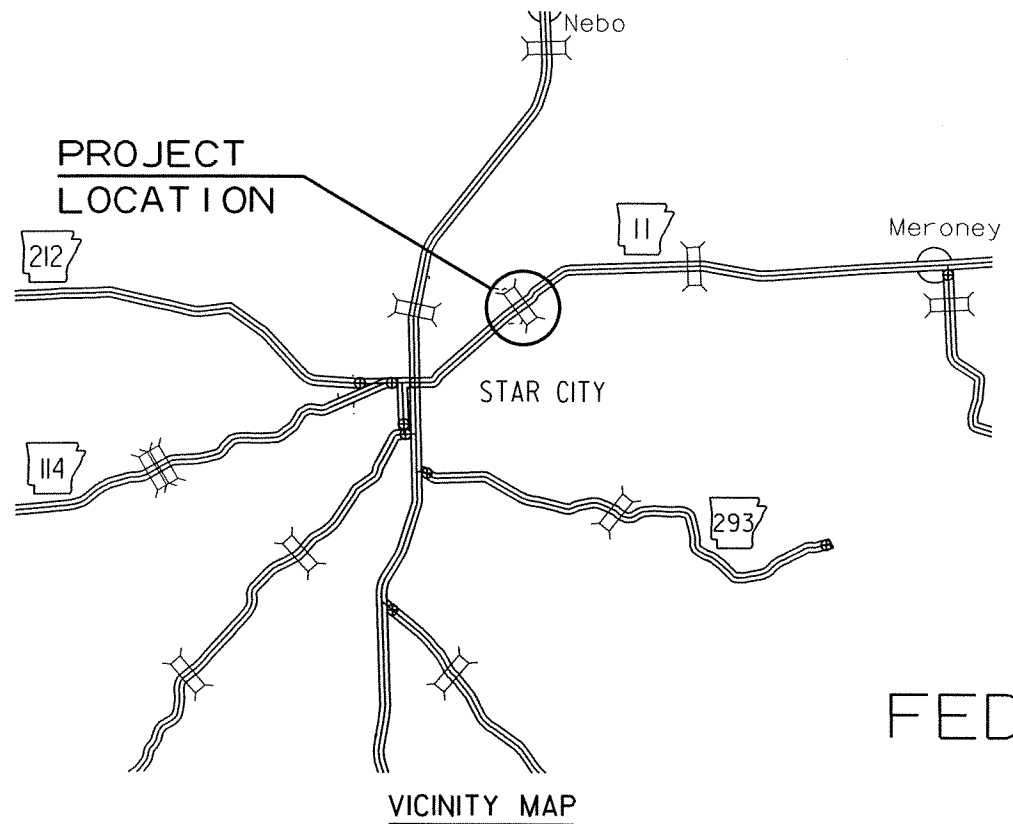


ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
CONSTRUCTION PLANS FOR STATE HIGHWAY

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO.	020506	1
						② CANE CREEK STR. & APPRS. (S)		



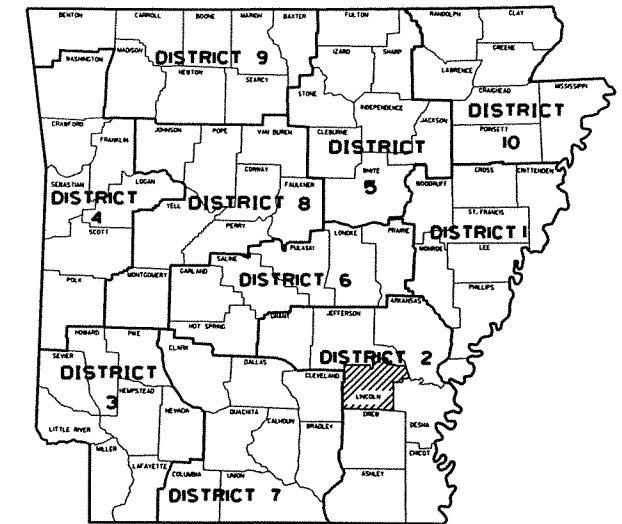
CANE CREEK STR. & APPRS. (S)

LINCOLN COUNTY

ROUTE 11 SECTION 3

JOB 020506

FED. AID PROJ. BRN-0040(28)



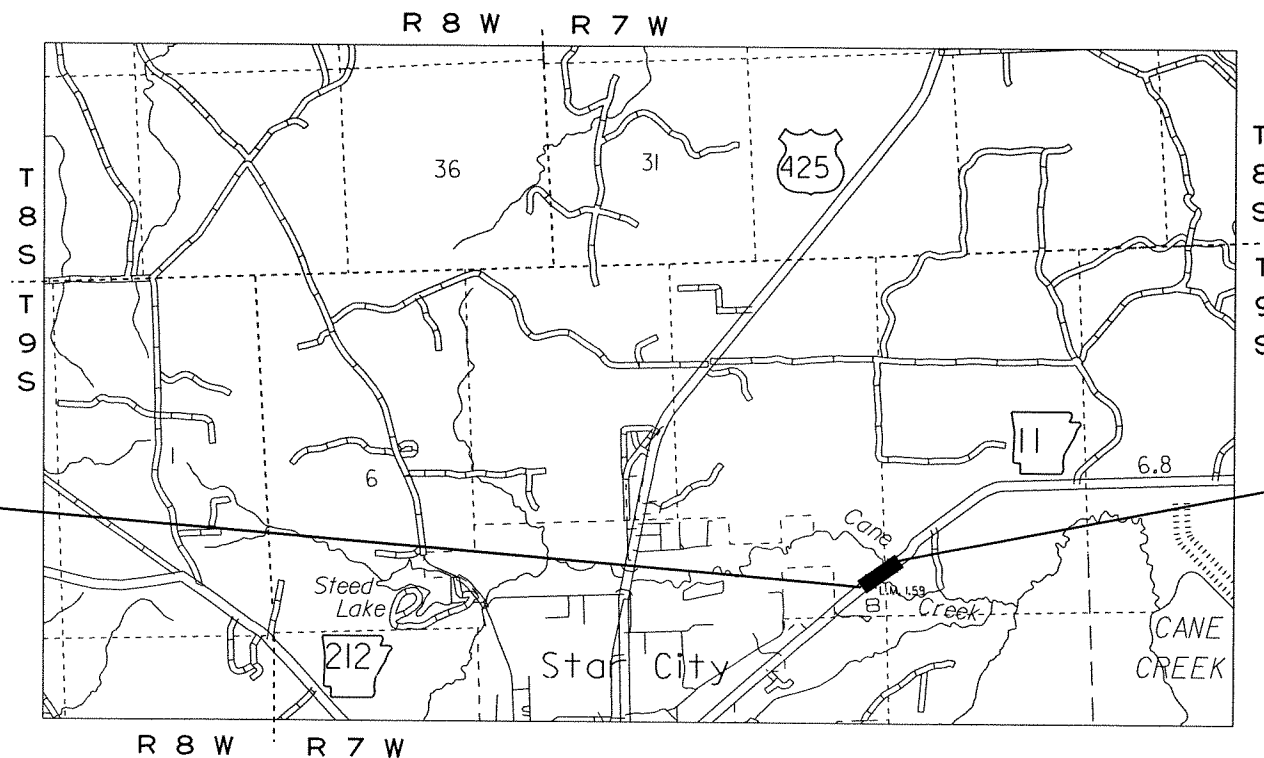
ARK. HWY. DIST. NO. 2



BAR SCALE

STRUCTURES OVER 20' -0" SPAN

STA. 104+47 CONSTRUCT
SEXT. 10' x 11' x 105' R.C. BOX CULVERT
@ 45° LT. FWD SKEW
W/ 3:1 WINGS LT. & RT.
ROADWAY SPAN = 94.52'
Q 25 = 2200 CFS D.A. = 6.4 SQ. MI.



STA. 101+00.01 - BEGIN
JOB 020506
LOG MILE 1.53

STA. 108+85.43 - END
JOB 020506
LOG MILE 1.68

BEGINNING OF PROJECT
LAT. = N 33° 57' 16"
LONG. = W 91° 49' 21"

MID-POINT OF PROJECT
LAT. = N 33° 57' 18"
LONG. = W 91° 49' 18"

END OF PROJECT
LAT. = N 33° 57' 21"
LONG. = W 91° 49' 12"

	GROSS LENGTH OF PROJECT	785.42	FEET	OR	0.149	MILES
NET	" " ROADWAY	690.90	"	"	0.131	"
NET	" " BRIDGES	94.52	"	"	0.018	"
NET	" " PROJECT	785.42	"	"	0.149	"

• DESIGN TRAFFIC DATA •

DESIGN YEAR	-----	2031
2011 ADT	-----	3000
2031 ADT	-----	3800
2031 DHV	-----	418
DIRECTIONAL DISTRIBUTION	-----	60 %
TRUCKS	-----	6 %
DESIGN SPEED	-----	55 MPH

APPROVED



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 3917
FRANK VOZEL
DEPUTY DIRECTOR AND CHIEF ENGINEER

DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 020506	2	46

2 INDEX OF SHEETS, GOVERNING SPECIFICATIONS AND GENERAL NOTES



INDEX OF SHEETS

GOVERNING SPECIFICATIONS

SHEET NO.	TITLE	DRWG. NO.	DATE
1	TITLE SHEET		
2	INDEX OF SHEETS, GOVERNING SPECIFICATIONS, AND GENERAL NOTES		
3-4	TYPICAL SECTIONS OF IMPROVEMENT		
5	SPECIAL DETAILS		
6-7	TEMPORARY EROSION CONTROL DETAILS		
8-11	MAINTENANCE OF TRAFFIC DETAILS		
12-15	QUANTITY SHEETS		
16	SUMMARY OF QUANTITIES AND REVISIONS		
17-19	SURVEY CONTROL DETAILS		
20-21	PLAN AND PROFILE SHEETS		
22	CONCRETE DITCH PAVING	CDP-1	11-17-10
23	MAILBOX DETAILS	MB-1	11-18-04
24	PRECAST CONCRETE BOX CULVERTS	PBC-1	10-15-09
25	CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING	PCC-1	5-18-00
26	METAL PIPE CULVERT FILL HEIGHTS & BEDDING	PCM-1	3-30-00
27	PAVEMENT MARKING DETAILS	PM-1	11-17-10
28	DETAILS OF PIPE UNDERDRAIN	PU-1	4-10-03
29	REINFORCED CONCRETE BOX CULVERT DETAILS	RCB-1	5-25-06
30	EXCAVATION PAY LIMITS, BACKFILL, & SOLID SODDING FOR BOX CULVERTS	RCB-2	11-20-03
31	TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC	SE-2	10-18-96
32	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	TC-1	11-17-10
33	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	TC-2	3-11-10
34	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	TC-3	10-15-09
35	TEMPORARY EROSION CONTROL DEVICES	TEC-1	11-18-98
36	TEMPORARY EROSION CONTROL DEVICES	TEC-2	6-02-94
37	TEMPORARY EROSION CONTROL DEVICES	TEC-3	11-03-94
38	WIRE FENCE TYPE C AND D	WF-4	8-22-02
39	DETAILS OF STANDARD BARREL SECTIONS FOR REINFORCED CONCRETE BOX CULVERTS	R-345X-02	7-22-64
40	DETAILS OF STANDARD WINGS FOR REINFORCED CONCRETE BOX CULVERTS	W-X45	6-15-64
41	DETAILS OF STANDARD WINGS FOR REINFORCED CONCRETE BOX CULVERTS	W-X453-2	6-06-64
42-46	CROSS SECTIONS		

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

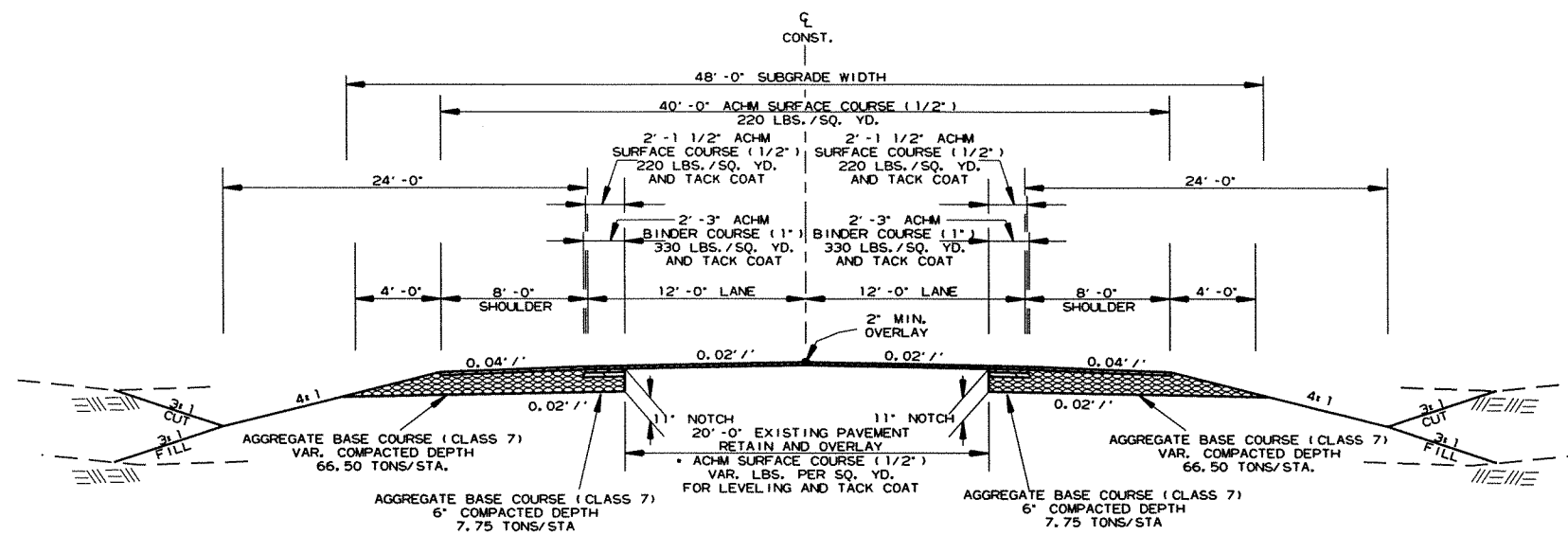
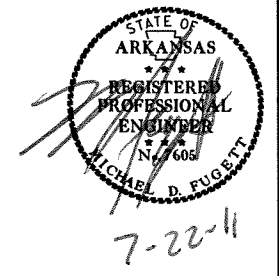
NUMBER	TITLE
ERRATA	ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS
FHWA-1273	FHWA-1273 REVISIONS
FHWA-1273	REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - NOTICE TO CONTRACTORS
FHWA-1273	SUPPLEMENT - SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES (23 U.S.C. 140)
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - GOALS AND TIMETABLES
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - FEDERAL STANDARDS
FHWA-1273	SUPPLEMENT - POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS
FHWA-1273	SUPPLEMENT - WAGE RATE DETERMINATION
100-2	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
719-2	THERMOPLASTIC PAVEMENT MARKING MATERIAL
JOB 020506	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB 020506	BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB 020506	CONSTRUCTION IN SPECIAL FLOOD HAZARD AREAS
JOB 020506	GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB 020506	INTERNET BIDDING
JOB 020506	NESTING SITES OF MIGRATORY BIRDS
JOB 020506	SIX BARREL REINFORCED CONCRETE BOX CULVERT
JOB 020506	SOIL STABILIZATION
JOB 020506	STORM WATER POLLUTION PREVENTION PLAN
JOB 020506	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB 020506	UTILITY ADJUSTMENTS
JOB 020506	WARM MIX ASPHALT

GENERAL NOTES

- GRADE LINE DENOTES FINISHED GRADE WHERE SHOWN ON PLANS.
- ALL PIPE LINES, POWER, TELEPHONE AND TELEGRAPH LINES TO BE MOVED OR LOWERED BY THE RESPECTIVE OWNERS AS PER AGREEMENT WITH SUCH OWNERS.
- ANY EQUIPMENT OR APPURTENANCE THAT INTERFERES WITH THE PROPOSED CONSTRUCTION AND WHICH MAY BE THE PROPERTY OF UTILITY SERVICE ORGANIZATIONS SHALL BE MOVED BY THE OWNERS UNLESS OTHERWISE PROVIDED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING U. S. MAILBOXES WITHIN THE PROJECT LIMITS IN SUCH A MANNER THAT THE PUBLIC MAY RECEIVE CONTINUED MAIL SERVICE. PAYMENT WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS BID ITEMS.
- ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE STANDARD SPECIFICATIONS.
- ALL TREES THAT DO NOT DIRECTLY INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE SPARED AS DIRECTED BY THE ENGINEER. CARE AND DISCRETION SHALL BE USED TO INSURE THAT ALL TREES NOT TO BE REMOVED SHALL BE HARMED AS LITTLE AS POSSIBLE DURING THE CONSTRUCTION OPERATIONS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A FENCE TO CONTROL LIVESTOCK IN AREAS WHERE PASTURES ARE SEVERED. WIRE FENCE MAY BE CONSTRUCTED INITIALLY, OR IN LIEU THEREOF, THE CONTRACTOR AT HIS OWN EXPENSE, MAY ELECT TO PROVIDE TEMPORARY FENCING SUITABLE TO CONTAIN LIVESTOCK.
- THIS PROJECT IS COVERED UNDER A NATIONWIDE 23 SECTION 404 PERMIT. REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS, EDITION OF 2003, FOR PERMIT REQUIREMENTS.
- 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.
- ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENTS REMOVED SHALL BE PAID FOR UNDER THE ITEM NO. 210 UNCLASSIFIED EXCAVATION

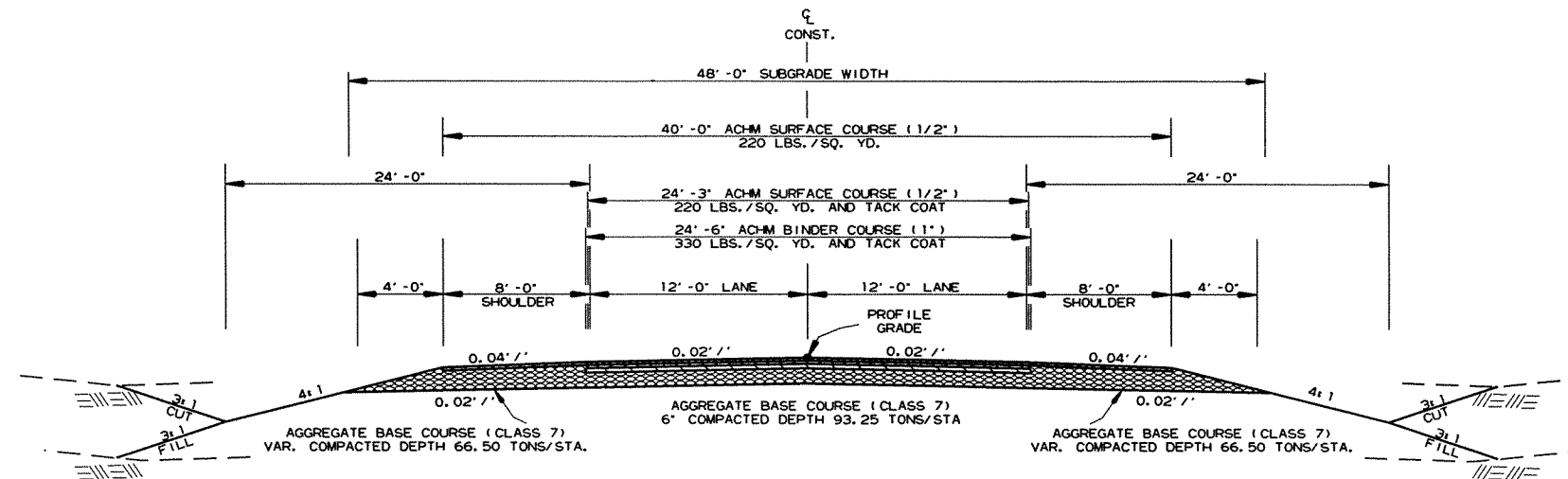
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 020506							3	46

2 TYPICAL SECTIONS OF IMPROVEMENT



• TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER

TYPICAL SECTION OF IMPROVEMENT
TANGENT SECTION
STA. 100+00.00 - STA. 103+28.00
STA. 105+00.00 - STA. 110+85.44



TYPICAL SECTION OF IMPROVEMENT
TANGENT SECTION
STA. 103+28.00 - STA. 105+00.00

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

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

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

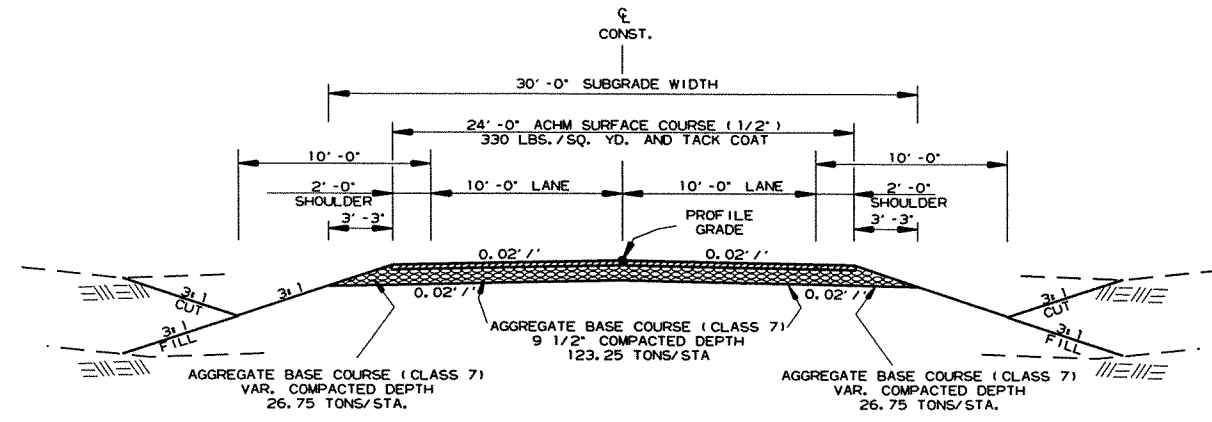
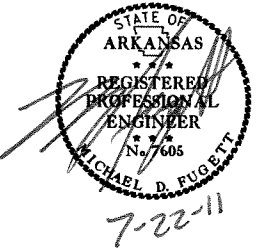
THE FINAL 2" OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT LANE LINES.

