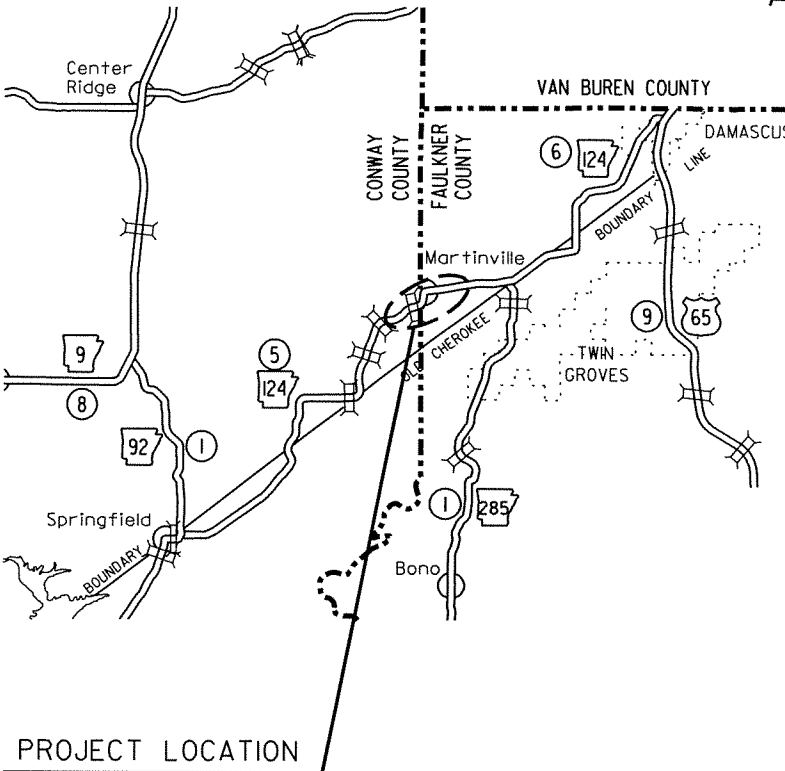


DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080382	1	76
				2 COVE CREEK STR. & APPRS. (S)				

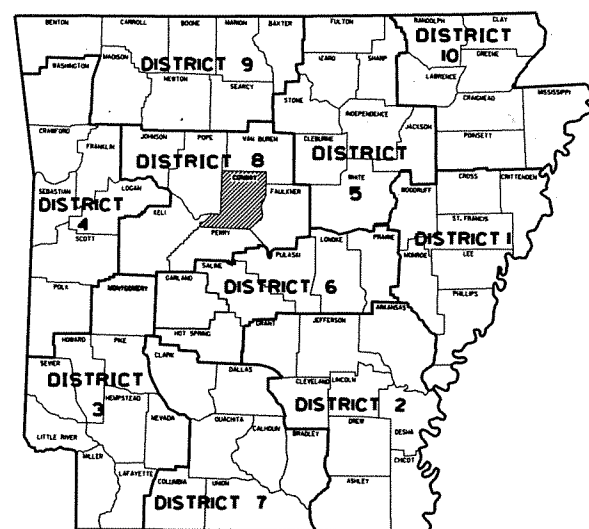
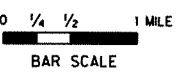
ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
CONSTRUCTION PLANS FOR STATE HIGHWAY



VICINITY MAP

COVE CREEK STR. & APPRS. (S)

CONWAY COUNTY
ROUTE 124 SECTION 5
F.A.P. BRN-0015(21)
JOB 080382

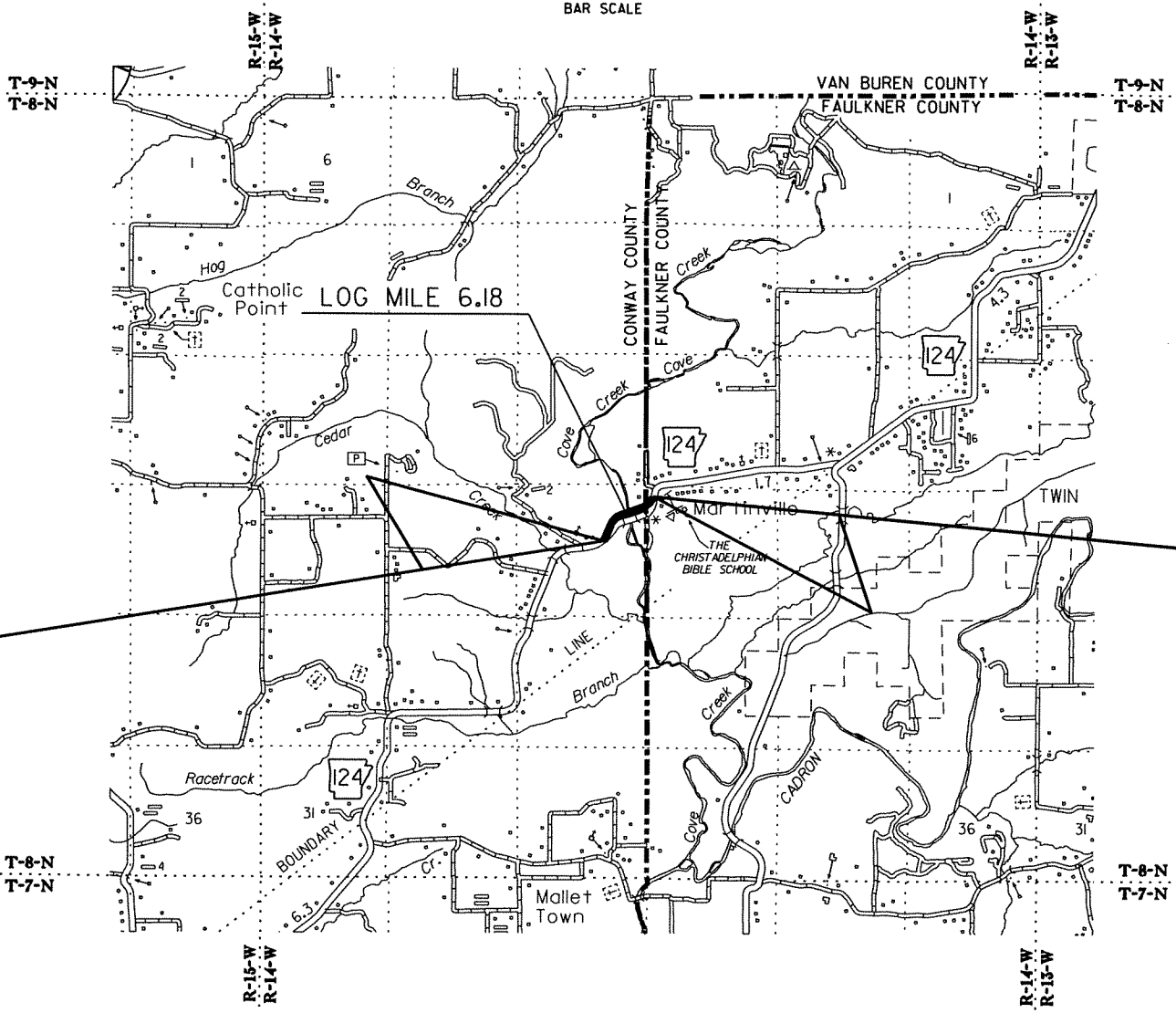


ARK. HWY. DIST. NO. 8

BRIDGE DATA

- 1 BR. END STA. 109+33.92
BRIDGE NO. 07201
30'-0" CLEAR ROADWAY
262'-2" TOTAL LENGTH
260'-0" CONT. COMP. W-BEAM
UNIT (80-100-80)
BR. END STA. 111+96.08

STA. 102+00.00
BEGIN JOB 080382
LOG MILE = 6.04



STA. 123+00.00
END JOB 080382

DESIGN TRAFFIC DATA

DESIGN YEAR	2031
2011 ADT	1,000
2031 ADT	1,300
2031 DHV	143
DIRECTIONAL DISTRIBUTION	0.60
TRUCKS	13%
DESIGN SPEED	50 MPH

APPROVED

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 3918
FRANK VOZEL
7/7/11
DEPUTY DIRECTOR
AND CHIEF ENGINEER

	LATITUDE	LONGITUDE
BEGIN JOB	N 35° 19' 12"	W 92° 29' 18"
MID POINT	N 35° 19' 18"	W 92° 29' 07"
END JOB	N 35° 19' 26"	W 92° 28' 56"

GROSS LENGTH OF PROJECT	2100.00	FEET OR	0.398	MILES
NET ROADWAY	1837.84		0.348	
NET BRIDGES	262.16		0.050	
NET PROJECT	2100.00		0.398	

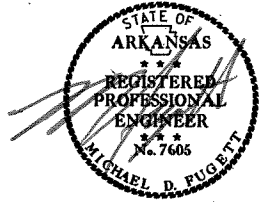
P.E. 080382
NON-PART.

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. 080382	2	76

2 INDEX, GOVERNING SPECS. AND GEN. NOTES

GOVERNING SPECIFICATIONS

ARKANSAS STATE HIGHWAY COMMISSION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 2003, AND THE FOLLOWING SPECIAL PROVISIONS AND SUPPLEMENTAL SPECIFICATIONS:



7-7-11

SHEET NO.	TITLE	BRIDGE NO.	DRWG. NO.	DATE
1	TITLE SHEET			
2	INDEX OF SHEETS, GOVERNING SPECIFICATIONS AND GENERAL NOTES			
3 - 4	TYPICAL SECTIONS OF IMPROVEMENT			
5 - 6	SPECIAL DETAILS			
7 - 10	TEMPORARY EROSION CONTROL DETAILS			
11 - 16	MAINTENANCE OF TRAFFIC DETAILS			
17	PERMANENT PAVEMENT MARKING DETAILS			
18 - 21	QUANTITY SHEETS			
22	SCHEDULE OF BRIDGE QUANTITIES	07201	51743	
23	SUMMARY OF QUANTITIES AND REVISIONS			
24 - 25	SURVEY CONTROL DETAILS			
26 - 28	PLAN AND PROFILE SHEETS			
29	LAYOUT OF BRIDGE OVER COVE CREEK (SHEET 1 OF 2)	07201	51744	
30	LAYOUT OF BRIDGE OVER COVE CREEK (SHEET 2 OF 2)	07201	51745	
31	DETAILS OF END BENTS (SHEET 1 OF 2)	07201	51746	
32	DETAILS OF END BENTS (SHEET 2 OF 2)	07201	51747	
33	DETAILS OF INTERMEDIATE BENTS	07201	51748	
34	DETAILS OF 260'-0" CONTINUOUS COMPOSITE W-BEAM UNIT (SHEET 1 OF 5)	07201	51749	
35	DETAILS OF 260'-0" CONTINUOUS COMPOSITE W-BEAM UNIT (SHEET 2 OF 5)	07201	51750	
36	DETAILS OF 260'-0" CONTINUOUS COMPOSITE W-BEAM UNIT (SHEET 3 OF 5)	07201	51751	
37	DETAILS OF 260'-0" CONTINUOUS COMPOSITE W-BEAM UNIT (SHEET 4 OF 5)	07201	51752	
38	DETAILS OF 260'-0" CONTINUOUS COMPOSITE W-BEAM UNIT (SHEET 5 OF 5)	07201	51753	
39	DETAILS OF ELASTOMERIC BEARINGS	07201	51754	
40	EMBANKMENT CONSTRUCTION AND BACKFILL AT BRIDGE ENDS	1888A		4-10-03
41	DETAILS FOR DUMPED RIPRAP AND FILTER BLANKET AND DETAILS FOR COMPUTING EXCAVATION FOR STRUCTURES	1891F		4-10-03
42	DETAILS OF STANDARD TYPE B APPROACH GUTTERS	2016B		7-14-10
43	DETAILS OF STANDARD TYPE D BRIDGE NAME PLATES	2387		1-25-11
44	DETAILS OF PERMISSIBLE TYPE PERMANENT STEEL BRIDGE DECK FORMS FOR STEEL & CONCRETE GIRDER SPANS	14991		4-10-03
45	DETAILS OF CONCRETE RIPRAP AND MISCELLANEOUS DETAILS OF STEEL PLINGS	14995A		4-10-03
46	CONCRETE DITCH PAVING	CDP-1		11-17-10
47	GUARD RAIL DETAILS	GR-8		7-14-10
48	GUARD RAIL DETAILS	GR-8A		7-14-10
49	GUARD RAIL DETAILS	GR-9		4-17-08
50	GUARD RAIL DETAILS	GR-9A		4-17-08
51	GUARD RAIL DETAILS	GR-10		7-14-10
52	GUARD RAIL DETAILS	GR-10A		7-14-10
53	GUARD RAIL DETAILS	GRT-1		7-14-10
54	CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING	PCC-1		5-18-00
55	METAL PIPE CULVERT FILL HEIGHTS & BEDDING	PCM-1		3-30-00
56	PAVEMENT MARKING DETAILS	PM-1		11-17-10
57	DETAILS OF PIPE UNDERDRAIN	PU-1		4-10-03
58	TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC	SE-2		10-18-96
59	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	TC-1		11-17-10
60	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	TC-2		3-11-10
61	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	TC-3		10-15-09
62	TEMPORARY EROSION CONTROL DEVICES	TEC-1		11-18-98
63	TEMPORARY EROSION CONTROL DEVICES	TEC-2		6-02-94
64	TEMPORARY EROSION CONTROL DEVICES	TEC-3		11-03-94
65	WIRE FENCE WATER GAPS	WF-2		4-20-79
66	WIRE FENCE TYPE C AND D	WF-4		8-22-02
67 - 76	CROSS SECTIONS			

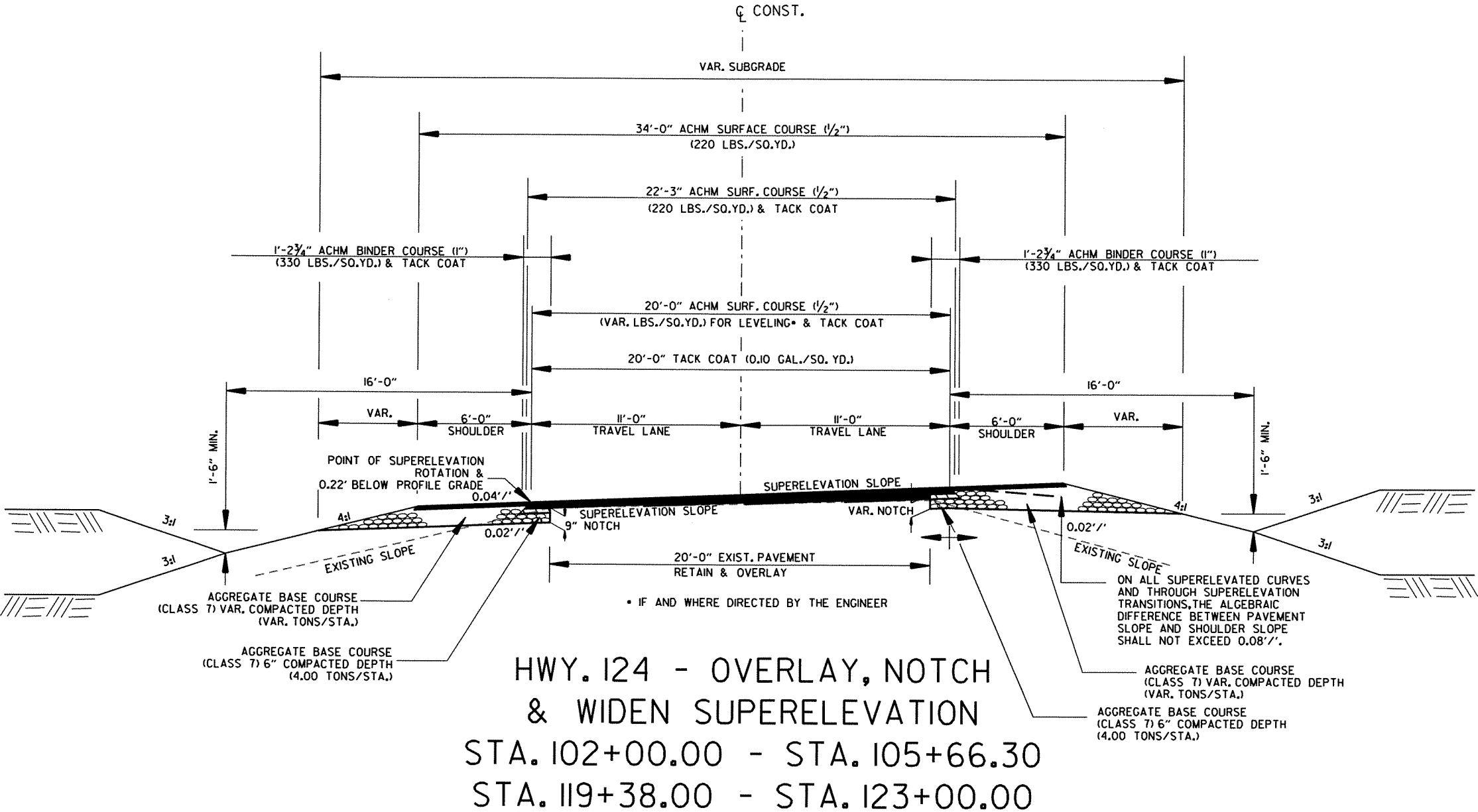
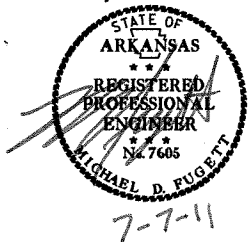
NUMBER	TITLE
ERRATA	ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS
FWHA-1273	FWHA-1273 REVISIONS
FWHA-1273	REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS
FWHA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - NOTICE TO CONTRACTORS
FWHA-1273	SUPPLEMENT - SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES (23 U.S.C. 140)
FWHA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - GOALS AND TIMETABLES
FWHA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - FEDERAL STANDARDS
FWHA-1273	SUPPLEMENT - POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS
FWHA-1273	SUPPLEMENT - WAGE RATE DETERMINATION
100-2	MANUAL FOR ASSESSING SAFETY HARDWARE (MASH)
103-1	DETERMINATION OF DBE PARTICIPATION
105-1	CONSTRUCTION CONTROL MARKINGS
105-2	EQUIPMENT AND MATERIAL STORAGE ON BRIDGE STRUCTURES
107-1	WORKER VISIBILITY
108-1	LIQUIDATED DAMAGES
110-1	PROTECTION OF WATER QUALITY AND WETLANDS
303-1	AGGREGATE BASE COURSE
404-1	PRODUCTION VERIFICATION OF ASPHALT CONCRETE HOT MIX
409-1	MINERAL AGGREGATES
410-3	DENSITY TESTING FOR ACHM LEVELING COURSES AND BOND BREAKERS
411-1	ASPHALT CONCRETE COLD PLANT MIX
600-1	WATER FOR VEGETATION
603-1	MAINTENANCE OF TRAFFIC
604-1	RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
606-1	PIPE CULVERTS FOR SIDE DRAINS
718-2	REFLECTORIZED PAINT PAVEMENT MARKINGS
JOB 080382	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB 080382	BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB 080382	CONSTRUCTION IN SPECIAL FLOOD HAZARD AREAS
JOB 080382	DRILLED SHAFT FOUNDATIONS
JOB 080382	GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB 080382	HIGH PERFORMANCE PAVEMENT MARKING
JOB 080382	INTERNET BIDDING
JOB 080382	NESTING SITES OF MIGRATORY BIRDS
JOB 080382	NON-DESTRUCTIVE TESTING OF DRILLED SHAFTS
JOB 080382	SECTION 404 NATIONWIDE PERMIT 14 REQUIREMENTS
JOB 080382	SILICONE JOINT SEALANT
JOB 080382	SOIL STABILIZATION
JOB 080382	STORM WATER POLLUTION PREVENTION PLAN
JOB 080382	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB 080382	UTILITY ADJUSTMENTS
JOB 080382	WARM MIX ASPHALT

GENERAL NOTES

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

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. 080382	3	76

2 TYPICAL SECTIONS OF IMPROVEMENTS



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

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

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

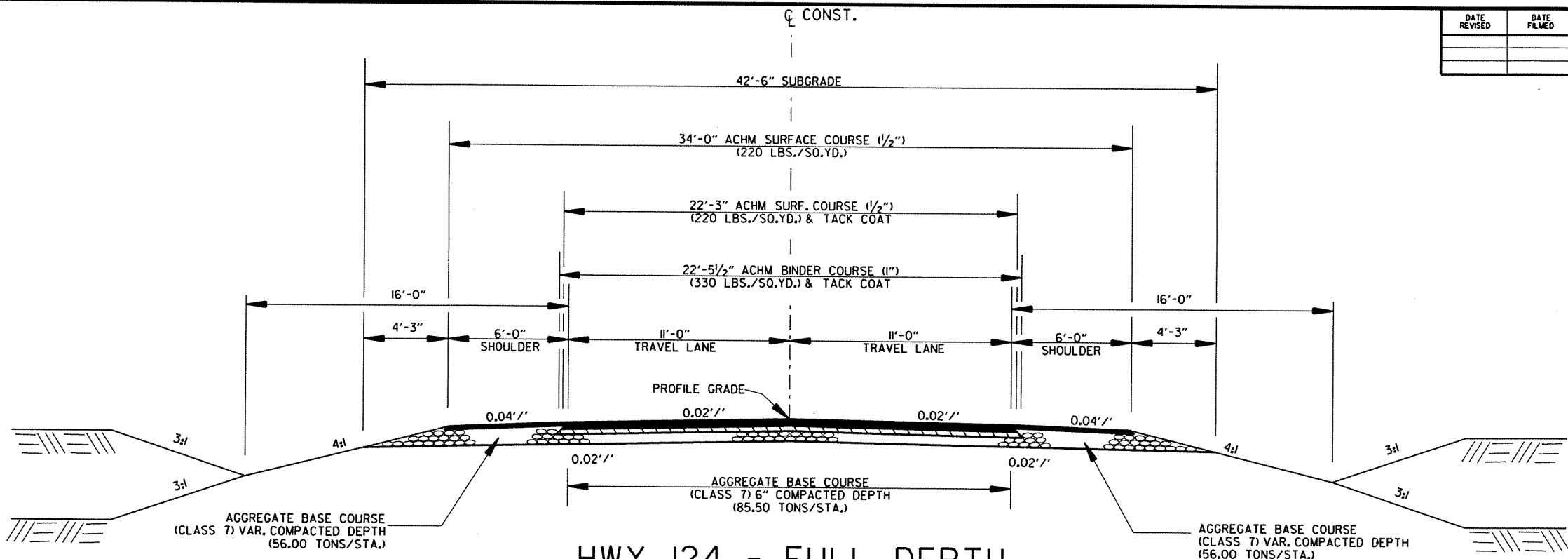
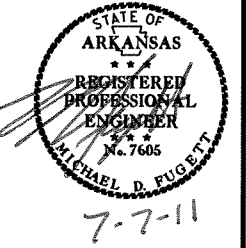
WITH THE APPROVAL OF THE ENGINEER, THE
CONTRACTOR WILL BE ALLOWED TO SUBSTITUTE,
AT NO ADDITIONAL COST TO THE DEPARTMENT,
THE FIRST LIFT OF ACHM SURFACE COURSE (1/2")
IN LIEU OF AGGREGATE BASE COURSE ON THE
SHOULDERS.

ASPHALT FOR LEVELING OF EXISTING PAVEMENT SHALL
BE PLACED ONLY IF AND WHERE DIRECTED BY THE ENGINEER.
CALCULATIONS FOR THE AMOUNT OF LEVELING AND/OR
LEVELING OPERATIONS SHALL BE PERFORMED BEFORE
CONSTRUCTING NOTCH AND WIDENING.

TYPICAL SECTIONS OF IMPROVEMENT

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. 080382	4	76

2 TYPICAL SECTIONS OF IMPROVEMENTS



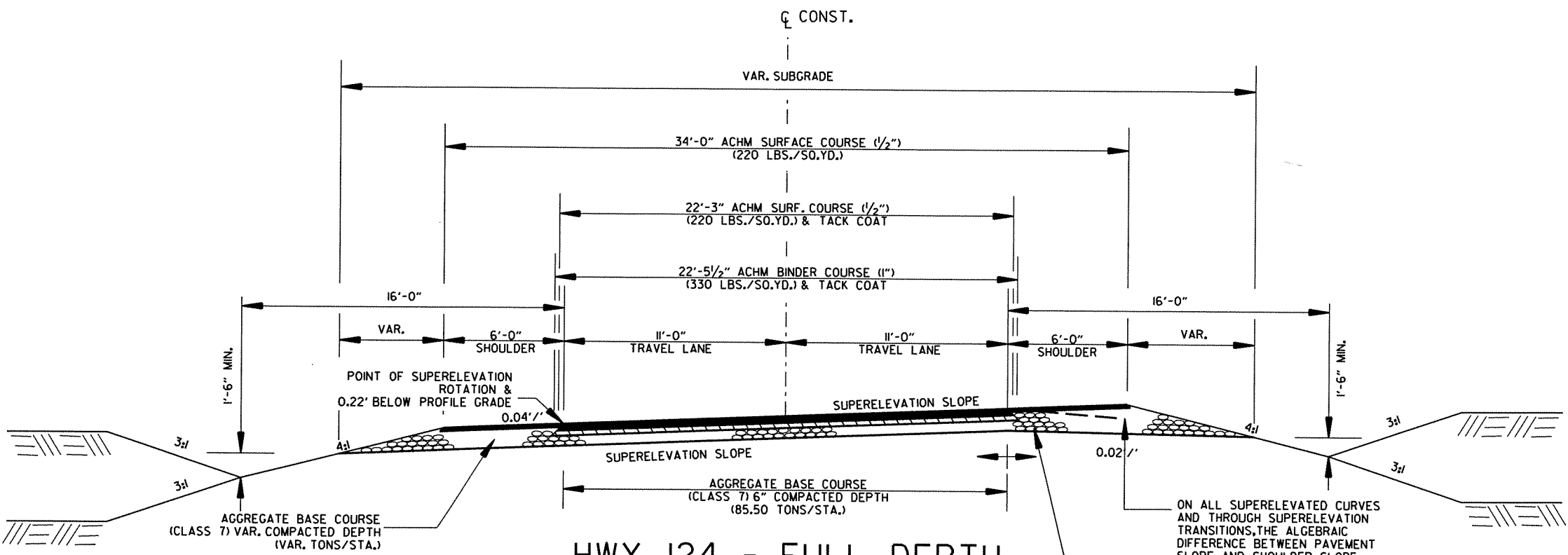
HWY. 124 - FULL DEPTH
STA. 109+25.00 - STA. 109+33.92
STA. 111+96.08 - STA. 112+73.79

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

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

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

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



HWY. 124 - FULL DEPTH
SUPERELEVATION
STA. 105+66.30 - STA. 109+25.00
STA. 112+73.79 - STA. 119+38.00

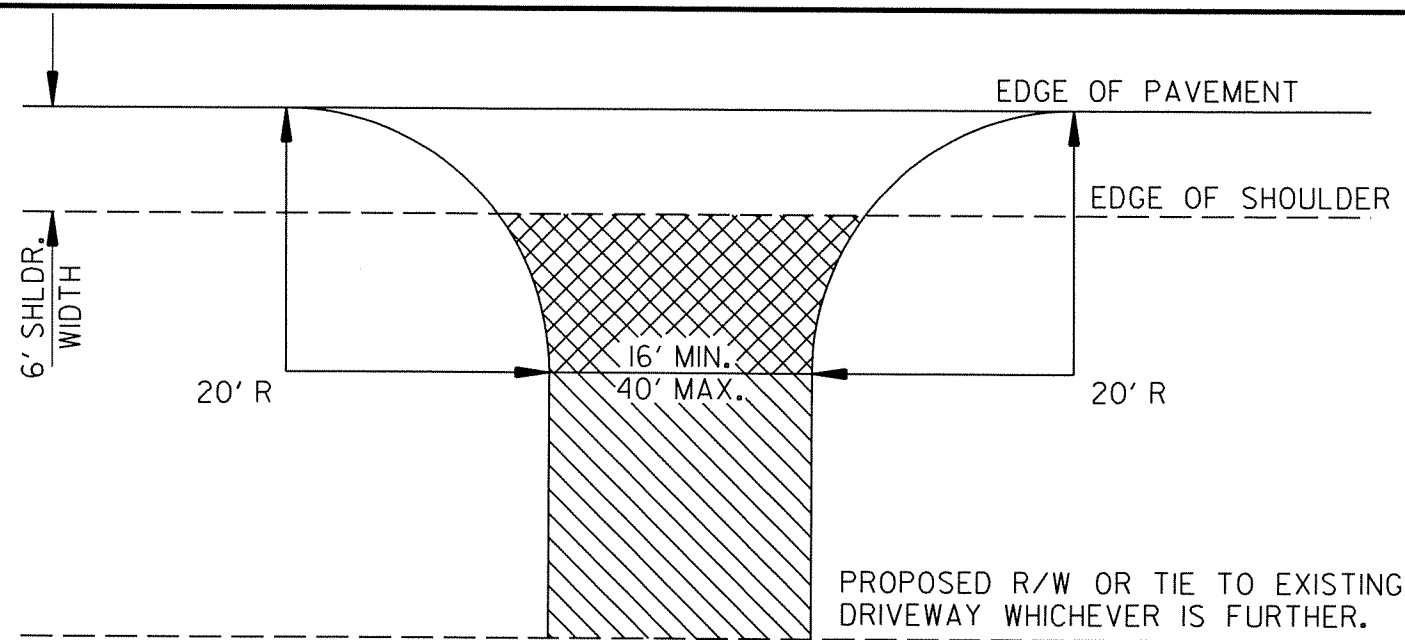
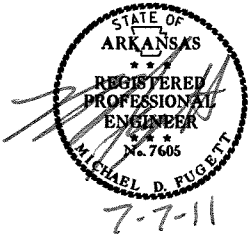
ON ALL SUPERELEVATED CURVES AND THROUGH SUPERELEVATION TRANSITIONS, THE ALGEBRAIC DIFFERENCE BETWEEN PAVEMENT SLOPE AND SHOULDER SLOPE SHALL NOT EXCEED 0.08'/'.

AGGREGATE BASE COURSE (CLASS 7) VAR. COMPACTED DEPTH (VAR. TONS/STA.)

TYPICAL SECTIONS OF IMPROVEMENT

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. 080382	5	76

2 SPECIAL DETAILS

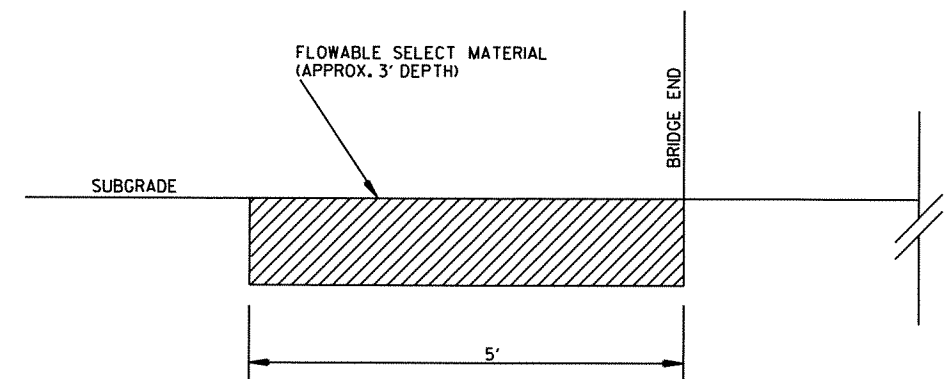


ASPHALT CONCRETE HOT MIX SURFACE COURSE (1/2") (220 LBS. PER SQ. YD.)
AGGREGATE BASE COURSE (CLASS 7)
7" COMP. DEPTH

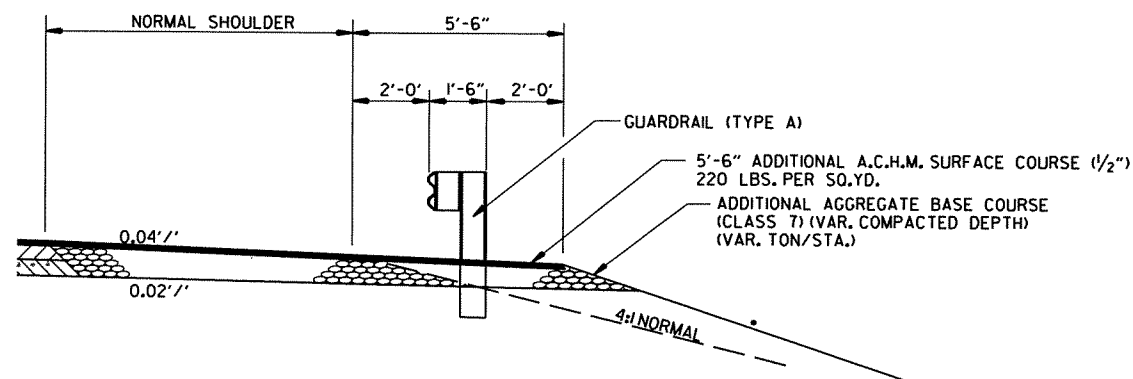


AGGREGATE BASE COURSE (CLASS 7)
9" COMP. DEPTH OR CONFORM TO EXISTING DRIVEWAY.

DETAIL FOR DRIVEWAY TURNOUTS

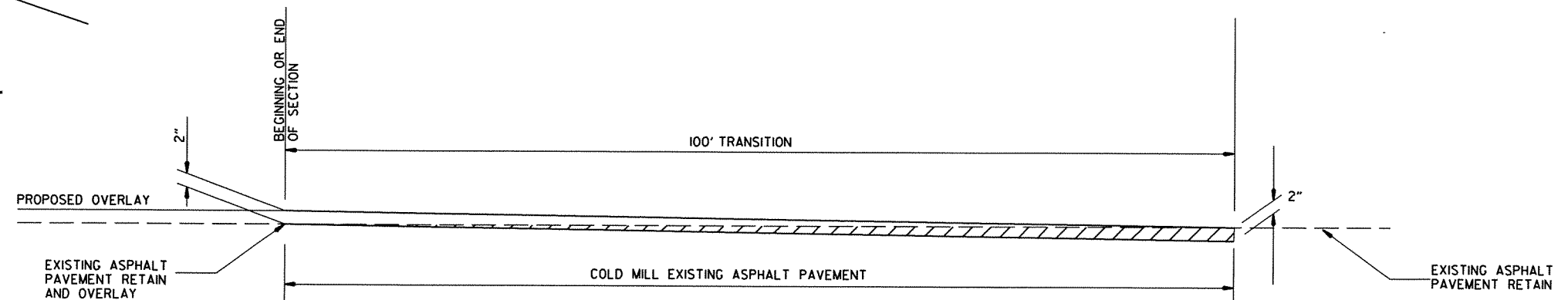


FLOWABLE SELECT MATERIAL AT BRIDGE ENDS



WIDENING FOR GUARDRAIL DETAIL

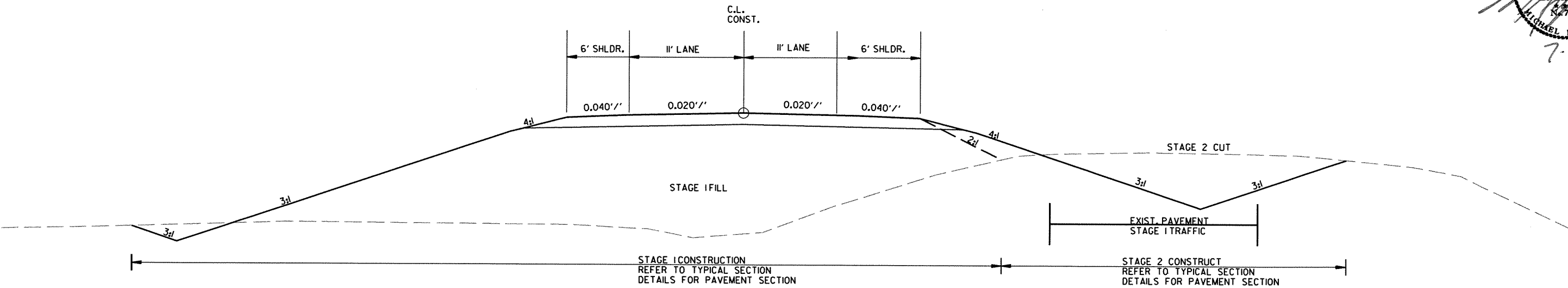
• NOTE: REFER TO STD. DWG GR-9A AND CROSS SECTIONS FOR SLOPE REQUIREMENTS BEHIND GUARDRAIL.



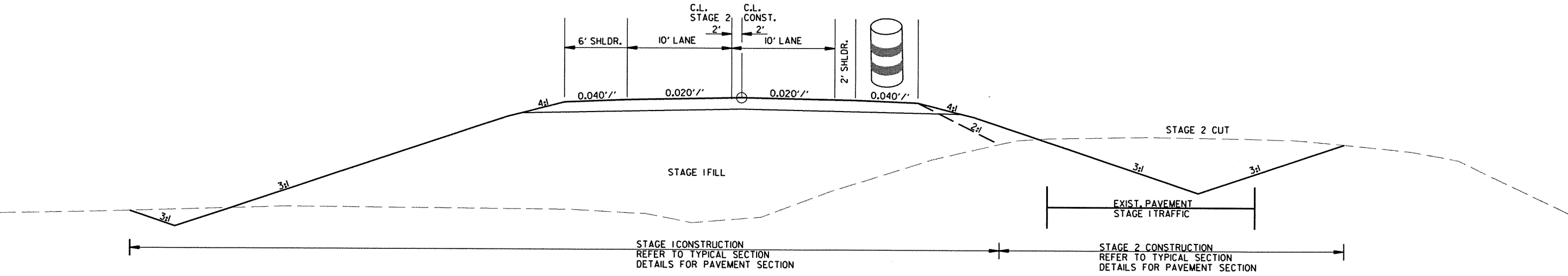
DETAIL FOR TRANSITIONS

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. 080382			6	76

2 SPECIAL DETAILS



(STAGE 2 TRAFFIC)



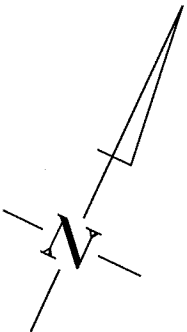
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO. 080382			7	76

2 TEMPORARY EROSION CONTROL DETAILS

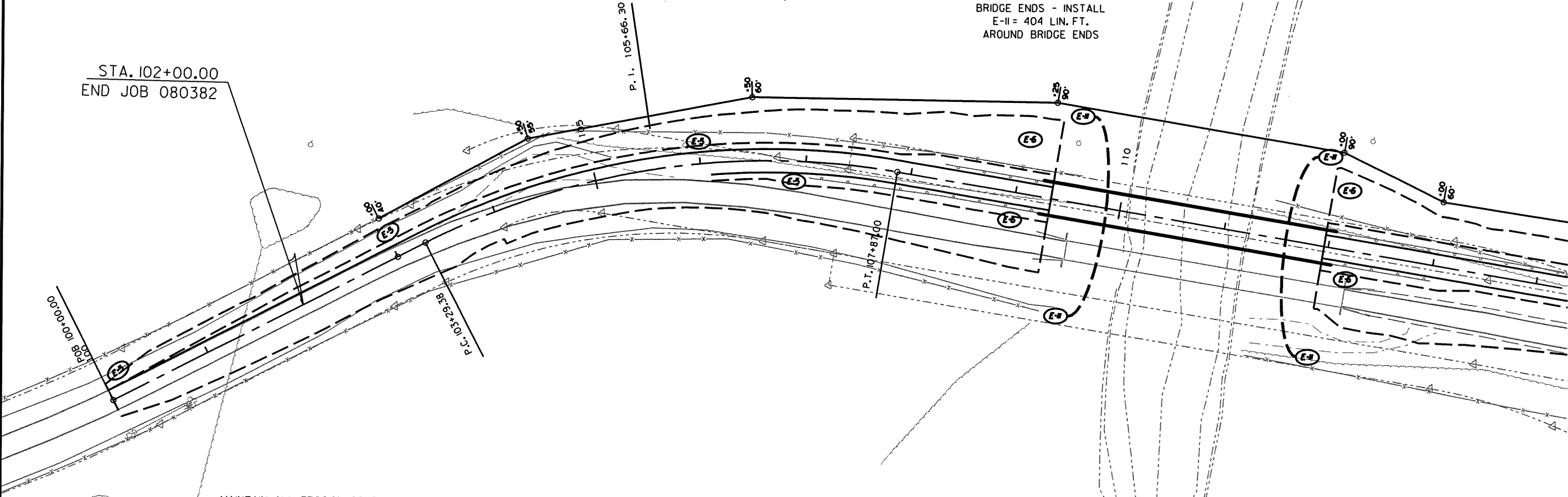


LEGEND

- E-5 = SAND BAG DITCH CHECK
- E-6 = ROCK DITCH CHECK
- E-11 = SILT FENCE



BRIDGE ENDS - INSTALL
E-11 = 404 LIN. FT.
AROUND BRIDGE ENDS



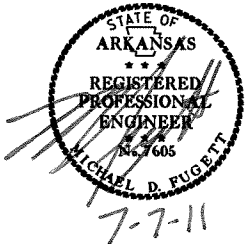
• MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.

DATE OF REVISION	REVISION

STAGE 1
TEMPORARY EROSION CONTROL DETAILS

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. 080382			8	76

2 TEMPORARY EROSION CONTROL DETAILS



LEGEND

E-5

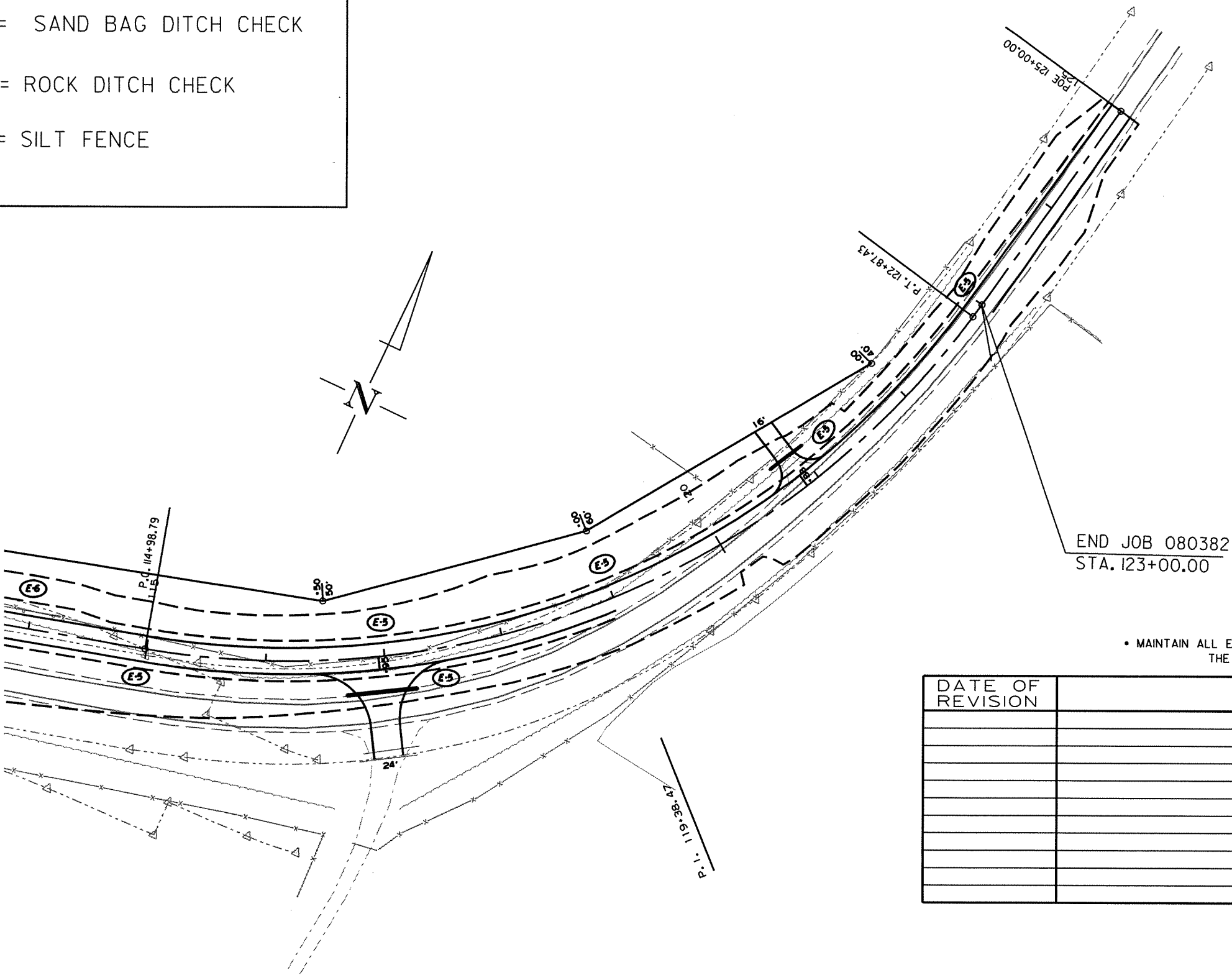
= SAND BAG DITCH CHECK

E-6

= ROCK DITCH CHECK

E-11

= SILT FENCE



• MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.

DATE OF REVISION	REVISION

STAGE 1
TEMPORARY EROSION CONTROL DETAILS

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.		080382	9	76
② TEMPORARY EROSION CONTROL DETAILS								



7-7-11

LEGEND

E-5

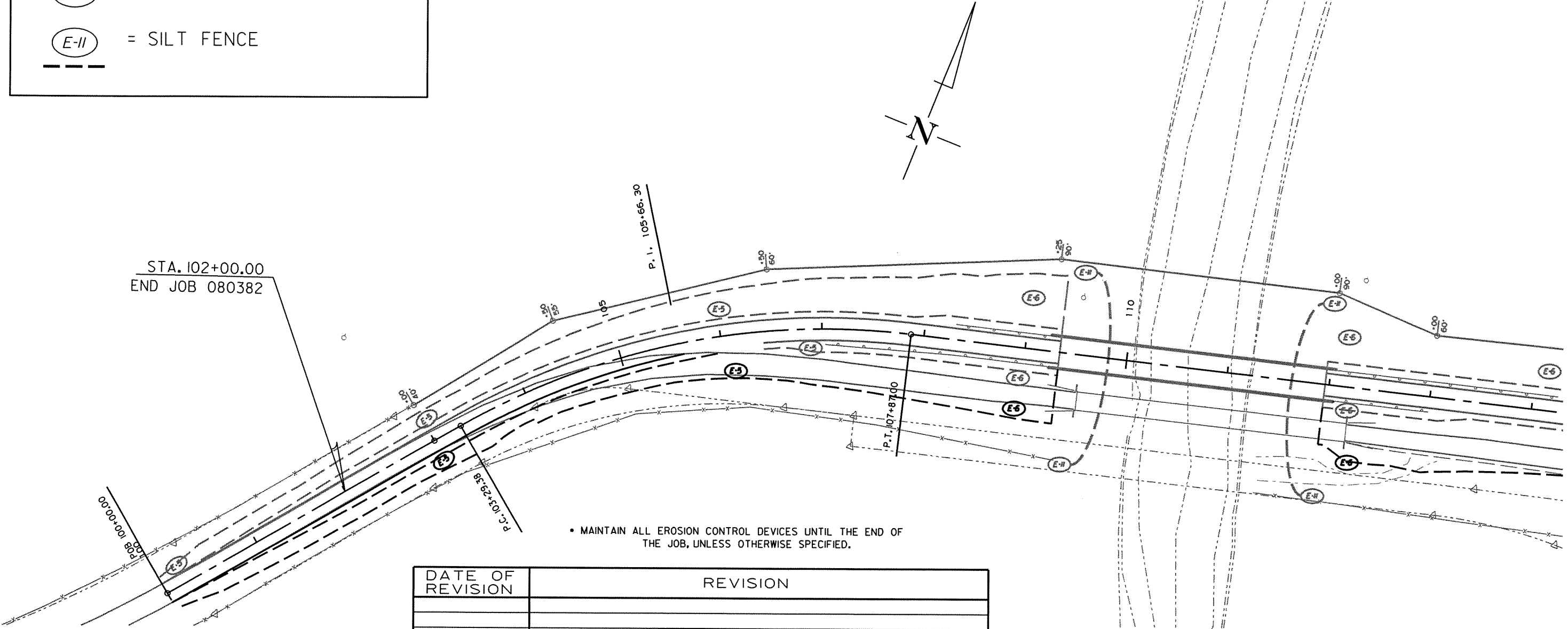
= SAND BAG DITCH CHECK

E-6

= ROCK DITCH CHECK

E-11

= SILT FENCE



DATE OF REVISION	REVISION

STAGE 2
TEMPORARY EROSION CONTROL DETAILS

R080382.DGN 3/23/2011

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.		080382	10	76

2 TEMPORARY EROSION CONTROL DETAILS



LEGEND

E-5

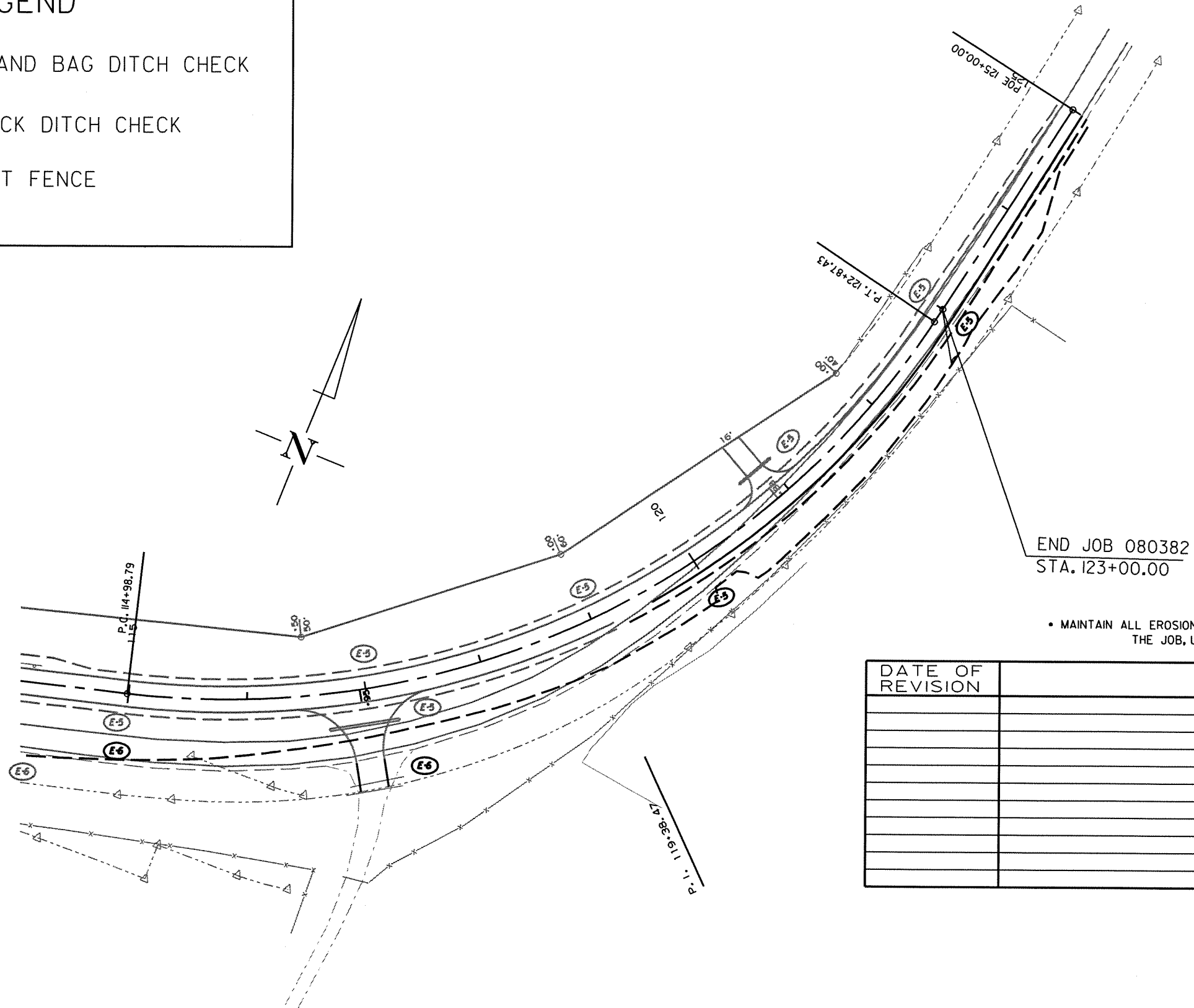
= SAND BAG DITCH CHECK

E-6

= ROCK DITCH CHECK

E-11

= SILT FENCE



END JOB 080382
STA. 123+00.00

• MAINTAIN ALL EROSION CONTROL DEVICES UNTIL THE END OF THE JOB, UNLESS OTHERWISE SPECIFIED.

