTILITY ADJUSTMENTS
JOB 080505	WARM MIX ASPHALT

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.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING U. S. MAILBOXES WITHIN THE PROJECT LIMITS IN SUCH A MANNER THAT THE PUBLIC MAY RECEIVE CONTINUED MAIL SERVICE. PAYMENT WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS BID ITEMS.
- 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.
- THE SEQUENCE AS SHOWN ON THE MAINTENANCE OF TRAFFIC PLANS IS A GENERAL OUTLINE FOR THE CONSTRUCTION OF THIS PROJECT, AND IN NO WAY IS IT INTENDED TO COVER EVERY ITEM IN THE PROJECT. ITEMS NOT CRITICAL TO THE CONSTRUCTION SEQUENCE MAY BE CONSTRUCTED IN ANY STAGE AS APPROVED BY THE RESIDENT ENGINEER.
- 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.

INDEX OF SHEETS, STANDARD DRAWINGS, GOVERNING SPECIFICATIONS, AND GENERAL NOTES

4/3/2019

080505.DGN

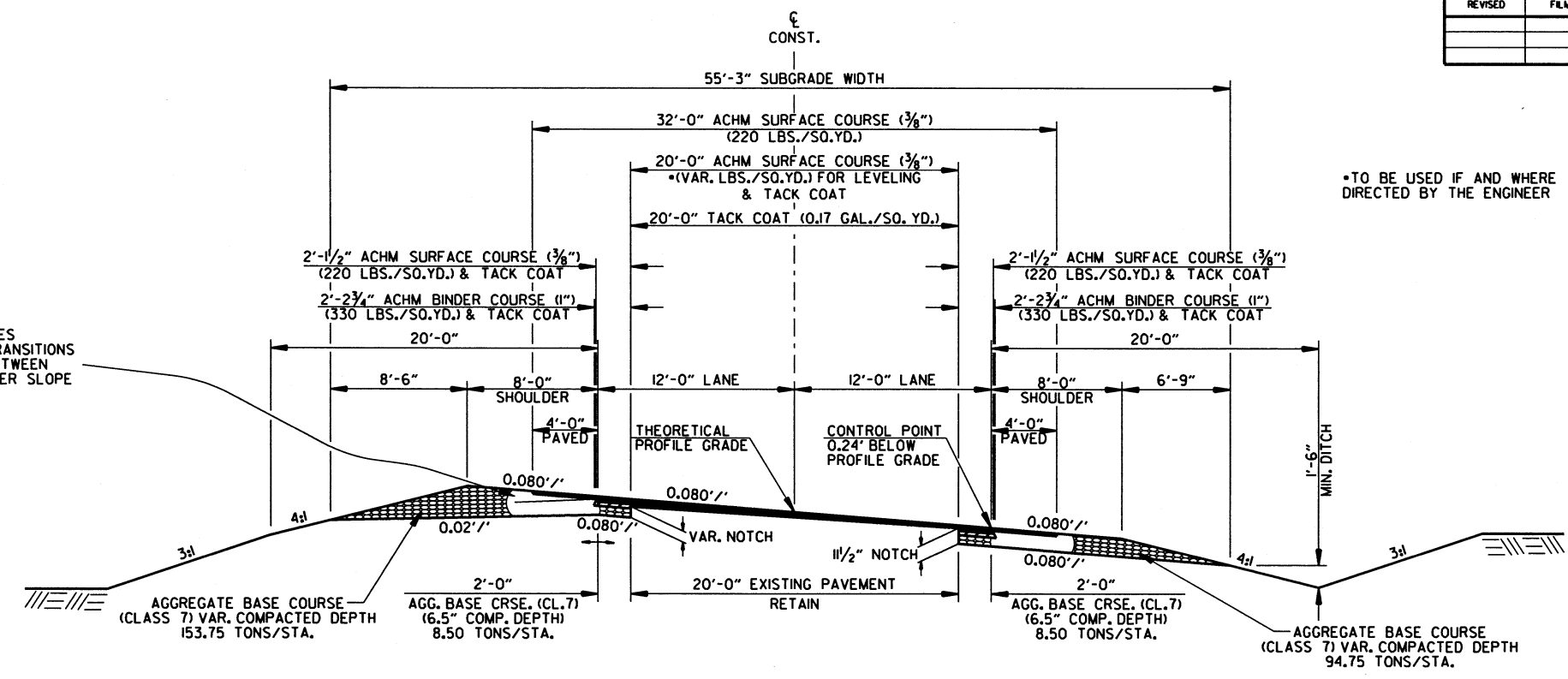
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	080505		3	25

2 TYPICAL SECTIONS OF IMPROVEMENT



\*TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER

ON ALL SUPERELEVATED CURVES AND THRU SUPERELEVATION TRANSITIONS THE ALGEBRAIC DIFFERENCE BETWEEN PAVEMENT SLOPE AND SHOULDER SLOPE SHALL NOT EXCEED 0.08'/'



HWY. 225 - NOTCH, WIDEN, AND OVERLAY SECTION  
 STA. 107+00.00 TO STA. 108+83.00  
 STA. 110+50.00 TO STA. 112+00.00

NOTES:

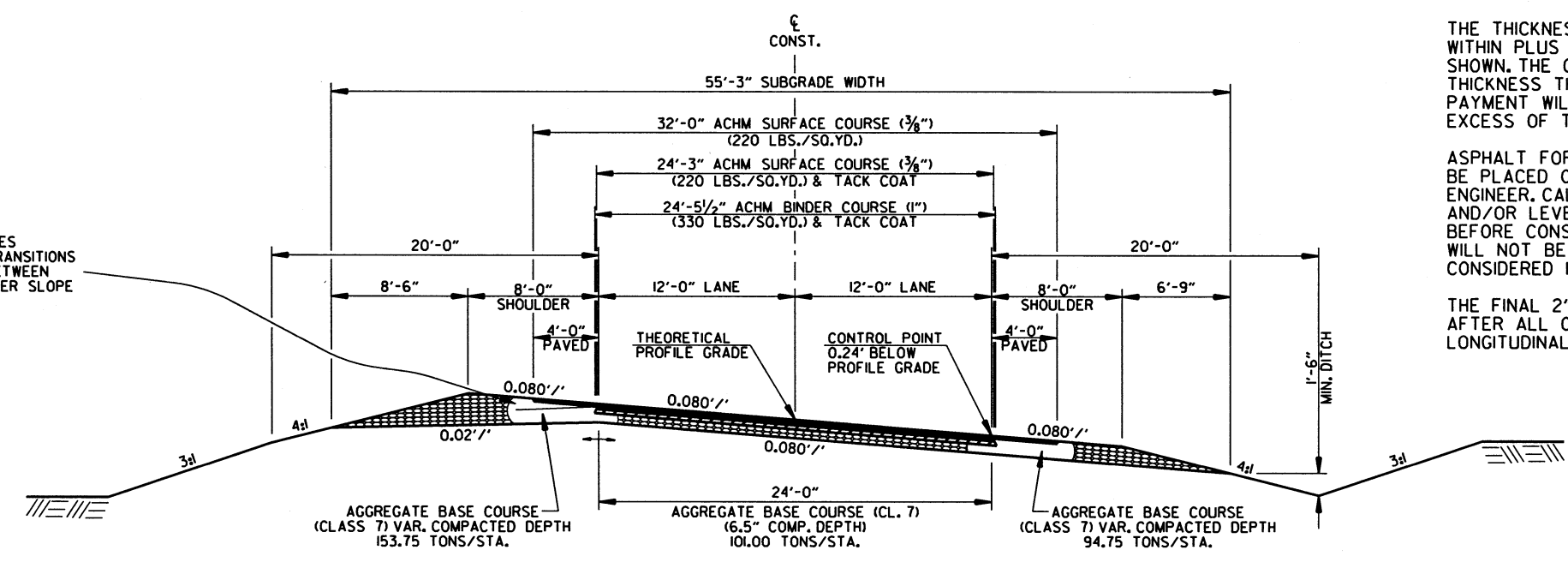
REFER TO CROSS SECTIONS FOR DEVIATION FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.

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.

ASPHALT FOR LEVELING OF EXISTING PAVEMENT SHALL BE PLACED ONLY IF AND WHERE DIRECTED BY THE ENGINEER. CALCULATIONS FOR THE AMOUNT OF LEVELING AND/OR LEVELING OPERATIONS SHALL BE PERFORMED BEFORE CONSTRUCTING NOTCH AND WIDENING. CALCULATIONS WILL NOT BE PAID FOR DIRECTLY, BUT PAYMENT WILL BE CONSIDERED INCLUDED IN THE VARIOUS PAY ITEMS.

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

ON ALL SUPERELEVATED CURVES AND THRU SUPERELEVATION TRANSITIONS THE ALGEBRAIC DIFFERENCE BETWEEN PAVEMENT SLOPE AND SHOULDER SLOPE SHALL NOT EXCEED 0.08'/'



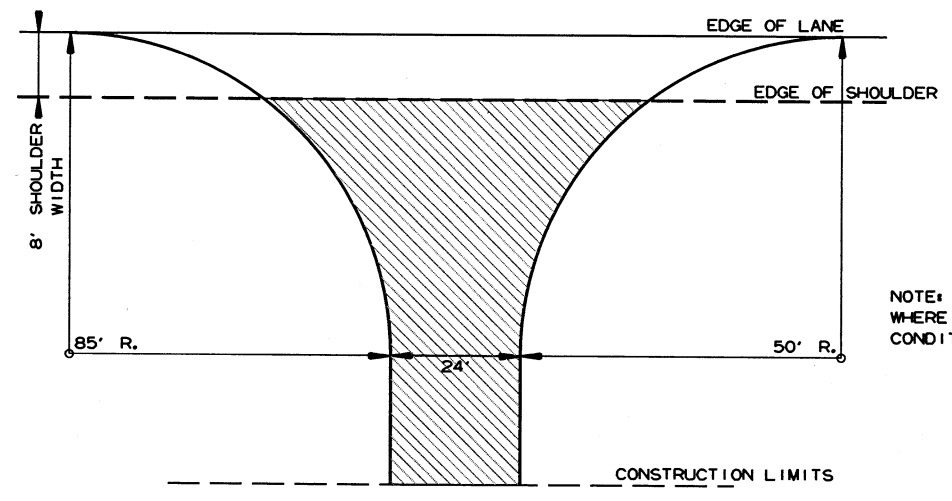
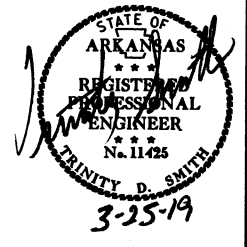
HWY. 225 - FULL DEPTH SECTION  
 STA. 108+83.00 TO STA. 110+50.00

2/14/2019

R080505.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. 080505							4	25

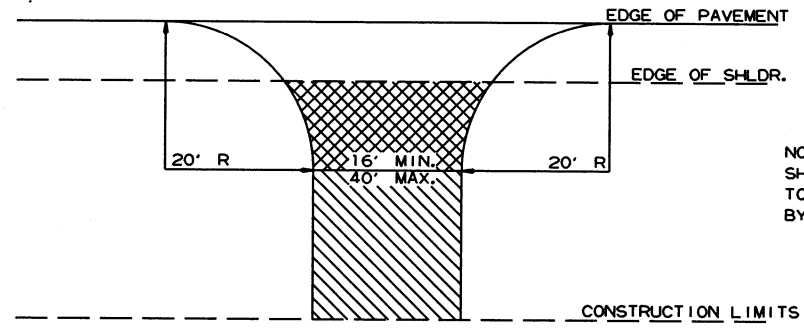
2 SPECIAL DETAILS



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

DETAIL FOR COUNTY ROAD TURNOUTS  
OPEN SHOULDER SECTION

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

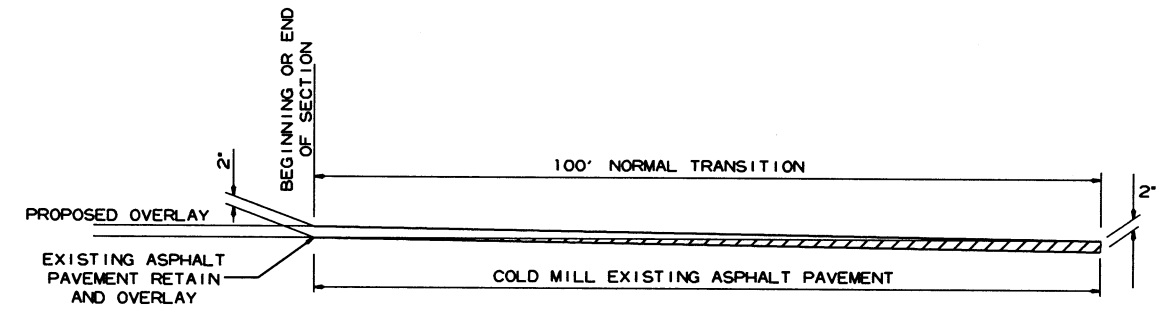


NOTE: TURNOUTS AND PRIVATE DRIVES SHALL BE MODIFIED WHERE NECESSARY TO MEET LOCAL CONDITIONS AS DIRECTED BY THE ENGINEER.

DETAIL FOR DRIVEWAY TURNOUTS  
(COLLECTORS)

ASPHALT CONCRETE HOT MIX SURFACE COURSE (220 LBS. PER SQ. YD.)  
AGGREGATE BASE COURSE (CLASS 7)  
7" COMP. DEPTH IF ASPHALT DRIVE EXIST OR  
6" CONCRETE IF CONCRETE DRIVE EXIST.

AGGREGATE BASE COURSE (CLASS 7)  
9" COMP. DEPTH OR CONFORM  
TO EXISTING DRIVEWAY



DETAIL FOR TRANSITIONS

2/14/2019  
R080505.DGN

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	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	SIZE	L					
A	5	12	7	14	14	7	8	51'-2"	9'-4"	72	5	50'-10"	8	52'-2"	4	50'-10"	18	48	4	50'-10"	4	52'-1"	4	50'-10"	10	86	6	7.5	230	9'-0"	4	12	432	9'-0"	5	12	103	5	12	103	4	12	14	4	12	42

CLASS "S" CONCRETE	REINFORCING STEEL (GR. 60)
CU. YDS.	LBS.
377.48	45195

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 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	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	SIZE	L			
HDWL DEPTH.		ADDITIONAL REINF. FOR HDWL.		"h" HDWL BARS		SIZE		Y		LENGTH		NO. REQ'D																																
3"		68		4		1'-1"		2'-1"		53																																		

CLASS "S" CONCRETE	REINFORCING STEEL (GR. 60)
CU. YDS.	LBS.
0.47	142

INLET SKEWED END SECTION

SKEW (DEGREE)		SLOPE		DESIGN FILL DEPTH (FT.)		CLEAR SPAN (FT.)		CLEAR HEIGHT (FT.)		SECTION LENGTH		TOP SLAB THK.		HDWL DEPTH		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											
SK	SL	D	S	H	LL	T	HD	B	C	W	OW	OH	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											
				"k1" HDWL BARS				"k2" HDWL BARS				"h" HDWL BARS																																											
				SIZE				LENGTH				NO. REQ'D																																											

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

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)	
OW	H	WB	CW	SK	SL	K	HL	WH1	WH2	AF1	AF2	WE	WF1	WF2	G1	G2	W1	W2	W3	W4	CU.YD	LBS.											
51'-2"	7'-0"	0'-9"	0'-8"	0	3:1	50'-0"	2'-0"	7'-10"	2'-4"	30	30	3'-2"	3'-9 3/4"	3'-9 3/4"	0'-9"	0'-9"	19'-0"	19'-0"	22'-5 3/8"	22'-5 3/8"	12.64	1038											

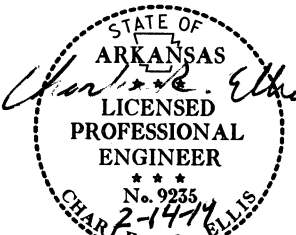
MID-SECTION BAR LAP TABLE

# 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	
#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"

TABULAR DATA BY: DPT DATE: 02/07/2019  
CHECKED BY: KJT DATE: 2/7/2019



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.

