DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.	NHPP-BFP-0043(42)		
				JOB NO.		061745	1	59
				(2)	CROOKED CREEK STR. & APPRS. (S)			

ARKANSAS DEPARTMENT OF TRANSPORTATION
CONSTRUCTION PLANS FOR STATE HIGHWAY

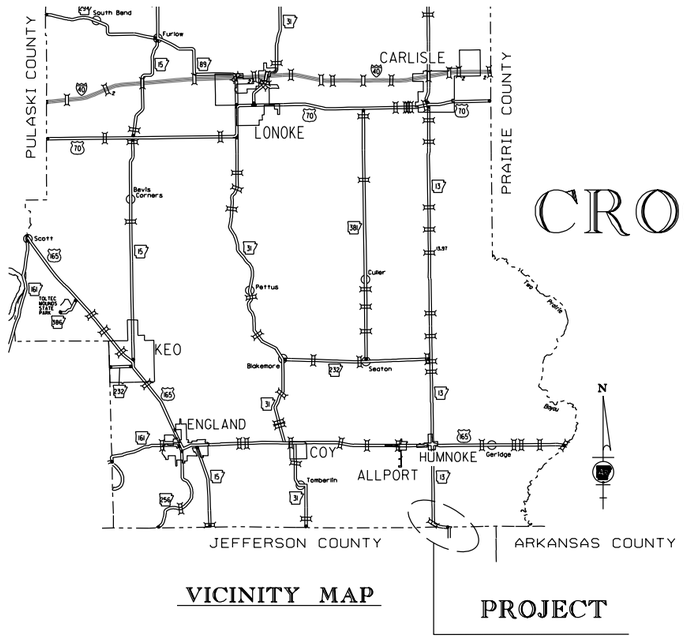
CROOKED CREEK STR. & APPRS. (S)

LONOKE COUNTY

ROUTE 13 SECTION 9

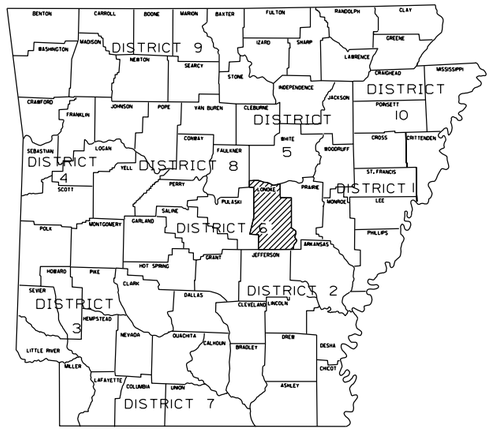
JOB 061745

FED AID PROJ. NHPP-BFP-0043(42)



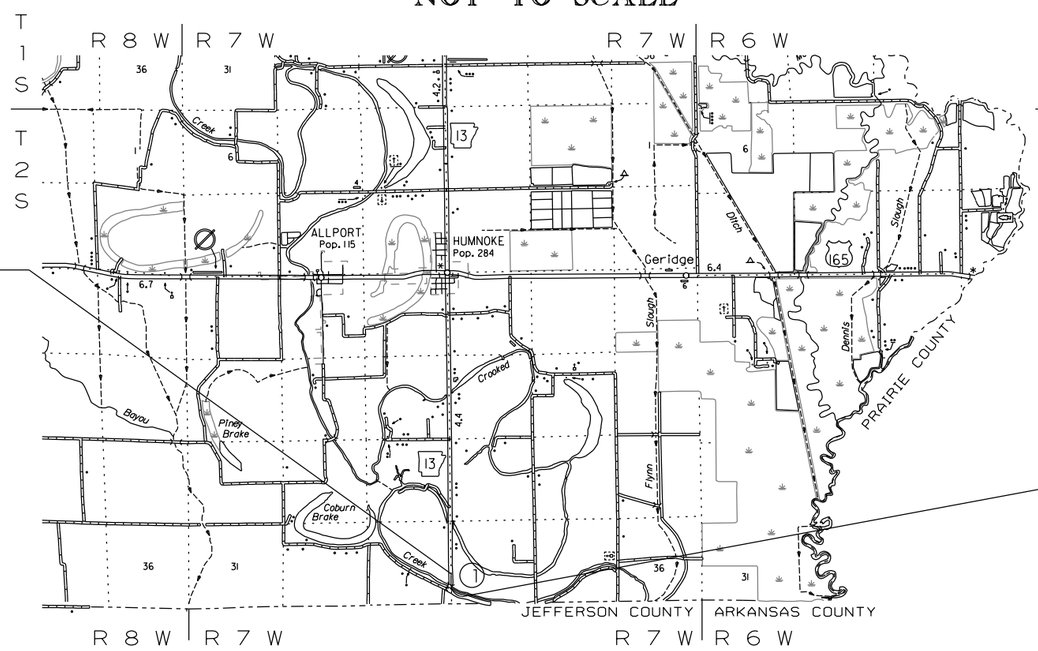
VICINITY MAP

PROJECT LOCATION



ARK. HWY. DIST. NO. 6

NOT TO SCALE



STA. 120+00.00
END JOB 061745

STA. 100+00.00
BEGIN JOB 061745
LOG MILE 0.59

DESIGN TRAFFIC DATA

DESIGN YEAR	2045
2025 ADT	450
2045 ADT	550
2045 DHV	61
DIRECTIONAL DISTRIBUTION	0.60
TRUCKS	5%
DESIGN SPEED	50 MPH

PROP. BRIDGE DATA

(1) STA. 112+05.00 BR. END
(CAST-IN-PLACE DECK
ON CONCRETE GIRDERS)
110'-00" TOTAL LENGTH
30'-00" CLEAR ROADWAY
STA. 113+15.00 BR. END

BEGINNING OF PROJECT	MID POINT OF PROJECT	END OF PROJECT
LATITUDE = N 34°29'05" LONGITUDE = W 91°45'18"	LATITUDE = N 34°29'10" LONGITUDE = W 91°45'28"	LATITUDE = N 34°29'20" LONGITUDE = W 91°45'29"

GROSS LENGTH OF PROJECT	2000.00	FEET	OR	0.379	MILES	
NET " " BRIDGES	110.00	"	"	0.021	"	
NET " " ROADWAY	1890.00	"	"	0.358	"	
NET " " PROJECT	2000.00	"	"	0.379	"	

CERTIFICATE OF AUTHORIZATION
VOLKERT, INC.
No. 4155
ARKANSAS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 20840
DANIEL S. PEACOCK

05/16/2025

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061745	2	59

(2) INDEX OF SHEETS AND STANDARD DRAWINGS

INDEX OF SHEETS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20840
DANIEL S. PEACOCK
4/14/2025

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
55005	STANDARD DETAILS FOR PERMANENT STEEL BRIDGE DECK FORMS FOR STEEL & CONCRETE GIRDER SPANS	03-24-16
55008	STANDARD DETAILS FOR POURED SILICONE JOINTS	02-11-16
55021	STANDARD DETAILS FOR CONCRETE FILLED STEEL SHELL PILES AND PILE ENCASEMENTS	03-24-16
55030F	STANDARD DETAILS FOR TYPE F APPROACH GUTTERS	09-07-23
55040F1	STANDARD DETAILS FOR TYPE F APPROACH SLAB	09-07-23
55070	STANDARD DETAILS FOR BRIDGE TRAFFIC RAIL TYPE SSTR36	09-27-22

DRWG.NO.	TITLE	DATE
DR-2	DETAILS OF DRIVEWAYS & STREET TURNOUTS	05-19-22
GR-6	GUARDRAIL DETAILS	05-19-22
GR-7	GUARDRAIL DETAILS	11-07-19
GR-8	GUARDRAIL DETAILS	11-07-19
GR-9	GUARDRAIL DETAILS	11-07-19
GR-10	GUARDRAIL DETAILS	11-07-19
GR-11	GUARDRAIL DETAILS	11-07-19
GR-12	GUARDRAIL DETAILS	05-14-20
MB-1	MAILBOX DETAILS	11-18-04
PCC-1	CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING	02-27-14
PCP-1	PLASTIC PIPE CULVERT (HIGH DENSITY POLYETHYLENE)	02-27-14
PCP-2	PLASTIC PIPE CULVERT (PVC F949)	02-27-14
PCP-3	PLASTIC PIPE CULVERT (POLYPROPYLENE)	02-27-20
PM-1	PAVEMENT MARKING DETAILS	02-27-20
PU-1	DETAILS OF PIPE UNDERDRAIN	12-08-16
SE-2	TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC	11-07-19
SHS-1	STANDARD HIGHWAY SIGNS AND SUPPORTS ASSEMBLIES	09-12-13
TC-1	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	11-07-19
TC-2	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	05-20-21
TC-3	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	08-12-21
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

$$USER$$ $$DATE$$ $$TIME$$
WORKSPACE: $$WORKSPACE$$
$$FILE$$
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
06/13/2025			
06/19/2025			

FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061745	3	59

(2) GOVERNING SPECIFICATIONS AND GENERAL NOTES

GOVERNING SPECIFICATIONS

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

NUMBER	TITLE
ERRATA_____	ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS
FHWA-1273___	REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS
FHWA-1273___	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - NOTICE TO CONTRACTORS
FHWA-1273___	SUPPLEMENT - SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES (23 U.S.C. 140)
FHWA-1273___	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - GOALS AND TIMETABLES
FHWA-1273___	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - FEDERAL STANDARDS
FHWA-1273___	SUPPLEMENT - POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS
FHWA-1273___	SUPPLEMENT - WAGE RATE DETERMINATION
100-3_____	CONTRACTOR'S LICENSE
100-4_____	DEPARTMENT NAME CHANGE
102-2_____	ISSUANCE OF PROPOSALS
102-3_____	PREQUALIFICATION OF BIDDERS
103-2_____	CONTACT INFORMATION 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
110-1_____	PROTECTION OF WATER QUALITY AND WETLANDS
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
400-1_____	TACK COATS
400-4_____	DESIGN AND QUALITY CONTROL OF ASPHALT MIXTURES
400-5_____	PERCENT AIR VOIDS FOR ACHM MIX DESIGNS
400-6_____	LIQUID ANTI-STRIP ADDITIVE
400-7_____	TRACKLESS TACK
404-3_____	DESIGN OF ASPHALT MIXTURES
409-2_____	ASPHALT LABORATORY FACILITY
410-1_____	CONSTRUCTION REQUIREMENTS AND ACCEPTANCE OF ASPHALT CONCRETE PLANT MIX COURSES
410-2_____	DEVICES FOR MEASURING DENSITY FOR ROLLING PATTERNS
410-4_____	EVALUATION OF ACHM SUBLOT REPLACEMENT MATERIAL
416-1_____	RECYCLED ASPHALT PAVEMENT
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)
606-1_____	PIPE CULVERTS FOR SIDE DRAINS
617-1_____	GUARDRAIL TERMINAL (TYPE 2)
617-2_____	GUARDRAIL DELINEATORS
620-1_____	MULCH COVER
621-1_____	FILTER SOCKS
637-1_____	MAILBOXES
800-1_____	STRUCTURES
802-3_____	CONCRETE FOR STRUCTURES
802-5_____	CONCRETE FOR STRUCTURES
804-2_____	REINFORCING STEEL FOR STRUCTURES
807-2_____	STEEL STRUCTURES
808-1_____	INSTALLATION OF ELASTOMERIC BEARINGS
808-2_____	ELASTOMERIC BEARINGS
JOB_061745_	BIDDING REQUIREMENTS AND CONDITIONS
JOB_061745_	BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB_061745_	BUY AMERICA - CONSTRUCTION MATERIALS
JOB_061745_	CARGO PREFERENCE ACT REQUIREMENTS
JOB_061745_	CLASS C FLY ASH IN PORTLAND CEMENT CONCRETE PAVEMENT AND CLASS S(AE) CONCRETE
JOB_061745_	COLD MILLING – COUNTY PROPERTY
JOB_061745_	CONCRETE BRIDGE DECK CURING AND SURFACE TREATMENT RESTRICTIONS
JOB_061745_	CONSTRUCTION IN SPECIAL FLOOD HAZARD AREAS
JOB_061745_	DESIGN AND QUALITY CONTROL OF ASPHALT MIXTURES
JOB_061745_	DISADVANTAGED BUSINESS ENTERPRISE BIDDER'S RESPONSIBILITIES
JOB_061745_	GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB_061745_	LIQUIDATED DAMAGES PROCEDURE FOR BID LETTINGS
JOB_061745_	MANDATORY ELECTRONIC CONTRACT
JOB_061745_	MANDATORY ELECTRONIC DOCUMENT SUBMITTAL
JOB_061745_	NESTING SITES OF MIGRATORY BIRDS
JOB_061745_	PARTNERING REQUIREMENTS
JOB_061745_	PLASTIC PIPE
JOB_061745_	PORTABLE TRAFFIC SIGNAL SYSTEM
JOB_061745_	PRICE ADJUSTMENT FOR ASPHALT BINDER
JOB_061745_	PRICE ADJUSTMENT FOR FUEL
JOB_061745_	PROHIBITION OF CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT
JOB_061745_	ROCK FILL
JOB_061745_	SHORING FOR CULVERTS
JOB_061745_	SOIL STABILIZATION
JOB_061745_	STORM WATER POLLUTION PREVENTION PLAN
JOB_061745_	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB_061745_	UTILITY ADJUSTMENTS
JOB_061745_	VALUE ENGINEERING
JOB_061745_	WARM MIX ASPHALT

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20840
DANIEL S. PEACOCK

6/19/2025

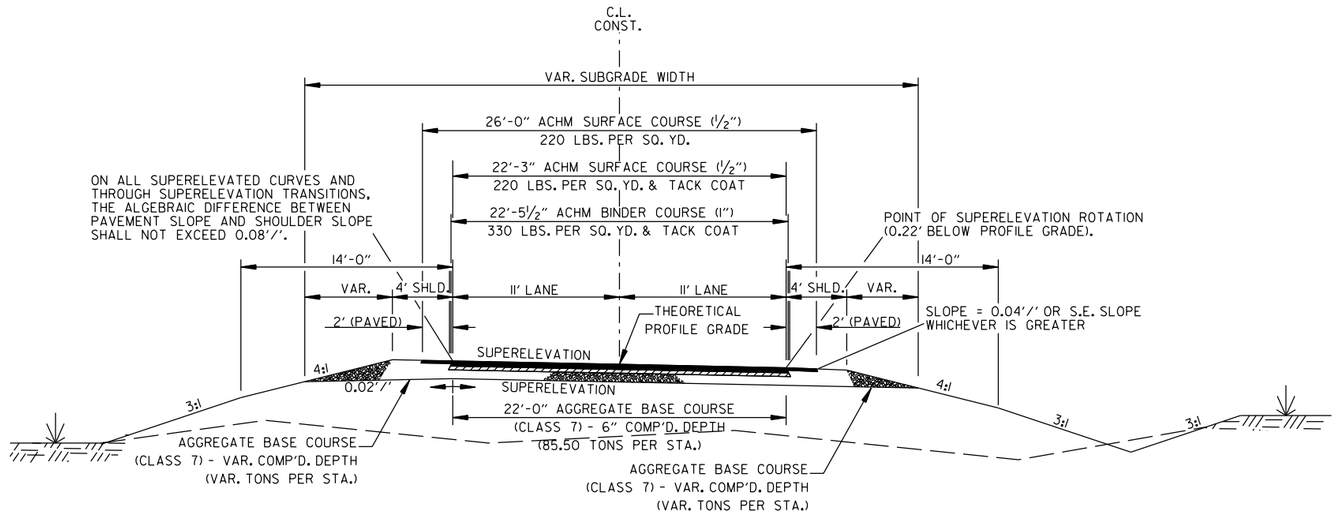
GENERAL NOTES

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 23 PERMIT. REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS, EDITION OF 2014, FOR PERMIT REQUIREMENTS.

$$USER$$ $$DATE$$ $$TIME$$
WORKSPACE: $$WORKSPACE$$
$$FILE$$
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
06/13/2025				6	ARK.			
				JOB NO.		061745	4	59
				(2)	TYPICAL SECTIONS OF IMPROVEMENT			

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 20840
DANIEL S. PEACOCK
6/16/2025



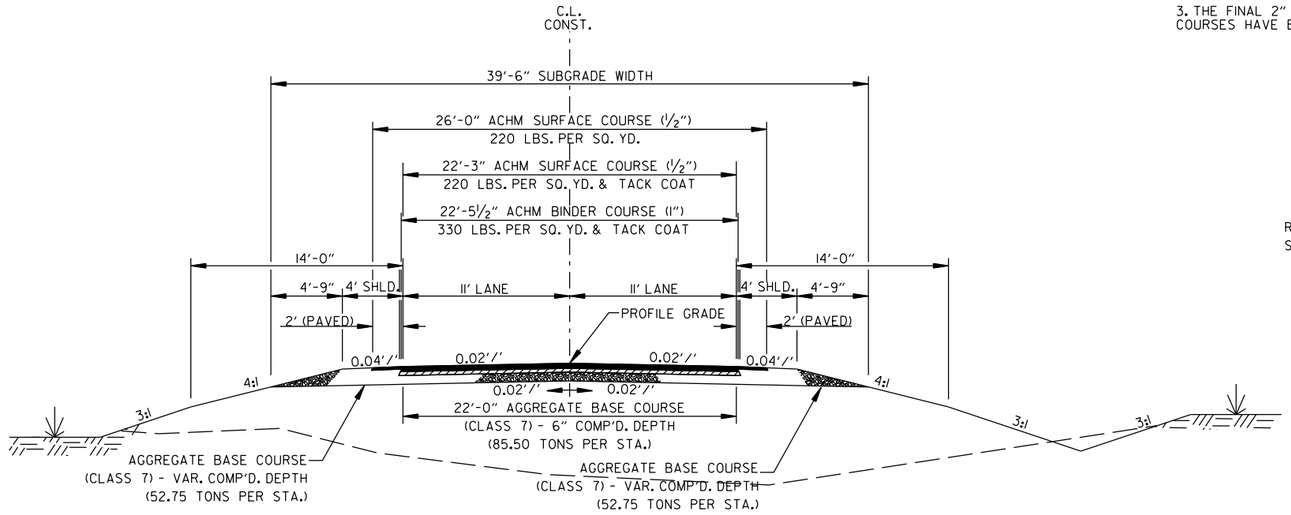
SUPERELEVATION SECTION - FULL DEPTH (HWY. 13)

NOTES:

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

2. 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 THE TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.

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



TANGENT SECTION - FULL DEPTH (HWY. 13)

STA. 102+47.95 TO STA. 111+70.00
STA. 113+50.00 TO STA. 116+80.00

REFER TO "METHOD OF RAISING GRADE" SPECIAL DETAIL SHEET NO. 8.

$$USER$$ $$DATE$$ $$TIME$$
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$$FILE$$
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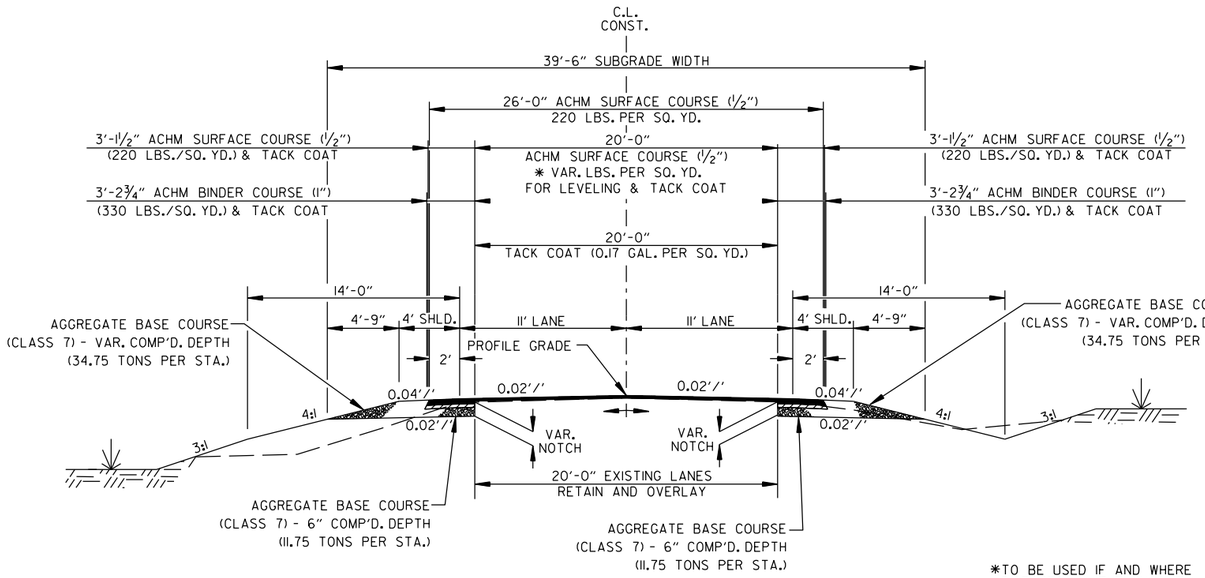
06/13/2025				6	ARK.			
				JOB NO.		061745	5	59
				(2)	TYPICAL SECTIONS OF IMPROVEMENT			



*TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER

TANGENT SECTION
NOTCH AND WIDENING (HWY. 13)

STA. 100+00.00 TO STA. 102+47.95
STA. 116+80.00 TO STA. 120+00.00

NOTES:

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

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

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

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

5. 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.

6. BLEEDER DITCHES - PRIOR TO AND DURING PLACEMENT OF PAVEMENT AT THE NOTCH, THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AT ALL TIMES. THE METHOD(S) AND SPACING USED SHALL BE APPROVED BY THE ENGINEER. PAYMENT FOR THIS WORK SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.

STATE OF ARKANSAS
DANIEL S. PEACOCK
LICENSED PROFESSIONAL ENGINEER
No. 20840

6/16/2025

NOTES:

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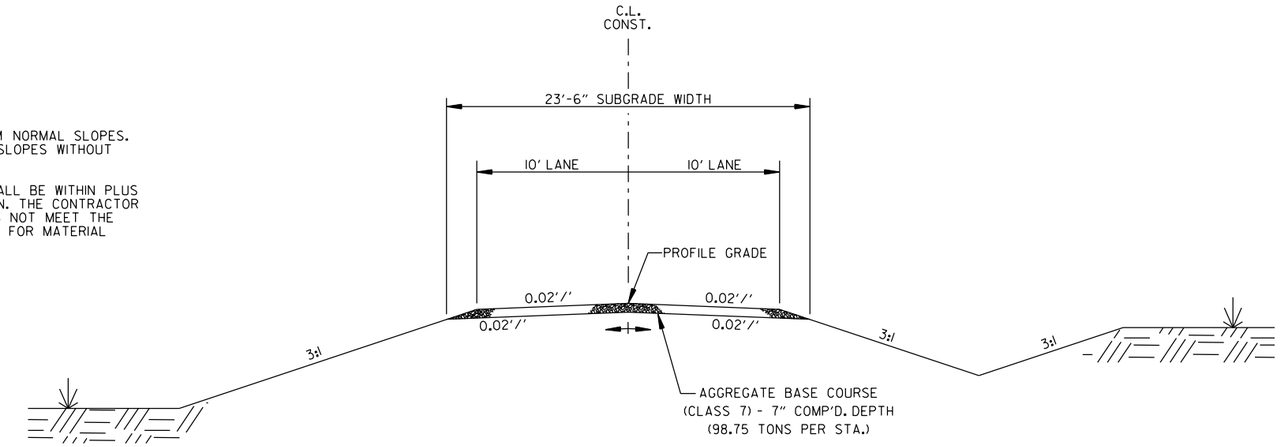
2. THE THICKNESS OF AGGREGATE BASE COURSE SHALL BE WITHIN PLUS OR MINUS ONE INCH OF THE PLAN THICKNESS SHOWN. THE CONTRACTOR WIL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET THE TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.



TANGENT SECTION - FULL DEPTH
(COBURN-BRAKE)

STA. 10+11.00 TO STA. 14+00.00

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				(2)	SPECIAL DETAILS			

STATE OF ARKANSAS
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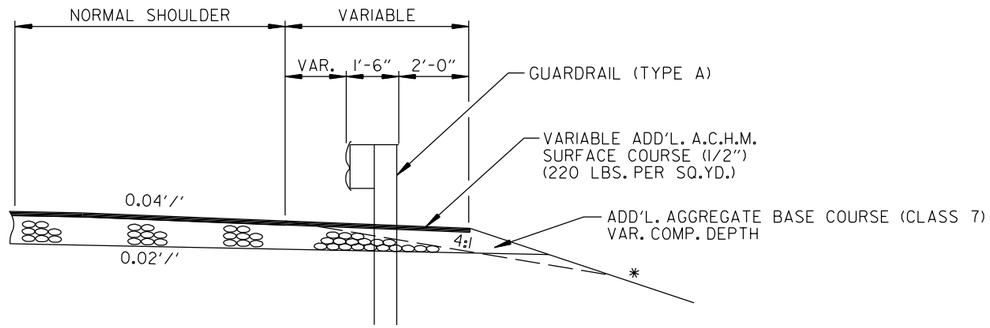
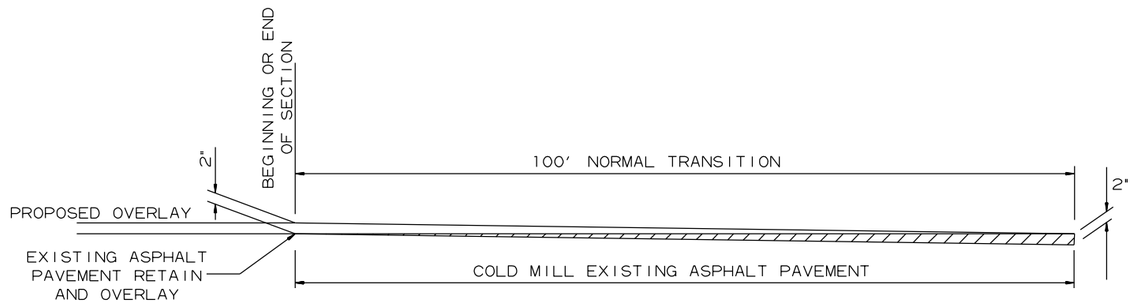


WIDENING FOR GUARDRAIL

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



DETAIL FOR TRANSITIONS

$$USER$$ $$DATE$$ $$TIME$$
WORKSPACE: $$WORKSPACE$$
$$FILE$$
REVISED DATE:

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				(2)	SPECIAL DETAILS			

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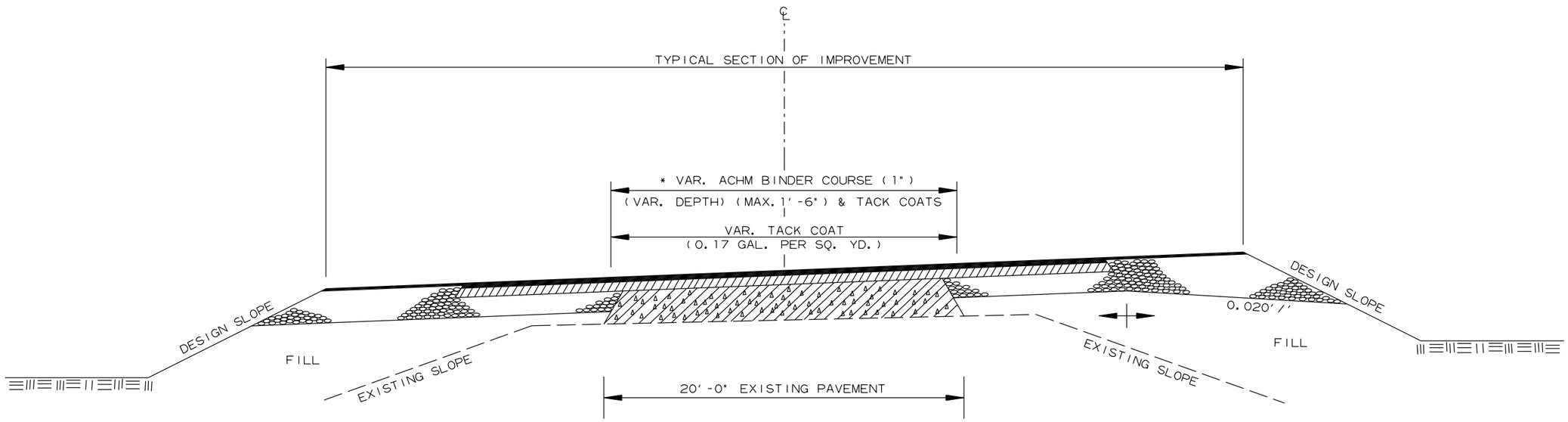

* 7" AGGREGATE BASE COURSE (CLASS 7)
TO BE REPLACED WITH ACHM BASE COURSE (1-½")

METHOD OF RAISING GRADE

NOTES:

(1) THIS DETAIL TO BE USED ONLY IF AND WHERE DIRECTED BY THE ENGINEER.

(2) QUANTITIES FOR METHOD OF GRADE RAISE USING ASPHALT WERE CALCULATED ON THIS PROJECT AT LOCATIONS WHERE THE DISTANCE BETWEEN THE EXISTING ASPHALT ROADWAY AND THE PROPOSED SUBGRADE WAS ONE FOOT OR LESS.

(3) IN LOCATIONS WHERE THE DISTANCE BETWEEN THE PROPOSED SUBGRADE AND THE EXISTING ASPHALT ROADWAY IS MORE THAN ONE FOOT, SCARIFICATION OF THE EXISTING ASPHALT ROADWAY WILL BE REQUIRED AS STATED IN SECTION 210, SUBSECTION 210.09 OF THE STANDARD SPECIFICATIONS.

$$USER$$ $$DATE$$ $$TIME$$
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$$FILE$$
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				(2)	SPECIAL DETAILS			

STATE OF ARKANSAS
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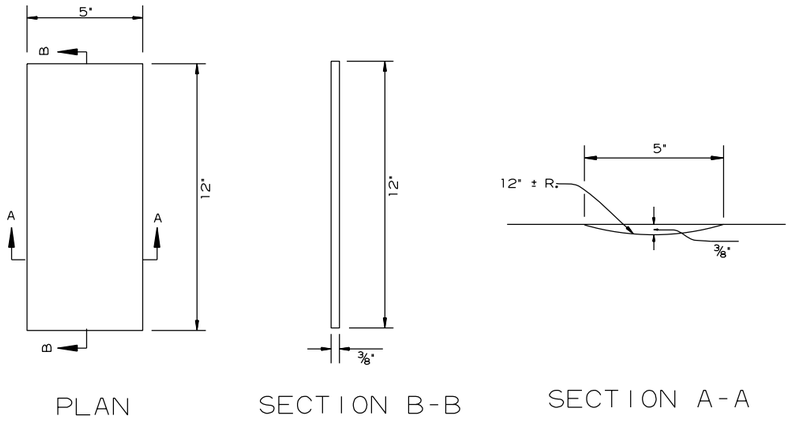
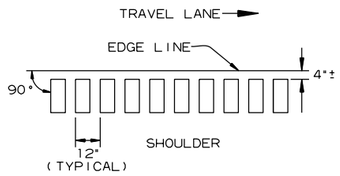
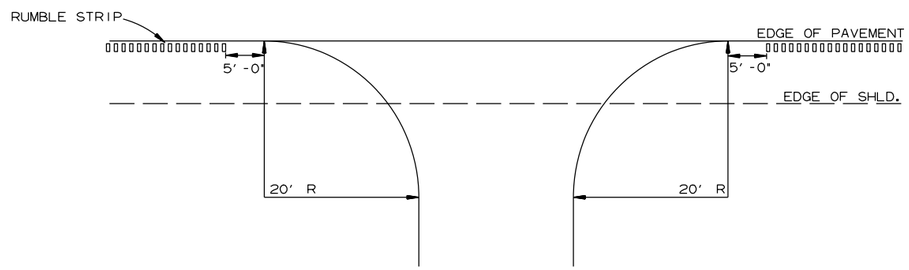


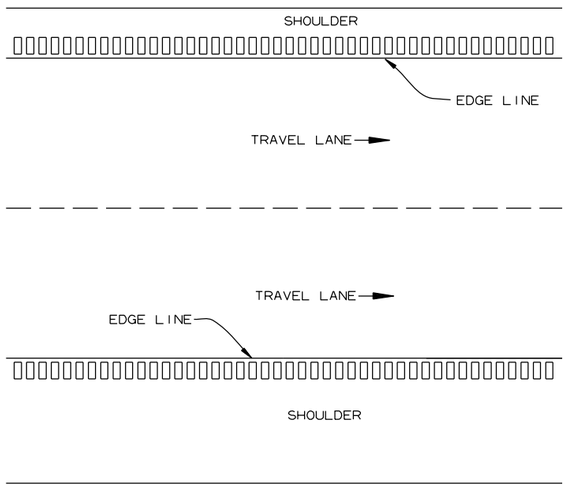
DETAILS OF RUMBLE STRIPS



LOCATION PLAN OF RUMBLE STRIPS
LEFT OR RIGHT SHOULDER



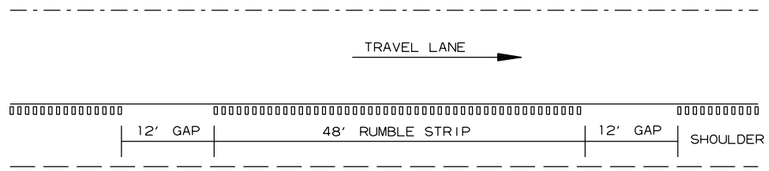
DETAIL FOR RUMBLE STRIP GAP
AT DRIVEWAY TURNOUTS



PLAN VIEW

GENERAL NOTES

1. RUMBLE STRIPS SHALL NOT BE INSTALLED ON CURB SECTIONS, BRIDGE DECKS, APPROACH SLABS, INTERSECTING STREETS OR ROADWAYS, RESIDENTIAL OR COMMERCIAL DRIVEWAYS OR ACROSS TRANSVERSE JOINTS OF CONCRETE SHOULDERS.
2. RUMBLE STRIPS SHALL NOT BE INSTALLED ON A PAVED SHOULDER THAT IS USED AS A DECELERATION LANE FOR THE LENGTH DEEMED APPROPRIATE BY THE ENGINEER.
3. THE 4" OFFSET FROM THE EDGE LINE MAY BE INCREASED TO AVOID LONGITUDINAL JOINTS. IN ALL CASES, THE LATERAL DEVIATION FROM THE PLANNED OFFSET SHOULD BE KEPT TO A MINIMUM.
4. RUMBLE STRIPS SHALL BE MEASURED BY THE LINEAR FOOT LONGITUDINALLY ALONG THE SHOULDER. PAYMENT SHALL ONLY INCLUDE THAT PORTION OF THE SHOULDER ON WHICH RUMBLE STRIPS HAVE BEEN CONSTRUCTED. NO MEASUREMENT OR PAYMENT WILL BE MADE FOR GAPS, DRIVEWAYS, TURNOUTS, OR OTHER PUBLIC ROAD INTERSECTIONS WHERE RUMBLE STRIPS HAVE NOT BEEN CONSTRUCTED.
5. THE 3/8" DEPTH SHALL GENERALLY APPLY FOR THE ENTIRE 12" LENGTH. SOME VARIATION TO SUIT SHOULDER SLOPE BREAKS MAY BE NECESSARY.



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

DETAIL FOR GAP PATTERN RUMBLE STRIP

$$USER$$ $$DATE$$ $$TIME$$
WORKSPACE: $$WORKSPACE$$
$$FILE$$
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061745	9	59

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 20840
DANIEL S. PEACOCK
4/11/2025

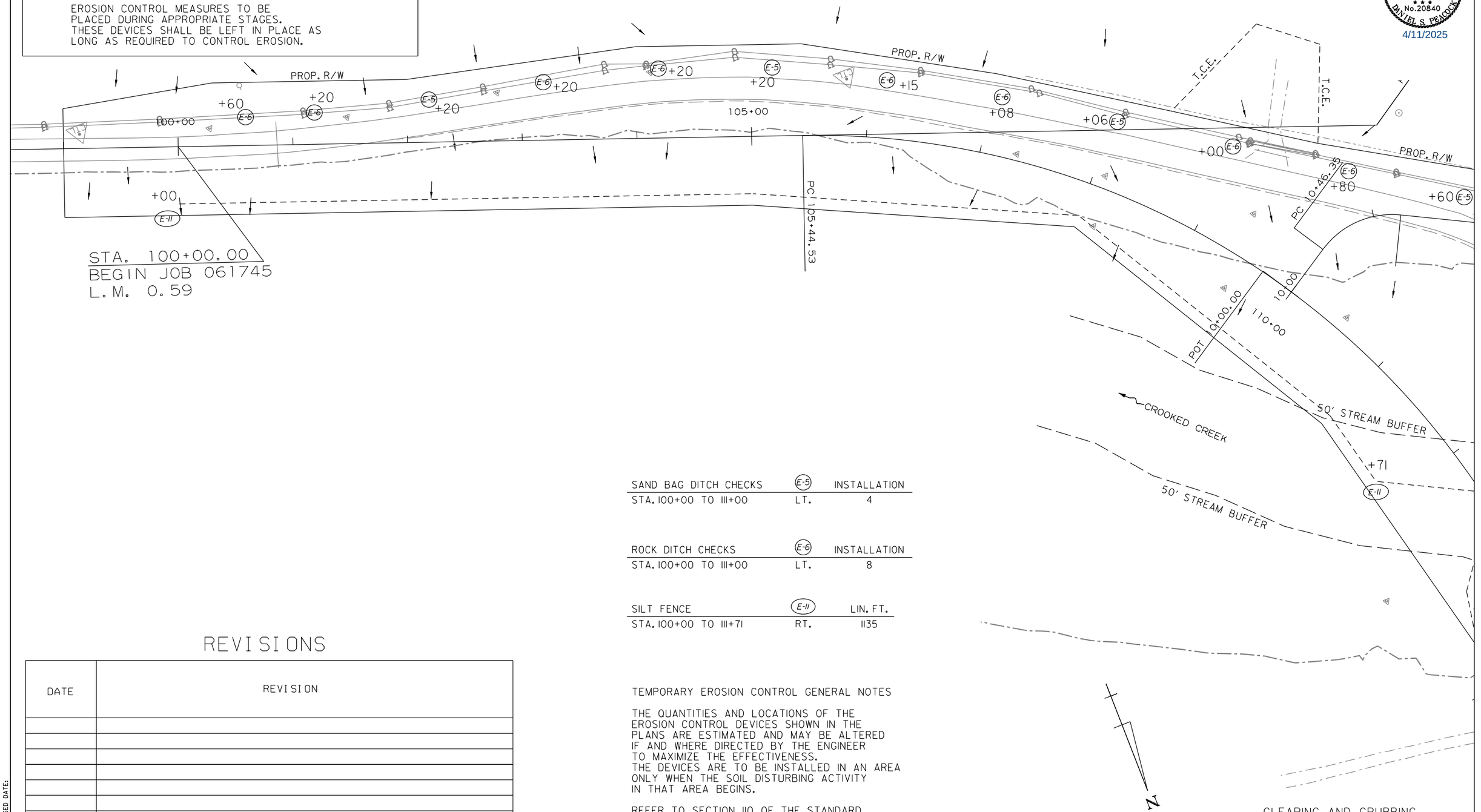
LEGEND

(E-5) = SAND BAG DITCH CHECKS

(E-6) = ROCK DITCH CHECKS

(E-11) = SILT FENCE

EROSION CONTROL MEASURES TO BE PLACED DURING APPROPRIATE STAGES. THESE DEVICES SHALL BE LEFT IN PLACE AS LONG AS REQUIRED TO CONTROL EROSION.



STA. 100+00.00
BEGIN JOB 061745
L.M. 0.59

SAND BAG DITCH CHECKS	(E-5)	INSTALLATION
STA. 100+00 TO 111+00	LT.	4

ROCK DITCH CHECKS	(E-6)	INSTALLATION
STA. 100+00 TO 111+00	LT.	8

SILT FENCE	(E-11)	LIN. FT.
STA. 100+00 TO 111+71	RT.	1135

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 THE 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.

REVISIONS

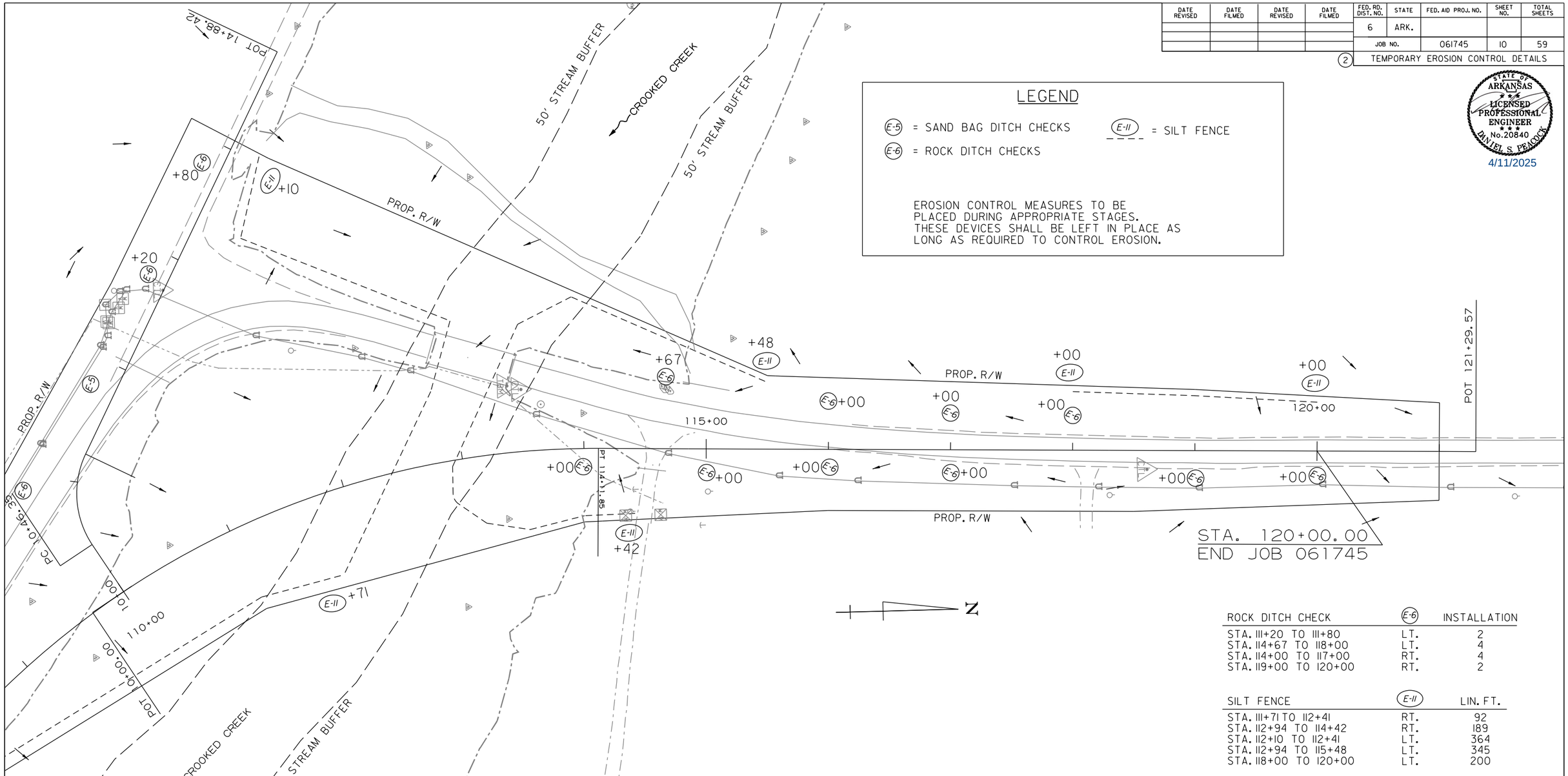
DATE	REVISION

CLEARING AND GRUBBING
TEMPORARY EROSION CONTROL DETAILS

$$USER$$
WORKSPACE: $$WORKSPACE$$
$$FILE$$
REVISED DATE: 2/6/2025 $$TIME$$

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061745	10	59
				(2)	TEMPORARY EROSION CONTROL DETAILS			

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 20840
DANIEL S. PEACOCK
4/11/2025



LEGEND

E-5 = SAND BAG DITCH CHECKS

E-6 = ROCK DITCH CHECKS

E-11 = SILT FENCE

EROSION CONTROL MEASURES TO BE PLACED DURING APPROPRIATE STAGES. THESE DEVICES SHALL BE LEFT IN PLACE AS LONG AS REQUIRED TO CONTROL EROSION.

ROCK DITCH CHECK	E-6	INSTALLATION
STA. 111+20 TO 111+80	LT.	2
STA. 114+67 TO 118+00	LT.	4
STA. 114+00 TO 117+00	RT.	4
STA. 119+00 TO 120+00	RT.	2

SILT FENCE	E-11	LIN. FT.
STA. 111+71 TO 112+41	RT.	92
STA. 112+94 TO 114+42	RT.	189
STA. 112+10 TO 112+41	LT.	364
STA. 112+94 TO 115+48	LT.	345
STA. 118+00 TO 120+00	LT.	200

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 THE EFFECTIVENESS.
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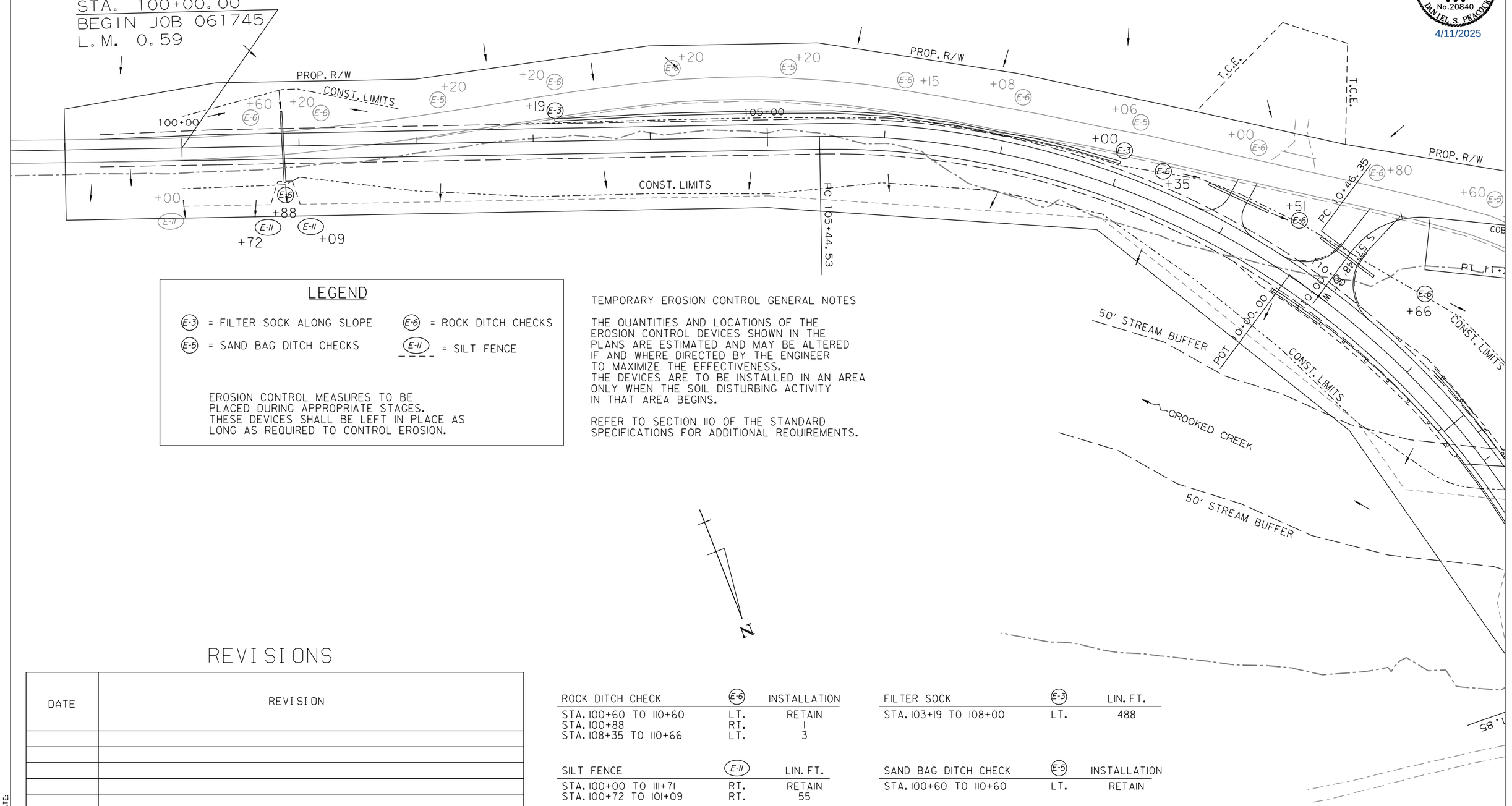
CLEARING AND GRUBBING
TEMPORARY EROSION CONTROL DETAILS

$$USER$$
WORKSPACE: $$WORKSPACE$$
$$FILE$$
REVISED DATE: 2/6/2025 $$TIME$$

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061745	11	59
(2) TEMPORARY EROSION CONTROL DETAILS				

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 20840
DANIEL S. PEACOCK
4/11/2025



LEGEND

(E-3) = FILTER SOCK ALONG SLOPE
(E-5) = SAND BAG DITCH CHECKS
(E-6) = ROCK DITCH CHECKS
(E-11) = SILT FENCE

EROSION CONTROL MEASURES TO BE PLACED DURING APPROPRIATE STAGES. THESE DEVICES SHALL BE LEFT IN PLACE AS LONG AS REQUIRED TO CONTROL EROSION.

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 THE EFFECTIVENESS. THE DEVICES ARE TO BE INSTALLED IN AN AREA ONLY WHEN THE SOIL DISTURBING ACTIVITY IN THAT AREA BEGINS.

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REVISIONS

DATE	REVISION

ROCK DITCH CHECK	(E-6)	INSTALLATION
STA. 100+60 TO 110+60	LT.	RETAIN
STA. 100+88	RT.	1
STA. 108+35 TO 110+66	LT.	3

FILTER SOCK	(E-3)	LIN. FT.
STA. 103+19 TO 108+00	LT.	488

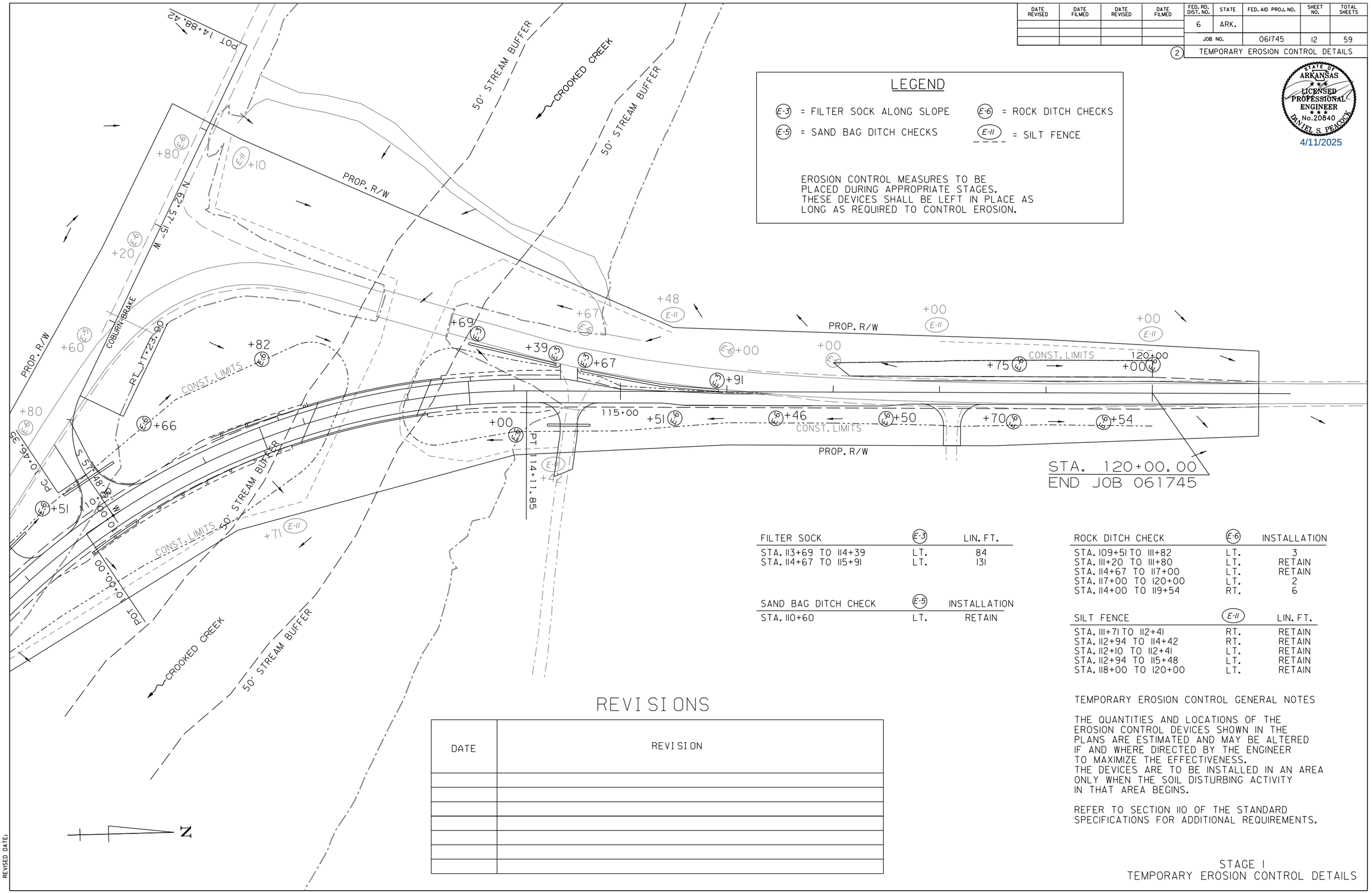
SILT FENCE	(E-11)	LIN. FT.
STA. 100+00 TO 111+71	RT.	RETAIN
STA. 100+72 TO 101+09	RT.	55

SAND BAG DITCH CHECK	(E-5)	INSTALLATION
STA. 100+60 TO 110+60	LT.	RETAIN

STAGE I
TEMPORARY EROSION CONTROL DETAILS

$$USER$$ 2/6/2025 $$TIME$$
WORKSPACE: $$WORKSPACE$$
$$FILE$$
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061745	12	59
				(2)	TEMPORARY EROSION CONTROL DETAILS			



LEGEND

(E-3) = FILTER SOCK ALONG SLOPE
(E-6) = ROCK DITCH CHECKS
(E-5) = SAND BAG DITCH CHECKS
(E-11) = SILT FENCE

EROSION CONTROL MEASURES TO BE PLACED DURING APPROPRIATE STAGES. THESE DEVICES SHALL BE LEFT IN PLACE AS LONG AS REQUIRED TO CONTROL EROSION.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 20840
DANIEL S. PEACOCK
4/11/2025

STA. 120+00.00
END JOB 061745

FILTER SOCK	(E-3)	LIN. FT.
STA. 113+69 TO 114+39	LT.	84
STA. 114+67 TO 115+91	LT.	131

SAND BAG DITCH CHECK	(E-5)	INSTALLATION
STA. 110+60	LT.	RETAIN

ROCK DITCH CHECK	(E-6)	INSTALLATION
STA. 109+51 TO 111+82	LT.	3
STA. 111+20 TO 111+80	LT.	RETAIN
STA. 114+67 TO 117+00	LT.	RETAIN
STA. 117+00 TO 120+00	LT.	2
STA. 114+00 TO 119+54	RT.	6

SILT FENCE	(E-11)	LIN. FT.
STA. 111+71 TO 112+41	RT.	RETAIN
STA. 112+94 TO 114+42	RT.	RETAIN
STA. 112+10 TO 112+41	LT.	RETAIN
STA. 112+94 TO 115+48	LT.	RETAIN
STA. 118+00 TO 120+00	LT.	RETAIN

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 THE EFFECTIVENESS.
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REVISIONS

DATE	REVISION

STAGE I
TEMPORARY EROSION CONTROL DETAILS

$$USER$$
WORKSPACE: $$WORKSPACE$$
$$FILE$$
REVISED DATE: 2/6/2025 $$TIME$$

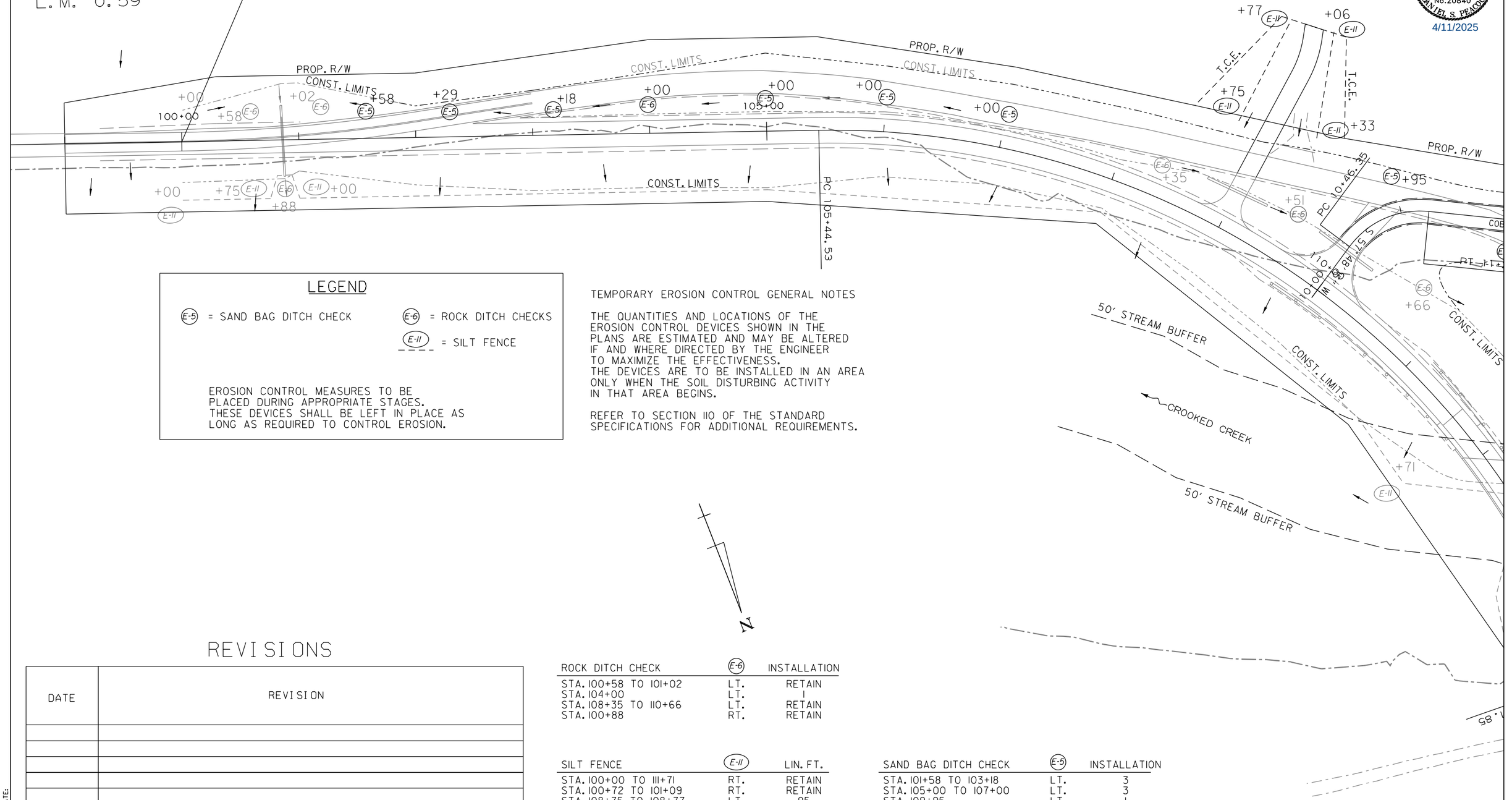
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061745	13	59

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 20840
DANIEL S. PEACOCK
4/11/2025

STA. 100+00.00
BEGIN JOB 061745
L.M. 0.59



LEGEND

(E-5) = SAND BAG DITCH CHECK

(E-6) = ROCK DITCH CHECKS

(E-11) = SILT FENCE

EROSION CONTROL MEASURES TO BE PLACED DURING APPROPRIATE STAGES. THESE DEVICES SHALL BE LEFT IN PLACE AS LONG AS REQUIRED TO CONTROL EROSION.

TEMPORARY EROSION CONTROL GENERAL NOTES

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

N

REVISIONS

DATE	REVISION

ROCK DITCH CHECK	(E-6)	INSTALLATION
STA. 100+58 TO 101+02	LT.	RETAIN
STA. 104+00	LT.	1
STA. 108+35 TO 110+66	LT.	RETAIN
STA. 100+88	RT.	RETAIN

SILT FENCE	(E-11)	LIN. FT.
STA. 100+00 TO 111+71	RT.	RETAIN
STA. 100+72 TO 101+09	RT.	RETAIN
STA. 108+75 TO 108+77	LT.	95
STA. 109+06 TO 109+33	LT.	92

SAND BAG DITCH CHECK	(E-5)	INSTALLATION
STA. 101+58 TO 103+18	LT.	3
STA. 105+00 TO 107+00	LT.	3
STA. 109+95	LT.	1

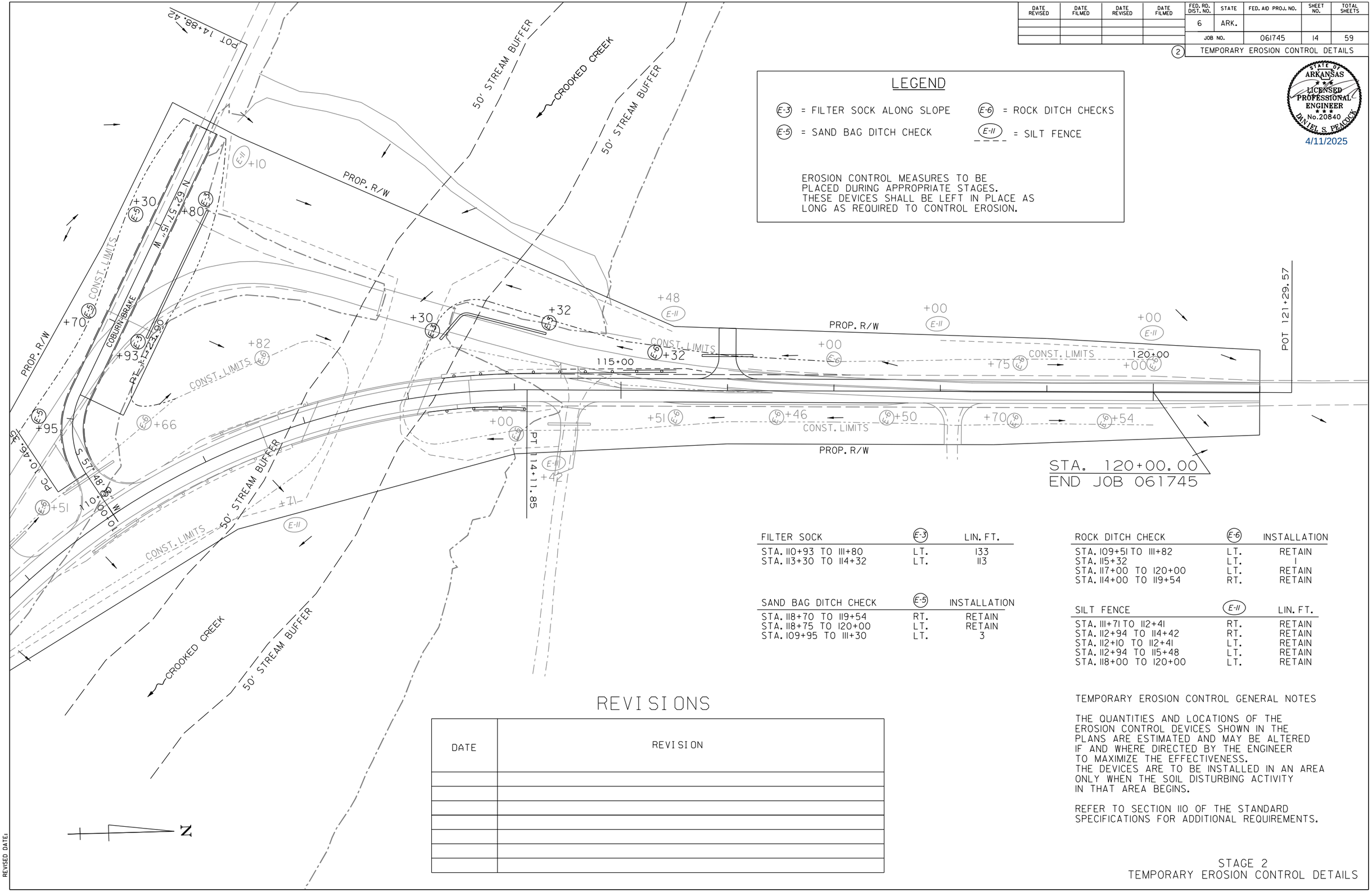
STAGE 2
TEMPORARY EROSION CONTROL DETAILS

$$USER$$
WORKSPACE: $$WORKSPACE$$
$$FILE$$
REVISED DATE: 2/6/2025 $$TIME$$

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061745	14	59
(2) TEMPORARY EROSION CONTROL DETAILS				

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 20840
DANIEL S. PEACOCK
4/11/2025



LEGEND

(E-3) = FILTER SOCK ALONG SLOPE
(E-5) = SAND BAG DITCH CHECK
(E-6) = ROCK DITCH CHECKS
(E-11) = SILT FENCE

EROSION CONTROL MEASURES TO BE PLACED DURING APPROPRIATE STAGES. THESE DEVICES SHALL BE LEFT IN PLACE AS LONG AS REQUIRED TO CONTROL EROSION.

FILTER SOCK	(E-3)	LIN. FT.
STA. 110+93 TO 111+80	LT.	133
STA. 113+30 TO 114+32	LT.	113

SAND BAG DITCH CHECK	(E-5)	INSTALLATION
STA. 118+70 TO 119+54	RT.	RETAIN
STA. 118+75 TO 120+00	LT.	RETAIN
STA. 109+95 TO 111+30	LT.	3

ROCK DITCH CHECK	(E-6)	INSTALLATION
STA. 109+51 TO 111+82	LT.	RETAIN
STA. 115+32	LT.	1
STA. 117+00 TO 120+00	LT.	RETAIN
STA. 114+00 TO 119+54	RT.	RETAIN

SILT FENCE	(E-11)	LIN. FT.
STA. 111+71 TO 112+41	RT.	RETAIN
STA. 112+94 TO 114+42	RT.	RETAIN
STA. 112+10 TO 112+41	LT.	RETAIN
STA. 112+94 TO 115+48	LT.	RETAIN
STA. 118+00 TO 120+00	LT.	RETAIN

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 THE EFFECTIVENESS.
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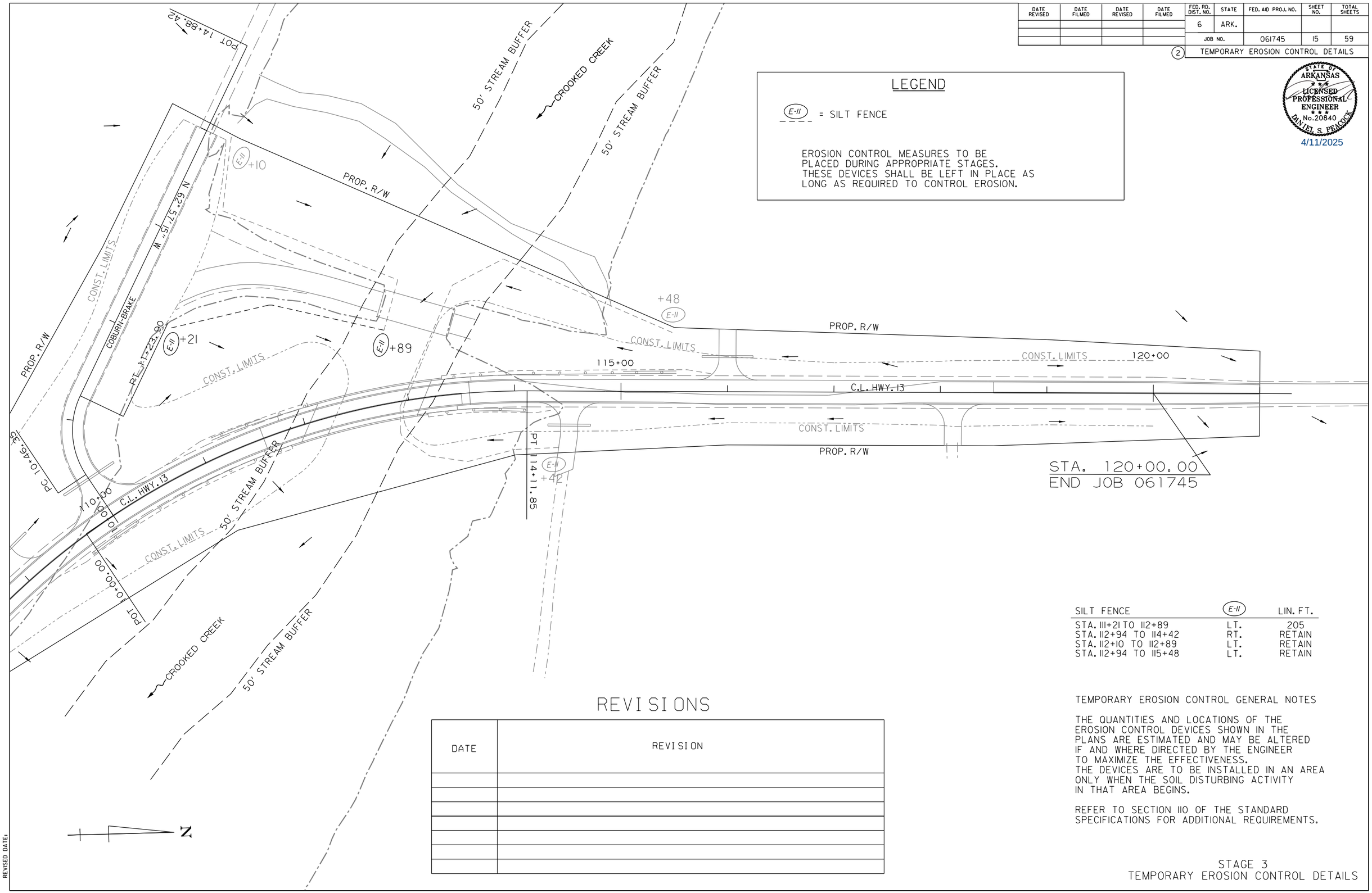
STAGE 2
TEMPORARY EROSION CONTROL DETAILS

$$USER$$
WORKSPACE: $$WORKSPACE$$
$$FILE$$
REVISED DATE: 2/6/2025 $$TIME$$

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061745	15	59
				(2)	TEMPORARY EROSION CONTROL DETAILS			



LEGEND

E-II = SILT FENCE

EROSION CONTROL MEASURES TO BE PLACED DURING APPROPRIATE STAGES. THESE DEVICES SHALL BE LEFT IN PLACE AS LONG AS REQUIRED TO CONTROL EROSION.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 20840
DANIEL S. PEACOCK
4/11/2025

STA. 120+00.00
END JOB 061745

SILT FENCE	E-II	LIN. FT.
STA. 111+21 TO 112+89	LT.	205
STA. 112+94 TO 114+42	RT.	RETAIN
STA. 112+10 TO 112+89	LT.	RETAIN
STA. 112+94 TO 115+48	LT.	RETAIN

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 THE EFFECTIVENESS.
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STAGE 3
TEMPORARY EROSION CONTROL DETAILS

$$USER$$
WORKSPACE: $$WORKSPACE$$
$$FILE$$
REVISED DATE: 2/6/2025 $$TIME$$

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061745	16	59
				(2)	MAINTENANCE OF TRAFFIC DETAILS			

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 20840
DANIEL S. PEACOCK
4/11/2025

STAGE 1 CONSTRUCTION SEQUENCE NOTES:

1) MAINTAIN HWY. 13 TRAFFIC ON EXISTING ALIGNMENT.

