DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	020738	1	34
		MENARD BAYOU STR. & APPRS. (S)				

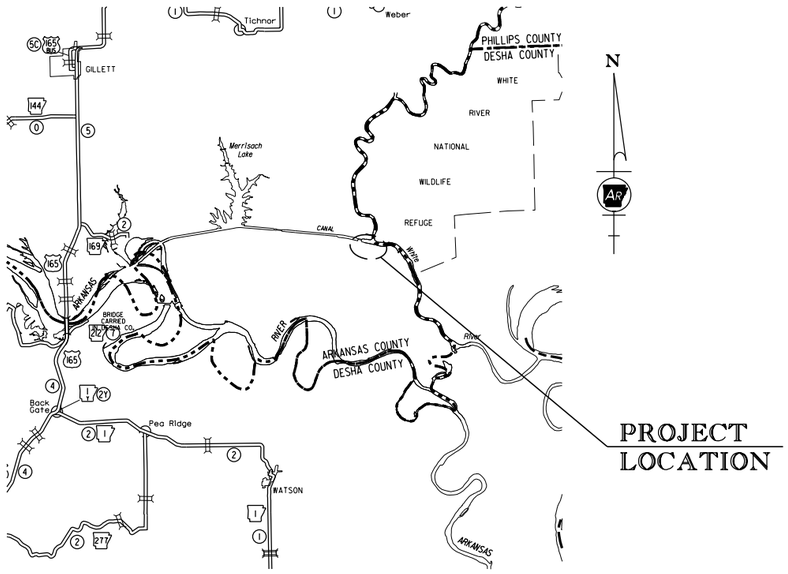
ARKANSAS DEPARTMENT OF TRANSPORTATION
CONSTRUCTION PLANS FOR COUNTY ROAD

MENARD BAYOU
STR. & APPRS. (S)

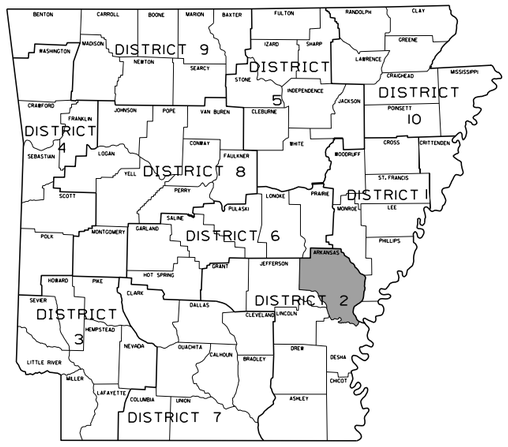
ARKANSAS COUNTY
BENZAL LANE

JOB 020738
FED. AID PROJ. BFPO-STPB-0001(70)

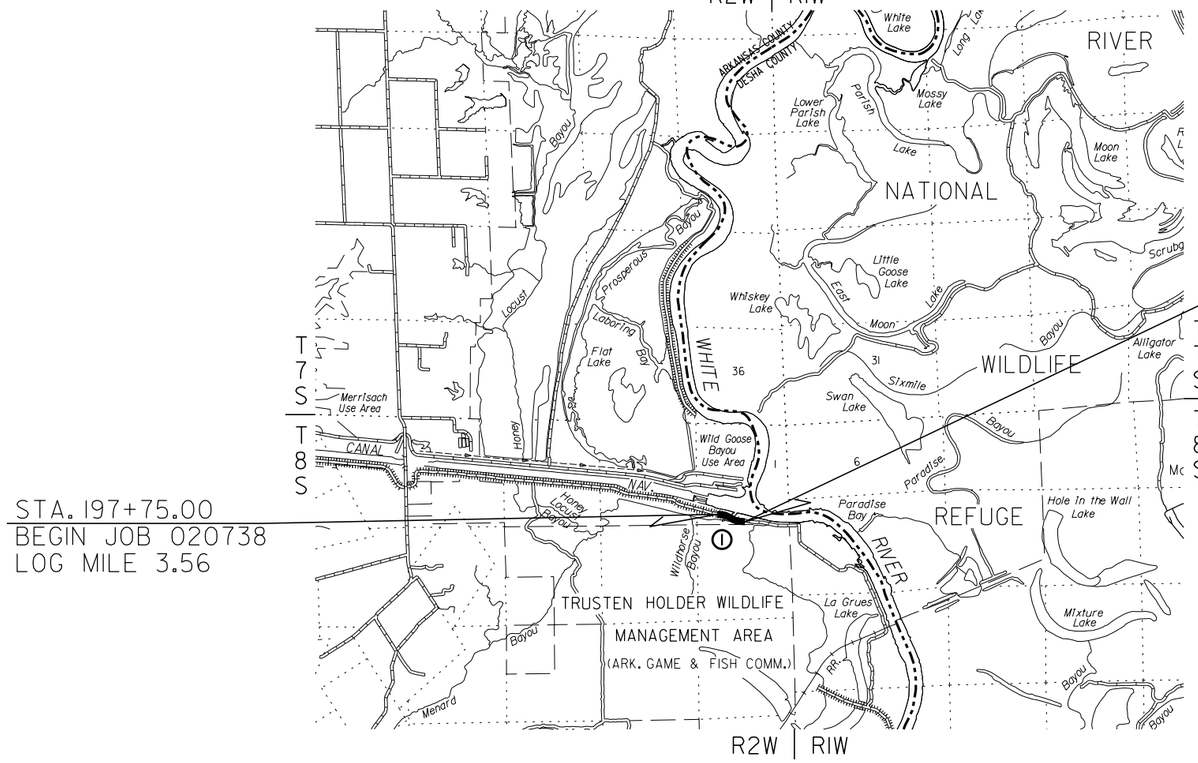
NOT TO SCALE



VICINITY MAP



ARKANSAS HIGHWAY DISTRICT 2



• DESIGN TRAFFIC DATA •

DESIGN YEAR	2046
2026 ADT	130
2046 ADT	140
2046 DHV	15
DIRECTIONAL DISTRIBUTION	60%
TRUCKS	5%
DESIGN SPEED	25 MPH

BRIDGE CONSTRUCTION DATA

① STA. 200+00.00 - BRIDGE END
BRIDGE NO. 04953
140'-0" CONTINUOUS R.C. SLAB UNIT
(35'-35'-35'-35')
24'-0" CLEAR ROADWAY
10°00'00" LT. FWD. SKEW
140'-0" BRIDGE LENGTH
STA. 201+40.00 - BRIDGE END

PROJECT COORDINATES:

	BEGIN	MID-POINT	END
LATITUDE	N34° 00' 59"	N34° 00' 58"	N34° 00' 57"
LONGITUDE	W91° 11' 22"	W91° 11' 19"	W91° 11' 16"

LENGTH OF PROJECT CALCULATED ALONG C.L.

GROSS LENGTH OF PROJECT	575.00	FEET OR 0.109 MILES
NET LENGTH OF ROADWAY	435.00	FEET OR 0.082 MILES
NET LENGTH OF BRIDGES	140.00	FEET OR 0.027 MILES
NET LENGTH OF PROJECT	575.00	FEET OR 0.109 MILES

CERTIFICATE OF AUTHORIZATION
HDR ENGINEERING INC. No. 446
ARKANSAS - ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 18018
JUSTIN P. CARNEY

DIGITALLY SIGNED 01-13-2026

JUCARNEY 1/13/2026

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
02/09/2026		6	ARK.	020738	2	34
		INDEX OF SHEETS AND STANDARD DRAWINGS				

STATE OF ARKANSAS
James Patrick Jones
LICENSED PROFESSIONAL ENGINEER
No.18036
JAMES PATRICK JONES

DIGITALLY SIGNED 02-09-2026

INDEX OF SHEETS

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
55011	STANDARD DETAILS FOR TYPE C BRIDGE NAME PLATE	02-27-20
55021	STANDARD DETAILS FOR CONCRETE FILLED STEEL SHELL PILES AND PILE ENCASEMENTS	03-24-16
55040F1	STANDARD DETAILS FOR TYPE F APPROACH SLAB	09-07-23

ROADWAY STANDARD DRAWINGS

DRWG.NO.	TITLE	DATE
GR-6	GUARDRAIL DETAILS	05-19-22
GR-10	GUARDRAIL DETAILS	11-07-19
GR-11	GUARDRAIL DETAILS	11-07-19
GR-12	GUARDRAIL DETAILS	05-14-20
GRT-1	GUARDRAIL DETAILS	11-07-19
PM-1	PAVEMENT MARKING DETAILS	02-27-20
TC-1	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	08-14-25
TC-2	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	08-14-25
TC-3	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	08-14-25
TC-6	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	01-22-26
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

JUCARNEY 2/9/2026

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
02/23/2026		6	ARK.	020738	3	34
		GOVERNING SPECIFICATIONS AND GENERAL NOTES				

DIGITALLY SIGNED 02-23-2026

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
102-3_____	PREQUALIFICATION OF BIDDERS
103-2_____	CONTACT INFROMATION FOR MOTORIST DAMAGE CLAIMS
105-4_____	MAINTENANCE DURING CONSTRUCTION
107-2_____	RESTRAINING CONDITIONS
108-1_____	LIQUIDATED DAMAGES
108-2_____	WORK ALLOWED PRIOR TO ISSUANCE OF WORK ORDER
210-1_____	UNCLASSIFIED EXCAVATION
303-1_____	AGGREGATE BASE COURSE
306-1_____	QUALITY CONTROL AND ACCEPTANCE
307-2_____	CEMENT TREATED BASE COURSE
308-2_____	CEMENT STABILIZED CRUSHED STONE BASE COURSE
501-3_____	PORTLAND CEMENT CONCRETE PAVEMENT
600-2_____	INCIDENTAL CONSTRUCTION
603-1_____	LANE CLOSURE NOTIFICATION
604-1_____	RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
604-3_____	TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES (MASH)
617-2_____	GUARDRAIL DELINEATORS
620-1_____	MULCH COVER
621-1_____	FILTER SOCKS
800-1_____	STRUCTURES
802-3_____	CONCRETE FOR STRUCTURES
802-5_____	CONCRETE FOR STRUCTURES
804-2_____	REINFORCING STEEL FOR STRUCTURES
JOB 020738__	ARCHEOLOGICAL MONITORING
JOB 020738__	BIDDING REQUIREMENTS AND CONDITIONS
JOB 020738__	BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB 020738__	BUY AMERICA - CONSTRUCTION MATERIALS
JOB 020738__	CARGO PREFERENCE ACT REQUIREMENTS
JOB 020738__	CLASS C FLY ASH IN PORTLAND CEMENT CONCRETE PAVEMENT AND CLASS S(AE) CONCRETE
JOB 020738__	CONCRETE BRIDGE DECK CURING AND SURFACE TREATMENT RESTRICTIONS
JOB 020738__	CONSTRUCTION IN SPECIAL FLOOD HAZARD AREAS
JOB 020738__	DOCUMENTATION OF PAYMENTS MADE TO DISADVANTAGED BUSINESS ENTERPRISES
JOB 020738__	DOCUMENTATION OF PAYMENTS MADE TO SUBCONTRACTORS
JOB 020738__	FLEXIBLE BEGINNING OF WORK – CALENDAR DAY CONTRACT
JOB 020738__	LIQUIDATED DAMAGES PROCEDURE FOR BID LETTINGS
JOB 020738__	MANDATORY ELECTRONIC CONTRACT
JOB 020738__	MANDATORY ELECTRONIC DOCUMENT SUBMITTAL
JOB 020738__	PARTNERING REQUIREMENTS
JOB 020738__	PRICE ADJUSTMENT FOR FUEL
JOB 020738__	PROHIBITION OF CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT
JOB 020738__	SOIL STABILIZATION
JOB 020738__	USE OF FOREIGN MADE UNMANNED AIRCRAFT SYSTEMS
JOB 020738__	UTILITY ADJUSTMENTS
JOB 020738__	VALUE ENGINEERING

GENERAL NOTES

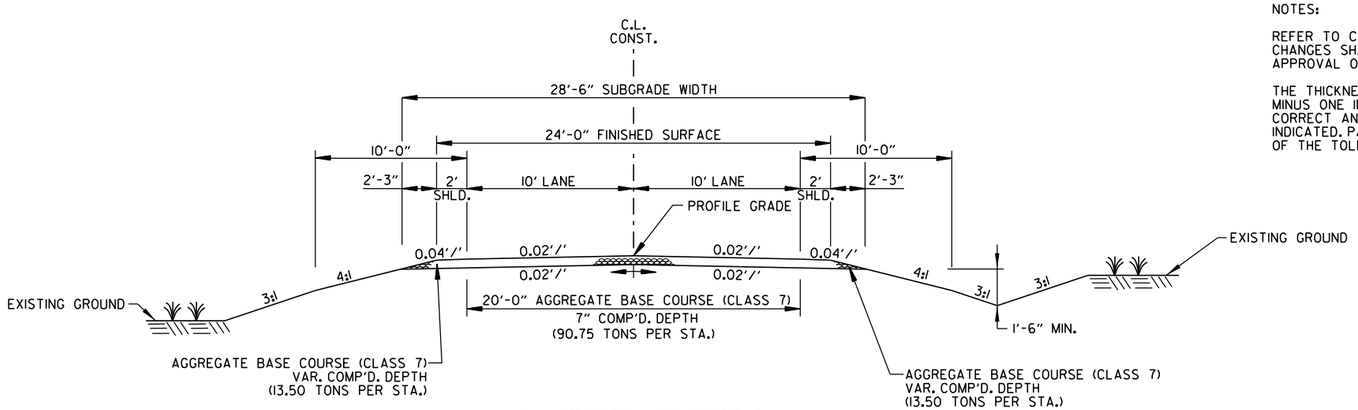
1. GRADE LINE DENOTES FINISHED GRADE WHERE SHOWN ON PLANS.
2. ALL PIPE LINES, POWER, TELEPHONE, AND TELEGRAPH LINES TO BE MOVED OR LOWERED BY THE RESPECTIVE OWNERS AS PER AGREEMENT WITH SUCH OWNERS.
3. ANY EQUIPMENT OR APPURTENANCE THAT INTERFERES WITH THE PROPOSED CONSTRUCTION AND WHICH MAY BE THE PROPERTY OF UTILITY SERVICE ORGANIZATIONS SHALL BE MOVED BY THE OWNERS UNLESS OTHERWISE PROVIDED.
4. 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.
5. ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE STANDARD SPECIFICATIONS.
6. 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.
7. 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.
8. 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.
9. ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENTS REMOVED SHALL BE PAID FOR UNDER THE ITEM NO. 210 - UNCLASSIFIED EXCAVATION.
10. 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.
11. 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.

JUCARNEY 2/23/2026

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	020738	4	34
		TYPICAL SECTIONS OF IMPROVEMENT				

STATE OF ARKANSAS
James Patrick Jones
LICENSED PROFESSIONAL ENGINEER
No.18036
JAMES PATRICK JONES

DIGITALLY SIGNED 01-13-2026



TANGENT SECTION

STA. 197+75.00 TO STA. 199+65.00
STA. 201+75.00 TO STA. 203+50.00

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.

JUCARNEY 1/13/2026

TYPICAL SECTIONS OF IMPROVEMENT

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	020738	5	34
		SPECIAL DETAILS				

STATE OF ARKANSAS
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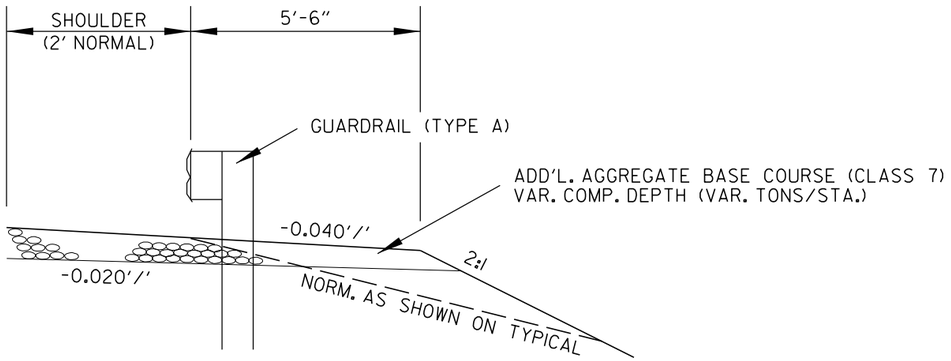
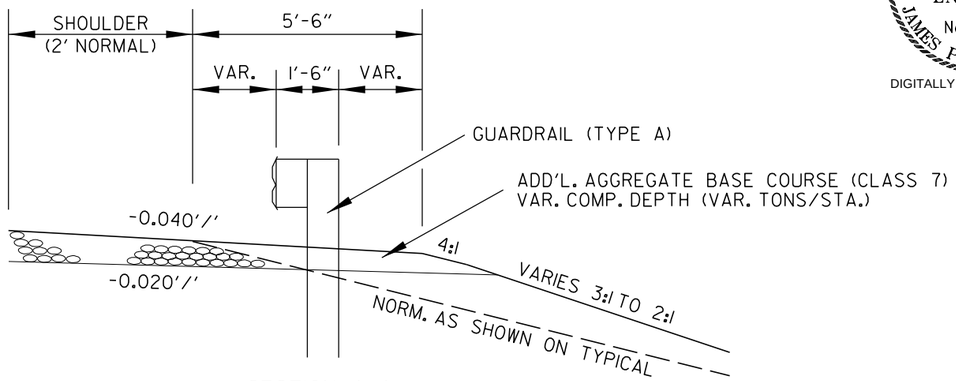
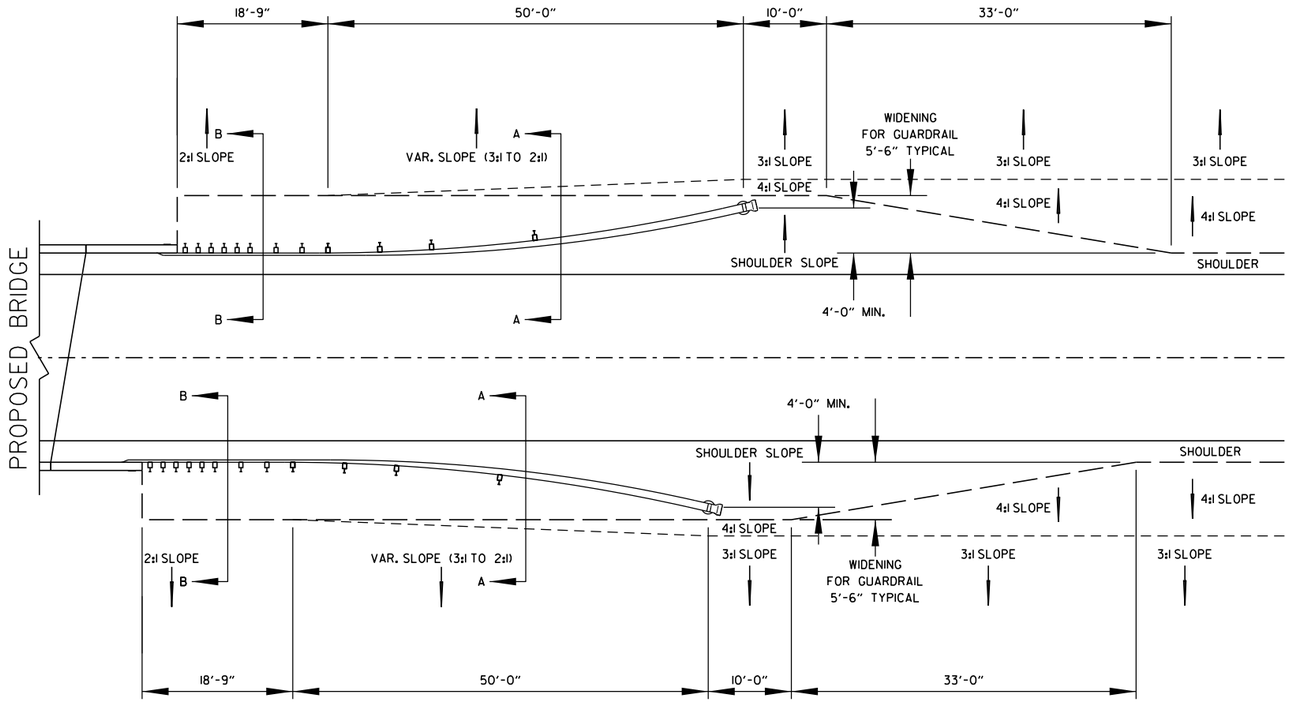


SECTION B-B



SECTION A-A



DETAILS OF ROADWAY WIDENING FOR GUARDRAIL

JUCARNEY 1/13/2026

SPECIAL DETAILS

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
02/09/2026		6	ARK.	020738	6	34
		SPECIAL DETAILS				

STATE OF ARKANSAS
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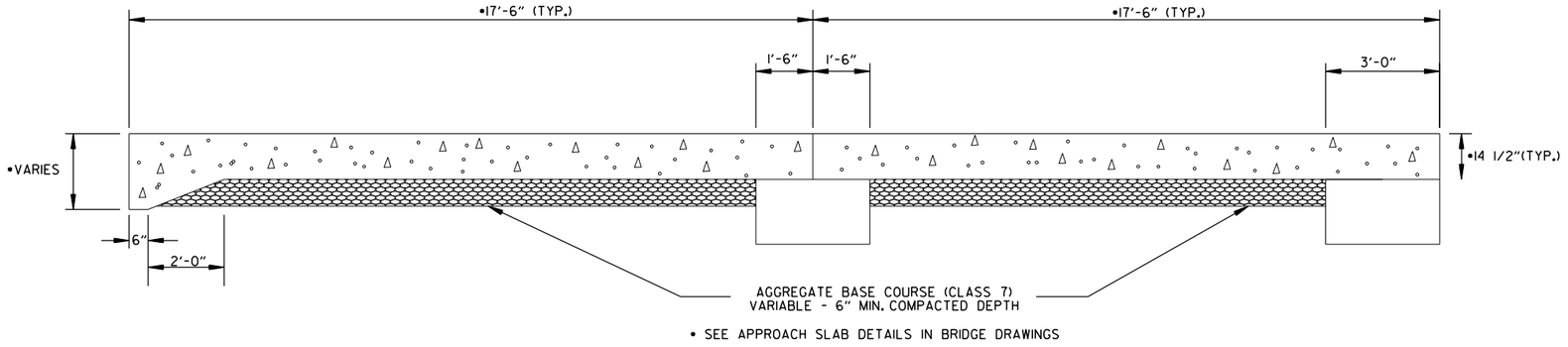
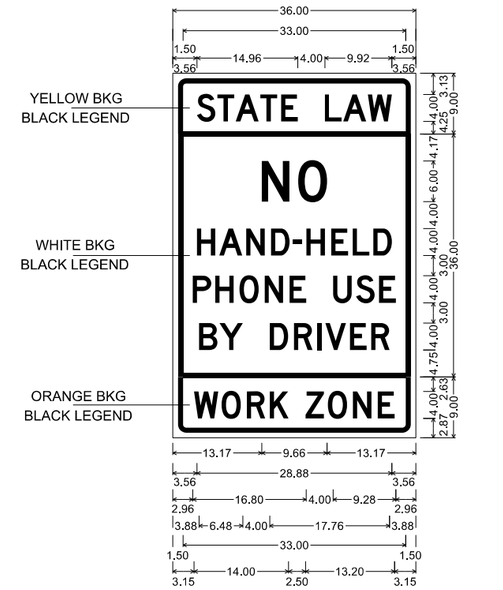


• SEE APPROACH SLAB DETAILS IN BRIDGE DRAWINGS

SECTION OF APPROACH SLAB



2.00" Radius, 0.75" Border, 0.75" Indent, Black on Yellow;
"STATE LAW", D 2K;

3.00" Radius, 0.75" Border, 0.75" Indent, Black on White;
"NO", D 2K; "HAND-HELD", D 2K;
"PHONE USE", D 2K;
"BY DRIVER", D 2K;

2.00" Radius, 0.75" Border, 0.75" Indent, Black on Orange;
"WORK", D 2K; "ZONE", D 2K;

WZ-4 (NON-INTERSTATE) SIGN

JUCARNEY 2/9/2026

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	020738	7	34
		TEMPORARY EROSION CONTROL DETAILS				

STATE OF ARKANSAS
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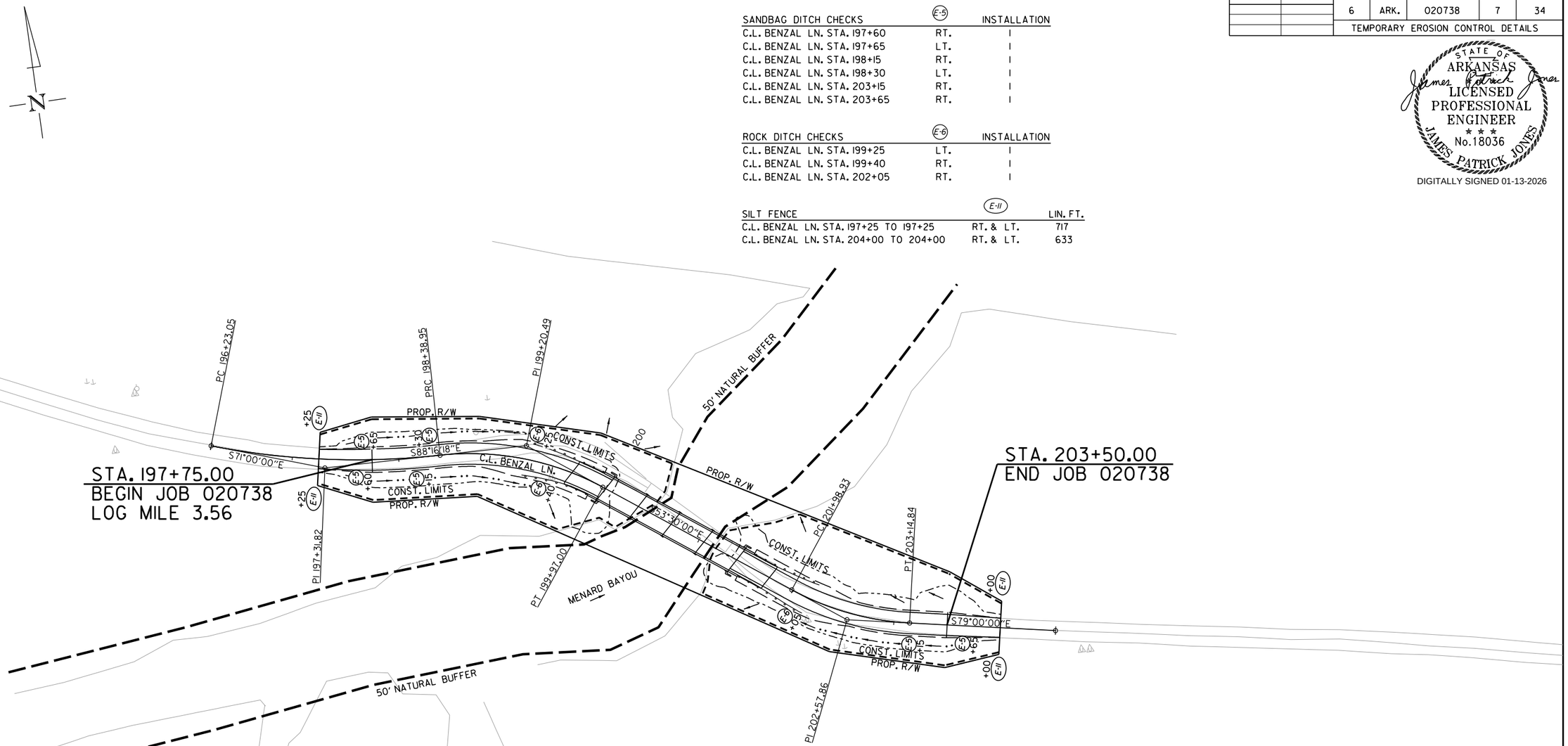
DIGITALLY SIGNED 01-13-2026

SANDBAG DITCH CHECKS (E-5)		INSTALLATION
C.L. BENZAL LN. STA. 197+60	RT.	1
C.L. BENZAL LN. STA. 197+65	LT.	1
C.L. BENZAL LN. STA. 198+15	RT.	1
C.L. BENZAL LN. STA. 198+30	LT.	1
C.L. BENZAL LN. STA. 203+15	RT.	1
C.L. BENZAL LN. STA. 203+65	RT.	1

ROCK DITCH CHECKS (E-6)		INSTALLATION
C.L. BENZAL LN. STA. 199+25	LT.	1
C.L. BENZAL LN. STA. 199+40	RT.	1
C.L. BENZAL LN. STA. 202+05	RT.	1

SILT FENCE (E-11)		LIN. FT.
C.L. BENZAL LN. STA. 197+25 TO 197+25	RT. & LT.	717
C.L. BENZAL LN. STA. 204+00 TO 204+00	RT. & LT.	633



REVISIONS

DATE	REVISION

TEMPORARY EROSION CONTROL GENERAL NOTES:

THE QUANTITIES AND LOCATIONS OF THE EROSION CONTROL DEVICES SHOWN IN THE PLANS ARE ESTIMATED AND MAY BE ALTERED IF AND WHERE DIRECTED BY THE ENGINEER TO MAXIMIZE THEIR EFFECTIVENESS. THE DEVICES ARE TO BE INSTALLED IN AN AREA ONLY WHEN THE SOIL DISTURBING ACTIVITY IN THAT AREA BEGINS.

REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

EROSION CONTROL DEVICES SHALL BE LEFT IN PLACE AS LONG AS REQUIRED TO CONTROL EROSION.

LEGEND

(E-5) = SANDBAG DITCH CHECKS

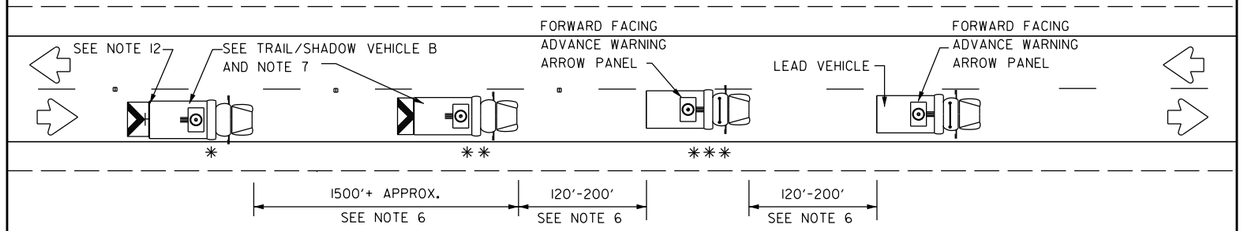
(E-6) = ROCK DITCH CHECKS

(E-11) = SILT FENCE

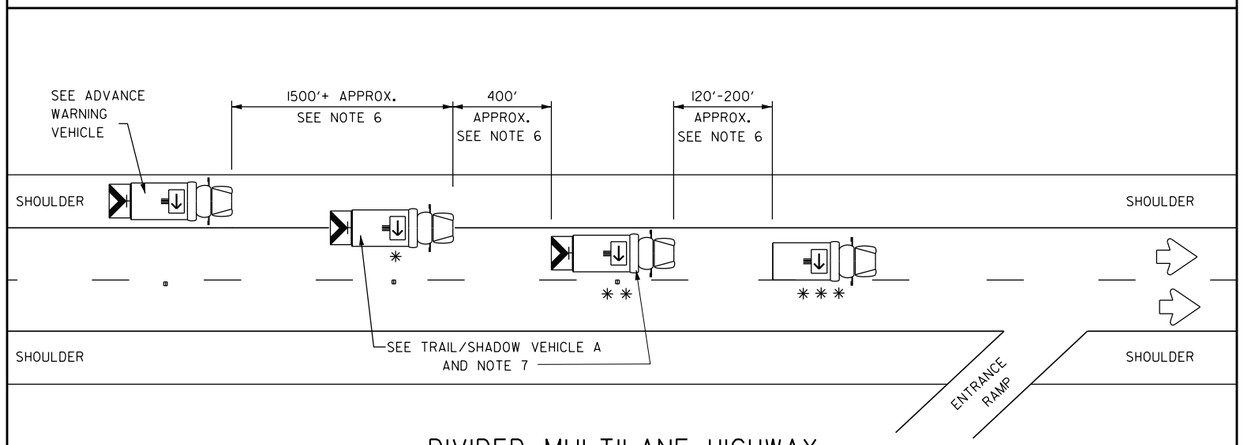
JUCARNEY 1/13/2026

TEMPORARY EROSION CONTROL DETAILS

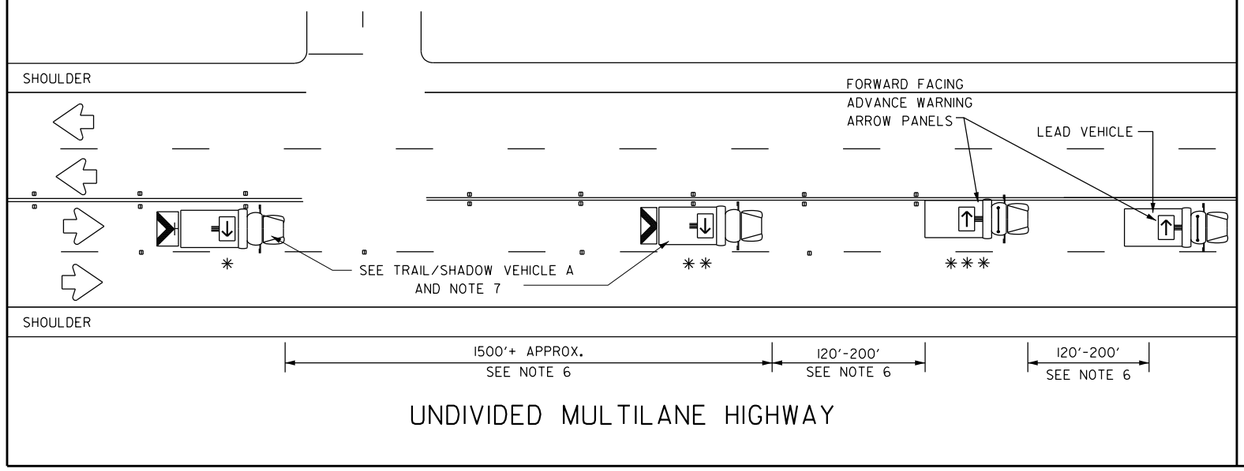
DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	020738	8	34
		MAINTENANCE OF TRAFFIC DETAILS				



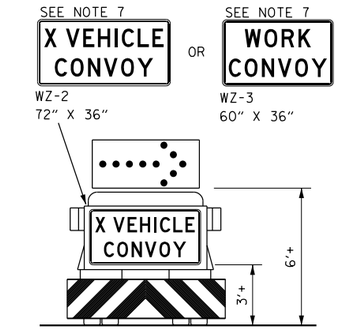
TWO LANE HIGHWAY
(WORK ON TRAVEL LANE)



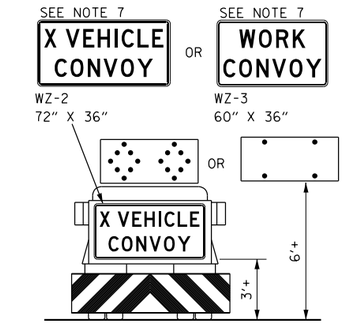
DIVIDED MULTILANE HIGHWAY



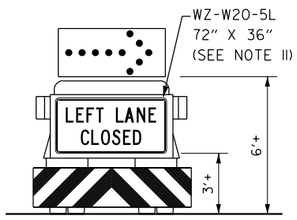
UNDIVIDED MULTILANE HIGHWAY



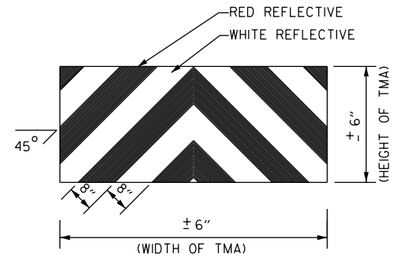
TRAIL/SHADOW VEHICLE A
WITH RIGHT DIRECTIONAL
ADVANCE WARNING ARROW PANEL



TRAIL/SHADOW VEHICLE B
WITH ADVANCE WARNING ARROW PANEL
IN CAUTION MODE



ADVANCE WARNING VEHICLE
WITH RIGHT DIRECTIONAL
ADVANCE WARNING ARROW PANEL



STRIPING FOR TMA

LEGEND			
*	TRAIL VEHICLE	ADVANCE WARNING ARROW PANEL DISPLAY	
**	SHADOW VEHICLE		
***	WORK VEHICLE		RIGHT DIRECTIONAL
	HEAVY WORK VEHICLE		LEFT DIRECTIONAL
	TRUCK MOUNTED ATTENUATOR (TMA)		DOUBLE ARROW
	TRAFFIC FLOW		CAUTION (ALTERNATING DIAMOND OR 4 CORNER FLASH)

TYPICAL APPLICATION - MOBILE WORK ZONE

GENERAL NOTES:

1. TRAIL, SHADOW, AND LEAD VEHICLES SHALL BE EQUIPPED WITH ADVANCE WARNING ARROW PANELS AS ILLUSTRATED.
2. THE USE OF AMBER OR GREEN HIGH-INTENSITY ROTATING, FLASHING, OSCILLATING, OR STROBE LIGHTS ON ALL VEHICLES ARE REQUIRED. VEHICLE HAZARD WARNING SIGNALS SHALL NOT BE USED INSTEAD OF THE VEHICLE'S HIGH-INTENSITY ROTATING, FLASHING, OSCILLATING, OR STROBE LIGHTS.
3. THE USE OF TRUCK MOUNTED ATTENUATORS (TMA) ON THE SHADOW VEHICLE, ADVANCE WARNING AND TRAIL VEHICLE ARE REQUIRED.
4. EACH VEHICLE SHALL HAVE TWO-WAY RADIO COMMUNICATION CAPABILITY.
5. WHEN WORK CONVOYS MUST CHANGE LANES, THE TRAIL VEHICLE SHOULD CHANGE LANES FIRST TO SHADOW THE OTHER CONVOY VEHICLES. WHEN WORK CONVOY EXITS THE ROADWAY, THE TRAIL VEHICLE SHOULD EXIT LAST.
6. VEHICLE SPACING BETWEEN THE TRAIL VEHICLE AND THE SHADOW VEHICLE WILL VARY DEPENDING ON SIGHT DISTANCE RESTRICTIONS AND QUEUE LENGTHS. MOTORISTS APPROACHING THE CONVOY SHOULD BE ABLE TO SEE THE TRAIL VEHICLE IN TIME TO SLOW DOWN AND/OR CHANGE LANES AS THEY APPROACH THE TRAIL VEHICLE. VEHICLE SPACING BETWEEN THE WORK VEHICLE AND SHADOW VEHICLE AND VEHICLE SPACING BETWEEN THE WORK VEHICLE AND LEAD VEHICLE MAY VARY ACCORDING TO TERRAIN, WORK ACTIVITY AND OTHER FACTORS.
7. X VEHICLE CONVOY (WZ-2) OR WORK CONVOY (WZ-3) SIGNS SHALL BE USED ON TRAIL VEHICLES AND SHADOW VEHICLES AS SHOWN. AS AN OPTION 48" X 48" DIAMOND SHAPED WORK CONVOY (WZ-2A) OR X VEHICLE CONVOY (WZ-3A) SIGNS MAY BE USED WHERE ADEQUATE MOUNTING SPACE EXISTS. WHEN USED, THE X VEHICLE CONVOY SIGN SHALL HAVE THE NUMBER OF THE CONVOY VEHICLES DISPLAYED ON THE SIGN IN THE NUMBER DESIGNATION "X" LOCATION. THE X VEHICLE CONVOY SIGN SHALL NOT BE USED ON THE SHADOW VEHICLE.
8. FOR DIVIDED HIGHWAYS WITH TWO OR THREE LANES IN ONE DIRECTION, THE APPROPRIATE LEFT LANE CLOSED (WZ-W20-5L), RIGHT LANE CLOSED (WZ-W20-5R), OR CENTER LANE CLOSED (WZ-W20-5C) SIGN SHOULD BE USED ON THE ADVANCE WARNING VEHICLE. AS AN OPTION, A PORTABLE CHANGEABLE MESSAGE SIGN (PCMS) OR TRUCK MOUNTED CHANGEABLE MESSAGE SIGN (TMCMS) WITH A MINIMUM CHARACTER HEIGHT OF 12", AND DISPLAYING THE SAME LEGEND MAY BE SUBSTITUTED FOR THESE SIGNS. AN APPROPRIATE DIRECTIONAL ARROW DISPLAY, SIMULATING THE SIZE AND LEGIBILITY OF THE ADVANCE WARNING ARROW PANEL MAY BE USED IN THE SECOND PHASE OF THE PCMS/TMCMS MESSAGE. WHEN THIS IS DONE, THE ARROW BOARD WILL NOT BE REQUIRED ON THE ADVANCE WARNING VEHICLE.
9. A DOUBLE ARROW SHALL NOT BE DISPLAYED ON THE ADVANCE WARNING ARROW PANEL ON THE ADVANCE WARNING VEHICLE.
10. STANDARD DIAMOND SHAPE VERSIONS OF THE WZ SERIES SIGNS MAY BE USED AS AN OPTION IF THE RECTANGULAR SIGNS SHOWN ARE NOT AVAILABLE.
11. THE ADVANCE WARNING VEHICLE MAY STRADDLE THE EDGELINE WHEN SHOULDER WIDTH MAKES IT NECESSARY.
12. ON TWO-LANE TWO-WAY ROADWAYS, THE WORK AND PROTECTION VEHICLES SHOULD PULL OVER PERIODICALLY TO ALLOW MOTOR VEHICLE TRAFFIC TO PASS. A DO NOT PASS (R4-1) SIGN SHALL BE PLACED ON THE BACK OF THE REARMOST PROTECTION VEHICLE.
13. MOBILE WORK ZONE METHODS AS DEPICTED IN THIS STANDARD DRAWING SHALL BE UTILIZED ON ALL PROJECTS THAT INCLUDE INSTALLATION OR REMOVAL OF RAISED PAVEMENT MARKERS OR PAVEMENT MARKINGS UNLESS APPROVED BY THE ENGINEER ON PROJECTS LESS THAN 0.5 MILE IN LENGTH.
14. NO DIRECT PAYMENT WILL BE MADE FOR COMPLIANCE WITH THE METHODS DEPICTED IN THIS STANDARD DRAWING (WHICH INCLUDES ALL SIGNS, DEVICES, MATERIALS, LABOR, TOOLS, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLY) BUT SHALL BE CONSIDERED SUBSIDIARY TO THE MAINTENANCE OF TRAFFIC PAY ITEM.

MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
James Patrick Jones
LICENSED PROFESSIONAL ENGINEER
No.18036
JAMES PATRICK JONES
DIGITALLY SIGNED 01-13-2026

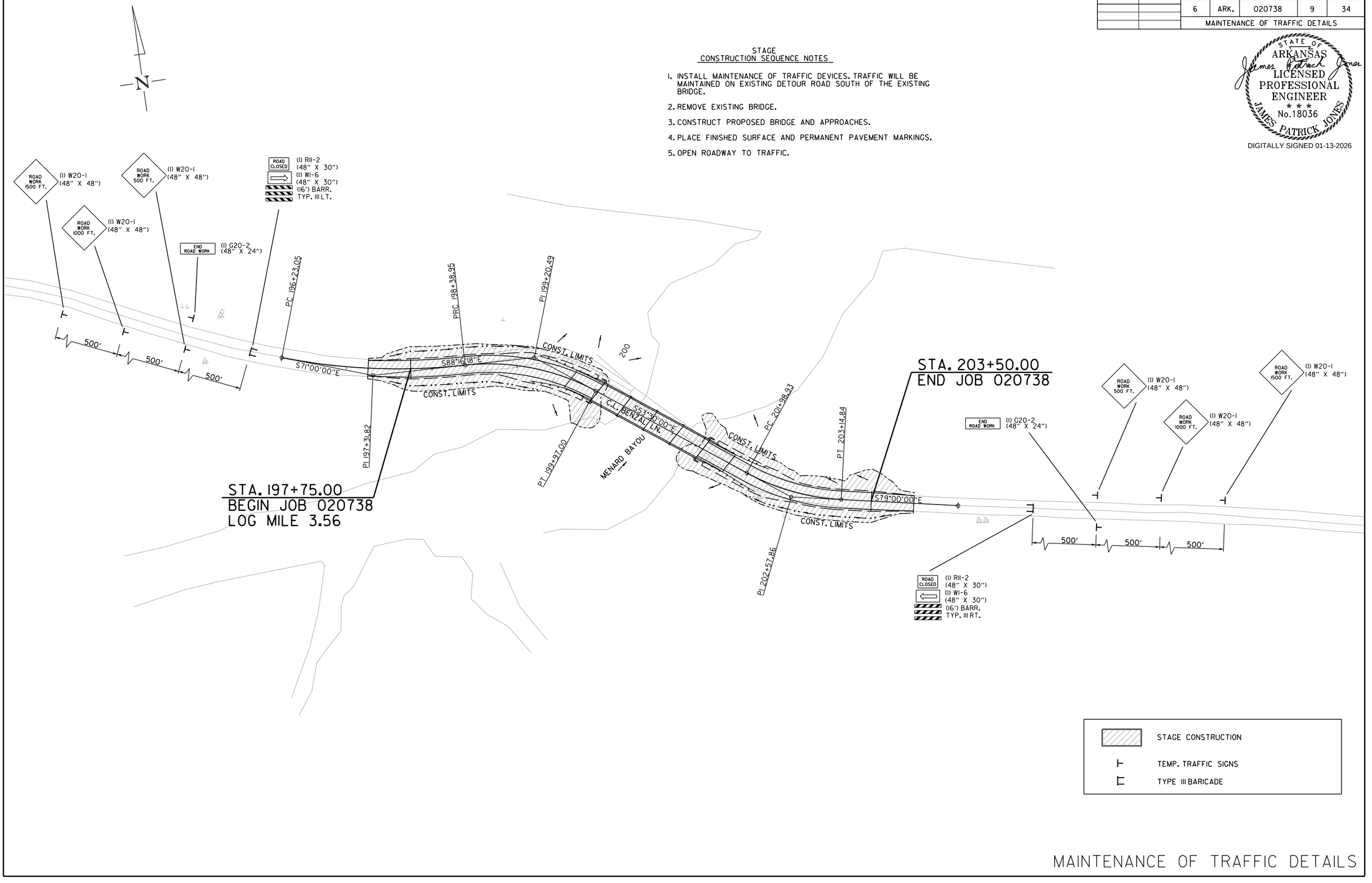
1/13/2026
JUCARNEY

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	020738	9	34
		MAINTENANCE OF TRAFFIC DETAILS				

STATE OF ARKANSAS
James Patrick Jones
LICENSED PROFESSIONAL ENGINEER
No.18036
JAMES PATRICK JONES
DIGITALLY SIGNED 01-13-2026

STAGE CONSTRUCTION SEQUENCE NOTES

1. INSTALL MAINTENANCE OF TRAFFIC DEVICES. TRAFFIC WILL BE MAINTAINED ON EXISTING DETOUR ROAD SOUTH OF THE EXISTING BRIDGE.
2. REMOVE EXISTING BRIDGE.
3. CONSTRUCT PROPOSED BRIDGE AND APPROACHES.
4. PLACE FINISHED SURFACE AND PERMANENT PAVEMENT MARKINGS.
5. OPEN ROADWAY TO TRAFFIC.



MAINTENANCE OF TRAFFIC DETAILS

JUCARNEY 1/13/2026

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	020738	10	34
		PERMANENT PAVEMENT MARKING DETAILS				

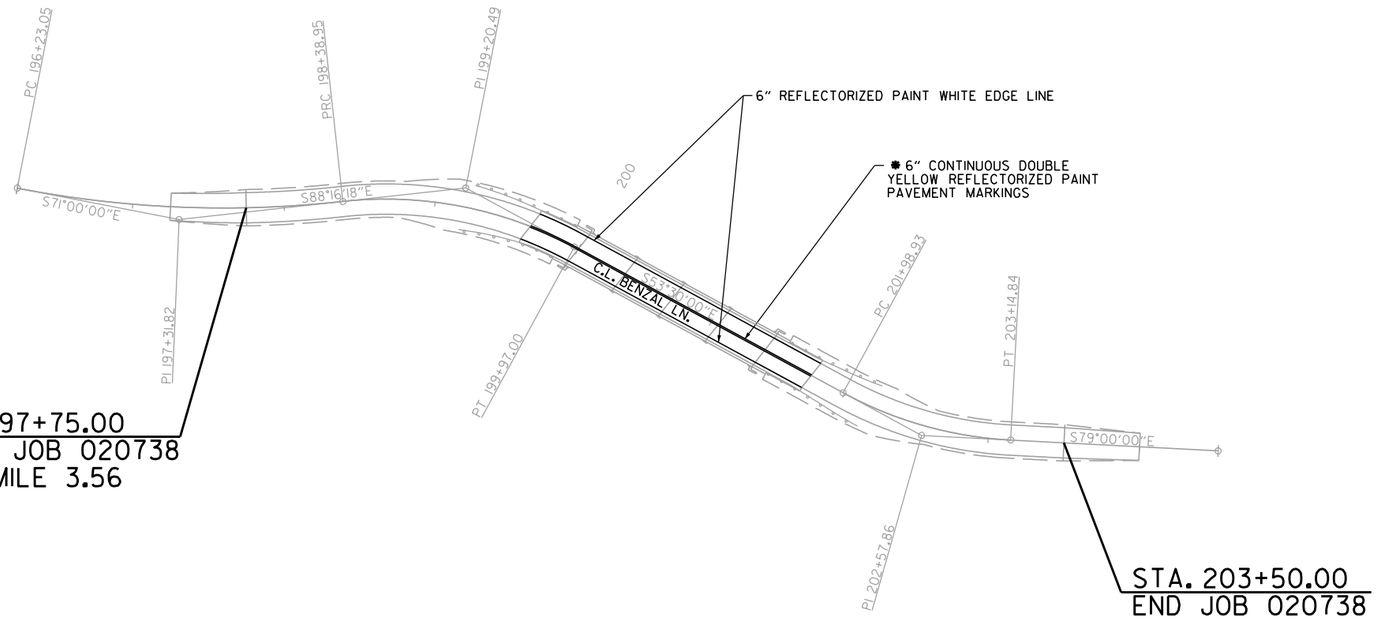
STATE OF ARKANSAS
James Patrick Jones
LICENSED PROFESSIONAL ENGINEER
No.18036
JAMES PATRICK JONES
DIGITALLY SIGNED 01-13-2026

REFLECTORIZED PAINT PAVEMENT MARKING
6" CONTINUOUS DOUBLE YELLOW

STA.	LOCATION	LIN. FT.
199+65.00 TO 201+75.00	C.L.	420

REFLECTORIZED PAINT PAVEMENT MARKING
6" CONTINUOUS WHITE SOLID EDGE LINE

STA.	LOCATION	LIN. FT.
199+67.88 TO 201+76.76	LT.	210
199+61.88 TO 201+73.24	RT.	210



* 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.

JUCARNEY 1/13/2026

PERMANENT PAVEMENT MARKING DETAILS

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	020738	II	34
		SOIL BORING LOG				

STATE OF ARKANSAS
James Patrick Jones
LICENSED PROFESSIONAL ENGINEER
No.18036
JAMES PATRICK JONES

DIGITALLY SIGNED 01-13-2026

SOIL LOG

BORING	STATION	LOCATION	DEPTH FEET	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	% FINES	USCS CLASSIFICATION
1	199+48	BENZAL LN. - 8' LT.	2.5 - 4.0		NP		94	-
1	199+48	BENZAL LN. - 8' LT.	4.5 - 6.5	96	22	74	99	CH
1	199+48	BENZAL LN. - 8' LT.	6.5 - 8.0	62	24	38	98	CH
1	199+48	BENZAL LN. - 8' LT.	9.0 - 10.5	87	24	63	98	CH
1	199+48	BENZAL LN. - 8' LT.	15.0 - 17.0	92	24	68	99	CH
1	199+48	BENZAL LN. - 8' LT.	17.0 - 18.5	86	35	51	99	CH
1	199+48	BENZAL LN. - 8' LT.	20.0 - 21.5	68	28	40	94	CH
1	199+48	BENZAL LN. - 8' LT.	25.0 - 26.5	34	11	23	71	CL
1	199+48	BENZAL LN. - 8' LT.	30.0 - 31.5	30	12	18	70	CL
1	199+48	BENZAL LN. - 8' LT.	35.0 - 36.5		NP		7	SP-SM
1	199+48	BENZAL LN. - 8' LT.	40.0 - 41.5		NP		4	SP
1	199+48	BENZAL LN. - 8' LT.	45.0 - 46.5		NP		-	-
1	199+48	BENZAL LN. - 8' LT.	50.0 - 51.5		NP		-	-
1	199+48	BENZAL LN. - 8' LT.	55.0 - 56.5		NP		-	-
1	199+48	BENZAL LN. - 8' LT.	60.0 - 61.5		NP		-	-
1	199+48	BENZAL LN. - 8' LT.	65.0 - 65.6		NP		94	-
1	199+48	BENZAL LN. - 8' LT.	65.6 - 66.5		NP		2	SP
1	199+48	BENZAL LN. - 8' LT.	70.0 - 71.5		NP		-	-
1	199+48	BENZAL LN. - 8' LT.	75.0 - 76.5		NP		-	-
1	199+48	BENZAL LN. - 8' LT.	80.0 - 81.5		NP		3	SP
1	199+48	BENZAL LN. - 8' LT.	85.0 - 86.5		NP		5	SP-SM
1	199+48	BENZAL LN. - 8' LT.	90.0 - 91.5		NP		-	-
1	199+48	BENZAL LN. - 8' LT.	95.0 - 96.5		NP		1	SP
1	199+48	BENZAL LN. - 8' LT.	100.0 - 101.5		NP		-	-
1	199+48	BENZAL LN. - 8' LT.	105.0 - 106.5		NP		5	SP-SM
1	199+48	BENZAL LN. - 8' LT.	110.0 - 111.5		NP		-	-
1	199+48	BENZAL LN. - 8' LT.	115.0 - 116.5		NP		-	-
1	199+48	BENZAL LN. - 8' LT.	120.0 - 121.5		NP		-	-
2	201+91	BENZAL LN. - 16' LT.	1.5 - 3.0	29	13	16	61	CL
2	201+91	BENZAL LN. - 16' LT.	4.0 - 5.5	70	30	40	94	CH
2	201+91	BENZAL LN. - 16' LT.	6.5 - 8.0	64	26	38	98	CH
2	201+91	BENZAL LN. - 16' LT.	9.0 - 10.5	102	18	84	99	CH
2	201+91	BENZAL LN. - 16' LT.	14.0 - 15.5	102	24	78	99	CH
2	201+91	BENZAL LN. - 16' LT.	19.0 - 20.5	81	20	61	95	CH
2	201+91	BENZAL LN. - 16' LT.	25.0 - 26.5	29	13	16	43	SC
2	201+91	BENZAL LN. - 16' LT.	30.0 - 31.5		NP		11	SP-SM
2	201+91	BENZAL LN. - 16' LT.	35.0 - 36.5		NP		7	SP-SM
2	201+91	BENZAL LN. - 16' LT.	40.0 - 41.5		NP		8	SP-SM
2	201+91	BENZAL LN. - 16' LT.	45.0 - 46.5		NP		2	SP
2	201+91	BENZAL LN. - 16' LT.	50.0 - 51.5		NP		11	SP-SM
2	201+91	BENZAL LN. - 16' LT.	55.0 - 56.5		NP		4	SP
2	201+91	BENZAL LN. - 16' LT.	60.0 - 61.5		NP		3	SP
2	201+91	BENZAL LN. - 16' LT.	65.0 - 66.5		NP		4	SP
2	201+91	BENZAL LN. - 16' LT.	70.0 - 71.5		NP		11	SP-SC
2	201+91	BENZAL LN. - 16' LT.	75.0 - 76.5		NP		3	SP
2	201+91	BENZAL LN. - 16' LT.	80.0 - 81.5		NP		3	SP
2	201+91	BENZAL LN. - 16' LT.	85.0 - 86.5		NP		3	SP
2	201+91	BENZAL LN. - 16' LT.	90.0 - 91.5		NP		5	SP-SM
2	201+91	BENZAL LN. - 16' LT.	95.0 - 96.5		NP		10	SW-SC
2	201+91	BENZAL LN. - 16' LT.	100.0 - 101.5		NP		3	SP

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

JUCARNEY 1/13/2026

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
02/09/2026		6	ARK.	020738	12	34
		QUANTITIES				

STATE OF ARKANSAS
James Patrick Jones
LICENSED PROFESSIONAL ENGINEER
No.18036
JAMES PATRICK JONES

DIGITALLY SIGNED 02-09-2026

ADVANCE WARNING SIGNS AND DEVICES

SIGN NUMBER	DESCRIPTION	SIGN SIZE	END OF JOB	MAXIMUM NUMBER REQUIRED	TOTAL SIGNS REQUIRED		BARRICADES (TYPE III)	
							RIGHT	LEFT
			EACH		NO.	SQ. FT.	LIN. FT.	
W20-1	ROAD WORK 1500 FT.	48"x48"	2	2	2	32.0		
W20-1	ROAD WORK 1000 FT.	48"x48"	2	2	2	32.0		
W20-1	ROAD WORK 500 FT.	48"x48"	2	2	2	32.0		
G20-2	END ROAD WORK	48"x24"	2	2	2	16.0		
R11-2	ROAD CLOSED	48"x30"	2	2	2	20.0		
R2-6aP	FINES DOUBLE IN WORK ZONES	48"x36"	2	2	2	24.0		
R2-11	END HIGHER FINES ZONE	36"x48"	2	2	2	24.0		
W1-6	LARGE ARROW	48"x30"	2	2	2	20.0		
WZ-4	NO HAND-HELD PHONE USE	36"x54"	2	2	2	27.0		
	TYPE III BARRICADE-RT. (16')		1	1			16	
	TYPE III BARRICADE-LT. (16')		1	1				16
TOTALS:						**227.0**	**16**	**16**

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

PERMANENT PAVEMENT MARKINGS

DESCRIPTION	END OF JOB	REFLECTORIZED PAINT PAVEMENT MARKING	
		6"	
		WHITE	YELLOW
	LIN. FT.	LIN. FT.	
REFLECTORIZED PAINT PAVEMENT MARKING WHITE (6")	420	420	
REFLECTORIZED PAINT PAVEMENT MARKING YELLOW (6")	420		420
TOTALS:		**420**	**420**

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 DOJBLE 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.

JUCARNEY 2/9/2026

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	020738	13	34
		QUANTITIES				

STATE OF ARKANSAS
James Patrick Jones
LICENSED PROFESSIONAL ENGINEER
No.18036
JAMES PATRICK JONES
DIGITALLY SIGNED 01-13-2026

REMOVAL AND DISPOSAL OF ITEMS

STATION	STATION	LOCATION	GUARDRAIL
			LIN. FT.
199+81	200+29	LT. OF C.L. BENZAL LN.	52
199+83	200+27	LT. OF C.L. BENZAL LN.	45
201+32	201+68	RT. OF C.L BENZAL LN.	39
201+33	201+75	LT. OF C.L. BENZAL LN.	43
TOTALS:			**179**

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.

GUARDRAIL

STATION	STATION	LOCATION	GUARDRAIL (TYPE A)	THRIE BEAM GUARDRAIL TERMINAL	TERMINAL ANCHOR POST (TYPE 1)
			LIN. FT.	EACH	
199+18.69	199+87.44	RT. OF BENZAL LN.	50	1	1
199+23.58	199+92.33	LT. OF BENZAL LN.	50	1	1
201+47.88	202+16.63	RT. OF BENZAL LN.	50	1	1
201+52.12	202+20.87	LT. OF BENZAL LN.	50	1	1
TOTALS:			**200**	**4**	**4**

EARTHWORK

STATION	STATION	LOCATION / DESCRIPTION	UNCLASSIFIED EXCAVATION	COMPACTED EMBANKMENT
			CU. YD.	
ENTIRE	PROJECT	BENZAL LN.	239	1480
TOTALS:			**239**	**1480**

NOTE: EARTHWORK QUANTITIES SHALL BE PAID AS PLAN QUANTITY.

SOIL STABILIZATION

	STATION	STATION	LOCATION / DESCRIPTION	SOIL STABILIZATION
				TON
*	ENTIRE	PROJECT	TO BE USED IF AND WHERE	200
			DIRECTED BY THE ENGINEER	
TOTAL:				**200**

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

CLEARING AND GRUBBING

STATION	STATION	LOCATION	CLEARING	GRUBBING
			STATION	
197+25	200+25	BENZAL LN.	3	3
201+25	204+00	BENZAL LN.	3	3
TOTALS:			**6**	**6**

BASE AND SURFACING

STATION	STATION	LOCATION	LENGTH	AGGREGATE BASE COURSE (CLASS 7)	
			FEET	TON / STATION	TON
MAIN LANES					
197+25.00	197+75.00	BENZAL LN. - TRANSITION	50.00	VAR.	29.44
197+75.00	199+65.00	BENZAL LN. - TANGENT SECTION	190.00	117.75	223.73
201+75.00	203+50.00	BENZAL LN. - TANGENT SECTION	175.00	117.75	206.06
203+50.00	204+00.00	BENZAL LN. - TRANSITION	50.00	VAR.	29.44
ADDITIONAL FOR GUARDRAIL WIDENING					
198+75.69	199+08.69	BENZAL LN. - RT. SIDE	33.00	VAR.	3.14
199+08.69	199+18.69	BENZAL LN. - RT. SIDE	10.00	VAR.	1.90
199+18.69	199+68.69	BENZAL LN. - RT. SIDE	50.00	VAR.	9.19
199+68.69	199+87.44	BENZAL LN. - RT. SIDE	18.75	VAR.	3.33
198+80.58	199+13.58	BENZAL LN. - LT. SIDE	33.00	VAR.	3.14
199+13.58	199+23.58	BENZAL LN. - LT. SIDE	10.00	VAR.	1.90
199+23.58	199+73.58	BENZAL LN. - LT. SIDE	50.00	VAR.	9.19
199+73.58	199+92.33	BENZAL LN. - LT. SIDE	18.75	VAR.	3.33
201+47.88	201+66.63	BENZAL LN. - RT. SIDE	18.75	VAR.	3.33
201+66.63	202+16.63	BENZAL LN. - RT. SIDE	50.00	VAR.	9.19
202+16.63	202+26.63	BENZAL LN. - RT. SIDE	10.00	VAR.	1.90
202+26.63	202+59.63	BENZAL LN. - RT. SIDE	33.00	VAR.	3.14
201+52.12	201+70.87	BENZAL LN. - LT. SIDE	18.75	VAR.	3.33
201+70.87	202+20.87	BENZAL LN. - LT. SIDE	50.00	VAR.	9.19
202+20.87	202+30.87	BENZAL LN. - LT. SIDE	10.00	VAR.	1.90
202+30.87	202+63.87	BENZAL LN. - LT. SIDE	33.00	VAR.	3.14
TOTALS:					**558.91**

BENCH MARKS

STATION	LOCATION	BENCH MARKS
		EACH
200+37	BENZAL LN. - NW CORNER OF BRIDGE NO. 04953	1
TOTAL:		**1**

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

EROSION CONTROL MATTING

	STATION	STATION	LOCATION	LENGTH	CLASS 3
				LIN. FT.	SQ. YD.
*	ENTIRE	PROJECT	TO BE USED IF AND WHERE	3000.00	2666.67
			DIRECTED BY THE ENGINEER		
TOTAL:					**2666.67**

NOTE: AVERAGE WIDTH = 8'-0"

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

APPROACH GUTTERS AND SLABS

STATION	STATION	LOCATION	APPROACH GUTTER (TYPE SPECIAL)	APPROACH SLABS (TYPE F)	REINFORCING STEEL-RDWY. (GR. 60)	AGGREGATE BASE CRS. (CLASS 7)
			CU.YD.		POUND	TON
199+61.88	199+97.88	BENZAL LN. RT.	5.39		525	
199+65.00	200+00.00	BENZAL LN.		39.82	4770	21.39
199+67.88	200+02.12	BENZAL LN. LT.	5.39		525	
201+37.88	201+73.24	BENZAL LN. RT.	5.33		531	
201+40.00	201+75.00	BENZAL LN.		39.82	4770	21.39
201+42.12	201+76.76	BENZAL LN. LT.	5.33		531	
TOTALS:			**21.44**	**79.64**	**11652**	**42.78**

EROSION CONTROL

STATION	STATION	LOCATION	PERMANENT EROSION CONTROL					TEMPORARY EROSION CONTROL										
			SEEDING	LIME	MULCH COVER	WATER	SECOND SEEDING APPLICATION	TEMPORARY SEEDING	MULCH COVER	WATER	WATTLE (20") DITCH CHECKS (E-1)	SAND BAG DITCH CHECKS (E-5)	ROCK DITCH CHECKS (E-6)	SILT FENCE (E-11)	FILTER SOCK (18") (E-3)	SEDIMENT BASIN (E-14)	OBLITERATION OF SEDIMENT BASIN	*SEDIMENT REMOVAL & DISPOSAL
			ACRE	TON	ACRE	M.GAL.	ACRE	ACRE	ACRE	M.GAL.	LIN. FT.	BAG	CU.YD.	LIN. FT.	LIN. FT.	CU.YD.	CU.YD.	CU. YD.
ENTIRE	PROJECT	BENZAL LN.										132	9	1350				59
*ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.			0.32	0.64	0.32	32.6	0.32	0.32	0.32	6.5	90	66	6	250	5500	100	100	328
TOTALS:			**0.32**	**0.64**	**0.32**	**32.6**	**0.32**	**0.32**	**0.32**	**6.5**	**90**	**198**	**15**	**1600**	**5500**	**100**	**100**	**387**

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
WATTLE DITCH CHECKS.....9 LIN. FT. / LOCATION
SAND BAG DITCH CHECKS.....22 BAGS / LOCATION
ROCK DITCH CHECKS.....3 CU.YD./LOCATION

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

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.

1/13/2026
JUCARNEY

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	020738	14	34
		04953		- QUANTITIES -		68833

SCHEDULE OF BRIDGE QUANTITIES - JOB NO. 020738

BRIDGE NUMBER	NAME PLATE TITLE	UNIT OF STRUCTURE	ITEM NO.	205	801	SP, SS, & 802	SP, SS, & 802	SP & 803	SS & 804	SS & 804	SS & 805	SS & 805	SS & 805	SP, SS, & 806	812	SS & 816	SS & 816
			ITEM	REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. _)	UNCLASSIFIED EXCAVATION FOR STRUCTURES-BRIDGE	CLASS S CONCRETE-BRIDGE	CLASS S(AE) CONCRETE-BRIDGE	CLASS 2 PROTECTIVE SURFACE TREATMENT	REINFORCING STEEL-BRIDGE (GRADE 60)	EPOXY COATED REINFORCING STEEL (GRADE 50)	STEEL SHELL PILING (18" DIA.) ①	STEEL SHELL PILING (24" DIA.) ①	PILE ENCASEMENT	METAL BRIDGE RAILING (TYPE 2T42)	BRIDGE NAME PLATE (TYPE C)	FILTER BLANKET	FOUNDATION PROTECTION RIPRAP
			UNIT	LUMP SUM	CU. YD.	CU. YD.	CU. YD.	SQ. YD.	POUND	POUND	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	EACH	SQ. YD.	TON
04953	MENARD BAYOU	END BENT NO. 1				14.39			1,744	163	300					209	533
		INTERMEDIATE BENT NO. 2				12.74			1,694	326		345	44				
		INTERMEDIATE BENT NO. 3				12.74			1,694	326		505	98				
		INTERMEDIATE BENT NO. 4				12.74			1,694	326		385	85				
		END BENT NO. 5			3	14.39			1,744	163	320					239	612
		140'-0" CONTINUOUS R.C. SLAB UNIT					295.20	408.4		75,986				318	1		
		SITE NO. 1 (EXISTING BR. NO. 20859)		1													
TOTALS FOR JOB NO. 020738					3	67.00	295.20	408.4	8,570	77,290	620	1,235	227	318	1	448	1,145

① Steel shell piles shall conform to ASTM A252, Grade 3, Fy = 45 ksi.

TABLE OF APPROACH SLAB QUANTITIES

(FOR INFORMATION ONLY)

BRIDGE NO.	ITEM	REINFORCING STEEL	CONCRETE
	UNIT	LB.	CU. YDS.
04953	BEGIN BRIDGE	4,770	39.82
	END BRIDGE	4,770	39.82

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.18018
JUSTIN P. CARNEY

DIGITALLY SIGNED 01-13-2026

BRIDGE ENGINEER
PRINT DATE: 1/13/2026

SCHEDULE OF BRIDGE QUANTITIES
MENARD BAYOU STR. & APPRS. (S)
ARKANSAS COUNTY
COUNTY ROAD 299
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY:	SLE	DATE:	MAR. 2024	FILENAME:	b020738_q1.dgn
CHECKED BY:	JPC	DATE:	MAR. 2025		
DESIGNED BY:	-	DATE:	-	SCALE:	No Scale
BRIDGE NO.	04953			DRAWING NO.	68833

JUCARNEY 1/13/2026

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
02/09/2026		6	ARK.	020738	15	34
02/23/2026		SUMMARY OF QUANTITIES AND REVISIONS				

DIGITALLY SIGNED 02-23-2026

SUMMARY OF QUANTITIES

ITEM NUMBER	ITEM	QUANTITY	UNIT
201	CLEARING	6	STATION
201	GRUBBING	6	STATION
202	REMOVAL AND DISPOSAL OF GUARDRAIL	179	LIN. FT.
SP, SS, & 210	UNCLASSIFIED EXCAVATION	239	CU. YD.
SP & 210	COMPACTED EMBANKMENT	1480	CU. YD.
SP & 210	SOIL STABILIZATION	200	TON
SP, SS, & 303	AGGREGATE BASE COURSE (CLASS 7)	602	TON
SP, SS, & 504	APPROACH SLABS	79.64	CU. YD.
SP, SS, & 504	APPROACH GUTTERS	21.44	CU. YD.
601	MOBILIZATION	1.00	LUMP SUM
SP & 602	FURNISHING FIELD OFFICE	1	EACH
SS & 603	MAINTENANCE OF TRAFFIC	1.00	LUMP SUM
SS & 604	SIGNS	227	SQ. FT.
SS & 604	BARRICADES	32	LIN. FT.
SS & 617	GUARDRAIL (TYPE A)	200	LIN. FT.
SS & 617	TERMINAL ANCHOR POSTS (TYPE 1)	4	EACH
SS & 617	THRIE BEAM GUARDRAIL TERMINAL	4	EACH
620	LIME	1	TON
620	SEEDING	0.32	ACRE
SS & 620	MULCH COVER	0.64	ACRE
620	WATER	39.1	M. GAL.
621	TEMPORARY SEEDING	0.32	ACRE
621	SILT FENCE	1600	LIN. FT.
621	SAND BAG DITCH CHECKS	198	BAG
621	SEDIMENT BASIN	100	CU. YD.
621	OBLITERATION OF SEDIMENT BASIN	100	CU. YD.
621	SEDIMENT REMOVAL AND DISPOSAL	387	CU. YD.
621	ROCK DITCH CHECKS	15	CU. YD.
SS & 621	FILTER SOCK (18")	5500	LIN. FT.
621	WATTLE (20")	90	LIN. FT.
623	SECOND SEEDING APPLICATION	0.32	ACRE
626	EROSION CONTROL MATTING (CLASS 3)	2667	SQ. YD.
635	ROADWAY CONSTRUCTION CONTROL	1.00	LUMP SUM
718	REFLECTORIZED PAINT PAVEMENT MARKING WHITE (6")	420	LIN. FT.
718	REFLECTORIZED PAINT PAVEMENT MARKING YELLOW (6")	420	LIN. FT.
SS & 804	REINFORCING STEEL-ROADWAY (GRADE 60)	11652	POUND
	STRUCTURES OVER 20' SPAN		
205	REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. 1)	1.00	LUMP SUM
801	UNCLASSIFIED EXCAVATION FOR STRUCTURES-BRIDGE	3	CU. YD.
SP, SS, & 802	CLASS S CONCRETE-BRIDGE	67.00	CU. YD.
SP, SS, & 802	CLASS S(AE) CONCRETE-BRIDGE	295.20	CU. YD.
SP & 803	CLASS 2 PROTECTIVE SURFACE TREATMENT	408.4	SQ. YD.
SS & 804	REINFORCING STEEL-BRIDGE (GRADE 60)	8570	POUND
SS & 804	EPOXY COATED REINFORCING STEEL (GRADE 60)	77290	POUND
SS & 805	STEEL SHELL PILING (18" DIAMETER)	620	LIN. FT.
SS & 805	STEEL SHELL PILING (24" DIAMETER)	1235	LIN. FT.
SS & 805	PILE ENCASEMENT	227	LIN. FT.
SP, SS, & 806	METAL BRIDGE RAILING (TYPE 2T42)	318	LIN. FT.
812	BRIDGE NAME PLATE (TYPE C)	1	EACH
SS & 816	FILTER BLANKET	448	SQ. YD.
SS & 816	FOUNDATION PROTECTION RIPRAP	1145	TON

REVISIONS

DATE	REVISION	SHEET NUMBER
2/9/2026	ADDED WZ-4 SIGN SPECIAL DETAIL, ADDED UPDATED TC-6 STANDARD DRAWING, REVISED SIGNS QUANTITY.	2, 6, 12, & 15
2/23/2026	ADDED USE OF FOREIGN MADE UNMANNED AIRCRAFT SYSTEMS SPECIAL PROVISION.	3 & 15

JUCARNEY 2/23/2026

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	020738	16	34
		SURVEY CONTROL DETAILS				

STATE OF ARKANSAS
James Patrick Jones
LICENSED PROFESSIONAL ENGINEER
No.18036
JAMES PATRICK JONES
DIGITALLY SIGNED 01-13-2026

SURVEY CONTROL COORDINATES

Project Name: s020738
Date: 5/19/2023
Coordinate System: ARKANSAS STATE PLANE – SOUTH ZONE HORZ BASED ON PN:1 & 11'
VERT BASED ON YANCOPIN PROJECTED TO GROUND.
Units: U.S. SURVEY FOOT

Point Name	Northing	Easting	Elev	Feature	Description
1	1805199.4454	1555980.5461	167.52	CTL	ARDOT STD MON STAMPED PN:1
2	1805044.3096	1556557.5825	166.50	CTL	ARDOT STD MON STAMPED PN:2
3	1804887.8097	1557118.7674	167.72	CTL	ARDOT STD MON STAMPED PN:3
4	1804835.7591	1557524.9075	163.25	CTL	ARDOT STD MON STAMPED PN:4
5	1804617.0616	1558167.3547	147.67	CTL	ARDOT STD MON STAMPED PN:5
6	1804400.8214	1558587.5200	150.50	CTL	ARDOT STD MON STAMPED PN:6
7	1804285.0621	1559142.8394	152.19	CTL	ARDOT STD MON STAMPED PN:7
8	1804191.4028	1559928.5173	150.22	CTL	ARDOT STD MON STAMPED PN:8
9	1804040.0403	1560742.8528	157.02	CTL	ARDOT STD MON STAMPED PN:9
10	1803979.1349	1561604.5605	159.89	CTL	ARDOT STD MON STAMPED PN:10
11	1803964.2686	1562021.1515	151.24	CTL	ARDOT STD MON STAMPED PN:11
900	1804584.8238	1558317.6570	143.96	TBM	CH SQ ON NE HEADWALL

*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).
ALL DISTANCES ARE GROUND.
USE CAF = 1.0 FOR STAKEOUT FOR THIS PROJECT.
A PROJECT CAF OF 0.9999110367 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 s020738gi.CTL
HORIZONTAL DATUM: NAD 83 (2011)
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 – 0302–SOUTH ZONE
DETERMINED FROM GPS CONTROL POINTS: 1 & 11
CONVERGENCE ANGLE: 00 27 16.5 RIGHT AT PN:6 LT:N34°00'56.9034" LG:W91°11'16.0005"
GRID AZIMUTH = ASTRONOMICAL AZIMUTH – CONVERGENCE ANGLE.

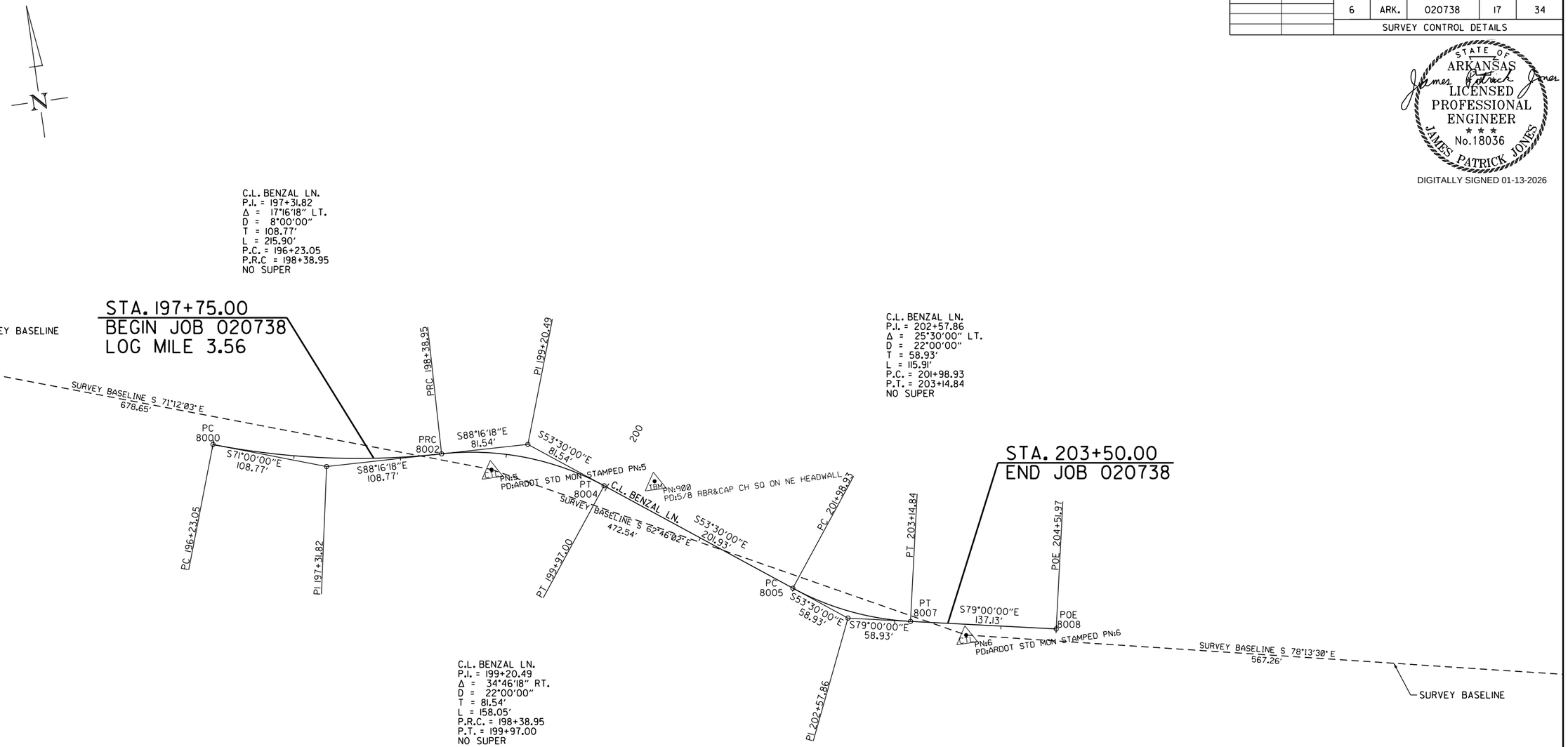
ALIGNMENT NAME: BENZAL LN.

POINT	STATION	TYPE	NORTHING	EASTING
8000	196+23.05	PC	1804676.8971	1557911.4291
8002	198+38.95	PRC	1804638.2035	1558122.9984
8004	199+97.00	PT	1804587.2394	1558270.0560
8005	201+98.93	PC	1804467.1275	1558432.3780
8007	203+14.84	PT	1804420.8299	1558537.5973
8008	204+51.97	POE	1804394.6642	1558672.2081

JUCARNEY 1/13/2026

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	020738	17	34
		SURVEY CONTROL DETAILS				

STATE OF ARKANSAS
James Patrick Jones
LICENSED PROFESSIONAL ENGINEER
No.18036
JAMES PATRICK JONES
DIGITALLY SIGNED 01-13-2026



JUCARNEY 1/13/2026

SURVEY CONTROL DETAILS

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	020738	18	34
		PLAN AND PROFILE SHEETS				

STATE OF ARKANSAS
James Patrick Jones
LICENSED PROFESSIONAL ENGINEER
No.18036
JAMES PATRICK JONES
DIGITALLY SIGNED 01-13-2026

STA.	STA.	LOCATION	GUARDRAIL (TYPE A) LIN. FT.	THRIE BEAM GUARDRAIL TERMINAL EACH	TERMINAL ANCHOR POST (TYPE I) EACH
199+18.69	199+87.44	RT. OF BENZAL LN.	50	1	1
199+23.58	199+92.33	LT. OF BENZAL LN.	50	1	1
201+47.88	202+16.63	RT. OF BENZAL LN.	50	1	1
201+52.12	202+20.87	LT. OF BENZAL LN.	50	1	1

REMOVAL AND DISPOSAL OF GUARDRAIL

STA. 199+81	TO STA. 200+29	LT. OF C.L. BENZAL LN. = 52 LIN. FT.
STA. 199+83	TO STA. 200+27	LT. OF C.L. BENZAL LN. = 45 LIN. FT.
STA. 201+32	TO STA. 201+68	RT. OF C.L. BENZAL LN. = 39 LIN. FT.
STA. 201+33	TO STA. 201+75	LT. OF C.L. BENZAL LN. = 43 LIN. FT.

C.L. BENZAL LN.
P.I. = 197+31.82
Δ = 17°16'18" LT.
D = 8°00'00"
T = 108.77'
L = 215.90'
P.C. = 196+23.05
P.R.C = 198+38.95
NO SUPER

C.L. BENZAL LN.
P.I. = 199+20.49
Δ = 34°46'18" RT.
D = 22°00'00"
T = 81.54'
L = 158.05'
P.R.C. = 198+38.95
P.T. = 199+97.00
NO SUPER

C.L. BENZAL LN.
P.I. = 202+57.86
Δ = 25°30'00" LT.
D = 22°00'00"
T = 58.93'
L = 115.91'
P.C. = 201+98.93
P.T. = 203+14.84
NO SUPER

STA. 200+00.00 - BRIDGE END
BRIDGE NO. 04953
140'-0" CONTINUOUS R.C. SLAB UNIT
(35'-35'-35'-35')
24'-0" CLEAR ROADWAY
10°00'00" LT. FWD. SKEW
140'-0" BRIDGE LENGTH
STA. 201+40.00 - BRIDGE END

STA. 200+34.00 TO STA. 201+30.50
EXISTING BRIDGE NO. 20859
96.5' X 12.5' BRIDGE CONSISTING OF A STEEL SUPERSTRUCTURE SUPPORTED BY A CONCRETE SUBSTRUCTURE
REMOVE AS EXISTING BRIDGE STRUCTURE
(SITE NO. 1) = 1.00 LUMP SUM

STA. 197+75.00
BEGIN JOB 020738
LOG MILE 3.56

STA. 203+50.00
END JOB 020738

REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA

BENZAL LN.

ENTIRE JOB IN SFHA

STA. 197+75.00
BEGIN JOB 020738
LOG MILE 3.56

STA. 203+50.00
END JOB 020738

PVI 197+75.00 ELEV. 151.07
PVC 198+05.00 ELEV. 150.32
PVT 199+05.00 ELEV. 149.07
PVI 198+55.00 ELEV. 149.07
PVC 202+15.00 ELEV. 149.07
PVT 203+15.00 ELEV. 150.36
PVI 203+50.00 ELEV. 151.27
PVI 202+65.00 ELEV. 149.07

VC=100.00'
K=40.00
e=0.31'

VC=100.00'
K=38.76
e=0.32'

-2.50% (EXIST.)
-6.23% LT. & RT. DT. GR.
2.50% LT. & RT. DT. GR.
0.19% LT. DT. GR.
0.00%
0.24% RT. DT. GR.
0.20% RT. DT. GR.
2.60% RT. DT. GR.
2.58%
2.58% (EXIST.)
6.62% RT. DT. GR.

+50.00 LT. & RT. 150.26
+75.00 LT. & RT. 148.70
+55.00 LT. & RT. 146.70
+25.00 LT. 146.57
+40.00 RT. 146.50
+05.00 RT. 146.56
+65.00 RT. 146.69
+50.00 RT. 148.90
+75.00 RT. 150.55

EXISTING GROUND

02 = 153.4

1/13/2026
JUCARNEY

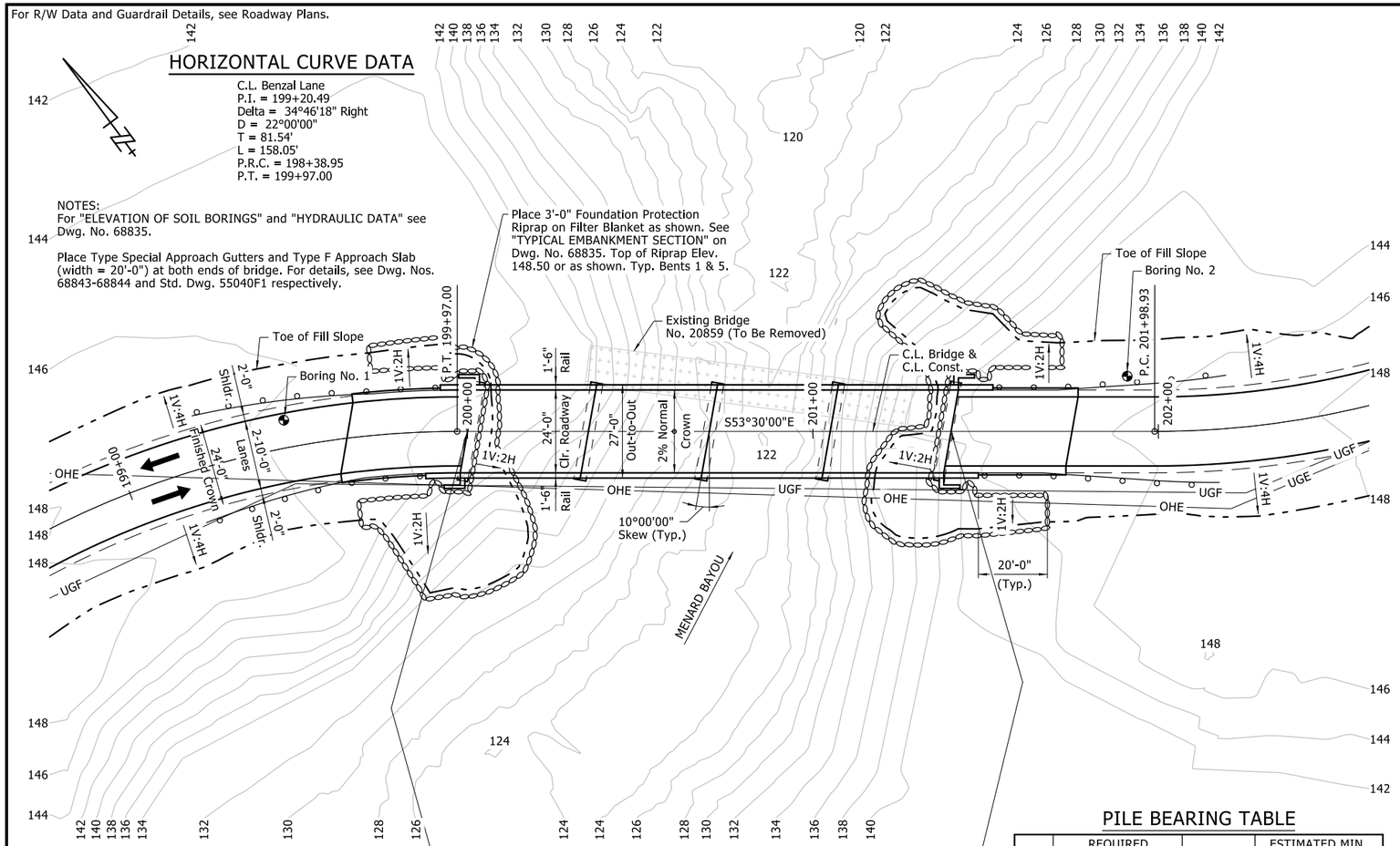
For R/W Data and Guardrail Details, see Roadway Plans.