WITH THE APPROVAL OF THE ENGINEER, THE CONTRACTOR WILL BE ALLOWED TO SUBSTITUTE, AT NO ADDITIONAL COST TO THE DEPARTMENT, THE FIRST LIFT OF AC-11.2 IN LIEU OF AGGREGATE BASE COURSE ON THE SHOULDERS.

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. 020506							4	46

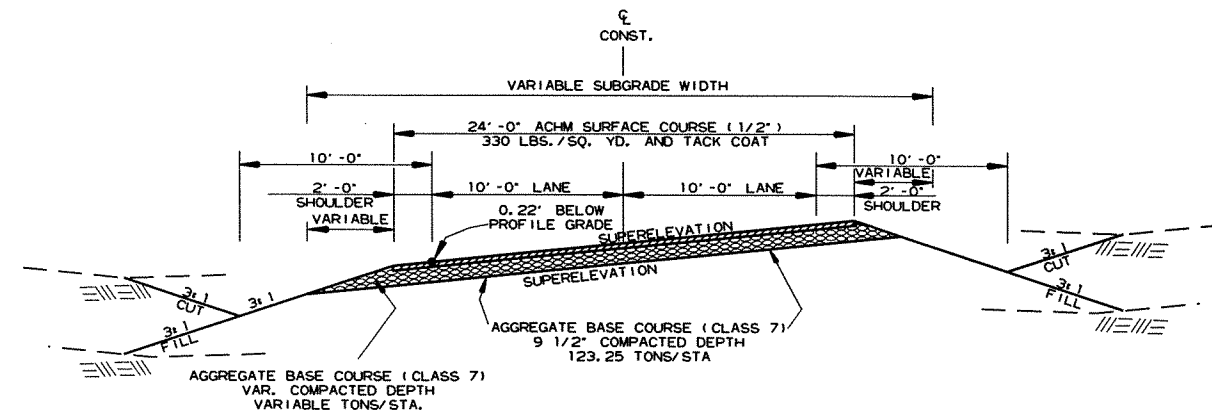
2 TYPICAL SECTIONS OF IMPROVEMENT



DETOUR
TANGENT SECTION
TYPICAL SECTION OF IMPROVEMENT

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

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

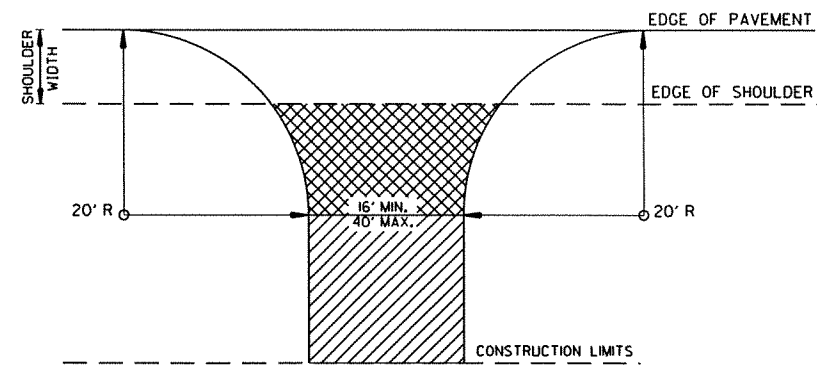


DETOUR
SUPERELEVATION SECTION
TYPICAL SECTION OF IMPROVEMENT

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. 020506							5	46

2 SPECIAL DETAILS

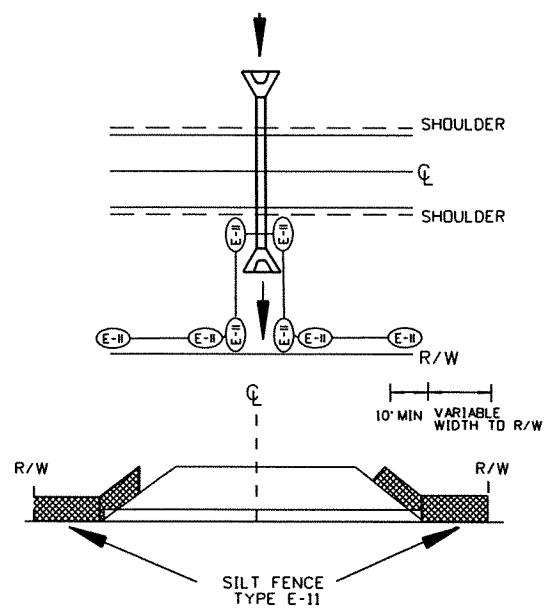


A.C.H.M. SURFACE COURSE (1/2") (220 LBS./SQ. YD.) & AGGREGATE BASE COURSE (CLASS 7) (7" COMPACTED DEPTH)

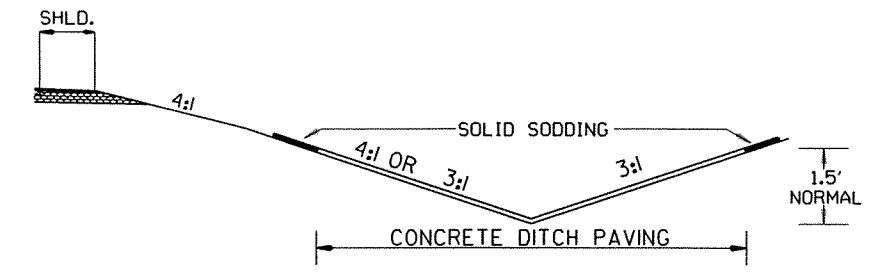
AGGREGATE BASE COURSE (CLASS 7) 7" COMP. DEPTH OR CONFORM TO EXISTING DRIVEWAY

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

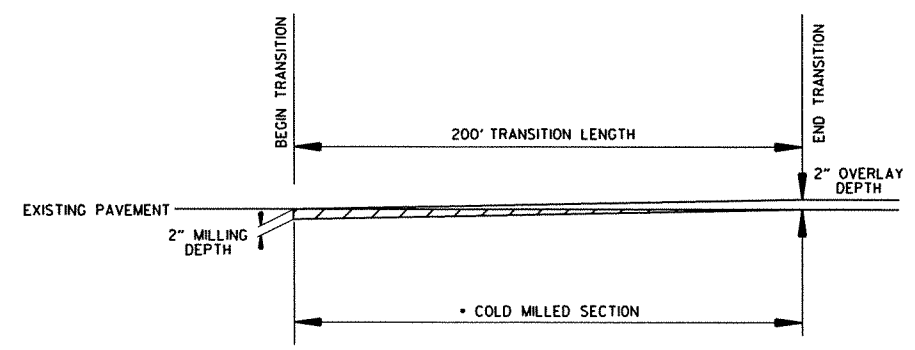
DETAIL FOR DRIVEWAY TURNOUTS



DETAIL OF SILT FENCE AT CROSS DRAINS



DITCH LINING DETAIL



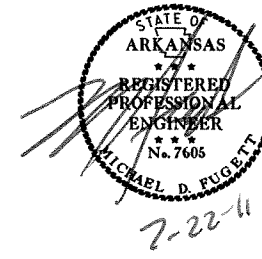
DETAIL SHOWING TAPER TO EXISTING PAVEMENT

• TO BE USED AS DIRECTED BY THE ENGINEER

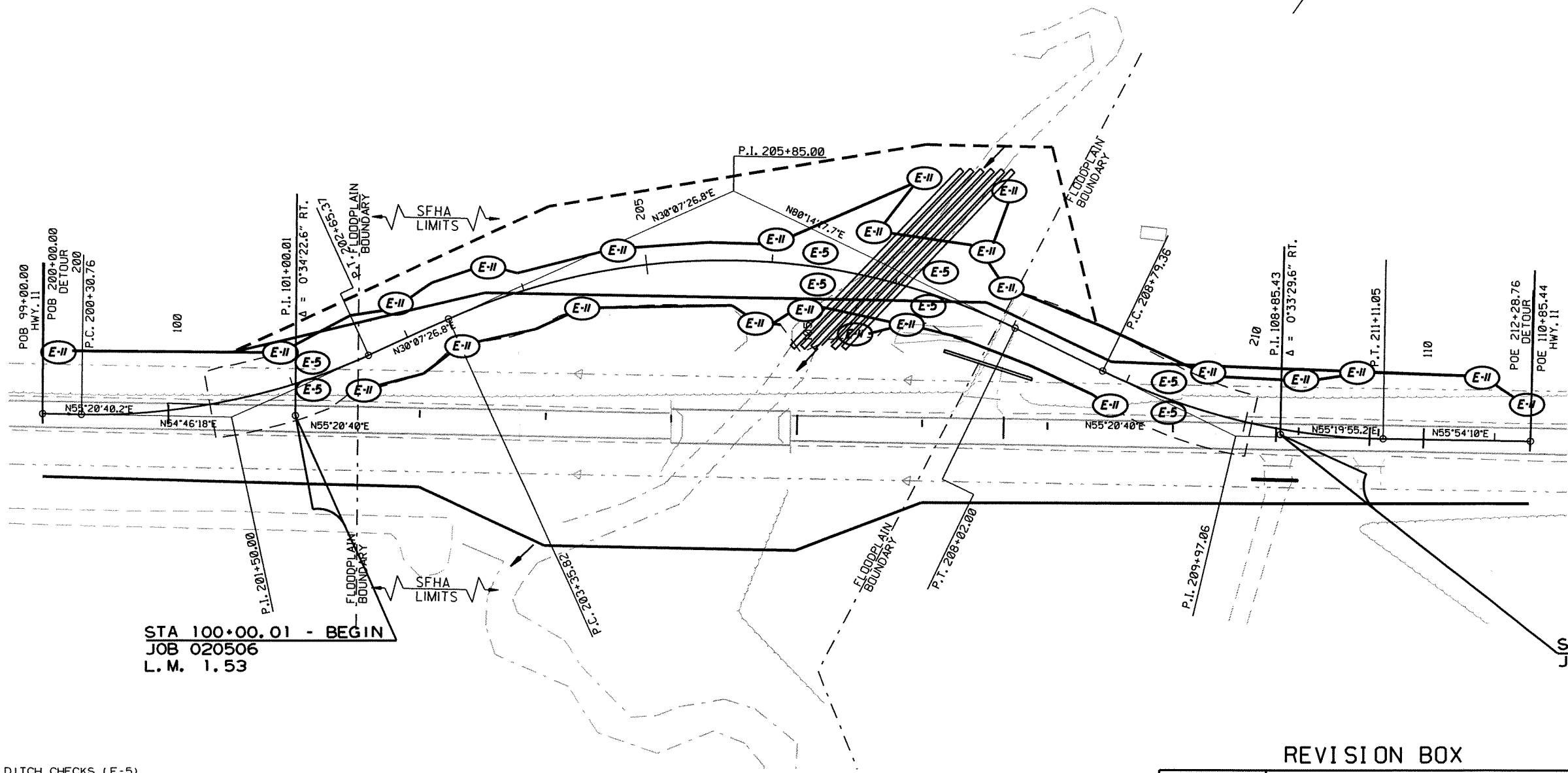
SPECIAL DETAILS

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.	020506		6	46

2 TEMPORARY EROSION CONTROL DETAILS



CLEARING AND GRUBBING
 STA. 99+00.00 - STA. 110+84.44 12 STA.



STA 100+00.01 - BEGIN
 JOB 020506
 L.M. 1.53

STA 108+85.43 - END
 JOB 020506

SAND BAG DITCH CHECKS (E-5)

STA. 101+00	LT. & RT.	2 INSTALLATIONS	40 BAGS
STA. 105+00	LT. & RT.	2 INSTALLATIONS	40 BAGS
STA. 107+00	LT. & RT.	2 INSTALLATIONS	40 BAGS
			120 BAGS

SILT FENCE (E-11)

STA. 99+00 - STA. 110+85	LT.	2450 LIN. FT.
STA. 101+60 - STA. 106+50	RT.	830 LIN. FT.
		3280 LIN. FT.

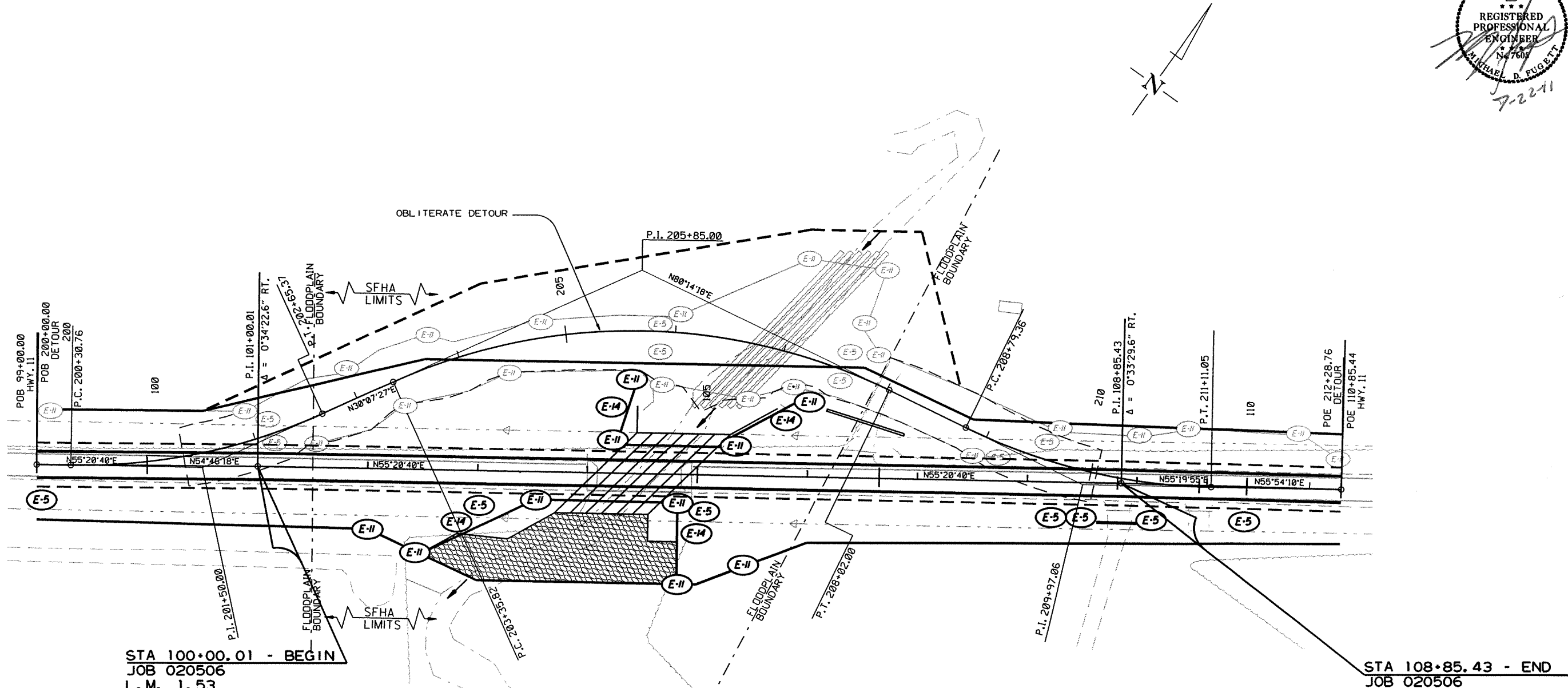
REVISION BOX

DATE	REVISION

TEMPORARY EROSION CONTROL DETAILS
 STAGE I

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		7	46

2 TEMPORARY EROSION CONTROL DETAILS



STA 100+00.01 - BEGIN
JOB 020506
L.M. 1.53

STA 108+85.43 - END
JOB 020506

SAND BAG DITCH CHECKS (E-5)

STA.	LT. & RT.	INSTALLATIONS	REQUIREMENTS
STA. 101+00	LT. & RT.	2 INSTALLATIONS	RETAIN
STA. 105+00	LT. & RT.	2 INSTALLATIONS	RETAIN
STA. 107+00	LT. & RT.	2 INSTALLATIONS	RETAIN
STA. 99+00	RT.	1 INSTALLATION	20 BAGS
STA. 103+00	RT.	1 INSTALLATION	20 BAGS
STA. 105+00	RT.	1 INSTALLATION	20 BAGS
STA. 108+00	RT.	1 INSTALLATION	20 BAGS
STA. 109+00	RT.	1 INSTALLATION	20 BAGS
STA. 110+00	RT.	1 INSTALLATION	20 BAGS

120 BAGS

SILT FENCE (E-11)

STA.	LT. & RT.	REQUIREMENTS
STA. 99+00 - STA. 110+85	LT.	RETAIN
STA. 101+60 - STA. 106+50	RT.	RETAIN
STA. 102+00 - STA. 105+50	RT.	445 LIN. FT.
STA. 104+25 - STA. 106+00	LT.	260 LIN. FT.

705 LIN. FT.

SEDIMENT BASIN (E-14)

STA.	LT. & RT.	Basin Dimensions	Basin Volume	Obliteration Volume	Sediment Removal & Disposal
STA. 102+80	RT.	12.5' x 25' x 3.5'	41 CU. YD.	41 CU. YD.	20 CU. YD.
STA. 104+20	LT.	12.5' x 25' x 3.5'	41 CU. YD.	41 CU. YD.	20 CU. YD.
STA. 105+00	RT.	12.5' x 25' x 3.5'	41 CU. YD.	41 CU. YD.	20 CU. YD.
STA. 105+80	LT.	12.5' x 25' x 3.5'	41 CU. YD.	41 CU. YD.	20 CU. YD.
			164 CU. YD.	164 CU. YD.	80 CU. YD.