SHEET 1 OF 2  
DETAILS OF R.C. BOX CULVERT  
QUADRUPLE BARREL BOX CULVERT  
Sta. 109+22.00  
SPECIAL DETAILS



OUTLET WINGWALL TABLE

Table with columns for OVER ALL WIDTH, CLEAR HEIGHT, FOOTING THK., WING WALL THK., BOX SKEW (DEG.), SLOPE, HDWL LENGTH, HEEL, WALL HEIGHT (AT HDWL, AT WING END), WING WALL ANGLE (DEGREE), WING WALL WIDTH AT WALL END, WIDTH OF WING FOOTINGS AT HDWL, FOOTING DIMENSION PARALLEL WITH HDWL, LENGTH OF WING WALLS, LENGTH OF FOOTING HEEL, CLASS "S" CONCRETE, REINFORCING STEEL. Includes sub-tables for WING A and WING B with bar size, spacing, and length details.

Min. Bar Lap Length table with columns for bar size (#4 to #8) and length (1'-9" to 4'-7").

Bar Pin Dia. Table with columns for bar size (#4 to #8) and diameter (3" to 6").

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

Professional Engineer stamp for Charles R. Ellis, State of Arkansas, License No. 9235, dated 02/07/2019. Includes project info: JOB NO. 080505, SHEET NO. 6, TOTAL SHEETS 25.

OUTLET SKEWED END SECTION

Table for Skewed End Section with columns for SKEW (DEGREE), SLOPE, DESIGN FILL DEPTH (FT.), CLEAR SPAN (FT.), CLEAR HEIGHT (FT.), SECTION LENGTH, TOP SLAB THK., HDWL DEPTH, BOTTOM SLAB THK., SIDE WALL THK., INTERIOR WALL THK., OVER ALL WIDTH, OVER ALL HEIGHT. Includes sub-tables for TOP SLAB, BOTTOM SLAB, SIDE WALL, INTERIOR WALL, and DISTRIBUTION REINFORCING STEEL.

OUTLET SLOPE SECTIONS(S)

Table for Slope Sections with columns for 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.). Includes sub-tables for TOP SLAB, BOTTOM SLAB, SIDE WALL, INTERIOR WALL, and DISTRIBUTION REINFORCING STEEL.

Summary table for Slope Sections with columns for CLASS "S" CONCRETE (CU. YDS.), REINFORCING STEEL (GR. 60) (LBS.), and TOTAL values (0.47, 142).

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.





2:1 Slope	20'-0"	10'-0"	10'-0"	10'-0"	10'-0"	10'-0"	10'-0"
3:1 Slope	30'-0"	15'-0"	15'-0"	15'-0"	15'-0"	15'-0"	15'-0"
4:1 Slope	40'-0"	20'-0"	20'-0"	20'-0"	20'-0"	20'-0"	20'-0"

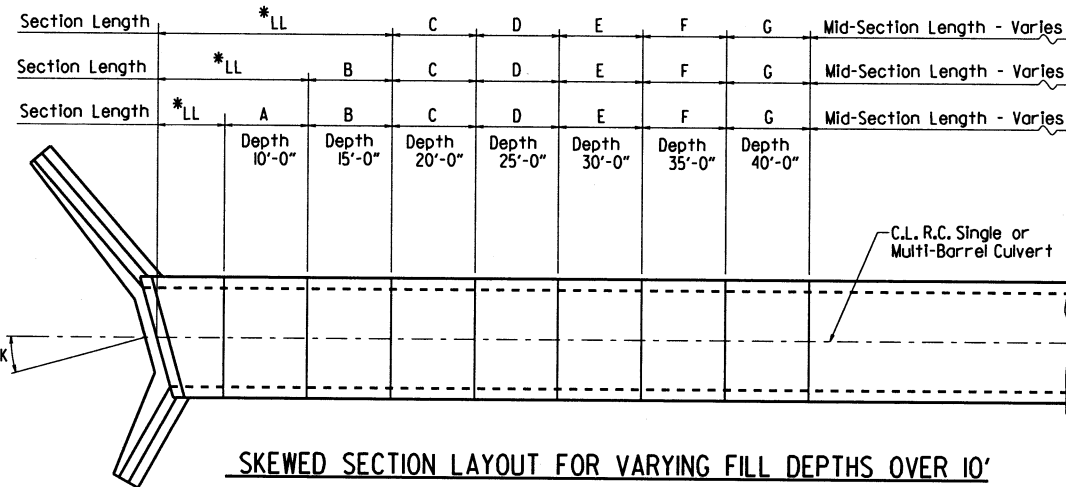
Note: For fill depths 10' and under, use Mid-Section full length of box culvert.

\* LL = Skewed End Section Length - See "Skewed End Section Details" Length LL varies with skew angle, overall box width and fill depth and may eliminate the need for some slope section lengths as shown.

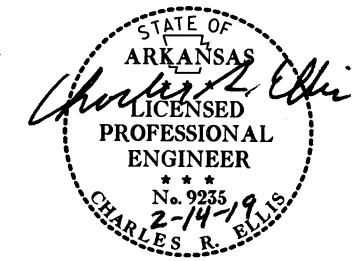
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 080505	7	25

**LONGITUDINAL SECTION LENGTH SCHEDULE FOR VARYING FILL DEPTHS OVER 10'**

Slope Section Length @ 2:1 Slope	A=12'-0"	B=6'-0"	C=6'-0"	D=6'-0"	E=6'-0"	F=6'-0"	G=6'-0"	Mid-Section Length - Varies
Slope Section Length @ 3:1 Slope	A=22'-0"	B=11'-0"	C=11'-0"	D=11'-0"	E=11'-0"	F=11'-0"	G=11'-0"	Mid-Section Length - Varies
Slope Section Length @ 4:1 Slope	A=32'-0"	B=16'-0"	C=16'-0"	D=16'-0"	E=16'-0"	F=16'-0"	G=16'-0"	Mid-Section Length - Varies

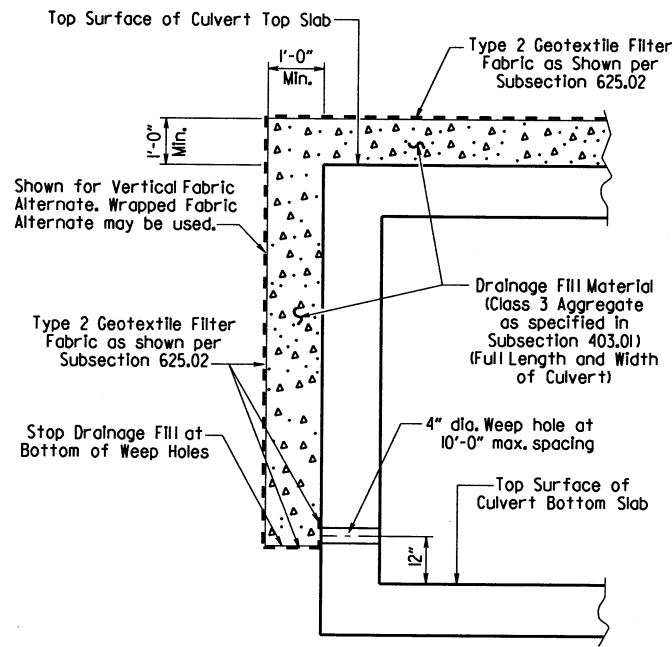


**SKewed SECTION LAYOUT FOR VARYING FILL DEPTHS OVER 10'**



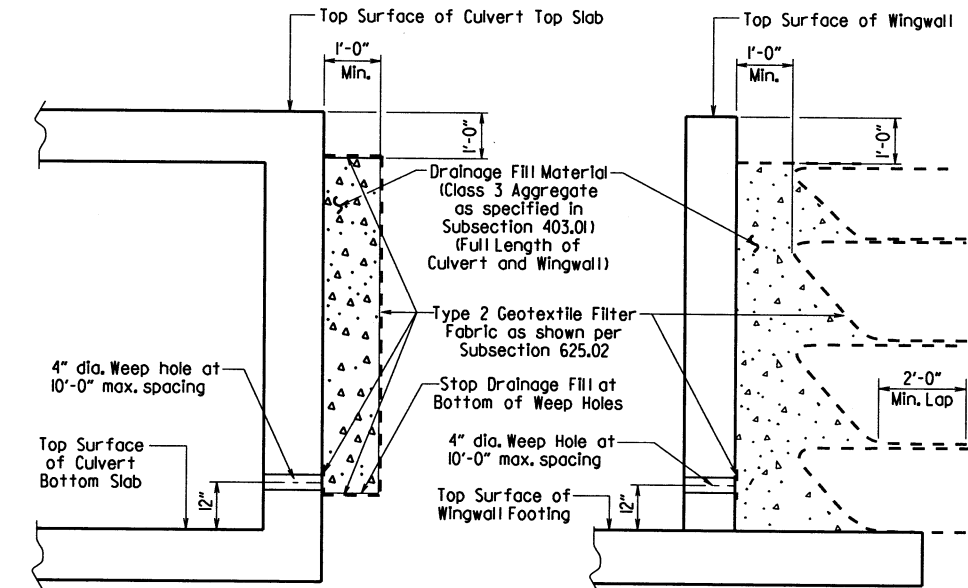
SPECIAL DETAILS

Lengths for Non-Skewed Boxes



**CULVERT DRAINAGE DETAIL FOR ROCK FILL**

This detail shall be used when rock fill is specified for embankment construction.



For Details of Excavation and Pay Limits, see Standard Drawing RCB-2.

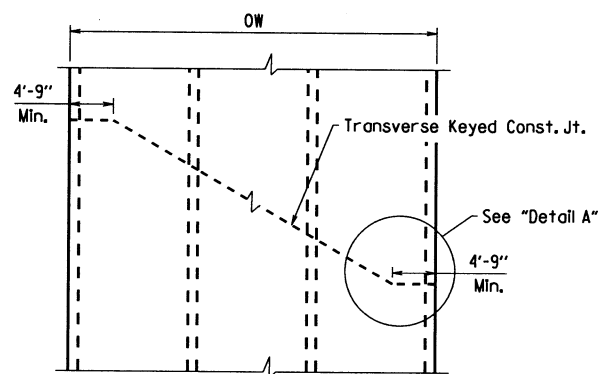
**VERTICAL FABRIC ALTERNATE**

(Shown for Culvert, Similar for Wingwall)

**WRAPPED FABRIC ALTERNATE**

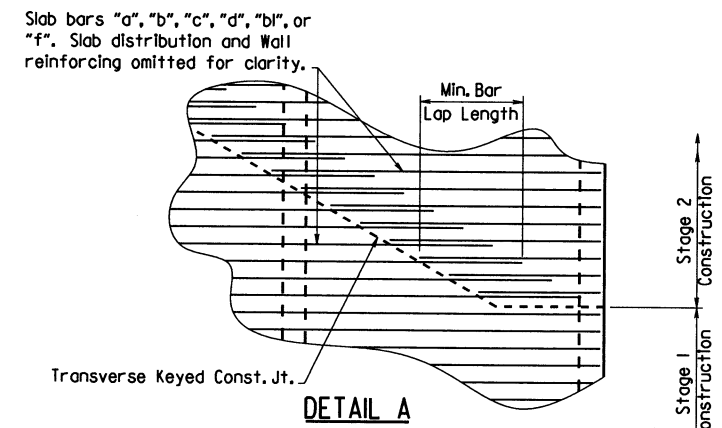
(Shown for Wingwall, Similar for Culvert)

**WINGWALL & CULVERT DRAINAGE DETAIL**



**SKewed TRANSVERSE JOINT DETAIL**

This detail shall be used to construct a skewed transverse joint only for Multi-Barrel Culverts and only when required by the Maintenance of Traffic Plans. Otherwise, transverse joints should be made normal to the centerline of the barrel.



**DETAIL A**

See Tabular Data Sheets for Minimum Bar Lap Lengths. Shown for transverse reinforcing, longitudinal reinforcing similar.

**GENERAL NOTES:**

**CONSTRUCTION SPECIFICATIONS:** Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2014 edition) with applicable Supplemental Specifications and Special Provisions. Section and Subsection refer to the Standard Construction Specifications unless otherwise noted in the Plans.

**DESIGN SPECIFICATIONS:** AASHTO LRFD Bridge Design Specifications, Fifth Edition (2010) with 2010 interim revisions.

**LIVE LOADING:** HL-93

All concrete shall be Class S with a minimum 28-day compressive strength of 3,500 psi and shall be poured in the dry. All exposed corners to have 1/2" chamfers.

Reinforcing Steel shall be Grade 60 (yield strength = 60,000 psi) conforming to AASHTO M31 or M322, Type A, with mill test reports.

Reinforcing Steel Tolerances: The tolerances for reinforcing steel shall meet those listed in 'Manual of Standard Practice' published by Concrete Reinforcing Steel Institute (CRSI) except that the tolerance for truss bars such as Figure 3 on page 7-4 of the CRSI Manual shall be minus zero to plus 1/2 inch.

Excavation and backfilling shall be in accordance with the requirements of Section 801.

Membrane Waterproofing shall conform to the requirements of Section 815. Membrane Waterproofing shall be Type C and as directed by the Engineer applied to all construction joints in the top slab and the sidewalls of R.C. Box culverts and to the construction joint between wingwalls and R.C. Box culvert walls.

Weep Holes in box culvert walls shall have a maximum horizontal spacing of 10'-0" and shall be spaced to clear all reinforcing steel. The drain opening shall be 4" diameter and shall be placed 12" above the top of the bottom slab.

Weep Holes in wingwalls shall have a maximum horizontal spacing of 10'-0" and shall be spaced to clear all reinforcing steel. There shall be a minimum of two (2) weep holes in each wingwall. The drain opening shall be 4" diameter and shall be placed 12" above the top of the wingwall footing.

The barrel components of the culvert may be constructed using continuous pours. For longer culvert construction, the Contractor may use multiple pours with transverse construction joints spaced a minimum of 50 feet apart unless superseded by stage construction or site constraints as approved by the Engineer. Construction joints between footings and walls shall be made only where shown in the Plans. Joints shall be keyed and shall be normal to the centerline of barrel except as noted. Reinforcing shall be continuous through joints unless noted otherwise. Reinforcing through stage construction joints shall provide the minimum bar lap length shown on the Tabular Data Sheets. All longitudinal construction joints shall be submitted to the Engineer for approval.

Membrane Waterproofing, Weep Holes, Geotextile Filter Fabric, and Drainage Fill Material will not be paid for directly but shall be considered subsidiary to Class S Concrete.

When the top slab of the box culvert serves as finished roadway surface, curing and finishing shall be in accordance with subsections 802.17 and 802.20 for bridge roadway surface and a trowel finish shall be applied in accordance with subsection 802.19 for Class 5 Tined Bridge Roadway Surface Finish. Curing and finishing shall not be paid for directly, but shall be considered incidental to the item "Class S Concrete-Roadway". Class 1 Protective Surface Treatment shall be applied to the roadway surface and this work shall be paid for under the unit price bid for "Class 1 Protective Surface Treatment".

When precast reinforced concrete box culverts are substituted for cast in place box culverts, they shall be manufactured according to ASTM C 1577 and meet the requirements of Section 607. When the top slab of the box culvert serves as the finished roadway surface, a precast reinforced concrete box culvert substitution is not allowed.