HORIZONTAL CURVE DATA

C.L. Benzal Lane
P.I. = 199+20.49
Delta = 34°46'18" Right
D = 22°00'00"
T = 81.54'
L = 158.05'
P.R.C. = 198+38.95
P.T. = 199+97.00

NOTES:
For "ELEVATION OF SOIL BORINGS" and "HYDRAULIC DATA" see Dwg. No. 68835.

Place Type Special Approach Gutters and Type F Approach Slab (width = 20'-0") at both ends of bridge. For details, see Dwg. Nos. 68843-68844 and Std. Dwg. 55040F1 respectively.



EXISTING UTILITIES LEGEND

OHE = Overhead Electric
UGE = Underground Electric Cable
UGF = Underground Fiber Optic Cable

NOTE:
Utilities shown are based on locations at time of survey and do not reflect any potential utility relocations prior to construction.

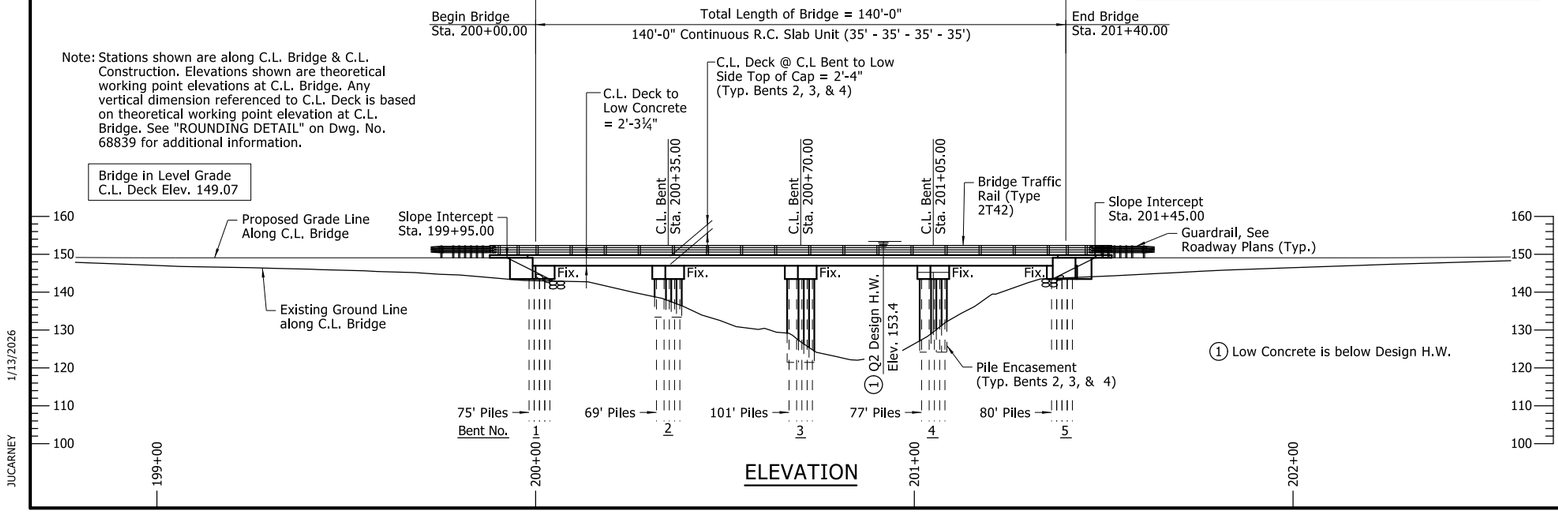
PILE BEARING TABLE

BENT	REQUIRED MINIMUM ULTIMATE BEARING CAPACITY (TONS)	MIN. TIP ELEVATION	ESTIMATED MIN. RATED HAMMER ENERGY (FT.-LBS. PER BLOW)
1	235	70.00	45,000
2	285	76.00	85,000
3	315	44.00	85,000
4	290	68.00	85,000
5	250	65.00	45,000

Begin Bridge Sta. 200+00.00
Total Length of Bridge = 140'-0"
140'-0" Continuous R.C. Slab Unit (35' - 35' - 35' - 35')
End Bridge Sta. 201+40.00

Note: Stations shown are along C.L. Bridge & C.L. Construction. Elevations shown are theoretical working point elevations at C.L. Bridge. Any vertical dimension referenced to C.L. Deck is based on theoretical working point elevation at C.L. Bridge. See "ROUNDING DETAIL" on Dwg. No. 68839 for additional information.

Bridge in Level Grade
C.L. Deck Elev. 149.07



GENERAL NOTES

BENCHMARK: Vertical Control Data are shown on the Survey Control Data Sheets.

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, Ninth Edition (2020)
AASHTO Guide Specifications for LRFD Seismic Bridge Design, 2nd Edition (2011) with current interims

LIVE LOADING: HL-93

SEISMIC DESIGN CATEGORY (SDC): B S_{D1} = 0.215 SITE CLASS = D

SEISMIC OPERATIONAL CLASSIFICATION: Ordinary

MATERIALS AND STRENGTHS:

Class S(AE) Concrete (Superstructure)	f'c = 4,000 psi
Class S Concrete (Substructure)	f'c = 3,500 psi
Reinforcing Steel (AASHTO M 31 or M 322, Type A)	fy = 60,000 psi
Structural Steel (ASTM A709, Gr. 36)	Fy = 36,000 psi
Structural Steel (ASTM A709, Gr. 50)	Fy = 50,000 psi
Structural Steel (ASTM A709, Gr. 50W)	Fy = 50,000 psi
Pipe Pile (ASTM A252, Grade 3)	Fy = 45,000 psi

BORING LOGS: Boring logs may be obtained from the Construction Contract Development Section of the Program Management Division.

STEEL SHELL PILING: Piling in Bents 1 and 5 shall be 18" diameter concrete filled steel shell piles and shall be driven to meet the requirements of the "PILE BEARING TABLE". Piling in Bents 2, 3, and 4 shall be 24" diameter concrete filled steel shell piles and shall be driven to meet the requirements of the "PILE BEARING TABLE". All piling shall be driven with an approved air, steam or diesel hammer to the minimum tip elevations shown in the "PILE BEARING TABLE". Piling in end bents shall be driven after embankment to bottom of cap is in place. Lengths of piling shown are assumed for estimating quantities only. Actual lengths are to be determined in the field. No additional payment will be made for cut-off or build up. Test piles are not required but may be driven for the Contractor's information in accordance with Subsection 805.08(g). No piles will be paid for as test piles.

Water Jetting or other methods as approved by the Engineer may be required to achieve minimum penetration. This work shall not be paid for directly, but shall be considered incidental to the Item "STEEL SHELL PILING (18" DIA.)" and "STEEL SHELL PILING (24" DIA.)".

PILE ENCASEMENT: Pile encasement for Bents 2, 3, and 4 shall extend from bottom of cap to 3' below natural or finished ground. See Standard Drawing Number 55021 for additional information.

DRIVING SYSTEM: The driving system approval and the ultimate bearing capacity determination for piling shall be based on the requirements of Subsection 805.09(b), "Method B - Wave Equation Analysis (WEAP)". See the "PILE BEARING TABLE" for the estimated minimum rated hammer energy required to overcome the anticipated driving resistance for all piles at each bent. If the Contractor elects to use water jetting or other approved methods to obtain the minimum tip elevations shown while driving only to the required minimum ultimate bearing capacity, the minimum rated hammer energy required will be lower and shall be accounted for in the driving system chosen by the Contractor.

POWDER COATING: All metal bridge railing shall receive a powder coating finish. The color of the paint shall be black equal or close to Federal Std. 595B, Color Chip No. 27038 and as approved by the Engineer. See Dwg. No. 68842 for additional information.

BRIDGE DECK: The concrete bridge deck shall be given a tine finish as specified for the final finishing in Subsection 802.19 for Class 5 Tined Bridge Roadway Surface Finish.

PROTECTIVE SURFACE TREATMENT: Class 2 Protective Surface Treatment shall be applied to the roadway surface and to the roadway face and top of the concrete curb in accordance with Section 803.

DETAIL DRAWINGS:	DRAWING NO(S).
End Bents	68836 - 68837
Intermediate Bents	68838
140'-0" Continuous R.C. Slab Unit	68839 - 68840
Bridge Traffic Rail Type 2T42	68841 - 68842
Type Special Approach Gutters	68843 - 68844
Concrete Filled Steel Shell Piling	55021
Type F Approach Slab	55040F1

EXISTING BRIDGE: Existing Bridge No. 20859 (Log Mile 3.65) is 12.5' wide (11.4' clear roadway) and 96.5' long and consists of 3 open grid steel deck on steel w-beam spans supported by a concrete substructure. The existing bridge is located approximately 10' downstream of the proposed new bridge. Plans of the existing structure, if available, may be obtained upon request to the Construction Contract Development Section of the Program Management Division.

REMOVAL AND SALVAGE: After the road has been closed, the Contractor shall remove existing Bridge No. 20859 in accordance with Section 205. All material from the existing bridge shall become the property of the Contractor except the following, which shall become property of the Arkansas Game and Fish Commission: All steel elements of the superstructure and open grid deck. This material shall remain on the project site as directed by the Engineer. The Contractor shall coordinate with the Engineer for removal and relocation of salvaged material. Payment for this work shall be considered incidental to "Remove of Existing Bridge Structure (Site No. 1)".

MAINTENANCE OF TRAFFIC: The road will be closed during construction of this project.

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	020738	I9	34
		04953		- LAYOUT -		68834

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.18018
JUSTIN P. CARNEY

DIGITALLY SIGNED 01-13-2026

BRIDGE ENGINEER
PRINT DATE: 1/13/2026

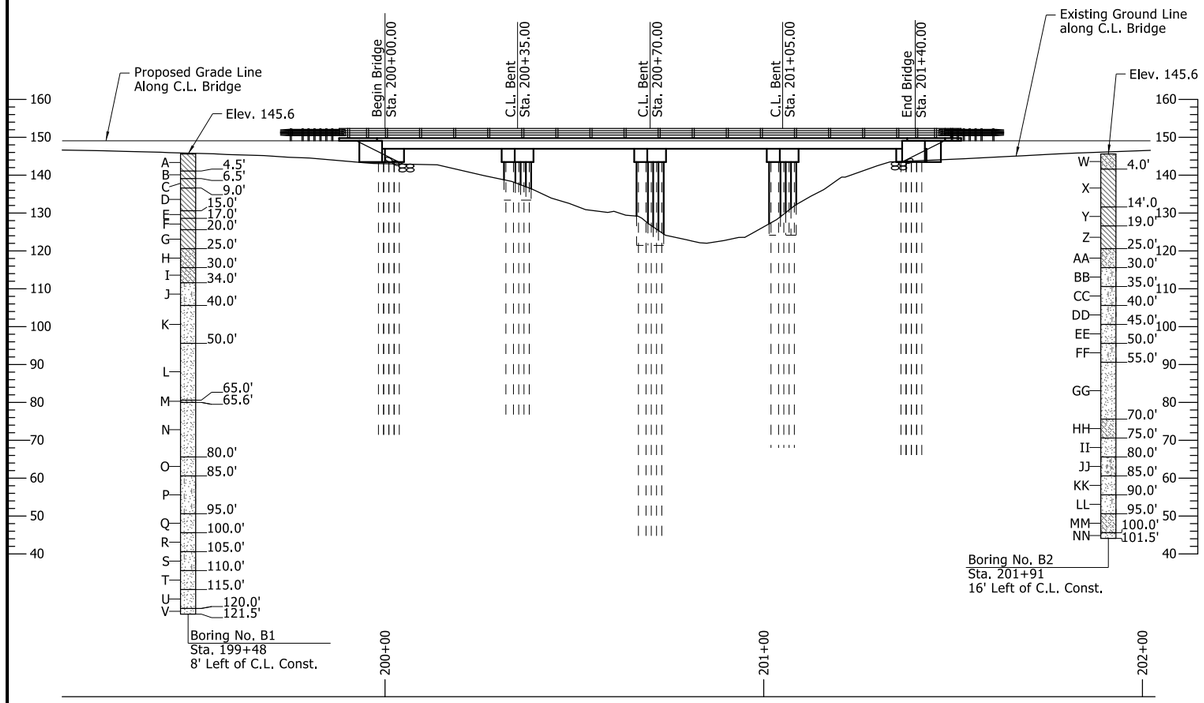
SHEET 1 OF 2
LAYOUT OF BRIDGE
BENZAL LANE OVER MENARD BAYOU
MENARD BAYOU STR. & APPRS. (S)
ARKANSAS COUNTY
COUNTY ROAD 299

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY:	JPC	DATE:	OCT. 2023	FILENAME:	b020738_l1.dgn
CHECKED BY:	LWM	DATE:	OCT. 2023		
DESIGNED BY:	JPC	DATE:	OCT. 2023	SCALE:	1" = 20'
BRIDGE NO.	04953		DRAWING NO.		68834

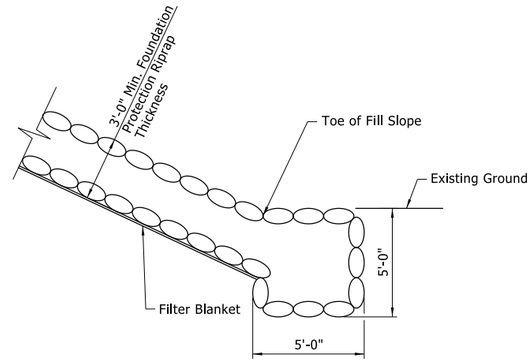
1/13/2026
JUCARNEY

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	020738	20	34
		04953		- LAYOUT -		68835



ELEVATION OF SOIL BORINGS

1' = 20'



TYPICAL EMBANKMENT SECTION

No Scale

HYDRAULIC DATA

FLOOD DESCRIPTION	FREQUENCY	DISCHARGE	NATURAL WATER SURFACE ELEVATION	WATER SURFACE ELEV. WITH BACKWATER	(2) FLOOD ELEVATION ON WHITE RIVER
	YEARS	CFS	FEET	FEET	FEET
(1) Design	2	(2)	(2)	(2)	153.4
Base	100	(2)	(2)	(2)	164.3
Extreme	500	(2)	(2)	(2)	166.1
(1) Overtopping	2	(2)	(2)	(2)	153.4

Proposed Low Bridge Chord Elevation = 146.80
Existing Low Bridge Chord Elevation = 141.40

Drainage area indeterminate.
Historical H.W Elevation = 160.6 (2008) (USACE Gage Data)

(1) Design and Overtopping Floods are based on lowest integer recurrance interval for units in Years.

(2) The proposed bridge is approximately 300' upstream of the confluence of Menard Bayou with the White River. The Menard Bayou watershed is inundated by the White River backwater during all storm events shown. Water Surface elevations are controlled by flood elevations on the White River and are not affected by the Menard Bayou bridge or approaches. Discharges through the proposed bridge site are indeterminate for the storm events shown.

BORING LEGEND

A-Moist, Soft, Gray Clay
B-Moist, Dark Brown Fat Clay
C-Moist, Soft, Dark Brown Fat Clay
D-Moist,Soft,Dark Brown Fat Clay
E-Moist,Dark Brown Fat Clay
F-Moist, Soft, Light Gray Fat Clay
G-Moist, Medium Stiff, Dark Brown Fat Clay
H-Moist, Soft, Light Brown Lean Clay with Sand
I-Moist, Medium Stiff, Light Gray Sandy Clay
J-Wet, Medium Dense, Gray Poorly Graded Sand with Silt
K-Wet, Medium Dense, Gray Poorly Graded Sand
L-Wet, Medium Dense, Light Gray Sand with Trace Gravel
M-Wet, Very Stiff, Light Gray Clay
N-Wet, Medium Dense, Light Gray Poorly Graded Sand with Trace Gravel
O-Wet, Dense, Light Gray Poorly Graded Sand
P-Wet, Medium Dense, Light Gray Poorly Graded Sand with Silt
Q-Wet, Loose, Brown Poorly Graded Sand
R-Wet, Medium Dense, Brown Sand
S-Wet, Dense Light Gray Poorly Graded Sand with Silt and Trace Gravel
T-Wet, Dense, Light Gray Sand
U- Wet, Very Dense, Gray Sand
V-Wet, Very Dense, Gray Sand with Trace Gravel
W-Moist, Medium Stiff, Dark Brown Sandy Lean Clay
X-Moist, Soft, Dark Gray Fat Clay
Y-Moist, Soft, Gray Fat Clay
Z-Moist, Medium stiff, Brown and Gray Fat Clay
AA-Moist, Very Loose, Gray Clayey Sand
BB-Wet Medium Dense, Gray Poorly Graded Sand with Silt
CC-Wet, Dense, Brown Poorly Graded Sand with Silt
DD-Wet, Medium Dense, Gray Poorly Graded Sand with Silt
EE-Wet, Medium Dense, Gray Poorly Graded Sand
FF-Wet, Very Dense, Gray Poorly Graded Sand with Silt
GG-Wet, Medium Dense, Gray Poorly Graded Sand
HH-Wet, Medium Dense, Gray Poorly Graded Sand with Clay Lenses and Some Gravel
II-Wet Medium Dense, Gray Poorly Graded Sand
JJ-Wet, Medium Dense, Gray Poorly Graded Sand with Gravel
KK-Wet, Medium Dense, Gray Poorly Graded Sand
LL-Wet, Medium Dense, Gray Poorly Graded Snad with Silt and Trace Gravel
MM-Wet, Medium Dense, Gray Well Graded Sand with Clay Lenses and Trace Gravel
NN-Wet, Dense, Gray Poorly Graded Sand

"N" VALUES

Boring No. 1
Sta. 199+48 - 8' Left of C.L. Const.

3.0 - 4.0	N=2
7.0 - 8.0	N=3
45.5 - 46.5	N=19
50.5 - 51.5	N=30
55.5 - 56.5	N=29
60.5 - 61.5	N=25
65.5 - 66.5	N=21
70.5 - 71.5	N=22
75.5 - 76.5	N=20
80.5 - 81.5	N=36
85.5 - 86.5	N=17
90.5 - 91.5	N=21
95.5 - 96.5	N=8
100.5 - 101.5	N=26
105.5 - 106.5	N=50
110.5 - 111.5	N=49
115.5 - 116.5	N=71
120.5 - 121.5	N=81

Boring No. 2
Sta. 201+91 - 16' Left of C.L. Const.

3.0 - 4.0	N=6
4.5 - 5.5	N=3
7.0 - 8.0	N=3
9.5 - 10.5	N=3
17.5 - 18.5	N=4
20.5 - 21.5	N=5
25.5 - 26.5	N=4
30.5 - 31.5	N=16
35.5 - 36.5	N=44
40.5 - 41.5	N=28
45.5 - 46.5	N=22
50.5 - 51.5	N=61
55.5 - 56.5	N=26
60.5 - 61.5	N=24
65.5 - 66.5	N=18
70.5 - 71.5	N=17
75.5 - 76.5	N=16
80.5 - 81.5	N=25
85.5 - 86.5	N=25
90.5 - 91.5	N=29
95.5 - 96.5	N=25
100.5 - 101.5	N=45

JUCARNEY 1/13/2026

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.18018
JUSTIN P. CARNEY

DIGITALLY SIGNED 01-13-2026

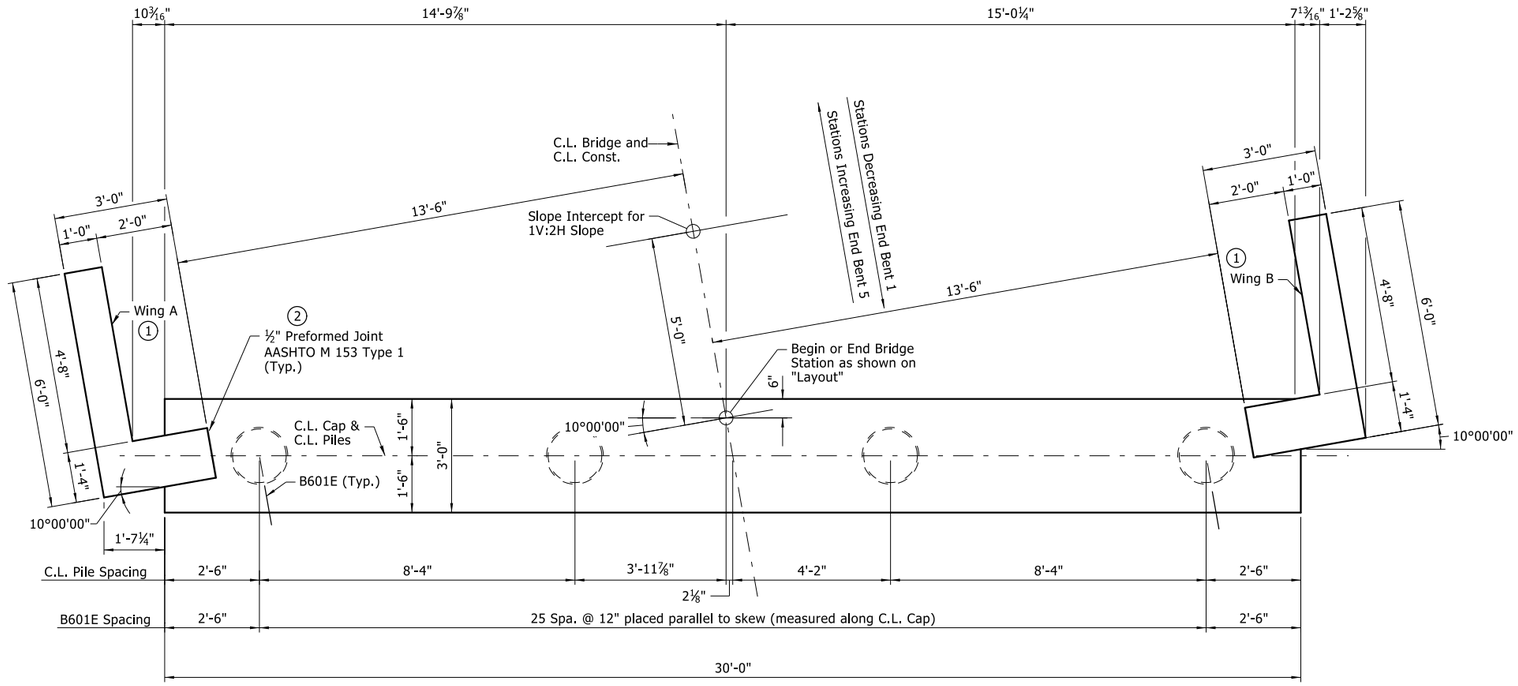
BRIDGE ENGINEER
PRINT DATE: 1/13/2026

SHEET 2 OF 2
LAYOUT OF BRIDGE
BENZAL LANE OVER MENARD BAYOU
MENARD BAYOU STR. & APPRS. (S)
ARKANSAS COUNTY
COUNTY ROAD 299

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: JPC DATE: OCT. 2023 FILENAME: b020738_l1.dgn
CHECKED BY: LWM DATE: OCT. 2023
DESIGNED BY: JPC DATE: OCT. 2023 SCALE: As Noted
BRIDGE NO. 04953 DRAWING NO. 68835

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	020738	21	34
		04953		- END BENTS -		68836



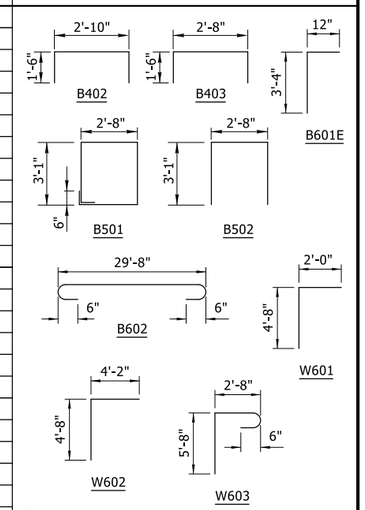
1 See Dwg. No. 68837 for additional details.

2 Preformed joint filler shall be subsidiary to the item "CLASS S CONCRETE - BRIDGE".

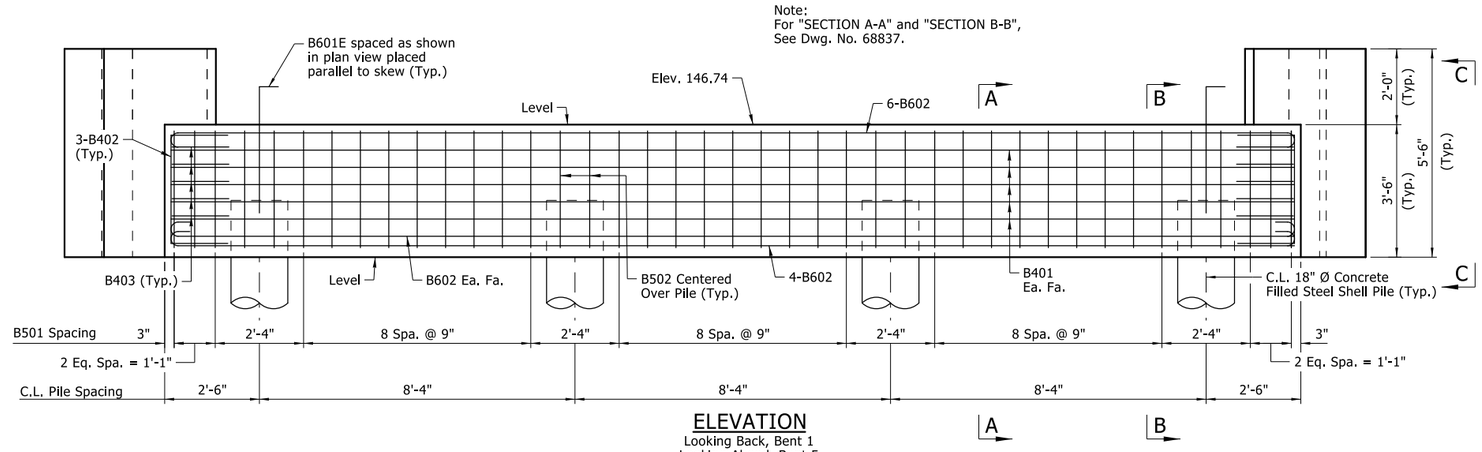
PLAN
Bents 1 and 5

BAR LIST - PER BENT

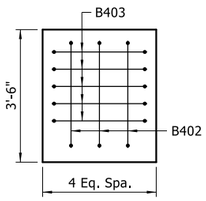
MARK	NO. REQ'D	LENGTH	PIN. DIA.	BENDING DIAGRAMS
B401	10	29'-8"	Str.	
B402	6	5'-8"	2"	
B403	10	5'-6"	2"	
B501	33	12'-0"	2½"	
B502	8	8'-8"	2½"	
B601E	26	4'-2"	4½"	
B602	12	31'-0"	4½"	
W401	40	5'-2"	Str.	
W601	4	6'-6"	4½"	
W602	8	8'-8"	4½"	
W603	12	8'-10"	4½"	



Note:
Dimensions of bars are out-to-out.
All bars designated with an "E" suffix are to be epoxy coated.



ELEVATION
Looking Back, Bent 1
Looking Ahead, Bent 5



VIEW C-C
½" = 1'-0"

Note:
Wing Longitudinal and Transverse Reinforcement in cap omitted for clarity.

GENERAL NOTES

All concrete in end bent cap shall be Class "S" with a minimum 28 day compressive strength f'c = 3,500 psi and shall be poured in the dry. All exposed corners shall be chamfered ¾" unless noted otherwise.

All reinforcing steel shall be Grade 60 (fy = 60,000 psi) conforming to AASHTO M 31 or M 322, with mill test reports.

All piling shall be Grade 3, Fy = 45 ksi, and shall conform to Std. Dwg. No. 55021.

For additional information, see Layout.

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No.18018 JUSTIN P. CARNEY

DIGITALLY SIGNED 01-13-2026

BRIDGE ENGINEER

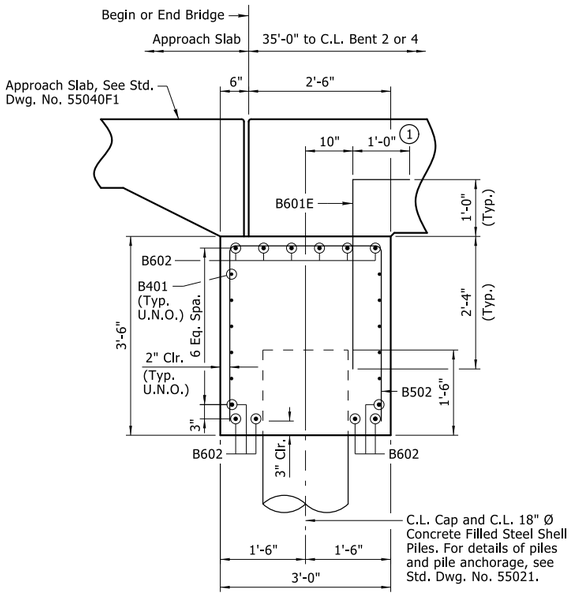
PRINT DATE: 1/13/2026

SHEET 1 OF 2
DETAILS OF END BENTS
ROUTE SECTION
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY:	SLE	DATE:	MAR. 2024	FILENAME:	b020738_b1.dgn
CHECKED BY:	JPC	DATE:	MAR. 2025		
DESIGNED BY:	SLE	DATE:	MAR. 2024	SCALE:	½" = 1'-0"
BRIDGE NO.	04953		DRAWING NO.		68836

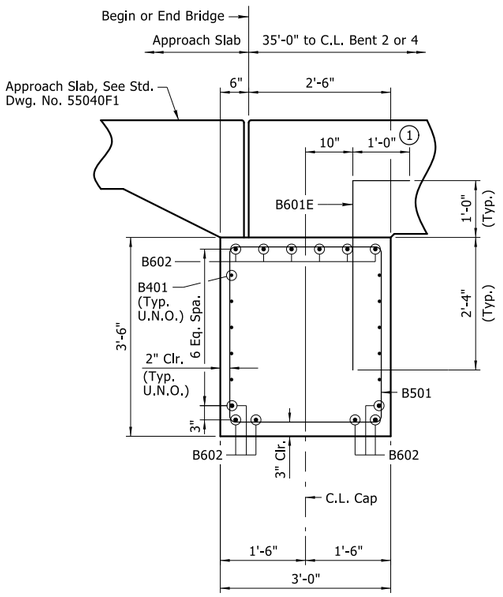
1/13/2026
JUCARNEY

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	020738	22	34
		04953		- END BENTS -		68837

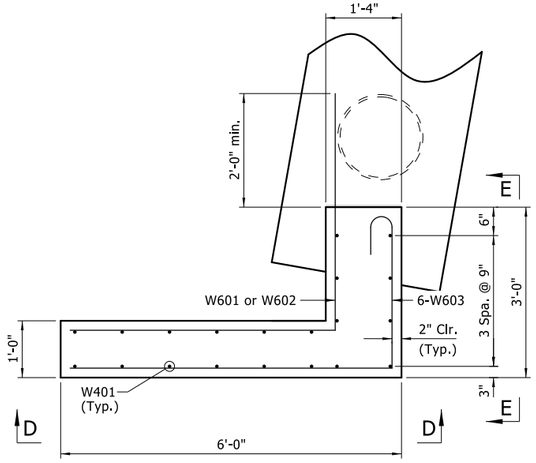


SECTION A-A

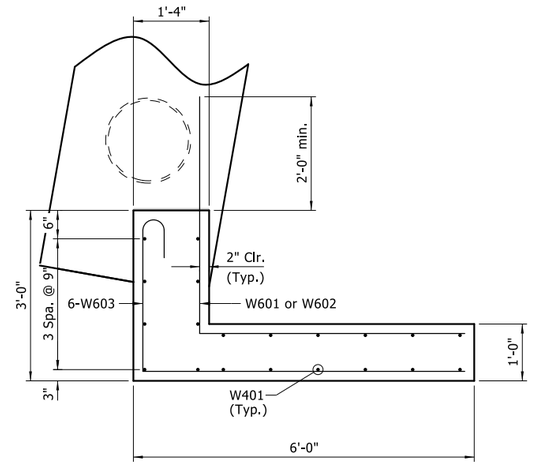
1 Measured along bar placed parallel to skew.



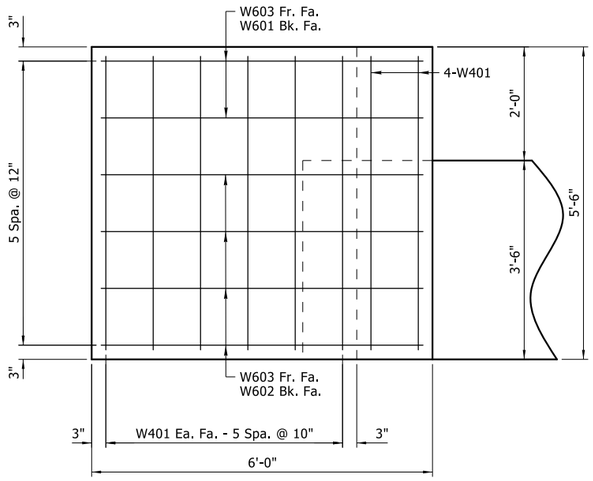
SECTION B-B



PLAN OF WING A

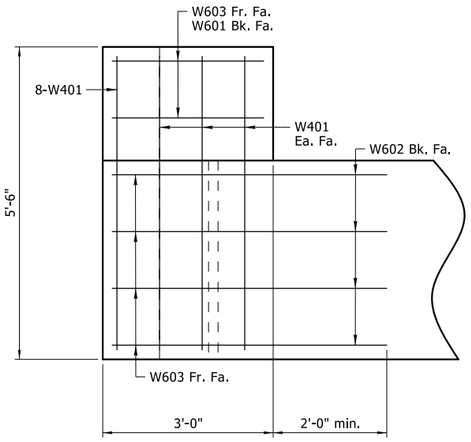


PLAN OF WING B



VIEW D-D

Shown for Wing A, Wing B similar



VIEW E-E

Shown for Wing A, Wing B similar

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.18018
JUSTIN P. CARNEY

DIGITALLY SIGNED 01-13-2026

BRIDGE ENGINEER
PRINT DATE: 1/13/2026

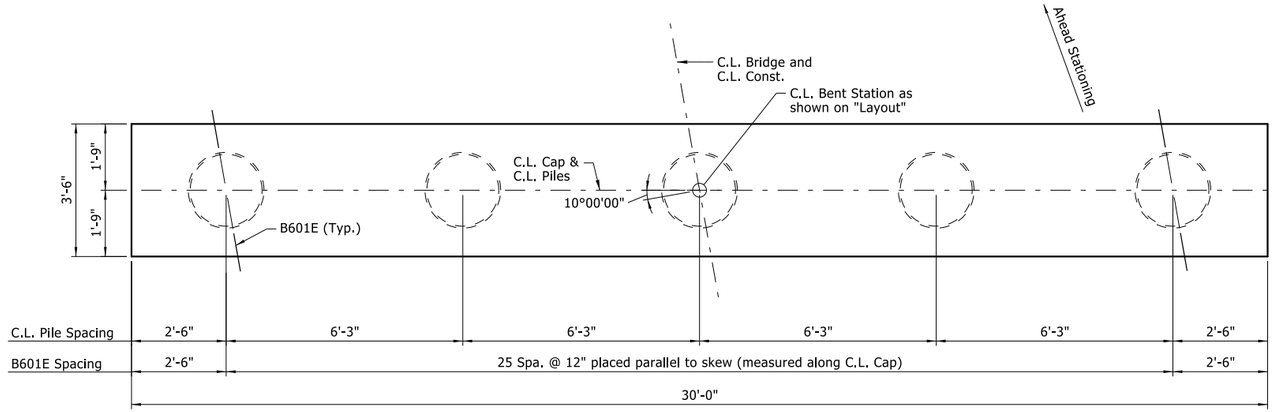
SHEET 2 OF 2
DETAILS OF END BENTS
ROUTE SECTION

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

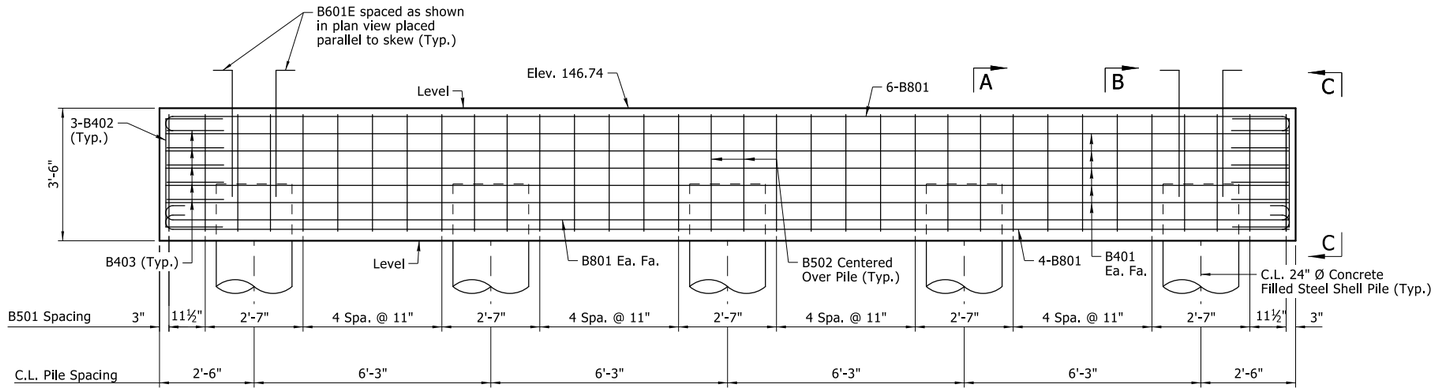
DRAWN BY:	SLE	DATE:	MAR. 2024	FILENAME:	b020738_b1.dgn
CHECKED BY:	JPC	DATE:	MAR. 2025		
DESIGNED BY:	SLE	DATE:	MAR. 2024	SCALE:	3/4" = 1'-0"
BRIDGE NO.	04953			DRAWING NO.	68837

JUCARNEY 1/13/2026

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	020738	23	34
		04953		- INT. BENTS -		68838



PLAN
½" = 1'-0"

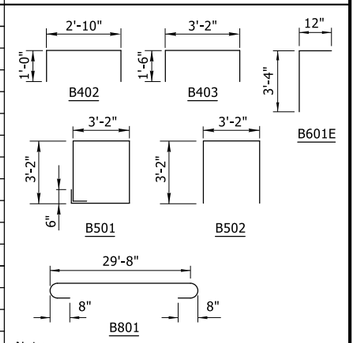


ELEVATION
Looking Ahead
½" = 1'-0"

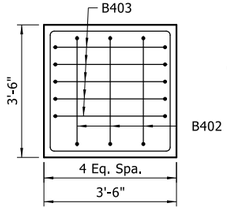
Note:
Pile encasement not shown for clarity.

BAR LIST - PER BENT

MARK	NO. REQ'D	LENGTH	PIN. DIA.	BENDING DIAGRAMS
B401	10	29'-8"	Str.	
B402	6	4'-8"	2"	
B403	10	6'-0"	2"	
B501	24	13'-2"	2½"	
B502	10	9'-4"	2½"	
B601E	52	4'-2"	4½"	
B801	12	31'-6"	6"	

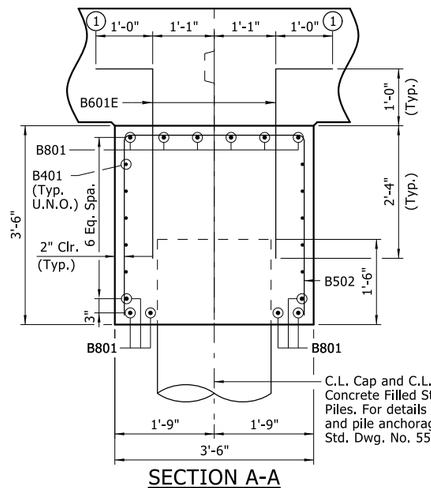


Note:
Dimensions of bars are out-to-out.
All bars designated with an "E" suffix are to be epoxy coated.

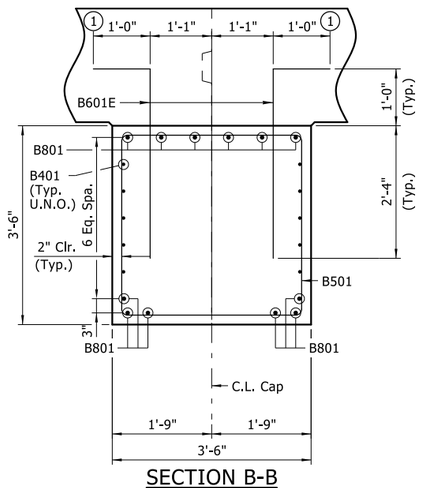


Note:
Longitudinal Bars in cap omitted for clarity.

VIEW C-C
½" = 1'-0"



SECTION A-A
¾" = 1'-0"



SECTION B-B
¾" = 1'-0"

(1) Measured along bar placed parallel to skew.

GENERAL NOTES

All concrete in end bent cap shall be Class "S" with a minimum 28 day compressive strength f'c = 3,500 psi and shall be poured in the dry. All exposed corners shall be chamfered ¾" unless noted otherwise.

All reinforcing steel shall be Grade 60 (fy = 60,000 psi) conforming to AASHTO M 31 or M 322, with mill test reports.

All piling shall be Grade 3, Fy = 45 ksi, and shall conform to Std. Dwg. No. 55021.

For additional information, see Layout.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.18018
JUSTIN P. CARNEY

DIGITALLY SIGNED 01-13-2026

BRIDGE ENGINEER
PRINT DATE: 1/13/2026

DETAILS OF INTERMEDIATE BENTS

ROUTE SECTION

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARKANSAS

DRAWN BY:	SLE	DATE:	MAR. 2024	FILENAME:	b020738_b1.dgn
CHECKED BY:	JPC	DATE:	MAR. 2025		
DESIGNED BY:	SLE	DATE:	MAR. 2024	SCALE:	As Shown
BRIDGE NO.	04953			DRAWING NO.	68838

1/13/2026
JUCARNEY

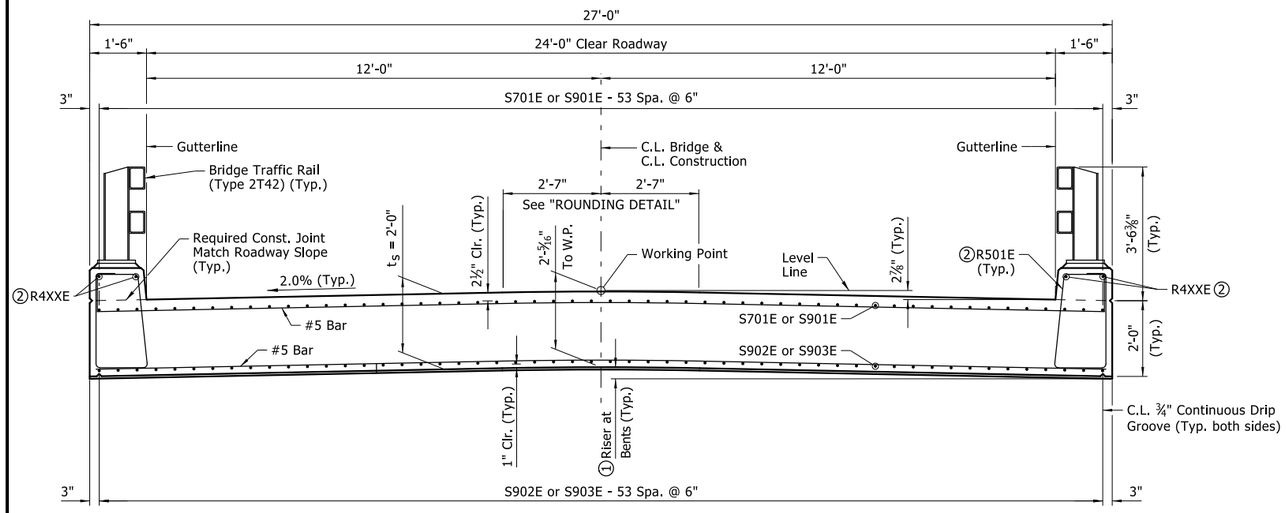
Bar positions or clearances from the forms shall be maintained by means of stays, ties, hangers or other approved devices per Subsection 804.06. Placement of slab bolsters or hi-chairs with full length lower runners directly on removable deck forms will not be allowed.