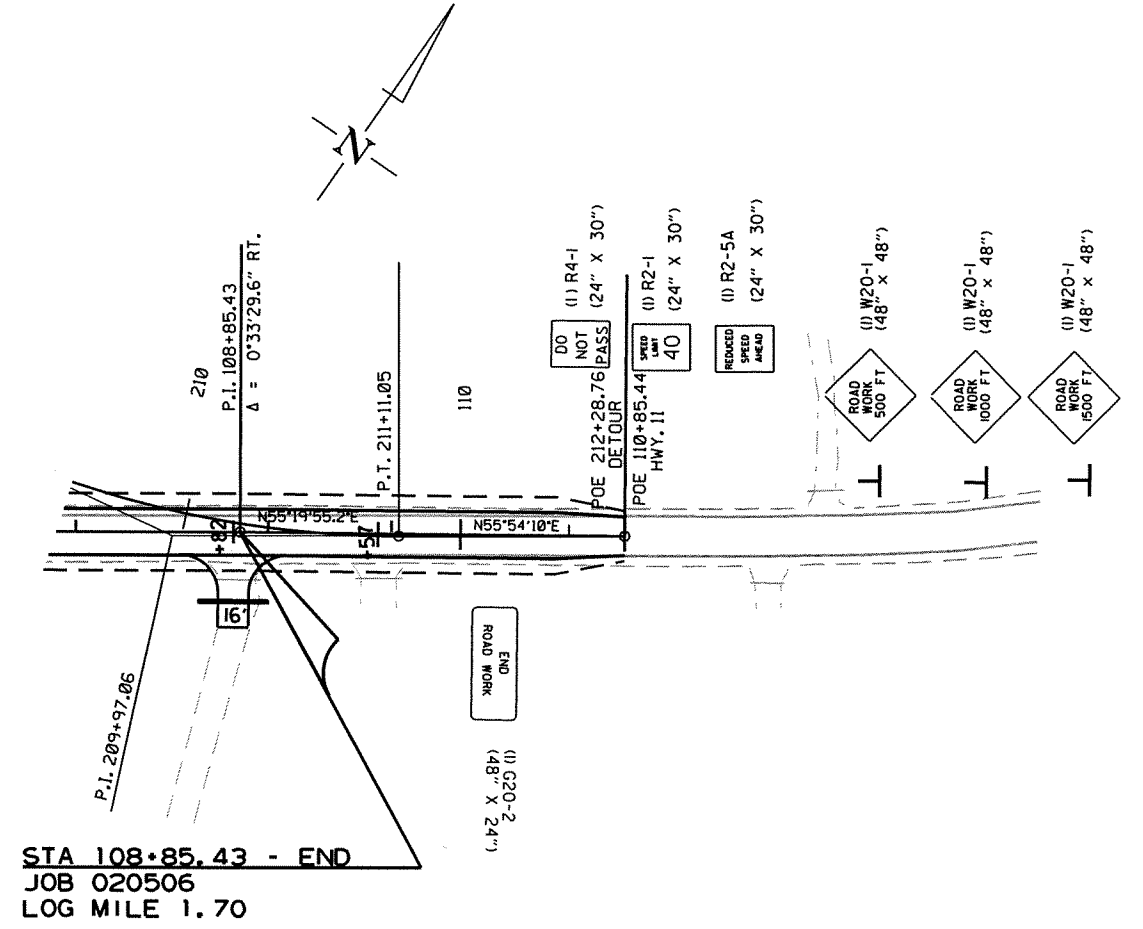
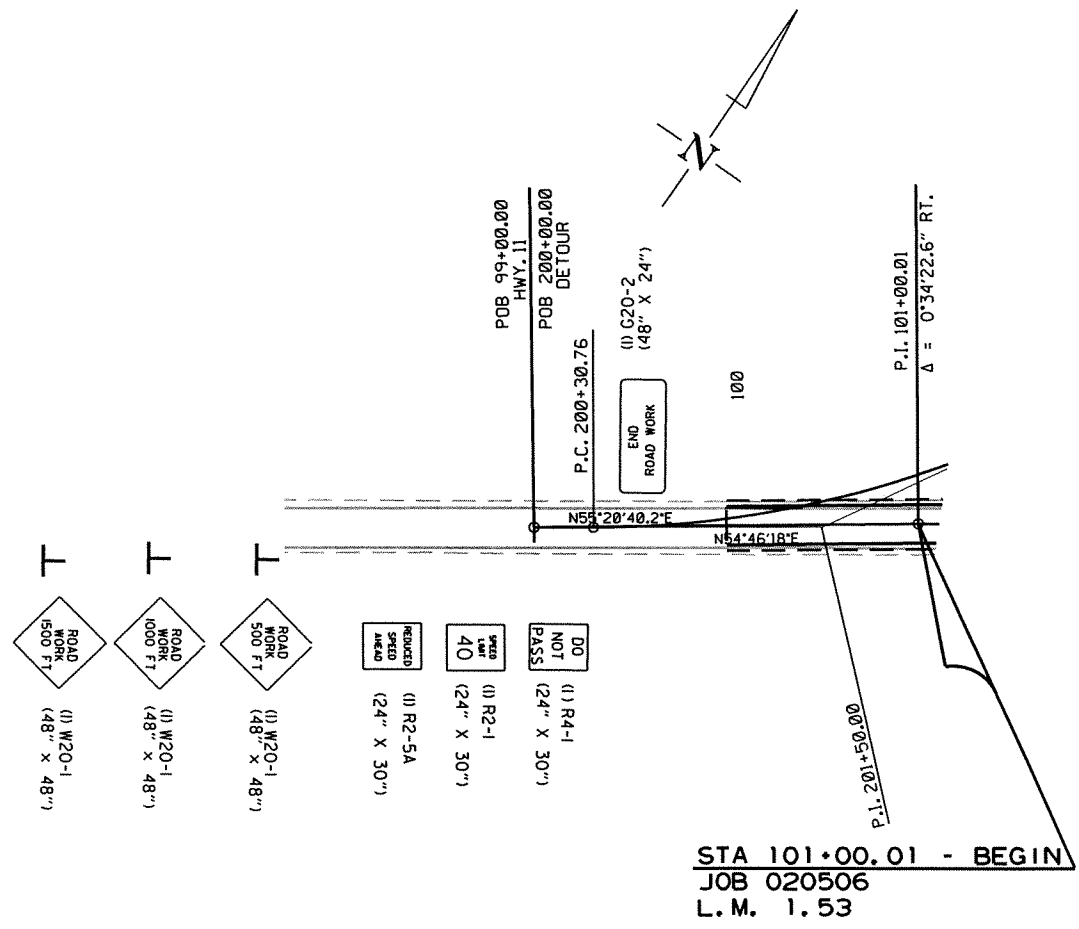
REVISION BOX

DATE	REVISION

r020506.dgn 1-27-2011

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.		020506	8	46

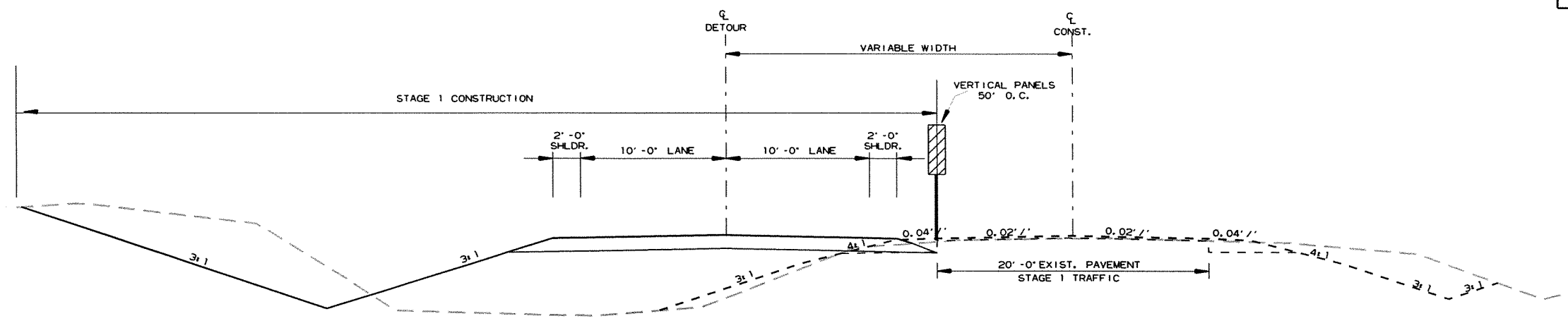
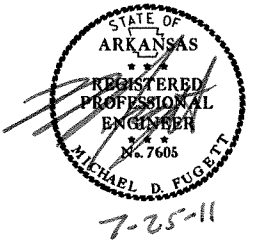
② MAINTENANCE OF TRAFFIC DETAILS



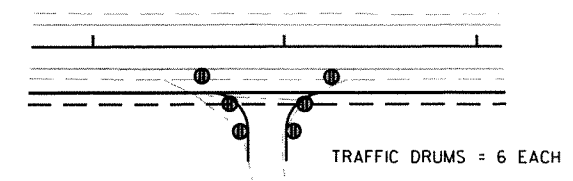
MAINTENANCE OF TRAFFIC DETAILS
ADVANCE WARNING SIGNS

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.	020506		9	46

② MAINTENANCE OF TRAFFIC DETAILS



TYPICAL PLACEMENT OF VERTICAL PANELS



TYPICAL PLACEMENT OF TRAFFIC DRUMS AT DRIVEWAY DETAIL

SEQUENCING:

STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY. CONSTRUCT R.C. BOX CULVERT AND PIPE CULVERT, NOTCH AND WIDEN AND CONSTRUCT EMBANKMENT/PAVEMENT FOR NEW LOCATION ON RT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 50' O.C. SPACING. PLACE CONSTRUCTION PAVEMENT MARKINGS AND RAISED PAVEMENT MARKERS (TYPE III).

STAGE 2: SHIFT TRAFFIC ONTO NEW ROADWAY. NOTCH AND WIDEN ON LT. UTILIZE VERTICAL PANELS AT THE NOTCH AT 50' O.C. SPACING ON LT. AND TRAFFIC DRUMS AT 100' O.C. SPACING AT LANE EDGE ON RT. PERFORM LEVELING OPERATIONS.

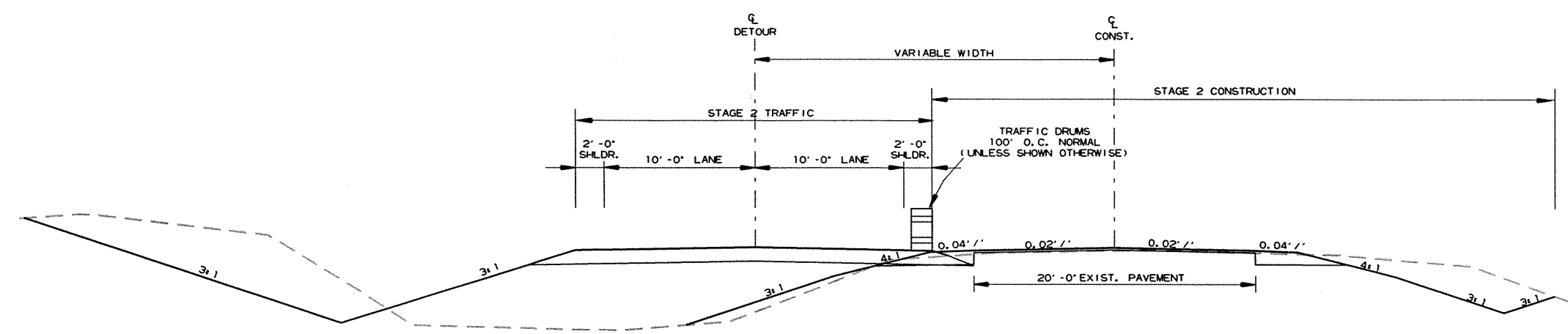
STAGE 3: INSTALL FINAL SURFACE COURSE AND FINAL STRIPING.

CONSTRUCTION PAVEMENT MARKINGS:

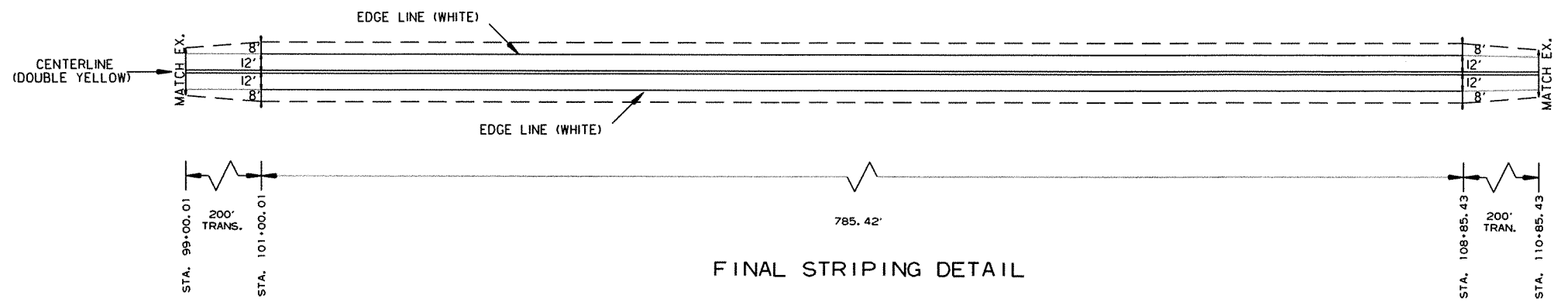
DETOUR:
AS DIRECTED BY THE ENGINEER:
RT. AND LT. EDGE LINES = 2161 LIN. FT.
DBL. CENTERLINE = 2161 LIN. FT.
RAISED PAVEMENT MARKERS:
TYPE II (YEL./YEL.) 40' O.C. ON CENTERLINE = 27 EACH
MAIN LANES:
RT. AND LT. EDGE LINES = 2371 LIN. FT.
DBL. CENTERLINE = 2371 LIN. FT.
RAISED PAVEMENT MARKERS:
TYPE II (YEL./YEL.) 40' O.C. ON CENTERLINE = 30 EACH
REMOVAL OF CONSTRUCTION PAVEMENT MARKERS = 2371 LIN. FT.

FINAL STRIPING:

THERMOPLASTIC PAVEMENT MARKINGS:
RT. AND LT. EDGE LINES = 2371 LIN. FT. WHITE
DBL. CENTERLINE = 2371 LIN. FT. YELLOW



TYPICAL PLACEMENT OF TRAFFIC DRUMS

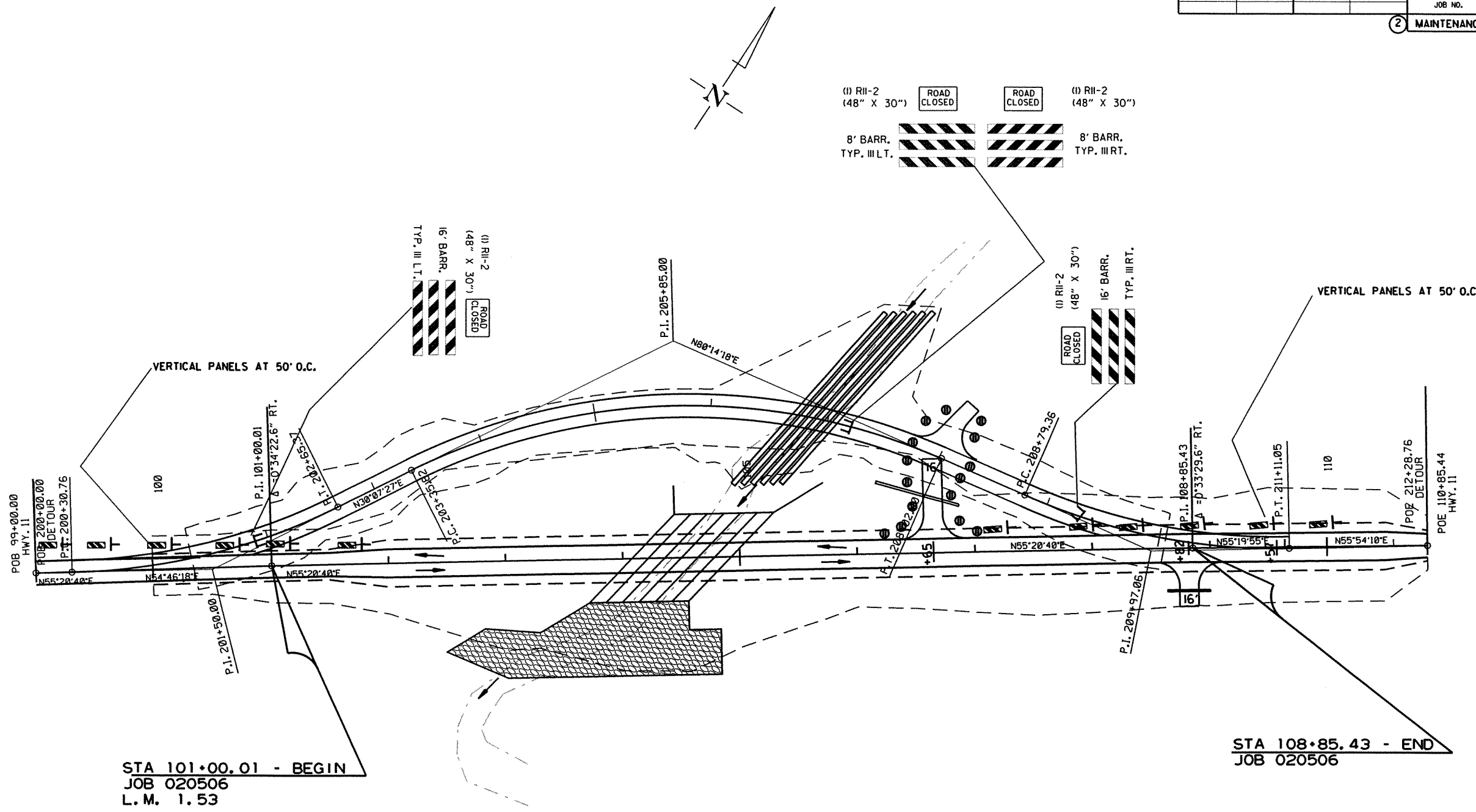


FINAL STRIPING DETAIL

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.		020506	10	46

② MAINTENANCE OF TRAFFIC DETAILS



STA 101+00.01 - BEGIN
JOB 020506
L.M. 1.53

STA 108+85.43 - END
JOB 020506

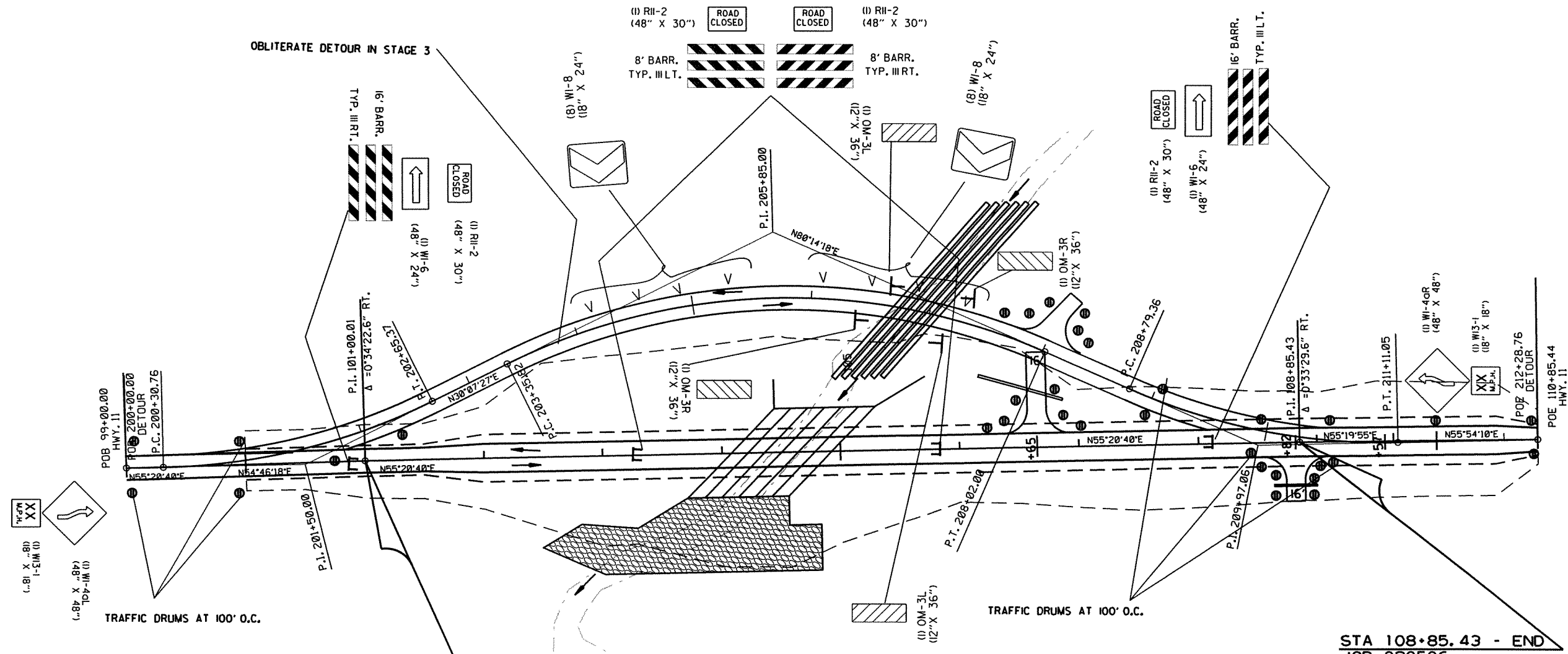
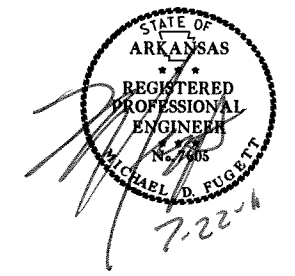
SEQUENCING:

- STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY. CONSTRUCT TEMPORARY CULVERT AND PIPE CULVERT. CONSTRUCT DETOUR. UTILIZE VERTICAL PANELS AT THE NOTCH AT 50' O.C. SPACING. PLACE CONSTRUCTION PAVEMENT MARKINGS AND RAISED PAVEMENT MARKERS (TYPE II) ON DETOUR.
- STAGE 2: SHIFT TRAFFIC ONTO DETOUR. REMOVE EXISTING BRIDGE STRUCTURE AND CONSTRUCT R.C. BOX CULVERT. UTILIZE TRAFFIC DRUMS AT 100' O.C. SPACING AT LANE EDGE ON LT. PERFORM LEVELING OPERATIONS, NOTCH AND WIDEN EXISTING PAVEMENT AND CONSTRUCT FULL DEPTH SECTION OF PROPOSED ROADWAY.
- STAGE 3: SHIFT TRAFFIC BACK TO MAIN LANES. OBLITERATE DETOUR. INSTALL FINAL SURFACE COURSE AND FINAL STRIPING.