SHEET 1 OF 4  
GENERAL DETAILS OF R.C. BOX CULVERT  
GENERAL NOTES &  
LONGITUDINAL SECTION LENGTH SCHEDULE

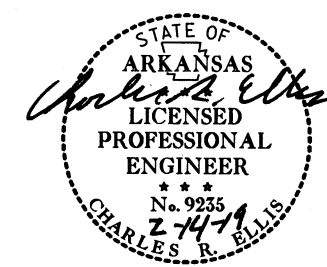
SPECIAL DETAILS



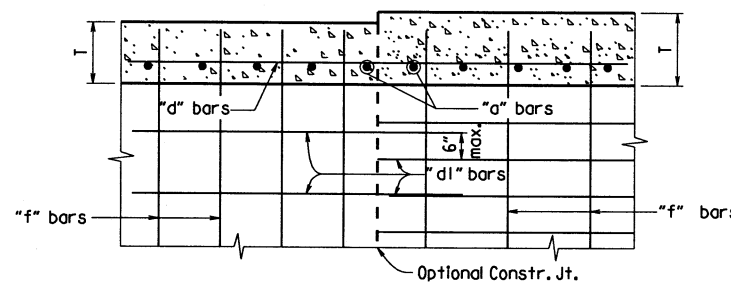
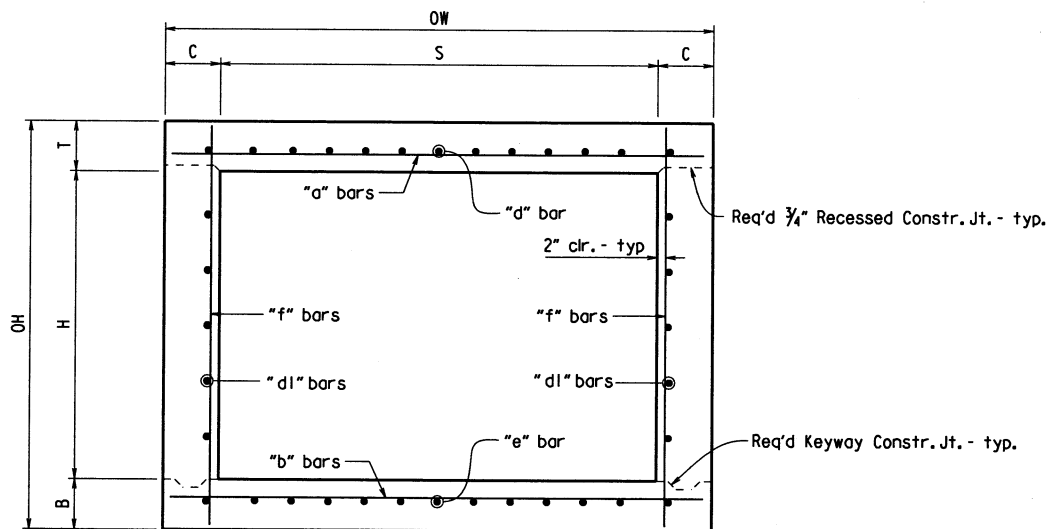
V.1.14 080505\_culvert.dgn

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.	080505	8	25	

1 SPECIAL DETAILS

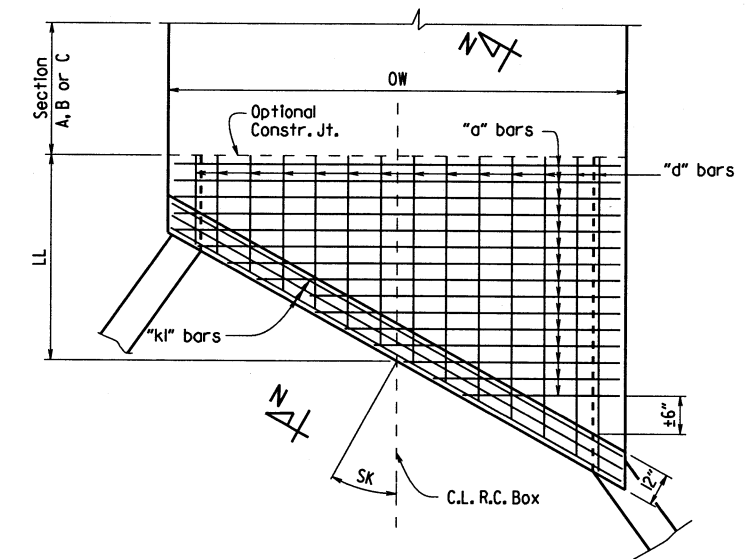


Note: When top slab of culvert serves as finished roadway surface, see General Notes on Sheet 1 of 4.

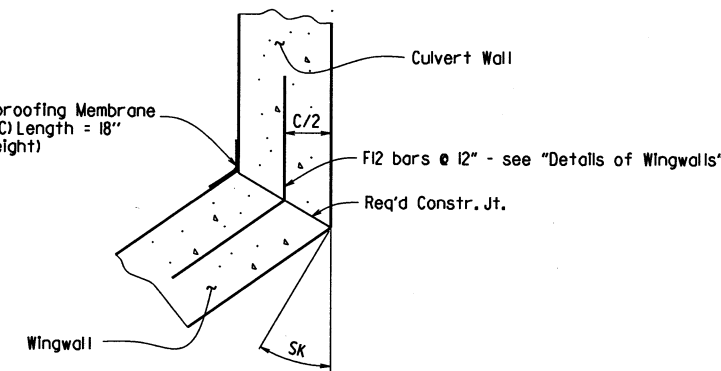


**LONGITUDINAL LAP DETAIL AT CHANGE IN SECTIONS**

TOP SLAB SHOWN, BOTTOM SLAB SIMILAR



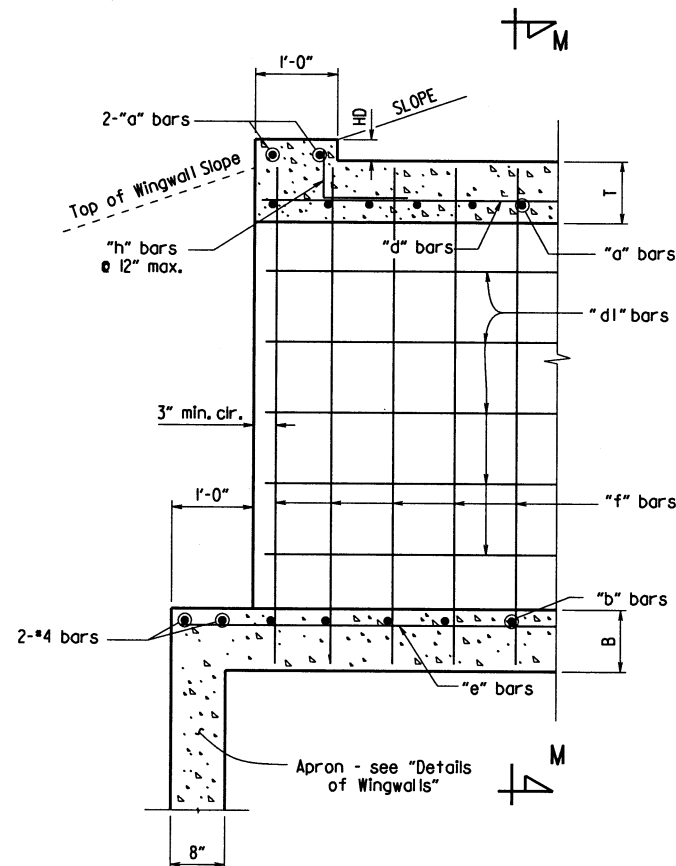
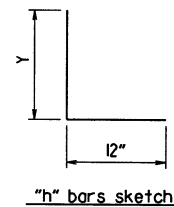
**TOP SLAB REINFORCEMENT**



**WINGWALL ATTACHMENT**

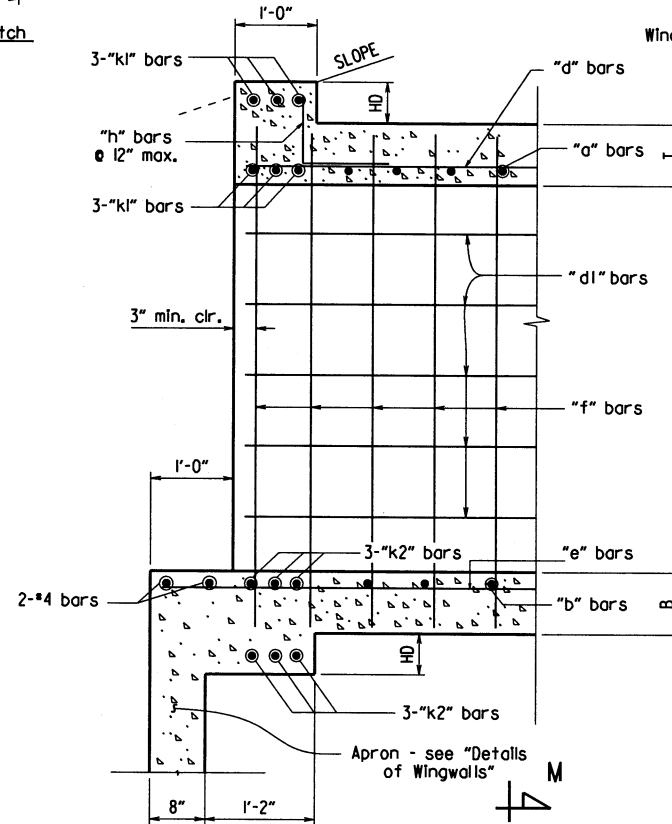
See "Details of Wingwalls" for additional information and wingwall details.

**TYPICAL SECTION M-M**



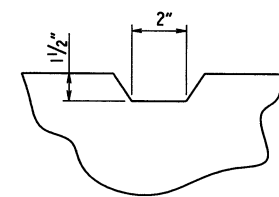
**PART LONGITUDINAL SECTION**

(Non-Skewed Ends)



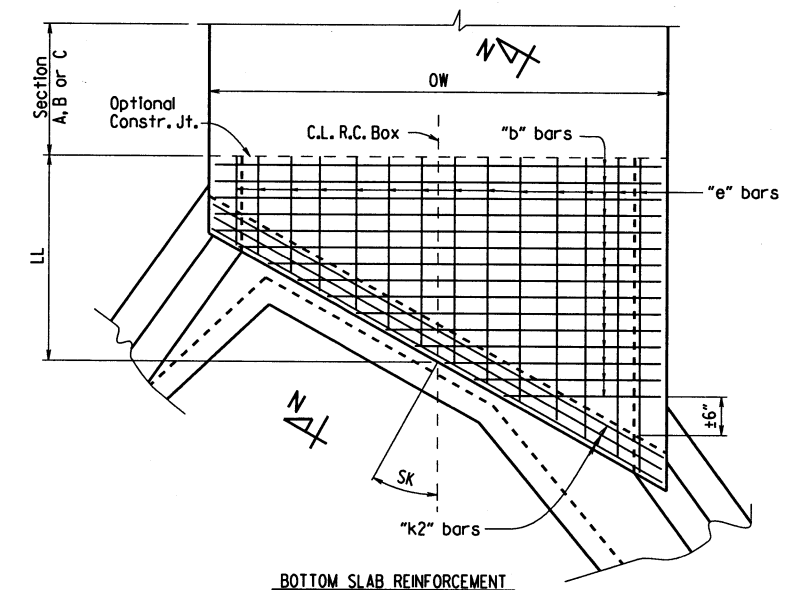
**PART LONGITUDINAL SECTION N-N**

(Skewed Ends)



**TYPICAL KEYWAY DETAIL**

(All Construction Joints)



**BOTTOM SLAB REINFORCEMENT**

**SKewed END SECTION DETAILS**

SHEET 2 OF 4  
GENERAL DETAILS OF R.C. BOX CULVERT  
DETAILS OF SINGLE BARREL  
R.C. BOX CULVERT

SPECIAL DETAILS



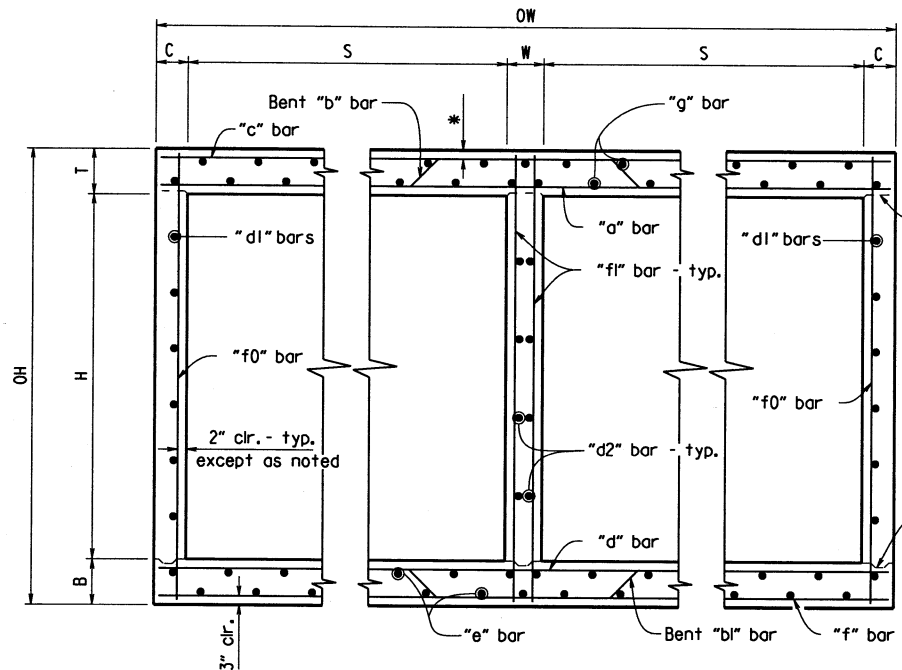
b080505.culvert.dgn



DATE REVISED	DATE FILMED	REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		9	25
				JOB NO.	080505		SPECIAL DETAILS	

\*2" clr. for fill depth (D) greater than 2 ft.  
 2 1/2" clr. for fill depth (D) equal to or less than 2 ft.

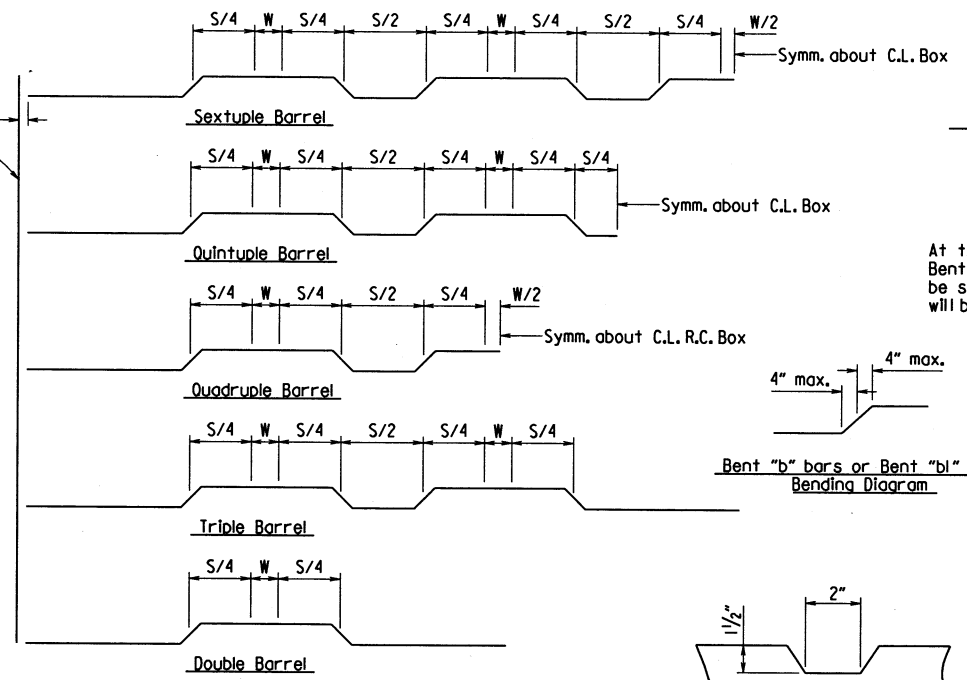
Note: When top slab of culvert serves as finished roadway surface, see General Notes on Sheet 1 of 4.



