

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. 050341	1	94

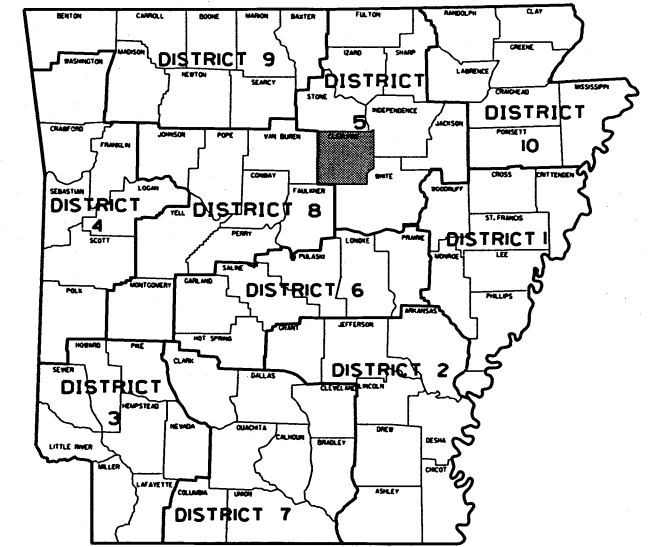
2 MILL & PINEY CREEK STRS. & APPRS. (S)

MILL & PINEY CREEK
STRS. & APPRS. (S)

CLEBURNE COUNTY
ROUTE 25 SECTION 2

JOB 050341

FEDERAL AID PROJ. NHPP-0012(34)



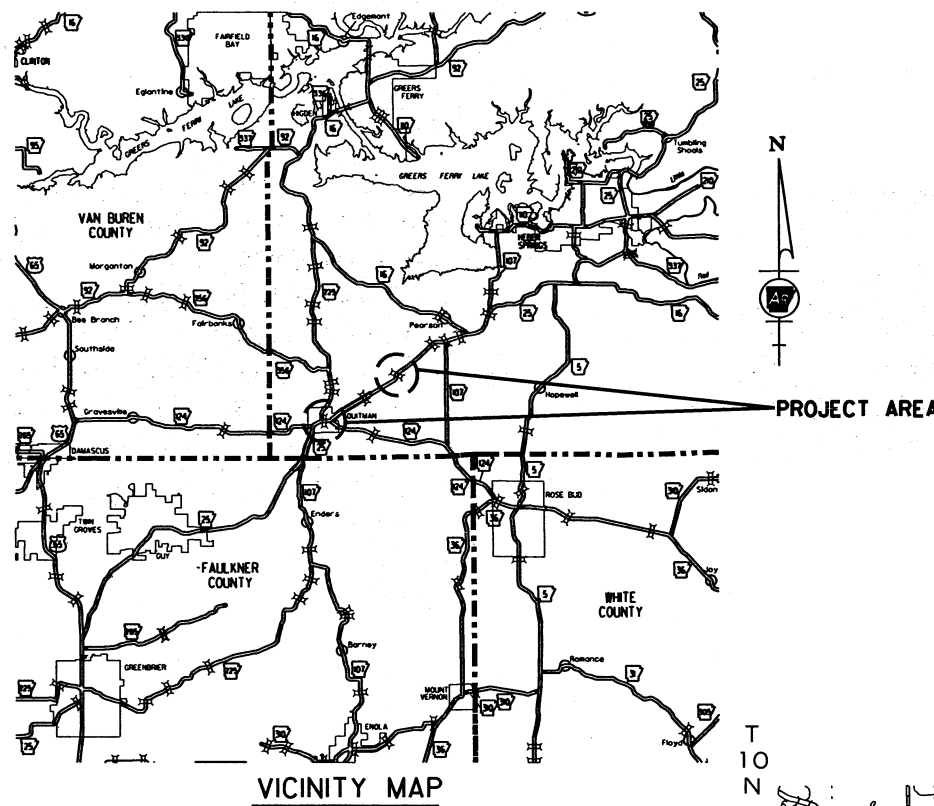
ARK. HWY. DIST. NO. 5

DESIGN TRAFFIC DATA (SITE 1)

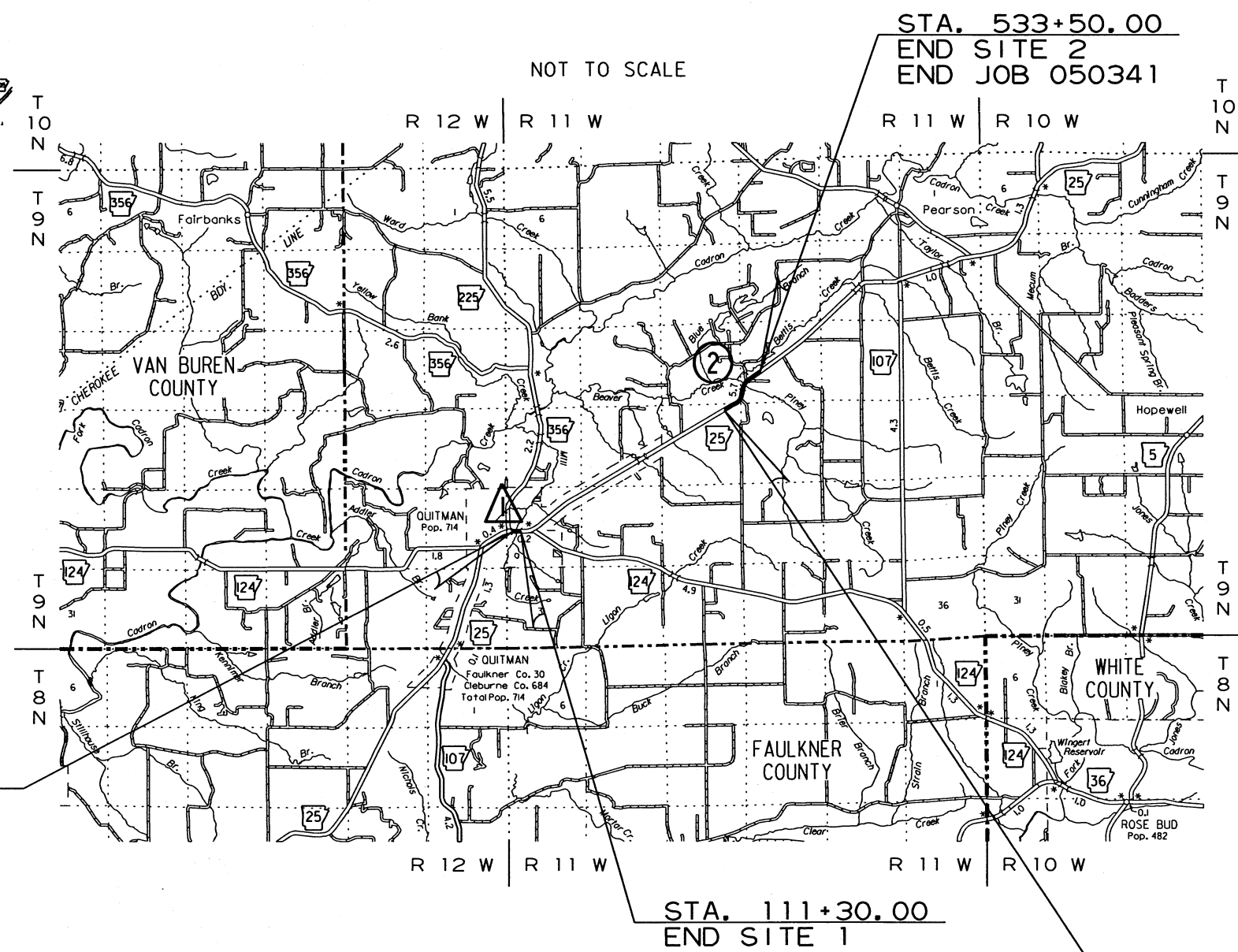
DESIGN YEAR	2039
2019 ADT	10,600
2039 ADT	13,800
2039 DHV	1518
DIRECTIONAL DISTRIBUTION	0.60
TRUCKS	11%
DESIGN SPEED	35 MPH

DESIGN TRAFFIC DATA (SITE 2)

DESIGN YEAR	2039
2019 ADT	4,800
2039 ADT	6,300
2039 DHV	693
DIRECTIONAL DISTRIBUTION	0.60
TRUCKS	11%
DESIGN SPEED	55 MPH



VICINITY MAP



NOT TO SCALE

STA. 533+50.00
END SITE 2
END JOB 050341

STA. 108+80.00
BEGIN JOB 050341
BEGIN SITE 1
LOG MILE 1.83

STA. 111+30.00
END SITE 1

STA. 502+69.36
BEGIN SITE 2
LOG MILE 4.90

STRUCTURES OVER 20' -0" SPAN

1 STA. 110+05 CONSTRUCT
QUINT. 11' X 6' X 62' R.C. BOX CULVERT
ON A 5° RT. FWD. SKEW
WITH 3/4 WINGS LT. AND RT.
050=1370 CFS D.A.=1.12 SO. MI.
SPAN= 59'-9"

BRIDGE DATA

2 STA. 521+86.92 BR. END
165'-0" CONTINUOUS COMP. W-BEAM
(50'-65'-50')
167'-2" TOTAL LENGTH
40'-0" CLEAR ROADWAY
BR. NO. 07431
STA. 523+54.08 BR. END

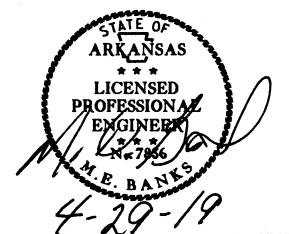
LENGTH OF PROJECT CALCULATED ALONG C.L.

GROSS LENGTH OF PROJECT	3330.64	FEET	OR	0.631	MILES
NET ROADWAY	3103.73			0.588	MILES
NET BRIDGES	226.91			0.043	MILES
NET PROJECT	3330.64			0.631	MILES

	BEGIN PROJECT	MID-POINT OF PROJECT	END PROJECT
LATITUDE	N 35°23'03"	N 35°23'46"	N 35°24'35"
LONGITUDE	W 92°12'53"	W 92°11'16"	W 92°09'47"



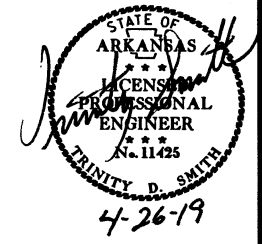
APPROVED



4-29-19
DEPUTY DIRECTOR
AND CHIEF ENGINEER

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2 INDEX OF SHEETS AND STANDARD DRAWINGS



INDEX OF SHEETS

SHEET NO.	TITLE	BRIDGE NO.	DRWG. NO.
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58	PLANS AND PROFILE SHEETS DETOUR AND/OR STAGE CONSTRUCTION		
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60	LAYOUT OF BRIDGE HWY. 25 OVER PINEY CREEK (SHEET 2 OF 2)	07431	60435
61	DETAILS OF END BENTS (SHEET 1 OF 4)	07431	60436
62	DETAILS OF END BENTS (SHEET 2 OF 4)	07431	60437
63	DETAILS OF END BENTS (SHEET 3 OF 4)	07431	60438
64	DETAILS OF END BENTS (SHEET 4 OF 4)	07431	60439
65	DETAILS OF INTERMEDIATE BENTS (SHEET 1 OF 2)	07431	60440
66	DETAILS OF INTERMEDIATE BENTS (SHEET 2 OF 2)	07431	60441
67	DETAILS OF ELASTOMERIC BEARINGS	07431	60442
68	DETAILS OF 165'-0" CONTINUOUS COMPOSITE W-BEAM UNIT (SHEET 1 OF 4)	07431	60443
69	DETAILS OF 165'-0" CONTINUOUS COMPOSITE W-BEAM UNIT (SHEET 2 OF 4)	07431	60444
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72 - 94	CROSS SECTIONS		

NOTE: CROSS SECTIONS NOT NORMALLY INCLUDED IN PLANS SOLD TO PROSPECTIVE BIDDERS, BUT MAY BE HAD UPON REQUEST.

BRIDGE STANDARD DRAWINGS

DRWG. NO.	TITLE	DATE
55000	STANDARD DETAILS FOR EMBANKMENT CONSTRUCTION AND BACKFILL AT BRIDGE ENDS	02-27-14
55001	STANDARD DETAILS FOR DUMPED RIPRAP AND FILTER BLANKET AND COMPUTING EXCAVATION FOR STRUCTURES	02-27-14
55002	STANDARD DETAILS FOR CONCRETE RIPRAP	02-27-14
55005	STANDARD DETAILS FOR PERMANENT STEEL BRIDGE DECK FORMS FOR STEEL & CONCRETE GIRDER SPANS	03-24-16
55006	STANDARD GENERAL NOTES FOR STEEL BRIDGE STRUCTURES	09-02-15
55007	STANDARD DETAILS FOR STEEL BRIDGE STRUCTURES	02-11-16
55008	STANDARD DETAILS FOR POURED SILICONE JOINTS	02-11-16
55010	STANDARD DETAILS FOR TYPE D BRIDGE NAME PLATE	01-15-19
55020	STANDARD DETAILS FOR STEEL H-PILES AND PILE ENCASUREMENTS	03-24-16
55030C	STANDARD DETAILS FOR TYPE C APPROACH GUTTERS	02-27-14
55040C1	STANDARD DETAILS FOR TYPE C1 APPROACH SLAB	02-27-14

ROADWAY STANDARD DRAWINGS

DRWG. NO.	TITLE	DATE
CDP-1	CONCRETE DITCH PAVING	12-08-16
CG-1	CURBING DETAILS	11-29-07
FES-1	FLARED END SECTION	10-18-96
FES-2	FLARED END SECTION	10-18-96
FPC-9S	DETAILS OF DROP INLET & JUNCTION BOX (TYPE ST)	07-26-12
GR-8	GUARD RAIL DETAILS	11-16-17
GR-8A	GUARD RAIL DETAILS	11-16-17
GR-9	GUARD RAIL DETAILS	04-17-08
GR-9A	GUARD RAIL DETAILS	04-17-08
GR-10	GUARD RAIL DETAILS	11-16-17
GR-11	GUARD RAIL DETAILS	11-16-17
GR-12	GUARD RAIL DETAILS	11-16-17
MB-1	MALBOX DETAILS	11-18-04
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
RCB-3	METHOD OF EXTENDING EXISTING R.C. BOX CULVERTS	10-12-95
SE-2	TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC	10-18-96
SI-1	DETAILS OF SPECIAL ITEMS	10-25-18
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
TC-4	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION-TEMPORARY PRECAST BARRIER	02-27-14
TC-5	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION-TEMPORARY PRECAST BARRIER	10-15-09
TEC-1	TEMPORARY EROSION CONTROL DEVICES	11-16-17
TEC-2	TEMPORARY EROSION CONTROL DEVICES	06-02-94
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
W-X003-1	DETAILS OF STANDARD WINGS FOR REINFORCED CONCRETE BOX CULVERTS	05-10-66
W-X15	DETAILS OF STANDARD WINGS FOR REINFORCED CONCRETE BOX CULVERTS	06-13-63
W-X153-1	DETAILS OF STANDARD WINGS FOR REINFORCED CONCRETE BOX CULVERTS	05-10-66
W-X45	DETAILS OF STANDARD WINGS FOR REINFORCED CONCRETE BOX CULVERTS	06-15-64
W-X453-1	DETAILS OF STANDARD WINGS FOR REINFORCED CONCRETE BOX CULVERTS	05-10-66
R-100X-0	DETAILS OF STANDARD BARREL SECTIONS FOR REINFORCED CONCRETE BOX CULVERTS	02-08-63
R-100X-X2	DETAILS OF STANDARD BARREL SECTIONS FOR REINFORCED CONCRETE BOX CULVERTS	01-14-63
R-100X-X3	DETAILS OF STANDARD BARREL SECTIONS FOR REINFORCED CONCRETE BOX CULVERTS	12-11-64
R-115X-1	DETAILS OF STANDARD BARREL SECTIONS FOR REINFORCED CONCRETE BOX CULVERTS	10-24-63
R-145X-0	DETAILS OF STANDARD BARREL SECTIONS FOR REINFORCED CONCRETE BOX CULVERTS	07-10-64
R-145X-1	DETAILS OF STANDARD BARREL SECTIONS FOR REINFORCED CONCRETE BOX CULVERTS	08-10-64

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2 GOVERNING SPECIFICATIONS AND GENERAL NOTES



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
110-1	PROTECTION OF WATER QUALITY AND WETLANDS
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
505-1	PORTLAND CEMENT CONCRETE DRIVEWAY
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
617-1	GUARDRAIL TERMINAL (TYPE 2)
620-1	MULCH COVER
634-1	CURBING
800-1	STRUCTURES
802-3	CONCRETE FOR STRUCTURES
804-2	REINFORCING STEEL FOR STRUCTURES
808-1	INSTALLATION OF ELASTOMERIC BEARINGS
808-2	ELASTOMERIC BEARINGS
JOB 050341	BIDDING REQUIREMENTS AND CONDITIONS
JOB 050341	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB 050341	BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB 050341	CARGO PREFERENCE ACT REQUIREMENTS
JOB 050341	CLASS C FLY ASH IN PORTLAND CEMENT CONCRETE PAVEMENT AND CLASS S(AE) CONCRETE
JOB 050341	CONSTRUCTION IN SPECIAL FLOOD HAZARD AREAS
JOB 050341	CULVERT CLEAN OUT
JOB 050341	DIRECT TENSION INDICATORS FOR HIGH STRENGTH BOLT ASSEMBLIES
JOB 050341	DISADVANTAGED BUSINESS ENTERPRISE BIDDER'S RESPONSIBILITIES
JOB 050341	FLEXIBLE BEGINNING OF WORK - CALENDAR DAY CONTRACT
JOB 050341	GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB 050341	MANDATORY ELECTRONIC CONTRACT
JOB 050341	MANDATORY ELECTRONIC DOCUMENT SUBMITTAL
JOB 050341	NESTING SITES OF MIGRATORY BIRDS
JOB 050341	OFF-SITE RESTRAINING CONDITIONS FOR INDIANA AND NORTHERN LONG-EARED BATS
JOB 050341	PARTNERING REQUIREMENTS
JOB 050341	PLASTIC PIPE
JOB 050341	PRICE ADJUSTMENT FOR ASPHALT BINDER
JOB 050341	PROSECUTION AND PROGRESS WITH BID SCHEDULE
JOB 050341	SECTION 404 NATIONWIDE 14 PERMIT REQUIREMENTS
JOB 050341	SHORING
JOB 050341	SHORING FOR CULVERTS
JOB 050341	SITE USE (A+C METHOD) - CALENDAR DAY CONTRACT
JOB 050341	SOIL STABILIZATION
JOB 050341	STORM WATER POLLUTION PREVENTION PLAN
JOB 050341	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB 050341	UTILITY ADJUSTMENTS
JOB 050341	VALUE ENGINEERING
JOB 050341	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 ENSURE 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.
- 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.