DATE OF REVISION	REVISION

STAGE 2
TEMPORARY EROSION CONTROL DETAILS

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.		080382	II	76

② MAINTENANCE OF TRAFFIC DETAILS



SEQUENCE OF OPERATIONS

STAGE 1

MAINTAIN TRAFFIC ON EXISTING ALIGNMENT
PLACE LEVELING IF AND WHERE DIRECTED BY THE ENGINEER
PLACE CONSTRUCTION PAVEMENT MARKINGS
INSTALL VERTICAL PANELS AND TRAFFIC DRUMS
CONSTRUCT NOTCH AND WIDEN ON LEFT SIDE OF HWY. 124
CONSTRUCT BRIDGE
CONSTRUCT LEFT SIDE OF APPROACHES

STAGE 2

SHIFT TRAFFIC TO CONST. ALIGNMENT
PLACE CONSTRUCTION PAVEMENT MARKINGS
INSTALL VERTICAL PANELS AND TRAFFIC DRUMS
CONSTRUCT NOTCH AND WIDEN ON RIGHT SIDE OF HWY. 124
REMOVE OLD BRIDGE AND EXISTING HWY. 38 PAVEMENT

STAGE 3

MAINTAIN TRAFFIC ON FINAL ALIGNMENT
COLD MILL TRANSITIONS AT JOB ENDS
PLACE FINAL LIFT OF SURFACE
PLACE FINAL STRIPING

DO
NOT
PASS

(4) R4-1
(24" X 30")

SHOULDER
CLOSED

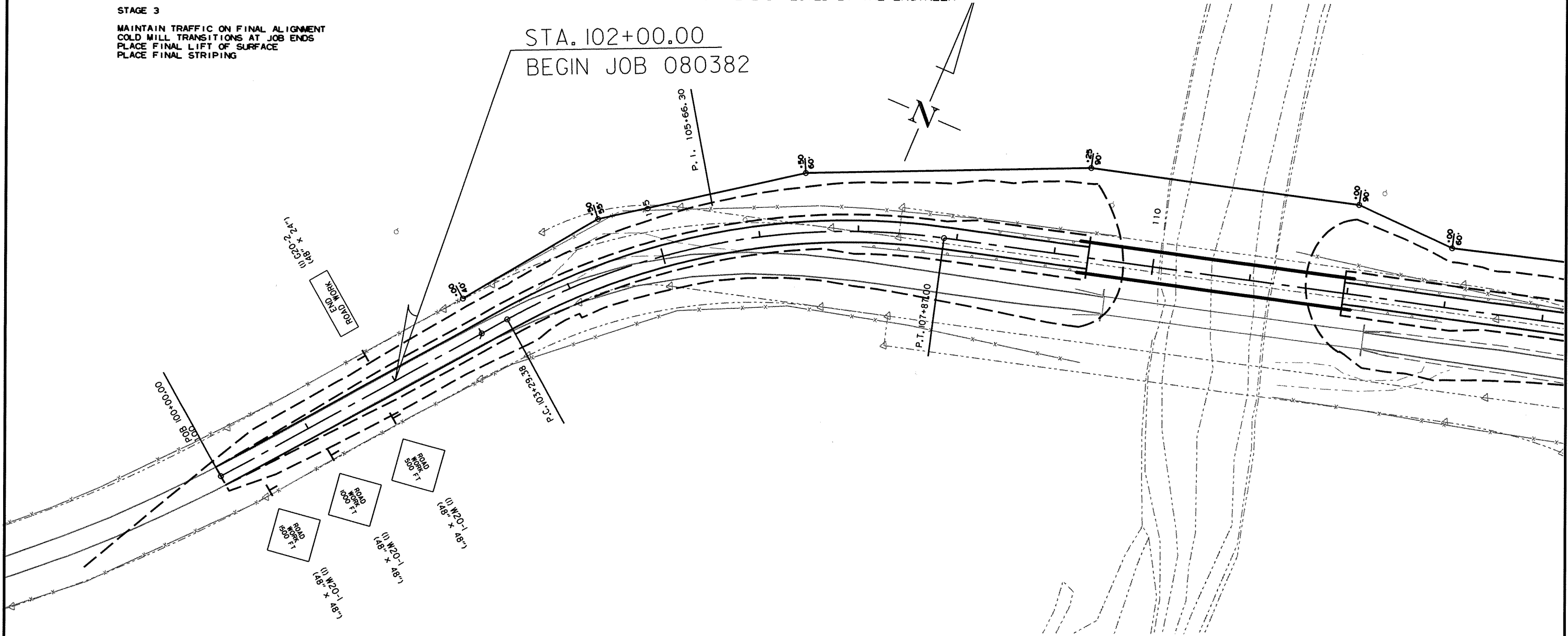
(4) RSP-1
(48" X 30")

SHOULDER
DROP-OFF

(4) W8-9A
(36" X 36")

RSP-1, R4-1 & W8-9A TO BE USED
IF AND WHERE DIRECTED BY THE ENGINEER

STA. 102+00.00
BEGIN JOB 080382



ALL STAGES
MAINTENANCE OF TRAFFIC DETAILS

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. 080382		12	76	

2 MAINTENANCE OF TRAFFIC DETAILS



7-7-11

SEQUENCE OF OPERATIONS

STAGE 1

MAINTAIN TRAFFIC ON EXISTING ALIGNMENT
PLACE LEVELING IF AND WHERE DIRECTED BY THE ENGINEER
PLACE CONSTRUCTION PAVEMENT MARKINGS
INSTALL VERTICAL PANELS AND TRAFFIC DRUMS
CONSTRUCT NOTCH AND WIDEN ON LEFT SIDE OF HWY. 124
CONSTRUCT BRIDGE
CONSTRUCT LEFT SIDE OF APPROACHES

STAGE 2

SHIFT TRAFFIC TO CONST. ALIGNMENT
PLACE CONSTRUCTION PAVEMENT MARKINGS
INSTALL VERTICAL PANELS AND TRAFFIC DRUMS
CONSTRUCT NOTCH AND WIDEN ON RIGHT SIDE OF HWY. 124
REMOVE OLD BRIDGE AND EXISTING HWY. 38 PAVEMENT

STAGE 3

MAINTAIN TRAFFIC ON FINAL ALIGNMENT
COLD MILL TRANSITIONS AT JOB ENDS
PLACE FINAL LIFT OF SURFACE
PLACE FINAL STRIPING

DO
NOT
PASS

(4) R4-1
(24" X 30")

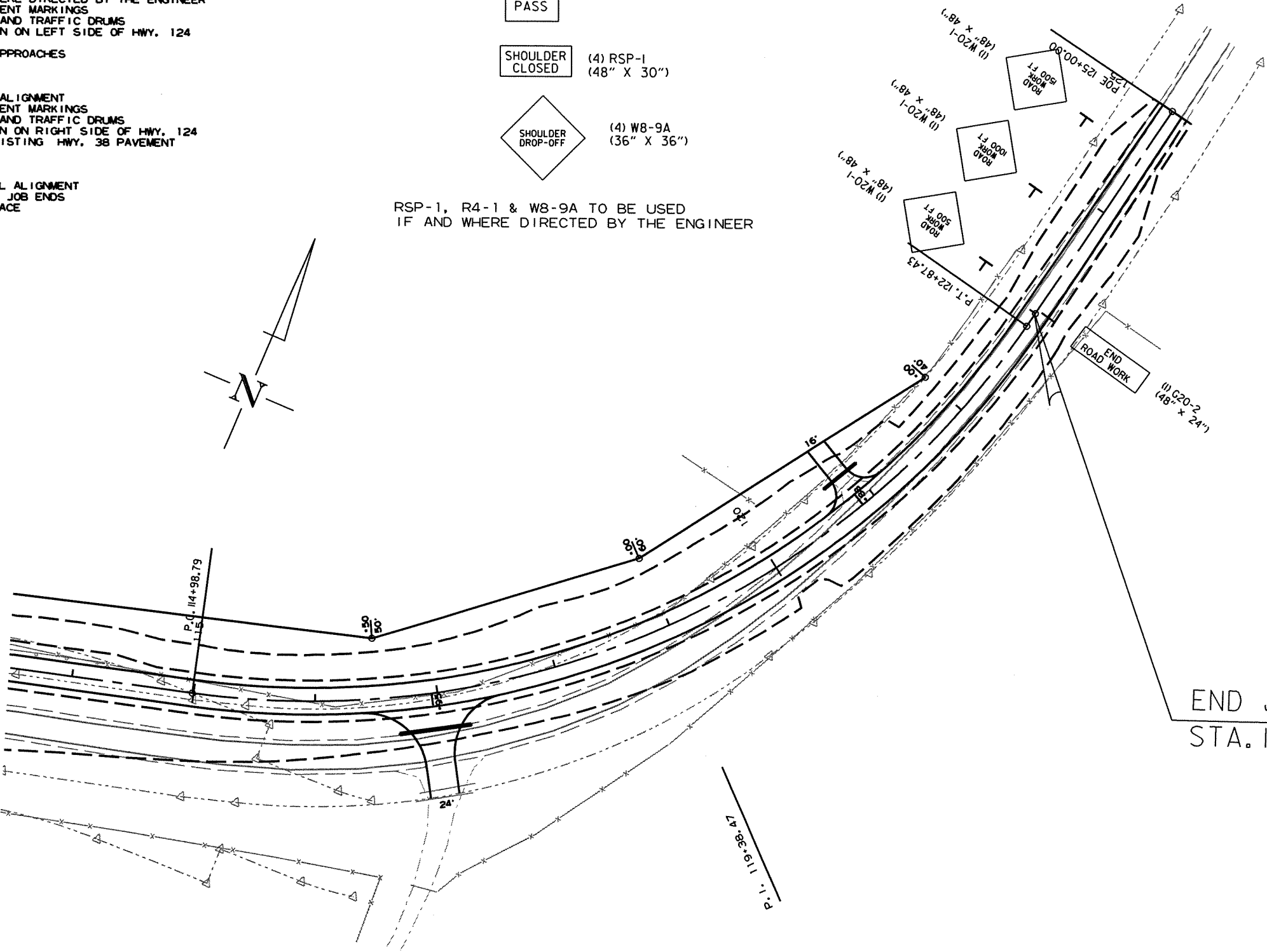
SHOULDER
CLOSED

(4) RSP-1
(48" X 30")

SHOULDER
DROP-OFF

(4) W8-9A
(36" X 36")

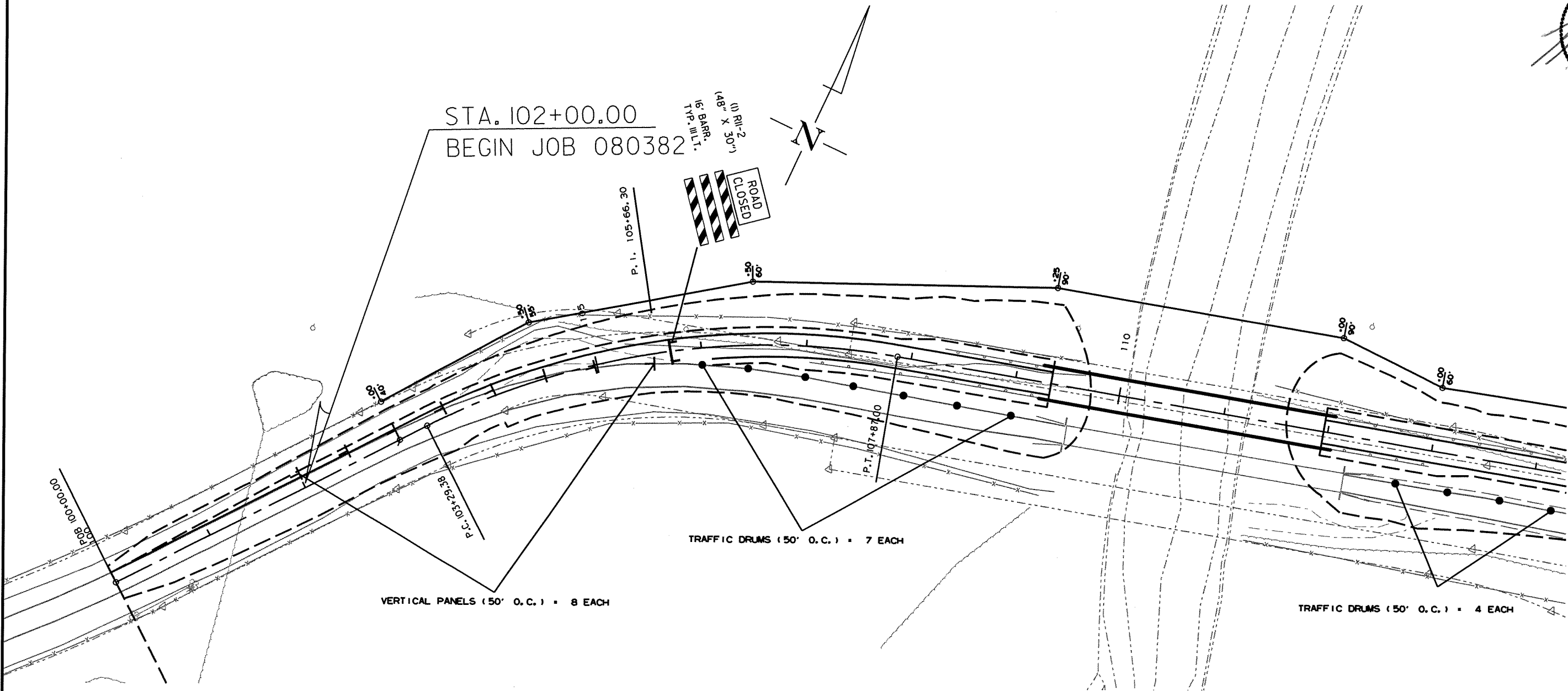
RSP-1, R4-1 & W8-9A TO BE USED
IF AND WHERE DIRECTED BY THE ENGINEER



END JOB 080382
STA. 123+00.00

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. 080382	13	76

2 MAINTENANCE OF TRAFFIC DETAILS



SEQUENCE OF OPERATIONS

STAGE 1

MAINTAIN TRAFFIC ON EXISTING ALIGNMENT
PLACE LEVELING IF AND WHERE DIRECTED BY THE ENGINEER
PLACE CONSTRUCTION PAVEMENT MARKINGS
INSTALL VERTICAL PANELS AND TRAFFIC DRUMS
CONSTRUCT NOTCH AND WIDEN ON LEFT SIDE OF HWY. 124
CONSTRUCT BRIDGE
CONSTRUCT LEFT SIDE OF APPROACHES

STA. 102+00.00 - STA. 105+50.00 LT. OF EXIST. PAV'T
VERTICAL PANELS (50' O.C.) = 8 EACH
STA. 106+00.00 - STA. 109+00.00 LT. OF EXIST. PAV'T
TRAFFIC DRUMS (50' O.C.) = 7 EACH
STA. 112+70.00 - STA. 119+70.00 LT. OF EXIST. PAV'T
TRAFFIC DRUMS (50' O.C.) = 16 EACH
STA. 120+88 LT. OF EXIST. PAV'T
TRAFFIC DRUMS (6 PER DRIVE) = 6 EACH
STA. 120+00.00 - STA. 123+00.00 LT. OF EXIST. PAVT
VERTICAL PANELS (50' O.C.) = 6 EACH
STA. 102+00.00 - STA. 106+00.00
LT. AND RT. EDGE LINES AND DBL. C.L. CONSTRUCTION PAVEMENT MARKINGS = 1600 LIN. FT.
STA. 119+00.00 - STA. 123+00.00
LT. AND RT. EDGE LINES AND DBL. C.L. CONSTRUCTION PAVEMENT MARKINGS = 1600 LIN. FT.

STAGE 1
MAINTENANCE OF TRAFFIC DETAILS

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. 080382		14	76	

2 MAINTENANCE OF TRAFFIC DETAILS

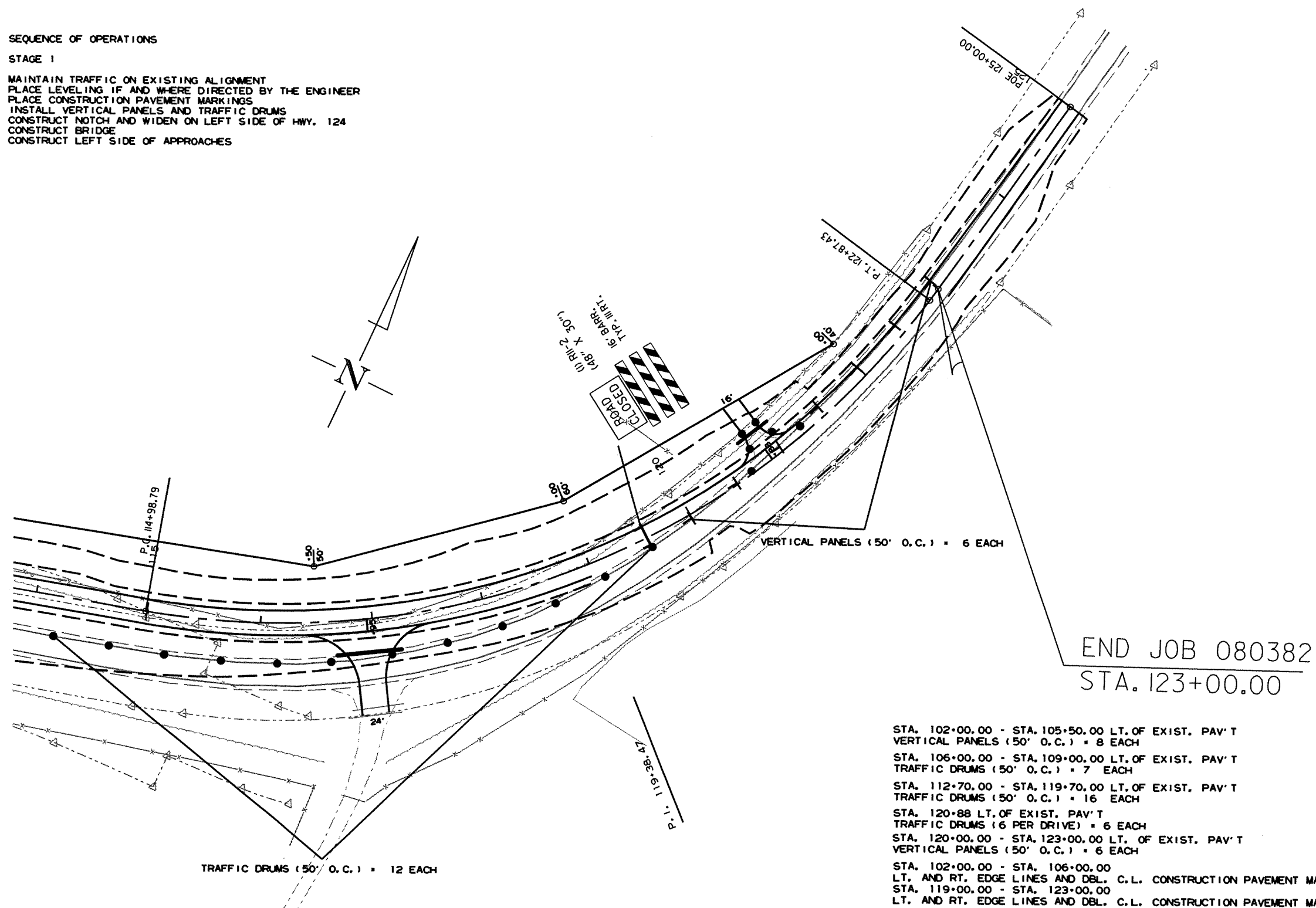


7-7-11

SEQUENCE OF OPERATIONS

STAGE 1

MAINTAIN TRAFFIC ON EXISTING ALIGNMENT
PLACE LEVELING IF AND WHERE DIRECTED BY THE ENGINEER
PLACE CONSTRUCTION PAVEMENT MARKINGS
INSTALL VERTICAL PANELS AND TRAFFIC DRUMS
CONSTRUCT NOTCH AND WIDEN ON LEFT SIDE OF HWY. 124
CONSTRUCT BRIDGE
CONSTRUCT LEFT SIDE OF APPROACHES



STAGE 1
MAINTENANCE OF TRAFFIC DETAILS

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.	080382		15	76

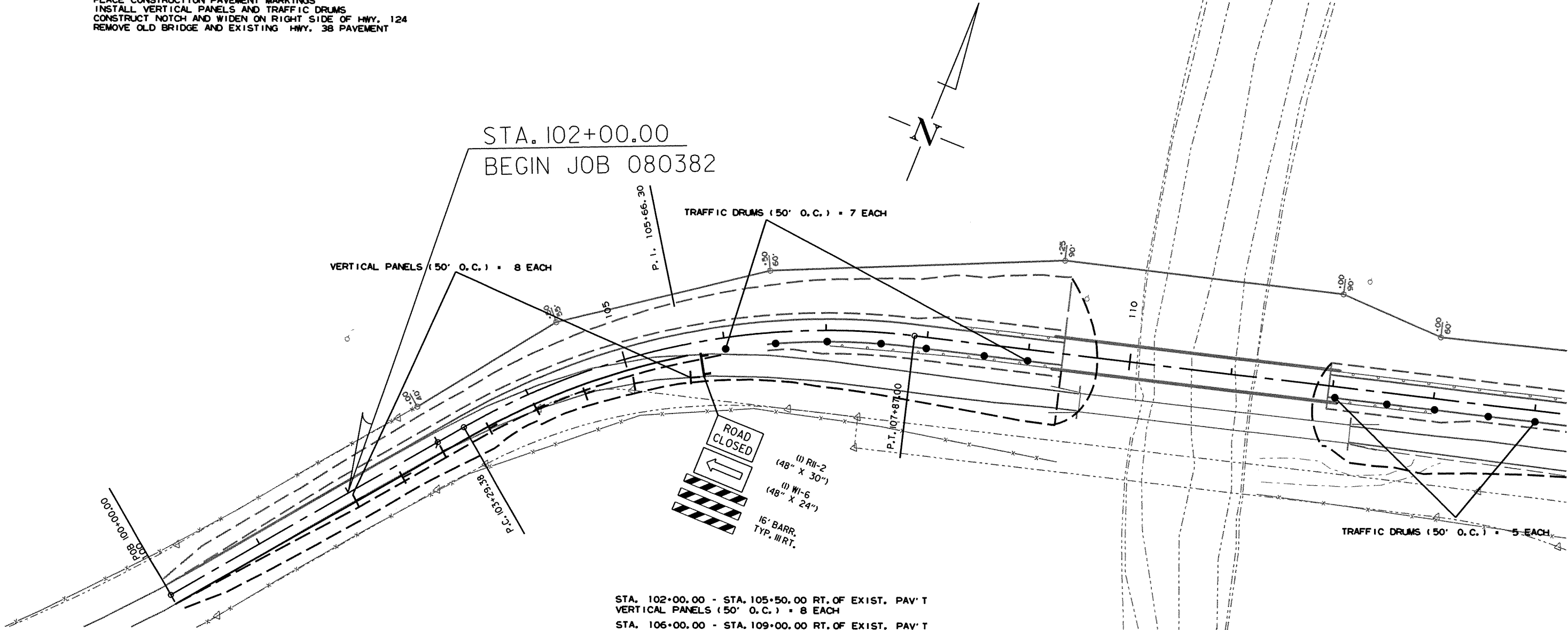
2 MAINTENANCE OF TRAFFIC DETAILS



SEQUENCE OF OPERATIONS

STAGE 2

SHIFT TRAFFIC TO CONST. ALIGNMENT
PLACE CONSTRUCTION PAVEMENT MARKINGS
INSTALL VERTICAL PANELS AND TRAFFIC DRUMS
CONSTRUCT NOTCH AND WIDEN ON RIGHT SIDE OF HWY. 124
REMOVE OLD BRIDGE AND EXISTING HWY. 38 PAVEMENT



STA. 102+00.00 - STA. 105+50.00 RT. OF EXIST. PAV'T
VERTICAL PANELS (50' O.C.) = 8 EACH
STA. 106+00.00 - STA. 109+00.00 RT. OF EXIST. PAV'T
TRAFFIC DRUMS (50' O.C.) = 7 EACH
STA. 112+00.00 - STA. 119+50.00 RT. OF CONST. PAV'T
TRAFFIC DRUMS (50' O.C.) = 13 EACH
STA. 115+95 RT. OF CONST. PAV'T
TRAFFIC DRUMS (8 PER DRIVE) = 8 EACH
STA. 120+00.00 - STA. 123+00.00 RT. OF EXIST. PAV'T
VERTICAL PANELS (50' O.C.) = 7 EACH
STA. STA. 109+33.92 - STA. 111+96.08 (BRIDGE DECK)
REMOVABLE CONSTRUCTION PAVEMENT MARKINGS = 3336 LIN. FT.
STA. 103+29.00 - STA. 109+33.92
LT. AND RT. EDGE LINES AND DBL. C.L. CONSTRUCTION PAVEMENT MARKINGS = 2420 LIN. FT.
STA. 111+96.08 - STA. 122+88.00
LT. AND RT. EDGE LINES AND DBL. C.L. CONSTRUCTION PAVEMENT MARKINGS = 4368 LIN. FT.

STAGE 2
MAINTENANCE OF TRAFFIC DETAILS

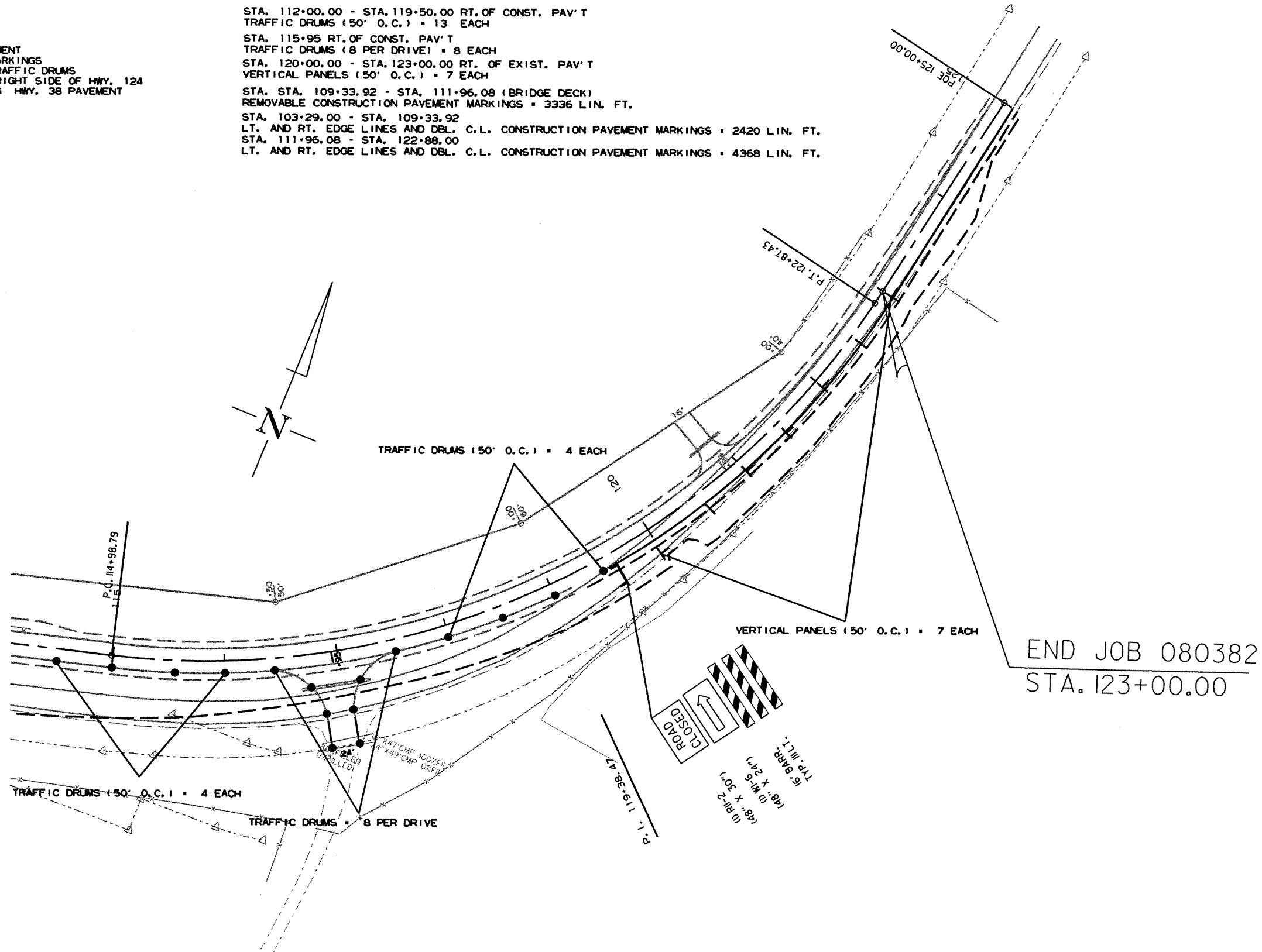
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO. 080382		16	76	

② MAINTENANCE OF TRAFFIC DETAILS



SEQUENCE OF OPERATIONS
STAGE 2
SHIFT TRAFFIC TO CONST. ALIGNMENT
PLACE CONSTRUCTION PAVEMENT MARKINGS
INSTALL VERTICAL PANELS AND TRAFFIC DRUMS
CONSTRUCT NOTCH AND WIDEN ON RIGHT SIDE OF HWY. 124
REMOVE OLD BRIDGE AND EXISTING HWY. 38 PAVEMENT

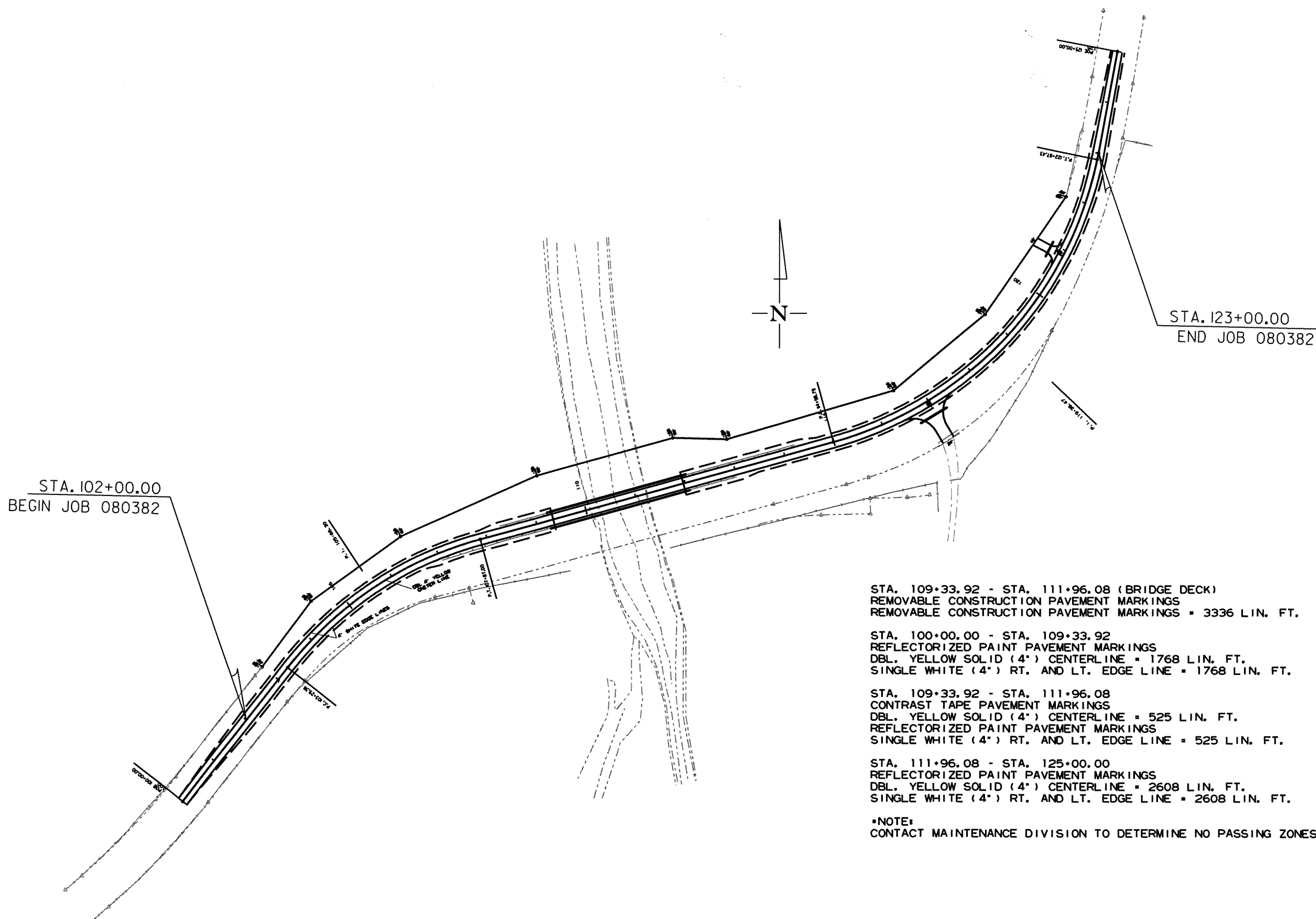
STA. 102+00.00 - STA. 105+50.00 RT. OF EXIST. PAV'T
VERTICAL PANELS (50' O.C.) = 8 EACH
STA. 106+00.00 - STA. 109+00.00 RT. OF EXIST. PAV'T
TRAFFIC DRUMS (50' O.C.) = 7 EACH
STA. 112+00.00 - STA. 119+50.00 RT. OF CONST. PAV'T
TRAFFIC DRUMS (50' O.C.) = 13 EACH
STA. 115+95 RT. OF CONST. PAV'T
TRAFFIC DRUMS (8 PER DRIVE) = 8 EACH
STA. 120+00.00 - STA. 123+00.00 RT. OF EXIST. PAV'T
VERTICAL PANELS (50' O.C.) = 7 EACH
STA. STA. 109+33.92 - STA. 111+96.08 (BRIDGE DECK)
REMOVABLE CONSTRUCTION PAVEMENT MARKINGS = 3336 LIN. FT.
STA. 103+29.00 - STA. 109+33.92
LT. AND RT. EDGE LINES AND DBL. C.L. CONSTRUCTION PAVEMENT MARKINGS = 2420 LIN. FT.
STA. 111+96.08 - STA. 122+88.00
LT. AND RT. EDGE LINES AND DBL. C.L. CONSTRUCTION PAVEMENT MARKINGS = 4368 LIN. FT.



END JOB 080382
STA. 123+00.00

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.		080382	17	76

2 PERMANENT PAVEMENT MARKING DETAILS



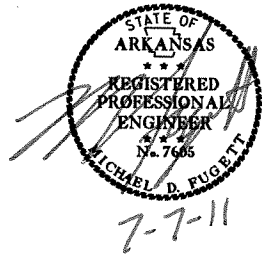
- STA. 109+33.92 - STA. 111+96.08 (BRIDGE DECK)
REMOVABLE CONSTRUCTION PAVEMENT MARKINGS
REMOVABLE CONSTRUCTION PAVEMENT MARKINGS = 3336 LIN. FT.
- STA. 100+00.00 - STA. 109+33.92
REFLECTORIZED PAINT PAVEMENT MARKINGS
DBL. YELLOW SOLID (4") CENTERLINE = 1768 LIN. FT.
SINGLE WHITE (4") RT. AND LT. EDGE LINE = 1768 LIN. FT.
- STA. 109+33.92 - STA. 111+96.08
CONTRAST TAPE PAVEMENT MARKINGS
DBL. YELLOW SOLID (4") CENTERLINE = 525 LIN. FT.
REFLECTORIZED PAINT PAVEMENT MARKINGS
SINGLE WHITE (4") RT. AND LT. EDGE LINE = 525 LIN. FT.
- STA. 111+96.08 - STA. 125+00.00
REFLECTORIZED PAINT PAVEMENT MARKINGS
DBL. YELLOW SOLID (4") CENTERLINE = 2608 LIN. FT.
SINGLE WHITE (4") RT. AND LT. EDGE LINE = 2608 LIN. FT.

*NOTE:
CONTACT MAINTENANCE DIVISION TO DETERMINE NO PASSING ZONES.

PERMANENT PAVEMENT MARKING DETAILS

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.		080382	18	76

2 QUANTITIES



CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS

DESCRIPTION	STAGE 1	STAGE 2	END OF JOB	CONSTRUCTION PAVEMENT MARKINGS	REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS	REMOVABLE CONSTRUCTION PAVEMENT MARKINGS	REFLECTORIZED PAINT PAVEMENT MARKINGS		HIGH PERFORMANCE CONTRAST PAVEMENT MARKING
							4"		
							WHITE	YELLOW	
	LIN.FT. - EACH			LIN.FT.	LIN.FT.		LIN.FT.		LIN.FT.
CONSTRUCTION PAVEMENT MARKINGS	3200	6788		9988					
REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS			3336		3336				
REMOVABLE CONSTRUCTION PAV'T MARKINGS		3336				3336			
REFLECTORIZED PAINT PAVEMENT MARKINGS WHITE (4")			4901				4901		
REFLECTORIZED PAINT PAVEMENT MARKINGS YELLOW (4")			4376					4376	
HIGH PERFORMANCE CONTRAST PAVEMENT MARKING YELLOW (4")			525						525
TOTALS:				9988	3336	3336	4901	4376	525

NOTE: THIS IS A LOW TRAFFIC VOLUME ROAD AS DEFINED IN SECTION 604.03, STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, 2003 EDITION.

ADVANCE WARNING SIGNS AND DEVICES

SIGN NUMBER	DESCRIPTION	SIGN SIZE	STAGE 1	STAGE 2	END OF JOB	MAXIMUM NUMBER REQUIRED	TOTAL SIGNS REQUIRED		VERTICAL PANELS	TRAFFIC DRUMS	BARRICADES (TYPE III)	
							NO.	SQ. FT.			EACH	LIN.FT.
			LIN.FT. - EACH									
W20-1	ROAD WORK 1500 FT.	48"x48"	2	2	2	2	2	32.0				
W20-1	ROAD WORK 1000 FT.	48"x48"	2	2	2	2	2	32.0				
W20-1	ROAD WORK 500 FT.	48"x48"	2	2	2	2	2	32.0				
W20-1	ROAD WORK AHEAD	48"x48"	2	2	2	2	2	32.0				
G20-2	END ROAD WORK	48"x24"	2	2	2	2	2	16.0				
R11-2	ROAD CLOSED	48"x30"		2	2	2	2	20.0				
W1-6	LARGE ARROW	48"x24"		2	2	2	2	16.0				
R4-1	DO NOT PASS	24"x30"	4	4	4	4	4	20.0				
RSP-1	SHOULDER CLOSED	48"x30"	4	4	4	4	4	40.0				
W8-9A	SHOULDER DROP-OFF	36"X36"	4	4	4	4	4	36.0				
	VERTICAL PANELS		14	13		14	14		14			
	TRAFFIC DRUMS		29	28	30	30	30			30		
	TYPE III BARRICADE-RT. (16')		1	1	1	1	1				16	
	TYPE III BARRICADE-LT. (16')		1	1	1	1	1					16
TOTALS:								276.0	14	30	16	16

QUANTITIES

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. 080382			19	76

② QUANTITIES



CLEARING AND GRUBBING

STATION	STATION	LOCATION	CLEARING	GRUBBING
			STATION	
100+00	103+00	MAIN LANES	3	3
104+50	109+50	MAIN LANES	5	5
111+50	123+50	MAIN LANES	12	12
TOTALS:			20	20

REMOVAL AND DISPOSAL OF GUARDRAIL

STATION	STATION	LOCATION	GUARDRAIL
			LIN. FT.
109+26	109+56	RT. MAIN LANES	30
109+26	109+56	LT. MAIN LANES	30
112+50	112+80	RT. MAIN LANES	30
112+50	112+80	LT. MAIN LANES	30
TOTAL:			120

REMOVAL AND DISPOSAL OF CULVERTS

STATION	DESCRIPTION	PIPE CULVERTS
		EACH
120+88	18" X 20' C.M. PIPE CULVERT	1
TOTAL:		1

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

EARTHWORK

STATION	STATION	LOCATION / DESCRIPTION	UNCLASSIFIED EXCAVATION	COMPACTED EMBANKMENT	* SOIL STABILIZATION
			CU. YD.		TON
ENTIRE	PROJECT	MAIN LANES - STAGE 1	2741	9572	
ENTIRE	PROJECT	MAIN LANES - STAGE 2	5236	418	
ENTIRE	PROJECT	APPROACHES	35	105	
109+33.92	111+96.08	BRIDGE ENDS	315		
ENTIRE	PROJECT	TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER			50
TOTALS:			8327	10095	50

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

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

REMOVAL AND DISPOSAL OF FENCE

STATION	STATION	LOCATION	FENCE
			LIN. FT.
103+00	109+60	LT. MAIN LANES	660
111+43	122+00	LT. MAIN LANES	1057
TOTAL:			1717

BENCH MARKS

STATION	LOCATION	BENCH MARKS
		EACH
111+96	BRIDGE END	1
TOTAL:		1

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

FENCING

STATION	STATION	LOCATION	WIRE FENCE (TYPE D)	* 16'-0" GATES
			LIN. FT.	EACH
103+00	109+60	LT. MAIN LANES	660	
111+43	122+00	LT. MAIN LANES	1057	1
TOTALS:			1717	1

* DENOTES ALTERNATE BID ITEM.

GUARDRAIL

STATION	STATION	LOCATION	GUARDRAIL (TYPE A)	THRIE BEAM GUARDRAIL TERMINAL	TERMINAL ANCHOR POST (TYPE 1)
			LIN. FT.	EACH	
108+30.77	109+24.52	LT. SIDE	75	1	1
107+05.77	109+24.52	RT. SIDE	200	1	1
112+05.48	114+24.23	LT. SIDE	200	1	1
112+05.48	112+99.23	RT. SIDE	75	1	1
TOTAL:			550	4	4

APPROACH GUTTERS

STATION	STATION	LOCATION	APPROACH GUTTER (TYPE B)	REINFORCING STEEL RDWY. (GR 60)
			CU. YD.	POUND
109+33.92	109+33.92	RT. SIDE MAIN LANES	3.75	319.00
109+33.92	109+33.92	LT. SIDE MAIN LANES	3.75	319.00
111+96.08	111+96.08	RT. SIDE MAIN LANES	3.75	319.00
111+96.08	111+96.08	LT. SIDE MAIN LANES	3.75	319.00
TOTALS:			15.00	1276

QUANTITIES

DRIVEWAYS & TURNOUTS

STATION	SIDE	DESCRIPTION	WIDTH	ACHM SURFACE COURSE (1/2") 220 LBS. PER SQ. YD. (PG64-22)		AGGREGATE BASE COURSE (CLASS 7)	SIDE DRAINS	
			FEET	SQ. YD.	TON	TON	18"	24"
116+95	RT.	DRIVEWAY	24	191.1	21.0	111.6		60
120+88	LT.	DRIVEWAY	16	30.4	3.3	40.4	34	
* ENTIRE PROJECT TEMPORARY DRIVES								
TOTALS:							34	60

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.7% MIN. AGGR.....5.3% 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

4" PIPE UNDERDRAIN

STATION	STATION	LOCATIONS	4" PIPE UNDERDRAINS	UNDERDRAIN OUTLET PROTECTORS
			LIN.FT.	EACH
ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER			1000	6
TOTALS:			1000	6

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

ACHM PATCHING OF EXISTING ROADWAY

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

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

EROSION CONTROL

STATION	STATION	LOCATION	PERMANENT EROSION CONTROL					TEMPORARY EROSION CONTROL								
			SEEDING	LIME	MULCH COVER	WATER	SECOND SEEDING APPLICATION	TEMPORARY SEEDING	MULCH COVER	WATER	SAND BAG DITCH CHECKS	ROCK DITCH CHECKS	SILT FENCE	SEDIMENT BASIN	OBLITERATION OF SEDIMENT BASIN	*SEDIMENT REMOVAL & DISPOSAL
			ACRE	TON	ACRE	M.GAL.	ACRE	ACRE	ACRE	M.GAL.	(E-5) BAG	(E-6) CU.YD.	(E-11) LIN.FT.	(E-9) CU.YD.	CU.YD.	CU. YD.
ENTIRE	PROJECT	STAGE 1	11.01	22.02	11.01	1123.0	11.01				220	15	404			30
ENTIRE	PROJECT	STAGE 2	10.64	21.28	10.64	1085.3	10.64				88	15				9
*ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.								7.00	7.00	142.8	154	15	1000	100	100	12
TOTALS:								7.00	7.00	142.8	462	45	1404	100	100	137
								7.00	7.00	142.8	462	45	1404	100	100	188

BASIS OF ESTIMATE:
LIME2 TONS / ACRE OF SEEDING
WATER.....102.0 M.G. / ACRE OF SEEDING.
WATER.....20.4 M.G. / ACRE OF TEMPORARY SEEDING.
SAND BAG DITCH CHECKS.....22 BAGS / LOCATION
ROCK DITCH CHECKS.....3 CU.YD./LOCATION

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

COLD MILLING ASPHALT PAVEMENT

STATION	STATION	LOCATION	AVG. WIDTH	COLD MILLING ASPHALT PAVEMENT
			FEET	SQ. YD.
100+00	101+00	MAIN LANES	20	222.22
124+00	125+00	MAIN LANES	20	222.22
TOTAL:				444.44

NOTE: AVERAGE MILLING DEPTH 1".

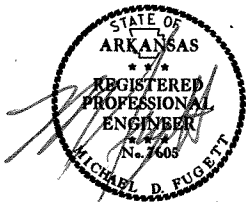
EROSION CONTROL MATTING

STATION	STATION	LOCATION	LENGTH	CLASS 3
			LIN. FT.	SQ. YD.
118+00	120+00	RT. SIDE	200.0	177.8
TOTAL:				177.8

NOTE: AVERAGE WIDTH = 8'-0"

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.		080382	20	76

2 QUANTITIES



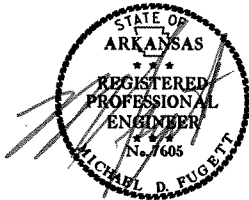
SELECTED PIPE BEDDING & BACKFILL

LOCATION	SELECTED PIPE BEDDING	SELECTED PIPE BACKFILL
	CU.YD.	
ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	5	10
TOTALS:	5	10

NOTE: QUANTITIES ARE ESTIMATED.
SEE SECTION 104.03 OF THE STD. SPECS.

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. 080382	21	76

2 QUANTITIES



BASE AND SURFACING																	
STATION	STATION	LOCATION	LENGTH	AGGREGATE BASE COURSE (CLASS 7)		TACK COAT				ACHM BINDER COURSE (1")				ACHM SURFACE COURSE (1/2")			
			FEET	TON / STATION	TON	TOTAL WID. FEET	SQ.YD.	GALLONS / SQ.YD.	GALLON	AVG. WID. FEET	SQ.YD.	POUND / SQ.YD.	PG 64-22 TON	AVG. WID. FEET	SQ.YD.	POUND / SQ.YD.	PG 64-22 TON
MAIN LANES																	
100+00	102+00	TRANSITION	200.0	120.00	240.0	20.0	444.4	0.10	44.4					34.0	755.6	220.0	83.1
102+00	105+66.30	NOTCH AND WIDEN SUPERELEVATED OPEN	366.3	120.00	439.6	24.8	1009.4	0.03	30.3	2.5	101.8	330.0	16.8	36.3	1477.4	220.0	162.5
105+66.30	109+25	FULL DEPTH SUPERELEVATED OPEN SHOULDER	358.7	197.50	708.4	44.7	1781.5	0.03	53.4	22.5	896.8	330.0	148.0	56.3	2243.9	220.0	246.8
109+25	109+33.92	FULL DEPTH OPEN SHOULDER	8.9	197.50	17.6	44.7	44.2	0.03	1.3	22.5	22.3	330.0	3.7	56.3	55.7	220.0	6.1
111+96.08	112+73.79	FULL DEPTH OPEN SHOULDER	77.7	197.50	153.5	44.7	385.9	0.03	11.6	22.5	194.3	330.0	32.1	56.3	486.1	220.0	53.5
112+73.79	119+38	FULL DEPTH SUPERELEVATED OPEN SHOULDER	664.2	197.50	1311.8	44.7	3298.9	0.03	99.0	22.5	1660.5	330.0	274.0	56.3	4154.9	220.0	457.0
119+38	123+00	NOTCH AND WIDEN SUPERELEVATED OPEN	362.0	120.00	434.4	24.8	997.5	0.03	29.9	2.5	100.6	330.0	16.6	36.3	1460.1	220.0	160.6
123+00	125+00	TRANSITION	200.0	120.00	240.0	20.0	444.4	0.10	44.4					34.0	755.6	220.0	83.1
ADDITIONAL FOR GUARDRAIL																	
106+62.77	106+95.77	HWY. 124 RIGHT	33.0											2.8	10.3	220.0	1.1
106+95.77	109+33.92	HWY. 124 RIGHT	238.2											5.5	145.6	220.0	16.0
111+96.08	113+09.23	HWY. 124 RIGHT	113.2											5.5	69.2	220.0	7.6
113+09.23	113+42.23	HWY. 124 RIGHT	33.0											2.8	10.3	220.0	1.1
107+87.77	108+20.77	HWY. 124 LEFT	33.0											2.8	10.3	220.0	1.1
108+20.77	109+33.92	HWY. 124 LEFT	113.2											5.5	69.2	220.0	7.6
111+96.08	114+34.23	HWY. 124 LEFT	238.2											5.5	145.6	220.0	16.0
114+34.23	114+67.23	HWY. 124 LEFT	33.0											2.8	10.3	220.0	1.1
ADDITIONAL FOR LEVELING																	
102+00	106+00	HWY. 124	400.0			20.0	888.9	0.10	88.9					20.0	VAR	220.0	187.1
119+00	123+00	HWY. 124	400.0			20.0	888.9	0.10	88.9					20.0	VAR	220.0	157.8
ADDITIONAL FOR SUPERELEVATION																	
102+00	104+00	TRANSITION	200.0	37.63	75.3												
104+00	106+25	MAX SUPER	225.0	72.25	162.6												
106+25	109+25	TRANSITION	300.0	36.13	108.4												
112+73.79	115+73.79	TRANSITION	300.0	36.13	108.4												
115+73.79	120+57.93	MAX SUPER	484.1	72.25	349.8												
120+57.93	123+00	TRANSITION	242.1	37.63	91.1												
TOTALS:					4440.9				492.1				491.2				1649.2
BASIS OF ESTIMATE:																	

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.7% MIN. AGGR.....5.3% ASPHALT BINDER
ACHM BINDER COURSE (1").....95.9% MIN. AGGR.....4.1% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22

SOIL LOG

STATION	LATITUDE			LONGITUDE			LOCATION	DEPTH	LIQUID LIMIT	PLASTICITY INDEX	AASHTO CLASSIFICATION	COLOR
	DEG	MIN	SEC	DEG	MIN	SEC		FEET				
103+00	35	19	13.70	92	29	16.00	5' RT	0-5	29	12	A-6(6)	RD/BR
103+00	35	19	13.60	92	29	15.70	28' RT	0-2.3Z	25	6	A-4(3)	BR
108+00	35	19	16.30	92	29	10.80	4' RT	0-5	19	2	A-4(0)	BR
114+00	35	19	18.10	92	29	4.00	CL	0-3.0Z	ND	NP	A-2-4(0)	BR
114+00	35	19	17.90	92	29	4.00	25' RT	0-6	20	3	A-4(0)	RD/BR
122+00	35	19	22.80	92	28	57.30	4' LT	0-5	26	12	A-6(5)	BR
122+00	35	19	22.80	92	28	57.50	29' LT	0-5	29	15	A-6(8)	RD/BR

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

CONCRETE DITCH PAVING

STATION	STATION	LOCATION	LENGTH	"W"	CONC. DITCH PAVING (TYPE B)	SOLID SODDING	WATER
			LIN. FT.	FEET	SQ. YD.		
111+96	113+00	LT. SIDE	104.00	4	46.22	46.22	0.58
TOTALS:					46.22	46.22	0.58

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

ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC

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

NOTE: QUANTITIES ARE ESTIMATED.
SEE SECTION 104.03 OF THE STD. SPECS.

QUANTITIES

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.		080382	22	76
				07201	QUANTITIES			51743

①

SCHEDULE OF BRIDGE QUANTITIES - JOB NO. 080382

BRIDGE NO. CODE NO.	NAME PLATE TITLE	UNIT OF STRUCTURE	ITEM NO.	205	802	802	803	804	805	807	808	812	816	816	SP JOB 080382	SP JOB 080382	SP JOB 080382	SP JOB 080382	SP JOB 080382
			ITEM	REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO.)	CLASS S CONCRETE- BRIDGE	CLASS S (AE) CONCRETE- BRIDGE	CLASS 1 PROTECTIVE SURFACE TREATMENT	REINFORCING STEEL- BRIDGE (GRADE 60)	STEEL PILING (HP 12X53)	STRUCTURAL STEEL IN BEAM SPANS (M 270, GRADE 50W)	ELASTOMERIC BEARINGS	BRIDGE NAME PLATE (TYPE D)	DUMPED RIPRAP	FILTER BLANKET	CROSSHOLE SONIC LOGGING (54" DIA.)	DRILLED SHAFT (54" DIA.)	PERMANENT STEEL CASING (54" DIA.)	CORING DRILLED SHAFT	SILICONE JOINT SEALANT
			UNIT	LUMP SUM	CU. YD.	CU. YD.	GAL.	LB.	LIN. FT.	LB.	CU. IN.	EACH	CU. YD.	SQ. YD.	EACH	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.
07201	X071	COVE CREEK	BENT NO. 1		24.69		0.2	2,766	76	620	1,228.5		97	171					
			BENT NO. 2		20.74			4,039			2,184.0				2	42	14	21	
			BENT NO. 3		20.78			4,039			2,184.0				2	42	14		
			BENT NO. 4		24.69		0.2	2,766	92	620	1,228.5		215	396					
			260'-0" CONT. COMP W-BEAM UNIT			274.40	21.5	65,470		225,110		1							66
			SITE NO. 1 (BRIDGE NO. 03140)	1															
			TOTALS FOR JOB NO. 080382		90.90	274.40	21.9	79,080	① 168	226,350	6,825.0	1	312	567	4	84	28	21	66

① All steel piling are required to have approved driving points which will not be paid for directly, but will be considered subsidiary to the item "Steel Piling (HP12x53)".

STEWART LINZ
DESIGN SECTION SUPERVISOR



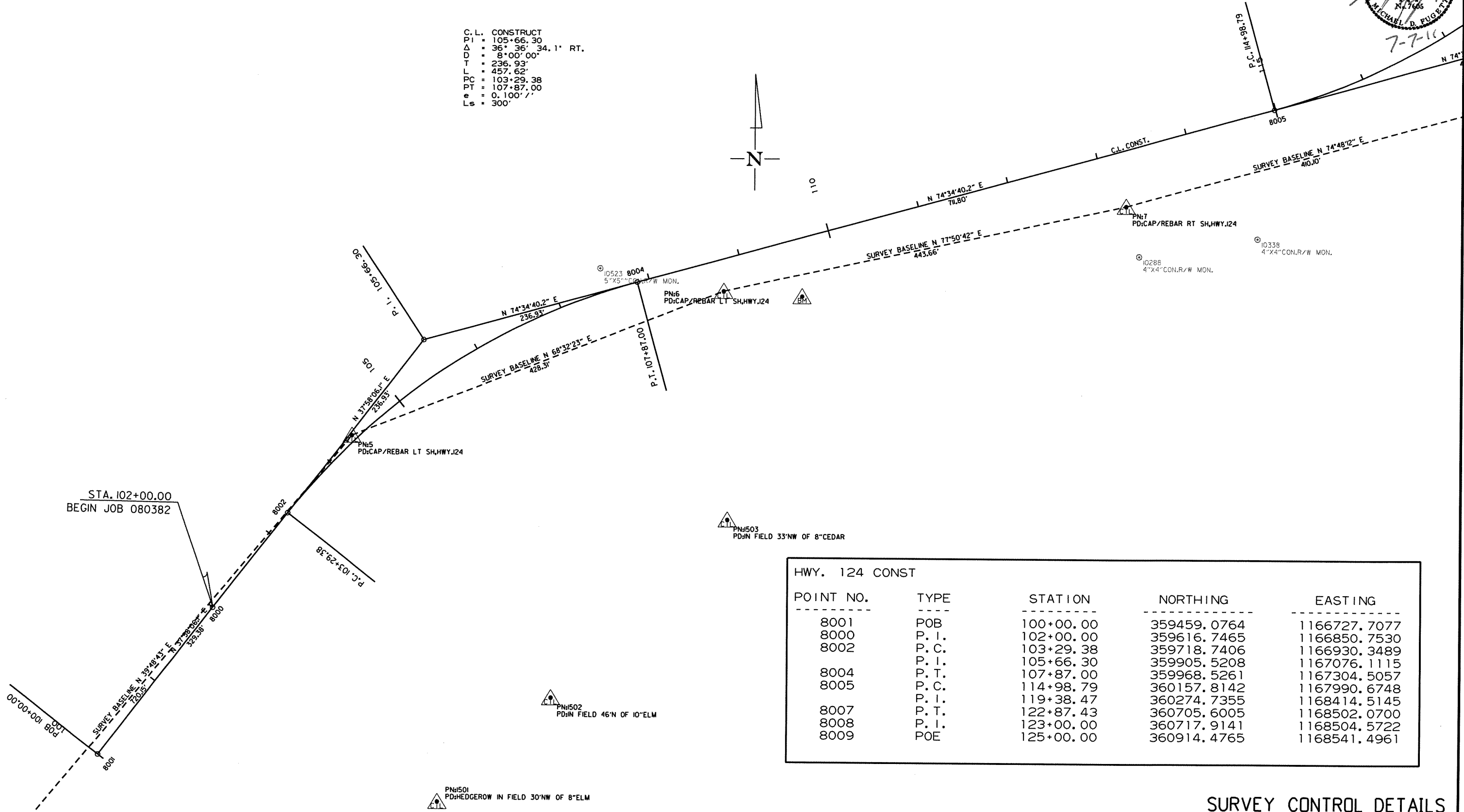
SCHEDULE OF BRIDGE QUANTITIES
BRIDGE OVER COVE CREEK
COVE CREEK STR. & APPRS. (S)
CONWAY COUNTY
ROUTE 124 SEC. 5
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.
DRAWN BY: CMW DATE: 11/23/10 FILENAME: b080382.qldgn
CHECKED BY: RGR DATE: 12/1/10 SCALE: NO SCALE
DESIGNED BY: DATE: BRIDGE NO. 07201 DRAWING NO. 51743

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. 080382		24	76	

2 SURVEY CONTROL DETAILS



C.L. CONSTRUCT
PI = 105+66.30
Δ = 36° 36' 34.1" RT.
D = 8° 00' 00"
T = 236.93'
L = 457.62'
PC = 103+29.38
PT = 107+87.00
e = 0.100' / 1'
Ls = 300'

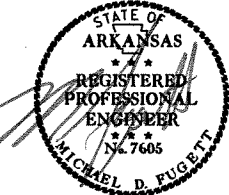


HWY. 124 CONST

POINT NO.	TYPE	STATION	NORTHING	EASTING
8001	P.O.B.	100+00.00	359459.0764	1166727.7077
8000	P. I.	102+00.00	359616.7465	1166850.7530
8002	P. C.	103+29.38	359718.7406	1166930.3489
	P. I.	105+66.30	359905.5208	1167076.1115
8004	P. T.	107+87.00	359968.5261	1167304.5057
8005	P. C.	114+98.79	360157.8142	1167990.6748
	P. I.	119+38.47	360274.7355	1168414.5145
8007	P. T.	122+87.43	360705.6005	1168502.0700
8008	P. I.	123+00.00	360717.9141	1168504.5722
8009	P.O.E.	125+00.00	360914.4765	1168541.4961

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. 080382	25	76

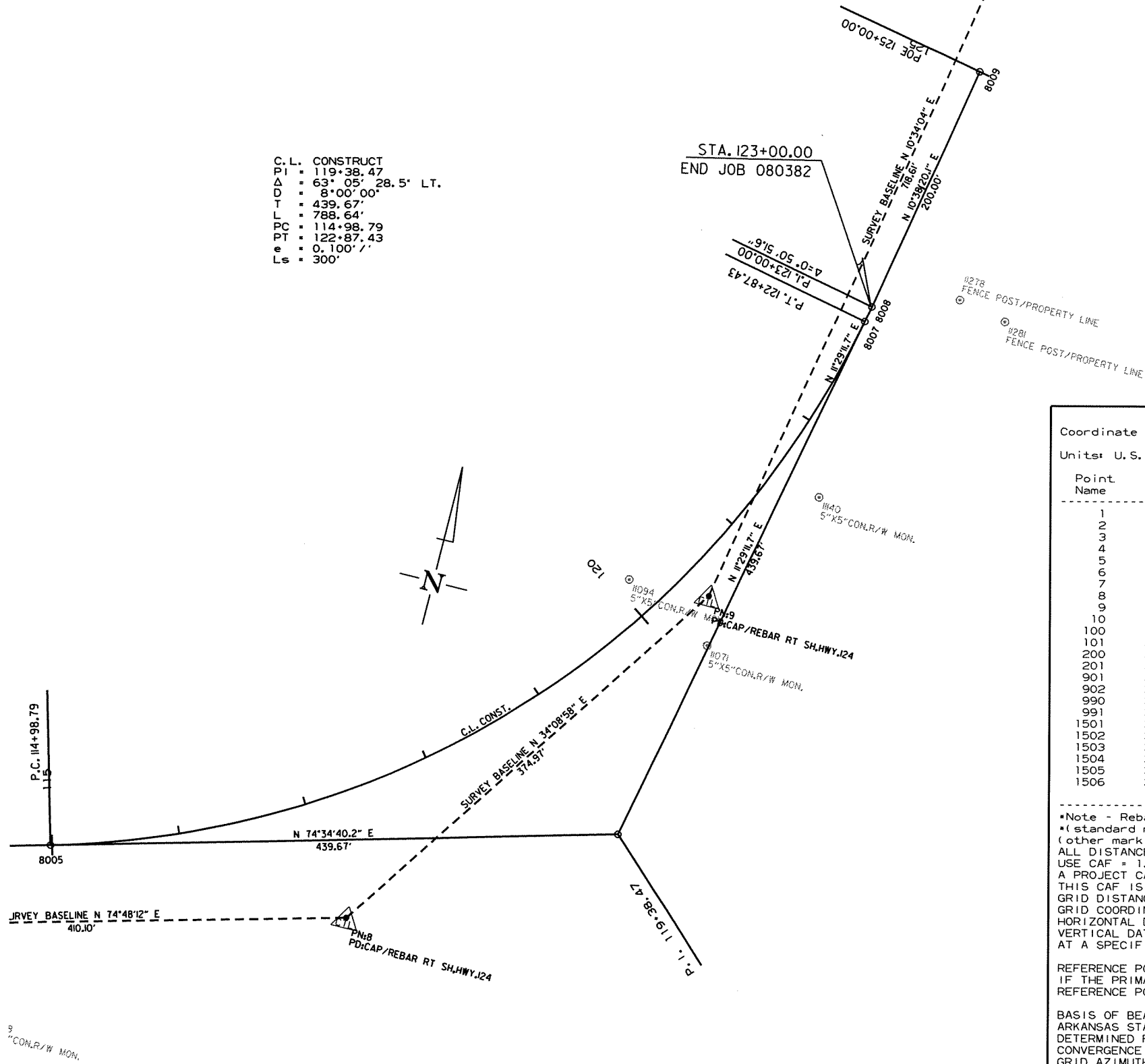
2 SURVEY CONTROL DETAILS



7-7-11

C.L. CONSTRUCT
PI = 119+38.47
Δ = 63° 05' 28.5" LT.
D = 8° 00' 00"
T = 439.67'
L = 788.64'
PC = 114+98.79
PT = 122+87.43
e = 0.100' /'
Ls = 300'

STA. 123+00.00
END JOB 080382



Coordinate System: ARKANSAS STATE PLANE - NORTH ZONE BASED ON GPS CONTROL,
PROJECTED TO GROUND.
Units: U.S. SURVEY FOOT

Point Name	Northing	Easting	Elev	Feature	Description
1	358553.0176	1164461.4730	338.309	CTL	CAP/REBAR LT SH, HWY. 124
2	358873.0224	1164957.6867	340.436	CTL	CAP/REBAR RT SH, HWY. 124
3	358949.2346	1165947.7990	346.242	CTL	CAP/REBAR RT SH, HWY. 124
4	359249.6418	1166537.7342	342.776	CTL	CAP/REBAR RT SH, HWY. 124
5	359802.8255	1166998.8242	334.247	CTL	CAP/REBAR LT SH, HWY. 124
6	359959.5256	1167397.4413	337.337	CTL	CAP/REBAR LT SH, HWY. 124
7	360052.9395	1167831.1505	337.462	CTL	CAP/REBAR RT SH, HWY. 124
8	360160.4389	1168226.9071	336.753	CTL	CAP/REBAR RT SH, HWY. 124
9	360470.7562	1168437.3989	347.088	CTL	CAP/REBAR RT SH, HWY. 124
10	361177.1816	1168569.1924	393.070	CTL	CAP/REBAR LT SH, HWY. 124
100	357075.9843	1163811.3375	366.300	GPS	NGS MARK N 209 1962. / PN: 990
101	358325.0824	1164355.3798	334.649	GPS	AHTD GPS 150006
200	361397.1345	1168269.2672	388.070	IP	2" IP SC15, 16, 22, 21T8N, R14W
201	361204.4227	1170905.3774	395.164	IP	FE. COR. 1/4S15, 16T8N R14W
901	358714.8631	1164663.4396	339.010	TBM	HUB RAIL, LOG MILE 5.57
902	361222.4870	1168736.5479	398.533	TBM	POINTING TO BOLT
990	357075.9843	1163811.3375	366.300	BM	PD:NGS MARK N 209
991	359954.3176	1167482.3795	339.050	BM	NGS MARK M 209
1501	359410.3329	1167093.7608	328.198	CTL	HEDGEROW IN FLD 30' NW OF 8' ELM
1502	359522.4357	1167214.0024	326.827	CTL	IN FIELD 46' N OF 10' ELM
1503	359714.3812	1167402.7010	330.135	CTL	IN FIELD 33' NW OF 8' CEDAR
1504	361357.9044	1169052.1721	406.514	CTL	RBR/CAP RT BANK, HWY. 124
1505	361494.9789	1169626.9637	417.458	CTL	REBAR/CAP LT BANK, HWY. 124 20' NW OF WM
1506	361555.2949	1170912.9654	426.462	CTL	REBAR/CAP RT BANK, HWY. 124 20' W OF CEDAR FE CORNER

*Note - Rebar and Cap - Standard - 5/8" Rebar with 2" Aluminum Cap stamped
*(standard markings common to all caps), or as indicated
(other markings indicated in the point description of the individual point).
ALL DISTANCES ARE GROUND.
USE CAF = 1.0 FOR STAKEOUT FOR THIS PROJECT.
A PROJECT CAF OF 0.9999294478 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, S080382G1.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 - 0301-NORTH ZONE
DETERMINED FROM GPS CONTROL POINTS: 150006, NGS MARK N 209 1962
CONVERGENCE ANGLE: 00-16-55.33 LEFT AT LT: 35-19-16.9 LG: 092-29-8.2
GRID AZIMUTH = ASTRONOMICAL AZIMUTH - CONVERGENCE ANGLE.