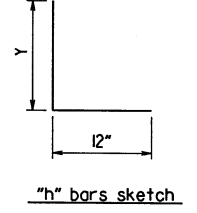
**TYPICAL SECTION M-M**

**Top Slab**  
 Straight "c" bars shall alternate with Bent "b" bars in top.  
 Straight "a" bars shall alternate with Bent "b" bars in bottom.

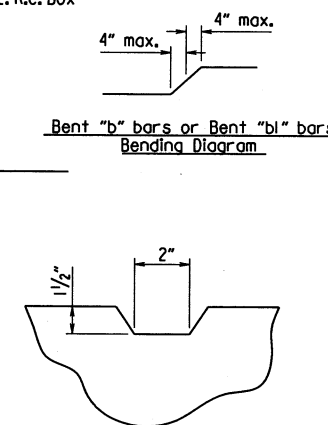
**Bottom Slab**  
 Straight "d" bars shall alternate with Bent "bl" bars in top.  
 Straight "f" bars shall alternate with Bent "bl" bars in bottom.



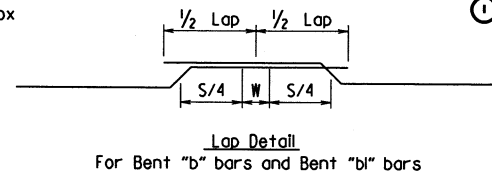
**Bent "b" bars or Bent "bl" bars sketch**



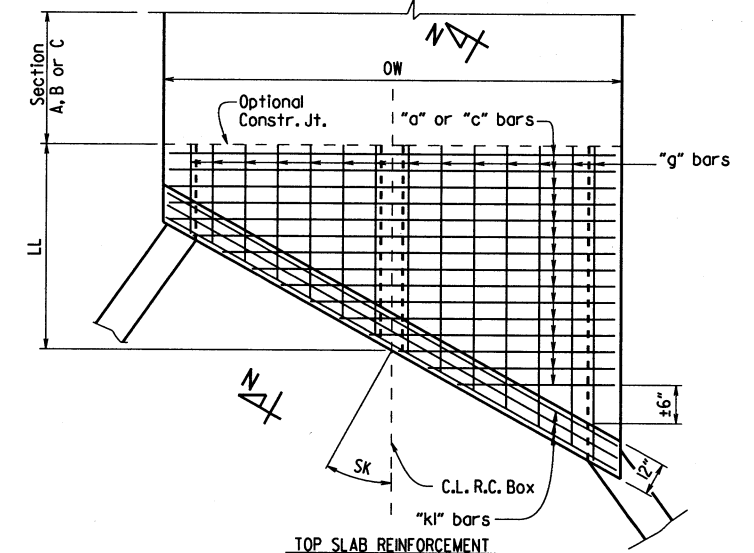
**"h" bars sketch**



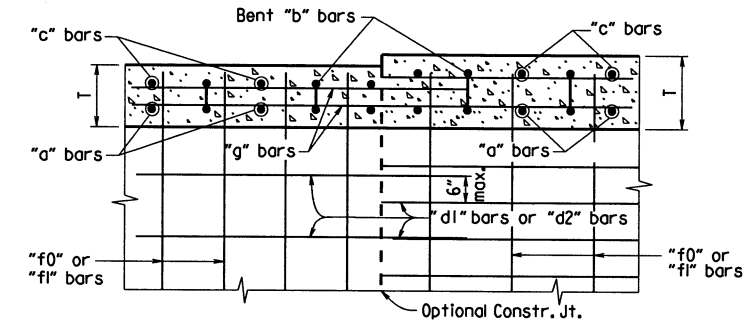
**TYPICAL KEYWAY DETAIL**  
 (All Construction Joints)



At the Contractor's option in lieu of providing Bent "b" or Bent "bl" bars, one bar top and bottom of equivalent size may be substituted for each bent bar. Payment for the reinforcing will be based on the weight of the "b" or "bl" bar.

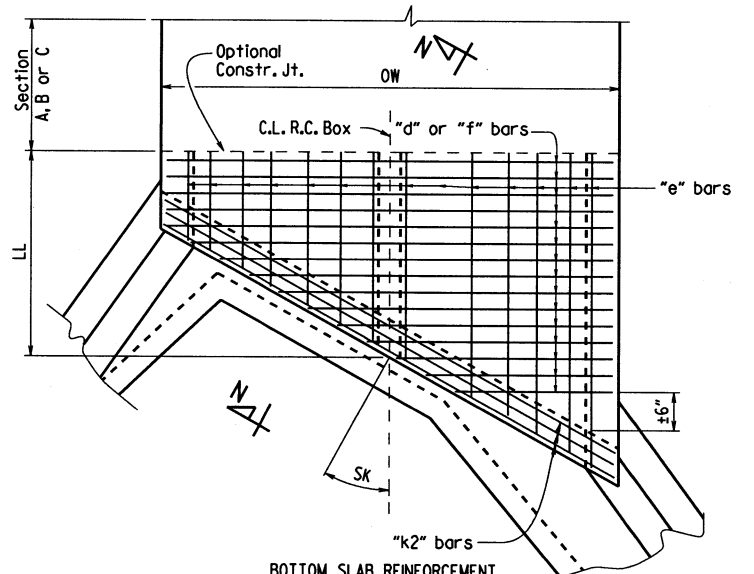


**TOP SLAB REINFORCEMENT**  
 Straight "c" bars in top.  
 Straight "a" bars in bottom.



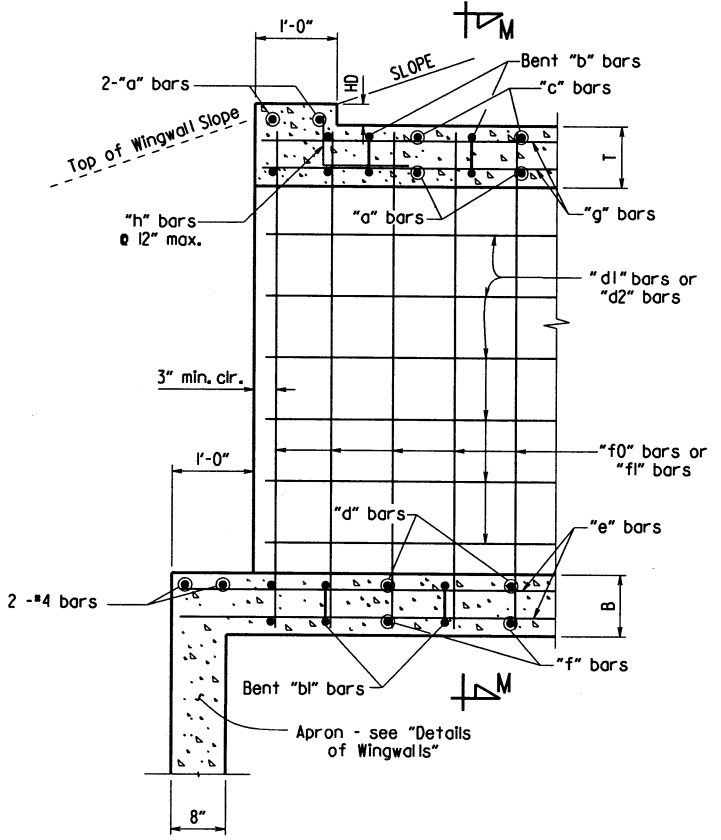
**LONGITUDINAL LAP DETAIL AT CHANGE IN SECTIONS**  
 TOP SLAB SHOWN, BOTTOM SLAB SIMILAR

Longitudinal Bar Spacing at individual sections shall be maintained, which may result in noncontact bar laps.

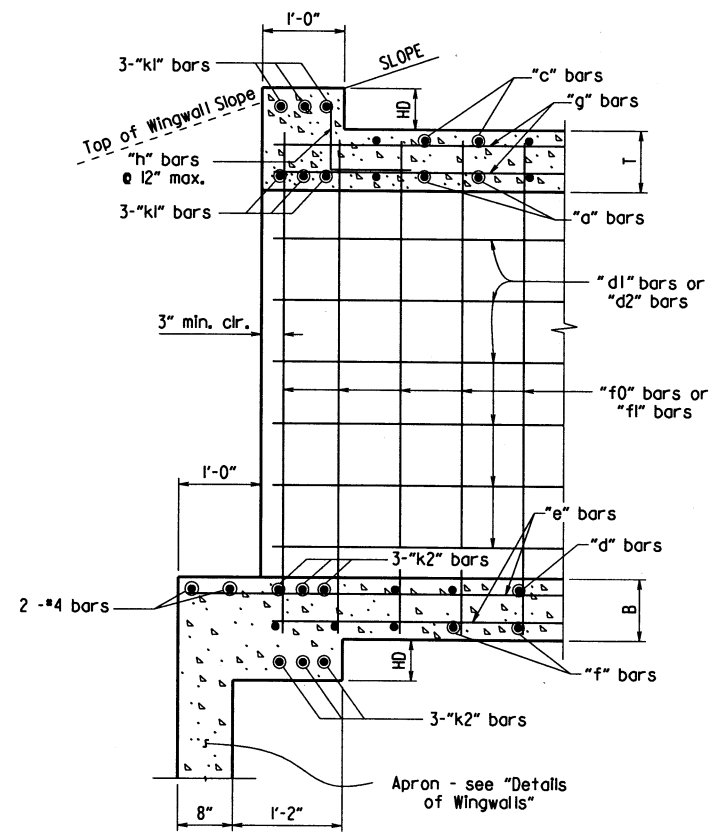


**BOTTOM SLAB REINFORCEMENT**  
 Straight "d" bars in top.  
 Straight "f" bars in bottom.

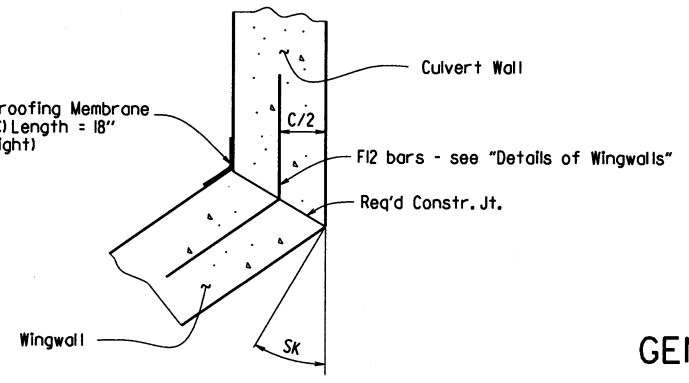
**SKewed END SECTION DETAILS**



**PART LONGITUDINAL SECTION**  
 (Non-Skewed Ends)



**PART LONGITUDINAL SECTION N-N**  
 (Skewed Ends)



**WINGWALL ATTACHMENT**

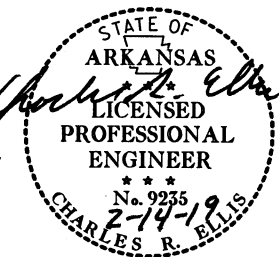
See "Details of Wingwalls" for additional information and wingwall details.

SHEET 3 OF 4  
 GENERAL DETAILS OF R.C. BOX CULVERT  
 DETAILS OF MULTI-BARREL  
 R.C. BOX CULVERT  
 SPECIAL DETAILS

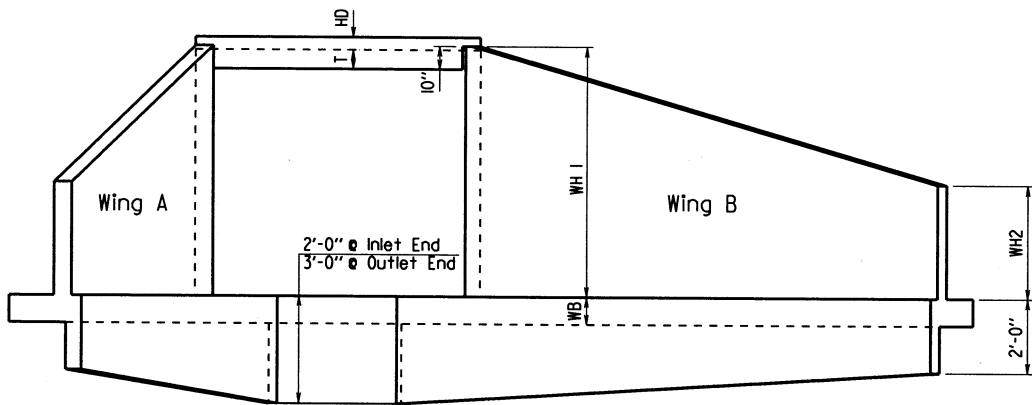
b080505\_culvert.dgn



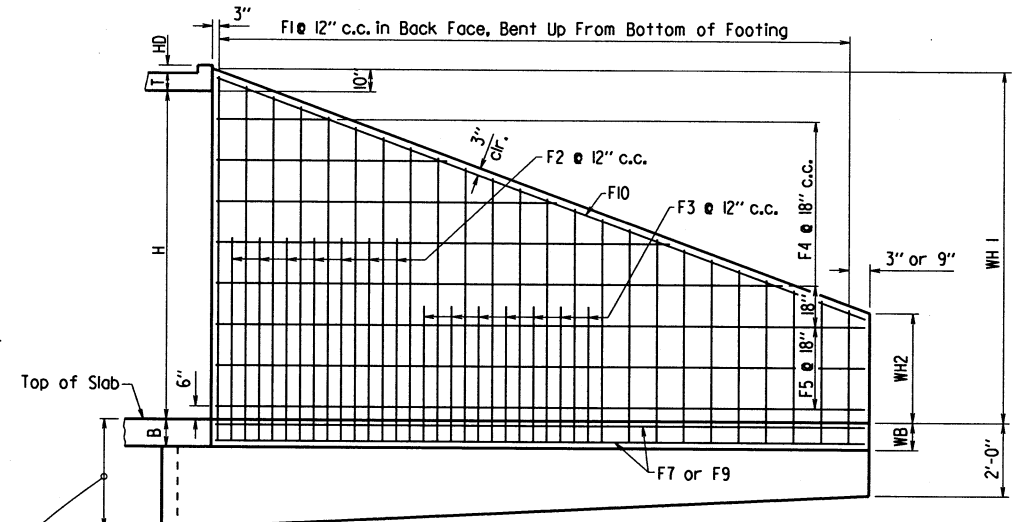
DATE REVISION	DATE FILMED	DATE REVISION	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	080505	10	25	