4/24/2019

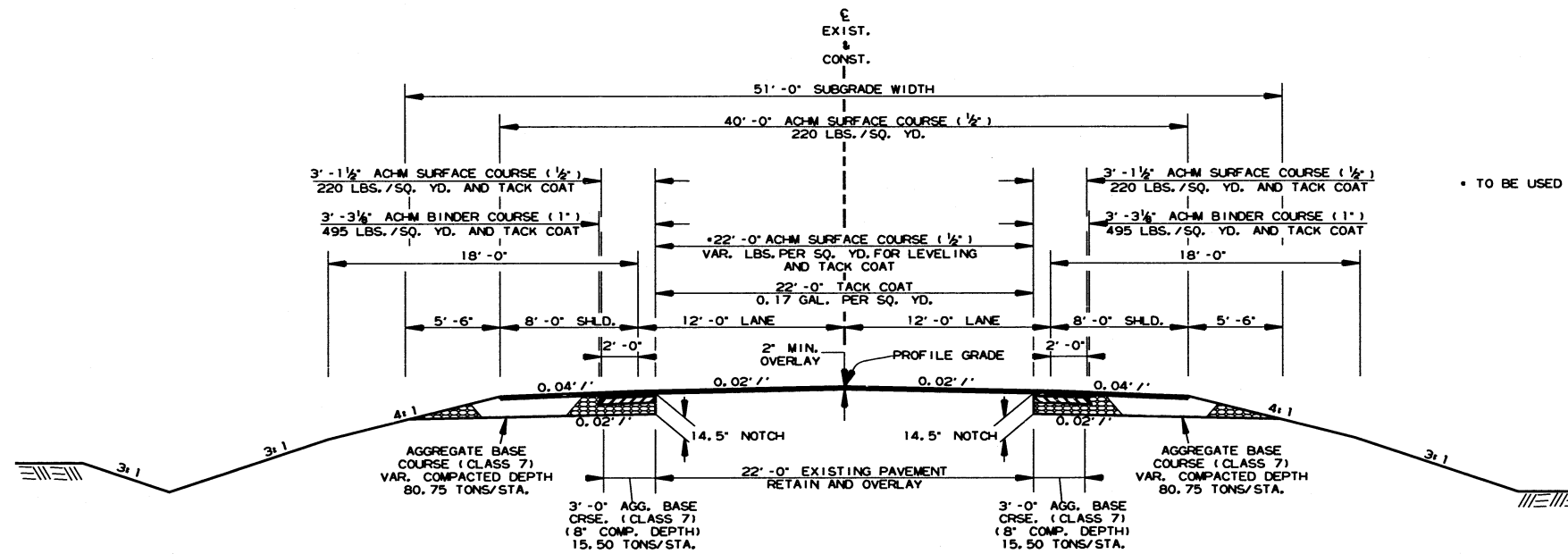
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2 TYPICAL SECTIONS OF IMPROVEMENT



• TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER



NOTCH AND WIDEN - SITE 1
 STA. 108+80.00 - STA. 109+70.00
 STA. 110+41.00 - STA. 111+30.00

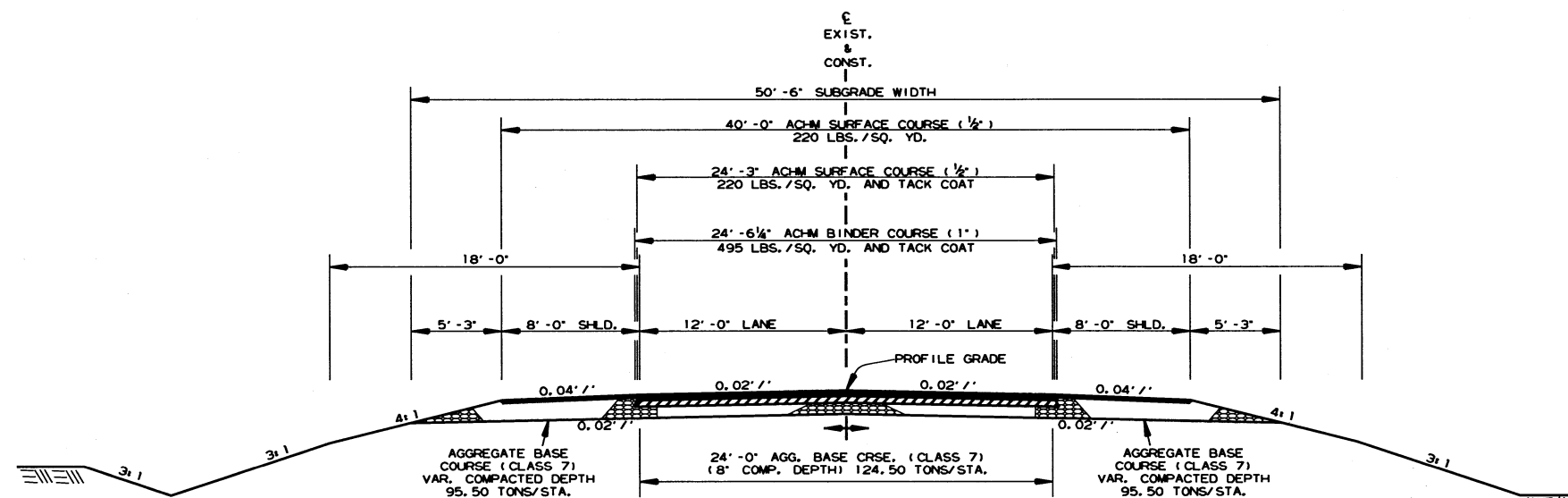
NOTES:
 THE THICKNESS OF AGGREGATE BASE COURSE SHALL BE WITHIN PLUS OR MINUS ONE INCH OF THE PLAN THICKNESS SHOWN. THE CONTRACTOR WILL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.

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

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.

WITH THE APPROVAL OF THE ENGINEER, THE CONTRACTOR WILL BE ALLOWED TO SUBSTITUTE, AT NO ADDITIONAL COST TO THE DEPARTMENT, THE FIRST LIFT OF AC-11M SURFACE COURSE (1/2") IN LIEU OF AGGREGATE BASE COURSE ON THE SHOULDERS.

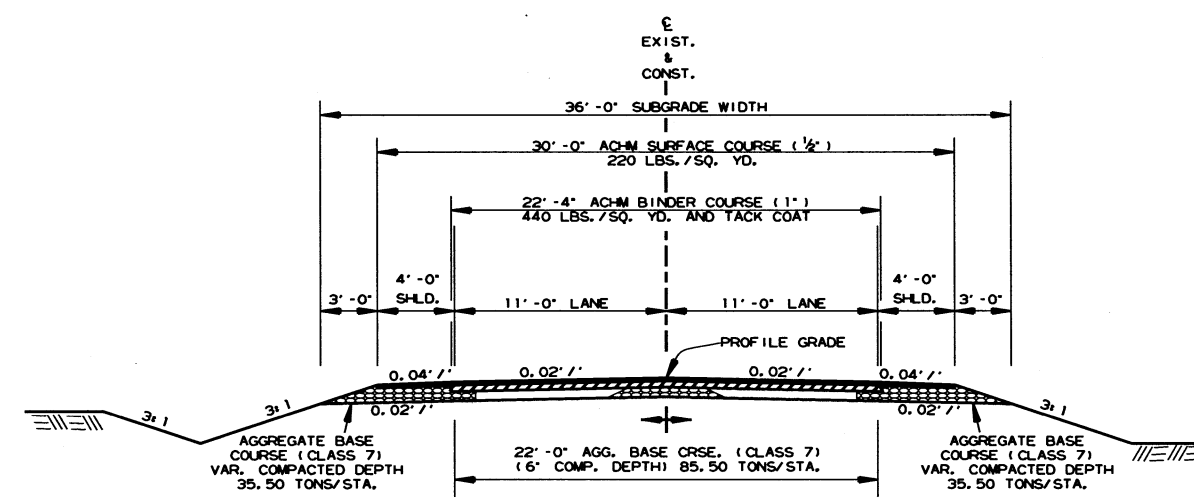
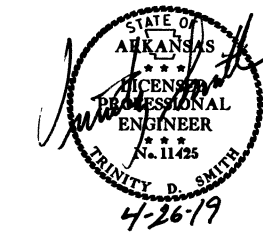


FULL DEPTH - SITE 1
 STA. 109+70.00 - STA. 110+41.00

TYPICAL SECTIONS OF IMPROVEMENT

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2 TYPICAL SECTIONS OF IMPROVEMENT



NOTES:
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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.

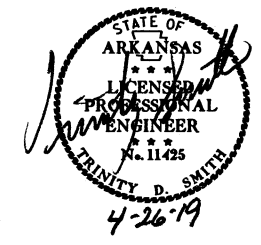
THE FINAL 2" OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT LANE LINES.

DETOUR - SITE 1
 STA. 300+43.56 - STA. 306+13.20

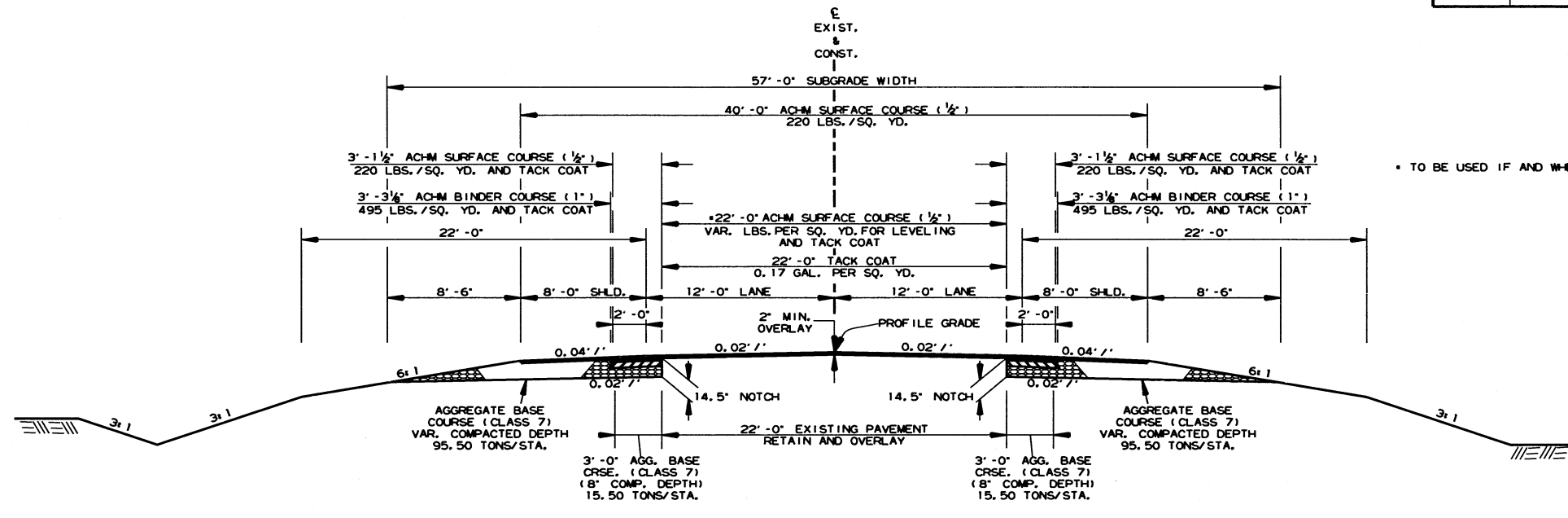
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2 TYPICAL SECTIONS OF IMPROVEMENT



• TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER



NOTCH AND WIDEN - SITE 2
 STA. 502+69.36 - STA. 510+77.00
 STA. 514+36.00 - STA. 518+73.00
 STA. 528+30.00 - STA. 533+50.00

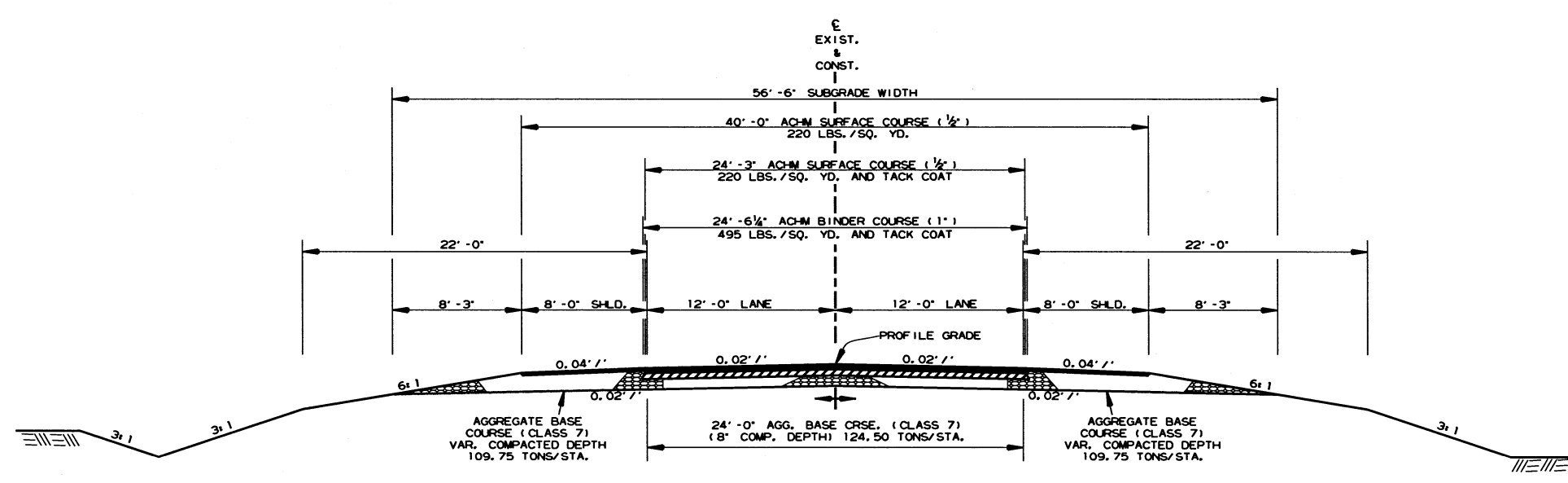
NOTES:
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REFER TO CROSS SECTIONS FOR DEVIATION FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.

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

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.

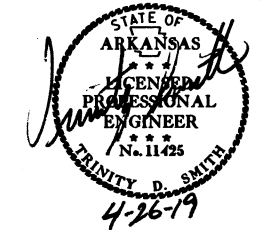
WITH THE APPROVAL OF THE ENGINEER, THE CONTRACTOR WILL BE ALLOWED TO SUBSTITUTE, AT NO ADDITIONAL COST TO THE DEPARTMENT, THE FIRST LIFT OF ACHM SURFACE COURSE (1/2") IN LIEU OF AGGREGATE BASE COURSE ON THE SHOULDERS.