MAINTENANCE OF TRAFFIC DETAILS
STAGE 1

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.	020506		II	46

② MAINTENANCE OF TRAFFIC DETAILS



STA 101+00.01 - BEGIN
JOB 020506
L. M. 1.53

STA 108+85.43 - END
JOB 020506

SEQUENCING:

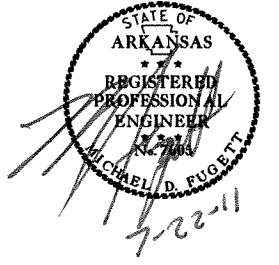
STAGE 1: MAINTAIN TRAFFIC ON EXISTING ROADWAY. CONSTRUCT TEMPORARY CULVERT AND PIPE CULVERT. CONSTRUCT DETOUR. UTILIZE VERTICAL PANELS AT THE NOTCH AT 50' O.C. SPACING. PLACE CONSTRUCTION PAVEMENT MARKINGS AND RAISED PAVEMENT MARKERS (TYPE II) ON DETOUR.

STAGE 2: SHIFT TRAFFIC ONTO DETOUR. REMOVE EXISTING BRIDGE STRUCTURE AND CONSTRUCT R.C. BOX CULVERT. UTILIZE TRAFFIC DRUMS AT 100' O.C. SPACING AT LANE EDGE ON LT. PERFORM LEVELING OPERATIONS, NOTCH AND WIDEN EXISTING PAVEMENT AND CONSTRUCT FULL DEPTH SECTION OF PROPOSED ROADWAY.

STAGE 3: SHIFT TRAFFIC BACK TO MAIN LANES. OBLITERATE DETOUR. INSTALL FINAL SURFACE COURSE AND FINAL STRIPING.

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.	020506	12	46	

② QUANTITIES



ADVANCE WARNING SIGNS AND DEVICES, CONSTRUCTION PAVEMENT MARKINGS, AND PERMANENT PAVEMENT MARKINGS

SIGN NUMBER	DESCRIPTION	SIGN SIZE	STAGE 1	STAGE 2	END OF JOB	MAXIMUM NUMBER REQUIRED	TOTAL SIGNS REQUIRED		TRAFFIC DRUMS	VERTICAL PANELS	BARRICADES (TYPE III)		RAISED PAVEMENT MARKERS TYPE II (YEL/YEL)	CONSTRUCTION PAVEMENT MARKINGS	THERMOPLASTIC PAVEMENT MARKINGS 4"			
							NO.	SQ. FT.			LT.	RT.			LIN. FT.	EACH	WHITE	YELLOW
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										
G20-2	END ROAD WORK	48"x24"	2	2	2	2	2	10.0										
R2-5A	REDUCED SPEED AHEAD	24"x30"	2	2	2	2	2	16.0										
R2-1	SPEED LIMIT XX	24"x30"	2	2	2	4	4	20.0										
R4-1	DO NOT PASS	24"x30"	2	2	2	2	2	10.0										
R11-2	ROAD CLOSED	48x30"	4	4	4	4	4	40.0										
W1-6	ARROW	48"x24"		2	2	2	2	16.0										
W1-4aL	REVERSE CURVE	48"x48"		1		1	1	16.0										
W1-4aL	REVERSE CURVE	48"x48"		1		1	1	16.0										
W13-1	SPEED ADVISORY	18"x18"		2		2	2	4.5										
W1-8	CHEVRON	18"x24"		16		16	16	48.0										
OM-3L	OBJECT MARKER	12"x36"		2		2	2	6.0										
OM-3R	OBJECT MARKER	12"x36"		2		2	2	6.0										
	TRAFFIC DRUMS		24	30		30			30									
	VERTICAL PANELS		12			12				12								
	TYPE III BARRICADE - LT. (8')		8	16		16					16							
	TYPE III BARRICADE - RT. (8')		8	16		16						16						
	TYPE III BARRICADE - LT. (16')		16	16		16					16							
	TYPE III BARRICADE - RT. (16')		16	16		16						16						
	CONSTRUCTION PAVEMENT MARKINGS		4742	4322		9064							9064					
	RAISED PAVEMENT MARKERS TYPE II (YEL/YEL)		27			27						27						
	THERMOPLASTIC PAVEMENT MARKINGS-WHITE (4")				2371	2371									2371			
	THERMOPLASTIC PAVEMENT MARKINGS-YELLOW (4")				2371	2371										2371		
TOTALS:								304.5	30	12	32	32	27	9064	2371	2371		

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

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.	020506		13	46

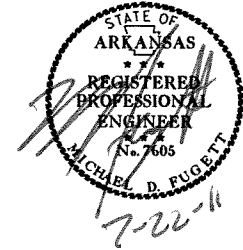
CLEARING AND GRUBBING

STATION	STATION	CLEARING	GRUBBING
99+00.00	110+84.44	12	12
TOTALS:		12	12

REMOVAL OF EXISTING BRIDGE STRUCTURE

STATION	STATION	DESCRIPTION	REMOVAL OF EXISTING BRIDGE STRUCTURE LUMP SUM
104+00	104+95	95'X24' CLEAR ROADWAY BRIDGE NO. M3040 (SITE NO. 1)	1.00
TOTAL:			1.00

② QUANTITIES



REMOVAL AND DISPOSAL OF FENCE

STATION	STATION	DESCRIPTION	REMOVAL AND DISPOSAL OF FENCE
			LIN. FT.
102+20	103+80	FENCE ON RT.	185
104+30	107+60	FENCE ON RT.	525
109+00	109+20	FENCE ON RT.	37
TOTAL:			747

SOIL LOG

STATION	LOCATION	DEPTH	LIQUID LIMIT	PLASTICITY INDEX	AASHTO SOIL CLASS	COLOR
101+00	25'RT	0-5	24	9	A-4(2)	BROWN
101+00	4'RT	0-5	21	4	A-4(0)	BROWN
101+00	25'RT	0-5	30	14	A-6(2)	BROWN
110+00	5'LT	0-5	22	8	A-4(1)	BROWN
110+00	27'LT	0-5	22	7	A-4(2)	BROWN

NOTE: SOIL CHARACTERISTICS TABULATED ABOVE ARE REPRESENTATIVE AT THE LOCATION OF THE SAMPLE, AND FROM SURFACE INDICATIONS ARE TYPICAL OF 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 ABOVE TABULATIONS.

REMOVAL AND DISPOSAL ITEMS

STATION	DESCRIPTION	REMOVAL AND DISPOSAL OF PIPE CULVERT	REMOVAL AND DISPOSAL OF CONCRETE STRUCTURES
		EACH	
106+65	18"x30' C.M. PIPE CULVERT LT. SIDE DRAIN	1	
108+82	18"x24' C.M. PIPE CULVERT RT. SIDE DRAIN	1	
109+57	18"x25' C.M. PIPE CULVERT RT. SIDE DRAIN	1	
104+58	ABANDONED RAILROAD BRIDGE ABUTMENT ON LT.		1
105+75	ABANDONED RAILROAD BRIDGE ABUTMENT ON LT.		1
TOTALS:		3	2

EARTHWORK

STATION	STATION	LOCATION	UNCLASSIFIED EXCAVATION	COMPACTED EMBANKMENT	*SOIL STABILIZATION
			CU. YD.		TON
99+00.00	110+35.44	MAIN LANES	7689	2183	
108+82.00	108+82.00	DETOUR	1509	9924	
100+00.00	108+82.00	OBLITERATION OF DETOUR	10548	1389	
104+47.00		CHANNEL EXCAVATION	6285		
106+65.00		CONSTRUCT APPROACH ON LT.		25	
108+82.00		CONSTRUCT APPROACH ON RT.		25	
106+80.00		TEMPORARY DRIVE		25	
TOTALS:			26031	13571	50

NOTES: EARTHWORK QUANTITIES SHOWN ABOVE TO BE PAID AS PLAN QUANTITY. COMPACTED EMBANKMENT HAS BEEN ADJUSTED TO ACCOUNT FOR PROPOSED R.C. BOX CULVERT.

*NOTE: TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER. QUANTITY ESTIMATED. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.

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 (E-5)	SILT FENCE (E-11)	SEDIMENT BASIN (E-14)	OBLITERATION OF SEDIMENT BASIN	*SEDIMENT REMOVAL & DISPOSAL
			ACRE	TON	ACRE	M.GAL.	ACRE	ACRE	ACRE	ACRE	M.GAL.	BAG	LIN.FT.	CU. YD.	
99+00.00	110+85.44	DETOUR (STAGE 1)	1.38	3	1.38	140.8	1.38	1.38	1.38	1.38	28.2	120	3280		370
99+00.00	110+85.44	MAIN LANES (STAGE 2)	2.70	5	2.70	275.4	2.70	2.70	2.70	55.1	120	705	164	164	167
TOTALS:			4.08	8	4.08	416.2	4.08	4.08	4.08	83.3	240	3985	164	164	537

BASIS OF ESTIMATE:

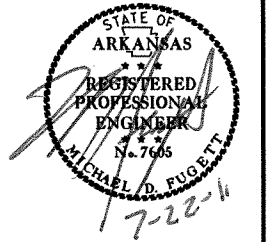
LIME 2 TONS / ACRE OF SEEDING
WATER 102.0 M.G. / ACRE OF SEEDING
WATER 20.4 M.G. / ACRE OF TEMPORARY SEEDING
SAND BAG DITCH CHECKS 20 BAGS / LOCATION

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.

*TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER. QUANTITY IS ESTIMATED. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.

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.	020506
							SHEET NO.	14
							TOTAL SHEETS	46

② QUANTITIES



MAIN LANE BASE AND SURFACING

STATION	STATION	LOCATION	LENGTH FEET	AGGREGATE BASE COURSE (CLASS 7)		TACK COAT							ACHM BINDER COURSE (1") (PG 64-22)				ACHM SURFACE COURSE (1/2") (PG 64-22)						TON					
				TON/STATION	TON	LEVELING			BETWEEN COURSES				GALLON	COURSE			LEVELING			COURSE								
						TOTAL WIDTH FEET	SQ. YD.	GALLON/SQ. YD.	TOTAL WIDTH FEET	SQ. YD.	GALLON/SQ. YD.	AVG. WIDTH FEET		SQ. YD.	POUND/SQ. YD.	TON	AVG. WIDTH FEET	SQ. YD.	POUND/SQ. YD.	TON	AVG. WIDTH FEET	SQ. YD.		POUND/SQ. YD.				
99+00.00	101+00.01	MAIN LANE TRANSITION	200.00	74.25	149				20.00	444	0.10	8.00	178	0.03	50	4.50	100.0	330	17	20.00	444	385	85	44.33	985	220	108	
101+00.01	103+00.00	MAIN LANE NOTCH AND WIDEN	199.99	148.50	297	20.00	444	0.10	8.00	178	0.03	50	4.50	100.0	330	17	20.00	444	385	85	44.33	985	220	108				
103+00.00	106+00.00	MAIN LANE FULL DEPTH	300.00	226.25	679	20.00	667	0.10	48.00	1600	0.03	115	24.50	816.7	330	135					64.25	2142	220	236				
106+00.00	108+85.43	MAIN LANE NOTCH AND WIDEN	285.43	148.50	424	20.00	634	0.10	8.00	254	0.03	71	4.50	142.7	330	24	20.00	634	385	122	44.33	1406	220	155				
108+85.43	110+85.44	MAIN LANE TRANSITION	200.01	74.25	149				20.00	444	0.03	13	2.25	50.0	330	8					37.17	826	220	91				
202+33.30	210+05.31	DETOUR	772.01	176.75	1365																							
TOTALS:					3063							262			192					207					1021			

BASIS OF ESTIMATE:
 ACHM SURFACE COURSE (1/2").....95.0% MIN. AGGR.....5.0% ASPHALT BINDER (PG 64-22)
 ACHM BINDER COURSE (1").....95.8% MIN. AGGR.....4.2% ASPHALT BINDER (PG 64-22)
 MAXIMUM NUMBER OF GYRATIONS = 115

DRIVEWAYS & TURNOUTS - BASE & SURFACING

STATION	SIDE	DESCRIPTION	WIDTH FEET	ADD'L. LENGTH	ACHM		AGGREGATE BASE CRS. (CLASS 7)	SIDE DRAINS	
					SQ. YD.	TON		18"	24"
								ACHM SURF. CRS. (1/2") (PG 64-22)	TON
106+65	LT.	INSTALL 24"x74' PIPE CULVERT LT. SIDE DRAIN	16	50	119	13	49		74
108+82	RT.	INSTALL 18"x36' PIPE CULVERT RT. SIDE DRAIN	16	18	57	6	23	36	
106+80	LT.	TEMPORARY DRIVE					28		
TOTALS:						19	100	36	74

BASIS OF ESTIMATE:
 ACHM SURFACE COURSE (1/2").....95.0% MIN. AGGR.....5.0% ASPHALT BINDER (PG 64-22)
 MAXIMUM NUMBER OF GYRATIONS = 115
 FOR C.M. PIPE CULVERT INSTALLATIONS, USE TYPE 2 BEDDING UNLESS OTHERWISE SPECIFIED.

COLD MILLING

STATION	STATION	LOCATION	COLD MILLING ASPHALT PAVEMENT SQ. YD.
99+00.00	101+00.00	BEGIN TRANSITION	222
108+85.43	110+85.44	END TRANSITION	222
TOTAL:			444

AVG. 1" DEPTH

ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC

LOCATION	ASPH. CONC. PATCHING FOR M.O.T.	TACK COAT
	TON	GALLON
ENTIRE PROJECT - TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	25	50
TOTALS:	25	50

NOTE: QUANTITY IS ESTIMATED.
 SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.

A.C.H.M. PATCHING OF EXISTING ROADWAY

DESCRIPTION	TON
ENTIRE PROJECT - TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	25
TOTAL:	25

NOTE: QUANTITY IS ESTIMATED
 SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.

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.	020506		15	46

② QUANTITIES



CONCRETE DITCH PAVING

STATION	STATION	LOCATION	*CONCRETE DITCH PAVING (TYPE B) (W=4'-0")	SOLID SODDING	WATER
			SQ. YD.		
ENTIRE PROJECT		IF AND WHERE DIRECTED BY THE ENGINEER	600	600	7.6
TOTALS:			600	600	7.6

* QUANTITY ESTIMATED. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.
BASIS OF ESTIMATE:
WATER.....12.6 GAL. / SQ. YD. OF SOLID SODDING.
NOTE: EXPANSION JOINTS TO BE PLACED 45' ON CENTERS.

MAILBOXES

LOCATION	MAILBOXES	MAILBOX SUPPORTS (SINGLE)
		EACH
ENTIRE PROJECT	3	3
TOTALS:		
	3	3

FENCING

STATION	STATION	SIDE	WIRE FENCE	
			(TYPE D)	(TYPE D-1)
			LIN. FT.	
102+20	103+80	RT.		160
104+30	107+60	RT.	550	
109+00	109+20	RT.	20	
TOTALS:			570	160

BENCH MARKS

STATION	DESCRIPTION	BENCH MARK
		EACH
104+47	HDWL. ON R.C. BOX CULVERT ON LT.	1
TOTAL:		1

NOTE: SHOWN FOR INFORMATION PURPOSES ONLY. BENCH MARKS TO BE FURNISHED, PLACED, AND RECORDED BY STATE FORCES.

4" PIPE UNDERDRAINS

LOCATIONS	4" PIPE UNDERDRAINS	UNDERDRAIN OUTLET PROTECTORS
	LIN. FT.	EACH
ENTIRE PROJECT AS DIRECTED BY THE ENGINEER	1000	8
TOTALS:		8

NOTE: QUANTITIES ARE ESTIMATED. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.

TEMPORARY PIPE CULVERTS

STATION	DESCRIPTION	TEMPORARY PIPE CULVERT	STD. DWG. NOS.
		48" LIN. FT.	
205+95	INSTALL SEXT. 48"x196" @30° LT. FWD. SKEW TEMPORARY PIPE CULVERT	1176	PCM-1, PCC-1
TOTAL:		1176	

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.	50	100
TOTALS:	50	100

NOTE: QUANTITIES ARE ESTIMATED. SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.

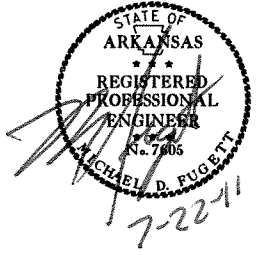
STRUCTURES OVER 20'-0" SPAN

STATION	DESCRIPTION	SPAN	HEIGHT	LENGTH	CLASS S CONCRETE - ROADWAY	REINFORCING STEEL - ROADWAY (GRADE 60)	UNCLASSIFIED EXCAVATION FOR STRUCTURES - ROADWAY	SOLID SODDING	WATER	FILTER BLANKET	DUMPED RIPRAP	STD. DWG. NOS.
					CU. YD.	POUND	CU. YD.	SQ. YD.	M. GAL.	SQ. YD.	CU. YD.	
104+47	SEXT. 10'x11'x105' R.C. BOX CULVERT @45° LT. FWD. SKEW W/3:1 WINGS LT. & RT.	10	11	105	785.58	83015	234	56	0.7	1200	600	R-345X-02, W-X45, W-X453-2, RCB-1, RCB-2, SPECIAL PROVISIONS WITH DRAWINGS
TOTALS:					785.58	83015	234	56	0.7	1200	600	

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

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. 020506	17	46

② SURVEY CONTROL DETAILS



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

Point Name	Northing	Easting	Elev	Feature	Description
1	1780458.9408	1365365.6992	217.120	CTL	2' ALUM CAP RBR T-1
2	1780951.0255	1365992.4996	207.564	CTL	2' ALUM CAP RBR T-2
3	1781344.2431	1366561.6419	207.025	CTL	2' ALUM CAP RBR T-3
4	1781448.1620	1366647.4638	209.048	CTL	2' ALUM CAP RBR T-4
5	1781915.4239	1367279.5849	218.380	CTL	2' ALUM CAP RBR T-5
6	1782362.6795	1367750.0003	219.725	CTL	2' ALUM CAP RBR
100	1781665.3350	1367025.8818	218.098	GPS	AHTD GPS 400019
101	1780680.6111	1365635.0784	210.579	GPS	AHTD GPS 400019A
900	1774867.7624	1360648.3003	288.948	TBM	SQ. CUT IN CONC N 11.5' C/LVICTORY ST
901	1777396.8236	1361823.8787	269.774	TBM	FH S BOLT
902	1779726.4025	1364600.2255	224.125	TBM	SQ. CUT HDWL 18' S OF HWY. 11
903	1781347.4267	1366703.4928	209.412	TBM	SQ. CUT SE COR CANE CR BR & HWY. 11
990	1772945.2777	1359471.6117	275.460	BM	NGS MARK P 77

*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 0.9999085941 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. XXXCTL
HORIZONTAL DATUM: NAD 83 (1997)
VERTICAL DATUM: NAVD 88 POSITIONAL ACCURACY THIRD ORDER, UNLESS SPECIFIED OTHERWISE
AT A SPECIFIC POINT.