SPECIAL DETAILS

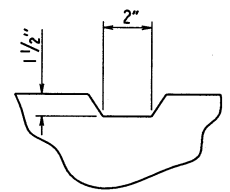


**END ELEVATION**  
Flared Wingwalls Shown

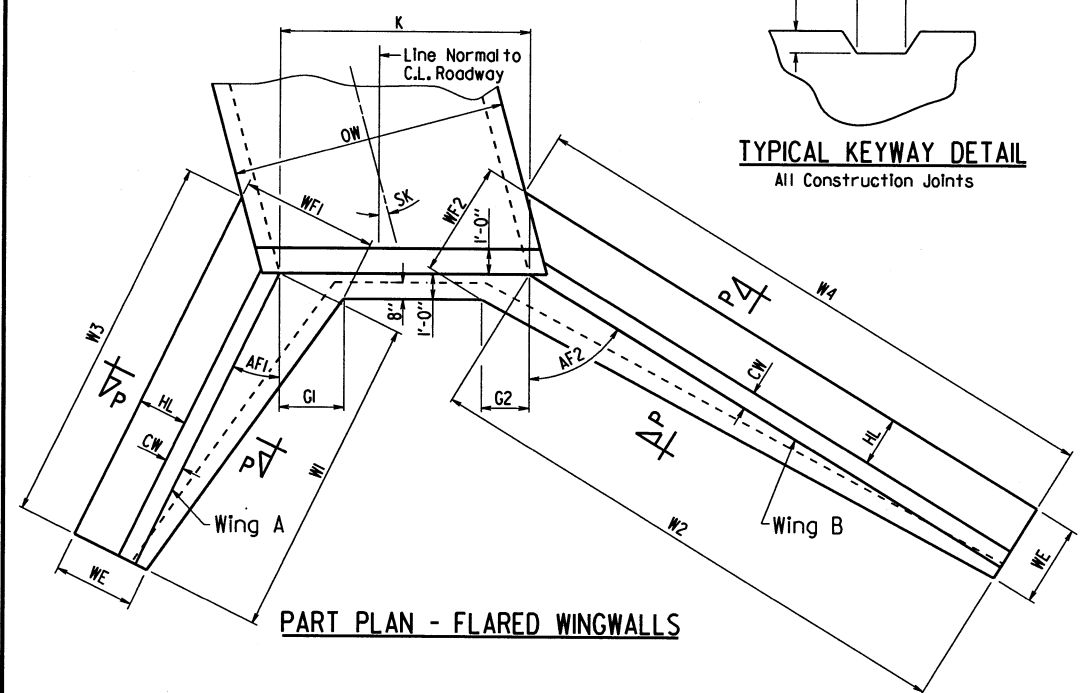


**WINGWALL ELEVATION**  
Showing Back Face Reinforcement

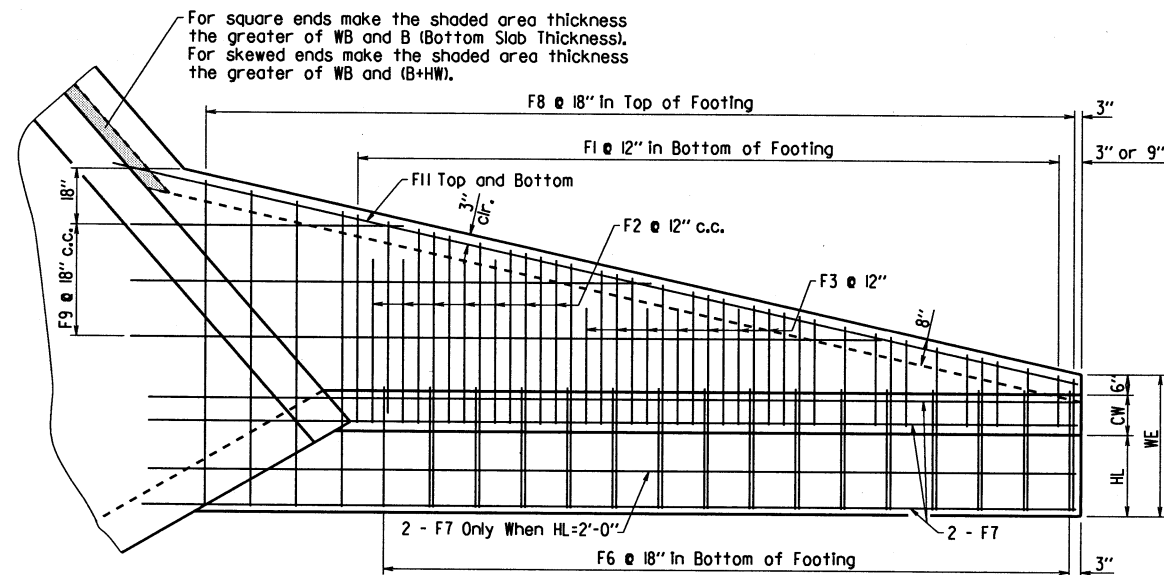
Note: See "Wingwall Section P-P" for additional details and reinforcing.



**TYPICAL KEYWAY DETAIL**  
All Construction Joints

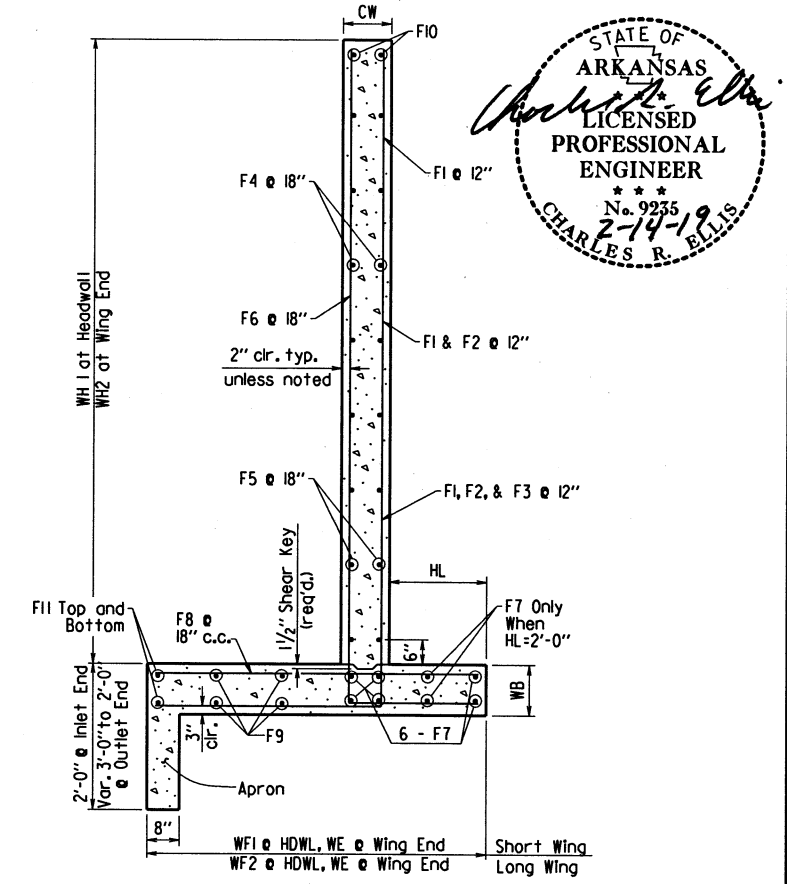


**PART PLAN - FLARED WINGWALLS**



**PLAN - FLARED WINGWALLS**  
Showing Footing Reinforcement

For square ends make the shaded area thickness the greater of WB and B (Bottom Slab Thickness). For skewed ends make the shaded area thickness the greater of WB and (B+HW).

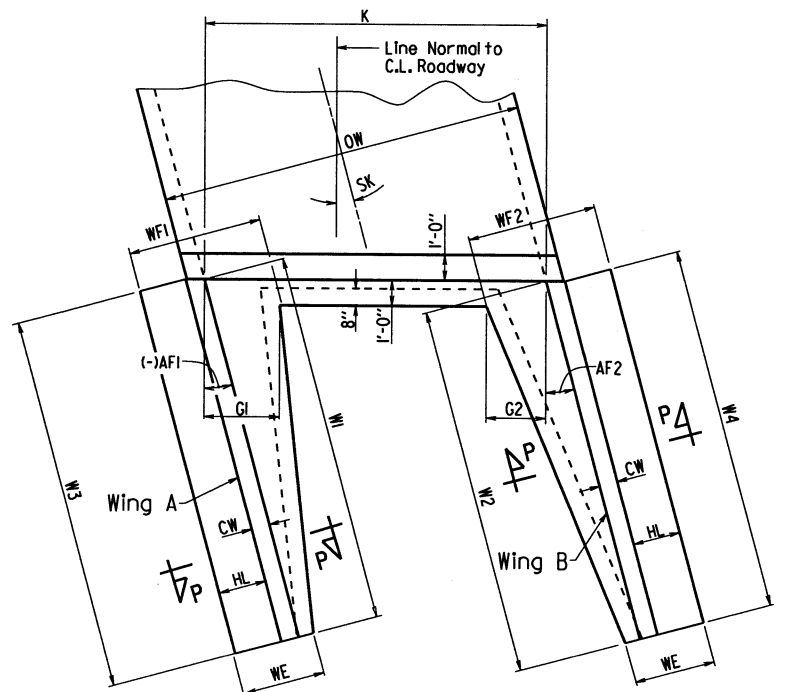


**WINGWALL SECTION P-P**

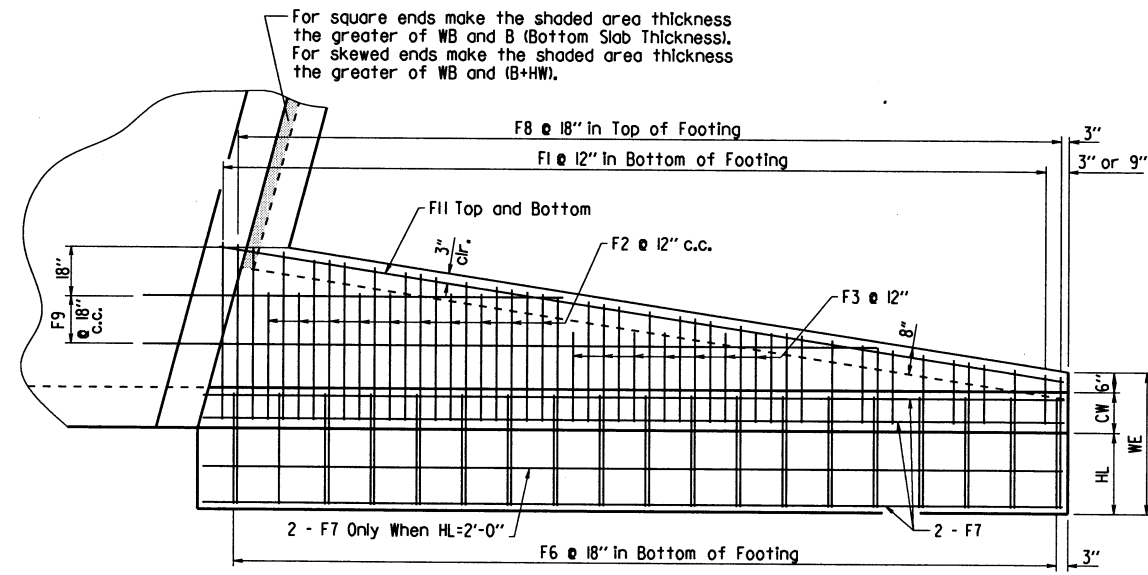
Short Wing = (AF1+SK)  
Long Wing = (AF2-SK)

**F1, F2, F3, & F6 BARS** \*F12 BAR

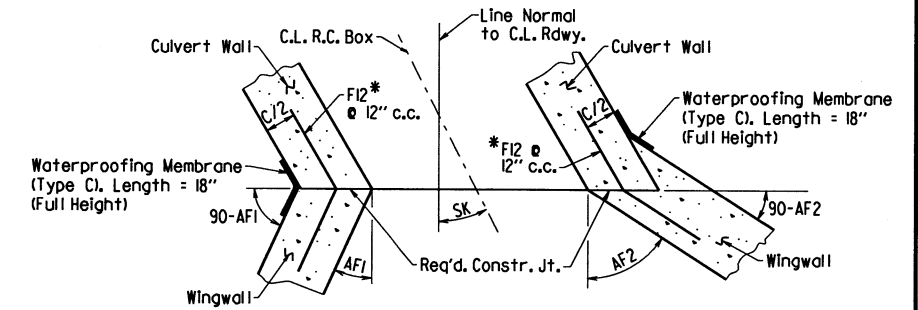
\*F12 is a straight bar for parallel wingwalls



**PART PLAN - PARALLEL WINGWALLS**



**PLAN - PARALLEL WINGWALLS**  
Showing Footing Reinforcement



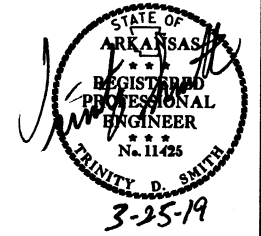
**CONSTRUCTION JOINTS**  
Flared Wingwalls Shown

SHEET 4 OF 4  
GENERAL DETAILS OF R.C. BOX CULVERT  
DETAILS OF WINGWALLS  
SPECIAL DETAILS

b080505\_culvert.dgn

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 080505	11	25

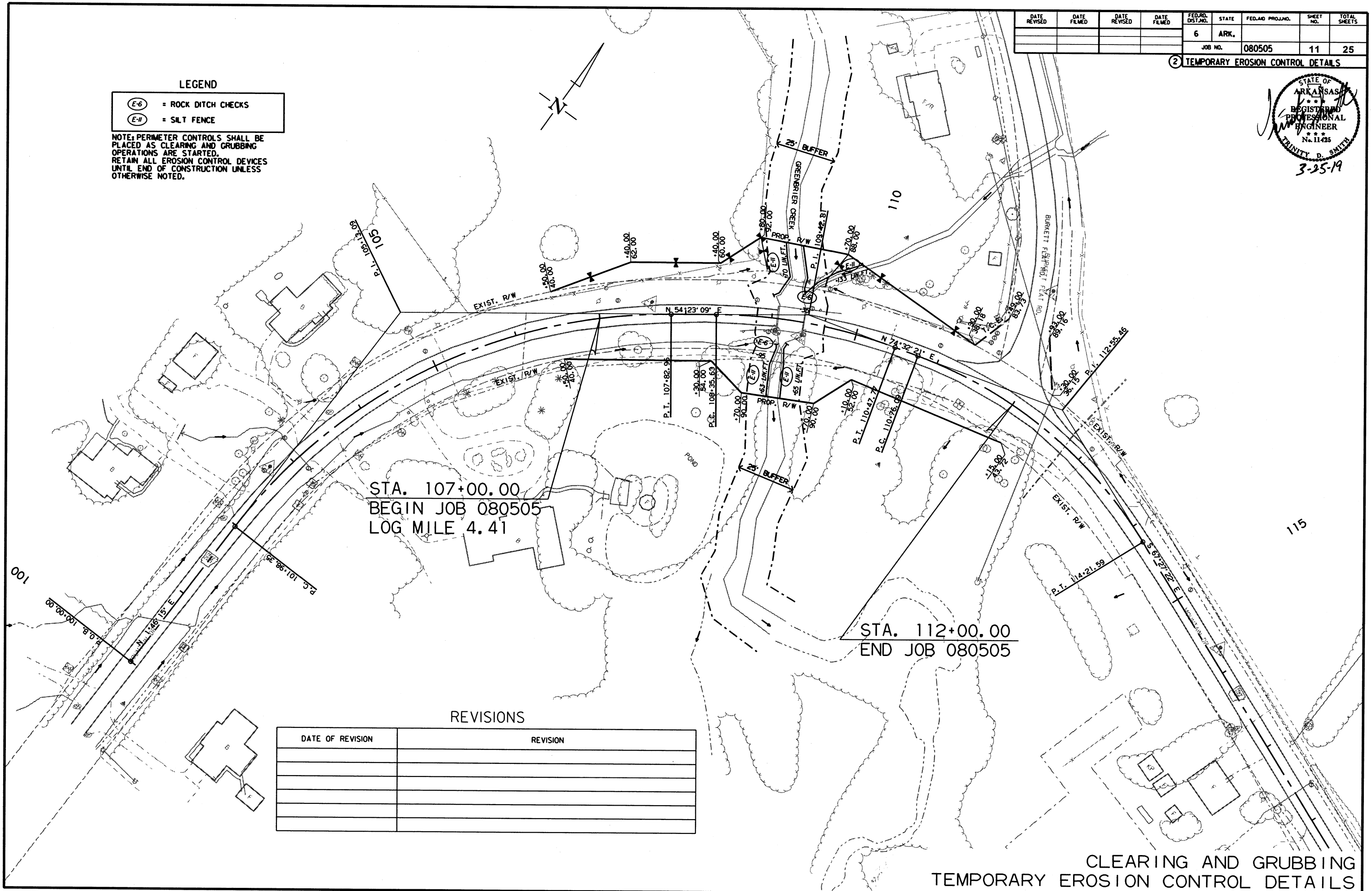
② TEMPORARY EROSION CONTROL DETAILS



LEGEND

- (E-6) = ROCK DITCH CHECKS
- (E-11) = SILT FENCE

NOTE: PERIMETER CONTROLS SHALL BE PLACED AS CLEARING AND GRUBBING OPERATIONS ARE STARTED. RETAIN ALL EROSION CONTROL DEVICES UNTIL END OF CONSTRUCTION UNLESS OTHERWISE NOTED.