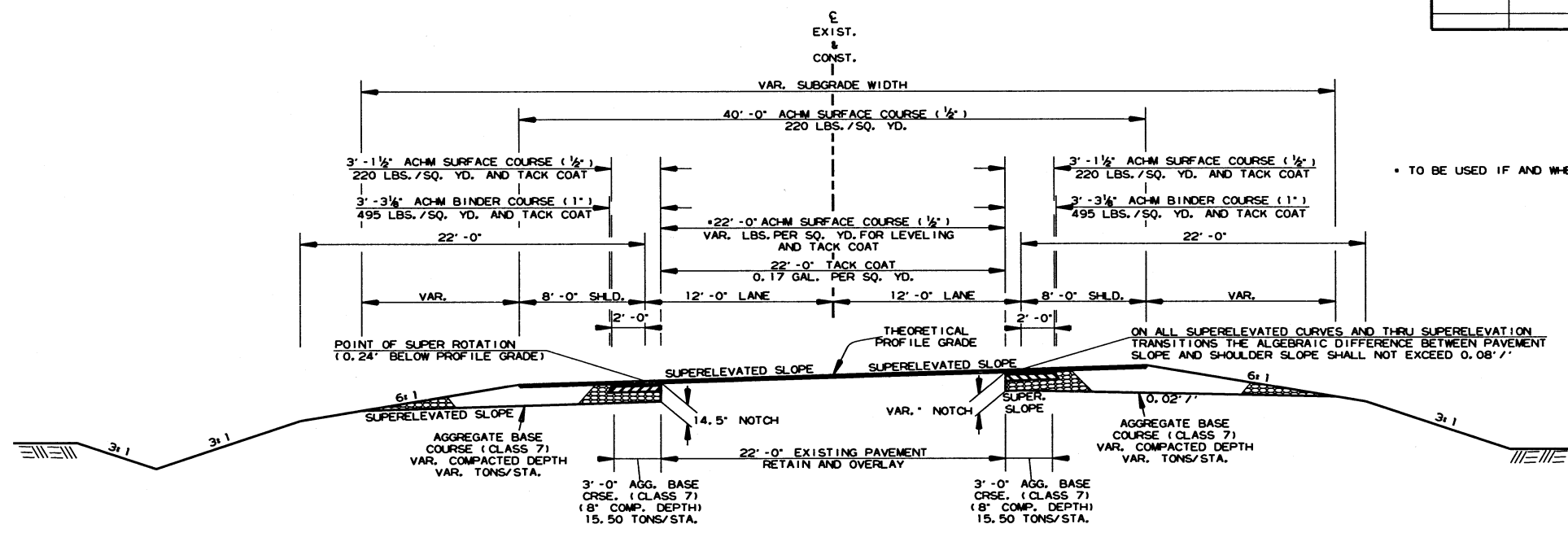
FULL DEPTH - SITE 2
 STA. 510+77.00 - STA. 514+36.00
 STA. 518+73.00 - STA. 521+50.42
 STA. 523+90.58 - STA. 528+30.00

DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 050341	7	94

2 TYPICAL SECTIONS OF IMPROVEMENT



• TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER



NOTCH AND WIDEN (SUPERELEVATED) - SITE 2

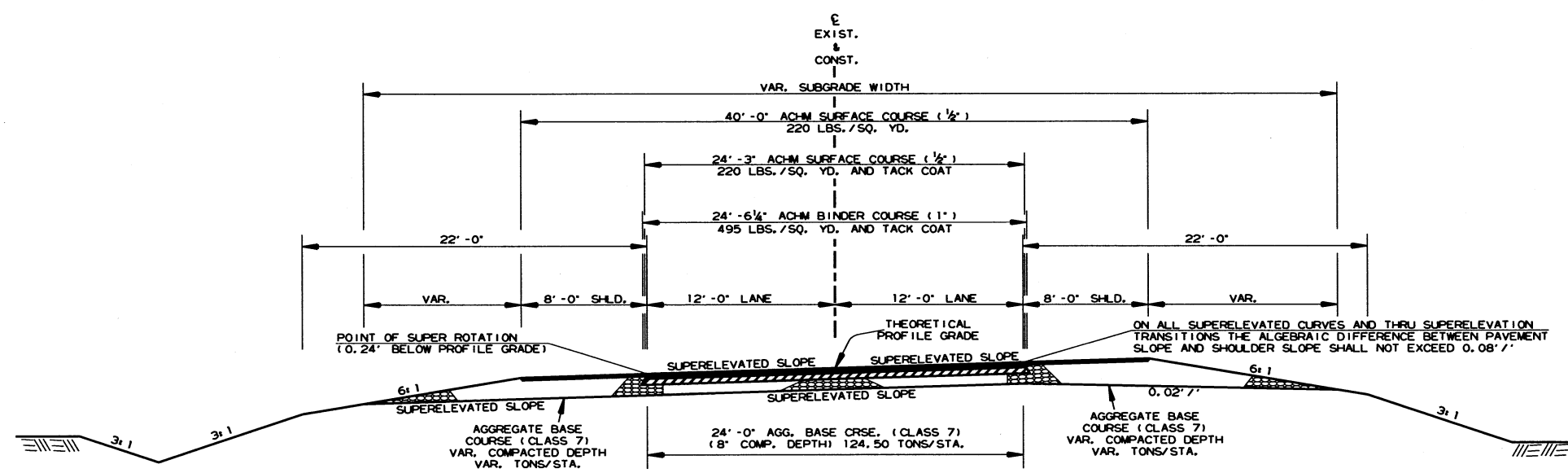
NOTES:
THE THICKNESS OF AGGREGATE BASE COURSE SHALL BE WITHIN PLUS OR MINUS ONE INCH OF THE PLAN THICKNESS SHOWN. THE CONTRACTOR WILL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.

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

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.

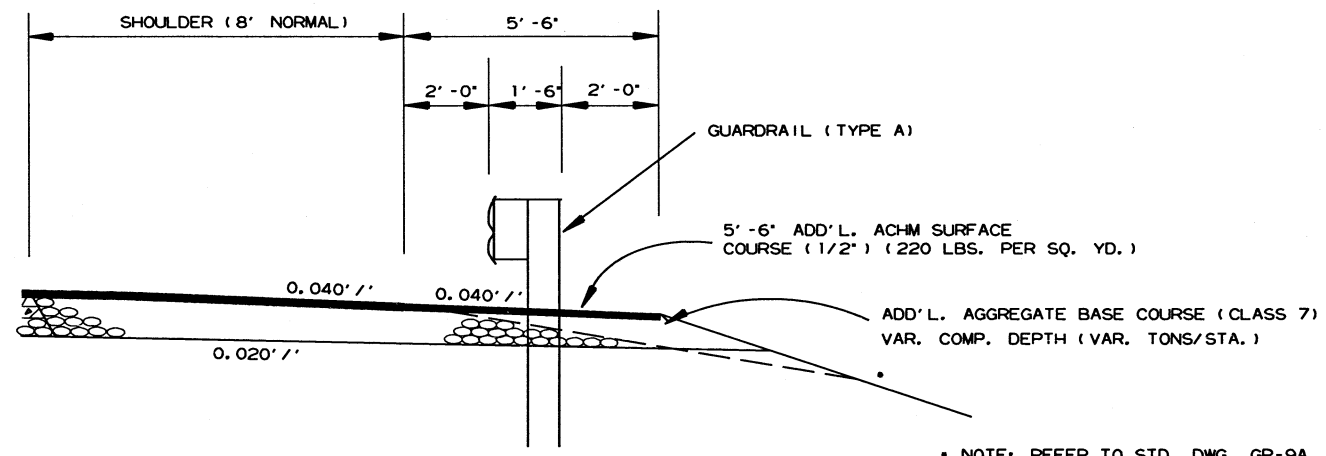
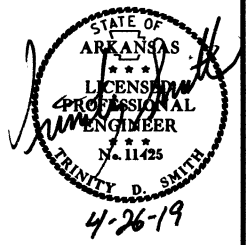
WITH THE APPROVAL OF THE ENGINEER, THE CONTRACTOR WILL BE ALLOWED TO SUBSTITUTE, AT NO ADDITIONAL COST TO THE DEPARTMENT, THE FIRST LIFT OF AC-11.1 SURFACE COURSE (1/2") IN LIEU OF AGGREGATE BASE COURSE ON THE SHOULDERS.



FULL DEPTH (SUPERELEVATED) - SITE 2

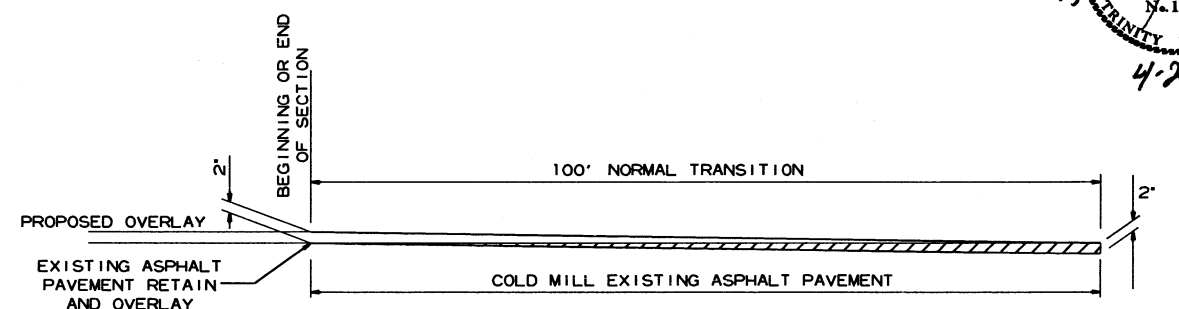
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 050341	8	94

2 SPECIAL DETAILS

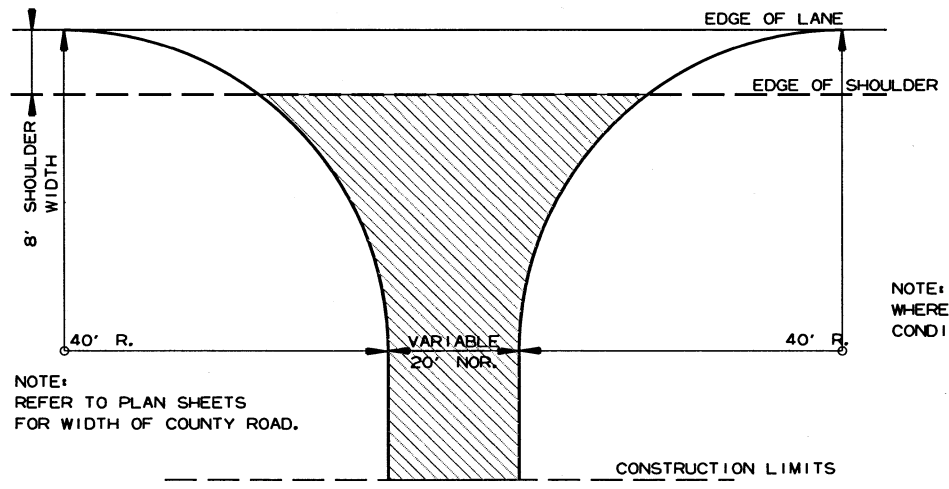


WIDENING FOR GUARDRAIL

NOTE: REFER TO STD. DWG. GR-9A AND CROSS SECTIONS FOR SLOPE REQUIREMENTS BEHIND GUARDRAIL.



DETAIL FOR TRANSITIONS

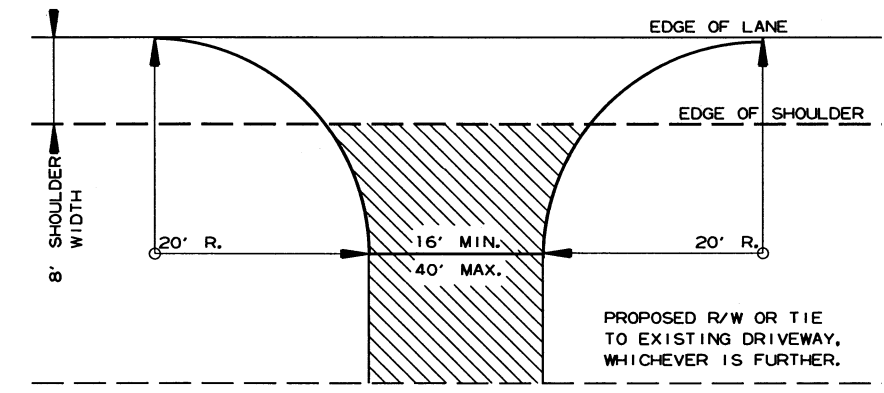


DETAIL FOR COUNTY ROAD TURNOUTS OPEN SHOULDER SECTION

NOTE: REFER TO PLAN SHEETS FOR WIDTH OF COUNTY ROAD.

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 DRIVEWAY TURNOUTS OPEN SHOULDER SECTION (ARTERIALS)

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

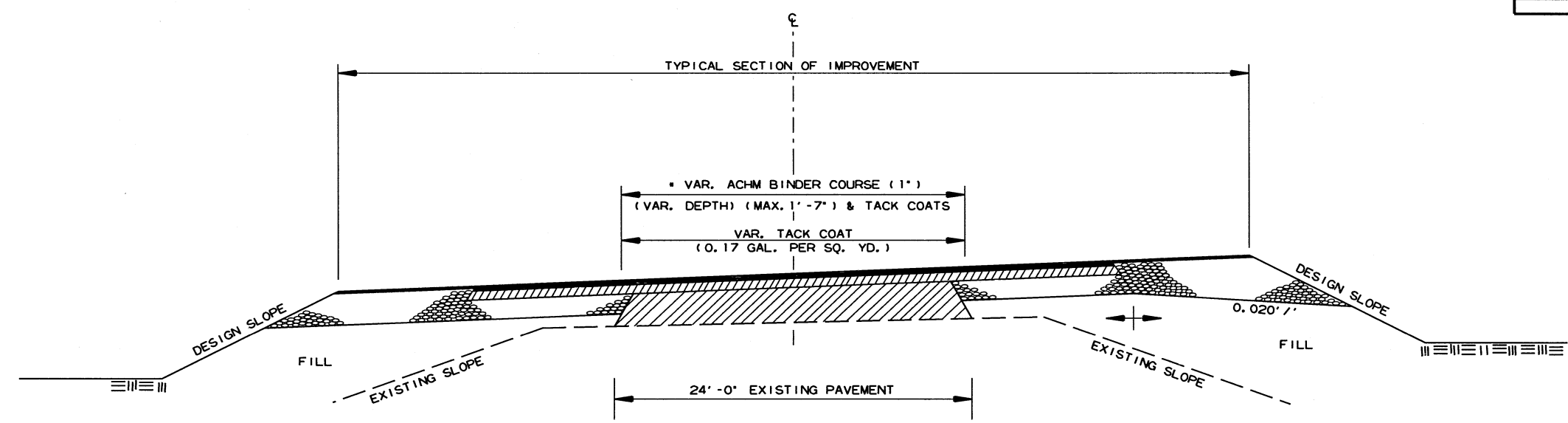
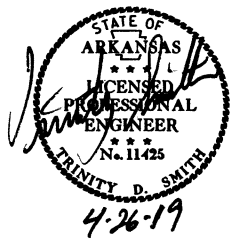
ACHM SURFACE COURSE (1/2") (220 LBS. PER SQ. YD.) AND AGGREGATE BASE COURSE (CLASS 7) 7" COMP. DEPTH IF ASPHALT OR GRAVEL DRIVE EXISTING, OR 6" CONCRETE IF CONCRETE DRIVE EXISTING.

4/15/2019

R050341.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. 050341							9	94

② SPECIAL DETAILS

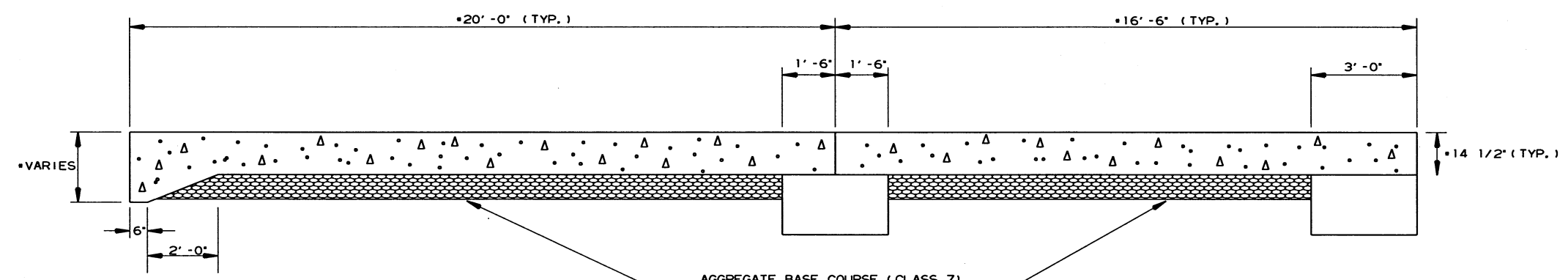


* 8" AGGREGATE BASE COURSE (CLASS 7)
TO BE REPLACED WITH ACHM BINDER COURSE (1")

METHOD OF RAISING GRADE

NOTES:

- (1) THIS DETAIL TO BE USED ONLY WHERE DIRECTED BY THE ENGINEER.
- (2) QUANTITIES FOR METHOD OF GRADE RAISE USING ASPHALT WERE CALCULATED ON THIS PROJECT AT LOCATIONS WHERE THE DISTANCE BETWEEN THE EXISTING ASPHALT ROADWAY AND THE PROPOSED SUBGRADE WAS ONE FOOT OR LESS.
- (3) IN LOCATIONS WHERE THE DISTANCE BETWEEN THE PROPOSED SUBGRADE AND THE EXISTING ASPHALT ROADWAY IS MORE THAN ONE FOOT, SCARIFICATION OF THE EXISTING ASPHALT ROADWAY WILL BE REQUIRED AS STATED IN SECTION 210, SUBSECTION 210.09 OF THE STANDARD SPECIFICATIONS.