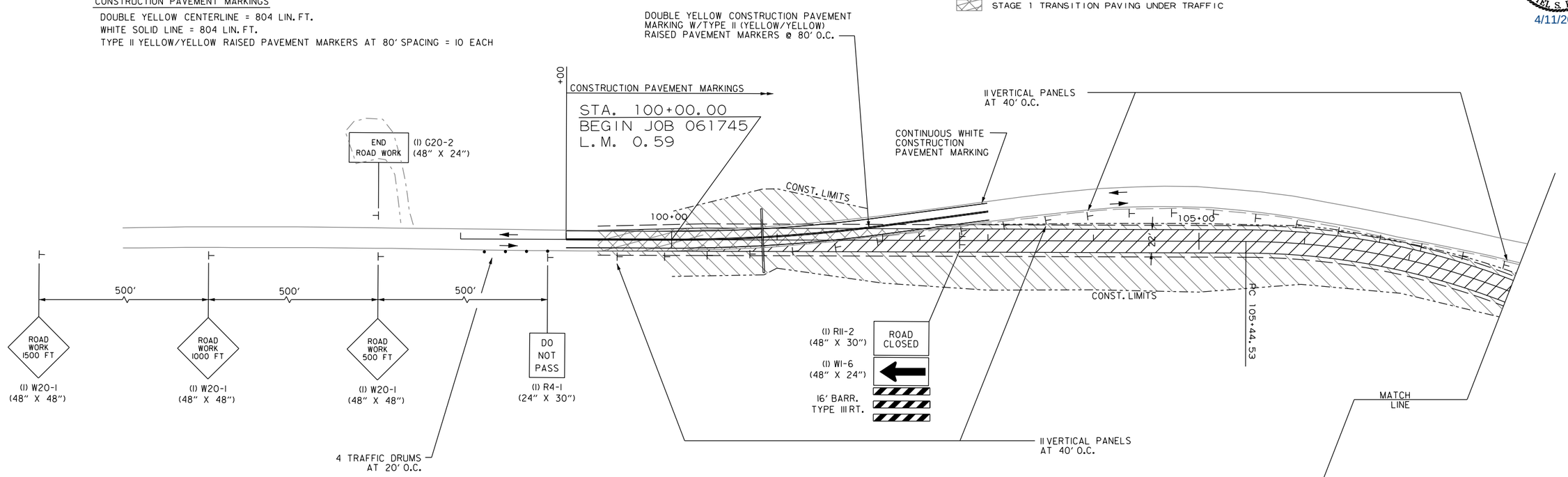
2) INSTALL ADVANCE WARNING SIGNS AND CHANNELIZING DEVICES.

3) CONSTRUCT REALIGNMENT OF HWY. 13 AS SHOWN ON MAINTENANCE OF TRAFFIC DETAILS.

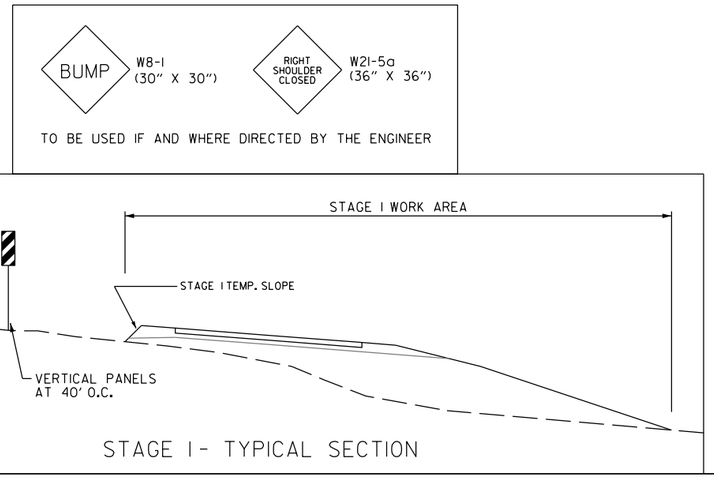
CONSTRUCTION PAVEMENT MARKINGS

DOUBLE YELLOW CENTERLINE = 804 LIN. FT.
WHITE SOLID LINE = 804 LIN. FT.
TYPE II YELLOW/YELLOW RAISED PAVEMENT MARKERS AT 80' SPACING = 10 EACH

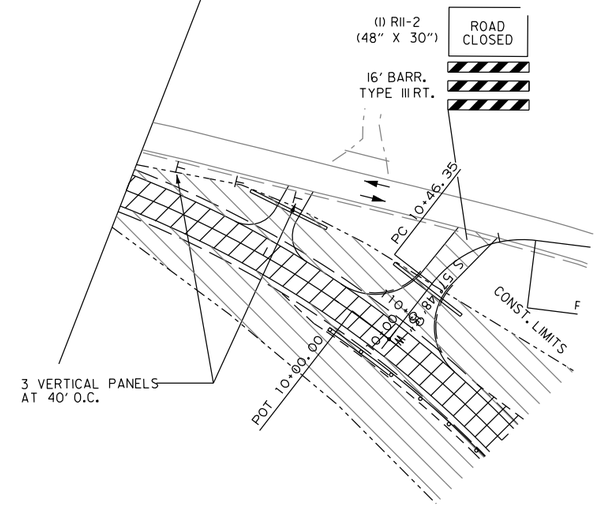
STAGE 1 TRAFFIC
STAGE 1 TRAFFIC DRUM
STAGE 1 VERTICAL PANEL
STAGE 1 PAVING
STAGE 1 PAVING UNDER TRAFFIC
STAGE 1 GRADING
STAGE 1 TRANSITION PAVING UNDER TRAFFIC



NOTE: ASPHALT LEVELING TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.



STAGE I- TYPICAL SECTION



MAINTENANCE OF TRAFFIC DETAILS
STAGE I

$$USER$$ 2/6/2025 $$TIME$$
WORKSPACE: $$WORKSPACE$$
$$FILE$$
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061745	17	59
				(2)	MAINTENANCE OF TRAFFIC DETAILS			

STAGE 1 CONSTRUCTION SEQUENCE NOTES:

1) MAINTAIN HWY. 13 TRAFFIC ON EXISTING ALIGNMENT.

2) INSTALL ADVANCE WARNING SIGNS AND CHANNELIZING DEVICES.

3) CONSTRUCT REALIGNMENT OF HWY. 13 AS SHOWN IN MAINTENANCE OF TRAFFIC.

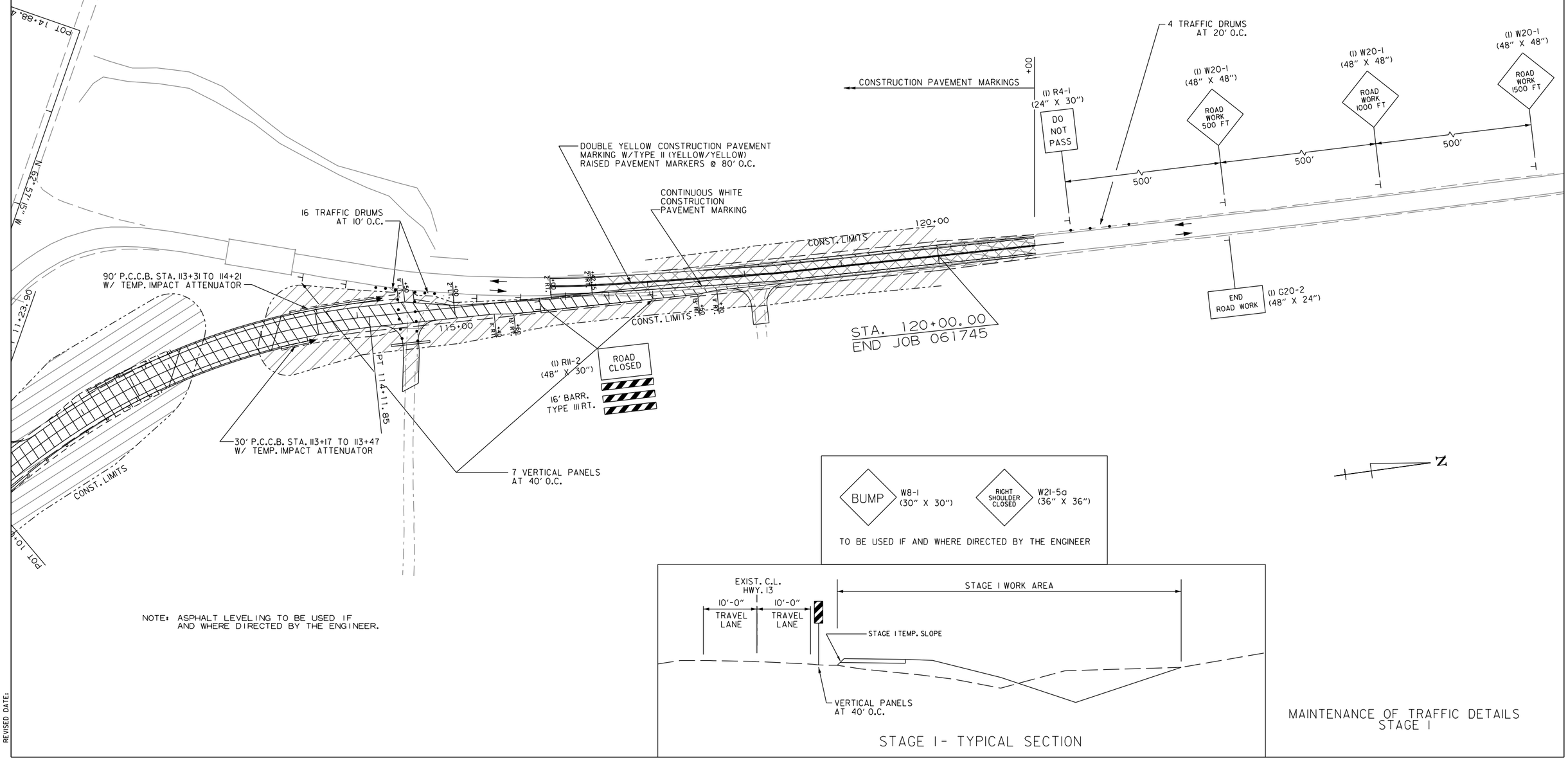
4) INSTALL CONCRETE MEDIAN BARRIER AND TEMPORARY IMPACT ATTENUATORS AT THE NORTH END OF THE BRIDGE AS SHOWN IN THE MAINTENANCE OF TRAFFIC.

CONSTRUCTION PAVEMENT MARKINGS

DOUBLE YELLOW CENTERLINE = 1002 LIN. FT.
WHITE SOLID LINE = 1000 LIN. FT.
TYPE II YELLOW/YELLOW RAISED PAVEMENT MARKERS AT 80' SPACING = 13 EACH

STAGE 1 TRAFFIC
STAGE 1 TRAFFIC DRUM
STAGE 1 VERTICAL PANEL
STAGE 1 PAVING
STAGE 1 PAVING UNDER TRAFFIC
STAGE 1 GRADING
STAGE 1 TRANSITION PAVING UNDER TRAFFIC

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 20840
DANIEL S. PEACOCK
4/11/2025



NOTE: ASPHALT LEVELING TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.

MAINTENANCE OF TRAFFIC DETAILS
STAGE I

$$USER$$ 2/6/2025 $$TIME$$
WORKSPACE: $$WORKSPACE$$
$$FILE$$
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061745	18	59
				(2)	MAINTENANCE OF TRAFFIC DETAILS			

STAGE 2 CONSTRUCTION SEQUENCE NOTES:

1) SWITCH HWY. 13 TRAFFIC ONTO NEW ALIGNMENT.

2) MAINTAIN ADVANCE WARNING SIGNS FROM STAGE 1. INSTALL WARNING SIGNS APPROACHING ONE-LANE SECTION AS SHOWN IN MAINTENANCE OF TRAFFIC DETAILS.

3) INSTALL CHANNELIZING DEVICES AS SHOWN IN MAINTENANCE OF TRAFFIC DETAILS.

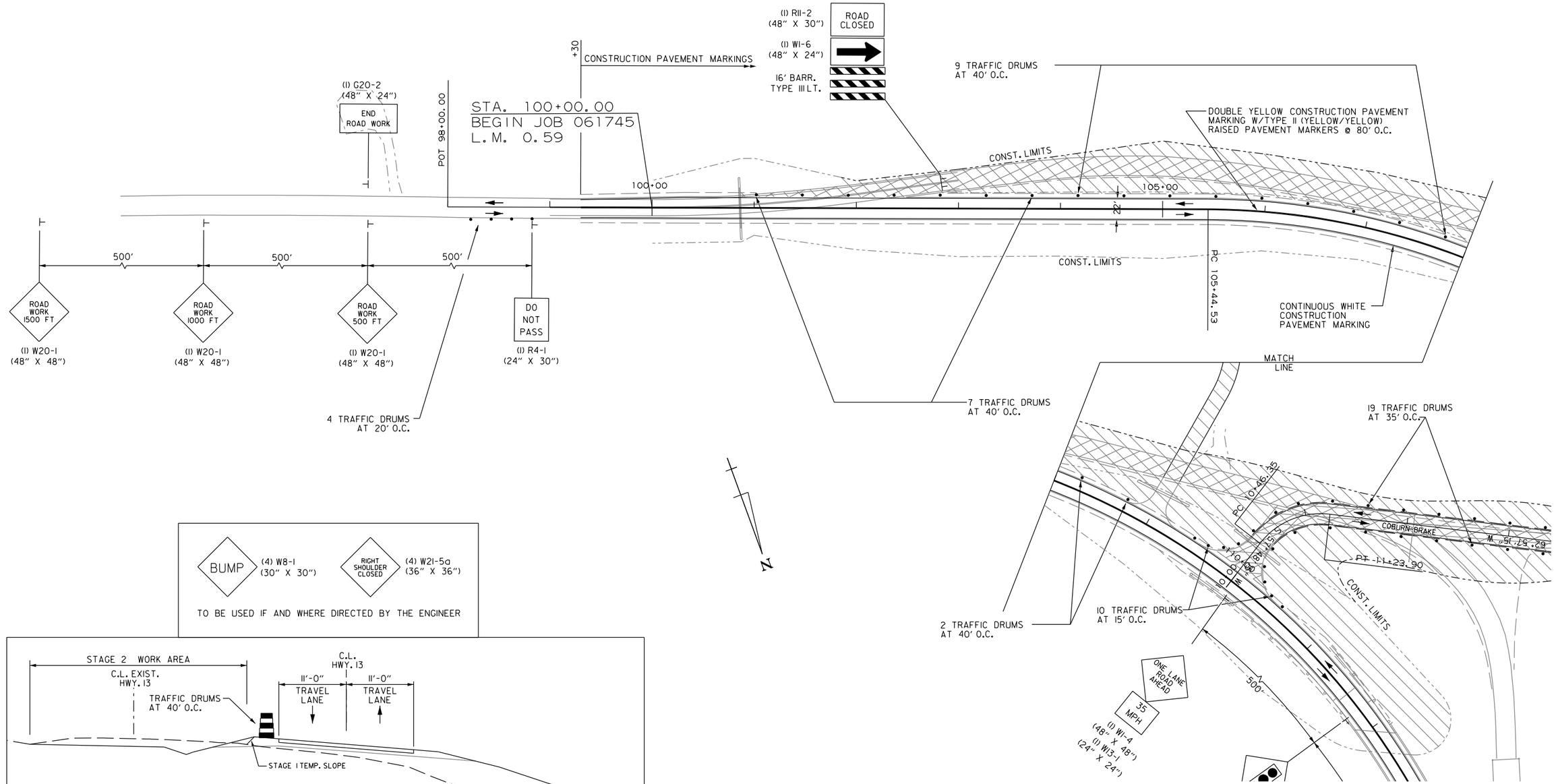
4) COMPLETE GRADING AND REMOVAL OF EXITING ROADBED ON SOUTHERN SIDE OF ALIGNMENT.

STAGE 2 TRAFFIC
STAGE 2 TRAFFIC DRUM
STAGE 2 VERTICAL PANEL
STAGE 2 PAVING
STAGE 2 GRADING AND REMOVAL
STAGE 2 GRADING
STAGE 2 CONSTRUCTION UNDER TRAFFIC

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 20840
DANIEL S. PEACOCK
4/11/2025

CONSTRUCTION PAVEMENT MARKINGS

DOUBLE YELLOW CENTERLINE = 2600 LIN. FT.
WHITE SOLID LINE = 2540 LIN. FT.
TYPE II YELLOW/YELLOW RAISED PAVEMENT MARKERS AT 80' SPACING = 33 EACH



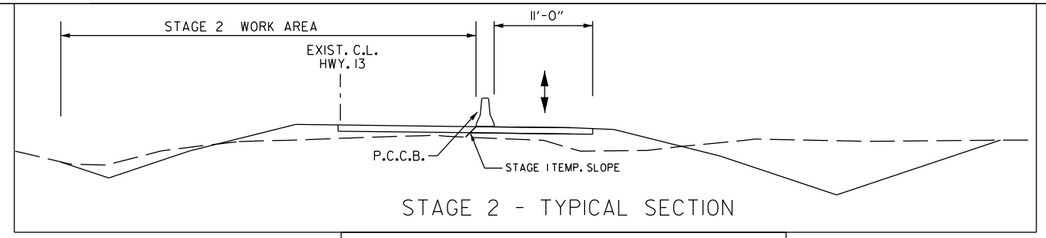
BUMP (4) W8-1 (30" X 30")
RIGHT SHOULDER CLOSED (4) W21-5a (36" X 36")
TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER

STAGE 2 - TYPICAL SECTION

MAINTENANCE OF TRAFFIC DETAILS
STAGE 2

$$USER$$
WORKSPACE: $$WORKSPACE$$
$$FILE$$
REVISED DATE:
2/6/2025 $$TIME$$

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
06/13/2025				6	ARK.			
				JOB NO.		061745	19	59
				(2)	MAINTENANCE OF TRAFFIC DETAILS			



STAGE 2 - TYPICAL SECTION

BUMP (4) W8-1 (30" X 30")

RIGHT SHOULDER CLOSED (4) W21-5a (36" X 36")

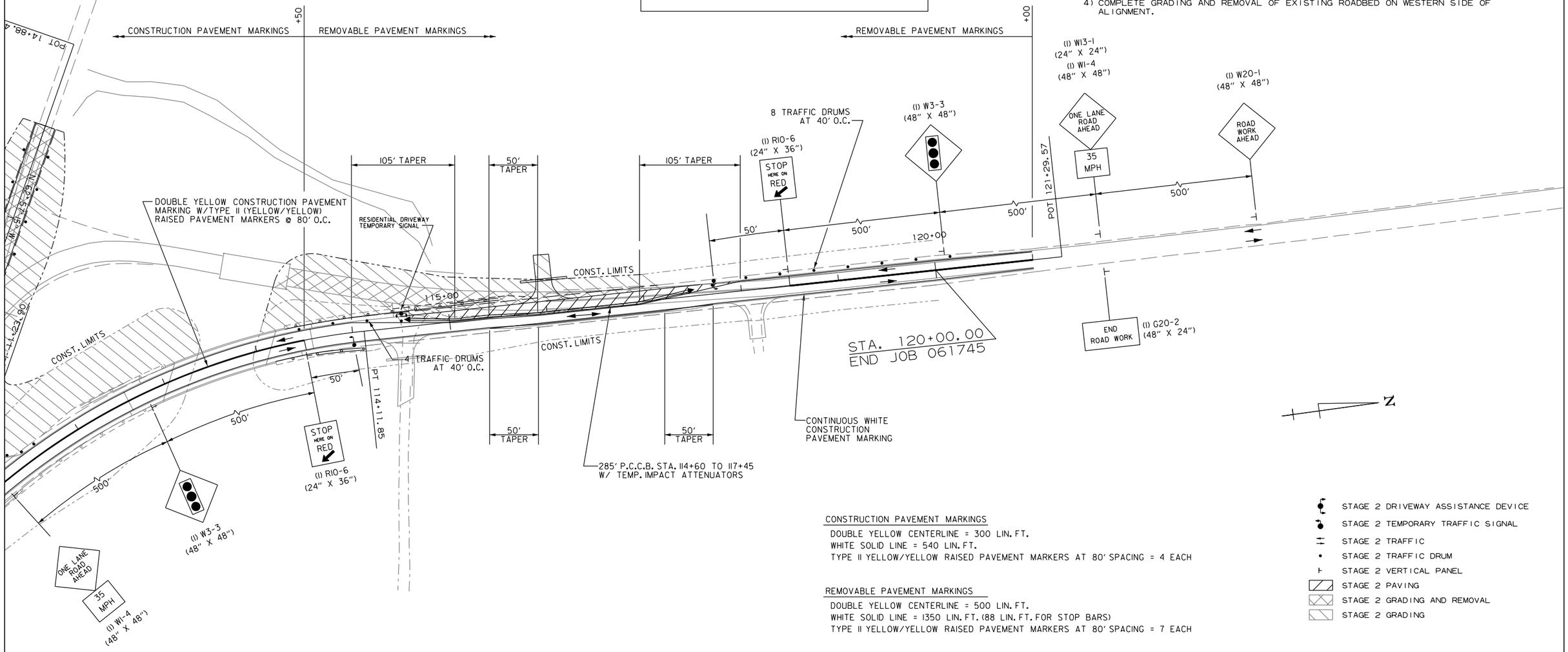
TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20840
DANIEL S PEACOCK

6/16/2025

STAGE 2 CONSTRUCTION SEQUENCE NOTES:

1) SWITCH HWY. 13 TRAFFIC ONTO NEW ALIGNMENT.
2) INSTALL ADVANCE WARNING SIGNS AS SHOWN IN MAINTENANCE OF TRAFFIC DETAILS.
3) INSTALL CHANNELIZING DEVICES AS SHOWN IN MAINTENANCE OF TRAFFIC DETAILS.
4) COMPLETE GRADING AND REMOVAL OF EXISTING ROADBED ON WESTERN SIDE OF ALIGNMENT.



CONSTRUCTION PAVEMENT MARKINGS

DOUBLE YELLOW CENTERLINE = 300 LIN. FT.
WHITE SOLID LINE = 540 LIN. FT.
TYPE II YELLOW/YELLOW RAISED PAVEMENT MARKERS AT 80' SPACING = 4 EACH

REMOVABLE PAVEMENT MARKINGS

DOUBLE YELLOW CENTERLINE = 500 LIN. FT.
WHITE SOLID LINE = 1350 LIN. FT. (88 LIN. FT. FOR STOP BARS)
TYPE II YELLOW/YELLOW RAISED PAVEMENT MARKERS AT 80' SPACING = 7 EACH

- STAGE 2 DRIVEWAY ASSISTANCE DEVICE
- STAGE 2 TEMPORARY TRAFFIC SIGNAL
- STAGE 2 TRAFFIC
- STAGE 2 TRAFFIC DRUM
- STAGE 2 VERTICAL PANEL
- STAGE 2 PAVING
- STAGE 2 GRADING AND REMOVAL
- STAGE 2 GRADING

MAINTENANCE OF TRAFFIC DETAILS
STAGE 2

$$USER$$
WORKSPACE: $$WORKSPACE$$
$$FILE$$
REVISED DATE:
6/16/2025 $$TIME$$

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061745	20	59
				(2)	MAINTENANCE OF TRAFFIC DETAILS			

STAGE 3 CONSTRUCTION SEQUENCE NOTES:

1) MAINTAIN HWY. 13 ON NEW ALIGNMENT.

2) MAINTAIN ADVANCE WARNING SIGNS FROM STAGE 2.

3) REMOVE REMAINDER EXISTING HWY. 13 ASPHALT AND EMBANKMENT.

4) PLACE FINAL LIFT OF SURFACE COURSE AND PERMANENT STRIPING.

CONSTRUCTION PAVEMENT MARKINGS

DOUBLE YELLOW CENTERLINE = 2540 LIN. FT.
WHITE SOLID LINE = 2540 LIN. FT.
TYPE II YELLOW/YELLOW RAISED PAVEMENT MARKERS AT 80' SPACING = 32 EACH

STAGE 3 TRAFFIC
STAGE 3 TRAFFIC DRUM
STAGE 3 VERTICAL PANEL
STAGE 3 PAVING
STAGE 3 EXITING ROAD REMOVAL

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 20840
DANIEL S. PEACOCK
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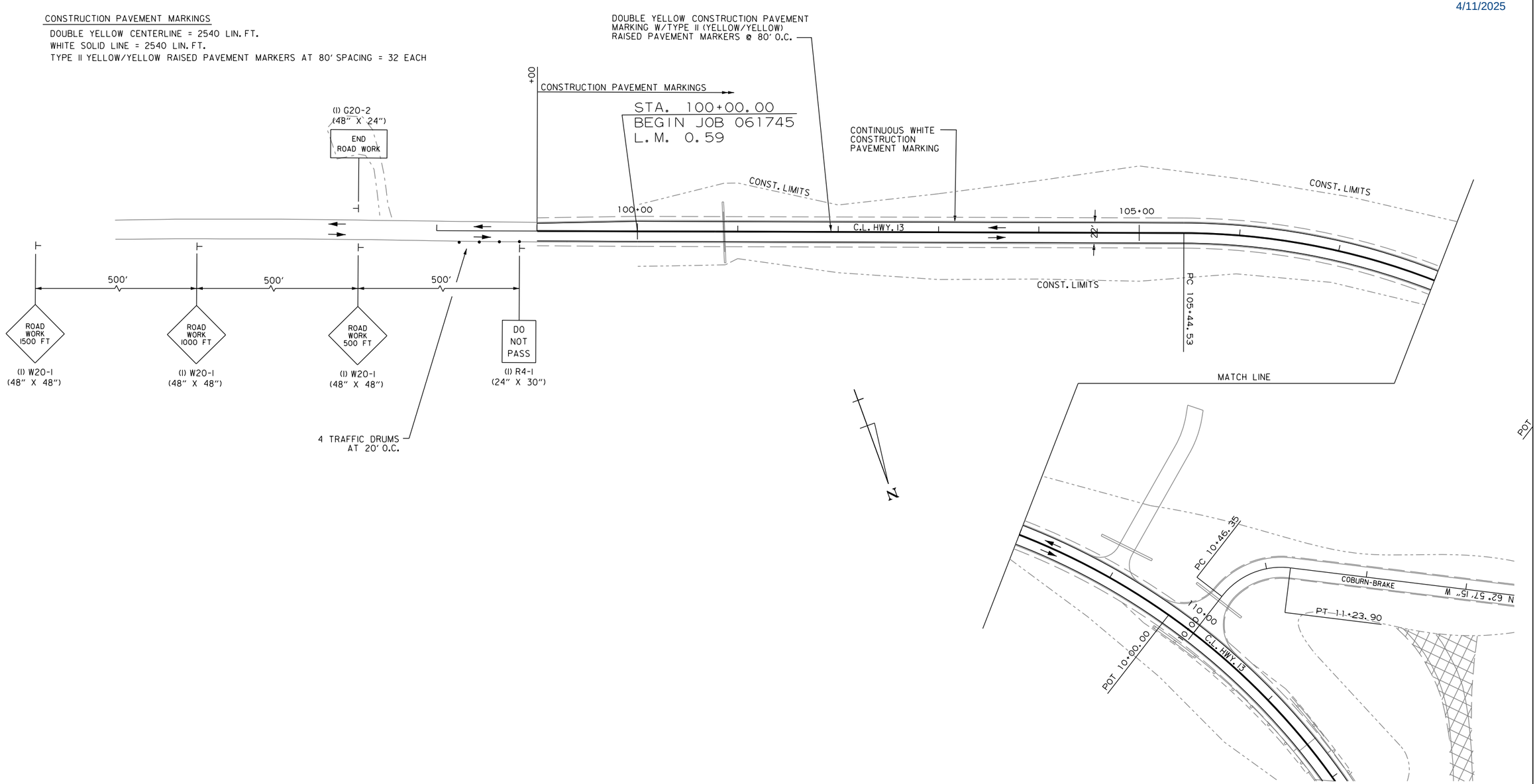


MAINTENANCE OF TRAFFIC DETAILS
STAGE 3

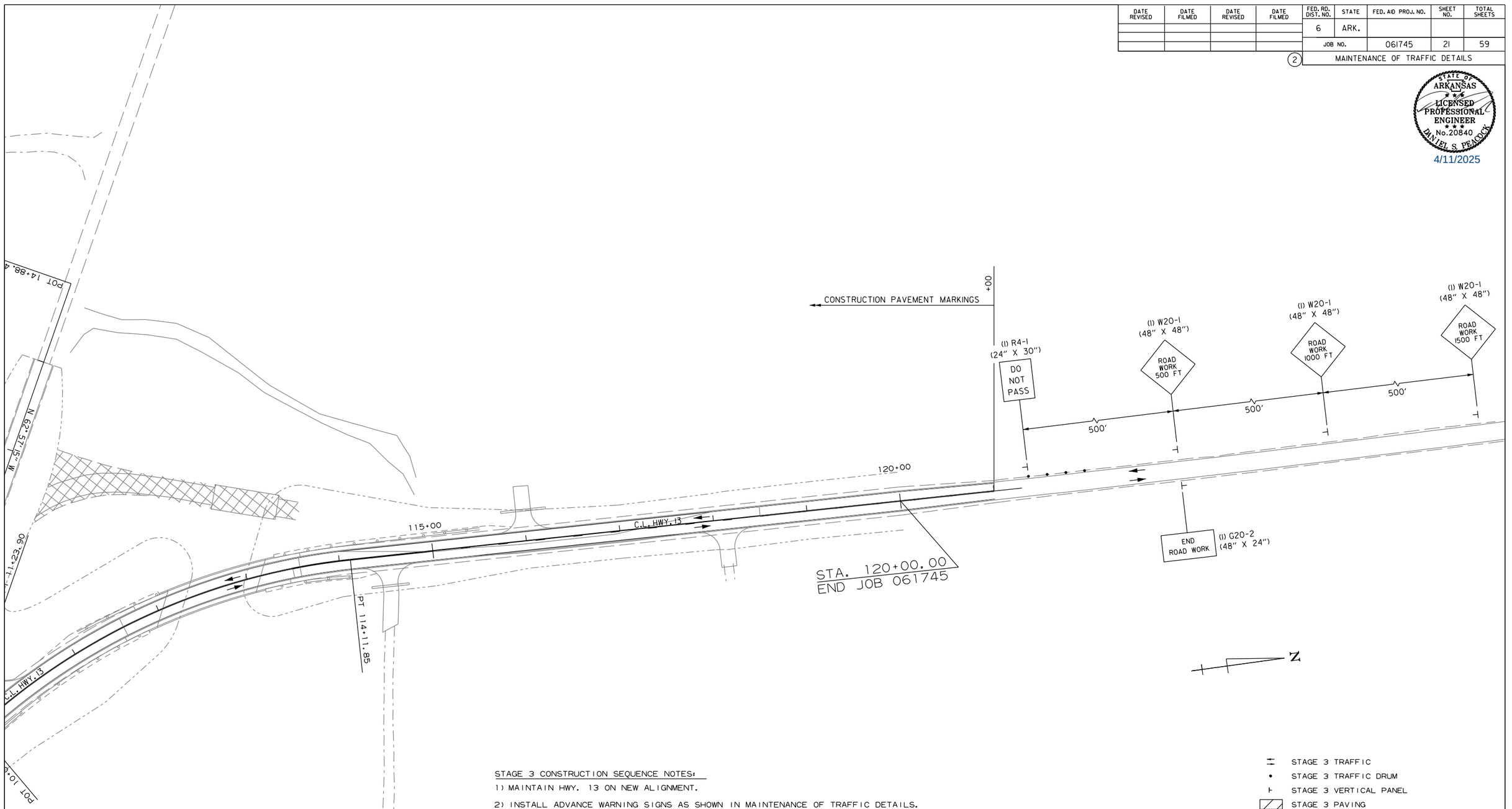
$$USER$$ 2/6/2025 $$TIME$$
WORKSPACE: $$WORKSPACE$$
$$FILE$$
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061745	21	59
(2)	MAINTENANCE OF TRAFFIC DETAILS			

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 20840
DANIEL S. PEACOCK

4/11/2025



STAGE 3 CONSTRUCTION SEQUENCE NOTES:

1) MAINTAIN HWY. 13 ON NEW ALIGNMENT.

2) INSTALL ADVANCE WARNING SIGNS AS SHOWN IN MAINTENANCE OF TRAFFIC DETAILS.

3) REMOVE REMAINDER OF EXISTING HWY. 13 ASPHALT AND EMBANKMENT.

4) PLACE FINAL LIFT OF SURFACE COURSE AND PERMANENT STRIPING.

CONSTRUCTION PAVEMENT MARKINGS

DOUBLE YELLOW CENTERLINE = 1201 LIN. FT.
YELLOW SKIP LINE = 600 LIN. FT.
WHITE SOLID LINE = 1802 LIN. FT.
TYPE II YELLOW/YELLOW RAISED PAVEMENT MARKERS AT 80' SPACING = 12 EACH

- STAGE 3 TRAFFIC
- STAGE 3 TRAFFIC DRUM
- STAGE 3 VERTICAL PANEL
- STAGE 3 PAVING
- STAGE 3 EXISTING ROAD REMOVAL

MAINTENANCE OF TRAFFIC DETAILS
STAGE 3

$$USER$$
WORKSPACE: $$WORKSPACE$$
$$FILE$$
REVISED DATE: 2/6/2025 $$TIME$$

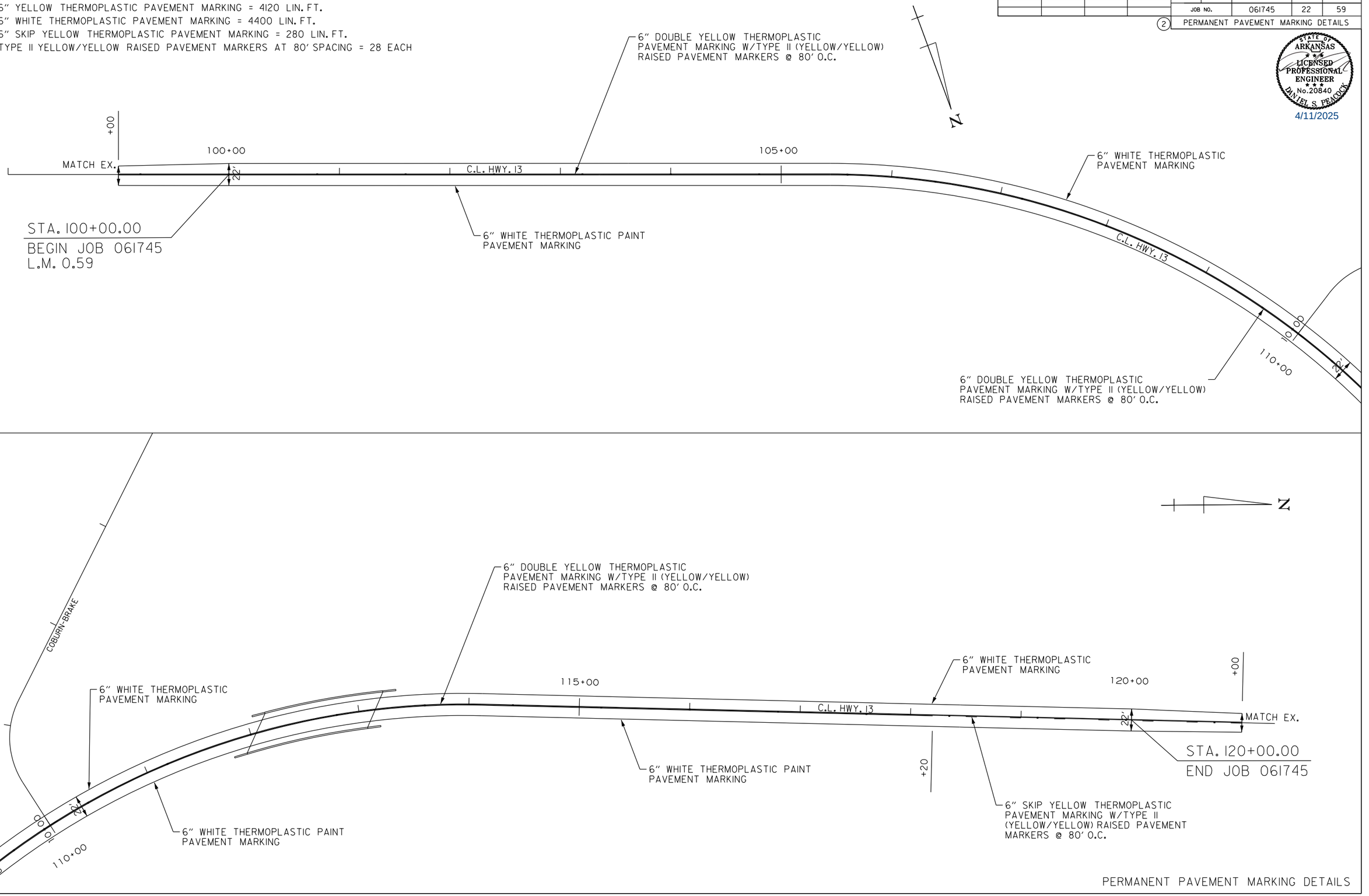
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061745	22	59

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 20840
DANIEL S. PEACOCK
4/11/2025

6" YELLOW THERMOPLASTIC PAVEMENT MARKING = 4120 LIN. FT.
6" WHITE THERMOPLASTIC PAVEMENT MARKING = 4400 LIN. FT.
6" SKIP YELLOW THERMOPLASTIC PAVEMENT MARKING = 280 LIN. FT.
TYPE II YELLOW/YELLOW RAISED PAVEMENT MARKERS AT 80' SPACING = 28 EACH



PERMANENT PAVEMENT MARKING DETAILS

$$USER$$
WORKSPACE: $$WORKSPACE$$
$$FILE$$
REVISED DATE: 2/6/2025 $$TIME$$

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
06/13/2025				6	ARK.			
				JOB NO.		061745	23	59
				(2)		QUANTITIES		

ADVANCE WARNING SIGNS AND DEVICES

SIGN NUMBER	DESCRIPTION	SIGN SIZE	STAGE 1	STAGE 2	STAGE 3	MAXIMUM NUMBER REQUIRED	TOTAL SIGNS REQUIRED		VERTICAL PANELS	TRAFFIC DRUMS	BARRICADES (TYPE III)		FURNISHING & INSTALLING PRECAST CONC. BARRIER	TEMPORARY IMPACT ATTENUATION BARRIER	TEMP. IMPACT ATTEN.BARR. (REPAIR)	* PORTABLE TRAFFIC SIGNAL SYSTEM - ACTUATED
											RIGHT	LEFT				
			LIN. FT. - EACH				NO.	SQ. FT.	EACH		LIN. FT.			EACH		WEEK
W20-1	ROAD WORK 1500 FT.	48"x48"	2	1	2	2	2	32.0								
W20-1	ROAD WORK 1000 FT.	48"x48"	2	1	2	2	2	32.0								
W20-1	ROAD WORK 500 FT.	48"x48"	2	1	2	2	2	32.0								
W20-1	ROAD WORK AHEAD	48"x48"		1		1	1	16.0								
G20-2	END ROAD WORK	48"x24"	2	2	2	2	2	16.0								
W1-4	ONE LANE ROAD	48"x48"		2		2	2	32.0								
W13-1	SPEED LIMIT (ADVISORY)	24"x24"		2		2	2	8.0								
R11-2	ROAD CLOSED	48"x30"	3	1		3	3	30.0								
W1-6	LARGE ARROW	48"x24"	1	1		1	1	8.0								
W3-3	TEMPORARY STOPLIGHT AHEAD	48"x48"		2		2	2	32.0								
R4-1	DO NOT PASS	24"x30"	2	2	2	2	2	10.0								
R10-6	STOP HERE ON RED	24"X36"		2		2	2	12.0								
W21-5a	RIGHT SHOULDER CLOSED	36"x36"	2	2		2	2	18.0								
W8-1	BUMP	30"x30"	2	2		2	2	12.5								
	VERTICAL PANELS		32			32			32							
	TRAFFIC DRUMS		20	63	4	63				63						
	TYPE III BARRICADE-RT. (16')		3			3					48					
	TYPE III BARRICADE-LT. (16')			1		1						16				
	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER		120	285		405							405			
	TEMPORARY IMPACT ATTENUATION BARRIER		2	1		3								3		
	TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR)		1	1		2									2	
	PORTABLE TRAFFIC SIGNAL SYSTEM - ACTUATED			1		1										6
TOTALS:								**290.5**	**32.0**	**63.0**	**48.0**	**16.0**	**405.0**	**3.0**	**2.0**	**6.0**

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

THE QUANTITY OF VERTICAL PANELS PROVIDED IN THE CONTRACT IS FOR ONE SIDE OF THE ROADWAY FOR THE FULL LENGTH OF THE JOB. THIS IS THE MAXIMUM QUANTITY REQUIRED TO ALLOW THE CONTRACTOR TO NOTCH ONE MILE, BACKFILL TO A POINT WHERE THE VERTICAL DIFFERENTIAL IS 4" OR LESS, AND THEN NOTCH ANOTHER ONE-MILE SECTION. THIS IS THE MAXIMUM NUMBER OF VERTICAL PANELS THAT WILL BE PAID FOR. REFER TO SECTION 603.02 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION REQUIREMENTS.

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

CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS

DESCRIPTION	STAGE 1	STAGE 2	STAGE 3	END OF JOB	REMOVAL OF PERMANENT PAVEMENT MARKINGS	CONSTRUCTION PAVEMENT MARKINGS	REMOVABLE CONSTRUCTION PAVEMENT MARKINGS	RAISED PAVEMENT MARKERS	THERMOPLASTIC PAVEMENT MARKING	
								TYPE II	6"	
								(YELLOW/YELLOW)	WHITE	YELLOW
	LIN. FT. - EACH				LIN. FT.		LIN. FT.	EACH	LIN. FT.	
REMOVAL OF PERMANENT PAVEMENT MARKINGS		590			590					
CONSTRUCTION PAVEMENT MARKINGS	3610	5980	8683			18273				
REMOVABLE CONSTRUCTION PAVEMENT MARKINGS		1850					1850			
RAISED PAVEMENT MARKERS TYPE II (YELLOW/YELLOW)	23	37	44	28				132		
THERMOPLASTIC PAVEMENT MARKING WHITE (6")				4400					4400	
THERMOPLASTIC PAVEMENT MARKING YELLOW (6")				4400						4400
TOTALS:					**590**	**18273**	**1850**	**132**	**4400**	**4400**

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

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

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20840
DANIEL S. PEACOCK

6/16/2025

$$USER$$
WORKSPACE: $$WORKSPACE$$
$$FILE$$
REVISED DATE: 6/16/2025 $$TIME$$

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061745	24	59
				(2)	QUANTITIES			

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 20840
DANIEL S. PEACOCK
4/11/2025

DRIVEWAYS & TURNOUTS

STATION	SIDE	LOCATION	WIDTH	ACHM SURFACE COURSE (1/2") 220 LBS. PER SQ. YD. (PG 64-22)		AGGREGATE BASE COURSE (CLASS 7)	SIDE DRAINS 24"	STANDARD DRAWINGS
			FEET	SQ. YD.	TON	TON	LIN. FT.	
109+00	LT	HWY. 13	16	37.01	4.07	163.05	56	PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
114+52	RT	HWY. 13	16	37.01	4.07	38.17	40	PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
116+00	LT	HWY. 13	16	37.01	4.07	41.06	48	PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
118+12	RT	HWY. 13	16	37.01	4.07	32.85		PCC-1, PCM-1, PCP-1, PCP-2, PCP-3
* ENTIRE PROJECT TEMPORARY DRIVES						40.00		
TOTALS:				**148.04**	**16.28**	**315.13**	**144**	

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.2% MIN. AGGR.....5.8% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22

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

MAILBOXES

LOCATION	MAILBOXES	MAILBOX SUPPORTS (SINGLE)
	EACH	EACH
HWY. 13 STA. 114+66 RT	2	2
TOTALS:	**2**	**2**

4" PIPE UNDERDRAIN

STATION	STATION	LOCATIONS	4" PIPE UNDERDRAINS	UNDERDRAIN OUTLET PROTECTORS
			LIN. FT.	EACH
* ENTIRE PROJECT TO BE USED IF AND			100	4
WHERE DIRECTED BY THE ENGINEER				
TOTALS:			**100**	**4**

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

STRUCTURES

STATION	DESCRIPTION	REINFORCED CONCRETE PIPE CULVERT (CLASS III)		FLARED END SECTIONS FOR R.C. PIPE CULVERTS 24"	SOLID SODDING	WATER	STD. DWG. NOS.
		18"	24"	24"			
		LIN. FT.		EACH	SQ.YD.	M.GAL.	
100+86	HWY. 13	54					
10+42	COBURN-BRAKE		56	2	16	0.20	
TOTALS:		**54**	**56**	**2**	**16**	**0.20**	

BASIS OF ESTIMATE:
WATER.....12.6 GAL. / SQ. YD. OF SOLID SODDING
NOTE: FOR C.M. PIPE CULVERT INSTALLATIONS USE TYPE 2 BEDDING UNLESS OTHERWISE SPECIFIED.

REMOVAL AND DISPOSAL OF CULVERTS

STATION	DESCRIPTION	PIPE CULVERTS
		EACH
100+86	HWY. 13 LT - 18" SIDE DRAIN	1
109+00	HWY. 13 LT - 18" SIDE DRAIN	1
114+52	HWY. 13 RT - 24" SIDE DRAIN	1
116+00	HWY. 13 LT - 18" SIDE DRAIN	1
TOTALS:		**4**

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

REMOVAL OF EXISTING BRIDGE STRUCTURE

STATION	STATION	LOCATION	LUMP SUM
112+06	113+15	BRIDGE M3219	1.00

NOTE: STATIONING IS BASED ON REALIGNMENT

FLOWABLE SELECT MATERIAL

STATION	LOCATION	CU. YD.
100+86.26	HWY. 13 - 18" PIPE CULVERT CROSS DRAIN	12
TOTAL:		**12**

REMOVAL AND DISPOSAL OF ITEMS

STATION	STATION	LOCATION	MAILBOXES	HEADWALLS	SIGNS
			EACH	EACH	EACH
100+86		HWY. 13		2	
114+66		HWY. 13	2		
106+60	118+70	HWY. 13 LT			21
TOTALS:			**2**	**2**	**21**

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.
NOTE: THE REMOVAL AND DISPOSAL OF ASPHALT PAVEMENT IS BASED ON THE STATIONING OF THE REALIGNMENT.

$$USER$$ $$DATE$$ $$TIME$$
WORKSPACE: $$WORKSPACE$$
$$FILE$$
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
06/13/2025				6	ARK.			
				JOB NO.		061745	25	59
				(2)		QUANTITIES		

BASE AND SURFACING

STATION	STATION	LOCATION	LENGTH	AGGREGATE BASE COURSE (CLASS 7)		TACK COAT (0.17 GAL. PER SQ. YD.)				ACHM BINDER COURSE (1")				ACHM SURFACE COURSE (1/2")							
				TON / STATION	TON	TOTAL WID.	SQ.YD.	GALLON	TOTAL GALLONS	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 64-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 64-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	TOTAL PG 64-22
			FEET			FEET				FEET			TON	FEET			TON	FEET			TON
MAIN LANES																					
99+00.00	100+00.00	HWY. 13 - TRANSITION FROM EXISTING	100.00			24.00	266.67	45.33	45.33					24.00	266.67	220.00	29.33				29.33
100+00.00	102+47.95	HWY. 13 - NOTCH AND WIDEN	247.95	93.00	230.59	32.71	901.16	153.20	153.20	6.46	177.97	330.00	29.37	6.25	172.19	220.00	18.94	26.00	716.30	220.00	78.79	97.73
102+47.95	112+05.00	HWY. 13 - FULL DEPTH	957.05	191.00	1827.97	44.71	4754.41	808.25	808.25	22.46	2388.37	330.00	394.08	22.25	2366.04	220.00	260.26	26.00	2764.81	220.00	304.13	564.39
113+50.00	116+80.00	HWY. 13 - FULL DEPTH	330.00	191.00	630.30	44.71	1639.37	278.69	278.69	22.46	823.53	330.00	135.88	22.25	815.83	220.00	89.74	26.00	953.33	220.00	104.87	194.61
116+80.00	120+00.00	HWY. 13 - NOTCH AND WIDEN	320.00	93.00	297.60	32.71	1163.02	197.71	197.71	6.46	229.69	330.00	37.90	6.25	222.22	220.00	24.44	26.00	924.44	220.00	101.69	126.13
120+00.00	121+00.00	HWY. 13 - TRANSITION TO EXISTING	100.00			24.00	266.67	45.33	45.33					24.00	266.67	220.00	29.33					29.33
10+11.00	14+00.00	COBURN-BRAKE - FULL DEPTH	389.00	98.75	384.14																	
ADDITIONAL FOR LEVELING																						
100+00.00	102+47.95	HWY. 13 - NOTCH AND WIDEN	247.95			10.00	275.50	46.84	46.84									20.00	551.00	VAR.	181.83	181.83
116+80.00	120+00.00	HWY. 13 - NOTCH AND WIDEN	320.00			10.00	355.56	60.45	60.45									20.00	711.11	VAR.	234.67	234.67
ADDITIONAL FOR GRADE RAISE																						
115+59.00	116+41.00	HWY. 13 - RAISE TO GRADE	82.00							10.00	91.11	660.00	30.07									
TOTALS:					**3370.60**		**9622.36**	**1635.80**	**1635.80**		**3710.67**		**627.30**		**4109.62**		**452.04**		**6620.99**		**1005.98**	**1458.02**

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.2% MIN. AGGR.....5.8% ASPHALT BINDER
ACHM BINDER COURSE (1").....95.3% MIN. AGGR.....4.7% ASPHALT BINDER
TACK COAT QUANTITIES WERE CALCULATED USING THE EMULSIFIED ASPHALT RATES. REFER TO SS-400-1 FOR THE RESIDUAL ASPHALT APPLICATION RATES.

ACHM PATCHING OF EXISTING ROADWAY

DESCRIPTION	TON
ENTIRE PROJECT - TO BE USED IF AND WHERE	100
DIRECTED BY THE ENGINEER	
TOTAL:	**100**

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

CLEARING AND GRUBBING

STATION	STATION	LOCATION	CLEARING	GRUBBING
			STATION	
99+00	112+05	HWY. 13	14	14
113+15	116+00	HWY. 13	3	3
TOTALS:			**17**	**17**

COLD MILLING ASPHALT PAVEMENT

STATION	STATION	LOCATION	AVG. WIDTH	COLD MILLING ASPHALT PAVEMENT
			FEET	SQ. YD.
100+00.00	102+47.95	HWY. 13 - MAIN LANES	24.00	661.20
115+21.72	121+00.00	HWY. 13 - MAIN LANES	24.00	1542.08
10+00.00	12+23.39	COBURN-BRAKE	20.00	496.42
TOTAL:				**2699.70**

NOTE: COORDINATE COLD MILLING STOCKPILE LOCATIONS WITH DISTRICT ENGINEER.
STOCKPILE LOCATIONS SHALL BE NO FURTHER THAN FIVE MILES FROM EACH SITE.

SOIL STABILIZATION

STATION	STATION	LOCATION / DESCRIPTION	SOIL STABILIZATION
			TON
ENTIRE	PROJECT	TO BE USED IF AND WHERE	100
		DIRECTED BY THE ENGINEER	
TOTAL:			**100**

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

GUARDRAIL

STATION	STATION	LOCATION	GUARDRAIL (TYPE A)	THRIE BEAM GUARDRAIL TERMINAL	GUARDRAIL TERMINAL (TYPE 2)
			LIN. FT.	EACH	
109+63.21	111+81.96	RT. SIDE	150	1	1
111+15.49	112+09.24	LT. SIDE	25	1	1
113+15.02	114+08.77	RT. SIDE	25	1	1
113+33.78	115+52.53	LT. SIDE	150	1	1
TOTALS:			**350**	**4**	**4**

ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC

LOCATION	TON	TACK COAT
		GALLON
ENTIRE PROJECT - TO BE USED IF AND WHERE	10	20
DIRECTED BY THE ENGINEER		
TOTALS:	**10**	**20**

BASIS OF ESTIMATE:
ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC...25 TON/MILE
TACK COAT FOR MAINTENANCE OF TRAFFIC.....50 GAL./MILE

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20840
DANIEL S. PEACOCK
6/16/2025

QUANTITIES

$$USER$$
WORKSPACE: $$WORKSPACE$$
$$FILE$$
REVISED DATE: 6/16/2025 $$TIME$$

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
06/13/2025				6	ARK.			
				JOB NO.		061745	26	59
				(2)		QUANTITIES		

EROSION CONTROL

STATION	STATION	LOCATION	PERMANENT EROSION CONTROL					TEMPORARY EROSION CONTROL							
			SEEDING	LIME	MULCH COVER	WATER	SECOND SEEDING APPLICATION	TEMPORARY SEEDING	MULCH COVER	WATER	FILTER SOCK (E-3)	SAND BAG DITCH CHECKS (E-5)	ROCK DITCH CHECKS (E-6)	SILT FENCE (E-11)	*SEDIMENT REMOVAL & DISPOSAL
			ACRE	TON	ACRE	M.GAL.	ACRE	ACRE	ACRE	M.GAL.	LIN. FT.	BAG	CU.YD.	LIN. FT.	CU. YD.
ENTIRE	PROJECT	CLEARING AND GRUBBING						4.80	4.80	97.9		88	60	2325	86
ENTIRE	PROJECT	STAGE 1	1.45	2.90	1.45	147.9	1.45	0.22	0.22	4.5	703		45	55	2
ENTIRE	PROJECT	STAGE 2	1.56	3.12	1.56	159.1	1.56				246	66	6	187	7
ENTIRE	PROJECT	STAGE 3	0.31	0.62	0.31	31.6	0.31							205	8
*ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.			0.66	1.32	0.66	67.3	0.66	1.00	1.00	20.4	190	31	22	554	21
TOTALS:			**3.98**	**7.96**	**3.98**	**405.9**	**3.98**	**6.02**	**6.02**	**122.8**	**1139**	**185**	**133**	**3326**	**124**

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
WATER.....12.6 GAL. / SQ. YD. OF SOLID SODDING
WATTLE DITCH CHECKS.....9 LIN. FT. / LOCATION
SAND BAG DITCH CHECKS.....22 BAGS / LOCATION
ROCK DITCH CHECKS.....3 CU.YD./LOCATION
FILTER SOCKS.....23 LIN. FT./ 4' DIA. INLET
27 LIN. FT. / 5' DIA. INLET
30 LIN. FT. / 6' DIA. INLET

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

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

RUMBLE STRIPS IN ASPHALT SHOULDERS

	STATION	STATION	LOCATION	* RUMBLE STRIPS IN ASPHALT SHOULDERS
				LIN.FT.
*	100+00	120+00	HWY. 13 - 2 LANE SECTION - RT	1864
*	100+00	120+00	HWY. 13 - 2 LANE SECTION - LT	1864
TOTAL:				**3728**

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

APPROACH GUTTERS AND SLABS

STATION	STATION	LOCATION	APPROACH GUTTERS (TYPE F)	APPROACH SLABS (TYPE F)	REINFORCING STEEL-RDWY. (GR. 60)	AGGREGATE BASE CRS. (CLASS 7)
			CU.YD.	CU.YD.	POUND	TON
111+55.36	111+91.36	RT. SIDE	4.30	32.00	4221	48.45
111+62.64	112+18.64	LT. SIDE	4.30	32.00	4221	48.45
113+01.36	113+49.36	RT. SIDE	4.30	32.00	4047	43.26
113+28.64	113+65.64	LT. SIDE	4.30	32.00	4047	43.26
TOTALS:			**17.20**	**128.00**	**16536**	**183.42**

EARTHWORK

STATION	STATION	LOCATION / DESCRIPTION	UNCLASSIFIED EXCAVATION	COMPACTED EMBANKMENT	ROCK FILL	GEOTEXTILE FABRIC (TYPE 8)
			CU. YD.		TON	SQ. YD.
ENTIRE	PROJECT	STAGE 1-MAIN LANES	842	12923	7695	2900
ENTIRE	PROJECT	STAGE 2-MAIN LANES	972	745		
ENTIRE	PROJECT	STAGE 3-MAIN LANES	1749			
11+00.00	14+00.00	COBURN-BRAKE	64	1218		
103+00.00	114+64.00	OBLITERATION OF OLD HWY. 13	693			
TOTALS:			**4320**	**14886**	**7695**	**2900**

NOTE: EARTHWORK QUANTITIES SHALL BE PAID AS PLAN QUANTITY.

EROSION CONTROL MATTING

STATION	STATION	LOCATION	LENGTH	CLASS 3
			LIN. FT.	SQ. YD.
101+00.00	102+00.00	HWY. 13 - LT.	100.00	88.89
105+00.00	110+50.00	HWY. 13 - LT.	550.00	488.89
113+75.00	116+00.00	HWY. 13 - LT.	225.00	200.00
114+25.00	116+00.00	HWY. 13 - RT.	175.00	155.56
118+50.00	120+25.00	HWY. 13 - LT.	175.00	155.56
10+42.00	12+00.00	COBURN-BRAKE - LT.	158.00	140.44
TOTAL:				**1229.34**

NOTE: AVERAGE WIDTH = 8'-0"

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20840
DANIEL S. PEACOCK
6/18/2025

QUANTITIES

$$USER$$ $$DATE$$ $$TIME$$
WORKSPACE: $$WORKSPACE$$
$$FILE$$
REVISED DATE:

1 Filter blanket & foundation protection riprap quantity adjusted. CJD, 6/19/2025

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
6/13/2025		6	ARK.	061745	27	59
6/19/2025		07640		QUANTITIES	63807	

SCHEDULE OF BRIDGE QUANTITIES - JOB NO. 061745

BRIDGE NO.	NAME PLATE TITLE	UNIT OF STRUCTURE / ITEM NO. / ITEM / UNIT	205	SP, SS & 802	SP, SS & 802	SS & 802	SP & 803	SS & 804	SS & 804	SS & 805	SS & 805	SS & 805	SS & 807	SS & 808	SS & 809	812	SS & 816	SS & 816
			REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE. NO._)	CLASS S CONCRETE - BRIDGE	CLASS S(AE) CONCRETE - BRIDGE	PRESTRESSED CONCRETE GIRDERS (TYPE II)	CLASS 2 PROTECTIVE SURFACE TREATMENT	REINFORCING STEEL - BRIDGE (GRADE 60)	EPOXY COATED REINFORCING STEEL (GRADE 60)	STEEL SHELL PILING (18" DIA.)	STEEL SHELL PILING (24" DIA.)	PILE ENCASEMENT	STRUCTURAL STEEL IN BEAM SPANS (A709, GR. 50W)	ELASTOMERIC BEARINGS	SILICONE JOINT SEAL	BRIDGE NAME PLATE (TYPE D)	FILTER BLANKET	FOUNDATION PROTECTION RIPRAP
			LUMP SUM	CU. YD.	CU. YD.	LIN. FT.	SQ. YD.	LB.	LB.	LIN. FT.	LIN. FT.	LIN. FT.	LB.	CU. IN.	LIN. FT.	EACH	SQ. YD.	TON
07640	HIGHWAY 13 OVER CROOKED CREEK	END BENT NO. 1		44.53				4055	2182	475			816	1755.0	42		112	79
		INTERMEDIATE BENT NO. 2		30.04				3401	445		475	53						
		END BENT NO. 3		41.83				3744	2132	475			721	1755.0	37		72	50
		107'-5¼" CONT. PRESTRESSED CONC. GIRDER UNIT			127.70	527.3	401.0		32412				3841			1		
		SITE NO. 1 (EXISTING BR. NO. M3219)	1															
		TOTALS FOR JOB NO. 061745		116.40	127.70	527.3	401.0	11200	37171	950	475	53	5378	3510.0	79	1	184	129

TABLE OF APPROACH SLAB QUANTITIES

BRIDGE NO.	ITEM	REINFORCING STEEL	CONCRETE
	UNIT	LB.	CU. YD.
07640	BEGIN BRIDGE	8040	64.00
	END BRIDGE	7691	64.00

TABLE OF APPROACH GUTTER QUANTITIES

BRIDGE NO.	ITEM	REINFORCING STEEL	CONCRETE
	UNIT	LB.	CU. YD.
07640	BEGIN BRIDGE	402	8.60
	END BRIDGE	402	8.60

STATE OF ARKANSAS
Christian Duncan
LICENSED PROFESSIONAL ENGINEER
No. 20837
CHRISTIAN JON LOUIS DUNCAN
6-19-2025
BRIDGE ENGINEER

SCHEDULE OF BRIDGE QUANTITIES
CROOKED CREEK STR. & APPRS. (S)
LONOKE COUNTY

ROUTE 13 SEC. 9

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: CJD DATE: 2/7/2025 FILENAME: b061745_q1.dgn
CHECKED BY: CM DATE: 2/7/2025 SCALE: NO SCALE
DESIGNED BY: CJD DATE: 2/7/2025

BRIDGE NO. 07640 DRAWING NO. 63807

PRINT DATE: 6/19/2025

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
06/13/2025				6	ARK.			
06/19/2025				JOB NO.		061745	28	59
06/23/2025				(2)	SUMMARY OF QUANTITIES AND REVISIONS			

SUMMARY OF QUANTITIES

ITEM NUMBER	ITEM	QUANTITY	UNIT
201	CLEARING	17	STATION
201	GRUBBING	17	STATION
202	REMOVAL AND DISPOSAL OF MAILBOXES	2	EACH
202	REMOVAL AND DISPOSAL OF PIPE CULVERTS	4	EACH
202	REMOVAL AND DISPOSAL OF HEADWALLS	2	EACH
202	REMOVAL AND DISPOSAL OF SIGNS	21	EACH
SS & 206	FLOWABLE SELECT MATERIAL	12	CU. YD.
SP, SS, & 210	UNCLASSIFIED EXCAVATION	4320	CU. YD.
SP & 210	COMPACTED EMBANKMENT	14886	CU. YD.
SP & 210	SOIL STABILIZATION	100	TON
SP & 210	ROCK FILL	7695	TON
SP, SS, & 303	AGGREGATE BASE COURSE (CLASS 7)	3869	TON
SS & 401	TACK COAT	1656	GAL.
SP, SS, & 406	MINERAL AGGREGATE IN ACHM BINDER COURSE (1")	598	TON
SP, SS, & 406	ASPHALT BINDER (PG 64-22) IN ACHM BINDER COURSE (1")	29	TON
SP, SS, & 407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2")	1389	TON
SP, SS, & 407	ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (1/2")	85	TON
SP & 412	COLD MILLING ASPHALT PAVEMENT	2700	SQ. YD.
SP, SS, & 414	ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC	10	TON
SP, SS, & 415	ACHM PATCHING OF EXISTING ROADWAY	100	TON
SP, SS, & 504	APPROACH SLABS	128.00	CU. YD.
SP, SS, & 504	APPROACH GUTTERS	17.20	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	291	SQ. FT.
SS & 604	BARRICADES	64	LIN. FT.
SS & 604	TRAFFIC DRUMS	63	EACH
SS & 604	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER	405	LIN. FT.
604	CONSTRUCTION PAVEMENT MARKINGS	18273	LIN. FT.
604	REMOVABLE CONSTRUCTION PAVEMENT MARKINGS	1850	LIN. FT.
604	REMOVAL OF PERMANENT PAVEMENT MARKINGS	590	LIN. FT.
SS & 604	VERTICAL PANELS	32	EACH
SS & 606	18" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	54	LIN. FT.
SS & 606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	56	LIN. FT.
SP, SS, & 606	24" SIDE DRAIN	144	LIN. FT.
SS & 606	24" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	2	EACH
SS & 611	4" PIPE UNDERDRAINS	100	LIN. FT.
SS & 611	UNDERDRAIN OUTLET PROTECTORS	4	EACH
SS & 617	GUARDRAIL (TYPE A)	350	LIN. FT.
SS & 617	GUARDRAIL TERMINAL (TYPE 2)	4	EACH
SS & 617	THRIE BEAM GUARDRAIL TERMINAL	4	EACH
620	LIME	8	TON
620	SEEDING	3.98	ACRE
SS & 620	MULCH COVER	10.00	ACRE
620	WATER	528.9	M. GAL.
621	TEMPORARY SEEDING	6.02	ACRE
621	SILT FENCE	3326	LIN. FT.
621	SAND BAG DITCH CHECKS	185	BAG
621	SEDIMENT REMOVAL AND DISPOSAL	124	CU. YD.
621	ROCK DITCH CHECKS	133	CU. YD.
SS & 621	FILTER SOCK (12")	1139	LIN. FT.
623	SECOND SEEDING APPLICATION	3.98	ACRE
624	SOLID SODDING	16	SQ. YD.
SP & 625	GEOTEXTILE FABRIC (TYPE 8)	2900	SQ. YD.
626	EROSION CONTROL MATTING (CLASS 3)	1229.34	SQ. YD.
635	ROADWAY CONSTRUCTION CONTROL	1.00	LUMP SUM
637	MAILBOXES	2	EACH
SS & 637	MAILBOX SUPPORTS (SINGLE)	2	EACH
642	RUMBLE STRIPS IN ASPHALT SHOULDERS	3728	LIN. FT.
SP	PORTABLE TRAFFIC SIGNAL SYSTEM - ACTUATED	6	WEEK
719	THERMOPLASTIC PAVEMENT MARKING WHITE (6")	4400	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING YELLOW (6")	4400	LIN. FT.
721	RAISED PAVEMENT MARKERS (TYPE II)	132	EACH
SS & 731	TEMPORARY IMPACT ATTENUATION BARRIER	3	EACH
SS & 731	TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR)	2	EACH
SS & 804	REINFORCING STEEL-ROADWAY (GRADE 60)	16536	POUND
	STRUCTURES OVER 20' SPAN		
205	REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. 1)	1.00	LUMP SUM
636	BRIDGE CONSTRUCTION CONTROL	1.00	LUMP SUM
SP, SS, & 802	CLASS S CONCRETE-BRIDGE	116.40	CU. YD.
SP, SS, & 802	CLASS S(AE) CONCRETE-BRIDGE	127.70	CU. YD.
SS & 802	PRESTRESSED CONCRETE GIRDERS (TYPE II)	527.3	LIN. FT.
SP & 803	CLASS 2 PROTECTIVE SURFACE TREATMENT	401.0	SQ. YD.
SS & 804	REINFORCING STEEL-BRIDGE (GRADE 60)	11200	POUND
SS & 804	EPOXY COATED REINFORCING STEEL (GRADE 60)	37171	POUND
SS & 805	STEEL SHELL PILING (18" DIAMETER)	950	LIN. FT.
SS & 805	STEEL SHELL PILING (24" DIAMETER)	475	LIN. FT.
SS & 805	PILE ENCASEMENT	53	LIN. FT.
SS & 807	STRUCTURAL STEEL IN BEAM SPANS (A709, GR. 50W)	5378	POUND
SS & 808	ELASTOMERIC BEARINGS	3510.0	CU. IN.
SS & 809	SILICONE JOINT SEALANT	79.0	LIN. FT.
812	BRIDGE NAME PLATE (TYPE D)	1	EACH
SS & 816	FILTER BLANKET	184	SQ. YD.
SS & 816	FOUNDATION PROTECTION RIPRAP	129	TON

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20840
DANIEL S. PEACOCK

6/23/2025

REVISIONS

DATE	REVISION	SHEET NUMBER
6/13/2025	ADDED AND APPLIED ROCK FILL SPECIAL PROVISION. UPDATED METHOD OF RAISING GRADE DETAIL, TYPICAL SECTION STATIONING, AND PAVEMENT QUANTITIES. ADDED QUANTITIES FOR ROCK FILL AND GEOTEXTILE FABRIC (TYPE 8). "DRIVEWAY ASSISTANCE DEVICE" RENAMED TO "RESIDENTIAL DRIVEWAY TEMPORARY SIGNAL." QUANTITY FOR PORTABLE TRAFFIC SIGNAL SYSTEM UPDATED.	3, 4, 5, 7, 19, 23, 25, 26, 27, 28, 34, 35, 52, 53, 54
6/19/2025	REMOVED WATER POLLUTION CONTROL SPECIAL PROVISION, CHANGED "DUMPED RIPRAP", CU. YD. TO "FOUNDATION PROTECTION RIPRAP", TONS.	3, 27, 28
6/23/2025	CHANGED "PREFORMED JOINT SEAL" TO "SILICONE JOINT SEALANT" ON SUMMARY OF QUANTITIES	28

$$USER$$
WORKSPACE: $$WORKSPACE$$
$$FILE$$
REVISED DATE: $$DATE$$ $$TIME$$

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061745	29	59
				(2)	SURVEY CONTROL DETAILS			

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 20840
DANIEL S. PEACOCK
4/11/2025

SURVEY CONTROL COORDINATES

Project Name: s070415
Date: 11/21/2017
Coordinate System: ARKANSAS STATE PLANE - SOUTH ZONE BASED ON GPS CONTROL, PROJECTED TO GROUND.
Units: U.S. SURVEY FOOT

Point Name	Northing	Easting	Elev	Feature	Description
1	1813846.1401	1239830.5182	190.606	CTL	STANDARD ARDOT CAP STAMPED PN:1
2	1814136.5025	1240836.4680	184.222	CTL	STANDARD ARDOT CAP STAMPED PN:2
3	1814386.7972	1241767.9524	184.067	CTL	STANDARD ARDOT CAP STAMPED PN:3
4	1814607.0929	1242592.5890	185.542	CTL	STANDARD ARDOT CAP STAMPED PN:4
5	1814877.4932	1243582.2296	184.603	CTL	STANDARD ARDOT CAP STAMPED PN:5
900	1813981.0380	1240277.0123	186.682	TBM	ARDOT DISK IN S/W COR OF BR
901	1814361.3708	1241570.8284	184.906	TBM	CHISELED SQUARE CUT IN N/W CORNER OF BR
902	1814564.1428	1242323.6402	185.986	TBM	CHISELED SQUARE CUT IN N/W CORNER OF BR
903	1814849.1178	1243597.3277	184.173	TBM	CHISELED SQUARE CONC POST BASE OF UM
998	1774388.2933	1248836.9925	186.477	TBM	8" SPIKE IN 12" PINE STUMP 79 RISON
999	1774489.0364	1249005.7157	183.900	BM	RV 185 STANDARD MONEL-METAL RIVET E END CONC CULVERT UNDER RR HWY 79
1000	1814495.3546	1242064.2564	184.383	TV	8 SPIKE
1001	1814245.2265	1241142.3601	184.450	TV	8 SPIKE

*Note - Rebar and Cap - Standard - 5/8" Rebar with 2" Aluminum Cap stamped
*(standard markings common to all caps), or as indicated
(other markings indicated in the point description of the individual point).
USE CAF = 1.0 FOR STAKEOUT FOR THIS PROJECT
A PROJECT CAF OF 0.9999096019 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 s070415gi.ctl
HORIZONTAL DATUM: NAD 83 (1997)
VERTICAL DATUM: NAVD 88 POSITIONAL ACCURACY THIRD ORDER, UNLESS SPECIFIED OTHERWISE AT A SPECIFIC POINT.

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

BASIS OF BEARING:
ARKANSAS STATE PLANE GRID BEARINGS - 0302-SOUTH ZONE
DETERMINED FROM GPS CONTROL POINTS: BASED ON STATIC GPS PTS 1 - 5
CONVERGENCE ANGLE: 00-07-38 LEFT AT LT: 34-24-45 N LG: 092-14-00 W
GRID AZIMUTH = ASTRONOMICAL AZIMUTH - CONVERGENCE ANGLE.