SURVEY CONTROL DETAILS

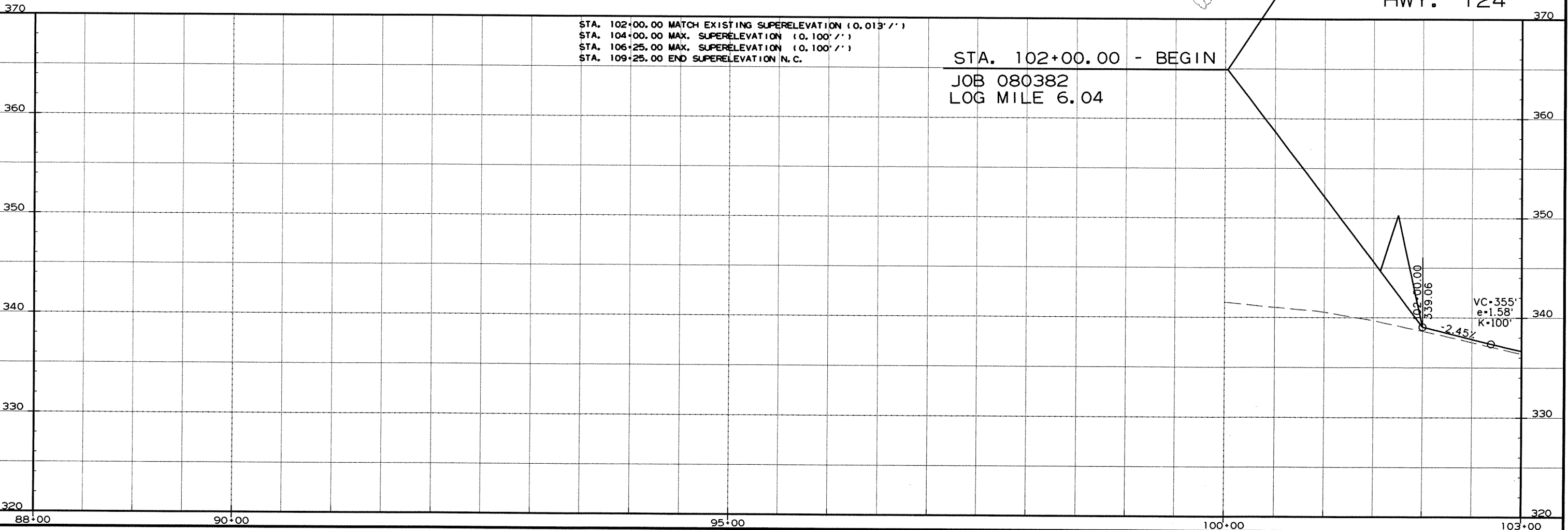
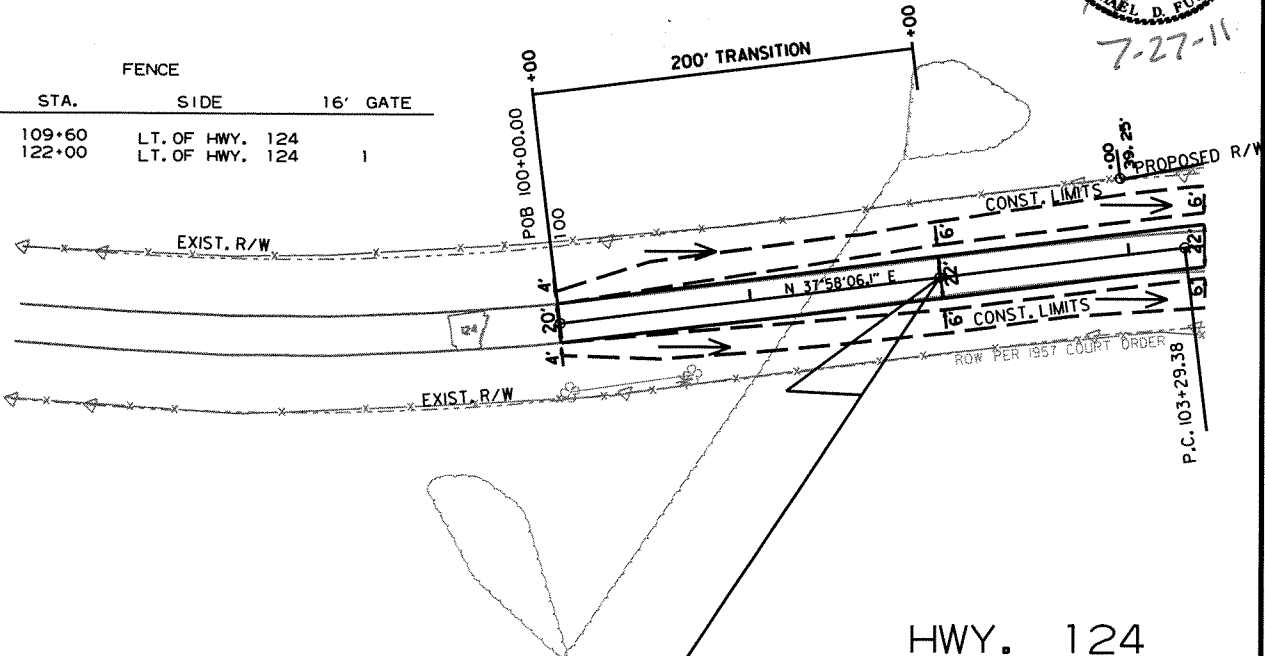
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO. 080382		26	76	

2 PLAN AND PROFILE SHEETS



C.L. CONSTRUCT
PI = 105+66.30
Δ = 36° 36' 34.1" RT.
D = 8' 00' 00"
T = 236.93'
L = 457.62'
PC = 103+29.38
PT = 107+87.00
e = 0.100' / '
Ls = 300'

STA.	STA.	FENCE	16' GATE
103+00	109+60	LT. OF HWY. 124	1
111+43	122+00	LT. OF HWY. 124	



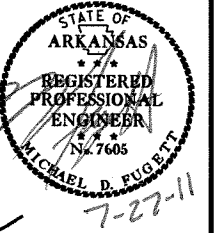
C.L. CONSTRUCT
PI = 105+66.30
Δ = 36° 36' 34.1" RT.
D = 8° 00' 00"
T = 236.93'
L = 457.62'
PC = 103+29.38
PT = 107+87.00
e = 0.100' /'
Ls = 300'

STA.	STA.	LOCATION	GUARDRAIL (TYPE A)	THREE BEAM GUARDRAIL TERMINAL	GUARDRAIL TERMINAL (TYPE D)
107+05.77	109+24.52	RT. OF C.L. HWY. 124	200 LIN. FT.		
108+30.77	109+24.52	LT. OF C.L. HWY. 124	75 LIN. FT.		
112+05.48	112+99.23	RT. OF C.L. HWY. 124	75 LIN. FT.		
112+05.48	114+24.23	LT. OF C.L. HWY. 124	200 LIN. FT.		

STA.	STA.	SIDE	"W"	SO. YDS.
111+96	113+00	LT.	4'	46.22

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.	080382		27	76

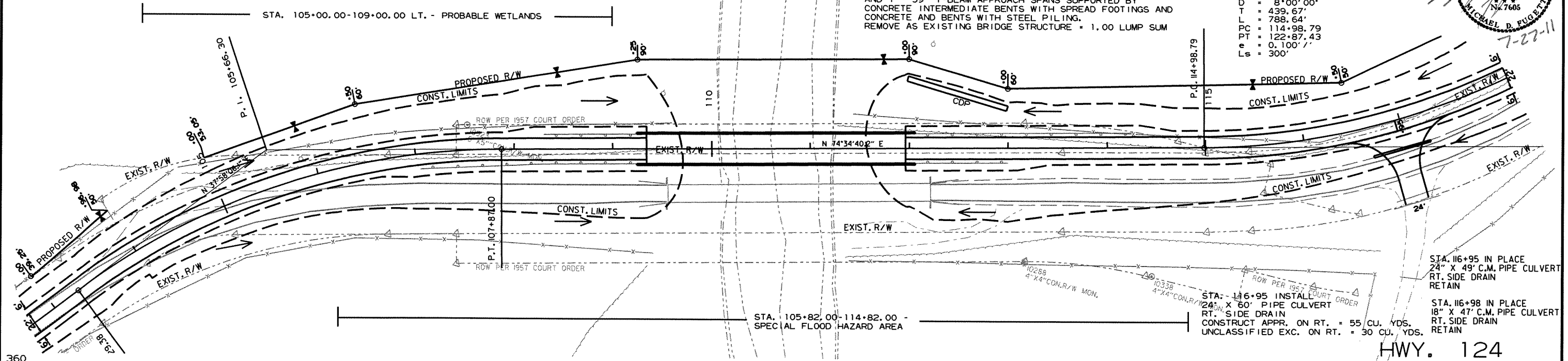
2 PLAN AND PROFILE SHEETS



STA. 109+33.92 TO STA. 111+96.08 CONSTRUCT
262' - 2" X 30" CLEAR ROADWAY BRIDGE NO. 07201
260' CONTINUOUS COMPOSITE W-BEAM UNIT (80', 100', 80')

STA. 109+55.52 TO STA. 112+22.52 IN PLACE
267' - 00" X 21.4' CLEAR ROADWAY BRIDGE NO. 03140
A 100' THRU TRUSS MAIN SPAN WITH 2 - 60' LOW TRUSS
AND 1 - 39' I-BEAM APPROACH SPANS SUPPORTED BY
CONCRETE INTERMEDIATE BENTS WITH SPREAD FOOTINGS AND
CONCRETE AND BENTS WITH STEEL PILING.
REMOVE AS EXISTING BRIDGE STRUCTURE = 1.00 LUMP SUM

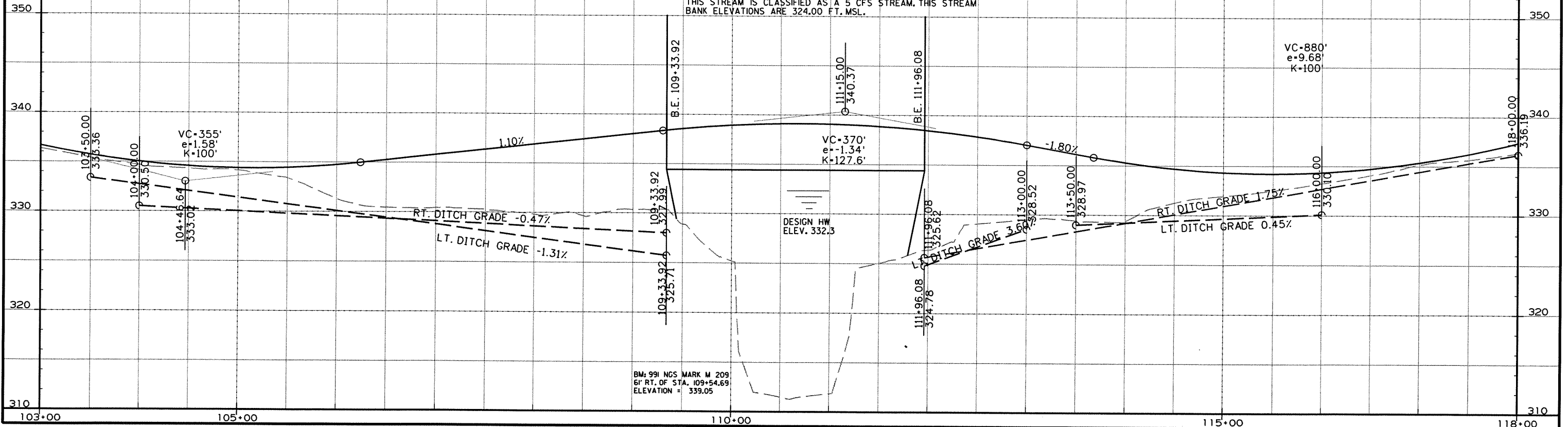
C.L. CONSTRUCT
PI = 119+38.47
Δ = 63° 05' 28.5" LT.
D = 8° 00' 00"
T = 439.67'
L = 788.64'
PC = 114+98.79
PT = 122+87.43
e = 0.100' /'
Ls = 300'



STA. 102+00.00 MATCH EXISTING SUPERELEVATION (0.013' /')
STA. 104+00.00 MAX. SUPERELEVATION (0.100' /')
STA. 106+25.00 MAX. SUPERELEVATION (0.100' /')
STA. 109+25.00 END SUPERELEVATION N.C.

STA. 112+73.79 BEGIN SUPERELEVATION N.C.
STA. 115+73.79 MAX. SUPERELEVATION (0.100' /')
STA. 120+57.93 MAX. SUPERELEVATION (0.100' /')
STA. 123+00.00 MATCH EXISTING SUPERELEVATION (0.019' /')

FOR THE CONSTRUCTION OF TEMPORARY RAMPS OR HAUL ROADS,
THIS STREAM IS CLASSIFIED AS A 5 CFS STREAM, THIS STREAM
BANK ELEVATIONS ARE 324.00 FT. MSL.



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. 080382		28	76	

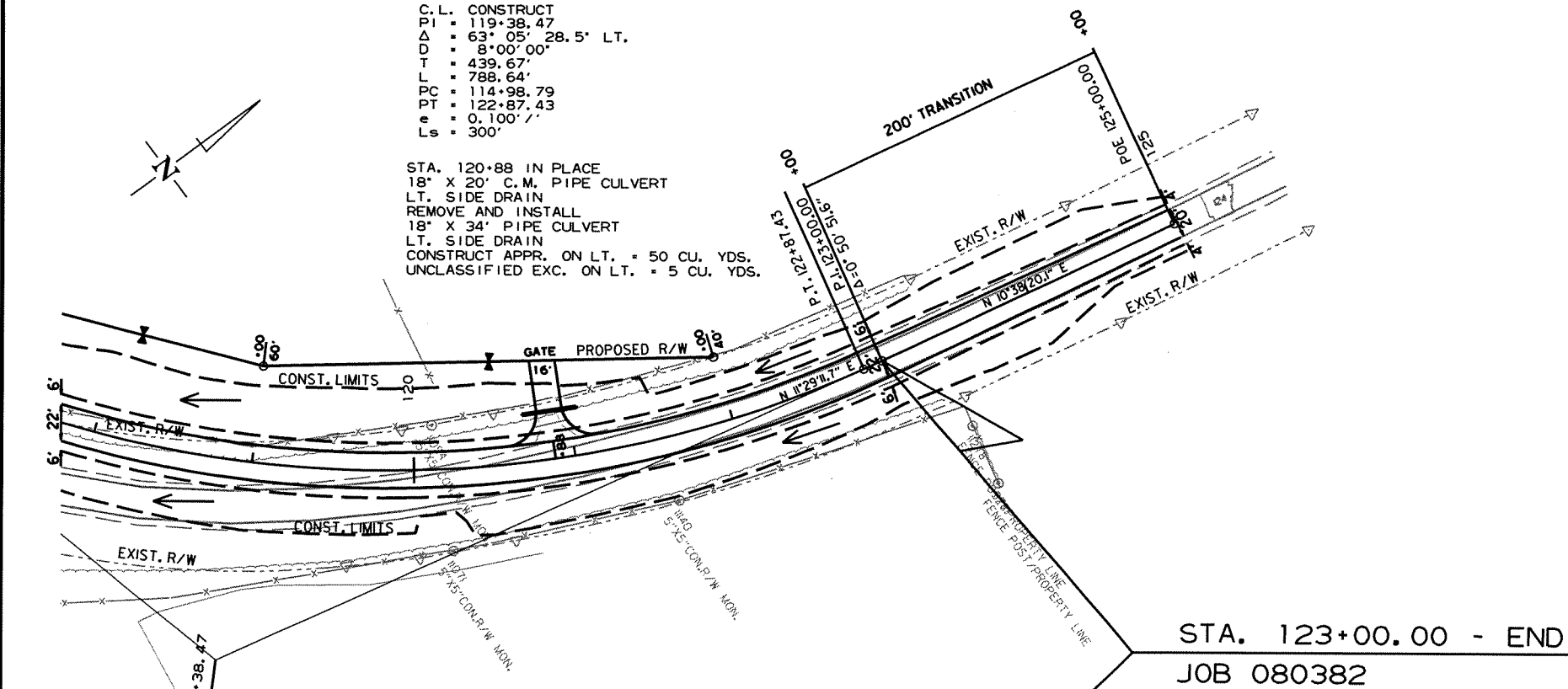
2 PLAN AND PROFILE SHEETS



7-7-11

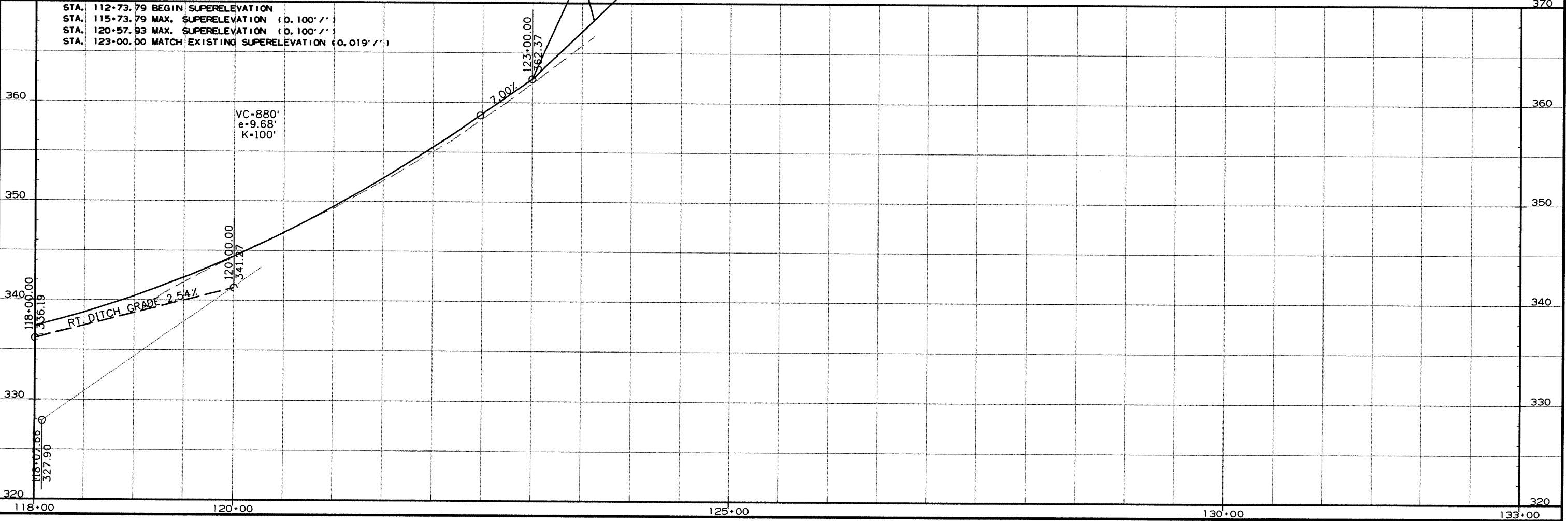
C. L. CONSTRUCT
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Δ = 63° 05' 28.5" LT.
D = 8'00"00"
T = 439.67'
L = 788.64'
PC = 114+98.79
PT = 122+87.43
e = 0.100'/'
Ls = 300'

STA. 120+88 IN PLACE
18" X 20' C.M. PIPE CULVERT
LT. SIDE DRAIN
REMOVE AND INSTALL
18" X 34' PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPR. ON LT. = 50 CU. YDS.
UNCLASSIFIED EXC. ON LT. = 5 CU. YDS.



STA. 123+00.00 - END
JOB 080382

HWY. 124



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.		080382	30	76
				①	07201	LAYOUT		51745

BORING LEGEND

AI-Molst, Medium Dense, Brown Sand with Trace of Organic Matter
BI-Molst, Very Stiff, Brown and Dark Gray Sandy Clay with Highly Weathered Shale and Trace of Organic Matter
CI-SHALE - Gray, Highly Weathered, Soft, Fractured
DI-SHALE - Dark Gray, Laminated, Slightly Weathered, Hard, with Slight Dip
EI-SHALE - Dark Gray, Laminated, Slightly Weathered, Hard, with Slight Dip and Vertically Fractured Layers
FI-CALCAREOUS SANDSTONE WITH FREQUENT SHALE SEAMS - Gray, Thick Bedded, Slightly Weathered, Well Cemented, with Slight Dip
GI-Molst, Soft, Brown Clay with Sand
HI-Molst, Very Loose, Brown and Gray Sand
JI-SHALE - Dark Gray, Weathered, Medium Hard
KI-SHALE - Dark Gray, Laminated, Slightly Weathered, Hard, with Slight Dip and Vertically Fractured Layers
LI-CALCAREOUS SANDSTONE WITH FREQUENT SHALE SEAMS - Gray, Medium Bedded, Slightly Weathered, Well Cemented, with Slight Dip and Vertically Fractured Layers
MI-Molst, Very Loose, Brown Sand with Clay
NI-Molst to Wet, Medium Dense, Brown Sand with Weathered Shale Fragments
PI-SHALE - Dark Gray, Laminated, Slightly Weathered, Hard, with Slight Dip
QI-SHALE - Dark Gray, Laminated, Slightly Weathered, Hard, with Slight Dip, Fractured Layers and Silicified Sides
RI-CALCAREOUS SANDSTONE WITH FREQUENT SHALE SEAMS AND LAYERS - Gray, Thick Bedded, Slightly Weathered, Well Cemented, with Slight Dip and Fractured Layers
SI-Molst to Wet, Soft, Brown and Gray Clay with Sand
TI-Molst, Loose, Light Gray Sand with Gravel (Sandstone and Shale Fragments) and some Organic Matter
UI-CALCAREOUS SANDSTONE WITH FREQUENT SHALE SEAMS - Gray, Very Thick Bedded, Slightly Weathered, Well Cemented, with Slight Dip
VI-CALCAREOUS SANDSTONE WITH FREQUENT SHALE SEAMS - Gray, Thick Bedded, Slightly Weathered, Well Cemented, with Slight Dip and Vertically Fractured Seams

"N" VALUES

Sta. 109+35 - 2' Rt. of C.L. of Construction

4.5- 5.5, N=15
9.5- 10.5, N=26
14.0- 14.1, N=14 (1")

Sta. 110+00 - 2' Rt. of C.L. of Construction

5.0- 6.0, N=3
10.0- 10.9, N=15 (11")

Sta. 111+32 - 2' Rt. of C.L. of Construction

5.0- 6.0, N=4
10.0- 11.0, N=15

Sta. 111+95 - C.L. of Construction

5.0- 6.0, N=4
10.0- 11.0, N=8
14.5- 14.6, N=15 (1")



SHEET 2 OF 2
LAYOUT OF BRIDGE OVER COVE CREEK
COVE CREEK STR. & APPRS. (S)
CONWAY COUNTY
ROUTE 124 SEC. 5
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.
DRAWN BY: MRE DATE: 07/20/10 FILENAME: b080382.ll.dgn
CHECKED BY: RBR DATE: 12-10 SCALE: 1"=20'-0"
DESIGNED BY: DATE:
BRIDGE NO. 07201 DRAWING NO. 51745

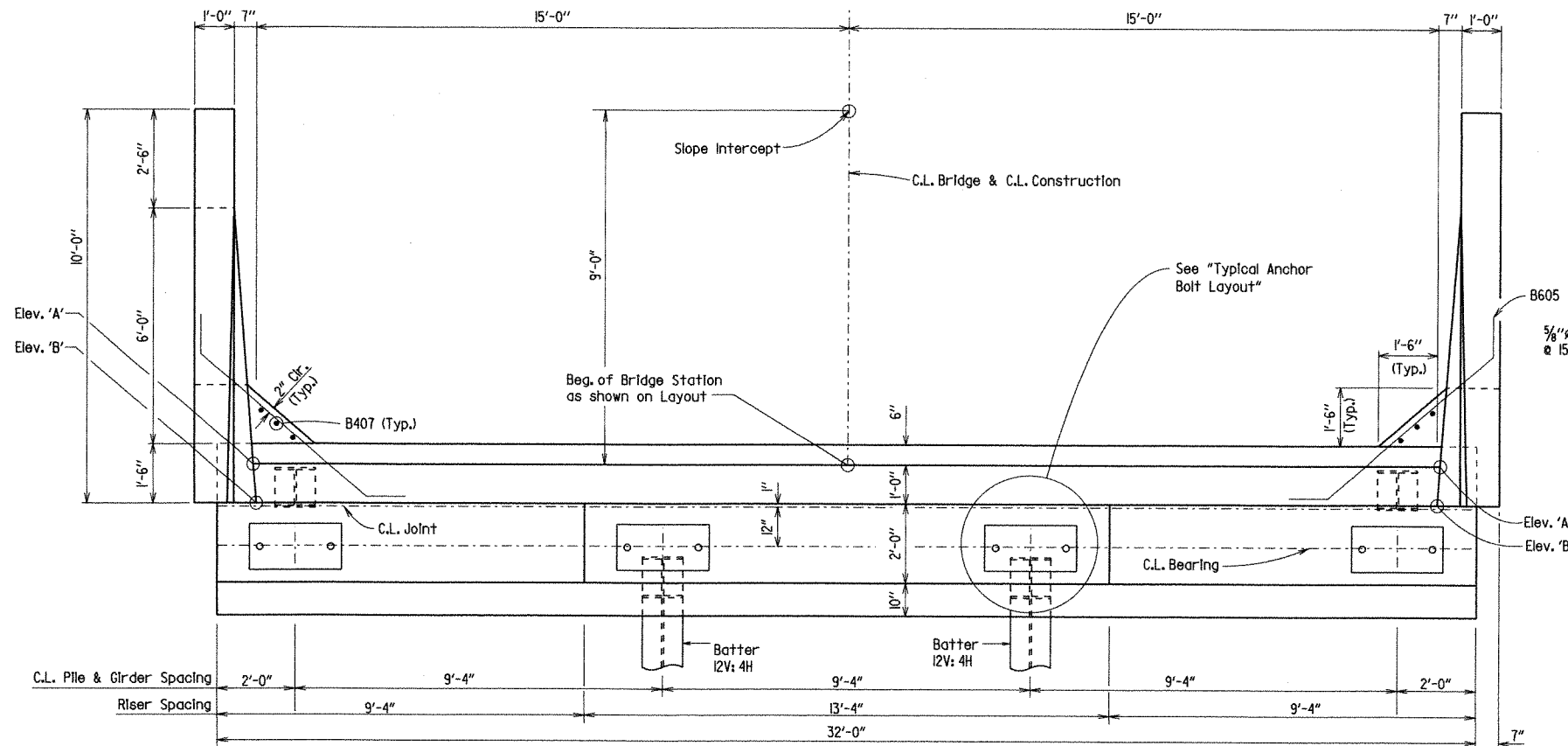
NOTE: For details of wings and rails, See Dwg. No. 51747.

NOTE: Class I Protective Surface Treatment shall be applied to the top of the backwall and the roadway face and top of the concrete parapet rail.

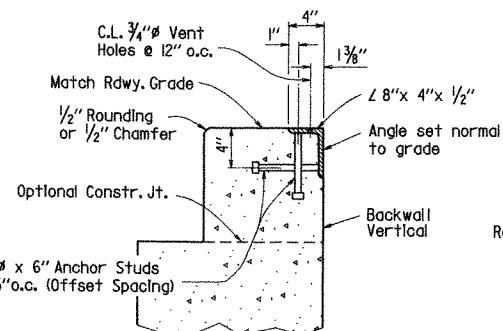
NOTE: Transverse spacing between bent anchor studs and vent holes shall be 6".

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

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.		080382	31	76
				07201		END BENT DETAILS	51746	

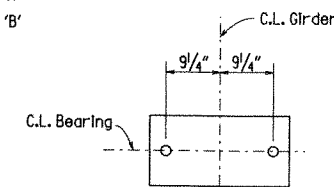


PLAN
Bent 1 - Looking Back
Bent 4 - Looking Ahead



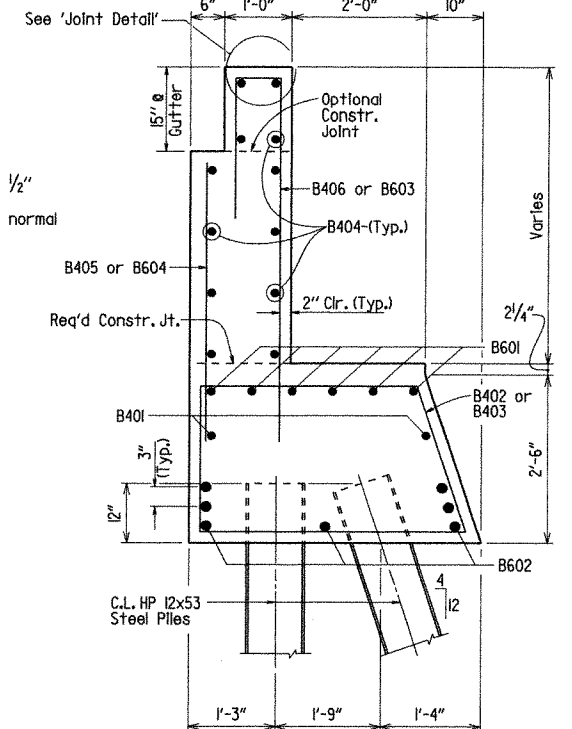
JOINT DETAIL
No Scale

NOTE: For additional Joint Details See Dwg. No. 51753.



NOTE: For Details of Elastomeric Bearings, See Dwg. No. 51754

TYPICAL ANCHOR BOLT LAYOUT
No Scale



SECTION A-A
Scale: 3/4" = 1'-0"

GENERAL NOTES

All concrete shall be Class "S" with a minimum 28 day compressive strength $f'_c = 3,500$ psi. Concrete shall be poured in the dry and all exposed corners to be chamfered 3/4" unless otherwise noted.

All reinforcing steel shall conform to AASHTO M31 or M53, Grade 60 (Yield Strength = 60,000 psi).

All structural steel shall be AASHTO M270, Gr. 50W. Structural steel in backwall shall be paid for as "Structural Steel in Beam Spans (M270-Gr. 50W)".

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

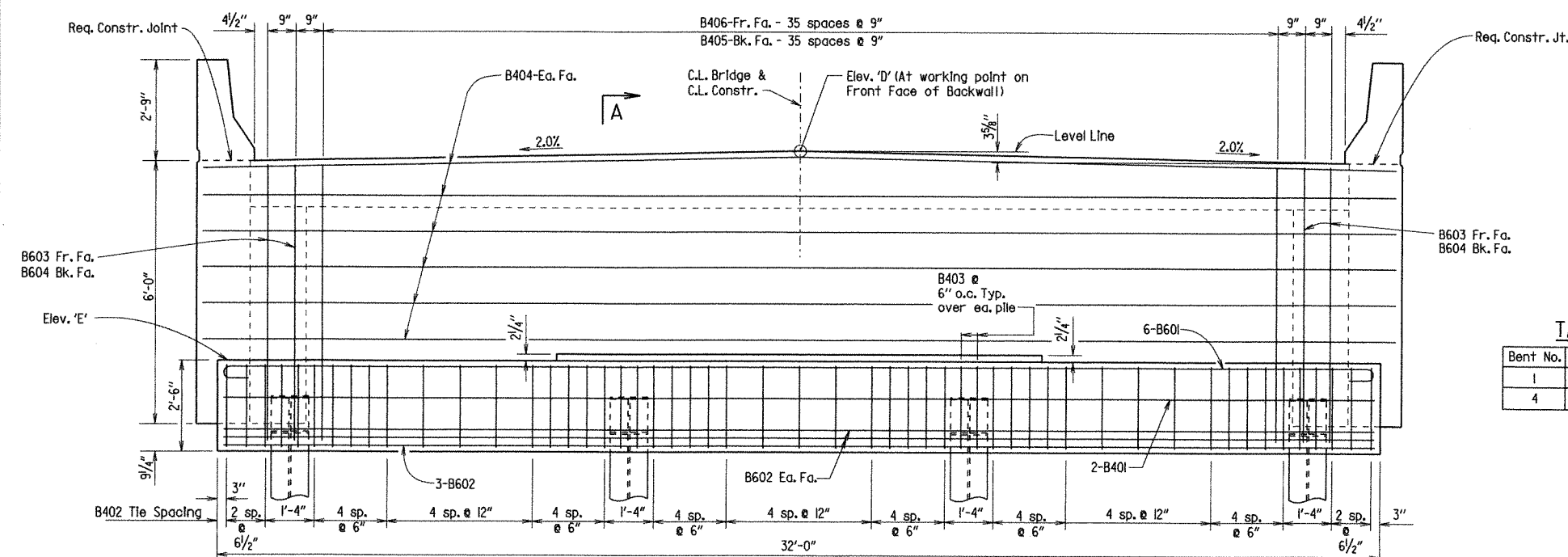
No portion of the backwall shall be poured before beams are in place. The portion of the backwall above the optional construction joint at the paving bracket shall not be placed until the deck pour has been made. Refer to the "Expansion Device Installation" note, see Dwg. 51753.

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

For additional information see Layout.

TABLE OF VARIABLES

Bent No.	Elev. 'A'	Elev. 'B'	Elev. 'D'	Elev. 'E'
1	338.08	338.09	338.39	333.82
4	338.19	338.20	338.50	333.93



ELEVATION
Bent 1 - Looking Back
Bent 4 - Looking Ahead



BRIDGE ENGINEER

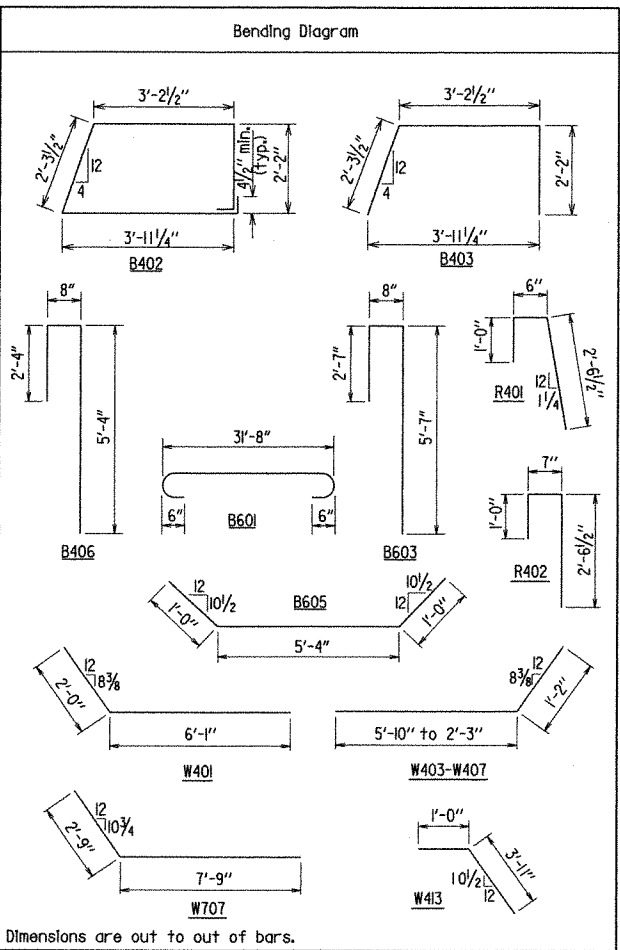
SHEET 1 OF 2
DETAILS OF END BENTS
COVE CREEK
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: RBR DATE: 9/7/2010 FILENAME: b080382.blldgn
CHECKED BY: CMH DATE: 12/10 SCALE: 1/2" = 1'-0" or as noted
DESIGNED BY: RBR DATE: 12/10
BRIDGE NO. 07201 DRAWING NO. 51746

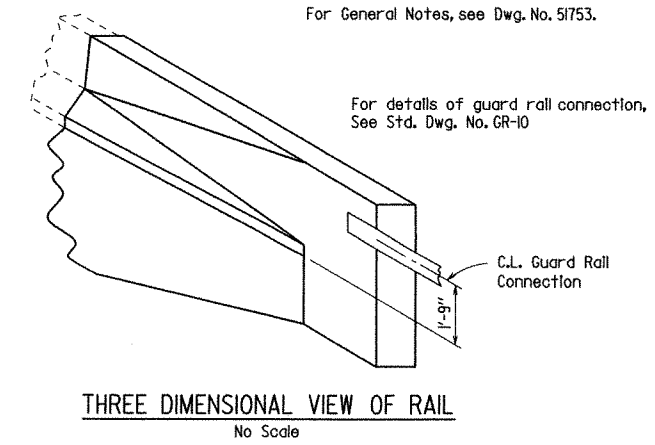
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080382	32	76
				07201		BENT DETAILS	51747	

BAR LIST- PER BENT

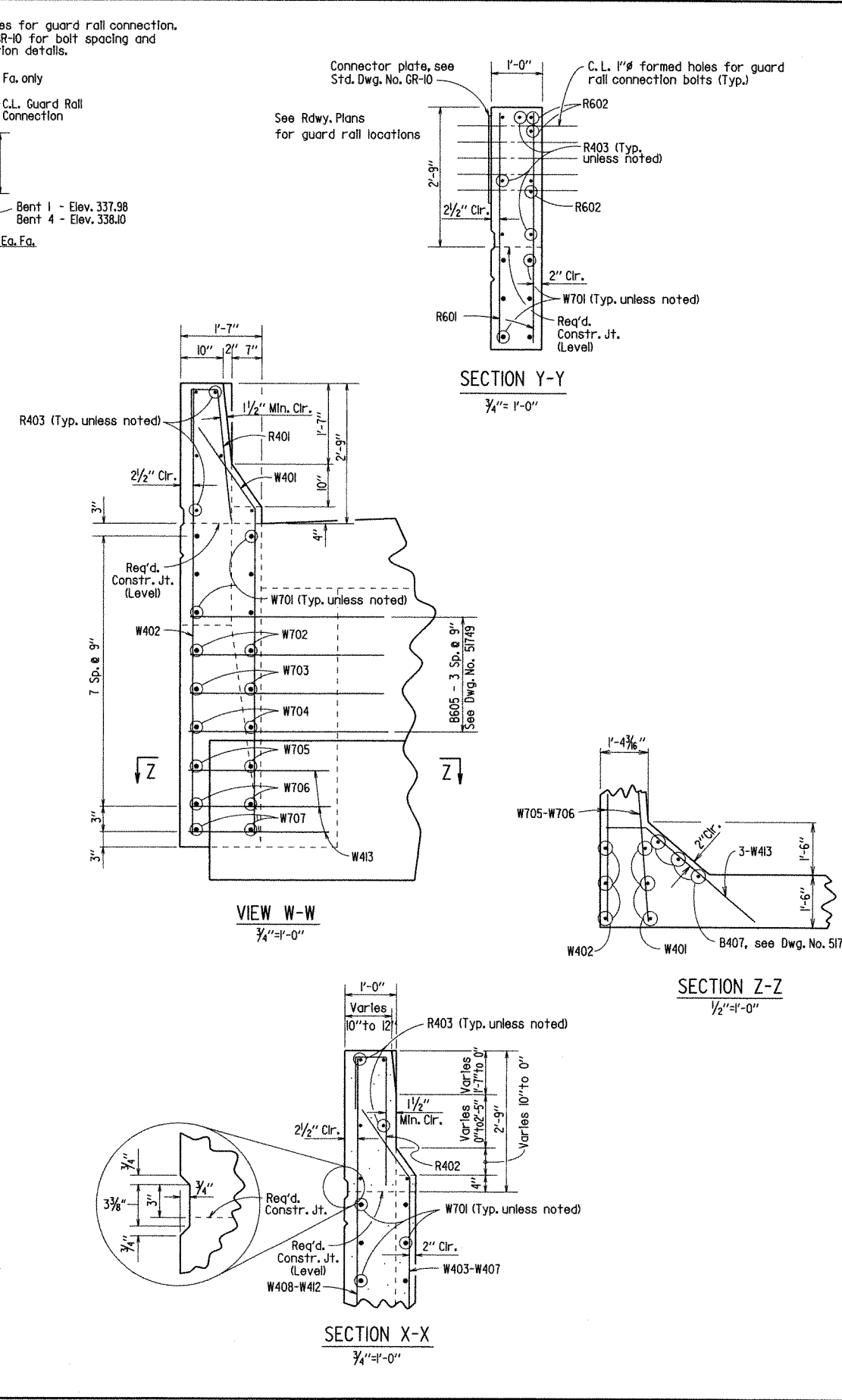
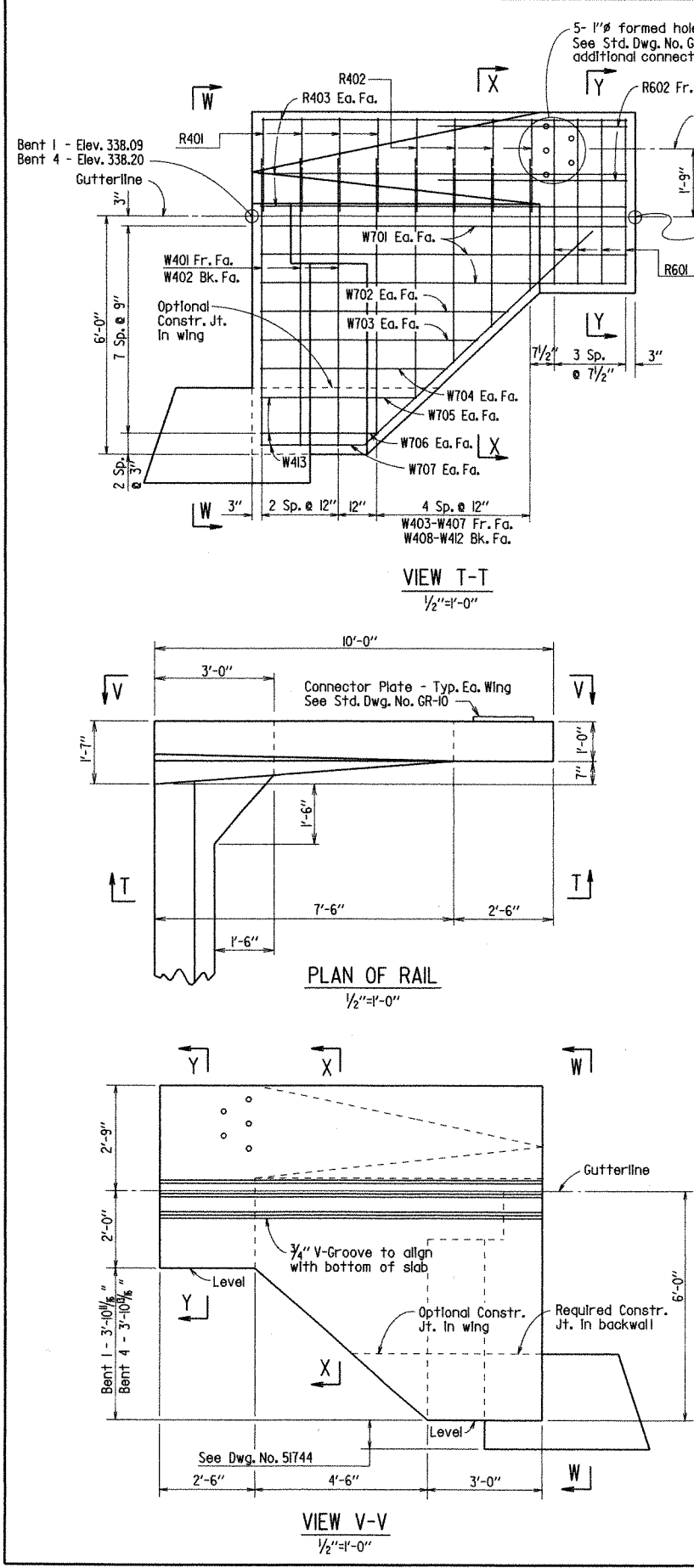
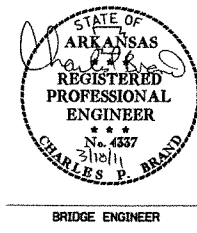
Mark	No.	Req'd.	Length	Pin Dia.
B401	2	3'-8"	Str.	
B402	45	12'-0"	2"	
B403	8	7'-6"	2"	
B404	12	32'-10"	Str.	
B405	36	3'-11"	Str.	
B406	36	8'-2"	2"	
B407	6	4'-5"	Str.	
B601	6	33'-0"	4 1/2"	
B602	7	3'-8"	Str.	
B603	4	8'-6"	4 1/2"	
B604	4	4'-4"	Str.	
B605	8	7'-4"	4 1/2"	
R401	8	3'-11"	2"	
R402	8	4'-0"	2"	
R403	12	9'-8"	Str.	
R601	16	4'-5"	Str.	
R602	6	5'-0"	Str.	
W401	6	8'-1"	2"	
W402	6	8'-5"	Str.	
W403-W407	2 ea.	7'-0" to 3'-5"	2"	
W408-W412	2 ea.	8'-1" to 4'-7"	Str.	
W413	6	4'-11"	2"	
W701	12	9'-8"	Str.	
W702	4	6'-7"	Str.	
W703	4	5'-9"	Str.	
W704	4	4'-10"	Str.	
W705	4	4'-0"	Str.	
W706	4	3'-2"	Str.	
W707	4	10'-6"	5 1/4"	



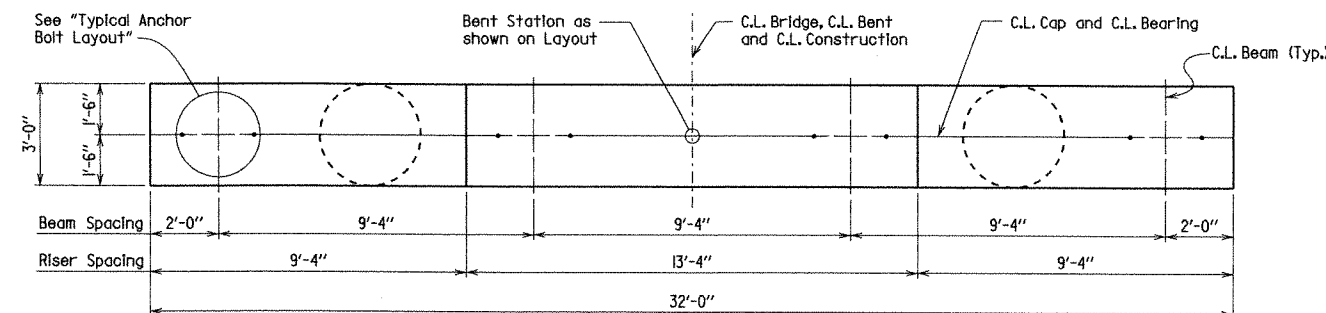
Dimensions are out to out of bars.
For General Notes, see Dwg. No. 51753.



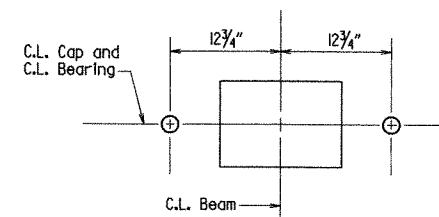
SHEET 2 OF 2
DETAILS OF END BENTS
COVE CREEK
 ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
 LITTLE ROCK, ARK.
 DRAWN BY: RBR DATE: 9/08/2010 FILENAME: b080382.bl2.dgn
 CHECKED BY: CHW DATE: 12/10 SCALE: 3/8" = 1'-0" or as noted
 DESIGNED BY: RBR DATE: 12/10
 BRIDGE NO. 07201 DRAWING NO. 51747



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.		080382	33	76
				07201		INTERMEDIATE BENTS DETAILS	51748	



NOTE: For details of elastomeric bearings see Dwg. No. 51754



TYPICAL ANCHOR BOLT LAYOUT
No Scale

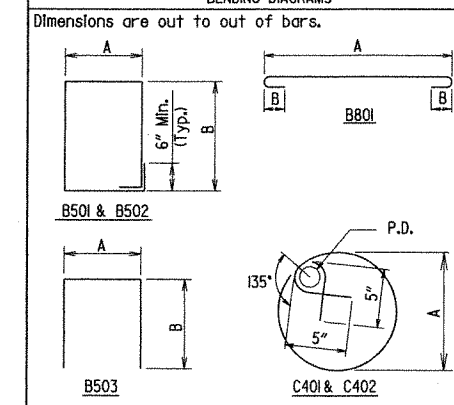
TABLE OF VARIABLES

Bent No.	'A'	'B'	Elev. 'C'
2	35'-4 3/8"	10'-1 3/8"	334.35
3	35'-4 1/8"	10'-1 1/8"	334.39

BAR LIST PER BENT

MARK	NO. REQ'D.	LENGTH	A	B	P.D.
B401	10	3'-8"			Str.
B501	27	13'-8"	2'-8"	3'-11"	2 1/2"
B502	36	11'-11"	1'-9 1/2"	3'-11"	2 1/2"
B503	8	10'-4"	2'-8"	3'-11"	2 1/2"
B801	8	33'-6"	3'-8"	8"	6"
B802	8	3'-8"			Str.
C401	36	9'-2"	2'-7"		3"
C402*	42	12'-7"	3'-8"		3"
C901	22	17'-4"			Str.
C1001*	30	20'-6"			Str.

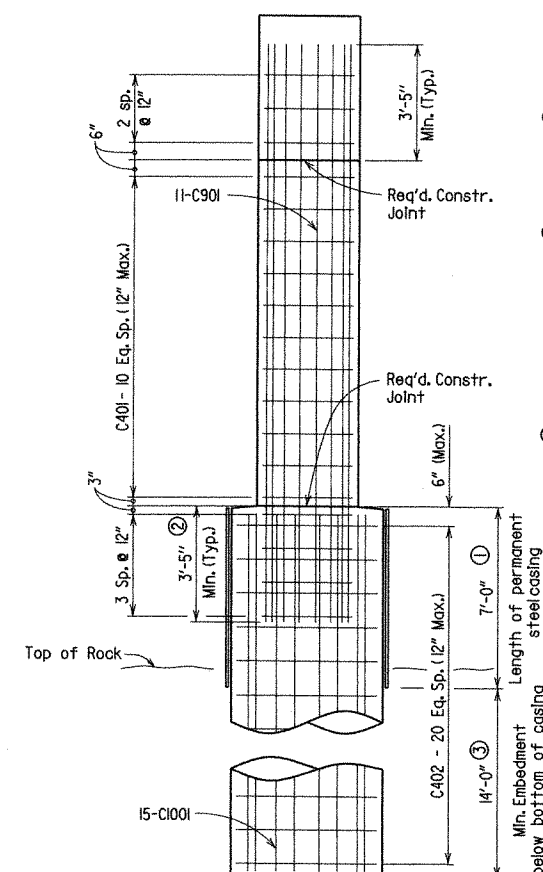
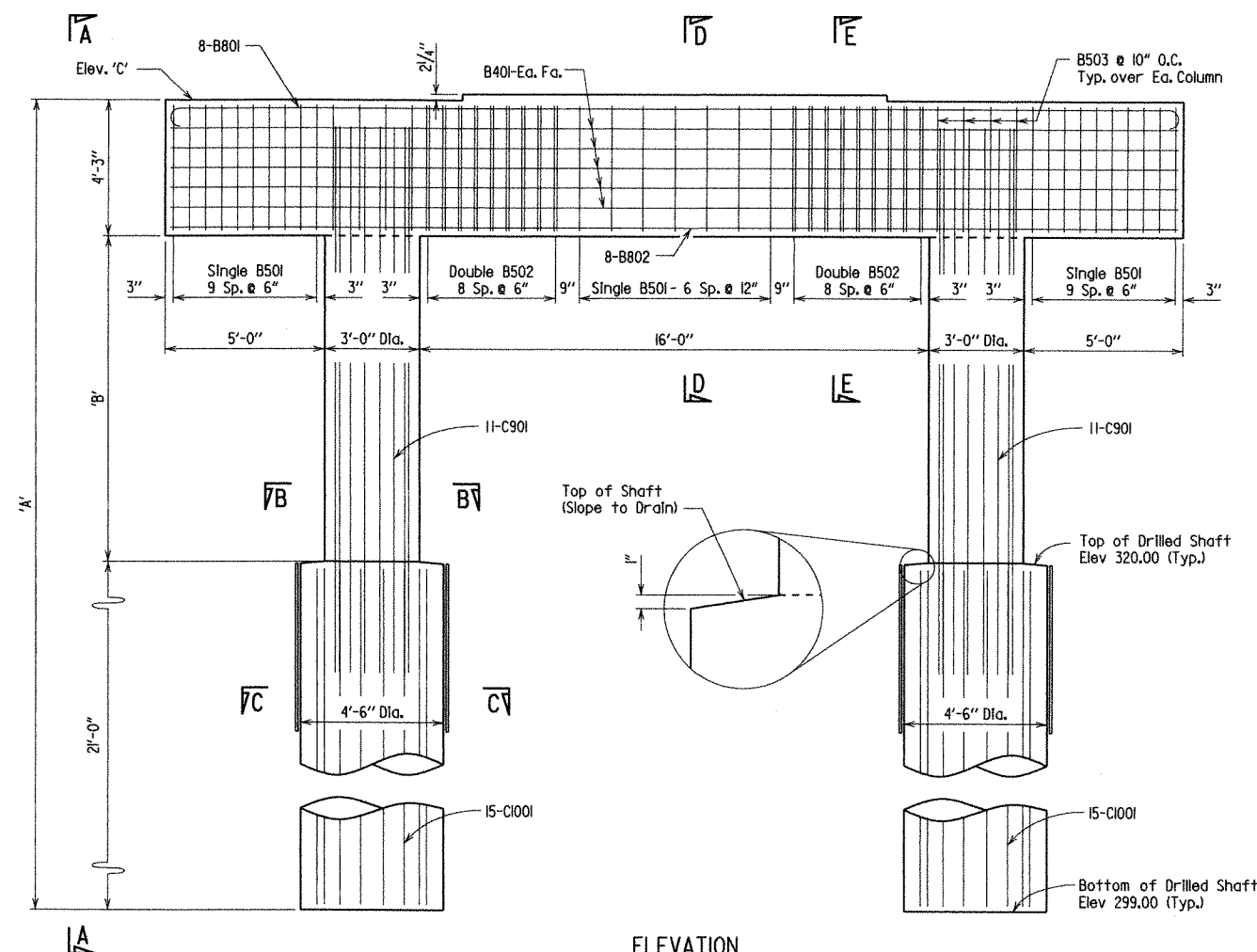
BENDING DIAGRAMS



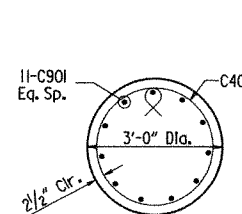
* Non-pay item - Subsidiary to pay item "Drilled Shaft (54" Dia.)."

NOTE:
Number required of C402 and length of C1001 are estimates based on length of drilled shaft to be determined in the field.

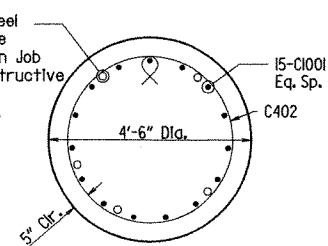
- Length of Permanent Casing shown is for estimating quantities only. Actual lengths are to be determined in the field. See Special Provision Job 080382 "Drilled Shaft Foundations."
- The column reinforcing cage, consisting of bars C401 and C901, may be placed before or after concrete placement in the shaft is complete. Vibration of concrete in the top 10 feet of the shaft will be needed to ensure the consolidation of the concrete around the reinforcing steel and to insert the column reinforcing cage. The contractor will be responsible for obtaining satisfactory results.
- Minimum embedment into hard shale shall not be less than 10 feet.



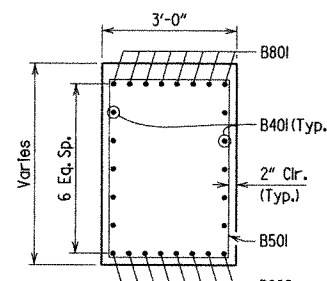
VIEW A-A



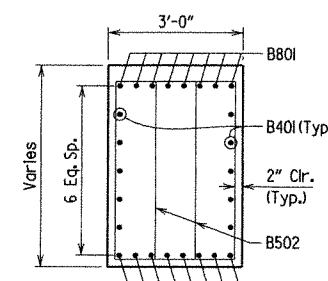
SECTION B-B
1/2" = 1'-0"



SECTION C-C
1/2" = 1'-0"



SECTION D-D
1/2" = 1'-0"



SECTION E-E
1/2" = 1'-0"

GENERAL NOTES:
All concrete shall be Class "S" with a minimum 28 day compressive strength $f'_c = 3,500$ psi. Concrete shall be poured in the dry and all exposed corners to be chamfered 1/4" unless otherwise noted.