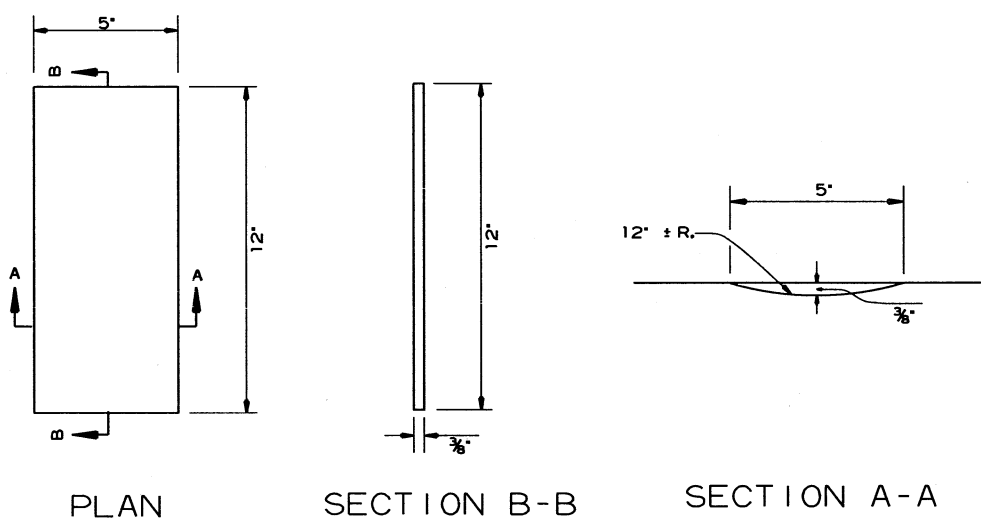
AGGREGATE BASE COURSE (CLASS 7)
VARIABLE - 6" MIN. COMPACTED DEPTH
* SEE APPROACH SLAB DETAILS IN BRIDGE DRAWINGS

SECTION OF APPROACH SLAB

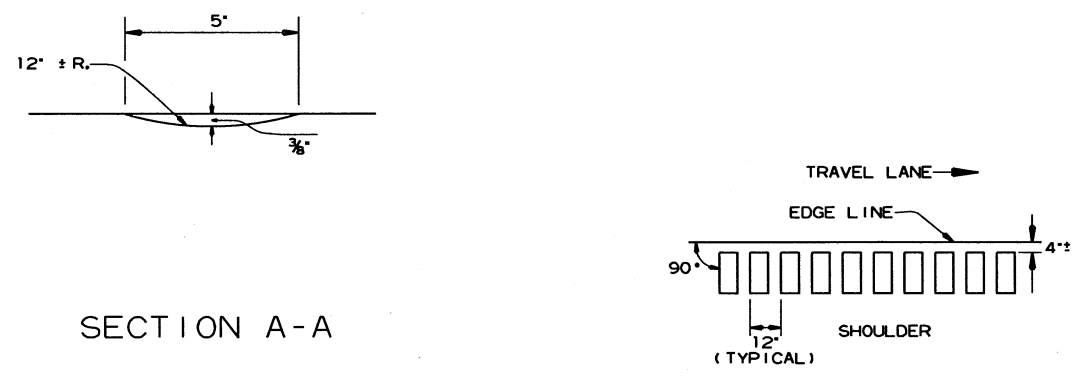
4/15/2019
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				6	ARK.				
							JOB NO. 050341	10	94

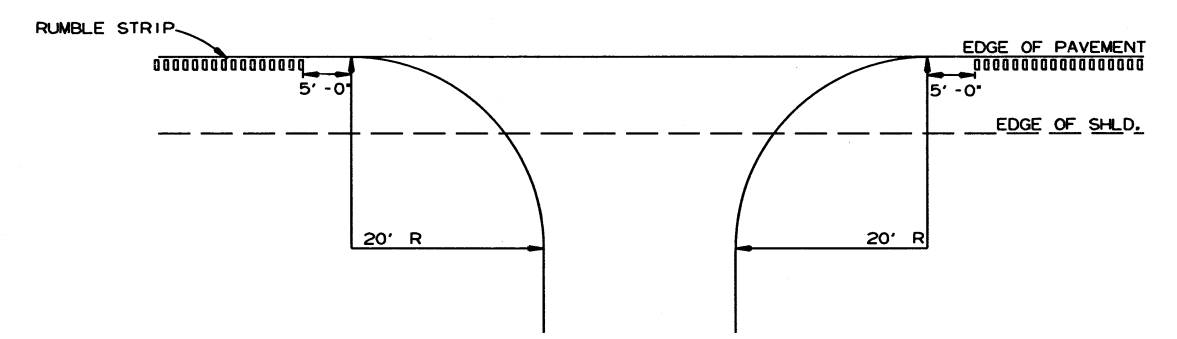
2 SPECIAL DETAILS



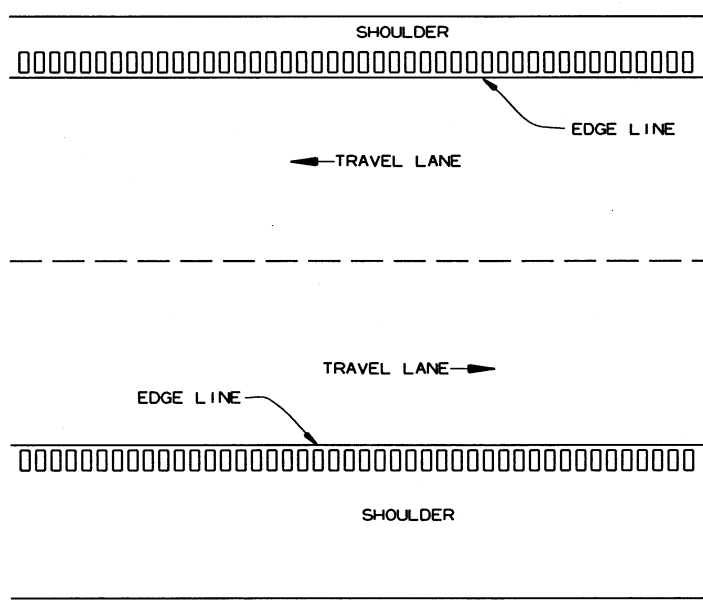
DETAILS OF RUMBLE STRIPS



LOCATION PLAN OF RUMBLE STRIPS
LEFT OR RIGHT SHOULDER



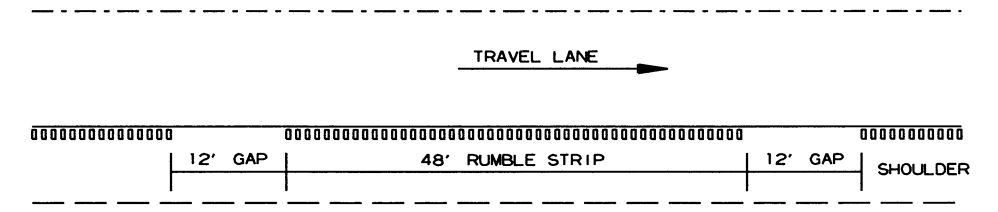
DETAIL FOR RUMBLE STRIP GAP
AT DRIVEWAY TURNOUTS



PLAN VIEW

GENERAL NOTES

1. RUMBLE STRIPS SHALL NOT BE INSTALLED ON CURB SECTIONS, BRIDGE DECKS, APPROACH SLABS, INTERSECTING STREETS OR ROADWAYS, RESIDENTIAL OR COMMERCIAL DRIVEWAYS OR ACROSS TRANSVERSE JOINTS OF CONCRETE SHOULDERS.
2. RUMBLE STRIPS SHALL NOT BE INSTALLED ON A PAVED SHOULDER THAT IS USED AS A DECELERATION LANE FOR THE LENGTH DEEMED APPROPRIATE BY THE ENGINEER.
3. THE 4' OFFSET FROM THE EDGE LINE MAY BE INCREASED TO AVOID LONGITUDINAL JOINTS. IN ALL CASES, THE LATERAL DEVIATION FROM THE PLANNED OFFSET SHOULD BE KEPT TO A MINIMUM.
4. RUMBLE STRIPS SHALL BE MEASURED BY THE LINEAR FOOT LONGITUDINALLY ALONG THE SHOULDER. PAYMENT SHALL ONLY INCLUDE THAT PORTION OF THE SHOULDER ON WHICH RUMBLE STRIPS HAVE BEEN CONSTRUCTED. NO MEASUREMENT OR PAYMENT WILL BE MADE FOR GAPS, DRIVEWAYS, TURNOUTS, OR OTHER PUBLIC ROAD INTERSECTIONS WHERE RUMBLE STRIPS HAVE NOT BEEN CONSTRUCTED.
5. THE 3/8\"/>



NOTE: GAP PATTERN SHALL BE ADJUSTED BY THE ENGINEER IN THE FIELD ALLOWING FOR DRIVEWAYS TO SERVE AS THE GAP.

DETAIL FOR GAP PATTERN RUMBLE STRIP

4/15/2019 R050341.DGN

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.	OVERALL WIDTH	OVERALL 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		CLASS "S" CONCRETE (includes HDWL)	REINFORCING STEEL (GR. 60)
											LENGTH = OW - 4" + BENDS				LENGTH = OW - 4" + BENDS				LENGTH = OH - 4"		LENGTH = OH - 4"		LENGTH = SL		LENGTH = SL		LENGTH = SL		LENGTH = SL			
											SIZE	L	SIZE	L	SIZE	L	SPACING	NO. REQ'D	SIZE	L	SIZE	L	SIZE	L	SIZE	NO. REQ'D	SIZE	NO. REQ'D	LENGTH	SIZE		
HDWL DEPTH	ADDITIONAL REINF. FOR HDWL										"h" BARS																TOTAL					
HD	LBS.										SIZE	Y	LENGTH	NO. REQ'D																		

OUTLET 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.	OVERALL WIDTH	OVERALL 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		CLASS "S" CONCRETE (includes HDWL)	REINFORCING STEEL (GR. 60) (includes HDWL)						
													"a"		"c"		"d"		"f"		"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	NO. REQ'D	LENGTH			SIZE	SPACING	NO. REQ'D	LENGTH	SIZE	SPACING
5	3:1	5	11	6	4'-7"	13	3	13	6.5	8	58'-9"	8'-2"	6	8	6	9	4	5.5	4	7	5	6.5	18	7'-10"	4	12	48	7'-10"	4	8.5	169	4	8.5	169	4	12	4	12	26.81	4027
"k1" HDWL BARS				"k2" HDWL BARS				"h" HDWL BARS																																
SIZE	LENGTH	NO. REQ'D	SIZE	LENGTH	NO. REQ'D	SIZE	LENGTH	Y	NO. REQ'D																															
4	30'-2"	12	4	30'-2"	12	4	2'-0"	1'-0"	60																															

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			WF1	WF2	G1	G2	W1	W2	W3	W4																																																																																																																																																																																																																																																																																																																																																				
58'-9"	6'-0"	0'-9"	0'-8"	5	3:1	57'-10 5/8"	2'-0"	6'-10"	2'-0"	25	35	3'-4 7/8"	3'-6 7/8"	0'-4 1/8"	0'-4 7/8"	15'-6"	17'-6"	19'-0 3/8"	21'-0 3/8"	12.98	862																																																																																																																																																																																																																																																																																																																																																		
OW	H	WB	CW	SK	SL	K	HL	WH1	WH2	AF1	AF2	WE	WF1	WF2	G1	G2	W1	W2	W3	W4	OUTLET	OUTLET																																																																																																																																																																																																																																																																																																																																																	
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<table border="1"> <thead> <tr> <th>WING</th> <th>BAR SIZE</th> <th>MAX. SPACING</th> <th>NO. REQ'D</th> <th>LENGTHS VARY</th> <th>BAR SIZE</th> <th>SPACING</th> <th>NO. REQ'D</th> <th>LENGTHS</th> <th>BAR SIZE</th> <th>SPACING</th> <th>NO. REQ'D</th> <th>LENGTHS</th> <th>BAR SIZE</th> <th>SPACING</th> <th>NO. REQ'D</th> <th>LENGTHS</th> <th>BAR SIZE</th> <th>SPACING</th> <th>NO. REQ'D</th> <th>LENGTHS</th> <th>BAR SIZE</th> <th>SPACING</th> <th>NO. REQ'D</th> <th>LENGTHS</th> <th>REINF. STEEL QTY. PER WING (LBS)</th> </tr> </thead> <tbody> <tr> <td>WING A</td> <td>4</td> <td>12</td> <td>16</td> <td>X</td> <td>L</td> <td>Min 3'-0"</td> <td></td> <td></td> <td>L</td> <td>-</td> <td></td> <td></td> <td>L</td> <td>Min 3'-0"</td> <td></td> <td></td> <td>L</td> <td>Min 3'-0"</td> <td></td> <td></td> <td>L</td> <td>Min 3'-0"</td> <td></td> <td></td> <td>410</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Y</td> <td>Max 7'-11"</td> <td></td> <td></td> <td>X</td> <td>-</td> <td></td> <td></td> <td>X</td> <td>Max 7'-11"</td> <td></td> <td></td> <td>X</td> <td>Max 7'-11"</td> <td></td> <td></td> <td>X</td> <td>Max 7'-11"</td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Min 0'-9"</td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Max 1'-0"</td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Min 2'-4"</td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Max 7'-0"</td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td> </tr> <tr> <td>WING B</td> <td>4</td> <td>12</td> <td>18</td> <td>X</td> <td>L</td> <td>Min 3'-0"</td> <td></td> <td></td> <td>L</td> <td>-</td> <td></td> <td></td> <td>L</td> <td>Min 3'-0"</td> <td></td> <td></td> <td>L</td> <td>Min 3'-0"</td> <td></td> <td></td> <td>L</td> <td>Min 3'-0"</td> <td></td> <td></td> <td>452</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Y</td> <td>Max 8'-1"</td> <td></td> <td></td> <td>X</td> <td>-</td> <td></td> <td></td> <td>X</td> <td>Max 8'-1"</td> <td></td> <td></td> <td>X</td> <td>Max 8'-1"</td> <td></td> <td></td> <td>X</td> <td>Max 8'-1"</td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Min 0'-9"</td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Max 1'-2"</td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Min 2'-4"</td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Max 7'-0"</td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>																						WING	BAR SIZE	MAX. 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WING	BAR SIZE	MAX. SPACING	NO. REQ'D	LENGTHS VARY	BAR SIZE	SPACING	NO. REQ'D	LENGTHS	BAR SIZE	SPACING	NO. REQ'D	LENGTHS	BAR SIZE	SPACING	NO. REQ'D	LENGTHS	BAR SIZE	SPACING	NO. REQ'D	LENGTHS	BAR SIZE	SPACING	NO. REQ'D	LENGTHS	REINF. STEEL QTY. PER WING (LBS)																																																																																																																																																																																																																																																																																																																																														
WING A	4	12	16	X	L	Min 3'-0"			L	-			L	Min 3'-0"			L	Min 3'-0"			L	Min 3'-0"			410																																																																																																																																																																																																																																																																																																																																														
					Y	Max 7'-11"			X	-			X	Max 7'-11"			X	Max 7'-11"			X	Max 7'-11"																																																																																																																																																																																																																																																																																																																																																	
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WING B	4	12	18	X	L	Min 3'-0"			L	-			L	Min 3'-0"			L	Min 3'-0"			L	Min 3'-0"			452																																																																																																																																																																																																																																																																																																																																														
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Min. Bar Lap Length

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

Bar Pin Dia. Table

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

TABULAR DATA BY: DPT DATE: 10/31/2018
 CHECKED BY: KSE DATE: 11/5/18

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



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.



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.						050341	13	94

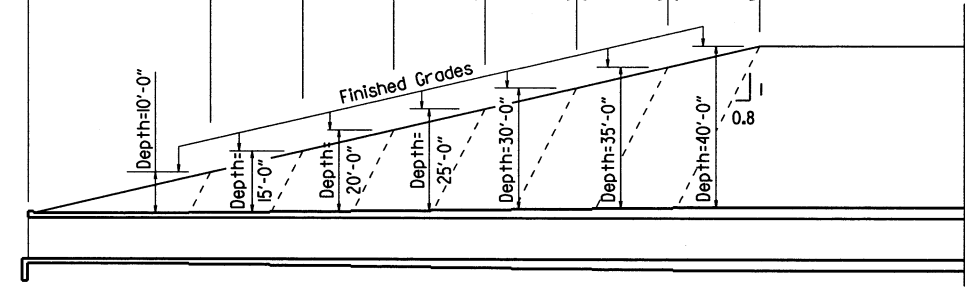
① SPECIAL DETAILS



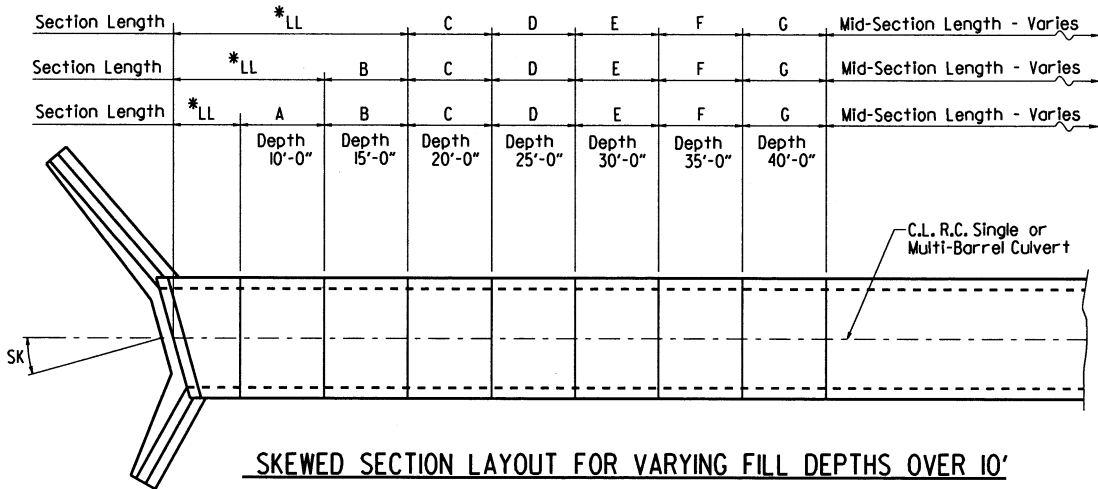
2:1 Slope	20'-0"	10'-0"	10'-0"	10'-0"	10'-0"	10'-0"	10'-0"
3:1 Slope	30'-0"	15'-0"	15'-0"	15'-0"	15'-0"	15'-0"	15'-0"
4:1 Slope	40'-0"	20'-0"	20'-0"	20'-0"	20'-0"	20'-0"	20'-0"

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.



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



LONGITUDINAL SECTION LENGTH SCHEDULE FOR VARYING FILL DEPTHS OVER 10'

Lengths for Non-Skewed Boxes

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 3/8" 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.

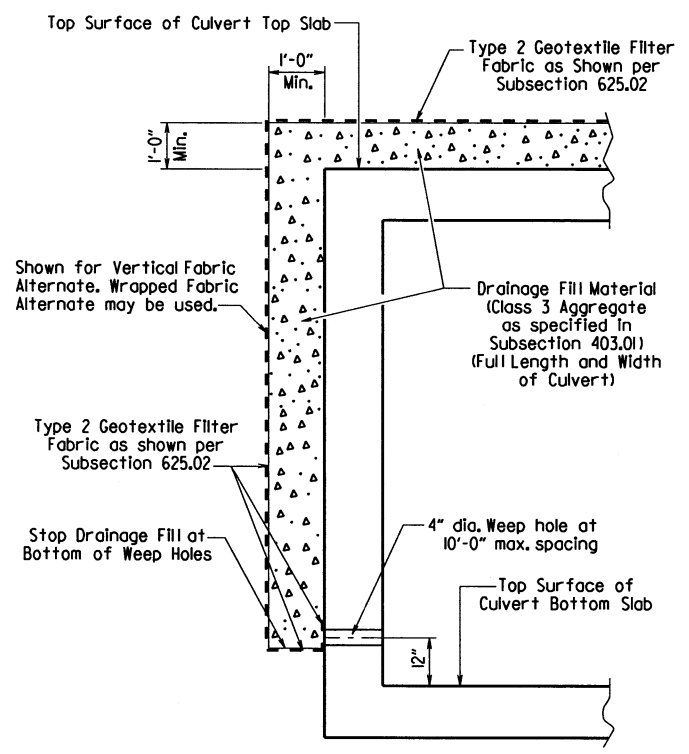
Weep Holes in wingwalls shall have a maximum horizontal spacing of 10'-0" and shall be spaced to clear all reinforcing steel. There shall be a minimum of two (2) weep holes in each wingwall. The drain opening shall be 4" diameter and shall be placed 12" above the top of the wingwall footing.