STA. 107+00.00  
BEGIN JOB 080505  
LOG MILE 4.41

STA. 112+00.00  
END JOB 080505

REVISIONS

DATE OF REVISION	REVISION

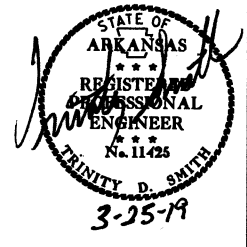
CLEARING AND GRUBBING  
TEMPORARY EROSION CONTROL DETAILS

2/14/2019

R080505.DGN

DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		12	25
						JOB NO. 080505		

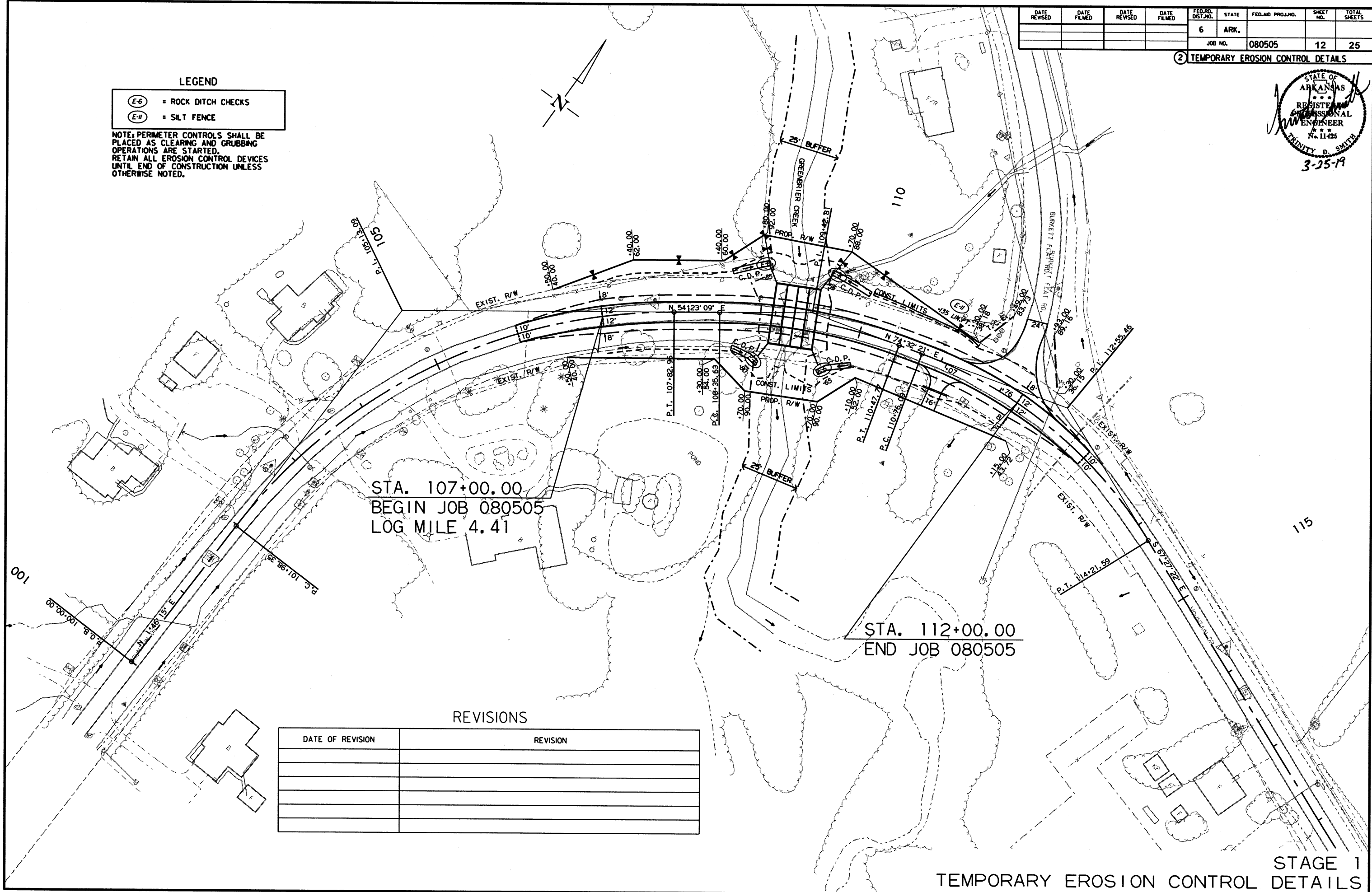
② TEMPORARY EROSION CONTROL DETAILS



**LEGEND**

(E-6) = ROCK DITCH CHECKS  
 (E-11) = SALT FENCE

NOTE: PERIMETER CONTROLS SHALL BE PLACED AS CLEARING AND GRUBBING OPERATIONS ARE STARTED. RETAIN ALL EROSION CONTROL DEVICES UNTIL END OF CONSTRUCTION UNLESS OTHERWISE NOTED.



STA. 107+00.00  
 BEGIN JOB 080505  
 LOG MILE 4.41

STA. 112+00.00  
 END JOB 080505

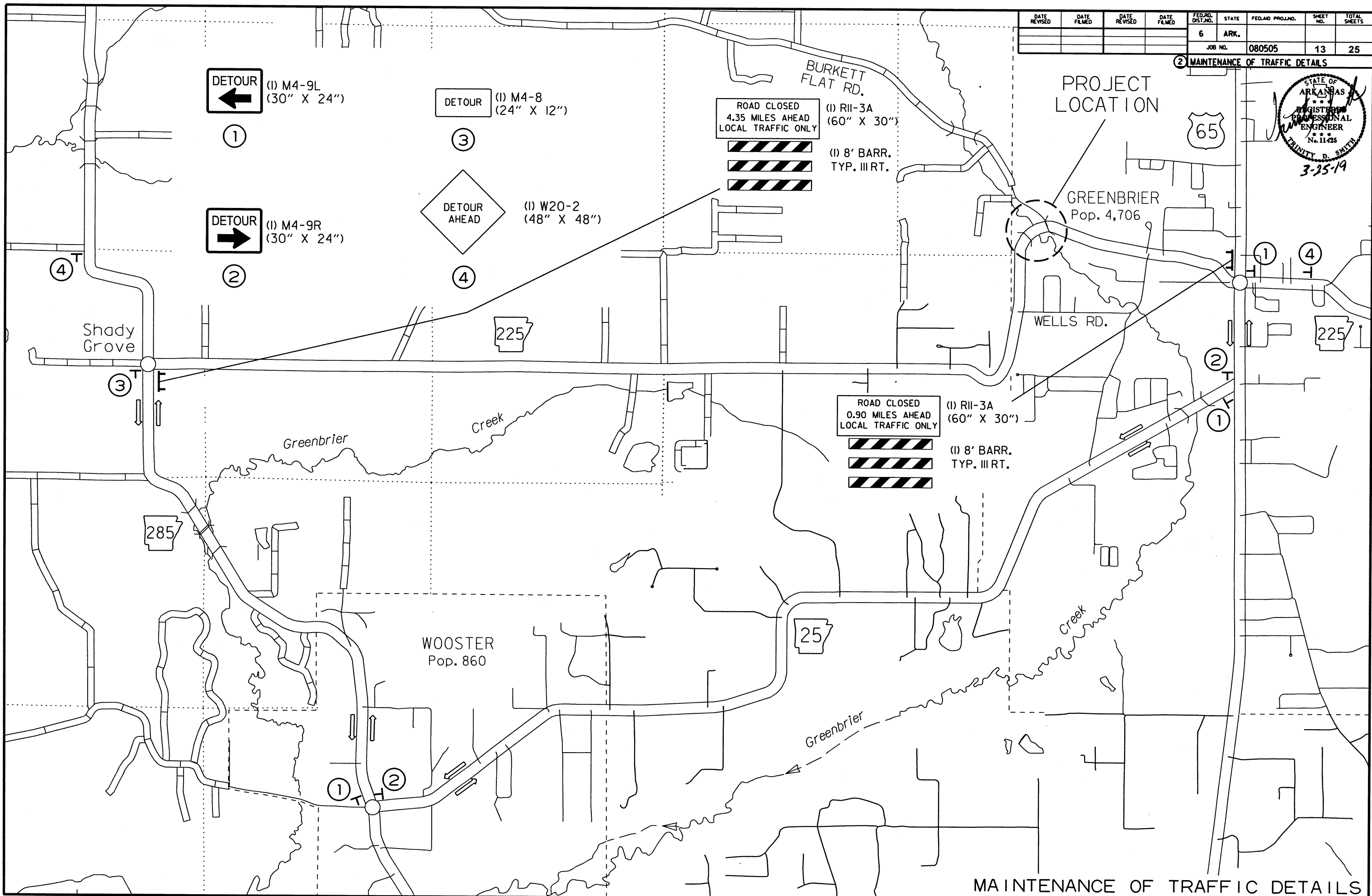
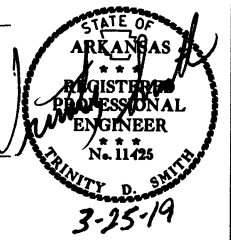
REVISIONS

DATE OF REVISION	REVISION

2/14/2019 R080505.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		13	25

2 MAINTENANCE OF TRAFFIC DETAILS



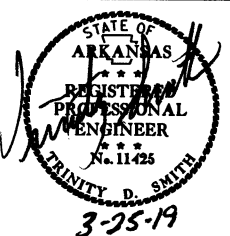
MAINTENANCE OF TRAFFIC DETAILS

2/14/2019  
R080505.DGN

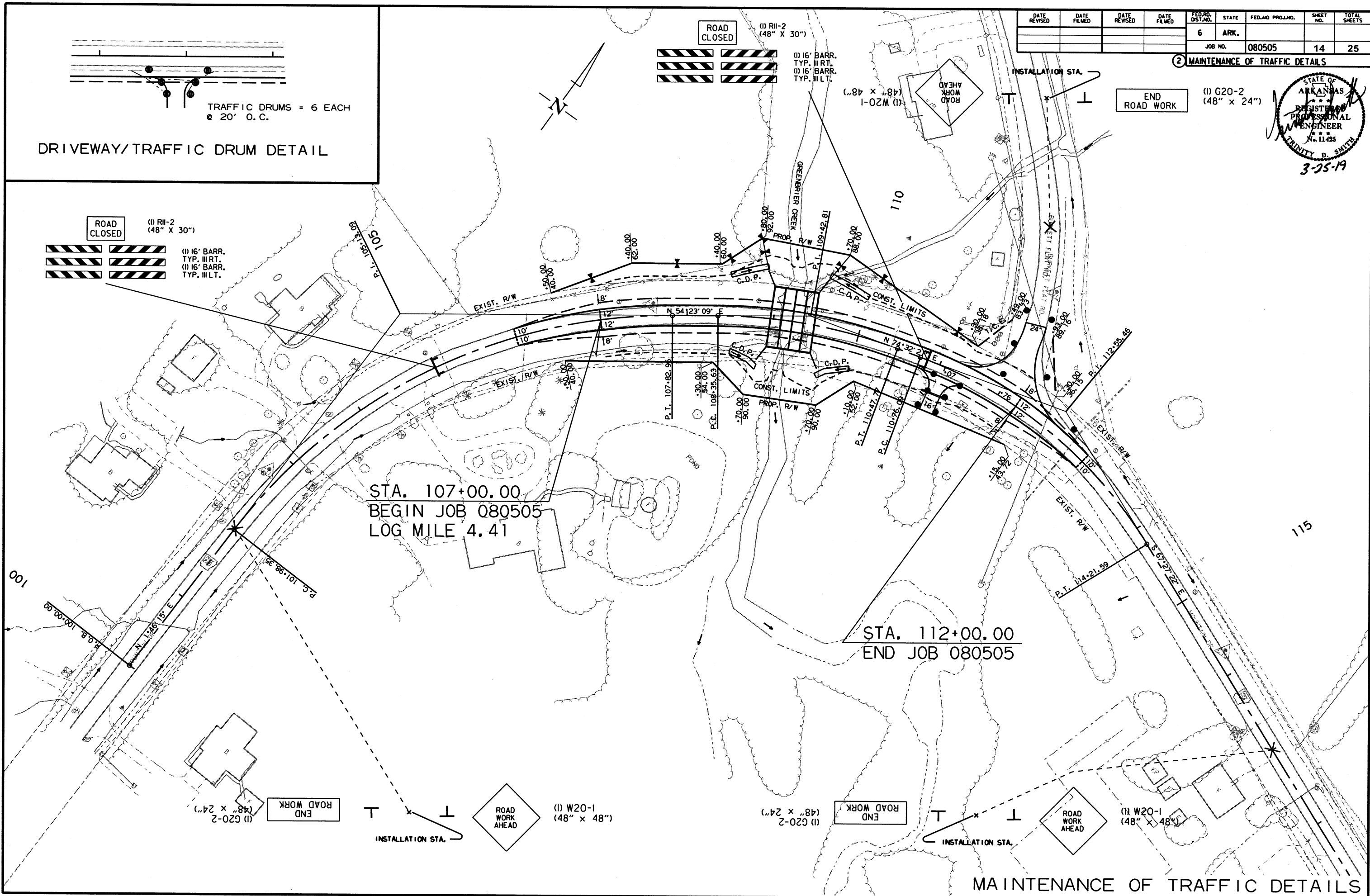
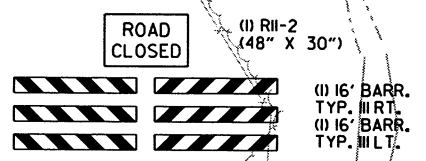
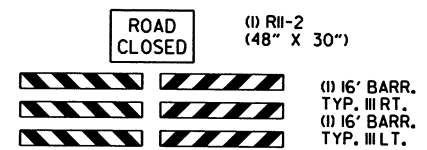
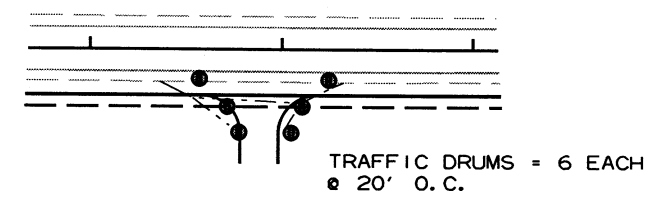
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		14	25

2 MAINTENANCE OF TRAFFIC DETAILS

(1) G20-2 (48" x 24")



DRIVEWAY/TRAFFIC DRUM DETAIL



2/14/2019 R080505.DGN

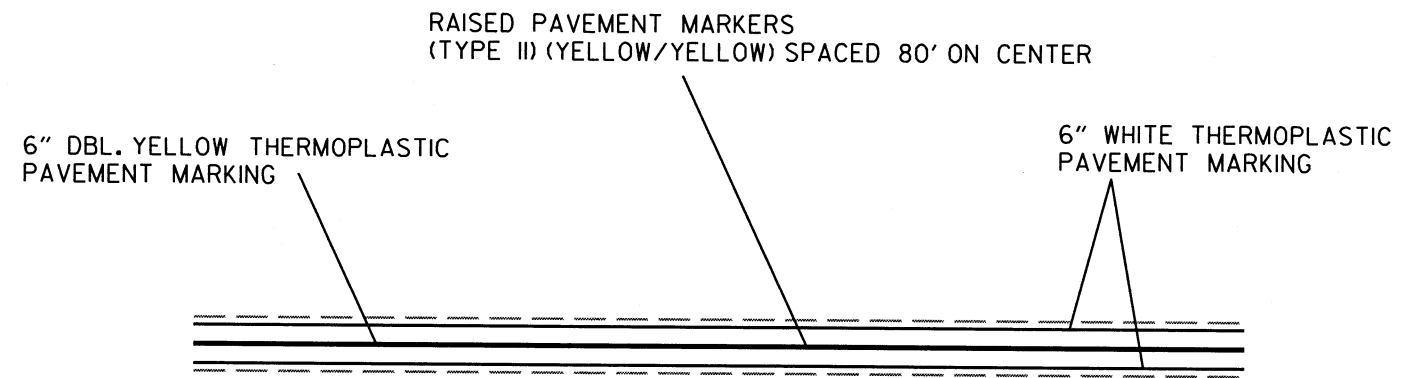
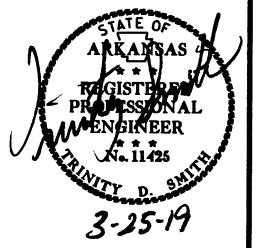