All reinforcing steel shall conform to AASHTO M31 or M53, Grade 60 (yield strength = 60,000 psi.). Top reinforcing bars in cap shall be properly placed to avoid interference with anchor bolts or sheet metal sleeves.

Drilled shafts shall conform to Special Provision Job 080382 "Drilled Shaft Foundations" and shall be paid for at the unit price bid for "Drilled Shaft (54" Dia.)."

Permanent Steel Casing shall be smooth steel pipe. The contractor shall be responsible for providing a permanent casing of sufficient strength and thickness to resist the pressures imposed by the soil and internal and external fluids.

For additional information, see layout (Dwg. No. 51744 & 51745)

DETAILS OF INTERMEDIATE BENTS
COVE CREEK
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: RBR DATE: 9/15/2010 FILENAME: b080382_b21.dgn
CHECKED BY: CMW DATE: 12/10 SCALE: 3/8" = 1'-0" or as shown
DESIGNED BY: RBR DATE: 12/10
BRIDGE NO. 07201 DRAWING NO. 51748



BRIDGE ENGINEER

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.		080382	34	76
				07201		SPAN DETAILS		51749

NOTE: Class I Protective Surface Treatment shall be applied to the roadway surface and the roadway face and top of the concrete parapet wall.

Slab Reinforcing:

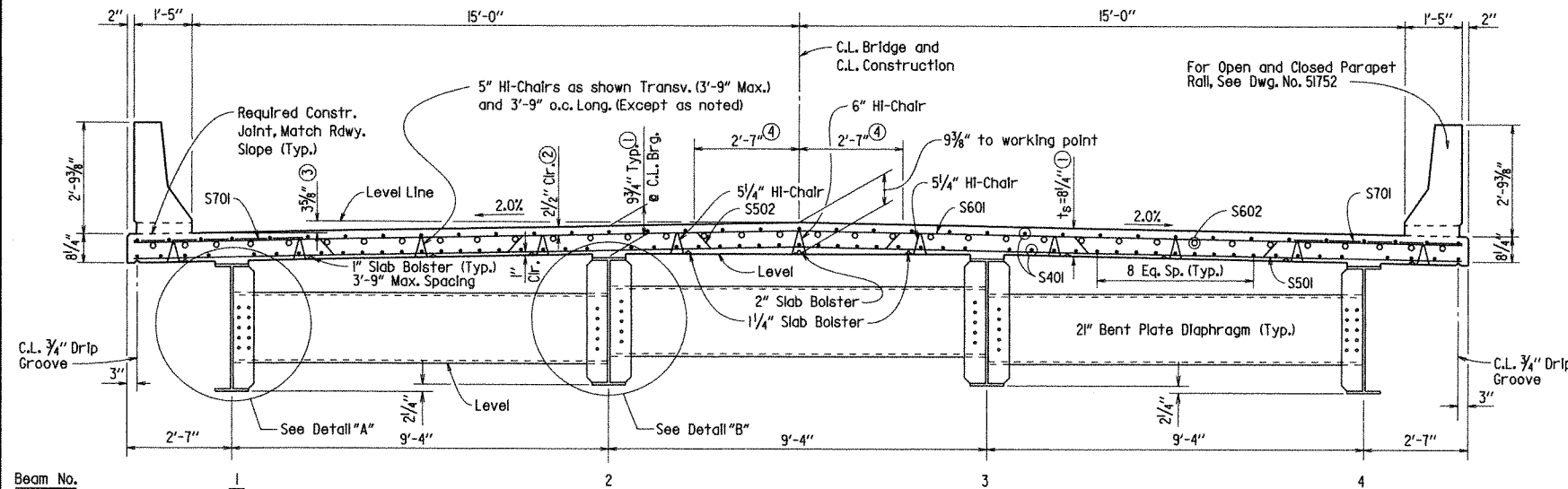
Longitudinal: S401 in top and bottom
S602 placed as shown over interior supports (See Reinf. Plan)
Transverse: S502 @ 15" o.c. bent up over beams
S601 @ 15" o.c. in top, S501 @ 15" o.c. in bottom — Alternate
S701 @ 15" o.c. in top of overhang

- ① Tolerance: Minus = $\frac{1}{4}$ "
Plus = Equal to amount of slab thickening used to meet slab thickness tolerance. See "ADJUSTMENT FOR SLAB THICKNESS TOLERANCE WHEN REMOVABLE DECK FORMING IS USED"
- ② See "ADJUSTMENT FOR SLAB THICKNESS TOLERANCE WHEN REMOVABLE DECK FORMING IS USED"
- ③ Working Point to Gutter line
- ④ See "ROUNDING DETAIL"

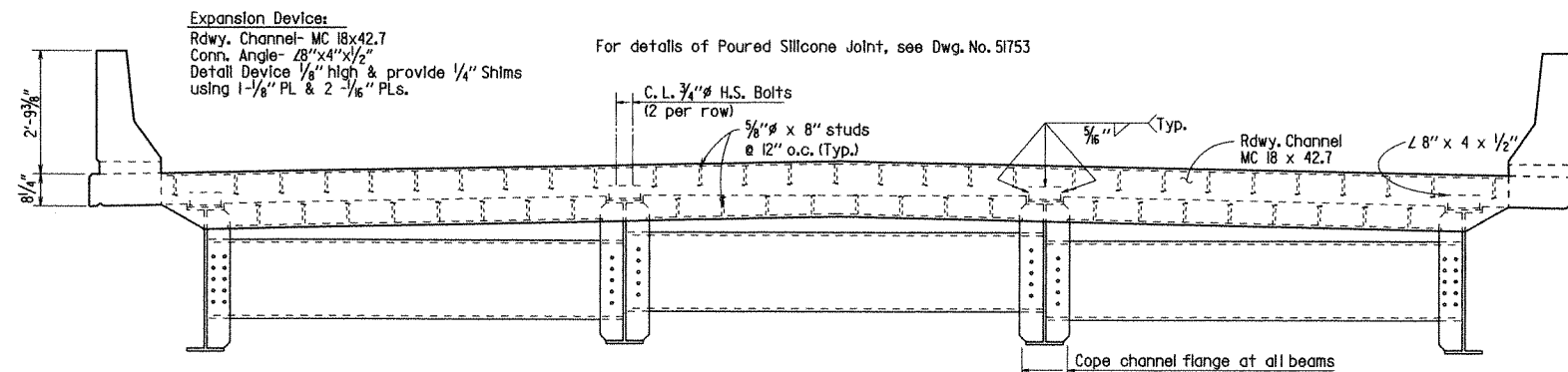
NOTE: The superstructure details shown are for use when Removable Deck Forming is used and are the basis for measurement of Class (S/AE) Concrete.

NOTE: At the Contractor's option, two straight #5 bars, top and bottom, may be substituted for bar S502. Payment will be based on weight of S502 bar.

NOTE: If permanent steel bridge deck forms are used, the fabricator shall clip the plate as necessary to accommodate the deck form support.



TYPICAL ROADWAY SECTION
(Looking Ahead)

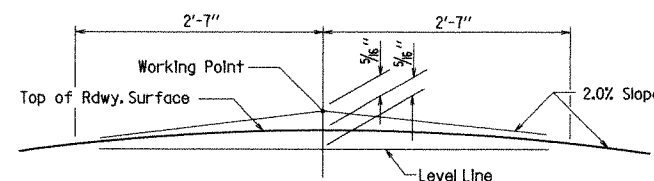


ROADWAY SECTION NEAR END OF UNIT

TABLE FOR WELD

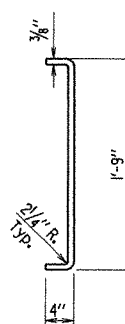
Material Thickness Of Thicker Part Joined (Inches)	Minimum Size Of Fillet Weld (Inches)	Single Pass Weld Must Be Used
To $\frac{3}{4}$ " Inclusive	$\frac{1}{4}$ "	
Over $\frac{3}{4}$ "	$\frac{5}{16}$ "	

NOTE: When a fillet weld size, as shown on the Plans, is larger than the minimum, the First Pass shall be that specified for minimum size of fillet weld.

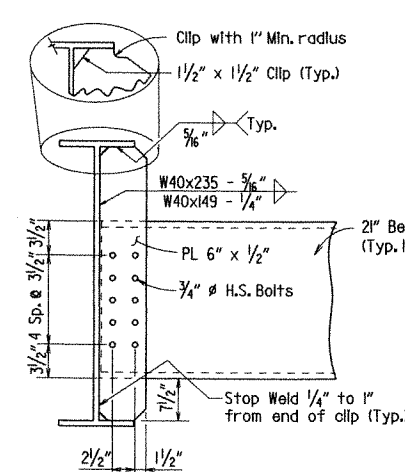


NOTE: Working Point matches Theoretical Roadway Grade.

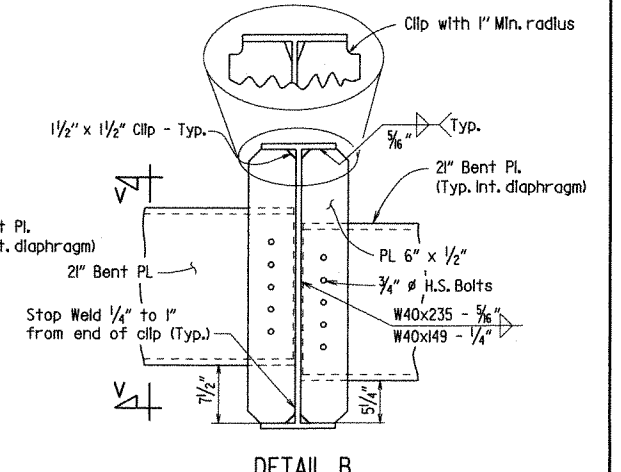
ROUNDING DETAIL
No Scale



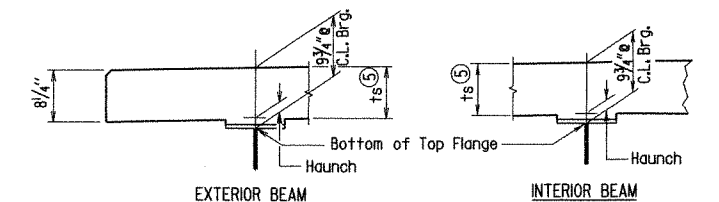
SECTION V-V
No Scale



DETAIL A
No Scale



NOTE: Bolts in diaphragm connections shall be properly installed and tightened in accordance with subsection 807.7L.



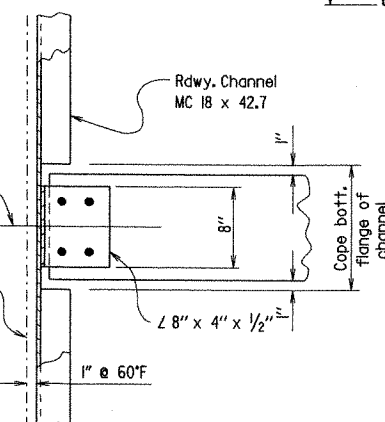
NOTE: ts = slab thickness as shown on superstructure detail drawings

⑤ Tolerance when removable deck forming is used is $\pm \frac{1}{2}$ " - $\frac{1}{4}$ ". Haunch forming is required and shall be adjusted to maintain slab thickness tolerance.

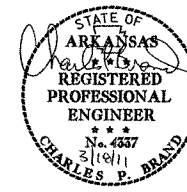
NOTES: Haunch dimension may vary within the following limits to maintain the grade and slab thickness tolerance: Minimum - occurs when top flange contacts bottom reinforcing steel; Maximum - top flange thickness plus $1\frac{3}{4}$ ". No increase in concrete and structural steel quantities will be made to maintain tolerances.

Tolerances shown are applicable only when removable deck forming is used. See Std. Dwg. No. 14991 for tolerances when permanent steel deck forms are used. Payment for concrete shall be based on removable deck forming.

ADJUSTMENT FOR SLAB THICKNESS TOLERANCE
WHEN REMOVABLE DECK FORMING IS USED
No Scale

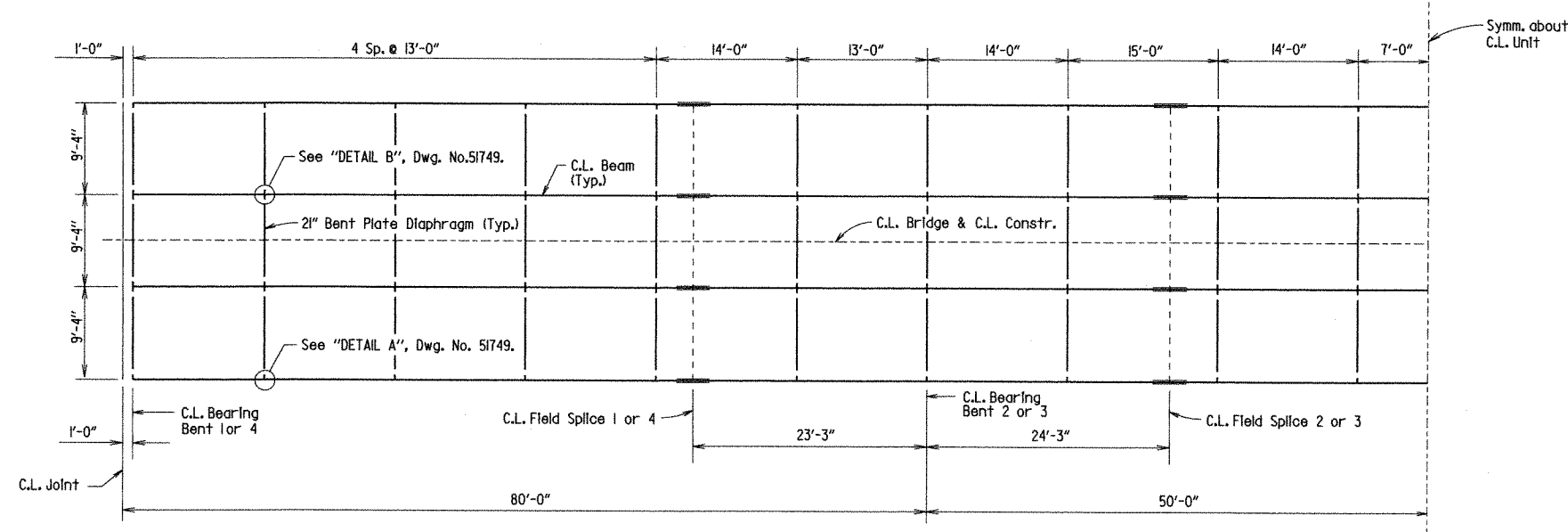


CHANNEL CONNECTION DETAIL
No Scale

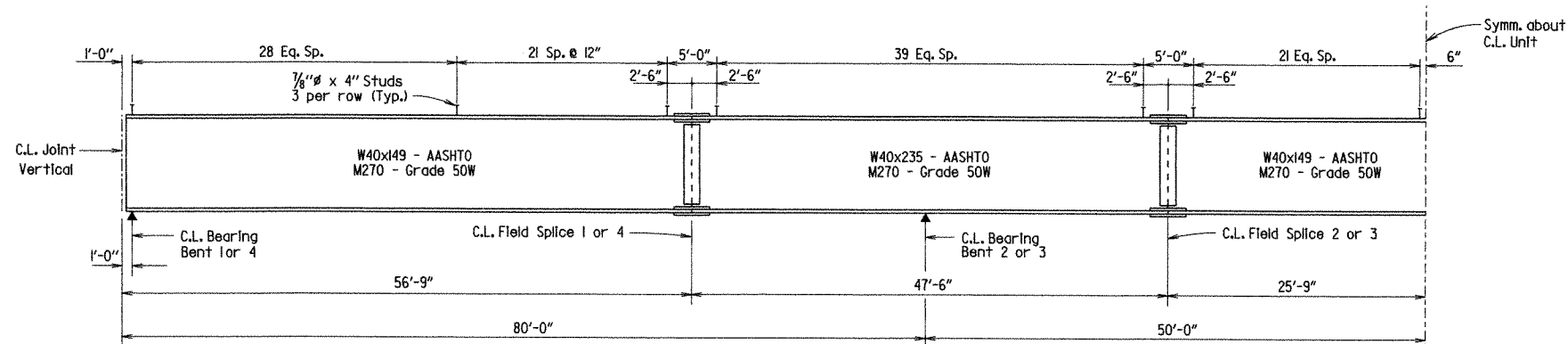


SHEET 1 OF 5
DETAILS OF 260'-0" CONTINUOUS
COMPOSITE W-BEAM UNIT
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.
DRAWN BY: MRE DATE: 07/29/10 FILENAME: b080382.sldgn
CHECKED BY: CMW DATE: 13/10 SCALE: $\frac{1}{2}$ " = 1'-0" or As Noted
DESIGNED BY: RBR DATE: 12/10
BRIDGE NO. 07201 DRAWING NO. 51749

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.		080382	35	76
				07201		SPAN DETAILS		51750

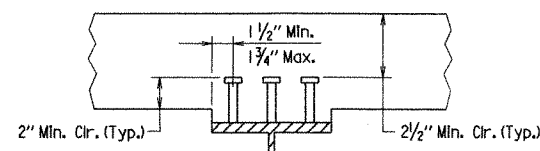


FRAMING PLAN



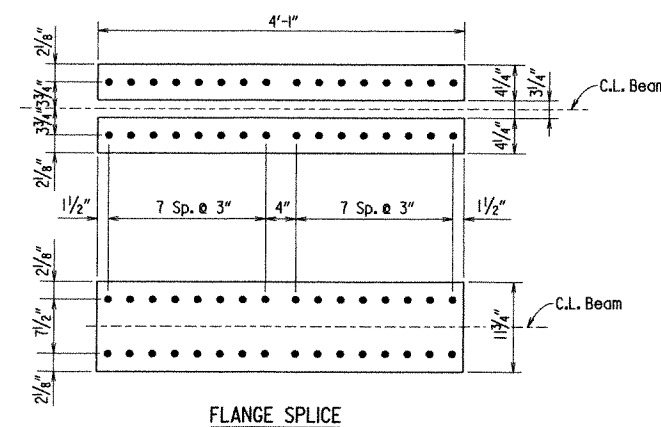
BEAM ELEVATION

NOTE: Bolted field splices may be eliminated or shop welded splices may be substituted with the approval of the Bridge Engineer. Payment will be made on the basis of plan quantities.

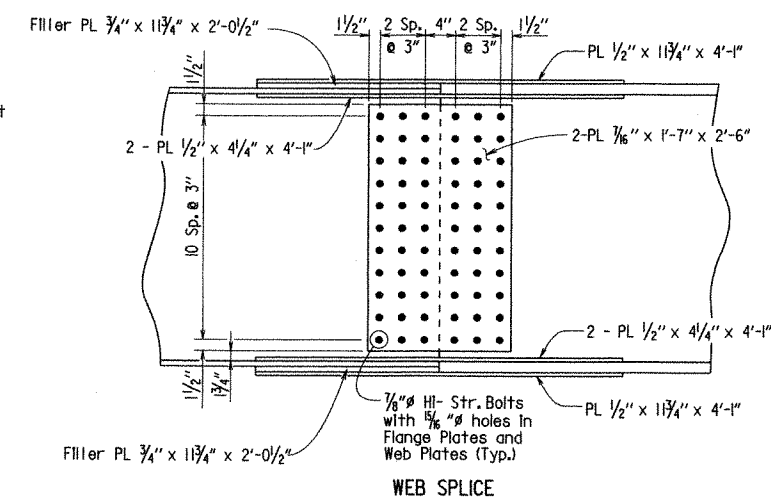


Stud Shear Connectors shown shall be $\frac{3}{8}$ " ϕ x 4" long, granular flux filled, solid fluxed or equal, and automatically end welded to the beam flange in accordance with the recommendations of the Manufacturer. $\frac{3}{4}$ " ϕ studs may be used in place of the $\frac{3}{8}$ " ϕ studs shown, at the ratio of 1.361 - $\frac{3}{4}$ " ϕ studs in place of one $\frac{3}{8}$ " ϕ stud. $\frac{3}{8}$ " ϕ studs will be used as basis for measurement of structural steel in shear connectors. Maximum stud spacing = 24".

SHEAR CONNECTOR DETAIL
No Scale

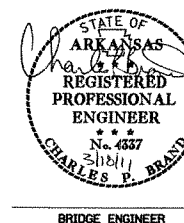


FLANGE SPICE



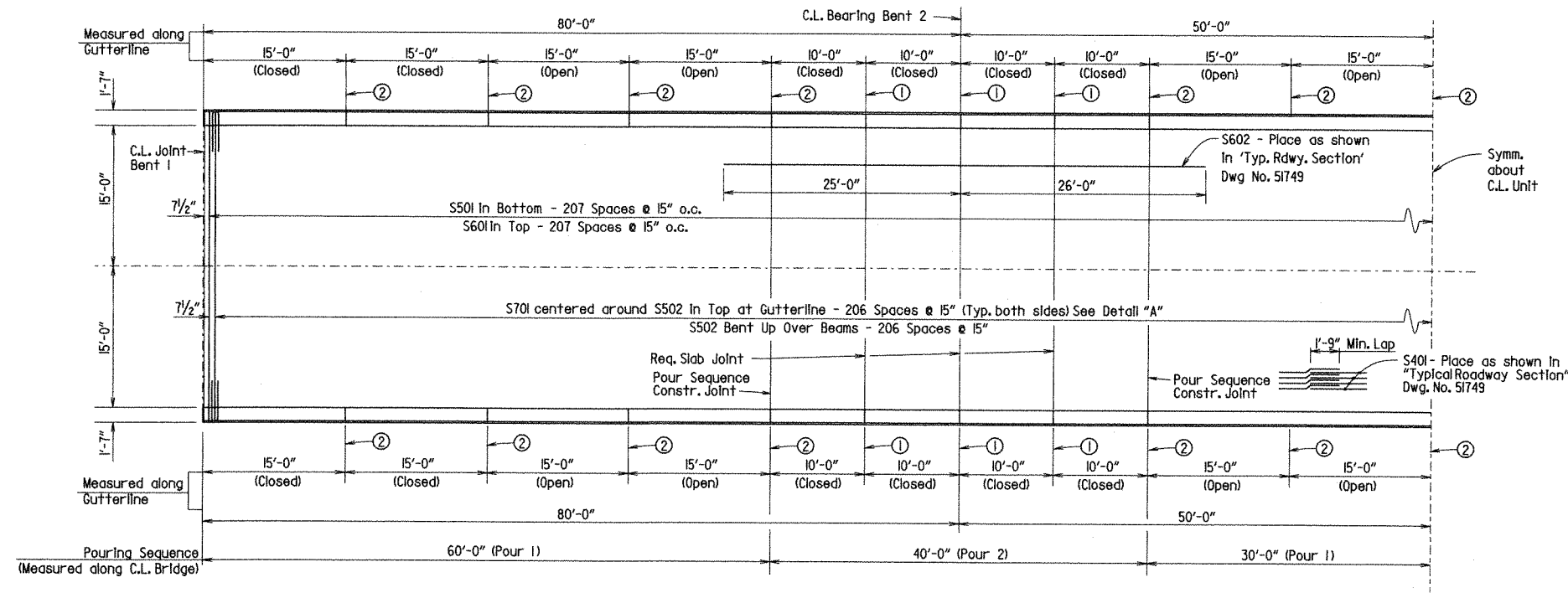
WEB SPICE

FIELD SPICE DETAILS
Scale: 1" = 1'-0"



SHEET 2 OF 5
DETAILS OF 260'-0" CONTINUOUS
COMPOSITE W-BEAM UNIT
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.
DRAWN BY: MRE DATE: 7/31/10 FILENAME: b080382.s2.dgn
CHECKED BY: CHW DATE: 12/10 SCALE: 1/8" = 1'-0" or as shown
DESIGNED BY: RBZ DATE: 12/10
BRIDGE NO. 07201 DRAWING NO. 51750

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.		080382	36	76
				07201		SPAN DETAILS	51751	

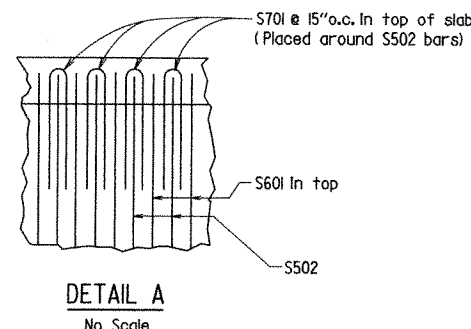
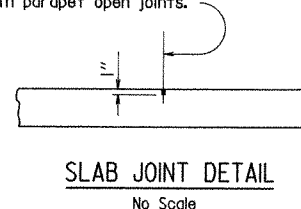


REINFORCING PLAN & DECK POURING SEQUENCE

NOTE: Pours with the same number may be placed simultaneously or separately. All pours (1) must be placed before pour (2) can be placed. 48 hours shall elapse between the end of a pour and the start of the next pour. 72 hours shall elapse between the end of a pour and the start of an adjacent pour. Any railing pours made before the entire slab unit has been placed must be approved by the Engineer. Concrete in bridge superstructure shall be consolidated for the entire pour before any concrete has taken its initial set. This may require the use of a retarding agent. The Contractor must obtain approval from the Engineer for any deviations from the pouring sequence shown.

- ① C.L. Full-Depth Parapet Joint (1/4" to 1" max.) Stop 4" from top of slab.
- ② C.L. Partial-Depth Parapet Joint (1/4" to 1" max.) Stop 1'-2" from top of slab.

1/2" x 1" Type 3, 4 or 6 Joint Sealer. See subsections 501.02 (h) and 501.05 (j). Backer rod filler will not be required. Joint Sealer shall be measured and paid for as Class S (AE) Concrete-Bridge. Slab joints shall extend to the outside edge of the deck slab. Slab joint shall be installed before the parapet rail is poured. If slab joints are to be sawed, they shall be sawed as soon as the concrete has sufficiently set to allow sawing of the joint without damage to the slab. Slab joints shall be placed at all pouring sequence construction joints and required slab joint locations. Slab joints shall align with parapet open joints.

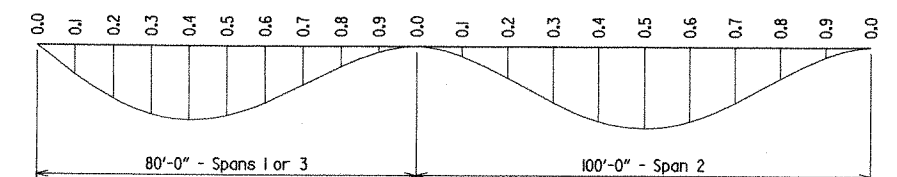


BAR LIST				BENDING DIAGRAMS			
MARK	NO. REQ'D.	LENGTH	P.D.	Dimensions are out to out of bars.			
P401	912	5'-6"	3"				
P402	128	4'-10"	3"				
P403	72	14'-8"	Str.				
P404	48	9'-8"	Str.				
P405	16	30'-9"	Str.				
P406	32	40'-9"	Str.				
P407	32	9'-8"	Str.				
P501	912	4'-9"	3 3/4"				
S401	672	38'-7"	Str.				
S501	208	32'-10"	Str.				
S502	207	33'-5"	3"				
S601	208	32'-10"	Str.				
S602	72	5'-0"	Str.				
S701	414	8'-8"	6 1/2"				

TABLE OF DEAD LOAD DEFLECTIONS - INCHES

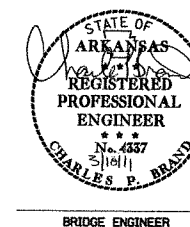
Span	Point of Deflection	Exterior Beam			Interior Beam		
		Structural Steel	Structural Steel + Slab	Struct. Steel + Slab + Rail	Structural Steel + Slab	Structural Steel + Slab + Rail	Struct. Steel + Slab + Rail
Span 1 or 3	0.0	0.000	0.000	0.000	0.000	0.000	0.000
	0.1	0.065	0.374	0.416	0.070	0.479	0.518
	0.2	0.118	0.685	0.761	0.128	0.876	0.947
	0.3	0.152	0.887	0.986	0.166	1.135	1.227
	0.4	0.164	0.959	1.067	0.178	1.227	1.327
	0.5	0.153	0.901	1.003	0.166	1.153	1.247
	0.6	0.123	0.733	0.817	0.134	0.939	1.017
	0.7	0.082	0.500	0.558	0.090	0.641	0.694
	0.8	0.041	0.263	0.293	0.045	0.338	0.366
	0.9	0.010	0.076	0.085	0.011	0.099	0.107
1/2 Span 2	0.0	0.000	0.000	0.000	0.000	0.000	0.000
	0.1	0.031	0.126	0.142	0.033	0.159	0.174
	0.2	0.090	0.405	0.455	0.096	0.512	0.559
	0.3	0.155	0.721	0.809	0.165	0.914	0.996
	0.4	0.203	0.967	1.083	0.218	1.226	1.334
	0.5	0.221	1.058	1.185	0.237	1.341	1.459

NOTE: Table symmetrical about C.L. Unit.

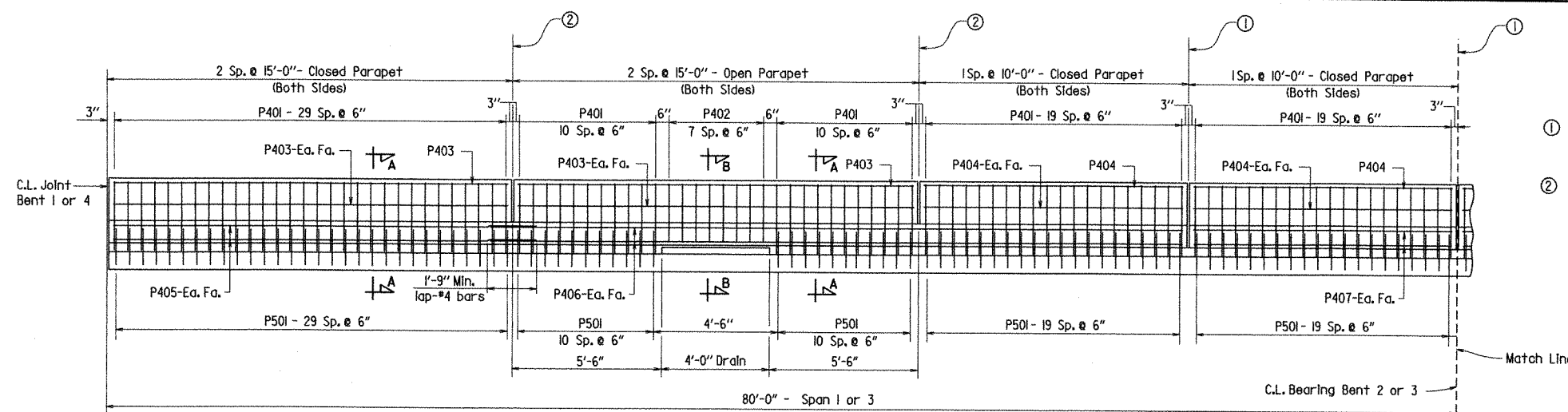


NOTE: Camber for Dead Load Deflection plus Vertical curve 1/4" tolerance. Deflections shown are from a chord from C.L. Bearing to C.L. Bearing. Vertical curve corrections not included. Negative sign (-) indicates point above chord.

SHEET 3 OF 5
DETAILS OF 260'-0" CONTINUOUS COMPOSITE W-BEAM UNIT
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.
DRAWN BY: MRE DATE: 7/31/10
CHECKED BY: CHW DATE: 12/10
DESIGNED BY: RBR DATE: 12/10
BRIDGE NO. 07201 DRAWING NO. 51751
FILENAME: b080382.s3.dgn
SCALE: 1/8" = 1'-0" or as shown

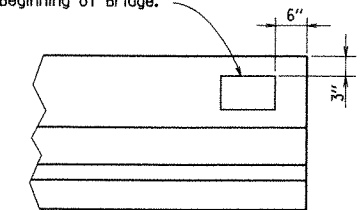


DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080382	37	76
				07201		SPAN DETAILS		51752

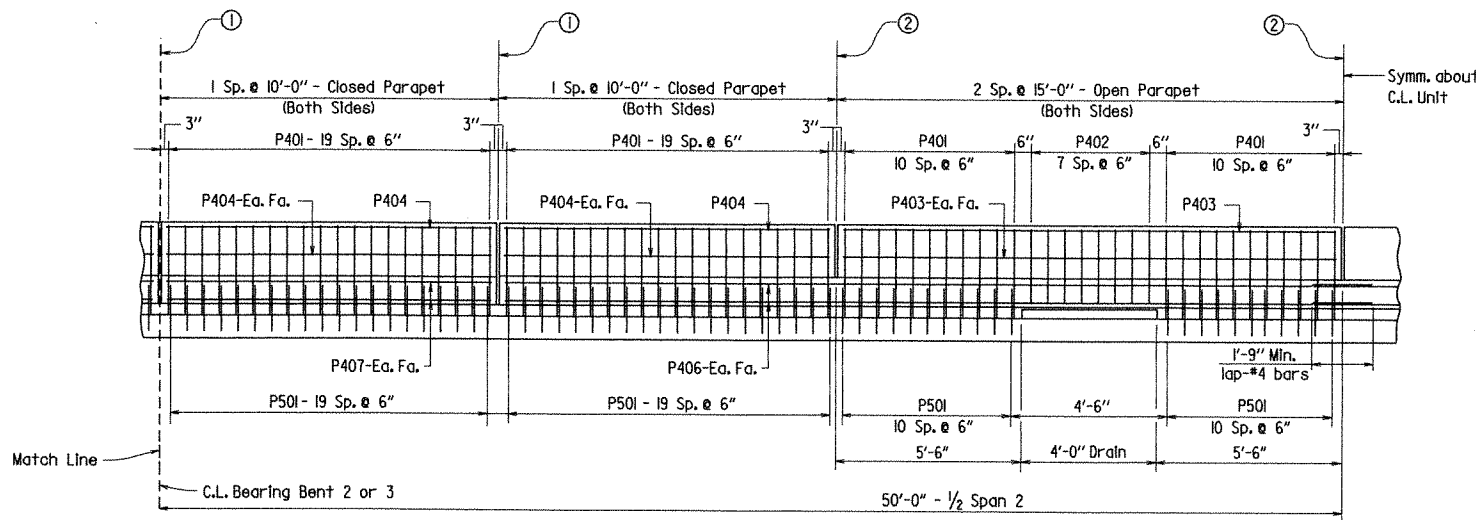


- ① C.L. Full-Depth Parapet Joint (1/4" to 1" Max.) Stop 4" from top of slab.
② C.L. Partial-Depth Parapet Joint (1/4" to 1" Max.) Stop 1'-2" from top of slab.

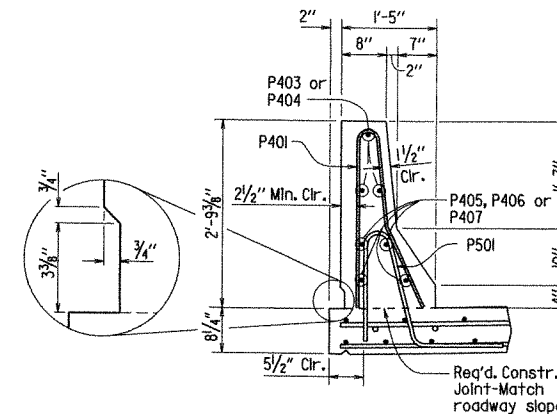
Place Type D Bridge Name Plate on front face of span rail approx. 2'-0" from front face of backwall on right side of Beginning of Bridge.



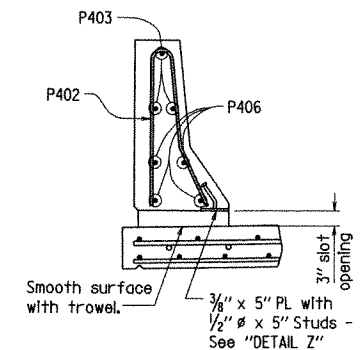
NAME PLATE DETAIL
No Scale



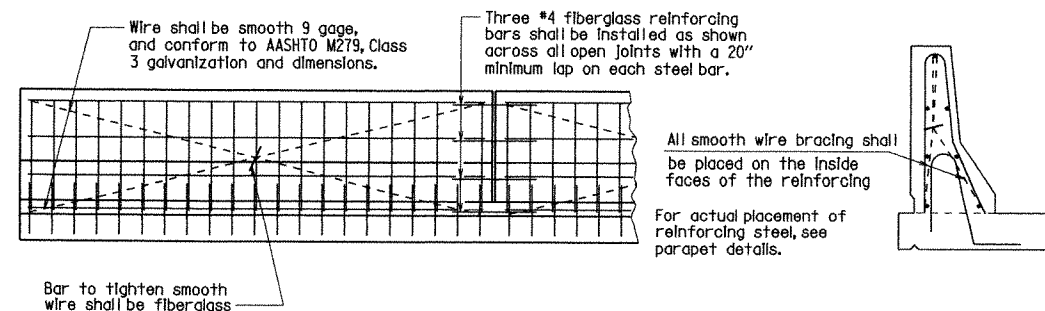
DETAILS OF PARAPET RAIL
Scale: 3/8" = 1'-0"



SECTION A-A
Scale: 3/4" = 1'-0"



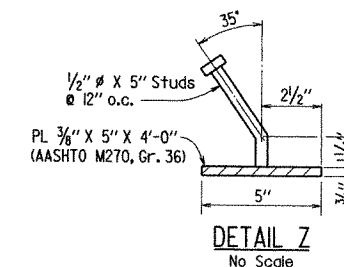
SECTION B-B
Scale: 3/4" = 1'-0"



All panels shall be braced as required to prevent racking. All open joints shall be sawed as soon as practical to a minimum width of 1/4". To control cracking before sawing all joints must be grooved before the concrete is set. Sawing of the joints must be controlled so it will follow the grooved joint.

DETAILS OF OPTIONAL SLIPFORMING OF CONCRETE PARAPET RAIL
No Scale

The extruded parapet 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. Exposed surfaces may be given a light brush finish or a Class 3, Textured Coating Finish, in place of the Class 2, Rubbed Finish.



NOTE:
The surfaces of the 3/8" plates which will not be in contact with concrete shall be painted with aluminum epoxy paint in accordance with Section 638, or as approved by the Engineer. Only one coat is required and shall be applied in the fabricator's shop. Painting will not be paid for directly, but will be considered subsidiary to "Structural Steel in Beam Spans (M270, Gr. 50W)."

Parapet studs shall be 5" long, granular flux filled, solid fluxed or equal, and automatically end welded to the plate. Studs and plates shall meet the requirements of Section 807 and shall be measured and paid for as "Structural Steel in Beam Spans (M270, Gr. 50W)."



BRIDGE ENGINEER

SHEET 4 of 5
DETAILS OF 260'-0" CONTINUOUS COMPOSITE W-BEAM UNIT
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: MRE DATE: 05/20/08 FILENAME: b080382.s4.dgn
CHECKED BY: CMW DATE: 12/10 SCALE: 3/8" = 1'-0" or as noted
DESIGNED BY: RBK DATE: 12/10
BRIDGE NO. 07201 DRAWING NO. 51752

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.		080382	38	76
				07201		260' UNIT		51753

GENERAL NOTES

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2003 Edition) with applicable supplemental specifications and special provisions.

DESIGN SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications 5th Edition (2010).

LIVE LOADING: HL-93

MATERIALS AND STRENGTHS:

Concrete: All concrete shall be Class S(AE) with a minimum 28 day strength $f'_c = 4000$ psi.

Reinforcing Steel: Reinforcing steel shall conform to AASHTO M31 or M53, Grade 60 (Yield Strength = 60,000 psi.).

Structural Steel: Structural Steel shall conform to AASHTO M270, Gr. 50W ($F_y = 50,000$ psi.) or AASHTO M270 Gr.36 ($F_y = 36,000$ psi.).

STRUCTURAL STEEL:

All Structural Steel shall be AASHTO M270, Gr. 50W unless otherwise noted. All structural steel shall be paid for as "Structural Steel In Beam Spans (M270, Gr. 50W)". Structural Steel completely embedded in concrete may be AASHTO M270, Gr. 36. AASHTO M270, Gr. 50W steel shall not be painted. All exposed surfaces shall be cleaned in accordance with subsection 807.84e unless noted otherwise.

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 the approved shop drawings. Payment will be based on the basis of shapes and materials shown in the plans, and no additional compensation will be made for any adjustments due to substitutions.

Beams, including web and flange splice plates, are considered main load carrying member and shall meet the Longitudinal Charpy V-Notch Test specified in subsection 807.05. This work and material will not be paid for directly, but shall be considered subsidiary to the item "Structural Steel In Beam Spans (M270, Gr. 50W)".

Flange splice plates for main members shall be cut and fabricated so that the primary direction of rolling is parallel to the direction of the main tensile and/or compressive stresses.

Drawings show general features of design only. Shop drawings shall be made in accordance with subsection 807.04, submitted, and approval secured before fabrication is begun.

All stud shear connectors shall be granular flux filled, solid fluxed, or equal and shall be automatically end welded in accordance with the recommendations of the manufacturer.

All beams shall be blocked in their true position in the shop as specified in subsection 807.54 (b)(2). The camber, length of sections, distance between bearings, and opening of joints shall be measured with the beams in their true position and this information shall become part of the permanent record of this job. The component parts shall be match marked in this assembly and those marks shall be shown on the erection diagram. All beam dimensions are based on a temperature of 60 degrees F. A tolerance of $\frac{1}{4}$ " (plus or minus) allowed for camber.

Field connections shall be bolted with high-strength bolts. Bolts shall be $\frac{3}{4}$ " ϕ , except as noted, and open holes shall be $\frac{1}{8}$ " ϕ unless otherwise noted. Holes for $\frac{3}{4}$ " ϕ bolts may be $\frac{5}{8}$ " ϕ if a washer is supplied for use under both the nut and the head of the bolt. Bolt spacing shall be $2\frac{1}{2}$ " for $\frac{3}{4}$ " ϕ bolts. For field splices, bolts shall be $\frac{1}{2}$ " ϕ bolts. Open holes shall be $\frac{1}{8}$ " ϕ . Bolt spacing shall be 3" for $\frac{1}{2}$ " ϕ bolts unless otherwise noted. Bolts shall be placed with heads on the outside face of the exterior beam web and on the bottom of the beam flanges.

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 permanent or temporary, 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.

Diaphragms shall be installed as beams are erected. All bolts in diaphragms and field splices shall be installed and tightened in accordance with subsection 807.71 prior to pouring the concrete deck.

Bearings shall be seated in accordance with subsection 808.08. This work and material will not be paid for directly but will be considered subsidiary to the item "Structural Steel In Beam Spans (M270, Gr. 50W)".

REINFORCING STEEL:

The reinforcing steel shall be accurately located in the forms and firmly held in place by steel wire supports, sufficient in size and number, 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 "Reinforcing Steel - Bridge (Grade 60)".

CONCRETE:

All concrete shall be Class S(AE) with a minimum 28 day compressive strength $f'_c = 4000$ psi. Concrete shall be poured in the dry and all exposed corners to be chamfered $\frac{3}{4}$ " unless otherwise noted.

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 deck shall be given a Fine 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 beam. If a longitudinal strike-off is used, a vertical camber adjustment must be made to the strike-off to account for the future dead load deflection due to the parapet railing.

A minimum of 72 hours shall elapse between completion of the bridge deck slab and the pouring of the parapet railing. Any railing pours made before the entire slab has been placed and cured must be approved by the Engineer.

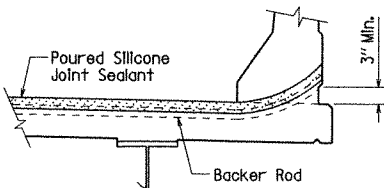
Load Distribution

Dead Load:

A. To W-Beam	Beam No. Beam 1 & 4	748	pif + Wt. of Structural Steel
	Beam 2 & 3	995	pif + Wt. of Structural Steel

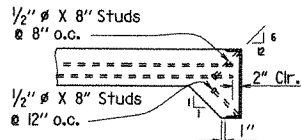
B. To Composite Beam	Beam No. Beam 1, 2, 3, & 4	374	pif **
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** Includes 180 pif future wearing surface.



JOINT SEAL PLACEMENT AT CURB

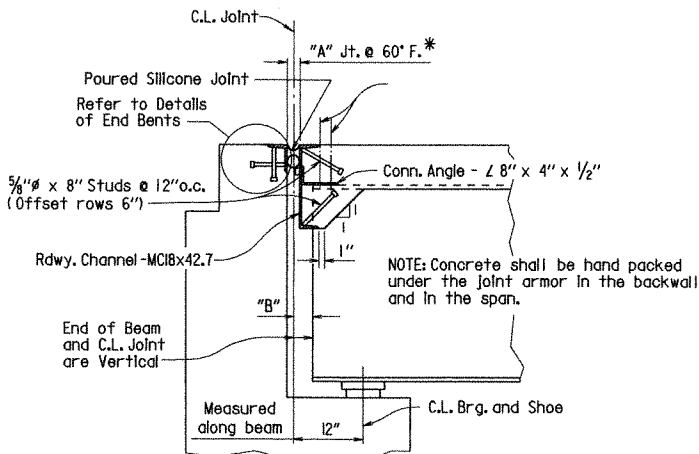
No Scale



NOTE: As an alternate to $\frac{5}{8}$ " ϕ studs, $\frac{1}{2}$ " ϕ x 8" studs spaced as shown may be used. Use weight of $\frac{5}{8}$ " ϕ stud as basis of measurement of structural steel in anchors.

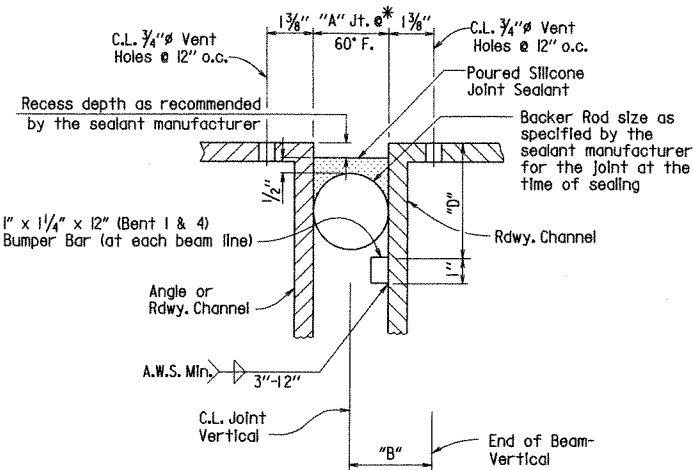
DETAILS OF ALTERNATE ANCHORS AND PLACEMENT OF LONGITUDINAL REINFORCEMENT

No Scale



SECTION THRU JOINT AT BENTS 1 & 4

Scale: $\frac{3}{4}$ " = 1'-0"



DETAIL OF POURED SILICONE JOINT SEAL

NO SCALE

SILICONE JOINT DATA

Bent Number	"A" Width Perpendicular to Joint at 24 Hour Average Temperature* Of:			"B" Perpendicular to Joint at 60°F	Bumper Plate Size	"D"
	40°F	60°F	80°F			
1 & 4	2 1/4"	2"	1 3/4"	3 1/8" $\pm$	1" x 1 1/4"	5"

*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. Interpolation of the table may be necessary.

NOTES: 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.

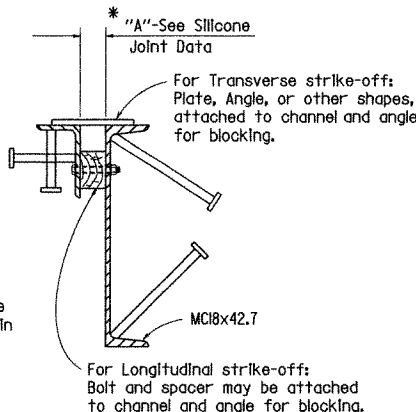
BACKER ROD NOTE:

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.

Except as noted, do not install more backer rod that 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.

NOTE: Each expansion joint device shall be blocked in the shop by the fabricator to the dimension "A", 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

NO SCALE

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 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, the opening adjusted for temperature, and the backwall constructed.

2) The backwall shall be poured to the optional construction joint after beams 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.



BRIDGE ENGINEER

SHEET 5 OF 5

DETAILS OF 260'-0" CONTINUOUS COMPOSITE W-BEAM UNIT

ROUTE SEC.

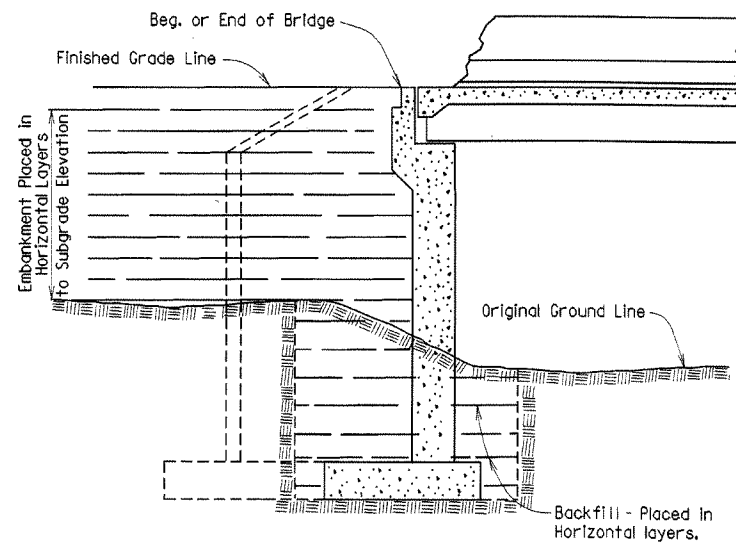
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

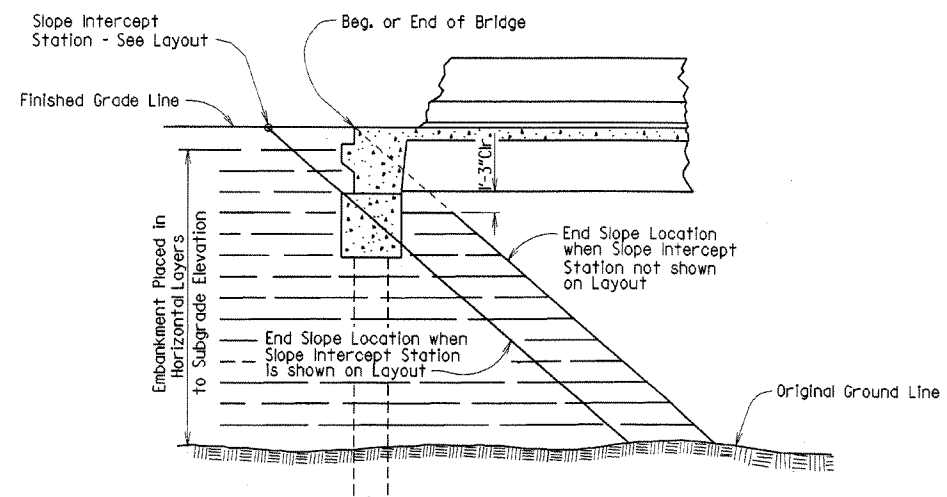
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CHECKED BY: CMW DATE: 10/10 SCALE: $\frac{3}{8}$ " = 1'-0" or as noted
DESIGNED BY: RBR DATE: 12/10

BRIDGE NO. 07201

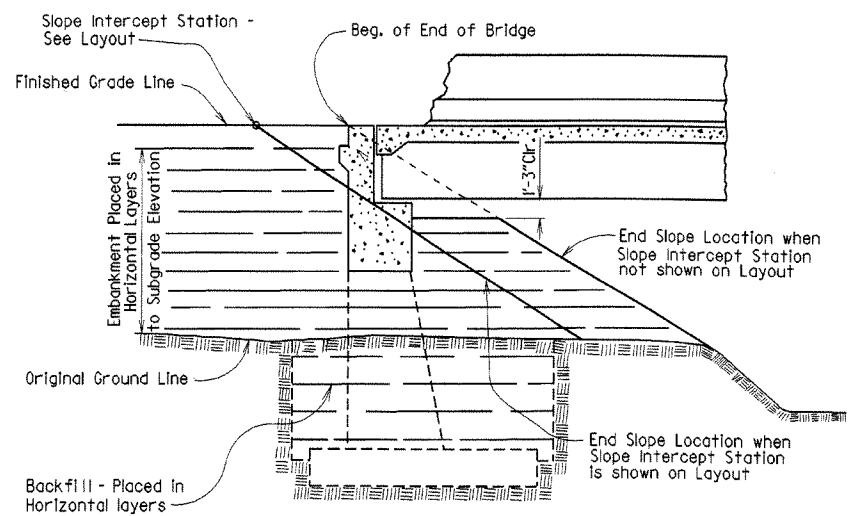
DRAWING NO. 51753



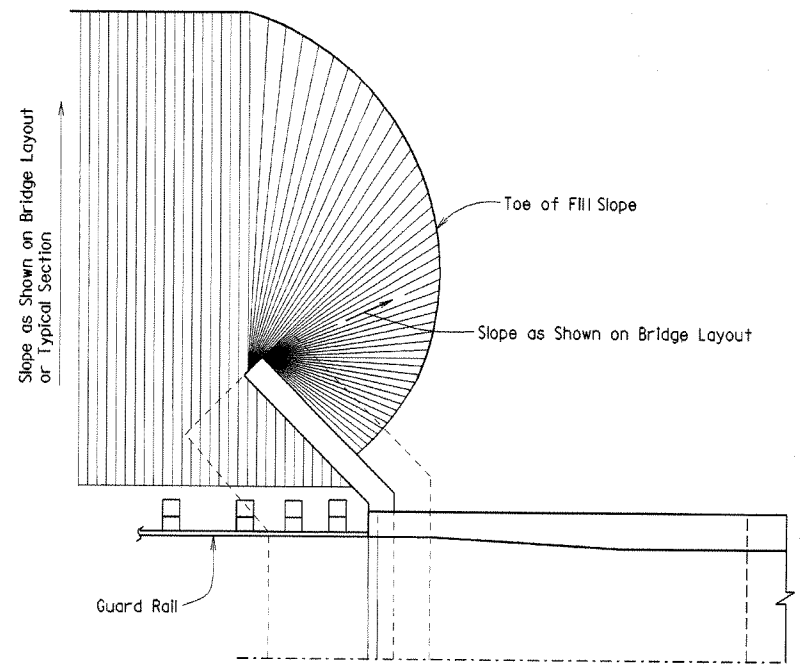
EMBANKMENT CONSTRUCTION AND FOOTING BACKFILL AT VERTICAL WALL ABUTMENTS



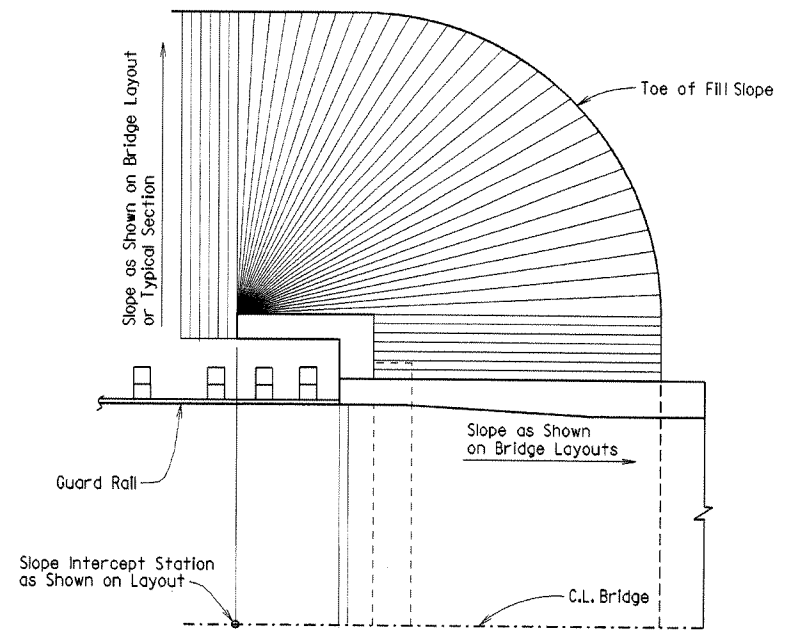
EMBANKMENT CONSTRUCTION AT SPILL-THROUGH PILE END BENTS



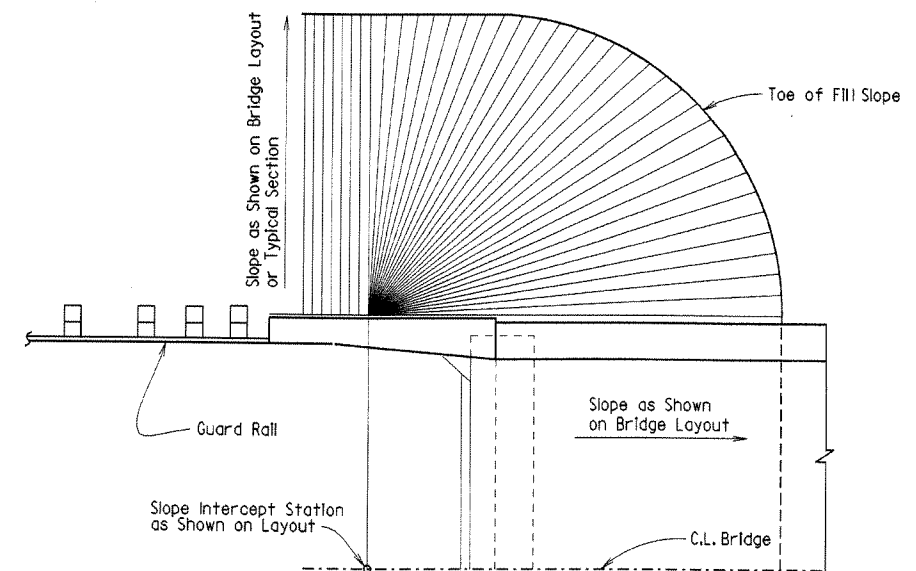
EMBANKMENT CONSTRUCTION AND FOOTING BACKFILL AT SPILL-THROUGH END BENTS



VERTICAL WALL ABUTMENTS



SPILL-THROUGH END BENTS WITH TURNBACK WING



SPILL-THROUGH END BENTS WITH TRANSITION WING

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
04-10-2003				6	ARK.		40	
				JOB NO.				
				EMBANKMENT & BACKFILL			1888A	

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 4 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 of the Specifications for construction requirements.