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

BASIS OF BEARING:
ARKANSAS STATE PLANE GRID BEARINGS -0302-SOUTH ZONE
DETERMINED FROM GPS CONTROL POINTS: 400019-400019A
CONVERGENCE ANGLE: 00-05-59.5 RIGHT AT LT: 33-57-17.97 LG: 91-.49-17.68
GRID AZIMUTH = ASTRONOMICAL AZIMUTH - CONVERGENCE ANGLE.

Alignment Name: Const

Point

Name	Type	Northing	Easting
8004	P0B	1781080.48	1366147.87
8018	P. I.	1781195.85	1366311.25
8019	P. I.	1781642.47	1366957.33
8003	P0E	1781754.60	1367122.95

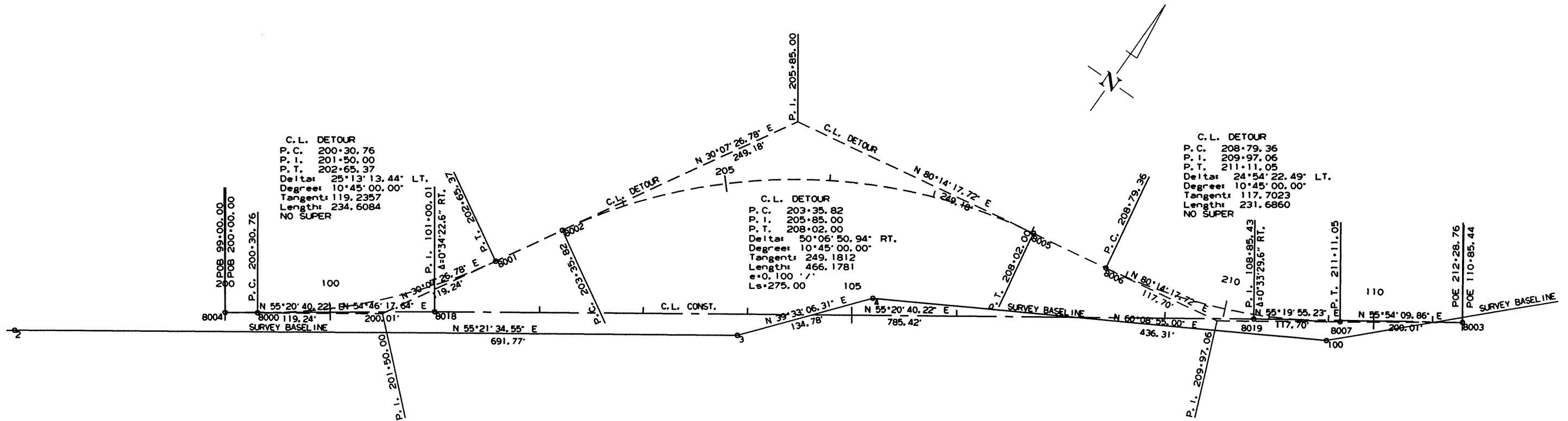
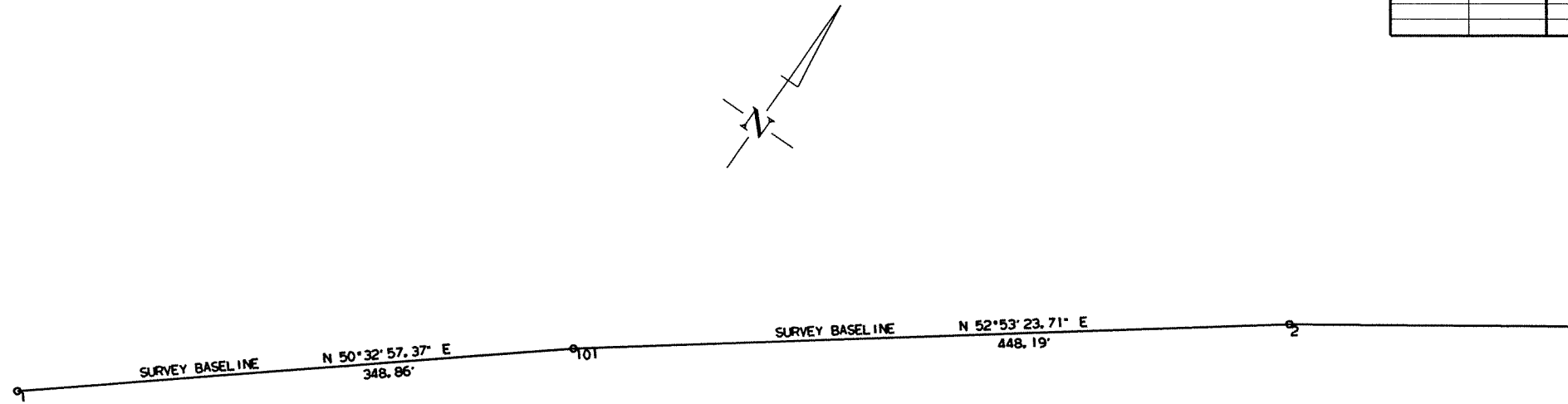
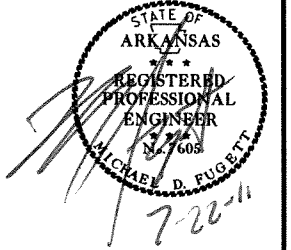
Alignment Name: DETOUR - 45 mph

Point

Name	Type	Northing	Easting
8004	P0B	1781080.48	1366147.87
8000	P. C.	1781097.97	1366173.18
8001	P. T.	1781268.90	1366331.10
8002	P. C.	1781329.84	1366366.45
8005	P. T.	1781587.61	1366737.09
8006	P. C.	1781600.73	1366813.33
8007	P. T.	1781687.64	1367026.13
8003	P0E	1781754.60	1367122.95

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. 020506							18	46

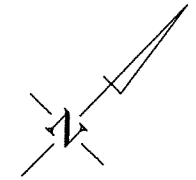
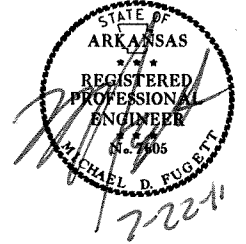
2 SURVEY CONTROL DETAILS



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.							020506	19	46

2 SURVEY CONTROL DETAILS



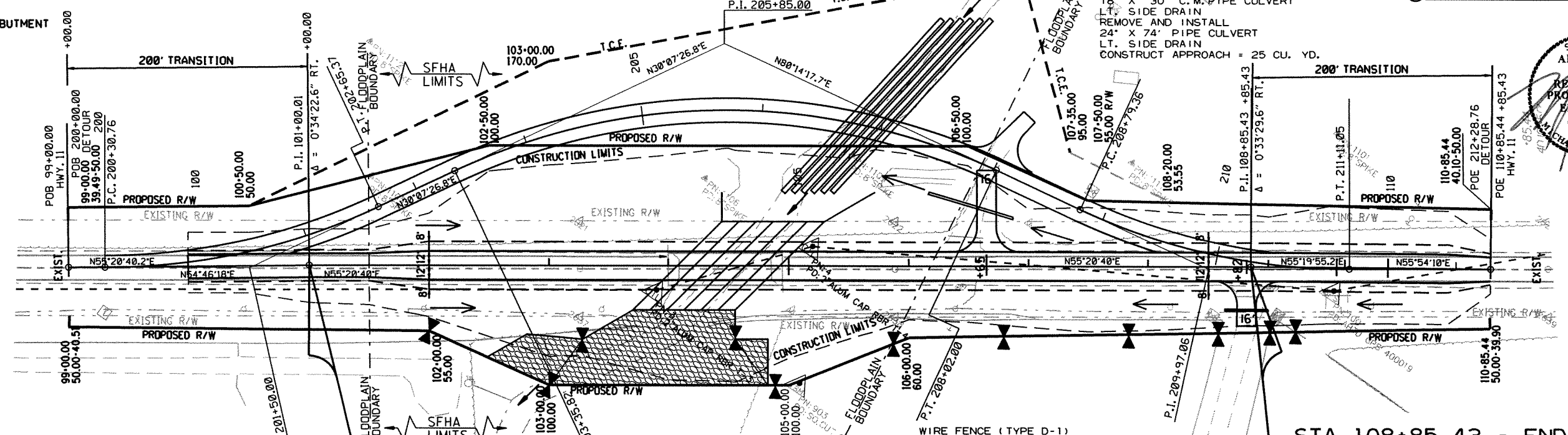
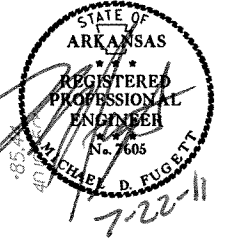
STA. 104+58 LT.
IN PLACE
ABANDONED RAILROAD BRIDGE ABUTMENT
REMOVE

STA. 105+75 LT.
IN PLACE
ABANDONED RAILROAD BRIDGE ABUTMENT
REMOVE

STA. 104+00 TO STA. 104+95 - IN PLACE
95' X 24' CLEAR ROADWAY BRIDGE NO. M0340 CONSISTING OF
A THREE SPAN WITH STEEL BEAMS CONCRETE DECK WITH TIMBER SUBSTRUCTURE
REMOVE AS EXISTING BRIDGE STRUCTURE (SITE NO. 1) - 1.00 LUMP SUM

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.	020506	20	46

PLAN & PROFILE STA. 100+00.00-STA. 110+85.43



STA 101+00.01 - BEGIN
JOB 020506
L.M. 1.53

STA. 104+47 CONSTRUCT
SEXT. 10' X 11' X 105'
R.C. BOX CULVERT
@ 45° LT. FWD. SKEW
W/3/1 WINGS LT. AND RT.
DUMPED RIPRAP AT OUTLET = 600 CU. YD.
FILTER BLANKET AT OUTLET = 1200 SQ. YD.
D.A. = 6.4 SQ. MI., 025=2200 CFS

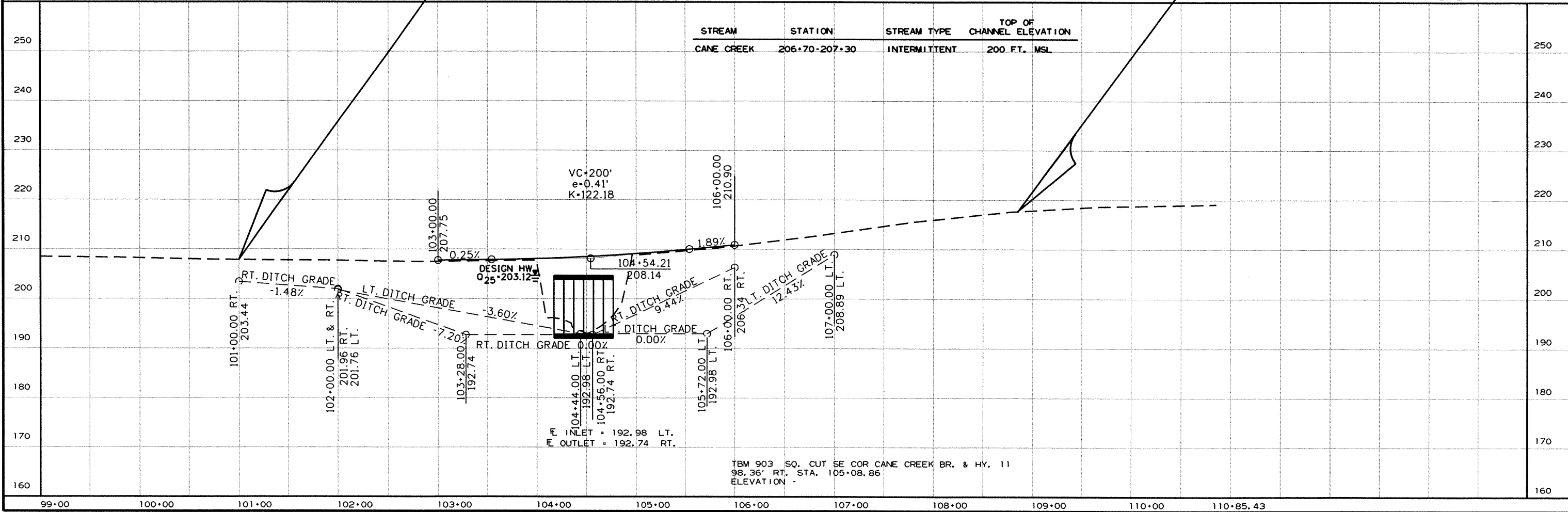
STA. 108+82 IN PLACE
18' X 24' C.M. PIPE CULVERT
RT. SIDE DRAIN
REMOVE AND INSTALL
18' X 36' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH = 25 CU. YD.

STA. 109+57 IN PLACE
18' X 25' R.C. PIPE CULVERT
RT. SIDE DRAIN
REMOVE

STA 108+85.43 - END
JOB 020506
LOG MILE 1.68

WIRE FENCE (TYPE D)
STA. 104+30 - STA. 107+60 RT. 550 LIN. FT.
STA. 109+00 - STA. 109+20 RT. 20 LIN. FT.

STREAM	STATION	STREAM TYPE	TOP OF CHANNEL ELEVATION
CANE CREEK	206+70-207+30	INTERMITTENT	200 FT. MSL



E INLET = 192.98 LT.
E OUTLET = 192.74 RT.

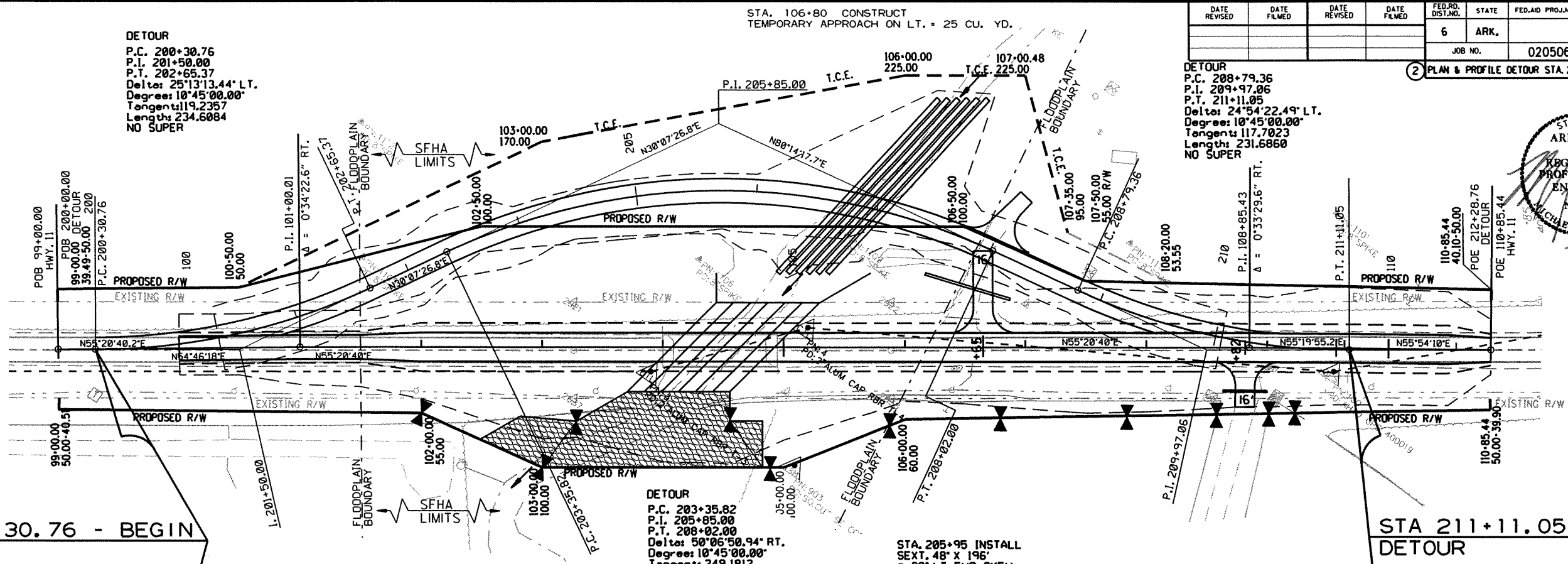
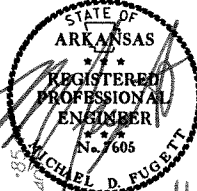
TBM 903 SQ. CUT SE COR CANE CREEK BR. & HY. 11
98.36' RT. STA. 105+08.86
ELEVATION -

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		21	46

PLAN & PROFILE DETOUR STA. 200+30.76-STA. 211+11.05

DETOUR
 P.C. 200+30.76
 P.I. 201+50.00
 P.T. 202+65.37
 Delta: 25°13'13.44" LT.
 Degree: 10°45'00.00"
 Tangent: 119.2357
 Length: 234.6084
 NO SUPER

DETOUR
 P.C. 208+79.36
 P.I. 209+97.06
 P.T. 211+11.05
 Delta: 24°54'22.49" LT.
 Degree: 10°45'00.00"
 Tangent: 117.7023
 Length: 231.6860
 NO SUPER

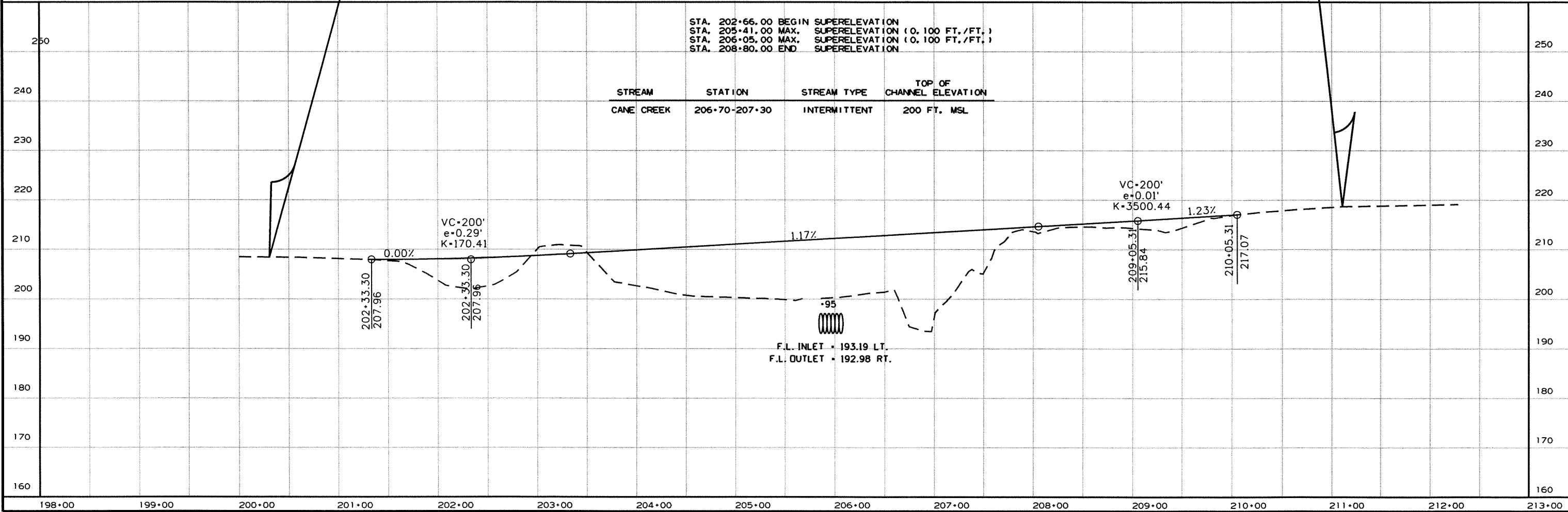


STA 200+30.76 - BEGIN
DETOUR

STA 211+11.05 - END
DETOUR

DETOUR
 P.C. 203+35.82
 P.I. 205+85.00
 P.T. 208+02.00
 Delta: 50°06'50.94" RT.
 Degree: 10°45'00.00"
 Tangent: 249.1812
 Length: 466.1781
 e=0.100'
 Ls=275.00