PERMANENT PAVEMENT MARKINGS

THERMOPLASTIC PAVEMENT MARKING WHITE (6") = 1400 LIN. FT.  
 THERMOPLASTIC PAVEMENT MARKING YELLOW (6") = 1400 LIN. FT.  
 RAISED PAVEMENT MARKERS TYPE II (YEL/YEL) = 9 EACH

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO.	080505	15 25

② PERMANENT PAVEMENT MARKING DETAILS



TYPICAL STRIPING DETAIL

2/14/2019

R080505.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. 080505							16	25

**ADVANCE WARNING SIGNS AND DEVICES**

SIGN NUMBER	DESCRIPTION	SIGN SIZE	MAXIMUM NUMBER REQUIRED	TOTAL SIGNS REQUIRED		TRAFFIC DRUMS	BARRICADES (TYPE III)	
				NO.	SQ. FT.		EACH	RIGHT LIN. FT.
W20-1	ROAD WORK AHEAD	48"x48"	3	3	48.0			
G20-2	END ROAD WORK	48"x24"	3	3	24.0			
R11-2	ROAD CLOSED	48"x30"	2	2	20.0			
R11-3A	ROAD CLOSED LOCAL TRAFFIC ONLY	60"x30"	2	2	25.0			
M4-8	DETOUR	24"x12"	1	1	2.0			
M4-9L	DETOUR WITH ARROW	30"x24"	3	3	15.0			
M4-9R	DETOUR WITH ARROW	30"x24"	2	2	10.0			
W20-2	DETOUR AHEAD	48"x48"	2	2	32.0			
	TRAFFIC DRUMS					12		
	TYPE III BARRICADE-RT. (8')		2				16	
	TYPE III BARRICADE-RT. (16')		2				32	
	TYPE III BARRICADE-LT. (16')		2					32
<b>TOTALS:</b>					<b>176.0</b>	<b>12</b>	<b>48</b>	<b>32</b>

NOTE: THIS IS A LOW TRAFFIC VOLUME ROAD AS DEFINED IN SECTION 604.03, STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

**REMOVAL AND DISPOSAL OF FENCE**

STATION	STATION	LOCATION	FENCE LIN. FT.
106+50	108+80	HWY. 225 LT.	280
109+65	111+10	HWY. 225 LT.	145
<b>TOTAL:</b>			<b>425</b>

**QUANTITIES**



**REMOVAL AND DISPOSAL OF CULVERTS**

STATION	DESCRIPTION	PIPE CULVERTS EACH
111+07	15" X 23' C.M. RT. SIDE DRAIN	1
<b>TOTAL:</b>		<b>1</b>

NOTE: QUANTITIES SHOWN ABOVE SHALL INCLUDE REMOVAL & DISPOSAL OF ALL HEADWALLS AND FLARED END SECTIONS IF APPLICABLE.

**PERMANENT PAVEMENT MARKINGS**

DESCRIPTION	END OF JOB LIN. FT. - EACH	RAISED PAVEMENT MARKERS	THERMOPLASTIC PAVEMENT MARKING	
		TYPE II (YELLOW/YELLOW) EACH	WHITE	YELLOW
			6" LIN. FT.	
RAISED PAVEMENT MARKERS TYPE II (YELLOW/YELLOW)	9	9		
THERMOPLASTIC PAVEMENT MARKING WHITE (6")	1400		1400	
THERMOPLASTIC PAVEMENT MARKING YELLOW (6")	1400			1400
<b>TOTALS:</b>		<b>9</b>	<b>1400</b>	<b>1400</b>

NOTE: THIS IS A LOW TRAFFIC VOLUME ROAD AS DEFINED IN SECTION 604.03, STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

NOTE: THE 6" YELLOW STRIPING QUANTITY HAS BEEN ESTIMATED BASED ON A DOUBLE YELLOW CENTERLINE STRIPE FOR THE ENTIRE PROJECT. THE PROJECT MUST BE MARKED FOR PASSING/NO PASSING ZONES PRIOR TO THE PLACEMENT OF ANY FINAL STRIPING. CONTACT THE MAINTENANCE DIVISION AFTER THE FINAL LIFT OF SURFACE COURSE HAS BEEN PLACED TO SCHEDULE THE ZONING OF THE PROJECT.

**REMOVAL OF EXISTING BRIDGE STRUCTURE**

STATION	STATION	LOCATION	LUMP SUM
109+06	109+38	HWY. 225-BR. NO. M3802 (SITE NO. 1)	1.00
<b>TOTAL:</b>			<b>1.00</b>

**EARTHWORK**

STATION	STATION	LOCATION / DESCRIPTION	UNCLASSIFIED EXCAVATION	COMPACTED EMBANKMENT	* SOIL STABILIZATION
			CU. YD.		TON
ENTIRE	PROJECT	HWY. 225	566	2960	
ENTIRE	PROJECT	APPROACHES		100	
		CHANNEL CHANGE	515		
ENTIRE	PROJECT	TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER			25
<b>TOTALS:</b>			<b>1081</b>	<b>3060</b>	<b>25</b>

\* QUANTITY ESTIMATED. SEE SECTION 104.03 OF THE STD. SPECS.

NOTE: EARTHWORK QUANTITIES SHOWN ABOVE SHALL BE PAID AS PLAN QUANTITY.

**CLEARING AND GRUBBING**

STATION	STATION	LOCATION	CLEARING	GRUBBING
STATION				
108+50	109+50	HWY. 225	1	1
<b>TOTALS:</b>			<b>1</b>	<b>1</b>

**REMOVAL AND DISPOSAL OF ITEMS**

STATION	STATION	LOCATION	GUARDRAIL LIN. FT.
108+64	109+06	HWY. 225 RT.	42
109+41	109+78	HWY. 225 LT.	37
<b>TOTAL:</b>			<b>79</b>

NOTE: THE QUANTITY SHOWN ABOVE FOR THE REMOVAL AND DISPOSAL OF GUARDRAIL SHALL INCLUDE THE REMOVAL AND DISPOSAL OF ALL GUARDRAIL TERMINALS AND TERMINAL ANCHOR POSTS.

**SOIL LOG**

STATION	LATITUDE			LONGITUDE			LOCATION	DEPTH	LIQUID LIMIT	PLASTICITY INDEX	AASHTO CLASSIFICATION	COLOR
	DEG	MIN	SEC	DEG	MIN	SEC		FEET				
108+90	35	14	15.30	92	24	13.50	5' RT.	0-5	24	10	A-4 (2)	BROWN
108+90	35	14	14.90	92	24	13.90	15' RT.	0-5	21	8	A-4 (1)	BROWN
109+50	35	14	15.60	92	24	12.80	5' LT.	0-5	ND	NP	A-4 (0)	BROWN
109+50	35	14	15.80	92	24	12.90	17' LT.	0-5	ND	NP	A-2-4 (0)	BROWN

SOIL CHARACTERISTICS TABULATED ABOVE ARE REPRESENTATIVE AT THE LOCATION OF THE SAMPLE, AND FROM SURFACE INDICATIONS ARE TYPICAL FOR THE LIMITS SHOWN. THESE DATA ARE SHOWN FOR INFORMATION ONLY. THE STATE WILL NOT BE RESPONSIBLE FOR VARIATIONS IN THE SOIL CHARACTERISTICS AND/OR EXTENT OF SAME DIFFERING FROM THE ABOVE TABULATIONS.  
NP - NON-PLASTIC  
ND - NOT DETERMINABLE

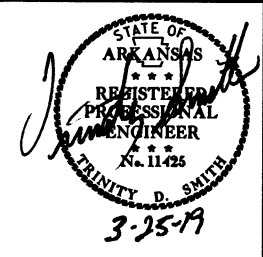
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	080505		17	25

**STRUCTURES**

STATION	DESCRIPTION	SPAN	HEIGHT	LENGTH	CLASS S	REINF.	UNCL. EXC.	SOLID	WATER	STD. DWG. NOS.
					CONCRETE-ROADWAY	STEEL-ROADWAY (GRADE 60)	FOR STR.-ROADWAY	SODDING		
				LIN. FT.	CU. YD.	POUND	CU. YD.	SQ. YD.	M. GAL.	
<b>STRUCTURES OVER 20' - 0" SPAN</b>										
109+22	QUAD. 12' X 7' X 72' R.C. BOX CULVERT	12	7	72	405.36	47555	170	41	0.52	SPECIAL DETAILS, RCB-1, RCB-2
<b>TOTALS:</b>					405.36	47555	170	41	0.52	

BASIS OF ESTIMATE:  
WATER.....12.6 GAL. / SQ. YD. OF SOLID SODDING

② QUANTITIES



**EROSION CONTROL**

STATION	STATION	LOCATION	PERMANENT EROSION CONTROL					TEMPORARY EROSION CONTROL							
			SEEDING	LIME	MULCH COVER	WATER	SECOND SEEDING APPLICATION	TEMPORARY SEEDING	MULCH COVER	WATER	SAND BAG DITCH CHECKS	ROCK DITCH CHECKS	SILT FENCE	*SEDIMENT REMOVAL & DISPOSAL	
			ACRE	TON	ACRE	M. GAL.	ACRE	ACRE	ACRE	M. GAL.	(E-5) BAG	(E-6) CU. YD.	(E-11) LIN. FT.	CU. YD.	
ENTIRE PROJECT	ENTIRE PROJECT	HWY. 225 - CLEARING AND GRUBBING													
ENTIRE PROJECT	ENTIRE PROJECT	HWY. 225 - STAGE 1	0.70	1.40	0.70	71.4	0.70	1.15	1.15	23.5		6	331	14	
*ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.			0.18	0.36	0.18	18.4	0.18	0.29	0.29	5.9	132	6	50	10	
<b>TOTALS:</b>			0.88	1.76	0.88	89.8	0.88	1.44	1.44	29.4	132	24	516	33	

BASIS OF ESTIMATE:  
LIME .....2 TONS / ACRE OF SEEDING  
WATER.....102.0 M.G. / ACRE OF SEEDING  
WATER.....20.4 M.G. / ACRE OF TEMPORARY SEEDING  
SAND BAG DITCH CHECKS.....22 BAGS / LOCATION  
ROCK DITCH CHECKS.....3 CU.YD./LOCATION

NOTE: THE TEMPORARY EROSION CONTROL DEVICES SHOWN ABOVE AND ON THE PLANS SHALL BE INSTALLED IN SUCH A SEQUENCE AS TO DETER EROSION AND SEDIMENTATION ON U.S. WATERWAYS AS EXPLAINED BY THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT.

\*QUANTITIES ESTIMATED.  
SEE SECTION 104.03 OF THE STD. SPECS.

**CONCRETE DITCH PAVING**

STATION	STATION	LOCATION	LENGTH	"W"	CONC. DITCH PAVING	SOLID SODDING	WATER
					(TYPE B)		
			LIN. FT.	FEET	SQ. YD.	SQ. YD.	M. GAL.
108+50.00	108+83.00	HWY. 225 RT.	33.00	6.32	23.17	14.67	0.18
108+50.00	108+89.00	HWY. 225 LT.	39.00	6.32	27.39	17.33	0.22
109+55.00	110+00.00	HWY. 225 LT.	45.00	6.32	31.60	20.00	0.25
109+61.00	110+00.00	HWY. 225 RT.	39.00	6.32	27.39	17.33	0.22
<b>TOTALS:</b>					109.55	69.33	0.87

BASIS OF ESTIMATE:  
WATER.....12.6 GAL. / SQ. YD. OF SOLID SODDING.

**FENCING**

STATION	STATION	LOCATION	WIRE FENCE	
			(TYPE D)	(TYPE D-1)
			LIN. FT.	
106+50	108+89	HWY. 225 LT.		298
109+55	111+10	HWY. 225 LT.	190	
<b>TOTALS:</b>			190	298

**BENCH MARKS**

STATION	LOCATION	BENCH MARKS
		EACH
109+22	HEADWALL OF R.C. BOX CULVERT ON LT.	1
<b>TOTAL:</b>		1

NOTE: SHOWN FOR INFORMATION ONLY. BENCH MARKS SHALL BE FURNISHED AND PLACED BY STATE FORCES.

**4" PIPE UNDERDRAIN**

STATION	STATION	LOCATIONS	4" PIPE UNDERDRAINS	UNDERDRAIN OUTLET PROTECTORS
			LIN. FT.	EACH
* ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER			500	4
<b>TOTALS:</b>			500	4

\* NOTE: QUANTITY ESTIMATED.  
SEE SECTION 104.03 OF THE STD. SPECS.

2/14/2019

R080505.DGN

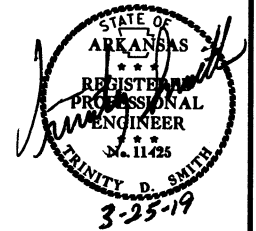
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS	
				6	ARK.				
JOB NO.							080505	18	25

② QUANTITIES

**SELECTED PIPE BEDDING**

LOCATION	SELECTED PIPE BEDDING
ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	10
TOTAL:	10

NOTE: QUANTITY ESTIMATED.  
SEE SECTION 104.03 OF THE STD. SPECS.



**DRIVEWAYS & TURNOUTS**

STATION	SIDE	LOCATION	WIDTH	ACHM SURFACE COURSE (3/8") 220 LBS. PER SQ. YD. (PG 64-22)		AGGREGATE BASE COURSE (CLASS 7)	SIDE DRAINS	STANDARD DRAWINGS
				FEET	TON			
111+07	RT.	DRIVE ON RT.	16	24.73	2.72	31.49	18"	PCC-1, PCM-1, PCP-1, PCP-2
111+76	LT.	CO. RD. ON LT.	24	378.60	41.65	154.60	LIN. FT.	
ENTIRE PROJECT TEMPORARY DRIVES						20.00		
<b>TOTALS:</b>				<b>403.33</b>	<b>44.37</b>	<b>206.09</b>	<b>30</b>	

BASIS OF ESTIMATE:  
ACHM SURFACE COURSE (1/2").....94.8% MIN. AGGR.....5.2% ASPHALT BINDER  
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22

\* QUANTITY ESTIMATED  
SEE SECTION 104.03 OF THE STD. SPECS.  
TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.

NOTE: FOR R.C. PIPE CULVERT INSTALLATIONS USE TYPE 3 BEDDING UNLESS OTHERWISE SPECIFIED.  
NOTE: FOR C.M. PIPE CULVERT INSTALLATIONS USE TYPE 2 BEDDING UNLESS OTHERWISE SPECIFIED.

**COLD MILLING ASPHALT PAVEMENT**

STATION	STATION	LOCATION	AVG. WIDTH	COLD MILLING ASPHALT PAVEMENT
			FEET	SQ. YD.
106+00.00	107+00.00	MAIN LANES	20.00	222.22
112+00.00	113+00.00	MAIN LANES	20.00	222.22
<b>TOTAL:</b>				<b>444.44</b>

NOTE: AVERAGE MILLING DEPTH 1".