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 normal to the centerline of barrel and shall be keyed. Longitudinal reinforcing shall be continuous through joints unless shown otherwise. 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.

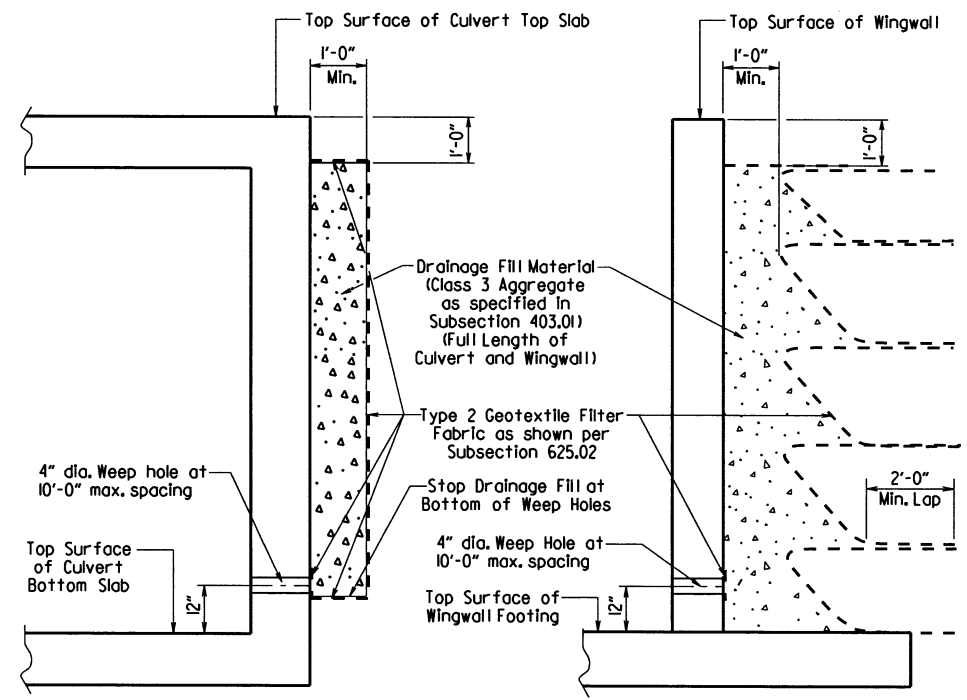
When the top slab of the box culvert serves as finished roadway surface, curing and finishing shall be in accordance with subsections 802.17 and 802.20 for bridge roadway surface and a tine finish shall be applied in accordance with subsection 802.19 for Class 5 Tined Bridge Roadway Surface Finish. Curing 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.



CULVERT DRAINAGE DETAIL FOR ROCK FILL

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



VERTICAL FABRIC ALTERNATE

(Shown for Culvert, Similar for Wingwall)

WRAPPED FABRIC ALTERNATE

(Shown for Wingwall, Similar for Culvert)

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

WINGWALL & CULVERT DRAINAGE DETAIL

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

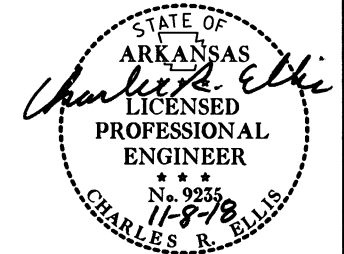
SPECIAL DETAILS



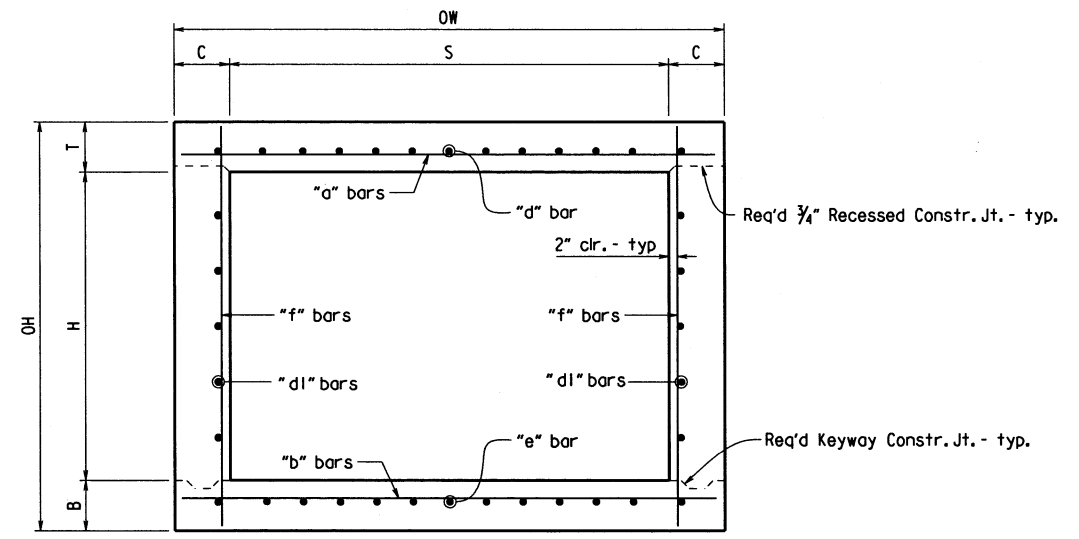
V 1.114 FILENAME

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. 050341							17	94

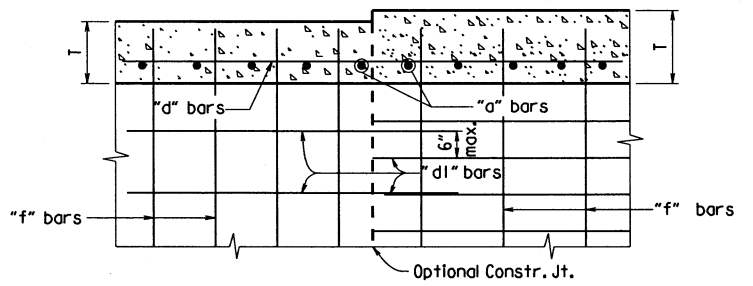
① SPECIAL DETAILS



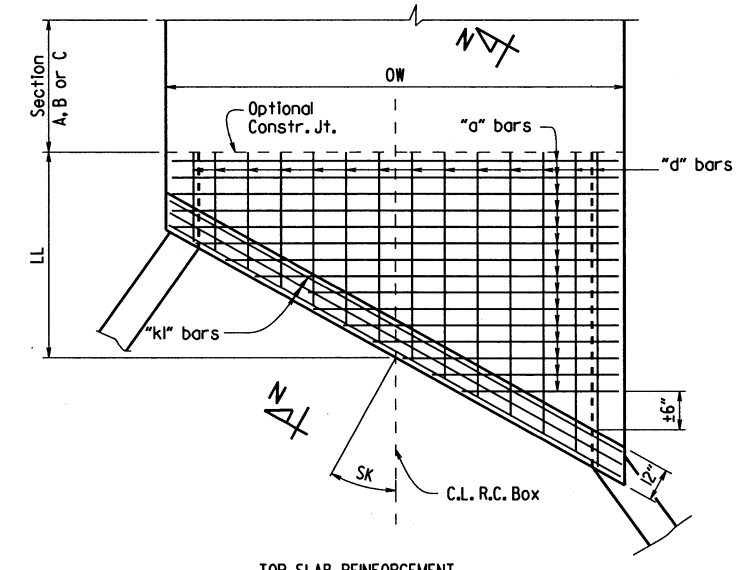
Note: When top slab of culvert serves as finished roadway surface, see General Notes on Sheet 1 of 4.



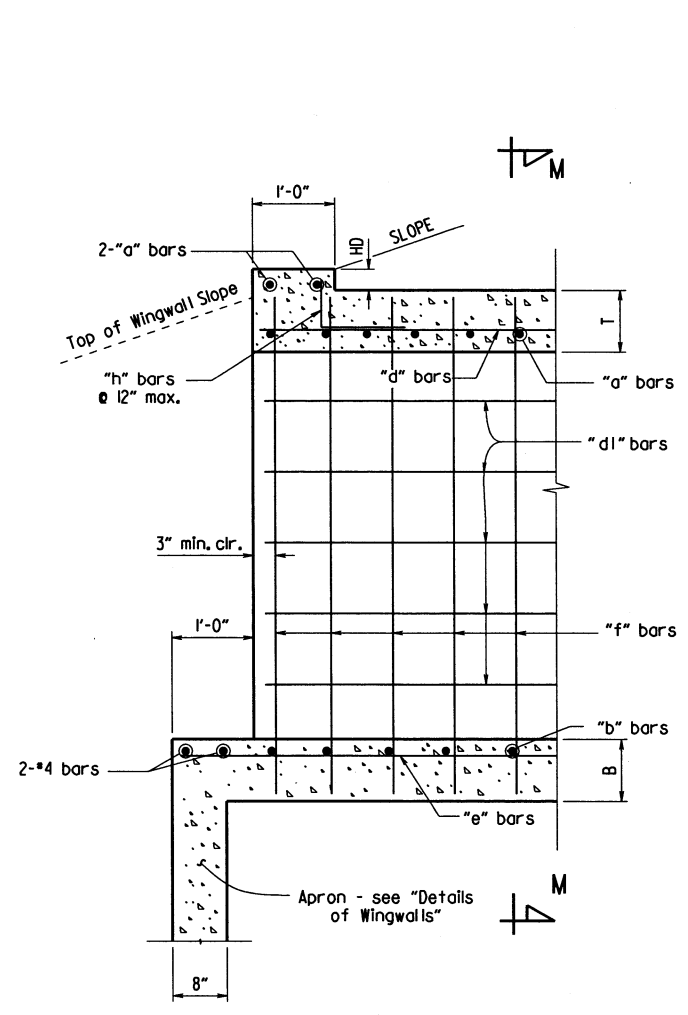
TYPICAL SECTION M-M



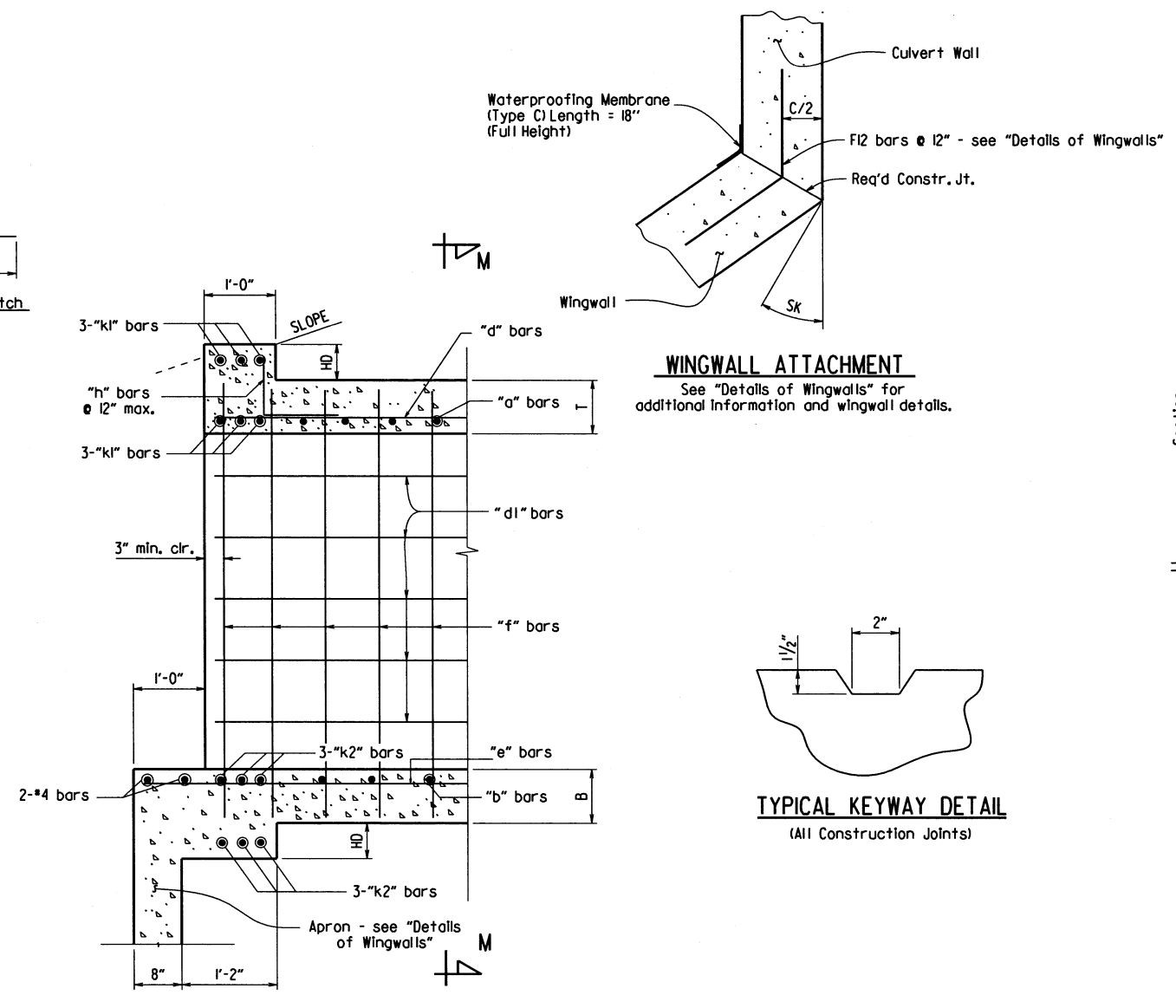
LONGITUDINAL LAP DETAIL AT CHANGE IN SECTIONS
TOP SLAB SHOWN, BOTTOM SLAB SIMILAR



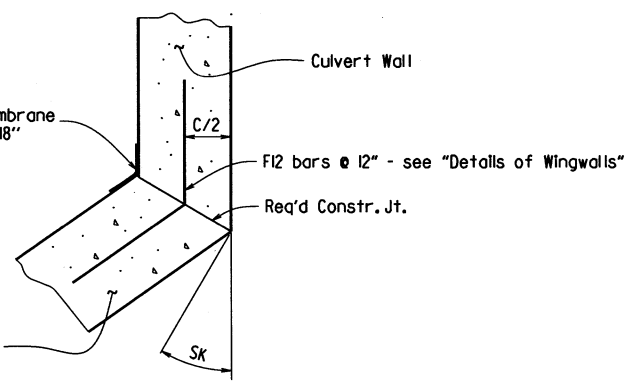
TOP SLAB REINFORCEMENT



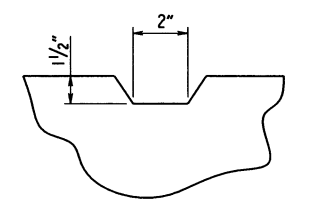
PART LONGITUDINAL SECTION
(Non-Skewed Ends)



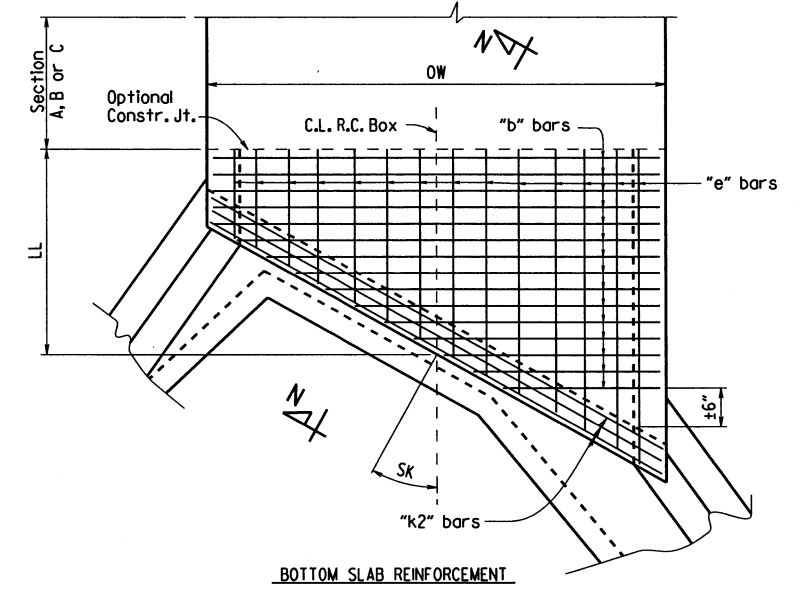
PART LONGITUDINAL SECTION N-N
(Skewed Ends)



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



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

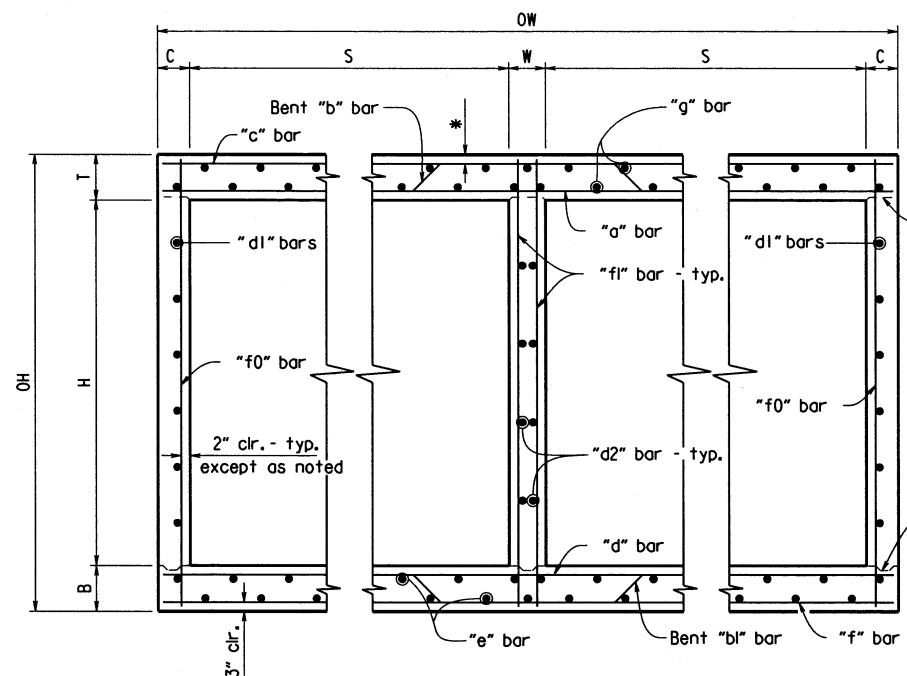
FILENAME



*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.