Revised and redrawn MJT 04-10-2003
 Chk'd. By: CJF 04-10-2003

METHOD OF DETERMINING FILL SLOPE LOCATION AT BRIDGE ENDS



BRIDGE ENGINEER

EMBANKMENT CONSTRUCTION AND BACKFILL AT BRIDGE ENDS

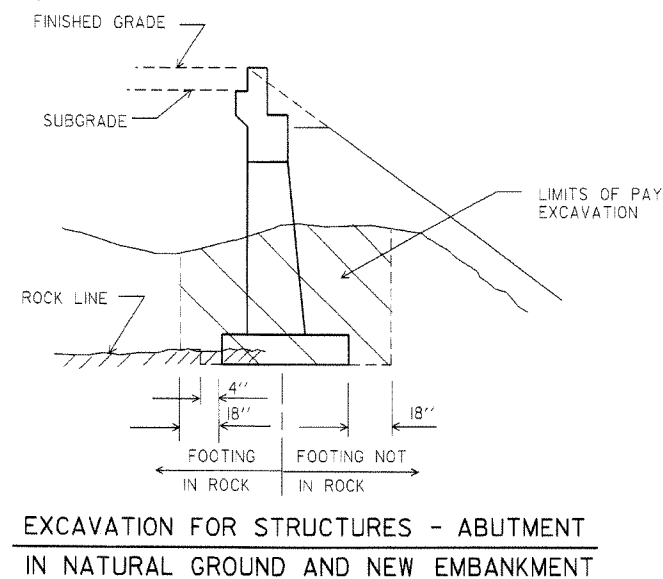
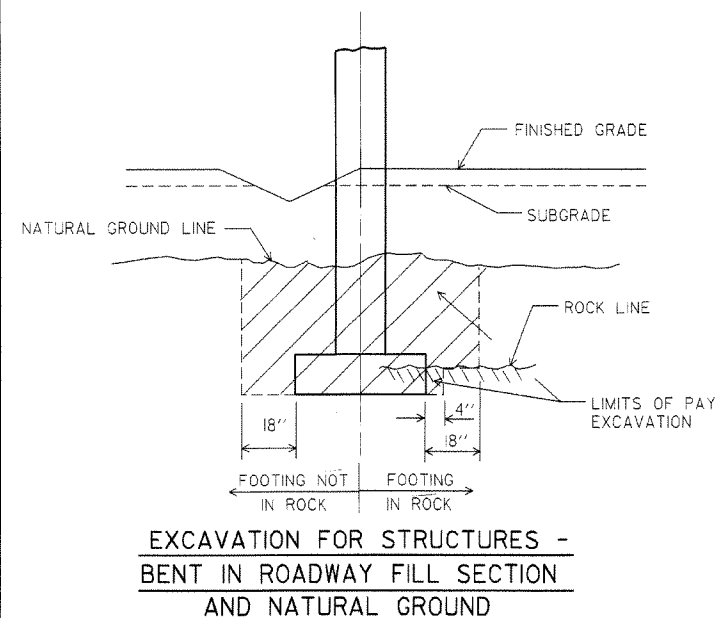
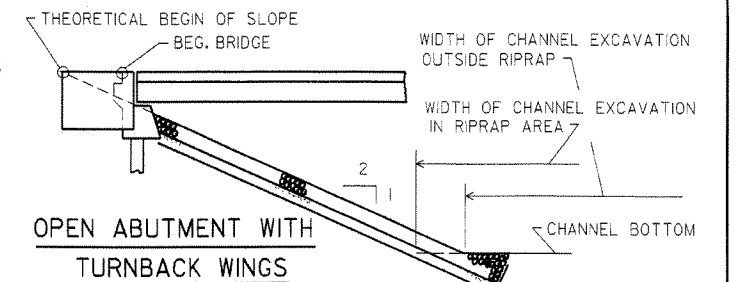
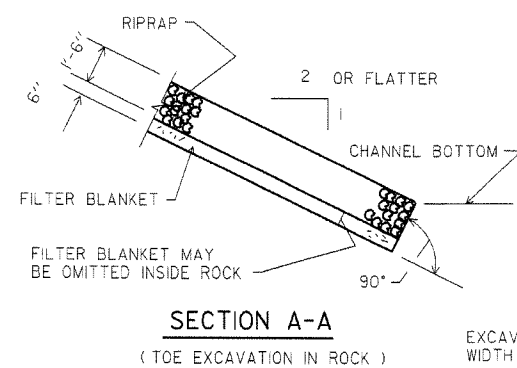
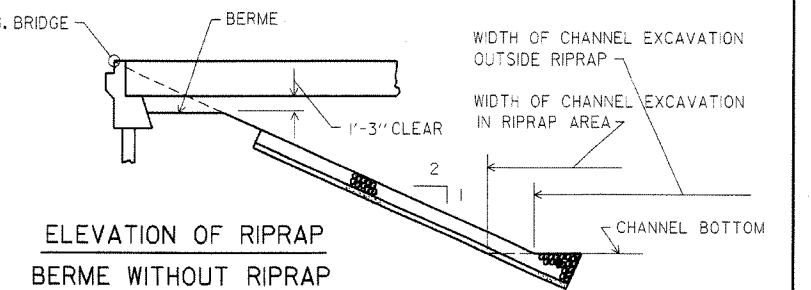
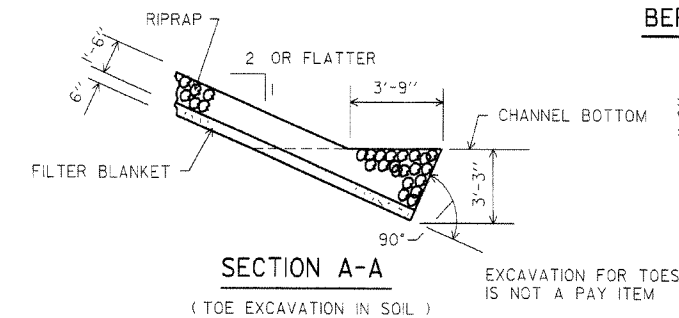
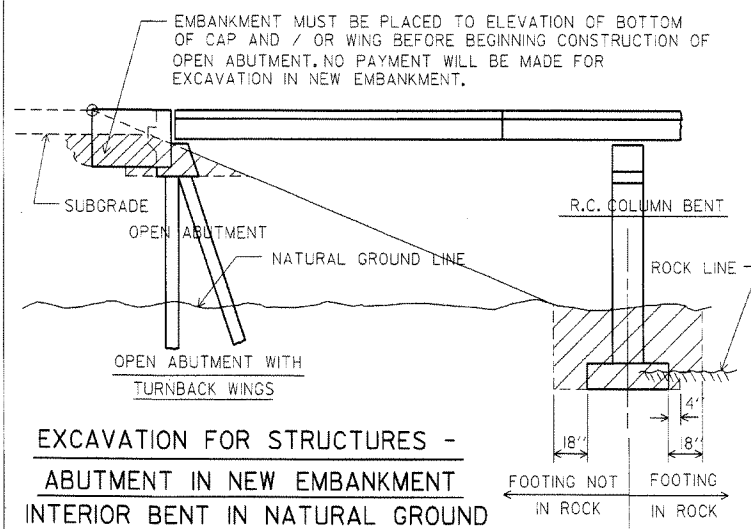
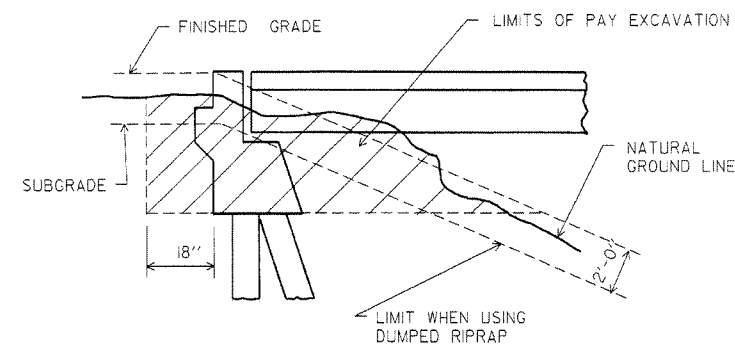
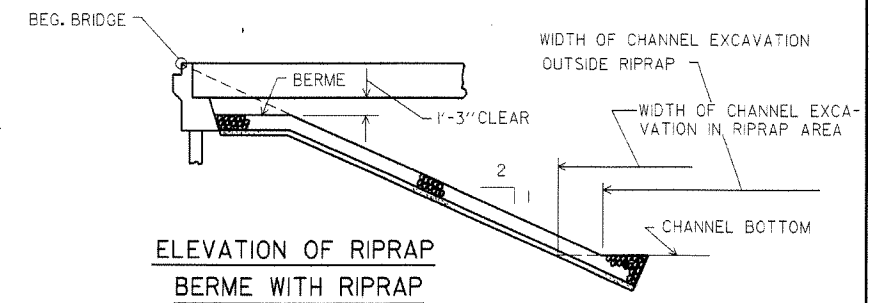
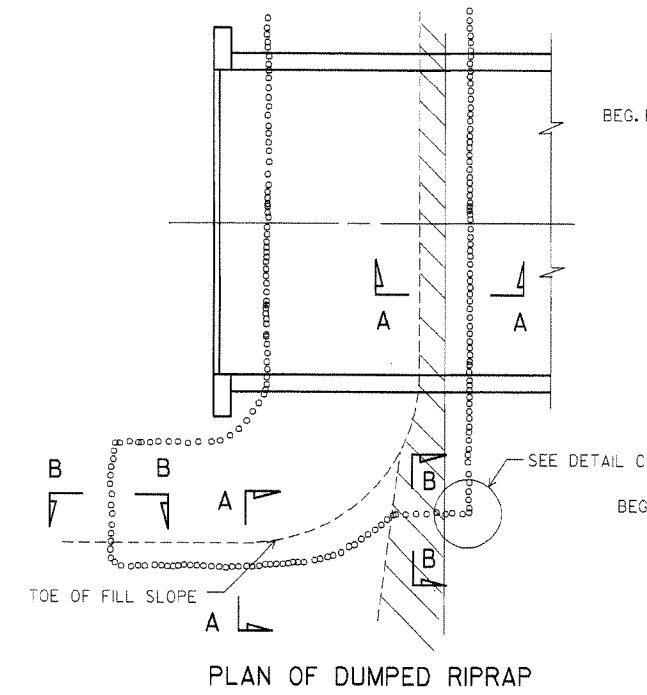
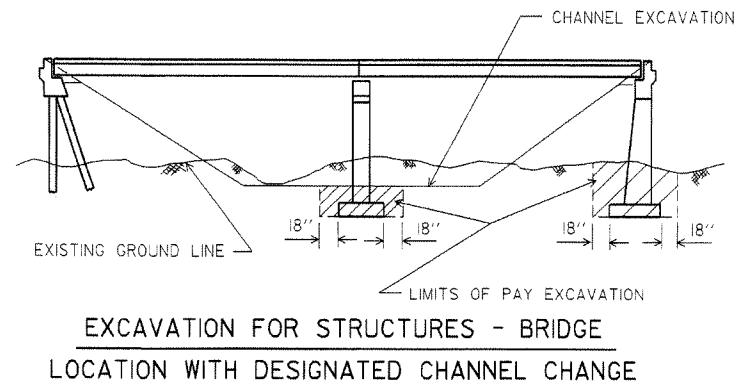
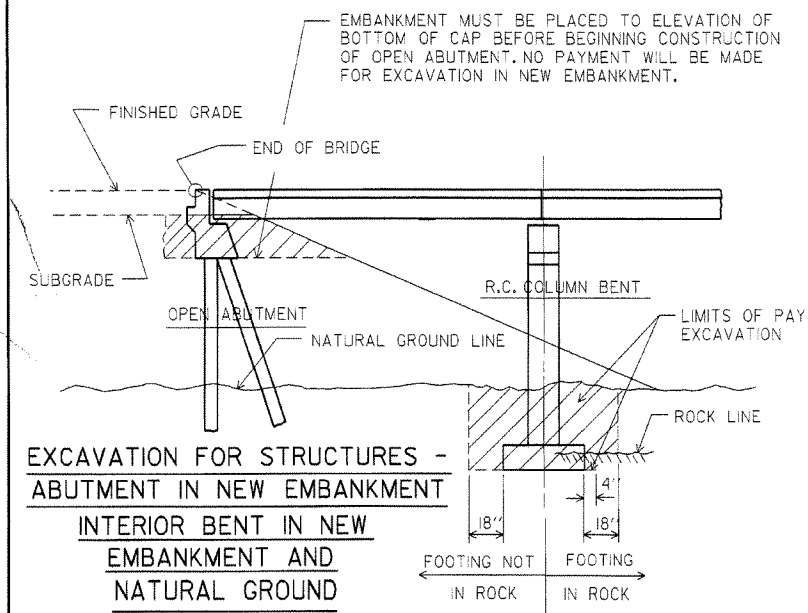
ROUTE SEC.
 ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: MJT DATE: 04-10-2003 FILENAME: B1888A.STD
 CHECKED BY: CJF DATE: 04-10-2003 SCALE: NO SCALE
 DESIGNED BY: STD DATE: NO SCALE

BRIDGE NO. DRAWING NO. 1888A

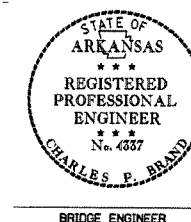
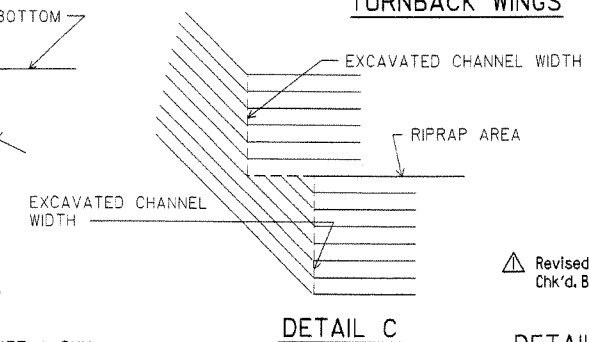
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
04-10-2003				6	ARK.		41	
				JOB NO.				
				RIP. & EXCAV.			1891F	



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.

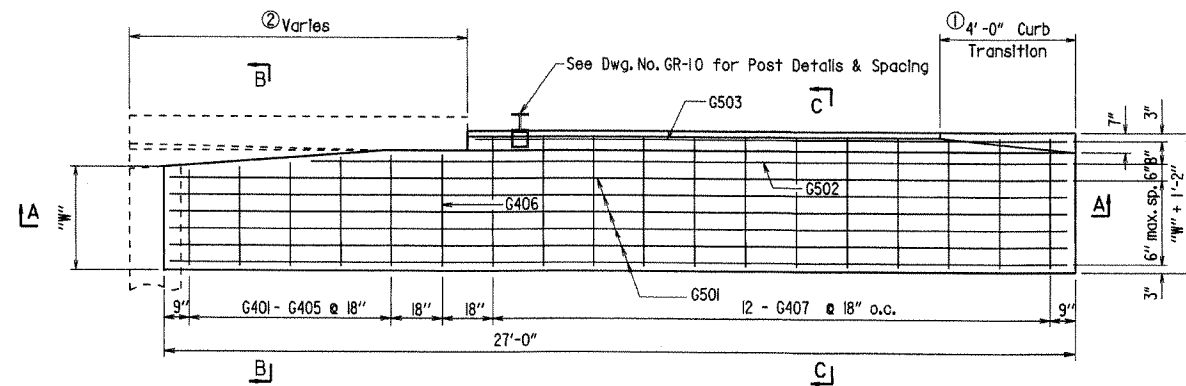


Revised and redrawn: MJT 04-10-2003
Chk'd. By: CJF 04-10-2003

DETAILS FOR DUMPED RIPRAP AND FILTER BLANKET AND DETAILS FOR COMPUTING EXCAVATION FOR STRUCTURES
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

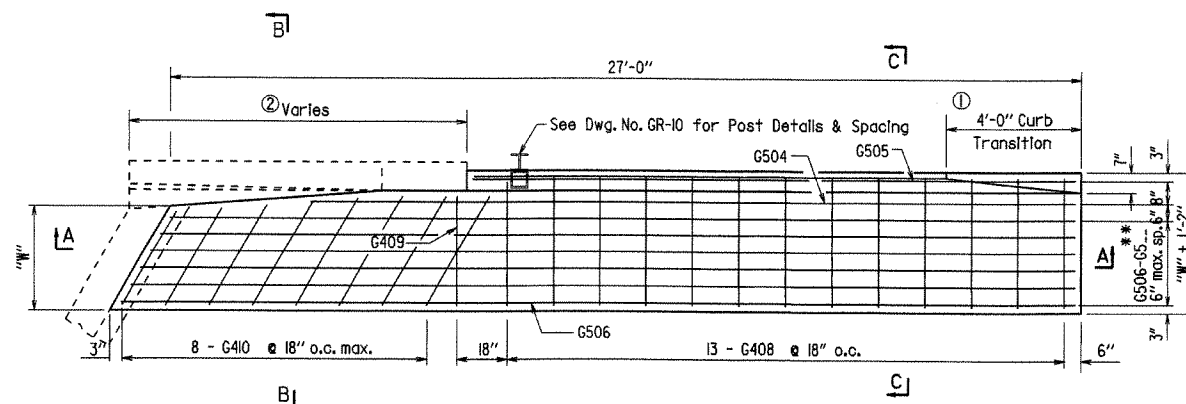
DRAWN BY: MJT DATE: 04-10-2003 FILENAME: B1891F.STD
CHECKED BY: CJF DATE: 04-10-2003 SCALE: NO SCALE
DESIGNED BY: STD DATE: BRIDGE NO. DRAWING NO. 1891F

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
4-10-2003 07-14-2010				6	ARK.		42	
				JOB NO.				
				TYPE B GUTTERS			2016B	

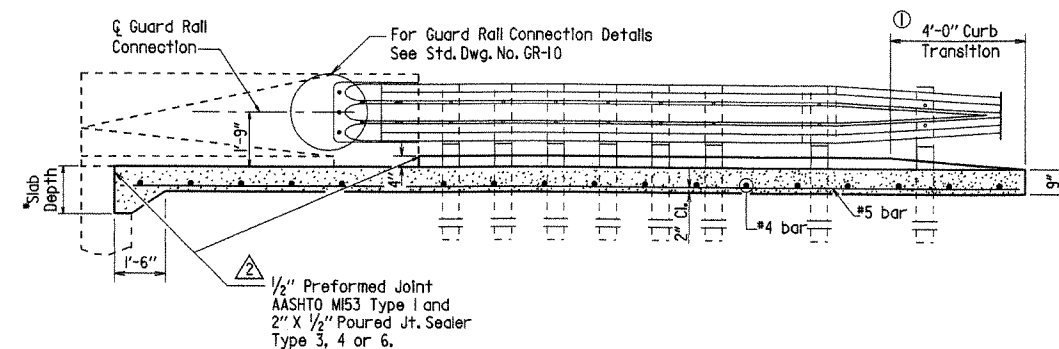


HALF PLAN OF APPROACH GUTTERS FOR SQUARE BRIDGE

② Length varies. See End Bent details for actual length.
Quantities shown are for 10'-0" Transition Rail.



PLAN OF APPROACH GUTTERS FOR SKEWED BRIDGE

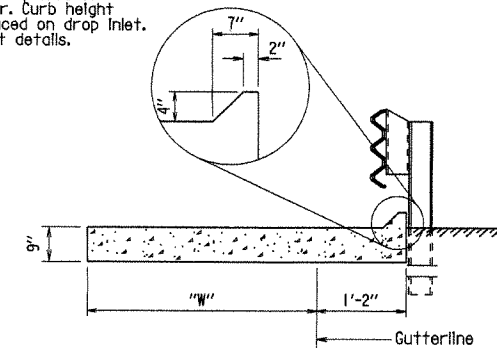


SECTION A - A

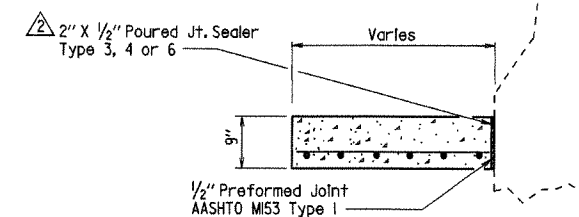
* Slab Depth Varies - See
Span and Bent Details

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. See drop inlet details.



SECTION C - C
N.T.S.



SECTION B - B
N.T.S.

*** BAR LIST ② TYPE B GUTTER

Mark	No. Required for Width "W"				Length	Square or Skewed
	3'-0"	4'-0"	6'-0"	8'-0"		
G401 - G405	1 each	1 each	1 each	1 each	"W" - 3" to "W" + 3"	Square
G406	1	1	1	1	"W" + 3"	Square
G407	12	12	12	12	"W" + 10"	Square
G408	13	13	13	13	"W" + 10"	Skewed
G409	1	1	1	1	"W" + 3"	Skewed
G410	8	8	8	8	*	Skewed
G501	6	8	12	16	26'-8"	Square
G502	1	1	1	1	22'-2"	Square
G503	1	1	1	1	17'-8"	Square
G504	1	1	1	1	*	Skewed
G505	1	1	1	1	*	Skewed
G506 - G5**	1 each	1 each	1 each	1 each	*	Skewed

* Bar Lengths vary with Skew.

** G512 for "W" = 3'
G514 for "W" = 4'
G518 for "W" = 6'
G522 for "W" = 8'

*** Special bar list required when skew angle exceeds 40° for W = 8'; 50° for W = 6'; or 60° for W = 4'.

QUANTITIES FOR ONE SQUARE APPROACH GUTTER

"W" Width (ft.)	Reinforcing Steel (lbs.)	Concrete (cubic yards)
3	252	3.00
4	319	3.75
6	459	5.25
8	590	6.75

GENERAL NOTES

Concrete shall be Class S or Class S(AE) or mixture used for Portland Cement Concrete Pavement.

Reinforcement Steel shall conform to AASHTO M31 or M53, Grade 60 (fy = 60,000 psi).

Approach Gutters will be measured and paid for in accordance with Section 504 of the Standard Specifications.

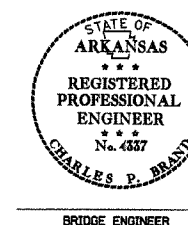
① Revised and redrawn 4-10-2003. By KDH. Ck. By: CJF 4-10-2003

② Added joint sealer type & revised transition rail length 07-14-2010 by MJT. Checked by: CJF 07-14-2010

DETAILS OF STANDARD TYPE B APPROACH GUTTERS

ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 4-10-2003 FILENAME: B2016B.STD
CHECKED BY: CJF DATE: 4-10-2003 SCALE: 3/8" = 1'-0"
DESIGNED BY: STD DATE:
BRIDGE NO. DRAWING NO. 2016B



BRIDGE ENGINEER

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
4-17-07		01-08-09		6	ARK.		43	
8-16-07		11-23-10						
12-10-08		01-25-11						
				JOB NO.				
				NAME PLATE		2387		

The name of the bridge as shown on the plans shall be placed on Lines 1 - 3 using 1/8" raised letters and numerals 3/8" high.

	<u>Example 1</u>	<u>Example 2</u>	<u>Example 3</u>	<u>Example 4</u>
Line 1	Red River	Southern	Saline	Highway 5
Line 2	Relief	Railroad	River	
Line 3		Overpass	Relief	

GENERAL NOTES

Specifications: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction, (2003 Edition) with applicable Supplemental Specifications and Special Provisions.

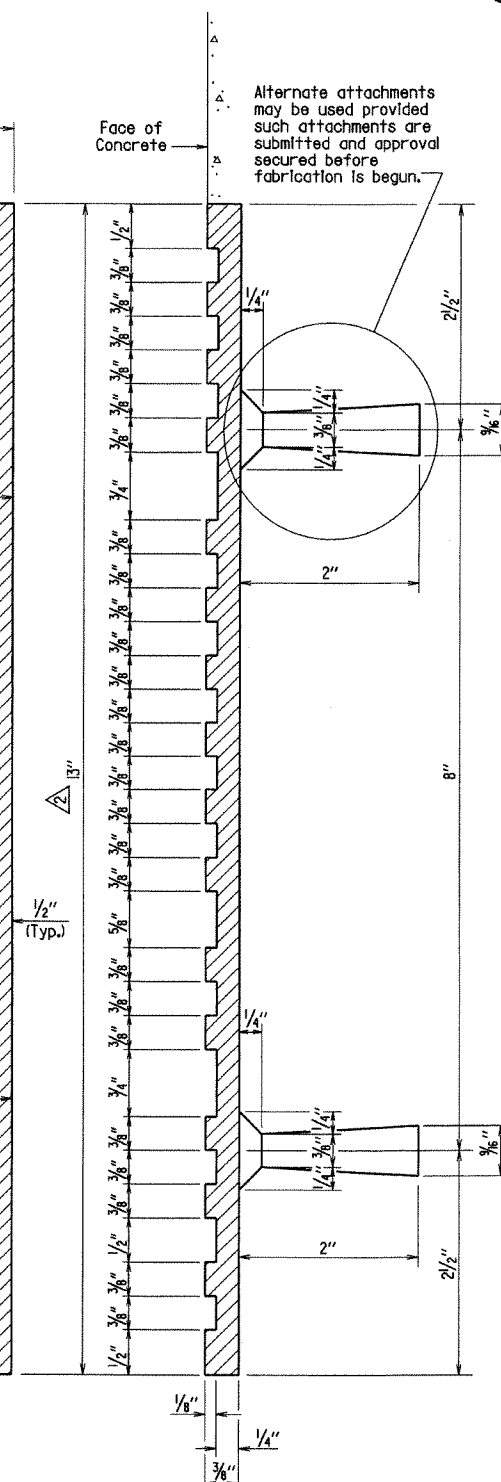
Name plates shall be cast bronze and shall meet the material requirements as specified in Section 812 of the Standard Specifications.

Body of plate shall be 1/4" thick and shall include four tapering cone lugs 3/8" to 5/8" x 2" long. The border and all lettering shall be raised 1/8" above the face of plate and shall be polished.

All lettering shall be plain gothic, square cut and not tapered. The number of plates required and the location and name on the plate for each bridge shall be as designated on the plans.

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

Face of Concrete



Revised Commission Names 01-25-11 MJT
Checked By: C.J.F. Date: 01-25-11

Revised Commission Names 11-23-10 MJT
Checked By: C.J.F. Date: 11-23-10

Revised Commission Names 01-08-09 MJT
Checked By: C.J.F. Date: 01-08-09

Revised Commission Names 12-10-08 MJT
Checked By: C.J.F. Date: 12-10-08

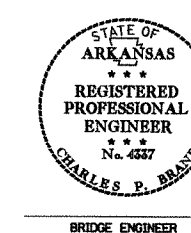
Added Dimension 8-16-07 KDH
Checked By: SWP Date: 8-16-07

Revised and Redrawn 4-17-07 KDH
Checked By: C.J.F.

DETAILS OF STANDARD TYPE D BRIDGE NAME PLATE

ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 4-17-07 FILENAME: B2387.STD
CHECKED BY: C.J.F. DATE: 4-17-07 SCALE: 1'-0" = 1'-0"
DESIGNED BY: STD. DATE: OR AS NOTED
BRIDGE NO. DRAWING NO. 2387



BRIDGE ENGINEER

ARKANSAS HIGHWAY COMMISSION
R. MADISON MURPHY - CHAIR
JOHN ED REGENOLD - VICE CHAIR
JOHN BURKHALTER
DICK TRAMMEL
TOM SCHUECK

DIRECTOR - DAN FLOWERS
DEPUTY DIRECTOR/CHIEF ENGINEER - FRANK VOZEL

CONTRACTOR
COMPANY NAME

YEAR

XXXXXX

XXXXXX

Place the design live loading here using 1/8" raised letters and numerals 1/4" high. Examples: HS 20
HL-93

Place the Year in which Contract was awarded here using 1/8" raised numerals 3/8" high. Example: 2001

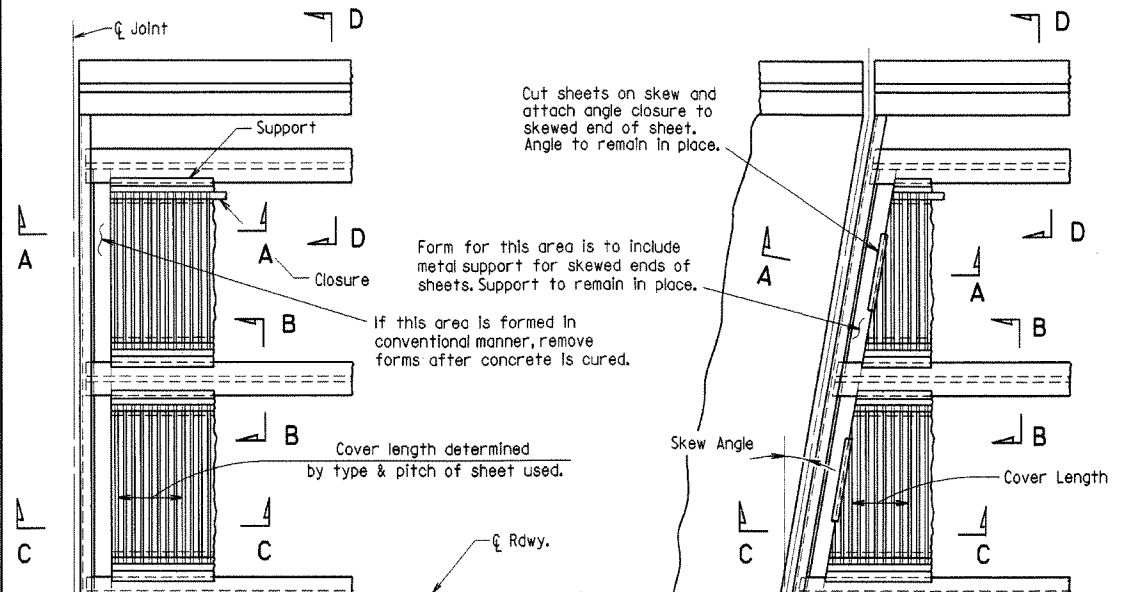
Place the name of the company awarded the construction contract here using 1/8" raised letters and numerals 3/8" high. Example: ABCD CONSTRUCTION, INC.

Place the Bridge number here using 1/8" raised letters and numerals 1/4" high. Examples: A1234
05432

TYPICAL BRIDGE NAME PLATE

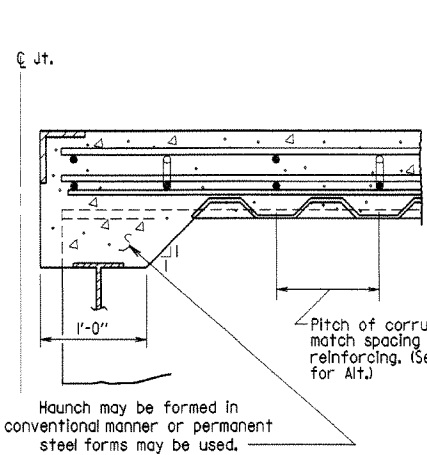
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
11-27-96						6	ARK.		44	
04-10-2003										

BR. DECK FORMS 14991

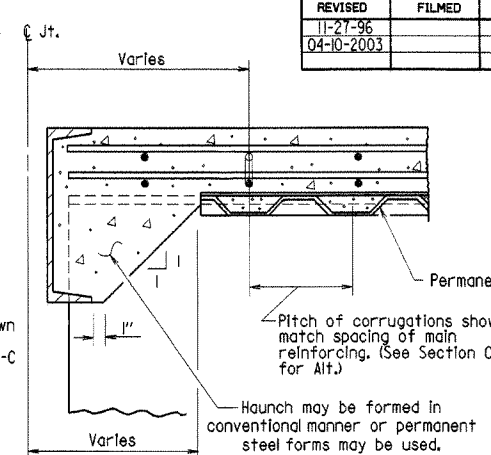


PART PLAN - SQUARE SPAN
3/8" = 1'-0"

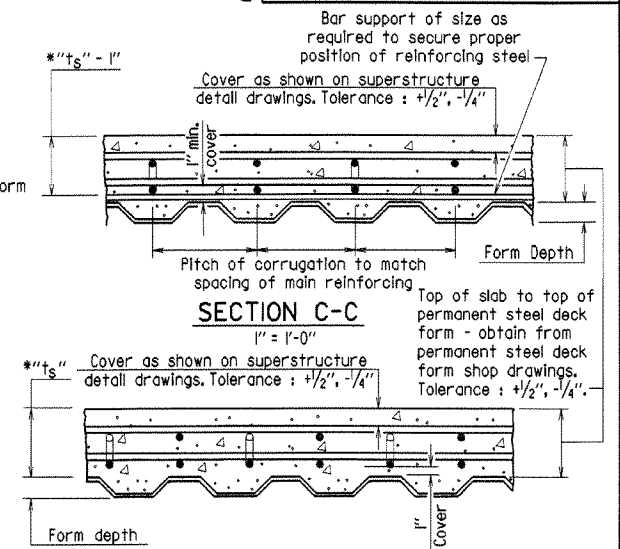
PART PLAN - SKEWED SPAN
3/8" = 1'-0"



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 - ALTERNATE
1" = 1'-0"

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

*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 802.4(b) of the Standard Specifications. Detailed plans, including detailed calculations and manufacturer's technical brochure, shall be submitted to and approved by the Bridge 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 L supports to the flange must be approved by the Bridge Engineer.

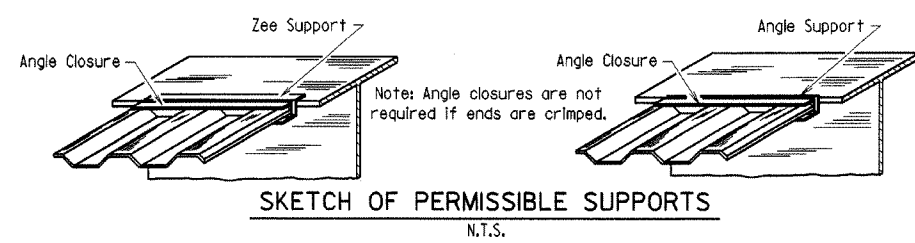
Form sheets shall be fastened to supporting members and to each other with galvanized metal screws sufficient in size and number to provide a secure attachment. Alternate methods of attachment must be approved by the Bridge Engineer.

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.

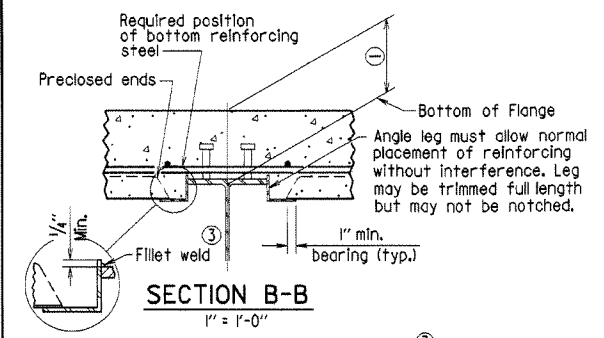
Bar support rods, when used, shall be sized and spaced to adequately support the bottom reinforcing mat at the required position.

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 (2003 Edition), with applicable supplemental specifications and special provisions.

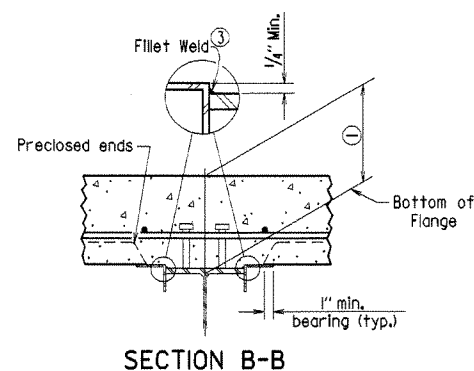


SKETCH OF PERMISSIBLE SUPPORTS
N.T.S.



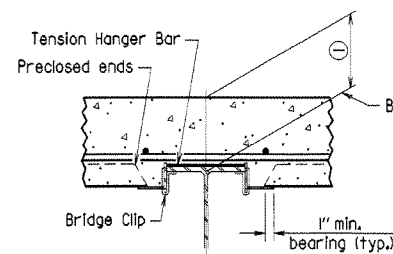
SECTION B-B
1" = 1'-0"

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



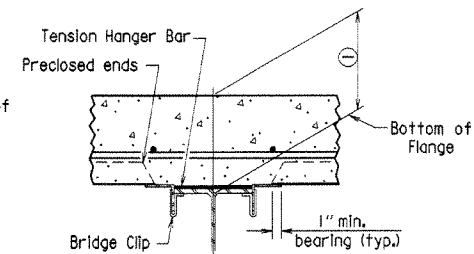
SECTION B-B
1" = 1'-0"

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



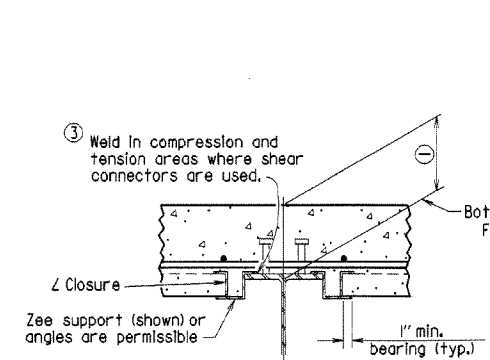
SECTION B-B
1" = 1'-0"

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



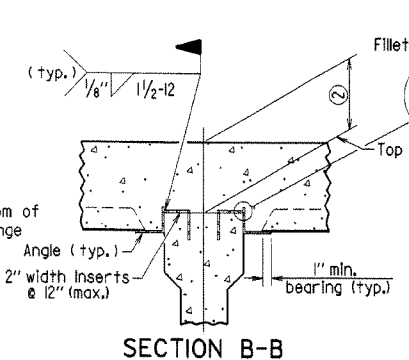
SECTION B-B
1" = 1'-0"

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



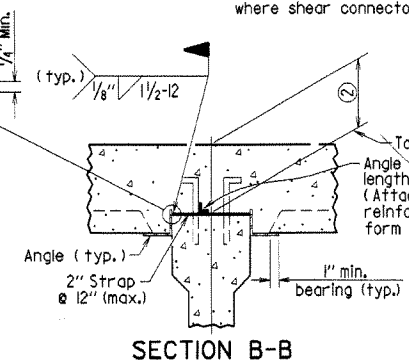
SECTION B-B
1" = 1'-0"

(Showing Z Closure)



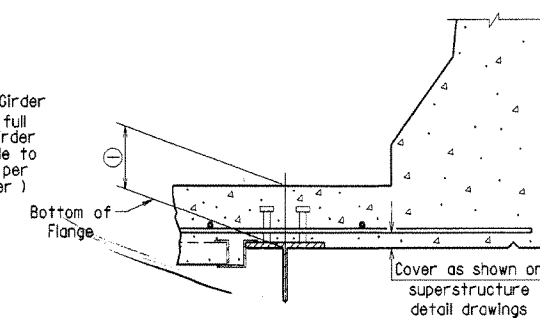
SECTION B-B (FOR CONCRETE GIRDERS)
1" = 1'-0"

(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 of girder 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.

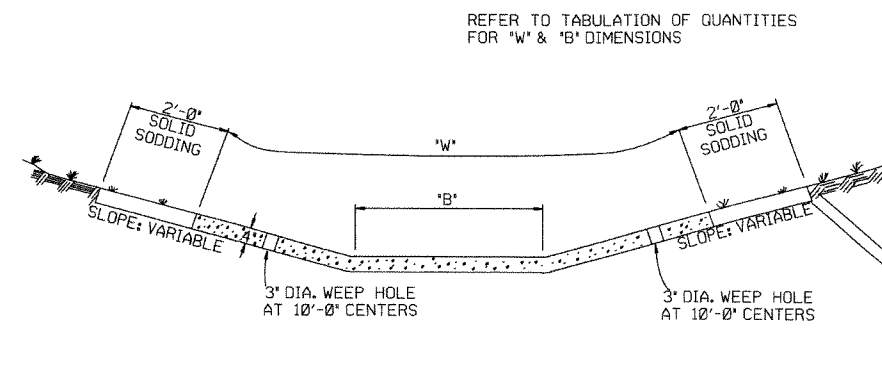
Revised for 2003 AHTD Construction Specifications and CPB Seal, MJT 04-10-2003
Chk'd By: CDF 04-10-2003

Redrawn and revised 11/27/96; MJT

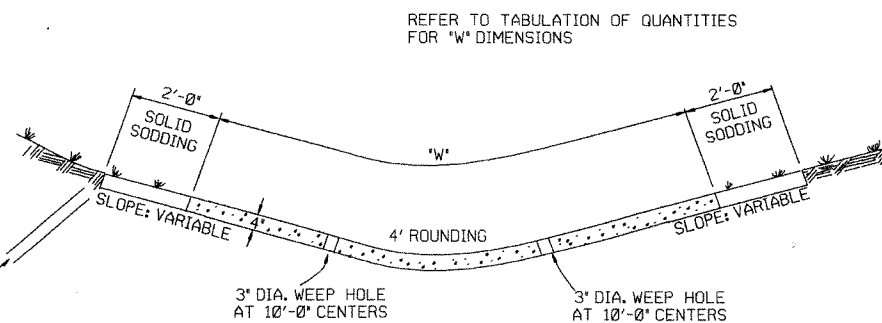


**DETAILS OF PERMISSIBLE TYPE
PERMANENT STEEL BRIDGE DECK FORMS
FOR STEEL & CONCRETE GIRDER SPANS**
ROUTE SEC.
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: MJT DATE: 10-17-96
CHECKED BY: CPB DATE: 10-17-96
DESIGNED BY: STD. DATE: —
BRIDGE NO. DRAWING NO. 14991



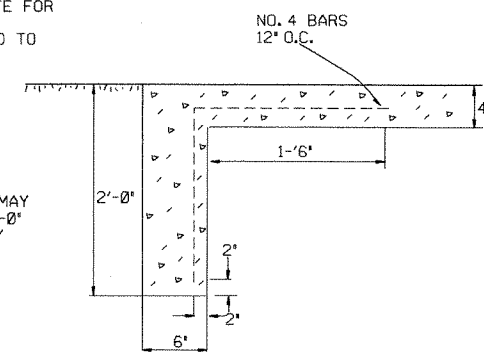
TYPE A



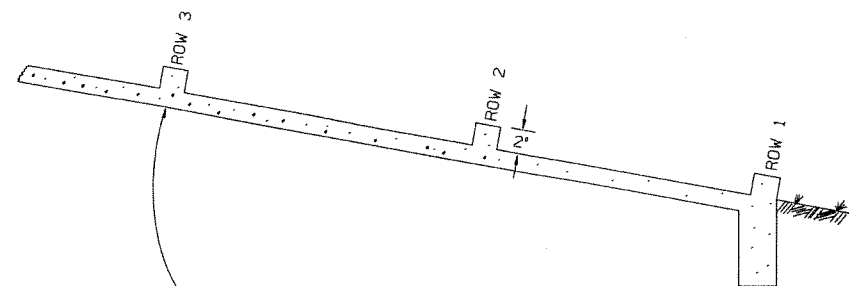
TYPE B

THE STEEL AND ADDITIONAL CONCRETE FOR THE WALLS SHALL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID FOR 'CONCRETE DITCH PAVING.'

TOE WALL DEPTH MAY BE ALTERED TO 1'-0" WHEN DIRECTED BY THE ENGINEER IN ROCK EXCAVATION

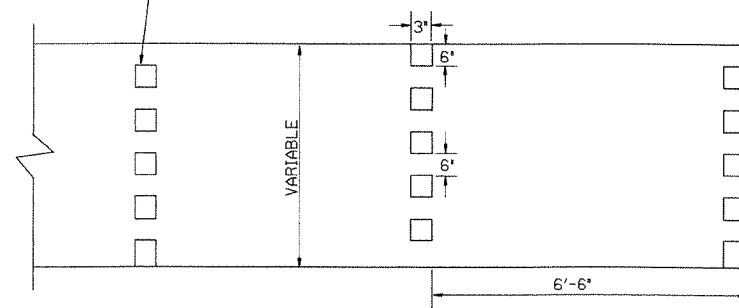


TOE WALL DETAIL FOR CONCRETE DITCH PAVING



NUMBER OF ELEMENTS PER ROW VARIES WITH WIDTH OF PAVING SPECIFIED

ENERGY DISSIPATORS TO BE USED FOR THE ENTIRE LENGTH OF DITCH WHEN SLOPE OF DITCH PAVING EXCEEDS 7%. THE DISSIPATORS WILL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID FOR CONCRETE DITCH PAVING.



ENERGY DISSIPATORS
(NO SCALE)

GENERAL NOTES:

THE FULL WIDTH OF EACH SECTION SHALL BE POURED MONOLITHICALLY.

TOE WALLS TO BE CONSTRUCTED FULL WIDTH AT EACH END OF DITCH PAVING, AND POURED MONOLITHICALLY.

SOLID SOD ALONG DITCH PAVING TO BE PLACED WITHIN 14 DAYS OF DITCH PAVING CONSTRUCTION.

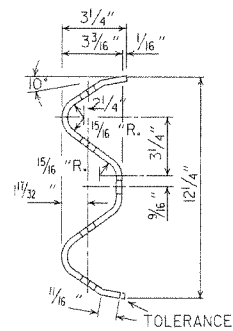
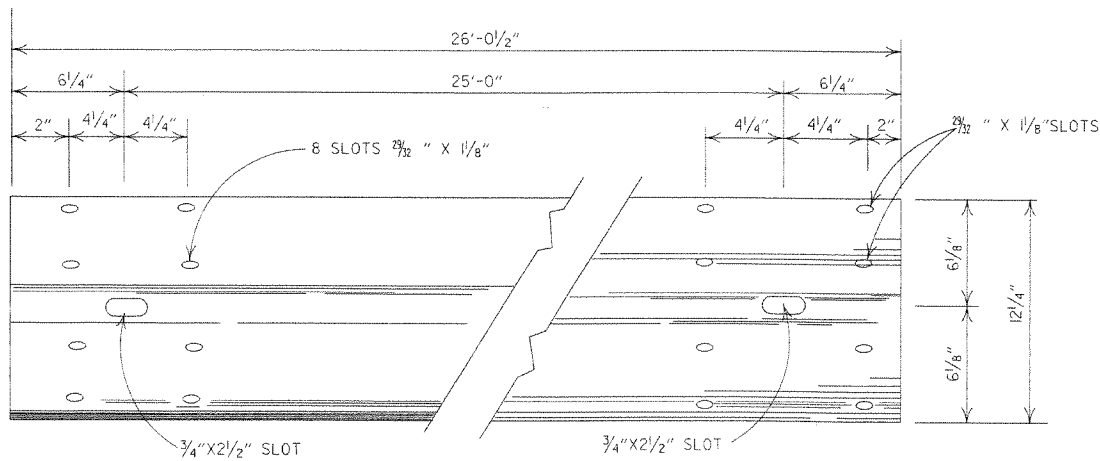
1' WIDE TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE DITCH PAVING AT 45' INTERVALS. THE SPACE SHALL BE FILLED WITH APPROVED JOINT FILLER COMPLYING WITH AASHTO M213.

11-17-10	ADDED GENERAL NOTE	
6-2-94	ADDED GENERAL NOTE ABOUT SOLID SODDING	
11-30-8	ELIMINATED MIN. ROWS OF ELEMENTS	111-30-89
7-15-88	REVISED DISSIPATOR NOTE	653-7-15-88
4-3-87	REVISED ENERGY DISSIPATOR	671-4-3-87
1-9-87	MODIFIED NOTE ON ENERGY DISS.	532-1-9-87
11-3-86	ADDED NOTE TO ENERGY DISS.	599-12-1-86
11-1-84	ENERGY DISSIPATOR DETAILS	508-11-1-84
11-1-84	ADDED	
11-1-84	EXCAVATION DETAILS ADDED	
10-2-72	TYPED A & B	
10-2-72	REVISED AND REDRAWN	508-10-2-72
DATE	REVISION	DATE FILM'D

ARKANSAS STATE HIGHWAY COMMISSION

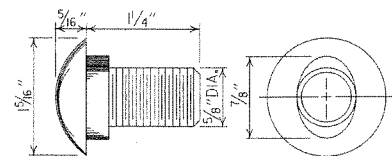
CONCRETE DITCH PAVING

STANDARD DRAWING CDP-1

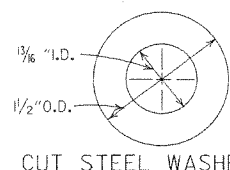


DETAILS OF W-BEAM GUARD RAIL

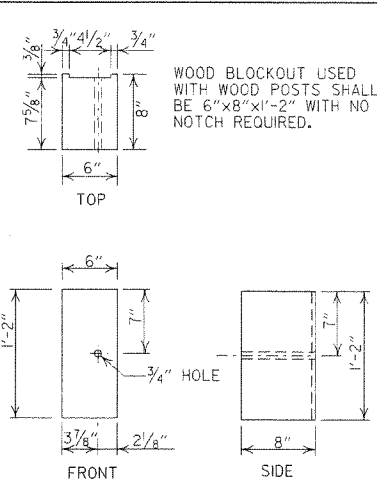
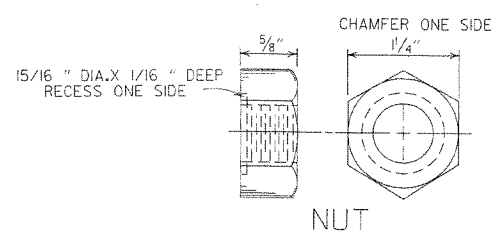
RAIL SECTION OF CLOSELY SIMILAR DIMENSIONS AND COMPARABLE STRENGTH MAY BE SUBSTITUTED IF APPROVED BY THE ENGINEER.



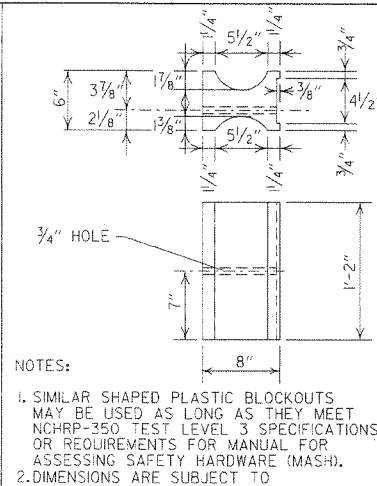
SPLICE BOLT POST BOLT - SAME EXCEPT LENGTH



CUT STEEL WASHER



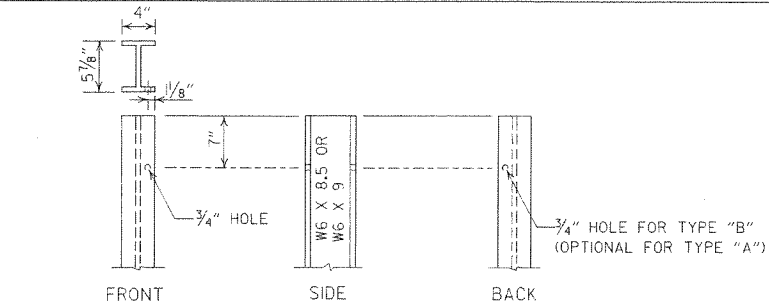
WOOD BLOCKOUT (W-BEAM)



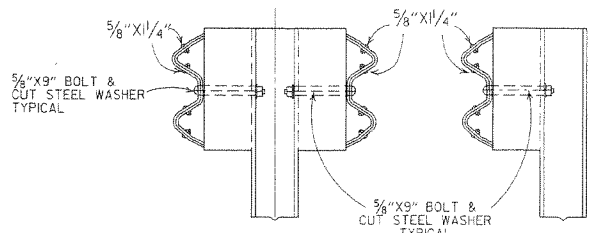
NOTES:

1. SIMILAR SHAPED PLASTIC BLOCKOUTS MAY BE USED AS LONG AS THEY MEET NCHRP-350 TEST LEVEL 3 SPECIFICATIONS OR REQUIREMENTS FOR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).
2. DIMENSIONS ARE SUBJECT TO MANUFACTURERS TOLERANCES.

PLASTIC BLOCKOUT (W-BEAM)



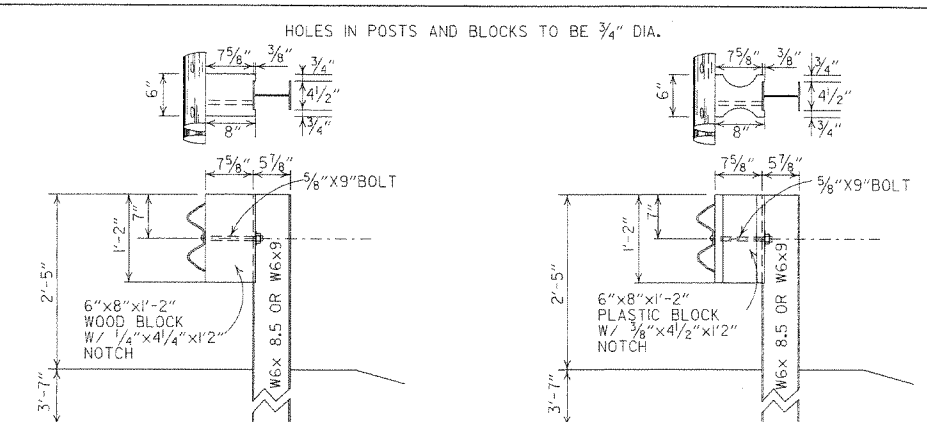
STEEL POST



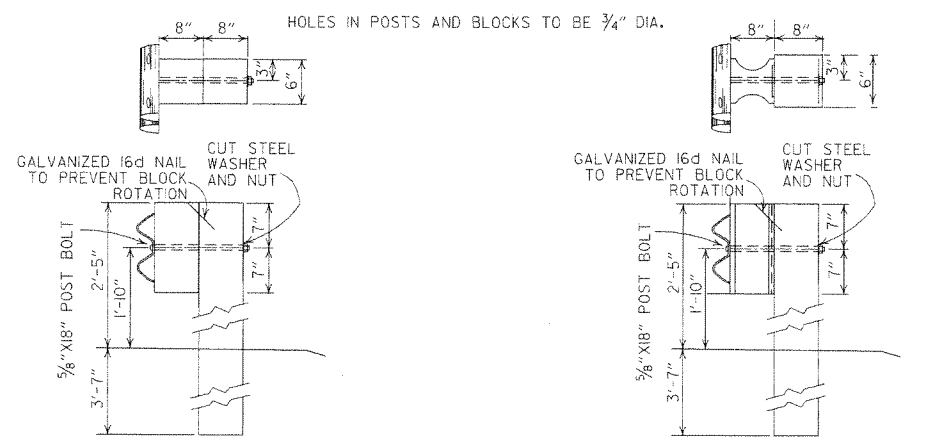
DETAILS OF STEEL LINE POST CONNECTIONS (W-BEAM)

-GENERAL NOTES-

- ALL BOLTS SHALL BE SUFFICIENT LENGTH TO EXTEND THROUGH THE FULL THICKNESS OF THE NUT AND NO MORE THAN 3/4" BEYOND IT.
- WHERE W-BEAM GUARD RAIL CONTINUES, THE INTERMEDIATE SECTIONS SHALL HAVE A POST SPACING OF 6'-3" UNLESS OTHERWISE NOTED.
- W-BEAM GUARD RAIL REPRESENTING INTERMEDIATE SECTIONS WILL BE MEASURED ALONG THE ROADWAY FACE FROM CENTERLINE OF POST TO CENTERLINE OF POST.
- USE W-BEAM GUARD RAIL COMPONENTS OF SAME MATERIAL FOR ENTIRE JOB. FOR EXTENSIONS OR MODIFICATION OF EXISTING GUARD RAIL, W-BEAM GUARD RAIL 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. 1 350 f SOUTHERN PINE.
- CONTRACTOR SHALL HAVE THE OPTION OF USING WOOD BLOCKOUTS FOR W-BEAM GUARD RAIL OR PLASTIC BLOCKOUTS, AS LONG AS BLOCKOUT USED MEETS NCHRP-350 TEST LEVEL 3 SPECIFICATIONS OR REQUIREMENTS FOR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) FOR W-BEAM GUARD RAIL.



WOOD BLOCKOUT CONNECTIONS PLASTIC BLOCKOUT CONNECTIONS DETAILS OF STEEL LINE POST CONNECTIONS (W-BEAM)



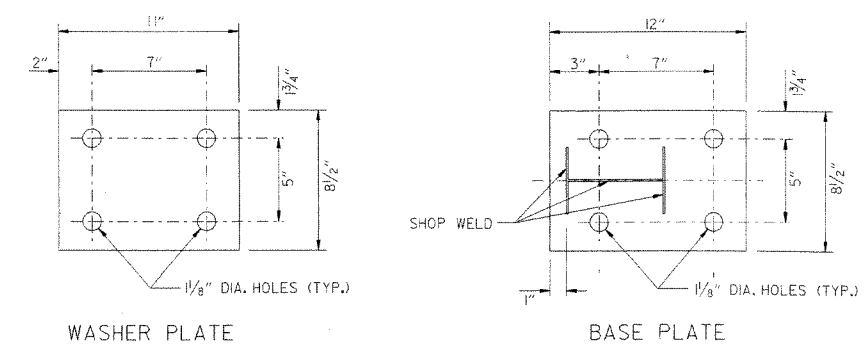
WOOD BLOCKOUT CONNECTIONS PLASTIC BLOCKOUT CONNECTIONS DETAILS OF WOOD LINE POST CONNECTIONS (W-BEAM)

7-14-10	RAISED HEIGHT OF GUARD RAIL 1"	
10-15-09	ADDED REFERENCE TO MASH	
4-10-03	REVISED GENERAL NOTES	
8-22-02	REVISED DIMENSION ON WOOD & PLASTIC BLOCKOUT CONNECTIONS & ON STEEL POST	
11-16-01	REVISED WOOD BLOCKOUT & DETAILS OF WOOD LINE POST CONNECTIONS	
3-30-00	REMOVED GUARD RAIL AT BRIDGE ENDS	
1-12-00	ADDED PLASTIC BLOCKOUT	
8-12-98	REV. BLOCKOUTS TO WOOD, DELETED CONC. POST & REV. GENERAL NOTE, DELETED DET. OF GUARD RAIL 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	
4-3-97	REMOVED "LAP IN DIRECTION OF TRAFFIC" NOTE & PLACED ARROWS ON WASHERS	
10-18-96	REVISED WOOD POST NOTE	
6-2-94	ADDED ALT. STEEL POST SIZE	
8-5-93	REVISED STEEL POST SIZE	8-5-93
10-1-92	REDRAWN & REVISED	10-1-92
8-15-91	REVISED WASHER NOTE	8-15-91
8-2-90	REV. GEN. NOTE & DEPTH OF ANC. POST IN ROCK	8-2-90
7-15-88	REVISED SECTION 3 & GENERAL NOTES	
3-4-88	REV. ANCHOR POST, ELEV. NOTES & POST IN ROCK	780-3-4-88
10-30-87	REVISED WOOD LINE POST DETAIL	946-10-30-87
10-9-87	REDRAWN & REVISED	802-10-9-87
DATE	REVISION	DATE FILM

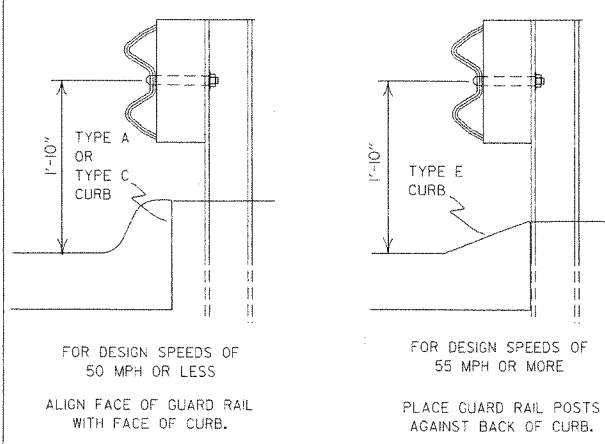
ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

STANDARD DRAWING GR-8

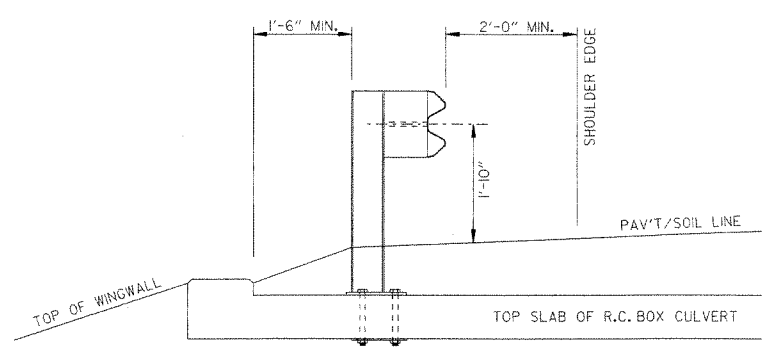


Note: Bolts, nuts, washers and plates shall be galvanized in accordance with Section 807 of the Standard Specifications.