Class 2 Protective Surface Treatment shall be applied to the Roadway Surface and the face and exposed top of the traffic rail curb.

① Riser varies from ¾" min. at edge of deck to $3\frac{1}{16}$" at C.L. Bridge.

② For additional details, See Dwg. No. 68841.

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	020738	24	34
		04953		- 140'-0" UNIT -		68839



TYPICAL SECTION

Looking Ahead
½" = 1'-0"

DEAD LOAD DEFLECTIONS

POINT	TOTAL DEFLECTION
0.00	0.000"
0.25	0.176"
0.50	0.221"
0.75	0.123"
1.00	0.000"
1.25	0.032"
1.50	0.080"
1.75	0.048"
2.00	0.000"

Symmetrical About This Point

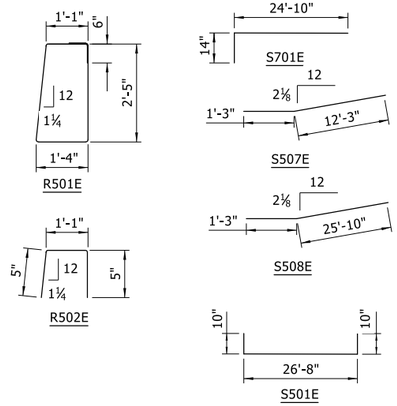
Deflections shown are from a chord from C.L. Bent to C.L. Bent. Tolerance +¼" for camber and vertical alignment.

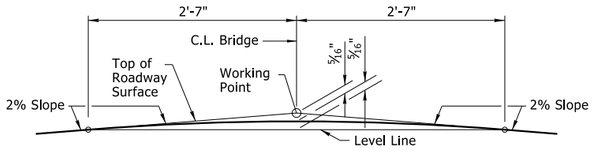
BAR LIST

MARK	NO. REQ'D	LENGTH	PIN. DIA.
S501E	272	28'-1"	3¾"
S502E	272	26'-8"	Str.
S503E to S506E	4 each	13'-6" to 22'-9"	Str.
S507E	16	13'-6"	3¾"
S508E	4	27'-1"	3¾"
S701E	108	25'-10"	5¼"
S901E	162	38'-2"	Str.
S902E	108	37'-4"	Str.
S903E	108	40'-0"	Str.
R401E	16	15'-8"	Str.
R402E	8	7'-8"	Str.
R403E	8	8'-8"	Str.
R404E	8	9'-8"	Str.
R405E	8	10'-8"	Str.
R501E	528	7'-9"	2½"
R502E	32	1'-9"	2½"

BENDING DIAGRAMS

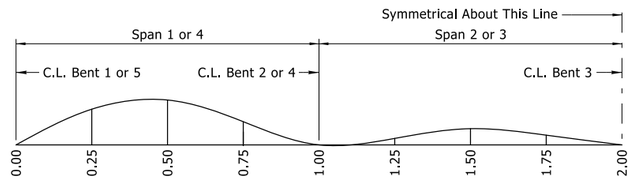
Note:
Dimensions of bars are out-to-out.
All bars designated with an "E" suffix are to be epoxy coated.





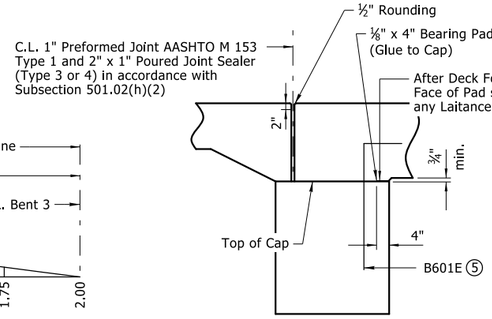
ROUNDING DETAIL

No Scale
Note: Working Point matches Theoretical Grade



DEAD LOAD CAMBER DIAGRAM

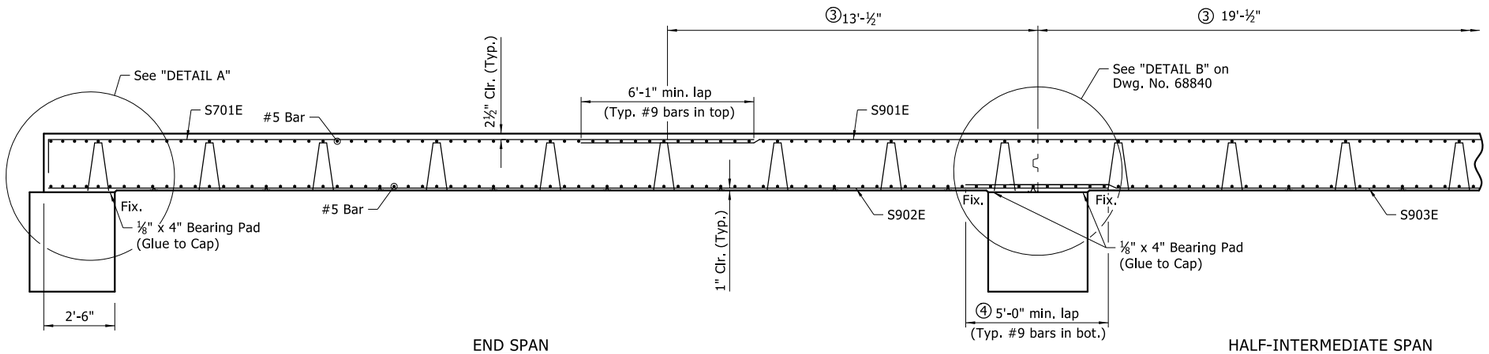
No Scale



⑤ See Bent Details on Dwg. No. 68836 for additional details.

DETAIL A

½" = 1'-0"



END SPAN — HALF-INTERMEDIATE SPAN

LONGITUDINAL SECTION ALONG C.L. BRIDGE

⅜" = 1'-0"

See "TOP OF SLAB REINFORCING PLAN, RAIL PLAN, & SLAB POURING SEQUENCE" and "BOTTOM OF SLAB REINFORCING PLAN" on Dwg. No. 68840 for additional information.

GENERAL NOTES

CONCRETE:
All concrete shall be Class S(AE) with a minimum 28 day compressive strength f'c = 4,000 psi. Concrete shall be poured in the dry and all exposed corners shall be chamfered ¾" unless otherwise noted.

The concrete deck (roadway surface) shall be given a tine finish in accordance with Subsection 802.19 for Class 5 Tined Bridge Roadway Surface Finish. Movement of the finishing machine across new concrete shall be on planks placed on the surface and shall be prohibited for 72 hours after finishing the pour. The use of a longitudinal screed is not permitted.

BEARING PAD:
The ⅛" bearing pad shall be an unreinforced pad meeting the requirements of Section 808, or shall be nylon reinforced neoprene meeting the requirements of Subsection 807.20. The pad shall be furnished in one piece for the required width and full length of the bearing and glued to the bent cap with an adhesive approved by the Engineer. Pads and adhesive will not be paid for directly, but will be considered subsidiary to the item "CLASS S(AE) CONCRETE-BRIDGE".

REINFORCING STEEL:
All reinforcing steel shall be Grade 60 conforming to AASHTO M 31 or M 322, Type A, with mill test reports and shall be epoxy coated. The reinforcing steel is to be accurately located in the forms and firmly held in place by steel wire supports, sufficient number and size to prevent displacement during the course of construction. The wire supports will not be paid for directly, but will be considered subsidiary to the item "EPOXY COATED REINFORCING STEEL (GRADE 60)".

③ Distance to C.L. Splices in Top of Slab.

④ Center of splice at C.L. Bents.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.18018
JUSTIN P. CARNEY

DIGITALLY SIGNED 01-13-2026

BRIDGE ENGINEER
PRINT DATE: 1/13/2026

JUCARNEY 1/13/2026

SHEET 1 OF 2
DETAILS OF 140'-0" CONTINUOUS R.C. SLAB UNIT

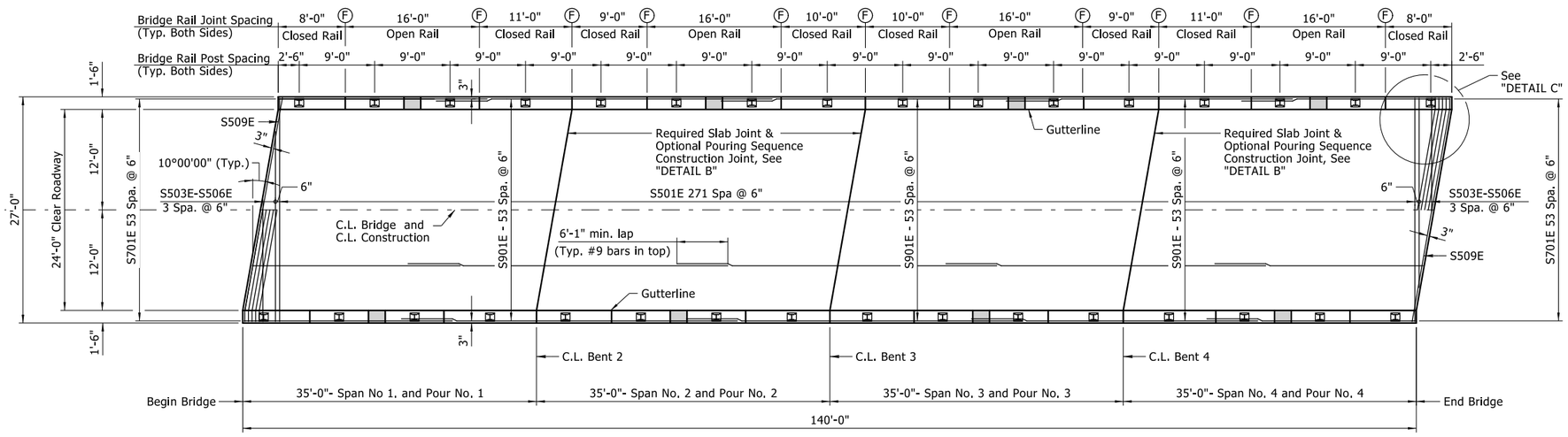
ROUTE SECTION

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARKANSAS

DRAWN BY: SLE DATE: MAR. 2024 FILENAME: b020738_s1.dgn
CHECKED BY: JPC DATE: MAR. 2025
DESIGNED BY: SLE DATE: MAR. 2024 SCALE: As Shown
BRIDGE NO. 04953 DRAWING NO. 68839

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	020738	25	34
		04953		- 140'-0" UNIT -		68840



TOP OF SLAB REINFORCING PLAN, RAIL PLAN, & SLAB POURING SEQUENCE

⅛" = 1'-0"

Note:
The Contractor may pour the entire bridge slab unit at once or may elect to form and pour the slab unit in sections according to the pouring sequence shown. No part of the falsework for the entire section shall be removed until all of the concrete in that section of the bridge slab has been placed and cured. Before removal of falsework begins, both the time and strength requirements of Subsection 802.15 must be met. All pours shall begin at one end of the bridge and proceed in sequence to the other end of the bridge. 72 hours shall elapse between the end of a pour and the start of the next pour. Concrete in the bridge superstructure shall be placed, consolidated and screeded off for the entire pour before any concrete has taken its initial set. This may require the use of a retarding agent. A minimum of 72 hours shall elapse between completion of the slab and the pouring of the bridge railing curb. Any railing curb pours made before the entire slab unit has been placed must be approved by the Engineer. The Contractor must obtain approval from the Engineer for any deviations from the pouring sequence(s) shown.

Reinforcing steel placed as shown in "TYPICAL SECTION" on Dwg. No. 68839.

Rail post spacing and joint locations shown are typical for both sides of roadway. For additional reinforcing details, see Dwg. No. 68841.

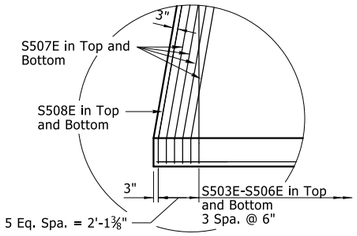
For "BAR LIST" and "GENERAL NOTES", see Dwg. No. 68839.

Ⓕ Full depth curb joint at this location.

TABLE OF VARIABLES

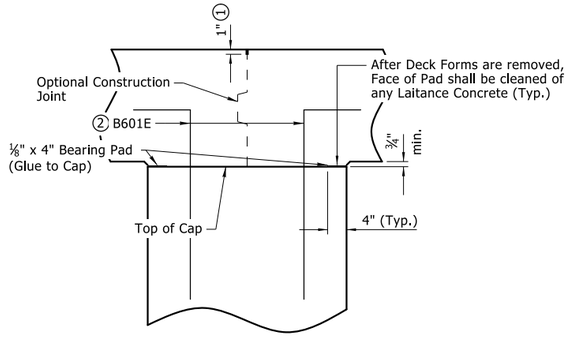
Closed Rail Panels		
Panel Length	A	R4XXE
8'-0"	15	R402E
9'-0"	17	R403E
10'-0"	19	R404E
11'-0"	20	R405E

Note: For bridge traffic rail reinforcing details and details of full-depth curb joints, see Dwg. No. 68841.



DETAIL C

Begin Bridge RT. shown, End Bridge LT. similar
¼" = 1'-0"



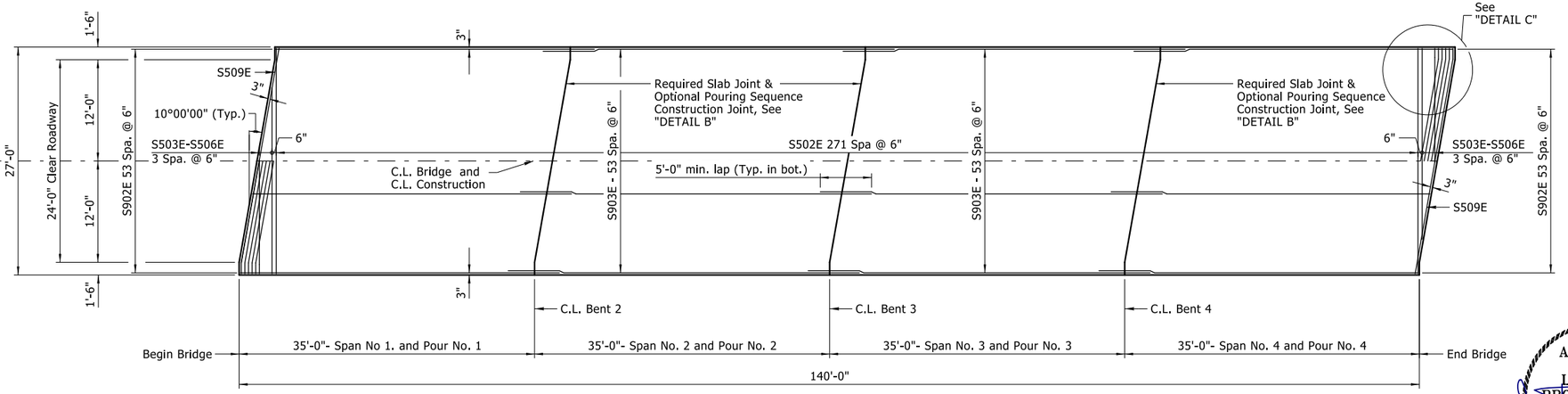
Joint to be cleaned by sandblasting or other approved method before pouring joint sealer.

DETAIL B

¾" = 1'-0"

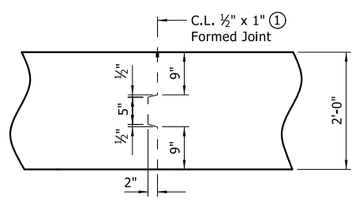
① ½" x 1" Type 3 or 4 Joint Sealer. See Subsections 501.02 (h) and 501.05 (j). Backer rod shall not be installed. Joint Sealer shall be measured and paid for as "CLASS S(AE) CONCRETE - BRIDGE". Slab joints shall extend to the outside edge of the deck slab and shall align with open joints at the front face of bridge railing curb, unless noted otherwise. Slab joints shall be installed before the bridge railing curb is poured. If slab joints are to be sawed, they shall be sawed as soon as the concrete has sufficiently set to allow sawing of the joint without damage to the slab. Slab joints shall be placed at all pouring sequence construction joints and required slab joint locations. The joint sealer shall extend across the deck from gutterline to gutterline. Seal color shall be gray or other color similar to concrete.

② See Bent Details on Dwg. No. 68838 for additional details.



BOTTOM OF SLAB REINFORCING PLAN

⅛" = 1'-0"



Joint to be cleaned by sandblasting or other approved method before pouring joint sealer.

OPTIONAL DECK SLAB CONST. JOINT DETAIL

¾" = 1'-0"

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.18018
JUSTIN P. CARNEY

DIGITALLY SIGNED 01-13-2026

BRIDGE ENGINEER
PRINT DATE: 1/13/2026

SHEET 2 OF 2
DETAILS OF 140'-0" CONTINUOUS R.C. SLAB UNIT

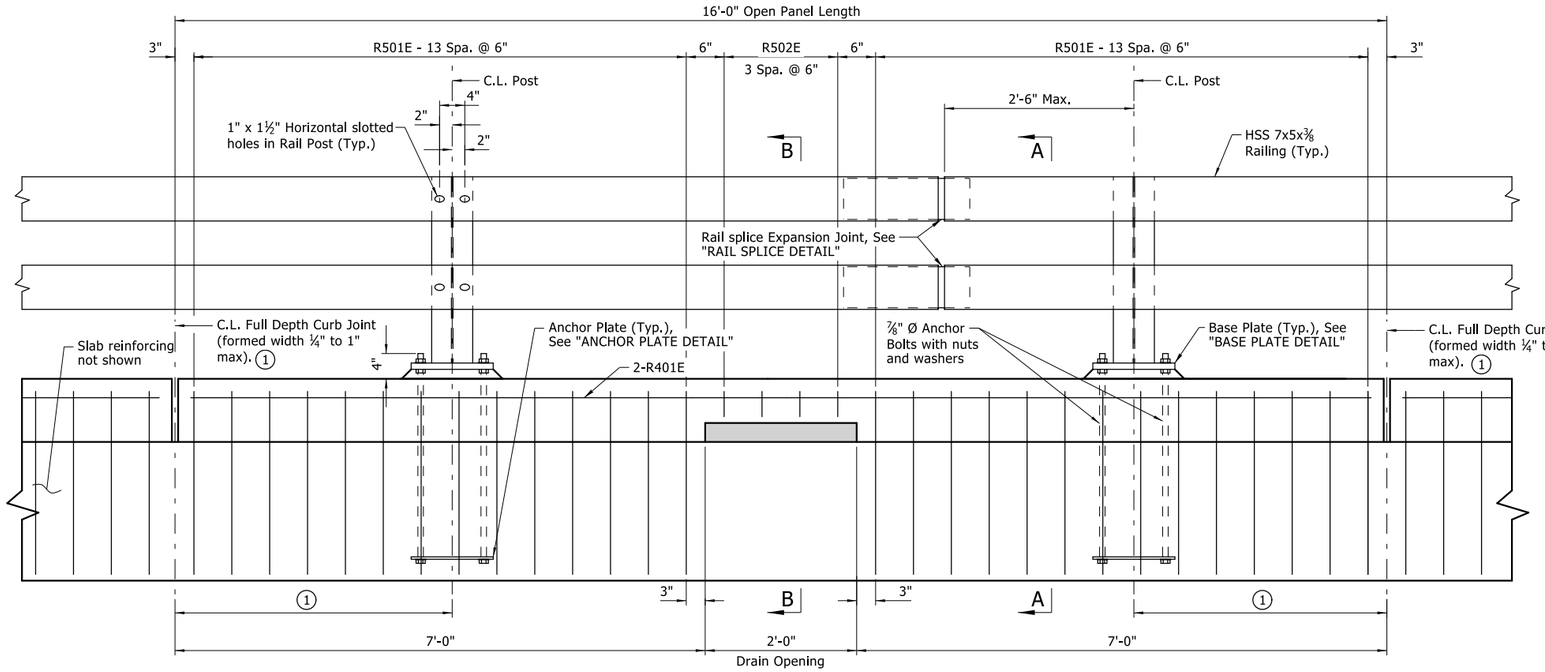
ROUTE SECTION

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY:	SLE	DATE:	MAR. 2024	FILENAME:	b020738_s1.dgn
CHECKED BY:	JPC	DATE:	MAR. 2025		
DESIGNED BY:	SLE	DATE:	MAR. 2024	SCALE:	As Shown
BRIDGE NO.	04953			DRAWING NO.	68840

JUCARNEY 1/13/2026

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	020738	26	34
		04953		- TRAFFIC RAIL -		68841

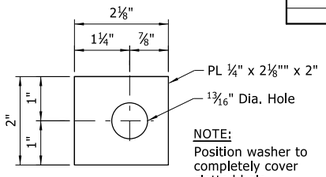


ELEVATION - OPEN PANEL TRAFFIC RAIL

1" = 1'-0"

1 See "TOP OF SLAB REINFORCING PLAN, RAIL PLAN, & SLAB POURING SEQUENCE" on Dwg. No. 68840 for full depth joint locations, post spacing and additional information.

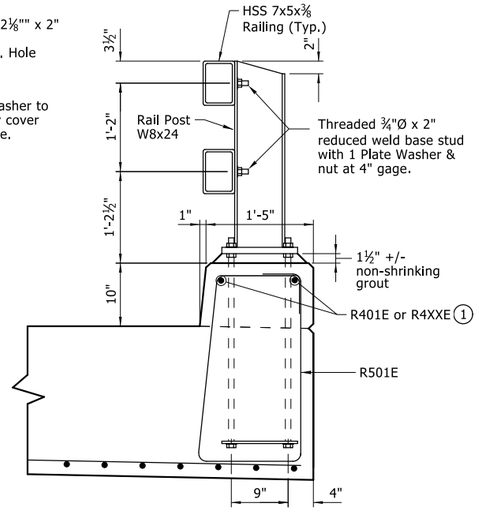
For "GENERAL NOTES" and end post details see Dwg. No. 68842.



NOTE:
Position washer to completely cover slotted hole.

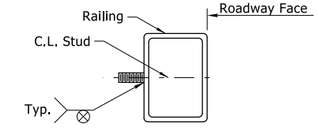
PLATE WASHER

No Scale



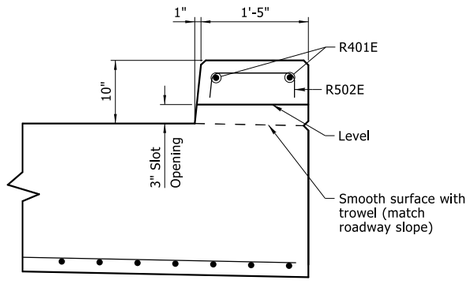
SECTION A-A

1" = 1'-0"



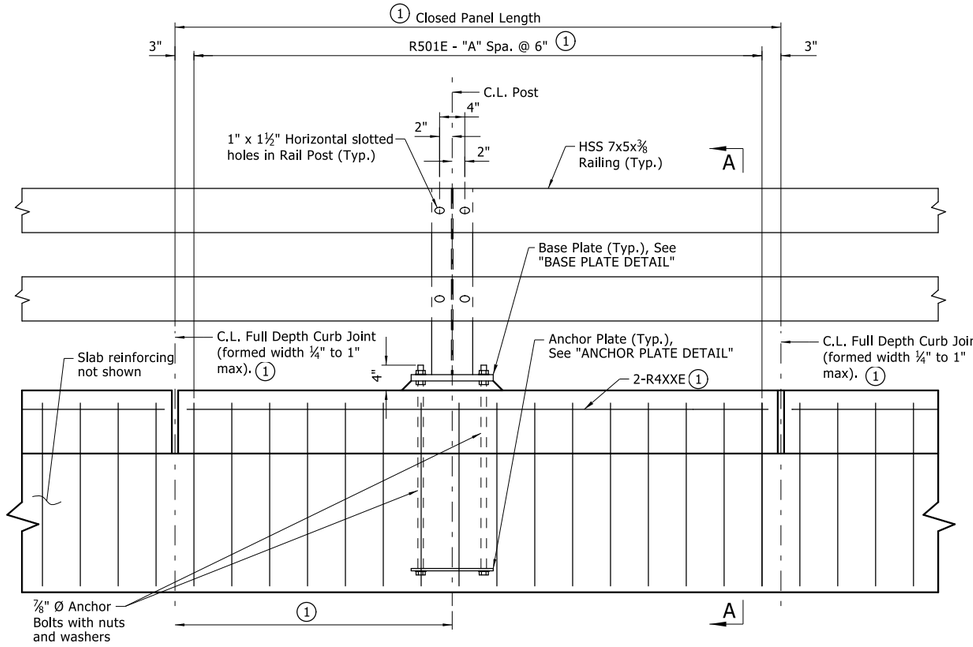
RAILING STUD DETAIL

No Scale



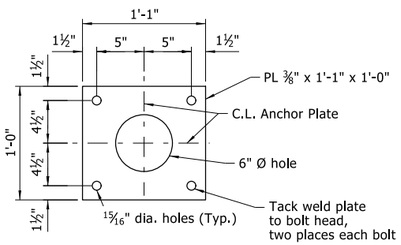
SECTION B-B

1" = 1'-0"



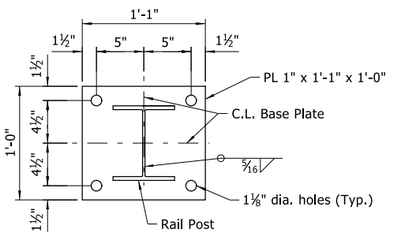
ELEVATION - CLOSED PANEL TRAFFIC RAIL

1" = 1'-0"



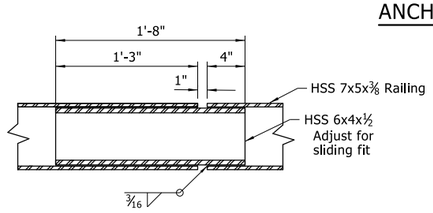
ANCHOR PLATE DETAIL

1½" = 1'-0



BASE PLATE DETAIL

1½" = 1'-0"



RAIL SPLICE DETAIL

1½" = 1'-0"

STATE OF ARKANSAS
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DIGITALLY SIGNED 01-13-2026

BRIDGE ENGINEER
PRINT DATE: 1/13/2026

SHEET 1 OF 2
DETAILS OF BRIDGE TRAFFIC RAIL
TYPE 2T42

ROUTE SECTION

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY:	SLE	DATE:	MAR. 2024	FILENAME: b020738_r1.dgn
CHECKED BY:	JPC	DATE:	MAR. 2025	
DESIGNED BY:	SLE	DATE:	MAR. 2024	SCALE: As Shown
BRIDGE NO.	04953			DRAWING NO. 68841

1/13/2026
JUCARNEY

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	020738	27	34
		04953		- TRAFFIC RAIL -		68842

GENERAL NOTES

Rail layout shall conform to vertical and horizontal alignment of the Bridge.

All posts shall be vertical.

Maximum post spacing shall be 9'-0".

Rail splices shall be at 50'-0" maximum spacing. Railing shall span continuously over a minimum of two posts. Splice locations shall be offset a minimum of 2'-6" from the centerline of any post.

Grout shall have a minimum compressive strength (f'c) of 3,000 psi at 24 hours and shall be placed in a single pour. Grout shall be a QPL approved non-shrink grout.

Base plates shall not be installed upon areas that are improperly finished, deformed or irregular.

Shop drawings showing details of railing shall be submitted and approval secured before fabrication is begun.

See "TOP OF SLAB REINFORCING PLAN, RAIL PLAN, & SLAB POURING SEQUENCE" on Dwg. No. 68840 for rail post spacing.

For Guardrail Post and Transition Details, see Std. Dwgs. GR-10, GR-11, and GR-12.

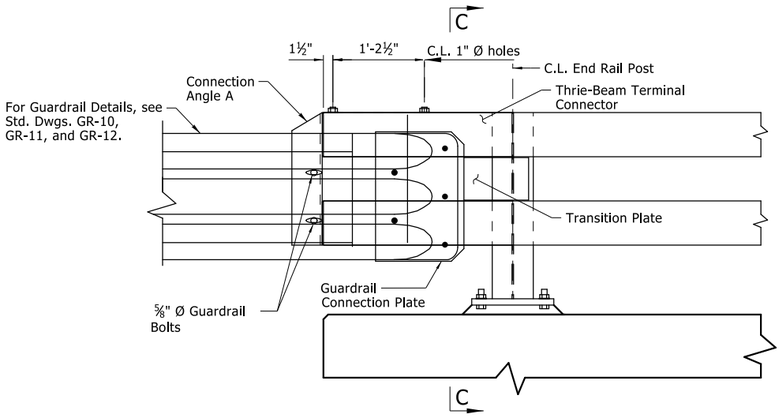
MATERIALS AND STRENGTHS:
HSS Tubing (ASTM A500 Grade B) Fy = 45,000 psi
Posts and Accessories (ASTM A709, Gr. 50) Fy = 50,000 psi

POWDER COATING:
All Structural Steel, except galvanized members and surfaces in contact with concrete, shall be cleaned in accordance with Subsection 807.84(b) and powder coated. Powder coating shall be shop-applied and cured per the manufacturer's recommendations. Powder coating procedures and specifications shall be submitted and approval secured before fabrication is begun. The color of the Type 2T42 Metal Rail shall be Black and shall match Fed. Std. 595B Color Chip No. 27038.

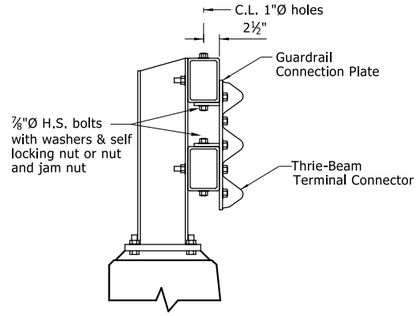
The powder coating process shall be a two coat system applied using electrostatic spray. The base coat shall be a thermosetting epoxy powder with a minimum thickness of 2 to 4 mils. The top coat shall be tough polyester powder with a minimum thickness of 2 to 4 mils. The color shall be as shown in the plans. Coated galvanized framework shall have a salt spray resistance of 3,000 hours using ASTM B117 without loss of adhesion. The powder coating process shall be in accordance with manufacturer's recommendations. Any damage to the powder coated finish shall be repaired with a compatible touch-up system in accordance with the manufacturer's recommendations and to the satisfaction of the Engineer at the Contractor's expense.

HIGH-STRENGTH STEEL:
Cast in-place anchor bolts shall conform to ASTM F3125, Grade A325, Type 1.
Nuts shall conform to ASTM A563, Grade DH or AASHTO M 292, Grade 2H.
Washers shall conform to ASTM F436.
Anchor bolts, nuts, washers, and plate washers shall be galvanized in accordance with AASHTO M 232, Class C or ASTM B695, Class 50.

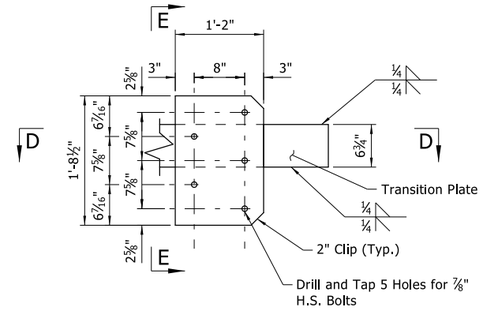
Metal Bridge Railing, including posts, fasteners, base plates, template plates, balusters, anchor bolts, neoprene pad, powder coating, and repair of powder coating; fabrication and erection; and all incidentals necessary to complete the work shall be paid for in accordance with Section 806 at the contract unit price per linear foot bid for "METAL BRIDGE RAILING (Type 2T42)".



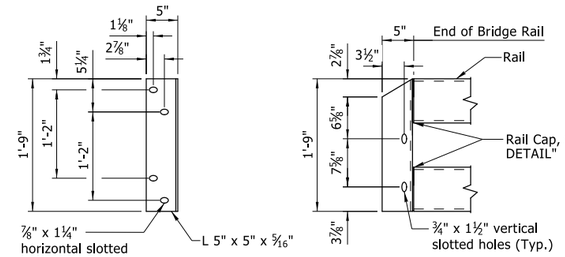
TRANSITION CONNECTION - ELEVATION
1" = 1'-0"



SECTION C-C
1" = 1'-0"



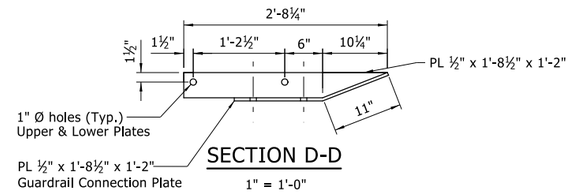
GUARDRAIL CONNECTION PLATE ELEVATION
1" = 1'-0"



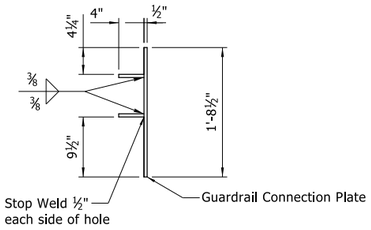
END VIEW

ELEVATION

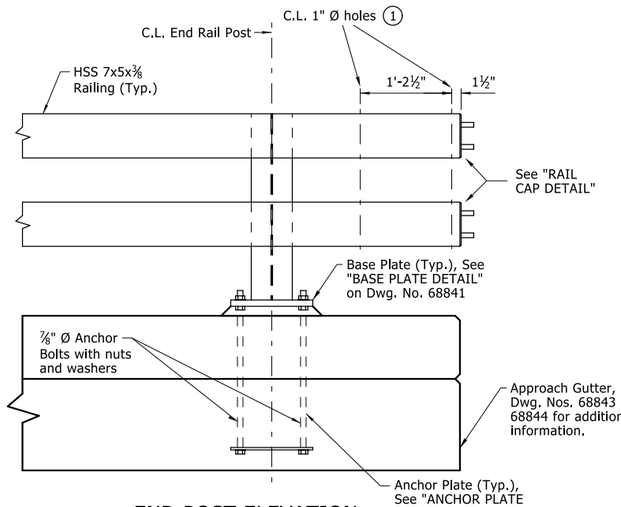
CONNECTION ANGLE A DETAIL
1" = 1'-0"



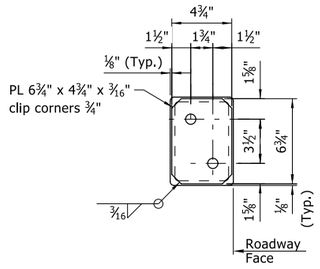
SECTION D-D
1" = 1'-0"



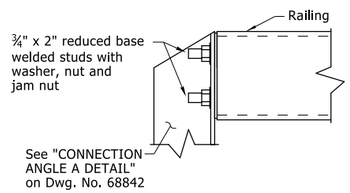
SECTION E-E
1" = 1'-0"

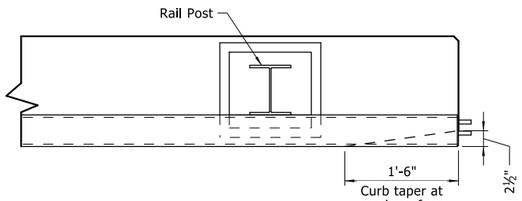


END POST ELEVATION
1"=1'-0



RAIL CAP DETAIL
No Scale





END POST PLAN
1"=1'-0

STATE OF ARKANSAS
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JUSTIN P. CARNEY

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BRIDGE ENGINEER
PRINT DATE: 1/13/2026

SHEET 2 OF 2
DETAILS OF BRIDGE TRAFFIC RAIL
TYPE 2T42

ROUTE SECTION

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY:	SLE	DATE:	MAR. 2024	FILENAME:	b020738_r1.dgn
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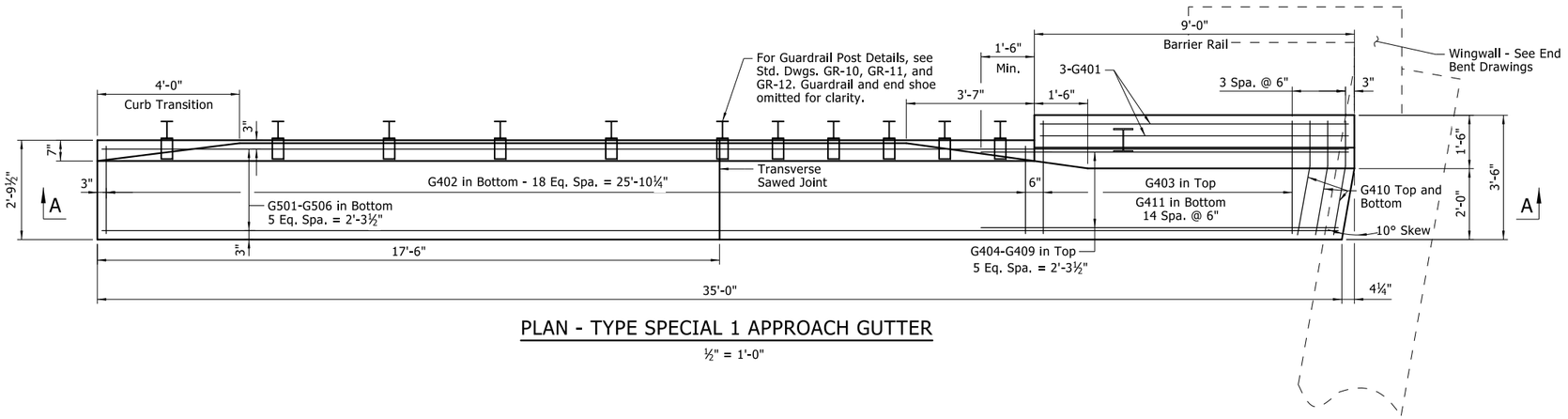
BRIDGE NO.	04953			DRAWING NO.	68842

1/13/2026
JUCARNEY

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	020738	28	34
		04953	- APPROACH GUTTERS -			68843

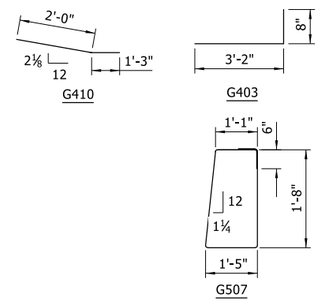


PLAN - TYPE SPECIAL 1 APPROACH GUTTER

½" = 1'-0"

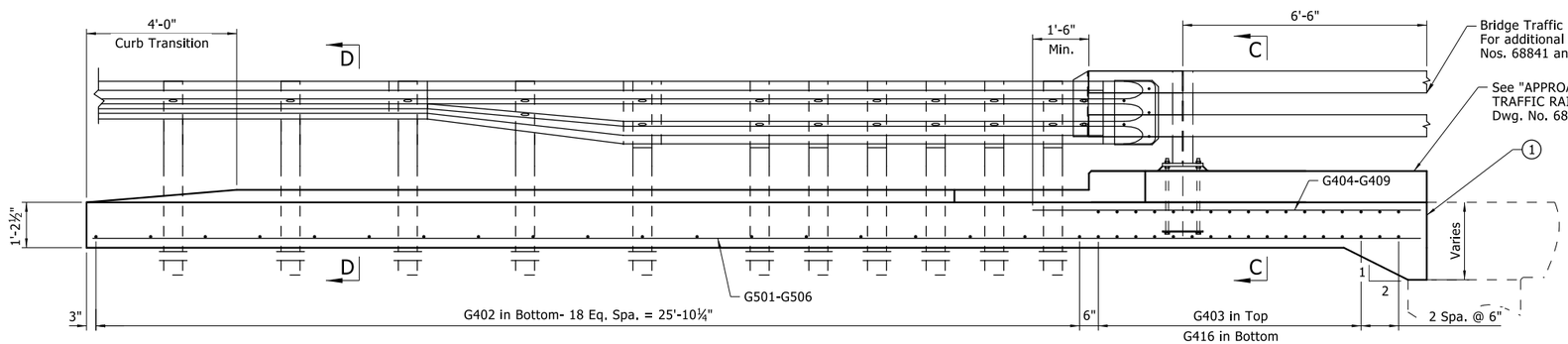
BAR LIST - PER TYPE SPECIAL 1 APPROACH GUTTER

MARK	NO. REQ'D	LENGTH	PIN. DIA.	BENDING DIAGRAMS
G401	6	8'-8"	Str.	
G402	19	2'-5"	Str.	
G403	15	3'-9"	3"	
G404 to G409	1 each	10'-0" to 10'-4"	Str.	
G410	6	3'-3"	3"	
G411	15	3'-2"	Str.	
G501 to G506	1 each	34'-9" to 35'-0"	Str.	
G507	18	6'-4"	2½"	



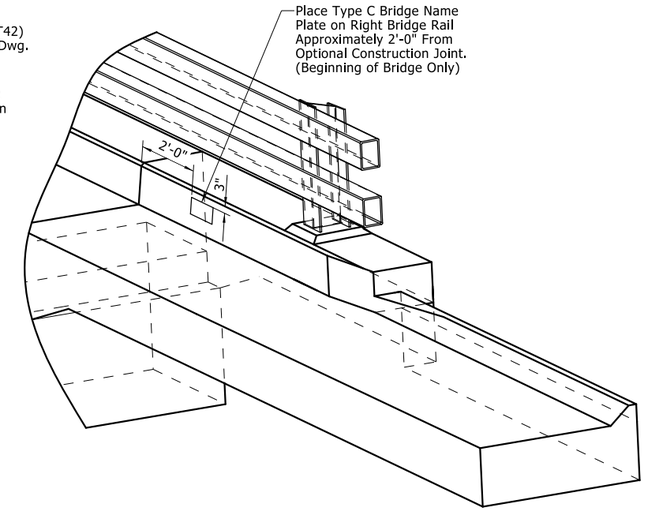
Note:
Dimensions of bars are out-to-out.

① Preformed Joint AASHTO M 153 Type 1 and 2" x 1" Poured Joint Sealer (Type 3 or 4) in accordance with Subsection 501.02(h)(2)



SECTION A-A

½" = 1'-0"

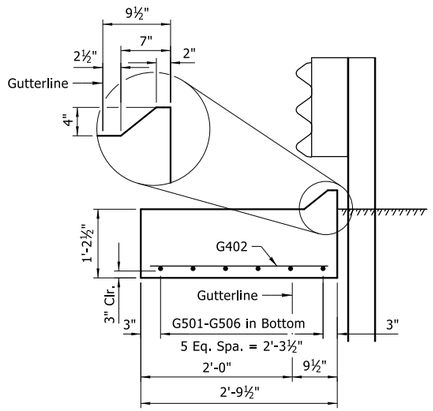


THREE DIMENSIONAL APPROACH GUTTER AND RAIL AT END BENT

No Scale

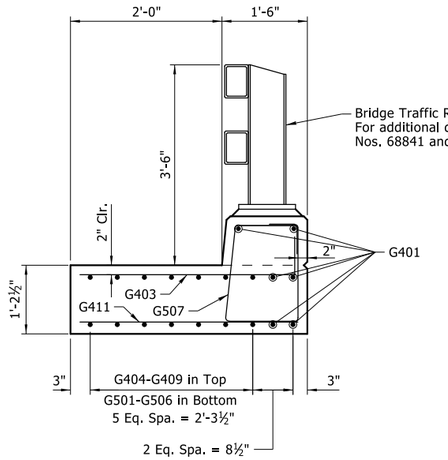
QUANTITIES FOR ONE TYPE SPECIAL 1 APPROACH GUTTER

Reinforcing Steel	Concrete
Lbs.	Cu. Yds.
525	5.39



SECTION D-D

¾" = 1'-0"



SECTION C-C

¾" = 1'-0"

GENERAL NOTES

All concrete shall be Class S(AE) with a minimum 28 day compressive strength f'c = 4,000 psi and shall be poured in the dry.

All reinforcing steel shall be Grade 60 (yield strength = 60,000 psi) conforming to AASHTO M 31 or M 322, Type A, with mill test reports.

Approach Gutters will be measured and paid for in accordance with Section 504.

All longitudinal lines within the limits of horizontal curves shall be on curves concentric to C.L. Bridge. Adjustment to longitudinal bar lengths may be required. Transverse reinforcing shall be placed on radial lines to C.L. Bridge.