CL HWY. 13

POINT	STATION	TYPE	NORTHING	EASTING
1000	98+00.00	POB	1973958.6514	1386344.1385
1001	105+44.53	PC	1974216.0778	1385645.5264
1002	114+11.85	PT	1974889.3320	1385191.4936
1003	121+29.57	POE	1975607.0363	1385213.8193

CL COBURN-BRAKE

POINT	STATION	TYPE	NORTHING	EASTING
1004	10+00.00	POB	1974497.7014	1385297.9493
1005	10+46.35	PC	1974473.0054	1385258.7265
1006	11+23.90	PT	1974462.3536	1385207.3047
1007	14+88.42	POE	1974635.4243	1384860.0026

$$USER$$ $$DATE$$ $$TIME$$
WORKSPACE: $$WORKSPACE$$
$$FILE$$
REVISED DATE:

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061745	30	59

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20840
DANIEL S. PEACOCK
4/11/2025

SCALE: 1" = 50'

POT 98+00.00

SURVEY BASELINE N 72°51'50" W 670.57'

PK#5 PDoARDOT STD. MON. STAMPED PK#5

PK#4 PDoARDOT STD. MON. STAMPED PK#4

1000 — 100+00 — N 69° 46' 19" W 744.53' — C.L. HWY. 13 — 105+00 — 1001

PC 105+44.53

STA. 100+00.00
BEGIN JOB 061745
L.M. 0.59

C.L. COBURN-BRAKE
PI = 10+88.99
Δ = 59°14'30" RT.
R = 75.00'
T = 42.64'
L = 77.55'
PC = 10+46.35
PT = 11+23.90
e = NC

PI 110+44.99

SURVEY BASELINE N 56°50'41" W 644.46'

PC 10+46.35

S 57° 48' 15" W 46.35'

1006

PK#3 PDoARDOT STD. MON. STAMPED PK#3 COBURN-BRAKE

1005

1004

10.00

POT 10+00.00

110.00

C.L. HWY. 13
PI = 110+44.99
Δ = 71°33'13" RT.
D = 8°15'00"
T = 500.46'
L = 867.32'
PC = 105+44.53
PT = 114+11.85
e = 0.100'/'
Ls = 300'

STA. 110+00.00 C.L. HWY. 13 =
STA. 10+00.00 C.L. COBURN-BRAKE
∢ 90°00'00"

SURVEY BASELINE N 17°03'08" E 304.02'

1007

POT 14+88.42

N 62° 57' 15" W 364.52'

PK#3 PDoARDOT STD. MON. STAMPED PK#3 COBURN-BRAKE

SURVEY BASELINE N 17°03'08" E 304.02'

PK#2 PDoARDOT STD. MON. STAMPED PK#2 PDoCHSLD SQ NE BRIDGE CR

115+00 — SURVEY BASELINE N 08°50'24" E 516.53' — C.L. HWY. 13 — 120+00 — POT 121+29.57 — 1003

1002 — PT 114+11.85 — N 1° 46' 54" E 718.05'

PK#1 PDoARDOT STD. MON. STAMPED PK#1

STA. 120+00.00
END JOB 061745

GPS PK#100 PDoARDOT GPS #430021

C.L. HWY. 13
PI = 110+44.99
Δ = 71°33'13" RT.
D = 8°15'00"
T = 500.46'
L = 867.32'
PC = 105+44.53
PT = 114+11.85
e = 0.100'/'
Ls = 300'

110.00

POT 10+00.00

SCALE: 1" = 50'

SURVEY CONTROL DETAILS

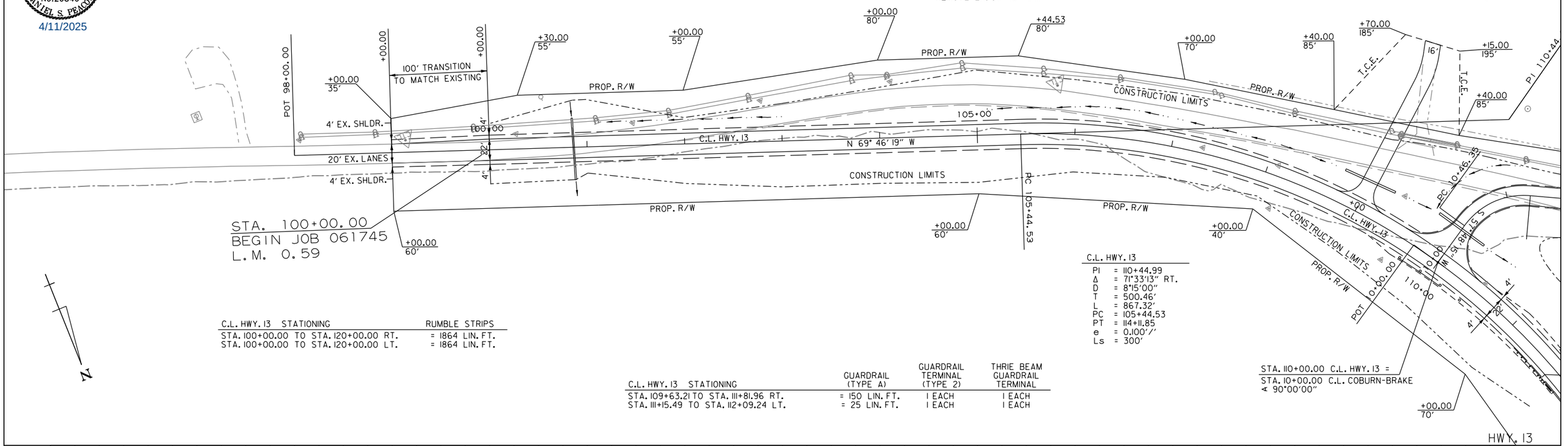
$$USER$$ $$DATE$$ $$TIME$$
WORKSPACE: $$WORKSPACE$$
$$FILE$$
REVISED DATE:

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 20840
DANIEL S. PEACOCK
4/11/2025

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061745	31	59
				(2)	PLAN & PROFILE - Hwy. 13			

STA. 100+86.26 INSTALL
18" X 54' PIPE CULVERT
REMOVE 18" X 40' CMP

STA. 109+00.00 INSTALL
24" X 56' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH =
270 CU. YDS. FILL
REMOVE EX. 30'-18" CMP



C.L. HWY. 13
PI = 110+44.99
Δ = 71°33'13" RT.
D = 8°15'00"
T = 500.46'
L = 867.32'
PC = 105+44.53
PT = 114+11.85
e = 0.100'/'
Ls = 300'

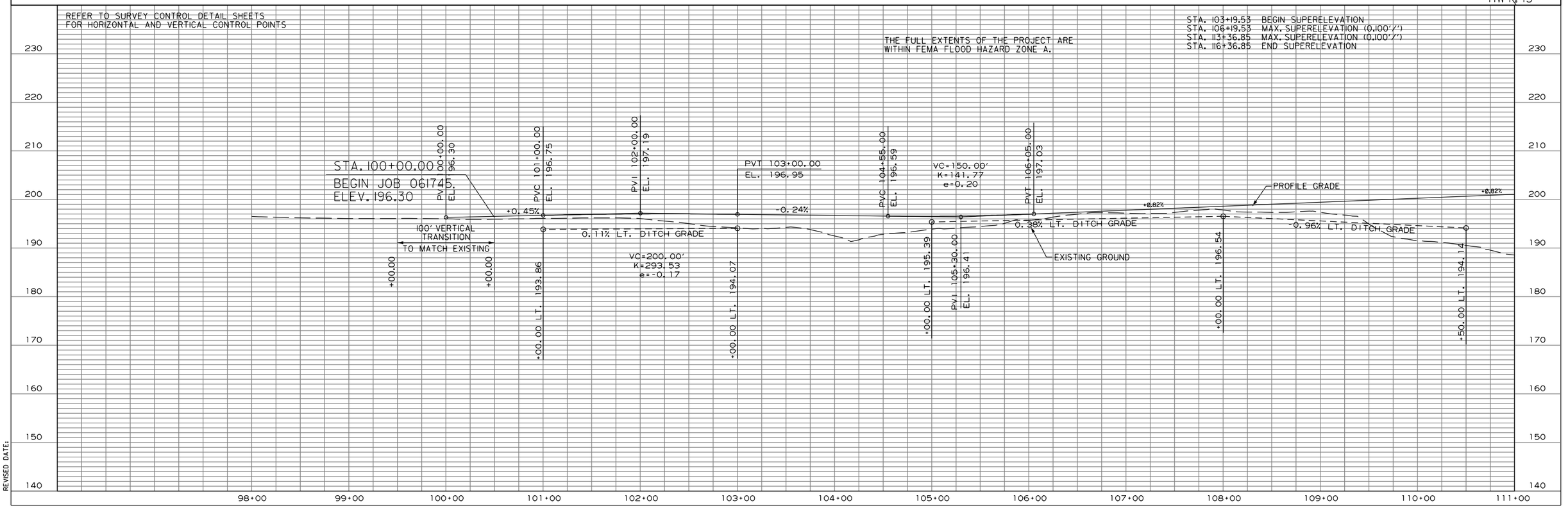
C.L. HWY. 13 STATIONING	RUMBLE STRIPS
STA. 100+00.00 TO STA. 120+00.00 RT.	= 1864 LIN. FT.
STA. 100+00.00 TO STA. 120+00.00 LT.	= 1864 LIN. FT.

C.L. HWY. 13 STATIONING	GUARDRAIL (TYPE A)	GUARDRAIL TERMINAL (TYPE 2)	THRIE BEAM GUARDRAIL TERMINAL
STA. 109+63.21 TO STA. 111+81.96 RT.	= 150 LIN. FT.	1 EACH	1 EACH
STA. 111+15.49 TO STA. 112+09.24 LT.	= 25 LIN. FT.	1 EACH	1 EACH

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

THE FULL EXTENTS OF THE PROJECT ARE
WITHIN FEMA FLOOD HAZARD ZONE A.

STA. 103+19.53 BEGIN SUPERELEVATION
STA. 106+19.53 MAX. SUPERELEVATION (0.100'/')
STA. 113+36.85 MAX. SUPERELEVATION (0.100'/')
STA. 116+36.85 END SUPERELEVATION

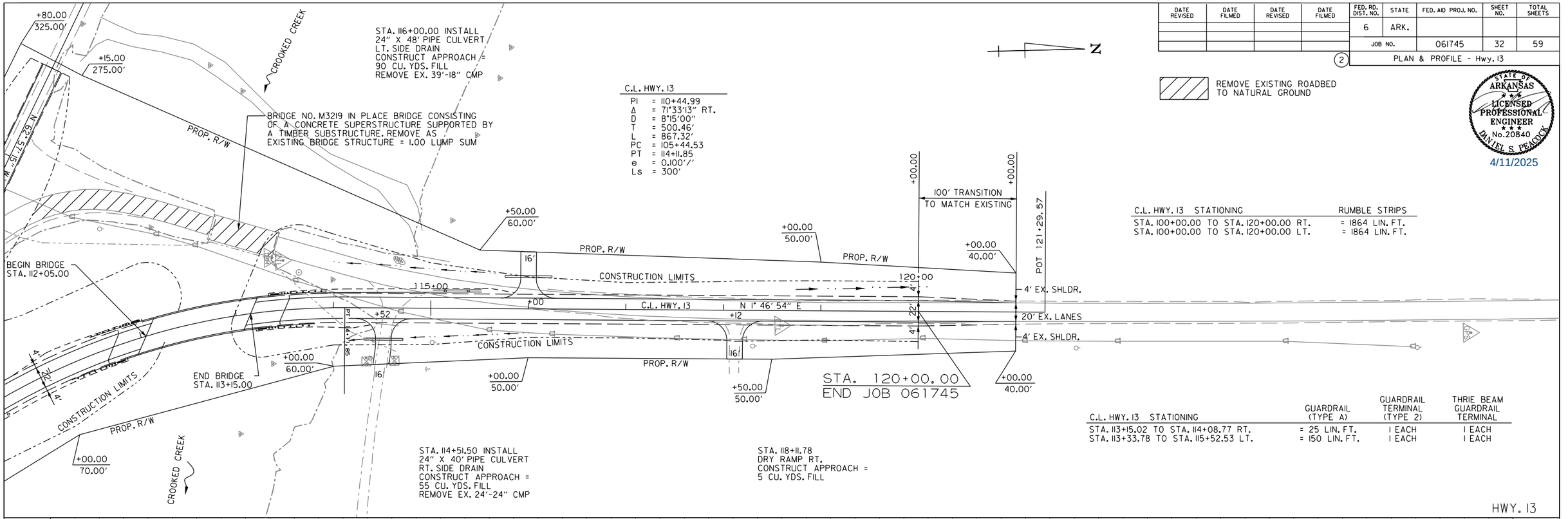


$$USER$$
WORKSPACE: $$WORKSPACE$$
$$FILE$$
REVISED DATE: 2/6/2025 $$TIME$$

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061745	32	59
				(2)	PLAN & PROFILE - Hwy. 13			

REMOVE EXISTING ROADBED TO NATURAL GROUND

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 20840
DANIEL S. PEACOCK
4/11/2025



C.L. HWY. 13 STATIONING	RUMBLE STRIPS
STA. 100+00.00 TO STA. 120+00.00 RT.	= 1864 LIN. FT.
STA. 100+00.00 TO STA. 120+00.00 LT.	= 1864 LIN. FT.

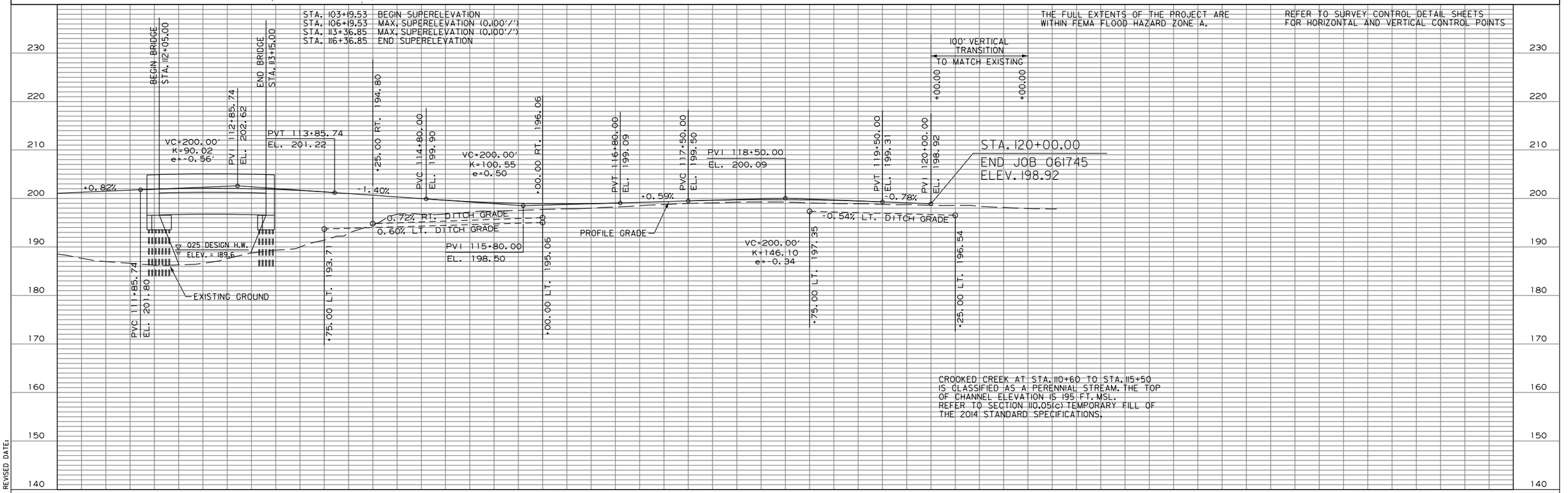
C.L. HWY. 13 STATIONING	GUARDRAIL (TYPE A)	GUARDRAIL TERMINAL (TYPE 2)	THRIE BEAM GUARDRAIL TERMINAL
STA. 113+15.02 TO STA. 114+08.77 RT.	= 25 LIN. FT.	1 EACH	1 EACH
STA. 113+33.78 TO STA. 115+52.53 LT.	= 150 LIN. FT.	1 EACH	1 EACH

HWY. 13

STA. 103+19.53 BEGIN SUPERELEVATION
STA. 106+19.53 MAX. SUPERELEVATION (0.100'/')
STA. 113+36.85 MAX. SUPERELEVATION (0.100'/')
STA. 116+36.85 END SUPERELEVATION

THE FULL EXTENTS OF THE PROJECT ARE WITHIN FEMA FLOOD HAZARD ZONE A.

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



CROOKED CREEK AT STA. 110+60 TO STA. 115+50 IS CLASSIFIED AS A PERENNIAL STREAM. THE TOP OF CHANNEL ELEVATION IS 195 FT. MSL. REFER TO SECTION 110.05(c) TEMPORARY FILL OF THE 2014 STANDARD SPECIFICATIONS.

$$USER$$
WORKSPACE: $$WORKSPACE$$
$$FILE$$
REVISED DATE: 2/6/2025 $$TIME$$

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061745	33	59
				(2)	PLAN & PROFILE - COBURN-BRAKE			

C.L. COBURN-BRAKE
PI = 10+88.99
Δ = 59°14'30" RT.
R = 75.00'
T = 42.64'
L = 77.55'
PC = 10+46.35
PT = 11+23.90
e = NC

STA. 10+41.59 INSTALL
24" X 56' PIPE CULVERT
Q10= 9.5 CFS DA= 3.0 AC
REMOVE EX. 48'-18" CMP

REMOVE EXISTING ROADBED
TO NATURAL GROUND

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 20840
DANIEL S. PEACOCK
4/11/2025

+44.53 80'
+00.00 70'
+40.00 85'
+70.00 185'
+15.00 195'
+50.00 120'
+00.00 225'
+80.00 325'
T.C.E.
16'
PROP. R/W
CONSTRUCTION LIMITS
105+00
RC 105+44.53
+00.00 60'
+00.00 40'
+00.00 70'
PROP. R/W
CONSTRUCTION LIMITS
PROP. R/W
C.L. HWY. 13
+00
110+00
POT 0+00.00
R=40'
R=40'
PC 10+46.35
S 57° 18' 15" W 77.55'
PT 11+23.90
COBURN-BRAKE
N 62° 57' 15" W
POT 14+88.42
+75.00 220.00'
PROP. R/W
BEGIN BRIDGE STA. 112+05.00
CROOKED CREEK
CROOKED CREEK
STA. 110+00.00 C.L. HWY. 13 =
STA. 10+00.00 C.L. COBURN-BRAKE
∢ 90°00'00"

COBURN-BRAKE

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

THE FULL EXTENTS OF THE PROJECT ARE
WITHIN FEMA FLOOD HAZARD ZONE A.

260 250 240 230 220 210 200 190 180 170

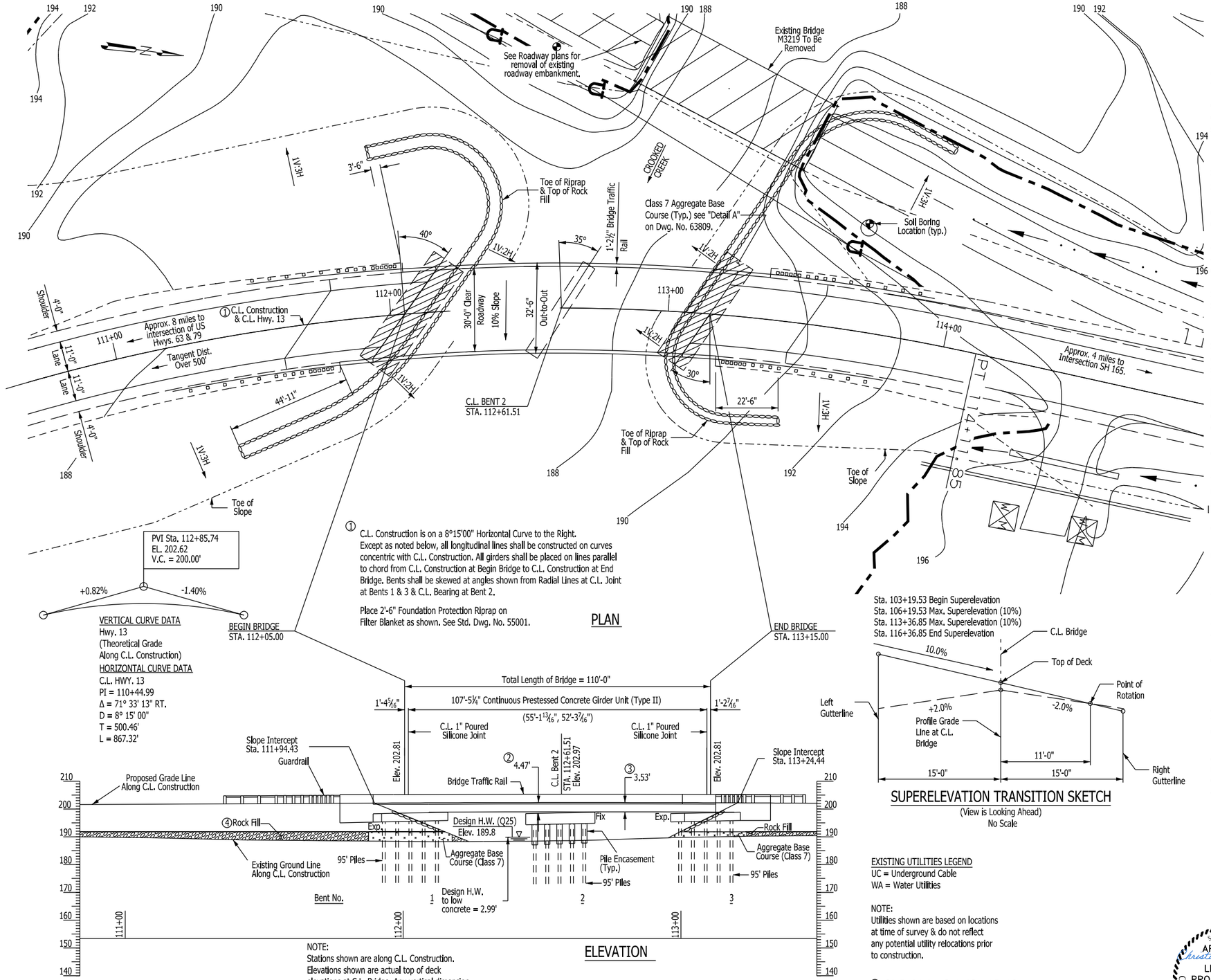
PVI 10+15.00
EL. 202.65
PVI 10+90.00
EL. 204.15
PVT 11+27.50
EL. 202.28
PVC 11+50.00
EL. 201.15
VC=100.00'
K=30.55
e=0.41'
PVT 12+50.00
EL. 197.79
PVI 14+00.00
EL. 195.20
+2.00%
VC=75.00'
K=10.71
e=0.66'
-5.00%
-1.73%
PROFILE GRADE
EXISTING GROUND
0.45% LT. DITCH GRADE
PVI 12+00.00
EL. 198.65
FL. IN LT. = 194.96
FL. OUT RT. = 194.26
+41.59 LT. 194.96
PVC 10+52.50
EL. 203.40
+00.00 LT. 195.67

10+00 11+00 12+00 13+00 14+00 15+00

$$USER$$
WORKSPACE: $$WORKSPACE$$
$$FILE$$
REVISED DATE: 2/6/2025 $$TIME$$

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
6/13/2025		6	ARK.	061745	34	59
		07640		LAYOUT	63808	

1 Rock fill added. CJD, 6/13/2025



① C.L. Construction is on a 8°15'00" Horizontal Curve to the Right. Except as noted below, all longitudinal lines shall be constructed on curves concentric with C.L. Construction. All girders shall be placed on lines parallel to chord from C.L. Construction at Begin Bridge to C.L. Construction at End Bridge. Bents shall be skewed at angles shown from Radial Lines at C.L. Joint at Bents 1 & 3 & C.L. Bearing at Bent 2.

Place 2'-6" Foundation Protection Riprap on Filter Blanket as shown. See Std. Dwg. No. 55001.

PLAN

FOR R/W DATA AND GUARDRAIL DETAILS SEE ROADWAY PLANS

NOTE:
Stations shown are along C.L. Construction. Elevations shown are actual top of deck elevations at C.L. Bridge. Any vertical dimension referenced to C.L. Deck is based on actual top of deck elevation at C.L. Bridge. See "SUPERELEVATION TRANSITION SKETCH" for additional information.

ELEVATION

NOTE:
Use Type F Approach Slabs & Gutters, (width = 22'-0") at each end of bridge. See Std. Dwg. Nos. 55030F & 55040F1 for details.

SUPERELEVATION TRANSITION SKETCH
(View is Looking Ahead)
No Scale

EXISTING UTILITIES LEGEND
UC = Underground Cable
WA = Water Utilities

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

② C.L. Deck to Low Seat of Cap at Bent 2
③ C.L. Deck to Low Concrete
④ Top of Rock Fill Elev. 191.8

GENERAL NOTES

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

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Standard Specifications for Highway Construction (2014 Edition) with applicable Supplemental Specifications & Special Provisions. Unless otherwise noted in plans, section & subsection refer to the Standard Construction Specifications.

DESIGN SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications, (2017, 8th Edition)

LIVE LOADING: HL-93

SEISMIC ZONE: 2 S_{D1} = 0.237 SITE CLASS = D

SEISMIC OPERATIONAL CLASS: OTHER

MATERIALS AND STRENGTHS:

Class S(AE) Concrete (Superstructure)	f'c = 4,000 psi
Class S Concrete (Prestressed Concrete Girders)	f'c = 8,000 psi
Prestressing Strands (AASHTO M 203, Gr. 270)	fpu = 270,000 psi
- Low Relaxation Strands	
- Minimum Concrete Strength at Release	f'c = 6,000 psi
Class S Concrete (Substructure)	f'c = 3,500 psi
Reinforcing Steel (AASHTO M 31 or M 322, Type A Gr. 60)	fy = 60,000 psi
Structural Steel (ASTM A709, Gr. 50W)	Fy = 50,000 psi
Structural Steel (ASTM A709, Gr. 36)	Fy = 36,000 psi

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

STEEL SHELL PILING: Piling for Bents 1 & 3 shall be 18" diameter concrete filled steel shell piles and shall be driven with an approved air, steam, or diesel hammer to a minimum ultimate bearing capacity of 250 tons per pile. All piling at Bents 1 & 3 shall be driven to a tip elevation of 164' or lower. All piling at Bent 2 shall be driven to a tip elevation of 162' or lower. Piling for Bent 2 shall be 24" diameter concrete filled steel shell piles and shall be driven with an approved air, steam, or diesel hammer to a minimum ultimate bearing capacity of 366 tons per pile. 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 paid for as test piles.

PILE ENCASEMENT: Pile encasements for Bent 2 shall extend from the bottom of the cap to 3' below natural or finished ground. See Standard Drawing No. 55021 for addition 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)". It is estimated that a minimum rated hammer energy required to obtain the ultimate bearing capacity for all piles at Bent 1 and 3 will be 46,000 foot pounds per blow, and all piles at Bent 2 will be 76,000 foot pounds per blow.

BRIDGE DECK: The concrete bridge deck shall be given a tine finish as specified for 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 parapet rails in accordance with Section 803.

DETAIL DRAWINGS:

	DRAWING NO.
End Bents	63810-63813
Intermediate Bent	63814
Elastomeric Bearings	63815
107'-5¼" Continuous Prestressed Concrete Girder Unit	63816-63821
Type F Approach Gutters	55030F
Type F Approach Slabs	55040F1
Dumped Riprap	55001
Concrete Filled Steel Shell Piling	55021
Poured Silicone Joint	55008
Bridge Traffic Rail Type SSTR36	55070

EXISTING BRIDGE: Existing Bridge No. M3219 (Log Mile 0.88) is 69.0' in length, 28.2' wide (26.3' clear roadway), is approximately 100' upstream and consists of concrete precast channel beams (3 spans total) supported by concrete caps on timber piles. Plans of existing structure, if available, will be made available to the Contractor upon request to the Construction Contract Development Section of the Program Management Division.

REMOVAL AND SALVAGE: After the new bridge is open to traffic, the Contractor shall remove the existing Bridge No. M3219 in accordance with Section 205. Existing concrete riprap and exposed timber pilling from a previous structure shall also be removed. Timber pilling shall be removed to a depth of 2' below subgrade or final ground surface. This work shall be considered subsidiary to the the item "Removal of Existing Bridge Structure (Site No.1)". All material from the existing bridge and previous structure shall become the property of the Contractor.

MAINTENANCE OF TRAFFIC: See Roadway Plans.

STATE OF ARKANSAS
Christian Duncan
LICENSED PROFESSIONAL ENGINEER
No. 20837
CHRISTIAN JON LOUIS DUNCAN
6-16-2025
BRIDGE ENGINEER

SHEET 1 OF 2
LAYOUT OF BRIDGE
HIGHWAY 13 OVER CROOKED CREEK
CROOKED CREEK STR. & APPRS. (S)
LONOKE COUNTY

ROUTE 13 SEC. 9

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

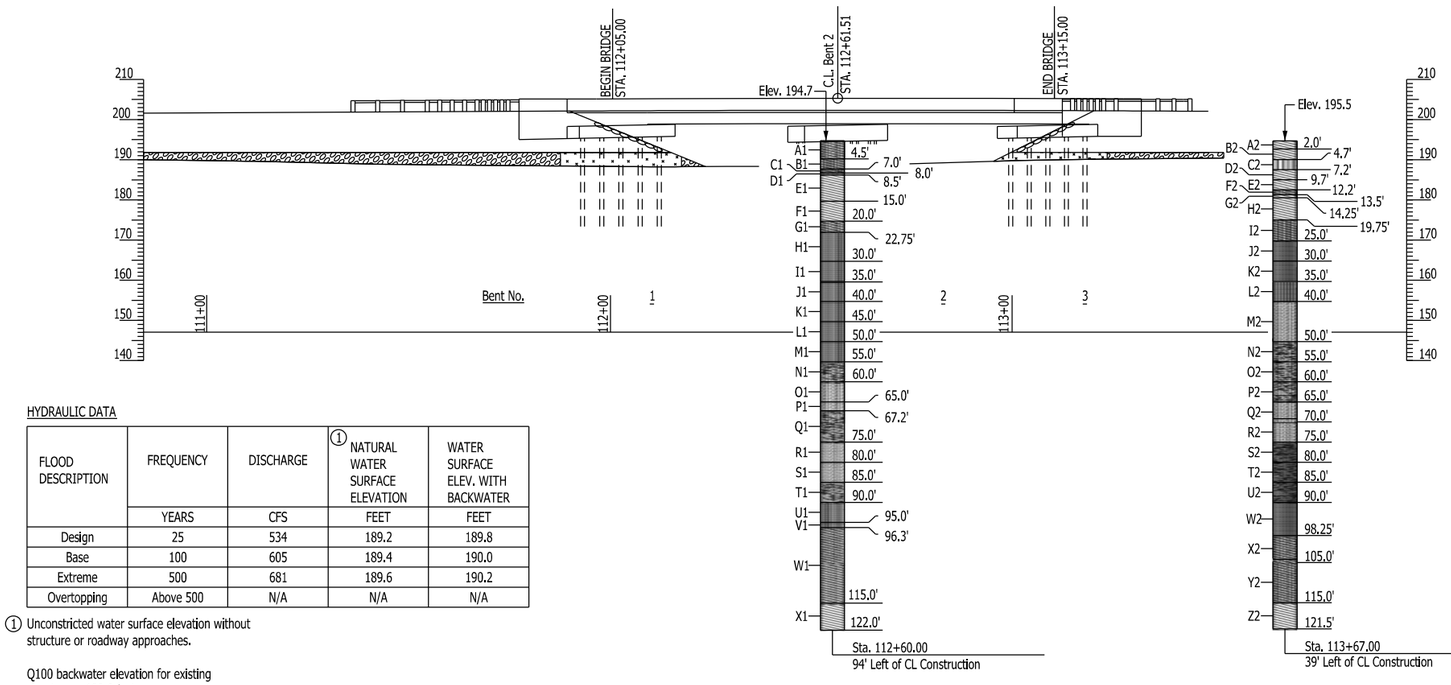
DRAWN BY: CJD DATE: 2/5/2025 FILENAME: b061745_l1.dgn
CHECKED BY: CM DATE: 2/6/2025 SCALE: 1"=20'-0"
DESIGNED BY: CJD DATE: 2/5/2025

BRIDGE NO. 07640 DRAWING NO. 63808

PRINT DATE: 6/13/2025

1 Rock fill "Detail A" added. CJD, 6/13/2025

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
6/13/2025		6	ARK.	061745	35	59
		07640		LAYOUT		63809



HYDRAULIC DATA

FLOOD DESCRIPTION	FREQUENCY	DISCHARGE	① NATURAL WATER SURFACE ELEVATION	WATER SURFACE ELEV. WITH BACKWATER
	YEARS	CFS	FEET	FEET
Design	25	534	189.2	189.8
Base	100	605	189.4	190.0
Extreme	500	681	189.6	190.2
Overtopping	Above 500	N/A	N/A	N/A

① Unconstricted water surface elevation without structure or roadway approaches.

Q100 backwater elevation for existing structure = 190.6 feet.

Proposed low bridge chord elevation = 197.7 feet.

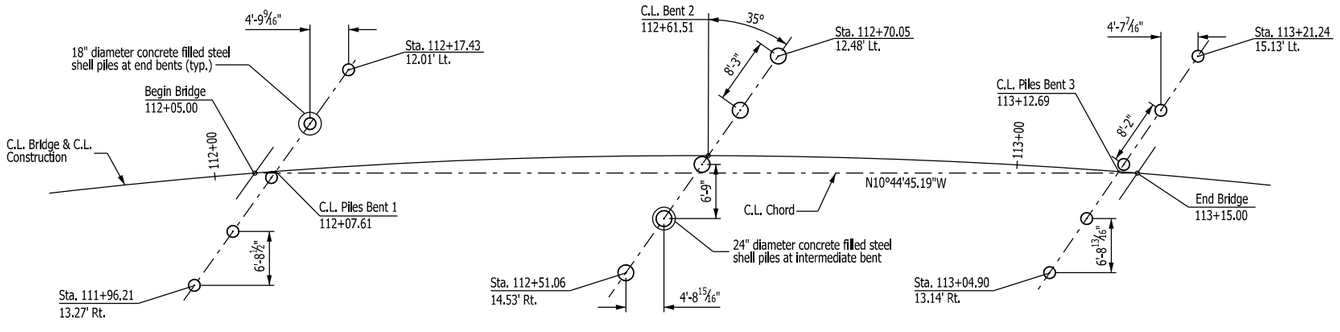
Drainage area = 25.8 square miles.

Historical H.W. Elevation = 192.8 feet

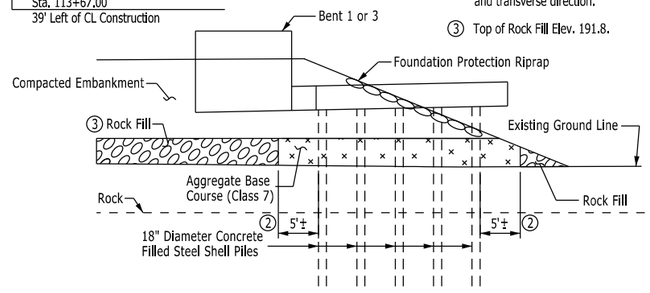
SOIL BORING ELEVATION

N-VALUES

Sta. 112+60.00 94' Lt. of CL Construction		Sta. 113+67.00 39' Lt. of CL Construction	
3.5 - 4.5,	N = 6	2.5 - 3.5,	N = 3
5.5 - 6.5,	N = 3	5.5 - 6.5,	N = 7
7.0 - 8.0,	N = 14	7.0 - 8.0,	N = 0
8.5 - 9.5,	N = 0	10.0 - 11.0,	N = 5
15.5 - 16.5,	N = 4	15.0 - 16.0,	N = 5
21.5 - 22.5,	N = 3	20.5 - 21.5,	N = 0
25.5 - 26.5,	N = 26	25.5 - 26.5,	N = 16
30.5 - 31.5,	N = 23	30.5 - 31.5,	N = 24
35.5 - 36.5,	N = 20	35.5 - 36.5,	N = 22
40.5 - 41.5,	N = 18	40.5 - 41.5,	N = 26
45.5 - 46.5,	N = 31	45.5 - 46.5,	N = 15
50.5 - 51.5,	N = 19	50.5 - 51.5,	N = 29
55.5 - 56.5,	N = 29	55.5 - 56.5,	N = 40
60.5 - 61.5,	N = 24	60.5 - 61.5,	N = 25
65.5 - 66.5,	N = 50	65.5 - 66.5,	N = 35
71.0 - 72.0,	N = 33	71.0 - 72.0,	N = 21
75.5 - 76.5,	N = 22	75.5 - 76.5,	N = 27
80.5 - 81.5,	N = 38	80.5 - 81.5,	N = 11
85.5 - 86.5,	N = 16	85.5 - 86.5,	N = 26
90.5 - 91.5,	N = 20	90.5 - 91.5,	N = 26
95.5 - 96.5,	N = 31	95.5 - 96.5,	N = 33
100.5 - 101.5,	N = 26	100.5 - 101.5,	N = 32
105.5 - 106.5,	N = 20	105.5 - 106.5,	N = 24
110.5 - 111.5,	N = 19	110.5 - 111.5,	N = 19
115.5 - 116.5,	N = 24	115.5 - 116.5,	N = 18
120.0 - 121.5,	N = 24	120.0 - 121.5,	N = 21



FOUNDATION PLAN



② 5'-0" clear from rock fill to pile for both longitudinal and transverse direction.

③ Top of Rock Fill Elev. 191.8.

Where rock fill is used for embankment construction, aggregate base course (Class 7), in accordance with Subsection 303.02, shall be placed as shown in areas where piling will be located. Aggregate base course (Class 7) shall be paid for as "Rock Fill".

At the Contractor's option preboring or other methods as approved by the Engineer may be used to facilitate pile installation thru the aggregate base course (Class 7) material at these locations. Preboring or other methods used for installation of piles where rock fill is used for embankment construction will not be paid for separately but shall be included in item "Steel Shell Piling (18" DIA.)".

DETAIL A

NO SCALE

BORING LEGEND - BORING 1

A1 - Moist, medium stiff, brown lean clay with sand
B1 - Wet, soft, reddish brown silty clay
C1 - Wet, stiff, reddish brown silty clay with sand
D1 - Organic matter (Wood)
E1 - Wet, very soft, gray lean clay with some organic matter (Wood)
F1 - Wet, soft, gray fat clay with trace organic matter (wood)
G1 - Wet, soft, brown and gray fat clay with sand
H1 - Wet, medium dense, brown poorly graded sand with silt
I1 - Wet, medum dense, brown sand with silt and trace gravel
J1 - Wet, medium dense, brown sand with silt and some gravel
K1 - Wet, medum dense, brown sand with silt
L1 - Wet, dense, brown sand with silt
M1 - Wet, medium dense, brown poorly graded sand with silt and some gravel
N1 - Wet, medium dense, brown sand with gravel
O1 - Wet, medium dense, brown sand with trace gravel
P1 - Wet, dense, brown sand with trace gravel
Q1 - Wet, dense, brown sand with gravel
R1 - Wet, medium dense, brown sand with trace gravel
S1 - Wet, dense, brown sand with trace gravel
T1 - Wet, medium dense, brown and gray sand with gravel
U1 - Wet, medium dense, gray sand with silt
V1 - Wet, dense, gray sand with silt and trace gravel

BORING LEGEND - BORING 2

A2 - Moist, reddish brown clay
B2 - Wet, soft, reddish brown lean clay
C2 - Moist, loose, reddish brown silt
D2 - Wet, very soft gray lean clay with trace organic matter
E2 - Moist, medium stiff, gray fat clay
F2 - Gray fat clay with calcareous nodules
G2 - Reddish brown lean clay
H2 - Moist, medium stiff, brown and gray lean clay
I2 - Moist, very soft, brown and gray silty clay
J2 - Wet, medium dense, brown sand and silt
K2 - Wet, medium dense, brown poorly graded sand with silt
L2 - Wet, medium dense, brown sand with silt and trace gravel
M2 - Wet, medium dense, brown sand with some gravel
N2 - Wet, medium dense, brown poorly graded sand with gravel
O2 - Wet, dense, brown sand with gravel
P2 - Wet, medium dense, brown sand with gravel
Q2 - Wet, dense, brown sand with some gravel
R2 - Wet, medium dense, brown sand with some gravel
S2 - Wet, medium dense, brown poorly graded sand with silt and gravel
T2 - Wet, medium dense, brown gravel with silt and sand
U2 - Wet, medium dense, brown well graded gravel with silt and sand
V2 - Wet, medium dense, brown poorly graded sand with silt and some gravel
W2 - Wet, dense, brown poorly graded sand with silt and some gravel
X2 - Moist, hard, gray sandy clay (cuttings, no sample recovered) (Jackson Group)
Y2 - Moist, very stiff, gray lean clay with sand
Z2 - Moist, very stiff, gray lean clay

STATE OF ARKANSAS
Christian Duncan
LICENSED PROFESSIONAL ENGINEER
No. 20837
CHRISTIAN JON LOUIS DUNCAN
6-16-2025
BRIDGE ENGINEER

SHEET 2 OF 2
LAYOUT OF BRIDGE
HIGHWAY 13 OVER CROOKED CREEK
CROOKED CREEK STR. & APPRS. (S)
LONOKE COUNTY

ROUTE 13 SEC. 9

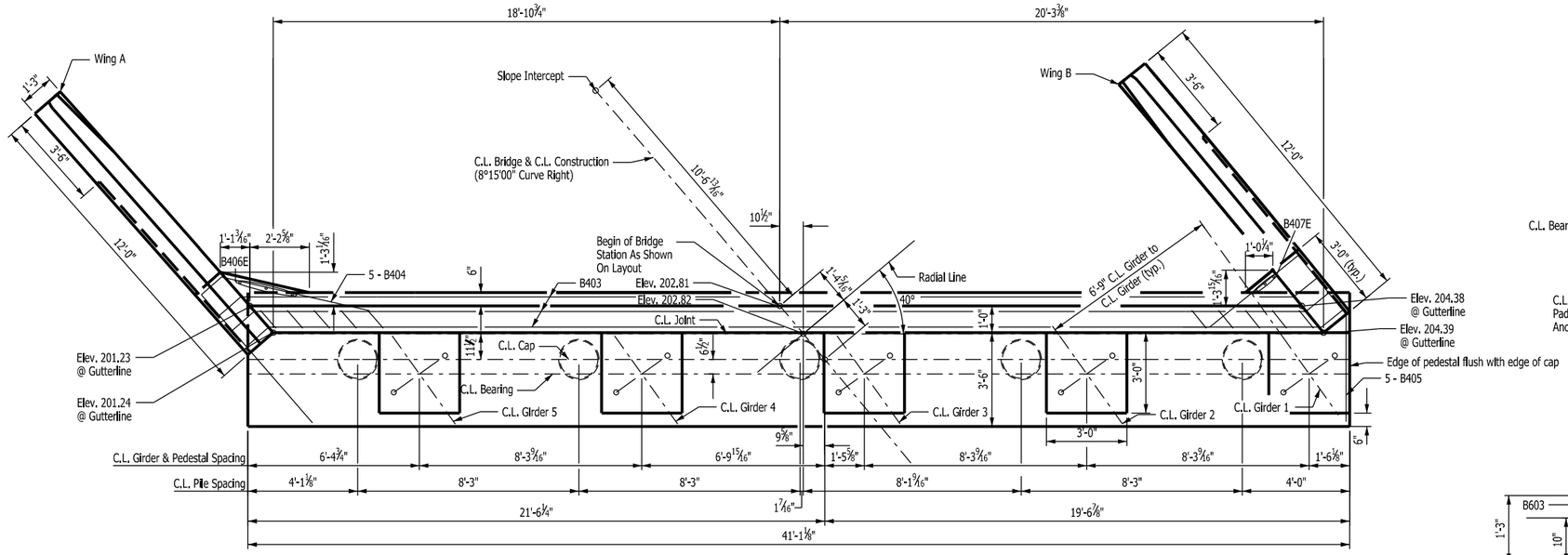
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

DRAWN BY: CJD DATE: 2/5/2025
CHECKED BY: CM DATE: 2/6/2025
DESIGNED BY: CJD DATE: 2/5/2025
FILENAME: b061745_l2.dgn
SCALE: 1"=20'-0"

BRIDGE NO. 07640 DRAWING NO. 63809

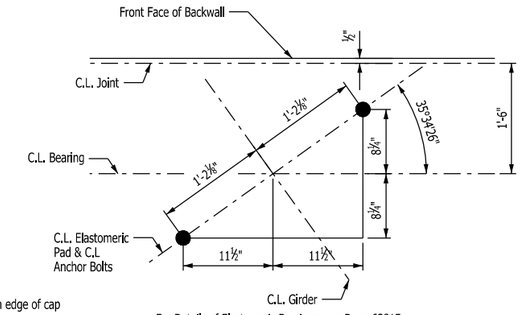
PRINT DATE: 6/13/2025

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	061745	36	59
		07640		END BENTS		63810



PLAN

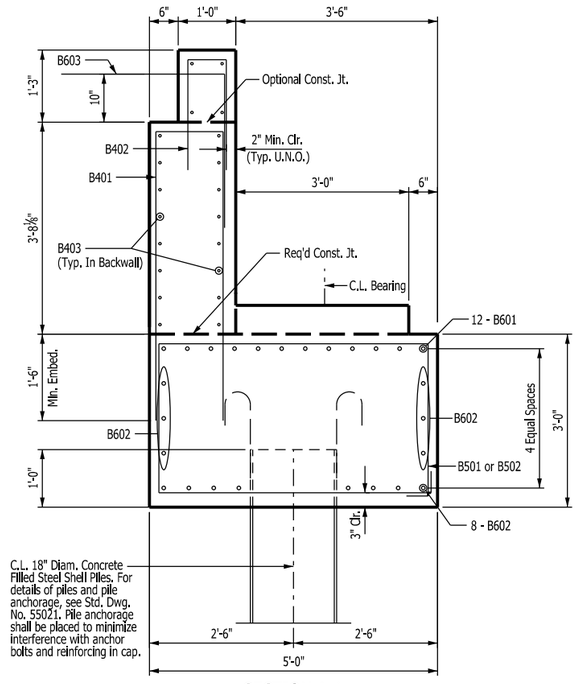
⅜" = 1'-0"



For Details of Elastomeric Bearings, see Dwg. 63815

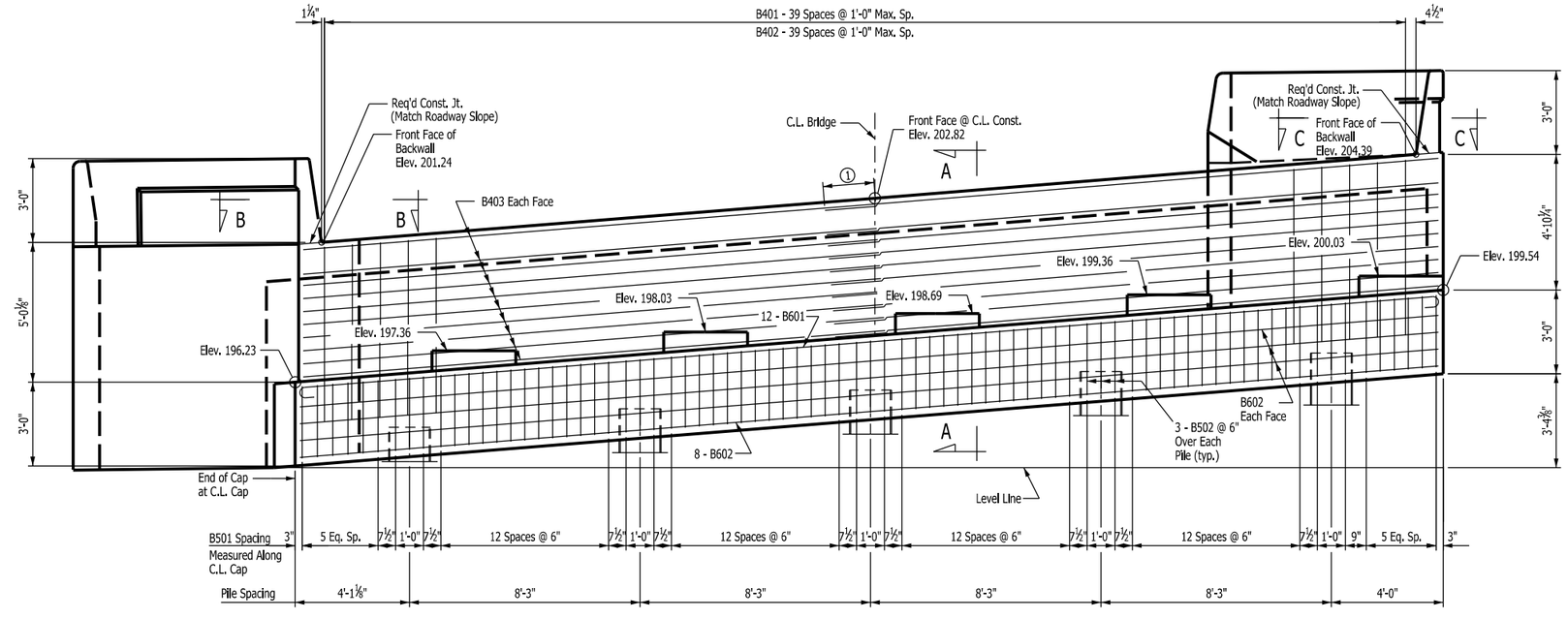
ANCHOR BOLT LAYOUT

No Scale



SECTION A-A

⅜" = 1'-0"



ELEVATION (LOOKING BACK)

⅜" = 1'-0"

① 1'-10" Min. Lap (Typ. #4 Bars)

SHEET 1 OF 2
DETAILS OF END BENT NO. 1

STATE OF ARKANSAS
Christian Duncan
LICENSED PROFESSIONAL ENGINEER
No. 20837
CHRISTIAN JON LOUIS DUNCAN

4-11-2025
BRIDGE ENGINEER

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARKANSAS

DRAWN BY: CJD DATE: 2/5/2025
CHECKED BY: CM DATE: 2/6/2025
DESIGNED BY: CJD DATE: 2/5/2025
FILENAME: b061745_b11.dgn
SCALE: AS SHOWN

BRIDGE NO. 07640

DRAWING NO. 63810

PRINT DATE: 4/10/2025

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
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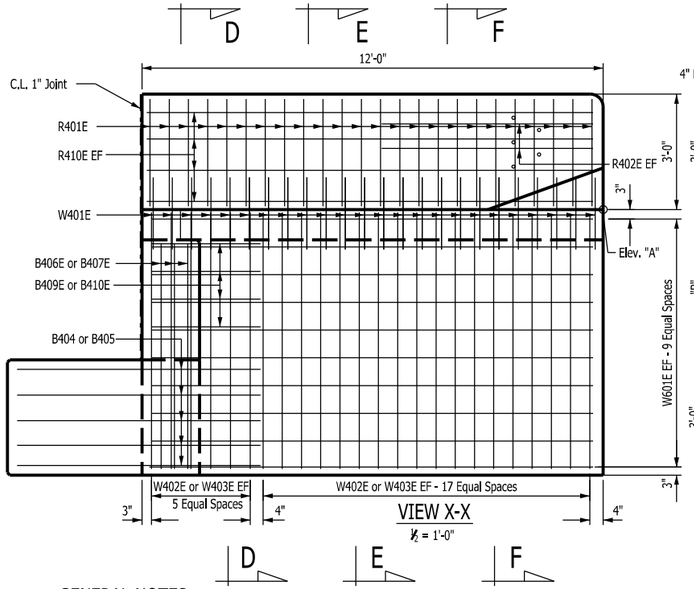
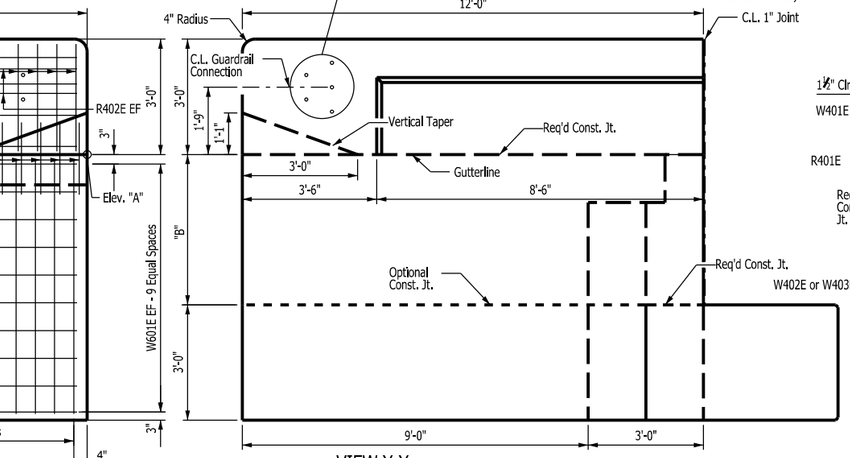
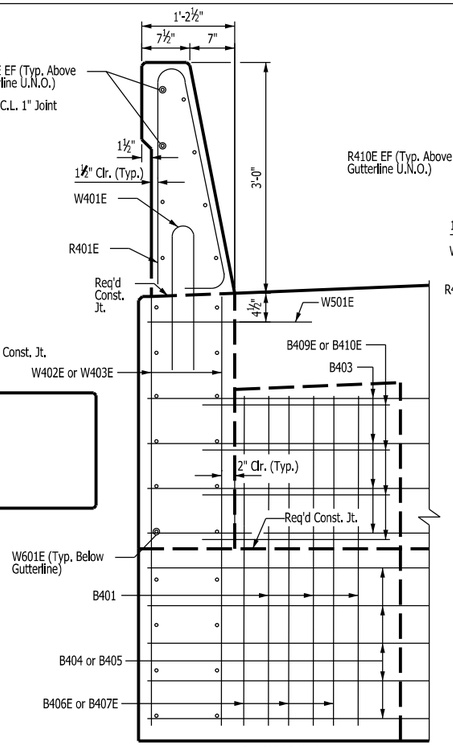
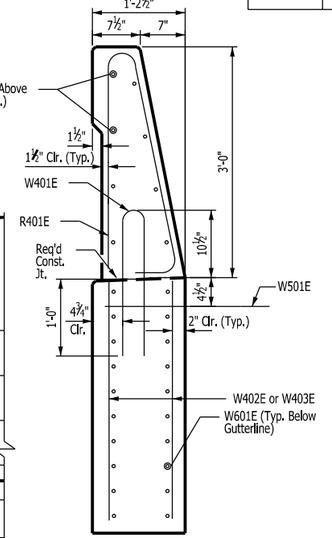
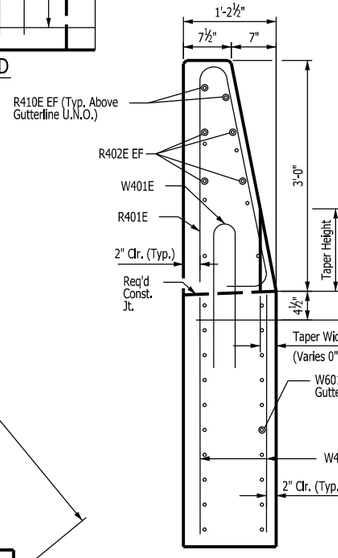
		07640		END BENTS	63811	











GENERAL NOTES

All concrete in end bent cap shall be Class "S" with a minimum 28 day compressive strength of 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.

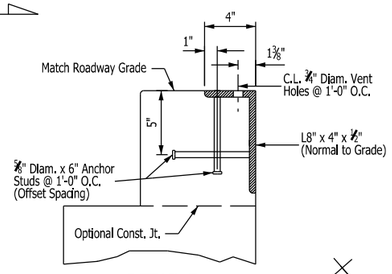
Structural steel in end bents shall be ASTM A709, Gr. 50W and shall be paid for as "STRUCTURAL STEEL IN BEAM SPANS (ASTM A709, GR. 50W)".

No heavy construction equipment shall be allowed within 10' of the end bent until the deck concrete for the adjacent span has been completed.

Top reinforcing bars in bent cap shall be properly placed to avoid interference with anchor bolts or sheet metal sleeves.

No portion of the backwall shall be poured before girders are in place. The portion of the backwall above the optional construction joint at the paving bracket shall not be placed until the adjacent deck pour has been made.

For additional information, see layout.



NOTE:
Concrete shall be hand packed under the joint armor in the backwall.

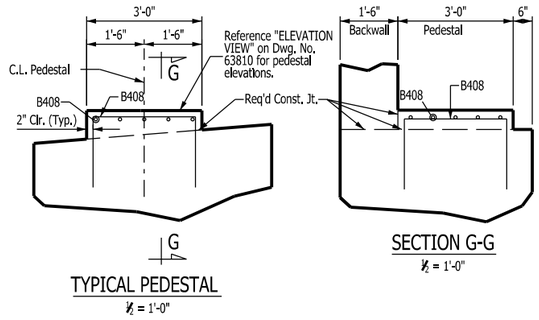
Special care shall be taken to properly and thoroughly consolidate the concrete in the vicinity of the expansion joint device in the backwall, see Subsection 802.09(a)(3).

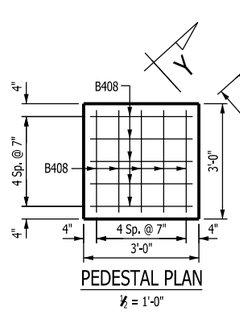
Transverse spacing between top anchor studs and vent holes shall be 6".

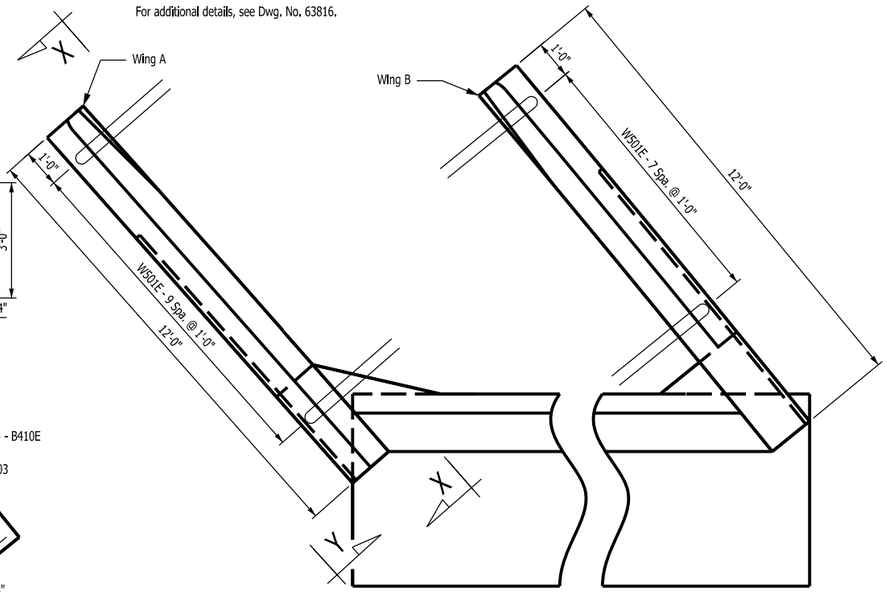
For additional details, see Dwg. No. 63816.

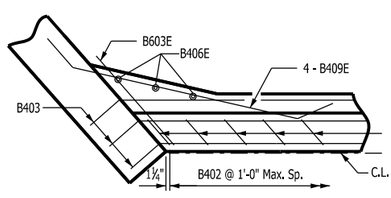
TABLE OF VARIABLES

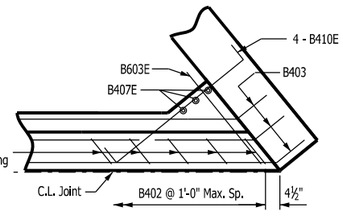
Bent No.	Location	Elev. "A"	"B"
1	Wing A	201.14	5'-0⅛"
1	Wing B	204.33	4'-10¼"







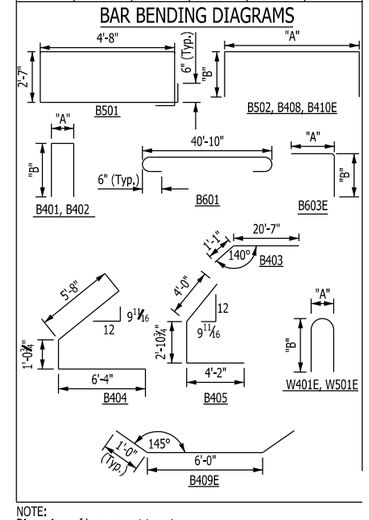




BAR LIST

Mark	No. Req'd.	Length	"A"	"B"	P.D.
B401	40	11'-2"	1'-2"	5'-1"	2"
B402	40	4'-4"	8"	1'-11"	2"
B403	40	21'-8"			2"
B404	5	13'-0"			2"
B405	5	11'-0"			2"
B406E	3	6'-3"			Str.
B407E	3	6'-2"			Str.
B408	50	6'-2"	2'-8"	1'-10"	2"
B409E	4	8'-0"			2"
B410E	4	5'-1"	4'-3"	6"	2"
B501	65	15'-0"			2½"
B502	15	9'-8"	4'-8"	2'-7"	2½"
B601	12	42'-2"			4½"
B602	14	40'-10"			Str.
B603E	40	5'-9"	3'-1"	2'-10"	4½"
W401E	48	3'-11"	4¾"	1'-10½"	3¾"
W402E	48	7'-7"			Str.
W403E	48	7'-5"			Str.
W501E	18	6'-4"	4¾"	3'-1"	3¾"
W601E	40	11'-8"			Str.
R401E	48	6'-4"			2½"
R402E	8	5'-6"			Str.
R410E	16	11'-8"			Str.

BAR BENDING DIAGRAMS



NOTE:
Dimensions of bars are out-to-out.
Bars designated with "E" suffix shall be epoxy coated.

STATE OF ARKANSAS
Kristian Duncan
LICENSED PROFESSIONAL ENGINEER
No. 20837
CHRISTIAN JON LOUIS DUNCAN
4-11-2025
BRIDGE ENGINEER

SHEET 2 OF 2
DETAILS OF END BENT NO. 1

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

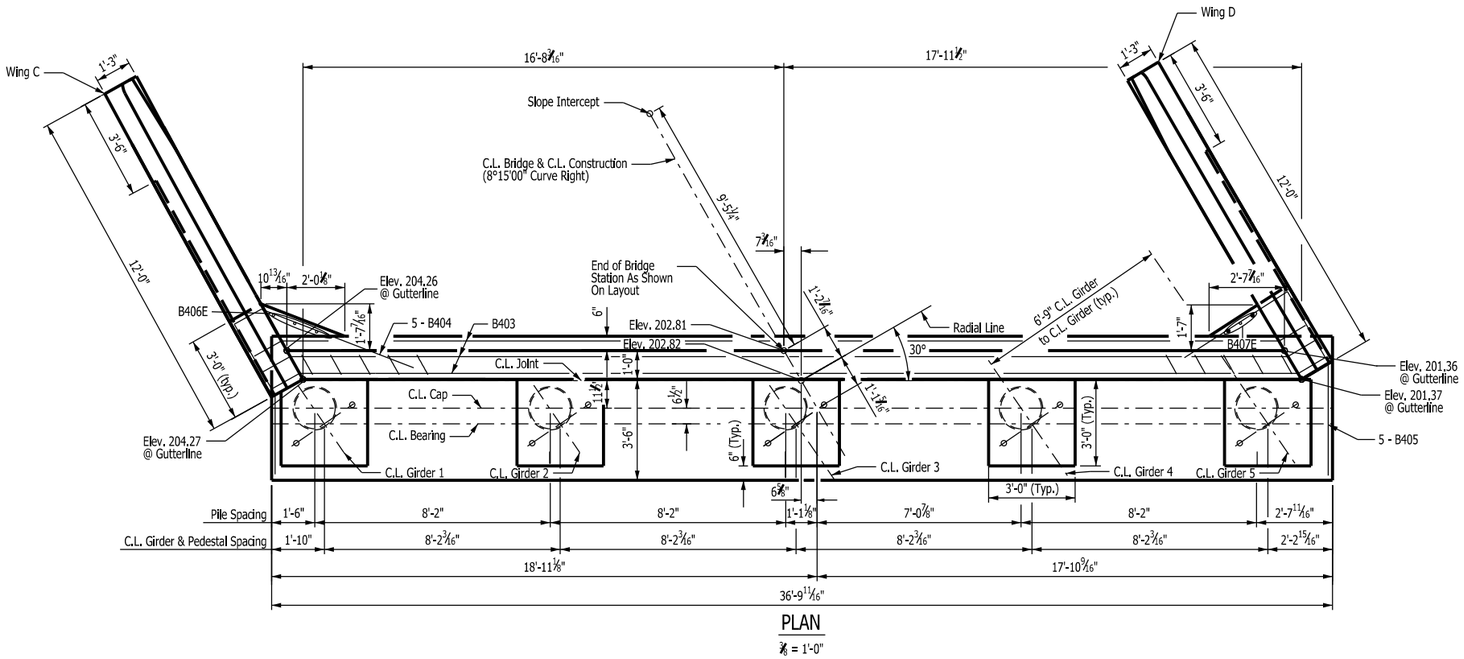
LITTLE ROCK, ARKANSAS

DRAWN BY: CJD DATE: 2/5/2025
CHECKED BY: CM DATE: 2/6/2025
DESIGNED BY: CJD DATE: 2/5/2025
FILENAME: b061745_b12.dgn
SCALE: AS SHOWN

BRIDGE NO. 07640 DRAWING NO. 63811

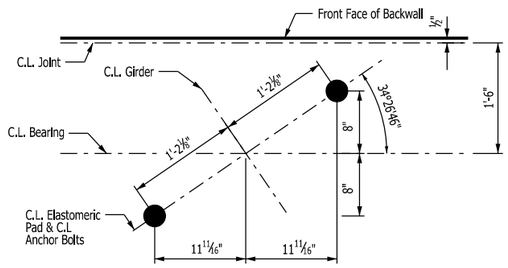
PRINT DATE: 4/10/2025

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	061745	38	59
		07640		END BENTS		63812



PLAN

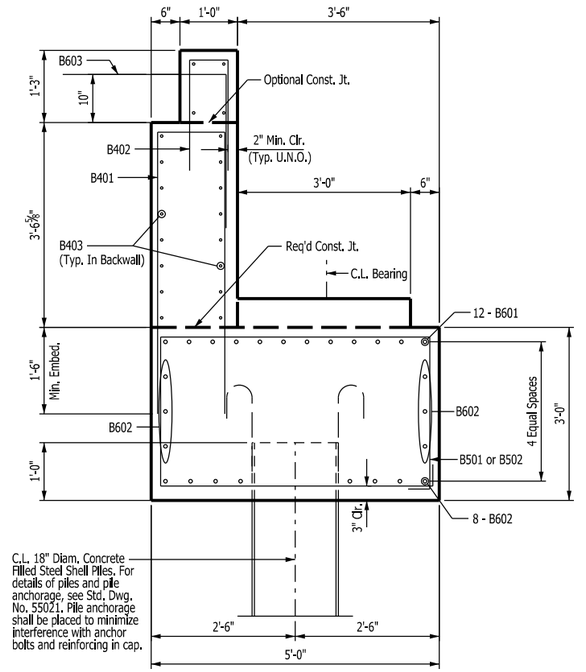
3/8 = 1'-0"



For Details of Elastomeric Bearings, see Dwg. 63815

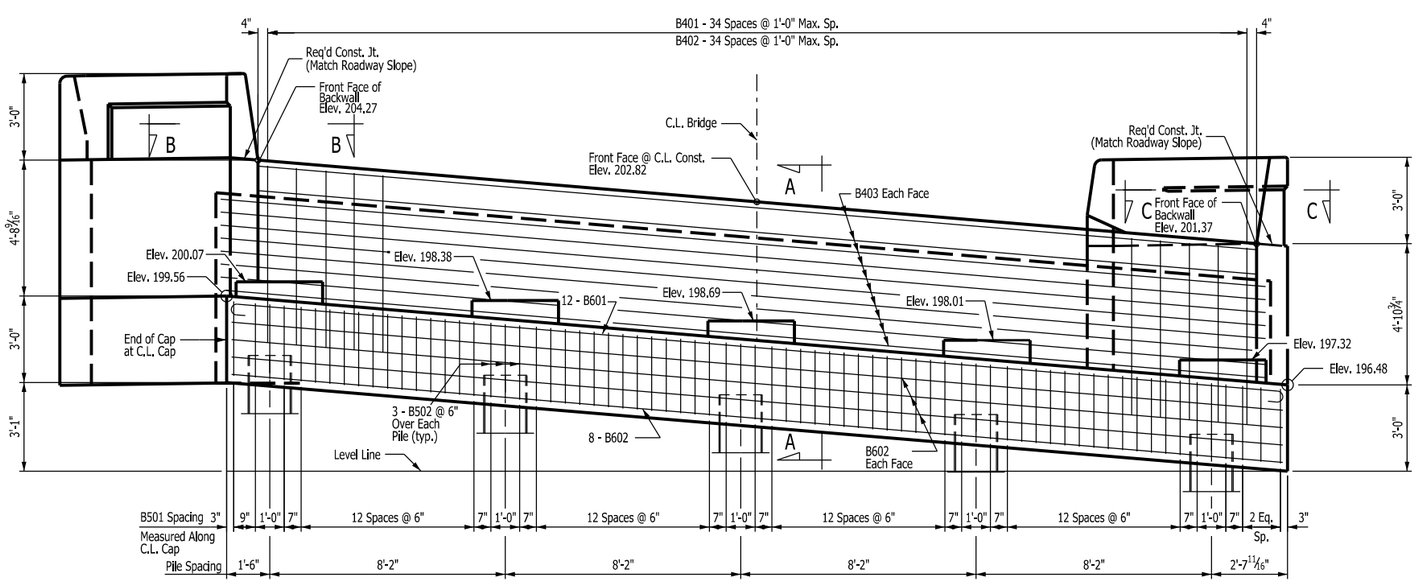
ANCHOR BOLT LAYOUT

No Scale



SECTION A-A

3/4 = 1'-0"



ELEVATION (LOOKING AHEAD)

3/8 = 1'-0"

PRINT DATE: 4/10/2025

SHEET 1 OF 2
DETAILS OF END BENT NO. 3

STATE OF ARKANSAS
Christian Duncan
LICENSED PROFESSIONAL ENGINEER
No. 20837
CHRISTIAN JON LOUIS DUNCAN
4-11-2025
BRIDGE ENGINEER

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARKANSAS

DRAWN BY: CJD DATE: 2/5/2025
CHECKED BY: CM DATE: 2/6/2025
DESIGNED BY: CJD DATE: 2/5/2025
FILENAME: b061745_b31.dgn
SCALE: AS SHOWN

BRIDGE NO. 07640

DRAWING NO. 63812

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
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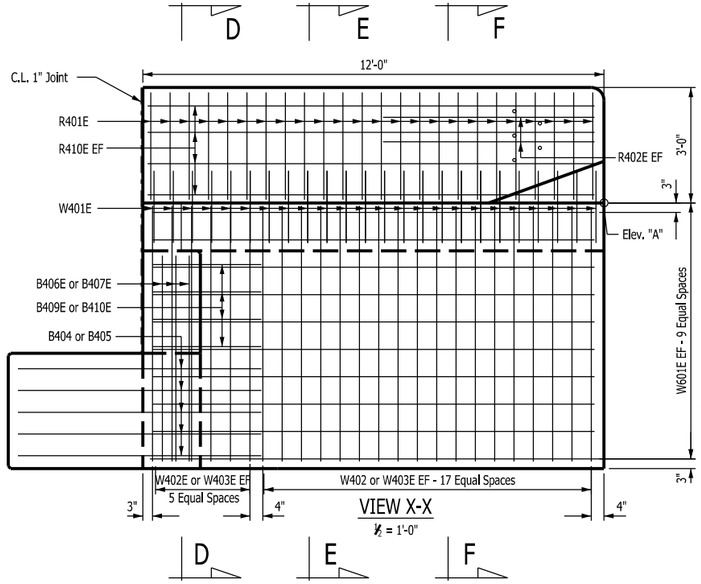
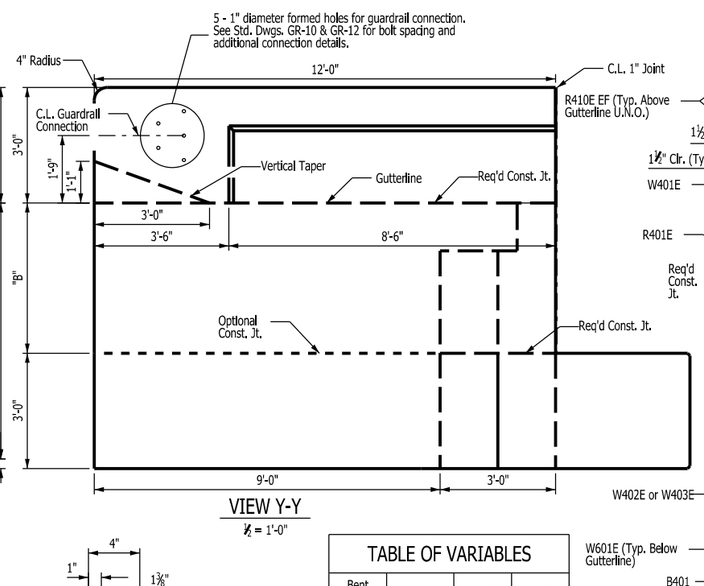
		07640		END BENTS		63813



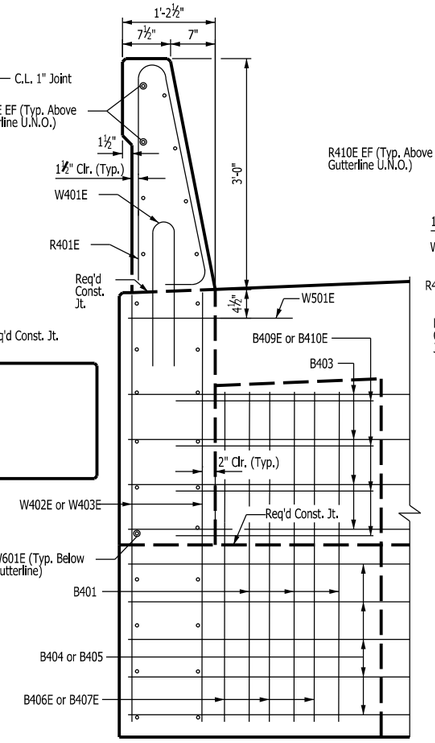
VIEW X-X

½ = 1'-0"



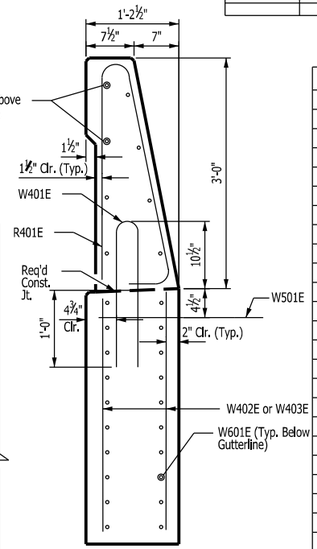
VIEW Y-Y

½ = 1'-0"



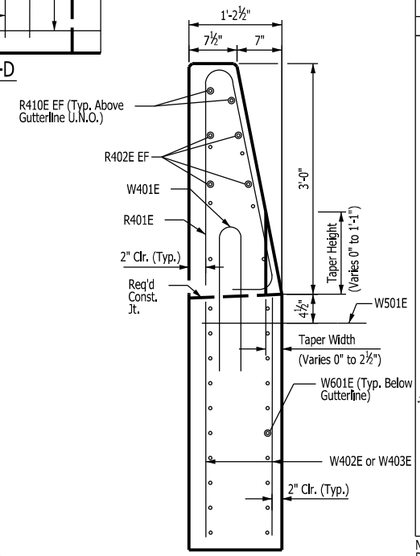
SECTION D-D

No Scale



SECTION E-E

No Scale



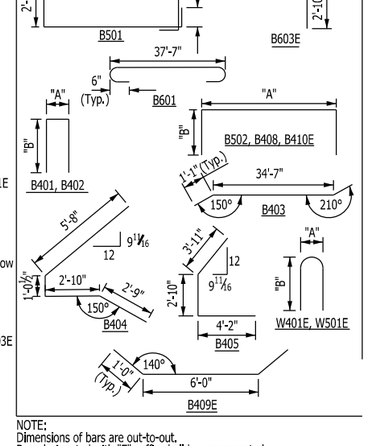
SECTION F-F

No Scale

BAR LIST

Mark	No. Req'd.	Length	"A"	"B"	P.D.
B401	35	15'-0"	1'-2"	7'-0"	2"
B402	35	4'-4"	8"	1'-11"	2"
B403	20	36'-9"			2"
B404	5	12'-3"			2"
B405	5	10'-10"			2"
B406E	3	6'-1"			Str.
B407E	3	6'-2"			Str.
B408	50	6'-2"	2'-8"	1'-10"	2"
B409E	4	8'-0"			2"
B410E	4	5'-1"	4'-3"	6"	2"
B501	56	15'-0"			2½"
B502	15	9'-8"	4'-8"	2'-7"	2½"
B601	12	38'-11"			4½"
B602	14	37'-7"			Str.
B603E	35	5'-9"			4½"
					6"
W401E	48	3'-11"	4½"	1'-10½"	3¾"
W402E	48	7'-3"			Str.
W403E	48	7'-5"			Str.
W501E	17	6'-4"	4½"	3'-1"	3¾"
W601E	40	11'-8"			Str.
R401E	48	6'-4"			2½"
R402E	8	5'-6"			Str.
R410E	16	11'-8"			Str.