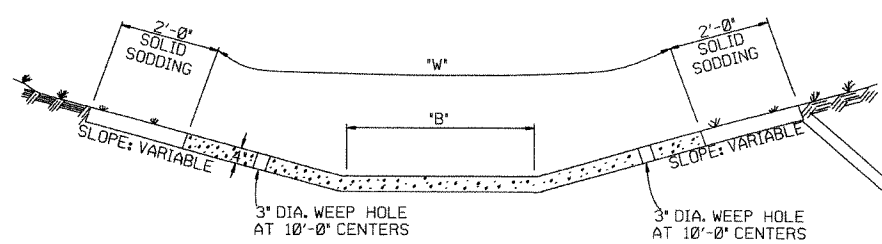
STA. 205+95 INSTALL
 SEXT. 48" X 196"
 @ 30° LT. FWD. SKEW
 TEMPORARY PIPE CULVERT



STA. 202+66.00 BEGIN SUPERELEVATION
 STA. 205+41.00 MAX. SUPERELEVATION (0.100 FT./FT.)
 STA. 206+05.00 MAX. SUPERELEVATION (0.100 FT./FT.)
 STA. 208+80.00 END SUPERELEVATION

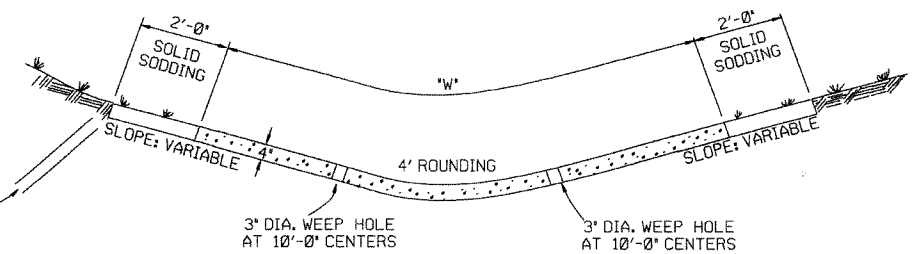
STREAM	STATION	STREAM TYPE	TOP OF CHANNEL ELEVATION
CANE CREEK	206+70-207+30	INTERMITTENT	200 FT. MSL

REFER TO TABULATION OF QUANTITIES FOR 'W' & 'B' DIMENSIONS



TYPE A

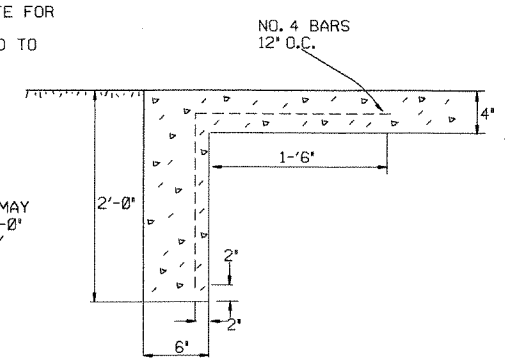
REFER TO TABULATION OF QUANTITIES FOR 'W' DIMENSIONS



TYPE B

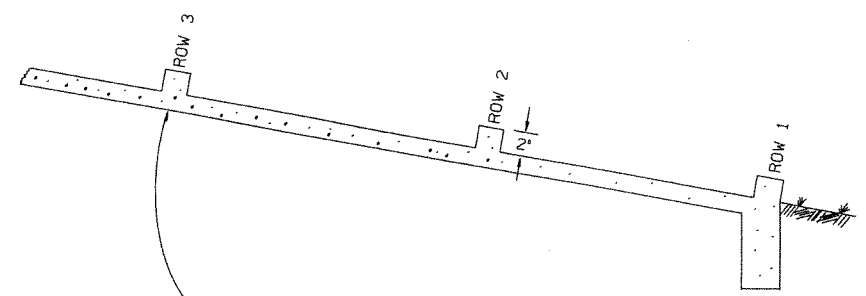
EXCAVATE TO NEAT LINES TO CONSTRUCT DITCH PAVING AND SOLID SODDING.

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.'



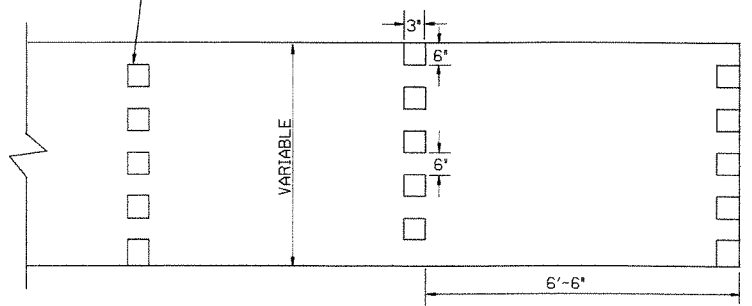
TOE WALL DEPTH MAY BE ALTERED TO 1'-0" WHEN DIRECTED BY THE ENGINEER IN ROCK EXCAVATION

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 UNCLUDED IN THE PRICE BID FOR CONCRETE DITCH PAVING.



ENERGY DISSIPATORS (NO SCALE)

GENERAL NOTES:

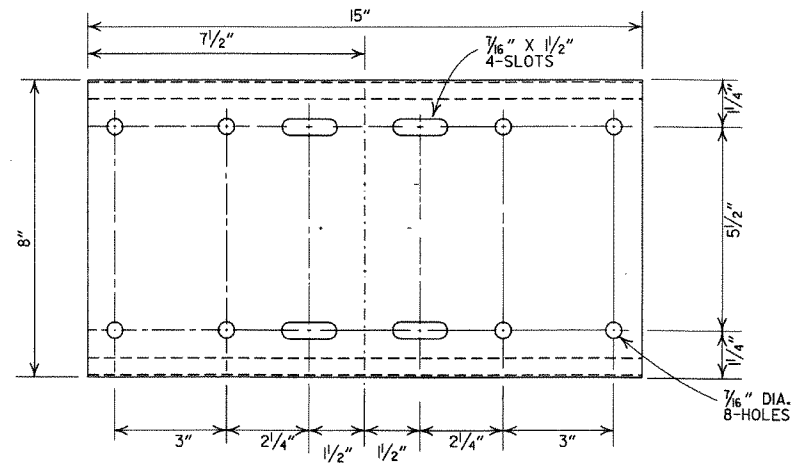
- THE FULL WIDTH OF EACH SECTION SHALL BE POURED MONOLITHICALLY.
- TOE WALLS TO BE CONSTRUCTED FULL WIDTH AT EACH END OF DITCH PAVING, AND POURED MONOLITHICALLY.
- SOLID SOD ALONG DITCH PAVING TO BE PLACED WITHIN 14 DAYS OF DITCH PAVING CONSTRUCTION.
- 1" WIDE TRANSVERSE EXPANSION JOINTS SHALL BE PLACED 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	
11-30-88	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 ADDED	508-11-1-84
11-1-84	EXCAVATION DETAILS ADDED	
10-2-72	REVISED AND REDRAWN	508-10-2-72
DATE	REVISION	DATE FILM'D

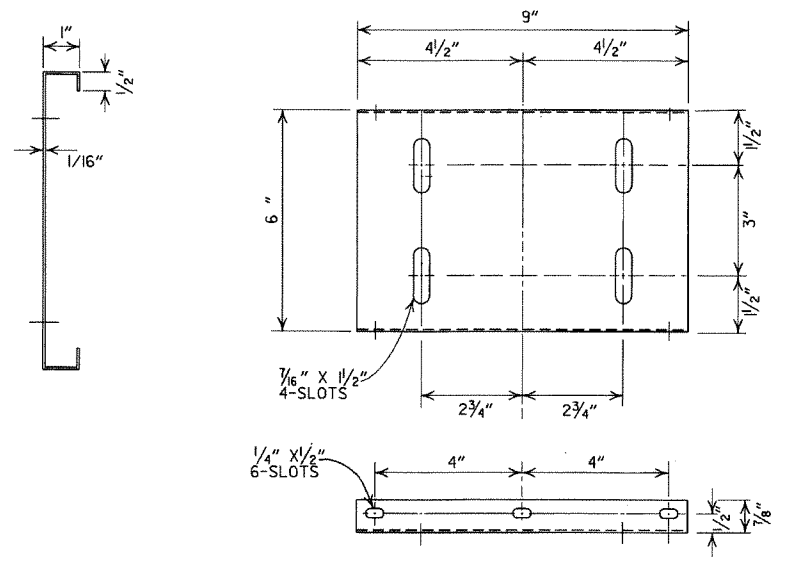
ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE DITCH PAVING

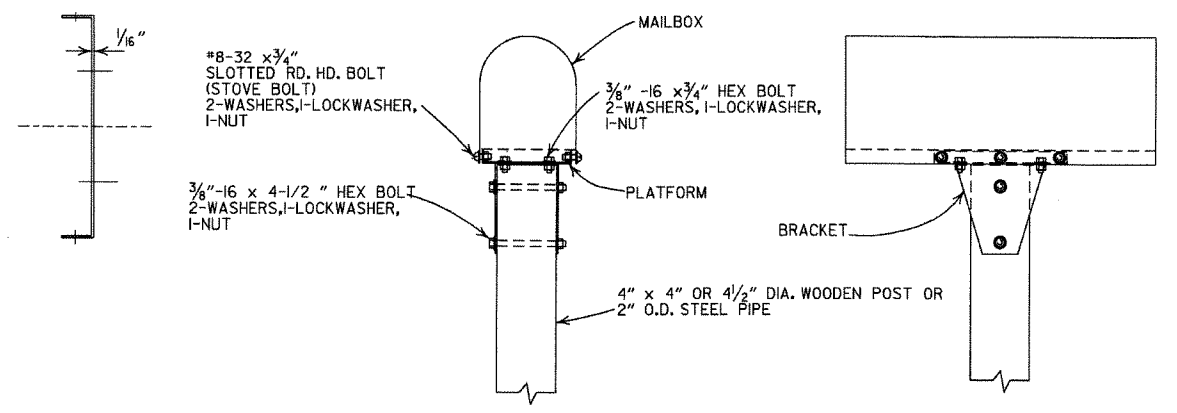
STANDARD DRAWING CDP-1



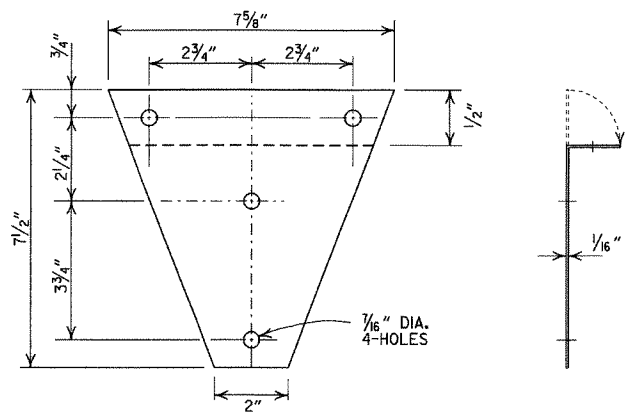
SHELF



PLATFORM

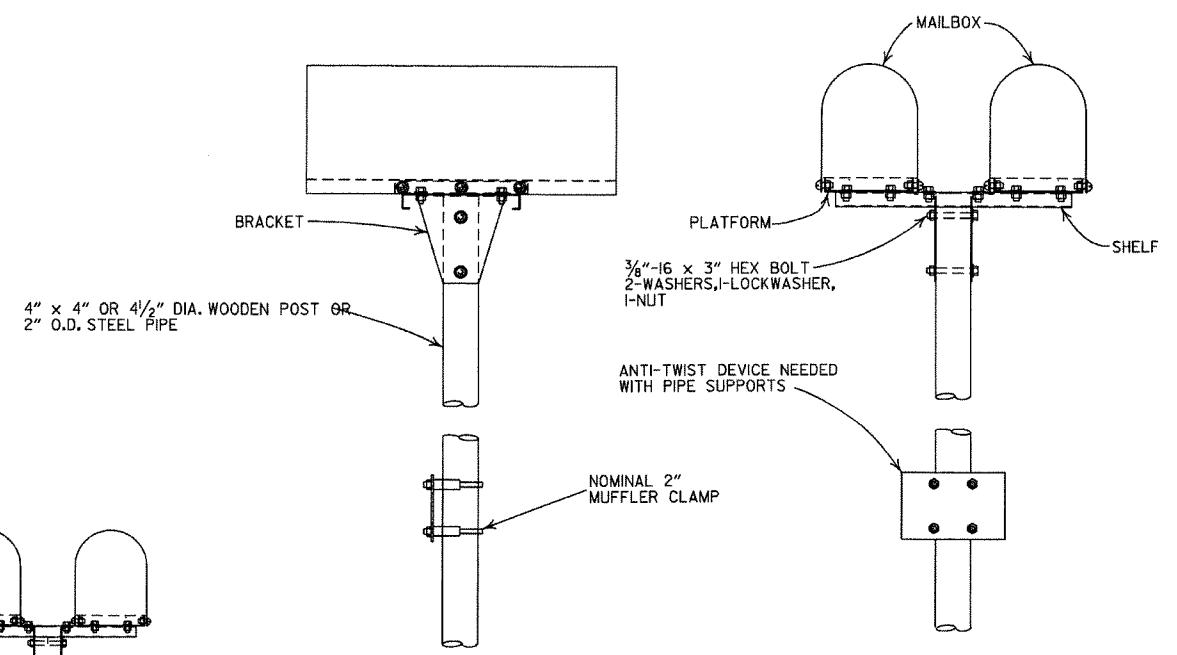


SINGLE INSTALLATION

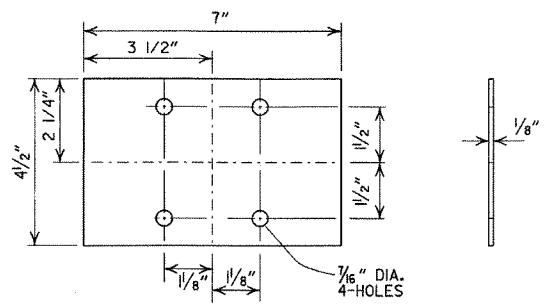


BRACKET

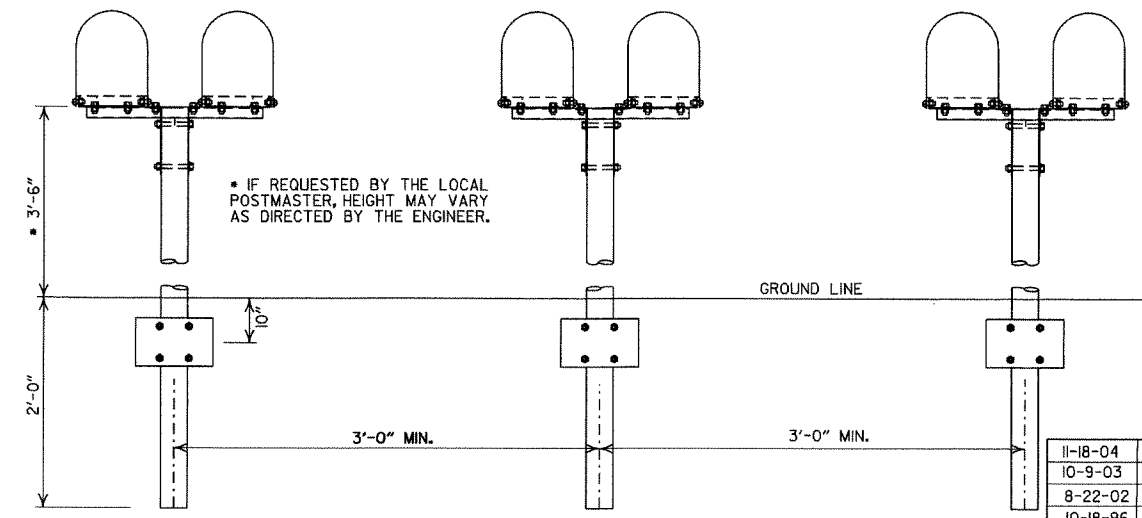
- GENERAL NOTES**
1. MAILBOX POSTS MAY BE WOOD OR METAL. WOOD POSTS SHALL BE PRESSURE TREATED FOR GROUND CONTACT IN ACCORDANCE WITH SECTION 637.02 OF THE STANDARD SPECIFICATIONS.
 2. ANTI-TWIST PLATES SHALL BE USED ONLY ON METAL POSTS.
 3. MAILBOX SHELF BRACKET & PLATFORM SHALL BE GALVANIZED OR PAINTED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



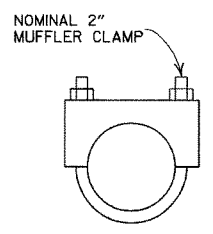
DOUBLE INSTALLATION



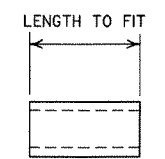
ANTI-TWIST PLATE



SPACING FOR MULTIPLE POST INSTALLATION



CLAMP

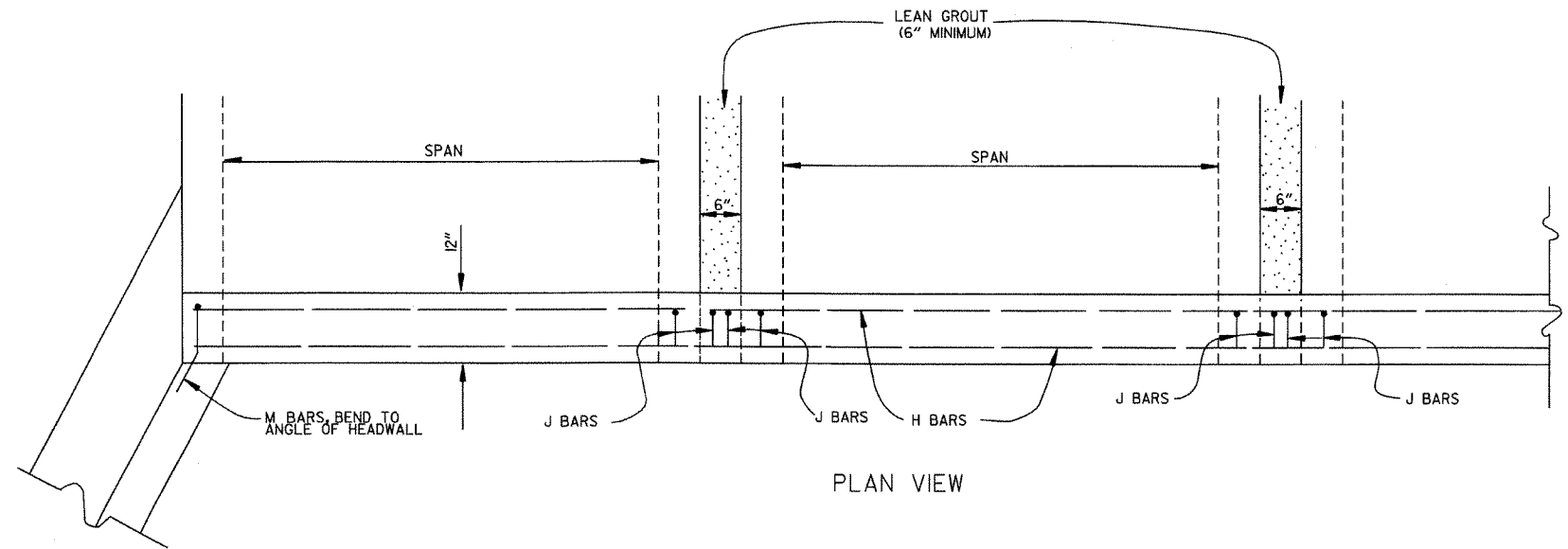


SPACER

DATE	FILMED	ISSUED	REVISION
11-18-04			REVISED NOTES
10-9-03			REVISED NOTE 6
8-22-02			REVISED NOTE 6
10-18-96			CORRECTED AASHTO
10-1-92			CORRECTED SPELLING
9-26-91			NEW PHONE NUMBER
8-15-91			ADDED NOTE
11-30-89			ADJUSTED HEIGHT & ADDED NOTE
2-16-89			DELETED SLOTS FROM SHELF & PLTF
11-17-88	10-1-92		ADJUSTED DIMENSIONS OF STEEL POSTS
7-15-88	120-7-15-88		ISSUED

ARKANSAS STATE HIGHWAY COMMISSION

MAILBOX DETAILS
STANDARD DRAWING MB-1



PLAN VIEW

BAR LIST

BAR	NO.	SIZE	LENGTH	BAR BENDING DIAGRAM
H	2	#4	•	
I	•	#4	•	
J	•	#4	1'-5"	
L	•	#4	3'-2"	
M	•	#4	1'-8"	

• NOTE: LENGTH AND NUMBER OF BARS VARIES WITH SIZE OF CULVERT

GENERAL NOTES

WINGS, CURTAIN WALLS AND APRONS SHALL BE TIED TO THE PRECAST CULVERT SECTION BY CASTING BARS IN CULVERT END SECTIONS AS SHOWN OR BY DOWELING AND GROUTING. J BARS AND M BARS SHALL BE EMBEDDED A MINIMUM OF 10" IN PRECAST BOX.