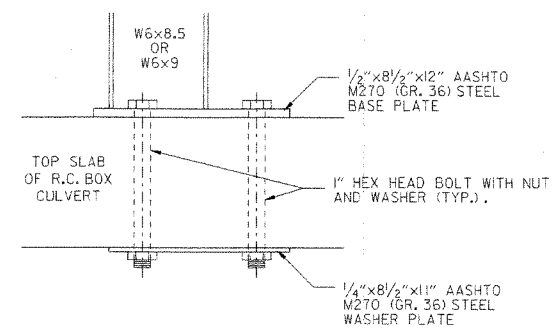


DETAIL OF GUARD RAIL PLACEMENT BEHIND CURB (W-BEAM)

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.

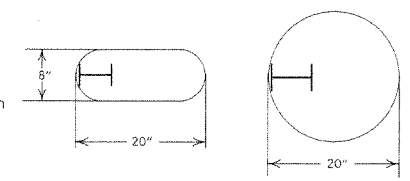


SECTION A-A

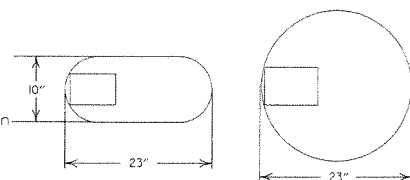


DETAIL OF CONNECTION

Plan View Steel Posts
Either hole configuration acceptable



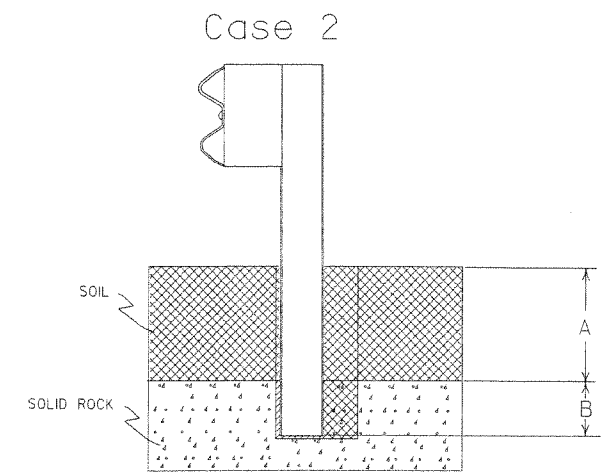
Plan View Wood Posts
Either hole configuration acceptable



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

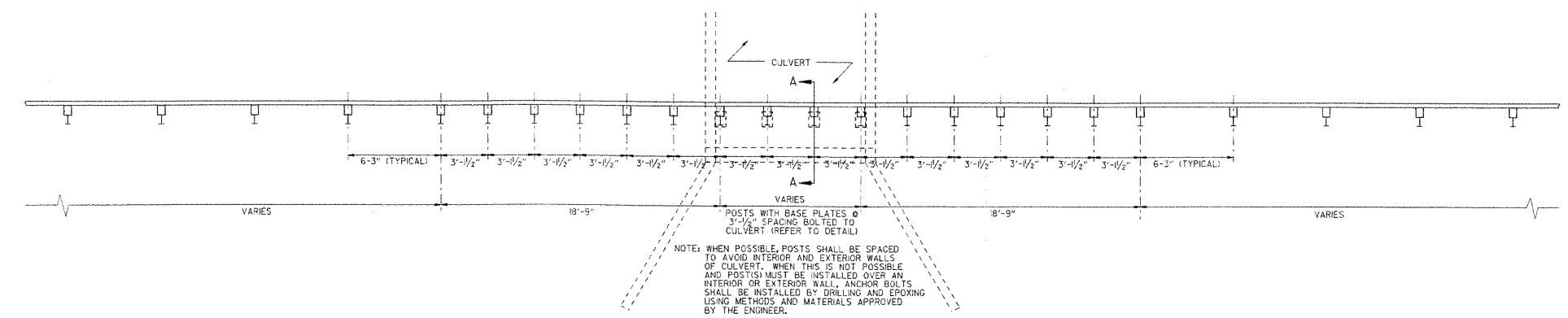
Zone A: Backfill according to Section 617.03(a).
Zone B: Backfill hole in 6" lifts with material meeting the requirements of Section 802.02(a) - Alternate gradation. Compact to 95% maximum dry density per ASTM D-698.

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



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).



PLAN LAYOUT OF TYPE A GUARD RAIL AT LOW-FILL CULVERTS

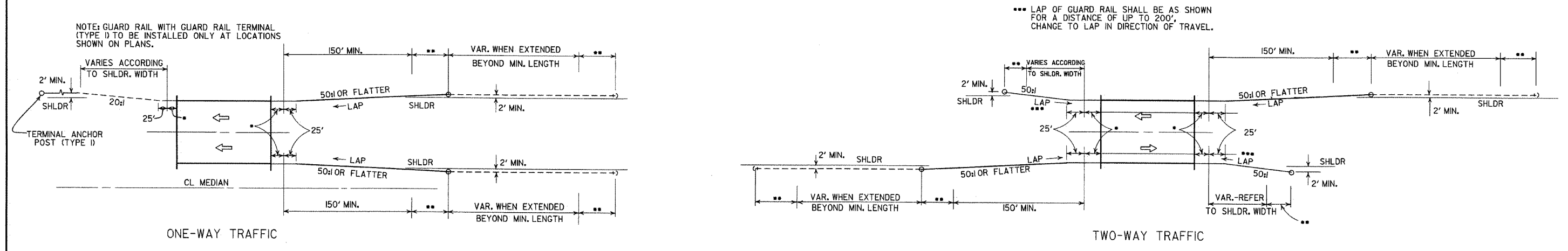
NOTE: THIS DETAIL IS TO BE USED ONLY WHEN THE COVER OVER THE CULVERT DOES NOT PERMIT FULL EMBEDMENT OF GUARD RAIL POSTS AS SHOWN ON STD. DRWG. GR-8.

7-14-10	RAISED HEIGHT OF GUARD RAIL 1"	
4-12-07	REVISED DETAIL OF GUARD RAIL PLACEMENT BEHIND CURB	
11-10-05	ADDED GUARD RAIL PLACEMENT BEHIND CURB; REVISED DETAIL OF CONNECTION	
11-18-04	REVISED POST PLACEMENT IN ROCK & CULVERT CONNECTION DETAILS. ADDED DETAIL FOR GUARD RAIL PLACEMENT AT LOW-FILL CULVERTS	
3-30-00	REMOVED CONCRETE INSERT ANCHOR	
8-12-98	CHANGED STEEL SPACER BLOCK TO WOOD BLOCKOUT, ADD. DET. OF GUARD RAIL CONNECTION TO R.C. BOX CULVT. DELETED DET. OF STEEL LINE POST CONN. & ADDED DET. OF GUARD RAIL PLACE. BEHIND CURB & DET. OF POST PLACE. IN SOLID ROCK	
4-3-96	PLACED ARROWS AT CUT STEEL WASHERS	4-3-96
10-18-96	REV. ASTM REF. TO AASHTO	
11-22-95	ADDED OPTIONAL HOLES	
6-2-94	REVISED ALTERNATE POST SIZE	
8-6-93	REVISED STEEL POST SIZE	
10-1-92	REDRAWN & REVISED	10-1-92
8-2-90	DEL. WASHER ON ANCHOR ASSEMBLY	8-2-90
7-15-88	CONFORMED TO 1988 SPECS	
3-4-88	REVISED ANCHOR NOTE	
10-30-87	REVISED ANCHOR ASSEMBLY	7-2-10-30-87
10-30-87	REVISED PLACEMENT BEHIND CURB	547-10-30-87
10-9-87	REDRAWN & REVISED	803-10-9-87
DATE	REVISION	DATE FILM

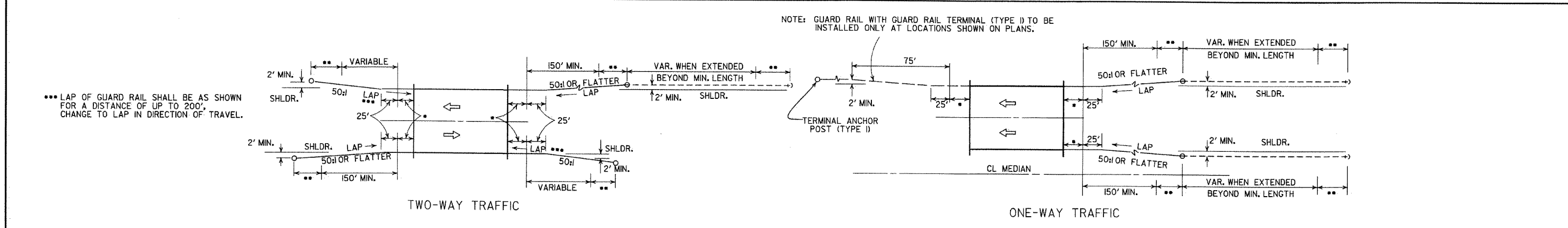
ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

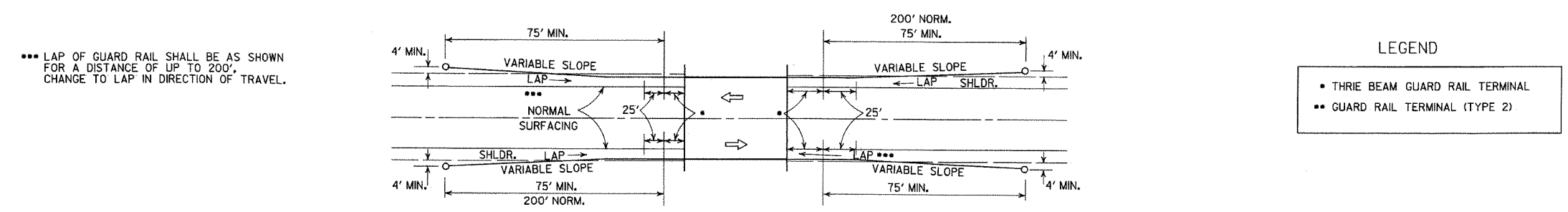
STANDARD DRAWING GR-8A



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



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

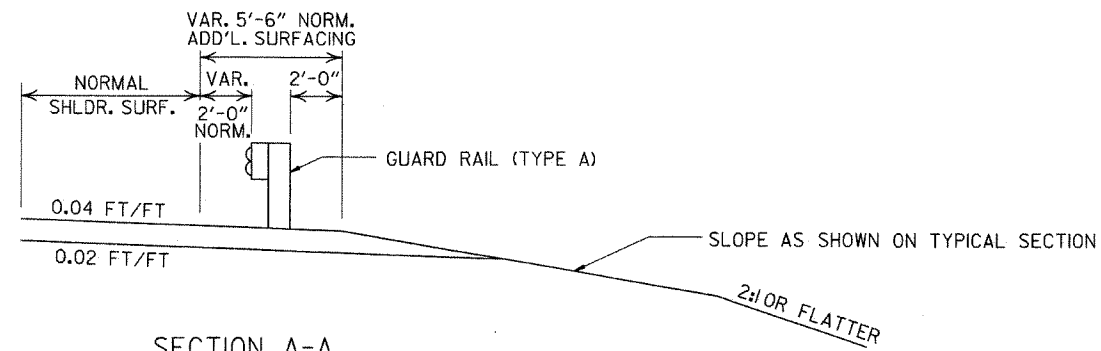
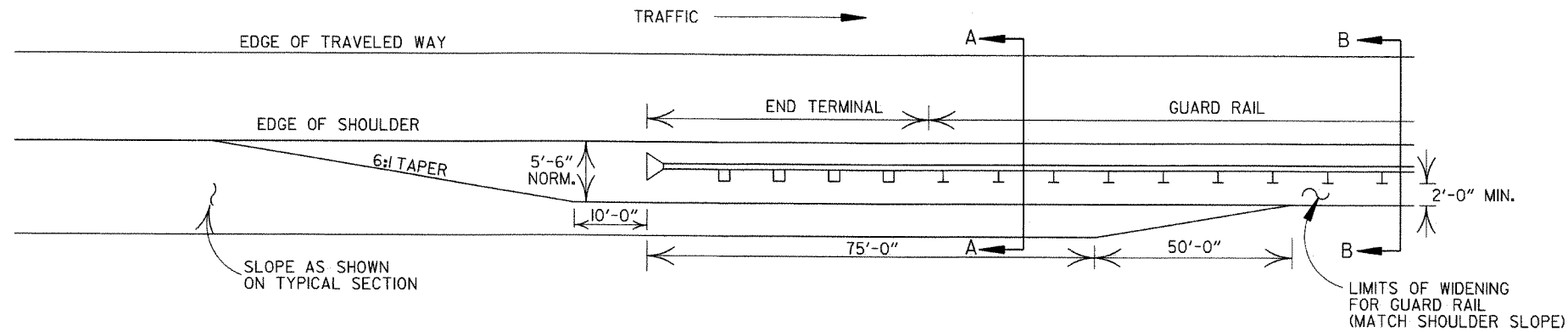


LEGEND

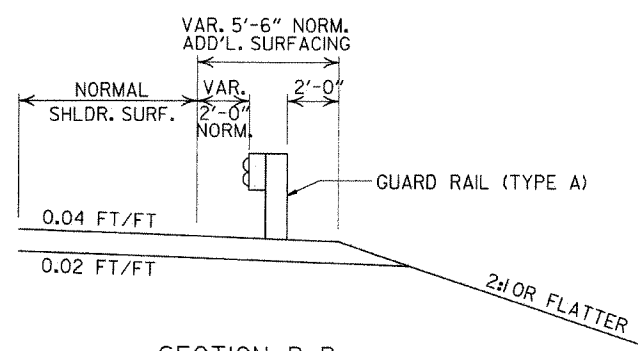
- THRIE BEAM GUARD RAIL TERMINAL
- GUARD RAIL TERMINAL (TYPE 2)

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

ARKANSAS STATE HIGHWAY COMMISSION		
GUARD RAIL DETAILS		
STANDARD DRAWING GR-9		
4-17-08	REVISED LAYOUTS	
11-10-05	REMOVED GUARD RAIL NOTES AND DETAILS	
11-16-01	DELETED NOTE-METHOD OF INSTALLATION OF GUARD RAIL USING GUARD RAIL 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
10-9-87	ADDED NOTE	
10-9-87	REDRAWN & REVISED	
DATE	REVISION	DATE FILM



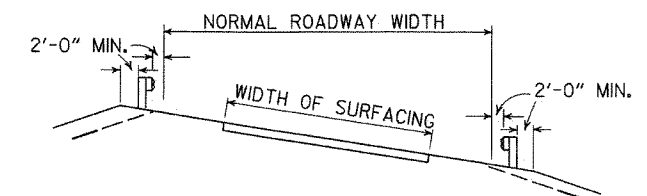
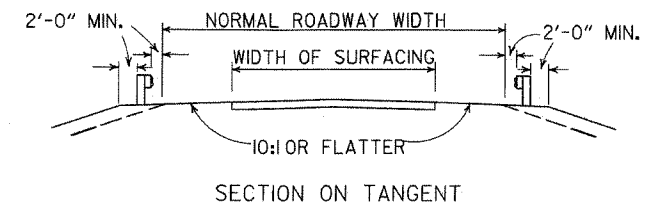
SECTION A-A



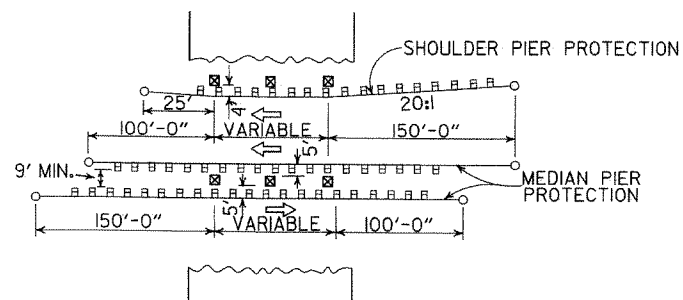
SECTION B-B

DETAILS OF WIDENING FOR GUARD RAIL

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

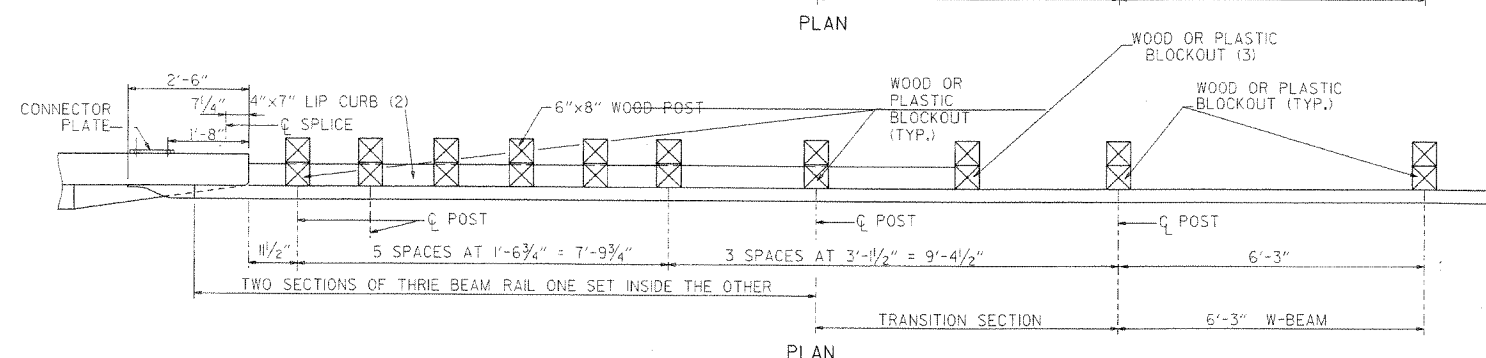
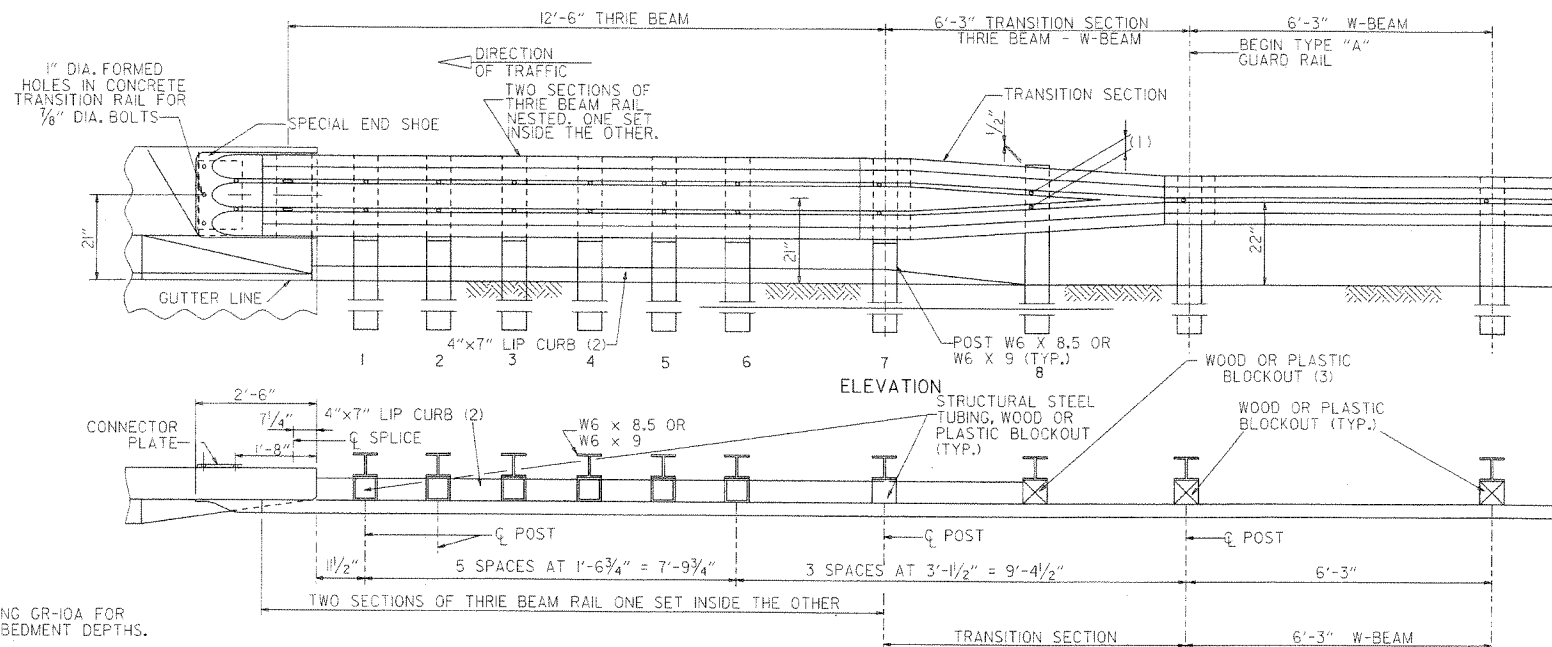
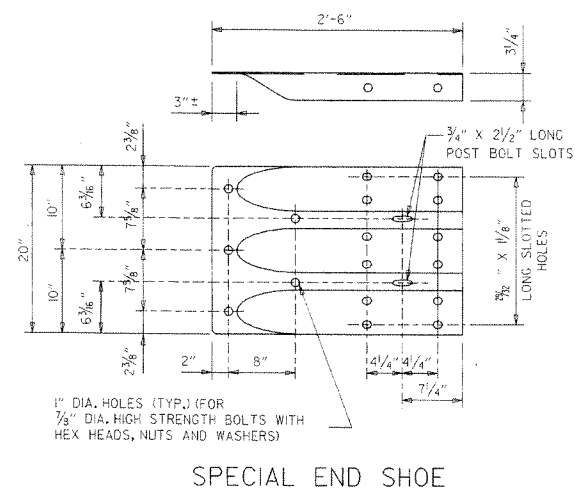
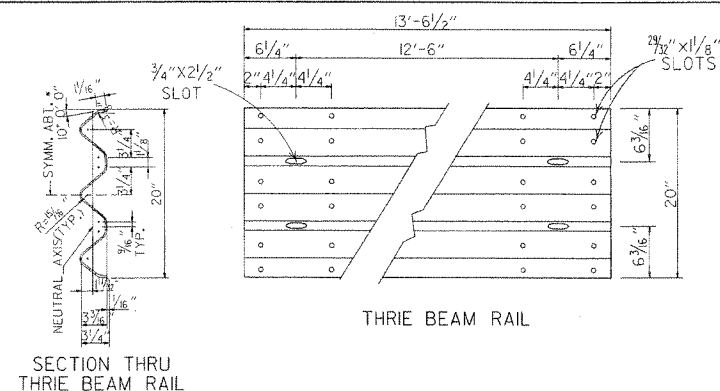


DETAILS SHOWING POSITION OF GUARD RAIL ON HIGHWAY



METHOD OF INSTALLATION OF GUARD RAIL AT FIXED OBSTACLE

			ARKANSAS STATE HIGHWAY COMMISSION
			GUARD RAIL DETAILS
			STANDARD DRAWING GR-9A
4-17-08	MINOR REVISION		
11-10-05	DRAWN		
DATE	REVISION	DATE	FILM



- (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.

THREE BEAM GUARD RAIL 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 $\frac{3}{4}$ " BEYOND IT.

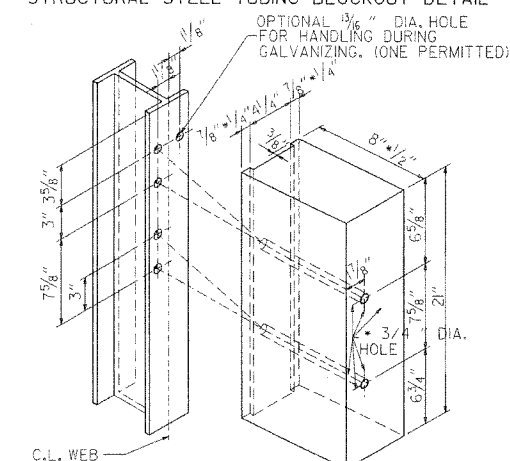
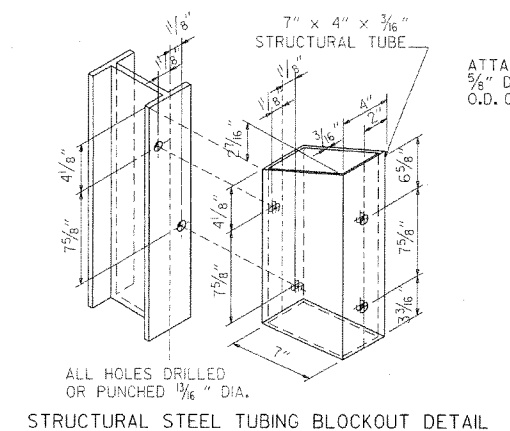
ALL LAP SPLICES, INCLUDING SPECIAL END SHOES, SHALL BE MADE IN THE DIRECTION SHOWN ON STANDARD DRAWINGS GR-9 & GR-11.

WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7f (1400 f) OR NO. 1 350 f SOUTHERN PINE.

REFER TO STD. DRWG. GR-10A FOR POST DETAILS.

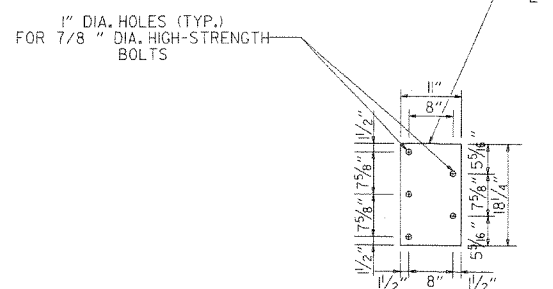
USE THRIE BEAM GUARD RAIL COMPONENTS OF SAME MATERIAL FOR ENTIRE JOB.

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



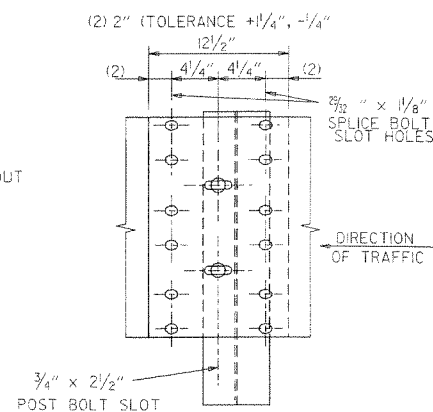
ALL HOLES $\frac{13}{16}$ " DIAMETER EXCEPT AS NOTED
HOLE PUNCHING DETAIL
FOR STEEL POST & WOOD
OR PLASTIC BLOCKOUTS

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

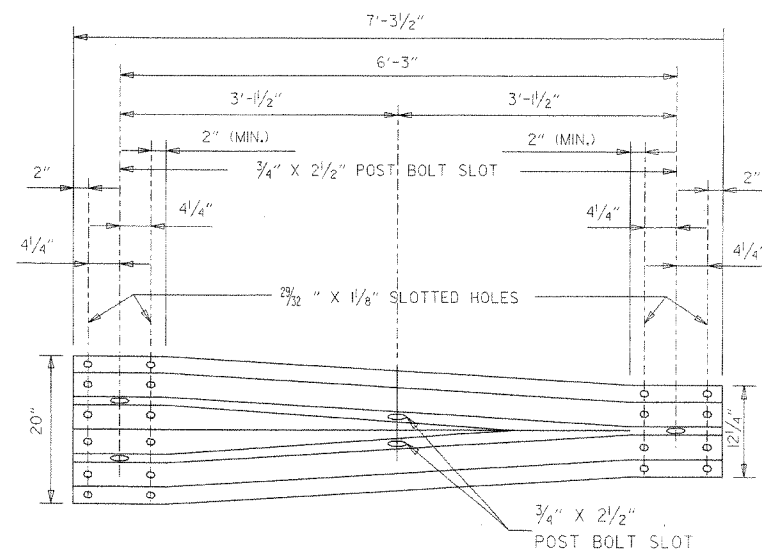


CONNECTOR PLATE

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 $\frac{1}{2}$ " 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.

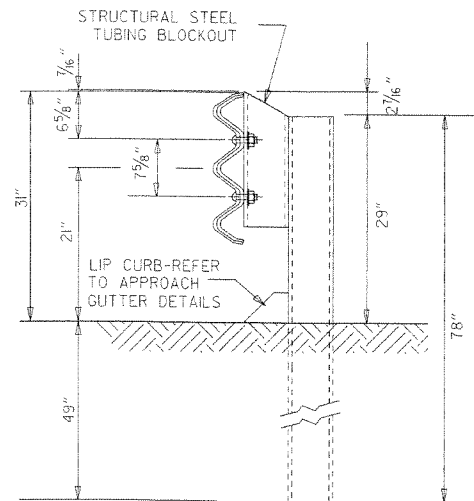


THRIE BEAM RAIL
SPLICE AT POST

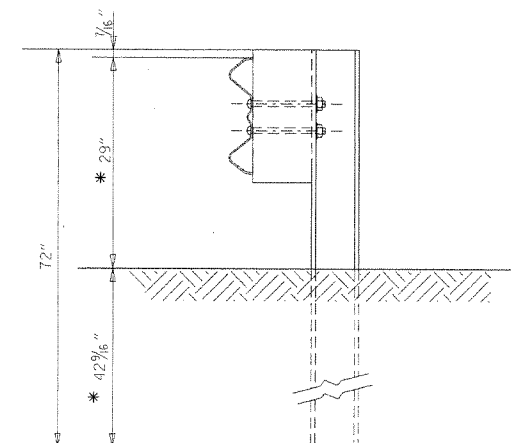


TRANSITION SECTION

7-14-10	RAISED HEIGHT OF W-BEAM 1"		ARKANSAS STATE HIGHWAY COMMISSION
11-29-07	ADDED PLASTIC BLOCKOUTS		
11-10-05	ADDED NOTE FOR ATTACHING STEEL BLOCKOUT		GUARD RAIL DETAILS
11-18-04	REVISED GENERAL NOTES		
10-9-03	REVISED GENERAL NOTES		STANDARD DRAWING GR-10
4-10-03	REVISED GENERAL NOTES		
8-22-02	REVISED NOTE (2)		
6-29-00	MOVED DIMENSION LINES		
5-18-00	ADDED NOTE		
3-30-00	DRAWN & ISSUED		
DATE	REVISION	DATE FILED	

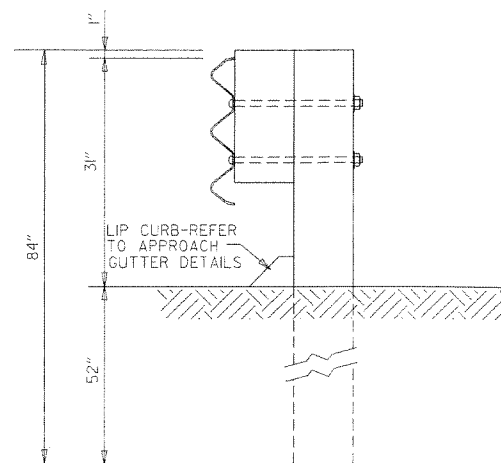


THRIE BEAM RAIL WITH STEEL TUBING BLOCKOUT
AND STEEL POST
POSTS 1-7

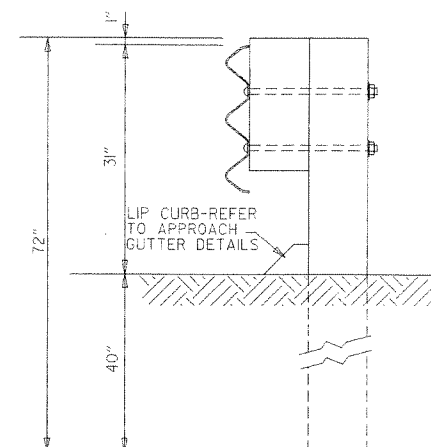


W-BEAM TO THRIE BEAM TRANSITION RAIL
WITH WOOD OR PLASTIC BLOCKOUT AND STEEL POST
POST 8

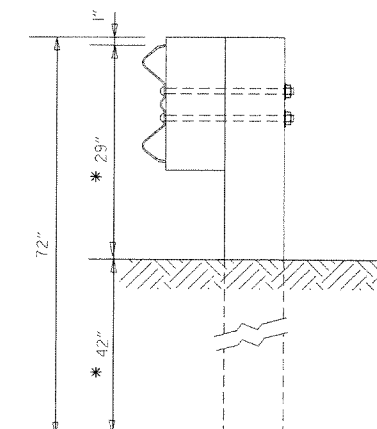
* NOTE:
THESE DIMENSIONS WILL NEED TO BE ADJUSTED
IN THE FIELD TO MAKE THE TRANSITION FROM
21" MID POINT OF THRIE BEAM TO 22" MID POINT
OF W-BEAM.



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

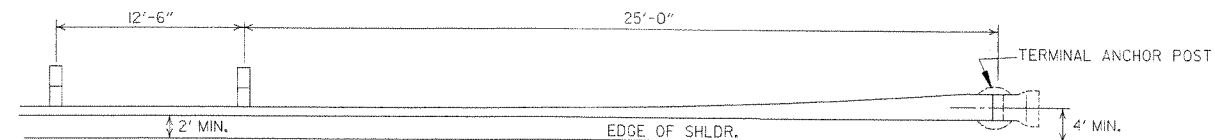
GENERAL NOTES:
RAIL POSTS SHALL BE SET PERPENDICULAR TO THE ROADWAY PROFILE GRADE AND
VERTICALLY IN CROSS SECTION.
WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR
BETTER 9.7 f (1400 f) OR NO. 1 1350 f SOUTHERN PINE.

ARKANSAS STATE HIGHWAY COMMISSION

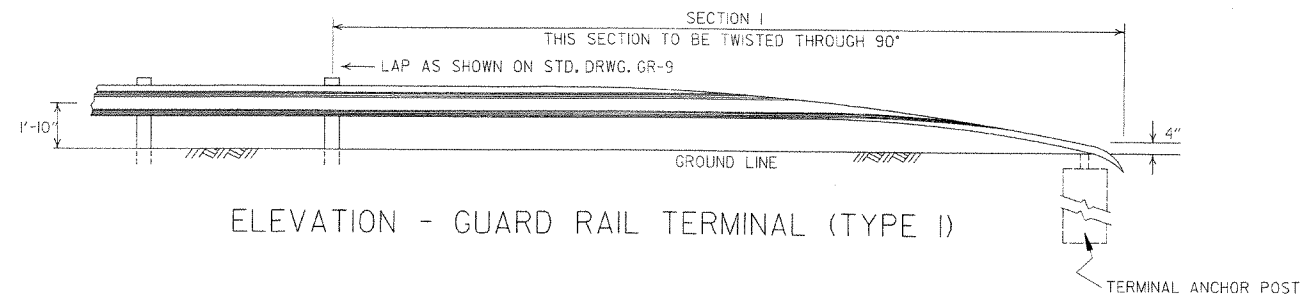
GUARD RAIL DETAILS

STANDARD DRAWING GR-10A

DATE	REVISION	DATE FILM
7-14-10	REVISED POST 8 DIMENSIONS	
11-29-07	ADDED PLASTIC BLOCKOUTS	
8-22-02	REVISED LIP CURB NOTE	
3-30-00	DRAWN & ISSUED	

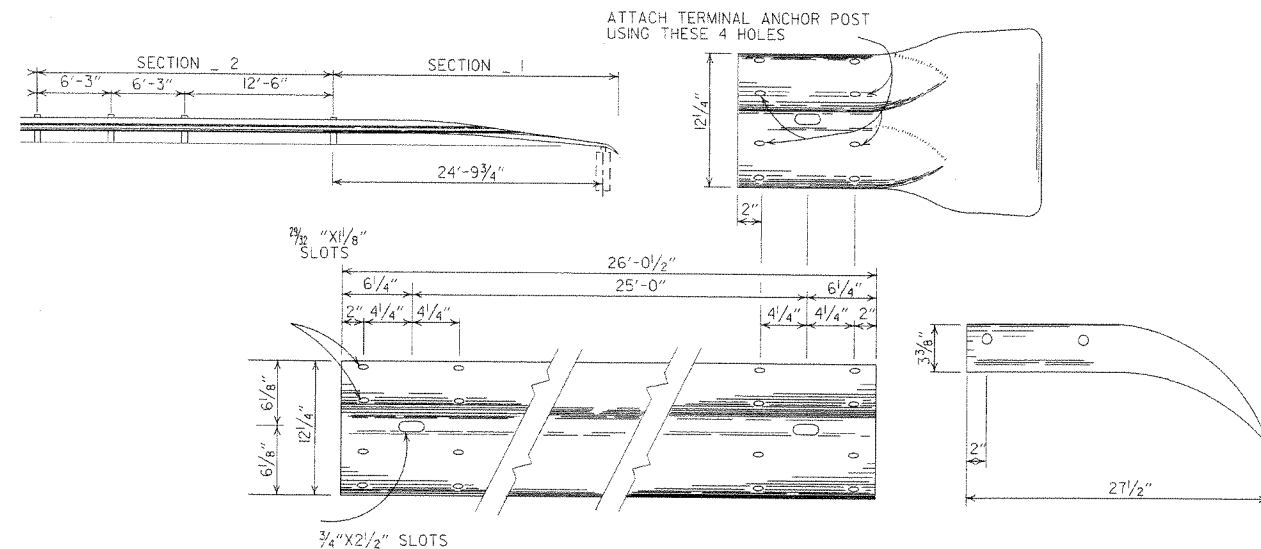


PLAN - GUARD RAIL TERMINAL (TYPE I)



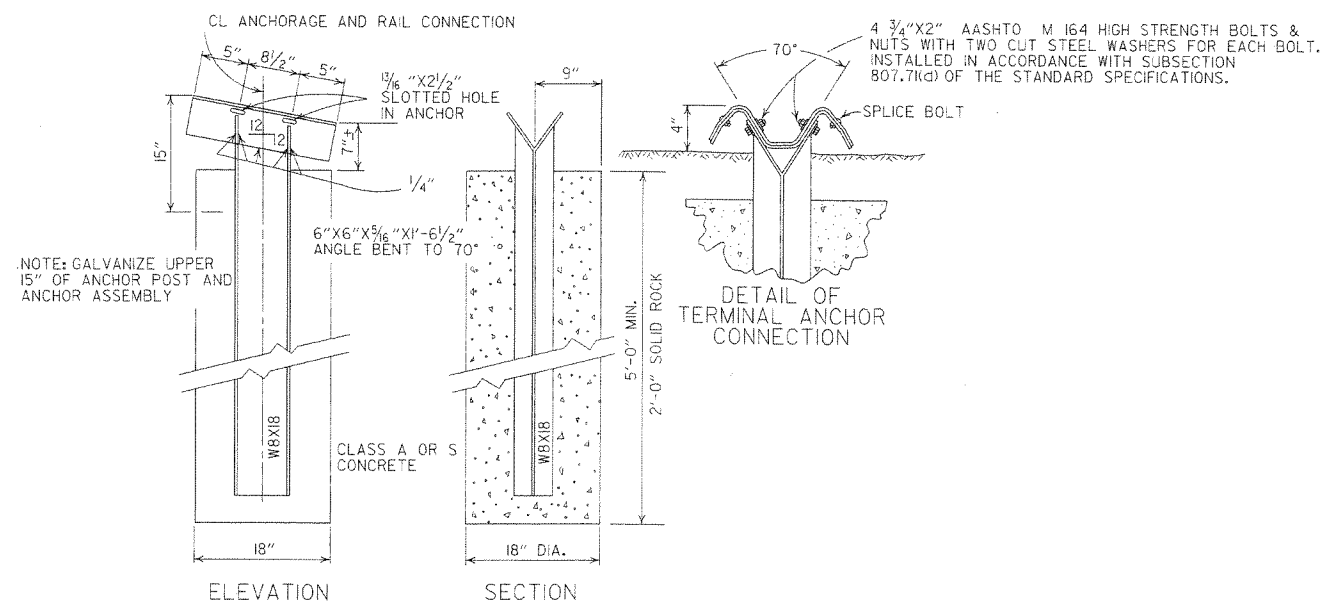
ELEVATION - GUARD RAIL TERMINAL (TYPE I)

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



SECTION 1

TERMINAL SECTION



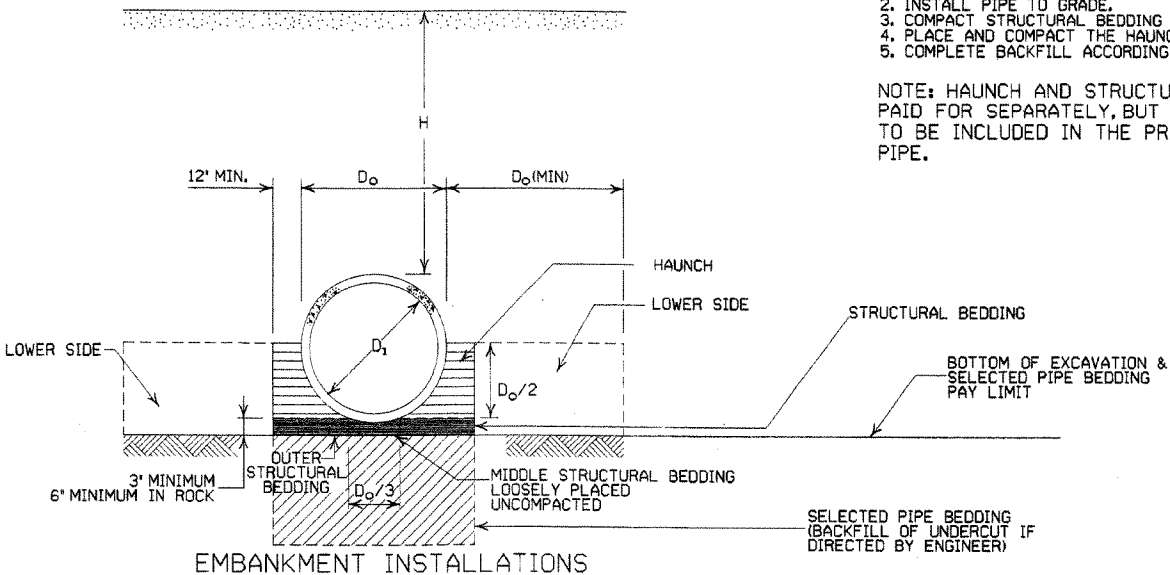
DETAIL OF TERMINAL
ANCHOR POST (TYPE I)

		ARKANSAS STATE HIGHWAY COMMISSION	
		GUARD RAIL DETAILS	
		STANDARD DRAWING GRT-1	
7-14-10	RAISED HEIGHT OF GUARD RAIL 1"		
6-26-97	REVISED LAP NOTE		
10-18-96	REVISED ASTM REF. TO AASHTO		
11-3-94	DIMENSION TERMINAL DETAIL		
11-11-92	ADDED NOTE FOR PAYMENT	11-11-92	
10-1-92	DRAWN & ISSUED	10-1-92	
DATE	REVISION	DATE	FILM

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 SPECIFICATIONS.

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.



1. MATERIAL IN THE LOWER SIDE, HAUNCH, AND OUTER STRUCTURAL BEDDING SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.

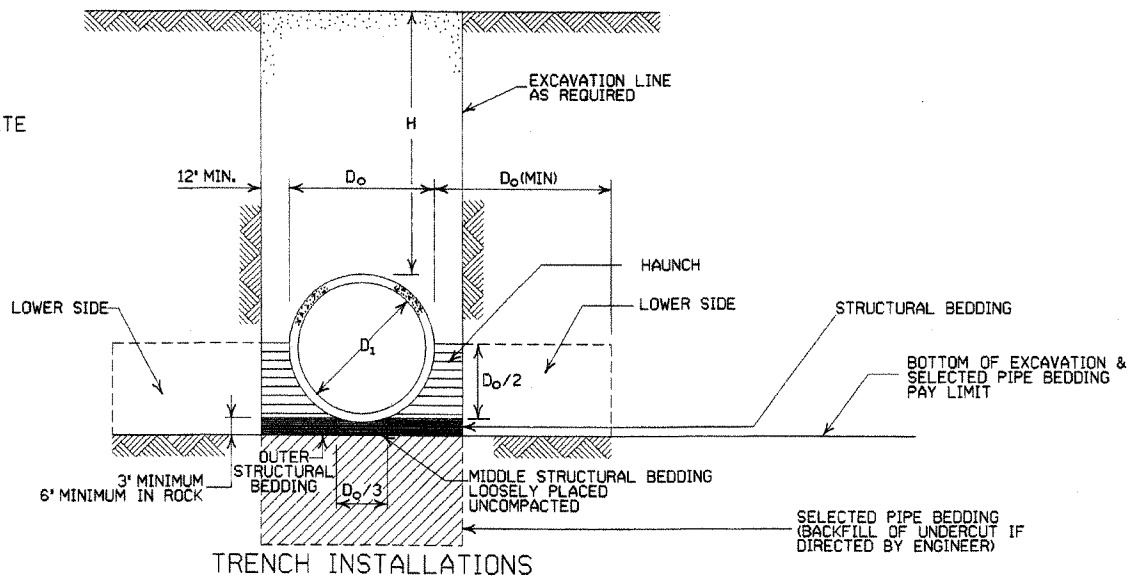
REINFORCED CONCRETE ARCH PIPE DIMENSIONS

EQUIV. DIA. INCHES	*SPAN		*RISE	
	AASHTO M 206	AHD NOMINAL	AASHTO M 206	AHD NOMINAL
15	18	18	11	11
18	22	22	13 1/2	14
21	26	26	15 1/2	16
24	28 1/2	29	18	18
30	36 1/4	36	22 1/2	23
36	43 3/4	44	26 3/4	27
42	51 1/4	51	31 1/4	31
48	58 1/2	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	77 1/4	77
108	138	138	87 1/2	87
120	154	154	96 1/4	97
132	168 1/4	169	106 1/2	107

* THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PER CENT FROM THE VALUES SPECIFIED BY AASHTO M 206.

GENERAL NOTES

1. ALL PIPE SHALL BE PROTECTED DURING CONSTRUCTION BY A COVER SUFFICIENT TO PREVENT DAMAGE FROM PASSAGE OF EQUIPMENT.
2. THE MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 24 INCHES.
3. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PRACTICABLE FOR WORKING CONDITIONS.
4. MULTIPLE PIPE CULVERTS SHALL BE INSTALLED WITH A MINIMUM CLEARANCE OF 24 INCHES BETWEEN STRINGS OF PIPE.
5. REFER TO STD. DWG. FES-2 FOR MINIMUM CLEARANCE WHERE FLARED END SECTIONS ARE USED.
6. 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.
7. 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.
8. 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'.
9. 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.'



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.

MAXIMUM HEIGHT OF FILL OVER R.C. PIPE CULVERTS

INSTALLATION TYPE	CLASS OF PIPE		
	CLASS III	CLASS IV	CLASS V
FEET			
TYPE 1	21	32	50
TYPE 2	17	27	41
TYPE 3	13	20	32

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

- LEGEND -

D1 = NORMAL INSIDE DIAMETER OF PIPE
D0 = OUTSIDE DIAMETER OF PIPE
H = FILL COVER HEIGHT OVER PIPE (FEET)
MIN. = MINIMUM
UNDISTURBED SOIL

5-18-00	REVISED TYPE 3 BEDDING & ADDED NOTE	
3-30-00	REVISED INSTALLATIONS	
11-06-97	ISSUED	
DATE	REVISION	DATE FILMED

ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE PIPE CULVERT
FILL HEIGHTS & BEDDING

STANDARD DRAWING PCC-1

PIPE DIAMETER (INCHES)	MINIMUM COVER TOP OF PIPE TO TOP OF SUBGRADE (INCHES)	MAX. FILL HEIGHT ABOVE TOP OF PIPE (FEET)					
		METAL THICKNESS IN INCHES					
		0.064	0.079	0.109	0.136	0.168	
		2 1/2 INCH BY 1/2 INCH CORRUGATION RIVETED, WELDED, OR HELICAL					
12	12	84	91				
15	12	67	73				
18	12	56	61				
24	12	42	46	59			
30	12	34	36	47			
36 *	12		30	39	41		
42 *	12		43	46	67	48	70
48 *	12		37	45	58	46	61
							50
							73
							64
3 INCH BY 1 INCH OR 5 INCH BY 1 INCH CORRUGATION** RIVETED, WELDED, HELICAL, OR ROLTED							
36	12	48	60	78	88	89	101
42	12	41	51	64	72	71	90
48	12	36	45	57	64	61	77
54	12	32	40	52	59	55	71
60 *	12	29	36	49	53	51	64
66	12	26	33	47	49	58	51
72 *	12	24	30	44	47	53	49
78	12		28	41	46	49	47
84 *	12		26	38	45	45	46
90	12		24	35	43	45	45
96 *	12		22	33	40	44	44
102	24			31	38	42	42
108 *	24			30	35	39	39
114	24			28	34	37	37
120 *	24			27	32	35	35

* MAX. FILL CAN BE INCREASED IN THESE DIAMETER PIPES BY USING THE NEXT LARGER CORRUGATION. REFER TO 'CORRUGATED METAL PIPE', REVISED 1970, PUBLISHED BY U.S. DEPARTMENT OF TRANSPORTATION, F.H.W.A., B.P.R.

** WHERE THE STANDARD 2 1/2 x 1/2 CORRUGATION AND GAUGE IS SPECIFIED FOR A GIVEN DIAMETER A 3' x 1' OR 5' x 1' CORRUGATION PIPE OF THE SAME DIAMETER MAY BE SUBSTITUTED, PROVIDING IT IS GAUGED FOR A FILL HEIGHT CONDITION EQUAL TO OR GREATER THAN THE MAXIMUM FILL HEIGHT CONDITION FOR THE SPECIFIED GAUGE AND CORRUGATION

CORRUGATED ALUMINUM PIPE (ROUND) H-20 LOADING

PIPE DIAMETER (INCHES)	MINIMUM COVER TOP OF PIPE TO TOP OF SUBGRADE (INCHES)	MAX. FILL HEIGHT ABOVE TOP OF PIPE (FEET)				
		METAL THICKNESS IN INCHES				
		0.060	0.075	0.105	0.135	0.164
		2 1/2 INCH BY 1/2 INCH CORRUGATION RIVETED OR HELICAL				
12	12	45	45			
18	12	30	30	52		
24	12	22	22	39	41	
30	12	18	18	31	32	34
36	12		15	26	27	28
42	12		26	43	43	44
48	12			40	41	43
54	12			35	37	38
60	12				33	34
66	12				30	31
72	12					29

EQUIVALENT METAL THICKNESSES AND GAUGES

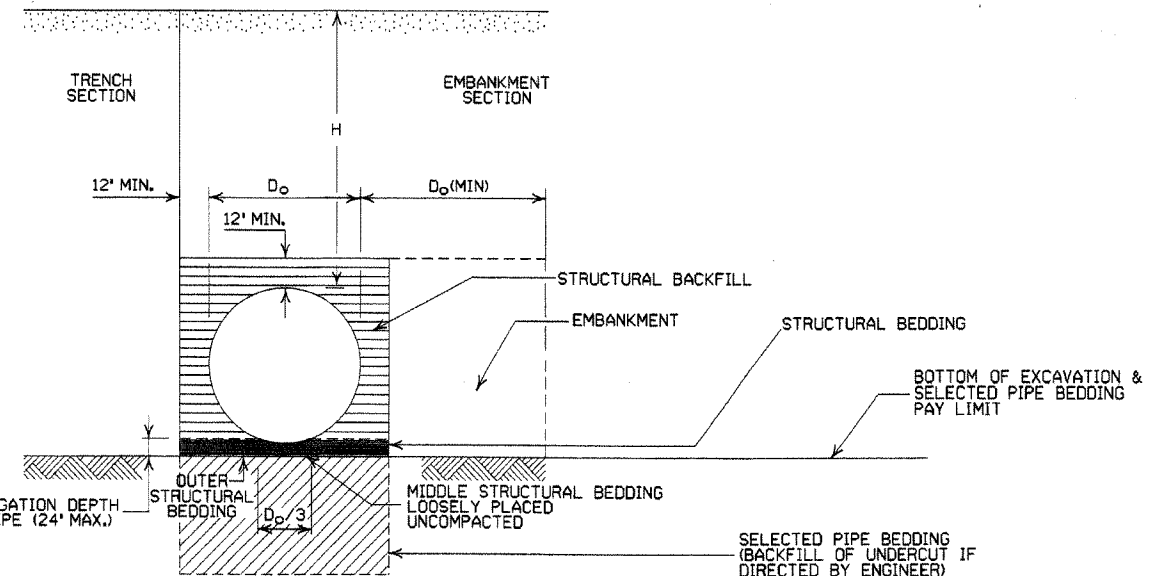
METAL THICKNESS IN INCHES			GAUGE NUMBER
STEEL			
ZINC COATED	UNCOATED	ALUMINUM	
0.064	0.0598	0.060	16
0.079	0.0747	0.075	14
0.109	0.1046	0.105	12
0.136	0.1345	0.135	10
0.168	0.1644	0.164	8
0.188	0.1838		7
0.218	0.2145		5
0.249	0.2451		3
0.280	0.2758		1

CORRUGATED METAL PIPE ARCHES (H - 20 LOADING)

EQUIV. DIA. (INCHES)	PIPE DIMENSION SPAN X RISE (INCHES)	MINIMUM CORNER RADIUS (INCHES)	MIN. COVER TOP OF PIPE TO TOP OF SUBGRADE FOR 2 TONS PER SQ. FT. (INCHES)	STEEL		MINIMUM THICKNESS REQUIRED INCHES	ALUMINUM	
				MINIMUM THICKNESS REQUIRED INCHES	MAX. FILL HEIGHT ABOVE TOP OF PIPE (IN FT.) FOR THE FOLLOWING CORNER BEARING PRESSURE IN TONS PER SQ. FT.		MINIMUM THICKNESS REQUIRED INCHES	MAX. FILL HEIGHTS ABOVE TOP OF PIPE (IN FT.) FOR THE FOLLOWING CORNER BEARING PRESSURE IN TONS PER SQ. FT.
				2 1/2 INCH BY 1/2 INCH CORRUGATION RIVETED, WELDED, OR HELICAL	2 TONS 3 TONS 1		2 1/2 INCH BY 1/2 INCH CORRUGATION RIVETED OR HELICAL	2 TONS 3 TONS 1
15	17x13	3	12	0.064	13	15+	0.060	15
18	21x15	3	12	0.064	12	15+	0.060	14
21	24x18	3	12	0.064	10	15+	0.060	12
24	28x20	3	12	0.064	10	15	0.060	10
30	35x24	3	12	0.079	9	14	0.075	9
36	42x29	3 1/2	12	0.079	9	13	0.075	9
42	49x33	4	12	0.079	8	12	0.105	8
48	57x38	5	12	0.109	8	12	0.135	8
54	64x43	6	12	0.109	8	12	0.135	8
60	71x47	7	12	0.138	8	12	0.164	8
66	77x52	8	12	0.168	8	12	0.164	8
72	83x57	9	12	0.168	9	13		12
3 INCH BY 1 INCH OR 5 INCH BY 1 INCH CORRUGATION** RIVETED, WELDED, OR HELICAL								
36	40x31	5	12	0.079	15	15+		
42	46x36	6	12	0.079	15	15+		
48	53x41	7	12	0.079	15	15+		
54	60x46	8	12	0.079	15	15+		
60	66x51	9	12	0.079	15	15+		
66	73x55	12	12	0.079	15	15+		
72	81x59	14	18	0.079	15	15+		
78	87x63	14	18	0.079	14	15+		
84	95x67	16	18	0.109	13	15+		
90	103x71	16	24	0.109	12	15+		
96	112x75	18	24	0.109	11	15+		
102	117x79	18	24	0.109	10	15		
108	128x83	18	24	0.138	9	14		

1 WHERE BEARING PRESSURE EXCEEDING 2 TONS PER SQUARE FOOT IS REQUIRED FOR GIVEN FILL HEIGHTS, THE FOUNDATION MATERIAL SHALL BE INVESTIGATED TO DETERMINE THE BEARING CAPACITY.

** WHERE THE STANDARD 2 1/2 x 1/2 CORRUGATION AND GAUGE IS SPECIFIED FOR A GIVEN DIAMETER, A 3' x 1' OR 5' x 1' CORRUGATION PIPE OF THE SAME DIAMETER MAY BE SUBSTITUTED, PROVIDING IT IS GAUGED FOR A FILL HEIGHT CONDITION EQUAL TO OR GREATER THAN THE MAXIMUM FILL HEIGHT CONDITION FOR THE SPECIFIED GAUGE AND CORRUGATION.



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. COMPLETE STRUCTURAL BACKFILL OPERATION BY WORKING FROM SIDE TO SIDE OF THE PIPE. THE SIDE TO SIDE STRUCTURAL BACKFILL DIFFERENTIAL SHALL NOT EXCEED 24 INCHES OR 1/3 THE SIZE OF THE PIPE, WHICHEVER IS LESS.

NOTE: 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 METAL PIPE.