BAR BENDING DIAGRAMS



NOTE:
Dimensions of bars are out-to-out.
Bars designated with "E" suffix shall be epoxy coated.

GENERAL NOTES

All concrete in end bent cap shall be Class "S" with a minimum 28 day compressive strength of 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.

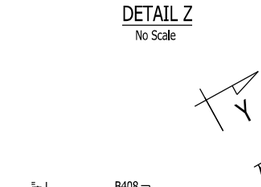
Structural steel in end bents shall be ASTM A709, Gr. 50W and shall be paid for as "STRUCTURAL STEEL IN BEAM SPANS (ASTM A709, GR. 50W)".

No heavy construction equipment shall be allowed within 10' of the end bent until the deck concrete for the adjacent span has been completed.

Top reinforcing bars in bent cap shall be properly placed to avoid interference with anchor bolts or sheet metal sleeves.

No portion of the backwall shall be poured before girders are in place. The portion of the backwall above the optional construction joint at the paving bracket shall not be placed until the adjacent deck pour has been made.

For additional information, see layout.



DETAIL Z

No Scale

TABLE OF VARIABLES

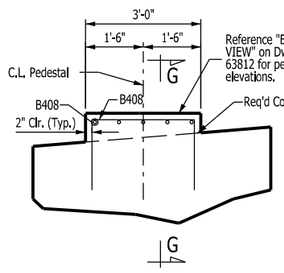
Bent No.	Location	Elev. "A"	"B"
3	Wing C	204.19	4'-8⁹⁄₁₆"
3	Wing D	201.31	4'-10¾"

NOTE:
Concrete shall be hand packed under the joint armor in the backwall.

Special care shall be taken to properly and thoroughly consolidate the concrete in the vicinity of the expansion joint device in the backwall, see Subsection 802.09(a)(3).

Transverse spacing between top anchor studs and vent holes shall be 6".

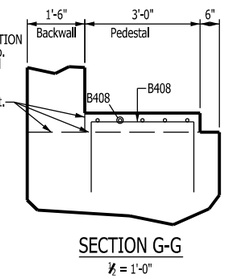
For additional details, see Dwg. No. 63816.



G

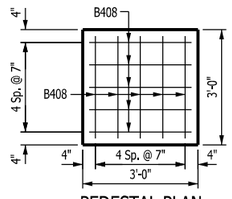
TYPICAL PEDESTAL

½ = 1'-0"



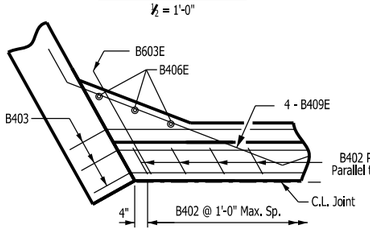
SECTION G-G

½ = 1'-0"



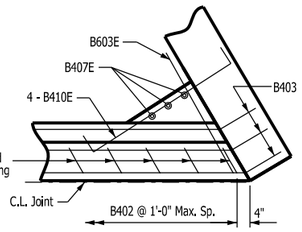
PEDESTAL PLAN

½ = 1'-0"



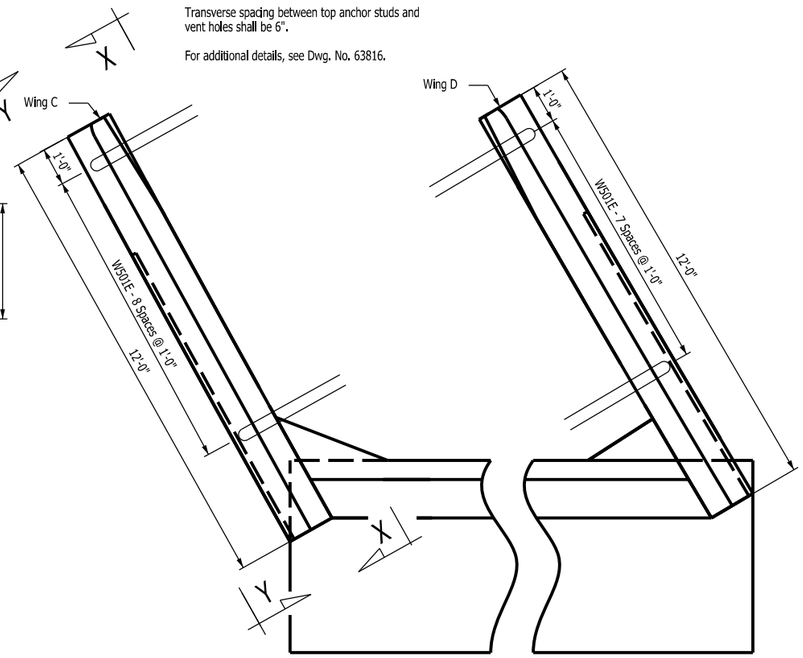
SECTION B-B

½ = 1'-0"



SECTION C-C

½ = 1'-0"



PLAN OF RAIL

½ = 1'-0"

STATE OF ARKANSAS
Christian Duncan
LICENSED PROFESSIONAL ENGINEER
No. 20837
CHRISTIAN JON LOUIS DUNCAN

4-11-2025

BRIDGE ENGINEER

SHEET 2 OF 2
DETAILS OF END BENT NO. 3

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

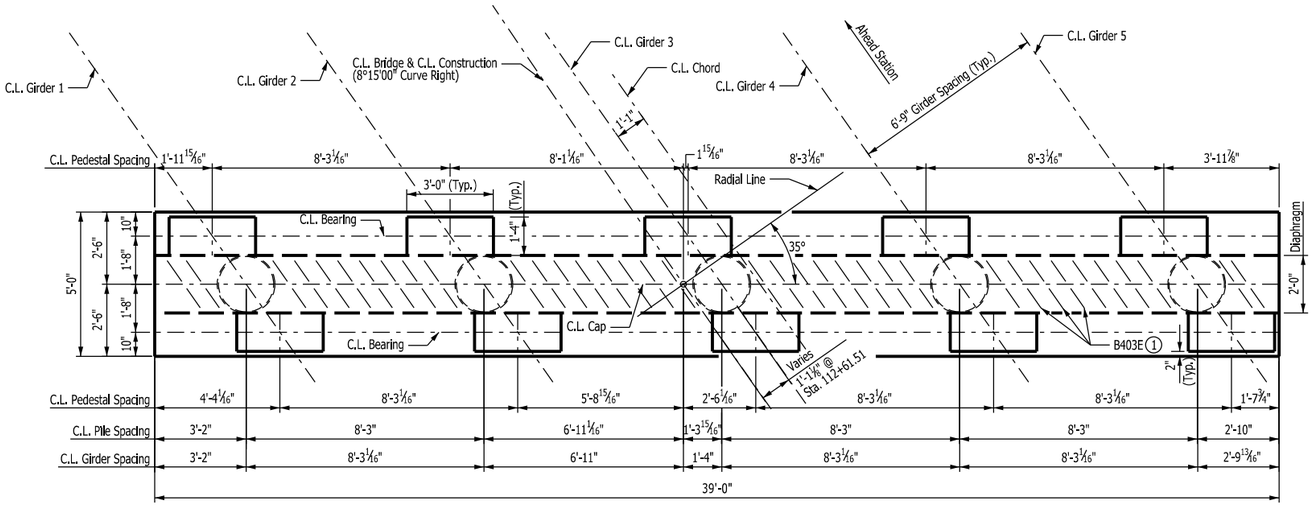
LITTLE ROCK, ARKANSAS

DRAWN BY:	CJD	DATE:	2/5/2025	FILENAME:	b061745_b32.dgn
CHECKED BY:	CM	DATE:	2/6/2025	SCALE:	AS SHOWN
DESIGNED BY:	CJD	DATE:	2/5/2025		

BRIDGE NO. 07640 DRAWING NO. 63813

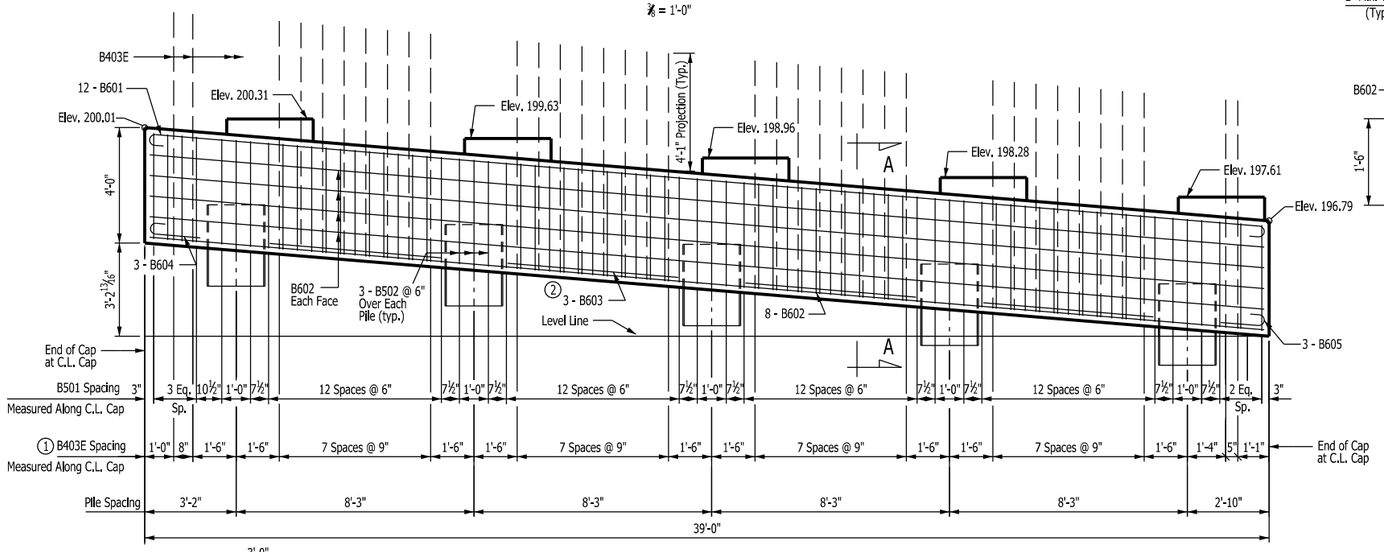
PRINT DATE: 4/10/2025

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	061745	40	59
		07640		INT. BENT		63814



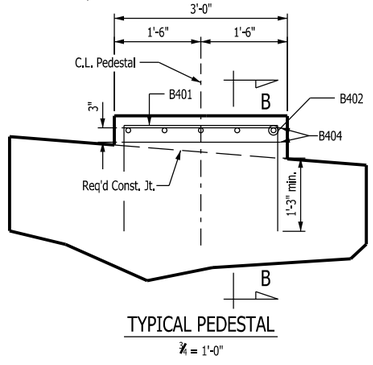
PLAN

3/8" = 1'-0"



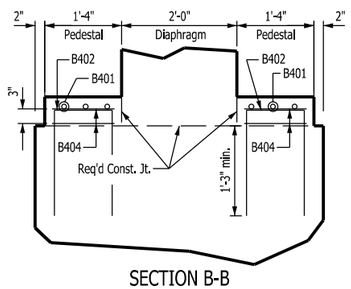
ELEVATION (LOOKING AHEAD)

3/8" = 1'-0"



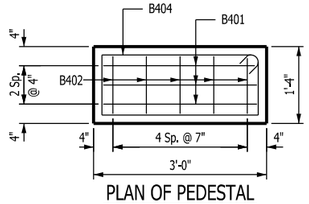
TYPICAL PEDESTAL

3/4" = 1'-0"



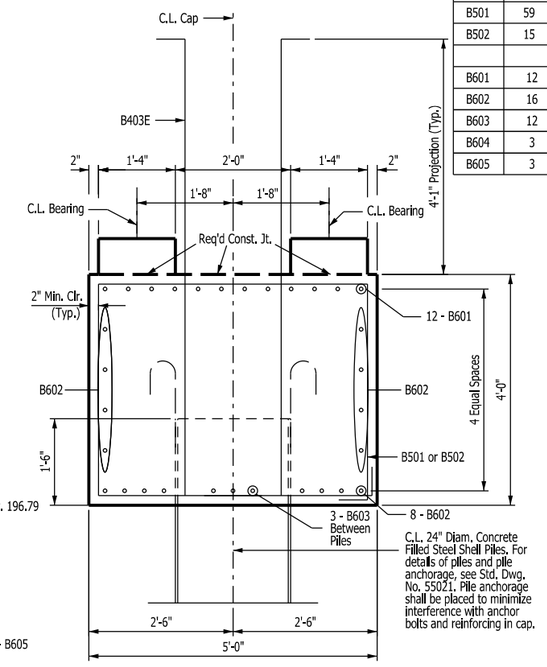
SECTION B-B

3/4" = 1'-0"



PLAN OF PEDESTAL

3/4" = 1'-0"



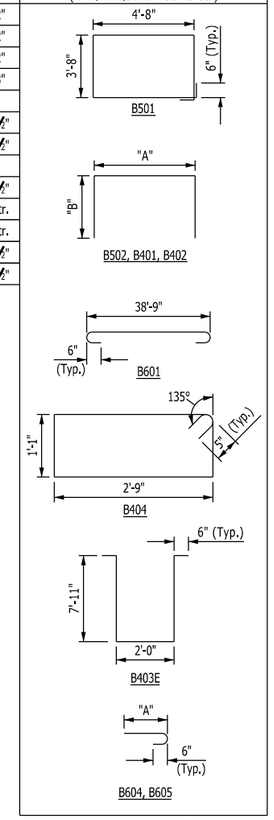
SECTION A-A

3/4" = 1'-0"

BAR LIST

Mark	No. Req'd.	Length	"A"	"B"	P.D.
B401	30	6'-2"	2'-8"	1'-10"	2"
B402	50	4'-6"	1'-0"	1'-10"	2"
B403E	36	18'-6"			2"
B404	20	8'-2"			3"
B501	59	17'-2"			2½"
B502	15	11'-10"	4'-8"	3'-8"	2½"
B601	12	40'-1"			4½"
B602	16	38'-9"			Str.
B603	12	5'-11"			Str.
B604	3	2'-5"	1'-9"		4½"
B605	3	2'-2"	1'-6"		4½"

Bending Diagrams (All Dimensions are Out-to-Out)



NOTE: Bars designated with "E" suffix shall be epoxy coated.

GENERAL NOTES

All concrete in intermediate bent cap shall be class "S" with a minimum 28 day compressive strength f'c = 3500 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.

For additional information, see layout.

(1) B403E placed parallel to girder lines

(2) B603 placed between piles (Typ.)

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DETAILS OF INTERMEDIATE BENT 2

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

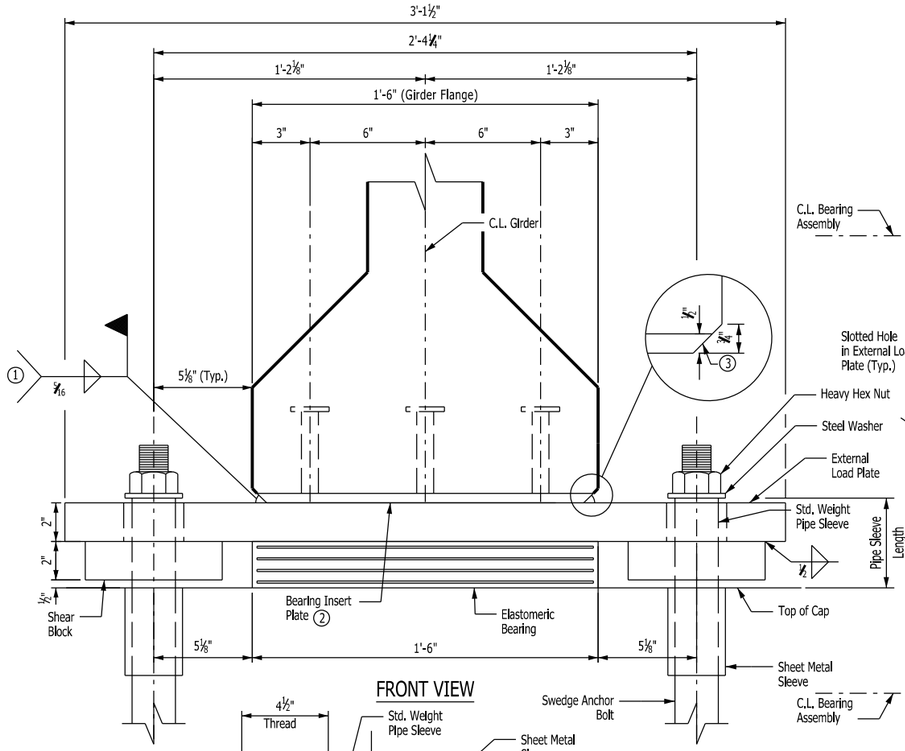
LITTLE ROCK, ARKANSAS

DRAWN BY: CJD DATE: 2/5/2025
CHECKED BY: CM DATE: 2/6/2025
DESIGNED BY: CJD DATE: 2/5/2025
FILENAME: b061745_b21.dgn
SCALE: AS SHOWN

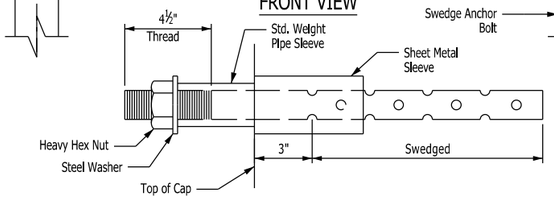
BRIDGE NO. 07640 DRAWING NO. 63814

PRINT DATE: 4/10/2025

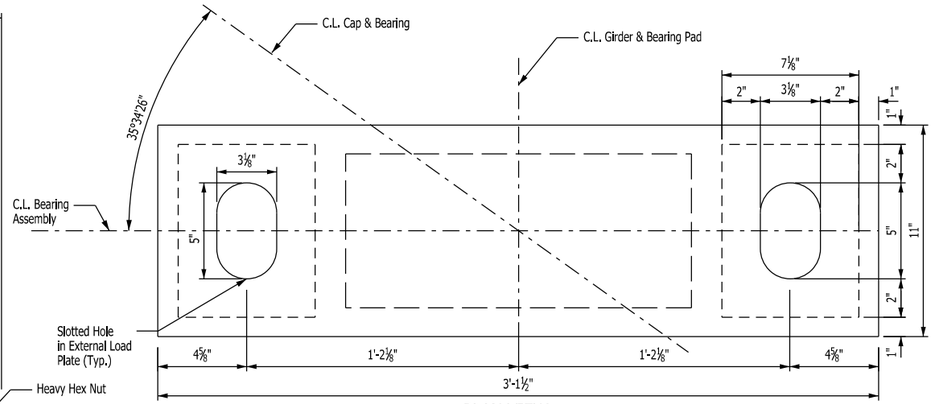
DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	061745	41	59
		07640 ELASTOMERIC BEARINGS 63815				



FRONT VIEW

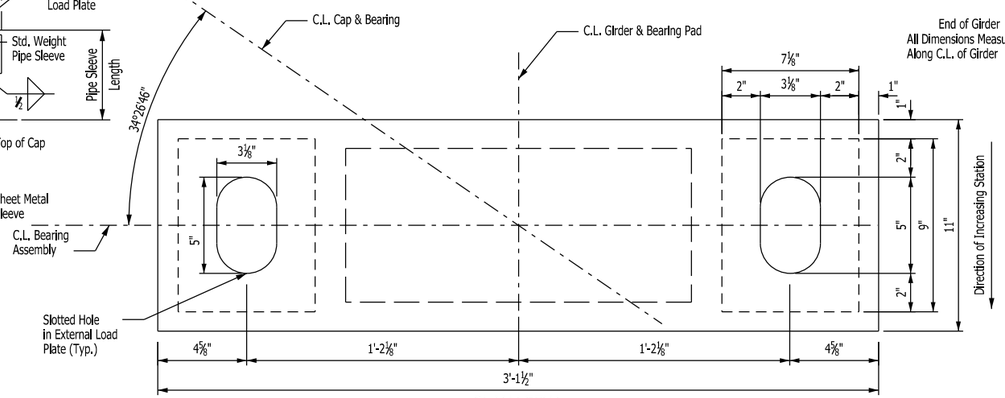


ANCHOR BOLT DETAIL



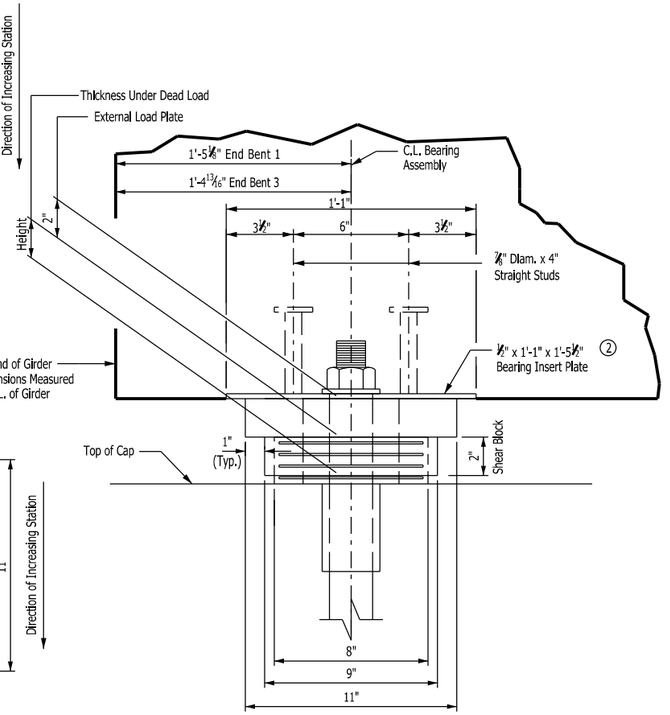
PLAN VIEW

Showing Bearing at End Bent 1

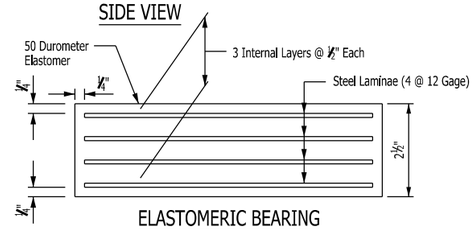


PLAN VIEW

Showing Bearing at End Bent 3



SIDE VIEW



ELASTOMERIC BEARING

TABLE OF FABRICATOR VARIABLES

Location		Bearing Type	No. Of Bearings Each Bent	Max. Design Load (LRFD Service 1 Limit State)	Elastomeric Pad					External Load Plate				Anchor Bolt Assembly				
														Anchor Bolt		Pipe Sleeve Size	Sheet Metal Sleeve Size	Steel Washer Size
Bent No.	Girder No.				Width	Length	Height	No. & Thickness Of Internal Elastomer Layers	No. & Thickness Of Internal Steel Laminae	Width	Length	Thickness	Shear Blocks	(Diam. x L)	Grade	(Diam. x L)	(Diam. x L)	(O.D.)
1	All	Expansion	5	135 kips	1'-6"	8"	2⅞"	3 Layers @ ½"	4 Layers @ 12 Gage	3'-1½"	11"	2"	2" x 7⅛" x 9"	2¼" x 32"	55	2½" x 4⅜"	4" x 1'-6"	4"
3	All	Expansion	5	135 kips	1'-6"	8"	2⅞"	3 Layers @ ½"	4 Layers @ 12 Gage	3'-1½"	11"	2"	2" x 7⅛" x 9"	2¼" x 32"	55	2½" x 4⅜"	4" x 1'-6"	4"

NOTE:
Anchor bolts may be cast in place or drilled and grouted into place. If anchor bolts are cast in place, the galvanized sheet metal sleeves will not be required.

If anchor bolts are to be drilled and grouted into place, the galvanized sheet metal sleeves shall be cast in place as shown. Sleeves shall be dry packed with styrofoam, urethane foam, or approved equal prior to pouring of concrete. After pouring of the cap and prior to erection of the girder, the dry pack shall be removed and holes for the anchor bolts shall be accurately drilled into the concrete. Bolts placed in drilled holes shall be accurately set and fixed using a QPL approved epoxy or non-shrink grout that completely fills the holes. Galvanized Sheet Metal Sleeves shall meet the requirements of ASTM A653, CS Type B or approved equivalent, be of minimum 16 gage thickness, and be galvanized according to ASTM B695, Class 50. Sheet Metal Sleeves will not be paid for directly, but will be considered subsidiary to the item "STRUCTURAL STEEL IN BEAM SPANS (A709, GR. 50W)".

GENERAL NOTES

Elastomeric bearings shall conform to Section 808 and shall be paid for at unit price bid for "ELASTOMERIC BEARINGS."

External load plates shall conform to ASTM A709, Grade 50W. Pipe sleeves shall be ASTM A500, Grade B, and shall be galvanized to conform to AASHTO M 232, Class C or ASTM B695, Class 50.

External load plates shall be completely fabricated (including bevel and bolt holes) and shall be cleaned before vulcanizing to the elastomeric bearing. The surface in contact with the elastomeric bearing shall be cleaned in accordance with Subsection 808.03. Other surfaces shall be blast cleaned in accordance with Subsection 807.84(b) for painted steel and 807.84(e) for unpainted Grade 50W steel.

Anchor bolts, washers, and nuts shall conform to Subsection 807.07. The anchor bolt grade of steel shall be as specified in the "TABLE OF FABRICATOR VARIABLES". Indentations shall be circular with rounded bottoms and staggered as shown in the details.

Pipe sleeves, anchor bolts, washers, and nuts shall be paid for at the unit price bid for "STRUCTURAL STEEL IN BEAM SPANS (A709, GR. 50W)". External load plates will not be measured or paid for separately but will be considered incidental to the unit price bid for "ELASTOMERIC BEARINGS".

Bearings shall be seated in accordance with Subsection 808.08. This work and materials are considered subsidiary to the item "ELASTOMERIC BEARINGS" and will not be paid for directly.

① Unless otherwise approved by the Engineer, welding of the external load plate at expansion bearings to the bearing insert plate will be allowed only when:

1) The approximate average air temperature during the 24 hour period prior immediately preceding welding is between 40°F and 80°F.

2) The slots in the external load plate are positioned to center on the anchor bolts

3) No horizontal deformation of the elastomeric pad is evident.

If welding at other temperatures is required, the Engineer will provide adjustment data.

② Bearing insert plate (A709, Gr. 50W) and studs shall be considered subsidiary to the item "PRESTRESSED CONCRETE GIRDERS (TYPE II)". Studs shall conform to Subsection 807.08.

③ Care shall be taken to ensure that the external load plate is in full and complete contact with the bearing insert plate before beginning the welding process.

④ Bevel Bearing Insert Plate to conform to girder chamfer.

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DETAILS OF ELASTOMERIC BEARINGS

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

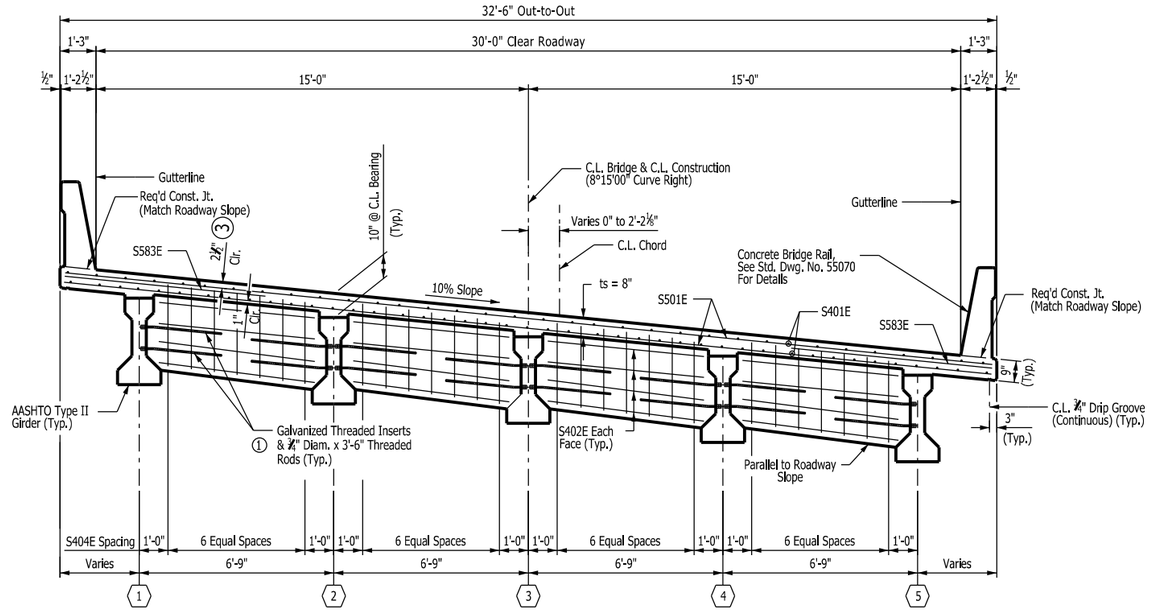
LITTLE ROCK, ARKANSAS

DRAWN BY: CJD DATE: 2/5/2025 FILENAME: b061745_e1.dgn
CHECKED BY: CM DATE: 2/6/2025 SCALE: AS SHOWN
DESIGNED BY: CJD DATE: 2/5/2025

BRIDGE NO. 07640 DRAWING NO. 63815

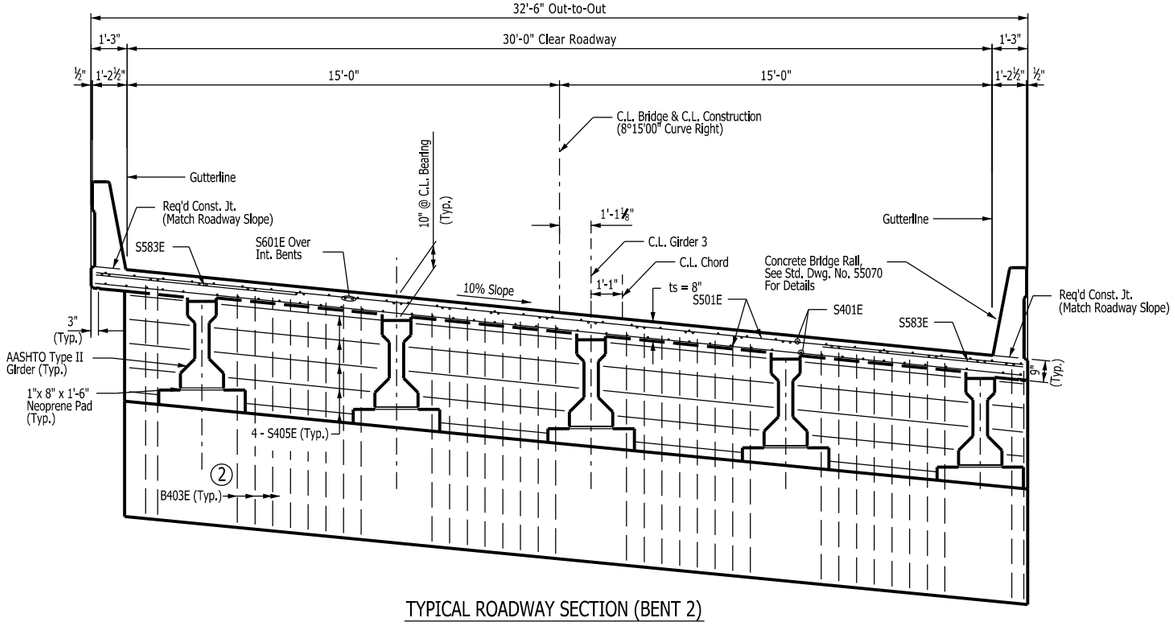
PRINT DATE: 4/10/2025

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	061745	42	59
		07640		107'-5¼" UNIT		63816



TYPICAL ROADWAY SECTION

Showing Partial Depth End Diaphragms
Scale: ⅛" = 1'-0"



TYPICAL ROADWAY SECTION (BENT 2)

Showing Full Depth Intermediate Diaphragm
Scale: ⅛" = 1'-0"

SLAB REINFORCING:

Transverse: (Placed on Radial Lines)
S501E @ 6" O.C. Top & Bot.
S583E @ 6" O.C. In Top of Overhang (Bundled with #5 Bars)

Longitudinal:
S401E In Top & Bot. As Shown
S601E As Shown Over Int. Bents, see "REINFORCING PLAN" on Dwg. No. 63818

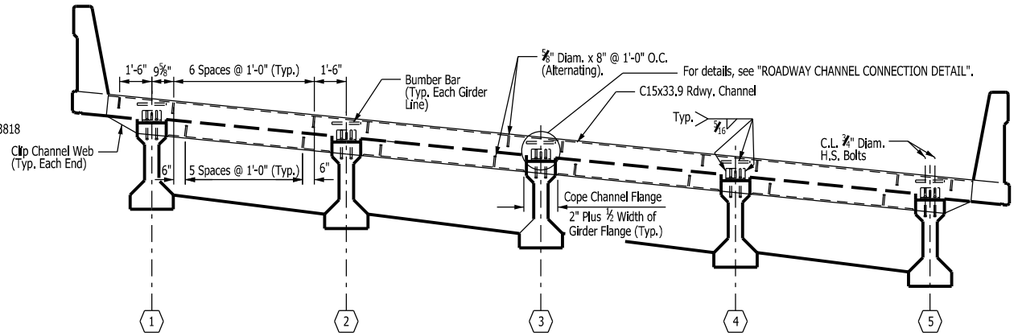
NOTES:
Class 2 Protective Surface Treatment shall be applied to the roadway surface & to the roadway face & top of the concrete bridge rail.

Bar positions & clearances from the forms shall be maintained by means of stays, ties, hangers, or other approved devices sufficient in size & number to prevent displacement during construction, per Subsection 804.06. Placement of slab bolters or hi-chairs with full-length lower runners directly on removable deck forms will not be allowed.

1. Galvanized Threaded Inserts shall be Dayton-Richmond F-42 Loop Ferule Inserts or approved equal. ¾" diam. Galvanized Threaded Rods shall be ASTM A709, Grade 36 or AASHTO M 31 or M 322 Type A, Grade 60. Galvanizing shall be in accordance with AASHTO M 232, Class C or ASTM B695, Class 50. These items will not be paid for directly but shall be considered subsidiary to the item "PRESTRESSED CONCRETE GIRDERS (TYPE II)".

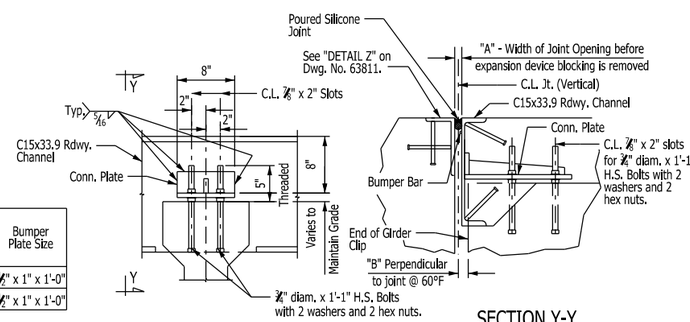
2. See "INTERMEDIATE BENT DETAILS" on Dwg. No. 63814.

3. TOLERANCE:
Minus = ¼"
Plus: Equal to amount of slab thickening used to meet slab thickness tolerance - see "ADJUSTMENT FOR SLAB THICKNESS TOLERANCE" on Dwg. No. 63817.



SECTION NEAR JOINT

(Looking Ahead @ Bent 1, Bent 3 Similar)
Scale: ⅛" = 1'-0"

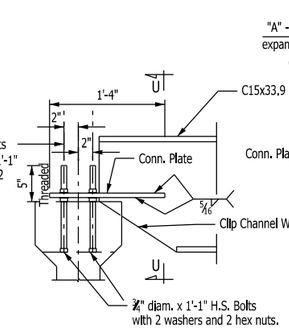


SECTION X-X

No Scale

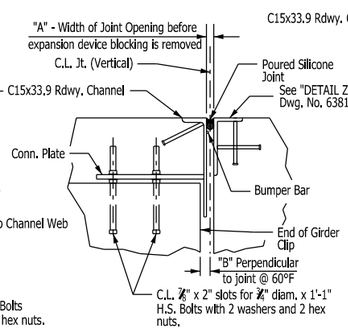
SECTION Y-Y

(Perpendicular to Joint)
No Scale



SECTION T-T

No Scale



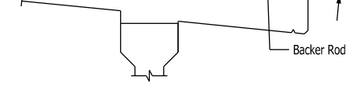
SECTION U-U

(Perpendicular to Joint)
No Scale

TABLE OF SILICONE JOINT DATA

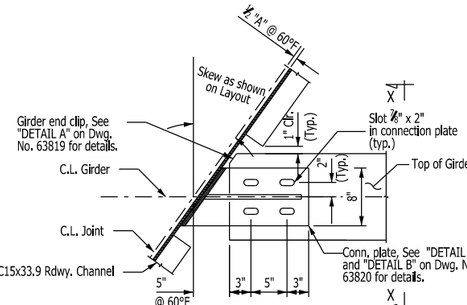
Bent Number	"A" Width Perpendicular to Joint at 24 Hour Average Temperature			"B" Perpendicular to Joint @ 60°F	Bumper Plate Size
	40°F	60°F	80°F		
1	1 3/16"	1"	13/16"	1⅛"	½" x 1" x 1'-0"
3	1 3/16"	1"	13/16"	1⅛"	½" x 1" x 1'-0"

The temperature used to set the joint opening shall be the approximate average air temperature during the 24 hour period immediately before the bolts are tightened. The Engineer shall establish the temperature. Installation is limited to 40°F min. and 80°F max. Interpolation of the table may be necessary.



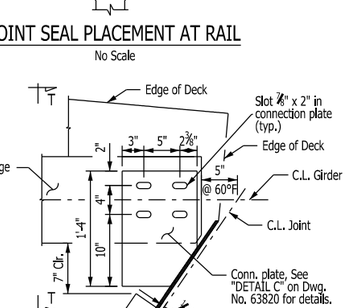
JOINT SEAL PLACEMENT AT RAIL

No Scale



ROADWAY CHANNEL CONNECTION DETAIL

No Scale



ALTERNATE ROADWAY CHANNEL CONNECTION DETAIL

(Showing Connection Detail @ End Bent 3, Girder 1)
No Scale

SHEET 1 OF 6

DETAILS OF 107'-5¼" CONTINUOUS PRESTRESSED CONCRETE GIRDER UNIT

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARKANSAS

DRAWN BY:	CJD	DATE:	2/5/2025
CHECKED BY:	CM	DATE:	2/5/2025
DESIGNED BY:	CJD	DATE:	2/5/2025

FILENAME: b061745_s1.dgn
SCALE: AS SHOWN

BRIDGE NO. 07640 DRAWING NO. 63816

STATE OF ARKANSAS
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4-11-2025
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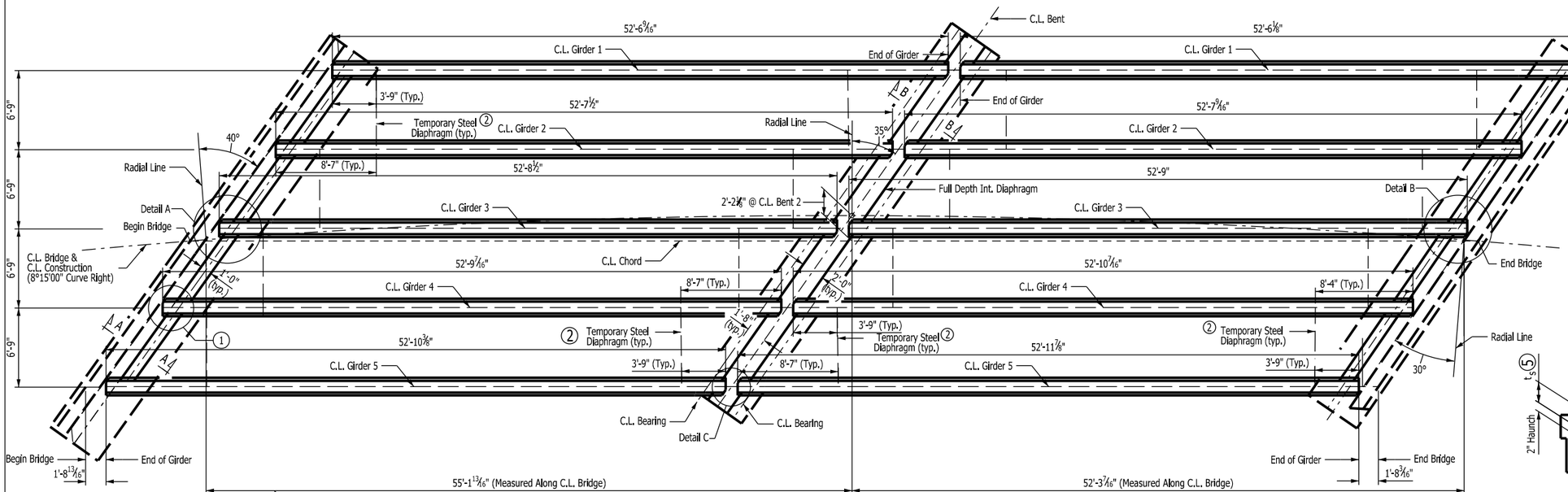
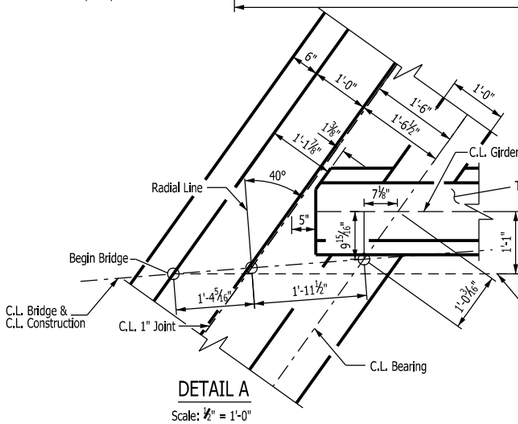
PRINT DATE: 4/10/2025

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	061745	43	59
		07640		107'-5¼" UNIT	63817	



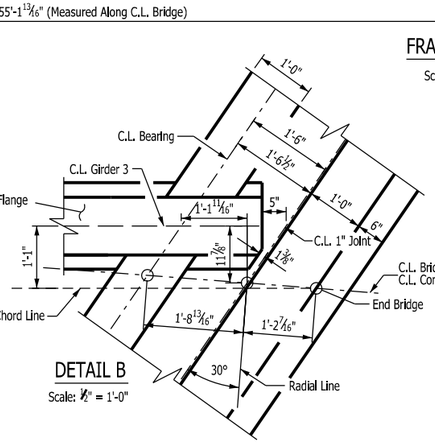
FRAMING PLAN

Scale: ⅛" = 1'-0"



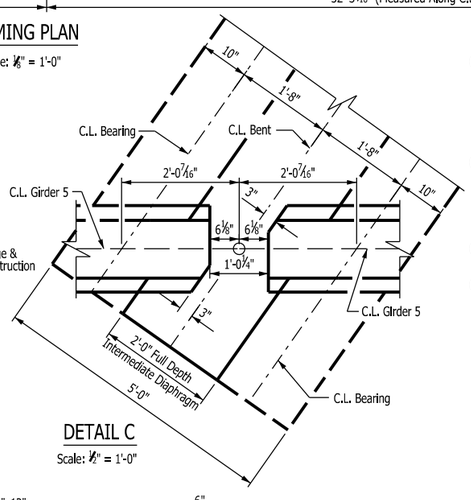
DETAIL A

Scale: ½" = 1'-0"



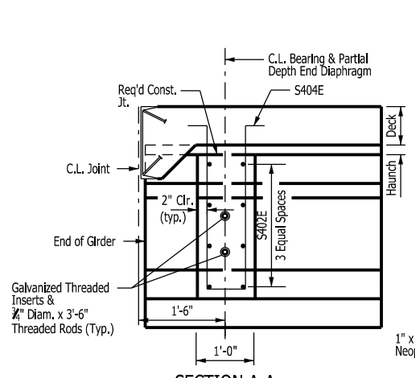
DETAIL B

Scale: ½" = 1'-0"



DETAIL C

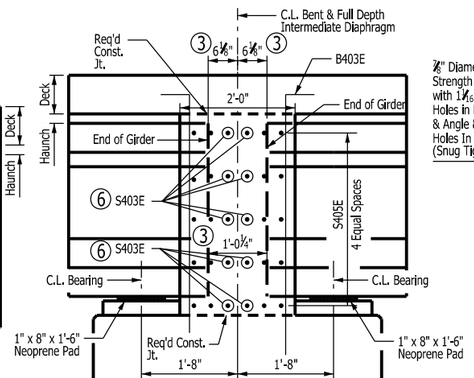
Scale: ½" = 1'-0"



SECTION A-A

(Looking Normal to CL Bearing)

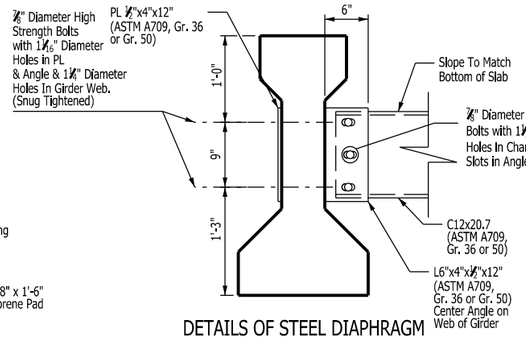
Scale: ½" = 1'-0"



SECTION B-B

(Looking Along Skewed Bent)

Scale: ½" = 1'-0"



DETAILS OF STEEL DIAPHRAGM

No Scale

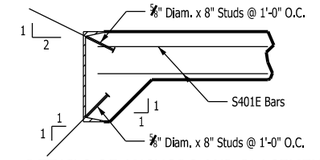
Steel diaphragms shall be used at locations noted as "Temporary Steel Diaphragm". The Temporary Steel Diaphragm and components will not be paid directly, but shall be considered subsidiary to the Item "PRESTRESSED CONCRETE GIRDERS (TYPE II)".

All components of Steel Diaphragms shall be galvanized in accordance with AASHTO M111.

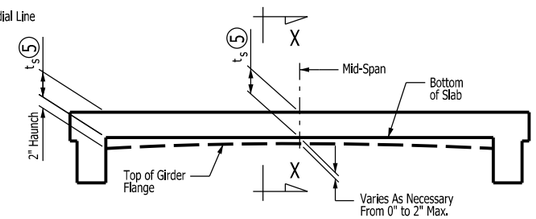
NOTE:
A standard washer shall be applied under both the nut and the head of the ⅞" diameter high strength bolts. An additional plate washer shall cover the angle slots.

1. After erection, the ends of the girders at all bents shall be blocked using temporary blocking to maintain proper location on bent caps. The ends of girders at intermediate bents shall remain blocked until 72 hours after all partial depth concrete diaphragms at end bents are poured. The ends of girders at end bents shall remain blocked until after the temporary steel diaphragms are in place.
2. After the concrete deck construction and curing are complete, the temporary steel diaphragm and connecting elements may remain in place or be removed and become the property of the Contractor and the holes in the girder webs filled with a QPL approved non-shrink epoxy grout. For additional diaphragm details, see "DETAILS OF STEEL DIAPHRAGM".
3. Measured normal to ends of girders
4. Galvanized threaded inserts and ⅞" diameter x 3'-6" threaded rods. For details, see "TYPICAL ROADWAY SECTION" on Dwg. No. 63816.
5. Tolerance when removable deck forming is used is + ½", - ¼". Haunch forming is required and shall be adjusted to maintain slab thickness tolerance. See Std. Dwg. 55005 for tolerances when permanent steel deck forms are used.

   "GIRDER ELEVATION" sketches show the range of acceptability of the top of girder relative to bottom of slab after placement of the slab. When the top of the girder projects more than ⅜" into the slab, a raise in grade will be necessary. Girders shall be set in a sufficient number of spans over suitable increments so the revised grade line will produce a smooth riding surface. Variation in haunch height will be at the Contractor's expense.
6. Placed between girder ends.

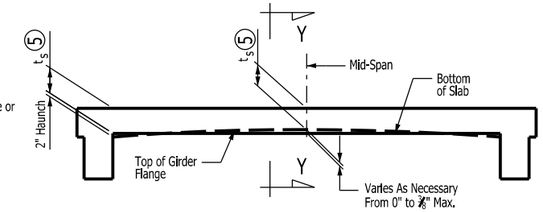


DETAILS OF ANCHORS AND PLACEMENT OF LONGITUDINAL REINFORCEMENT



GIRDER ELEVATION

No Scale



GIRDER ELEVATION

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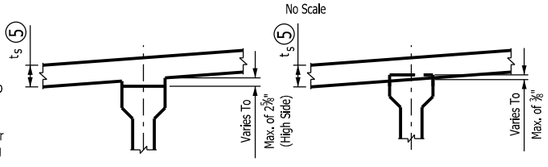

SECTION X-X

No Scale

SECTION Y-Y

No Scale

ADJUSTMENT FOR SLAB THICKNESS TOLERANCE

No Scale

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4-11-2025
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SHEET 2 OF 6
DETAILS OF 107'-5¼" CONTINUOUS PRESTRESSED CONCRETE GIRDER UNIT

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

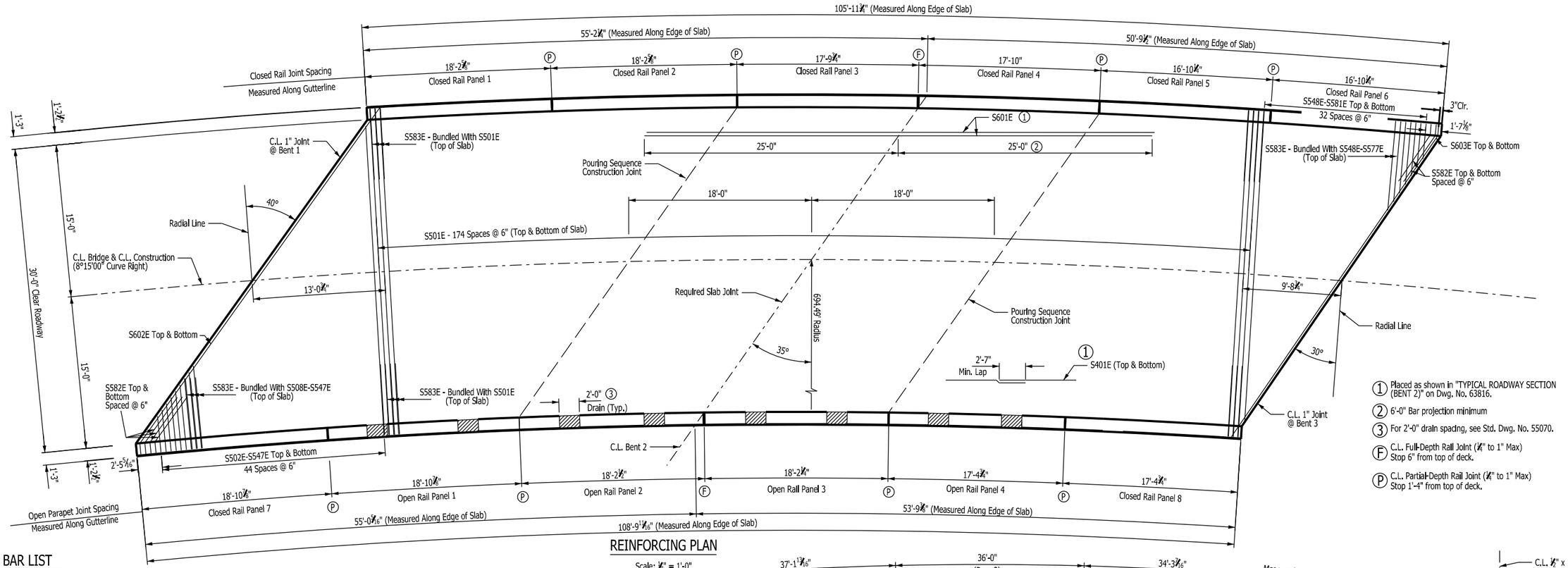
LITTLE ROCK, ARKANSAS

DRAWN BY: CJD DATE: 2/5/2025
CHECKED BY: CM DATE: 2/6/2025
DESIGNED BY: CJD DATE: 2/5/2025
FILENAME: b061745_s2.dgn
SCALE: AS SHOWN

BRIDGE NO. 07640 DRAWING NO. 63817

PRINT DATE: 4/10/2025

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	061745	44	59
		07640		107'-5¼" UNIT		63818



(1) Placed as shown in "TYPICAL ROADWAY SECTION (BENT 2)" on Dwg. No. 63816.

(2) 6'-0" Bar projection minimum

(3) For 2'-0" drain spacing, see Std. Dwg. No. 55070.

(F) C.L. Full-Depth Rail Joint (¼" to 1" Max) Stop 6" from top of deck.

(P) C.L. Partial-Depth Rail Joint (¼" to 1" Max) Stop 1'-4" from top of deck.

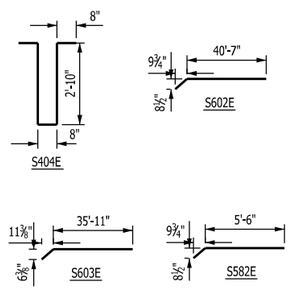
BAR LIST

MARK	NO. REQ'D	LENGTH	P.D.
S401E	231	38'-0"	Str.
S402E	64	7'-1"	Str.
S403E	10	38'-8"	Str.
S404E	56	7'-8"	2"
S405E	60	6'-0"	Str.
S501E	350	32'-2"	Str.
S502E-S547E	2 EACH	3'-6" to 30'-6"	Str.
S548E-S581E	2 EACH	3'-2" to 30'-6"	Str.
S582E	12	6'-7"	3¼"
S583E	417	7'-0"	Str.
S601E	46	50'-0"	Str.
S602E	2	41'-8"	4½"
S603E	2	37'-0"	4½"
(4) R400E	32	5'-3"	2½"
(4) R401E	409	6'-4"	2½"
R402E	32	5'-6"	Str.
(4) R403E	409	3'-7"	3¾"
R404E	32	17'-10"	Str.
R405E	8	17'-5"	Str.
R406E	8	17'-6"	Str.
R407E	16	16'-6"	Str.
R408E	16	18'-6"	Str.
R409E	16	17'-0"	Str.

NOTES:

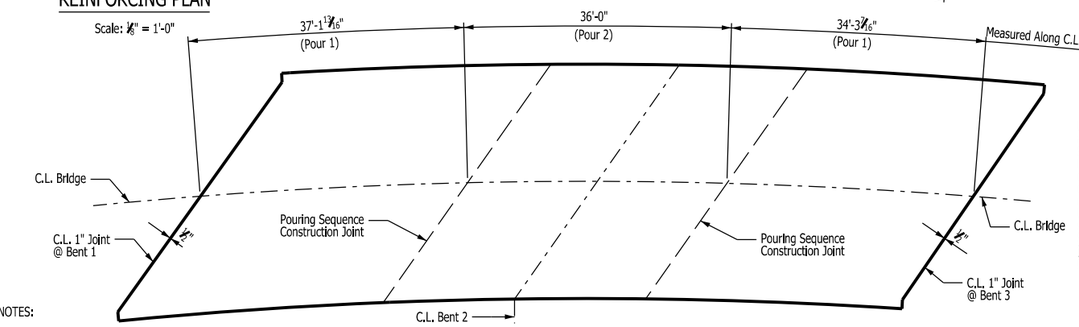
Dimensions of bars are out-to-out.
Bar Designations ending with "E" indicate epoxy coated bars.

BAR BENDING DIAGRAMS



REINFORCING PLAN

Scale: ⅛" = 1'-0"



NOTES:

Pours with the same number may be poured simultaneously or separately. All Pours (1) must be placed before Pours (2) can be placed. 48 hours shall elapse between pours and 72 hours shall elapse between adjacent pours. Any railing pours made before the entire slab unit has been placed must be approved by the Engineer.

End Diaphragms and Intermediate Diaphragms shall be poured at least 48 hours prior to deck pours.

Concrete bridge deck 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.

Required slab joints and pouring sequence construction joints shall align with bridge rail joints at the base of the rail.

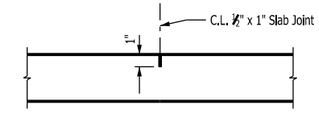
The Contractor must obtain approval from the Engineer for any deviations from the pouring sequence shown.

(4) For additional details and bending diagram of reinforcing bars in Bridge Traffic Rail, see Std. Dwg. No. 55070.

SLAB POURING SEQUENCE

(No Scale)

Unless noted otherwise, spacing shown for all transverse reinforcing is measured along the C.L. Bridge. All transverse reinforcing shall be placed on lines radial to C.L. Bridge.



Use Type 3 or 4 Joint Sealer. See Subsections 501.02(h) and 501.05(j). Backer Rod filler will not be required. Joint Sealer shall 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 the rail. Slab joints shall be installed before the railing 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. The joint sealer shall extend across the deck from gutterline to gutterline.

TRANSVERSE SLAB JOINT DETAIL

(No Scale)

STATE OF ARKANSAS
Christian Duncan
LICENSED PROFESSIONAL ENGINEER
No. 20837
CHRISTIAN JON LOUIS DUNCAN

4-11-2025
BRIDGE ENGINEER

SHEET 3 OF 6
DETAILS OF 107'-5¼" CONTINUOUS PRESTRESSED CONCRETE GIRDER UNIT

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

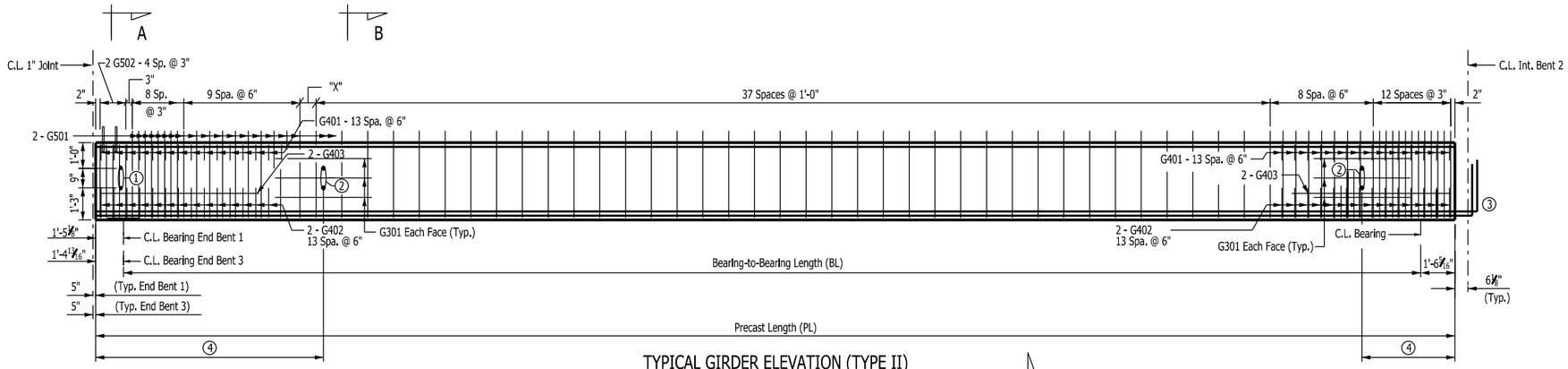
LITTLE ROCK, ARKANSAS

DRAWN BY: CJD DATE: 2/5/2025 FILENAME: b061745_s3.dgn
CHECKED BY: CM DATE: 2/6/2025 SCALE: AS SHOWN
DESIGNED BY: CJD DATE: 2/5/2025

BRIDGE NO. 07640 DRAWING NO. 63818

PRINT DATE: 4/10/2025

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	061745	45	59
		07640		107'-5¼" UNIT	63819	

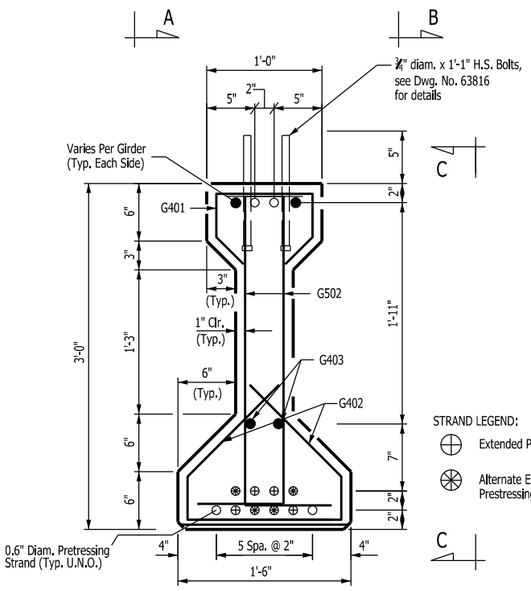


TYPICAL GIRDER ELEVATION (TYPE II)

Scale: ⅜" = 1'-0"

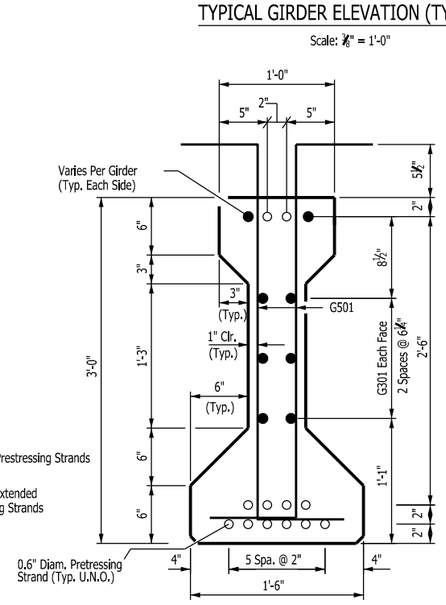
TABLE OF BEAM VARIABLES

SPAN	GIRDER	PL	BL	"X"
1	G1	52'-6⅜"	49'-7³⁄₁₆"	5³⁄₁₆"
1	G2	52'-7½"	49'-8³⁄₁₆"	6½"
1	G3	52'-8½"	49'-9"	7½"
1	G4	52'-9⁹⁄₁₆"	49'-9¹⁵⁄₁₆"	8⁹⁄₁₆"
1	G5	52'-10⅝"	49'-10¹³⁄₁₆"	9⅝"
2	G1	52'-6⅜"	49'-6¹⁵⁄₁₆"	5¼"
2	G2	52'-7⁹⁄₁₆"	49'-8⅜"	6¹⁄₁₆"
2	G3	52'-9"	49'-9¹³⁄₁₆"	8⅜"
2	G4	52'-10⁷⁄₁₆"	49'-11³⁄₁₆"	9⁷⁄₁₆"
2	G5	52'-11⅞"	50'-0⅜"	11"



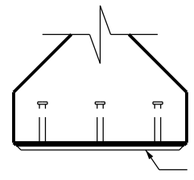
SECTION A-A

Scale: 1½" = 1'-0"



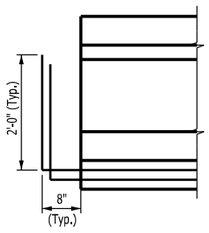
SECTION B-B

Scale: 1½" = 1'-0"



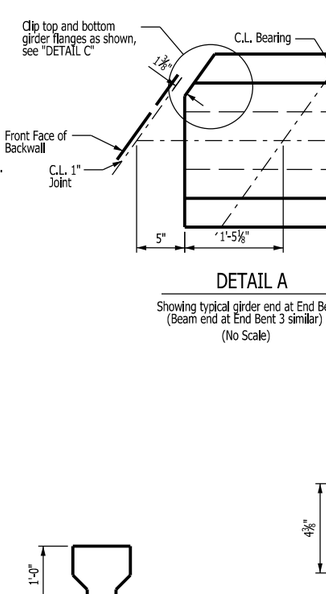
END OF GIRDER VIEW AT END BENT

No Scale



VIEW C-C

No Scale

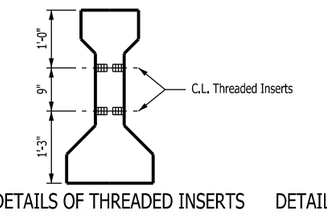


DETAIL A

Showing typical girder end at End Bent 1
(Beam end at End Bent 3 similar)
(No Scale)

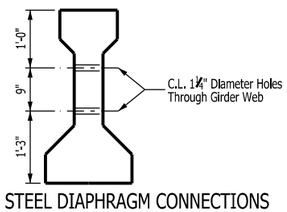
DETAIL B

Showing typical girder at Int. Bent 2 (Span 1)
(Beam end for Span 2 similar)
(No Scale)



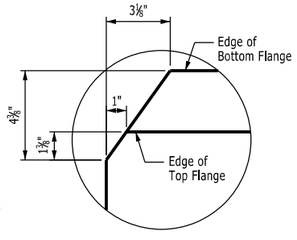
DETAILS OF THREADED INSERTS

Showing locations of threaded inserts for partial depth diaphragms
(No Scale)



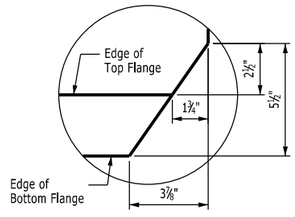
DETAILS OF STEEL DIAPHRAGM CONNECTIONS

Showing locations of girder web bolt holes for temporary steel diaphragms
(No Scale)



DETAIL C

(No Scale)

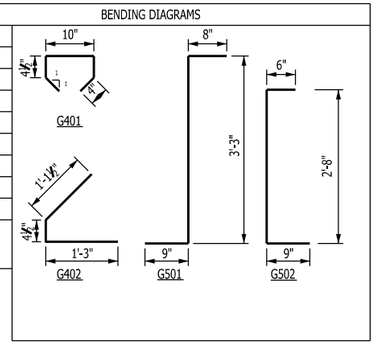


DETAIL D

(No Scale)

BAR LIST - PER GIRDER			
MARK	NO. REQ'D	LENGTH	P.D.
G301	12	3'-9"	Str.
G401	28	2'-3"	2"
G402	56	2'-9"	2"
G403	4	6'-2"	Str.
G501	152	4'-8"	2½"
G502	10	3'-11"	2½"
G503 to G512	2	Var. 52'-4" to 52'-9"	Str.

BENDING DIAGRAMS



NOTES:
All bars in the Bar List will not be paid for directly, but will be considered subsidiary to the Item "PRESTRESSED CONCRETE GIRDERS (TYPE II)".

At the Contractor's option, the two G402 bars may be furnished as one bar.

At the Contractor's option, ½" diameter strands pulled to 2,000 lbs. may be substituted for bars G503-G512.

NOTE:
Dimensions are measured out to out of bars.

NOTES:
Dimensions are measured along C.L. Girder.

Prestressing strands will not be paid for directly, but will be considered subsidiary to the item "PRESTRESSED CONCRETE GIRDERS (TYPE II)".

At intermediate bents only, saw & shop bend 4 bottom prestressing strands from the end of the girder into full-depth intermediate diaphragm as shown.

At the Contractor's option, the location for bent up strands may be varied. The total number of bent strands shall not be changed. Saw cut or grind remaining strands to within 1" of the end of the girder.

At end bents only, saw cut or grind all strands flush with the end of the girder. The ends of the girders & the cut-off strands shall be coated with a ⅛" min. thick coating of a QPL approved epoxy resin.

1. Connection for Partial Depth Diaphragm: ¾" diam. threaded inserts at interior face of exterior girders and both faces of Interior girders. See Dwg. No. 63820 for additional details.
2. Connection for Temporary Steel Diaphragm: 1¼" diam. holes in web. See Dwg. No. 63817 for additional details.
3. Prestressing Strands bent up into Intermediate bent diaphragm. See "VIEW C-C".
4. See Dwg. No. 63817 for spacing of connections for temporary steel diaphragm & partial depth diaphragms.

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SHEET 4 OF 6

DETAILS OF 107'-5¼" CONTINUOUS PRESTRESSED CONCRETE GIRDER UNIT

ROUTE SEC.