WINGS, FOOTINGS, APRONS AND CURTAIN WALLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE APPLICABLE STANDARD WING DRAWING. STEEL AND CONCRETE QUANTITIES WILL BE ADJUSTED TO FIT THE IN-PLACE WIDTH & HEIGHT OF THE PRECAST CONCRETE BOX CULVERTS.

ALL EXPOSED CORNERS TO HAVE 3/4" CHAMFERS.

WINGWALLS AND FOOTINGS MAY BE ADJUSTED IN THE FIELD AS DIRECTED BY THE ENGINEER.

ALL CONCRETE, REINFORCING STEEL, LEAN GROUT, LABOR, MATERIALS AND EQUIPMENT REQUIRED FOR INSTALLING PRECAST BOX CULVERTS WILL NOT BE PAID FOR DIRECTLY BUT WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID FOR THE ITEMS AS SPECIFIED IN SECTION 607 OF THE STANDARD SPECIFICATIONS.

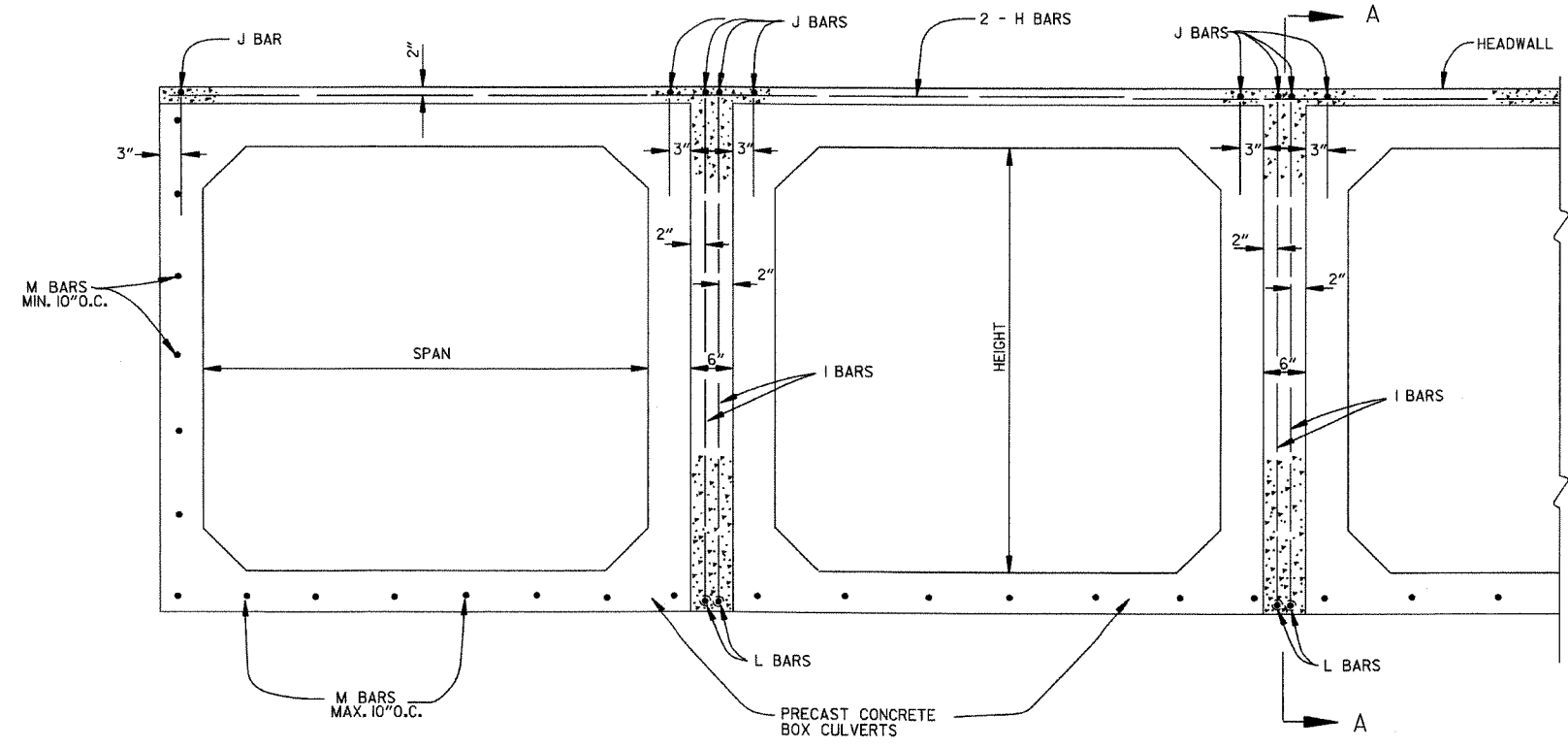
LEAN GROUT SHALL CONSIST OF A SAND CEMENT MIXTURE MEETING THE FOLLOWING REQUIREMENTS:
 PORTLAND CEMENT SHALL BE TYPE I AND SHALL MEET THE REQUIREMENTS OF AASHTO M 85.
 SAND SHALL MEET THE REQUIREMENTS OF FINE AGGREGATE AS SPECIFIED IN SECTION 802.02 OF THE STANDARD SPECIFICATIONS. THE SAND CEMENT MIXTURE SHALL CONSIST OF NOT LESS THAN 1.5 SACKS OF PORTLAND CEMENT PER TON OF MATERIAL MIXTURE. THE MIXTURE SHALL CONTAIN SUFFICIENT WATER TO HYDRATE THE CEMENTS. THE SAND CEMENT MIXTURE SHALL BE PLACED IN MAXIMUM 8 INCH THICK LIFTS, LOOSE MEASURE, AND THOROUGHLY RODDED AND TAMPED AROUND BOX TO THOROUGHLY FILL ALL VOIDS.

MEMBRANE WATERPROOFING CONFORMING TO THE REQUIREMENTS OF SECTION 815 OF THE STANDARD SPECIFICATIONS SHALL BE APPLIED TO ALL BOX CULVERT JOINTS.

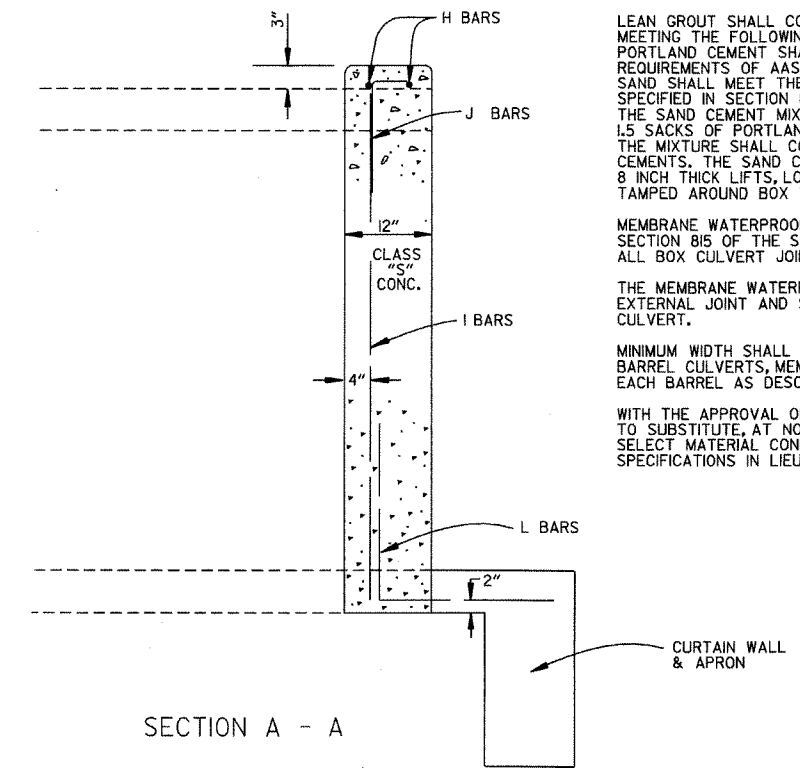
THE MEMBRANE WATERPROOFING WILL BE REQUIRED ON THE TOP EXTERNAL JOINT AND SHALL EXTEND 1 FOOT DOWN THE SIDES OF THE CULVERT.

MINIMUM WIDTH SHALL BE 12" (6" ON EACH SIDE OF JOINT). ON MULTIPLE BARREL CULVERTS, MEMBRANE WATERPROOFING SHALL BE APPLIED TO EACH BARREL AS DESCRIBED ABOVE.

WITH THE APPROVAL OF THE ENGINEER, THE CONTRACTOR WILL BE ALLOWED TO SUBSTITUTE, AT NO ADDITIONAL COST TO THE DEPARTMENT, FLOWABLE SELECT MATERIAL CONFORMING TO SECTION 206 OF THE STANDARD SPECIFICATIONS IN LIEU OF LEAN GROUT.



END VIEW



SECTION A - A

10-15-09	ADDED GENERAL NOTE		
11-10-05	REVISED SPACING OF "M" BARS		
4-10-03	REVISED GENERAL NOTES		
10-18-96	CORRECTED AASHTO REF.		
10-1-92	ADDED NOTE FOR MEMBRANE WATERPROOFING		
8-15-91	ADDED NOTE FOR LEAN GROUT		
11-8-90	REVISED FOR 1991 SPECS		
11-30-89	ISSUED, JABE		
DATE	ISSUED, JABE	REVISION	DATE FILMED

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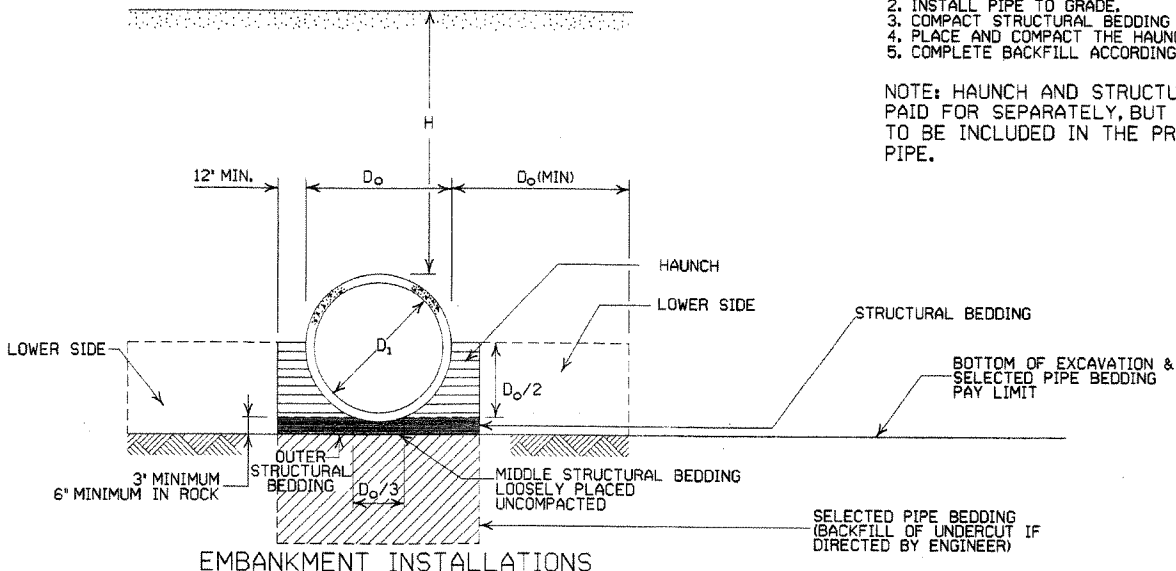
PRECAST CONCRETE BOX CULVERTS

STANDARD DRAWING PBC-1

CONSTRUCTION SEQUENCE

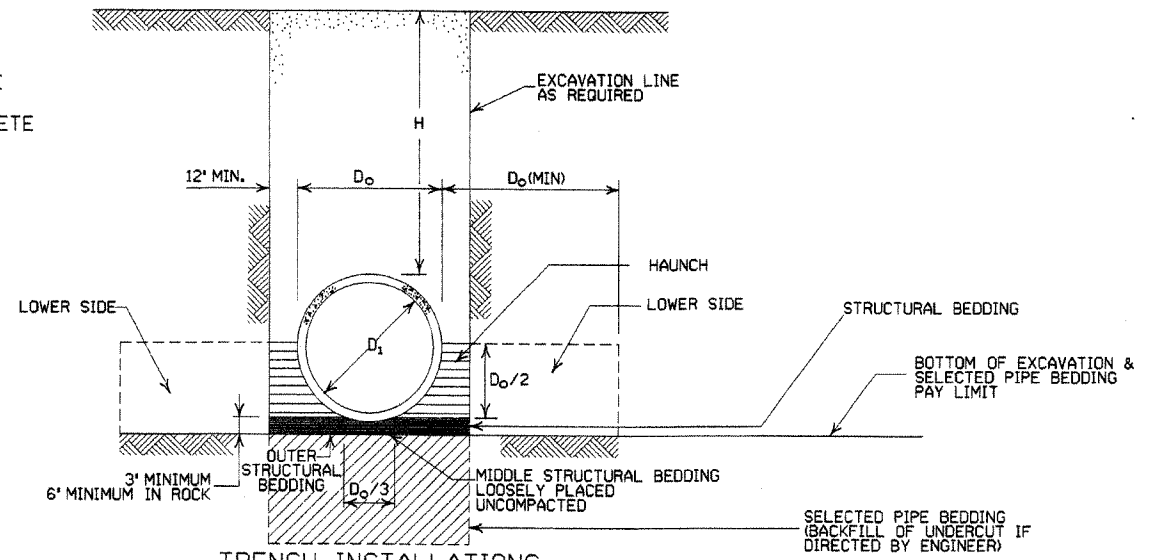
1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. PLACE AND COMPACT THE HAUNCH AREA UP TO THE MIDDLE OF THE PIPE.
5. COMPLETE BACKFILL ACCORDING TO SPECIFICATIONS.

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.



EMBANKMENT INSTALLATIONS

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.



TRENCH INSTALLATIONS

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

REINFORCED CONCRETE ARCH PIPE DIMENSIONS

EQUIV. DIA.	*SPAN		*RISE	
	AASHTO M 206	AHD NOMINAL	AASHTO M 206	AHD NOMINAL
INCHES	INCHES			
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 1/2	51	31 3/8	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 3/4	97
132	168 3/4	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.

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

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

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.

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'.

- LEGEND -

- D_1 = NORMAL INSIDE DIAMETER OF PIPE
- D_0 = OUTSIDE DIAMETER OF PIPE
- H = FILL COVER HEIGHT OVER PIPE (FEET)
- MIN. = MINIMUM
- /// = UNDISTURBED SOIL

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

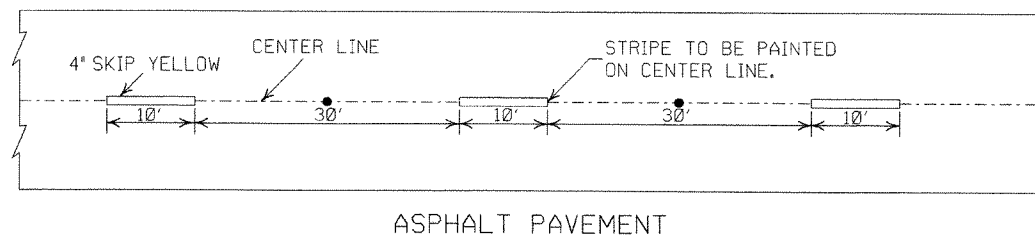
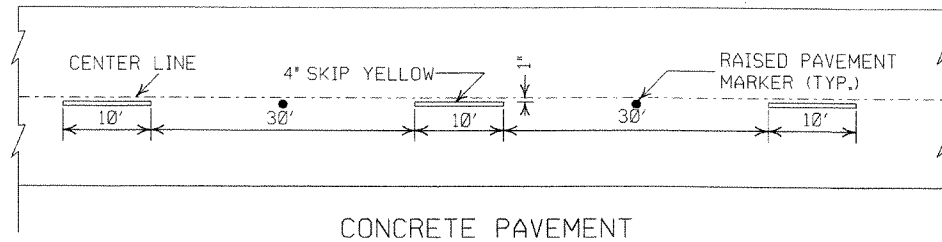
ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE PIPE CULVERT
FILL HEIGHTS & BEDDING

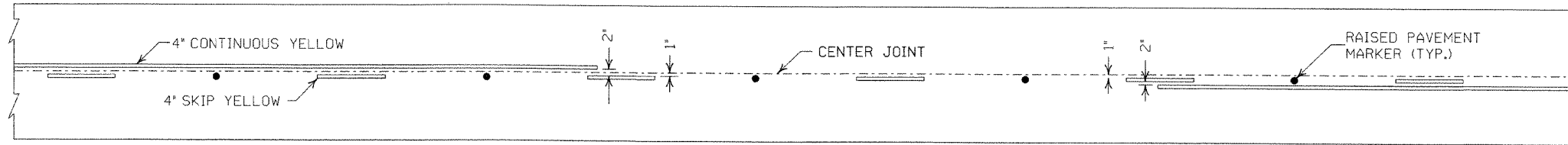
STANDARD DRAWING PCC-1

NOTES:

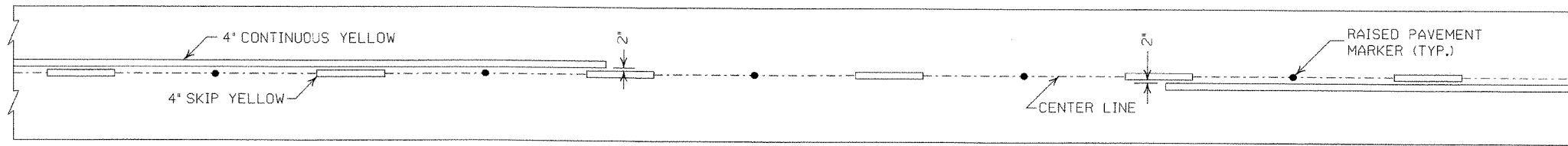
1. ALL LINES SHALL HAVE A WIDTH OF 4 INCHES.
2. THE THICKNESS AND RATE OF PAINT APPLICATION SHALL BE AS SPECIFIED IN SECTION 718 OF THE STANDARD SPECIFICATIONS.
3. THIS DRAWING SHALL BE USED IN CONJUNCTION WITH THE LATEST REVISED ADDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."
4. RAISED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



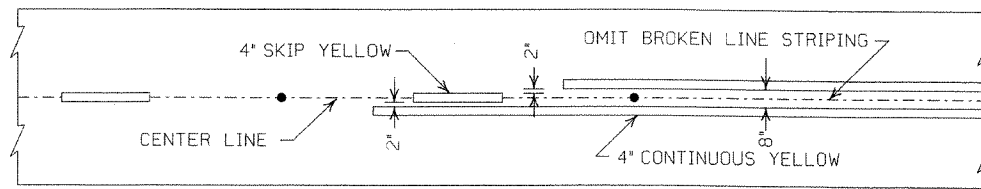
BROKEN LINE STRIPING



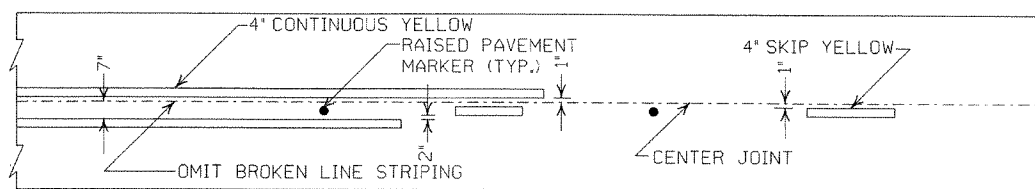
SOLID LINE STRIPING ON CONCRETE PAVEMENT



SOLID LINE STRIPING ON ASPHALT PAVEMENT

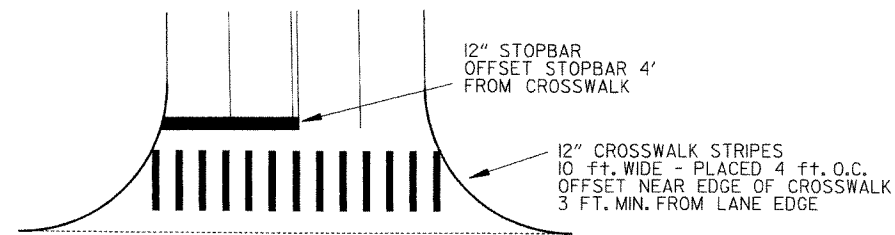


ASPHALT PAVEMENT



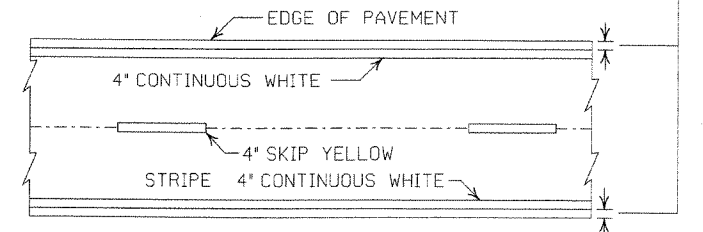
CONCRETE PAVEMENT

STRIPING AT ADJACENT NO PASSING LANES

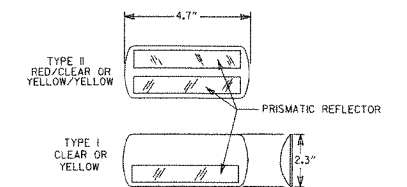


CROSSWALK AND STOPBAR DETAILS

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



PAVEMENT EDGE LINE MARKING



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

DETAIL OF STANDARD RAISED PAVEMENT MARKERS

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.