GENERAL NOTES

1. ALL PIPE SHALL BE PROTECTED DURING CONSTRUCTION BY A COVER SUFFICIENT TO PREVENT DAMAGE FROM PASSAGE OF EQUIPMENT.
2. THE MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 24 INCHES.
3. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PRACTICABLE FOR WORKING CONDITIONS.
4. MULTIPLE PIPE CULVERTS SHALL BE INSTALLED WITH A MINIMUM CLEARANCE OF 24 INCHES BETWEEN STRINGS OF PIPE.
5. REFER TO STD. DWG. FES-2 FOR MINIMUM CLEARANCE WHERE FLARED END SECTIONS ARE USED.
6. 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.
7. 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.'
8. 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.'

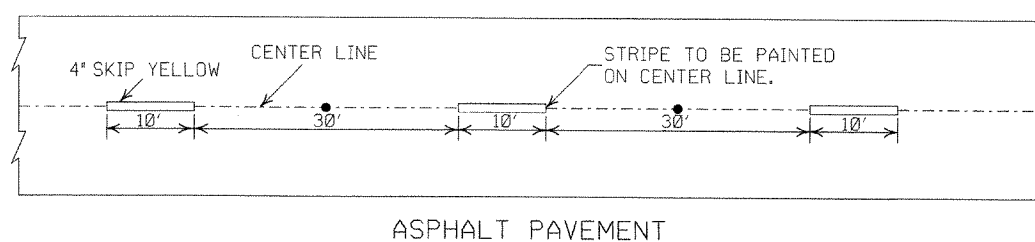
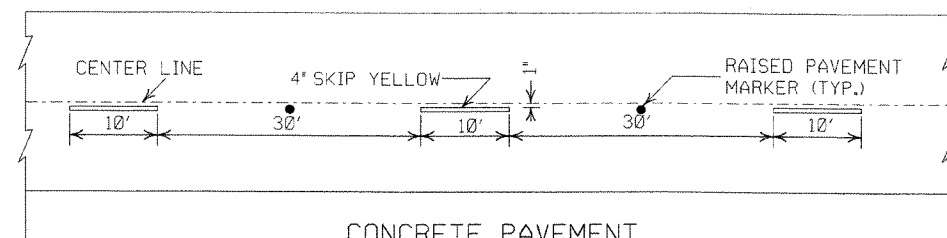
- LEGEND -

D_o = OUTSIDE DIAMETER OF PIPE
MAX. = MAXIMUM
MIN. = MINIMUM
===== = STRUCTURAL BACKFILL MATERIAL
===== = UNDISTURBED SOIL
ELONG. = ELONGATED
EQUIV. DIA. = EQUIVALENT DIAMETER
H = FILL COVER HEIGHT OVER PIPE (FEET)

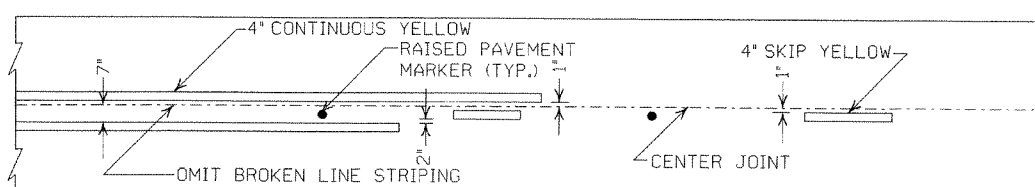
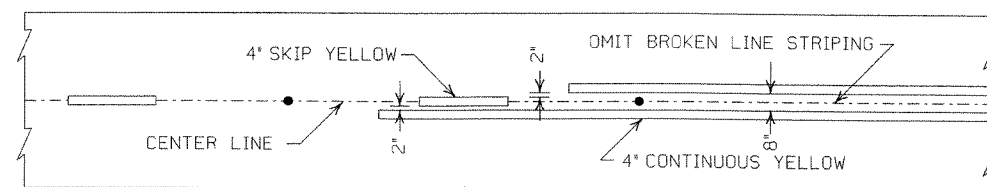
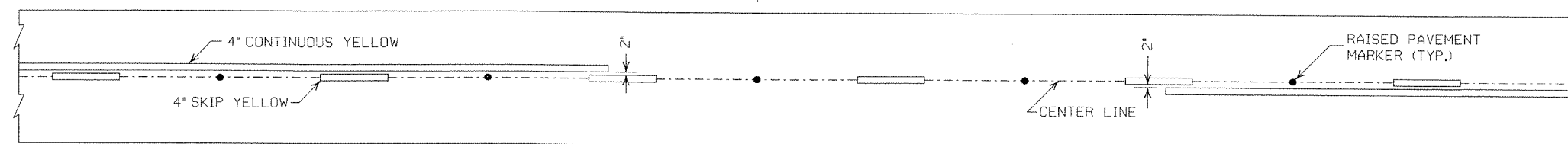
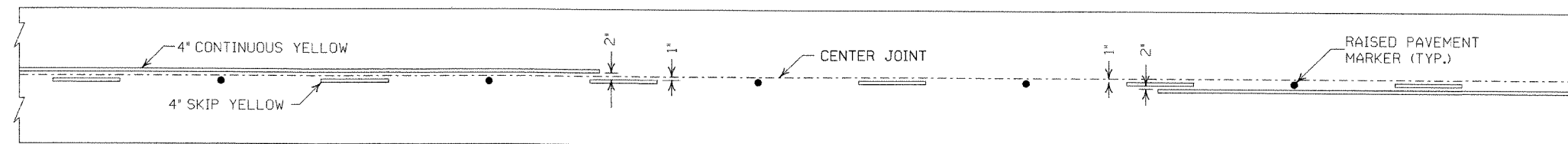
ARKANSAS STATE HIGHWAY COMMISSION		
METAL PIPE CULVERT FILL HEIGHTS & BEDDING		
STANDARD DRAWING PCM-1		
3-30-00	REVISED INSTALLATIONS	
11-06-97	ISSUED	
DATE	REVISION	DATE FILMED

NOTES:

1. ALL LINES SHALL HAVE A WIDTH OF 4 INCHES.
2. THE THICKNESS AND RATE OF PAINT APPLICATION SHALL BE AS SPECIFIED IN SECTION 718 OF THE STANDARD SPECIFICATIONS.
3. THIS DRAWING SHALL BE USED IN CONJUNCTION WITH THE LATEST REVISED ADDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."
4. RAISED PAVEMENT MARKERS SHALL BE CENTERED BETWEEN SKIP LINES ON 40 FEET SPACING UNLESS OTHERWISE SHOWN ON THE PLANS.



BROKEN LINE STRIPING



ASPHALT PAVEMENT

CONCRETE PAVEMENT

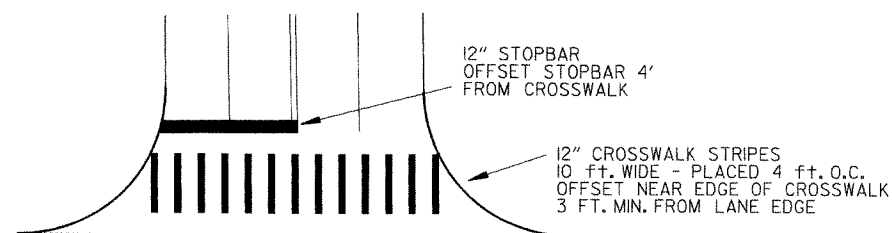
STRIPING AT ADJACENT NO PASSING LANES

GENERAL NOTES:

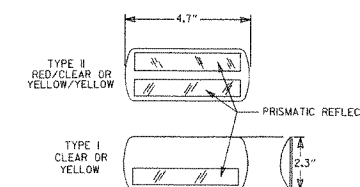
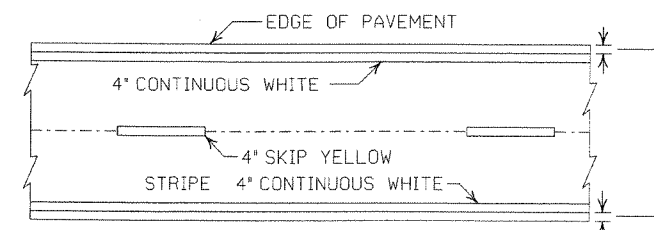
THIS DRAWING SHOULD BE CONSIDERED AS TYPICAL ONLY AND THE FINAL LOCATION OF THE STRIPING AND RAISED PAVEMENT MARKERS SHALL BE DETERMINED BY THE ENGINEER.

THIS DRAWING SHOULD BE USED IN CONJUNCTION WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", LATEST REVISION.

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 AHTD QUALIFIED PRODUCTS LIST.



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



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

0.52"

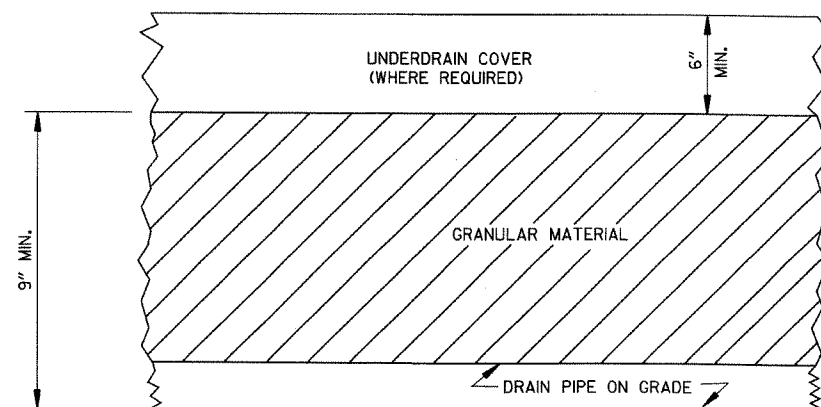
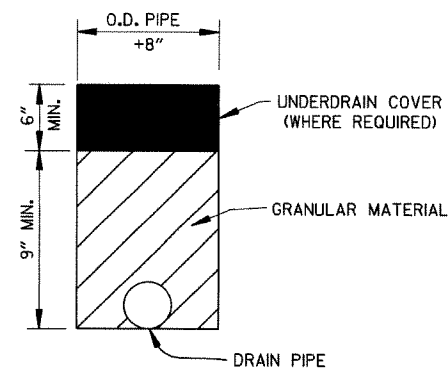
DATE	REVISION	FILMED
11-17-10	REVISED GENERAL NOTES & REMOVED FLOWABLE PAVT MKRS	
11-18-04	REVISED NOTE 2 & GENERAL NOTES	
8-22-02	ADDED CROSSWALK & STOPBAR DTLS.	
7-02-98	ADDED DETAILS OF STD. RAISED PAVT. MARKERS	
4-26-96	REV. NOTES 3&4; ADDED R.P.M.	
9-30-80	DRAWN	1-9-30-80

ARKANSAS STATE HIGHWAY COMMISSION

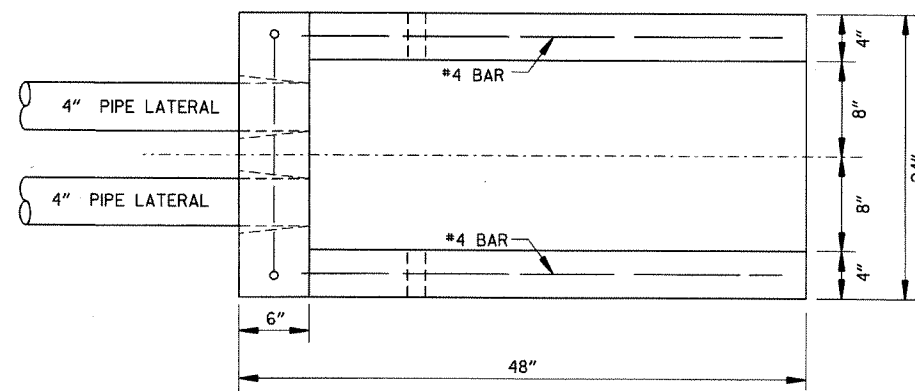
PAVEMENT MARKING DETAILS

STANDARD DRAWING PM-1

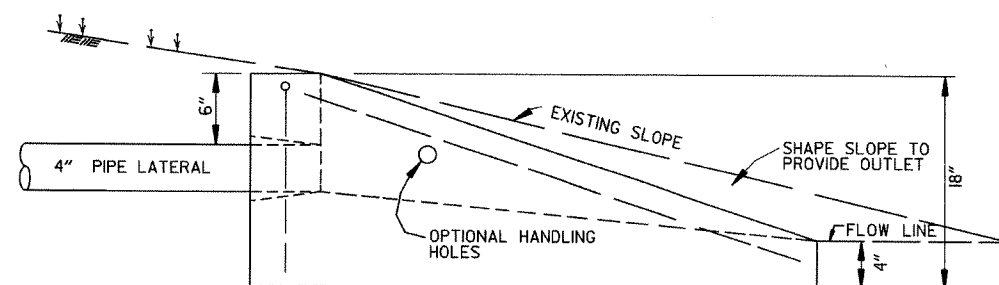
- NOTE:
1. GRANULAR BACKFILL TO BE SUBSIDIARY TO PIPE UNDERDRAIN.
 2. UNLESS OTHERWISE SPECIFIED ON THE PLANS, THE UNDERDRAIN COVER SHALL BE THOROUGHLY COMPACTED EARTH AND SHALL BE SUBSIDIARY TO PIPE UNDERDRAIN.
 3. GRANULAR MATERIAL SHALL BE WRAPPED WITH GEOTEXTILE FABRIC. LAP FABRIC 12" OR THE WIDTH OF THE TRENCH AT THE TOP.



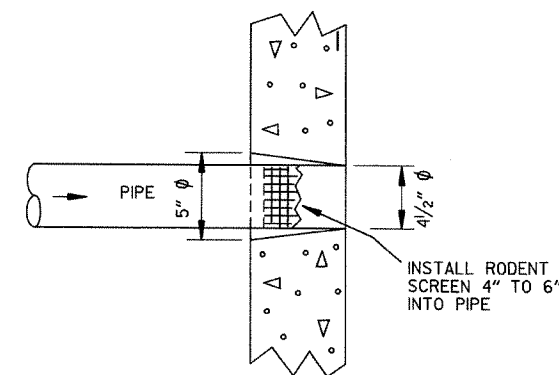
DETAILS OF PIPE UNDERDRAIN



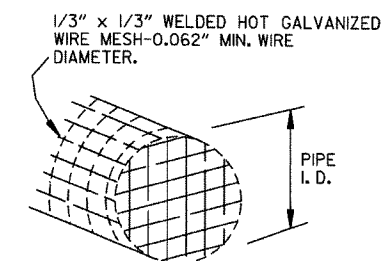
PLAN VIEW



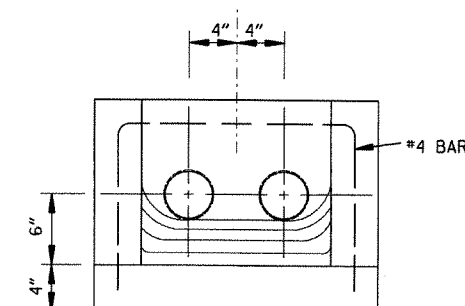
SIDE VIEW



DETAIL OF HOLE FOR 4" PIPE



DETAIL OF RODENT SCREEN

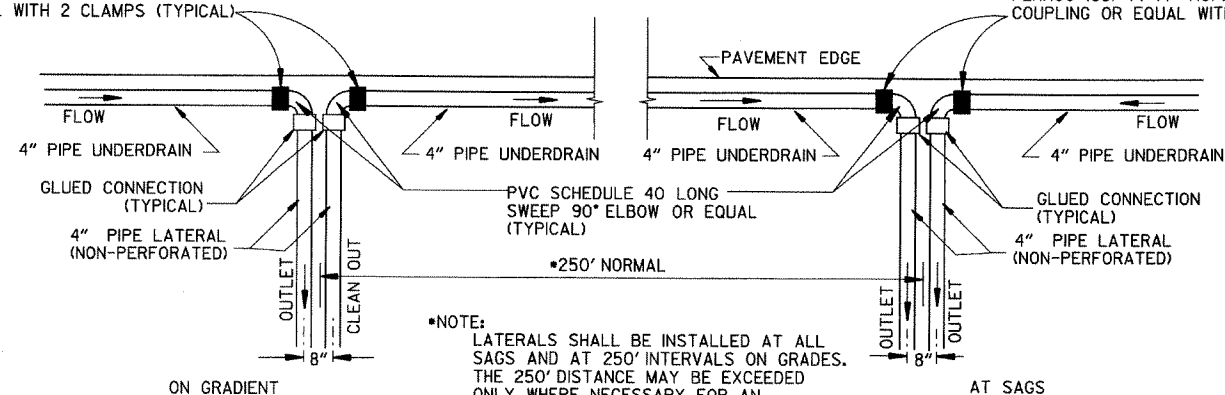


FRONT VIEW

FERNCO 1056-44 (4" CI/PLASTIC) OR
FERNCO 1051-44 (4" AC/DIOR 4" CI/PLASTIC)
COUPLING OR EQUAL WITH 2 CLAMPS (TYPICAL)

UNDERDRAIN OUTLET PROTECTORS

FERNCO 1056-44 (4" CI/PLASTIC) OR
FERNCO 1051-44 (4" AC/DIOR 4" CI/PLASTIC)
COUPLING OR EQUAL WITH 2 CLAMPS (TYPICAL)



NOTE:
LATERALS SHALL BE INSTALLED AT ALL SAGS AND AT 250' INTERVALS ON GRADES. THE 250' DISTANCE MAY BE EXCEEDED ONLY WHERE NECESSARY FOR AN ACCEPTABLE OUTLET.

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.

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; 5 1/2" 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 POLYETHYLENE 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
DATE	REVISION	DATE FILMED

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF PIPE UNDERDRAIN

STANDARD DRAWING PU-1

SUPERELEVATION TABLE FOR TWO - WAY TRAFFIC

DEGREE OF CURVE	30 MPH		40 MPH		50 MPH		55 MPH		60 MPH		70 MPH	
	Ls (FT)		Ls (FT)		Ls (FT)		Ls (FT)		Ls (FT)		Ls (FT)	
	MINIMUM	DESIRABLE	MINIMUM	DESIRABLE	MINIMUM	DESIRABLE	MINIMUM	DESIRABLE	MINIMUM	DESIRABLE	MINIMUM	DESIRABLE
0° 15'	N.C.		N.C.		N.C.		N.C.		N.C.		N.C.	
0° 30'	N.C.		N.C.		N.C.		N.C.		N.C.		N.C.	
0° 45'	N.C.		N.C.		N.C.		N.C.		N.C.		N.C.	
1° 00'	N.C.		N.C.		N.C.		N.C.		N.C.		N.C.	
1° 15'	N.C.		N.C.		N.C.		N.C.		N.C.		N.C.	
1° 30'	N.C.		N.C.		N.C.		N.C.		N.C.		N.C.	
1° 45'	N.C.		N.C.		N.C.		N.C.		N.C.		N.C.	
2° 00'	R.C.		0.028	175	0.036	200	0.043	225	0.049	250	0.054	275
2° 15'	R.C.		0.031		0.040		0.048		0.055		0.062	
2° 30'	0.021		0.034		0.045	250	0.053		0.061		0.070	
2° 45'	0.023		0.037		0.053		0.063		0.072		0.085	300
3° 00'	0.025		0.040	200	0.057		0.067	230	0.077	260	0.091	315
3° 15'	0.027		0.043		0.061		0.072	245	0.082	275	0.096	335
3° 30'	0.029		0.046		0.065	205	0.076	255	0.086	285	0.100	350
3° 45'	0.031	200	0.049		0.069		0.080	265	0.090	295	0.104	360
4° 00'	0.033		0.051		0.072	215	0.083	270	0.093	305	0.108	370
4° 15'	0.037		0.056		0.077	240	0.087	280	0.096	315	0.110	380
4° 30'	0.040		0.061		0.083	250	0.091	295	0.100	320		
4° 45'	0.043		0.065	185	0.088	260	0.094	300				
5° 00'	0.046		0.070	190	0.092	270	0.096	305				
5° 15'	0.050		0.074	200	0.095	280	0.099	310				
5° 30'	0.053		0.078	210	0.098	285						
5° 45'	0.056		0.081	215	0.099	290						
6° 00'	0.058		0.084	220	0.100	290						
6° 15'	0.061		0.087	225								
6° 30'	0.063		0.089	230								
6° 45'	0.068	160	0.094	235								
7° 00'	0.072	170	0.097	250								
7° 15'	0.076	175	0.099	250								
7° 30'	0.080	180	0.100	250								
7° 45'	0.083											
8° 00'	0.086											
8° 15'	0.089											
8° 30'	0.093											
8° 45'	0.095											
9° 00'	0.097											
9° 15'	0.098											
9° 30'	0.099											
9° 45'	0.100											
10° 00'	0.100											
10° 15'	0.100											
10° 30'	0.100											
10° 45'	0.100											
11° 00'	0.100											
11° 15'	0.100											
11° 30'	0.100											
11° 45'	0.100											
12° 00'	0.100											
12° 15'	0.100											
12° 30'	0.100											
12° 45'	0.100											
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13° 45'	0.100											
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15° 30'	0.100											
15° 45'	0.100											
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16° 15'	0.100											
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17° 30'	0.100											
17° 45'	0.100											
18° 00'	0.100											
18° 15'	0.100											
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18° 45'	0.100											
19° 00'	0.100											
19° 15'	0.100											
19° 30'	0.100											
19° 45'	0.100											
20° 00'	0.100											
20° 15'	0.100											
20° 30'	0.100											
20° 45'	0.100											
21° 00'	0.100											
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22° 15'	0.100											
22° 30'	0.100											
22° 45'	0.100											
23° 00'	0.100											
23° 15'	0.100											
23° 30'	0.100											
23° 45'	0.100											
24° 00'	0.100											

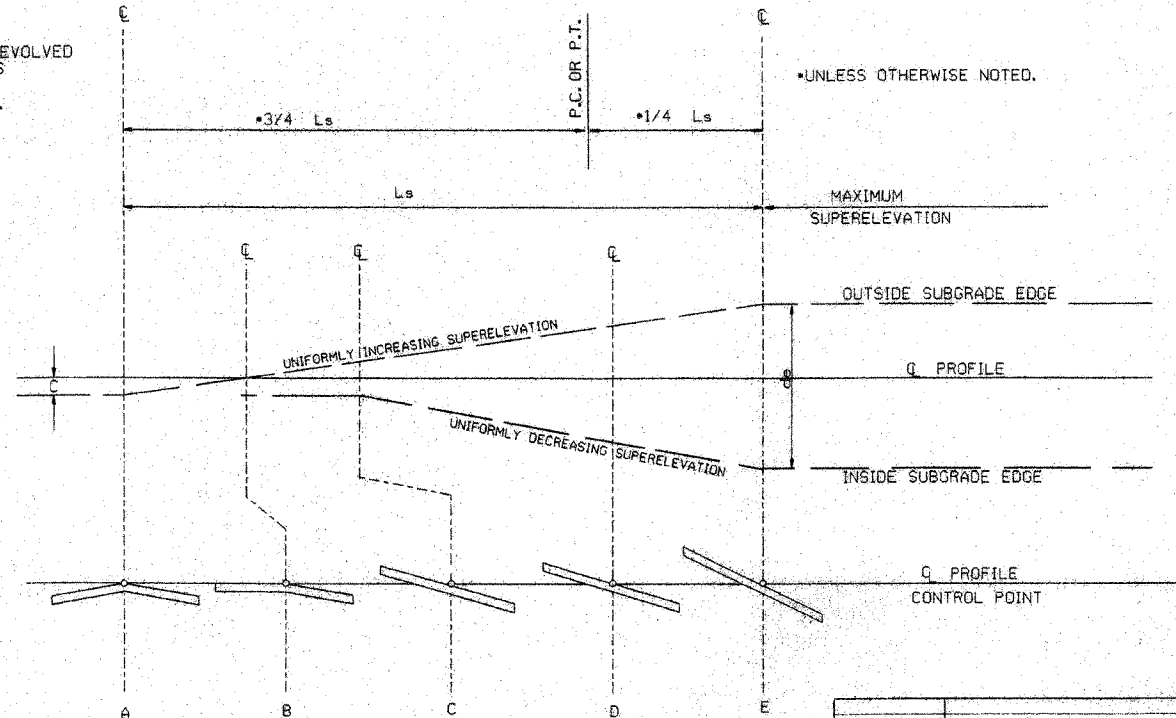
ABBREVIATIONS

- 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.)

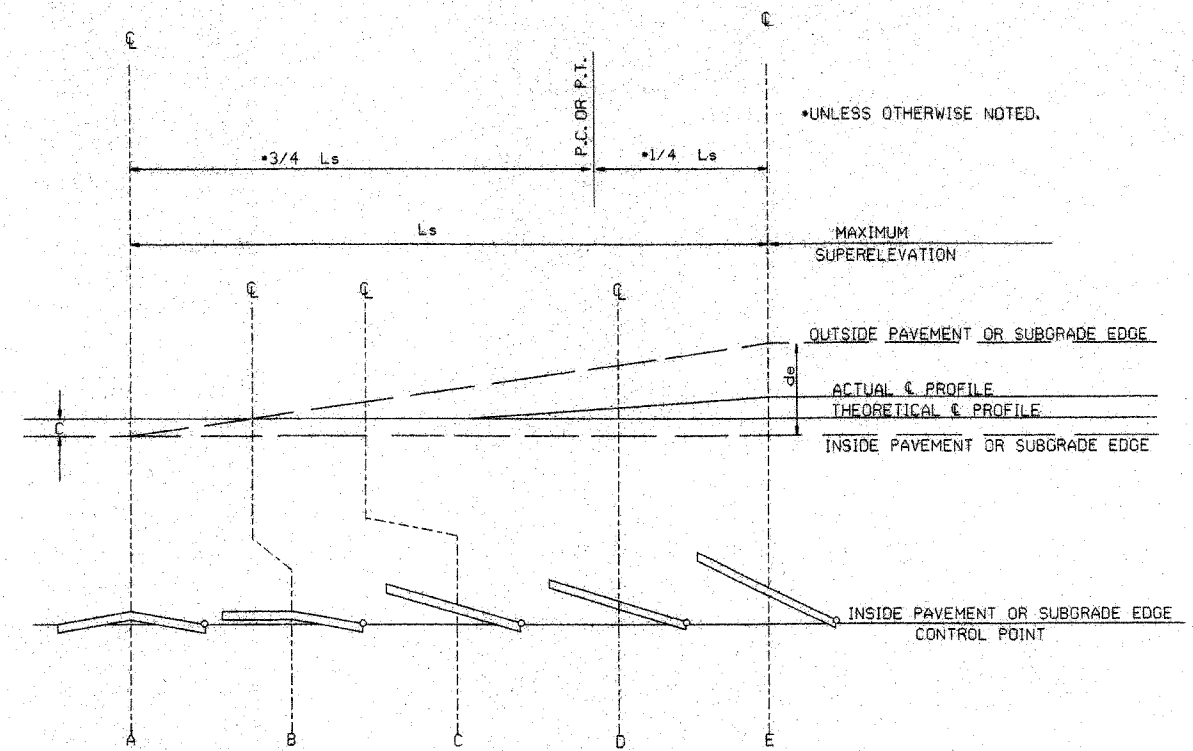
GENERAL NOTES

- ON PAVEMENT WITH TWO-WAY TRAFFIC, THE SUPERELEVATION SHALL BE REVOLVED ON THE INSIDE PAVEMENT EDGE UNLESS OTHERWISE NOTED ON THE PLANS
- SUPERELEVATION VALUES SHOWN ON THE CROSS SECTIONS ARE VALUES (+) OR (-) TO BE ADDED TO OR SUBTRACTED FROM THE POINT OF CONTROL.
- LENGTHS FOR L MAY BE ROUNDED IN MULTIPLES OF 25 FT. OR 50 FT. TO PERMIT SIMPLER CALCULATIONS.
- 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.



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.

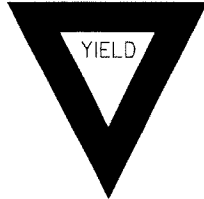
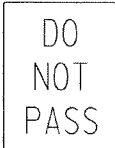
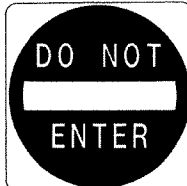
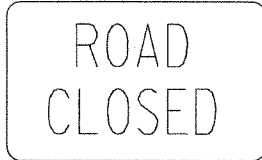
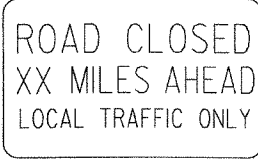
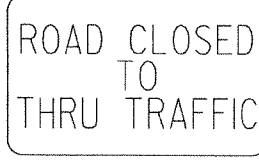
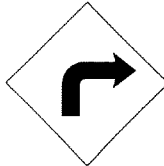
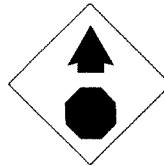
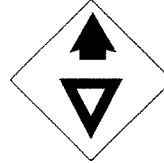
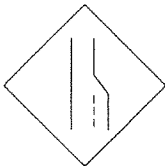
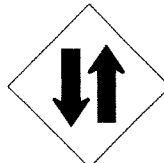
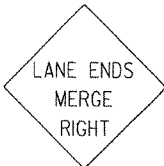
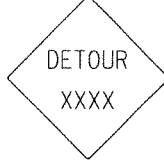
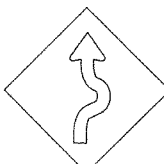
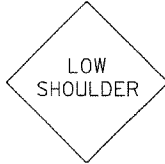
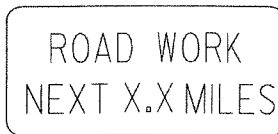
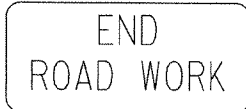
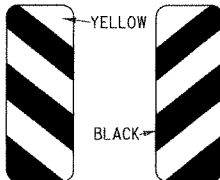
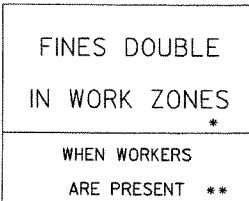
SUPERELEVATION FORMULA = $\frac{Lde}{Ls}$

10-18-96	ADDED FORMULA	10-18-96
01-09-87	ISSUED	534-1-9-87
DATE	REVISION	DATE FILMED

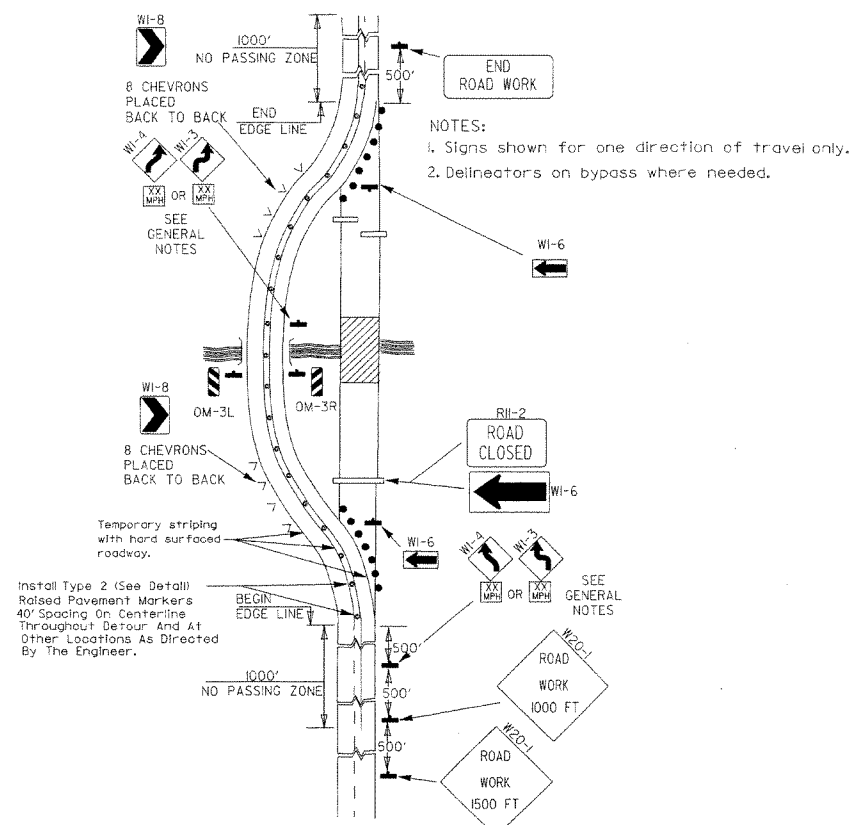
ARKANSAS STATE HIGHWAY COMMISSION

TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC

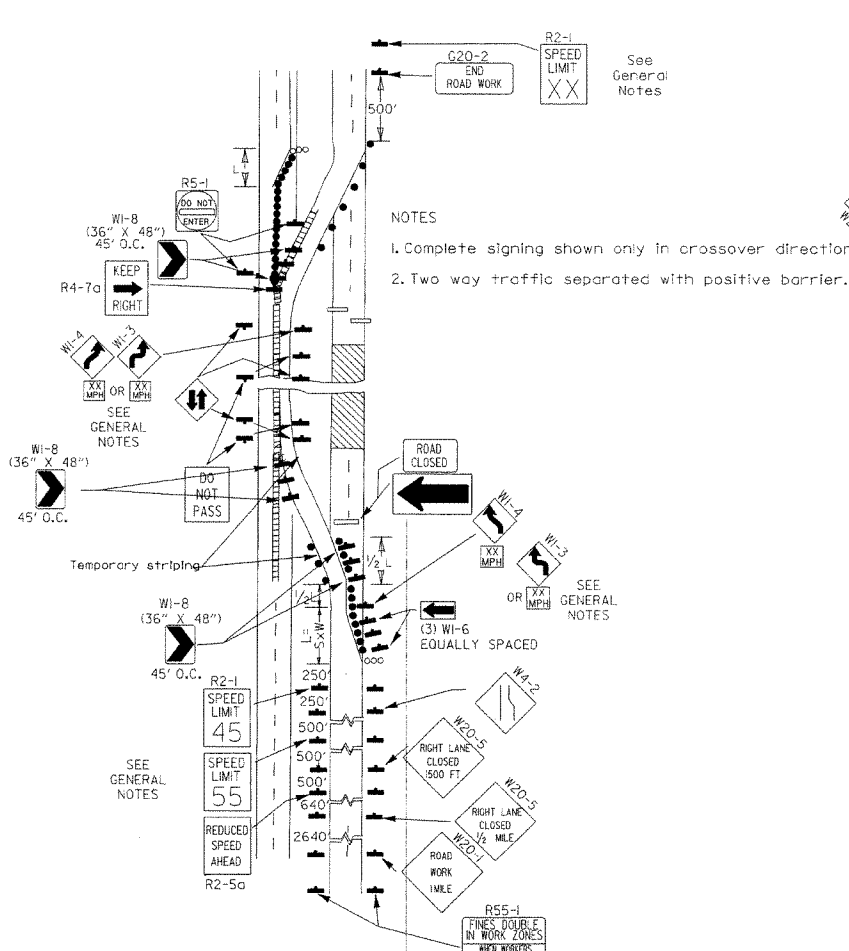
STANDARD DRAWING SE-2

RI-1  STANDARD 30"X30" EXPRESSWAY 36"X36" SPECIAL 48"X48"	RI-2  STD. 36"X36"X36" EXPWY. 48"X48"X48" FWY. 60"X60"X60"	R2-1  STD. 24"X30" EXPWY. 36"X48" FWY. 48"X60"	R2-5A  STD. 24"X30" EXPWY. 36"X48" FWY. 48"X60"	R2-5C  STD. 24"X30" EXPWY. 36"X48" FWY. 48"X60"	R4-1  STD. 24"X30" EXPWY. 36"X48" FWY. 48"X60"	R4-2  STD. 24"X30" EXPWY. 36"X48" FWY. 48"X60"	ADVANCE DISTANCES (XXXX) 500 FT 1/2 MILE 1000 FT 3/4 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 NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) IS REQUIRED FOR ALL PROJECTS.	
R5-1  STD. 30"X30" EXPWY. 36"X36" SPECIAL 48"X48"	R11-2  48"X30"	R11-3A  60"X30"	R11-4  60"X30"	RSP-1  48"X30"	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"	W13-1  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  500 FEET 24" W16-2 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	

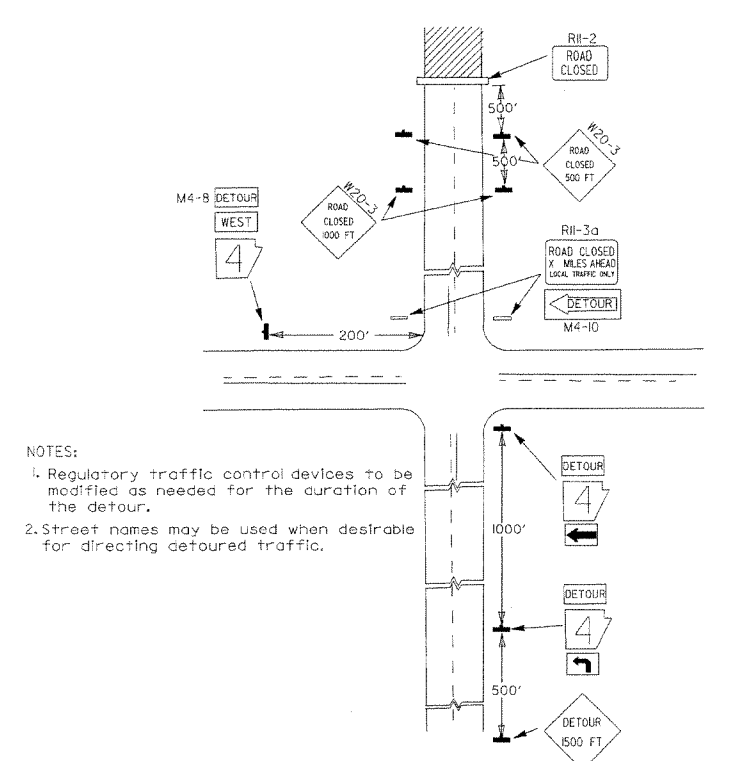
ARKANSAS STATE HIGHWAY COMMISSION STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION STANDARD DRAWING TC-1		
11-17-10	DELETED W8-9a & ADDED W8-9	
10-15-09	ADDED REFERENCE TO MASH & ADDED SIGN W24-1	
4-17-08	REVISED SIGN DESIGNATIONS	
11-18-04	REVISED NOTES	
10-9-03	REVISED NOTE 1	
11-16-01	REVISED NOTE 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	
DATE	REVISION	FILMED



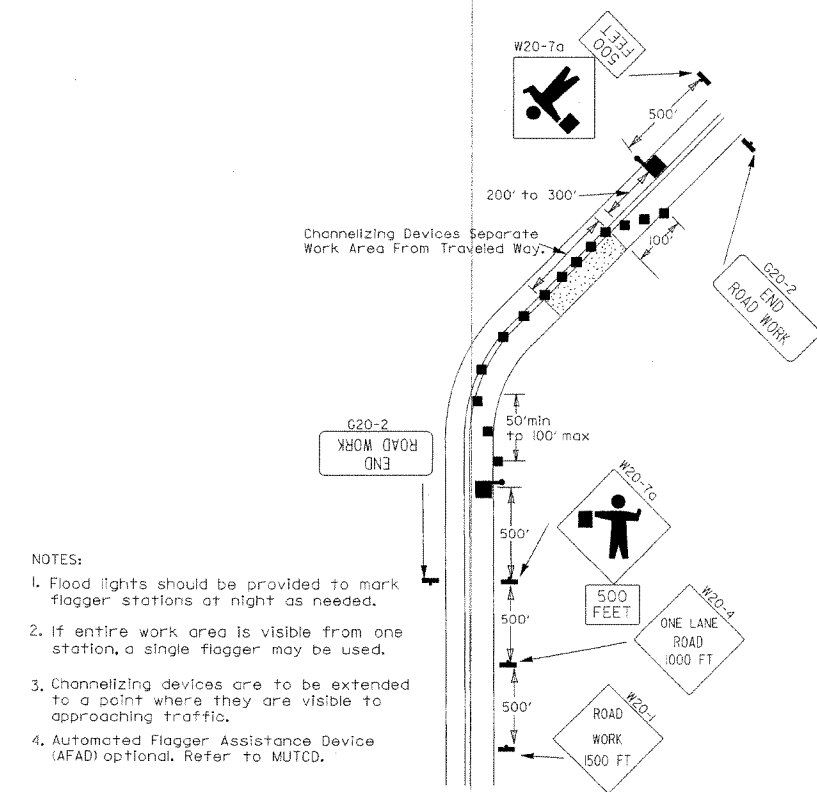
(A) Typical application of traffic control devices on a 2-lane highway where the entire roadway is closed and a bypass detour is provided.



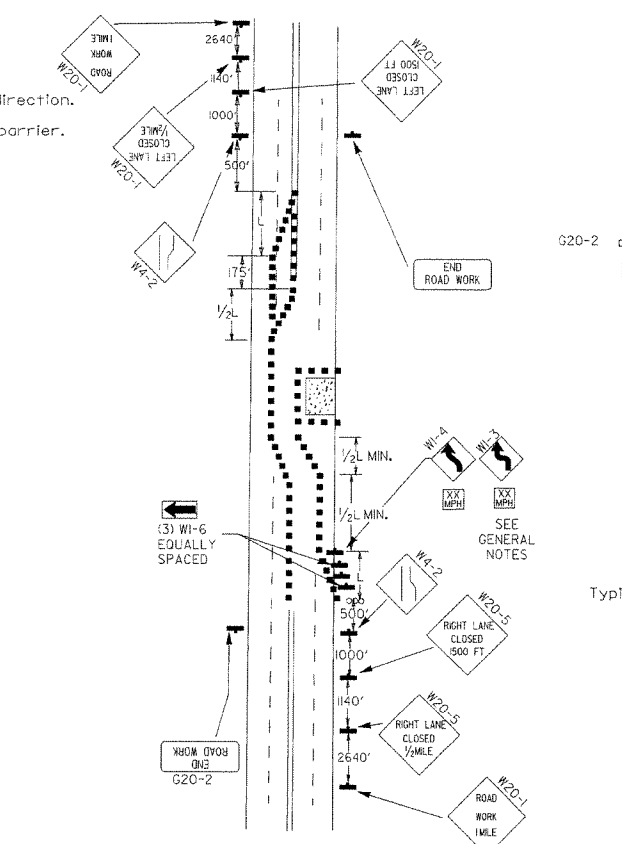
(B) Typical application - 4-lane divided roadway where one roadway is closed.



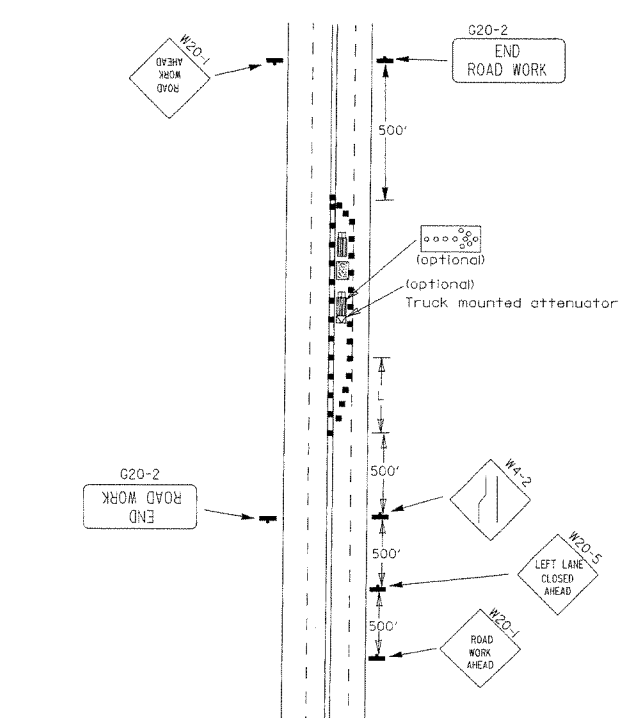
(D) Typical application - roadway closed beyond detour point.



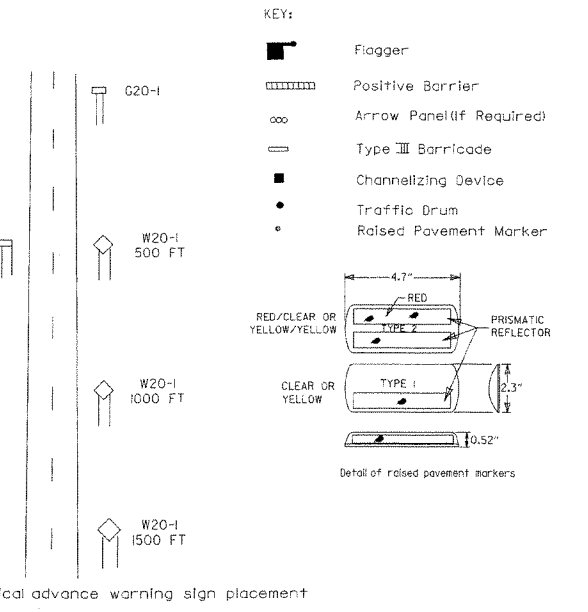
(E) Typical application of traffic control devices on 2-lane highway where one lane is closed and flagging is provided.



(C) Typical application - 4-lane undivided roadway where half of the roadway is closed.



(F) Typical application - 4-lane undivided roadway with inside lane closed.



Typical advance warning sign placement

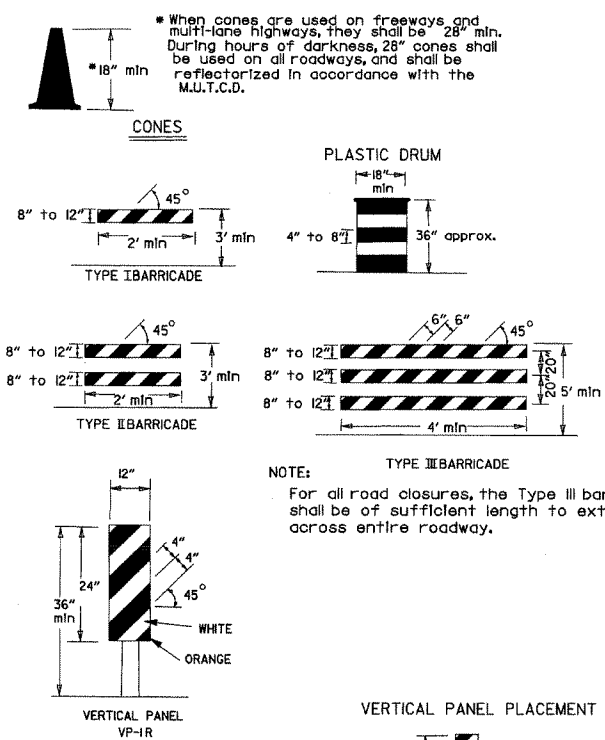
Taper formulae:
 $L = S \times W$ for speeds of 45mph or more.
 $L = \frac{WS^2}{60}$ for speeds of 40mph or less.
Where:
L = Minimum length of taper.
S = Numerical value of posted speed limit prior to work or 85th percentile speed.
W = Width of offset.

- GENERAL NOTES:
- Advisory speed posted on W1-3 or W1-4 curve warning signs to be determined at site. Use W1-4 when speed is greater than 30mph and W1-3 when 30mph or less.
 - When the existing speed limit is 55mph and the plans require a speed limit of 45mph, the R2-155 shall be omitted and the R2-5A shall be installed at that location. Additional R2-145mph speed limit signs shall be installed at a maximum of 1/2 mile intervals. At the end of the work area a R2-145 shall be installed to match original speed limit.
 - When the existing speed limit is 65mph and the plans require a speed limit of 55mph, the R2-145 shall be omitted. Additional R2-155mph speed limit signs shall be installed at a maximum of 1/2 mile intervals. At the end of the work area a R2-145 shall be installed to match original speed limit.
 - 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.
 - Warning lights and/or flags may be mounted to signs or channelizing devices at night as needed.
 - Pavement markings no longer applicable which might create confusion in the minds of vehicle operators shall be removed or obliterated as soon as practicable.
 - 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.

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 (a) 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	
DATE	REVISION	FILMED

ARKANSAS STATE HIGHWAY COMMISSION
STANDARD TRAFFIC CONTROLS
FOR HIGHWAY CONSTRUCTION
STANDARD DRAWING TC-2

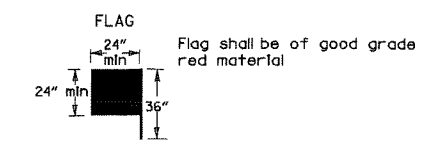
Channelizing devices



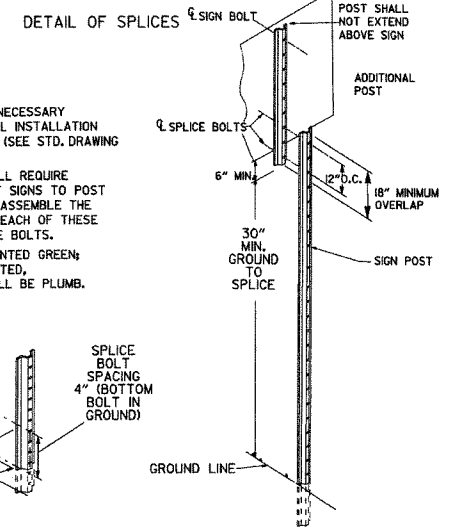
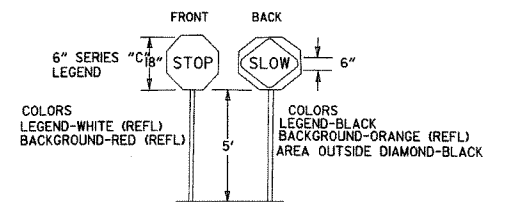
TRAFFIC CONTROL DEVICES FOR VERTICAL PAVEMENT DIFFERENTIALS

VERTICAL DIFFERENTIAL	LOCATIONS	TRAFFIC CONTROL
1" to 3"	Centerline, lane lines	W8-II
1" to 3"	Edge of shoulder	W8-9
Greater than 3"	Lane lines	Standard lane closure required
Greater than 3"	Edge of traveled lane	*RSP-1 and vertical panels, drums or concrete barrier
Greater than 3"	Edge of shoulder	*Vertical panels, drums or concrete barrier

• When shown on the plans concrete barrier will be used.
When the shoulder area is used as part of the traveled lane and there is insufficient width to place drums on the remaining shoulder width, then vertical panels shall be used.



STOP SLOW PADDLE



NOTES:
USE SPLICES ONLY WHEN NECESSARY FOR INSTALLATION. TYPICAL INSTALLATION SHOULD HAVE NO SPLICES (SEE STD. DRAWING NO. SHS-2)
NORMAL INSTALLATIONS WILL REQUIRE 1/4" DIA. BOLTS TO MOUNT SIGNS TO POST AND 5/16" DIA. BOLTS TO ASSEMBLE THE VARIOUS POST SUPPORTS. EACH OF THESE BOLTS SHALL BE CARRIAGE BOLTS.
SIGN POSTS SHALL BE PAINTED GREEN; SIGNS SHALL NOT BE PAINTED, AND ALL SIGN POSTS SHALL BE PLUMB.

(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:
- Arrow Panel (if Required)
 - Channelizing Device
 - Traffic drum

GENERAL NOTES:

- A speed limit reduction may be implemented ONLY when designated in the plan or when recommended by the Roadway Design Division.
- 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 R2-5A shall be installed at that location. Additional R2-145mph speed limit signs shall be installed at a maximum of 1 mile intervals. At the end of the work area a R2-1XX shall be installed to match original speed limit.
- When the existing speed limit is 65mph and the plans require a speed limit of 55mph, the R2-1(65) shall be omitted. Additional R2-155mph speed limit signs shall be installed at a maximum of 1 mile intervals. At the end of the work area a R2-1XX shall be installed to match original speed limit.
- 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.
- Warning lights and/or flags may be mounted to signs or channelizing devices at night as needed.
- Pavement markings no longer applicable which might create confusion in the minds of vehicle operators shall be removed or obliterated as soon as practicable.
- 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.
- Flaggers shall use STOP/SLOW paddles for controlling traffic through work zones. Flags may be used only for emergency situations.
- All plastic drums and cones shall meet the requirements of NCHRP-350 or Manual for Assessing Safety Hardware (MASH).
- 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.

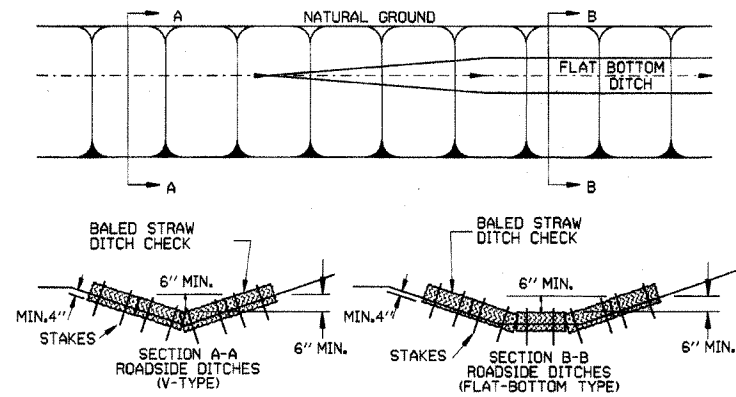
(C) Typical application - construction operations of intermediate to long term duration on a 4-lane divided roadway where half of the roadway is closed.

(D) Typical application - closing multiple lanes of a multilane highway.

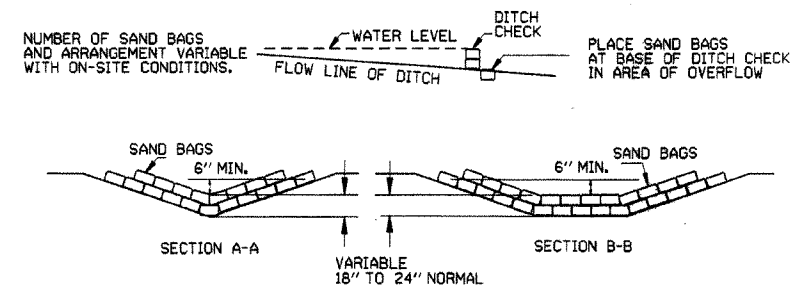
10-15-09	ADDED REFERENCE TO MASH	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED NOTE	
10-1-98	ADDED NOTE	
4-03-97	ADDED (SP) TO W6-1 & REVISED TRAFFIC CONTROL DEVICES NOTE	
10-18-96	ADDED R55-1	
10-12-95	MOVED UPPER SPLICE	
6-8-95	REVISED SPLICE DETAIL, TEXT	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	
DATE	REVISION	FILMED
ARKANSAS STATE HIGHWAY COMMISSION STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION STANDARD DRAWING TC-3		

GENERAL NOTES

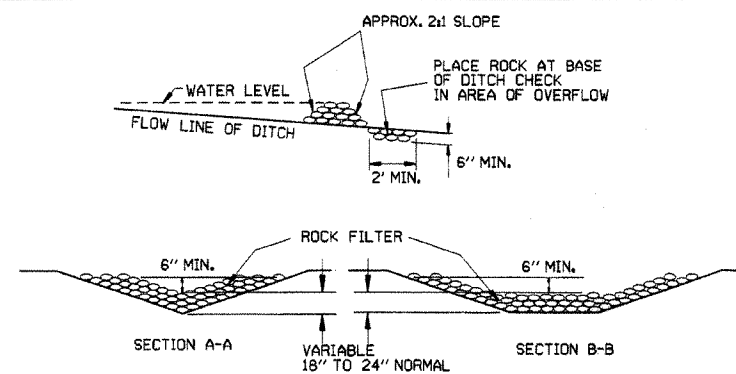
1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.
2. STRAW BALES SHALL BE KEYED INTO SOIL A MINIMUM OF 4' AND NO GAPS SHALL BE LEFT BETWEEN BALES.



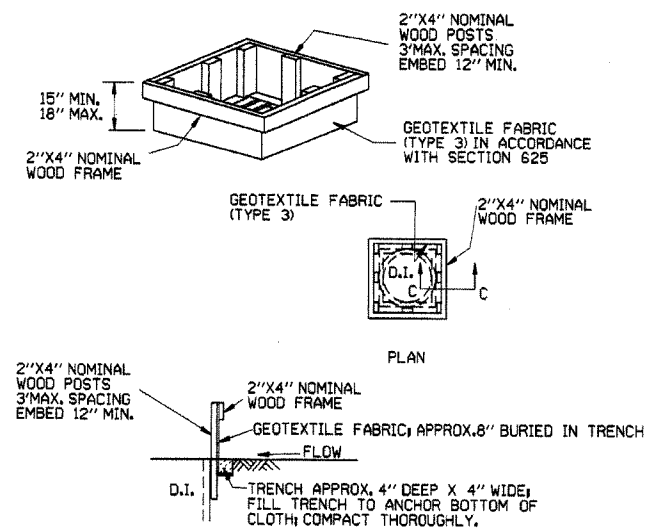
BALED STRAW DITCH CHECK (E-1)



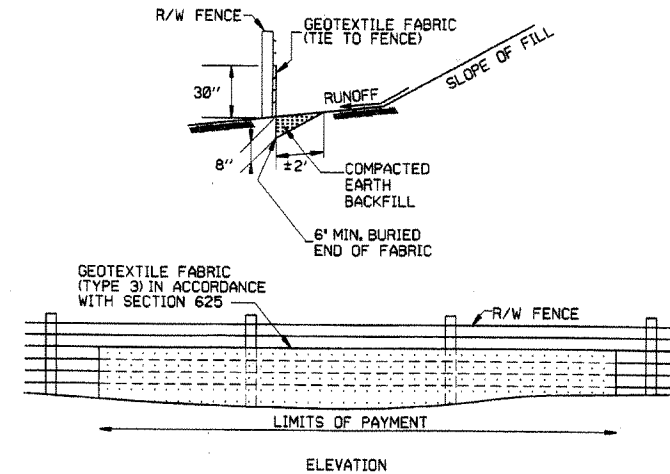
SAND BAG DITCH CHECK (E-5)



ROCK DITCH CHECK (E-6)

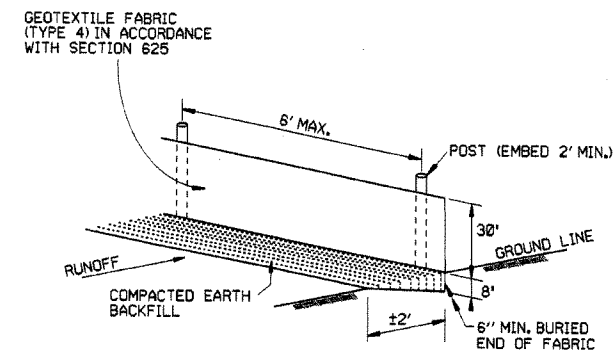


DROP INLET SILT FENCE (E-7)



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

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.