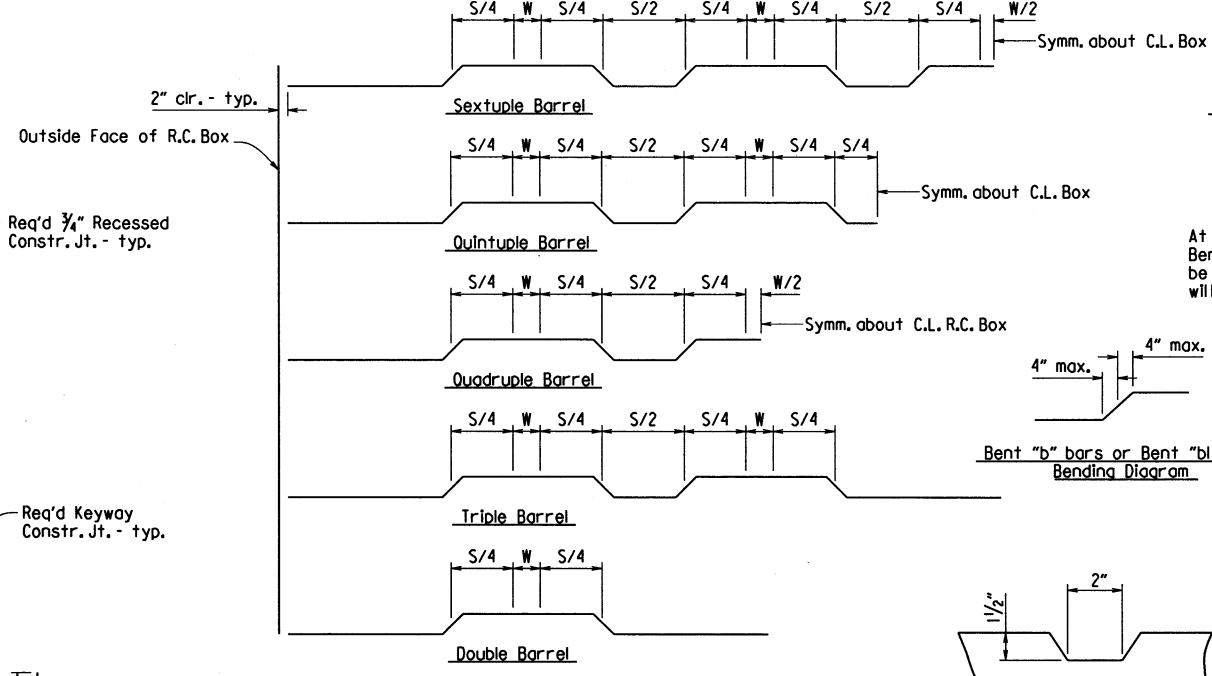
DATE REVISED	DATE FILMED	REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		15	94
JOB NO. 050341							SPECIAL DETAILS	



TYPICAL SECTION M-M

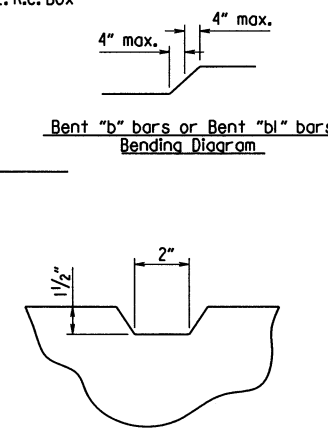
Top Slab
 Straight "c" bars shall alternate with Bent "b" bars in top.
 Straight "a" bars shall alternate with Bent "b" bars in bottom.

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

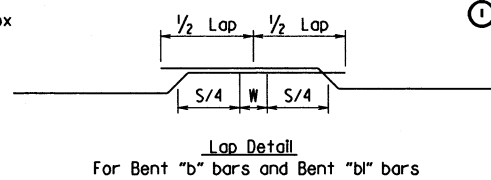


Bent "b" bars or Bent "bl" bars sketch

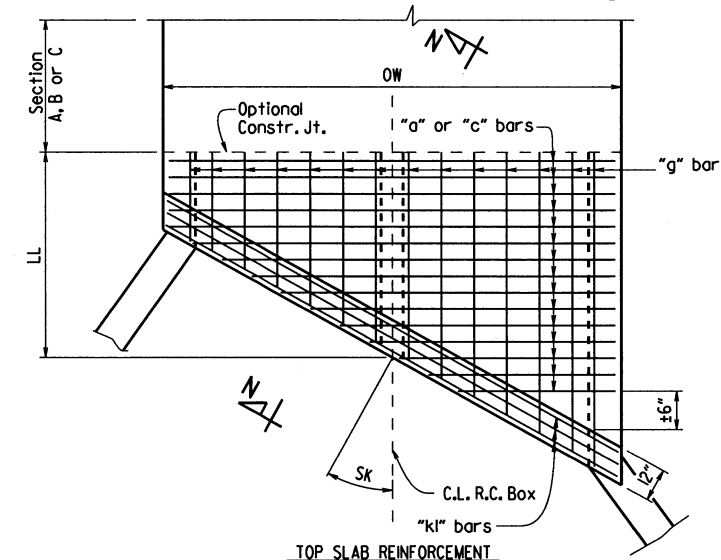
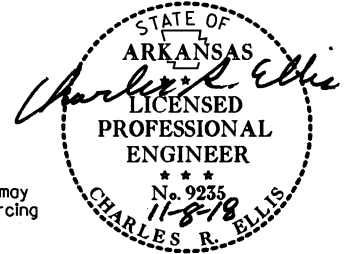
"h" bars sketch



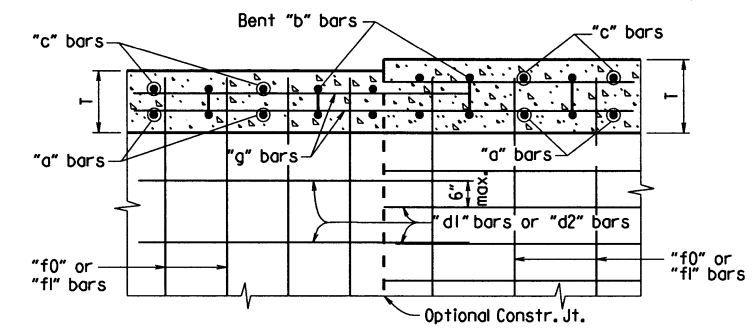
TYPICAL KEYWAY DETAIL
 (All Construction Joints)



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.

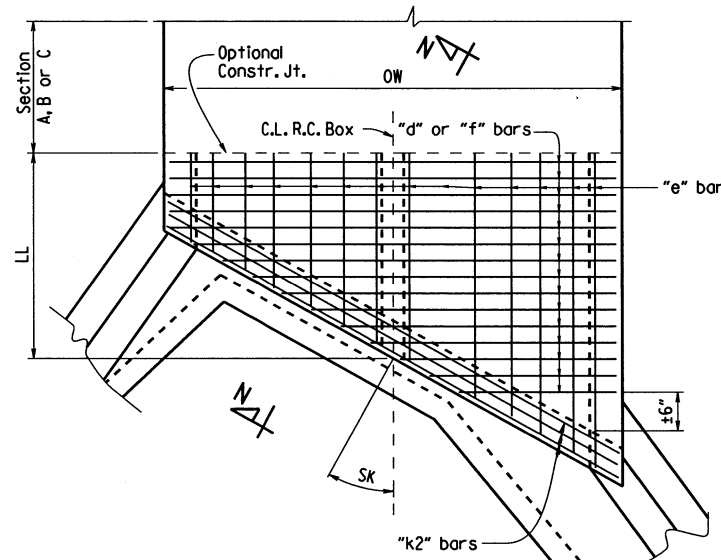


TOP SLAB REINFORCEMENT
 Straight "c" bars in top.
 Straight "a" bars in bottom.

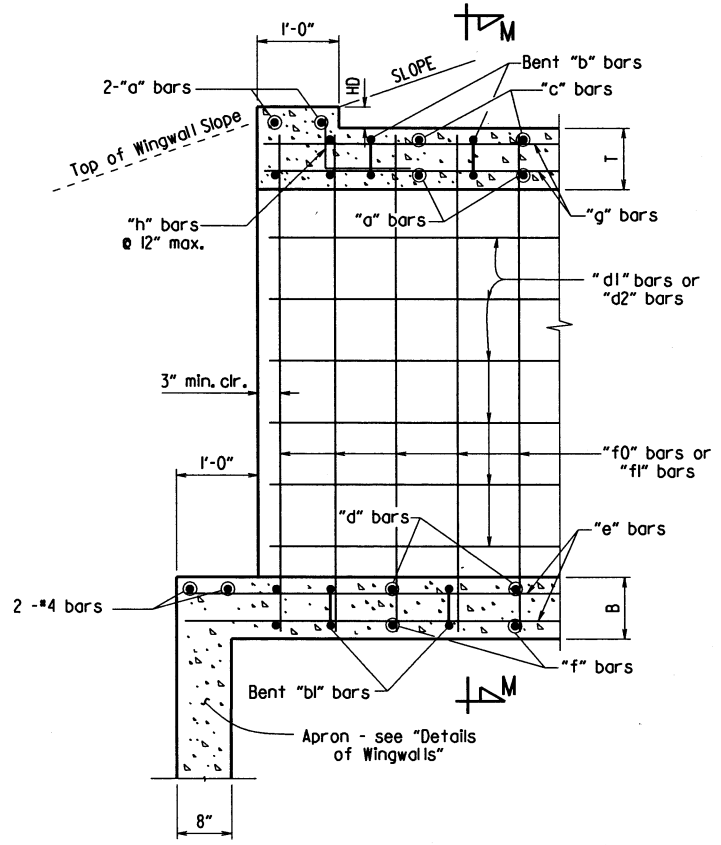


LONGITUDINAL LAP DETAIL AT CHANGE IN SECTIONS
 TOP SLAB SHOWN, BOTTOM SLAB SIMILAR

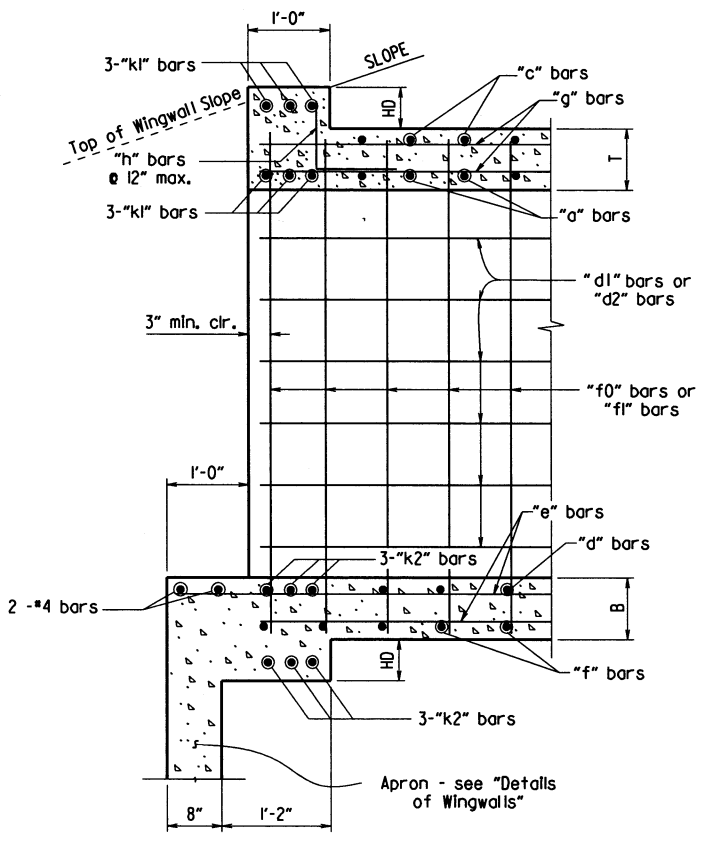
Longitudinal Bar Spacing at individual sections shall be maintained, which may result in noncontact bar laps.



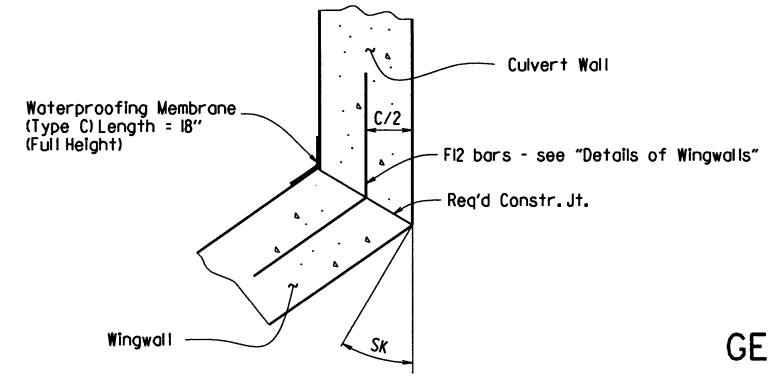
SKEWED END SECTION DETAILS
 Straight "d" bars in top.
 Straight "f" bars in bottom.



PART LONGITUDINAL SECTION
 (Non-Skewed Ends)



PART LONGITUDINAL SECTION N-N
 (Skewed Ends)

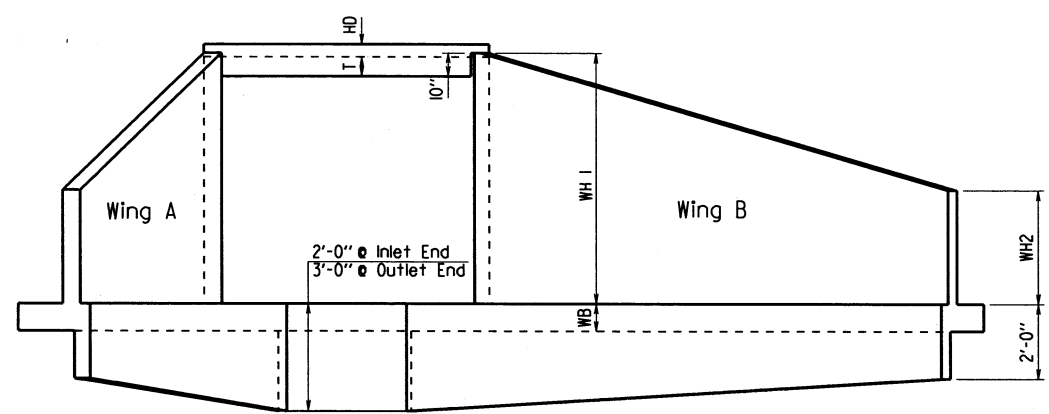
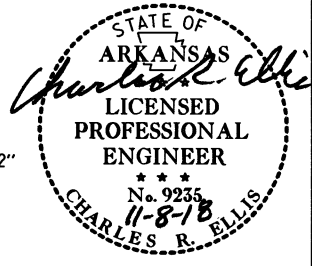


WINGWALL ATTACHMENT
 See "Details of Wingwalls" for additional information and wingwall details.