STATE OF ARKANSAS
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BRIDGE ENGINEER
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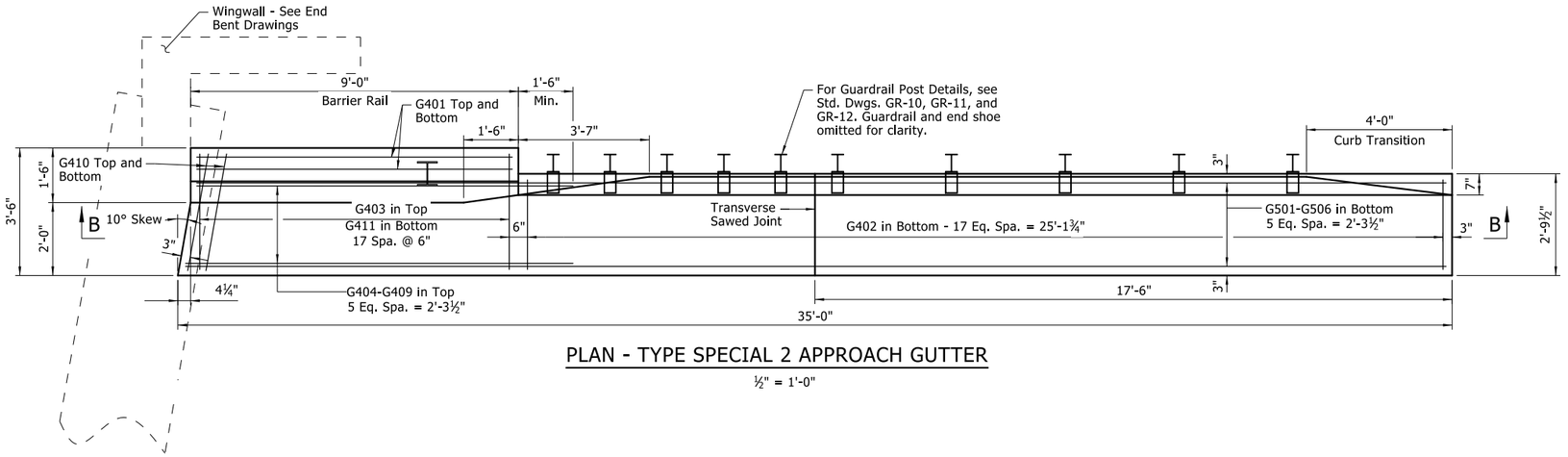
SHEET 1 OF 2
DETAILS OF TYPE SPECIAL APPROACH GUTTERS
ROUTE SECTION
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY:	SLE	DATE:	MAR. 2024	FILENAME: b020738_as1.dgn
CHECKED BY:	JPC	DATE:	MAR. 2025	
DESIGNED BY:	SLE	DATE:	MAR. 2024	SCALE: As Shown
BRIDGE NO.	04953			DRAWING NO. 68843

JUCARNEY 1/13/2026

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	020738	29	34
		04953	- APPROACH GUTTERS -			68844

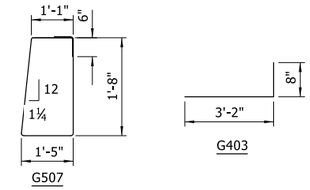


PLAN - TYPE SPECIAL 2 APPROACH GUTTER

½" = 1'-0"

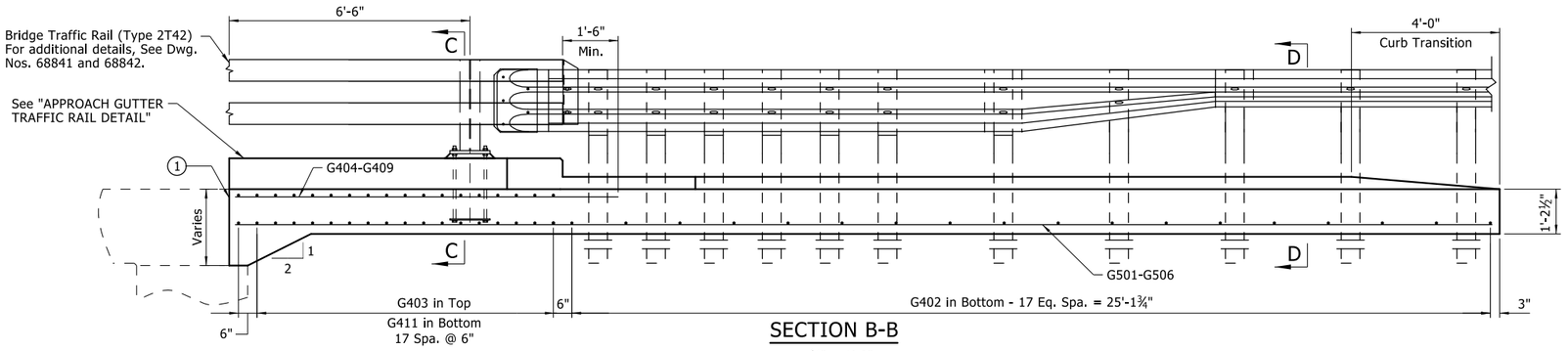
BAR LIST - PER TYPE SPECIAL 2 APPROACH GUTTER

MARK	NO. REQ'D	LENGTH	PIN. DIA.	BENDING DIAGRAMS
G401	6	8'-8"	Str.	
G402	18	2'-5"	Str.	
G403	18	3'-9"	3"	
G404 to G409	1 each	10'-4" to 10'-8"	Str.	
G410	4	3'-3"	Str.	
G411	18	3'-2"	Str.	
G501 to G506	1 each	34'-4" to 34'-7"	Str.	
G507	18	6'-4"	2½"	



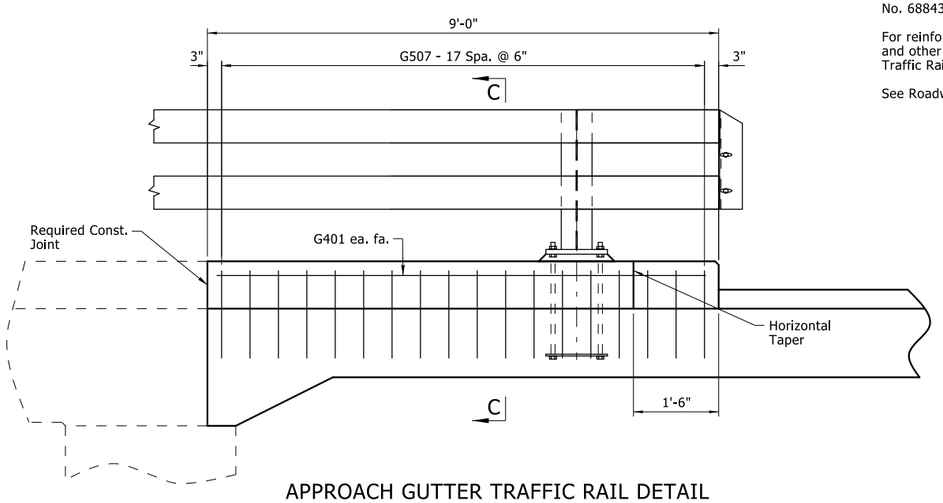
Note:
Dimensions of bars are out-to-out.

① Preformed Joint AASHTO M 153 Type 1 and 2" x 1" Poured Joint Sealer (Type 3 or 4) in accordance with Subsection 501.02(h)(2)



SECTION B-B

½" = 1'-0"



APPROACH GUTTER TRAFFIC RAIL DETAIL

¾" = 1'-0"

Notes:
For "SECTION C-C" and "SECTION D-D", see Dwg. No. 68843.

For reinforcement details, rail terminus details and other information for the Approach Gutter Traffic Rail, See Dwg. Nos. 68841 and 68842.

See Roadway Plans for guardrail locations.

QUANTITIES FOR ONE TYPE SPECIAL 2 APPROACH GUTTER

Reinforcing Steel	Concrete
Lbs.	Cu. Yds.
531	5.33

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.18018
JUSTIN P. CARVEY

DIGITALLY SIGNED 01-13-2026

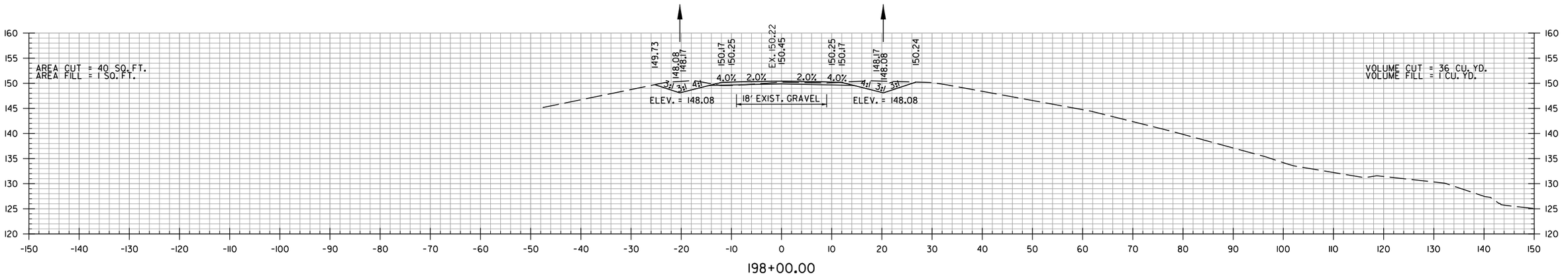
BRIDGE ENGINEER
PRINT DATE: 1/13/2026

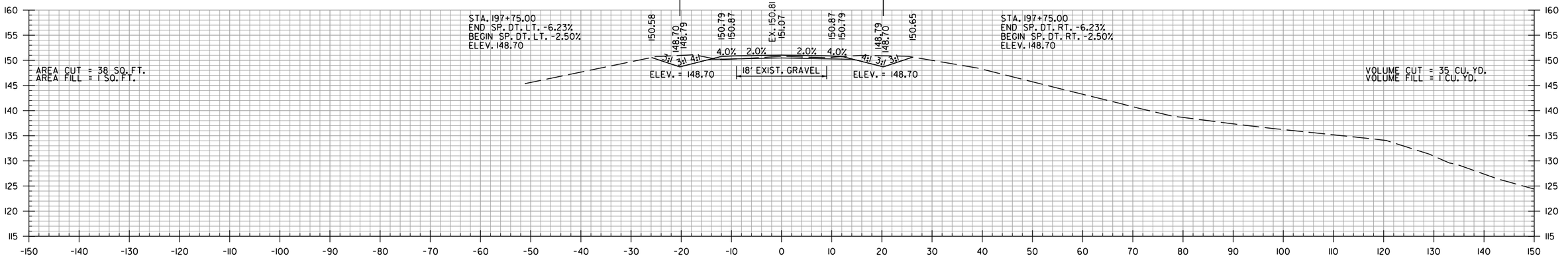
SHEET 2 OF 2
DETAILS OF TYPE SPECIAL APPROACH GUTTERS
ROUTE SECTION
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

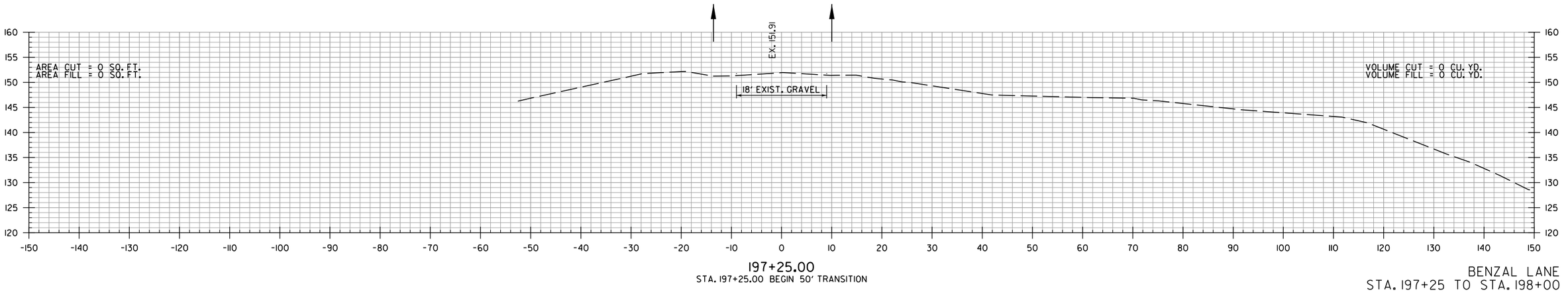
DRAWN BY: SLE DATE: MAR. 2024 FILENAME: b020738_as1.dgn
CHECKED BY: JPC DATE: MAR. 2025
DESIGNED BY: SLE DATE: MAR. 2024 SCALE: As Shown
BRIDGE NO. 04953 DRAWING NO. 68844

JUCARNEY 1/13/2026

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	020738	30	34
		CROSS SECTIONS				



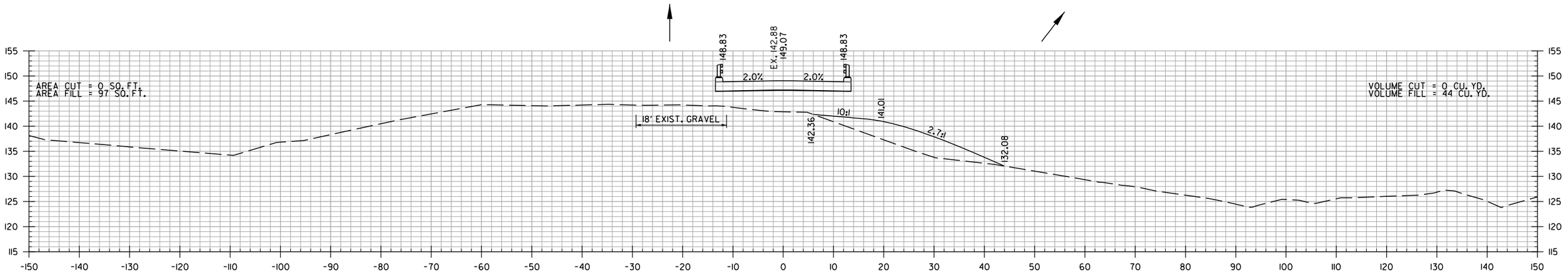




BENZAL LANE
STA. 197+25 TO STA. 198+00

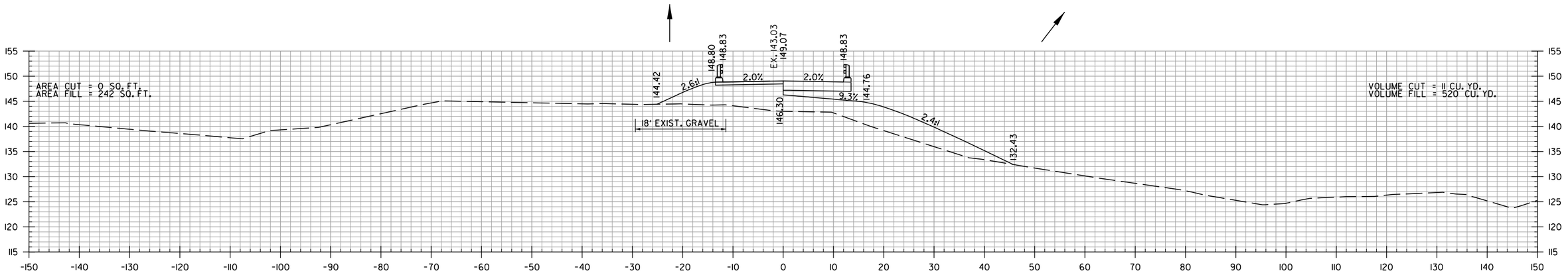
JUCARNEY 1/13/2026

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	020738	31	34
		CROSS SECTIONS				



200+06.95

STA. 200+06.95 END TOE OF SLOPE AT ELEVATION 142.88

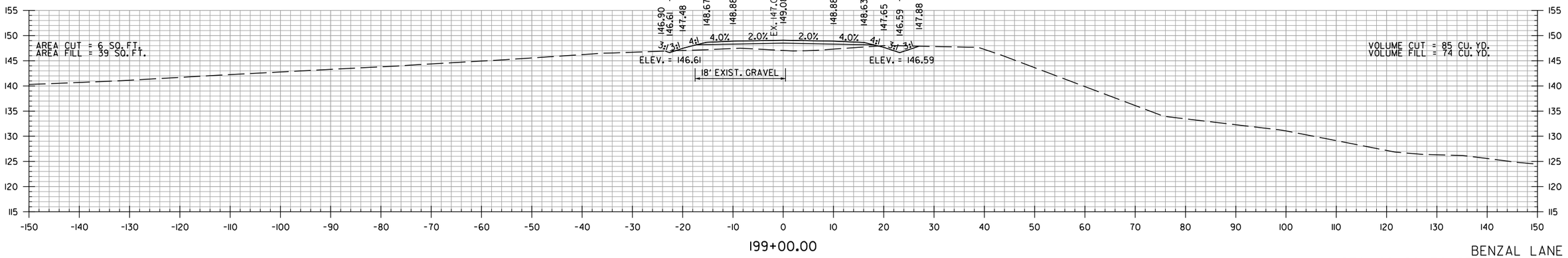


200+00.00

STA. 200+00.00 BEGIN BRIDGE

STA. 199+25.00
END SP. DT. LT. -0.19%
ELEV. 146.57

STA. 199+40.00
END SP. DT. RT. -0.24%
ELEV. 146.50



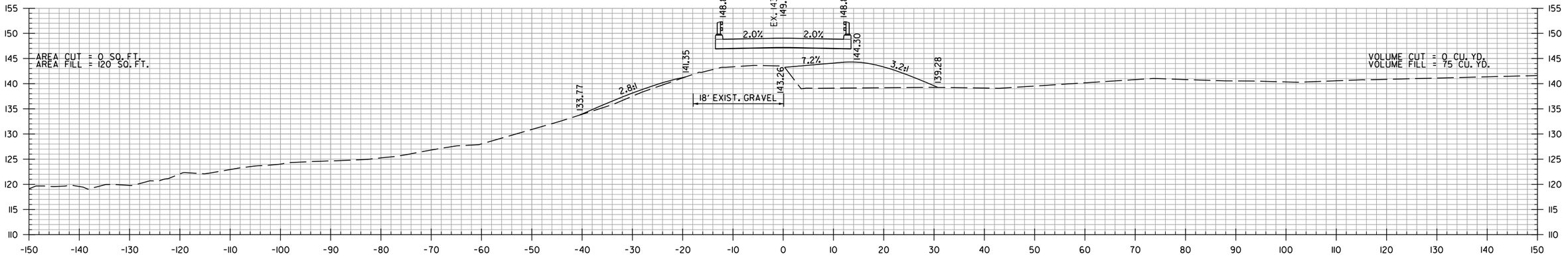
199+00.00

BENZAL LANE
STA. 199+00 TO STA. 200+06.95

1/13/2026

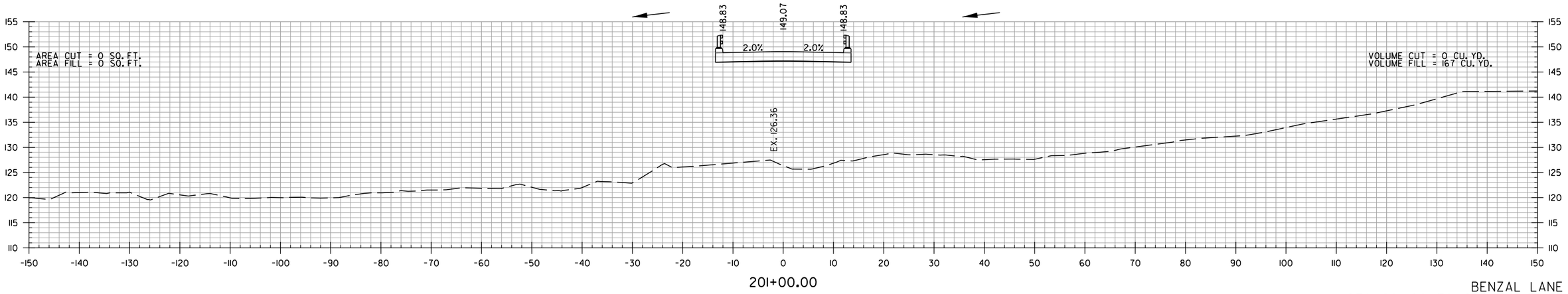
JUCARNEY

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	020738	32	34
		CROSS SECTIONS				



201+33.77

STA. 201+33.77 BEGIN TOE OF SLOPE AT ELEVATION 143.23



201+00.00

BENZAL LANE
STA. 201+00 TO STA. 201+33.77

1/13/2026

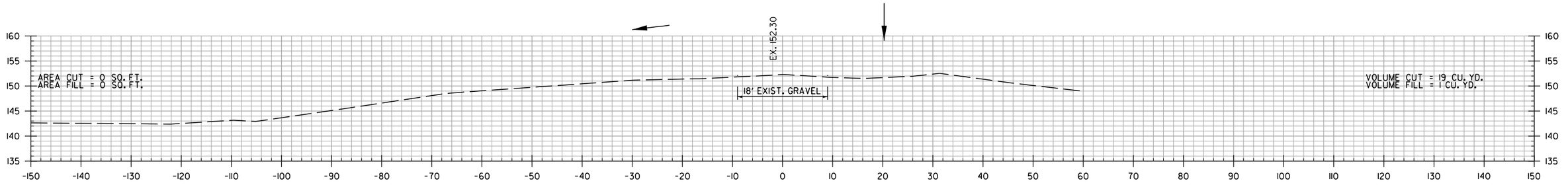
JUCARNEY

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	020738	33	34
		CROSS SECTIONS				

BENZAL LANE
STA. 201+40 TO STA. 203+00

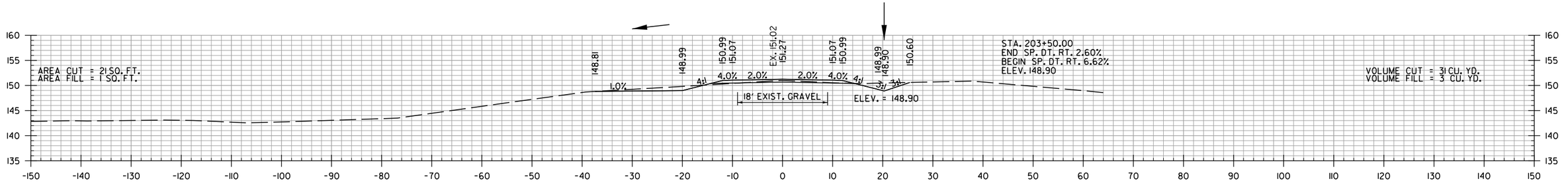
JUCARNEY 1/13/2026

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	020738	34	34
		CROSS SECTIONS				



204+00.00
STA. 204+00.00 END 50' TRANSITION

STA. 203+75.00
END SP. DT. RT. 6.62%
ELEV. 150.55



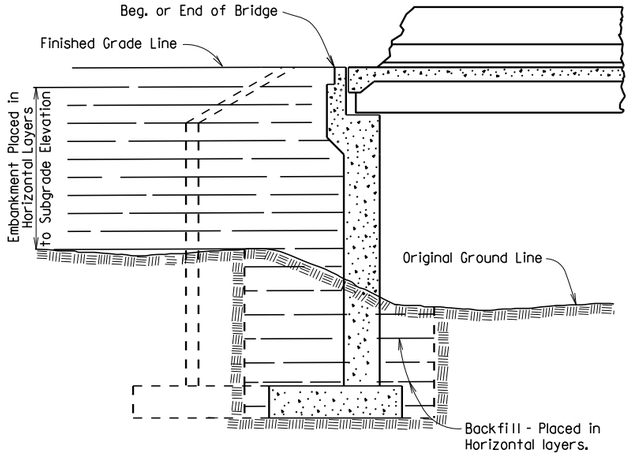
203+50.00
STA. 203+50.00 BEGIN 50' TRANSITION
END JOB 020738 - BENZAL LANE

BENZAL LANE
STA. 203+50 TO STA. 204+00

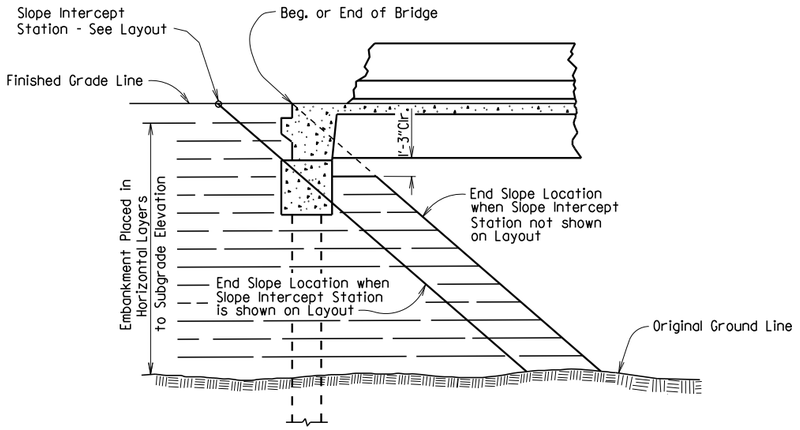
1/13/2026
JUCARNEY

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.				

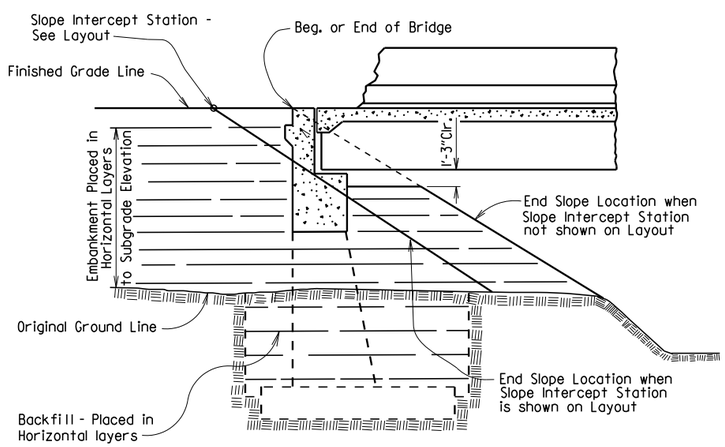
1 EMBANKMENT & BACKFILL 55000



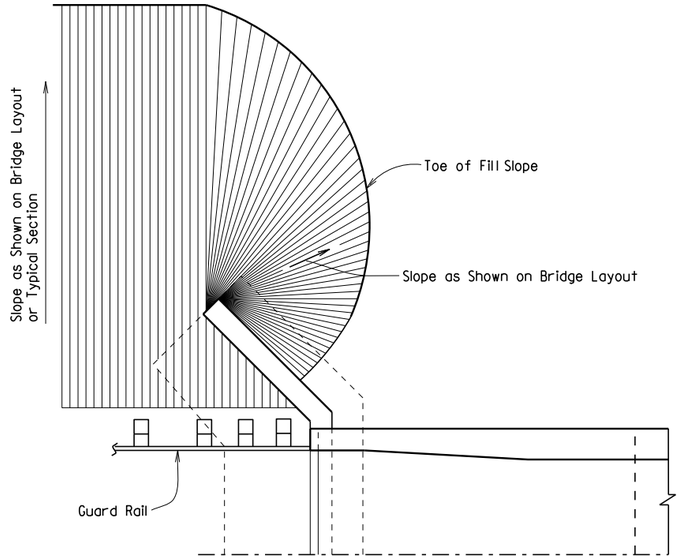
EMBANKMENT CONSTRUCTION AND FOOTING BACKFILL AT VERTICAL WALL ABUTMENTS



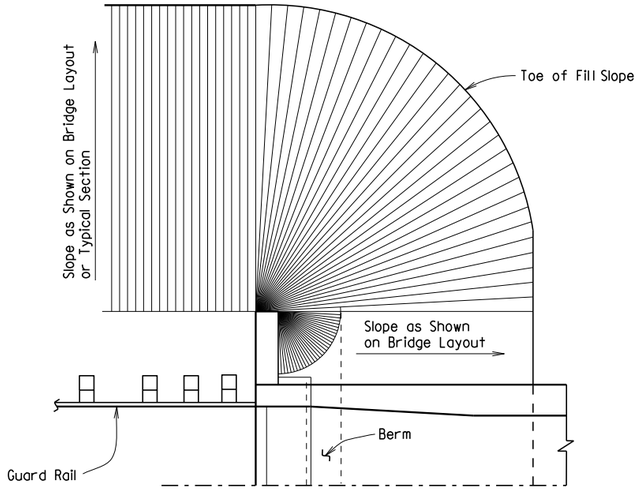
EMBANKMENT CONSTRUCTION AT SPILL-THROUGH PILE END BENTS



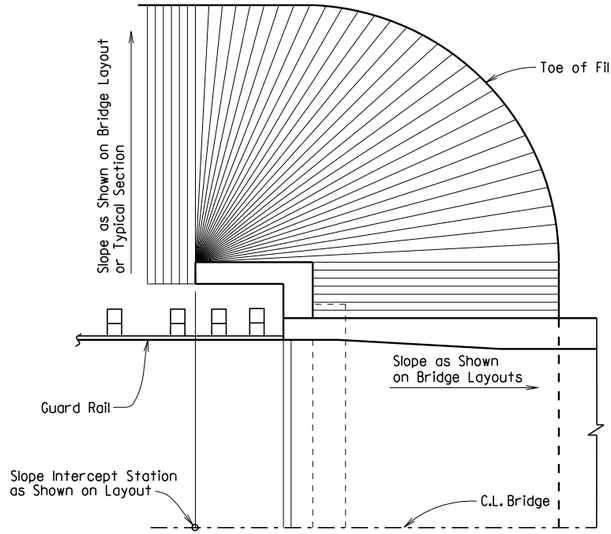
EMBANKMENT CONSTRUCTION AND FOOTING BACKFILL AT SPILL-THROUGH END BENTS



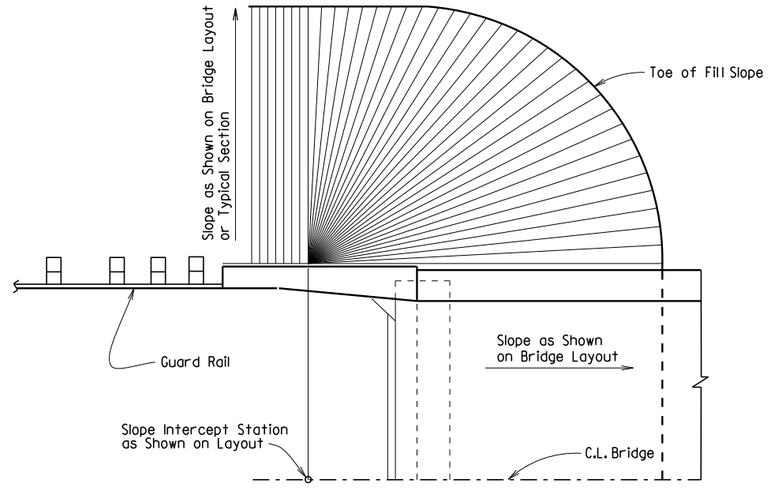
VERTICAL WALL ABUTMENTS



SPILL-THROUGH END BENTS WITH STUB WING



SPILL-THROUGH END BENTS WITH TURNBACK WING



SPILL-THROUGH END BENTS WITH TRANSITION WING

METHOD OF DETERMINING FILL SLOPE LOCATION AT BRIDGE ENDS

GENERAL NOTES

The Bridge End Embankment shall be defined as a section of embankment, not less than 20 feet long adjacent to the bridge end, together with the side slopes and slopes under the bridge end including around the end of wingwalls. Embankment adjacent to structures shall be constructed in 6 inch horizontal layers (loose measure) and compacted by the use of mechanical equipment to the satisfaction of the Engineer. Refer to Subsections 210.09, 210.10 and 801.08 for construction requirements.

STANDARD DETAILS FOR EMBANKMENT CONSTRUCTION AND BACKFILL AT BRIDGE ENDS

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 2-27-2014 FILENAME: b55000.dgn

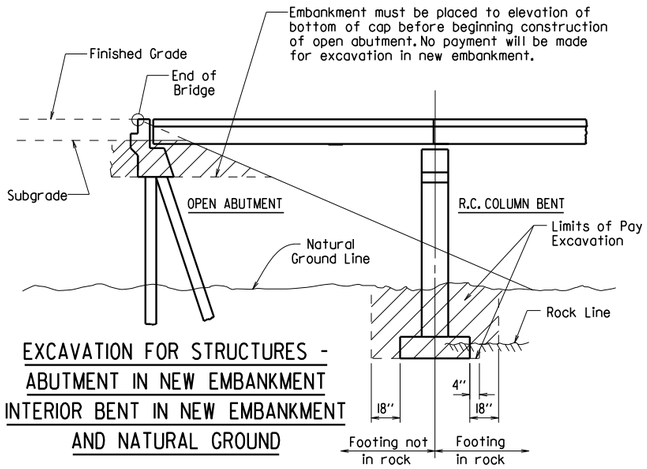
CHECKED BY: BEF DATE: 2-27-2014 SCALE: NO SCALE

DESIGNED BY: STD. DATE: -

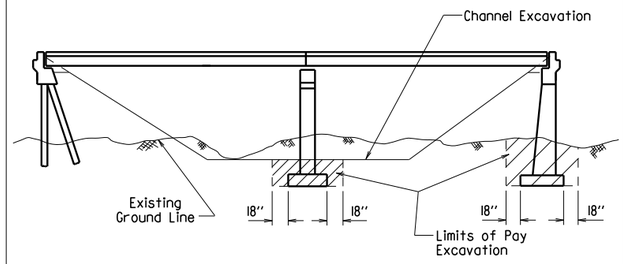
DRAWING NO. 55000

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.				

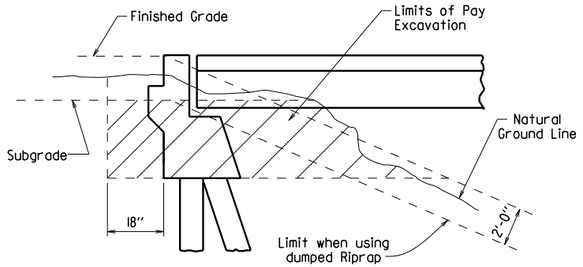
1 RIPRAP & EXCAV. 55001



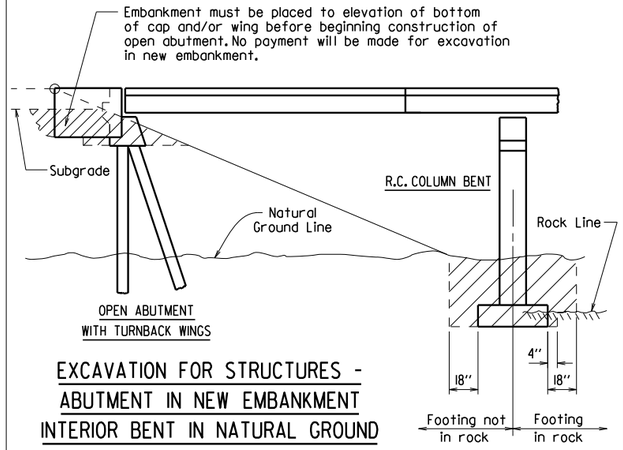
EXCAVATION FOR STRUCTURES - ABUTMENT IN NEW EMBANKMENT INTERIOR BENT IN NEW EMBANKMENT AND NATURAL GROUND



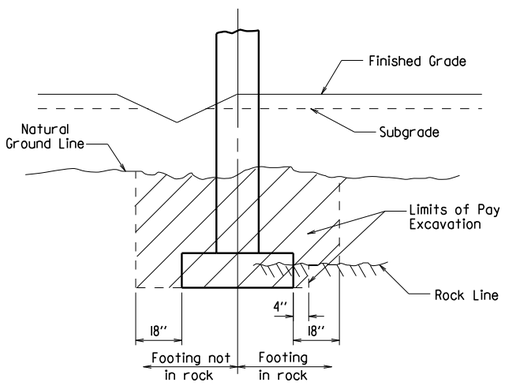
EXCAVATION FOR STRUCTURES - BRIDGE LOCATION WITH DESIGNATED CHANNEL CHANGE



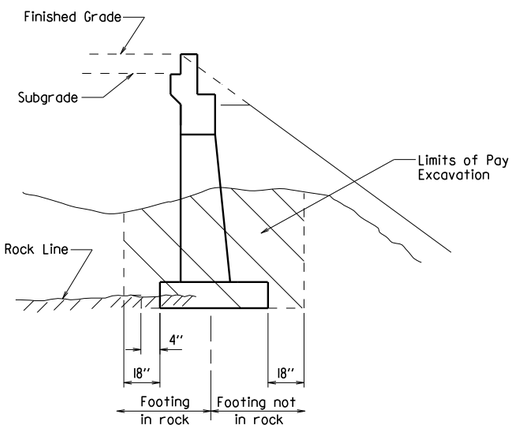
EXCAVATION FOR STRUCTURES - ABUTMENT IN NATURAL GROUND



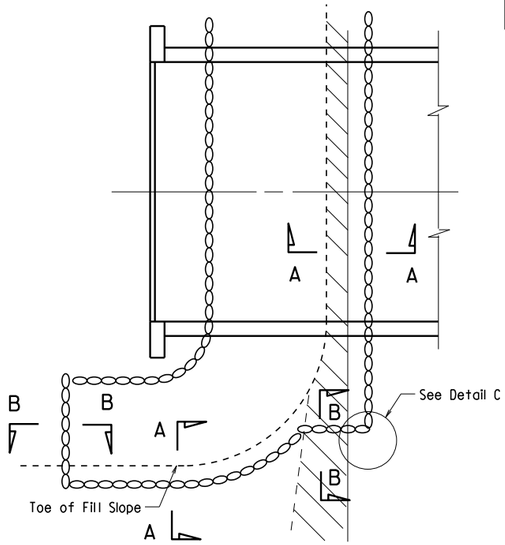
EXCAVATION FOR STRUCTURES - ABUTMENT IN NEW EMBANKMENT INTERIOR BENT IN NATURAL GROUND



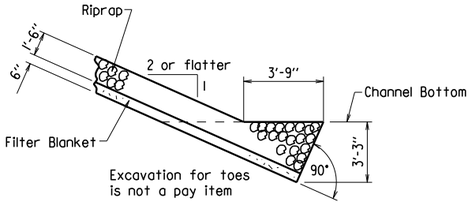
EXCAVATION FOR STRUCTURES - BENT IN ROADWAY FILL SECTION AND NATURAL GROUND



EXCAVATION FOR STRUCTURES - ABUTMENT IN NATURAL GROUND AND NEW EMBANKMENT

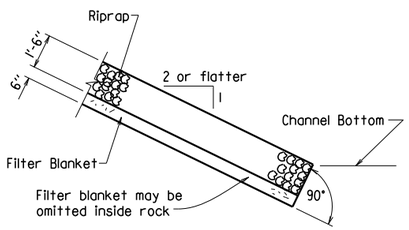


PLAN OF DUMPED RIPRAP



SECTION A-A

(Toe Excavation in Soil)



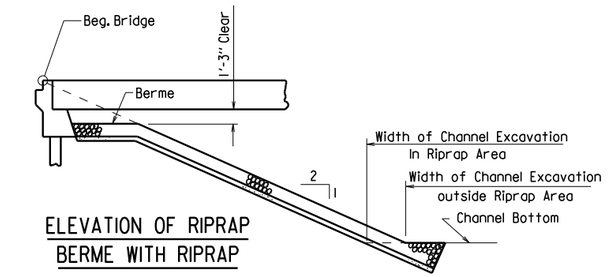
SECTION A-A

(Toe Excavation in Rock)

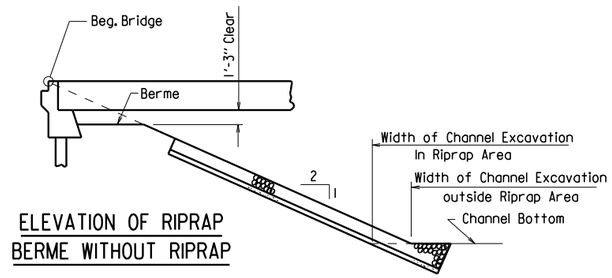
Note : Use this type of toe when rock is encountered which is in a stable condition.

Note : In lieu of an aggregate filter blanket, a synthetic fiber geotextile fabric complying with the requirements of Subsection 816.02(e) may be used.

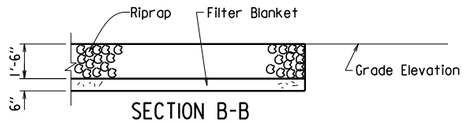
Note : Details for computing excavation for structures are included for information as to how plan quantities were calculated and for use when adjusting quantities when changing footing elevation.