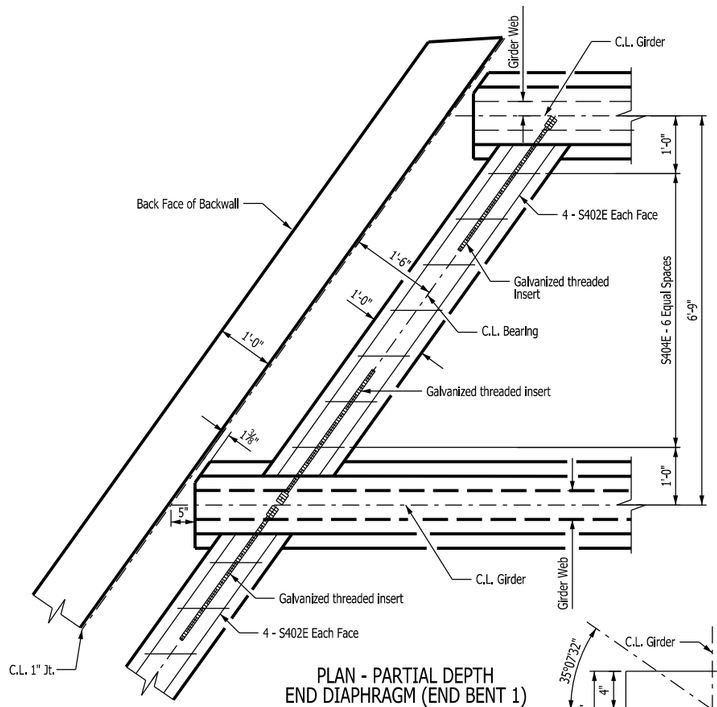
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARKANSAS

DRAWN BY: CM DATE: 2/6/2025 FILENAME: b061745_s4.dgn
CHECKED BY: CJD DATE: 2/6/2025 SCALE: AS SHOWN
DESIGNED BY: CM DATE: 2/5/2025

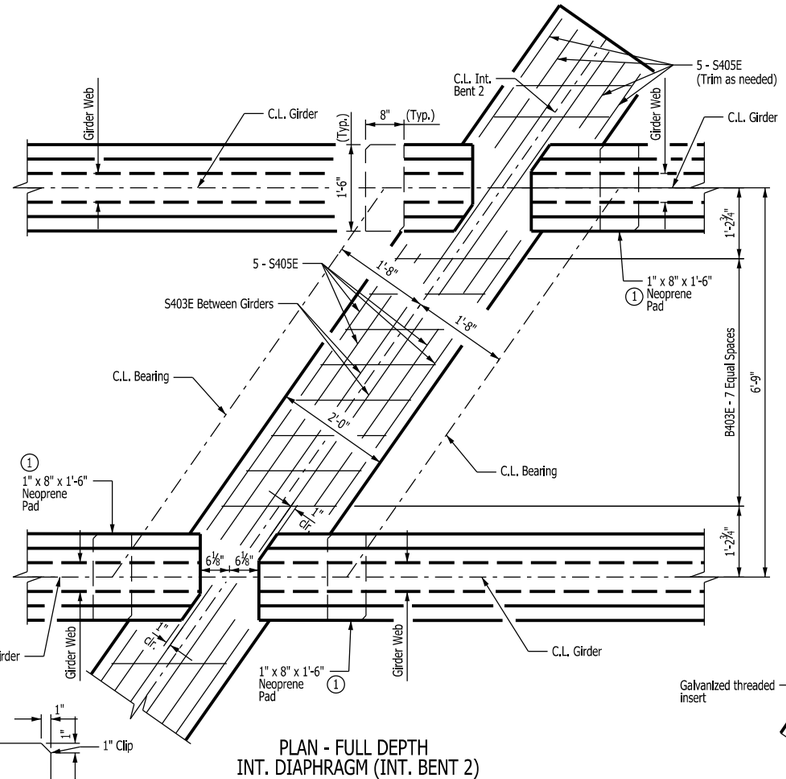
BRIDGE NO. 07640 DRAWING NO. 63819

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	061745	46	59
		07640		107'-5¼" UNIT		63820



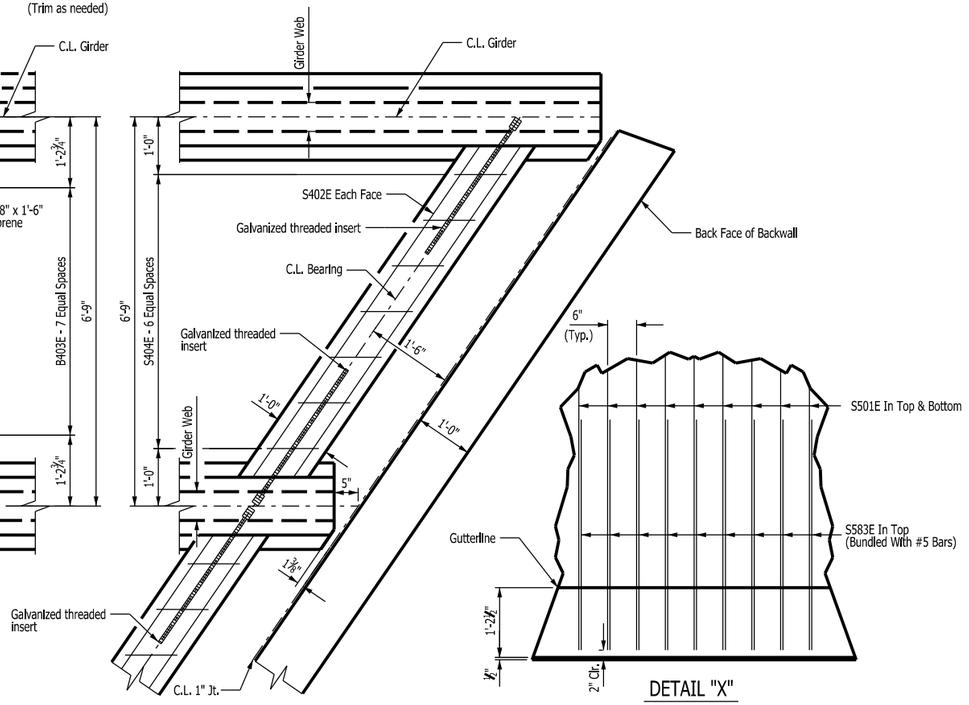
PLAN - PARTIAL DEPTH
END DIAPHRAGM (END BENT 1)

Scale: ¾" = 1'-0"



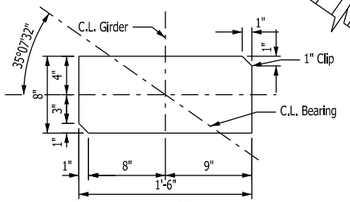
PLAN - FULL DEPTH
INT. DIAPHRAGM (INT. BENT 2)

Scale: ¾" = 1'-0"



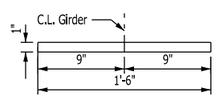
PLAN - PARTIAL DEPTH
END DIAPHRAGM (END BENT 3)

Scale: ¾" = 1'-0"



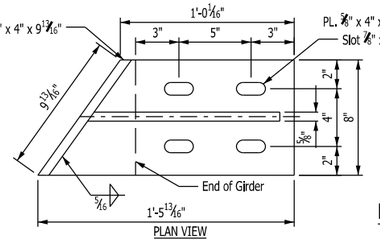
PLAN OF NEOPRENE PAD

No Scale



ELEVATION OF NEOPRENE PAD

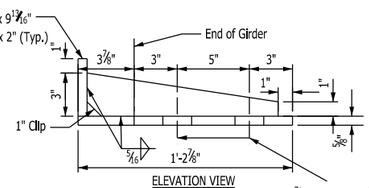
No Scale



PLAN VIEW

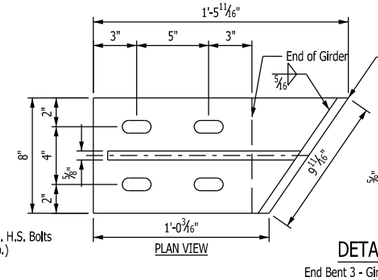
DETAIL A

End Bent 1
No Scale



ELEVATION VIEW
Along C.L. Girder

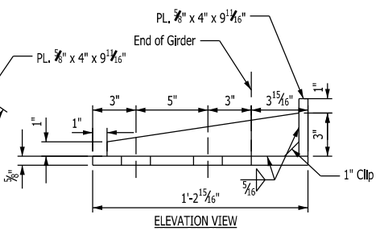
C.L. ⅜" x 2" Slot for ¾" diam. H.S. Bolts
4 Bolts each connection (Typ.)



PLAN VIEW

DETAIL B

End Bent 3 - Girders 2, 3, 4, & 5
No Scale



ELEVATION VIEW
Along C.L. Girder

DETAIL "X"

No Scale

CAMBER & DEFLECTION TABLE

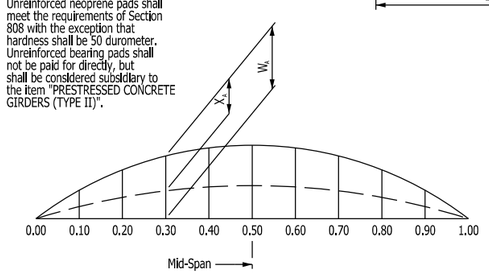
	SPAN PT.	GIRDER 1		GIRDER 2		GIRDER 3		GIRDER 4		GIRDER 5	
		INCHES		INCHES		INCHES		INCHES		INCHES	
		W_L	X_A	W_L	X_A	W_L	X_A	W_L	X_A	W_L	X_A
SPAN 1	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	0.10	0.322	0.108	0.323	0.104	0.323	0.105	0.323	0.105	0.324	0.105
	0.20	0.561	0.243	0.562	0.232	0.563	0.233	0.563	0.235	0.565	0.234
	0.30	0.723	0.349	0.745	0.334	0.726	0.336	0.727	0.338	0.728	0.335
	0.40	0.818	0.416	0.819	0.398	0.821	0.400	0.822	0.403	0.822	0.398
	0.50	0.849	0.438	0.850	0.418	0.852	0.420	0.853	0.424	0.854	0.418
SPAN 2	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	0.10	0.322	0.087	0.323	0.094	0.324	0.095	0.324	0.096	0.326	0.080
	0.20	0.561	0.205	0.563	0.218	0.564	0.219	0.566	0.222	0.568	0.183
	0.30	0.724	0.298	0.726	0.317	0.727	0.320	0.729	0.324	0.731	0.268
	0.40	0.818	0.357	0.820	0.381	0.884	0.385	0.824	0.389	0.826	0.324
	0.50	0.849	0.378	0.851	0.405	0.853	0.409	0.855	0.413	0.857	0.345

Table is symmetric about mid-span.

NOTE:
Camber & Deflection Values shown are based on a concrete beam strength f'c = 8000 psi. Greater strengths may require adjustments. See "SPECIAL CAMBER NOTES" on Dwg. No. 63821.

See "ADJUSTMENT FOR SLAB THICKNESS TOLERANCE" on Dwg. No. 63817 for limitations of the girder final position under dead load. The Contractor is responsible for any adjustment necessary to meet slab thickness tolerance and to achieve an acceptable finished grade. No payment shall be made for any additional concrete in the slab when camber is less than shown. Tabulated values shown require an adjustment for cross-slope to girder to achieve proper camber. Vertical curve corrections and superelevation transition corrections not included.

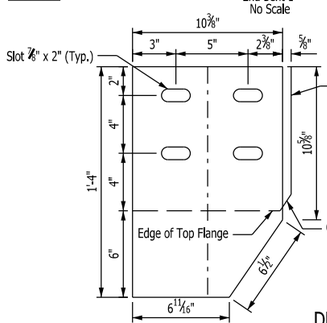
① Unreinforced neoprene pads shall meet the requirements of Section 808 with the exception that hardness shall be 50 durometer. Unreinforced bearing pads shall not be paid for directly, but shall be considered subsidiary to the item "PRESTRESSED CONCRETE GIRDERS (TYPE II)".



"W_L" is Camber of beam (Prestress + Dead Load of beam @ 90 Days After Release)

"X_A" is Dead Load Deflection of Slab + Diaphragms + Composite Dead Load

CAMBER & DEFLECTIONS



PLAN VIEW

DETAIL C

End Bent 3 - Girder 1
No Scale

ELEVATION VIEW
Along C.L. Girder

STATE OF ARKANSAS
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No. 20837
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4-11-2025
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SHEET 5 OF 6
DETAILS OF 107'-5¼" CONTINUOUS PRESTRESSED CONCRETE GIRDER UNIT

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARKANSAS

DRAWN BY:	CJD	DATE: 2/5/2025	FILENAME:	b061745_s5.dgn
CHECKED BY:	CM	DATE: 2/6/2025	SCALE:	AS SHOWN
DESIGNED BY:	CJD	DATE: 2/5/2025		

BRIDGE NO. 07640 DRAWING NO. 63820

PRINT DATE: 4/10/2025

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	061745	47	59
		07640		107'-5¼" UNIT	63821	

GENERAL NOTES - SUPERSTRUCTURE

PRESTRESSED CONCRETE GIRDERS:

Prestressing steel shall be 0.6" diameter low relaxation strands with a minimum ultimate strength of 270 ksi and shall conform to AASHTO M 203.

Distances from the forms and spacing of prestressing steel shall be maintained by stays, ties, hangers, spacers, or other approved supports which shall be shown on the shop drawings.

All girders shall be Type II as noted on the details and shall be the standard prestressed sections adopted by the Joint Committee of AASHTO and the Prestressed Concrete Institute. All girders shall be cast in floored pallets and in metal forms. All work and materials shall be as specified in Subsection 802.22.

Concrete shall be Class S and shall have a minimum 28-day compressive strength f'c = 8,000 psi. The initial tensile force applied to each 0.6" diameter strand shall be 43,900 lbs. except as noted. Transfer of this tensioning load to the girder shall not be done until the compressive strength of the concrete is 6,000 psi.

Dimensions shown are to the center of the strands.

The Contractor shall submit the method and sequence for release of strands to the Engineer for approval prior to casting of the girders.

Holes and inserts shall be cast into the girders. Field drilling of holes shall not be permitted.

The first 12" along the tops of the girders at both ends shall have a smooth surface. The tops of the remaining length of the girders shall be rough floated at approximately the time of set. The tops of girders shall be scrubbed transversely with a coarse wire brush to remove all laitance and to produce a roughened surface with an amplitude of ¼" to produce an adequate surface for bonding the slab.

Extreme care shall be exercised in handling and moving precast prestressed concrete girders. Girders must be maintained in an upright position at all times and must be picked up from points near the girder ends. Disregard of this requirement may lead to collapse of the girder. The Contractor's proposed lifting details shall be submitted on shop drawings to the Engineer for approval. The use of holes for lifting purposes will not be permitted.

The points of supports and directions of the reactions with respect to the member shall be approximately the same during transportation and storage as when the member is in its final position.

Girder lengths shown on the design plans are net lengths measured horizontally along the girder centerlines. The girder manufacturer shall make the necessary allowances for grade and shortening due to elastic shortening, creep, and shrinkage.

Reinforcing steel shall be AASHTO M 31 or M 322, Type A (Fy = 60,000 psi) with mill test reports.

After detensioning, saw cut, grind, or bend up strands as designated by the plans. Heat-cutting or bending methods shall not be used within 6" of the girder. The ends of girders at intermediate bents shall be coated with 1/16" min. thick coating of a QPL approved epoxy resin.

The Contractor may submit alternate strand patterns with design calculations for review and approval in accordance with Subsection 802.22.

Drawings show general features of design only. Shop drawings shall be made in accordance with specifications, submitted, and approved before fabrication is begun.

REINFORCING STEEL:

All reinforcing steel shall conform to AASHTO M 31 or M 322, Type A (Fy = 60,000 psi) 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 in 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)".

CONCRETE:

All concrete in slab, bridge rail, and diaphragms 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. All partial depth end diaphragms and full-depth intermediate diaphragms shall be cast in place and poured a minimum of 48 hours before the slab is poured. Removable forms shall be used when pouring diaphragms. The slab and diaphragms shall not be poured prior to 90 days following release of the prestressed girder strands.

The superstructure details shown are for use when removable deck forming is used and are the basis for measurement of the item "CLASS S(AE) CONCRETE - BRIDGE". See Standard Drawing No. 55005 for allowable modifications and for tolerances when Permanent Steel Bridge Deck Forms are used.

Concrete in 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.

The concrete slab (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. Sufficient concrete must be placed ahead of the strike-off to fully load the girder. When permitted, the use of a longitudinal strike-off will require that a vertical camber adjustment in the strike-off to account for future dead load deflection due to parapet railing. Any railing pours made before the entire slab has been placed and cured must be approved by the Engineer.

STRUCTURAL STEEL:

All structural steel shall be ASTM A709, Gr. 50W unless noted otherwise, and shall be paid for at the unit price per bid for "STRUCTURAL STEEL IN BEAM SPANS (A709, Gr. 50W)". Grade 50W steel shall not be painted and all exposed surfaces shall be cleaned in accordance with Subsection 807.84(e) unless noted otherwise. All structural steel completely embedded in concrete may be ASTM A709 Gr. 36, Gr. 50, or Gr. 50W unless noted otherwise. See Dwg. No. 63815 for cleaning requirements of external load plates on elastomeric bearings.

Requests for substitution of structural steel shapes shown with shapes of greater size must be submitted by the Contractor to the Engineer for approval. Steels of equal or greater strengths will be accepted only when shown on approved shop drawings. Shapes and materials shown in the plans will be the basis of payment, and no additional compensation will be made for any adjustments due to substitutions.

Drawings show general features of design only. Shop drawings shall be prepared in accordance with the specifications, submitted and approved before fabrication is begun.

All welding that is to be done during fabrication of structural steel, including temporary welds, shall be detailed on the shop drawings and submitted for approval. If additional welds are required, whether temporary or permanent, a formal request with detailed drawings shall be submitted to the Engineer for approval; however, additional welds used for attaching falsework support devices or screed rail supports to the structural steel that do not exceed the limitations of Subsection 802.13 will not require approval prior to construction. All welding shall conform to Subsection 807.26.

SPECIAL CAMBER NOTES:

The camber and dead load deflection values shown on the plans are estimated based on the required minimum concrete strength for the prestressed concrete girders. The Contractor shall provide the Engineer with the following information:

A. Actual 28-day concrete strength of prestressed concrete girders.

B. Estimated age of prestressed concrete girders at time of erection which shall not be less than 90 days from release.

C. Profile of each girder under its own weight in final position.

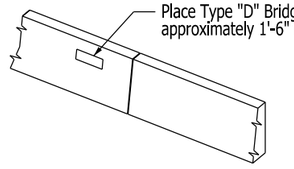
Following receipt of the above data, the Engineer will evaluate the dead load, and if necessary, provide an updated deflection diagram to the Contractor.

PRINT DATE: 4/10/2025

TABLE OF VARIABLES

CLOSED PANEL VARIABLES			
PANEL	PANEL LENGTH	"A"	R4XXE
1	18'-2⅝"	36	04
2	18'-2⅝"	36	04
3	17'-9¾"	35	05
4	17'-10"	35	06
5	16'-10¼"	33	07
6	16'-10¼"	33	07
7	18'-10⅞"	37	08
8	17'-4¾"	34	09

OPEN PANEL VARIABLES						
PANEL	PANEL LENGTH	"B"	"C"	"D"	"E"	R4XXE
1	18'-10⅞"	11	4'-0"	20	6'-10⅞"	08
2	18'-2½"	11	4'-0"	18	6'-2¼"	04
3	18'-2¼"	11	4'-0"	17	6'-2¼"	04
4	17'-4¾"	11	4'-0"	15	5'-4¾"	09



NAME PLATE DETAIL

STATE OF ARKANSAS
Christian Duncan
LICENSED PROFESSIONAL ENGINEER
No. 20837
CHRISTIAN JON LOUIS DUNCAN

4-11-2025
BRIDGE ENGINEER

SHEET 6 OF 6

DETAILS OF 107'-5¼" CONTINUOUS PRESTRESSED CONCRETE GIRDER UNIT

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARKANSAS

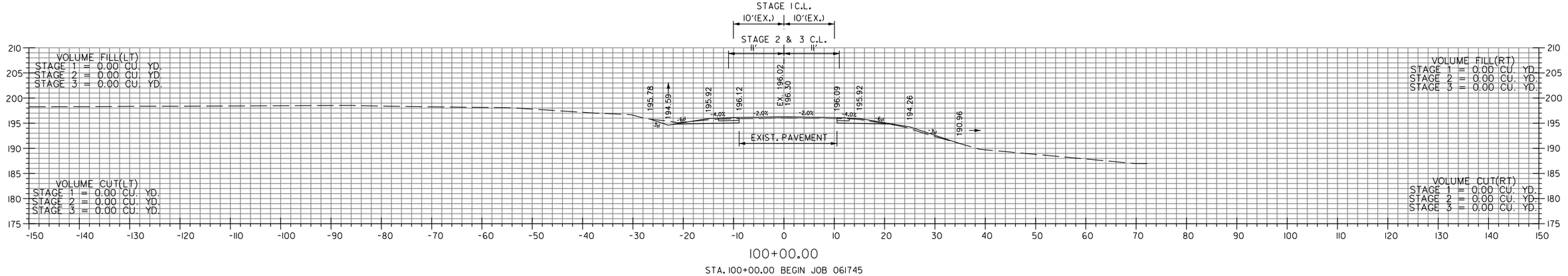
DRAWN BY: MJT DATE: 2/6/2025 FILENAME: b061745_s6.dgn
CHECKED BY: CJD DATE: 2/6/2025 SCALE: AS SHOWN
DESIGNED BY: MJT DATE: 2/6/2025

BRIDGE NO. 07640 DRAWING NO. 63821

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20840
DANIEL S. PEACOCK

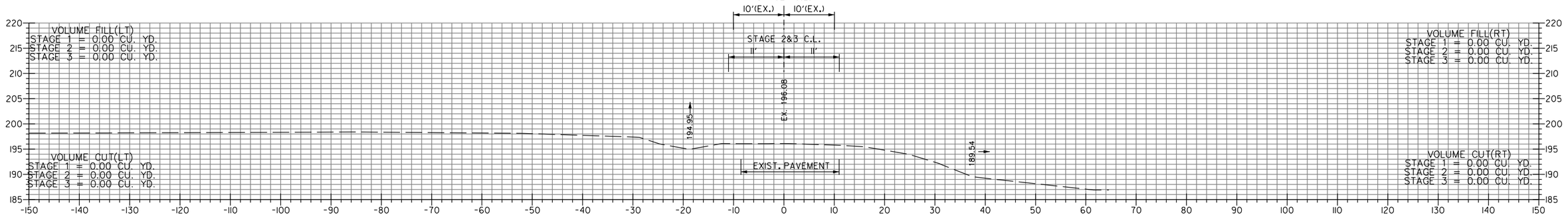
4/11/2025

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061745	48	59
				(2)	CROSS SECTIONS			



100+00.00

STA. 100+00.00 BEGIN JOB 061745



99+00.00

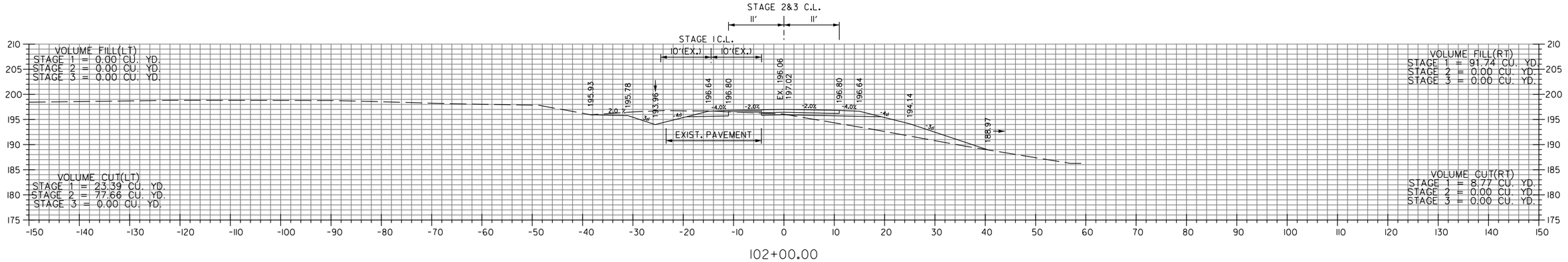
STA. 99+00.00 END 100' TRANSITION

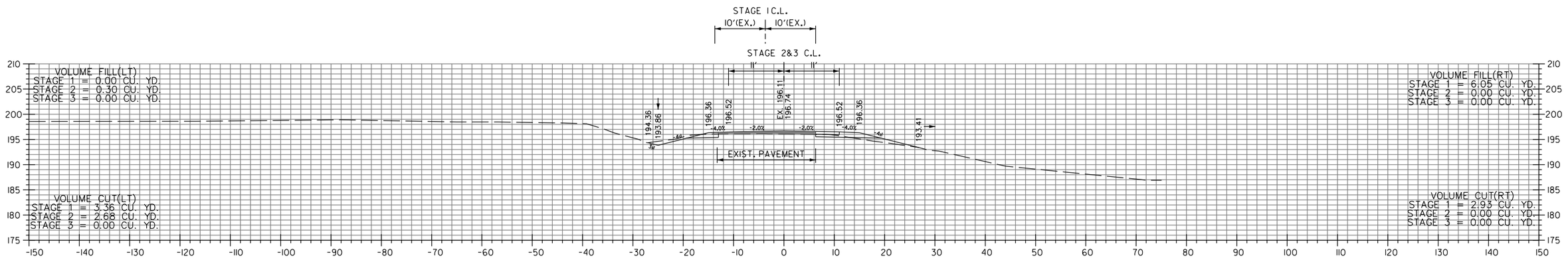
$$USER$$
$$WORKSPACE: $$WORKSPACE$$
$$FILE$$
REVISED DATE: 2/6/2025 $$TIME$$

HWY. 13
STA. 99+00.00 TO STA. 100+00.00

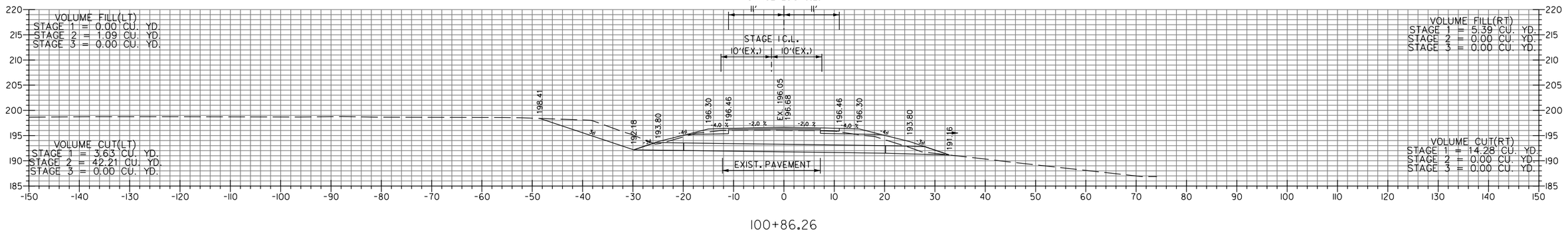
STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 20840
DANIEL S. PEACOCK
4/11/2025

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061745	49	59
				(2)	CROSS SECTIONS			





STA. 100+86.26 INSTALL
18" X 54' PIPE CULVERT
REMOVE 18" X 40' CMP



HWY. 13
STA. 100+86.26 TO STA. 102+00

$$USER$$
WORKSPACE: $$WORKSPACE$$
$$FILE$$
REVISED DATE: 2/6/2025 $$TIME$$

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20840
DANIEL S. PEACOCK
4/11/2025

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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				JOB NO.		061745	50	59
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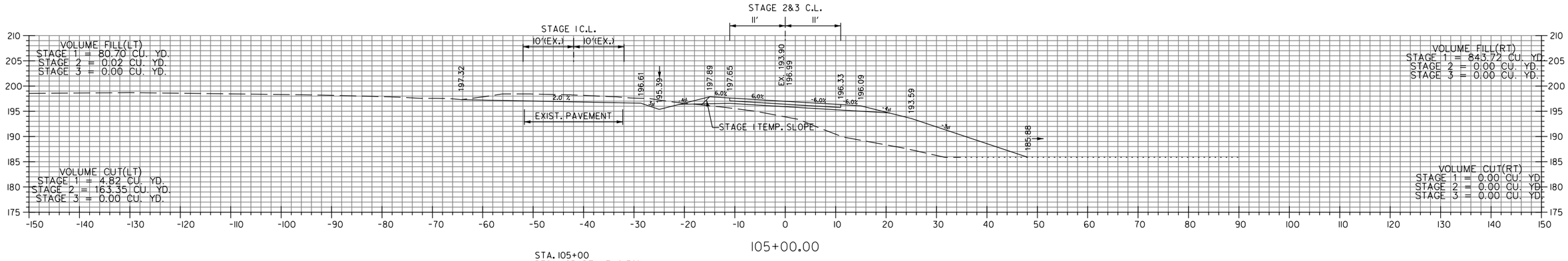
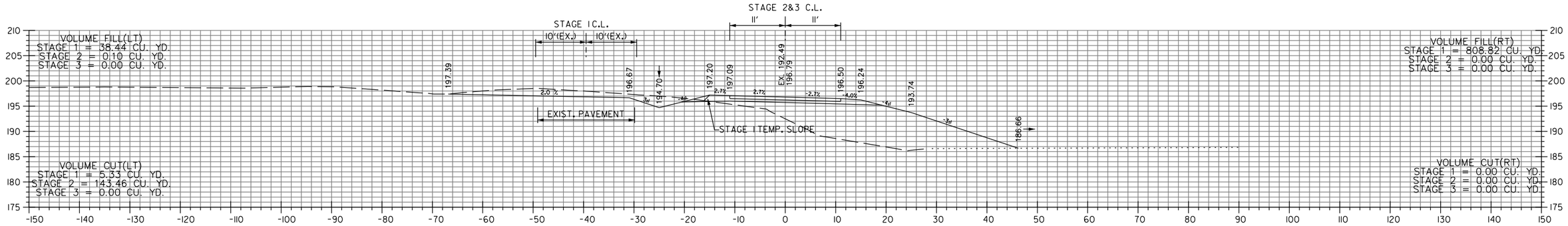
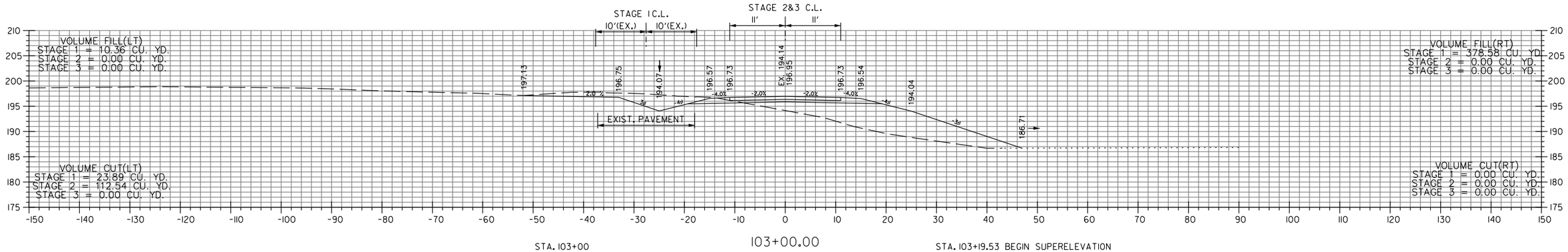




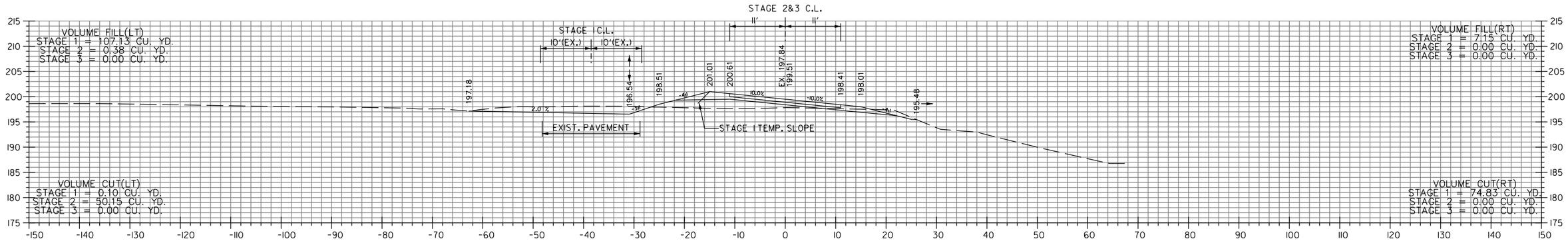


HWY. 13
STA. 103+00 TO STA. 105+00

$$USER$$
WORKSPACE: $$WORKSPACE$$
$$FILE$$
REVISED DATE: 2/6/2025 $$TIME$$

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20840
DANIEL S. PEACOCK
4/11/2025

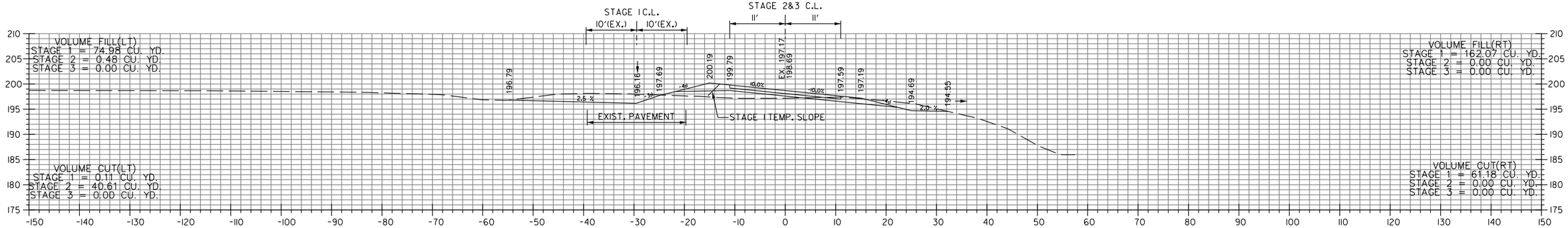
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061745	51	59
				(2)	CROSS SECTIONS			



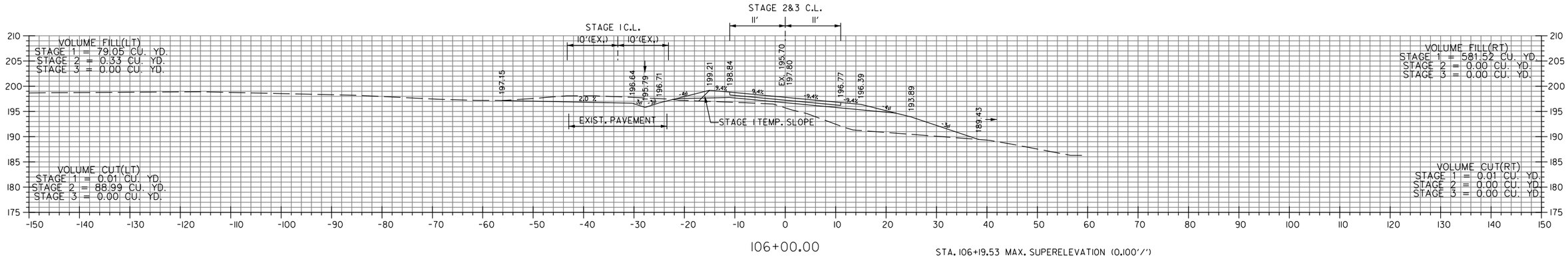
108+00.00

STA. 108+00
END SP. DT. LT. 0.38%
ELEV. 196.54

STA. 108+00
BEGIN SP. DT. LT. -0.96%
ELEV. 196.54



107+00.00



106+00.00

STA. 106+19.53 MAX. SUPERELEVATION (0.100'/')

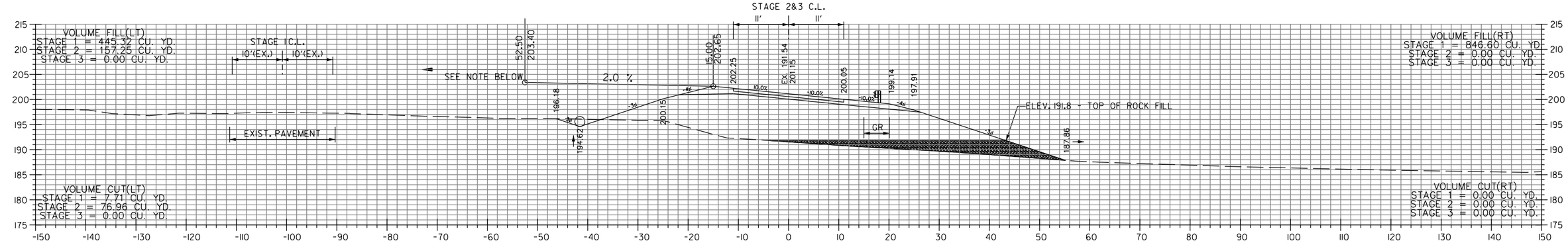
HWY. 13
STA. 106+00 TO STA. 108+00

$$USER$$
WORKSPACE: $$WORKSPACE$$
$$FILE$$
REVISED DATE: 2/6/2025 $$TIME$$

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20840
DANIEL S. PEACOCK
6/16/2025

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
06/13/2025				6	ARK.			
				JOB NO.		061745	52	59
				(2)	CROSS SECTIONS			

STA. 110+00.00 INSTALL
24" X 56' PIPE CULVERT
LT. SIDE DRAIN

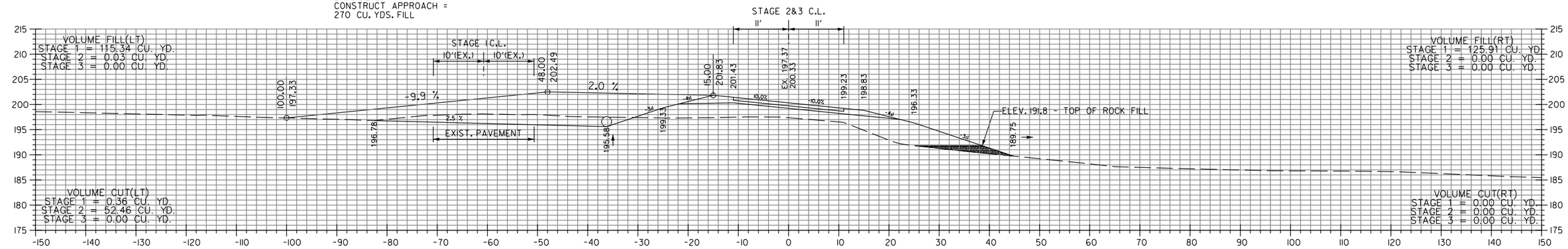


SEE CROSS-SECTIONS AND PROFILE OF COBURN-BRAKE FOR ELEVATIONS AND GRADES OF APPROACH.

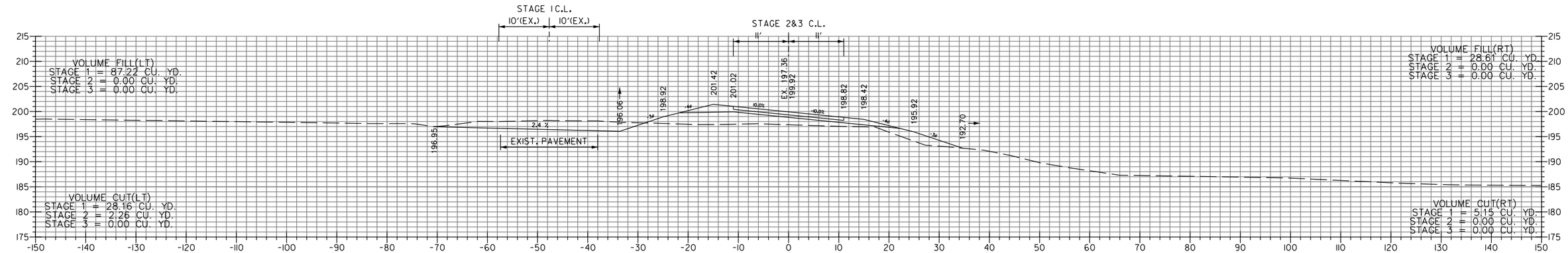
STA. 110+50
END SP. DT. LT. -0.96%
ELEV. 194.14

110+00.00

STA. 109+00.00 INSTALL
24" X 56' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH =
270 CU. YDS. FILL



109+00.00



108+50.00

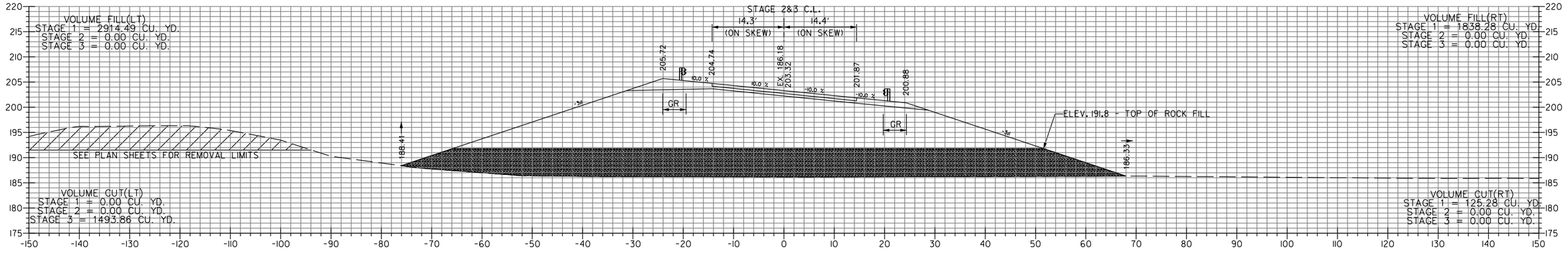
HWY. 13
STA. 108+50 TO STA. 110+00

$$USER$$
WORKSPACE: $$WORKSPACE$$
$$FILE$$
REVISED DATE: 6/12/2025 $$TIME$$

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20840
DANIEL S. PEACOCK

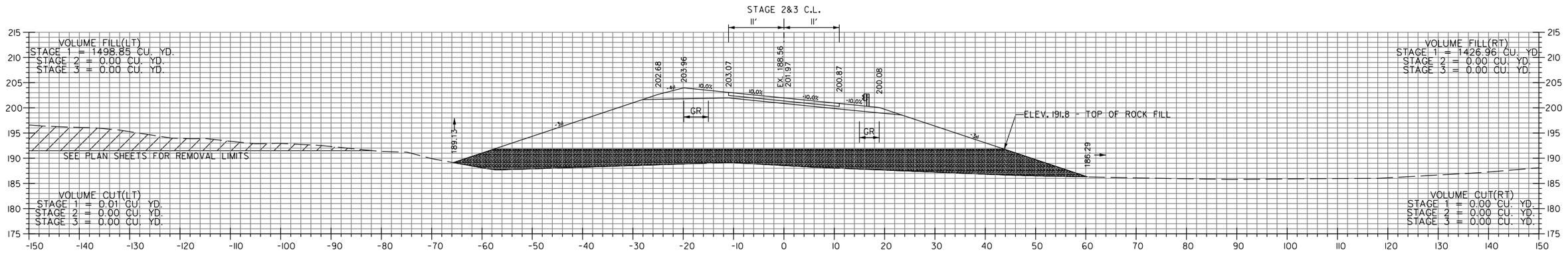
6/16/2025

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
06/13/2025				6	ARK.			
				JOB NO.		061745	53	59
				(2)		CROSS SECTIONS		



112+05.00

STA. 112+05.00 BEGIN BRIDGE (SECTION CUT ON 40° LT. FWD. SKEW)



111+00.00

HWY. 13
STA. 111+00 TO STA. 112+05

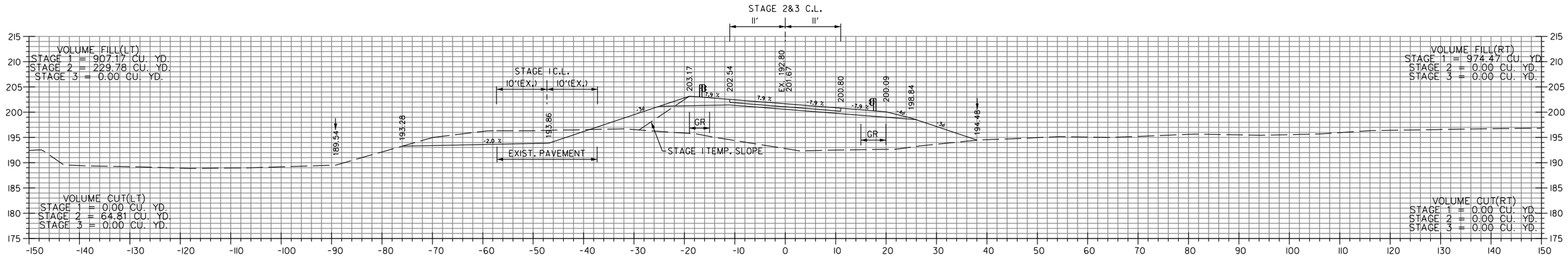
$$USER$$
WORKSPACE: $$WORKSPACE$$
$$FILE$$
REVISED DATE: 6/12/2025 $$TIME$$

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 20840
DANIEL S. PEACOCK

6/16/2025

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
06/13/2025				6	ARK.			
				JOB NO.		061745	54	59

(2) CROSS SECTIONS

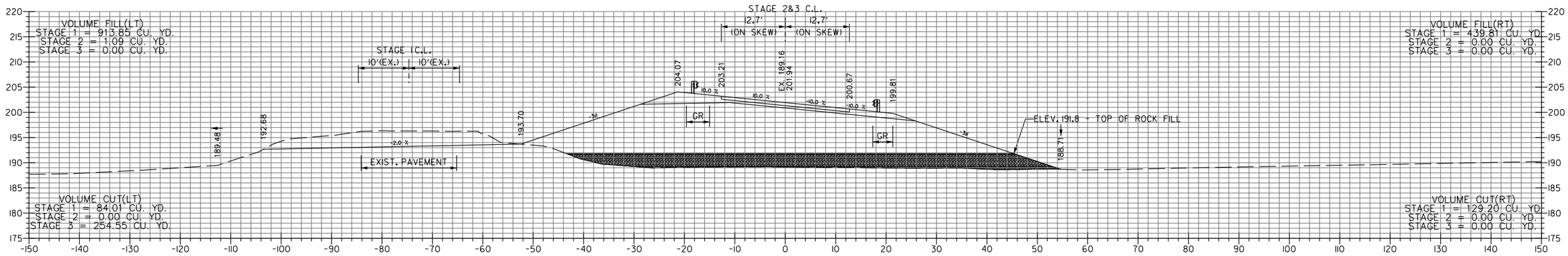


STA. 113+75
BEGINS SP. DT. LT. 0.60%
ELEV. 193.71

114+00.00

STA. 114+25
BEGIN SP. DT. RT. 0.72%
ELEV. 194.80

STA. 113+36.85 MAX. SUPERELEVATION (0.100'/')



113+15.00

STA. 113+15.00 END BRIDGE (SECTION CUT ON 30° LT. FWD. SKEW)

HWY. 13
STA. 113+15 TO STA. 114+00

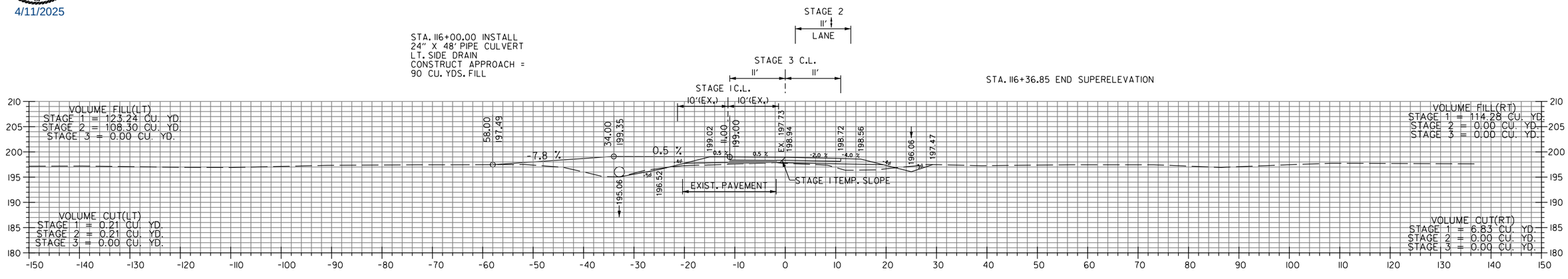
$$USER$$
WORKSPACE: $$WORKSPACE$$
$$FILE$$
REVISED DATE: 6/12/2025 $$TIME$$

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 20840
DANIEL S. PEACOCK
4/11/2025

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061745	55	59
				(2)	CROSS SECTIONS			

STA. 116+00.00 INSTALL
24" X 48' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH =
90 CU. YDS. FILL

STA. 116+36.85 END SUPERELEVATION

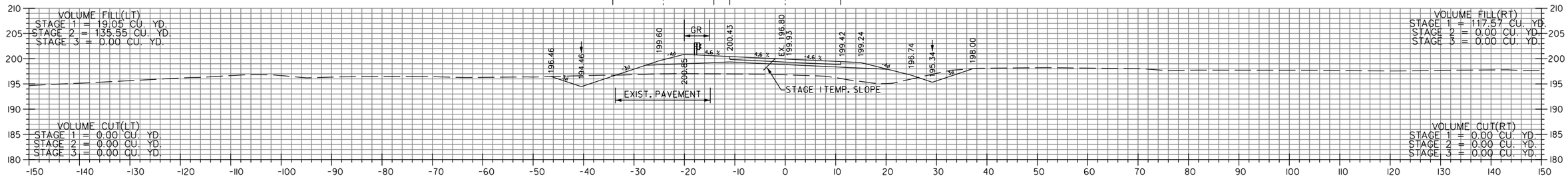


116+00.00

STA. 116+00
END SP. DT. LT. 0.60%
ELEV. 195.06

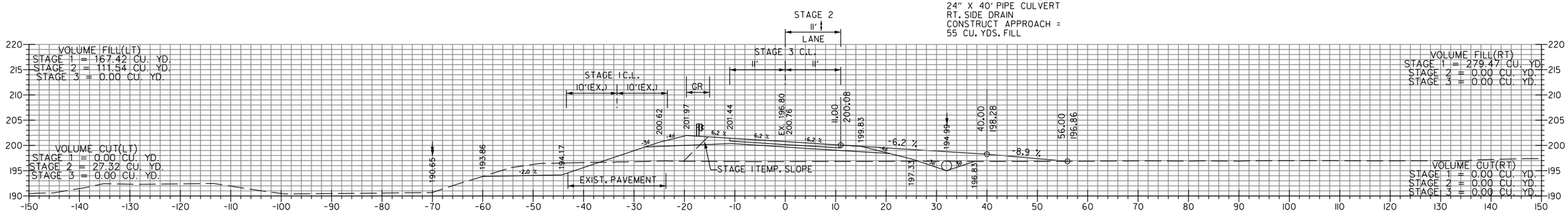
STA. 115+60.00 BEGIN FULL DEPTH PAVED SHOULDER

STA. 116+00
END SP. DT. RT. 0.72%
ELEV. 196.06



115+00.00

STA. 114+51.50 INSTALL
24" X 40' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH =
55 CU. YDS. FILL



114+51.50

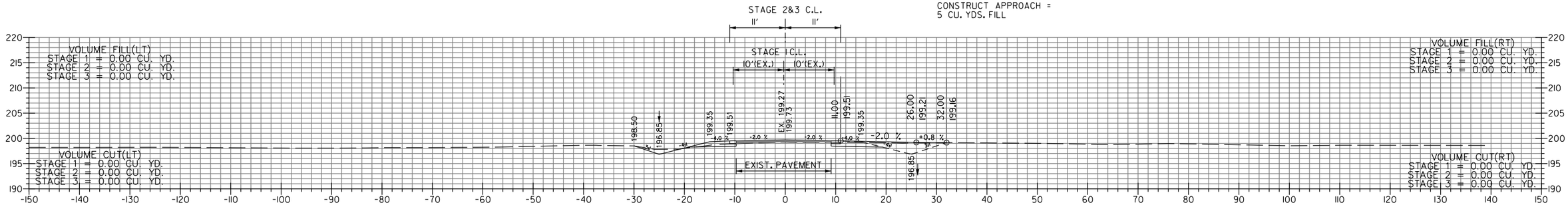
HWY. 13
STA. 114+51.50 TO STA. 116+00

$$USER$$
WORKSPACE: $$WORKSPACE$$
$$FILE$$
REVISED DATE: 2/6/2025 $$TIME$$

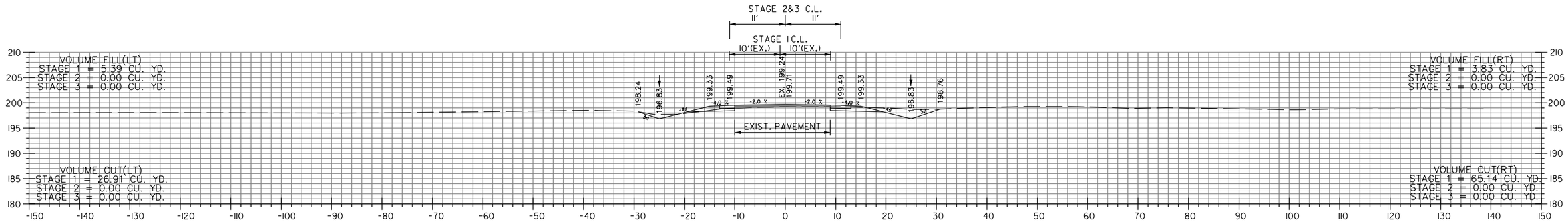
STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20840
DANIEL S. PEACOCK
4/11/2025

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061745	56	59
				(2)	CROSS SECTIONS			

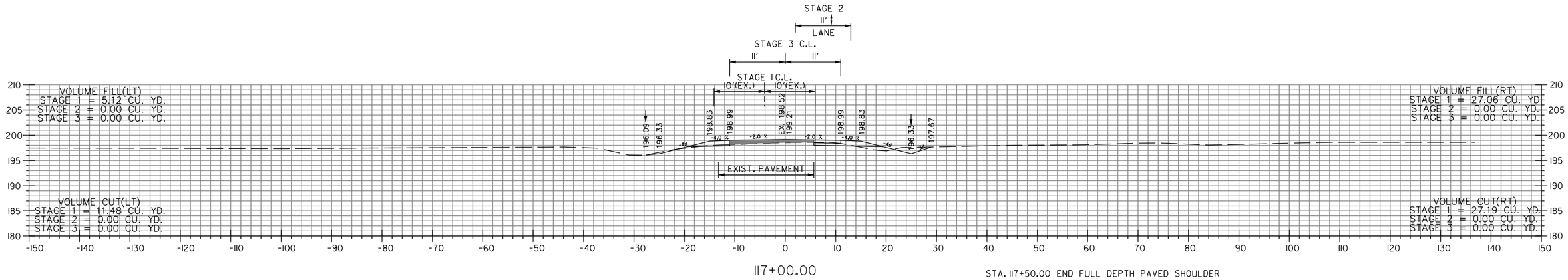
STA. 118+11.78
DRY RAMP RT.
CONSTRUCT APPROACH =
5 CU. YDS. FILL



118+11.78



118+00.00



117+00.00

STA. 117+50.00 END FULL DEPTH PAVED SHOULDER

HWY. 13
STA. 117+00 TO STA. 118+11.78

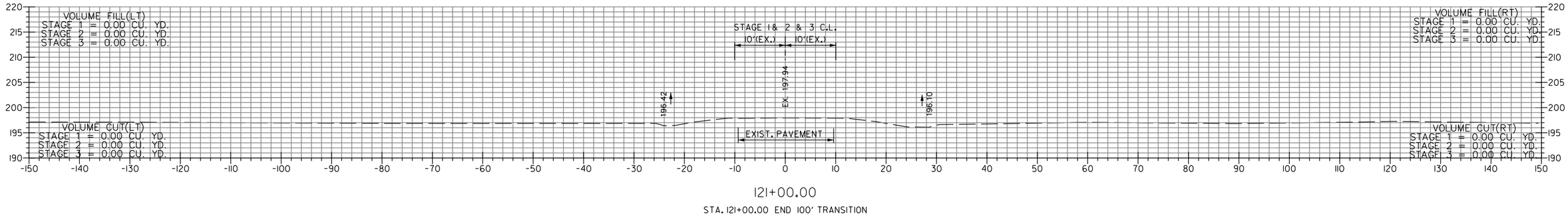
$$USER$$
WORKSPACE: $$WORKSPACE$$
$$FILE$$
REVISED DATE: 2/6/2025 $$TIME$$

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 20840
DANIEL S. PEACOCK
4/11/2025

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061745	57	59

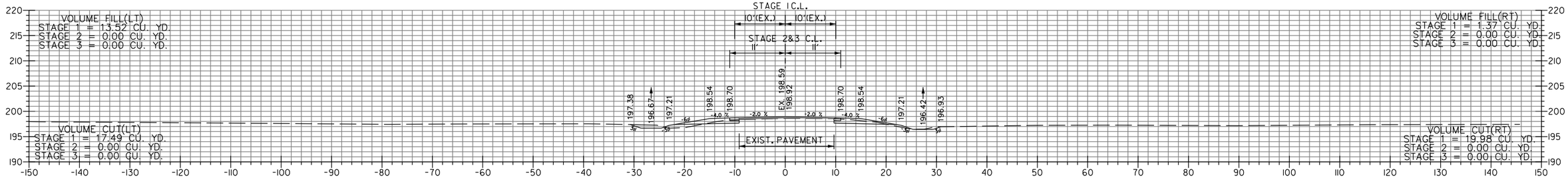
(2) CROSS SECTIONS



121+00.00

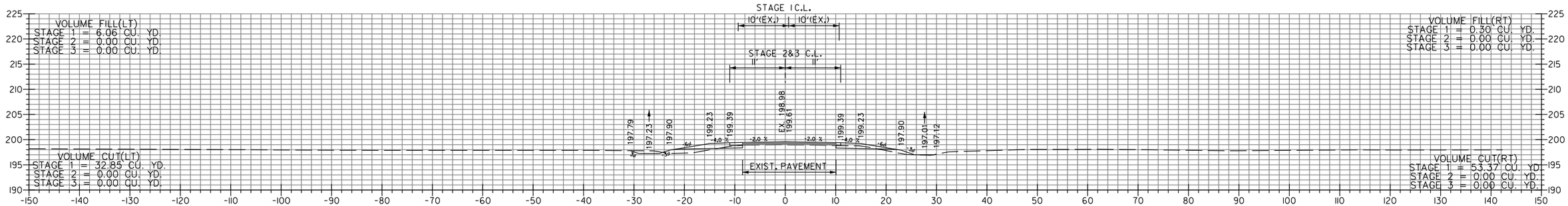
STA. 121+00.00 END 100' TRANSITION

STA. 120+25
END SP. DT. LT. -0.54%
ELEV. 196.54



120+00.00

STA. 120+00.00 END JOB 061745



119+00.00

STA. 118+75
END SP. DT. LT. -0.54%
ELEV. 197.35

HWY. 13
STA. 119+00.00 TO STA. 121+00.00

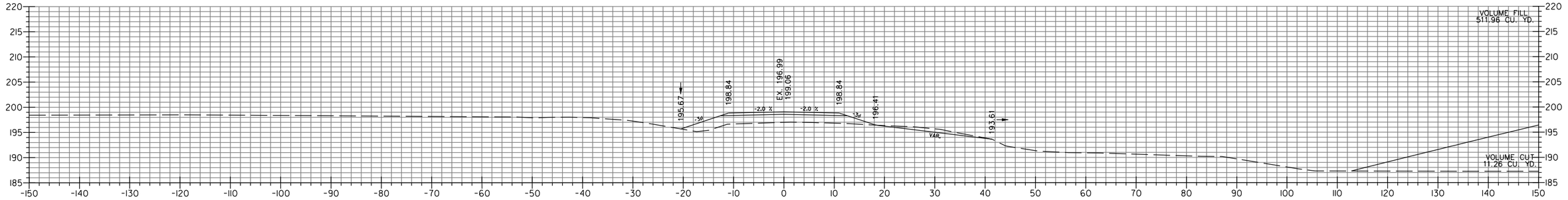
$$USER$$
WORKSPACE: $$WORKSPACE$$
$$FILE$$
REVISED DATE: 2/6/2025 $$TIME$$

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20840
DANIEL S. PEACOCK
4/11/2025

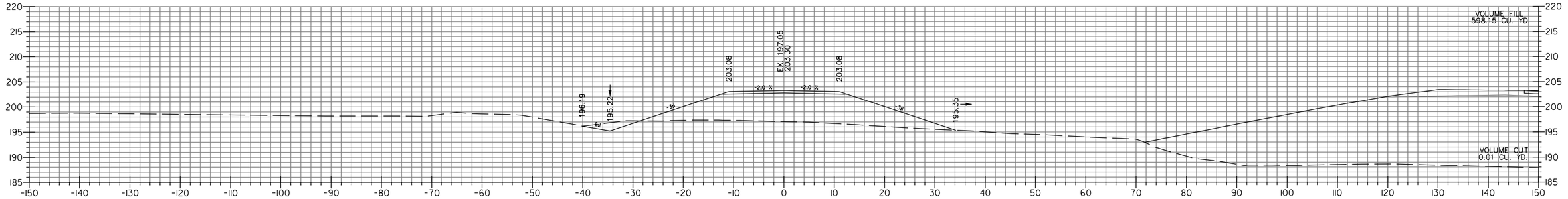
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061745	58	59

(2) CROSS SECTIONS

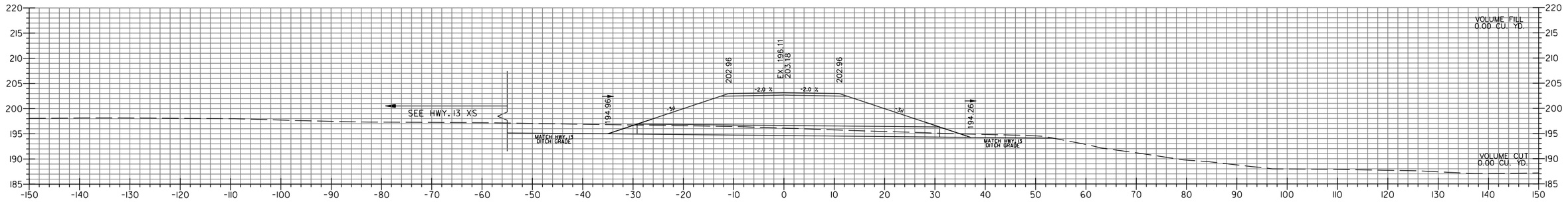


12+00.00



STA. 11+25.00
END SP. DT. LT. 0.45%
ELEV. 195.33

11+00.00



STA. 10+41.59
BEGIN SP. DT. LT. 0.45%
ELEV. 194.96

10+41.59

STA. 10+41.59 INSTALL
24" X 56' PIPE CULVERT

COBURN-BRAKE
STA. 10+41.59 TO STA. 12+00.00

$$USER$$ 2/6/2025 $$TIME$$
WORKSPACE: $$WORKSPACE$$
$$FILE$$
REVISED DATE:

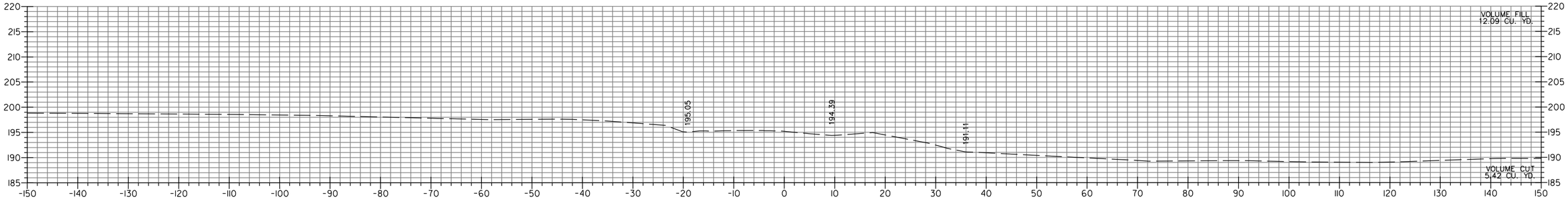
STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.20840
DANIEL S. PEACOCK

4/11/2025

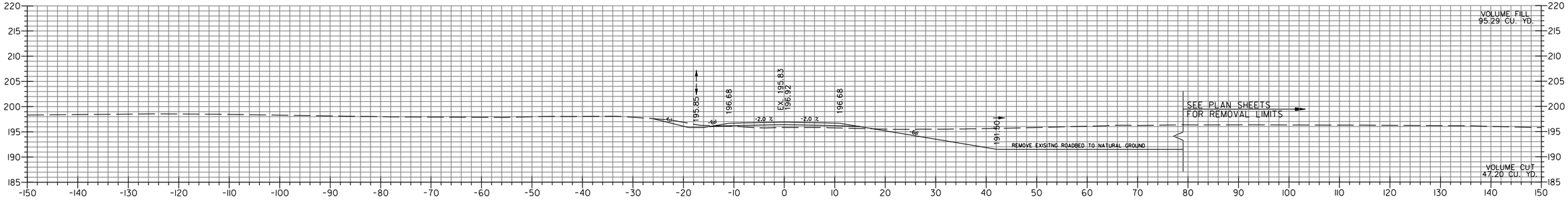
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061745	59	59

(2) CROSS SECTIONS



14+00.00



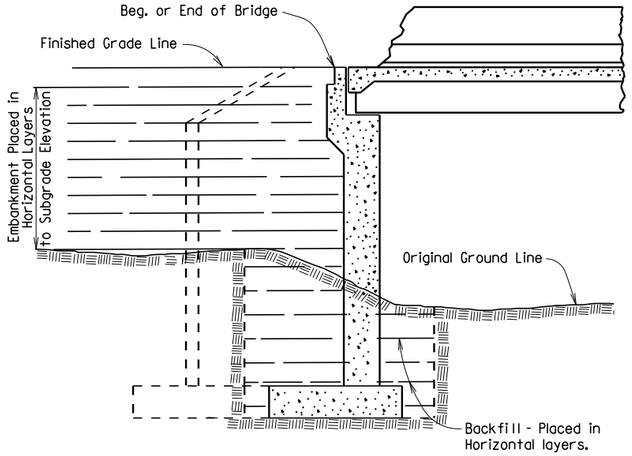
13+00.00

COBURN-BRAKE
STA. 13+00.00 TO STA. 14+00.00

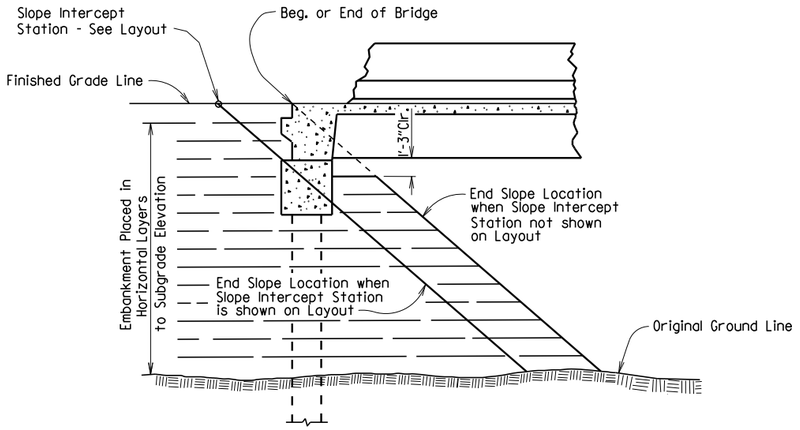
$$USER$$ 2/6/2025 $$TIME$$
WORKSPACE: $$WORKSPACE$$
$$FILE$$
REVISED DATE:

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.				

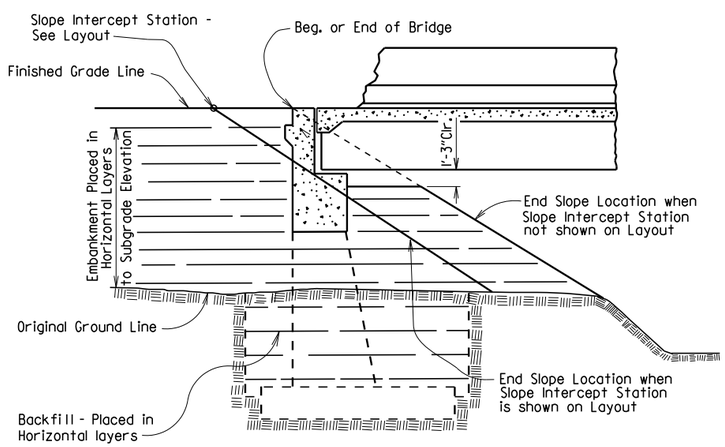
1 EMBANKMENT & BACKFILL 55000



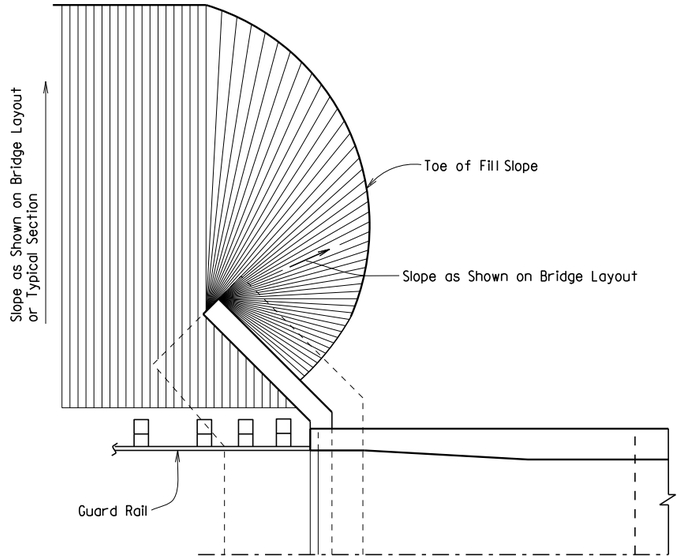
EMBANKMENT CONSTRUCTION AND FOOTING BACKFILL AT VERTICAL WALL ABUTMENTS



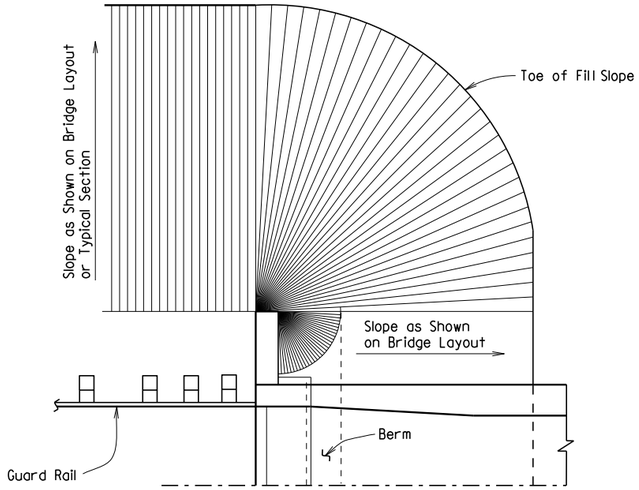
EMBANKMENT CONSTRUCTION AT SPILL-THROUGH PILE END BENTS



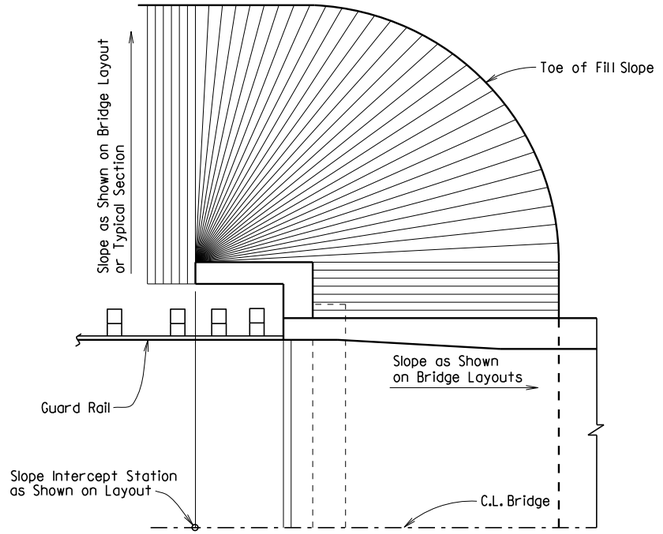
EMBANKMENT CONSTRUCTION AND FOOTING BACKFILL AT SPILL-THROUGH END BENTS



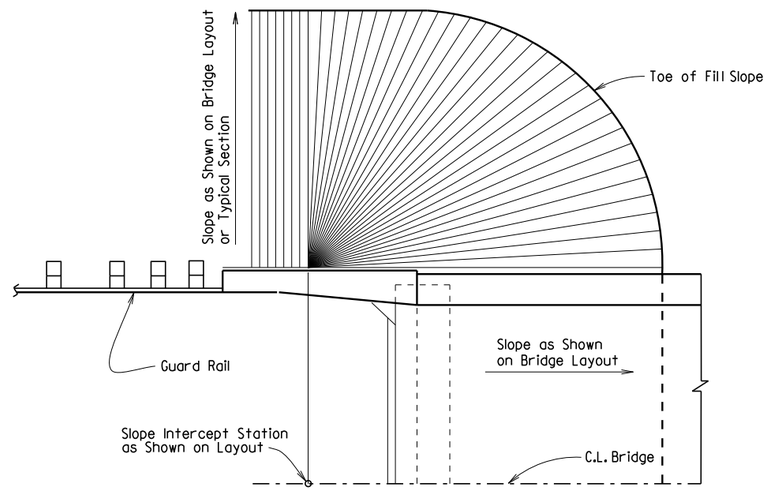
VERTICAL WALL ABUTMENTS



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.