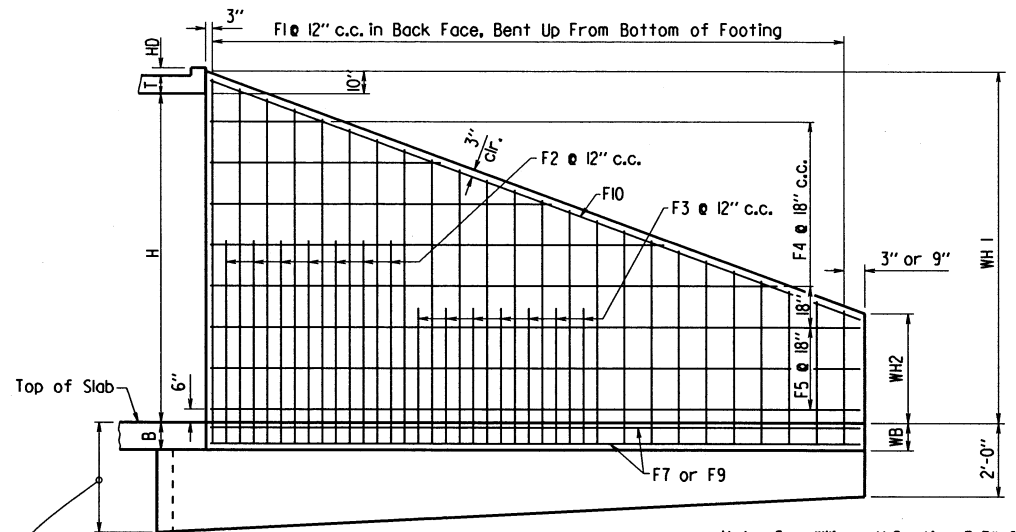
SHEET 3 OF 4
 GENERAL DETAILS OF R.C. BOX CULVERT
 DETAILS OF MULTI-BARREL
 R.C. BOX CULVERT
 SPECIAL DETAILS

FILENAME

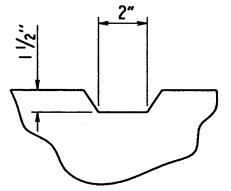
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				6	ARK.			
				JOB NO.	050341	16	94	



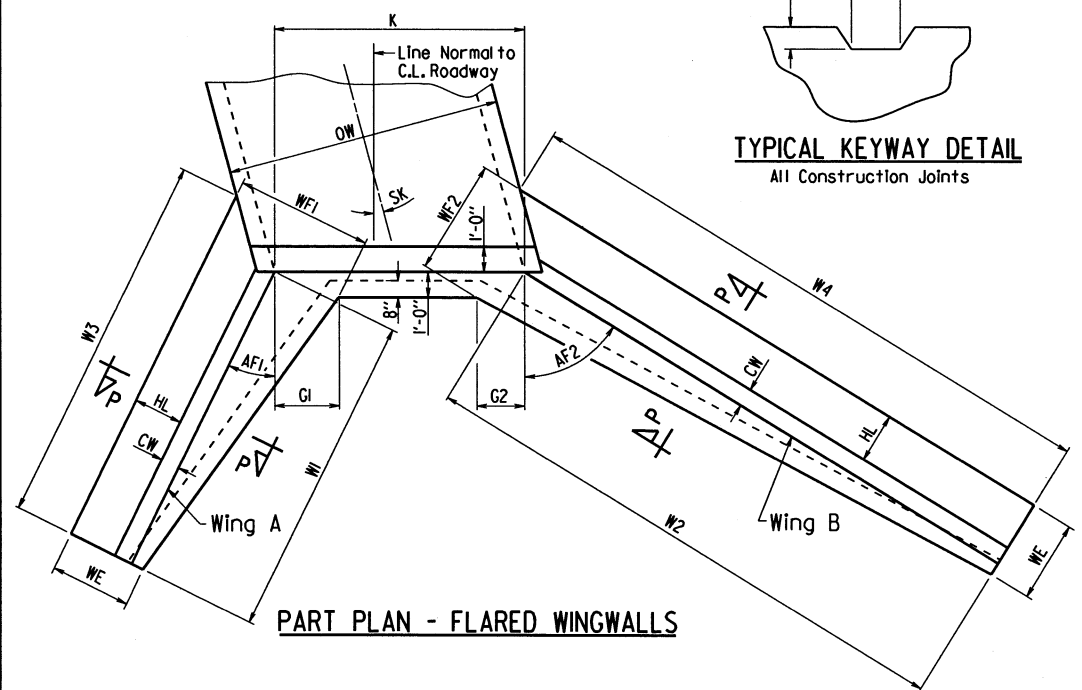
END ELEVATION
Flared Wingwalls Shown



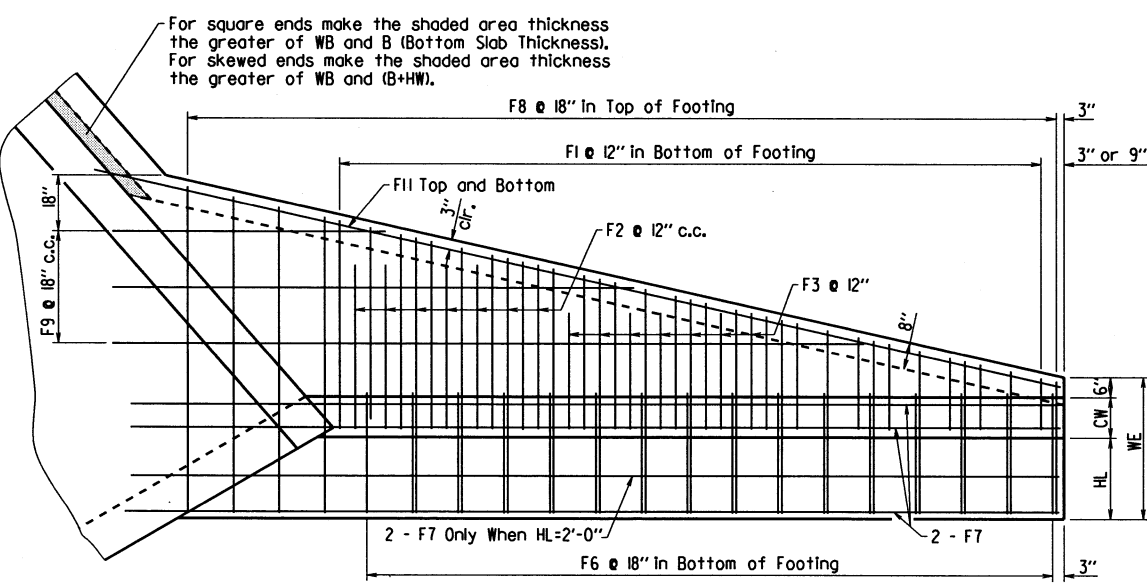
WINGWALL ELEVATION
Showing Back Face Reinforcement



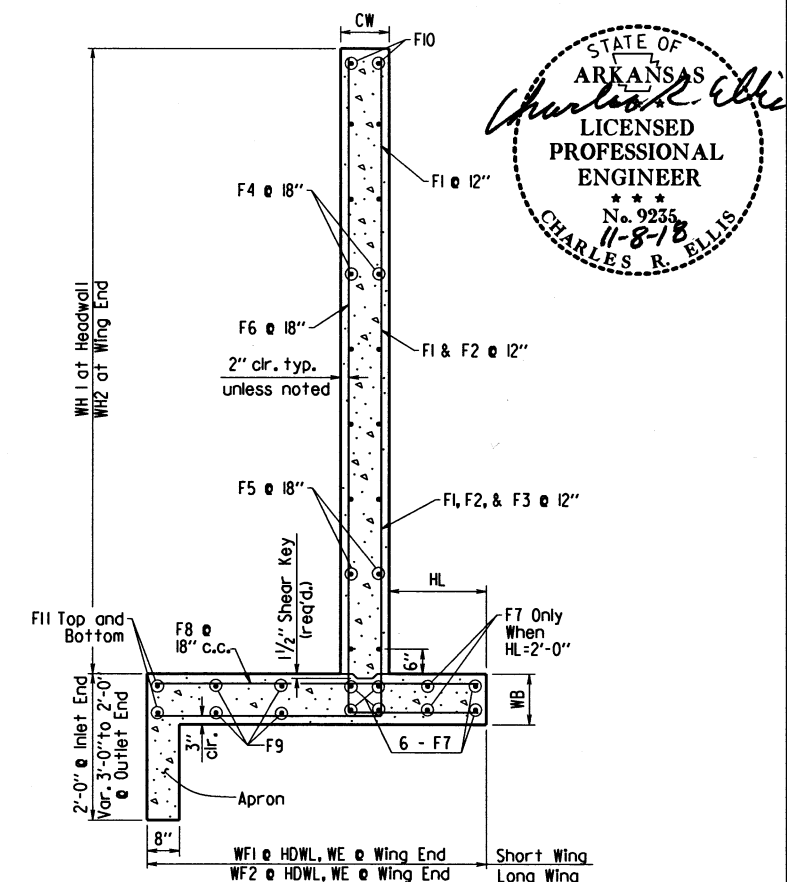
TYPICAL KEYWAY DETAIL
All Construction Joints



PART PLAN - FLARED WINGWALLS

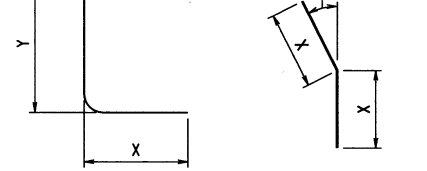


PLAN - FLARED WINGWALLS
Showing Footing Reinforcement



WINGWALL SECTION P-P

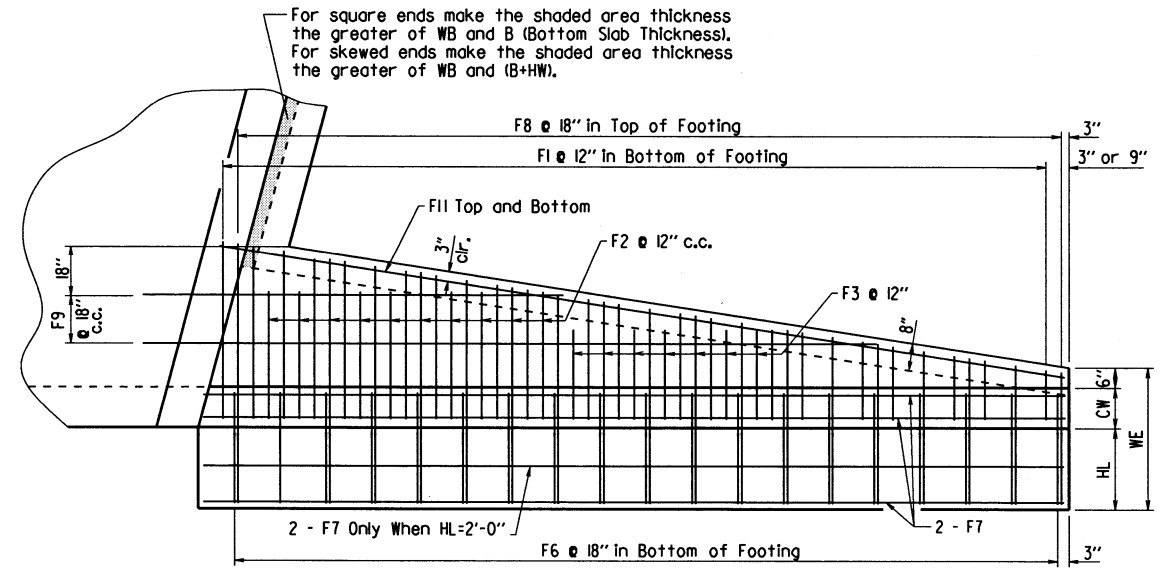
Short Wing = (AF1+SK)
Long Wing = (AF2-SK)



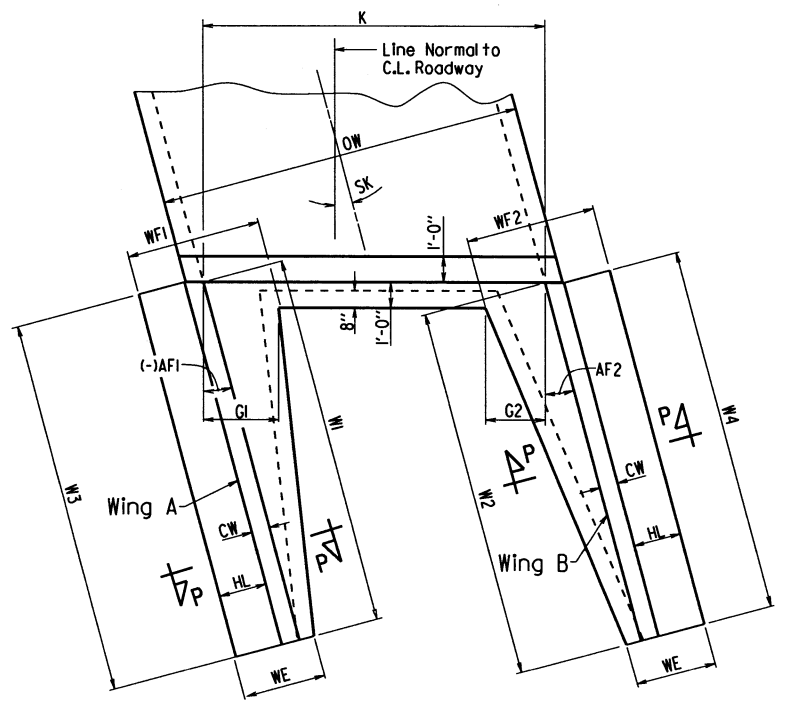
FI, F2, F3, & F6 BARS *F12 BAR

*F12 is a straight bar for parallel wingwalls

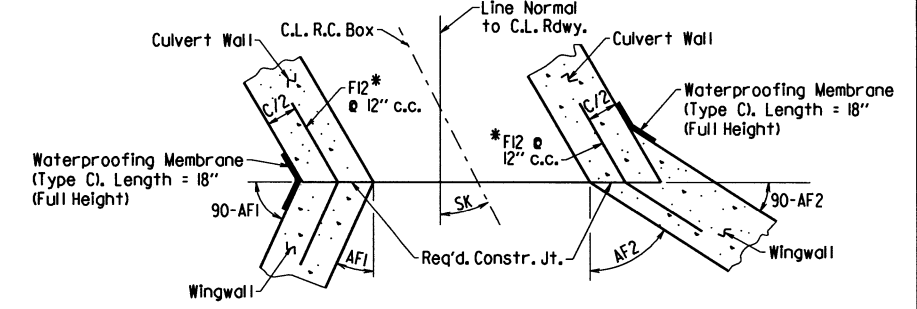
For square ends make the shaded area thickness the greater of WB and B (Bottom Slab Thickness). For skewed ends make the shaded area thickness the greater of WB and (B+HW).



PLAN - PARALLEL WINGWALLS
Showing Footing Reinforcement



PART PLAN - PARALLEL WINGWALLS



CONSTRUCTION JOINTS
Flared Wingwalls Shown

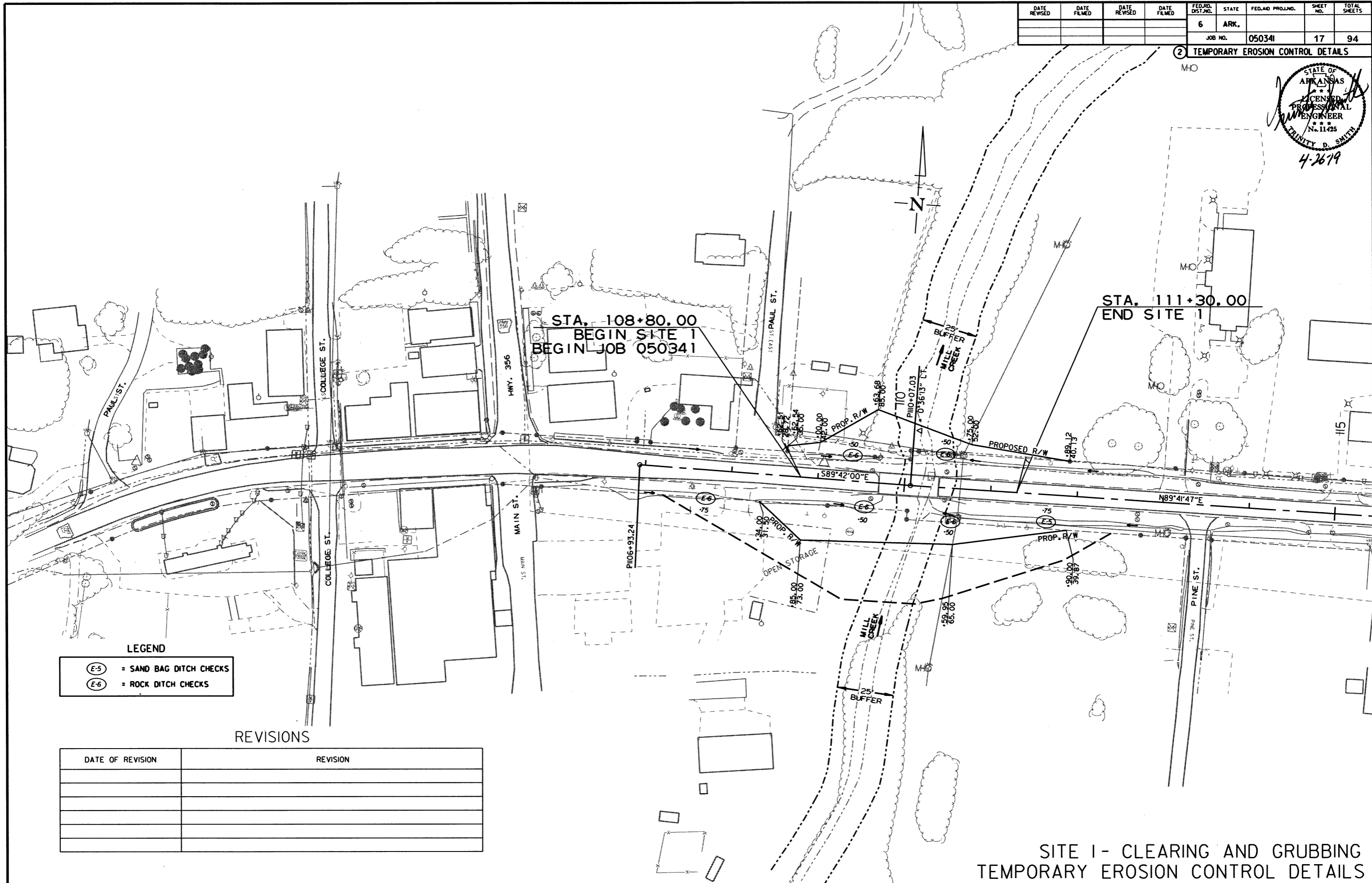
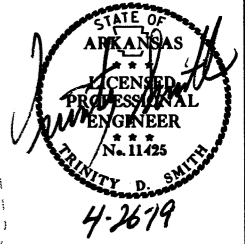
SHEET 4 OF 4
GENERAL DETAILS OF R.C. BOX CULVERT
DETAILS OF WINGWALLS
SPECIAL DETAILS

FILENAME



DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. PROJ. NO.	STATE	FED. PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 050341							17	94