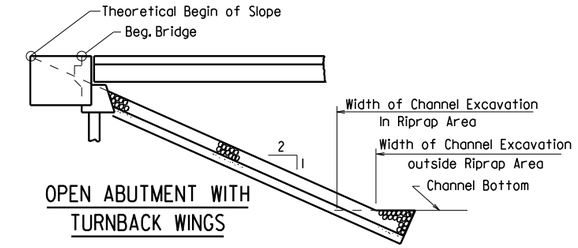
ELEVATION OF RIPRAP BERME WITH RIPRAP



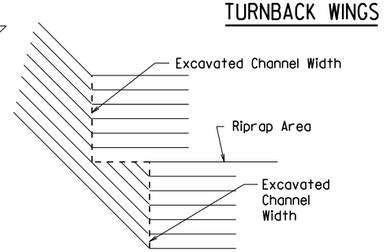
ELEVATION OF RIPRAP BERME WITHOUT RIPRAP



SECTION B-B



OPEN ABUTMENT WITH TURNBACK WINGS



DETAIL C

STANDARD DETAILS FOR DUMPED RIPRAP AND FILTER BLANKET AND COMPUTING EXCAVATION FOR STRUCTURES

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

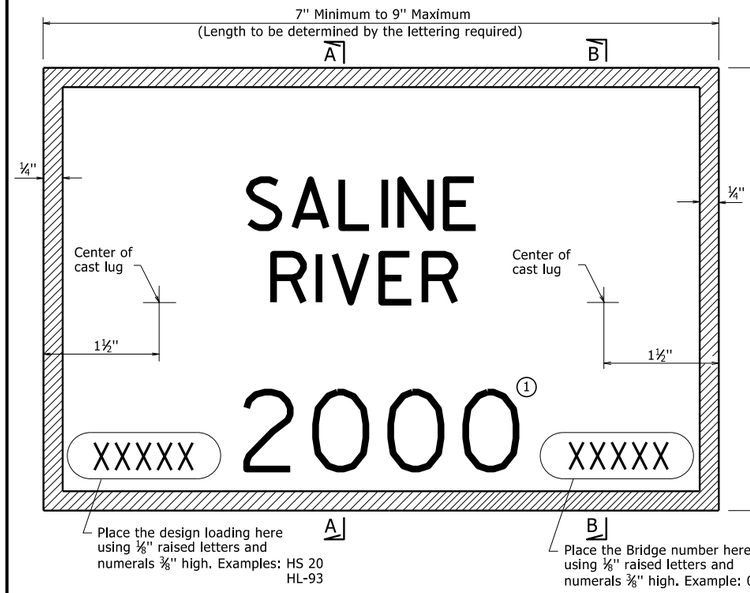
DRAWN BY: KDH DATE: 2-27-2014 FILENAME: b55001.dgn

CHECKED BY: BEF DATE: 2-27-2014 SCALE: NO SCALE

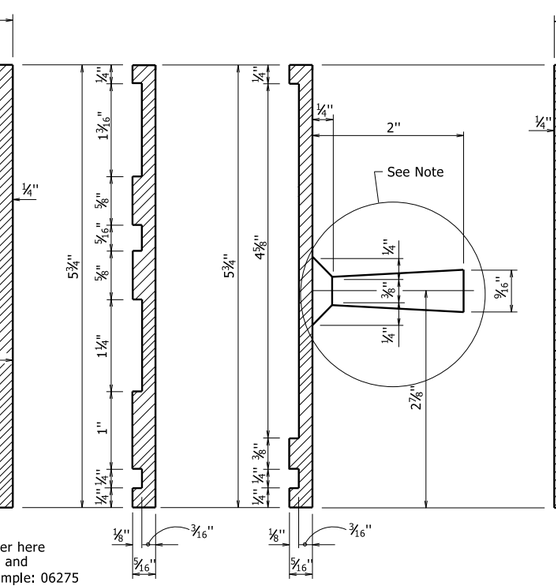
DESIGNED BY: STD. DATE:

DRAWING NO. 55001

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
2/27/2020				6	ARK.			
				JOB NO.				
				①	TYPE C NAME PLATE	55011		

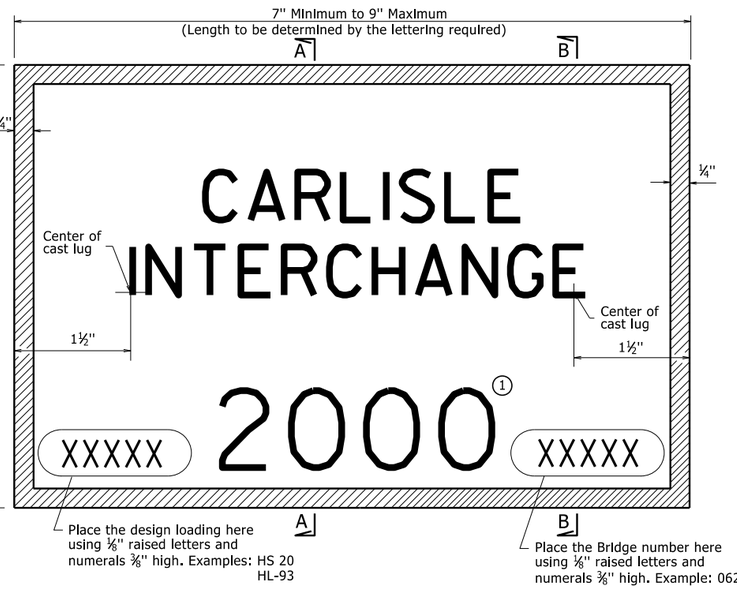


TYPICAL BRIDGE NAME PLATE-STYLE 1 - FULL SIZE
STREAM CROSSINGS



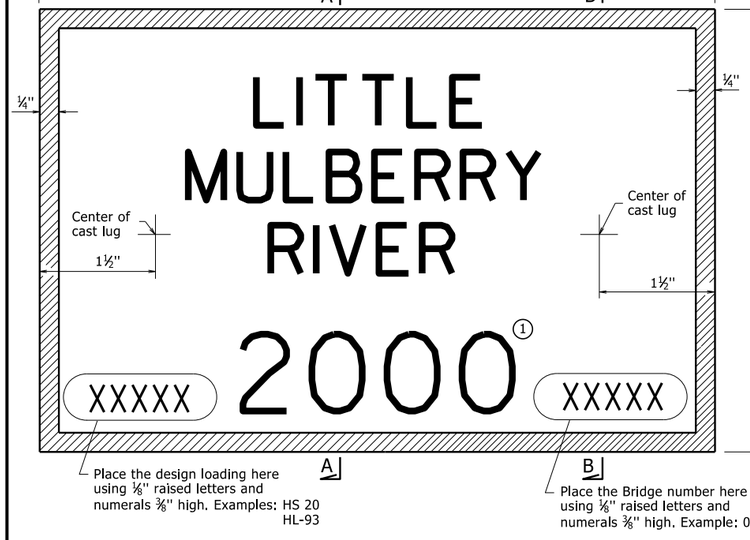
⚠1 SECTION A-A

SECTION B-B

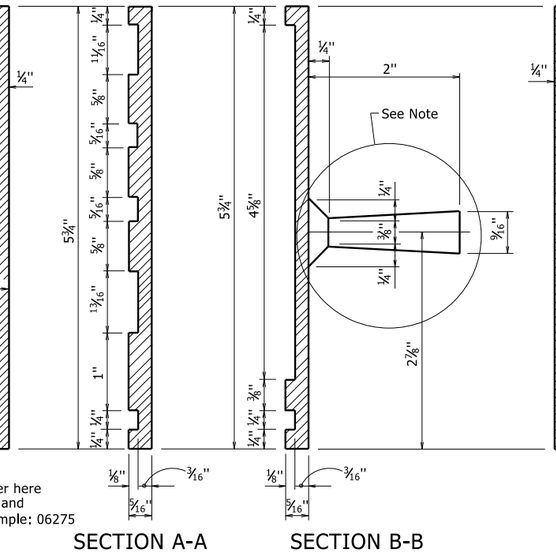


TYPICAL BRIDGE NAME PLATE-STYLE 3 - FULL SIZE
GRADE SEPARATION STRUCTURES

Note: Alternate attachments may be used provided such attachments are submitted and approval secured before fabrication is begun.

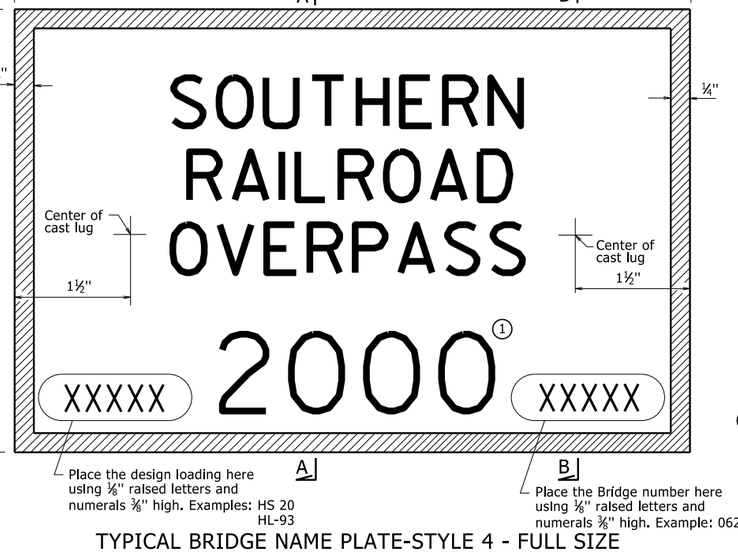


TYPICAL BRIDGE NAME PLATE-STYLE 2 - FULL SIZE
STREAM CROSSINGS



SECTION A-A

SECTION B-B



TYPICAL BRIDGE NAME PLATE-STYLE 4 - FULL SIZE
GRADE SEPARATION STRUCTURES

GENERAL NOTES

Specifications: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction, (2014 Edition) with applicable Supplemental Specifications and Special Provisions.

Name plates shall be cast bronze and shall meet the material requirements as specified in Section 812.

Body of plate shall be 3⁄16" thick and shall include two tapering cone lugs ⅜" to 9⁄16"x 2" long. The border and all lettering shall be raised ⅛" above the face of plate and shall be polished.

All lettering shall be plain gothic, square cut and not tapered.

The number of plates required and the location and name on the plate for each bridge shall be as designated on the plans.

① Year in which contract is awarded.

⚠1 Corrected error in detail showing three lines of text for feature intersected instead of two.
By: KWY, Checked by: WAC; 2/27/2020.

STANDARD DETAILS FOR
TYPE C BRIDGE NAME PLATES

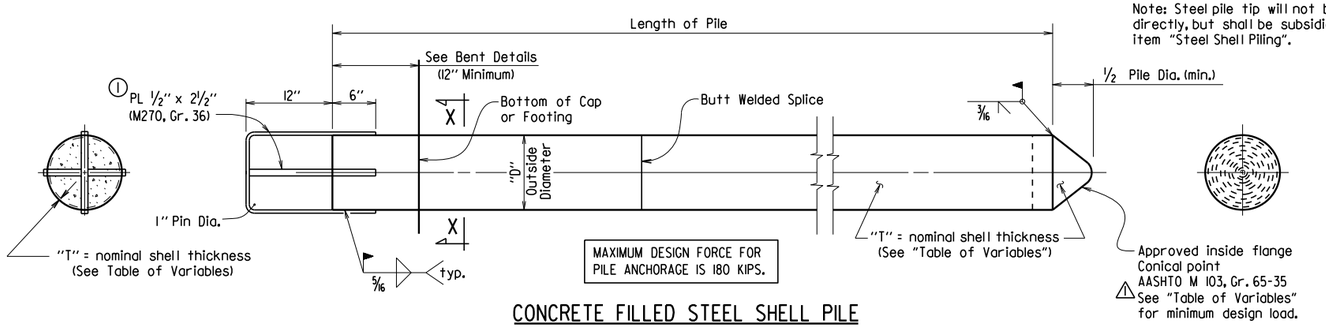
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY:	KDH	DATE:	2-27-2014	FILENAME:	b55011.dgn
CHECKED BY:	BEF	DATE:	2-27-2014	SCALE:	NO SCALE
DESIGNED BY:	STD.	DATE:	-------		

DRAWING NO. 55011

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3/24/16				6	ARK.			
				JOB NO.				

(1) STEEL SHELL PILES 55021

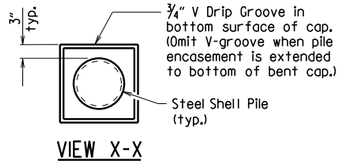


Note: Steel pile tip will not be paid for directly, but shall be subsidiary to the item "Steel Shell Piling".

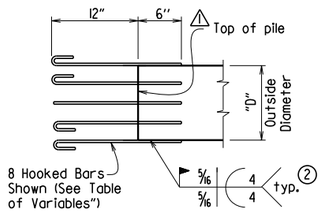
CONCRETE FILLED STEEL SHELL PILE

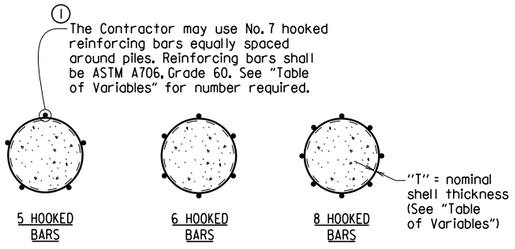
(1) Pile anchorage shall be placed to minimize interference with anchor bolts and reinforcing in cap or footing.

(2) Welding shall comply with ANSI/AWS D1.4 Structural Welding Code-Reinforcing Steel and applicable portions of ANSI/AWS D1.5 Bridge Welding Code.



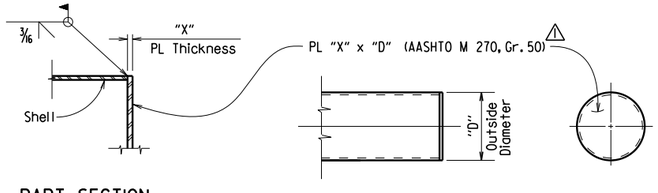
VIEW X-X





ALTERNATE PILE ANCHORAGE DETAIL

Note: Hooked bars shall be oriented to provide the required concrete clearances shown in the plans.

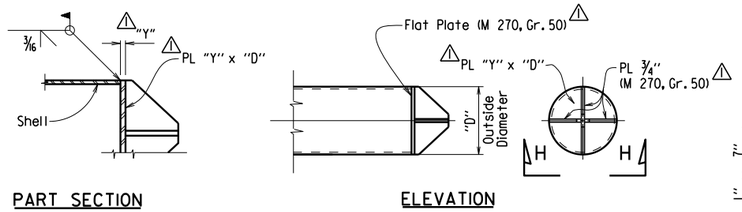


PART SECTION

ELEVATION

ALTERNATE FLAT TIP DETAIL

Note: The alternate flat tip detail shall not be used on steel shell piling to be driven through embankments constructed with internal geosynthetic reinforcement.



PART SECTION

ELEVATION

VIEW H-H

ALTERNATE VANED TIP DETAIL

GENERAL NOTES FOR CONCRETE FILLED STEEL SHEEL PILES:

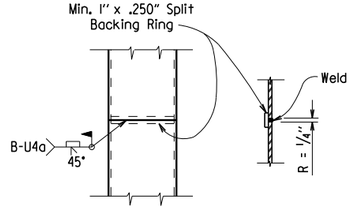
Steel shells shall conform ASTM A252, Grade 3 (Fy = 45,000 psi.)

Concrete used for filling of steel shell shall be Class S with a minimum 28-day compressive strength, f'c = 3,500 psi. and shall be poured in the dry.

Steel shell piling that extends above the ground and is not protected by pile encasement shall be painted in accordance with Subsection 805.02.

See Bridge Layout for size and estimated length of steel shell piles and for driving information.

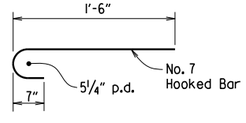
Concrete, structural steel, reinforcing steel (including welding), and painting shall not be paid for directly, but shall be considered subsidiary to the item "Steel Shell Piling".



TYPICAL SPLICE DETAILS

TABLE OF VARIABLES

OUTSIDE DIAMETER "D"	NOMINAL SHELL THICKNESS "T"	⚠ PLATE THICKNESS "X"	⚠ PLATE THICKNESS "Y"	NO. OF HOOKED BARS FOR ALTERNATE PILE ANCHORAGE	⚠ MINIMUM CONICAL TIP DESIGN LOAD (KIPS)
14"	0.50"	2 1/4"	1 1/2"	5	859
16"	0.50"	2 1/4"	1 1/2"	5	986
18"	0.50"	2 1/2"	1 1/2"	6	1,114
20"	0.50"	2 1/2"	1 3/4"	6	1,241
24"	0.50"	2 3/4"	1 3/4"	8	1,495



HOOKED BAR DETAIL

⚠ Revised and added various details by KWY, Ck'd. by BEF, 3/24/16.

GENERAL NOTES FOR PILE ENCASEMENTS:

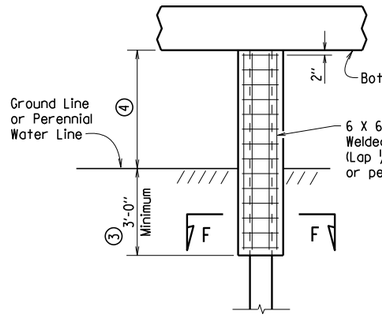
⚠ See Bridge Layout for additional notes, any pile encasement restrictions and required location of pile encasements.

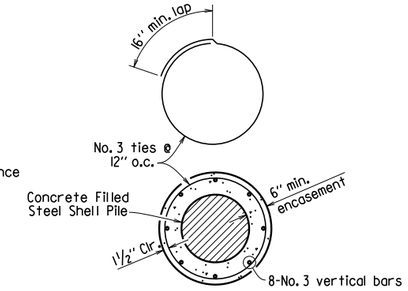
Concrete shall be Class S with a minimum 28-day compressive strength, f'c = 3,500 psi. If concrete cannot be placed in the dry, Seal Concrete may be used from top to bottom of encasement.

Reinforcing steel shall be Grade 60 conforming to AASHTO M 31 or M 322, Type A.

Welded wire fabric shall conform to AASHTO M 55 or M 221.

Concrete, welded wire fabric or reinforcing steel, and galvanized pipe shall not be paid for directly, but shall be considered subsidiary to the item "Pile Encasement".





SECTION F-F (REINF. ALTERNATE)

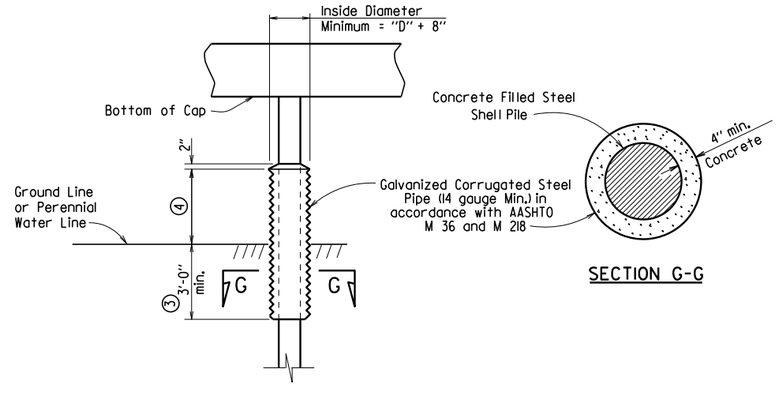
PILE ENCASEMENT DETAIL FOR STEEL SHELL PILES

(5) (Shown with Encasement to Bottom of Cap)

(3) Unless otherwise noted on Bridge Layout.

(4) See Bridge Layout for height of pile encasement (3'-0" Minimum).

(5) Pile encasement, when not extended to bottom of cap, shall have 2" concrete taper for water runoff as shown in the detail for partial height encasement.



SECTION G-G

ALTERNATE PILE ENCASEMENT DETAIL FOR STEEL SHELL PILES

(Shown with Partial Height Encasement)

This document was originally issued and sealed by Charles R. Ellis, PE No. 9235, on March 24, 2016. This copy is not a signed and sealed document.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

BRIDGE ENGINEER

STANDARD DETAILS FOR CONCRETE FILLED STEEL SHELL PILES AND PILE ENCASEMENTS

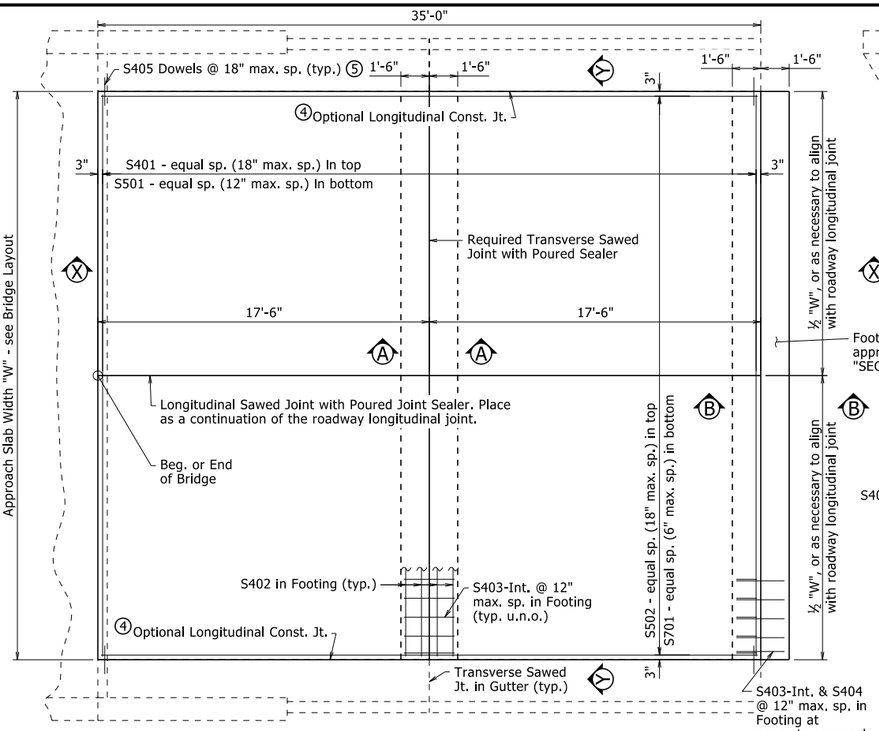
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

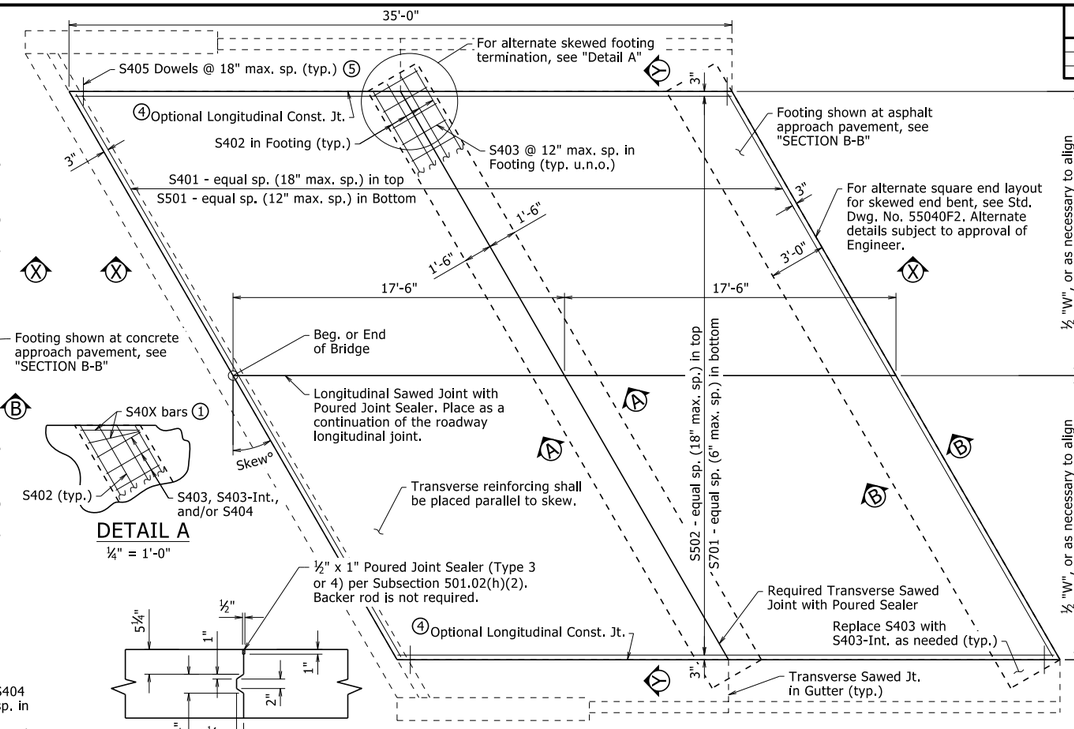
DRAWN BY:	A.M.S.	DATE:	2/27/2014	FILENAME:	b55021.dgn
CHECKED BY:	B.E.F.	DATE:	2/27/2014	SCALE:	NO SCALE
DESIGNED BY:	STD.	DATE:	—		

DRAWING NO. 55021

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.			
		Type F Approach Slab - 55040F1				

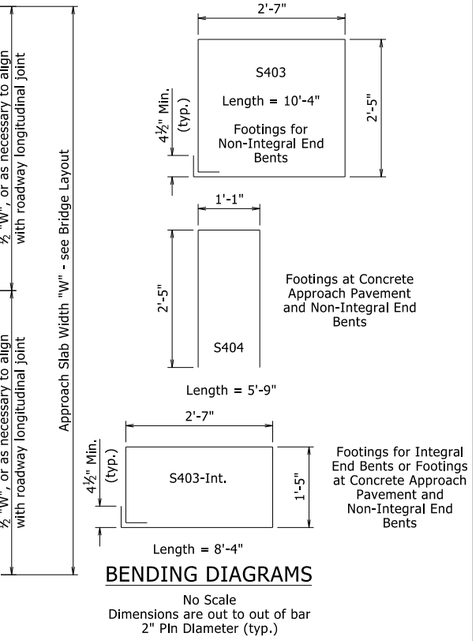


PLAN - APPROACH SLAB AT SQUARE END BENT



LONGITUDINAL CONSTRUCTION JOINT

½" = 1'-0"

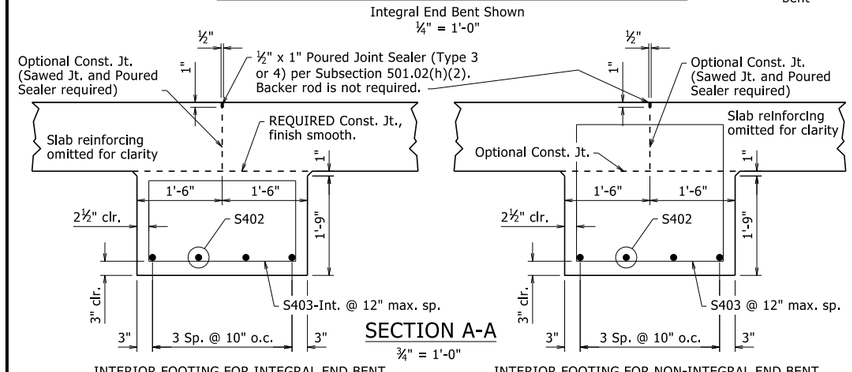


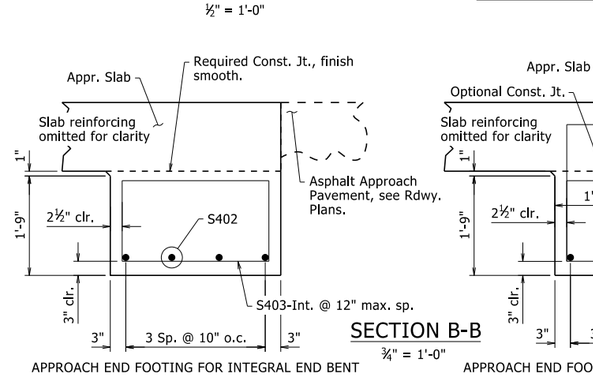
BENDING DIAGRAMS

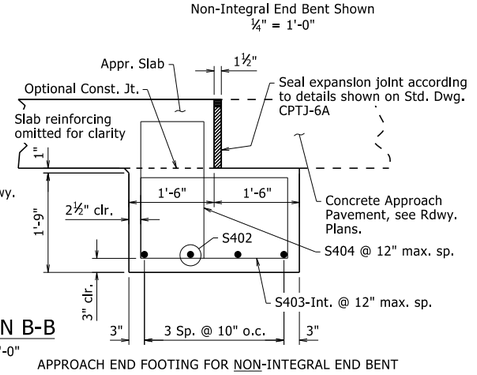
No Scale
Dimensions are out to out of bar
2" PIn Diameter (typ.)

PLAN - APPROACH SLAB AT SKEWED END BENT

Non-Integral End Bent Shown
¼" = 1'-0"







BAR LIST - PER APPROACH SLAB

	Square End Bent		Skewed End Bent	
Mark	No. Req'd.	Length	No. Req'd.	Length
S401	24	"W" - 0.33'	24	("W" - 0.33') / cos (Skew°)
S402	8	"W" - 0.33'	8	"W"/cos(Skew°) + 3.0'×tan(Skew°) - 0.33'
S403	①	②	①	②
S403-Int.	①	②	①	②
S404	①	②	①	②
S405	48	1'-6"	48	1'-6"
S501	36	"W" - 0.33'	36	("W" - 0.33') / cos (Skew°)
S502	①	34'-8"	①	34'-8"
S701	①	34'-8"	①	34'-8"

All bar lengths are in feet.

① Varies with Approach Slab Type, Width and/or Skew.
② See "BENDING DIAGRAMS"

GENERAL NOTES

All concrete shall be Class S(AE) with a minimum 28 day compressive strength f'c = 4,000 psi and shall be poured in the dry.

All reinforcing steel shall be Grade 60 (yield strength = 60,000 psi) conforming to AASHTO M 31 or M 322, Type A, with mill test reports.

The surface finish for Approach Slabs shall match that used on the bridge deck.

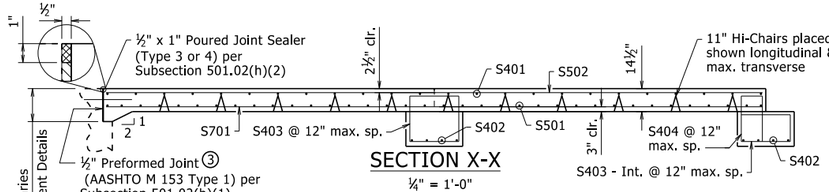
All longitudinal lines within the limits of horizontal curves shall be on curves concentric to C.L. Bridge. Adjustment to longitudinal bar lengths may be required. Transverse reinforcing shall be placed on radial lines to C.L. Bridge.

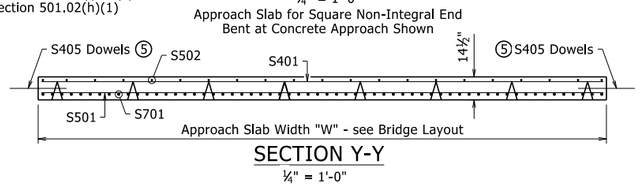
See Plans for actual Approach Slab Width, "W", end bent or span details, and approach pavement. Units of "W" are in Feet.

Approach Slabs will be measured and paid for in accordance with Section 504.

Scales shown are for full size 22"x34" drawings. When using 11"x17" drawings, reduce scale by one half.

For Table of Quantities, see "SCHEDULE OF BRIDGE QUANTITIES".





③ Eliminate Type 1 Preformed Joint when bridge details show reinforcing dowels across these joints. Poured joint sealer is required, however, backer rod shall be eliminated.

④ When construction joint is eliminated, place 1" Sawed Joint with ½" x 1" Poured Joint Sealer (Type 3 or 4) per Subsection 501.02(h)(2). Backer rod is not required.

⑤ Eliminate dowels when approach slab is adjacent to curb and gutter, or as directed by the Engineer.

MINIMUM BAR LAP LENGTH

#4	1'-8"
#5	2'-0"
#7	2'-10"

The document was originally issued and sealed by Charles R. Ellis, PE No. 9235, on September 7, 2023. This copy is not a signed and sealed document.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

BRIDGE ENGINEER

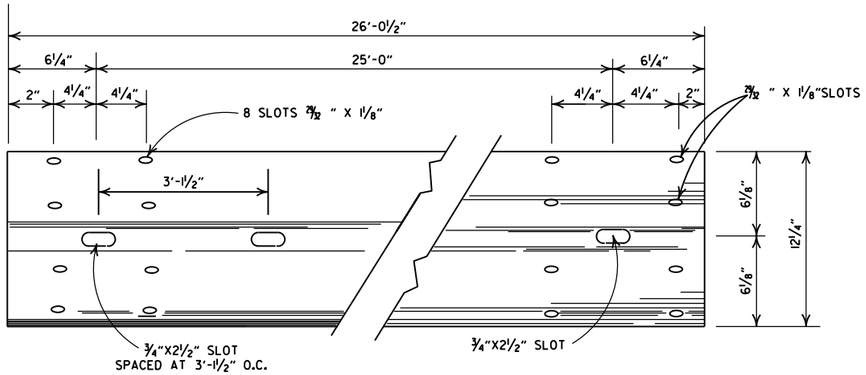
STANDARD DETAILS FOR TYPE F APPROACH SLAB

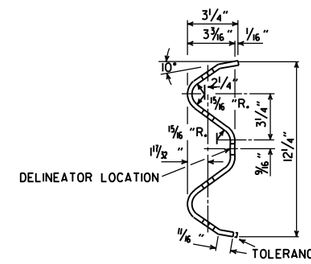
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: CGP DATE: 05/12/2023 FILENAME: b55040f.dgn
CHECKED BY: JYP DATE: 05/15/2023 SCALE: AS NOTED
DESIGNED BY: STD. DATE: -

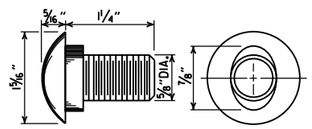
DRAWING NO. 55040F1



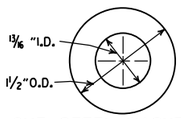


DETAILS OF W-BEAM GUARDRAIL

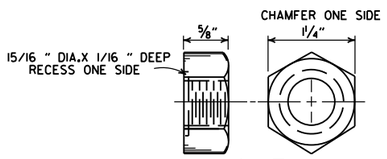
RAIL SECTION OF CLOSELY SIMILAR DIMENSIONS AND COMPARABLE STRENGTH MAY BE SUBSTITUTED IF APPROVED BY THE ENGINEER.



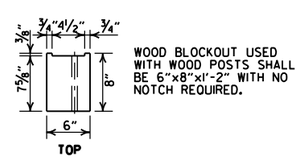
SPLICE BOLT
POST BOLT - SAME EXCEPT LENGTH



CUT STEEL WASHER

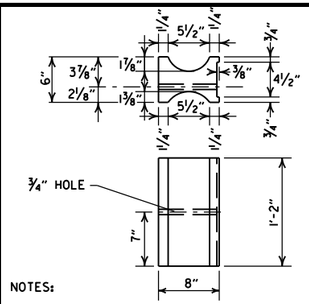


NUT



WOOD BLOCKOUT USED WITH WOOD POSTS SHALL BE 6"x8"x1'-2" WITH NO NOTCH REQUIRED.

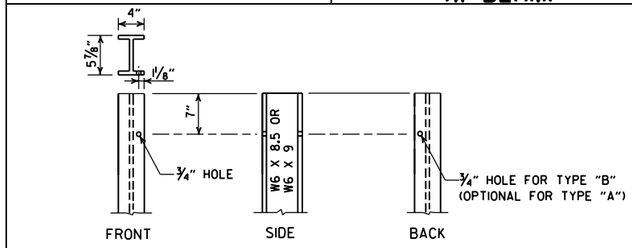
WOOD BLOCKOUT (W-BEAM)



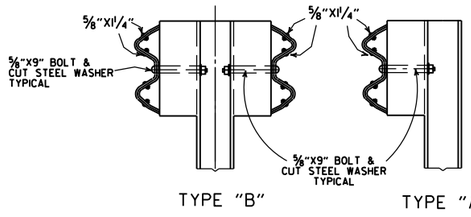
NOTES:

1. SIMILAR SHAPED PLASTIC BLOCKOUTS MAY BE USED AS LONG AS THEY MEET REQUIREMENTS FOR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).
2. DIMENSIONS ARE SUBJECT TO MANUFACTURERS TOLERANCES.

PLASTIC BLOCKOUT (W-BEAM)



STEEL POST



DETAILS OF STEEL LINE POST CONNECTIONS (W-BEAM)

-GENERAL NOTES-

ALL BOLTS SHALL BE SUFFICIENT LENGTH TO EXTEND THROUGH THE FULL THICKNESS OF THE NUT AND NO MORE THAN ¾" BEYOND IT.

WHERE W-BEAM GUARDRAIL CONTINUES, THE INTERMEDIATE SECTIONS SHALL HAVE A POST SPACING OF 6'-3" UNLESS OTHERWISE NOTED.

W-BEAM GUARDRAIL REPRESENTING INTERMEDIATE SECTIONS WILL BE MEASURED ALONG THE ROADWAY FACE FROM CENTERLINE OF POST TO CENTERLINE OF POST.

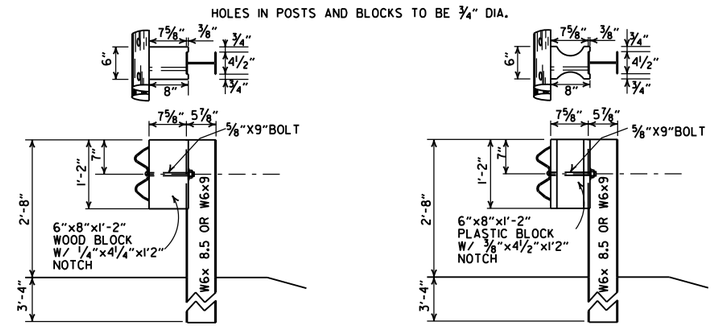
USE W-BEAM GUARDRAIL COMPONENTS OF SAME MATERIAL FOR ENTIRE JOB. FOR EXTENSIONS OR MODIFICATION OF EXISTING GUARDRAIL, W-BEAM GUARDRAIL COMPONENTS OF THE SAME TYPE AS THOSE EXISTING SHALL BE USED.

ANY BACKFILLING UNDER OR AROUND POST SHALL BE DAMP SAND THOROUGHLY TAMPED IN PLACE.

WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7 f (1400 f) OR NO. 1 1350 f SOUTHERN PINE.

CONTRACTOR SHALL HAVE THE OPTION OF USING WOOD BLOCKOUTS FOR W-BEAM GUARDRAIL OR PLASTIC BLOCKOUTS, AS LONG AS BLOCKOUT USED MEETS REQUIREMENTS FOR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) FOR W-BEAM GUARDRAIL.

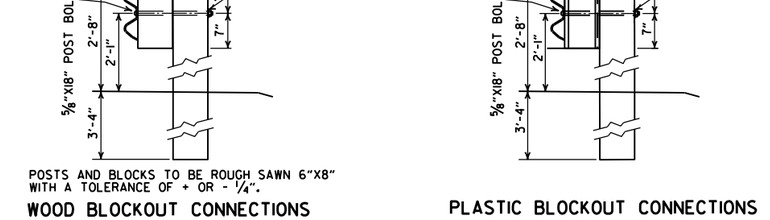
DELINEATORS SHALL BE MOUNTED AT 37.5' SPACING ON THE FRONT FACE OF THE GUARDRAIL. SPACING MAY BE REDUCED IN CURVES, AS DIRECTED BY THE ENGINEER. COLOR SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR DELINEATORS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID PER LIN. FT. FOR GUARDRAIL.



WOOD BLOCKOUT CONNECTIONS

PLASTIC BLOCKOUT CONNECTIONS

DETAILS OF STEEL LINE POST CONNECTIONS (W-BEAM)



POSTS AND BLOCKS TO BE ROUGH SAWN 6"X8" WITH A TOLERANCE OF + OR - ¼".

WOOD BLOCKOUT CONNECTIONS

PLASTIC BLOCKOUT CONNECTIONS

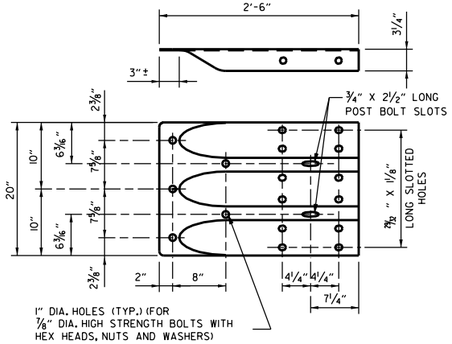
DETAILS OF WOOD LINE POST CONNECTIONS (W-BEAM)

DATE	REVISION	FILMED
05-19-22	REVISED GENERAL NOTES, ADDED DELINEATOR LOCATION.	
11-07-19	RENUMBERED AND RENAMED	
11-16-17	REVISED GENERAL NOTES AND RAISED GUARDRAIL HEIGHT 3"	
07-14-10	RAISED HEIGHT OF GUARDRAIL 1"	
10-15-09	ADDED REFERENCE TO MASH	
04-10-03	REVISED GENERAL NOTES	
08-22-02	REVISED DIMENSION ON WOOD & PLASTIC BLOCKOUT CONNECTIONS & STEEL POST	
11-16-01	REVISED WOOD BLOCKOUT & DETAILS OF WOOD LINE POST CONNECTIONS	
03-30-00	REMOVED GUARDRAIL AT BRIDGE ENDS	
01-12-00	ADDED PLASTIC BLOCKOUT	
08-12-98	REV. BLOCKOUTS TO WOOD, DELETED CONC. POST & REV. GENERAL NOTE, DELETED DET. OF GUARDRAIL REPLACE. BEHIND CURB & DET. OF POST PLACE. IN SOLID ROCK, & ADDED DETAILS OF STEEL LINE POST CONN. REMOVED BACK-UP PLATE, REVISED HOLES IN STEEL POLES	
04-03-97	REMOVED "LAP IN DIRECTION OF TRAFFIC" NOTE & PLACED ARROWS ON WASHERS	
10-18-96	REVISED WOOD POST NOTE	
06-02-94	ADDED ALT. STEEL POST SIZE	
08-05-93	REVISED STEEL POST SIZE	8-5-93
10-01-92	REDRAWN & REVISED	10-1-92
08-15-91	REVISED WASHER NOTE	8-15-91
08-02-90	REV. GEN. NOTE & DEPTH OF ANC. POST IN ROCK	8-2-90
07-15-88	REVISED SECTION 3 & GENERAL NOTES	
03-04-88	REV. ANCHOR POST, ELEV. NOTES & POST IN ROCK	780-3-4-88
10-30-87	REVISED WOOD LINE POST DETAIL	546-10-30-87
10-09-87	REDRAWN & REVISED	802-10-9-87

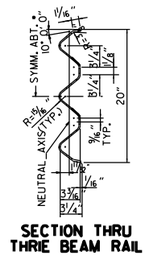
ARKANSAS STATE HIGHWAY COMMISSION

GUARDRAIL DETAILS

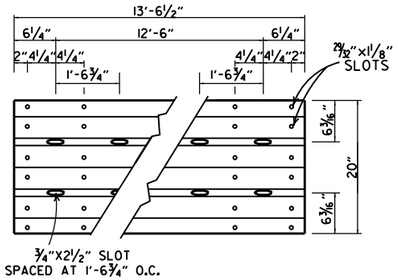
STANDARD DRAWING GR-6



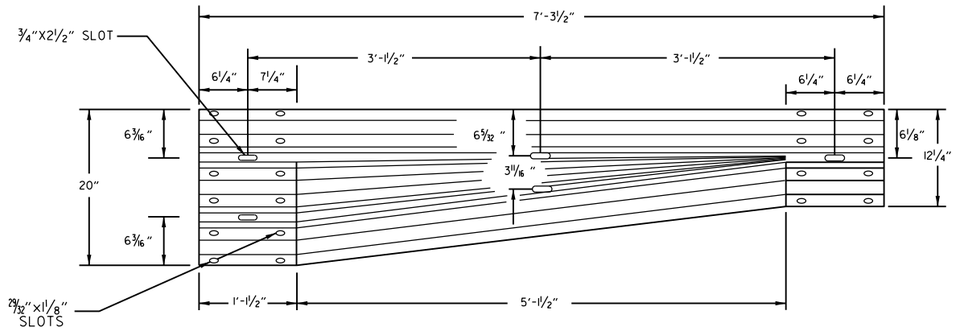
SPECIAL END SHOE



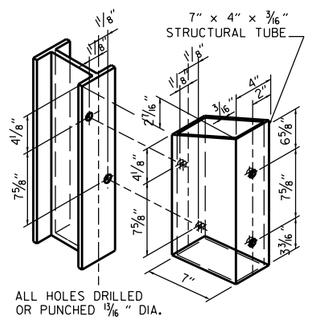
SECTION THRU THRIE BEAM RAIL



THRIE BEAM RAIL

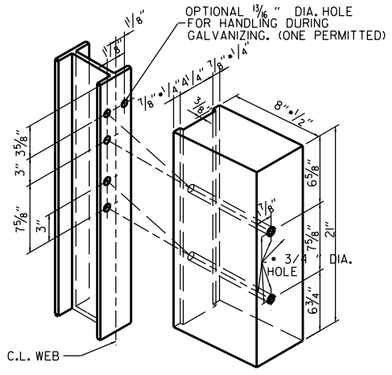


TRANSITION SECTION



ATTACH BLOCKOUT TO POST USING ⅝" DIA. HEX HEAD BOLTS WITH 1½" O.D. CUT STEEL WASHERS AND NUT.

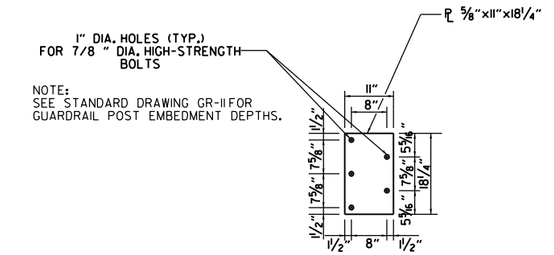
STRUCTURAL STEEL TUBING BLOCKOUT DETAIL



ALL HOLES 13/16" DIAMETER EXCEPT AS NOTED

HOLE PUNCHING DETAIL FOR STEEL POST & WOOD OR PLASTIC BLOCKOUTS

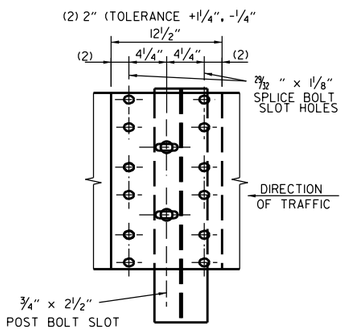
NOTE: BLOCKS SHALL BE THE SAME TYPE THROUGHOUT THE PROJECT LIMITS.



NOTE:
SEE STANDARD DRAWING GR-11 FOR GUARDRAIL POST EMBEDMENT DEPTHS.

CONNECTOR PLATE

CONNECTOR PLATE SHALL BE AASHTO M270, GR. 36 AND SHALL BE GALVANIZED AFTER FABRICATION. GALVANIZING SHALL CONFORM TO SUBSECTION 807.19 OF THE STANDARD SPECIFICATIONS. CONNECTOR PLATE TO BE BOLTED TO SPECIAL END SHOE USING ⅞" DIA. HIGH STRENGTH BOLTS, WITH THE HEADS PLACED ON THE TRAFFIC FACE. WASHERS SHALL BE USED UNDER THE HEAD AND NUT. BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AND SHALL CONFORM TO SUBSECTION 807.06.



THRIE BEAM RAIL SPLICE AT POST

GENERAL NOTES:

THE THRIE BEAM RAIL, SPECIAL END SHOE, AND THE TRANSITION SECTION SHALL BE MADE OF STEEL AND SHALL BE 12 GAGE. ZINC COATING SHALL BE TYPE 1.

RAIL POSTS SHALL BE SET PERPENDICULAR TO THE ROADWAY PROFILE GRADE AND VERTICALLY IN CROSS SECTION.

ALL BOLTS SHALL BE SUFFICIENT LENGTH TO EXTEND THROUGH THE FULL THICKNESS OF THE NUT AND NO MORE THAN 3"4" BEYOND IT.