**BASE AND SURFACING**

STATION	STATION	LOCATION	LENGTH	AGGREGATE BASE COURSE (CLASS 7)		TACK COAT						ACHM BINDER COURSE (1")				ACHM SURFACE COURSE (3/8")										
				TON / STATION	TON	(0.05 GAL. PER SQ. YD.)			(0.17 GAL. PER SQ. YD.)			TOTAL GALLONS	AVG. WID. FEET	SQ.YD.	POUND / SQ.YD.	PG 64-22 TON	AVG. WID. FEET	SQ.YD.	POUND / SQ.YD.	PG 64-22 TON	AVG. WID. FEET	SQ.YD.	POUND / SQ.YD.	PG 64-22 TON	TOTAL PG 64-22 TON	
						TOTAL WID. FEET	SQ.YD.	GALLON	TOTAL WID. FEET	SQ.YD.	GALLON															
<b>MAIN LANES</b>																										
106+00.00	107+00.00	HWY. 225 - TRANSITION	100.00	107.50	107.50				20.00	222.22	37.78	37.78														
107+00.00	108+83.00	HWY. 225 - NOTCH, WIDEN, AND OVERLAY SECTION	183.00	265.50	485.87	28.71	583.77	29.19				29.19	4.46	90.69	330.00	14.96	4.25	86.42	220.00	9.51	32.00	650.67	220.00	71.57	81.08	31.78
108+83.00	110+50.00	HWY. 225 - FULL DEPTH SECTION	167.00	349.50	583.67	48.71	903.84	45.19				45.19	24.46	453.87	330.00	74.89	24.25	449.97	220.00	49.50	32.00	593.78	220.00	65.32	114.82	
110+50.00	112+00.00	HWY. 225 - NOTCH, WIDEN, AND OVERLAY SECTION	150.00	265.50	398.25	28.71	478.50	23.93				23.93	4.46	74.33	330.00	12.26	4.25	70.83	220.00	7.79	32.00	533.33	220.00	58.67	66.46	
112+00.00	113+00.00	HWY. 225 - TRANSITION	100.00	107.50	107.50				20.00	222.22	37.78	37.78													31.78	
<b>ADDITIONAL FOR LEVELING</b>																										
107+00.00	108+83.00	HWY. 225 - NOTCH, WIDEN, AND OVERLAY SECTION	183.00			40.00	813.33	40.67	20.00	406.67	69.13	109.80					20.00	406.67	VAR.	137.57					137.57	
110+50.00	112+00.00	HWY. 225 - NOTCH, WIDEN, AND OVERLAY SECTION	150.00			40.00	666.67	33.33	20.00	333.33	56.67	90.00					20.00	333.33	VAR.	118.86					118.86	
<b>TOTALS:</b>					<b>1682.79</b>		<b>3446.11</b>	<b>172.31</b>		<b>1184.44</b>	<b>201.36</b>	<b>373.67</b>		<b>618.89</b>		<b>102.11</b>		<b>1347.22</b>		<b>323.23</b>		<b>2355.56</b>		<b>259.12</b>	<b>582.35</b>	

BASIS OF ESTIMATE:  
ACHM SURFACE COURSE (3/8").....94.8% MIN. AGGR.....5.2% ASPHALT BINDER  
ACHM BINDER COURSE (1").....95.6% MIN. AGGR.....4.4% ASPHALT BINDER  
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22  
TACK COAT QUANTITIES WERE CALCULATED USING THE EMULSIFIED ASPHALT RATES. REFER TO SS-400-1 FOR THE RESIDUAL ASPHALT APPLICATION RATES.

2/14/2019

R080505.DGN

QUANTITIES

**SUMMARY OF QUANTITIES**

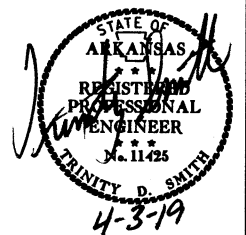
ITEM NUMBER	ITEM	QUANTITY	UNIT
201	CLEARING	1	STATION
201	GRUBBING	1	STATION
202	REMOVAL AND DISPOSAL OF FENCE	425	LIN. FT.
202	REMOVAL AND DISPOSAL OF PIPE CULVERTS	1	EACH
202	REMOVAL AND DISPOSAL OF GUARDRAIL	79	LIN. FT.
210	UNCLASSIFIED EXCAVATION	1081	CU. YD.
210	COMPACTED EMBANKMENT	3060	CU. YD.
SP & 210	SOIL STABILIZATION	25	TON
SS & 303	AGGREGATE BASE COURSE (CLASS 7)	1889	TON
SS & 401	TACK COAT	374	GAL.
SP, SS, & 406	MINERAL AGGREGATE IN ACHM BINDER COURSE (1")	98	TON
SP, SS, & 406	ASPHALT BINDER (PG 64-22) IN ACHM BINDER COURSE (1")	4	TON
SP, SS, & 407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (3/8")	594	TON
SP, SS, & 407	ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (3/8")	33	TON
412	COLD MILLING ASPHALT PAVEMENT	444	SQ. YD.
601	MOBILIZATION	1.00	LUMP SUM
SP & 603	MAINTENANCE OF TRAFFIC	1.00	LUMP SUM
SS & 604	SIGNS	176	SQ. FT.
SS & 604	BARRICADES	80	LIN. FT.
SS & 604	TRAFFIC DRUMS	12	EACH
SS & 605	CONCRETE DITCH PAVING (TYPE B)	110	SQ. YD.
SP, SS, & 606	18" SIDE DRAIN	30	LIN. FT.
606	SELECTED PIPE BEDDING	10	CU. YD.
SS & 611	4" PIPE UNDERDRAINS	500	LIN. FT.
SS & 611	UNDERDRAIN OUTLET PROTECTORS	4	EACH
619	WIRE FENCE (TYPE D)	190	LIN. FT.
619	WIRE FENCE (TYPE D-1)	298	LIN. FT.
620	LIME	2	TON
620	SEEDING	0.88	ACRE
SS & 620	MULCH COVER	2.32	ACRE
620	WATER	120.6	M. GAL.
621	TEMPORARY SEEDING	1.44	ACRE
621	SILT FENCE	516	LIN. FT.
621	SAND BAG DITCH CHECKS	132	BAG
621	SEDIMENT REMOVAL AND DISPOSAL	33	CU. YD.
621	ROCK DITCH CHECKS	24	CU. YD.
623	SECOND SEEDING APPLICATION	0.88	ACRE
624	SOLID SODDING	110	SQ. YD.
635	ROADWAY CONSTRUCTION CONTROL	1.00	LUMP SUM
719	THERMOPLASTIC PAVEMENT MARKING WHITE (6")	1400	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING YELLOW (6")	1400	LIN. FT.
721	RAISED PAVEMENT MARKERS (TYPE II)	9	EACH
<b>STRUCTURES OVER 20' SPAN</b>			
205	REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. 1)	1.00	LUMP SUM
801	UNCLASSIFIED EXCAVATION FOR STRUCTURES-ROADWAY	170	CU. YD.
SS & 802	CLASS S CONCRETE-ROADWAY	405.36	CU. YD.
SS & 804	REINFORCING STEEL-ROADWAY (GRADE 60)	47555	POUND

**REVISIONS**

DATE	REVISION	SHEET NUMBER

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.	080505		19	25

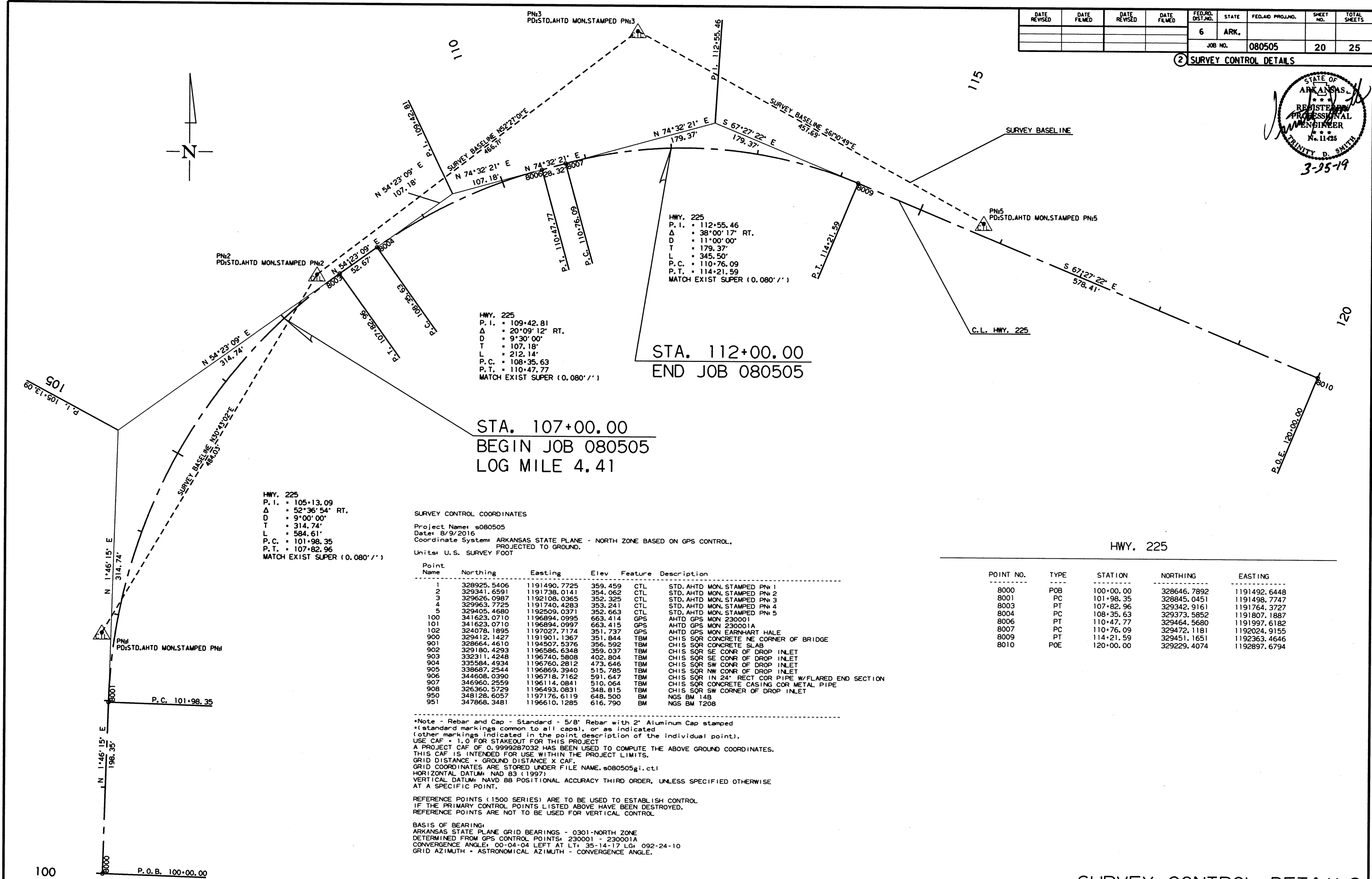
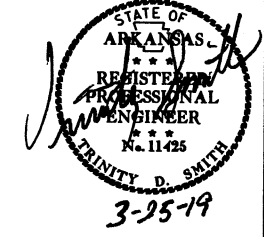
② **SUMMARY OF QUANTITIES AND REVISIONS**



4/3/2019 R080505.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. 080505							20	25

2 SURVEY CONTROL DETAILS



HWY. 225  
 P.I. = 105.13.09  
 Δ = 52°36'54" RT.  
 D = 9°00'00"  
 T = 314.74'  
 L = 584.61'  
 P.C. = 101.98.35  
 P.T. = 107.82.96  
 MATCH EXIST SUPER (0.080'/'')

SURVEY CONTROL COORDINATES  
 Project Name: s080505  
 Date: 8/9/2016  
 Coordinate System: ARKANSAS STATE PLANE - NORTH ZONE BASED ON GPS CONTROL, PROJECTED TO GROUND.  
 Units: U.S. SURVEY FOOT

Point Name	Northing	Easting	Elev	Feature	Description
1	328925.5406	1191490.7725	359.459	CTL	STD. AHTD MON. STAMPED PN# 1
2	329341.6591	1191738.0141	354.062	CTL	STD. AHTD MON. STAMPED PN# 2
3	329626.0987	1192108.0365	352.325	CTL	STD. AHTD MON. STAMPED PN# 3
4	329963.7725	1191740.4283	353.241	CTL	STD. AHTD MON. STAMPED PN# 4
5	329405.4680	1192509.0371	352.663	CTL	STD. AHTD MON. STAMPED PN# 5
100	341623.0710	1196894.0995	663.414	GPS	AHTD GPS MON 230001
101	341623.0710	1196894.0997	663.415	GPS	AHTD GPS MON 230001A
102	324078.1895	1197027.7174	351.737	GPS	AHTD GPS MON EARNHART HALE
900	329412.1427	1191901.1367	351.844	TBM	CHIS SQR CONCRETE NE CORNER OF BRIDGE
901	328864.4610	1194507.5376	356.592	TBM	CHIS SQR CONCRETE SLAB
902	329180.4293	1196586.6348	359.037	TBM	CHIS SQR SE CNR OF DROP INLET
903	332311.4248	1196740.5808	402.804	TBM	CHIS SQR SE CNR OF DROP INLET
904	335584.4934	1196760.2812	473.646	TBM	CHIS SQR SW CNR OF DROP INLET
905	338687.2544	1196869.3940	515.785	TBM	CHIS SQR NW CNR OF DROP INLET
906	344608.0390	1196718.7162	591.647	TBM	CHIS SQR IN 24" RECT COR PIPE W/FLARED END SECTION
907	346960.2559	1196114.0841	510.064	TBM	CHIS SQR CONCRETE CASING COR METAL PIPE
908	326360.5729	1196493.0831	348.815	TBM	CHIS SQR SW CORNER OF DROP INLET
950	348128.6057	1197176.6119	648.500	BM	NGS BM 148
951	347868.3481	1196610.1285	616.790	BM	NGS BM T208

\*Note - Rebar and Cap - Standard - 5/8" Rebar with 2" Aluminum Cap stamped (standard markings common to all caps), or as indicated (other markings indicated in the point description of the individual point).  
 USE CAF = 1.0 FOR STAKEOUT FOR THIS PROJECT.  
 A PROJECT CAF OF 0.9999287032 HAS BEEN USED TO COMPUTE THE ABOVE GROUND COORDINATES.  
 THIS CAF IS INTENDED FOR USE WITHIN THE PROJECT LIMITS.  
 GRID DISTANCE = GROUND DISTANCE X CAF.  
 GRID COORDINATES ARE STORED UNDER FILE NAME: s080505g1.ctb  
 HORIZONTAL DATUM: NAD 83 (1997)  
 VERTICAL DATUM: NAVD 88 POSITIONAL ACCURACY THIRD ORDER, UNLESS SPECIFIED OTHERWISE AT A SPECIFIC POINT.

REFERENCE POINTS (1500 SERIES) ARE TO BE USED TO ESTABLISH CONTROL.  
 IF THE PRIMARY CONTROL POINTS LISTED ABOVE HAVE BEEN DESTROYED,  
 REFERENCE POINTS ARE NOT TO BE USED FOR VERTICAL CONTROL.

BASIS OF BEARING:  
 ARKANSAS STATE PLANE GRID BEARINGS - 0301-NORTH ZONE  
 DETERMINED FROM GPS CONTROL POINTS: 230001 - 230001A  
 CONVERGENCE ANGLE: 00-04-04 LEFT AT LT: 35-14-17 LG: 092-24-10  
 GRID AZIMUTH = ASTRONOMICAL AZIMUTH - CONVERGENCE ANGLE.

HWY. 225

POINT NO.	TYPE	STATION	NORTHING	EASTING
8000	POB	100+00.00	328646.7892	1191492.6448
8001	PC	101+98.35	328845.0451	1191498.7747
8003	PT	107+82.96	329342.9161	1191764.3727
8004	PC	108+35.63	329373.5852	1191807.1887
8006	PT	110+47.77	329464.5680	1191997.6182
8007	PC	110+76.09	329472.1181	1192024.9155
8009	PT	114+21.59	329451.1651	1192363.4646
8010	POE	120+00.00	329229.4074	1192897.6794

2/14/2019  
080505.DGN