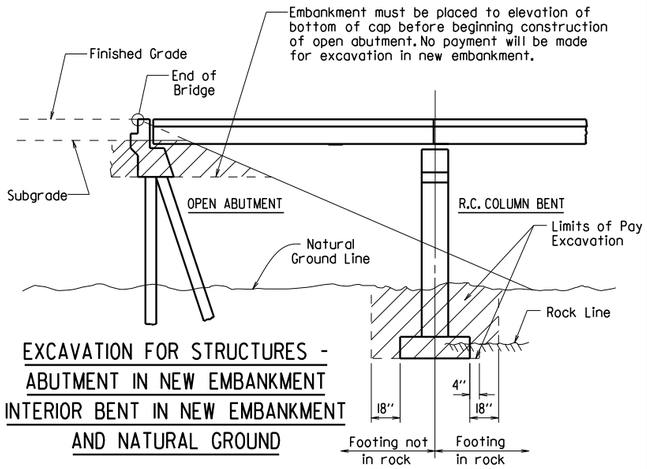
DRAWN BY: KDH DATE: 2-27-2014 FILENAME: b55000.dgn

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

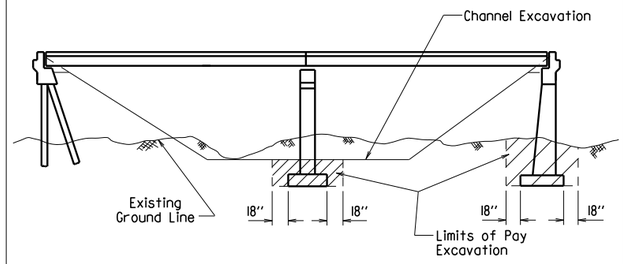
DESIGNED BY: STD. DATE: -

DRAWING NO. 55000

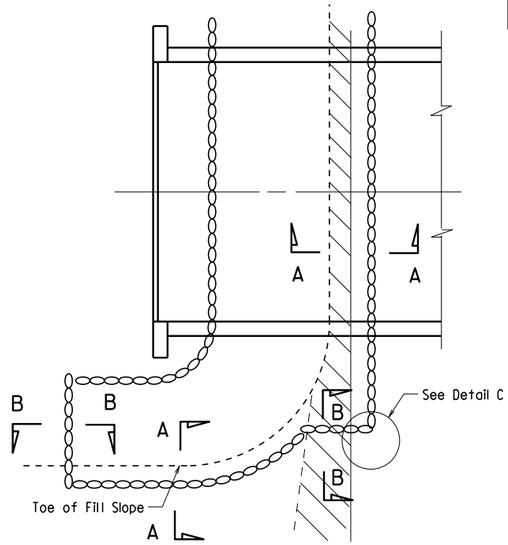
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.				
				(1)	RIPRAP & EXCAV. 55001			



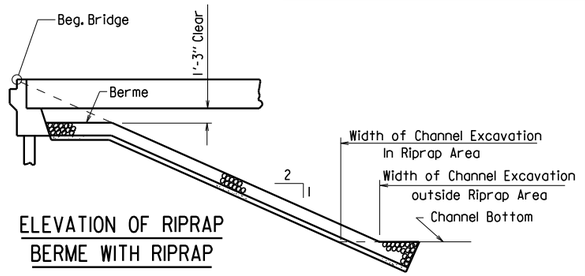
EXCAVATION FOR STRUCTURES - ABUTMENT IN NEW EMBANKMENT INTERIOR BENT IN NEW EMBANKMENT AND NATURAL GROUND



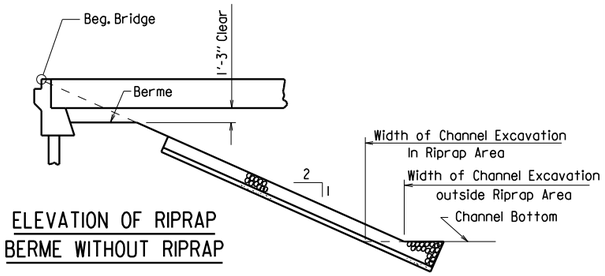
EXCAVATION FOR STRUCTURES - BRIDGE LOCATION WITH DESIGNATED CHANNEL CHANGE



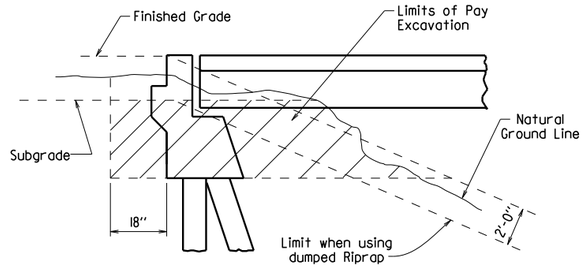
PLAN OF DUMPED RIPRAP



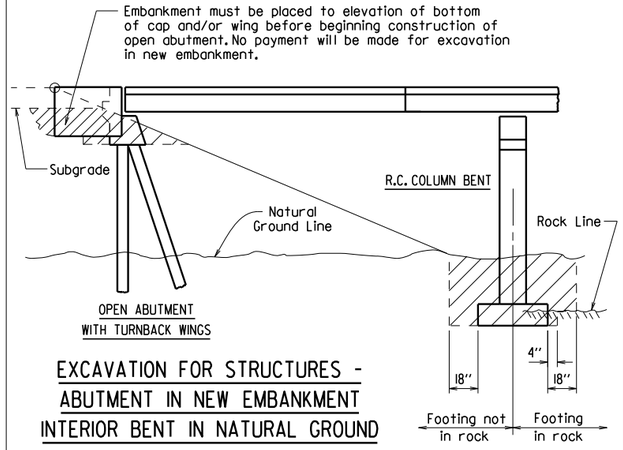
ELEVATION OF RIPRAP BERME WITH RIPRAP



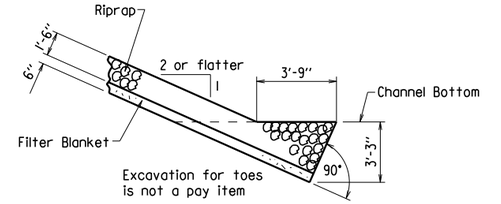
ELEVATION OF RIPRAP BERME WITHOUT RIPRAP



EXCAVATION FOR STRUCTURES - ABUTMENT IN NATURAL GROUND

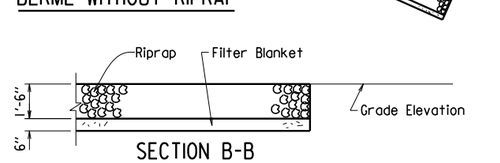


EXCAVATION FOR STRUCTURES - ABUTMENT IN NEW EMBANKMENT INTERIOR BENT IN NATURAL GROUND

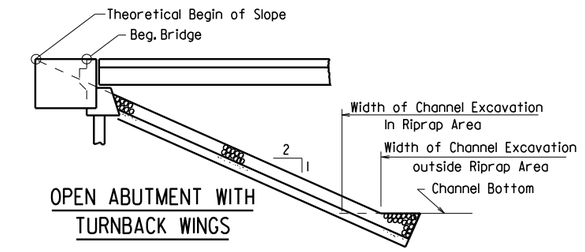


SECTION A-A

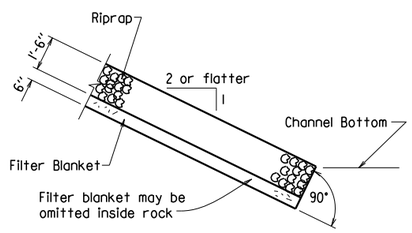
(Toe Excavation in Soil)



SECTION B-B



OPEN ABUTMENT WITH TURNBACK WINGS



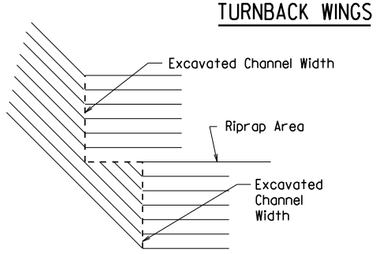
SECTION A-A

(Toe Excavation in Rock)

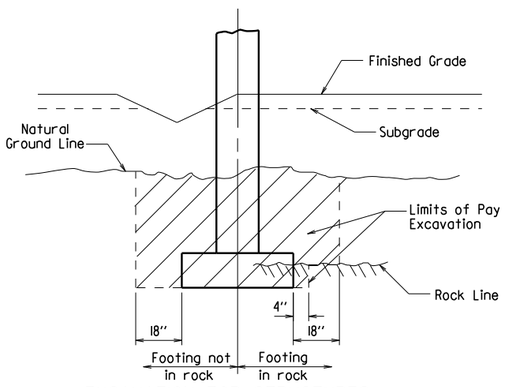
Note : Use this type of toe when rock is encountered which is in a stable condition.

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.

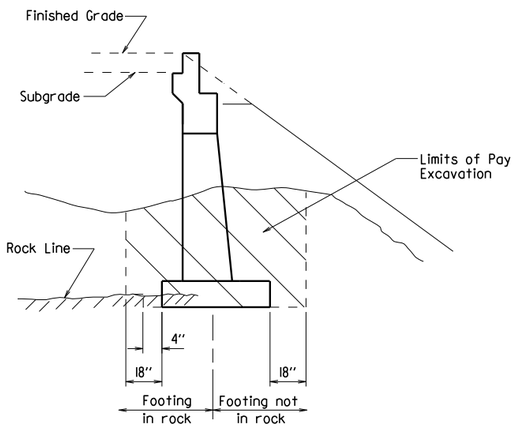
Note : Details for computing excavation for structures are included for information as to how plan quantities were calculated and for use when adjusting quantities when changing footing elevation.



DETAIL C



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



EXCAVATION FOR STRUCTURES - ABUTMENT IN NATURAL GROUND AND NEW EMBANKMENT

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

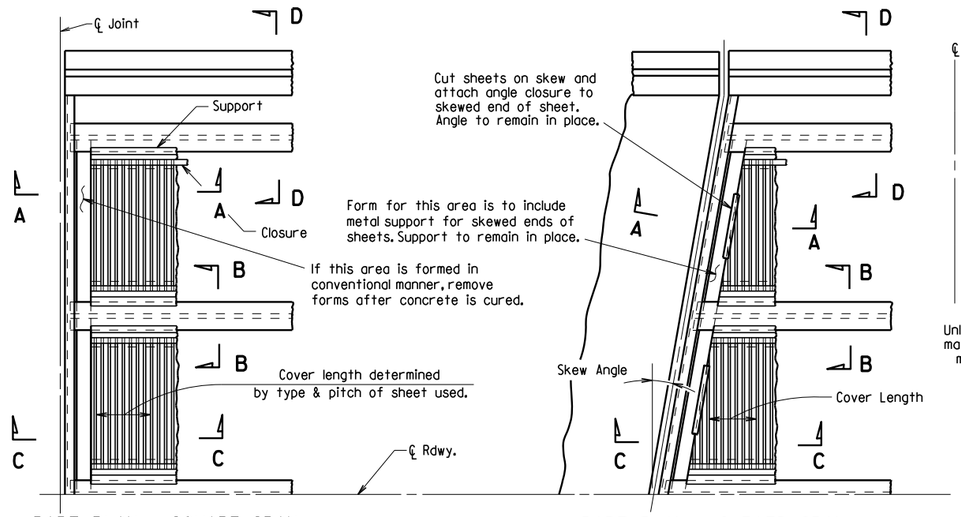
CHECKED BY: BEF DATE: 2-27-2014 SCALE: NO SCALE

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
3/24/16				6	ARK.			
				JOB NO.				

(1) BRIDGE DECK FORMS 55005

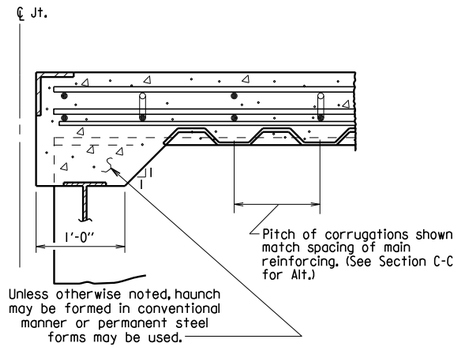


PART PLAN - SQUARE SPAN

3/8" = 1'-0"

PART PLAN - SKEWED SPAN

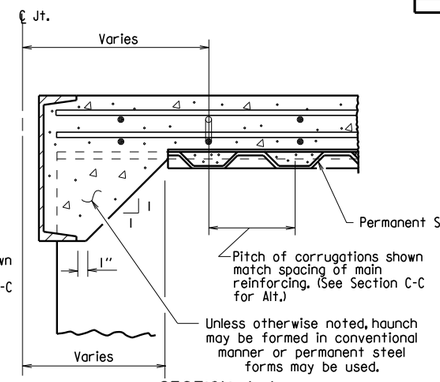
3/8" = 1'-0"



SECTION A-A

N.T.S.

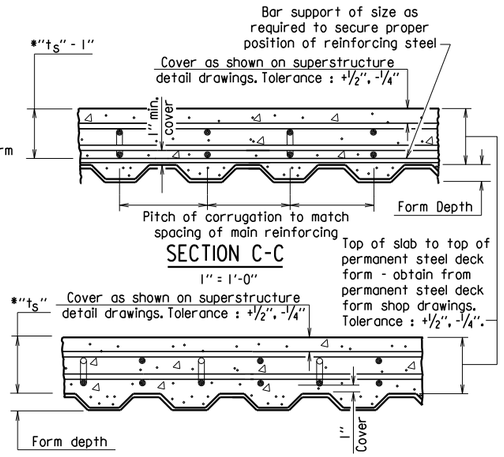
(Angle at end of span)



SECTION A-A

N.T.S.

(Channel at end of span)



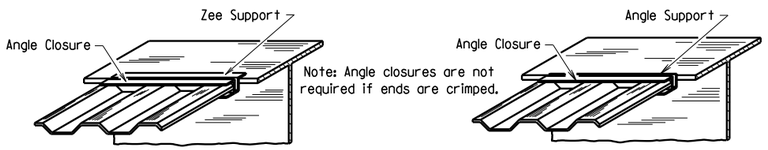
SECTION C-C

1" = 1'-0"

SECTION C-C - ALTERNATE

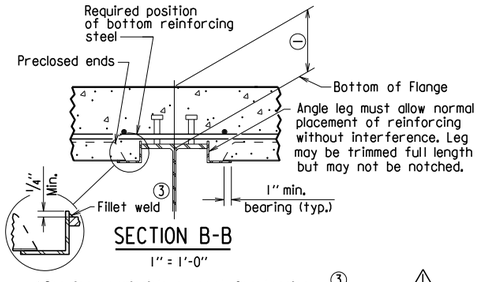
1" = 1'-0"

(Applicable when corrugations do not match spacing of main reinforcement)



SKETCH OF PERMISSIBLE SUPPORTS

N.T.S.

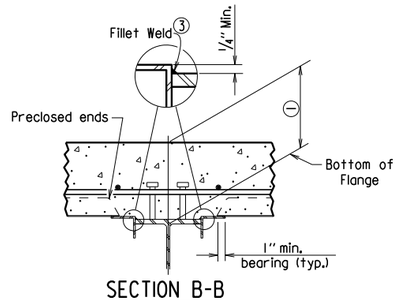


SECTION B-B

1" = 1'-0"

(Showing permissible support for tension flange where shear connectors are used, and for all compression flanges)

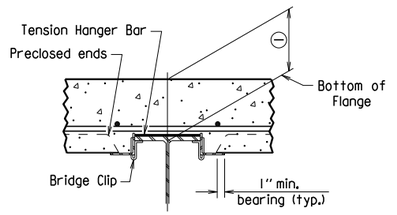
(3) ⚠ Minimum weld: 1/8" x 1" @ 18". More weld may be required; maximum length per weld = 1 1/2" (typ.)



SECTION B-B

1" = 1'-0"

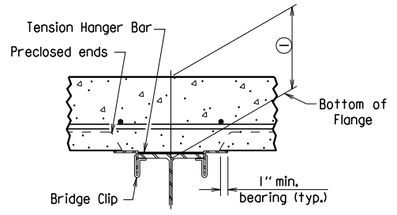
(Showing permissible support for tension flange where shear connectors are used and for all compression flanges)



SECTION B-B

1" = 1'-0"

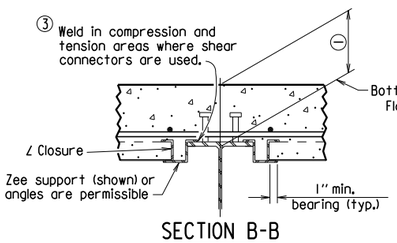
(Showing permissible support for tension flange where shear connectors are not used)



SECTION B-B

1" = 1'-0"

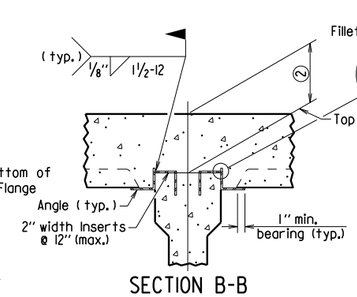
(Showing permissible support for tension flange where shear connectors are not used)



SECTION B-B

1" = 1'-0"

(Showing ∠ Closure)

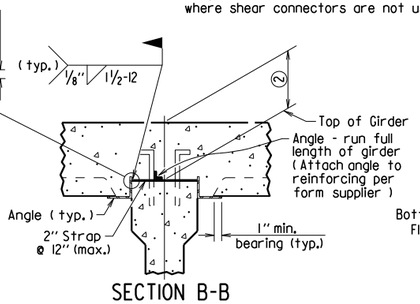


SECTION B-B

(FOR CONCRETE GIRDERS)

1" = 1'-0"

(Showing support by Insert cast in girder)

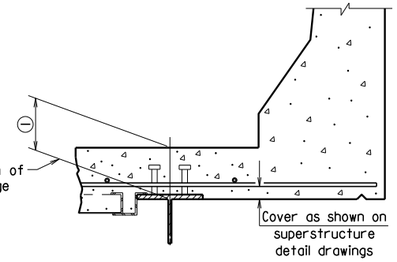


SECTION B-B

(FOR CONCRETE GIRDERS)

1" = 1'-0"

(Showing support by Strap)



SECTION D-D

1" = 1'-0"

Note: Only Bottom Reinforcing is shown.

(1) Distance from top of slab to bottom of top flange as measured at centerline girder and as shown on superstructure detail drawings. This dimension may vary within the following limits to maintain the grade and slab thickness tolerances : Minimum - occurs when either the top flange or the support angle leg contacts the bottom reinforcing steel; Maximum = t_S + 1 3/4" + flange thickness. See Section C-C for slab thickness tolerance between adjacent girder flanges.

(2) Distance from top of slab to top of girder as measured at centerline girder and as shown on superstructure detail drawings. This dimension may vary within the following limits to maintain the grade and slab thickness tolerances : Minimum - occurs when either the top of girder or the support angle leg contacts the bottom reinforcing steel; Maximum - value shown on the superstructure detail drawings when removable forms are used. See Section C-C for slab thickness tolerance between adjacent girder flanges.

⚠ Revised weld dimension by KWY, Ck'd. by BEF, 3/24/16.

*t_S = slab thickness as shown on superstructure detail drawings.

GENERAL NOTES

Permanent steel deck forms may be used at the Contractor's option and shall be at no additional cost to the Department. Such use may result in changes to the dead load deflection of the girder. Any cost for adjustments due to a change in the dead load deflection will be borne by the Contractor. Payment for deck concrete and structural steel will not be increased due to use of permanent steel deck forms.

Permanent steel deck forms shall conform to Subsection 802.14(b). Detailed plans, including detailed calculations and manufacturer's technical brochure, shall be submitted to and approved by the Engineer before work of forming the bridge deck is started.

Welding of form supports to the tension flange of steel girders will be permitted only in areas where shear connectors are used. When welding is not allowed, the method of fastening Z or ∠ supports to the flange must be approved by the Engineer.

Form sheets shall be fastened to supporting members and to each other with galvanized metal screws sufficient in size and number to provide a secure attachment. Alternate methods of attachment must be approved by the Engineer.

When the pitch of form corrugations match the reinforcing spacing, transversely align form sheets across the bridge to maintain the correct orientation of continuous reinforcing bars in the corrugations.

Bar support rods, when used, shall be sized and spaced to adequately support the bottom reinforcing mat at the required position.

High chairs shall be sized to support the top mat of reinforcing at the proper position. High chairs shall be placed at locations shown on the detail drawings.

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

STANDARD DETAILS FOR PERMANENT STEEL BRIDGE DECK FORMS FOR STEEL & CONCRETE GIRDER SPANS

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

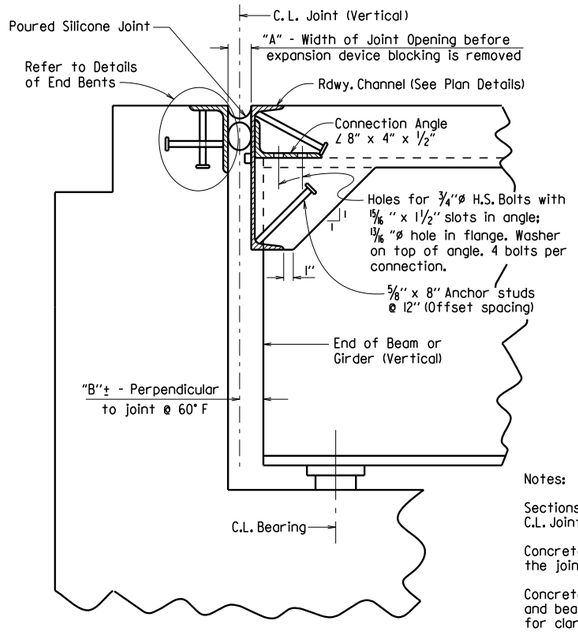
DRAWN BY: KDH DATE: 2-27-2014 FILENAME: b55005.dgn

CHECKED BY: BEF DATE: 2-27-2014 SCALE: NONE

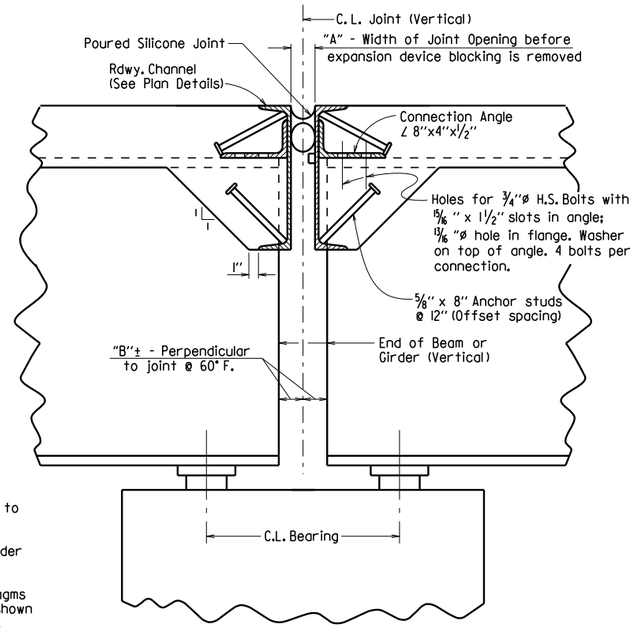
DESIGNED BY: STD. DATE: —

DRAWING NO. 55005

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		POURED SILICONE JOINT		55008



SECTION THRU JOINT AT END BENT



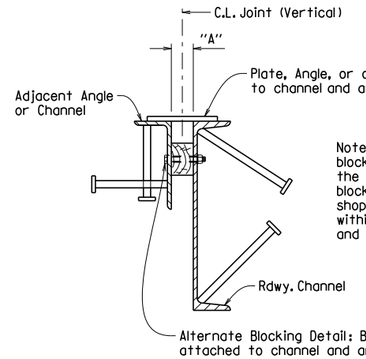
SECTION THRU JOINT AT INTERMEDIATE BENT

Notes:

Sections are taken perpendicular to C.L. Joint.

Concrete shall be hand packed under the joint armor.

Concrete diaphragms, steel diaphragms and bearing stiffeners are not shown for clarity. See plans for details.



Note: Each expansion joint device shall be blocked in the Shop by the Fabricator to the dimension "A" shown for 60° F and the blocking details shall be shown on the shop drawings. Blocking shall be placed within 2 feet of each end of the device and with a maximum spacing of 8 feet.

DETAILS FOR BLOCKING EXPANSION JOINT DEVICE

EXPANSION DEVICE INSTALLATION AT END BENTS:

The Contractor may elect to install the expansion device using one of the following two alternatives:

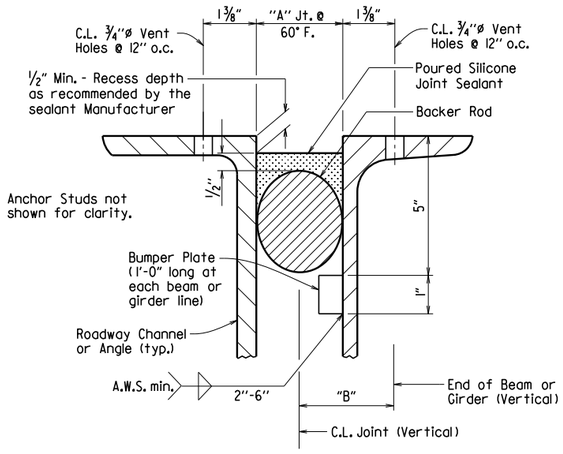
1) The concrete span pour adjacent to joint shall be placed before the end bent backwall is placed. After the end bent backwall forms are in place and the beams or girders erected, the blocked expansion device shall be installed and adjusted for grade. All connection bolts shall be fully tightened prior to placing the deck concrete adjacent to the bent. Immediately prior to pouring the backwall concrete, the blocking shall be removed, and the opening adjusted for temperature and grade.

2) The backwall shall be poured to the optional construction joint after beams or girders are erected. The blocked expansion device shall be installed and adjusted for grade. All connection bolts shall be fully tightened prior to placing the deck concrete adjacent to the bent. Immediately prior to pouring the remainder of the backwall concrete, the blocking shall be removed and the opening adjusted for temperature and grade.

EXPANSION DEVICE INSTALLATION AT INTERMEDIATE BENTS:

After all beams or girders on each side of the joint are erected the blocked expansion device shall be installed and adjusted for grade. Deck concrete shall be placed for the entire unit or span on one side of the joint before deck concrete on the other side is placed. Connection bolts for the first side to have deck concrete placed shall be completely bolted. Bolts on the other side shall be loosely installed so that thermal and rotational movements will not be restricted during concrete placement on the first side.

Connection bolts on the second side shall remain loose until the concrete pour adjacent to the joint is to be placed. Immediately prior to pouring the span concrete on the second side, the blocking shall be removed, the joint adjusted for temperature and grade, and the connection bolts tightened.



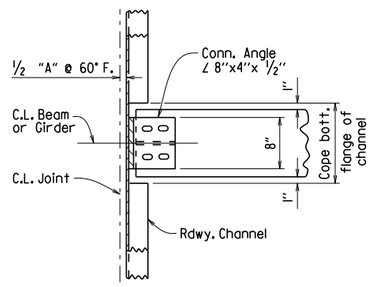
DETAIL OF POURED SILICONE JOINT

Silicone joint material and installation shall conform to Section 809. The temperature limitations recommended by the sealant Manufacturer shall be observed. The sealant shall be installed only when the average 24 hour air temperature is between 40° and 80° F.

Use an appropriately sized backer rod at the depth shown in the Manufacturer's literature based on the joint width at the time of sealing. Unless otherwise noted, do not install more backer rod than can be sealed in the same day.

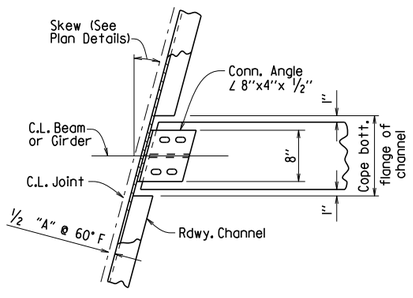
The Contractor shall verify separation of the backer rod from the joint material after the joint material has set.

When bridge deck is constructed in stages, backer rods shall be extended beyond length of poured joint in initial construction stage so that the two pieces can be properly spliced together prior to installing sealant in subsequent stages. Manufacturer's recommendations shall be followed to prevent sealant from "running out of joint" during stage construction.



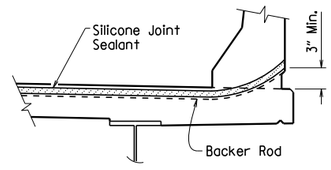
CHANNEL CONNECTION DETAIL

BENTS WITHOUT SKEW

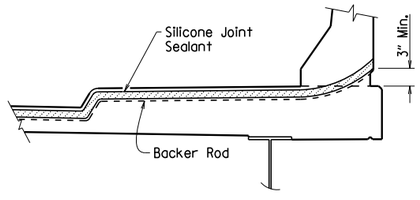


CHANNEL CONNECTION DETAIL

BENTS WITH SKEW



JOINT SEAL PLACEMENT AT RAIL



JOINT SEAL PLACEMENT AT SIDEWALK

SECTION AND SUBSECTION REFER TO THE ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (2014 EDITION).

THESE DETAILS ARE APPLICABLE UNLESS OTHERWISE SHOWN IN THE PLAN DETAILS, SPECIAL PROVISIONS, OR SUPPLEMENTAL SPECIFICATIONS. SEE "TABLE OF SILICONE JOINT DATA" IN PLAN DETAILS FOR VARIABLES "A" AND "B", AND BUMPER PLATE SIZE.

STANDARD DETAILS FOR POURED SILICONE JOINTS

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: A.C.P. DATE: 2/11/2016 FILENAME: b55008.dgn

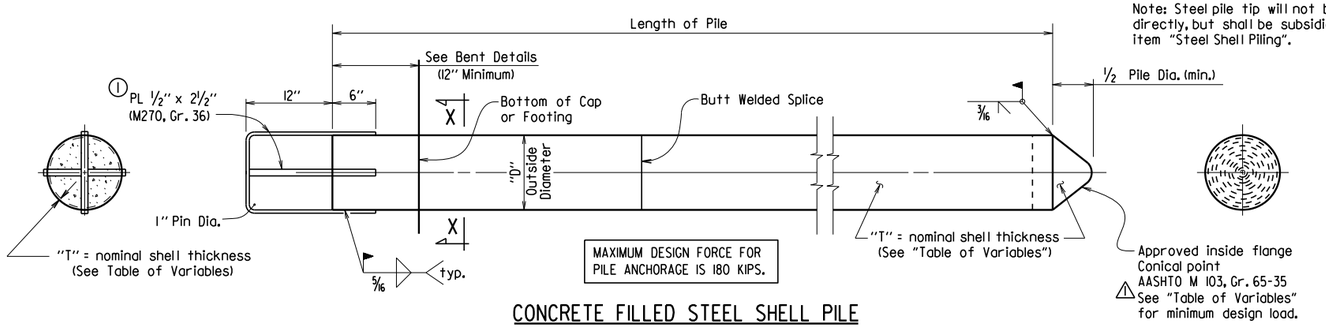
CHECKED BY: A.M.S. DATE: 2/11/2016 SCALE: No Scale

DESIGNED BY: STD. DATE: —

DRAWING NO. 55008

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

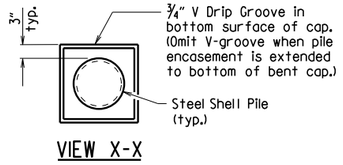


Note: Steel pile tip will not be paid for directly, but shall be subsidiary to the item "Steel Shell Piling".

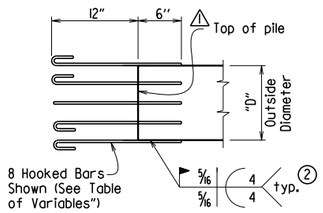
CONCRETE FILLED STEEL SHELL PILE

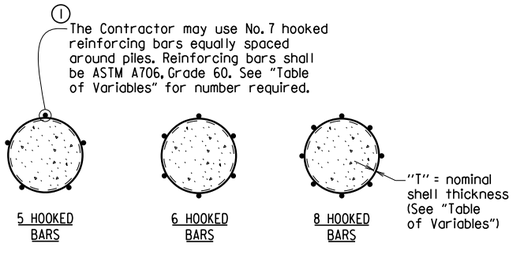
① Pile anchorage shall be placed to minimize interference with anchor bolts and reinforcing in cap or footing.

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.



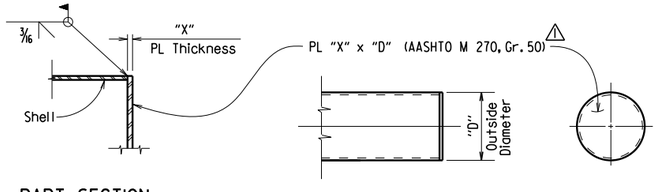
VIEW X-X





ALTERNATE PILE ANCHORAGE DETAIL

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

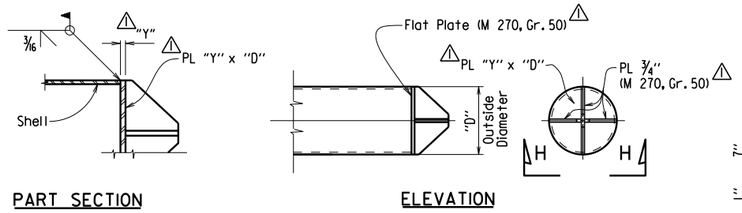


PART SECTION

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:

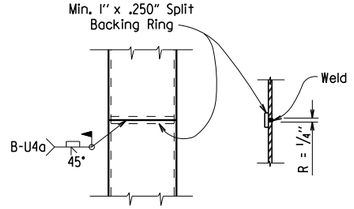
Steel shells shall conform ASTM A252, Grade 3 (Fy = 45,000 psi.)

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.

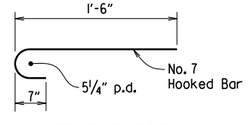
Concrete, structural steel, reinforcing steel (including welding), and painting shall not be paid for directly, but shall be considered subsidiary to the item "Steel Shell Piling".



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"	2¼"	1½"	5	859
16"	0.50"	2¼"	1½"	5	986
18"	0.50"	2½"	1½"	6	1,114
20"	0.50"	2½"	1¾"	6	1,241
24"	0.50"	2¾"	1¾"	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:

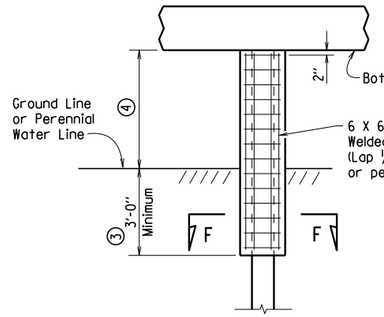
⚠ See Bridge Layout for additional notes, any pile encasement restrictions and required location of pile encasements.

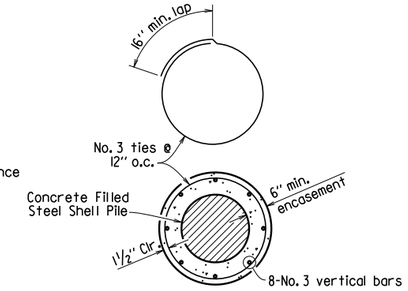
Concrete shall be Class S with a minimum 28-day compressive strength, f'c = 3,500 psi. If concrete cannot be placed in the dry, Seal Concrete may be used from top to bottom of encasement.

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)

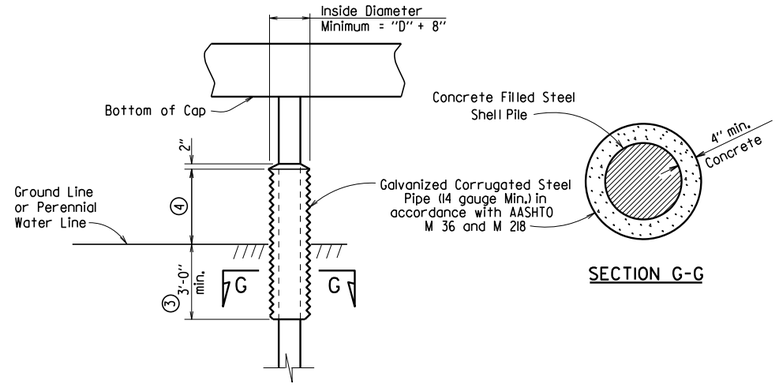
PILE ENCASEMENT DETAIL FOR STEEL SHELL PILES

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

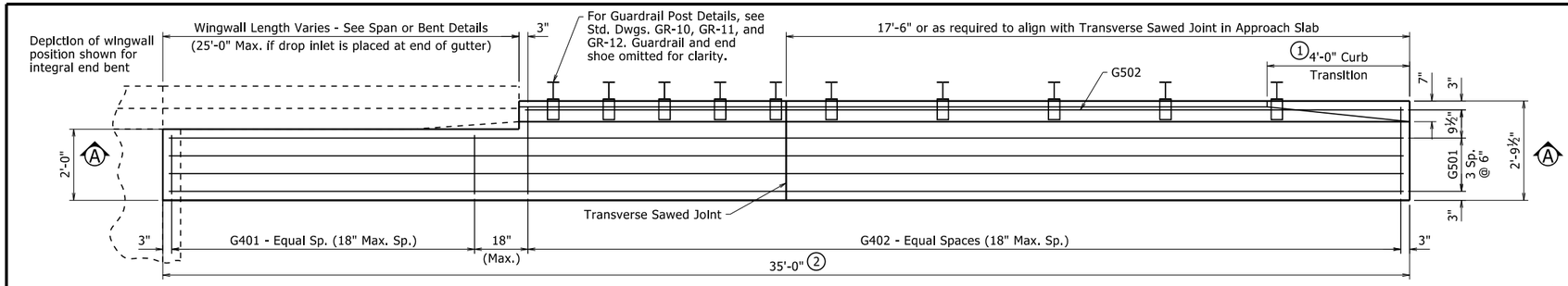
LITTLE ROCK, ARK.

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

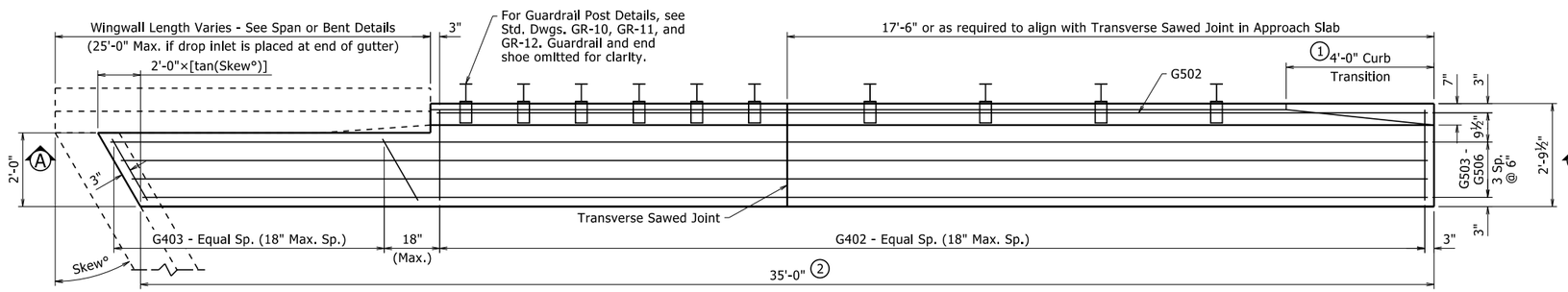
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.				

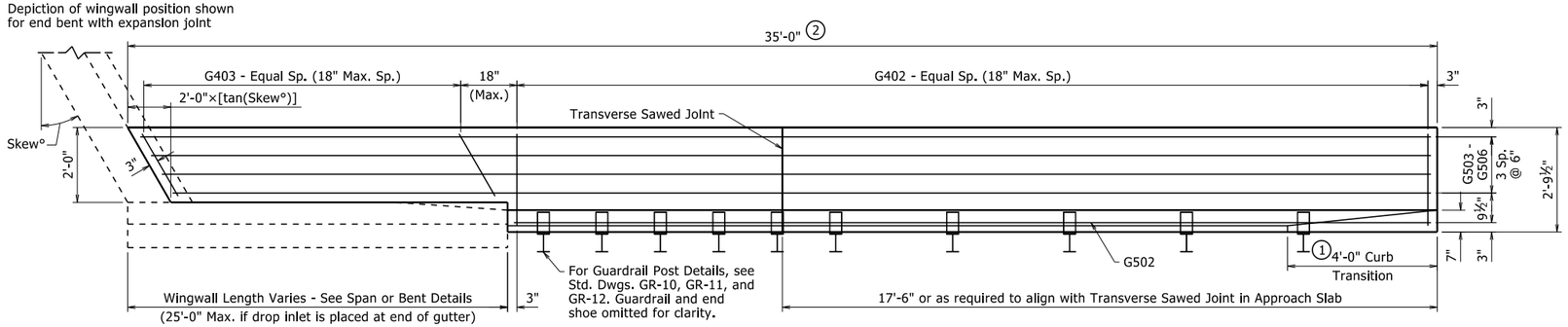
(1) Type F Approach Gutters - 55030F



HALF PLAN OF APPROACH GUTTERS FOR SQUARE END BENT

½" = 1'-0"





PLAN OF SKEWED APPROACH GUTTERS FOR SKEWED END BENT

½" = 1'-0"

QUANTITIES FOR ONE APPROACH GUTTER

(For Information Only)

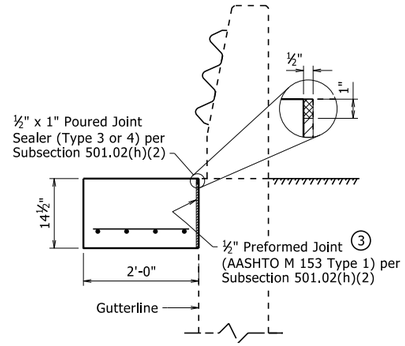
Reinforcing Steel (Lbs.)	Concrete (Cu. Yds.)
210	4.20

Quantities are based on one gutter for a square, integral end bent and a wingwall length of 10'-0"

BAR LIST FOR ONE APPROACH GUTTER

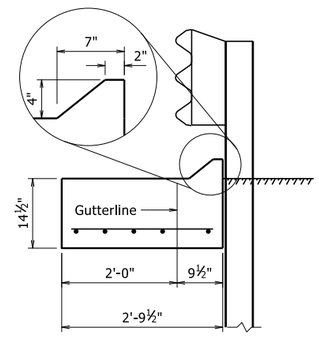
	Mark	No. Req'd.	Length
Square End Bent	G401	(4)	1'-8"
	G402	(4)	2'-5½"
	G501	4	34'-8"
	G502	1	(4)
Skewed End Bent	G402	(4)	2'-5½"
	G403	(4)	(4)
	G502	1	(4)
	G503 - G506	1 ea.	(4)

(4) Varies with Skew and/or Wingwall Length



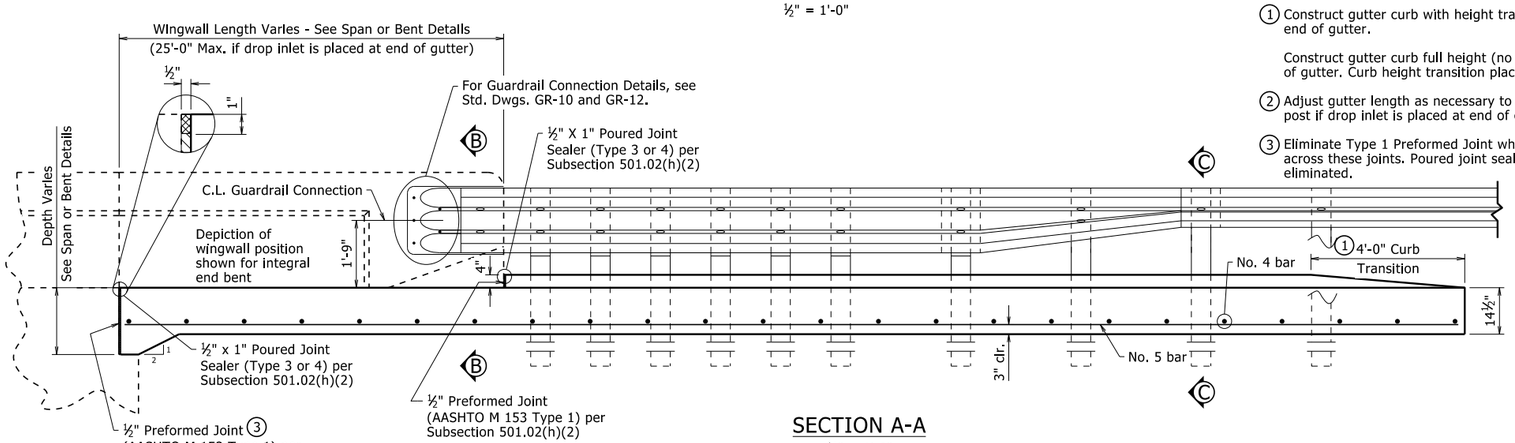
SECTION B-B

¾" = 1'-0"



SECTION C-C

¾" = 1'-0"



SECTION A-A

½" = 1'-0"

(Approach Gutter for Square End Bent Shown)

(1) Construct gutter curb with height transition as shown if drop inlet is not placed at end of gutter.

Construct gutter curb full height (no height transition) if drop inlet is placed at end of gutter. Curb height transition placed on drop inlet.

(2) Adjust gutter length as necessary to avoid outlet pipe interference with guardrail post if drop inlet is placed at end of gutter.

(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.

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.

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

STANDARD DETAILS FOR TYPE F APPROACH GUTTERS

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: NAC DATE: 4-8-2021 FILENAME: b55030f.dgn

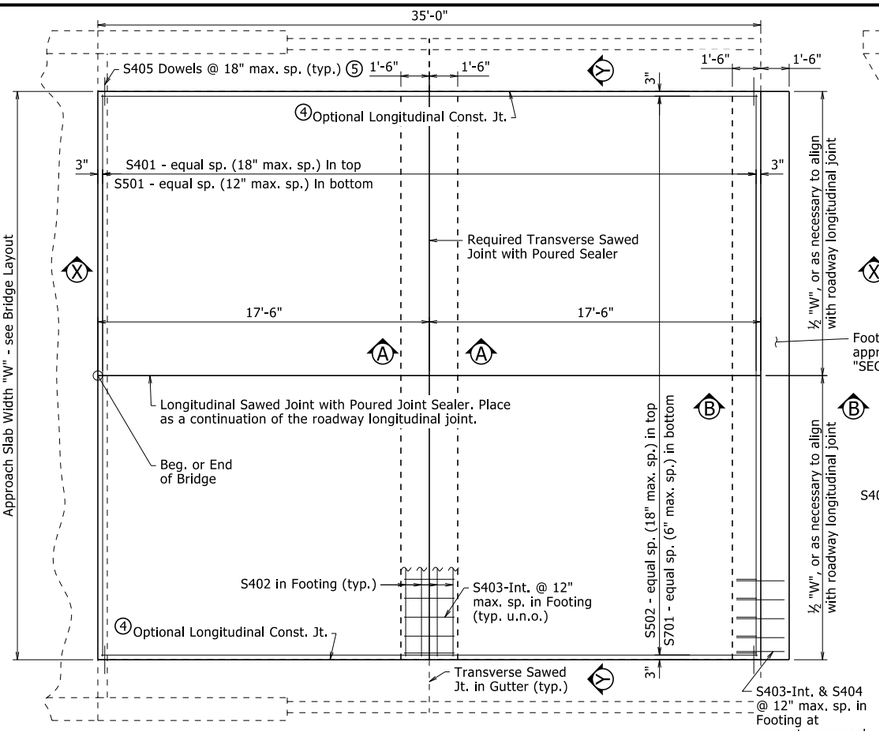
CHECKED BY: LJB DATE: 4-8-2021 SCALE: AS NOTED

DESIGNED BY: STD DATE: -

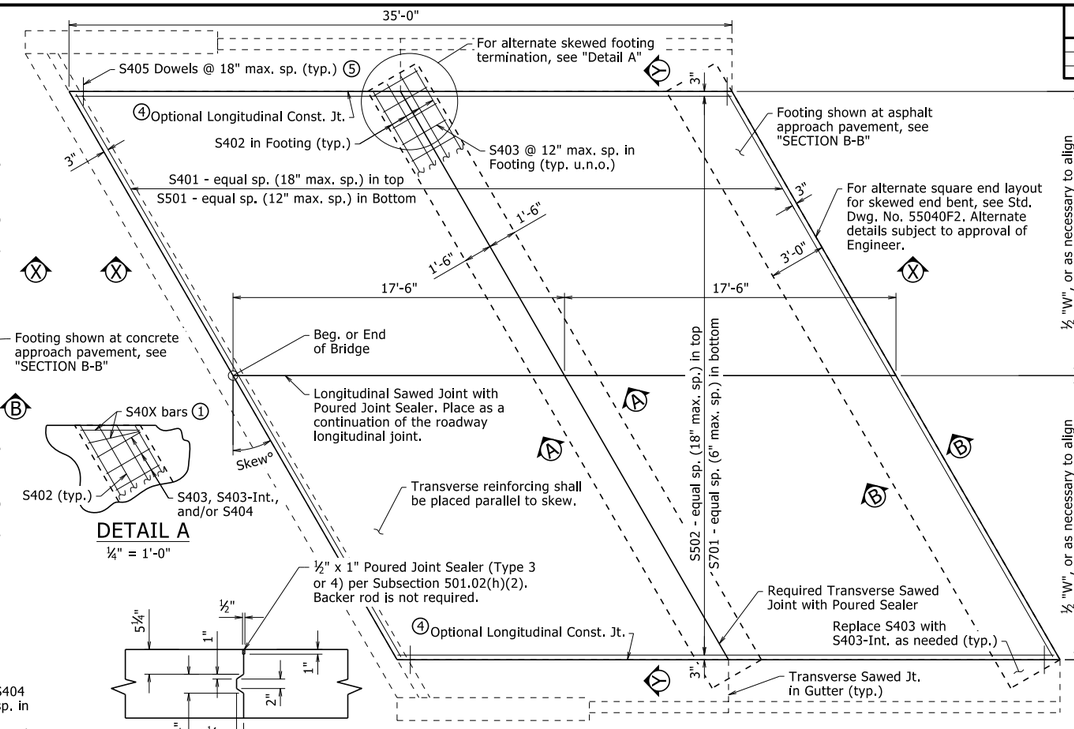
DRAWING NO. 55030F

PRINT DATE: 4/9/2021

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

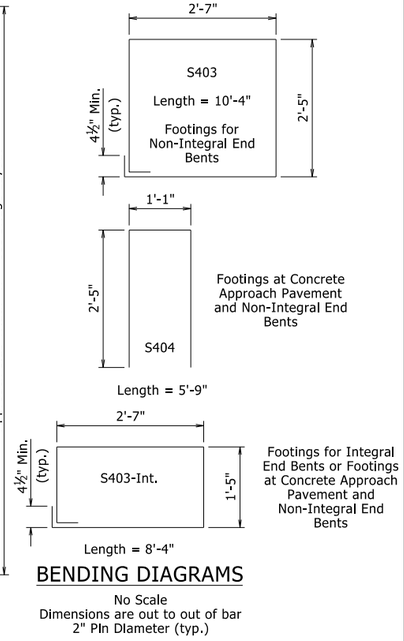


PLAN - APPROACH SLAB AT SQUARE END BENT



LONGITUDINAL CONSTRUCTION JOINT

½" = 1'-0"

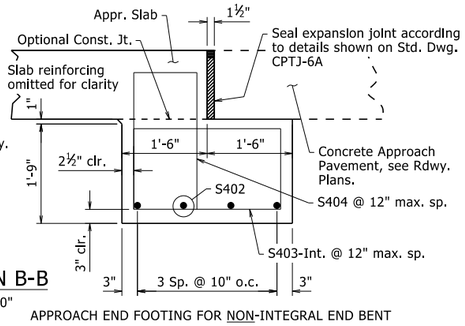


BENDING DIAGRAMS

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"



SECTION B-B

¾" = 1'-0"

APPROACH END FOOTING FOR NON-INTEGRAL END BENT

Concrete Approach Shown. For Asphalt Approach, adjust footing location by 1'-6", omit expansion joint, and replace bars S403-Int. & S404 with S403.

BAR LIST - PER APPROACH SLAB

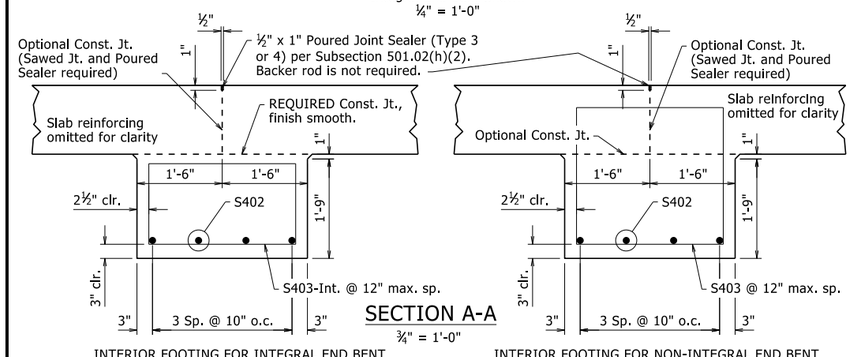
	Square End Bent		Skewed End Bent	
Mark	No. Req'd.	Length	No. Req'd.	Length
S401	24	"W" - 0.33'	24	("W" - 0.33') / cos (Skew°)
S402	8	"W" - 0.33'	8	"W"/cos(Skew°) + 3.0'×tan(Skew°) - 0.33'
S403	①	②	①	②
S403-Int.	①	②	①	②
S404	①	②	①	②
S405	48	1'-6"	48	1'-6"
S501	36	"W" - 0.33'	36	("W" - 0.33') / cos (Skew°)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

PLAN - APPROACH SLAB AT SKEWED END BENT

Integral End Bent Shown
¼" = 1'-0"



SECTION A-A

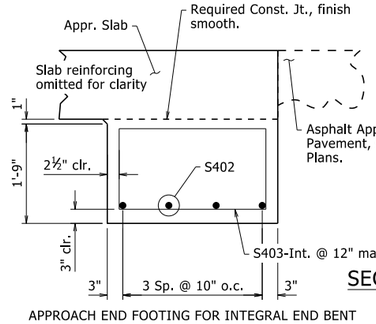
¾" = 1'-0"

INTERIOR FOOTING FOR INTEGRAL END BENT

INTERIOR FOOTING FOR NON-INTEGRAL END BENT

LONGITUDINAL CONSTRUCTION JOINT

½" = 1'-0"

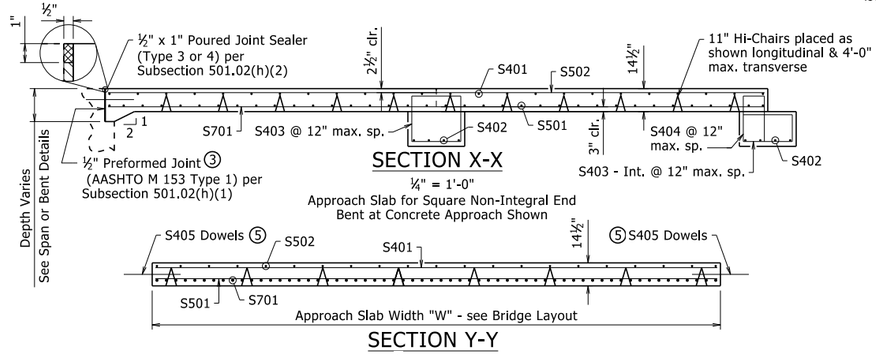


SECTION B-B

¾" = 1'-0"

APPROACH END FOOTING FOR INTEGRAL END BENT

Asphalt Approach Shown. For Concrete Approach, adjust footing location by 1'-6" to add paving notch and include expansion joint.



SECTION X-X

¼" = 1'-0"

Approach Slab for Square Non-Integral End Bent at Concrete Approach Shown

SECTION Y-Y

¼" = 1'-0"

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

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".

STANDARD DETAILS FOR TYPE F APPROACH SLAB

ARKANSAS STATE HIGHWAY COMMISSION

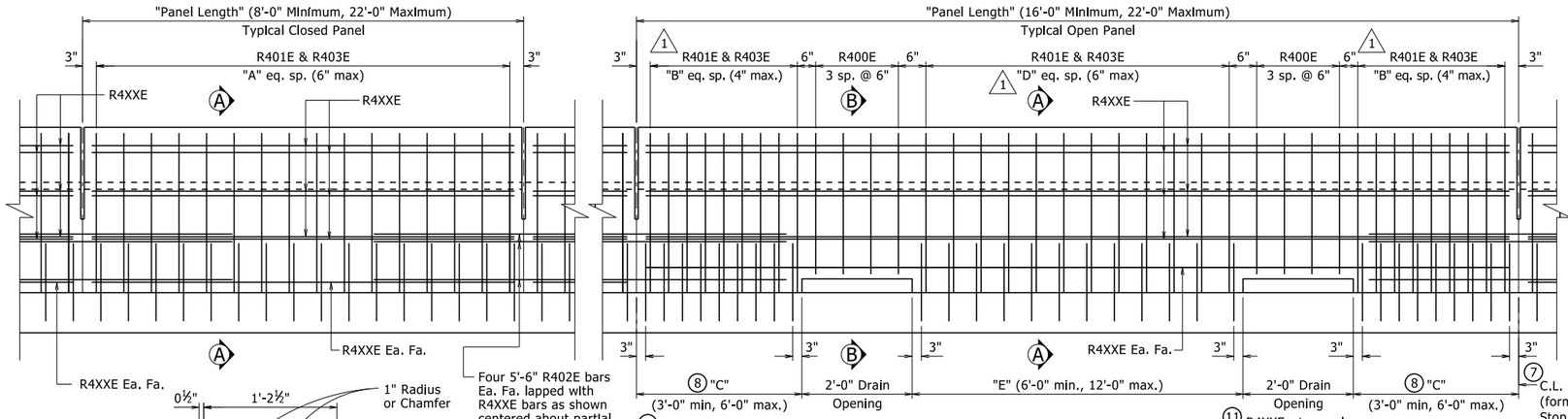
LITTLE ROCK, ARK.

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

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
09/27/2022				6	ARK.			
				JOB NO.				

TYPE SSTR36 - 55070



(1) ELEVATION - SINGLE SLOPE TRAFFIC RAIL

¾" = 1'-0"

(7) C.L. Full-Depth Rail Joint (formed width ¼" to 1" max). Stop 6" from top of deck/slab or sidewalk. Place at all Intermediate bents locations where rail is continuous.

(1) All measurements shown are along gutterline at base of rail.

(2) Minimum embedment into deck/slab.

(3) Eliminate recess when formliner with architectural finish is used. See Plans for additional information.

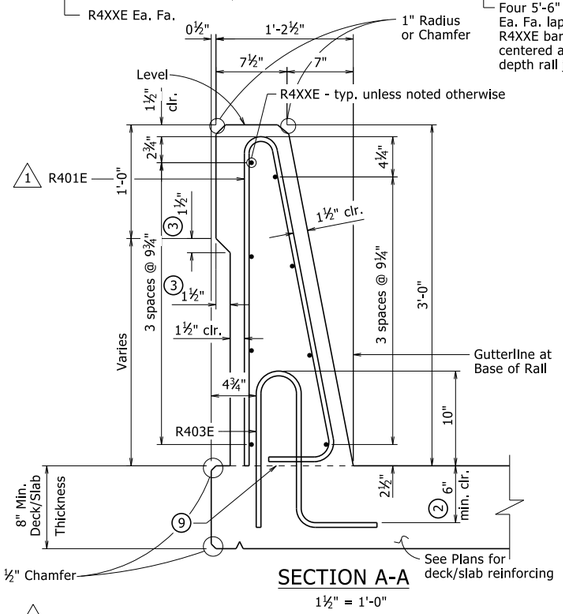
(4) C.L. 1" ø formed holes for ⅞" ø bolts. See Standard Drawings GR-10 and GR-12 for additional information.

(5) Only applicable for bridges with rail cast directly on bridge deck/slab surface. Increase height as necessary for sidewalks, see Plans for additional information.

(6) Field bend front leg of R401E bar as required to maintain minimum 1½" front face clearance within limits of taper.

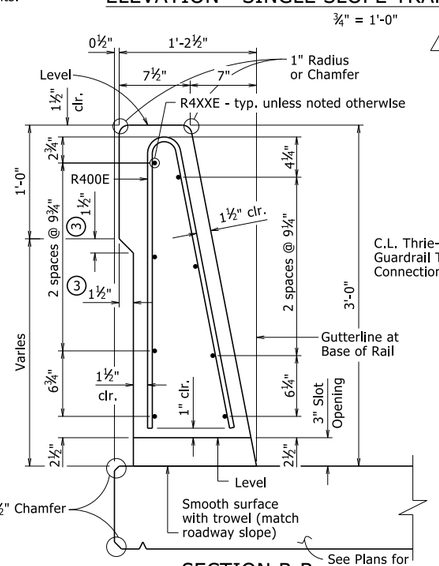
(7) When optional slip forming is used: to control cracking, all rail joints must be V-grooved around the perimeter of the rail prior to concrete set and sawing. Depth of V-groove shall be ½". Sawing of the joints shall be done as soon as practical to a width of ¼", and must be controlled so it will follow the V-Groove.

(8) End posts shall be the same length within a panel.



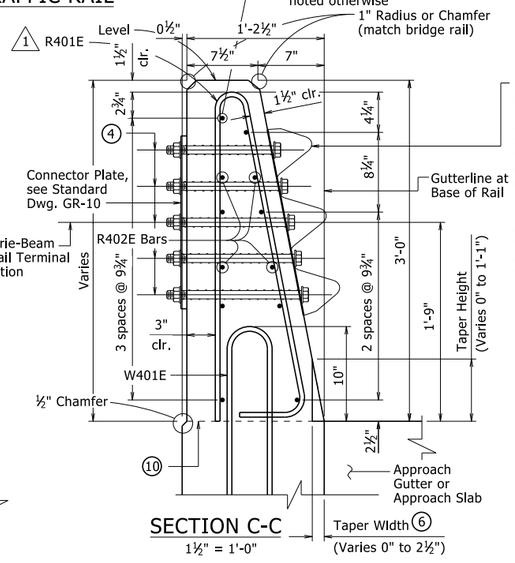
SECTION A-A

1½" = 1'-0"



SECTION B-B

1½" = 1'-0"

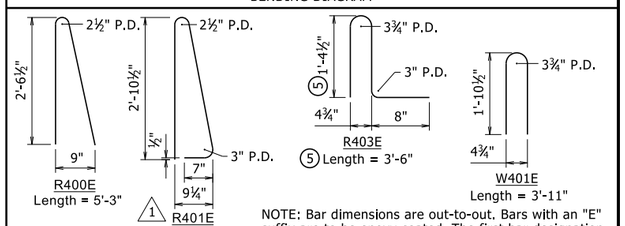


SECTION C-C

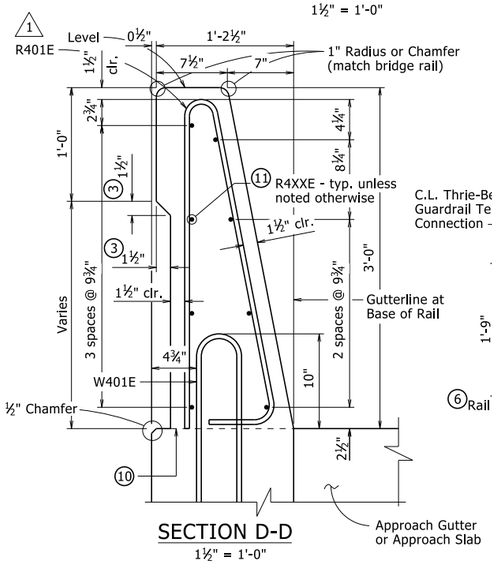
1½" = 1'-0"

Bolt Special End Shoe to face of rail as shown. Tapered washers are not required between the head of the bolts and the sloped face of the rail. Tighten the five terminal connection bolts in a well distributed pattern to prevent damage or distortion of the thrie-beam connection. Cut bolts off after installation so as to extend no more than ¾" beyond nut. Paint ends of cut-off bolts with zinc-rich paint. This work and material will not be paid for directly but shall be considered subsidiary to associated contract items.

BENDING DIAGRAM

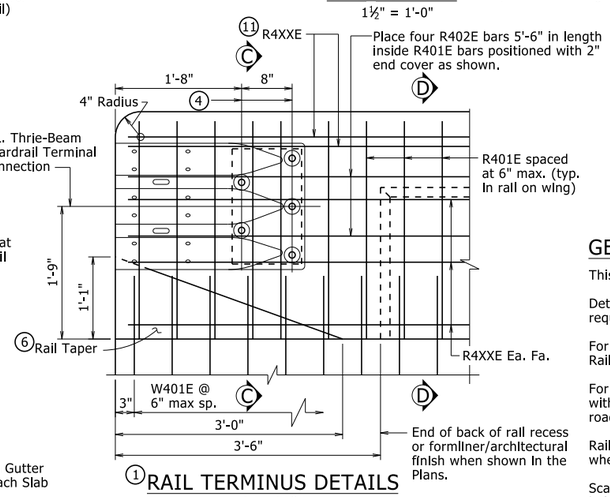


NOTE: Bar dimensions are out-to-out. Bars with an "E" suffix are to be epoxy coated. The first bar designation number indicates the reinforcing bar size.



SECTION D-D

1½" = 1'-0"



(1) RAIL TERMINUS DETAILS

1" = 1'-0"

(9) Required Construction Joint. Level where water flows away from rail, match roadway slope where water flows toward rail.

(10) Top of Abutment Wing & Required Construction Joint (match bridge deck/slab construction joint slope). See Plans for Wing reinforcing.

(11) These bars will not be included in the "Table of Variables". See Plans for details.

TABLE OF VARIABLES

Closed Rail Panels			Open Rail Panels					
Panel Length	A	R4XXE	Panel Length	B	C	D	E	R4XXE

See Plans for table with values.

GENERAL NOTES

This rail has been successfully evaluated by full-scale crash test to meet MASH TL-4 criteria.

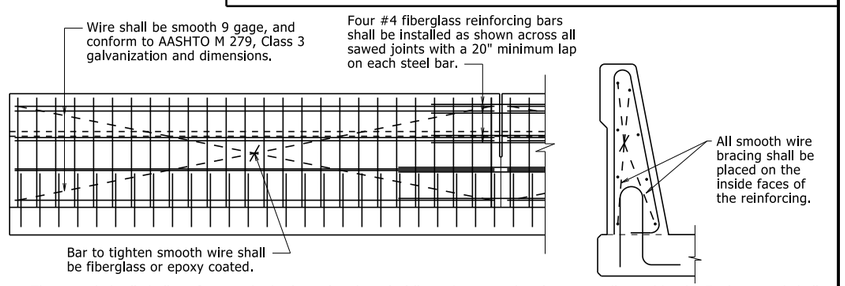
Details shown are general for bridges without sidewalks. See Plans for additional details and requirements specific to bridges with sidewalks.

For Table of Variables, Rail Bar List, locations of Full and Partial Depth Rail Joints, and Wing & Rail Bar Lists, see Plans.

For location of drain openings, see Plans. Drain openings shown are not applicable for bridges with sidewalks. Drain openings will not be allowed over Railroad Right of Way, travelled roadways, and protected waterways.

Rail Terminus details, including Rail Taper, are not applicable for bridges with sidewalks or when bridge railing is continuous with roadway railing.

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



The extruded rail shall conform to the horizontal and vertical lines shown on the plans or as directed by the Engineer and shall present a smooth, uniform appearance and texture. Unless otherwise noted, exposed surfaces may be given a light brush finish or a Class 3, Textured Coating Finish in place of Class 2, Rubbed Finish.

All panels shall be braced as required to prevent racking.

Slip forming will not be allowed on bridges where formliner with architectural treatment is used unless approval from the Engineer is obtained.

DETAILS OF OPTIONAL SLIP FORMING OF BRIDGE TRAFFIC RAIL

No Scale

(1) Modified bending diagram and spacing for R401E bar.

By: CGP, Checked by: CMW 09/27/2022

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

BRIDGE ENGINEER

THESE DETAILS ARE APPLICABLE UNLESS OTHERWISE SHOWN IN THE PLAN DETAILS, SPECIAL PROVISIONS, OR SUPPLEMENTAL SPECIFICATIONS.

STANDARD DETAILS FOR BRIDGE TRAFFIC RAIL TYPE SSTR36

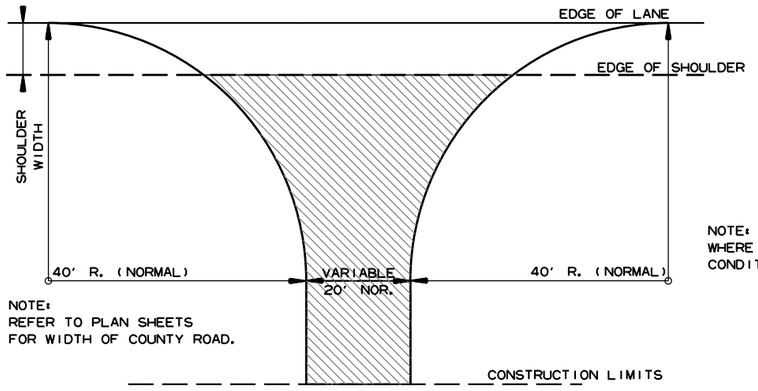
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: KWY DATE: 11/5/2020
CHECKED BY: LJB DATE: 11/5/2020
DESIGNED BY: STD. DATE: -----
FILENAME: b55070.dgn
SCALE: As Noted

DRAWING NO. 55070

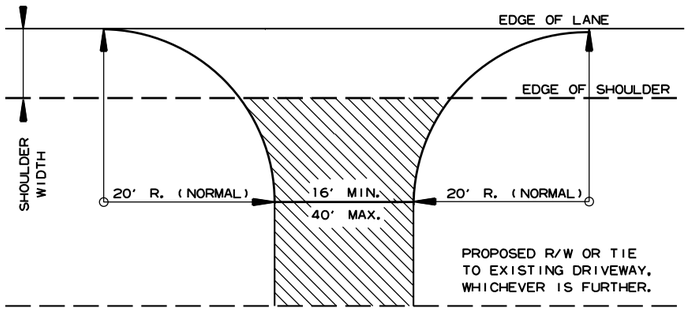
PRINT DATE: 10/6/2022



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

ACHM SURFACE COURSE (1/2") (220 LBS. PER SQ. YD.) AND AGGREGATE BASE COURSE (CLASS 7) 7" COMP. DEPTH, UNLESS OTHERWISE SPECIFIED IN PLANS.

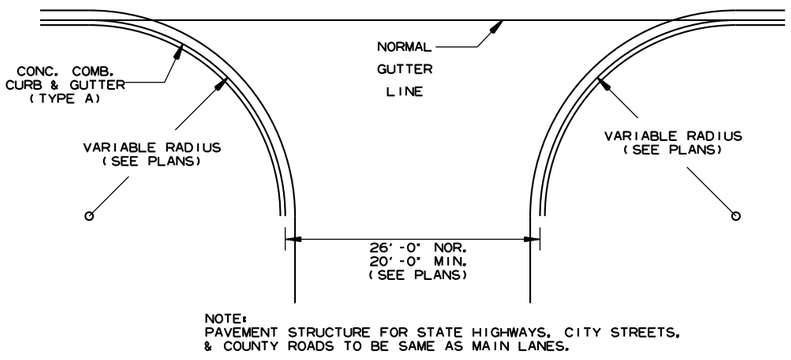
DETAIL FOR COUNTY ROAD TURNOUTS OPEN SHOULDER SECTION



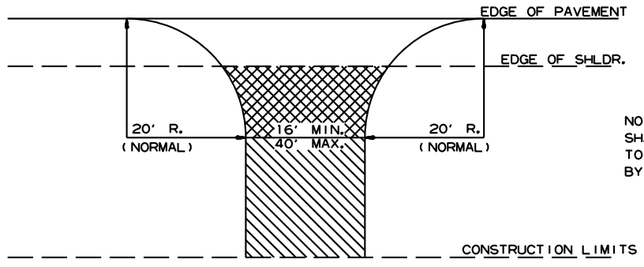
NOTE: TURNOUTS AND PRIVATE DRIVES SHALL BE MODIFIED WHERE NECESSARY TO MEET LOCAL CONDITIONS AS DIRECTED BY THE ENGINEER.