ALL LAP SPLICES, INCLUDING SPECIAL END SHOES, SHALL BE MADE IN THE DIRECTION SHOWN ON STANDARD DRAWINGS GR-8 & GR-13.

REFER TO STD. DRWG. GR-11 FOR POST DETAILS.

USE THRIE BEAM GUARDRAIL COMPONENTS OF SAME MATERIAL FOR ENTIRE JOB.

THRIE BEAM POSTS SHALL BE SAME MATERIAL AS W-BEAM POSTS FOR ENTIRE JOB.

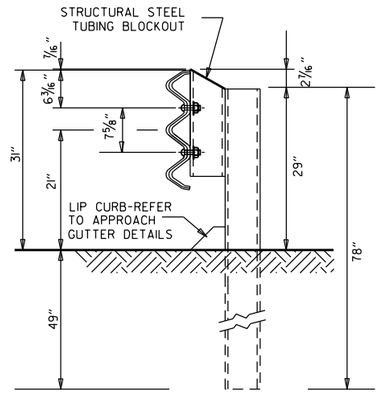
WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7 f (1400 f) OR NO. 1 1350 f SOUTHERN PINE.

DATE	REVISION	FILMED
11-07-19	RENAMED AND REVISED REFERENCES	
11-16-17	REVISED TRANSITION SECTION, GUARD RAIL HEIGHT, AND GENERAL NOTES; MOVED THRIE BEAM GUARD RAIL CONNECTIONS AT BRIDGES ENDS TO STD. DRWG. GR-12	
07-14-10	RAISED HEIGHT OF W-BEAM 1"	
11-29-07	ADDED PLASTIC BLOCKOUTS	
11-10-05	ADDED NOTE FOR ATTACHING STEEL BLOCKOUT	
11-18-04	REVISED GENERAL NOTES	
10-9-03	REVISED GENERAL NOTES	
04-10-03	REVISED GENERAL NOTES	
08-22-02	REVISED NOTE (2)	
06-29-00	MOVED DIMENSION LINES	
05-18-00	ADDED NOTE	
03-30-00	DRAWN & ISSUED	

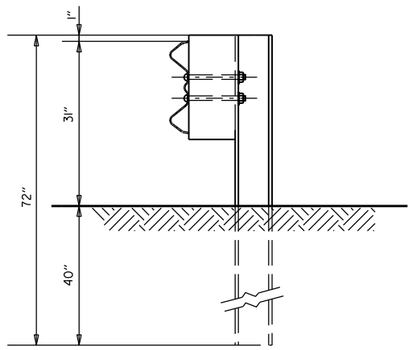
ARKANSAS STATE HIGHWAY COMMISSION

GUARDRAIL DETAILS

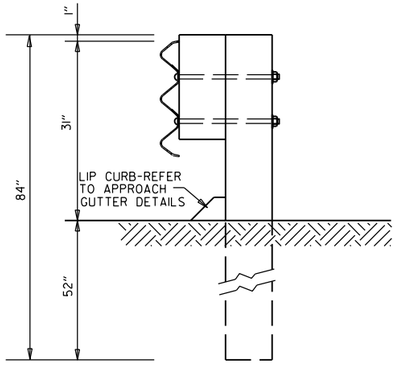
STANDARD DRAWING GR-10



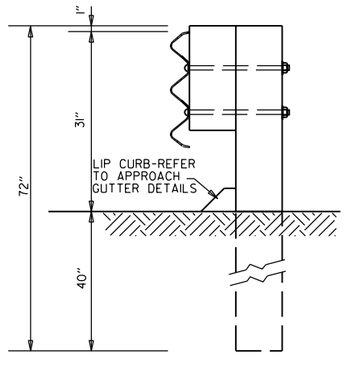
THRIE BEAM RAIL WITH STEEL TUBING BLOCKOUT
AND STEEL POST
POSTS 1-7



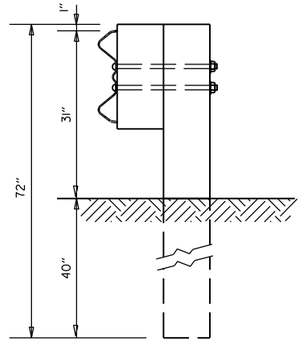
W-BEAM TO THRIE BEAM TRANSITION RAIL
WITH WOOD OR PLASTIC BLOCKOUT AND STEEL POST
POST 8



THRIE BEAM RAIL
WITH WOOD OR PLASTIC
BLOCKOUTS & WOOD POSTS
POSTS 1-6



THRIE BEAM RAIL
WITH WOOD OR PLASTIC
BLOCKOUT & WOOD POST
POST 7



W-BEAM TO THRIE BEAM
TRANSITION RAIL WITH WOOD OR
PLASTIC BLOCKOUT & WOOD POST
POST 8

GENERAL NOTES:

RAIL POSTS SHALL BE SET PERPENDICULAR TO THE ROADWAY PROFILE GRADE AND VERTICALLY IN CROSS SECTION.

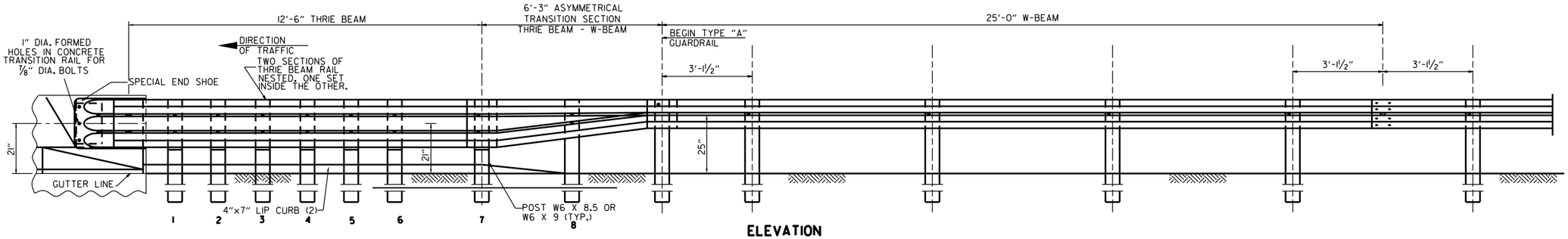
WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1STRUCTURAL OR BETTER 9.7f (1400 f) OR NO. 1 1350 f SOUTHERN PINE.

DATE	REVISION	FILMED
11-07-19	RENAMED	
11-16-17	REVISED GUARDRAIL HEIGHT, CHANGED STD. DWG. NUMBER FROM GR-10A TO GR-11	
07-14-10	REVISED POST 8 DIMENSIONS	
11-29-07	ADDED PLASTIC BLOCKOUTS	
08-22-02	REVISED LIP CURB NOTE	
03-30-00	DRAWN & ISSUED	

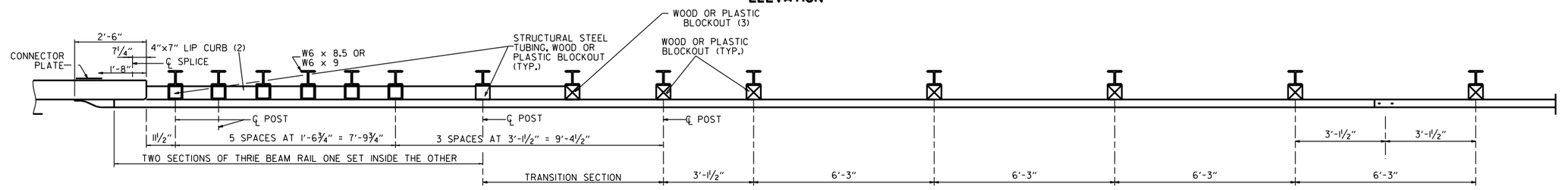
ARKANSAS STATE HIGHWAY COMMISSION

GUARDRAIL DETAILS

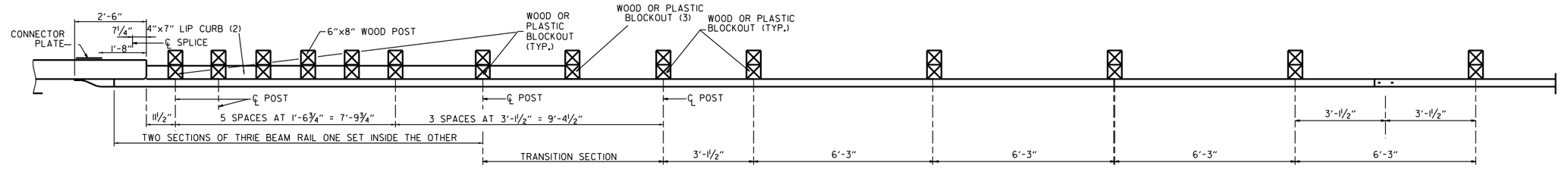
STANDARD DRAWING GR-11



ELEVATION



PLAN



PLAN

(1) VERIFY BOLT SPACING FROM RAIL TRANSITION PRODUCER.
(2) REFER TO APPROACH GUTTER DETAILS.
(3) LENGTH OF BLOCKOUT ON POST 8 TO BE MODIFIED TO FIT RAIL WIDTH.

THRIE BEAM GUARDRAIL CONNECTION AT BRIDGE ENDS

GENERAL NOTES:

THE THRIE BEAM RAIL, SPECIAL END SHOE, AND THE TRANSITION SECTION SHALL BE MADE OF STEEL AND SHALL BE 12 GAGE. ZINC COATING SHALL BE TYPE I.

RAIL POSTS SHALL BE SET PERPENDICULAR TO THE ROADWAY PROFILE GRADE AND VERTICALLY IN CROSS SECTION.

ALL BOLTS SHALL BE SUFFICIENT LENGTH TO EXTEND THROUGH THE FULL THICKNESS OF THE NUT AND NO MORE THAN 3/4" BEYOND IT.

ALL LAP SPLICES, INCLUDING SPECIAL END SHOES, SHALL BE MADE IN THE DIRECTION SHOWN ON STANDARD DRAWINGS GR-8 & GR-13.

REFER TO STD. DRWG. GR-11 FOR POST DETAILS.

USE THRIE BEAM GUARDRAIL COMPONENTS OF SAME MATERIAL FOR ENTIRE JOB.

THRIE BEAM POSTS SHALL BE SAME MATERIAL AS W-BEAM POSTS FOR ENTIRE JOB.

POSTS SHALL NOT BE PLACED AT SPLICE LOCATIONS ALONG W-BEAM RAILS.

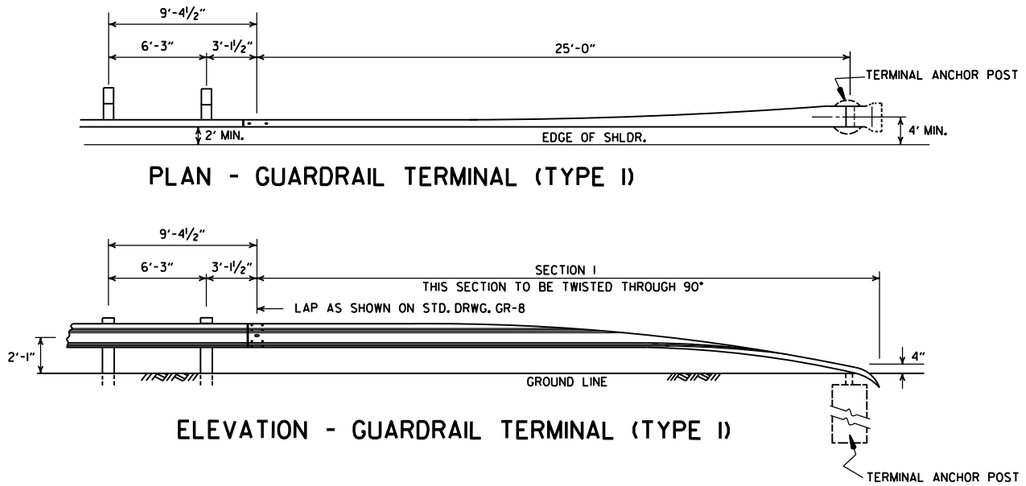
WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7f (1400 f) OR NO. 1 1350 f SOUTHERN PINE.

DATE	REVISION	FILMED
05-14-20	REVISED NOTES	
11-07-19	RENAMED & REVISED REFERENCES	
11-16-17	RE-DRAWN FROM STD. DWG. GR-10 & ISSUED	

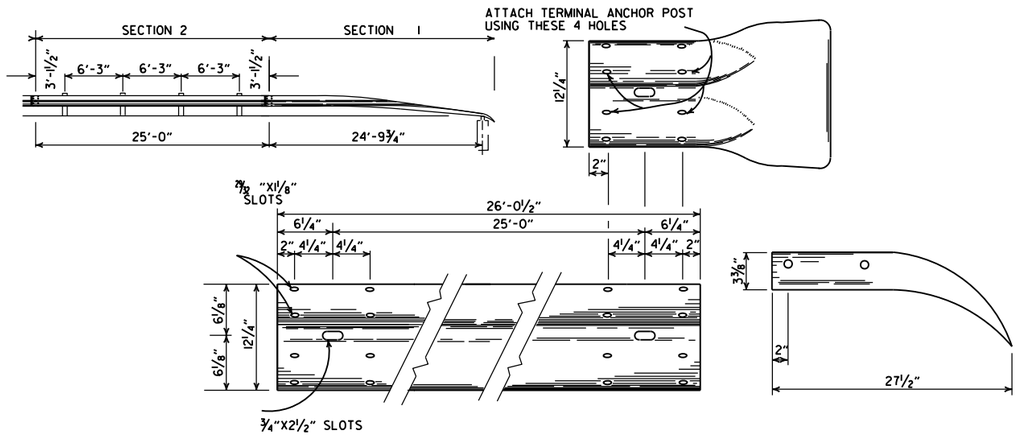
ARKANSAS STATE HIGHWAY COMMISSION

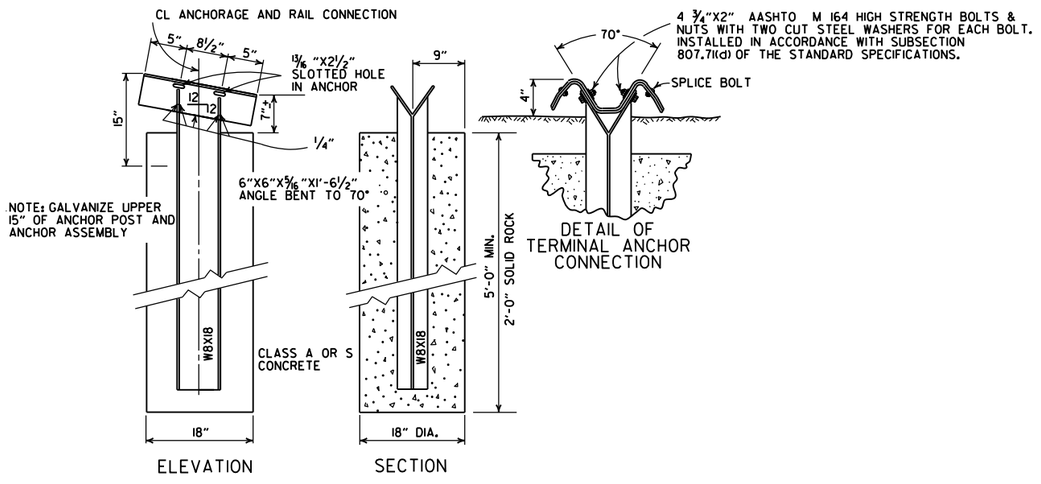
GUARDRAIL DETAILS

STANDARD DRAWING GR-12



NOTE:
SECTIONS 1 AND 2 OF GUARDRAIL TERMINAL SHALL BE PAID FOR AT THE PRICE BID PER LINEAR FOOT OF THE TYPE OF GUARDRAIL SPECIFIED.





NOTE: RAIL MEMBERS MAY BE BOLTED TO ANGLE AT TERMINAL ANCHOR AND THE TWO ASSEMBLIES POSITIONED TO PROPER ALIGNMENT PRIOR TO PLACING CONCRETE AROUND 8 WF 17 POST IF CONTRACTOR SO DESIRES.

DETAIL OF TERMINAL ANCHOR POST (TYPE I)

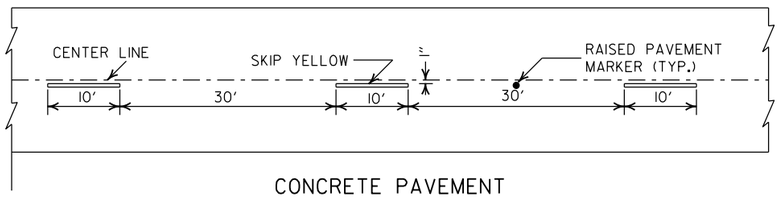
DATE	REVISION	FILMED
11-07-19	RENAMED & REVISED REFERENCE.	
11-16-17	REVISED GUARDRAIL HEIGHT AND LOCATION OF POSTS	
07-14-10	RAISED HEIGHT OF GUARDRAIL 1"	
06-26-97	REVISED LAP NOTE	
10-18-96	REVISED ASTM REF. TO AASHTO	
11-03-94	DIMENSION TERMINAL DETAIL	
11-11-92	ADDED NOTE FOR PAYMENT	11-11-92
10-01-92	DRAWN & ISSUED	10-1-92

ARKANSAS STATE HIGHWAY COMMISSION

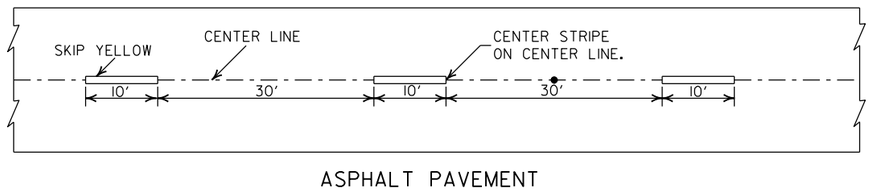
GUARDRAIL DETAILS

STANDARD DRAWING GRT-1

NOTES:
1. REFER TO THE STRIPING DETAILS FOR PAVEMENT MARKING LINE WIDTHS.
2. THIS DRAWING SHALL BE USED IN CONJUNCTION WITH THE LATEST REVISED ADDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."
3. RAISED PAVEMENT MARKERS SHALL BE PLACED ON AN 80 FEET SPACING UNLESS OTHERWISE SHOWN IN THE PLANS.

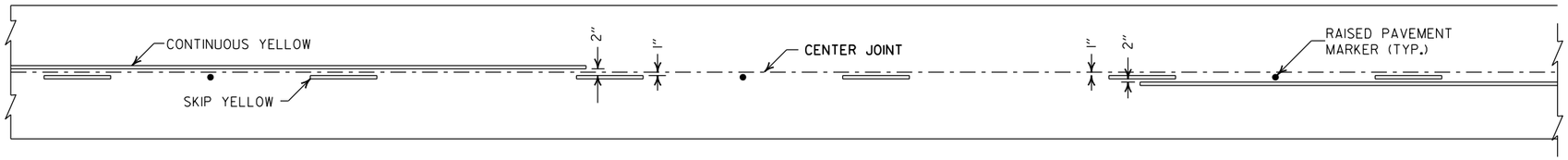


CONCRETE PAVEMENT

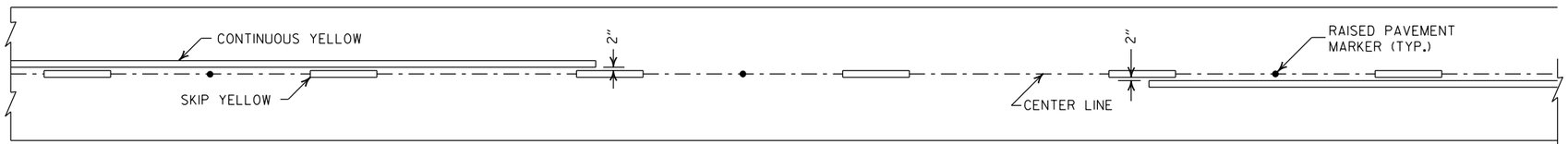


ASPHALT PAVEMENT

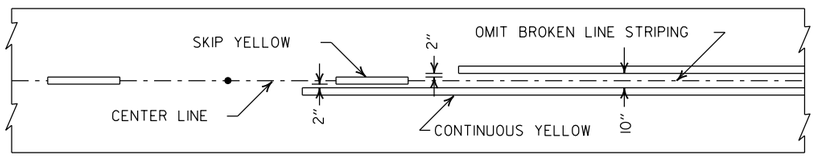
BROKEN LINE STRIPING



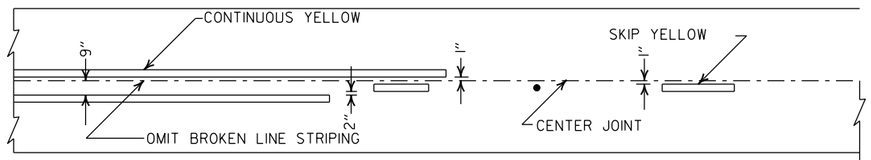
SOLID LINE STRIPING ON CONCRETE PAVEMENT



SOLID LINE STRIPING ON ASPHALT PAVEMENT

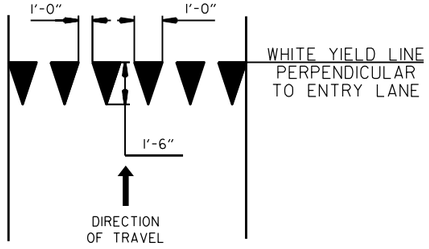


ASPHALT PAVEMENT

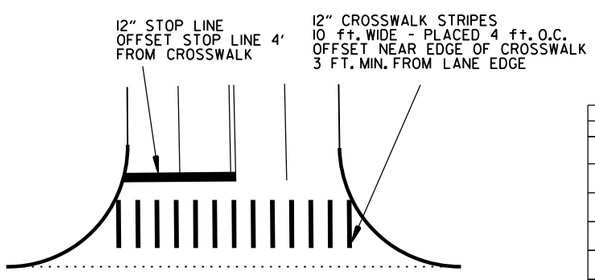


CONCRETE PAVEMENT

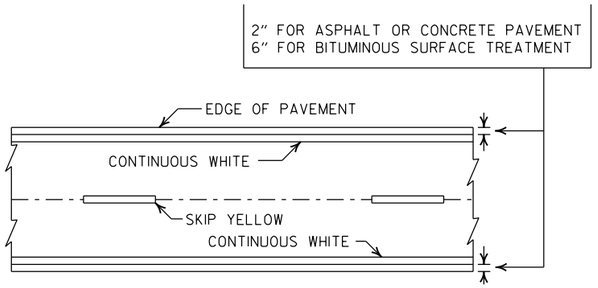
STRIPING AT ADJACENT NO PASSING LANES



YIELD LINE DETAIL



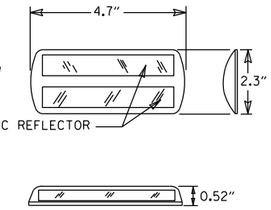
CROSSWALK AND STOP LINE DETAILS



PAVEMENT EDGE LINE MARKING

NOTE:
THE RED LENS OF THE TYPE II R.P.M. SHALL FACE THE INCORRECT TRAFFIC MOVEMENT.

TYPE II
RED/CLEAR OR YELLOW/YELLOW



NOTE:
DIMENSIONS SHOWN FOR RAISED PAVEMENT MARKERS ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR MARKERS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR SIMILAR MARKERS MAY BE MADE BY REFERRING TO THE ARDOT QUALIFIED PRODUCTS LIST.

DETAIL OF STANDARD RAISED PAVEMENT MARKERS

DATE	REVISION	FILMED
2-27-20	REVISED STOP LINE DETAILS	
6-1-17	ADDED YIELD LINE DETAIL	
5-12-16	REVISED LINE WIDTHS, SPACING, & NOTES	
9-12-13	REVISED DETAIL OF STANDARD RAISED PAVEMENT MARKERS	
11-17-10	REVISED GENERAL NOTES & REMOVED PLOWABLE PVMT MRKRS	
11-18-04	REVISED NOTE 2 & GENERAL NOTES	
8-22-02	ADDED CROSSWALK & STOPBAR DTLS.	
7-02-98	ADDED DETAILS OF STD. RAISED PAV'T. MARKERS	
4-26-96	REV. NOTES 3&4; ADDED R.P.M.	
9-30-80	DRAWN	1-9-30-80

ARKANSAS STATE HIGHWAY COMMISSION

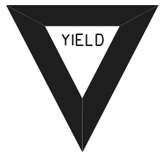
PAVEMENT MARKING DETAILS

STANDARD DRAWING PM-1

R1-1

STANDARD 30"X30"
EXPRESSWAY 36"X36"
SPECIAL 48"X48"

R1-2



STD. 36"X36"X36"
EXPWY. 48"X48"X48"
FWY. 60"X60"X60"

R2-1

STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

W3-5

STD. 36"X36"
EXPWY. 48"X48"
FWY. 48"X48"

W3-5a

STD. 36"X36"
EXPWY. 48"X48"
FWY. 48"X48"

R4-1

STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

R4-2

STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

R2-6aP

48"X36"

*USE 6" C LETTERS
**USE 4" D LETTERS

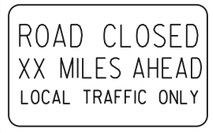
R5-1

STD. 30"X30"
EXPWY. 36"X36"
SPECIAL 48"X48"

RII-2

48"X30"

RII-3A



60"X30"

RII-4

60"X30"

W21-5a

STD. 36"X36"
FWY. 48"X48"

WI-1

STD. 36"X36"
FWY. 48"X48"

WI-2

STD. 36"X36"
FWY. 48"X48"

R2-11

36"X48"

WI-3

STD. 48"X48"

WI-4

STD. 48"X48"

WI-6

STD. 48"X24"
SPECIAL 60"X30"

WI-8

STD. 18"X24"
SPECIAL 24"X30"
EXPWY. 30"X36"
FWY. 36"X48"

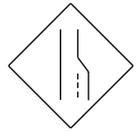
W3-1

STD. 36"X36"
SPECIAL 48"X48"

W3-2

STD. 36"X36"
SPECIAL 48"X48"

W4-2



STD. 36"X36"
FWY. 48"X48"

R56-1

STD. 18"X18"

W5-1

STD. 36"X36"
SPECIAL 48"X48"

W6-3

EXPWY. 36"X36"
SPECIAL 48"X48"

W8-7

EXPWY. 36"X36"
FWY. 48"X48"

W9-2

STD. 36"X36"
FWY. 48"X48"

WI3-1

STD. 24"X24"

W20-1

STD. 48"X48"

W20-2

STD. 48"X48"

W20-3

STD. 48"X48"

W20-4

STD. 48"X48"

W20-5

STD. 48"X48"

W20-7a

STD. 36"X36"
FWY. 48"X48"

W21-2

STD. 30"X30"
SPECIAL 36"X36"

W21-5

STD. 30"X30"
SPECIAL 36"X36"

W24-1

STD. 36"X36"

WI-4b

STD. 48"X48"

W8-11

STD. 36"X36"
FWY. 48"X48"

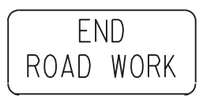
W8-9

STD. 36"X36"
FWY. 48"X48"

G20-1

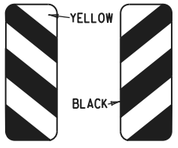
60"X24"

G20-2



48"X24"

OM-3L OM-3R



12"X36"

M4-9

STD. 30"X24"
SPECIAL 48"X36"
SPECIAL 60"X48"

M4-10

48"X18"

GENERAL NOTES:

1. ALL TRAFFIC CONTROL DEVICES USED ON ROAD CONSTRUCTION SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION, AND TO THE STANDARD HIGHWAY SIGNS, LATEST EDITION, OR AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION.

2. TRAFFIC CONTROL DEVICES SHALL BE SET UP JUST BEFORE THE START OF CONSTRUCTION OPERATIONS AND SHALL BE PROPERLY MAINTAINED DURING THE TIME SUCH CONDITIONS EXIST. THEY SHALL REMAIN IN PLACE ONLY AS LONG AS NEEDED AND REMOVED THEREAFTER.

3. EXISTING SIGNS AND CONSTRUCTION SIGNS SHALL BE KEPT IN PROPER POSITION, AND BE CLEAN AND LEGIBLE AT ALL TIMES. SIGNS THAT DO NOT APPLY TO EXISTING CONDITIONS SHALL BE REMOVED. SIGNS THAT ARE DAMAGED, DEFACED, OR THAT ACCUMULATE DIRT DURING CONSTRUCTION SHALL BE CLEANED, REPAIRED, OR REPLACED.

4. SIGNS ARE USUALLY MOUNTED ON A SINGLE POST, ALTHOUGH THOSE WIDER THAN 36" OR LARGER THAN 10 SQ. FT. SHALL BE MOUNTED ON TWO POSTS OR ABOVE A TYPE III BARRICADE.

5. SIGN POSTS DIRECT BURIED IN SOIL SHALL BE 2 LB. MINIMUM CHANNEL POST OR 4"x4" WOOD POSTS. CHANNEL POSTS SHALL BE PAINTED GREEN. WOOD POSTS SHALL BE PAINTED WHITE. ALL POSTS SHALL BE NEATLY CONSTRUCTED, AND SHALL BE REPLUMBED, CLEANED, OR REPAIRED AS NEEDED FOR THE DURATION OF THE JOB. THERE SHALL NOT BE MORE THAN 2 POSTS IN A 7' PATH FOR WOOD OR CHANNEL POSTS. ANY CHANNEL POST SPLICE SHALL BE IN ACCORDANCE WITH STANDARD DRAWING TC-3.

6. POST MOUNTED SIGNS IN RURAL AREAS SHALL BE CONSTRUCTED WITH THE NEAR EDGE OF THE SIGN FROM 6 TO 12 FEET FROM THE PAVEMENT EDGE. SIGNS IN URBAN AREAS AND BARRICADE MOUNTED SIGNS SHALL BE MOUNTED A MINIMUM OF 2 FEET FROM THE PAVEMENT EDGE.

7. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN URBAN AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN RURAL AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE, EXCEPT A MINIMUM OF 6' SHALL BE USED WHEN MOUNTING AN ADVISORY SIGN BELOW A WARNING SIGN. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR INTERMEDIATE TERM STATIONARY WORK CONDITIONS. THE SIGNS MINIMUM MOUNTING HEIGHT SHALL BE 5'. RETROREFLECTIVE DEVICES SHALL BE USED. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR SHORT-TERM, SHORT DURATION, AND MOBILE CONDITIONS. THEY SHALL BE NO LESS THAN ONE (1) FOOT ABOVE THE TRAVELED WAY. LONG-TERM STATIONARY SIGNS SHALL BE DIRECT BURIED IN SOIL, UNLESS CONDITIONS NECESSITATE THE USE OF PORTABLE SIGNS, OR AS APPROVED BY THE ENGINEER. CONCRETE PADS, CONCRETE OR ROCK BALLAST, OR OTHER SOLID MATERIALS SHALL NOT BE UTILIZED WITH PORTABLE SIGN SUPPORTS.

8. FLAGGERS SHALL USE REFLECTORIZED STOP-SLOW PADDLES. FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS.

9. MOST OF THE SIGNS SHOWN ARE ORIENTED TO THE RIGHT. HOWEVER, THIS DOES NOT PRECLUDE THE USE OF MIRROR IMAGES OF THESE SIGNS WHERE THE REVERSE ORIENTATION MIGHT BETTER CONVEY TO MOTORISTS THE PROPER DIRECTION OF MOVEMENT.

10. R2-6aP PLAQUES SHALL BE MOUNTED BELOW AN APPLICABLE ADVANCE WARNING SIGN THAT IS LOCATED AT LEAST 1500' BUT NOT MORE THAN 1 MILE IN ADVANCE OF THE WORK ZONE. IF A SPEED LIMIT REDUCTION IS IN EFFECT, THE PLAQUE SHALL BE PLACED A MINIMUM OF 500' IN ADVANCE OF THE W3-5 "REDUCED SPEED AHEAD" SIGN. R2-11 SIGNS SHALL BE INSTALLED AT OR NEAR THE DOWNSTREAM END OF THE WORK ZONE. SEE STANDARD DRAWINGS TC-2, TC-3, AND TC-6 FOR TYPICAL PLACEMENT LOCATIONS.

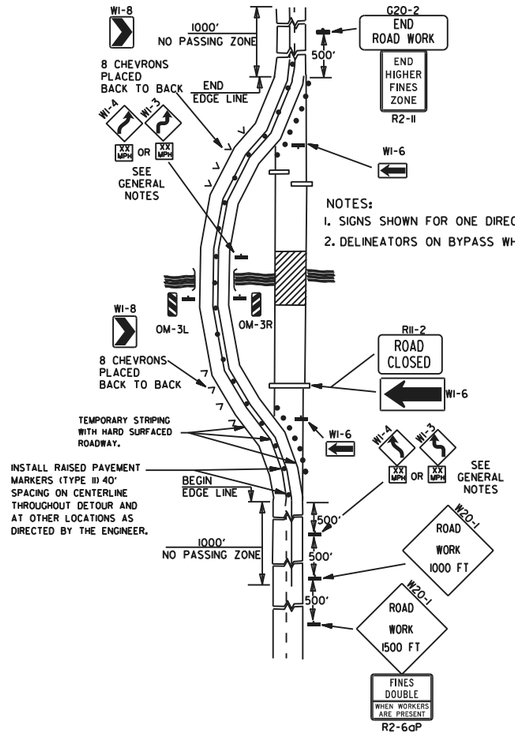
• NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) IS REQUIRED FOR ALL PROJECTS.

DATE REV	DESCRIPTION
08-14-25	REPLACED R55-1 WITH R2-6aP, ADDED R2-11 & REVISED NOTE 10
11-07-19	REVISED FOR MASH
04-13-17	DELETED RSP-1 & ADDED W21-5a
09-02-15	REVISED REDUCED SPEED LIMIT AHEAD SIGNS REVISED ROAD WORK NEXT XX MILES
12-15-11	REVISED W24-1

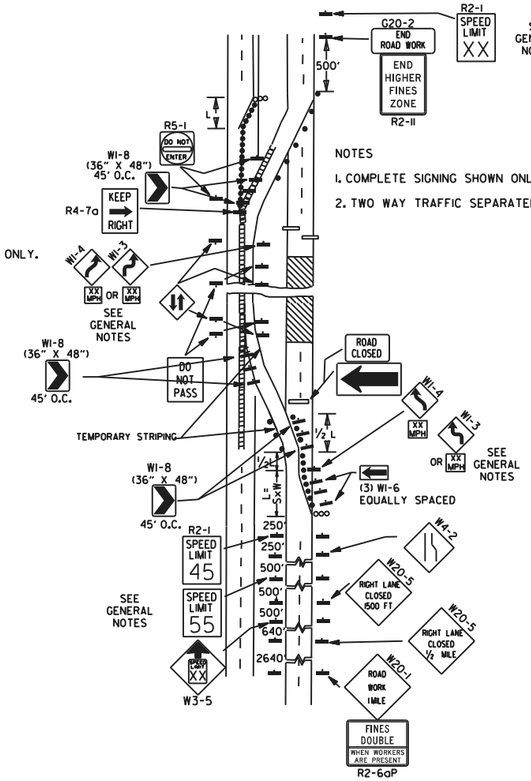
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

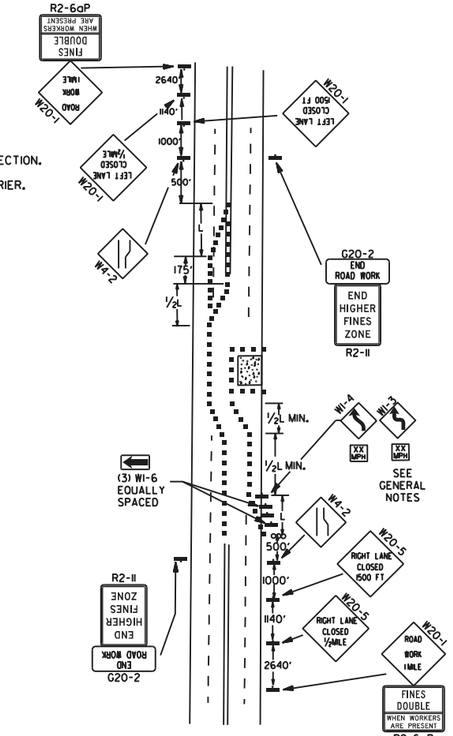
DATE EFFECTIVE 08-14-2025 | STANDARD DRAWING | TC-1



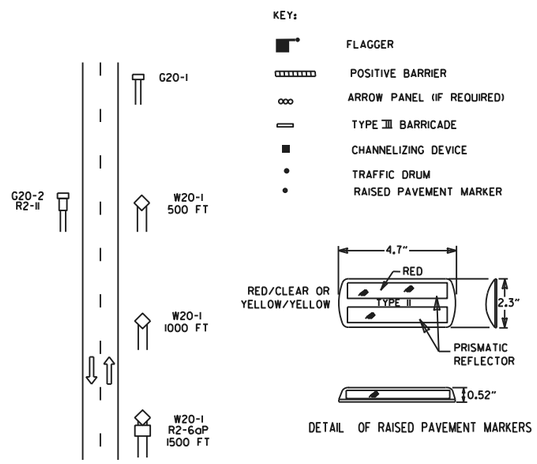
(A) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON A 2-LANE HIGHWAY WHERE THE ENTIRE ROADWAY IS CLOSED AND A BYPASS DETOUR IS PROVIDED.



(B) TYPICAL APPLICATION - 4-LANE DIVIDED ROADWAY WHERE ONE ROADWAY IS CLOSED.



(C) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.



DETAIL OF RAISED PAVEMENT MARKERS

TYPICAL ADVANCE WARNING SIGN PLACEMENT

TAPER FORMULAE:

L=SXW FOR SPEEDS OF 45MPH OR MORE.

$L = \frac{WS^2}{60}$ FOR SPEEDS OF 40MPH OR LESS.

WHERE:

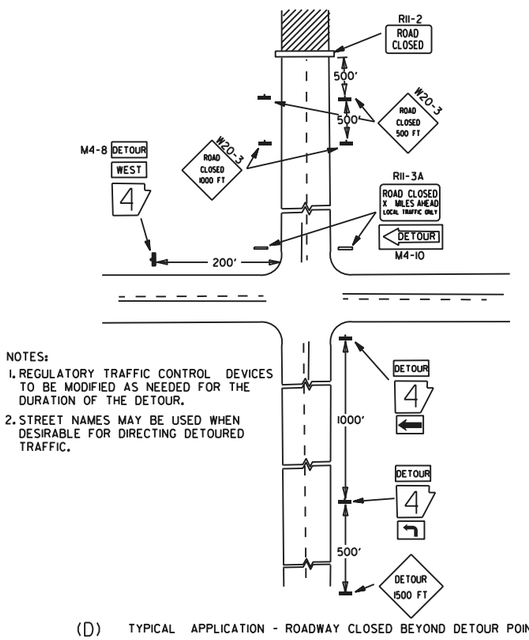
L= MINIMUM LENGTH OF TAPER.

S= NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK OR 85TH PERCENTILE SPEED.

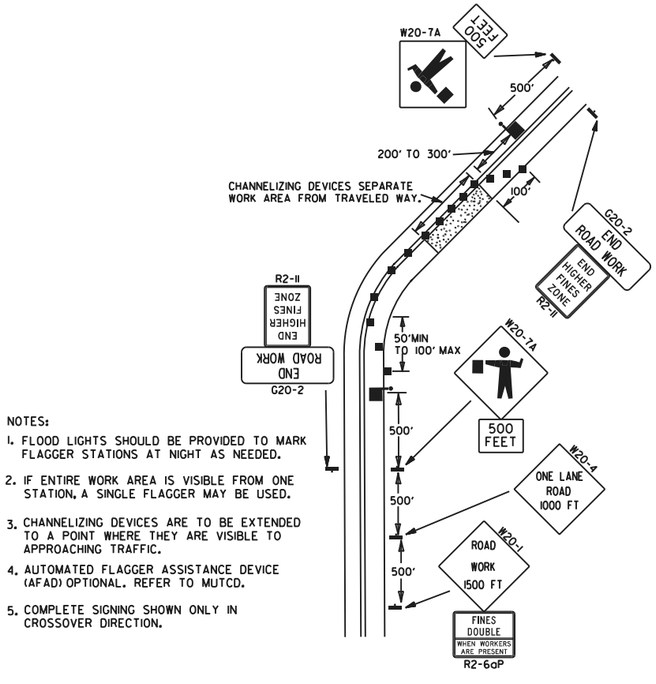
W= WIDTH OF OFFSET.

GENERAL NOTES:

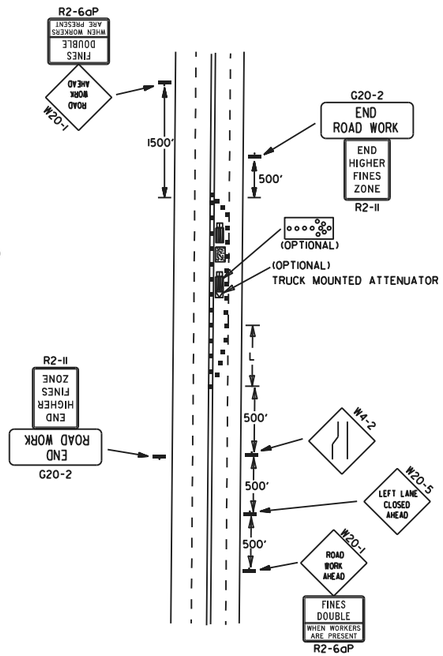
1. THE MAINTENANCE DIVISION SHALL CONDUCT A BALL BANK STUDY TO DETERMINE THE ADVISORY SPEED LIMIT PRIOR TO OPENING TO TRAFFIC. THE ADVISORY SPEED WILL BE POSTED ON W1-3 OR W1-4 CURVE WARNING SIGNS. USE W1-4 WHEN SPEED IS GREATER THAN 30MPH AND W1-3 WHEN 30MPH OR LESS
2. WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-1(55) SHALL BE OMITTED AND THE W3-5 SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL R2-1 45MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
3. WHEN THE EXISTING SPEED LIMIT IS 65MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 55MPH, THE R2-1(45) SHALL BE OMITTED. ADDITIONAL R2-1 55MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
4. THE MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES IN A TAPER SHOULD BE APPROXIMATELY EQUAL IN FEET TO THE SPEED LIMIT. BEYOND THE TAPER, MAXIMUM SPACING SHALL BE TWO TIMES THE SPEED LIMIT, OR AS DIRECTED BY THE ENGINEER.
5. WARNING LIGHTS AND/OR FLAGS MAY BE MOUNTED TO SIGNS OR CHANNELIZING DEVICES AT NIGHT AS NEEDED.
6. PAVEMENT MARKINGS NO LONGER APPLICABLE WHICH MIGHT CREATE CONFUSION IN THE MINDS OF VEHICLE OPERATORS SHALL BE REMOVED OR OBLITERATED AS SOON AS PRACTICABLE.
7. TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE DELINEATED BY AFFIXING CONSPICUITY MATERIAL IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER. WHEN PLACED ON OR ADJACENT TO THE SHOULDER AND NOT BEHIND A POSITIVE BARRIER, THESE DEVICES SHALL BE DELINEATED BY PLACING FIVE (5) TRAFFIC DRUMS, EQUALLY SPACED ALONG THE TRAFFIC SIDE OF THE DEVICE. PAYMENT FOR TRAFFIC DRUMS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR VARIOUS TRAILER MOUNTED DEVICES.
8. DIMENSIONS SHOWN FOR RAISED PAVEMENT MARKERS ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR MARKERS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR SIMILAR MARKERS MAY BE MADE BY REFERRING TO THE ARDOT QUALIFIED PRODUCTS LIST.
9. ALL TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL MEET THE REQUIREMENTS OF THE MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).



(D) TYPICAL APPLICATION - ROADWAY CLOSED BEYOND DETOUR POINT.



(E) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON 2-LANE HIGHWAY WHERE ONE LANE IS CLOSED AND FLAGGING IS PROVIDED.