2 TEMPORARY EROSION CONTROL DETAILS



LEGEND

(E-5)	= SAND BAG DITCH CHECKS
(E-6)	= ROCK DITCH CHECKS

REVISIONS

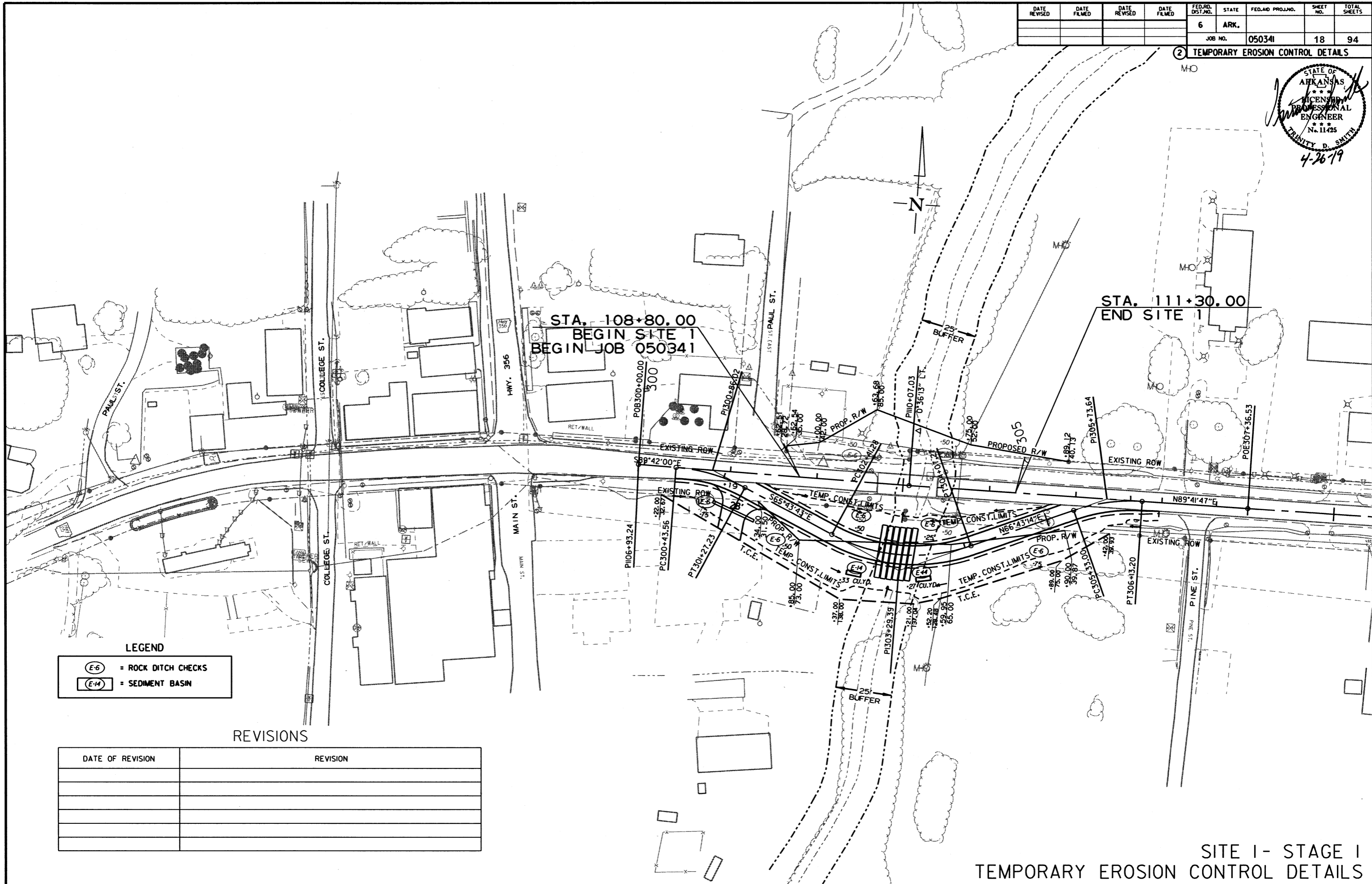
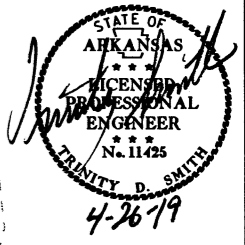
DATE OF REVISION	REVISION

SITE I - CLEARING AND GRUBBING
TEMPORARY EROSION CONTROL DETAILS

4/15/2019
R050341.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. 050341							18	94

2 TEMPORARY EROSION CONTROL DETAILS



STA. 108+80.00
BEGIN SITE I
BEGIN JOB 050341

STA. 111+30.00
END SITE I

LEGEND

- E-6 = ROCK DITCH CHECKS
- E-14 = SEDIMENT BASIN

REVISIONS

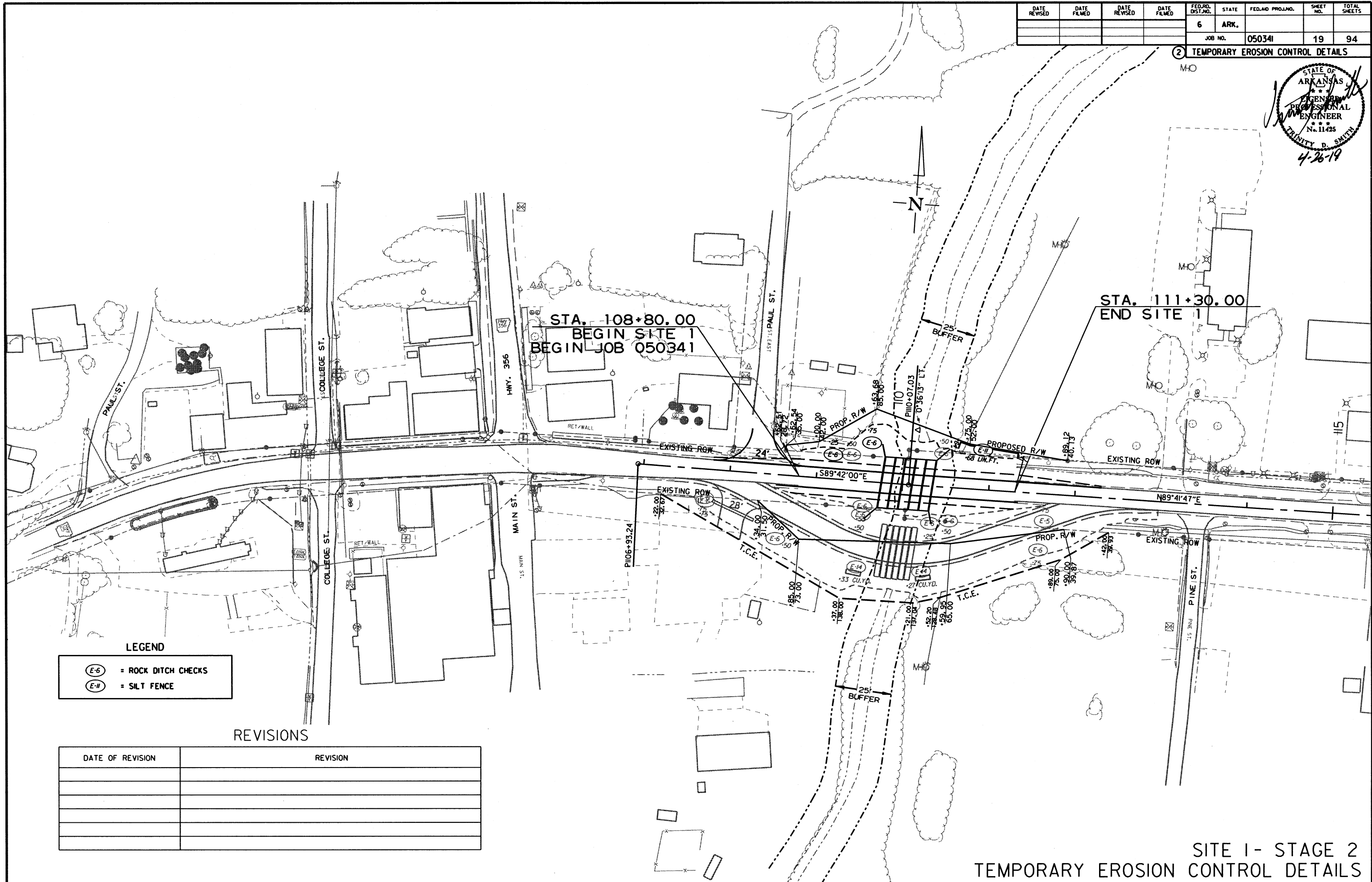
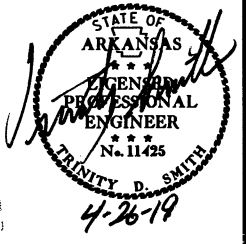
DATE OF REVISION	REVISION

SITE I- STAGE I
TEMPORARY EROSION CONTROL DETAILS

4/15/2019 R050341.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		19	94

2 TEMPORARY EROSION CONTROL DETAILS



LEGEND

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

REVISIONS

DATE OF REVISION	REVISION

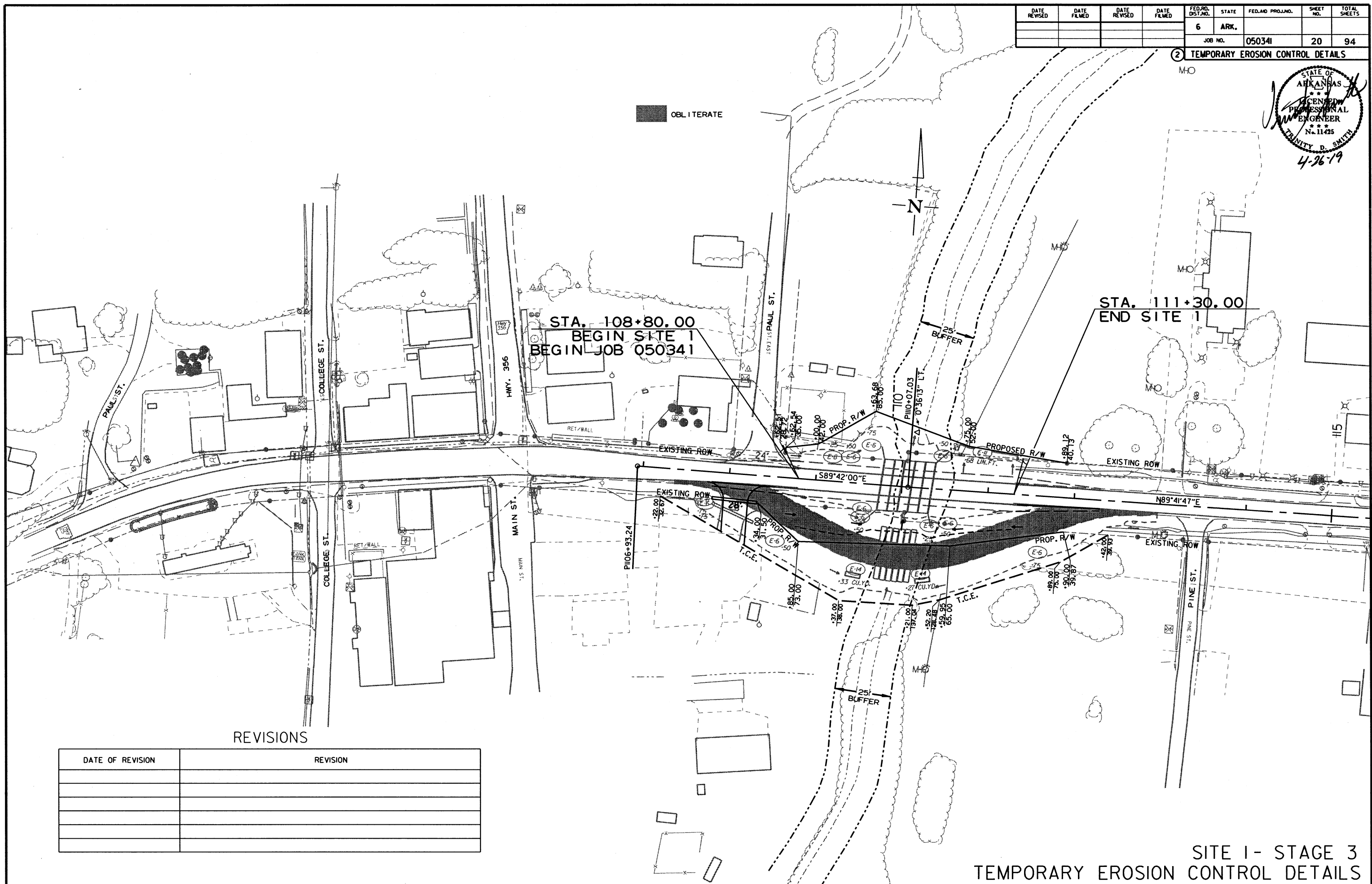
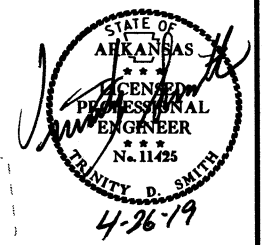
SITE 1 - STAGE 2
TEMPORARY EROSION CONTROL DETAILS

4/15/2019

R050341.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. 050341							20	94

2 TEMPORARY EROSION CONTROL DETAILS



REVISIONS

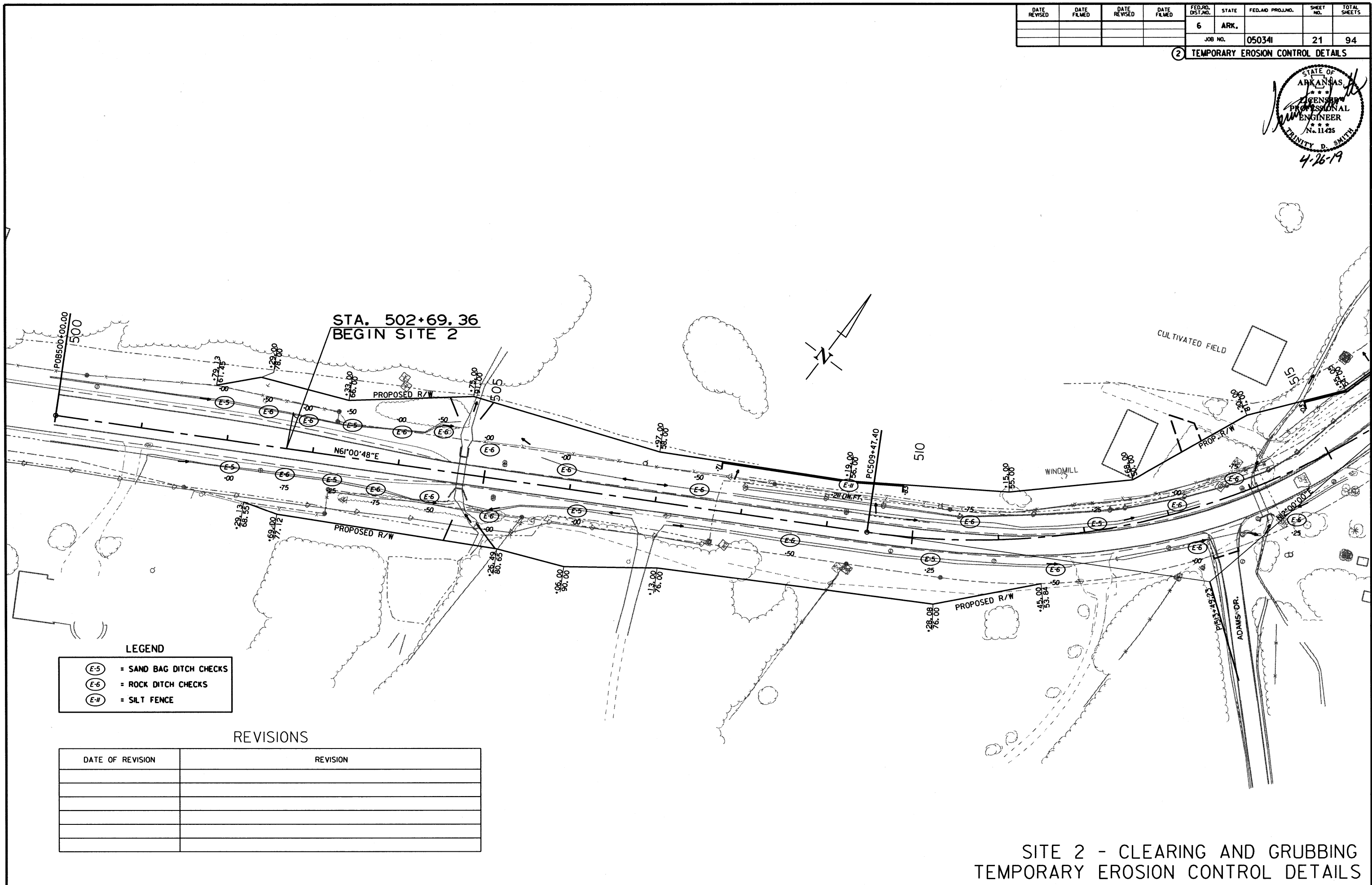
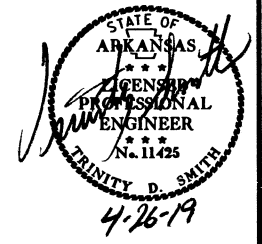
DATE OF REVISION	REVISION

SITE 1 - STAGE 3
TEMPORARY EROSION CONTROL DETAILS

4/15/2019
R050341.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. RD. PROJ. NO.	SHEET NO.	TOTAL SHEETS	
				6	ARK.				
JOB NO.							050341	21	94

2 TEMPORARY EROSION CONTROL DETAILS



LEGEND

- (E-5) = SAND BAG DITCH CHECKS
- (E-6) = ROCK DITCH CHECKS
- (E-11) = SILT FENCE

REVISIONS

DATE OF REVISION	REVISION

SITE 2 - CLEARING AND GRUBBING
TEMPORARY EROSION CONTROL DETAILS

4/15/2019 R050341.DGN