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

DETAIL FOR DRIVEWAY TURNOUTS OPEN SHOULDER SECTION (ARTERIALS)



DETAIL OF TURNOUTS, ASPHALT STREETS, COUNTY ROADS & STATE HIGHWAYS CURB & GUTTER SECTION



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

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

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

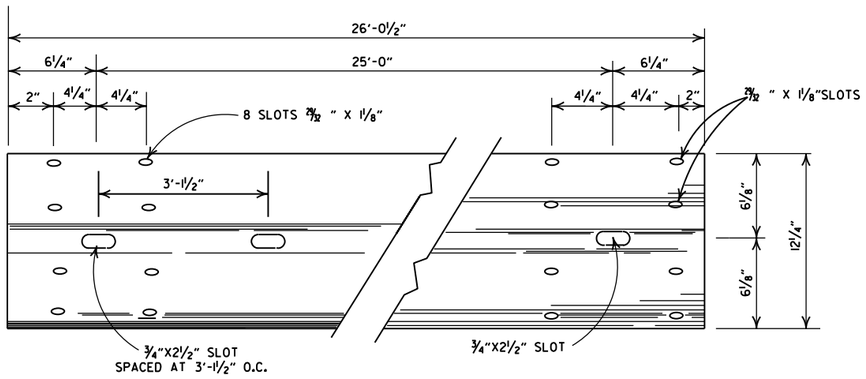
DETAIL FOR DRIVEWAY TURNOUTS (COLLECTORS)

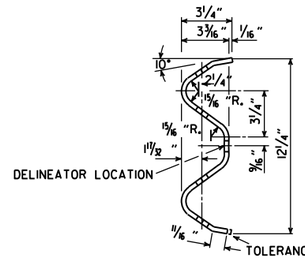
DATE REV	DATE FILMED	DESCRIPTION
5-19-22		ISSUED

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DRIVEWAYS & STREET TURNOUTS

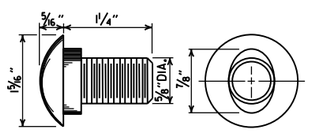
STANDARD DRAWING DR-2



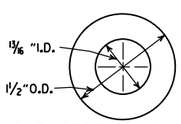


DETAILS OF W-BEAM GUARDRAIL

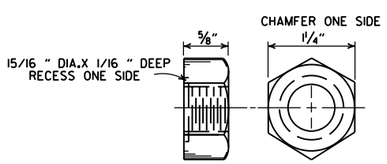
RAIL SECTION OF CLOSELY SIMILAR DIMENSIONS AND COMPARABLE STRENGTH MAY BE SUBSTITUTED IF APPROVED BY THE ENGINEER.



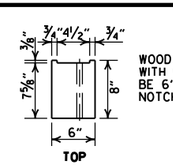
SPLICE BOLT
POST BOLT - SAME EXCEPT LENGTH



CUT STEEL WASHER

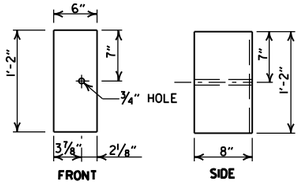


NUT

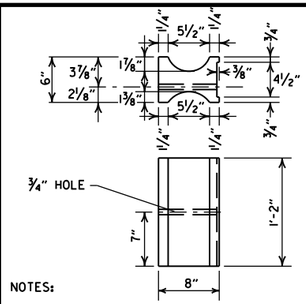


WOOD BLOCKOUT USED WITH WOOD POSTS SHALL BE 6"x8"x1'-2" WITH NO NOTCH REQUIRED.

TOP



WOOD BLOCKOUT (W-BEAM)

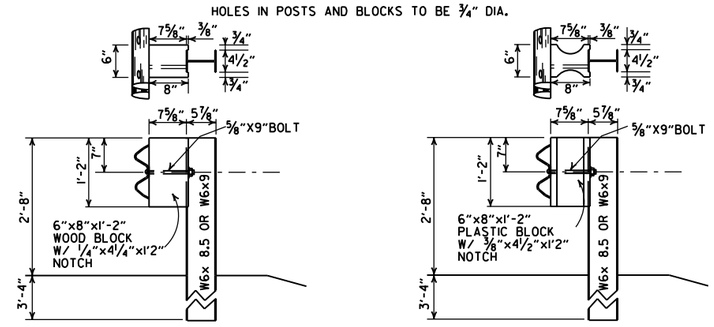


NOTES:

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)

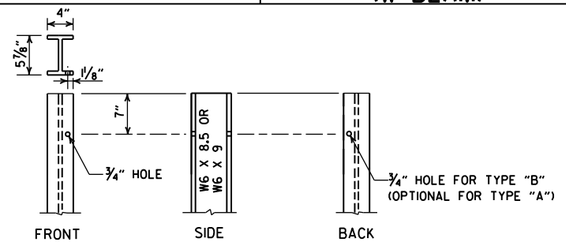
HOLES IN POSTS AND BLOCKS TO BE ¾" DIA.



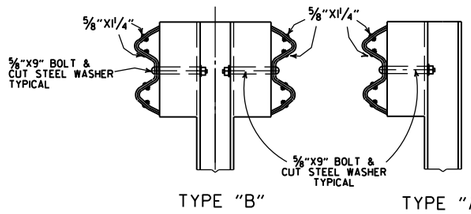
WOOD BLOCKOUT CONNECTIONS

PLASTIC BLOCKOUT CONNECTIONS

DETAILS OF STEEL LINE POST CONNECTIONS (W-BEAM)



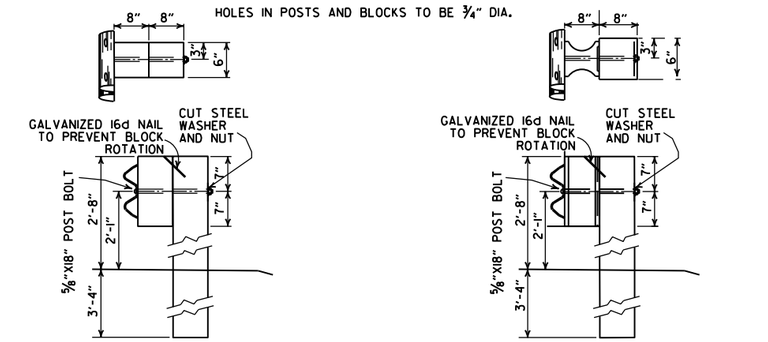
STEEL POST



TYPE "B" TYPE "A"

DETAILS OF STEEL LINE POST CONNECTIONS (W-BEAM)

HOLES IN POSTS AND BLOCKS TO BE ¾" DIA.



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)

-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 9.7f (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.

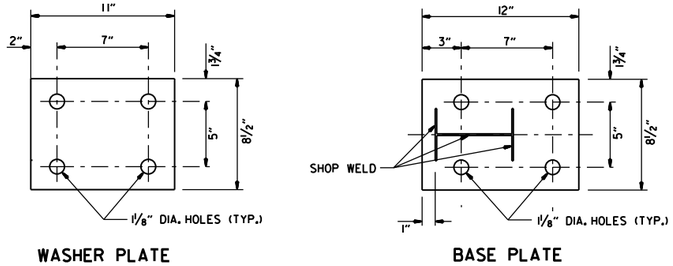
DELINEATORS SHALL BE MOUNTED AT 37.5' SPACING ON THE FRONT FACE OF THE GUARDRAIL. SPACING MAY BE REDUCED IN CURVES, AS DIRECTED BY THE ENGINEER. COLOR SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR DELINEATORS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID PER LIN.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

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

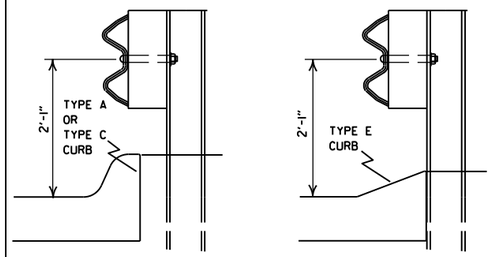
STANDARD DRAWING GR-6



WASHER PLATE

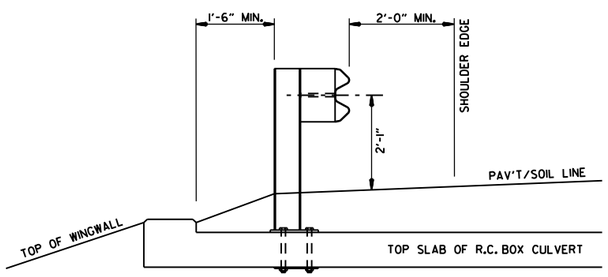
BASE PLATE

Note: Bolts, nuts, washers and plates shall be galvanized in accordance with Section 807 of the Standard Specifications.

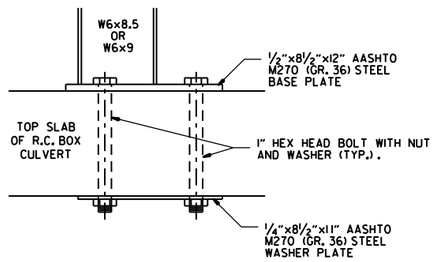


DETAIL OF GUARDRAIL PLACEMENT BEHIND CURB (W-BEAM)

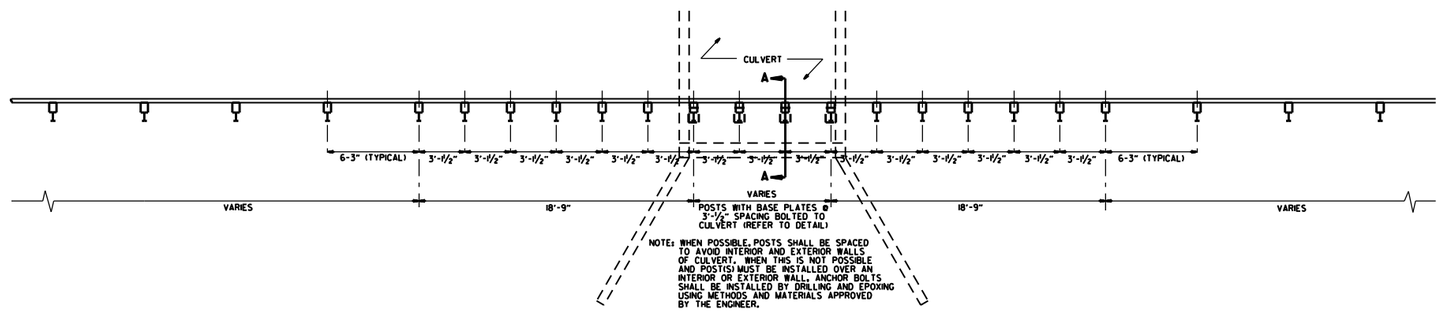
FOR DESIGN SPEEDS OF 50 MPH OR LESS ALL CURB FACES, AS SHOWN ON STD. DRWG. CG-1, MAY BE USED. FOR DESIGN SPEEDS OF 55 MPH OR MORE TYPE "E" CURB FACE SHALL BE USED.



SECTION A-A



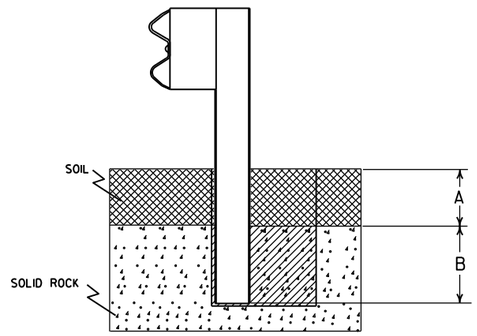
DETAIL OF CONNECTION



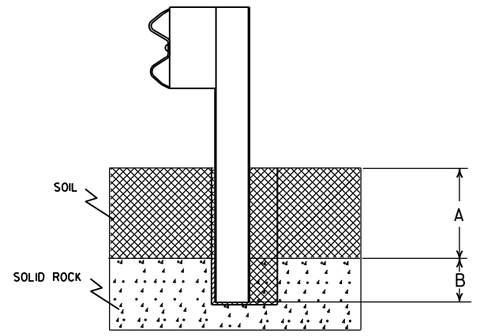
PLAN LAYOUT OF TYPE A GUARDRAIL AT LOW-FILL CULVERTS

NOTE: THIS DETAIL IS TO BE USED ONLY WHEN THE COVER OVER THE CULVERT DOES NOT PERMIT FULL EMBEDMENT OF GUARDRAIL POSTS AS SHOWN ON STD. DWG. GR-6.

Case 1

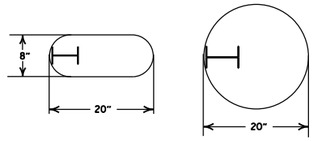


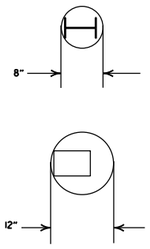
Case 2



Plan View Steel Posts

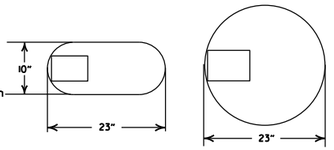
Either hole configuration acceptable





Plan View Wood Posts

Either hole configuration acceptable



Notes: For overlying soil depths (A) ranging from 0 to 18", the depth of required drilling (B) is equal to 24".

Zone A:
Backfill according to Section 617.03(a).

Zone B:
Backfill hole in 6" lifts with material meeting the requirements of Section 802.02(c) - Alternate gradation. Compact to 95% maximum dry density per ASTM D-698.

Notes: For overlying soil depths (A) ranging from 18" to 44", the depth of required drilling (B) is equal to either 12" or 44" minus the depth of soil whichever is less.

Zone A & B:
Backfill according to Section 617.03(a).

DETAIL OF POST PLACEMENT IN SOLID ROCK (W-BEAM)

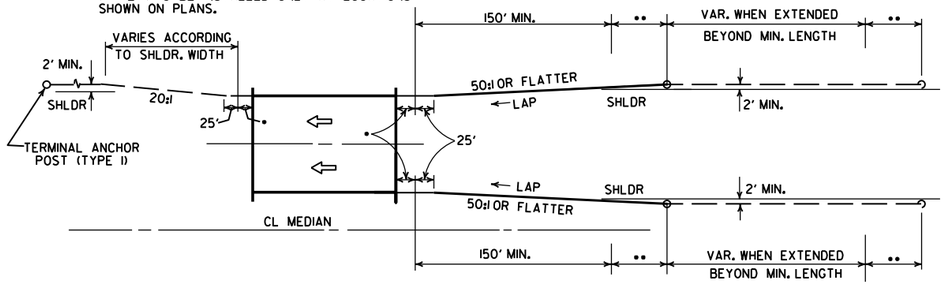
DATE	REVISION	FILMED
11-07-19	RENUMBERED, RENAMED, REVISED REFERENCE	
11-16-17	REVISED GUARDRAIL HEIGHT	
07-14-10	RAISED HEIGHT OF GUARDRAIL 1"	
04-12-07	REVISED DETAIL OF GUARDRAIL PLACEMENT BEHIND CURB	
11-10-05	ADDED GUARDRAIL PLACEMENT BEHIND CURB; REVISED DETAIL OF CONNECTION	
11-18-04	REVISED POST PLACEMENT IN ROCK & CULVERT CONNECTION DETAILS. ADDED DETAIL FOR GUARDRAIL PLACEMENT AT LOW-FILL CULVERTS	
03-30-00	REMOVED CONCRETE INSERT ANCHOR	
08-12-98	CHANGED STEEL SPACER BLOCK TO WOOD BLOCKOUT. ADDED DET. OF GUARDRAIL CONNECTION TO R.C. BOX CULV'T., DELETED DET. OF STEEL LINE POST CONN. & ADDED DET. OF GUARDRAIL PLACE. BEHIND CURB & DET. OF POSTPLACE. IN SOLID ROCK	
04-03-96	PLACED ARROWS AT CUT STEEL WASHERS	4-3-96
10-18-96	REV. ASTM REF. TO AASHTO	
11-22-95	ADDED OPTIONAL HOLES	
06-02-94	REVISED ALTERNATE POST SIZE	
08-05-93	REVISED STEEL POST SIZE	
10-01-92	REDRAWN & REVISED	10-1-92
08-02-90	DEL. WASHER ON ANCHOR ASSEMBLY	8-2-90
07-15-88	CONFORMED TO 1988 SPECS	
03-04-88	REVISED ANCHOR NOTE	
10-30-87	REVISED ANCHOR ASSEMBLY	712-10-30-87
10-30-87	REVISED PLACEMENT BEHIND CURB	547-10-30-87
10-09-87	REDRAWN & REVISED	803-10-9-87

ARKANSAS STATE HIGHWAY COMMISSION

GUARDRAIL DETAILS

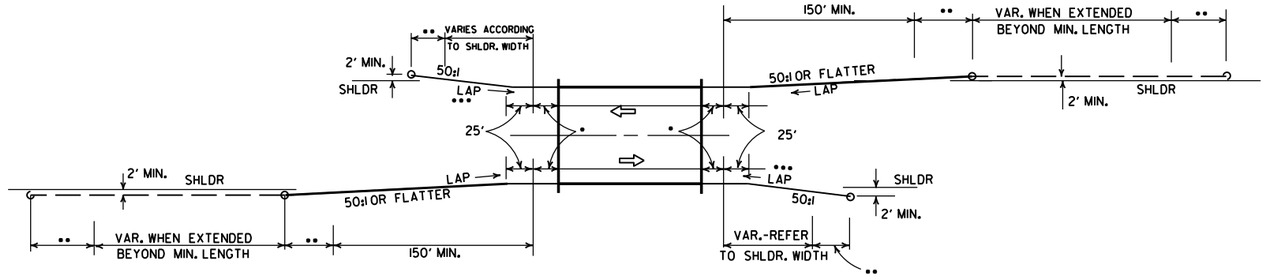
STANDARD DRAWING GR-7

NOTE: GUARDRAIL WITH GUARDRAIL TERMINAL (TYPE 1) TO BE INSTALLED ONLY AT LOCATIONS SHOWN ON PLANS.



ONE-WAY TRAFFIC

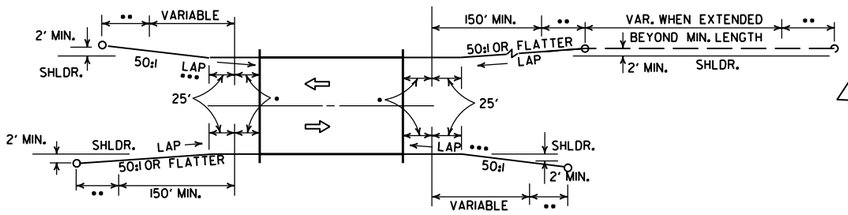
••• LAP OF GUARDRAIL SHALL BE AS SHOWN FOR A DISTANCE OF UP TO 200', CHANGE TO LAP IN DIRECTION OF TRAVEL.



TWO-WAY TRAFFIC

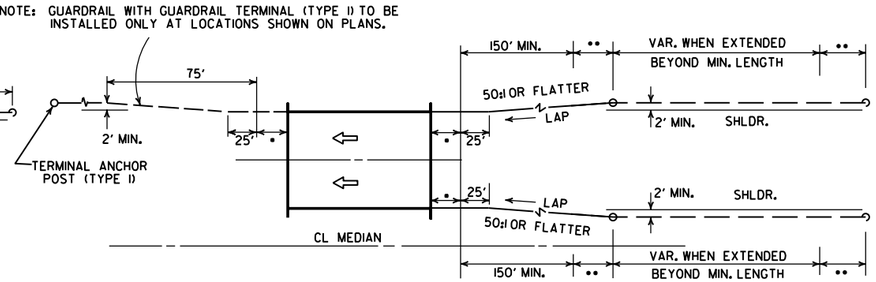
METHODS OF INSTALLATION OF GUARDRAIL AT LESS THAN FULL SHOULDER WIDTH BRIDGES USING GUARDRAIL TERMINAL (TYPE 2)

••• LAP OF GUARDRAIL SHALL BE AS SHOWN FOR A DISTANCE OF UP TO 200', CHANGE TO LAP IN DIRECTION OF TRAVEL.



TWO-WAY TRAFFIC

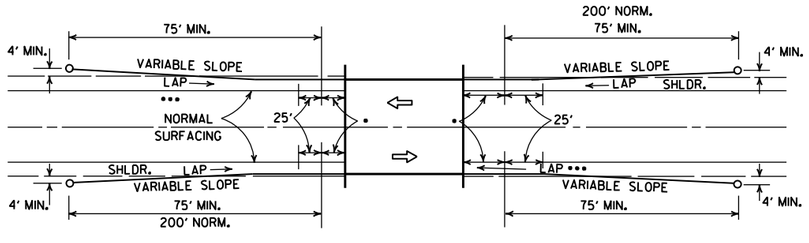
NOTE: GUARDRAIL WITH GUARDRAIL TERMINAL (TYPE 1) TO BE INSTALLED ONLY AT LOCATIONS SHOWN ON PLANS.



ONE-WAY TRAFFIC

METHOD OF INSTALLATION OF GUARDRAIL AT FULL SHOULDER WIDTH BRIDGES USING GUARDRAIL TERMINAL (TYPE 2)

••• LAP OF GUARDRAIL SHALL BE AS SHOWN FOR A DISTANCE OF UP TO 200', CHANGE TO LAP IN DIRECTION OF TRAVEL.



LEGEND

- • THRIE BEAM GUARDRAIL TERMINAL
- •• GUARDRAIL TERMINAL (TYPE 2)

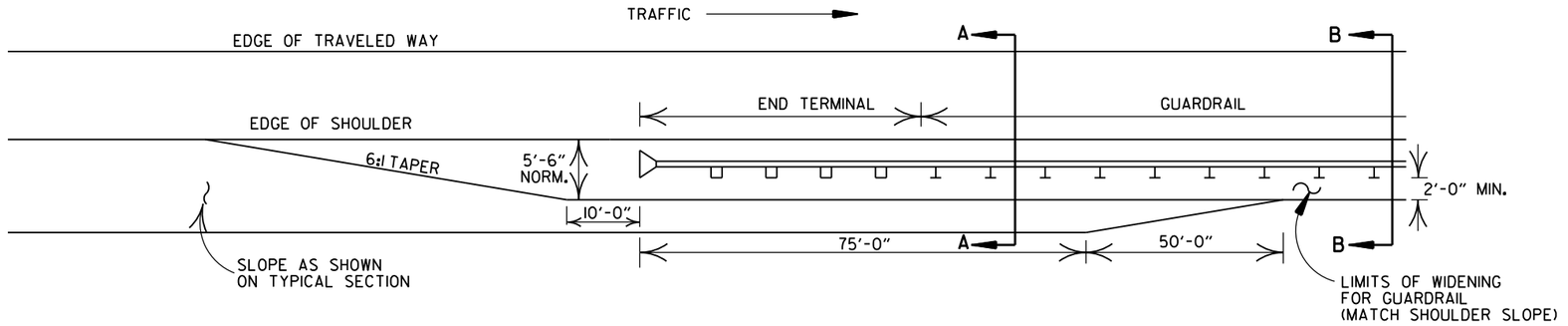
METHOD OF INSTALLATION OF GUARDRAIL USING GUARDRAIL TERMINAL (TYPE 1) (FULL SHOULDER WIDTH OR LESS BRIDGES)

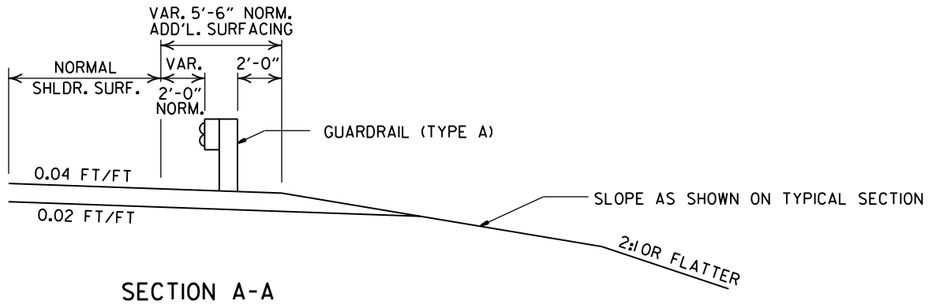
DATE	REVISION	DATE FILM
11-07-19	RENUMBERED AND RENAMED	
4-17-08	REVISED LAYOUTS	
11-10-05	REMOVED GUARDRAIL NOTES AND DETAILS	
11-16-01	DELETED NOTE-METHOD OF INSTALLATION OF GUARDRAIL USING GUARDRAIL TERM. (TY. 1)	
1-12-00	ADDED CONSTRUCTION NOTE	1-12-00
6-26-97	REVISED LAYOUT	
10-1-92	REDRAWN & REVISED	10-1-92
	ADDED NOTE	
10-9-87	REDRAWN & REVISED	

ARKANSAS STATE HIGHWAY COMMISSION

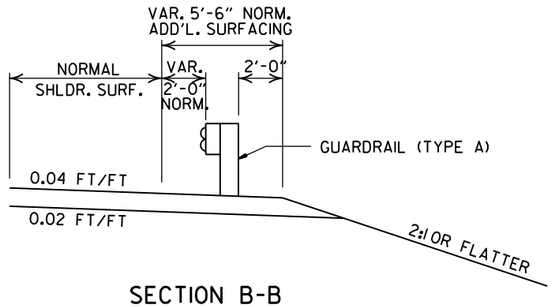
GUARDRAIL DETAILS

STANDARD DRAWING GR-8



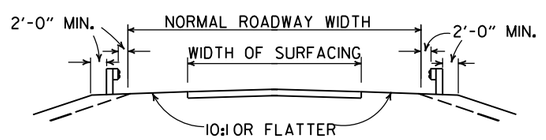


SECTION A-A

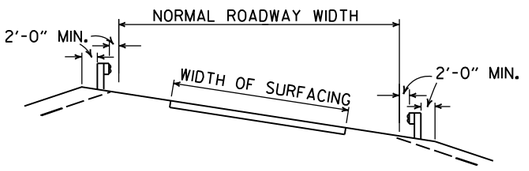


SECTION B-B

NOTE: NORMAL SECTION TO BE WIDENED APPROX. 5'-6" EACH SIDE TO SUPPORT GUARDRAIL.



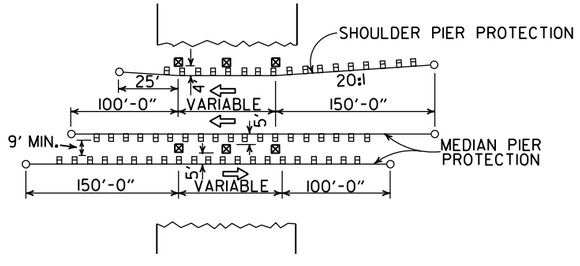
SECTION ON TANGENT



SECTION ON CURVE

DETAILS OF WIDENING FOR GUARDRAIL

DETAILS SHOWING POSITION OF GUARDRAIL ON HIGHWAY



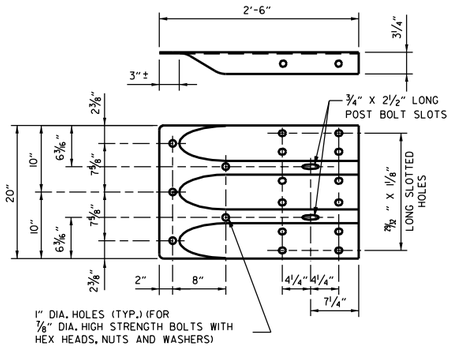
METHOD OF INSTALLATION OF GUARDRAIL AT FIXED OBSTACLE

DATE	REVISION	DATE FILM
11-07-19	RENUMBERED AND RENAMED	
4-17-08	MINOR REVISION	
11-10-05	DRAWN	

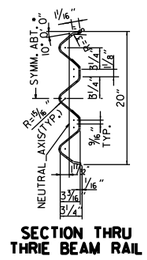
ARKANSAS STATE HIGHWAY COMMISSION

GUARDRAIL DETAILS

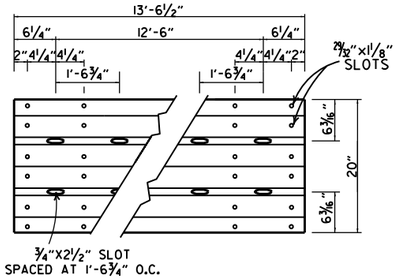
STANDARD DRAWING GR-9



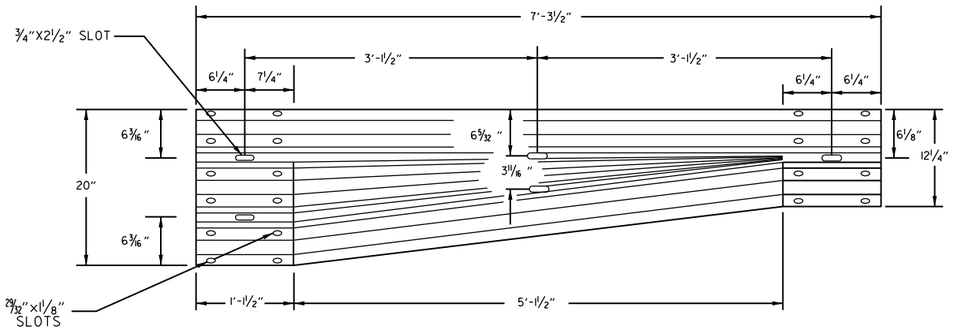
SPECIAL END SHOE



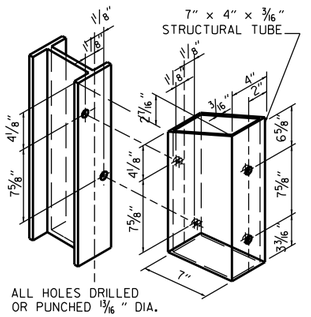
SECTION THRU THRIE BEAM RAIL



THRIE BEAM RAIL

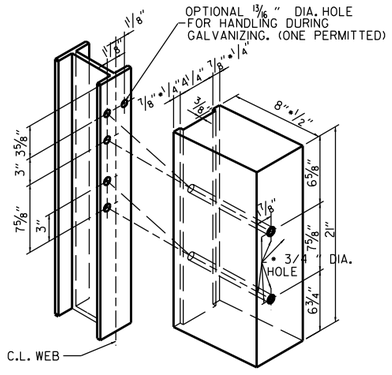


TRANSITION SECTION



ATTACH BLOCKOUT TO POST USING 5/8" DIA. HEX HEAD BOLTS WITH 1 1/2" O.D. CUT STEEL WASHERS AND NUT.

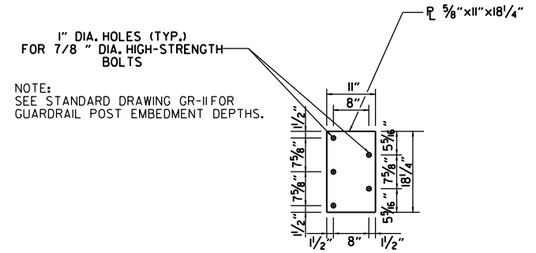
STRUCTURAL STEEL TUBING BLOCKOUT DETAIL



ALL HOLES 13/16" DIAMETER EXCEPT AS NOTED

HOLE PUNCHING DETAIL FOR STEEL POST & WOOD OR PLASTIC BLOCKOUTS

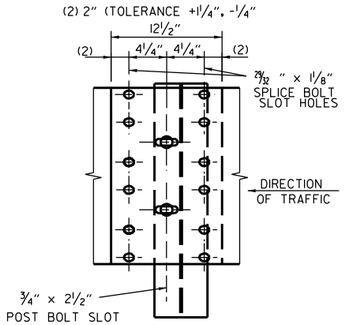
NOTE: BLOCKS SHALL BE THE SAME TYPE THROUGHOUT THE PROJECT LIMITS.



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 7/8" 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 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.

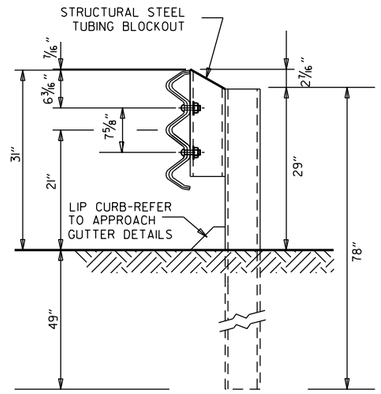
WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7 f (1400 f) OR NO. 1 1350 f SOUTHERN PINE.

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	

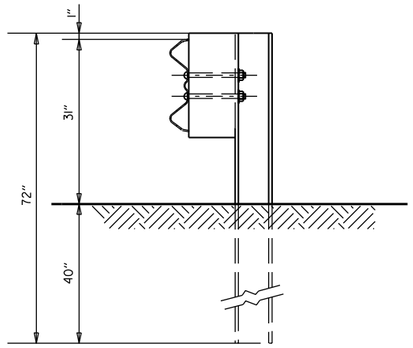
ARKANSAS STATE HIGHWAY COMMISSION

GUARDRAIL DETAILS

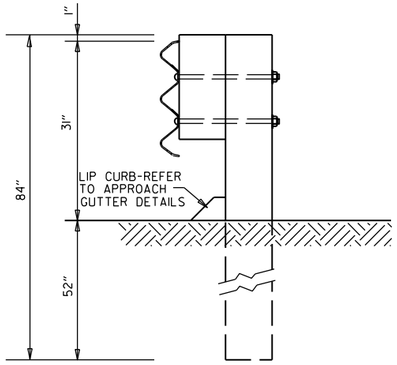
STANDARD DRAWING GR-10



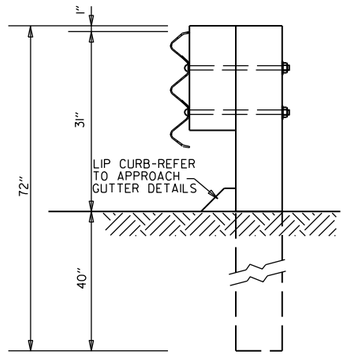
THRIE BEAM RAIL WITH STEEL TUBING BLOCKOUT
AND STEEL POST
POSTS 1-7



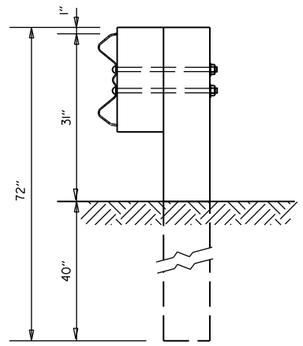
W-BEAM TO THRIE BEAM TRANSITION RAIL
WITH WOOD OR PLASTIC BLOCKOUT AND STEEL POST
POST 8



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.

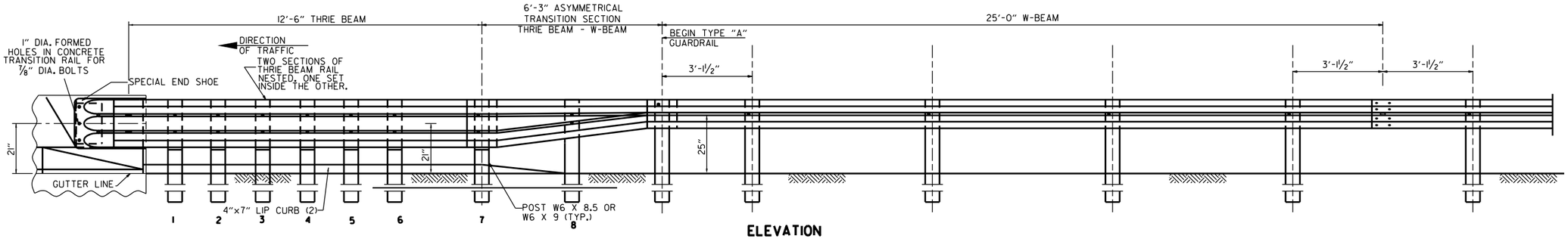
WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1STRUCTURAL OR BETTER 9.7f (1400 f) OR NO. 1 1350 f SOUTHERN PINE.

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	

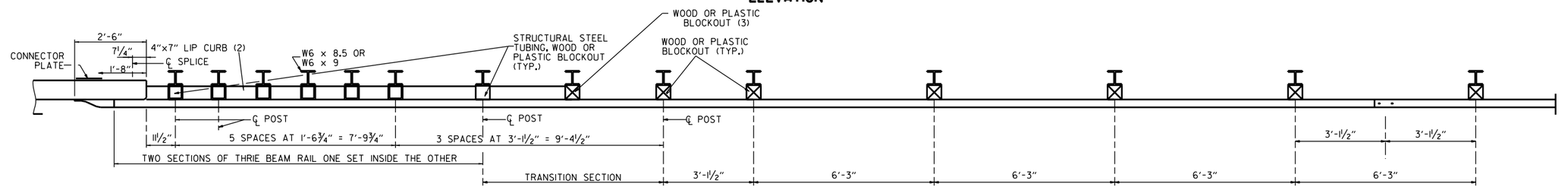
ARKANSAS STATE HIGHWAY COMMISSION

GUARDRAIL DETAILS

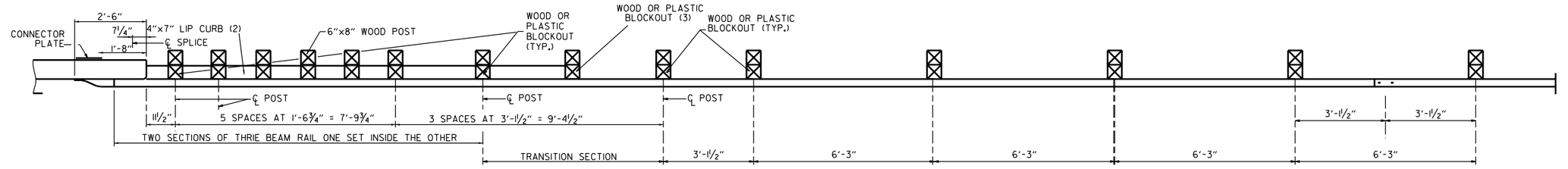
STANDARD DRAWING GR-11



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.

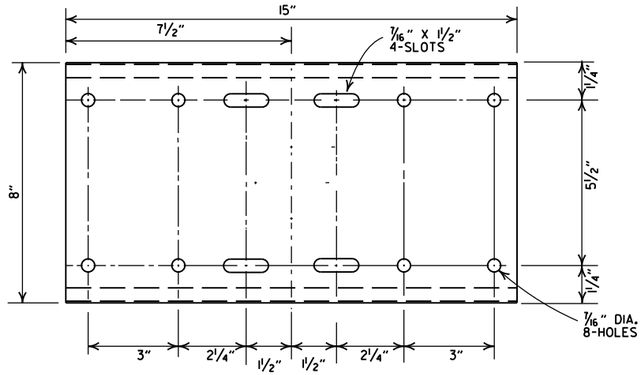
WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7f (1400 f) OR NO. 1 1350 f SOUTHERN PINE.

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	

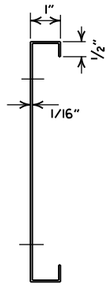
ARKANSAS STATE HIGHWAY COMMISSION

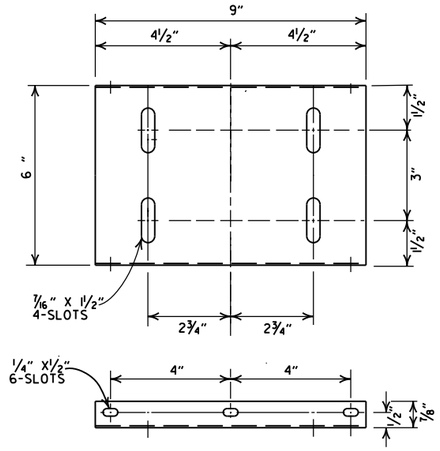
GUARDRAIL DETAILS

STANDARD DRAWING GR-12

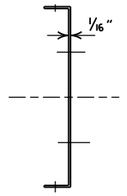


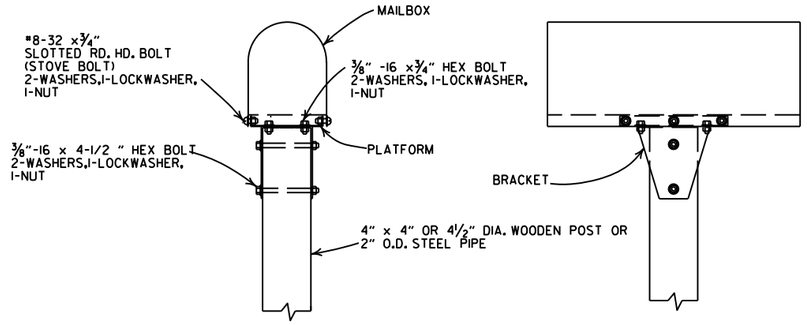
SHELF



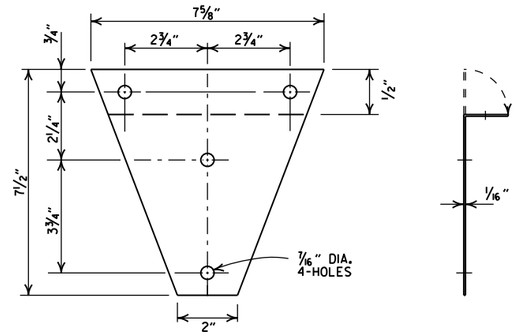


PLATFORM

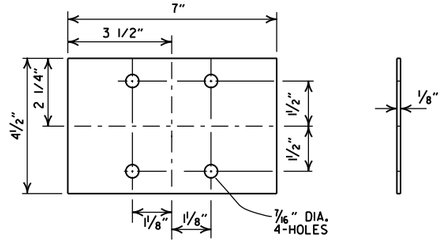




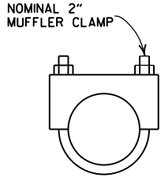
SINGLE INSTALLATION



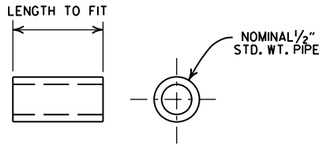
BRACKET



ANTI-TWIST PLATE



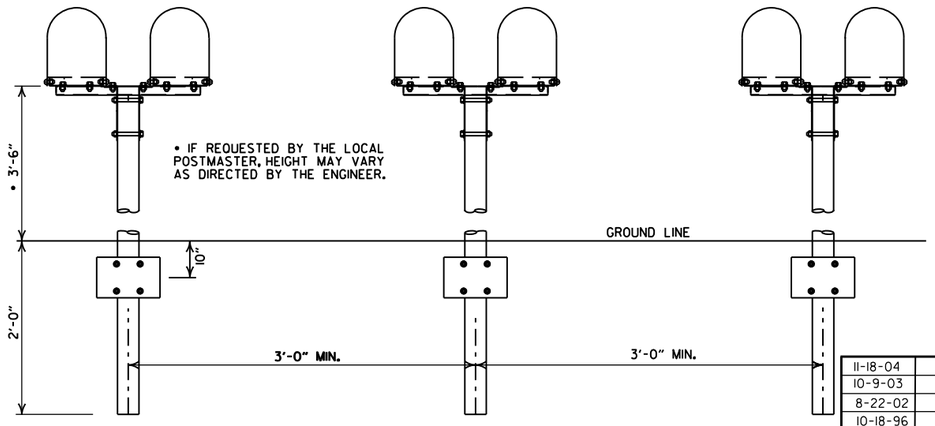
CLAMP



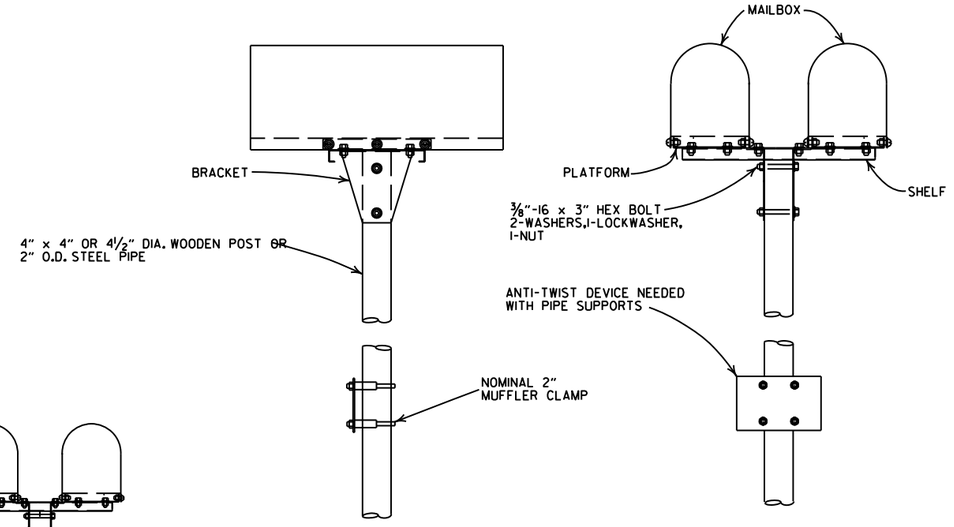
SPACER

GENERAL NOTES

1. MAILBOX POSTS MAY BE WOOD OR METAL. WOOD POSTS SHALL BE PRESSURE TREATED FOR GROUND CONTACT IN ACCORDANCE WITH SECTION 637.02 OF THE STANDARD SPECIFICATIONS.
2. ANTI-TWIST PLATES SHALL BE USED ONLY ON METAL POSTS.
3. MAILBOX SHELF, BRACKET & PLATFORM SHALL BE GALVANIZED OR PAINTED STEEL, HOWEVER TREATED WOOD MAY BE USED WITH WOODEN POSTS. THE WOODEN SHELF, BRACKET & PLATFORM SHALL BE A MINIMUM OF ¾" THICK AND SHALL BE ASSEMBLED WITH BOLTS OF THE APPROPRIATE LENGTH WITH SIX 8 X ¾" FLATHEAD WOOD SCREWS USED TO ATTACH THE MAILBOX TO THE PLATFORM.
4. THE MAILBOX SHELF AND PLATFORM THAT IS SHOWN IS FOR STANDARD SIZE MAILBOXES. THE SHELF AND PLATFORM SIZE SHALL BE MODIFIED TO FIT MAILBOXES OF A DIFFERENT SIZE.
5. METAL PIPE FOR MAILBOX SUPPORT SHALL BE 2" OUTSIDE DIAMETER STEEL WITH A WALL THICKNESS OF 0.145" AND A WEIGHT OF 2.72 LBS PER FT. OUTSIDE DIAMETER AND WEIGHT SHALL HAVE A TOLERANCE OF +/- 5% ACCORDING TO AASHTO M 181.
6. MAILBOX SUPPORT SYSTEM DIFFERING FROM THOSE SHOWN MAY BE USED, PROVIDED THEY ARE ON THE ARDOT QUALIFIED PRODUCTS LIST FOR MAILBOX SUPPORTS.



SPACING FOR MULTIPLE POST INSTALLATION



DOUBLE INSTALLATION

DATE	FILMED	REVISION
11-18-04		REVISED NOTES
10-9-03		REVISED NOTE 6
8-22-02		REVISED NOTE 6
10-18-96		CORRECTED AASHTO
10-1-92		CORRECTED SPELLING
9-26-91		NEW PHONE NUMBER
8-15-91		ADDED NOTE
11-30-89		ADJUSTED HEIGHT & ADDED NOTE
2-16-89		DELETED SLOTS FROM SHELF & PLTF
11-17-88	10-1-92	ADJUSTED DIMENSIONS OF STEEL POSTS
7-15-88	20-7-15-88	ISSUED

ARKANSAS STATE HIGHWAY COMMISSION

MAILBOX DETAILS

STANDARD DRAWING MB-1

REINFORCED CONCRETE ARCH PIPE DIMENSIONS

EQUIV. DIA.	SPAN		RISE	
	AASHTO M 206	ARDOT NOMINAL	AASHTO M 206	ARDOT NOMINAL
INCHES	INCHES			
15	18	18	11	11
18	22	22	13½	14
21	26	26	15½	16
24	28½	29	18	18
30	36¼	36	22½	23
36	43⅜	44	26⅝	27
42	51⅛	51	31⅝	31
48	58½	59	36	36
54	65	65	40	40
60	73	73	45	45
72	88	88	54	54
84	102	102	62	62
90	115	115	72	72
96	122	122	77½	77
108	138	138	87⅛	87
120	154	154	96⅞	97
132	168¾	169	106½	107

THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PERCENT FROM THE VALUES SPECIFIED BY AASHTO M206.

REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE DIMENSIONS

EQUIV. DIA.	AASHTO M 207	
	SPAN	RISE
INCHES	INCHES	
18	23	14
24	30	19
27	34	22
30	38	24
33	42	27
36	45	29
39	49	32
42	53	34
48	60	38
54	68	43
60	76	48
66	83	53
72	91	58
78	98	63
84	106	68

THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PERCENT FROM THE VALUES SPECIFIED BY AASHTO M207.

CONSTRUCTION SEQUENCE

1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. PLACE AND COMPACT THE HAUNCH AREA UP TO THE MIDDLE OF THE PIPE.
5. COMPLETE BACKFILL ACCORDING TO SUBSECTION 606.03.(f)(1).

NOTE: HAUNCH AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF CONCRETE PIPE.

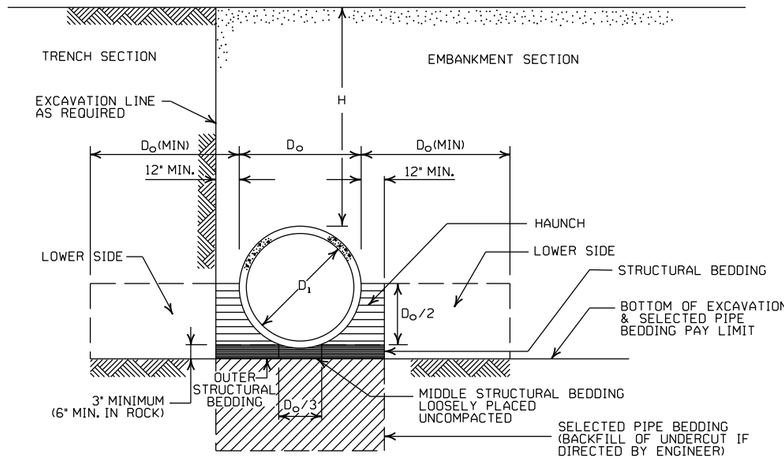
- LEGEND -

D_i = NORMAL INSIDE DIAMETER OF PIPE
D_o = OUTSIDE DIAMETER OF PIPE
H = FILL COVER HEIGHT OVER PIPE (FEET)
MIN. = MINIMUM
= UNDISTURBED SOIL

INSTALLATION TYPE	MATERIAL REQUIREMENTS FOR HAUNCH AND STRUCTURAL BEDDING
TYPE 1	AGGREGATE BASE COURSE (CLASS 5 OR CLASS 7)
TYPE 2	SELECTED MATERIALS (CLASS SM-1, SM-2, OR SM-4) OR TYPE 1 INSTALLATION MATERIAL*
TYPE 3**	AASHTO CLASSIFICATION A-1 THRU A-6 SOIL OR TYPE 1 OR 2 INSTALLATION MATERIAL

* SM-3 WILL NOT BE ALLOWED.

** MATERIALS SHALL NOT INCLUDE ORGANIC MATERIALS OR STONES LARGER THAN 3 INCHES.



EMBANKMENT AND TRENCH INSTALLATIONS

1. MATERIAL IN THE HAUNCH AND OUTER STRUCTURAL BEDDING SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.
2. FOR TRENCHES WITH WALLS OF NATURAL SOIL, THE DENSITY OF THE SOIL IN THE LOWER SIDE ZONE SHALL BE AS FIRM AS THE 95% DENSITY REQUIRED FOR THE HAUNCH. IF THE EXISTING SOIL DOES NOT MEET THIS CRITERIA, IT SHALL BE REMOVED AND RECOMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OF MATERIAL USED.
3. FOR EMBANKMENTS, THE MATERIAL IN THE LOWER SIDE ZONE SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.

GENERAL NOTES

1. CONCRETE PIPE CULVERT CONSTRUCTION SHALL CONFORM TO ARKANSAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION), WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS. UNLESS OTHERWISE NOTED IN THE PLANS, SECTION AND SUBSECTION REFER TO THE STANDARD CONSTRUCTION SPECIFICATIONS.
2. CONCRETE PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. ALL PIPE SHALL CONFORM TO SECTION 606. CIRCULAR R.C. PIPE CULVERTS SHALL CONFORM TO AASHTO M170, R.C. ARCH PIPE CULVERTS SHALL CONFORM TO AASHTO M206 AND HORIZONTAL ELLIPTICAL PIPE CULVERTS SHALL CONFORM TO AASHTO M207.
4. ALL PIPE SHALL BE PROTECTED DURING CONSTRUCTION BY A COVER SUFFICIENT TO PREVENT DAMAGE FROM PASSAGE OF EQUIPMENT.
5. THE MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 24 INCHES. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PRACTICABLE FOR WORKING CONDITIONS.
6. MULTIPLE PIPE CULVERTS SHALL BE INSTALLED WITH A MINIMUM CLEARANCE OF 24 INCHES BETWEEN STRINGS OF PIPE. REFER TO STD. DWG. FES-2 FOR MINIMUM CLEARANCE WHERE FLARED END SECTIONS ARE USED.
7. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
8. NOT MORE THAN ONE LIFTING HOLE MAY BE PROVIDED IN CONCRETE PIPE TO FACILITATE HANDLING. HOLE MAY BE CAST IN PLACE, CUT INTO THE FRESH CONCRETE AFTER FORMS ARE REMOVED, OR DRILLED. THE HOLE SHALL NOT BE MORE THAN TWO INCHES IN DIAMETER OR TWO INCHES SQUARE. CUTTING OR DISPLACEMENT OF REINFORCEMENT WILL NOT BE PERMITTED. SPALLED AREAS AROUND THE HOLE SHALL BE REPAIRED IN A WORKMANLIKE MANNER. LIFTING HOLE SHALL BE FILLED WITH MORTAR, CONCRETE, OR OTHER METHOD AS APPROVED BY THE ENGINEER.
9. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
10. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS THE HAUNCH), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."

MINIMUM HEIGHT OF FILL "H" OVER CIRCULAR R.C. PIPE CULVERTS

	CLASS OF PIPE			
	CLASS III		CLASS IV	CLASS V
INSTALLATION TYPE	TYPE 1 OR 2	TYPE 3	ALL	ALL
PIPE ID (IN.)	FEET			
12-15	2	2.5	2	1
18-24	2.5	3	2	1
27-33	3	4	2	1
36-42	3.5	5	2	1
48	4.5	5.5	2	1
54-60	5	7	2	1
66-78	6	8	2	1
84-108	7.5	8	2	1

NOTE: FOR MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM OF 12" OF PAVEMENT AND/OR BASE.

MAXIMUM HEIGHT OF FILL "H" OVER CIRCULAR R.C. PIPE CULVERTS

INSTALLATION TYPE	CLASS OF PIPE		
	CLASS III	CLASS IV	CLASS V
	FEET		
TYPE 1	21	32	50
TYPE 2	16	25	39
TYPE 3	12	20	30

NOTE: IF FILL HEIGHT EXCEEDS 50 FEET, A SPECIAL DESIGN CONCRETE PIPE WILL BE REQUIRED USING TYPE 1 INSTALLATION.

MINIMUM HEIGHT OF FILL "H" OVER R.C. ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS

INSTALLATION TYPE	CLASS OF PIPE	
	CLASS III	CLASS IV
	FEET	
TYPE 2 OR TYPE 3	2.5	1.5

NOTE: TYPE 1 INSTALLATION WILL NOT BE ALLOWED FOR ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS.

NOTE: FOR MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM OF 12" OF PAVEMENT AND/OR BASE.

MAXIMUM HEIGHT OF FILL "H" OVER R.C. ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS

INSTALLATION TYPE	CLASS OF PIPE	
	CLASS III	CLASS IV
	FEET	
TYPE 2	13	21
TYPE 3	10	16

NOTE: TYPE 1 INSTALLATION WILL NOT BE ALLOWED FOR ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS.

DATE	REVISION	DATE FILMED
2-27-14	REVISED GENERAL NOTE 1.	
12-15-11	REVISED FOR LRFD DESIGN SPECIFICATIONS	
5-18-00	REVISED TYPE 3 BEDDING & ADDED NOTE	
3-30-00	REVISED INSTALLATIONS	
11-06-97	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING

STANDARD DRAWING PCC-1

INSTALLATION TYPE	•• MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING
TYPE 2	•SELECTED MATERIALS (CLASS SM-1, SM-2 OR SM-4)

• AGGREGATE BASE COURSE (CLASS 4, 5, 6, OR 7) MAY BE USED IN LIEU OF SELECTED MATERIAL.

SM3 WILL NOT BE ALLOWED.

•• STRUCTURAL BEDDING MATERIAL SHALL HAVE A MAXIMUM PARTICLE SIZE OF 1 INCH. STRUCTURAL BACKFILL MATERIAL SHALL BE FREE OF ORGANIC MATERIAL, STONES LARGER THAN 1.50 INCH IN GREATEST DIMENSION, OR FROZEN LUMPS.

STRUCTURAL BACKFILL AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF HDPE PIPE.

MULTIPLE INSTALLATION OF HIGH DENSITY POLYETHYLENE PIPES

PIPE DIAMETER	CLEAR DISTANCE BETWEEN PIPES
18"	1'-6"
24"	2'-0"
30"	2'-6"
36"	3'-0"
42"	3'-6"
48"	4'-0"

MINIMUM TRENCH WIDTH BASED ON FILL HEIGHT "H"

PIPE DIAMETER	TRENCH WIDTH (FEET)	
	"H" < 10'-0"	"H" >OR= 10'-0"
18"	4'-6"	4'-6"
24"	5'-0"	6'-0"
30"	5'-6"	7'-6"
36"	6'-0"	9'-0"
42"	7'-0"	10'-6"
48"	8'-0"	12'-0"

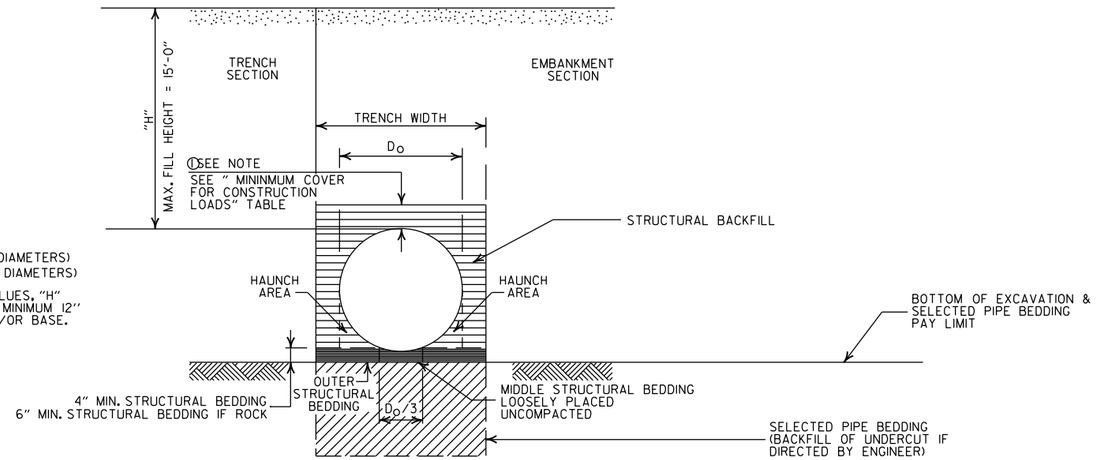
①NOTE:
18" MIN. (18" - 30" DIAMETERS)
24" MIN. (36" - 48" DIAMETERS)

MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM 12" OF PAVEMENT AND/OR BASE.

MINIMUM COVER FOR CONSTRUCTION LOADS

PIPE DIAMETER	② MIN. COVER (FEET) FOR INDICATED CONSTRUCTION LOADS			
	18.0-50.0 (KIPS)	50.0-75.0 (KIPS)	75.0-110.0 (KIPS)	110.0-175.0 (KIPS)
36" OR LESS	2'-0"	2'-6"	3'-0"	3'-0"
42" OR GREATER	3'-0"	3'-0"	3'-6"	4'-0"

②MINIMUM COVER SHALL BE MEASURED FROM TOP OF PIPE TO TOP OF THE MAINTAINED CONSTRUCTION ROADWAY SURFACE. THE SURFACE SHALL BE MAINTAINED.



TYPE 2 EMBANKMENT AND TRENCH INSTALLATIONS

1. STRUCTURAL BACKFILL, EMBANKMENT, AND OUTER STRUCTURAL BEDDING MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.

CONSTRUCTION SEQUENCE

1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. THE STRUCTURAL BACKFILL SHALL BE PLACED AND COMPACTED IN LAYERS NOT EXCEEDING 8". THE LAYERS SHALL BE BROUGHT UP EVENLY AND SIMULTANEOUSLY TO THE ELEVATION OF THE MINIMUM COVER.
5. PIPE INSTALLATION MAY REQUIRE THE USE OF RESTRAINTS, WEIGHTING OR OTHER APPROVED METHODS IN ORDER TO HELP MAINTAIN GRADE AND ALIGNMENT.

GENERAL NOTES

1. PIPE SHALL CONFORM TO AASHTO M294, TYPE S. INSTALLATION SHALL CONFORM TO JOB SPECIAL PROVISION "PLASTIC PIPE" AND SECTION 606 OF THE STANDARD SPECIFICIATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION).
2. PLASTIC PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PLUS A SUFFICIENT WIDTH TO ENSURE WORKING ROOM TO PROPERLY AND SAFELY PLACE AND COMPACT HAUNCHING AND OTHER BACKFILL MATERIAL.
4. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
5. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
6. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS STRUCTURAL BACKFILL), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."
7. FOR PIPE TYPES THAT ARE NOT SMOOTH ON THE OUTSIDE (CORRUGATED OR PROFILE WALLS), BACKFILL GRADATIONS SHOULD BE SELECTED THAT WILL PERMIT THE FILLING OF THE CORRUGATION OR PROFILE VALLEY.
8. HIGH DENSITY POLYETHYLENE PIPES OF DIAMETERS OTHER THAN SHOWN WILL NOT BE ALLOWED.
9. JOINTS FOR HDPE PIPE SHALL MEET THE REQUIREMENTS FOR SOIL TIGHTNESS AS SPECIFIED IN AASHTO SECTION 26.4.2.4 AND 30.4.2 "AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS." JOINTS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

- LEGEND -

H = FILL HEIGHT (FT.)
D_O = OUTSIDE DIAMETER OF PIPE
MAX. = MAXIMUM
MIN. = MINIMUM

= STRUCTURAL BACKFILL MATERIAL

= UNDISTURBED SOIL

DATE	REVISION	DATE FILMED
2-27-14	REVISED GENERAL NOTE 1.	
12-15-11	REVISED GENERAL NOTES & MINIMUM COVER NOTE	
11-17-10	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

PLASTIC PIPE CULVERT (HIGH DENSITY POLYETHYLENE)

STANDARD DRAWING PCP-1

INSTALLATION TYPE	•• MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING
TYPE 2	•SELECTED MATERIALS (CLASS SM-1, SM-2, OR SM-4)

• AGGREGATE BASE COURSE (CLASS 4, 5, 6, OR 7) MAY BE USED IN LIEU OF SELECTED MATERIAL.

SM3 WILL NOT BE ALLOWED.

•• STRUCTURAL BEDDING MATERIAL SHALL HAVE A MAXIMUM PARTICLE SIZE OF 1 INCH. STRUCTURAL BACKFILL MATERIAL SHALL BE FREE OF ORGANIC MATERIAL, STONES LARGER THAN 1.50 INCH IN GREATEST DIMENSION, OR FROZEN LUMPS.

STRUCTURAL BACKFILL AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF PVC PIPE.

MINIMUM TRENCH WIDTH BASED ON FILL HEIGHT "H"

PIPE DIAMETER	TRENCH WIDTH (FEET)	
	"H" < 10'-0"	"H" >OR= 10'-0"
18"	4'-6"	4'-6"
24"	5'-0"	6'-0"
30"	5'-6"	7'-6"
36"	6'-0"	9'-0"

MULTIPLE INSTALLATION OF PVC PIPES

PIPE DIAMETER	CLEAR DISTANCE BETWEEN PIPES
18"	1'-6"
24"	2'-0"
30"	2'-6"
36"	3'-0"

MAXIMUM FILL HEIGHT BASED ON STRUCTURAL BACKFILL

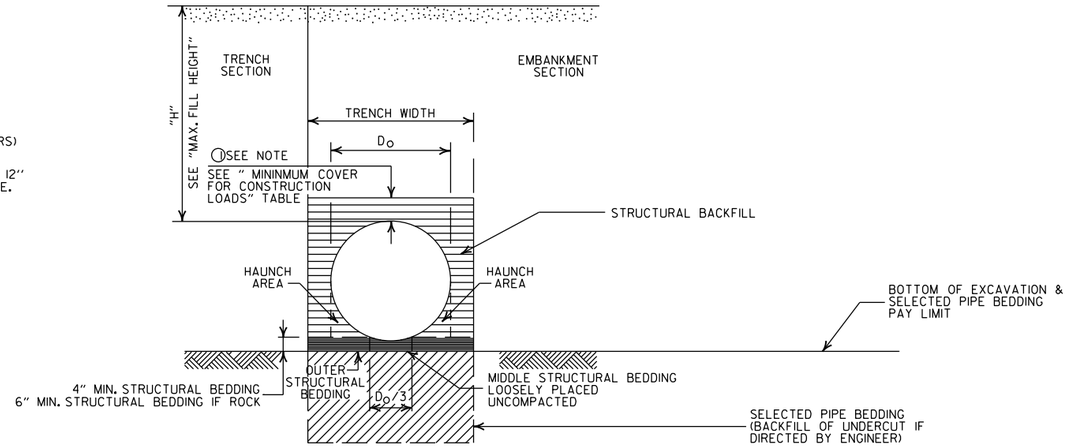
PIPE DIAMETER	"H"
18"	45'-0"
24"	45'-0"
30"	40'-0"
36"	40'-0"

① NOTE:
12" MIN. (18" - 36" DIAMETERS)
MINIMUM COVER VALUE, "H" SHALL INCLUDE A MINIMUM 12" OF PAVEMENT AND/OR BASE.

MINIMUM COVER FOR CONSTRUCTION LOADS

PIPE DIAMETER	② MIN. COVER (FEET) FOR INDICATED CONSTRUCTION LOADS			
	18.0-50.0 (KIPS)	50.0-75.0 (KIPS)	75.0-110.0 (KIPS)	110.0-175.0 (KIPS)
18" THRU 36"	2'-0"	2'-6"	3'-0"	3'-0"

②MINIMUM COVER SHALL BE MEASURED FROM TOP OF PIPE TO TOP OF THE MAINTAINED CONSTRUCTION ROADWAY SURFACE. THE SURFACE SHALL BE MAINTAINED.



TYPE 2 EMBANKMENT AND TRENCH INSTALLATIONS

1. STRUCTURAL BACKFILL, EMBANKMENT, AND OUTER STRUCTURAL BEDDING MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.

CONSTRUCTION SEQUENCE

1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. THE STRUCTURAL BACKFILL SHALL BE PLACED AND COMPACTED IN LAYERS NOT EXCEEDING 8". THE LAYERS SHALL BE BROUGHT UP EVENLY AND SIMULTANEOUSLY TO THE ELEVATION OF THE MINIMUM COVER.
5. PIPE INSTALLATION MAY REQUIRE THE USE OF RESTRAINTS, WEIGHTING OR OTHER APPROVED METHODS IN ORDER TO HELP MAINTAIN GRADE AND ALIGNMENT.

GENERAL NOTES

1. PIPE SHALL CONFORM TO ASTM F949, CELL CLASS 12454. INSTALLATION SHALL CONFORM TO JOB SPECIAL PROVISION "PLASTIC PIPE" AND SECTION 606 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION).
2. PLASTIC PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PLUS A SUFFICIENT WIDTH TO ENSURE WORKING ROOM TO PROPERLY AND SAFELY PLACE AND COMPACT HAUNCHING AND OTHER BACKFILL MATERIAL.
4. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
5. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
6. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS STRUCTURAL BACKFILL), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."
7. FOR PIPE TYPES THAT ARE NOT SMOOTH ON THE OUTSIDE (CORRUGATED OR PROFILE WALLS), BACKFILL GRADATIONS SHOULD BE SELECTED THAT WILL PERMIT THE FILLING OF THE CORRUGATION OR PROFILE VALLEY.
8. PVC PIPES OF DIAMETERS OTHER THAN SHOWN WILL NOT BE ALLOWED.
9. JOINTS FOR PVC PIPE SHALL MEET THE REQUIREMENTS FOR SOIL TIGHTNESS AS SPECIFIED IN AASHTO SECTION 26.4.2.4 AND 30.4.2 "AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS." JOINTS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

- LEGEND -

H = FILL HEIGHT (FT.)
D_O = OUTSIDE DIAMETER OF PIPE
MAX. = MAXIMUM
MIN. = MINIMUM

= STRUCTURAL BACKFILL MATERIAL

= UNDISTURBED SOIL

DATE	REVISION	DATE FILMED
2-27-14	REVISED GENERAL NOTE 1.	
12-15-11	REV GENERAL NOTES & MINIMUM COVER NOTE; DELETED SM3 MATERIAL	
11-17-10	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

PLASTIC PIPE CULVERT (PVC F949)

STANDARD DRAWING PCP-2

INSTALLATION TYPE	**MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING
TYPE 1	AGGREGATE BASE COURSE (CLASS 4, 5, 6, OR 7)
TYPE 2	*SELECTED MATERIALS (CLASS SM-1, SM-2 OR SM-4) OR TYPE 1 INSTALLATION MATERIAL

*SM3 WILL NOT BE ALLOWED.

** STRUCTURAL BEDDING MATERIAL SHALL HAVE A MAXIMUM PARTICLE SIZE OF 1INCH. STRUCTURAL BACKFILL MATERIAL SHALL BE FREE OF ORGANIC MATERIAL, STONES LARGER THAN 1.50 INCH IN GREATEST DIMENSION, OR FROZEN LUMPS.

STRUCTURAL BACKFILL AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF POLYPROPYLENE PIPE.

MULTIPLE INSTALLATION OF POLYPROPYLENE PIPES

PIPE DIAMETER	CLEAR DISTANCE BETWEEN PIPES
18"	1'-6"
24"	2'-0"
30"	2'-6"
36"	3'-0"
42"	3'-6"
48"	4'-0"
60"	5'-0"

MINIMUM TRENCH WIDTH BASED ON FILL HEIGHT "H"

PIPE DIAMETER	TRENCH WIDTH (FEET)	
	"H" < 10'-0"	"H" >OR= 10'-0"
18"	4'-6"	4'-6"
24"	5'-0"	6'-0"
30"	5'-6"	7'-6"
36"	6'-0"	9'-0"
42"	7'-0"	10'-6"
48"	8'-0"	12'-0"
60"	10'-0"	15'-0"

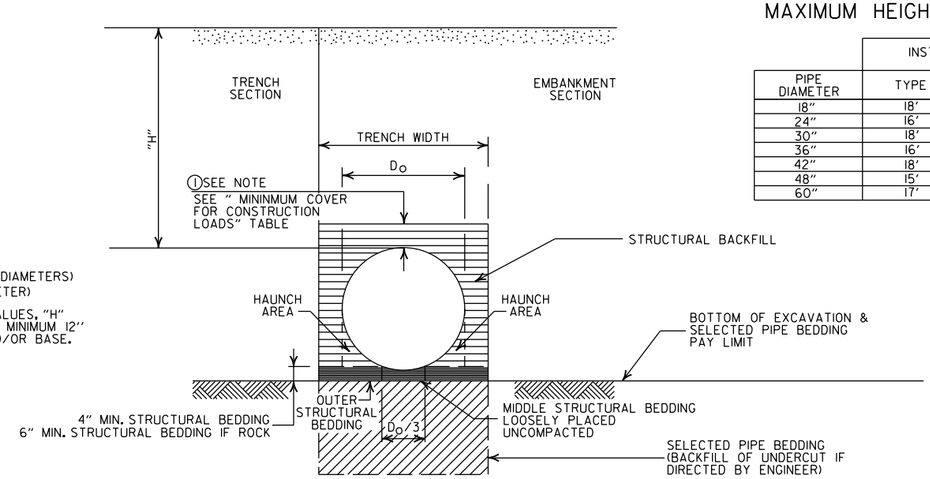
①NOTE:
12" MIN. (18" - 42" DIAMETERS)
24" MIN. (60" DIAMETER)

MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM 12" OF PAVEMENT AND/OR BASE.