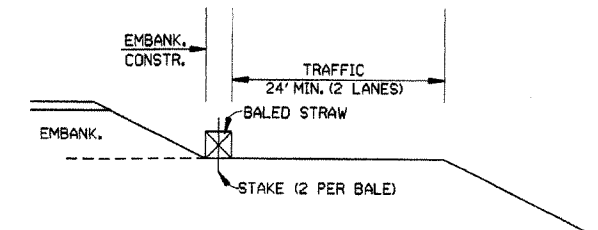
SILT FENCE (E-11)

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.

62

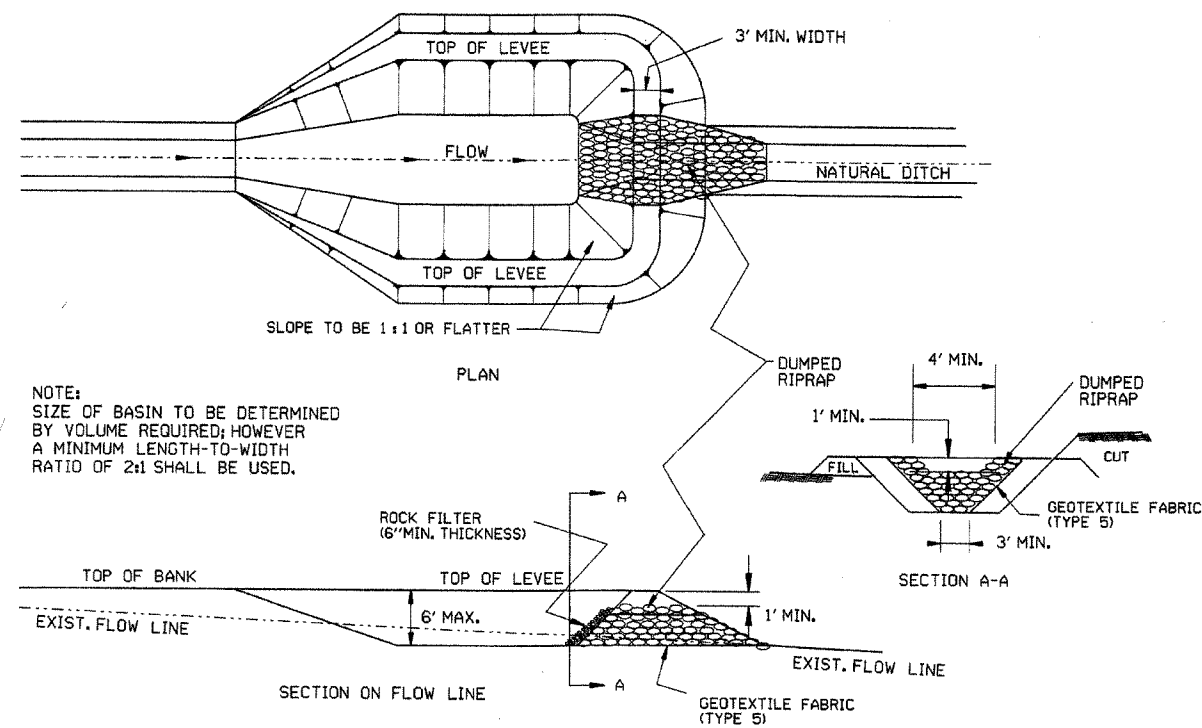
GENERAL NOTES

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.

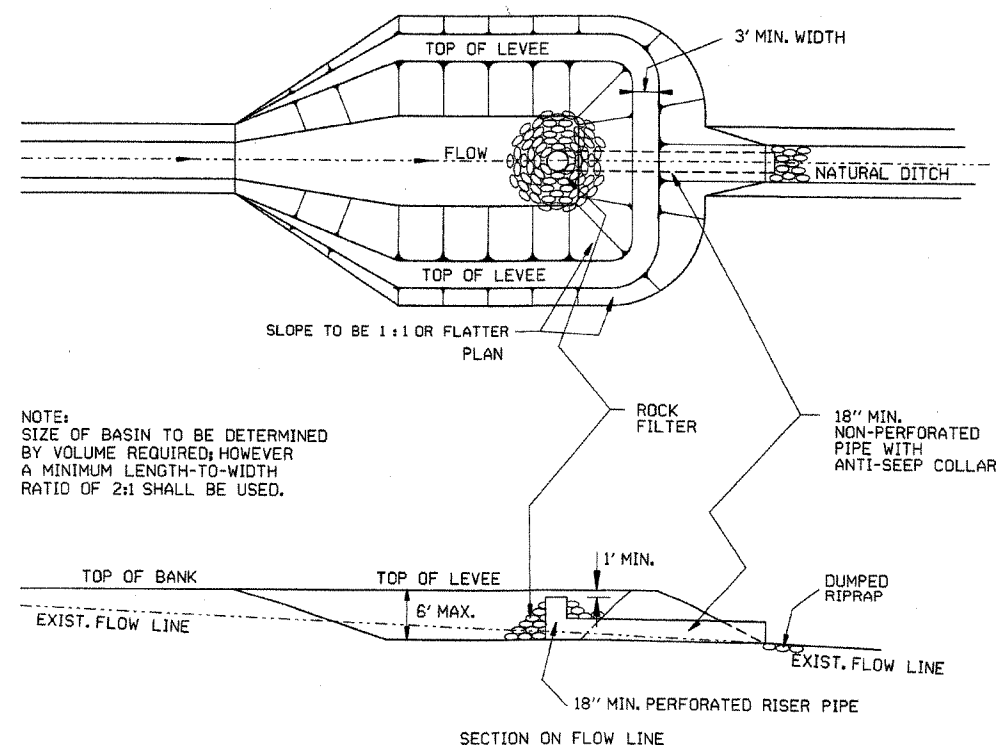


BALED STRAW FILTER BARRIER (E-2)

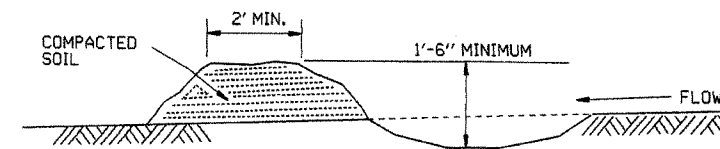
11-18-98	ADDED NOTES	11-18-98	ARKANSAS STATE HIGHWAY COMMISSION
7-02-98	ADDED BALED STRAW FILTER BARRIER (E-2)	7-20-95	TEMPORARY EROSION CONTROL DEVICES
7-20-95	REVISED SILT FENCE E-4 AND E-11	6-2-94	STANDARD DRAWING TEC-1
7-15-94	Rev. E-4 & E-11 Min. 13' Buried End of Fabric		
6-2-94	Revised E-1, 4, 7, & 11 Deleted E-2 & 3		
4-1-93	REDRAWN		
10-1-92	REDRAWN		
8-2-76	ISSUED R.D.M.	298-7-28-76	
DATE	REVISION	FILMED	



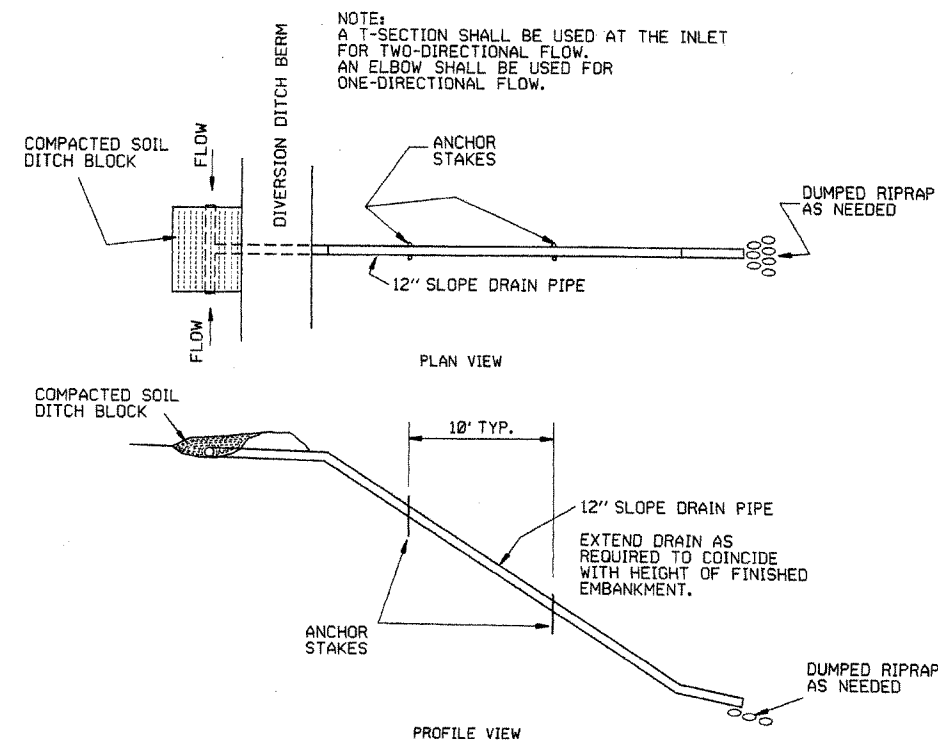
SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



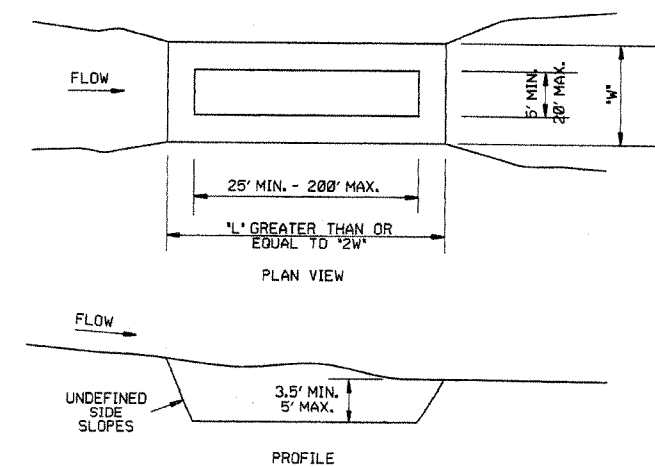
SEDIMENT BASIN WITH PIPE OUTLET (E-10)



DIVERSION DITCH (E-8)



SLOPE DRAIN (E-12)



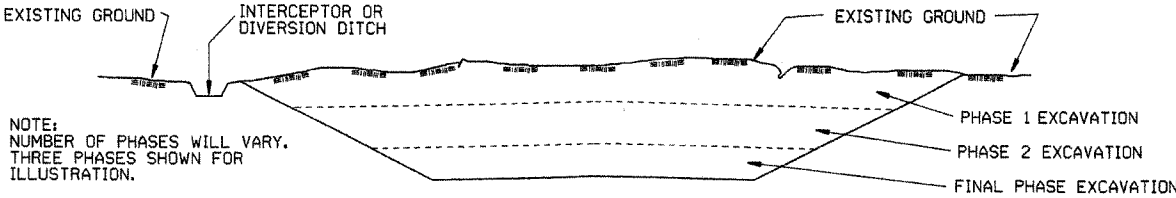
SEDIMENT BASIN (E-14)

ARKANSAS STATE HIGHWAY COMMISSION			
TEMPORARY EROSION CONTROL DEVICES			
STANDARD DRAWING TEC-2			
6-2-94	Revised E-8 & E-12, Added E-14 & Deleted E-13		
4-1-93	ISSUED		
DATE	REVISION		FILMED

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

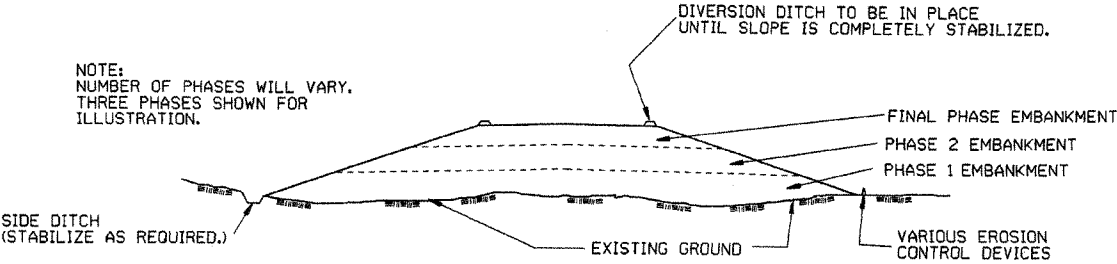


GENERAL NOTE

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

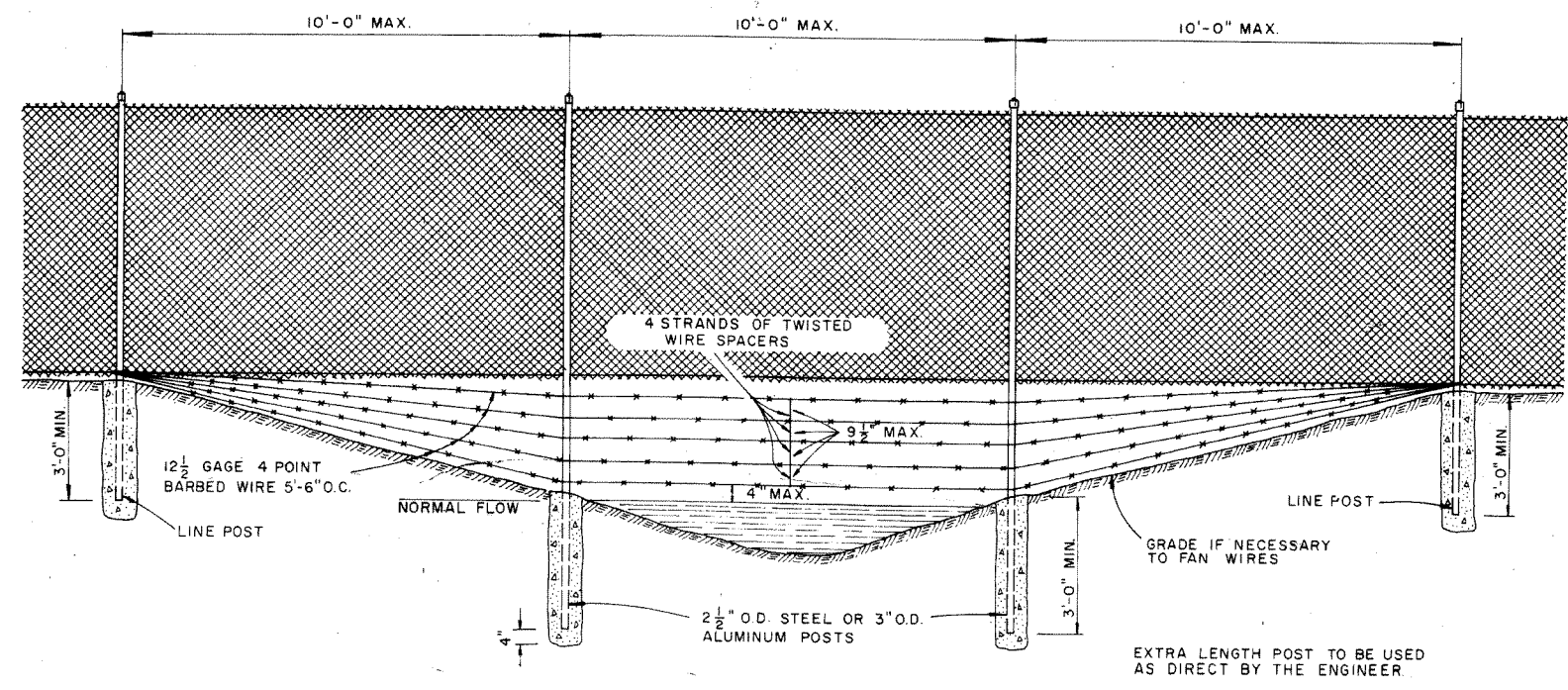
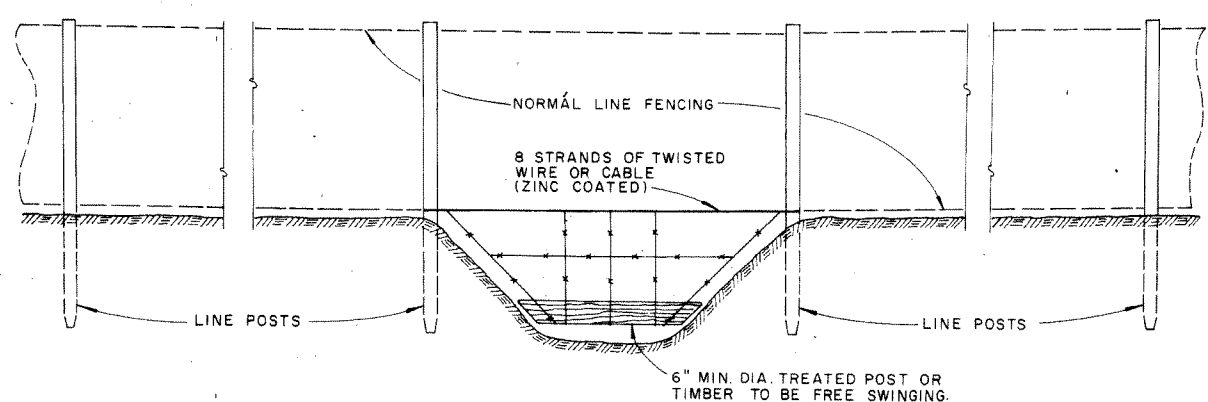
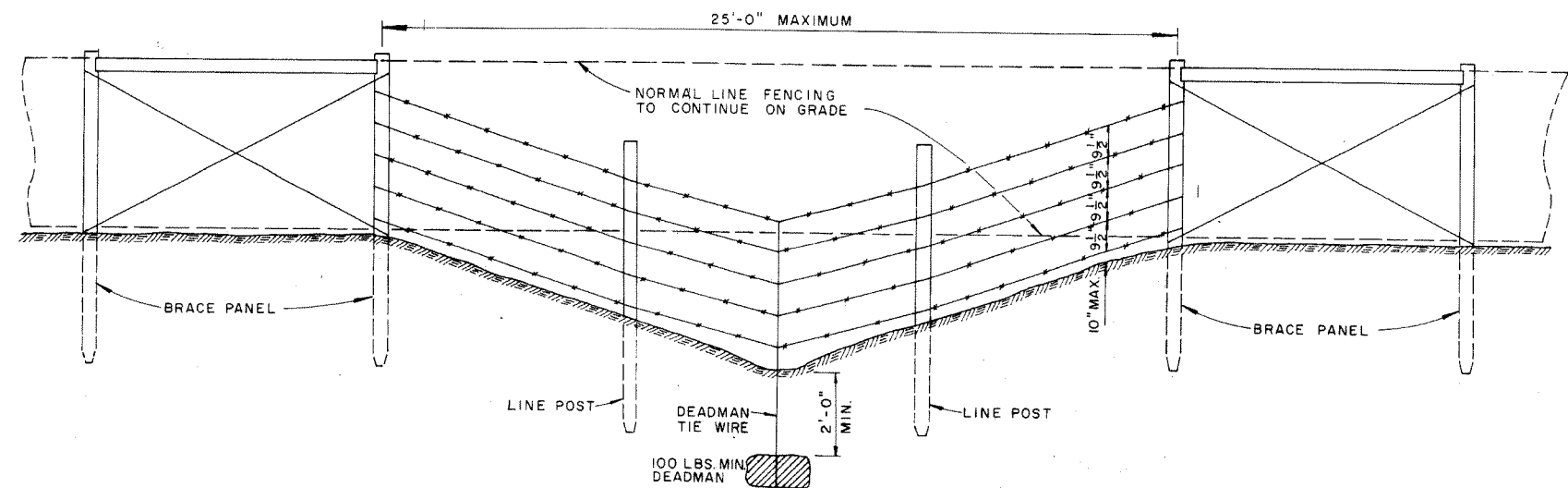


GENERAL NOTE

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.

			ARKANSAS STATE HIGHWAY COMMISSION
			TEMPORARY EROSION CONTROL DEVICES
			STANDARD DRAWING TEC-3
11-03-94	CORRECTED SPELLING		
6-2-94	Drawn & Issued	6-2-94	
DATE	REVISION	FILMED	

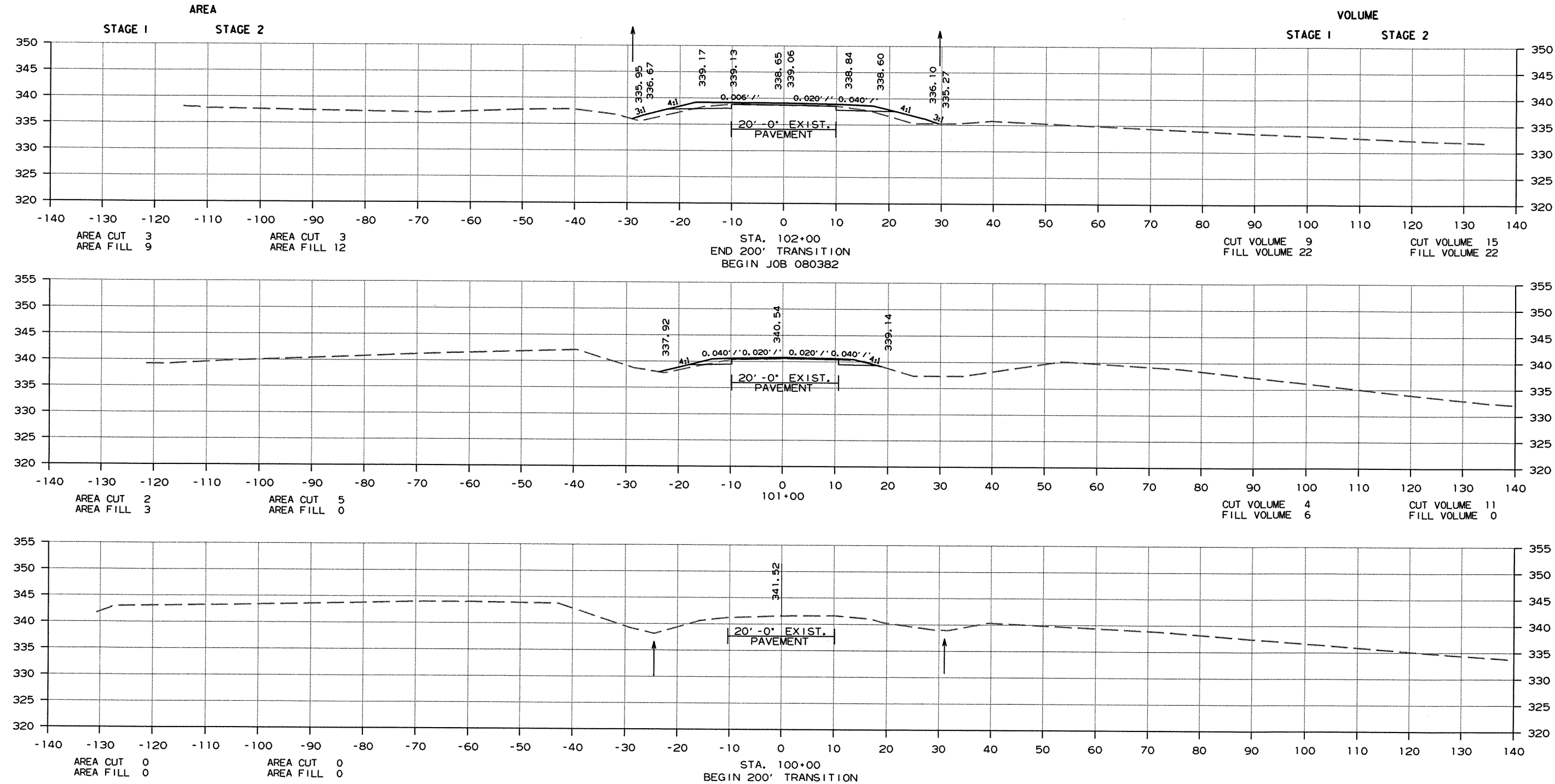


GENERAL NOTES:
THESE INSTALLATIONS TO BE USED WHERE NORMAL FENCING INSTALLATION WOULD CAUSE THE COLLECTING OF DRIFT IN THE CHANNEL OR THE DEPRESSION WILL NOT PERMIT NORMAL INSTALLATION. INSTALLATIONS WILL BE MADE ONLY WHERE DIRECTED BY THE ENGINEER.
WHEN A FENCE LINE APPROACHES A DITCH, GULLY OR DEPRESSION, THE LAST POST ON LEVEL GROUND SHALL BE PLACED CLOSE ENOUGH TO THE EDGE OF THE DROP OFF THAT THE FENCE MAY BE STRUNG TO THE POST IN THE DEPRESSION WITHOUT TOUCHING THE GROUND.
IN TERRAIN OF SUCH EXTREME IRREGULARITY THAT MINOR GRADING WILL NOT BE FEASIBLE, THE NORMAL FENCE SHALL CONTINUE ON GRADE AND THE GULLIES OR DEPRESSIONS TREATED BY AUXILIARY FENCES AS SHOWN.
PAYMENT FOR THE TYPE INSTALLATION USED WILL NOT BE MADE DIRECTLY BUT WILL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR WIRE FENCE OR CHAIN LINK FENCE.

ARKANSAS STATE HIGHWAY COMMISSION		
WIRE FENCE WATER GAPS		
STANDARD DRAWING		
WF-2		
4-20-79	REVISED TOP RAIL & TENSION WIRE	696-4-20-79
10-2-72	REVISED & REDRAWN	529 10-2-72
DATE	REVISION	DATE FILMD

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. 080382			67	76

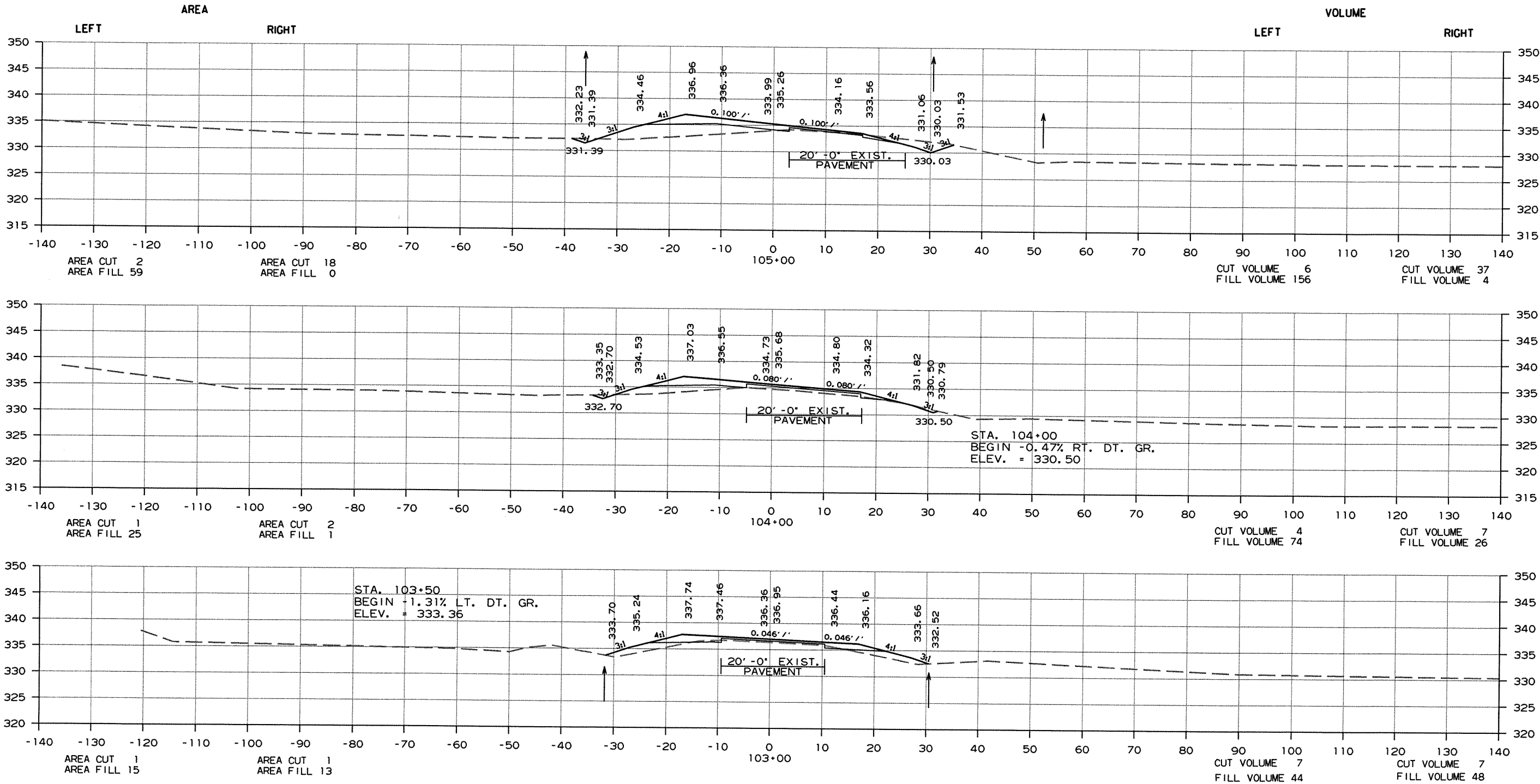
2 CROSS SECTIONS



CROSS SECTION STA. 100+00 TO STA. 102+00

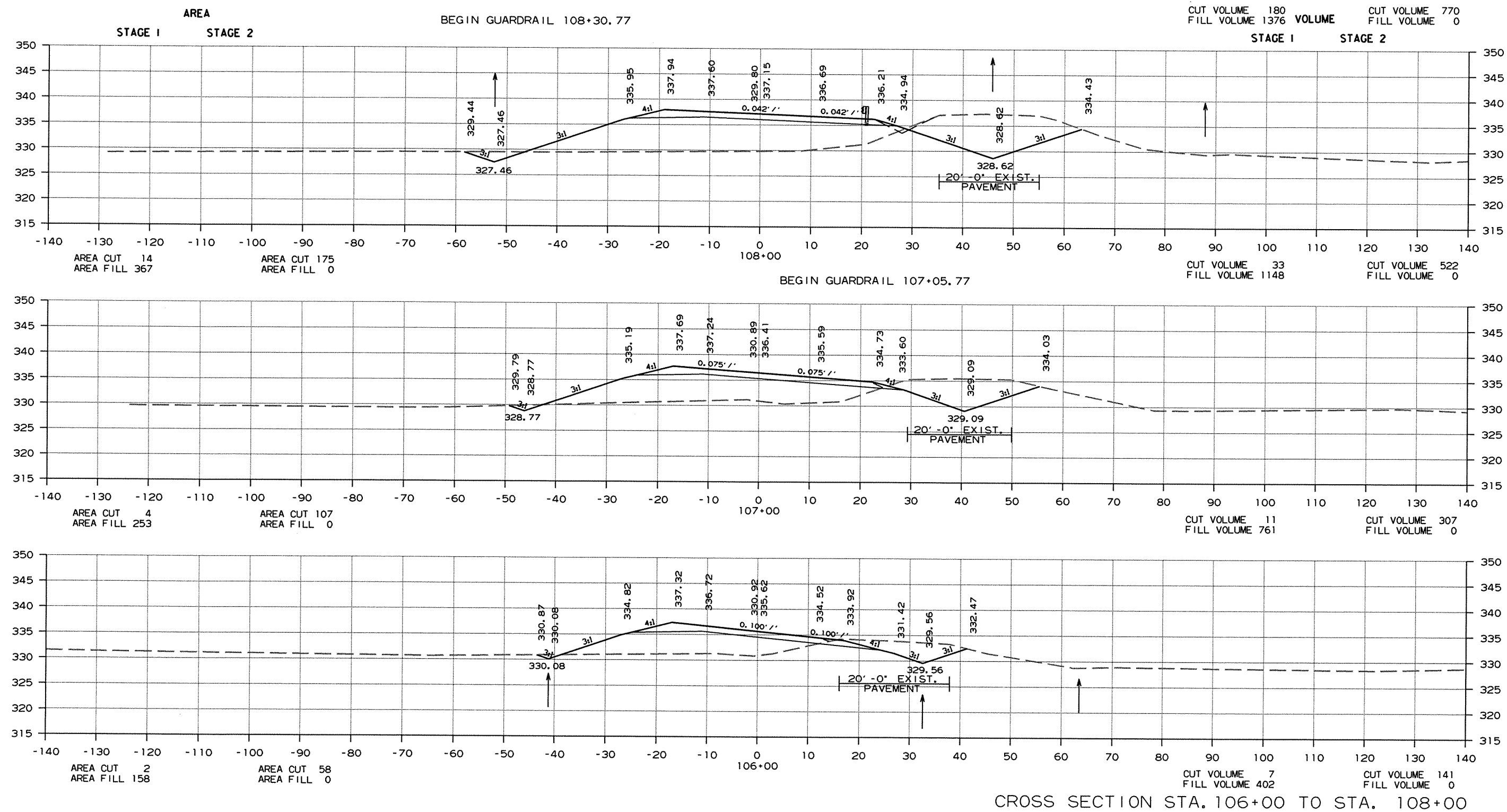
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 080382	68	76

2 CROSS SECTIONS



CROSS SECTION STA. 103+00 TO STA. 105+00

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.		080382	69	76
② CROSS SECTIONS								



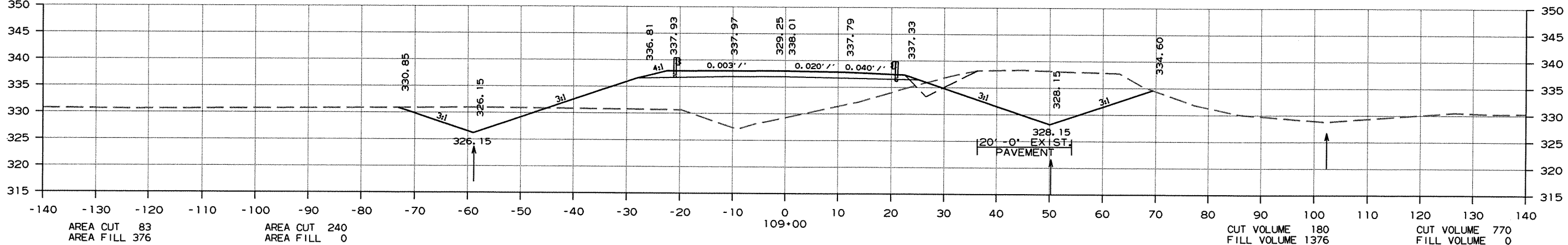
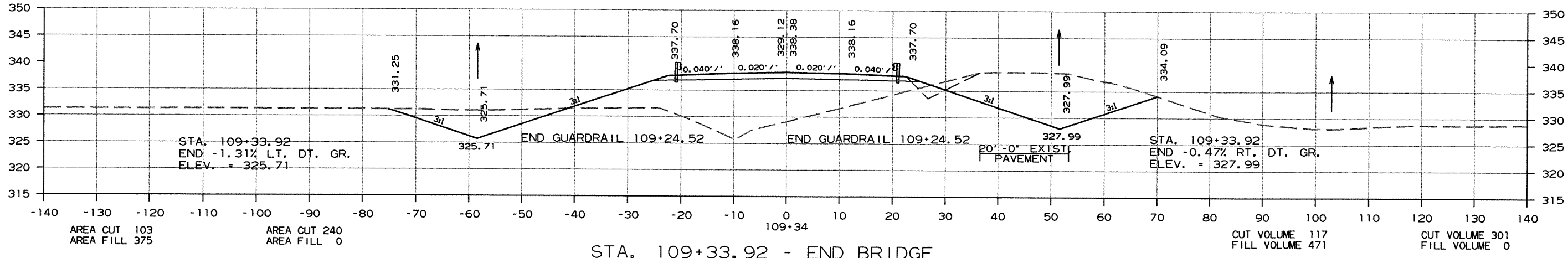
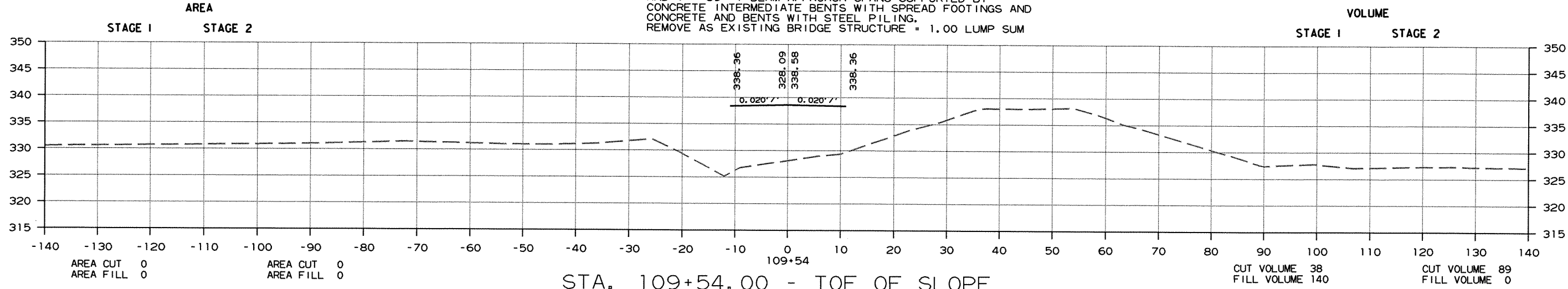
r080382.dgn 6/29/2011

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. 080382	70	76

2 CROSS SECTIONS

STA. 109+33.92 TO STA. 111+96.08 CONSTRUCT
262' -2" X 30' CLEAR ROADWAY BRIDGE NO. 07201
260' CONTINUOUS COMPOSITE W-BEAM UNIT (80', 100', 80')

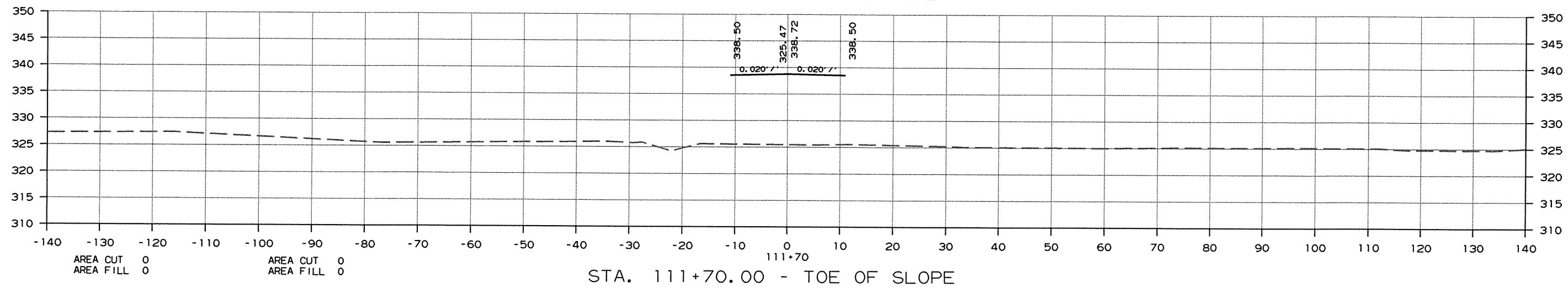
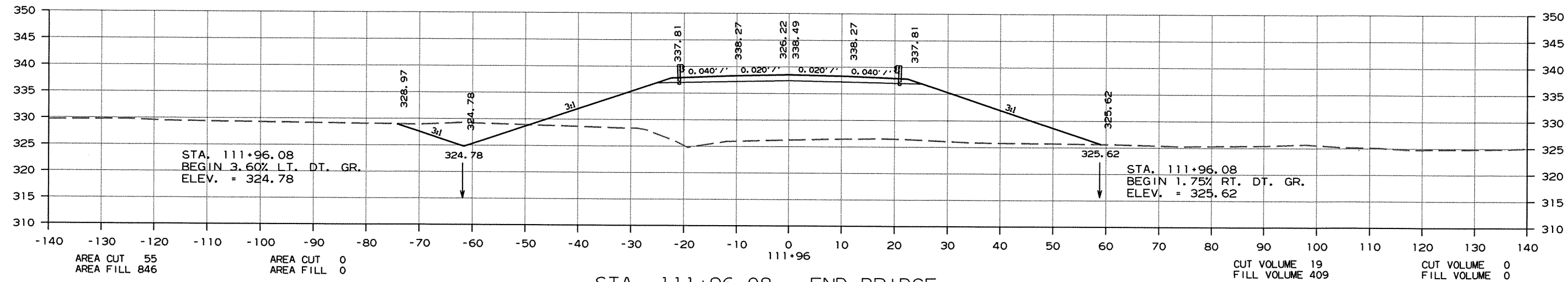
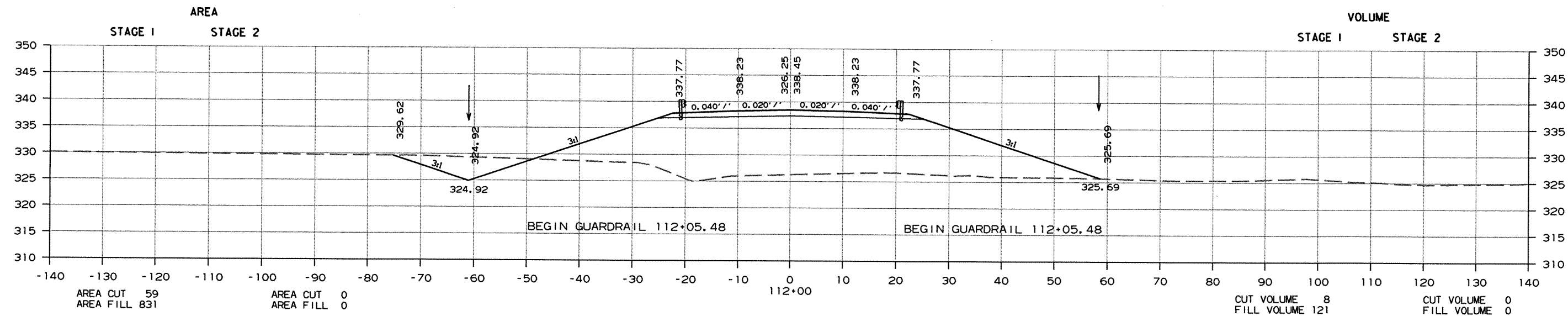
STA. 109+55.52 TO STA. 112+22.52 IN PLACE
267' -00" X 21.4' CLEAR ROADWAY BRIDGE NO. 03140
A 100' THRU TRUSS MAIN SPAN WITH 2 - 60' LOW TRUSS
AND 1 - 39' I-BEAM APPROACH SPANS SUPPORTED BY
CONCRETE INTERMEDIATE BENTS WITH SPREAD FOOTINGS AND
CONCRETE AND BENTS WITH STEEL PILING.
REMOVE AS EXISTING BRIDGE STRUCTURE = 1.00 LUMP SUM



CROSS SECTION STA. 109+00 TO STA. 109+54

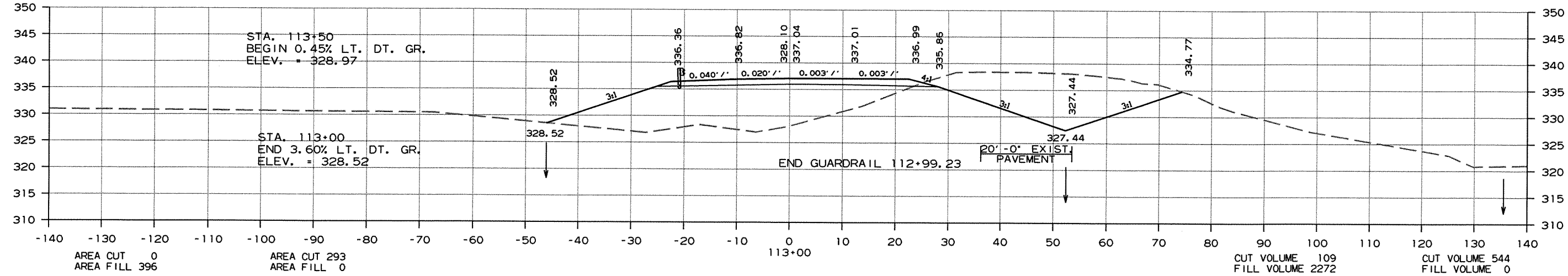
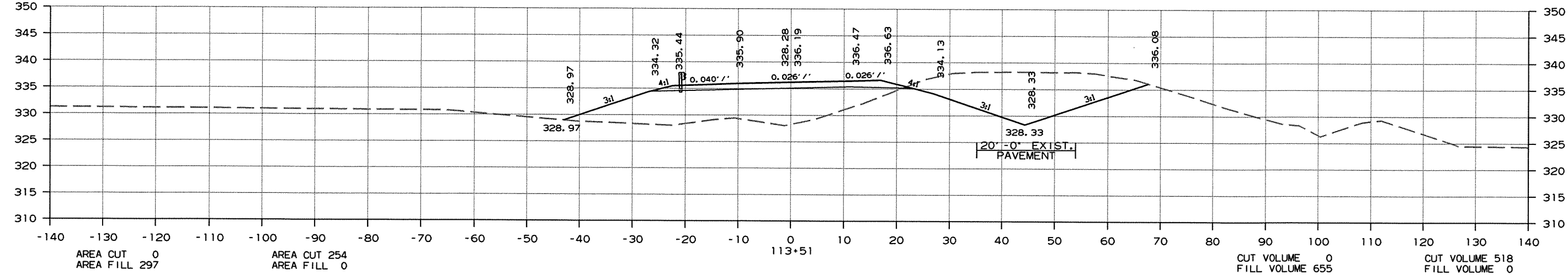
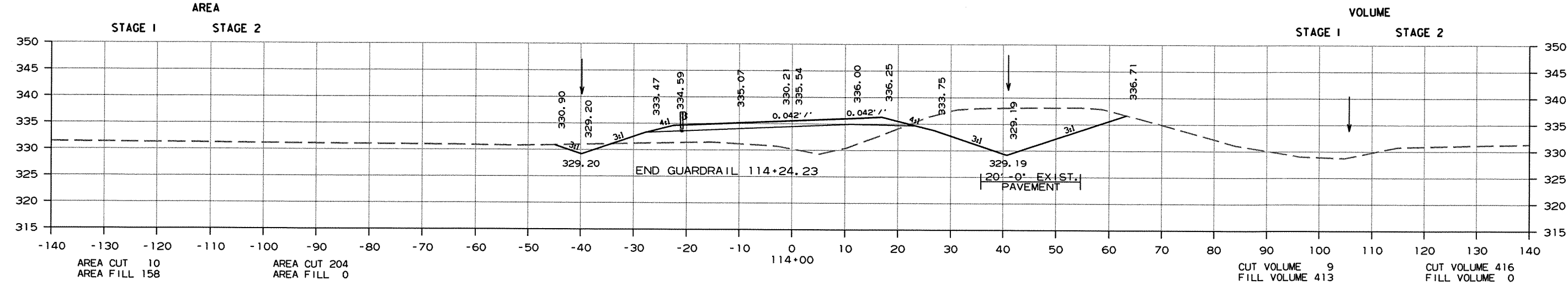
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080382	71	76

2 CROSS SECTIONS



CROSS SECTION STA. 111+70 TO STA. 112+00

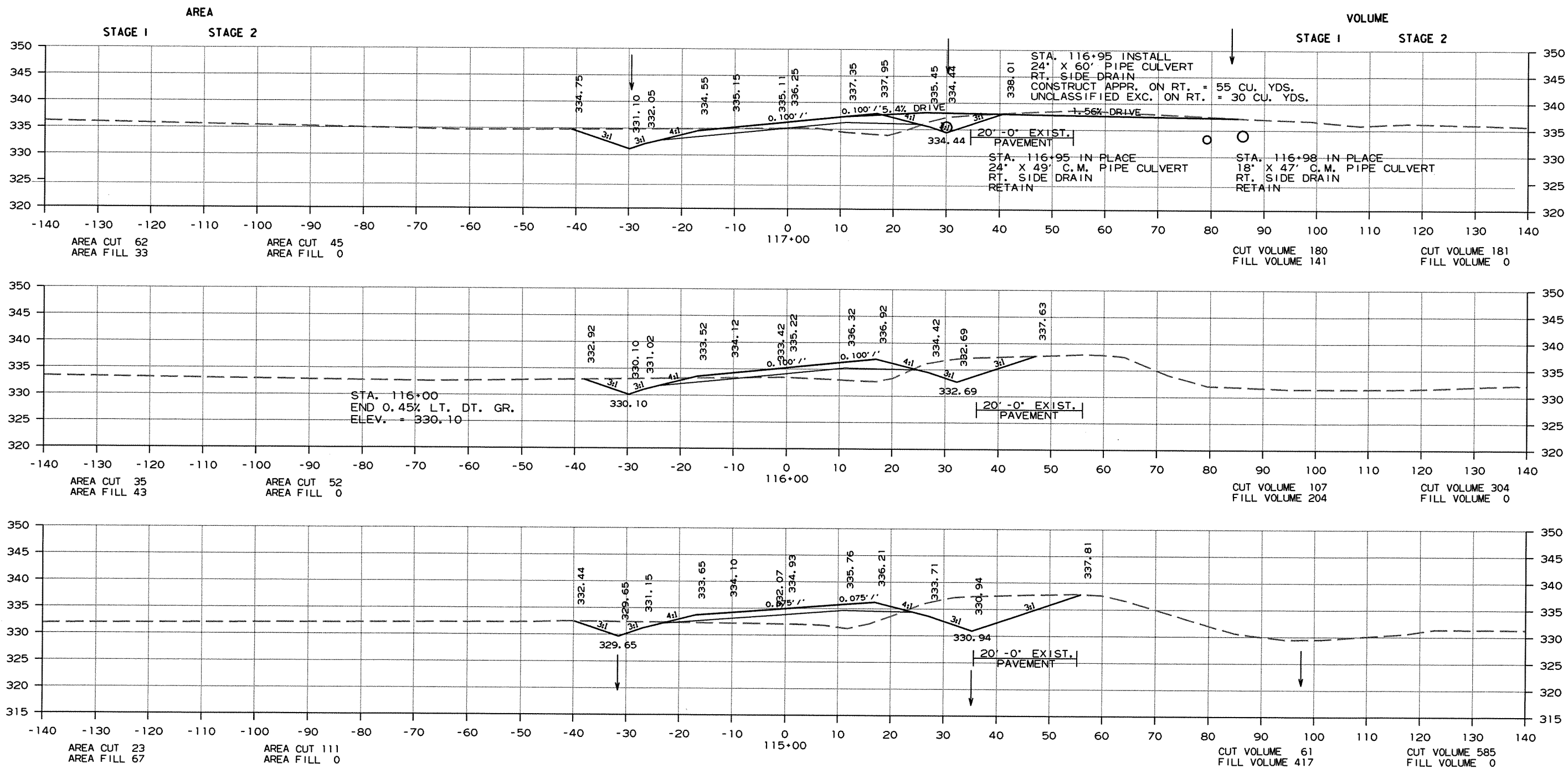
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	080382		72	76
② CROSS SECTIONS								



CROSS SECTION STA. 113+00 TO STA. 114+00

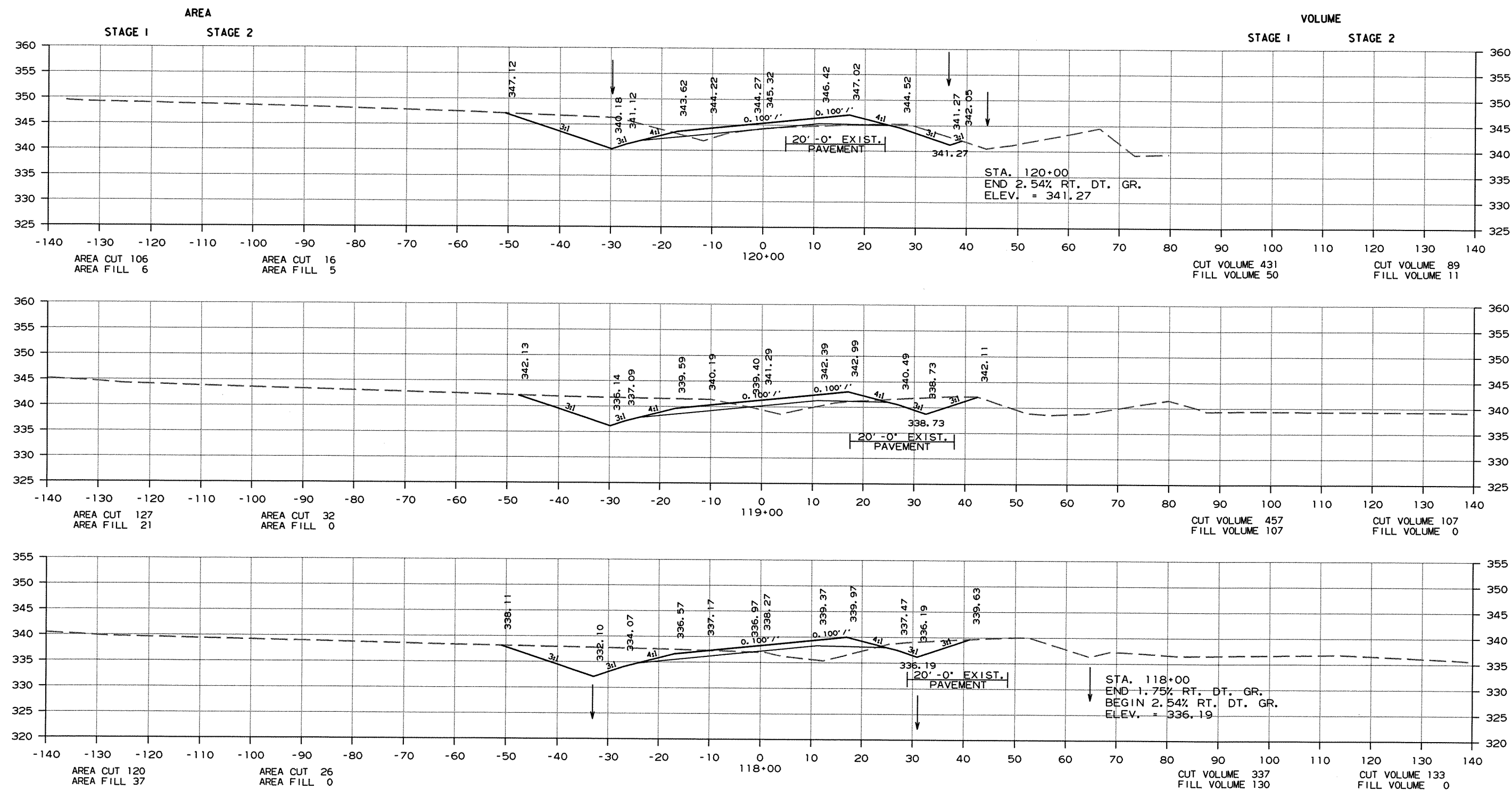
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080382	73	76

2 CROSS SECTIONS



CROSS SECTION STA. 115+00 TO STA. 117+00

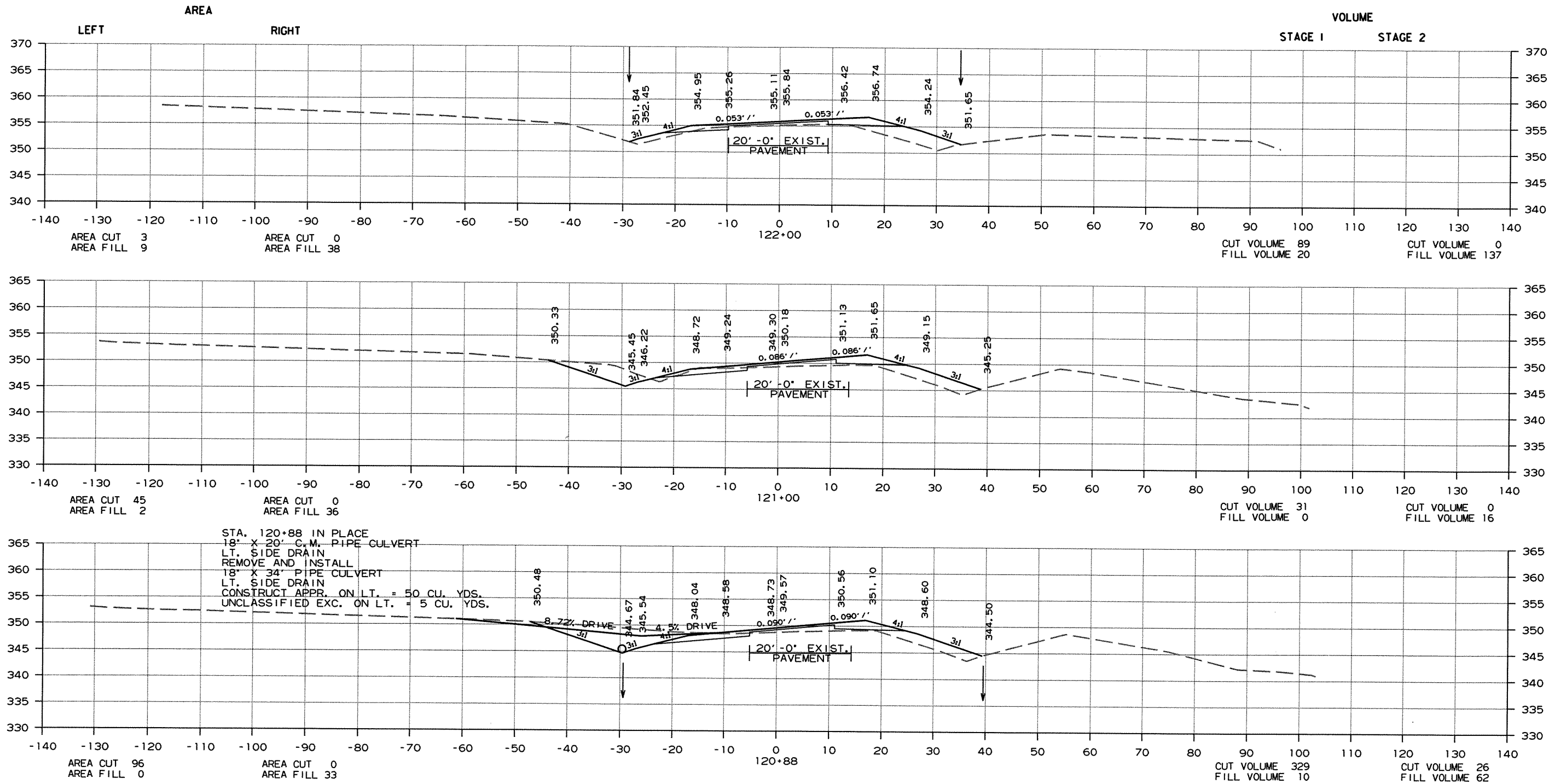
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		080382	74	76
② CROSS SECTIONS								



CROSS SECTION STA. 118+00 TO STA. 120+00

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.	080382		75	76

2 CROSS SECTIONS



CROSS SECTION STA. 120+88 TO STA. 122+00

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. 080382			76	76

2 CROSS SECTIONS