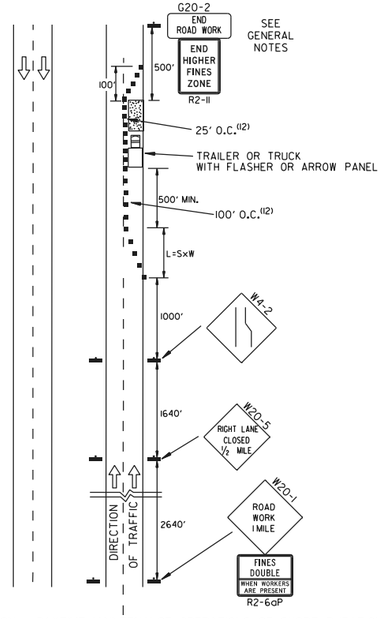
(F) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WITH INSIDE LANE CLOSED.

DATE REV	DESCRIPTION
08-14-25	ADDED R2-6aP AND R2-11
05-20-21	REVISED NOTE 7
11-07-19	REVISED NOTE 1. ADDED NOTE 9
09-02-15	REVISED NOTE 2, ADDED NOTE 8, REVISED DRAWING (AT & REPLACED R2-5A WITH W3-5
09-12-13	REVISED DETAIL OF RAISED PAVEMENT MARKINGS

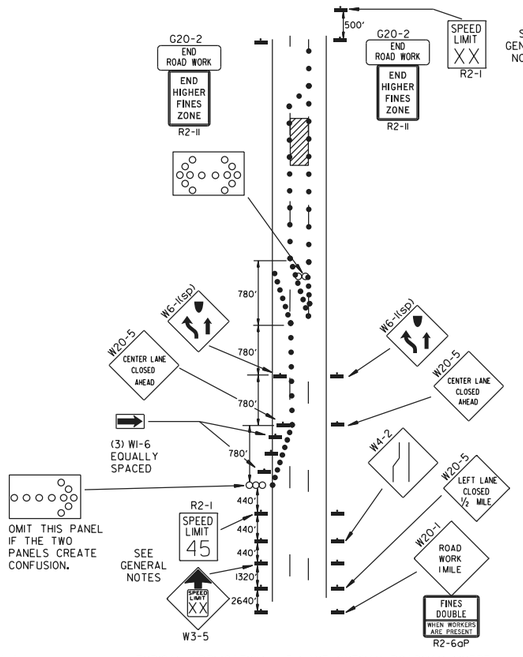
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

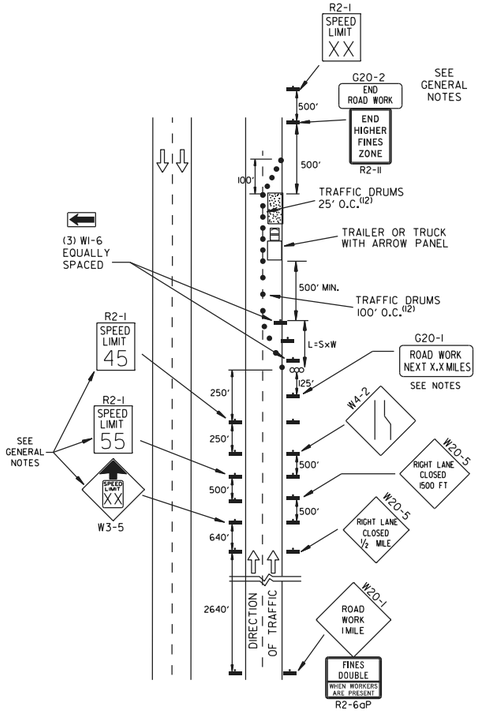
DATE EFFECTIVE	STANDARD DRAWING	TC-2
08-14-2025		



(A) TYPICAL APPLICATION - DAYTIME MAINTENANCE OPERATIONS OF SHORT DURATION ON A 4-LANE DIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.



(B) TYPICAL APPLICATION - 3-LANE ONEWAY ROADWAY WHERE CENTER LANE IS CLOSED.



(C) TYPICAL APPLICATION - CONSTRUCTION OPERATIONS OF INTERMEDIATE TO LONG TERM DURATION ON A 4-LANE DIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.

KEY:

○○○ ARROW PANEL (IF REQUIRED)

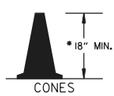
■ CHANNELIZING DEVICE

● TRAFFIC DRUM

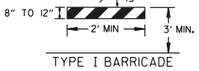
GENERAL NOTES:

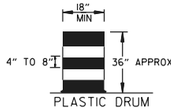
1. A SPEED LIMIT REDUCTION MAY BE IMPLEMENTED ONLY WHEN DESIGNATED IN THE PLAN OR WHEN RECOMMENDED BY THE ROADWAY DESIGN DIVISION.
2. WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-I(55) SHALL BE OMITTED AND THE W3-5 SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL R2-I 45MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-I(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
3. WHEN THE EXISTING SPEED LIMIT IS 65MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 55MPH, THE R2-I(45) SHALL BE OMITTED. ADDITIONAL R2-I 55MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-I(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
4. THE MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES IN A TAPER SHOULD BE APPROXIMATELY EQUAL IN FEET TO THE SPEED LIMIT. BEYOND THE TAPER, MAXIMUM SPACING SHALL BE TWO TIMES THE SPEED LIMIT OR AS DIRECTED BY THE ENGINEER.
5. WARNING LIGHTS AND/OR FLAGS MAY BE MOUNTED TO SIGNS OR CHANNELIZING DEVICES AT NIGHT AS NEEDED.
6. PAVEMENT MARKINGS NO LONGER APPLICABLE WHICH MIGHT CREATE CONFUSION IN THE MINDS OF VEHICLE OPERATORS SHALL BE REMOVED OR OBLITERATED AS SOON AS PRACTICABLE.
7. THE G20-1 SIGN SHOULD BE INSTALLED ON JOBS OF OVER TWO MILES IN LENGTH. WHEN THE LANE CLOSURE IS NOT AT THE BEGINNING OF THE PROJECT, THE G20-1 SIGN SHALL BE ERECTED 125' IN ADVANCE OF THE JOB LIMIT. ADDITIONAL W20-1 (1 MILE) SIGNS ARE NOT REQUIRED IN ADVANCE OF LANE CLOSURES THAT BEGIN INSIDE THE PROJECT LIMITS. THE DISTANCE DISPLAYED ON THE G20-1 SIGN SHALL BE STATED TO THE NEAREST WHOLE MILE.
8. FLAGGERS SHALL USE STOP/SLOW PADDLES FOR CONTROLLING TRAFFIC THROUGH WORK ZONES. FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS.
9. ALL PLASTIC DRUMS AND CONES SHALL MEET THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).
10. TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE DELINEATED BY AFFIXING CONSPICUITY MATERIAL IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER. WHEN PLACED ON OR ADJACENT TO THE SHOULDER AND NOT BEHIND A POSITIVE BARRIER, THESE DEVICES SHALL BE DELINEATED BY PLACING FIVE (5) TRAFFIC DRUMS, EQUALLY SPACED ALONG THE TRAFFIC SIDE OF THE DEVICE. PAYMENT FOR TRAFFIC DRUMS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR VARIOUS TRAILER MOUNTED DEVICES.
11. ALL TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL MEET THE REQUIREMENTS OF THE MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).
12. ONLY WHERE SPACE RESTRICTIONS DO NOT ALLOW FOR TRAFFIC DRUMS, TUBULAR MARKERS MAY BE USED AT 50' O.C. IN STABILIZATION ZONES AND AT 10' O.C. DIRECTLY ADJACENT TO CONSTRUCTION OPERATIONS AND AT EXIT TAPERS. TUBULAR MARKERS SHALL BE STABILIZED WITH WEIGHTED BASES IN ACCORDANCE WITH THE M.U.T.C.D.

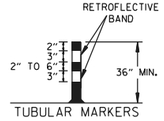
CHANNELIZING DEVICES

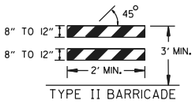


* WHEN CONES ARE USED ON FREEWAYS AND MULTI-LANE HIGHWAYS, THEY SHALL BE 28" MIN. DURING HOURS OF DARKNESS, 28" CONES SHALL BE USED ON ALL ROADWAYS, AND SHALL BE REFLECTORIZED IN ACCORDANCE WITH THE M.U.T.C.D.

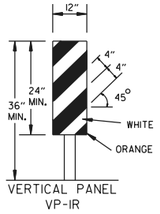


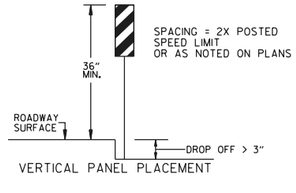


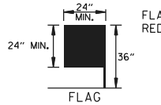




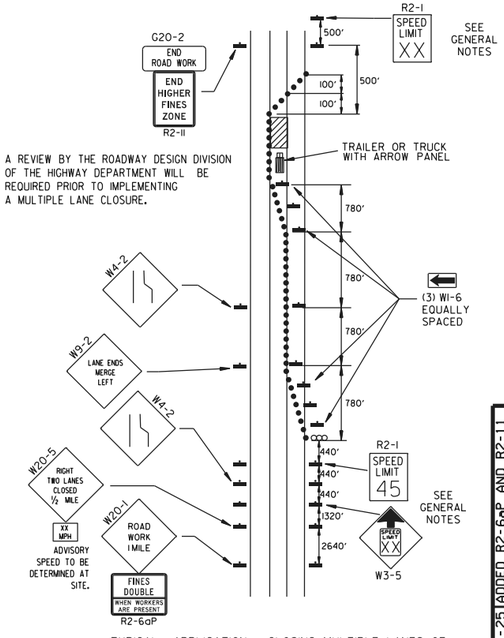
NOTE:
FOR ALL ROAD CLOSURES, THE TYPE III BARRICADES SHALL BE OF SUFFICIENT LENGTH TO EXTEND ACROSS ENTIRE ROADWAY.







FLAG SHALL BE OF GOOD GRADE RED MATERIAL



A REVIEW BY THE ROADWAY DESIGN DIVISION OF THE HIGHWAY DEPARTMENT WILL BE REQUIRED PRIOR TO IMPLEMENTING A MULTIPLE LANE CLOSURE.

(D) TYPICAL APPLICATION - CLOSING MULTIPLE LANES OF A MULTILANE HIGHWAY.

TRAFFIC CONTROL DEVICES

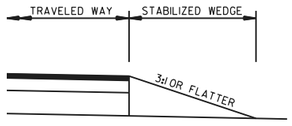
NON-INTERSTATE			
VERTICAL DIFFERENTIAL	LOCATION	TRAFFIC CONTROL	
		≤ 45 MPH	> 45 MPH
≤ 1"	CENTERLINE	W8-11	W8-11
> 1" ≤ 3"	CENTERLINE	W8-11 AND CENTERLINE LANE STRIPING	W8-11 AND CENTERLINE LANE STRIPING
> 3"	CENTERLINE	STANDARD LANE CLOSURE[6]	STANDARD LANE CLOSURE[6]
≤ 3"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-9 AND TRAFFIC DRUMS[1]	W8-9 AND TRAFFIC DRUMS[1]
> 3" ≤ 6"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS[1]	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS[1]
> 6" ≤ 18"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS[1]	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS[2]
> 18" ≤ 24"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS[1]	A STABILIZED WEDGE, W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS[3]
> 24"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	PRECAST CONCRETE BARRIER[4] & EDGE LINES	PRECAST CONCRETE BARRIER[4] & EDGE LINES

INTERSTATE		
VERTICAL DIFFERENTIAL	LOCATION	TRAFFIC CONTROL
≤ 3"	CENTERLINE	W8-11 AND LANE STRIPING
≤ 3"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-9, EDGE LINE STRIPING, AND TRAFFIC DRUMS[2]
> 3" ≤ 6"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS[2]
> 6"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	PRECAST CONCRETE BARRIER & EDGE LINES

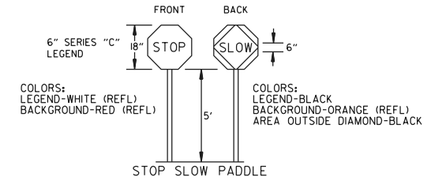
INTERSTATE AND NON-INTERSTATE		
FORESLOPE	HEIGHT	TRAFFIC CONTROL
1:1	> 2 FT	PRECAST CONCRETE BARRIER
2:1	≤ 5 FT	TRAFFIC DRUMS
2:1	> 5 FT	PRECAST CONCRETE BARRIER
Flatter than 2:1	N/A	TRAFFIC DRUMS

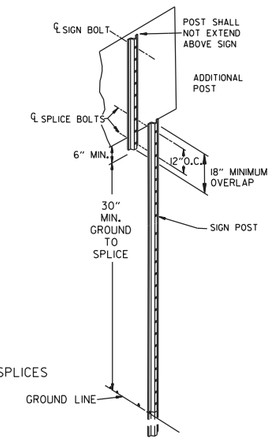
GENERAL NOTES:

1. WHEN THE SHOULDER AREA IS USED AS PART OF THE TRAVELED LANE AND THERE IS INSUFFICIENT WIDTH TO PLACE TRAFFIC DRUMS ON THE REMAINING SHOULDER WIDTH, THEN VERTICAL PANELS SHALL BE USED.
2. WHEN THERE IS INSUFFICIENT WIDTH TO PLACE TRAFFIC DRUMS ON THE REMAINING SHOULDER WIDTH, A STABILIZED WEDGE SHALL BE USED.
3. PRECAST CONCRETE BARRIER WALL CAN BE USED IN LIEU OF A STABILIZED WEDGE, W8-17 SIGN, EDGE LINE STRIPING, AND TRAFFIC DRUMS, IF AND WHERE DIRECTED BY THE ENGINEER.
4. A STABILIZED WEDGE, W8-17 SIGN, EDGE LINE STRIPING, AND TRAFFIC DRUMS CAN BE USED IN LIEU OF PRECAST CONCRETE BARRIER WALL, IF AND WHERE DIRECTED BY THE ENGINEER.
5. W21-5, W21-5a, AND/OR W21-5b SIGNS SHALL BE USED WHERE THE ROADWAY IS UNOBSTRUCTED IF AND WHERE DIRECTED BY THE ENGINEER.
6. TIME LIMITATIONS MUST CONFORM TO SECTION 603 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION).



NOTE:
MATERIALS FOR THE STABILIZED WEDGE SHALL MEET THE REQUIREMENTS PROVIDED IN SECTION 603.02 OF THE STANDARD SPECIFICATIONS.

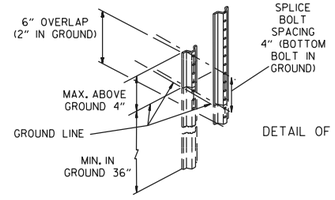




NOTES:
USE SPLICES ONLY WHEN NECESSARY FOR INSTALLATION. TYPICAL INSTALLATION SHOULD HAVE NO SPLICES (SEE STD. DRAWING NO. SHS-2)

NORMAL INSTALLATIONS WILL REQUIRE 1/4" DIA. BOLTS TO MOUNT SIGNS TO POST AND 5/16" DIA. BOLTS TO ASSEMBLE THE VARIOUS POST SUPPORTS. EACH OF THESE BOLTS SHALL BE CARRIAGE BOLTS.

SIGN POSTS SHALL BE PAINTED GREEN; SIGNS SHALL NOT BE PAINTED, AND ALL SIGN POSTS SHALL BE PLUMB.



DATE REV	DESCRIPTION
08-14-25	ADDED R2-6aP AND R2-11
05-22-25	REVISED TRAFFIC CONTROL DEVICES AND NOTES. ADDED NOTE 12.
08-12-21	REVISED TRAFFIC CONTROL DEVICES AND NOTES
05-20-21	REVISED NOTE 10
02-27-20	REVISED TRAFFIC CONTROL DEVICES DETAILS

ARKANSAS STATE HIGHWAY COMMISSION

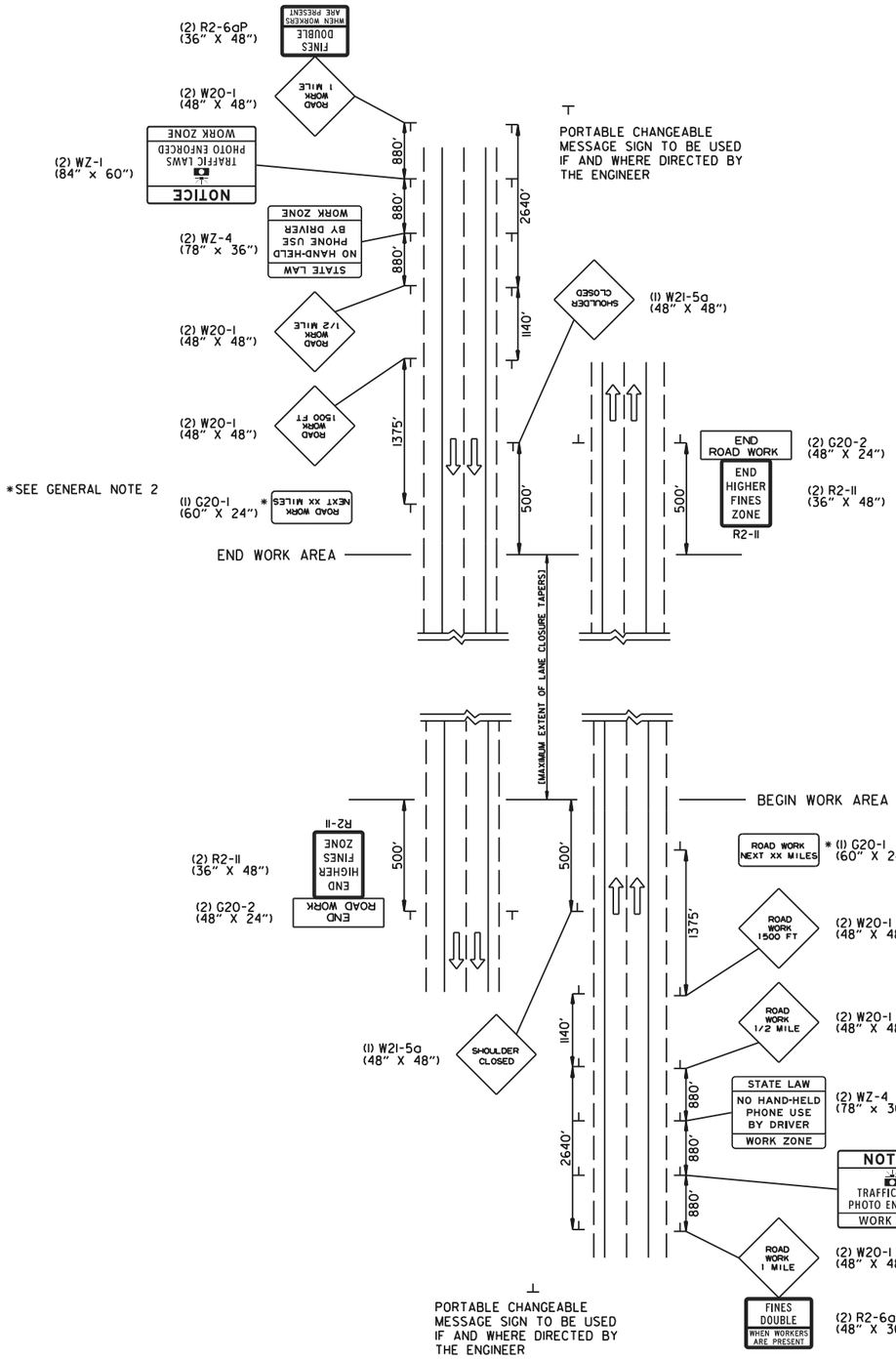
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

DATE EFFECTIVE 08-14-2025

STANDARD DRAWING

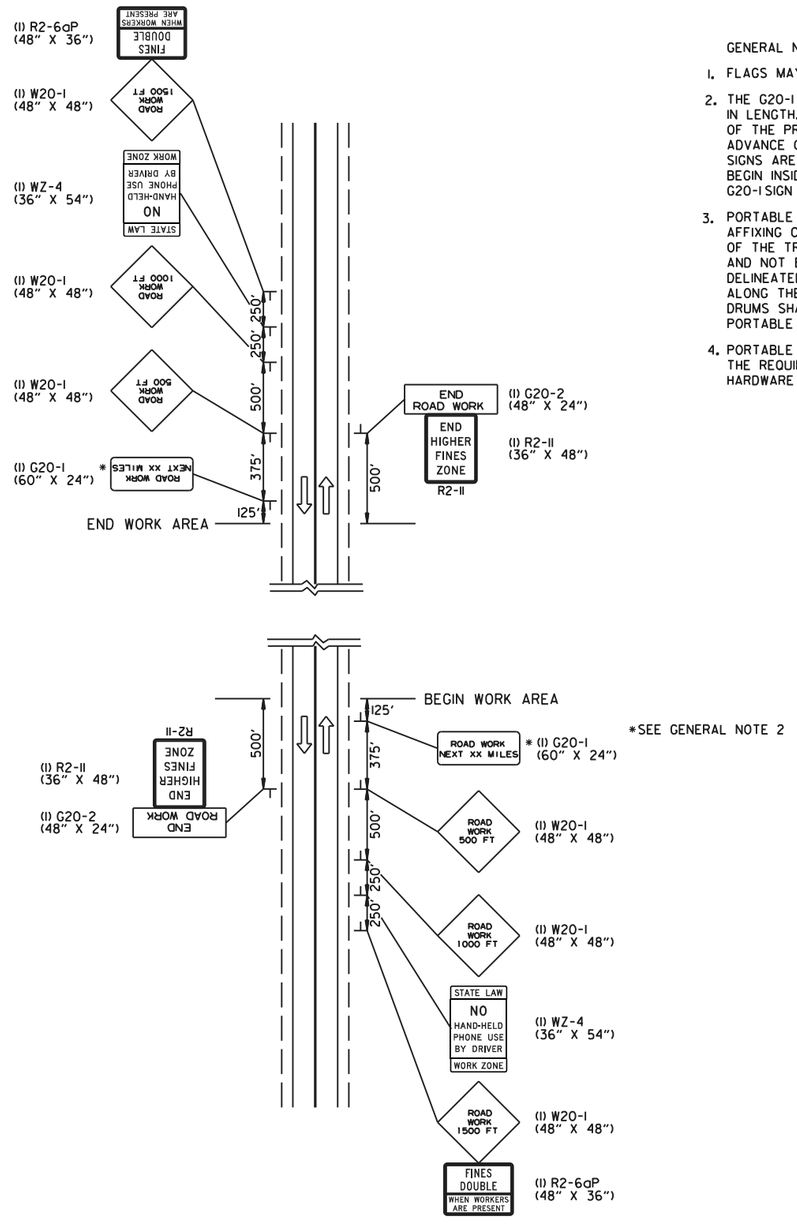
TC-3

NOTE : W20-1(VARIOUS DISTANCE) ADVANCE SIGNS TO BE REPLACED AS NEEDED BY EQUIVALENT W20-5 SIGNS AS WORKING AREA SHIFTS.



NOTE : W20-1(VARIOUS DISTANCE) ADVANCE SIGNS TO BE REPLACED AS NEEDED BY EQUIVALENT W20-5 SIGNS AS WORKING AREA SHIFTS.

(A) TYPICAL APPLICATION - ADVANCE WARNING SIGNS AT BEGINNING AND END OF JOB (FULLY CONTROLLED ACCESS FACILITIES) (ALL STAGES)



(B) TYPICAL APPLICATION - ADVANCE WARNING SIGNS AT BEGINNING AND END OF JOB (NON-FULLY CONTROLLED ACCESS FACILITIES) (ALL STAGES)

GENERAL NOTES:

1. FLAGS MAY BE MOUNTED TO SIGNS AT NIGHT AS NEEDED.
2. THE G20-1 SIGN SHOULD BE INSTALLED ON JOBS OF OVER TWO MILES IN LENGTH. WHEN THE LANE CLOSURE IS NOT AT THE BEGINNING OF THE PROJECT, THE G20-1 SIGN SHALL BE ERECTED 125' IN ADVANCE OF THE JOB LIMIT. ADDITIONAL W20-1 (1 MILE OR 1500 FT) SIGNS ARE NOT REQUIRED IN ADVANCE OF LANE CLOSURES THAT BEGIN INSIDE THE PROJECT LIMITS. THE DISTANCE DISPLAYED ON THE G20-1 SIGN SHALL BE STATED TO THE NEAREST WHOLE MILE.
3. PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE DELINEATED BY AFFIXING CONSPICUITY MATERIAL IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER. WHEN PLACED ON OR ADJACENT TO THE SHOULDER AND NOT BEHIND A POSITIVE BARRIER, THIS DEVICE SHALL BE DELINEATED BY PLACING FIVE (5) TRAFFIC DRUMS, EQUALLY SPACED ALONG THE TRAFFIC SIDE OF THE DEVICE. PAYMENT FOR TRAFFIC DRUMS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR PORTABLE CHANGEABLE MESSAGE SIGNS.
4. PORTABLE CHANGEABLE MESSAGE SIGNS SHALL MEET THE REQUIREMENTS OF THE MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).

DATE REV	DESCRIPTION
01-22-26	ADDED WZ-4 AND REVISED GENERAL NOTE 1
11-06-25	REPLACED "SPEED" WITH "TRAFFIC LAWS" ON WZ-1
08-14-25	ISSUED

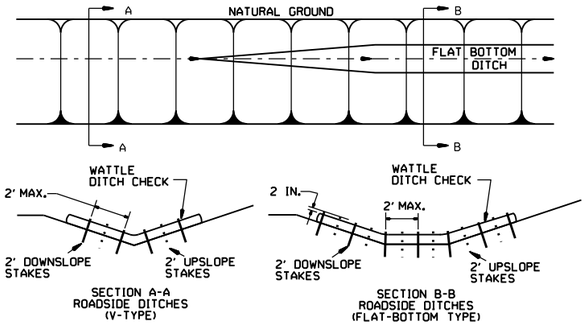
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

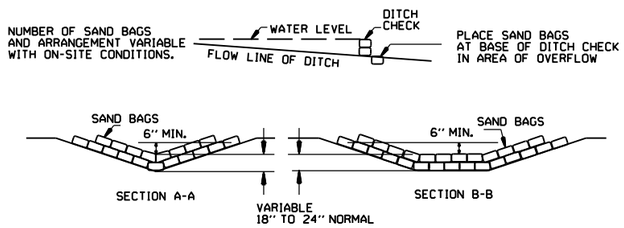
DATE EFFECTIVE	STANDARD DRAWING	TC-6
01-22-2026		

GENERAL NOTES

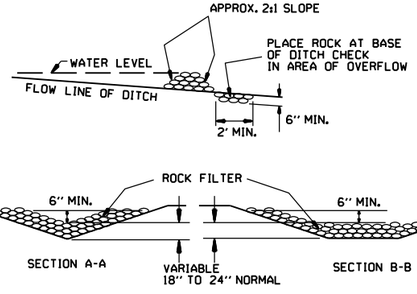
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.



WATTLE DITCH CHECK (E-1)



SAND BAG DITCH CHECK (E-5)

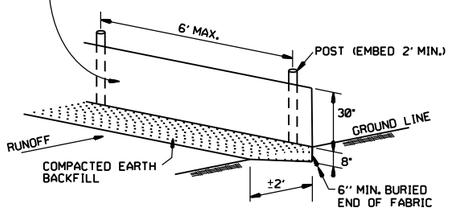


ROCK DITCH CHECK (E-6)

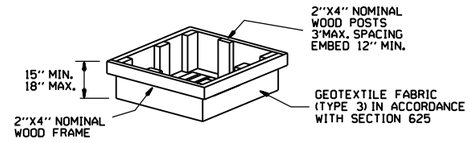
GENERAL NOTES

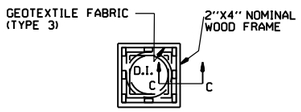
GEOTEXTILE FABRIC (TYPE 4) IN ACCORDANCE WITH SECTION 625

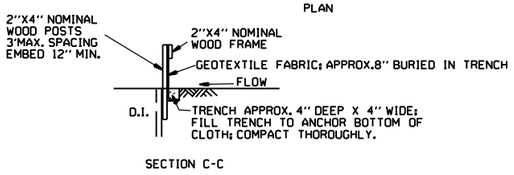
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.



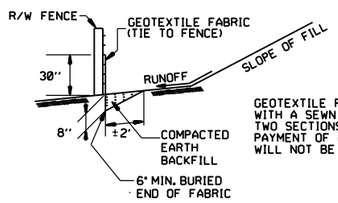
SILT FENCE (E-11)





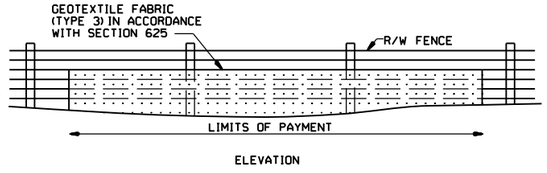


DROP INLET SILT FENCE (E-7)



GENERAL NOTES

GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST, OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.



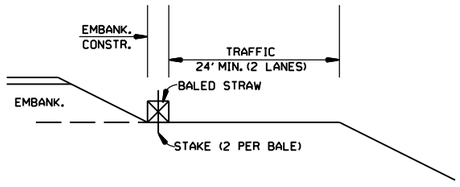
SILT FENCE ON R/W FENCE (E-4)

GENERAL NOTES

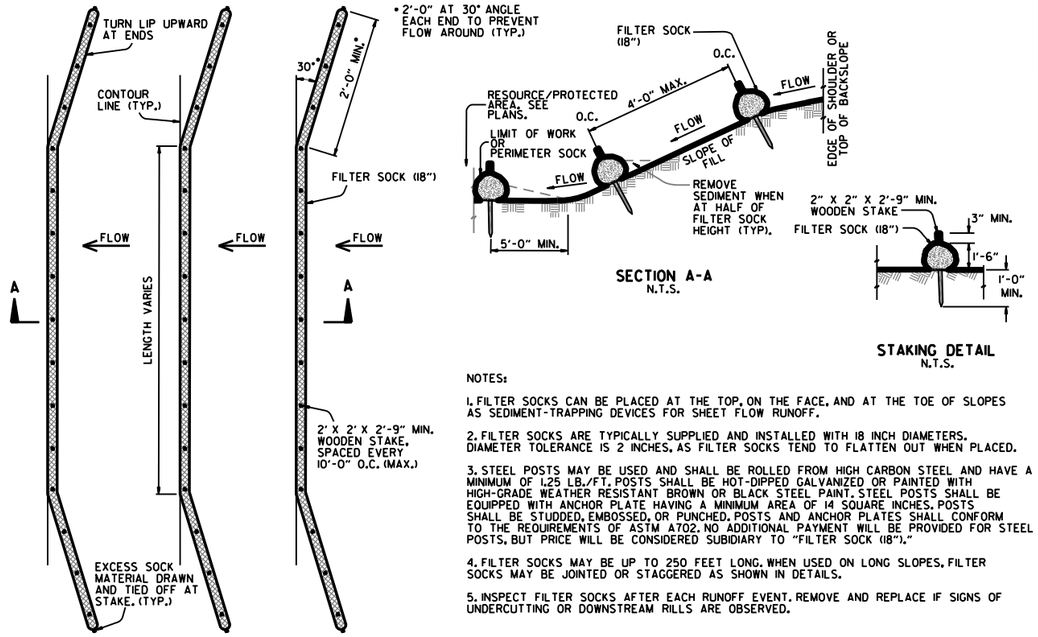
1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.

2. NO GAPS SHALL BE LEFT BETWEEN BALES.

3. BALED STRAW FILTER BARRIERS COMPLETED AND ACCEPTED WILL BE MEASURED BY THE BALE IN PLACE AS AUTHORIZED BY THE ENGINEER AND WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER BALE FOR BALED STRAW DITCH CHECKS.



BALED STRAW FILTER BARRIER (E-2)



NOTES:

1. FILTER SOCKS CAN BE PLACED AT THE TOP, ON THE FACE, AND AT THE TOE OF SLOPES AS SEDIMENT-TRAPPING DEVICES FOR SHEET FLOW RUNOFF.

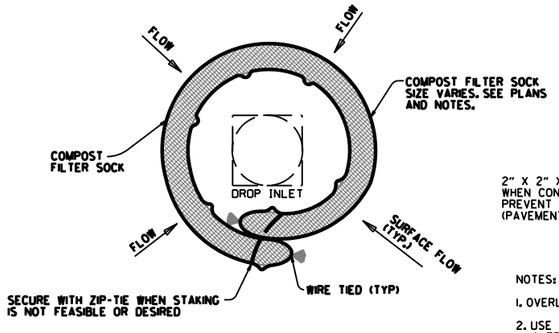
2. FILTER SOCKS ARE TYPICALLY SUPPLIED AND INSTALLED WITH 18 INCH DIAMETERS. DIAMETER TOLERANCE IS 2 INCHES, AS FILTER SOCKS TEND TO FLATTEN OUT WHEN PLACED.

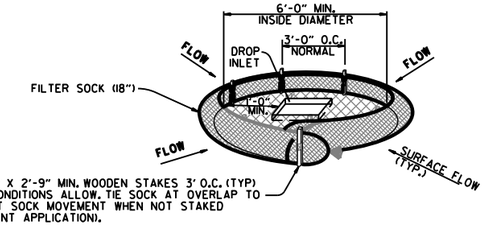
3. STEEL POSTS MAY BE USED AND SHALL BE ROLLED FROM HIGH CARBON STEEL AND HAVE A MINIMUM OF 1.25 LB./FT. POSTS SHALL BE HOT-DIPPED GALVANIZED OR PAINTED WITH HIGH-GRADE WEATHER RESISTANT BROWN OR BLACK STEEL PAINT. STEEL POSTS SHALL BE EQUIPPED WITH ANCHOR PLATE HAVING A MINIMUM AREA OF 14 SQUARE INCHES. POSTS SHALL BE STUDDED, EMBOSSED, OR PUNCHED. POSTS AND ANCHOR PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A702. NO ADDITIONAL PAYMENT WILL BE PROVIDED FOR STEEL POSTS, BUT PRICE WILL BE CONSIDERED SUBIDIARY TO "FILTER SOCK (18")."

4. FILTER SOCKS MAY BE UP TO 250 FEET LONG. WHEN USED ON LONG SLOPES, FILTER SOCKS MAY BE JOINTED OR STAGGERED AS SHOWN IN DETAILS.

5. INSPECT FILTER SOCKS AFTER EACH RUNOFF EVENT. REMOVE AND REPLACE IF SIGNS OF UNDERCUTTING OR DOWNSTREAM RILLS ARE OBSERVED.

FILTER SOCK ALONG SLOPE (E-3)





NOTES:

1. OVERLAP ENDS OF SOCK (1' MIN. 3' MAX.).

2. USE 18" DIA. SOCK IN NON-TRAFFIC AREAS OR AREAS WHERE SAFETY IS NOT A CONCERN.

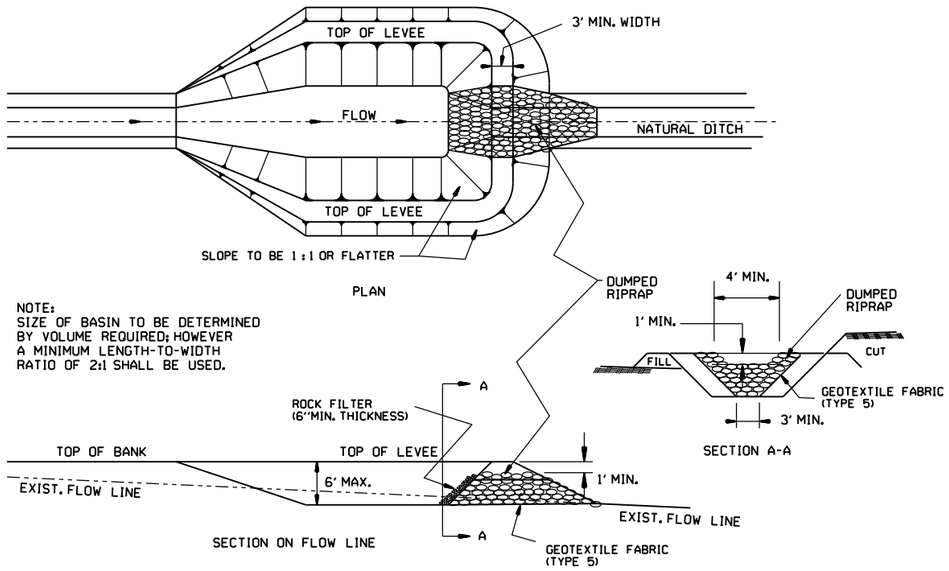
COMPOST FILTER SOCK DROP INLET PROTECTION (E-13)

DATE	REVISION	FILMED
11-16-17	ADDED FILTER SOCK E-3 AND E-13	
12-15-11	DELETED BALED STRAW DITCH CHECK & ADDED WATTLE DITCH CHECK	
11-18-98	ADDED NOTES	
07-02-98	ADDED BALED STRAW FILTER BARRIER (E-2)	
07-20-95	REVISED SILT FENCE E-4 AND E-11	7-20-95
07-15-94	REV. E-4 & E-11 MIN. 13" BURIED END OF FABRIC	
06-02-94	REVISED E-1,4,7 & 11; DELETED E-2 & 3	6-2-94
04-01-93	REDRAWN	
10-01-92	REDRAWN	
08-02-76	ISSUED R.D.M.	298-7-28-76

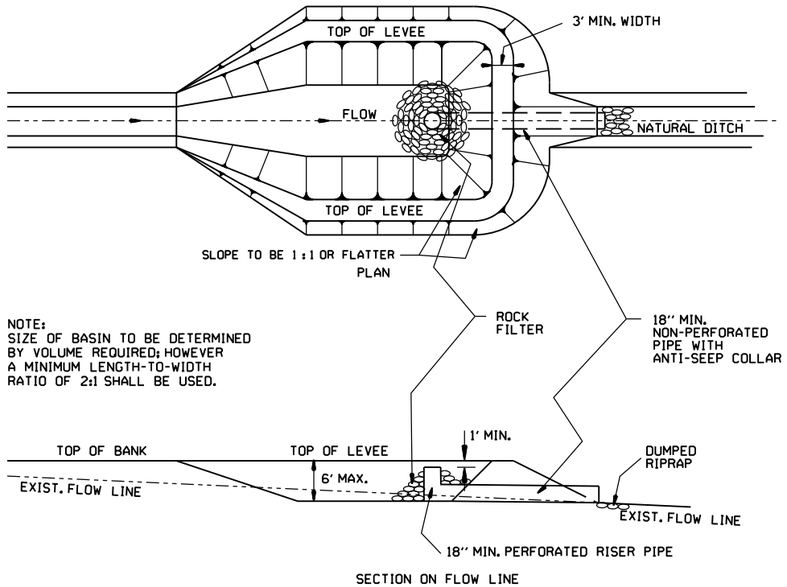
ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

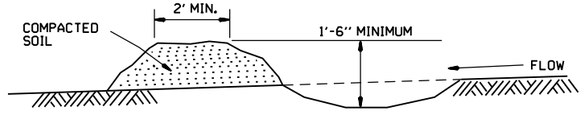
STANDARD DRAWING TEC-1



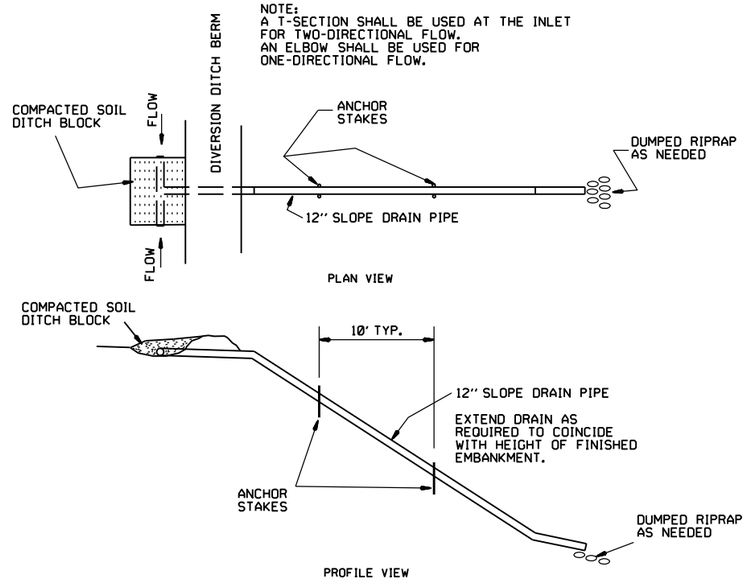
SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



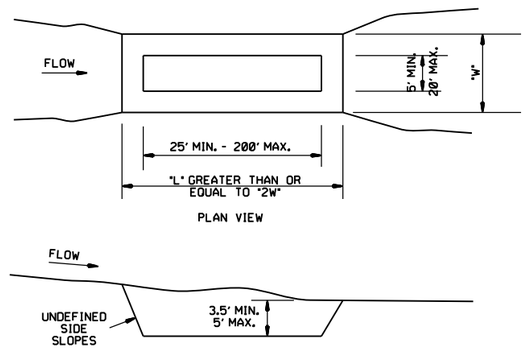
SEDIMENT BASIN WITH PIPE OUTLET (E-10)



DIVERSION DITCH (E-8)



SLOPE DRAIN (E-12)



SEDIMENT BASIN (E-14)

DATE	REVISION	FILMED
6-2-94	Revised E-8 & E-12; Added E-14 & Deleted E-13	
4-1-93	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

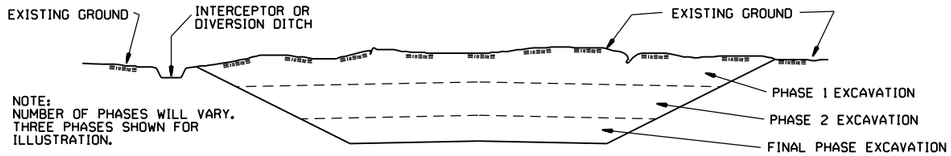
STANDARD DRAWING TEC-2

CLEARING AND GRUBBING

CONSTRUCTION SEQUENCE

1. PLACE PERIMETER CONTROLS (I.E. SILT FENCES , DIVERSION DITCHES, SEDIMENT BASINS, ETC.)
2. PERFORM CLEARING AND GRUBBING OPERATION.

EXCAVATION



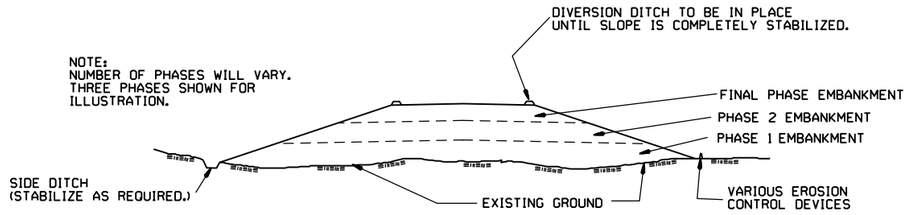
GENERAL NOTE

ALL CUT SLOPES SHALL BE DRESSED, PREPARED, SEEDED, AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE EXCAVATED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 25 FEET, MEASURED VERTICALLY.

CONSTRUCTION SEQUENCE

1. EXCAVATE AND STABILIZE INTERCEPTOR AND/OR DIVERSION DITCHES.
2. PERFORM PHASE 1 EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING.
3. PERFORM PHASE 2 EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING.
4. PERFORM FINAL PHASE OF EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING. STABILIZE DITCHES. CONSTRUCT DITCH CHECKS, DIVERSION DITCHES, SEDIMENT BASINS, OR OTHER EROSION CONTROL DEVICES AS REQUIRED.

EMBANKMENT



GENERAL NOTE

ALL EMBANKMENT SLOPES SHALL BE DRESSED, PREPARED, SEEDED, AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE CONSTRUCTED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 25 FEET, MEASURED VERTICALLY.

CONSTRUCTION SEQUENCE

1. CONSTRUCT DIVERSION DITCHES, DITCH CHECKS, SEDIMENT BASINS, SILT FENCES, OR OTHER EROSION CONTROL DEVICES AS SPECIFIED.
2. PLACE PHASE 1 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD OF GREATER THAN 21 DAYS.
3. PLACE PHASE 2 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD OF GREATER THAN 21 DAYS.
4. PLACE FINAL PHASE OF EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PLACE DIVERSION DITCHES AND SLOPE DRAINS AND MAINTAIN UNTIL ENTIRE SLOPE IS STABILIZED.

11-03-94	CORRECTED SPELLING	
6-2-94	Drawn & Issued	6-2-94
DATE	REVISION	FILMED

ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-3