MINIMUM COVER FOR CONSTRUCTION LOADS

PIPE DIAMETER	② MIN. COVER (FEET) FOR INDICATED CONSTRUCTION LOADS			
	18.0-50.0 (KIPS)	50.0-75.0 (KIPS)	75.0-110.0 (KIPS)	110.0-150.0 (KIPS)
36" OR LESS	2'-0"	2'-6"	3'-0"	3'-0"
42" OR GREATER	3'-0"	3'-0"	3'-6"	4'-0"

②MINIMUM COVER SHALL BE MEASURED FROM TOP OF PIPE TO TOP OF THE MAINTAINED CONSTRUCTION ROADWAY SURFACE. THE SURFACE SHALL BE MAINTAINED.



MAXIMUM HEIGHT OF FILL "H"

PIPE DIAMETER	INSTALLATION TYPE	
	TYPE 1	TYPE 2
18"	18'	14'
24"	16'	12'
30"	18'	14'
36"	16'	12'
42"	18'	13'
48"	15'	11'
60"	17'	12'

EMBANKMENT AND TRENCH INSTALLATIONS

1. STRUCTURAL BACKFILL, EMBANKMENT, AND OUTER STRUCTURAL BEDDING MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.

CONSTRUCTION SEQUENCE

1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. THE STRUCTURAL BACKFILL SHALL BE PLACED AND COMPACTED IN LAYERS NOT EXCEEDING 8". THE LAYERS SHALL BE BROUGHT UP EVENLY AND SIMULTANEOUSLY TO THE ELEVATION OF THE MINIMUM COVER.
5. PIPE INSTALLATION MAY REQUIRE THE USE OF RESTRAINTS, WEIGHTING OR OTHER APPROVED METHODS IN ORDER TO HELP MAINTAIN GRADE AND ALIGNMENT.

GENERAL NOTES

1. PIPE SHALL CONFORM TO AASHTO M330, TYPE S, INSTALLATION SHALL CONFORM TO JOB SPECIAL PROVISION "PLASTIC PIPE" AND SECTION 606 OF THE STANDARD SPECIFICIATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION).
2. PLASTIC PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SIXTH EDITION (2012) WITH 2013 INTERIMS.
3. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PLUS A SUFFICIENT WIDTH TO ENSURE WORKING ROOM TO PROPERLY AND SAFELY PLACE AND COMPACT HAUNCHING AND OTHER BACKFILL MATERIAL.
4. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
5. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
6. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS STRUCTURAL BACKFILL), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."
7. FOR PIPE TYPES THAT ARE NOT SMOOTH ON THE OUTSIDE (CORRUGATED OR PROFILE WALLS), BACKFILL GRADATIONS SHOULD BE SELECTED THAT WILL PERMIT THE FILLING OF THE CORRUGATION OR PROFILE VALLEY.
8. POLYPROPYLENE PIPES OF DIAMETERS OTHER THAN SHOWN WILL NOT BE ALLOWED.
9. JOINTS FOR POLYPROPYLENE PIPE SHALL MEET THE REQUIREMENTS FOR SOIL TIGHTNESS AS SPECIFIED IN SECTION 26.4.2.4 AND 30.4.2 OF THE AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS 3RD EDITION (2010) WITH 2012 INTERIMS. JOINTS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

- LEGEND -

H = FILL HEIGHT (FT.)
D_o = OUTSIDE DIAMETER OF PIPE
MAX. = MAXIMUM
MIN. = MINIMUM

= STRUCTURAL BACKFILL MATERIAL

= UNDISTURBED SOIL

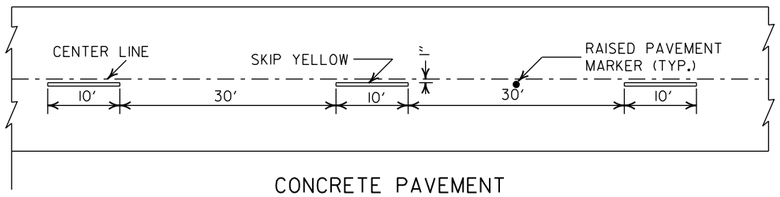
DATE	REVISION	DATE FILMED
02-27-20	REVISED	
11-07-19	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

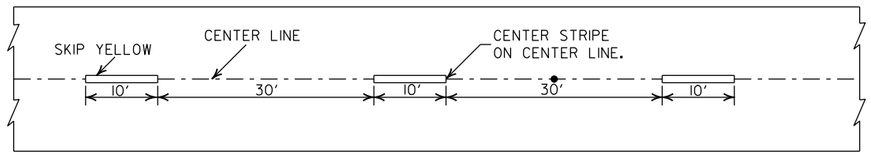
PLASTIC PIPE CULVERT (POLYPROPYLENE)

STANDARD DRAWING PCP-3

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.

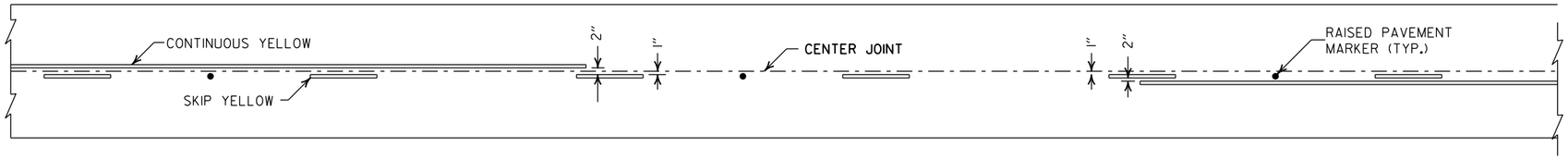


CONCRETE PAVEMENT

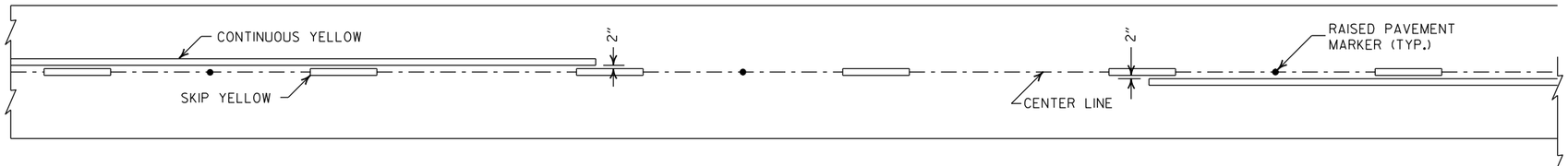


ASPHALT PAVEMENT

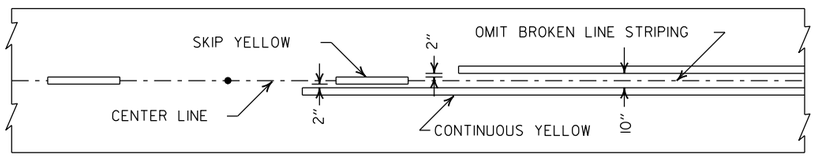
BROKEN LINE STRIPING



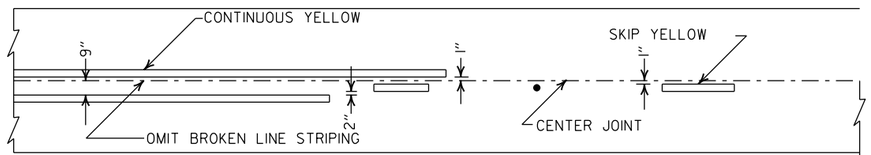
SOLID LINE STRIPING ON CONCRETE PAVEMENT



SOLID LINE STRIPING ON ASPHALT PAVEMENT

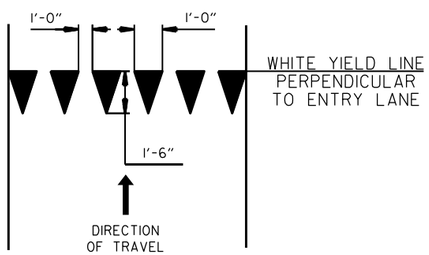


ASPHALT PAVEMENT

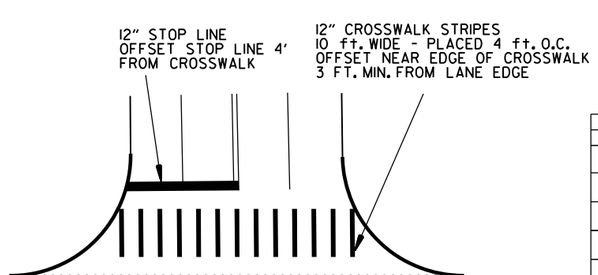


CONCRETE PAVEMENT

STRIPING AT ADJACENT NO PASSING LANES

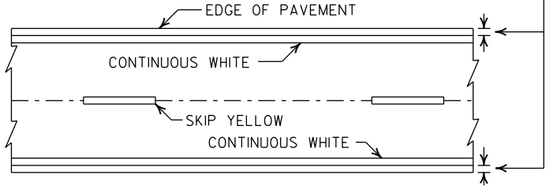


YIELD LINE DETAIL



CROSSWALK AND STOP LINE DETAILS

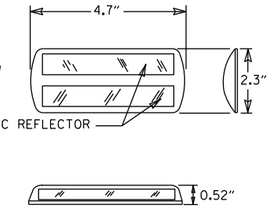
2" FOR ASPHALT OR CONCRETE PAVEMENT
6" FOR BITUMINOUS SURFACE TREATMENT



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

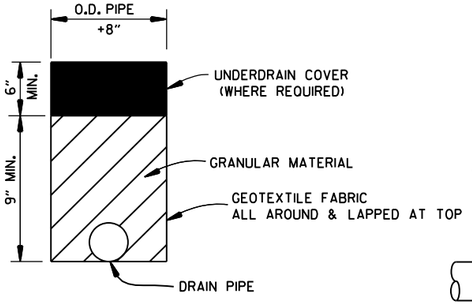
PAVEMENT MARKING DETAILS

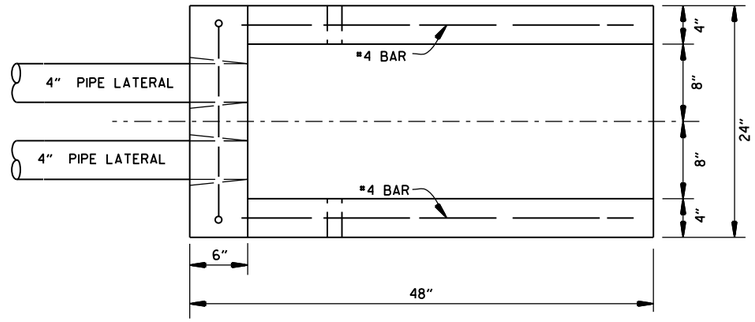
STANDARD DRAWING PM-1

NOTE:

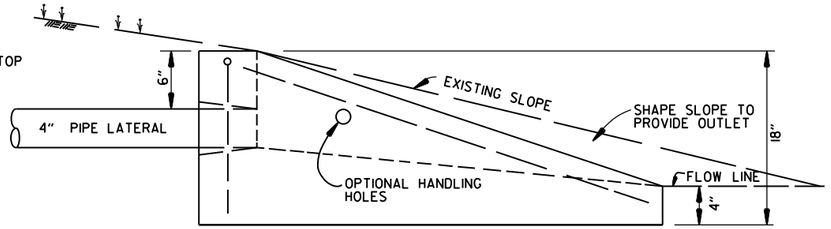
1. UNLESS OTHERWISE SPECIFIED ON THE PLANS, THE UNDERDRAIN COVER SHALL BE THOROUGHLY COMPACTED EARTH AND SHALL BE SUBSIDIARY TO PIPE UNDERDRAIN.

2. GRANULAR MATERIAL SHALL BE WRAPPED WITH GEOTEXTILE FABRIC. LAP FABRIC 12" OR THE WIDTH OF THE TRENCH AT THE TOP.

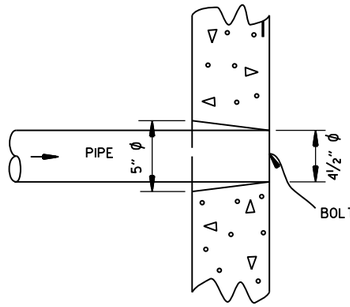




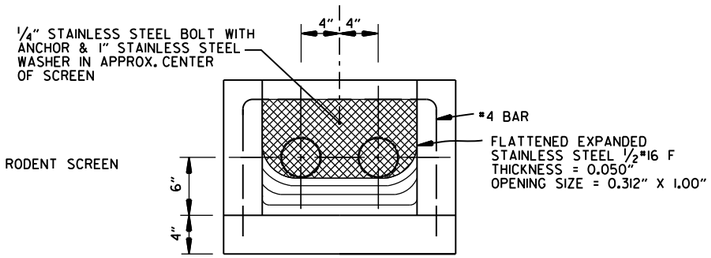
PLAN VIEW



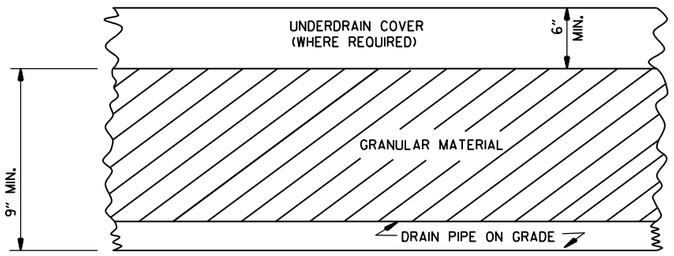
SIDE VIEW



DETAIL OF HOLE
FOR 4" PIPE

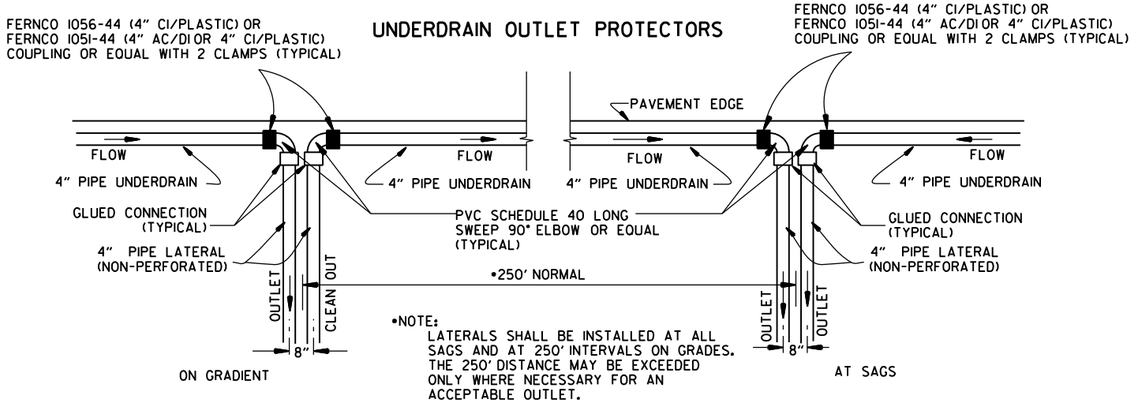


FRONT VIEW
(DETAIL OF RODENT SCREEN)



DETAILS OF PIPE UNDERDRAIN

UNDERDRAIN OUTLET PROTECTORS



DETAIL OF PIPE UNDERDRAIN LATERALS
WHEN PLACED ALONG PAVEMENT EDGE

NOTE: PVC PIPE FOR LATERALS SHALL MEET THE REQUIREMENTS OF ASTM D 1785 (LATEST REVISION) FOR SCHEDULE 40 PIPE.

NOTES FOR PIPE UNDERDRAINS

1. GEOTEXTILE FABRIC SHALL MEET THE REQUIREMENTS OF SECTION 625 FOR TYPE I. PAYMENT FOR GEOTEXTILE FABRIC AND GRANULAR FILTER MATERIAL SHALL BE INCLUDED IN THE PRICE BID PER LIN. FT. FOR "4" PIPE UNDERDRAINS" IN ACCORDANCE WITH SECTION 611 OF THE STANDARD SPECIFICATIONS.

2. 4" NON-PERFORATED SCHEDULE 40 PVC PIPE LATERALS WITH OUTLET PROTECTORS SHALL BE INSTALLED AS SHOWN HEREON. LATERALS WILL BE MEASURED AND PAID FOR AS "4" PIPE UNDERDRAINS." UNDERDRAIN OUTLET PROTECTORS WILL BE MEASURED AND PAID FOR BY THE UNIT IN ACCORDANCE WITH SECTION 611 OF THE STANDARD SPECIFICATIONS.

3. EXISTING 4" PIPE UNDERDRAINS MAY BE CONNECTED TO PROPOSED DROP INLETS OR EXTENDED WHERE DIRECTED BY THE ENGINEER. PAYMENT FOR CONNECTING TO DROP INLETS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR "4" PIPE UNDERDRAINS."

4. THE LOCATION OF ALL LATERALS SHALL BE MARKED WITH 4" X 12" PERMANENT PAVEMENT MARKING TAPE (TYPE III WHITE) AT THE OUTSIDE EDGE OF THE SHOULDER, PLACED TRANSVERSE TO TRAFFIC. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.

5. PAYMENT FOR THE RODENT SCREEN SHALL BE INCLUDED IN THE PRICE BID PER EACH FOR "UNDERDRAIN OUTLET PROTECTORS."

6. ANY EXISTING UNDERDRAINS THAT INTERFERE WITH INSTALLATION OF THE NEW UNDERDRAIN SYSTEM SHALL BE REMOVED AND DISPOSED OF AS DIRECTED BY THE ENGINEER. PAYMENT WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS. EXISTING UNDERDRAIN OUTLET PROTECTORS SHALL BE REMOVED UNDER THE ITEM "REMOVAL AND DISPOSAL OF UNDERDRAIN OUTLET PROTECTORS."

7. AT LOCATIONS WHERE A SINGLE LATERAL IS USED THE CONTRACTOR SHALL HAVE THE FOLLOWING OPTIONS: 1. INSTALL OUTLET PROTECTOR AS SHOWN ON STANDARD DRAWING PU-1 AND GROUT THE UNUSED HOLE OR 2. INSTALL AN OUTLET PROTECTOR WITH A SINGLE HOLE.

DATE	REVISION	DATE FILMED
12-8-16	ADDED NOTES FOR PIPE UNDERDRAINS, REVISED RODENT SCREEN DETAIL AND NOTES, REMOVED NOTE 1 FOR GRANULAR MATERIAL, ADDED NOTE FOR GEOTEXTILE FABRIC	
4-10-03	REVISED NOTE 3	
1-12-00	REVISED DETAIL OF UNDERDRAIN LATERALS	
11-18-98	REVISED NOTE	
10-18-96	REVISED MIN. DEPTH & GEOTEXTILE FABRIC	
4-26-96	ADDED LATERAL NOTE; 5½" TO 5"	
11-22-95	REVISED LATERALS	
7-20-95	REVISED LATERALS & ADDED NOTE	
11- 3-94	REVISED FOR DUAL LATERALS	11- 3-94
10- 1-92	SUBSTITUTED GEOTEXTILE	10- 1-92
8-15-91	ADDED POLYEDTHYLENE PIPE	8-15-91
11- 8-90	DELETED ALTERNATE NOTE	11- 8-90
1-25-90	ADDED 4" SNAP ADAPTER	1-25-90
11-30-89	DEL. (SUBGRADE); ADDED (WHERE REQUIRED)	11-30-89
7-15-88	ISSUED P.L.M.	647-7-15-88

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF PIPE UNDERDRAIN

STANDARD DRAWING PU-1

SUPERELEVATION TABLE FOR TWO - WAY TRAFFIC

DEGREE OF CURVE	30 MPH			35 MPH			40 MPH			45 MPH			50 MPH			55 MPH			60 MPH			65 MPH			70 MPH			75 MPH		
	e	Ls (FT)		e	Ls (FT)		e	Ls (FT)		e	Ls (FT)		e	Ls (FT)		e	Ls (FT)		e	Ls (FT)		e	Ls (FT)		e	Ls (FT)		e	Ls (FT)	
		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE
0° 15'	NC			NC			NC			NC			NC			NC			NC			NC			NC			NC		
0° 30'	NC			NC			NC			NC			NC			NC			RC	96		RC	96		RC	96		0.022	101	
0° 45'	NC			NC			NC			NC			RC	96		RC	96		0.024	106		0.026	110		0.030	120		0.032	125	
1° 00'	NC			NC			NC			RC	90		0.022	101		0.026	110		0.030	120		0.034	130		0.038	139		0.042	149	300
1° 15'	NC			NC			RC	84		0.022	95		0.028	115		0.032	125		0.038	139		0.042	149		0.046	158	300	0.052	173	
1° 30'	NC			RC	78		0.022	88		0.028	108		0.032	125		0.038	139		0.044	154		0.050	168	300	0.056	182		0.062	197	
1° 45'	RC	72		RC	78		0.026	97		0.030	113		0.036	134		0.044	154		0.050	168		0.056	182		0.064	202		0.070	216	
2° 00'	RC	72		0.024	86		0.028	101		0.034	122		0.042	149		0.048	163		0.056	182		0.064	202		0.070	216		0.080	240	
2° 15'	RC	72		0.026	90		0.032	109		0.038	131		0.046	158		0.054	178		0.062	197		0.070	216		0.078	235		0.088	259	350
2° 30'	0.022	75		0.028	94		0.034	113		0.042	140		0.050	168		0.058	187	300	0.068	211		0.076	230		0.086	254	350	0.096	278	
2° 45'	0.024	79		0.030	98		0.038	122		0.046	149	200	0.054	178		0.064	202		0.072	221		0.082	245		0.092	269		0.100	288	400
3° 00'	0.026	83		0.034	105		0.040	126		0.050	158		0.058	187	250	0.068	211		0.078	235		0.088	259		0.098	283	400	D MAX = 2° 45'		
3° 15'	0.028	86		0.036	109		0.044	134		0.052	162		0.062	197		0.072	221		0.082	245		0.092	269		0.100	288				
3° 30'	0.030	90		0.038	113		0.046	139		0.056	171		0.066	206		0.076	230		0.086	254		0.096	278	350	D MAX = 3° 30'					
3° 45'	0.032	93		0.040	117		0.050	147		0.058	176		0.070	216		0.080	240		0.090	264		0.098	283							
4° 00'	0.034	97		0.042	121		0.052	151		0.062	185		0.072	221		0.084	250		0.094	274		0.100	288							
4° 15'	0.036	100		0.044	125	200	0.054	155		0.064	189		0.076	230		0.086	254		0.096	278	350	D MAX = 4° 15'								
4° 30'	0.036	100		0.046	129		0.056	160		0.068	198		0.078	235		0.090	264		0.098	283										
4° 45'	0.038	104	200	0.048	133		0.060	168		0.070	203		0.082	245		0.092	269	350	0.100	288										
5° 00'	0.040	108		0.050	137		0.062	172		0.072	207		0.084	250		0.094	274		D MAX = 5° 15'										
5° 30'	0.044	115		0.054	144		0.066	181		0.078	221	250	0.088	259		0.098	283												
6° 00'	0.046	119		0.058	152		0.070	189		0.082	230		0.092	269		0.100	288												
6° 30'	0.050	126		0.062	160		0.074	198		0.086	239		0.096	278	300	D MAX = 6° 30'													
7° 00'	0.052	130		0.064	164		0.078	206		0.090	248		0.098	283															
7° 30'	0.054	133		0.068	172		0.080	210		0.092	252		0.100	288															
8° 00'	0.058	140		0.070	176		0.084	219		0.094	257		D MAX = 8° 25'																
8° 30'	0.060	144		0.072	179		0.086	223	250	0.096	261	300																		
9° 00'	0.062	148		0.076	187		0.088	227		0.098	266																			
9° 30'	0.064	151		0.078	191		0.092	235		0.100	270																			
10° 00'	0.066	155		0.080	195		0.094	240		D MAX = 10° 30'																				
11° 00'	0.070	162		0.084	203		0.096	244																						
12° 00'	0.074	169		0.088	211	250	0.098	248																						
13° 00'	0.076	173		0.090	215		0.100	252	300																					
14° 00'	0.080	180		0.094	222		D MAX = 13° 45'																							
15° 00'	0.082	184		0.096	226																									
16° 00'	0.086	191		0.098	230																									
17° 00'	0.088	194		0.100	234																									
18° 00'	0.090	198	250	D MAX = 19° 30'																										
19° 00'	0.092	202																												
20° 00'	0.094	205																												
21° 00'	0.096	209																												
22° 00'	0.096	209																												
23° 00'	0.098	212																												
24° 00'	0.098	212																												
25° 00'	0.100	216																												
D MAX = 28° 30'																														

ABBREVIATIONS

NC - NORMAL CROWN
RC - REVERSE CROWN, SUPERELEVATION AT NORMAL CROWN SLOPE
e - RATE OF SUPERELEVATION (FT. PER FT.)
Ls - LENGTH OF SUPERELEVATION TRANSITION (FT.)
L - DISTANCE FROM BEGINNING OF SUPERELEVATION TRANSITION TO ANY POINT (FT.)
d - WIDTH OF PAVEMENT (FT.) OR WIDTH OF SUBGRADE (FT.)
C - NORMAL CROWN (FT.)

GENERAL NOTES

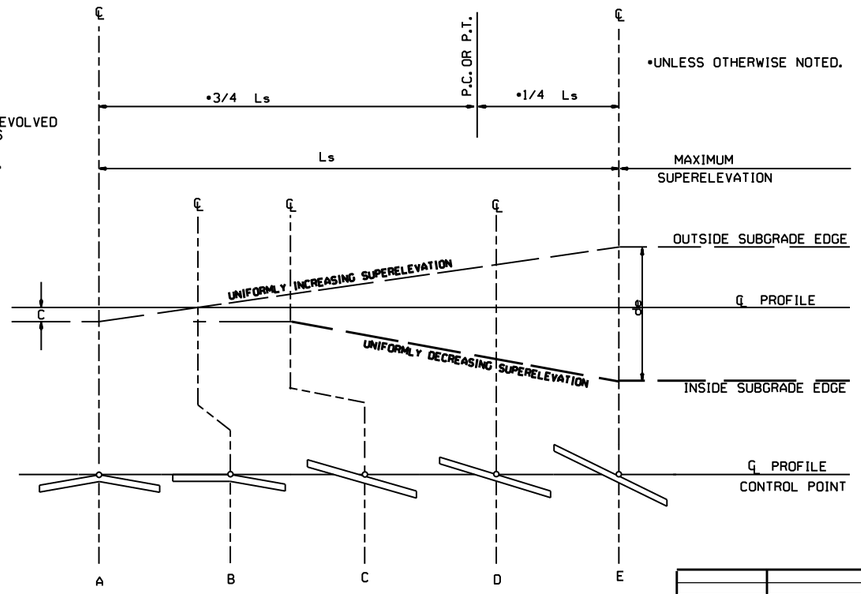
1. ON PAVEMENT WITH TWO-WAY TRAFFIC, THE SUPERELEVATION SHALL BE REVOLVED ON THE INSIDE PAVEMENT EDGE UNLESS OTHERWISE NOTED ON THE PLANS
2. SUPERELEVATION VALUES SHOWN ON THE CROSS SECTIONS ARE VALUES (+) OR (-) TO BE ADDED TO OR SUBTRACTED FROM THE POINT OF CONTROL.
3. LENGTHS FOR L MAY BE ROUNDED IN MULTIPLES OF 25 FT. OR 50 FT. TO PERMIT SIMPLER CALCULATIONS.
4. PAVEMENTS WIDER THAN 2 LANES SHALL HAVE ADDITIONAL TRANSITION LENGTHS AS FOLLOWS:

3 LANE UNDIVIDED - - - - - +20%
4 LANE UNDIVIDED - - - - - +50%
5 LANE UNDIVIDED - - - - - +80%
6 LANE UNDIVIDED - - - - - +100%

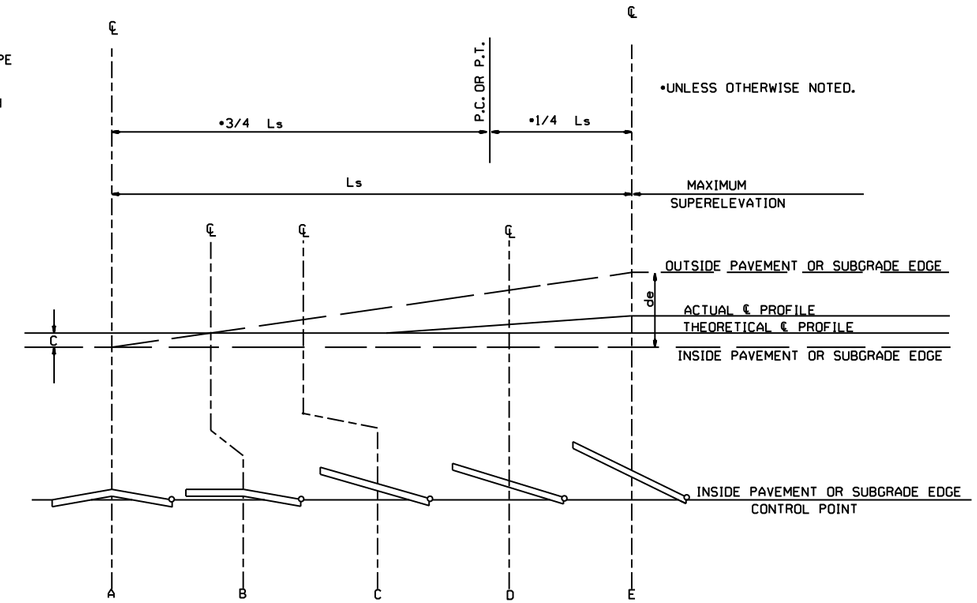
NOTE: MAINTAIN NORMAL CROWN ON INSIDE UNTIL SUPERELEVATION EXCEEDS 2C.

RATE OF SUPERELEVATION SHALL BE COMPUTED ON STRAIGHT LINE METHOD USING APPLICABLE Ls.

SUPERELEVATION FORMULA = $\frac{Lde}{Ls}$



STANDARD METHOD WHEN SUPERELEVATION REVOLVES AROUND CENTER LINE



STANDARD METHOD WHEN SUPERELEVATION REVOLVES AROUND INNER SUBGRADE POINT OR INNER PAVEMENT EDGE

NOTE: MAINTAIN NORMAL CROWN ON INSIDE UNTIL SUPERELEVATION EXCEEDS 2C.

DATE	REVISION	DATE FILLMED
11-07-19	REVISED SUPERELEVATION TABLE	
10-18-96	ADDED FORMULA	
01-09-87	ISSUED	534-1-9-87

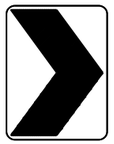
ARKANSAS STATE HIGHWAY COMMISSION

TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC

STANDARD DRAWING SE-2

R1-1
30"X30"

W1-3
30"X30"
(LT. OR RT.)



W1-8
18"X24"

W2-5
30"X30"

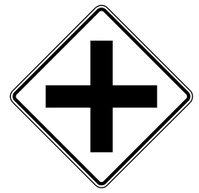
W3-1
36"X36"

W5-1
36"X36"

M6-3
21"X15"

R1-2
36"X36"X36"

W1-4
30"X30"
(LT. or RT.)



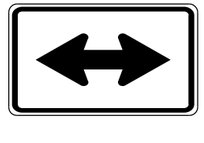
W2-1
30"X30"

S1-1
36"X36"

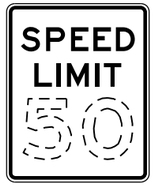
W3-2
36"X36"

County
Route Marker
M1-6
24"X24"

NOTE: REFLECTORIZED YELLOW LEGEND (COUNTY NAME, ROUTE LETTER & NUMBER) & BORDER ON A BLUE BACKGROUND.



M6-4
21"X15"



R2-1
24"X30"

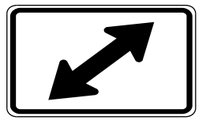
W1-5
30"X30"
(LT. or RT.)

W2-2
30"X30"

W5-2
36"X36"

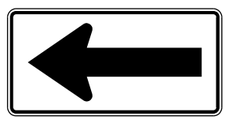
W8-3
36"X36"

R1-3P
18"X6"

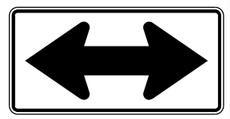


M6-5
21"X15"

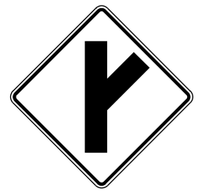
W1-1
30"X30"
(LT. or RT.)



W1-6
48"X24"



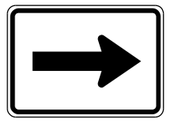
W1-7
48"X24"



W2-3
30"X30"
(LT. or RT.)

W5-3
36"X36"

W13-1P
18"X18"



M6-1
21"X15"

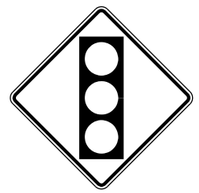
NOTE: ALL M6 SIGNS TO BE MADE WITH REFLECTORIZED YELLOW ARROW & BORDER WITH BLUE BACKGROUND.

M6-6
21"X15"

W1-2
30"X30"
(LT. or RT.)

W2-4
30"X30"

W10-1
36" DIAMETER

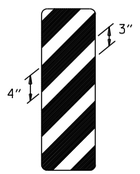


W3-3
36"X36"

M6-2
21"X15"

S4-3P
24"X8"

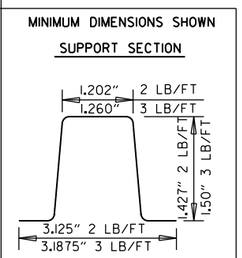
S4-2P
24"X10"



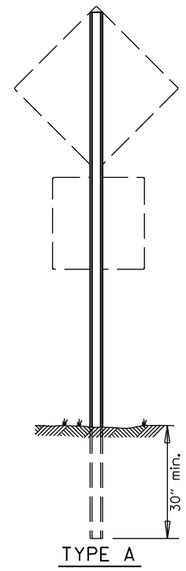
OM-3
12"X36"
(LT. or RT.)

MINIMUM DIMENSIONS SHOWN

SUPPORT SECTION

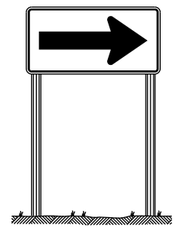


(U-CHANNEL)
STANDARD SUPPORT
ASSEMBLIES



TYPE A

NOTE: LENGTH OF SIGN POSTS SHALL BE DETERMINED SO AS TO PROVIDE FOR MINIMUM VERTICAL CLEARANCES AS CALLED FOR IN THE SPECIFICATIONS PLUS A MINIMUM VERTICAL PENETRATION OF 30" IN THE SOIL.



TYPE B

TYPE C

MINIMUM WEIGHT

TYPE A & B = 3 LBS./FT.
TYPE C = 2 LBS./FT.

STANDARD HIGHWAY SIGNS

DATE	REVISION	DATE FILMED
9-12-13	DELETED JOB NO. BLOCK; REVISED RI-3 TO RI-3P	
4-17-08	REVISED SIGN DESIGNATION - W3-1 & W3-2	
4-10-03	REVISED W5-2, W8-3, OM-3; ADDED WI-8	
1-5-81	REDRAWN	960-1-15-81
9-15-78	ADDED WI4-3	877-9-15-78
9-2-76	POST WT.	623-9-3-76
5-3-76	STEEL POST WT. FROM 2#-3#; ADDED S4-2 & S4-3	504-5-3-76
8-12-74	REV. HT. TYPE "C" ASSEMBLY	500-8-21-74
12-21-72	ADDED M6-2,3,4,5,6	500-12-21-72
12-1-72	ISSUED	562-12-1-72

SUPPORT ASSEMBLIES

ARKANSAS STATE HIGHWAY COMMISSION

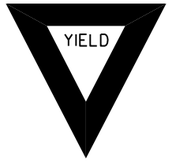
STANDARD HIGHWAY SIGNS
AND SUPPORT ASSEMBLIES

STANDARD DRAWING SHS-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"

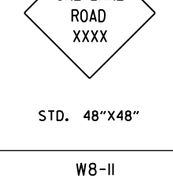
R4-1

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

R4-2

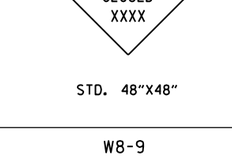
STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

R5-1



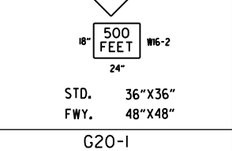
STD. 30"X30"
EXPWY. 36"X36"
SPECIAL 48"X48"

RII-2



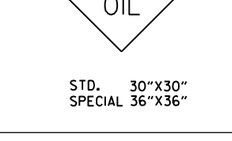
48"X30"

RII-3A



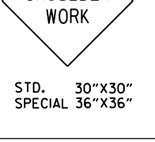
60"X30"

RII-4



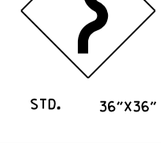
60"X30"

W21-5a



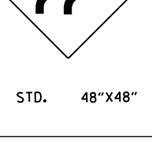
STD. 36"X36"
FWY. 48"X48"

WI-1



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

WI-2

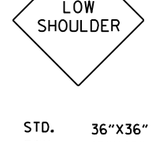


STD. 36"X36"
FWY. 48"X48"

WI-3

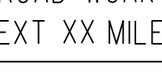
STD. 48"X48"

WI-4



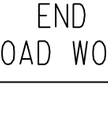
STD. 48"X48"

WI-6



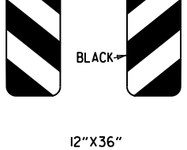
STD. 48"X24"
SPECIAL 60"X30"

WI-8



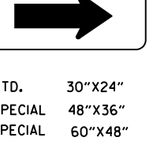
STD. 18"X24"
SPECIAL 24"X30"
EXPWY. 30"X36"
FWY. 36"X48"

W3-1



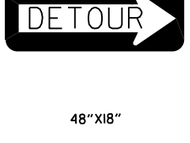
STD. 36"X36"
SPECIAL 48"X48"

W3-2



STD. 36"X36"
SPECIAL 48"X48"

W4-2



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

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"

R56-1

STD. 18"X18"

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"

R55-1

36"X60"

• USE 6" C LETTERS
•• USE 4" D LETTERS

ADVANCE DISTANCES
(XXXX)

500 FT	½ MILE
1000 FT	¾ MILE
1500 FT	1 MILE
	AHEAD

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. R55-1 SIGNS SHALL BE PLACED AT LEAST 1500' BUT NOT MORE THAN 1 MILE IN ADVANCE OF THE WORK ZONE. IF A SPEED LIMIT REDUCTION IS IN EFFECT, THE SIGN SHALL BE PLACED A MINIMUM OF 500' IN ADVANCE OF THE "REDUCED SPEED AHEAD" SIGN.

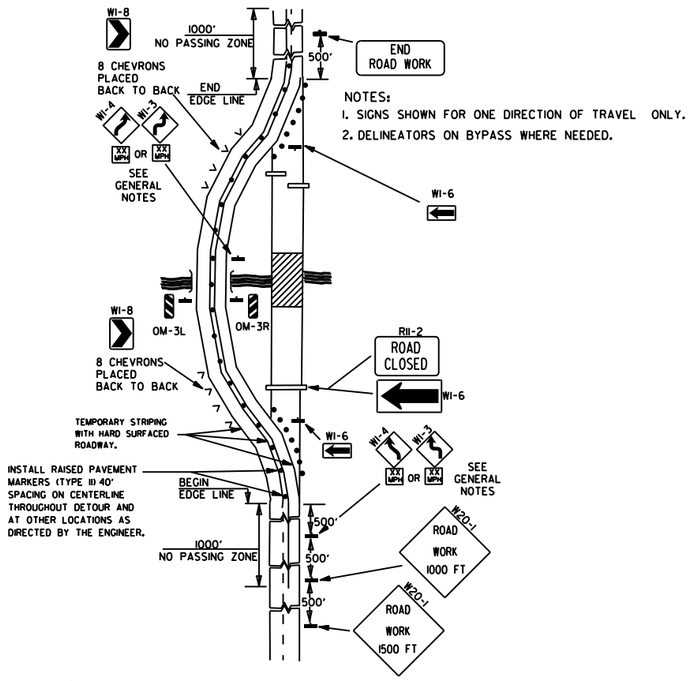
• NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) IS REQUIRED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

DATE	REVISION	FILMED
11-07-19	REVISED FOR MASH	
4-13-17	DELETED RSP-1 & ADDED W21-5a	
9-2-15	REVISED REDUCED SPEED LIMIT AHEAD SIGNS REVISED ROAD WORK NEXT XX MILES	
12-15-11	REVISED W24-1	
11-17-10	DELETED W8-9a & ADDED W8-9	
10-15-09	ADDED REFERENCE TO MASH & ADDED SIGN W24-1	
4-17-08	REVISED SIGN DESIGNATIONS	
11-18-04	REVISED NOTES	
10-9-03	REVISED NOTE 1	
11-16-01	REVISED NOTE 7	
9-28-00	REVISED NOTE	
11-18-98	ADDED NOTE	
6-26-97	REVISED NOTE 5	
4-03-97	REVISED NOTE 5	
10-18-96	ADDED CONTROLLED ACCESS HWY. SIGN & TO NOTE 7	
10-12-95	ADDED R55-1	
6-8-95	REVISED TO CORRECT SIGN ILLUSTRATIONS	6-8-95
2-2-95	REVISED PER PART VI, MUTCD SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

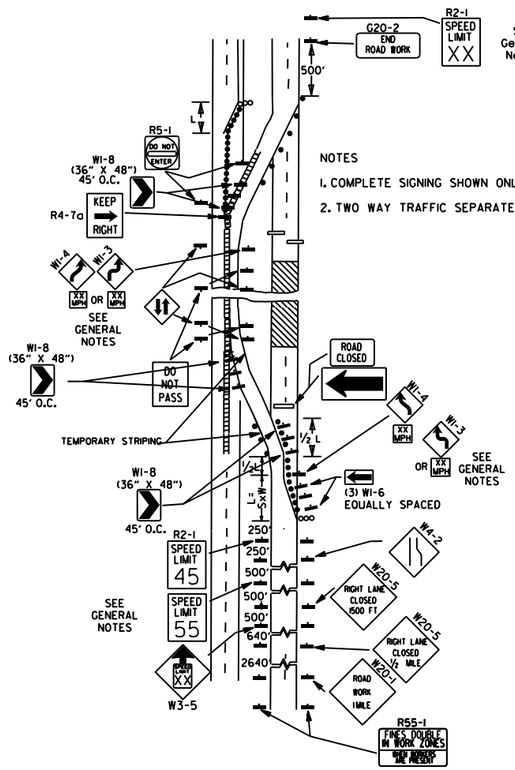
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

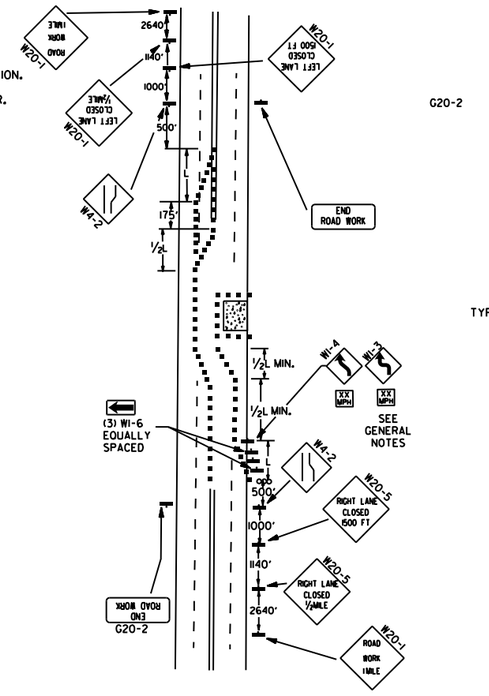
STANDARD DRAWING TC-1



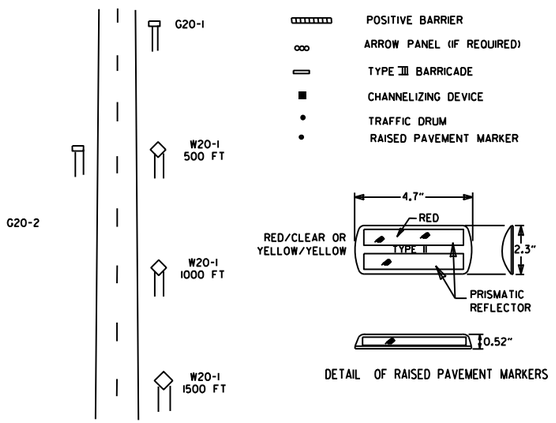
(A) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON A 2-LANE HIGHWAY WHERE THE ENTIRE ROADWAY IS CLOSED AND A BYPASS DETOUR IS PROVIDED.



(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:

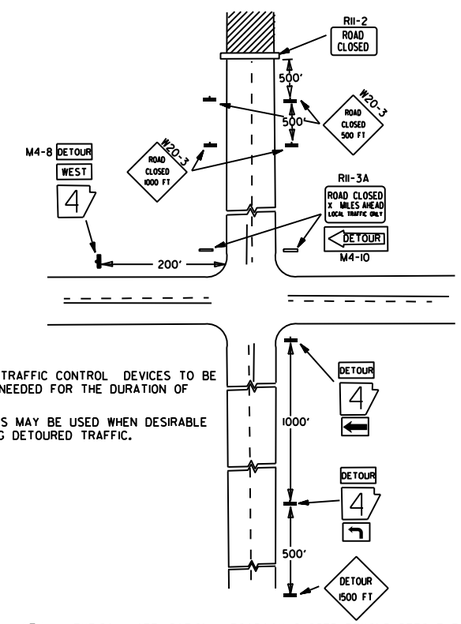
L= MINIMUM LENGTH OF TAPER.

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

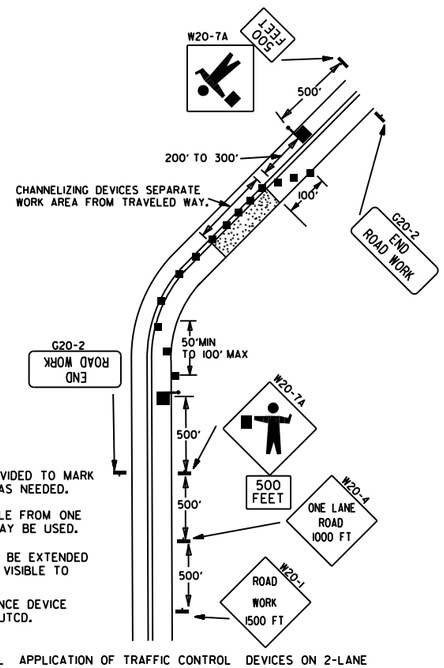
W= WIDTH OF OFFSET.

GENERAL NOTES:

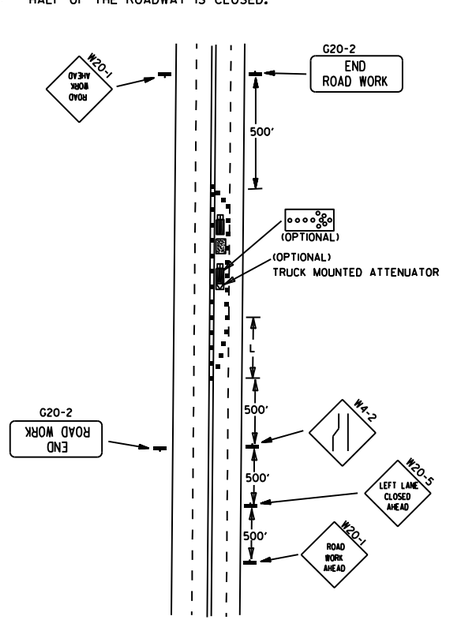
1. THE MAINTENANCE DIVISION SHALL CONDUCT A BALL BANK STUDY TO DETERMINE THE ADVISORY SPEED LIMIT PRIOR TO OPENING TO TRAFFIC. THE ADVISORY SPEED WILL BE POSTED ON W1-3 OR W1-4 CURVE WARNING SIGNS. USE W1-4 WHEN SPEED IS GREATER THAN 30MPH AND W1-3 WHEN 30MPH OR LESS
2. WHEN THE EXISTING SPEED LIMIT 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.



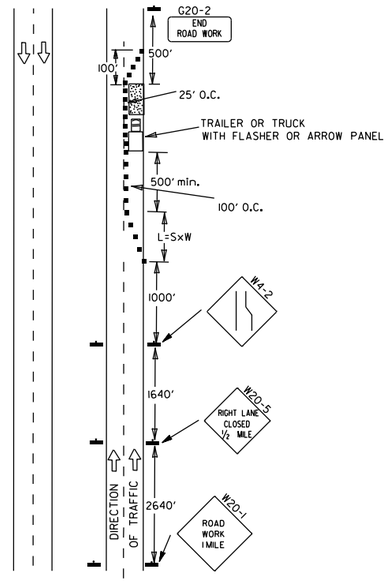
(F) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WITH INSIDE LANE CLOSED.

DATE	REVISION	FILMED
05-20-21	REVISED NOTE 7	
11-07-19	REVISED NOTE 1, ADDED NOTE 9	
9-2-15	REVISED NOTE 2, ADDED NOTE 8, REVISED DRAWING (A) & REPLACED R2-5A WITH W3-5	
9-12-13	REVISED DETAIL OF RAISED PAVEMENT MARKERS	
3-11-10	ADDED (AFAD)	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED GENERAL NOTE	
10-18-96	ADDED R55-1	
4-26-96	CORRECTED (c) BEHIND G20-2	
6-8-95	CORRECTED SIGN IDENT. ON W1-4A	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

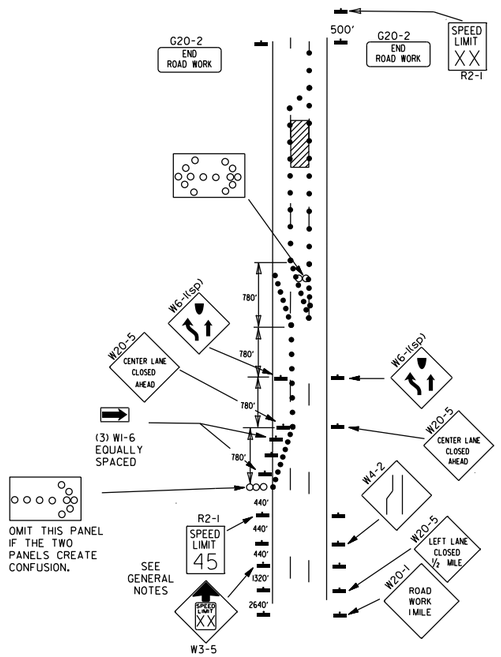
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-2



(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.

KEY:

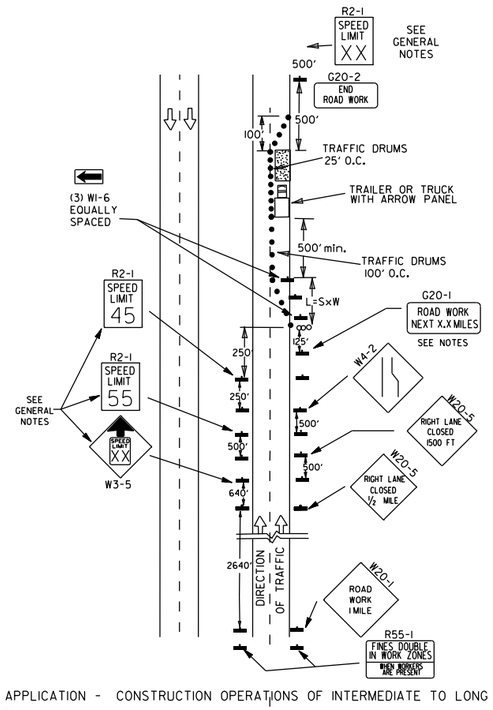
ooo ARROW PANEL (IF REQUIRED)

■ CHANNELIZING DEVICE

● TRAFFIC DRUM

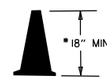
GENERAL NOTES:

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 R2-1(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. THE G20-1 SIGN WILL BE REQUIRED 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.
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).



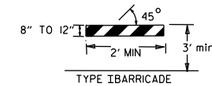
(C) TYPICAL APPLICATION - CONSTRUCTION OPERATIONS OF INTERMEDIATE TO LONG TERM DURATION ON A 4-LANE DIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.

CHANNELIZING DEVICES



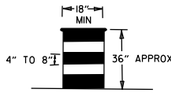
* WHEN CONES ARE USED ON FREEWAYS AND MULTI-LANE HIGHWAYS, THEY SHALL BE 28" MIN. DURING HOURS OF DARKNESS. 28" CONES SHALL BE USED ON ALL ROADWAYS, AND SHALL BE REFLECTORIZED IN ACCORDANCE WITH THE M.U.T.C.D.

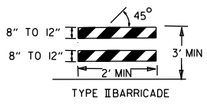
CONES



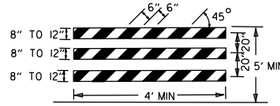
TYPE I BARRICADE

PLASTIC DRUM



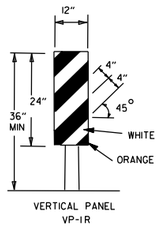


TYPE II BARRICADE



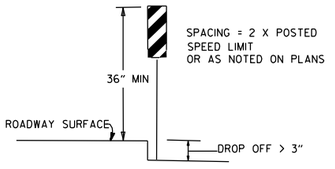
TYPE III BARRICADE

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

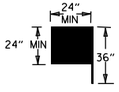


VERTICAL PANEL
VP-1R

VERTICAL PANEL PLACEMENT



FLAG



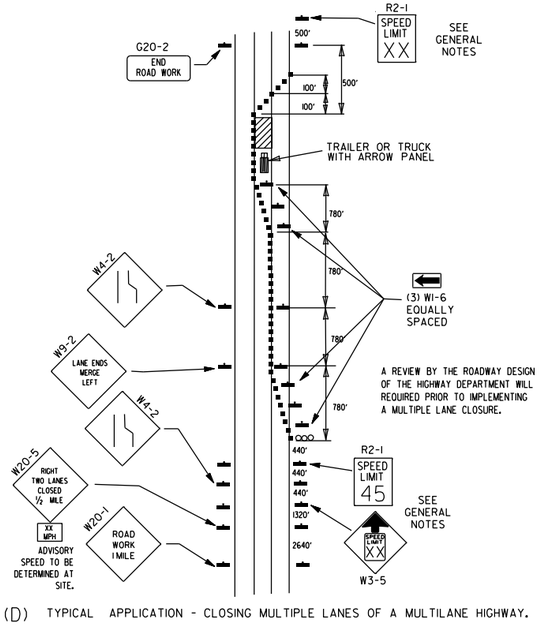
FLAG SHALL BE OF GOOD GRADE RED MATERIAL

KEY:

ooo ARROW PANEL (IF REQUIRED)

■ CHANNELIZING DEVICE

● TRAFFIC DRUM



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

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

TRAFFIC CONTROL DEVICES

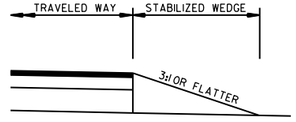
NON-INTERSTATE			
VERTICAL DIFFERENTIAL	LOCATION	TRAFFIC CONTROL	
		≤ 45 MPH	> 45 MPH
≤ 1"	CENTERLINE	W8-11	W8-11
> 1" ≤ 3"	CENTERLINE	W8-11 AND CENTERLINE LANE STRIPING	W8-11 AND CENTERLINE LANE STRIPING
> 3"	CENTERLINE	STANDARD LANE CLOSURE[6]	STANDARD LANE CLOSURE[6]
≤ 3"	EDGE OF TRAVELED LANE OR 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:

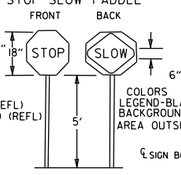
1. WHEN THE SHOULDER AREA IS USED AS PART OF THE TRAVELED LANE AND THERE IS INSUFFICIENT WIDTH TO PLACE TRAFFIC DRUMS ON THE REMAINING SHOULDER WIDTH, THEN VERTICAL PANELS SHALL BE USED.
2. WHEN THERE IS INSUFFICIENT WIDTH TO PLACE TRAFFIC DRUMS ON THE REMAINING SHOULDER WIDTH, A STABILIZED WEDGE SHALL 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).



STABILIZED WEDGE

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

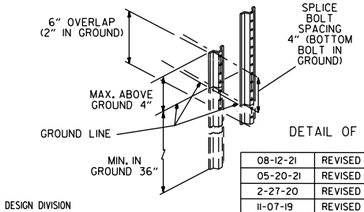
STOP SLOW PADDLE

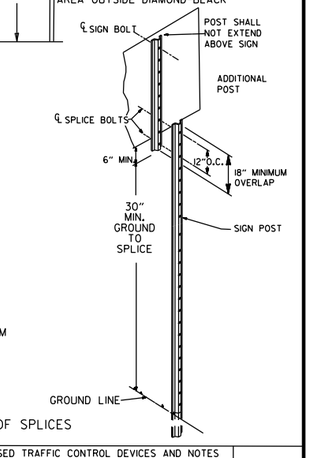


NOTES: USE SPLICES ONLY WHEN NECESSARY FOR INSTALLATION. TYPICAL INSTALLATION SHOULD HAVE NO SPLICES (SEE STD. DRAWING NO. SHS-21)

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.





DETAIL OF SPLICES

DATE	REVISION	FILMED
08-12-21	REVISED TRAFFIC CONTROL DEVICES AND NOTES	
05-20-21	REVISED NOTE 10	
2-27-20	REVISED TRAFFIC CONTROL DEVICES DETAILS	
11-07-19	REVISED NOTE 9, ADDED NOTE 11	
7-25-19	REVISED TRAFFIC CONTROL DEVICES DETAILS	
9-2-15	REVISED NOTE 2 & REPLACED R2-5A WITH W3-5	
10-15-09	ADDED REFERENCE TO MASH	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED NOTE	
10-1-98	ADDED NOTE	
4-03-97	ADDED (SP) TO W6-1& REVISED TRAFFIC CONTROL DEVICES NOTE	
10-18-96	ADDED R55-1	
10-12-95	MOVED UPPER SPLICE	
6-8-95	REVISED SPLICE DETAIL, TEXT	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

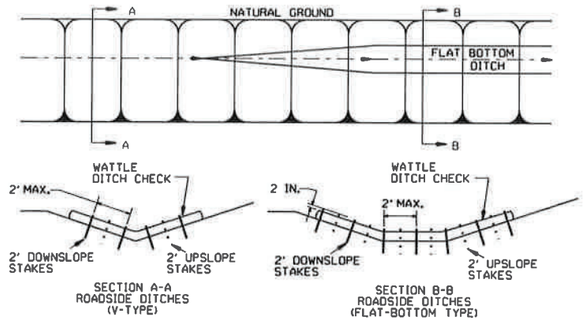
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

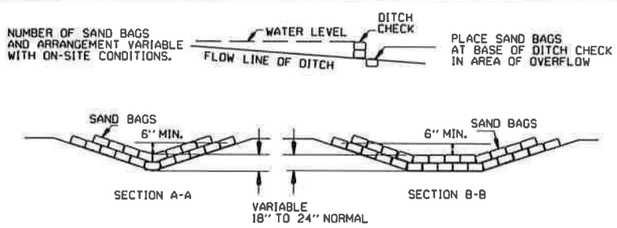
STANDARD DRAWING TC-3

GENERAL NOTES

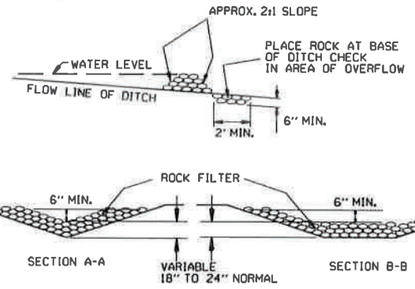
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.



WATTLE DITCH CHECK (E-1)



SAND BAG DITCH CHECK (E-5)

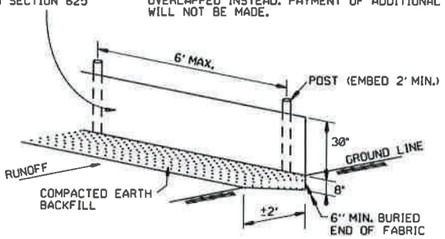


ROCK DITCH CHECK (E-6)

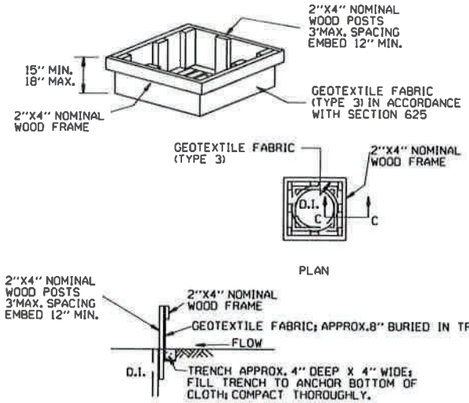
GENERAL NOTES

GEOTEXTILE FABRIC (TYPE 4) IN ACCORDANCE WITH SECTION 625

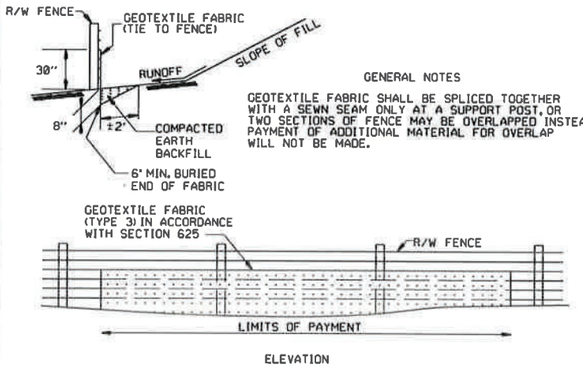
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.



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.

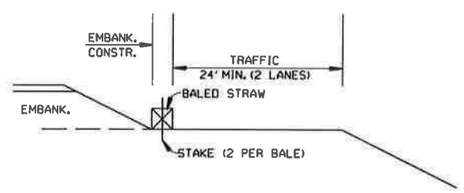
SILT FENCE ON R/W FENCE (E-4)

GENERAL NOTES

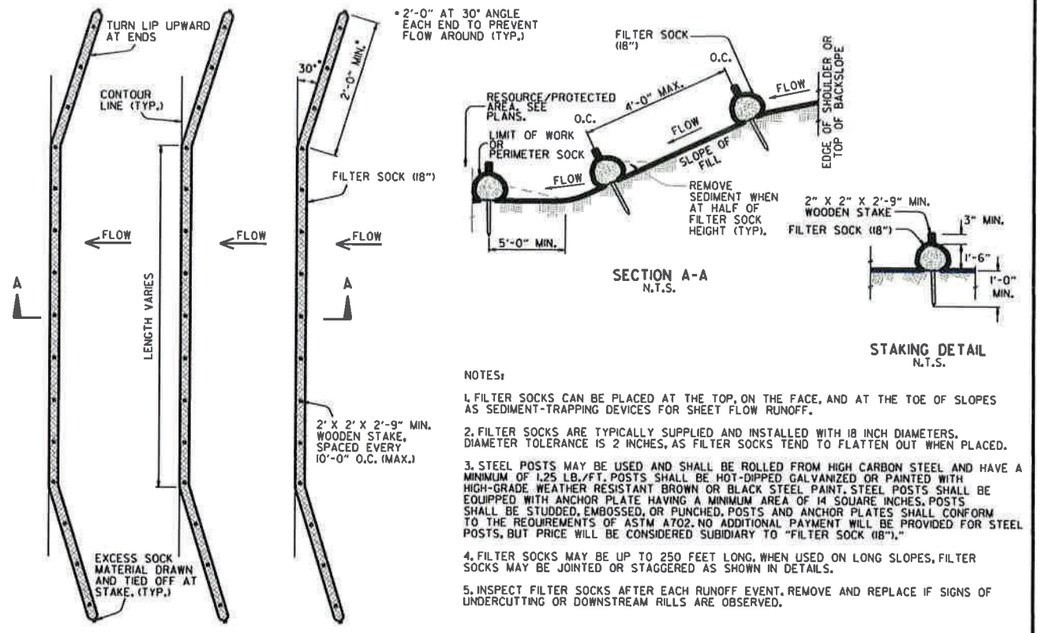
1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.

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.

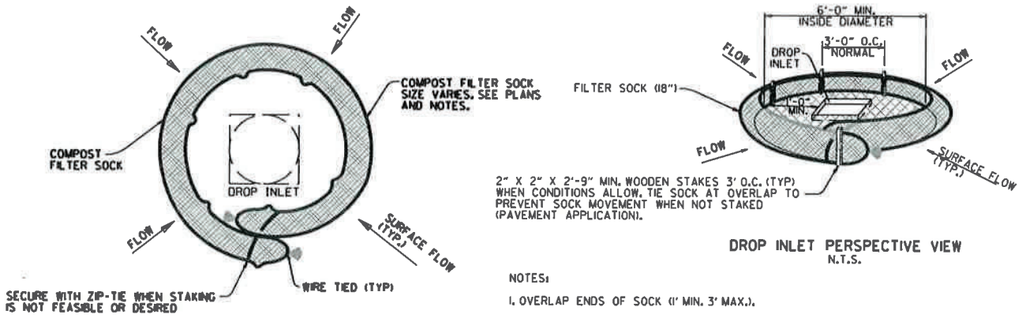
2. FILTER SOCKS ARE TYPICALLY SUPPLIED AND INSTALLED WITH 18 INCH DIAMETERS. DIAMETER TOLERANCE IS 2 INCHES, AS FILTER SOCKS TEND TO FLATTEN OUT WHEN PLACED.

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.

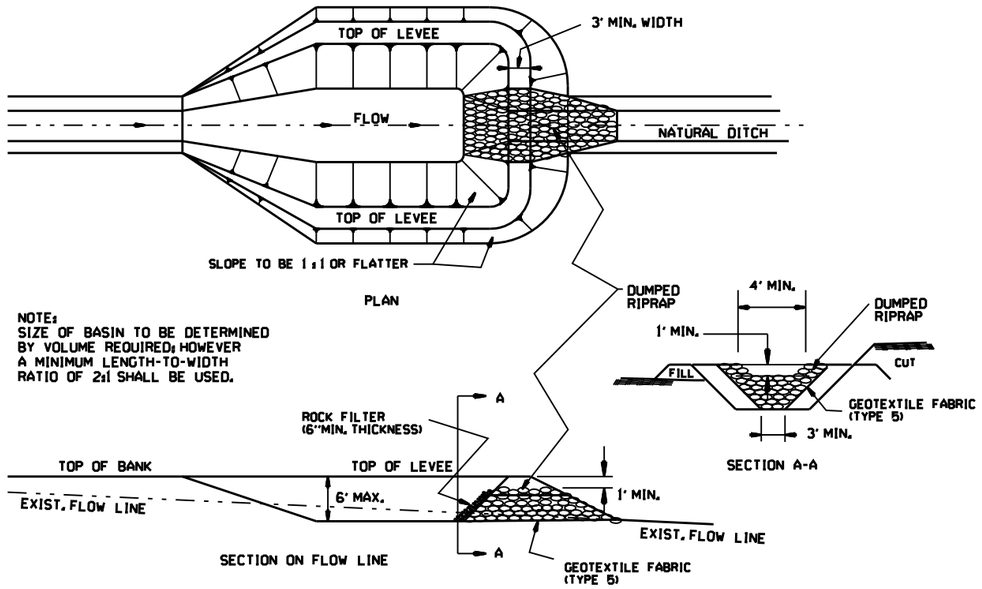
COMPOST FILTER SOCK DROP INLET PROTECTION (E-13)

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

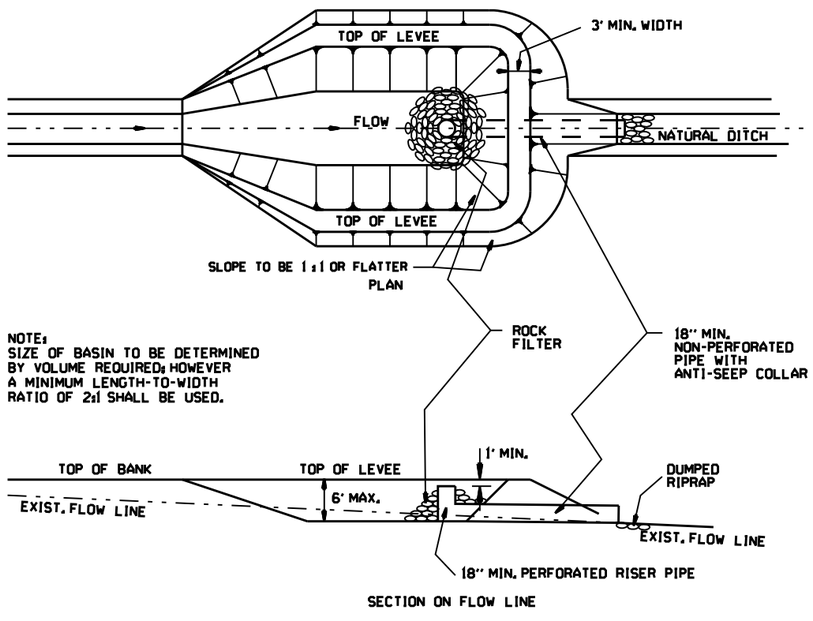
ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

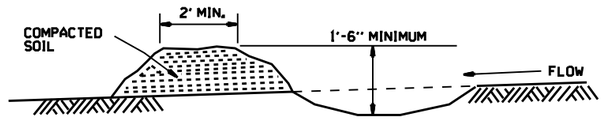
STANDARD DRAWING TEC-1



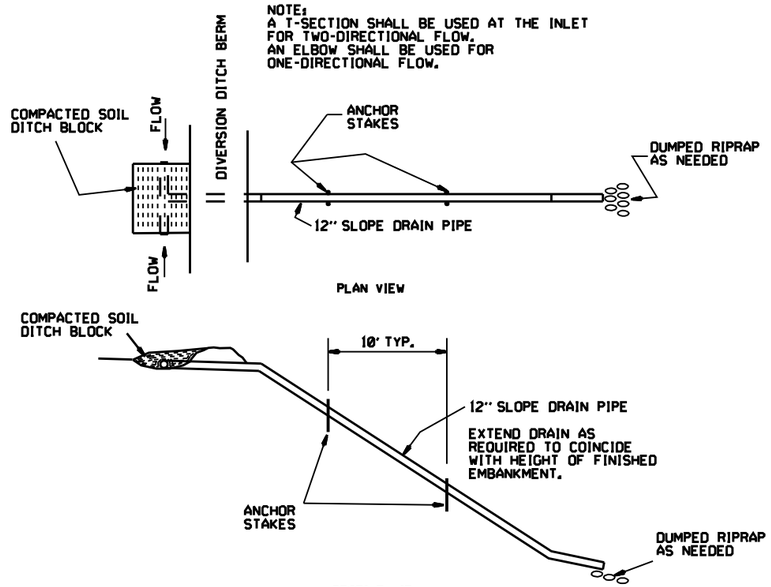
SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



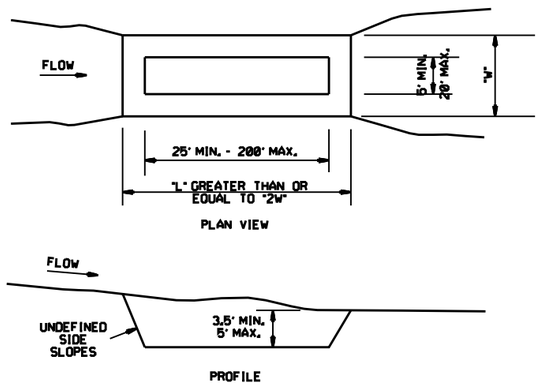
SEDIMENT BASIN WITH PIPE OUTLET (E-10)



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

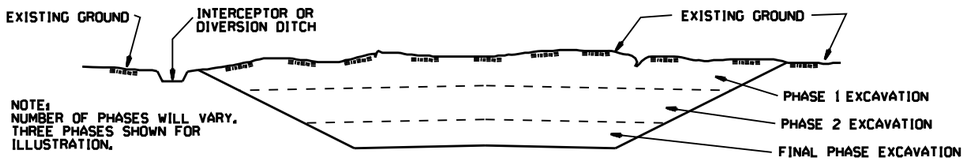
STANDARD DRAWING TEC-2

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



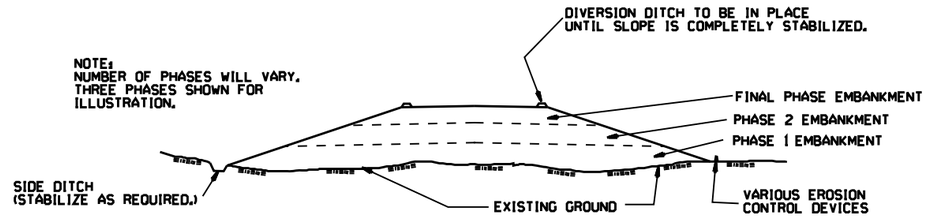
GENERAL NOTE

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.

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

ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-3