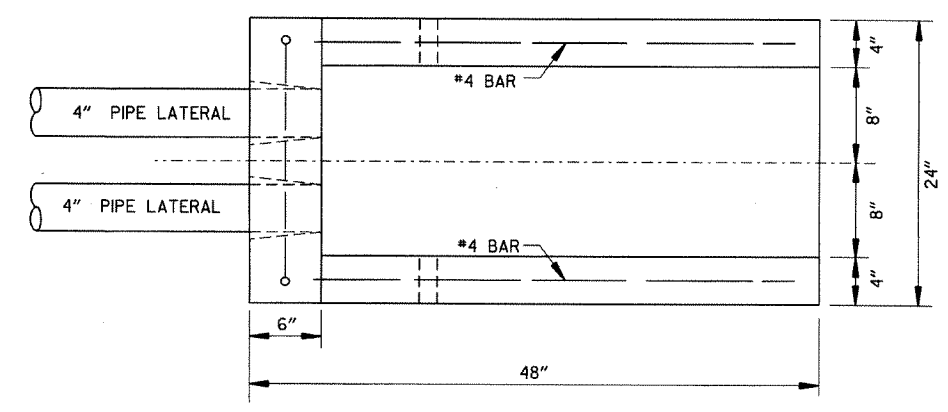
THIS DRAWING SHOULD BE USED IN CONJUNCTION WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", LATEST REVISION.

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.

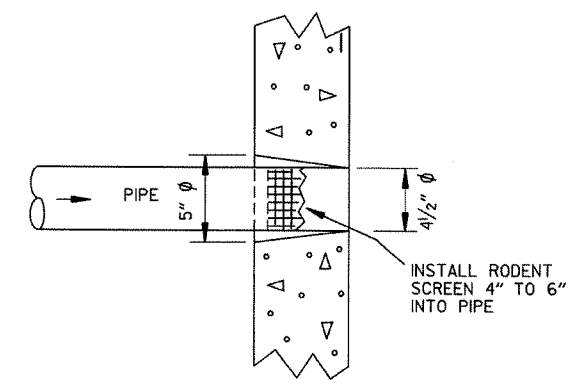
DATE	REVISION	FILMED
11-17-10	REVISED GENERAL NOTES & REMOVED PLOWABLE PVMT MRKRS	
11-18-04	REVISED NOTE 2 & GENERAL NOTES	
8-22-02	ADDED CROSSWALK & STOPBAR DTLS.	
7-02-98	ADDED DETAILS OF STD. RAISED PAV'T. MARKERS	
4-26-96	REV. NOTES 3&4; ADDED R.P.M.	
9-30-80	DRAWN	1-9-30-80

ARKANSAS STATE HIGHWAY COMMISSION	
PAVEMENT MARKING DETAILS	
STANDARD DRAWING PM-1	

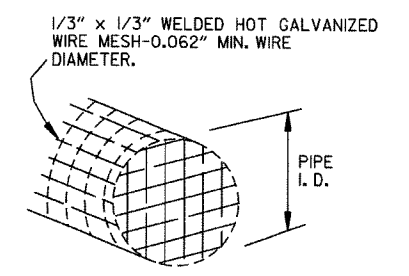
NOTE:
 1. GRANULAR BACKFILL TO BE SUBSIDIARY TO PIPE UNDERDRAIN.
 2. UNLESS OTHERWISE SPECIFIED ON THE PLANS, THE UNDERDRAIN COVER SHALL BE THOROUGHLY COMPACTED EARTH AND SHALL BE SUBSIDIARY TO PIPE UNDERDRAIN.
 3. GRANULAR MATERIAL SHALL BE WRAPPED WITH GEOTEXTILE FABRIC, LAP FABRIC 12" OR THE WIDTH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



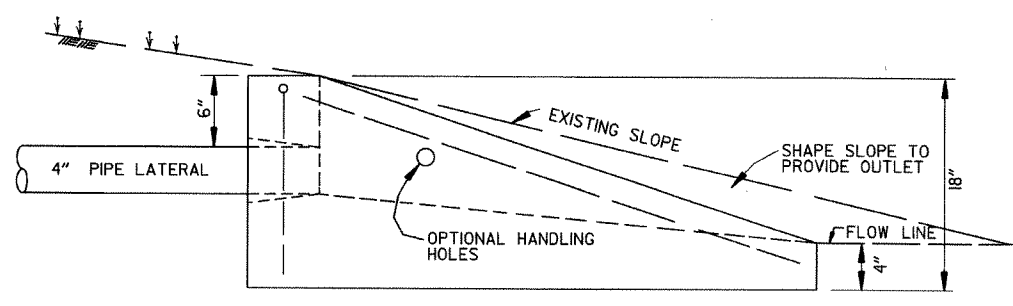
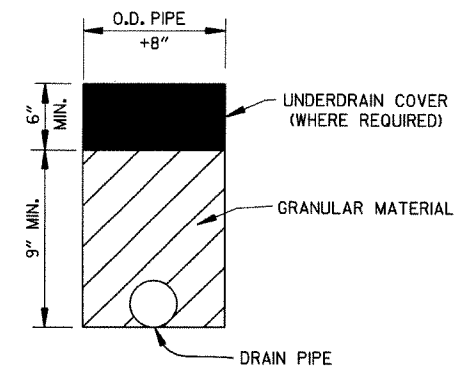
PLAN VIEW



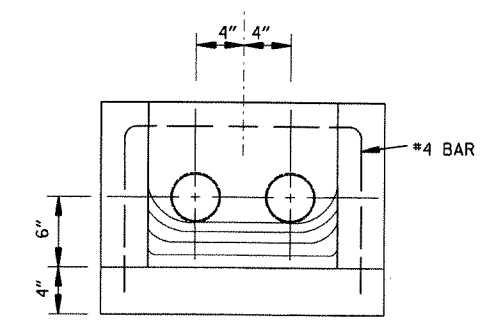
DETAIL OF HOLE FOR 4" PIPE



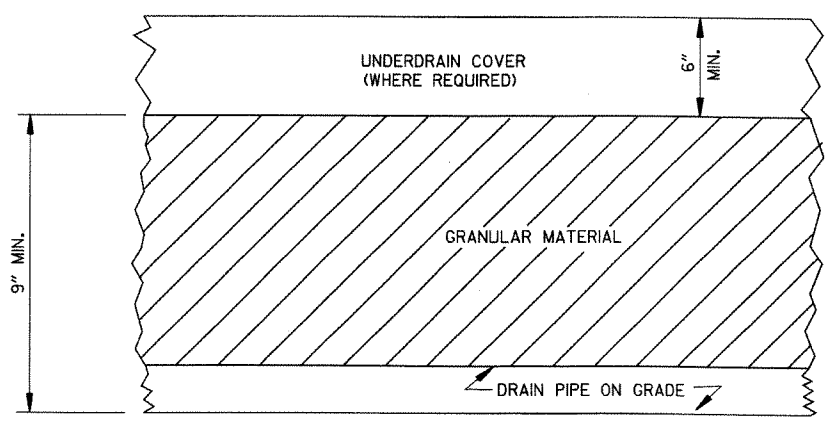
DETAIL OF RODENT SCREEN



SIDE VIEW

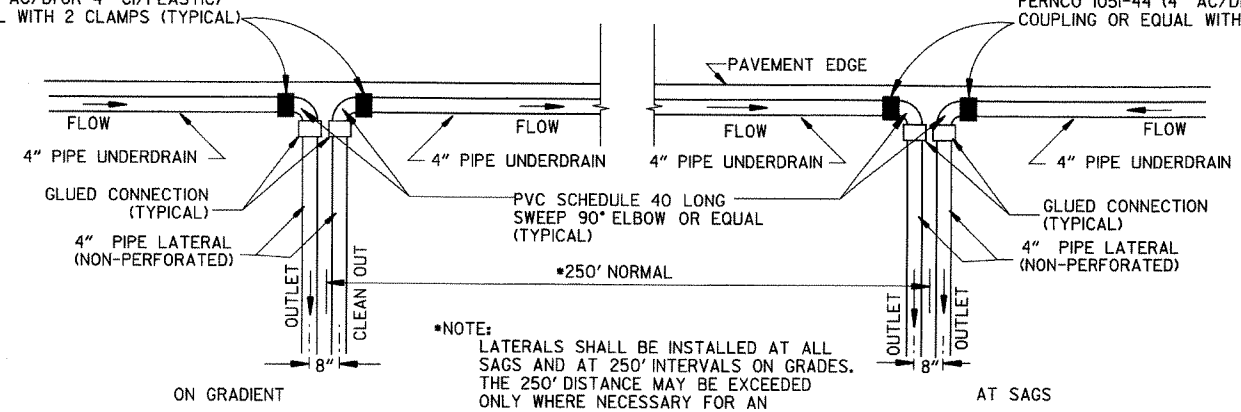


FRONT VIEW



DETAILS OF PIPE UNDERDRAIN

UNDERDRAIN OUTLET PROTECTORS



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.

DATE	REVISION	DATE FILMED
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

ARKANSAS STATE HIGHWAY COMMISSION

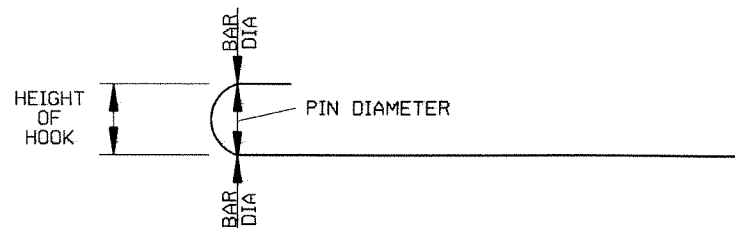
DETAILS OF PIPE UNDERDRAIN

STANDARD DRAWING PU-1

STEEL FABRICATION: REINFORCING STEEL FABRICATION SHALL CONFORM TO THE DIMENSIONS LISTED IN THE TABLE BELOW:

BAR SIZE	PIN DIAMETER	HOOK EXTENSION "K"
3	2 1/4"	4'
4	3"	4 1/2"
5	3 3/4"	5'
6	4 1/2"	6'
7	5 1/4"	7'
8	6"	8'

IF THE OVERALL HEIGHT OF THE HOOK (SEE DIAGRAM BELOW) FOR A "b", "b1", "b2" OR "b3" BENT BAR IS GREATER THAN THE CORRESPONDING TOP OR BOTTOM SLAB THICKNESS, LESS 2 3/4 INCHES, EACH BENT BAR SHALL BE REPLACED WITH ONE HOOKED BAR AND ONE STRAIGHT BAR, USING LENGTHS AS SHOWN IN THE TABLE BELOW. THE TWO BARS SHALL BE THE SAME DIAMETER AS, AND PLACED AT THE SAME SPACING AS, THE "b", "b1", "b2" OR "b3" BENT BARS THEY REPLACE.



NOTE: DIMENSIONS OF BARS ARE MEASURED OUT TO OUT OF BARS.

OVERALL HEIGHT OF HOOKED BAR DIAGRAM

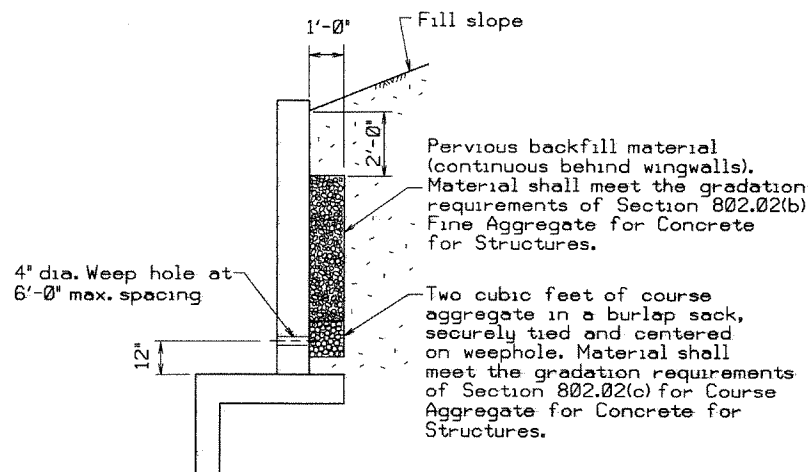
THE HOOKED BARS SHALL BE PLACED IN THE BOTTOM OF THE TOP SLAB AND THE TOP OF THE BOTTOM SLAB. THE STRAIGHT BARS SHALL BE PLACED IN THE TOP OF THE TOP SLAB AND THE BOTTOM OF THE BOTTOM SLAB. SEE TABLE BELOW FOR LENGTHS OF REPLACEMENT HOOKED AND STRAIGHT BARS.

FOR SKEWED CULVERTS, THE REPLACEMENT STRAIGHT BAR MAY HAVE TO BE CUT IN FIELD TO FIT.

REPLACEMENT BAR LENGTHS TABLE

BAR SIZE: "b", "b1", "b2" OR "b3"	LENGTH OF HOOKED BAR	LENGTH OF STRAIGHT BAR
#4	L + 1' - 0"	SEE "c" BAR LENGTH
#5	L + 1' - 2"	SEE "c" BAR LENGTH
#6	L + 1' - 4"	SEE "c" BAR LENGTH
#7	L + 1' - 8"	SEE "c" BAR LENGTH
#8	L + 1' - 10"	SEE "c" BAR LENGTH
#9	L + 2' - 6"	SEE "c" BAR LENGTH

L = "OW" - 3 INCHES



WINGWALL DRAINAGE DETAIL

REINFORCED CONCRETE BOX CULVERT GENERAL NOTES

CONCRETE SHALL BE CLASS S WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3500 PSI. REINFORCING STEEL SHALL BE AASHTO M 31 OR M 53, GRADE 60.

CONSTRUCTION AND MATERIALS FOR WINGWALL DRAINAGE, INCLUDING WEEP HOLES AND GRANULAR MATERIAL, SHALL BE SUBSIDIARY TO THE BID ITEM, "CLASS S CONCRETE".

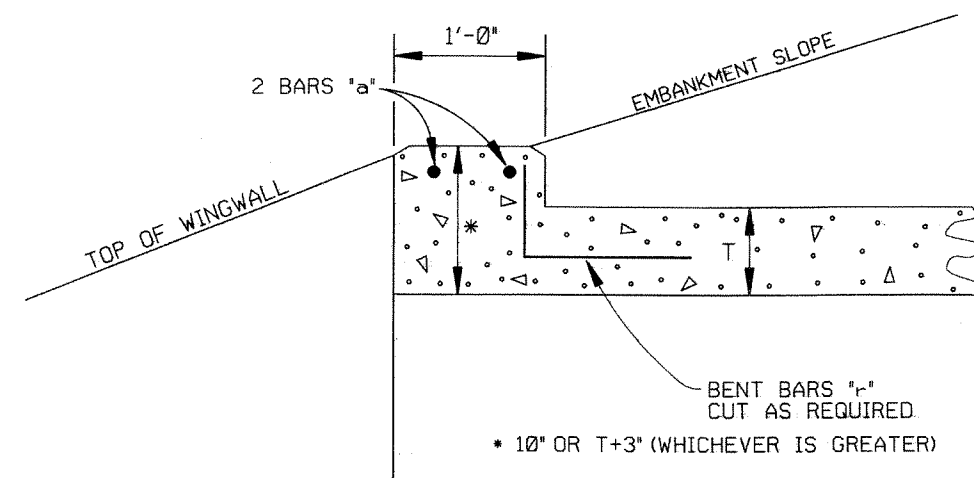
MEMBRANE WATERPROOFING SHALL CONFORM TO THE REQUIREMENTS OF SECTION 815 OF THE STANDARD SPECIFICATIONS.

MEMBRANE WATERPROOFING SHALL BE APPLIED TO ALL CONSTRUCTION JOINTS IN THE TOP SLAB AND THE SIDEWALLS OF R.C. BOX CULVERTS AS DIRECTED BY THE ENGINEER. NO PAYMENT SHALL BE MADE FOR THIS ITEM, BUT PAYMENT WILL BE CONSIDERED TO BE INCLUDED IN THE VARIOUS ITEMS BID FOR THE R.C. BOX CULVERT.

REINFORCING STEEL TOLERANCES: THE TOLERANCES FOR REINFORCING STEEL SHALL MEET THOSE LISTED IN "MANUAL OF STANDARD PRACTICE" PUBLISHED BY CONCRETE REINFORCING STEEL INSTITUTE (CRSI) EXCEPT THAT THE TOLERANCE FOR TRUSS BARS SUCH AS FIGURE 3 ON PAGE 7-4 OF THE CRSI MANUAL SHALL BE MINUS ZERO TO PLUS 1/2 INCH.

WEEP HOLES IN WINGWALLS: THE MAXIMUM HORIZONTAL SPACING OF WEEP HOLES IN WINGWALLS SHALL BE 6'-0" AND SHALL BE SPACED TO CLEAR ALL REINFORCING STEEL. THE DRAIN OPENING SHALL BE 4" DIAMETER AND PLACED 12" ABOVE TOP OF WINGWALL FOOTING.

THE REQUIREMENTS SHOWN ON THIS DRAWING SHALL SUPERCEDE THE CORRESPONDING REQUIREMENTS ON ALL REINFORCED CONCRETE BOX CULVERT STANDARD DRAWINGS.



NOTE: FOR ALL SKEWED R.C. BOX CULVERTS THE LENGTH "K" OF THE MODIFIED HEADWALL SHALL BE EQUAL TO THE ROADWAY LENGTH "RL". THE ENDS OF THE HEADWALL SHALL BE CONSTRUCTED PARALLEL TO THE SKEW ANGLE OF THE BOX CULVERT.

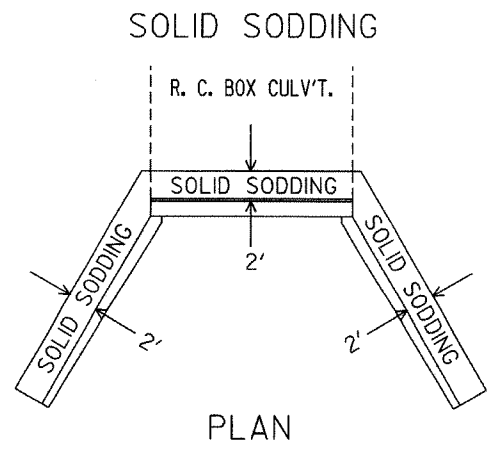
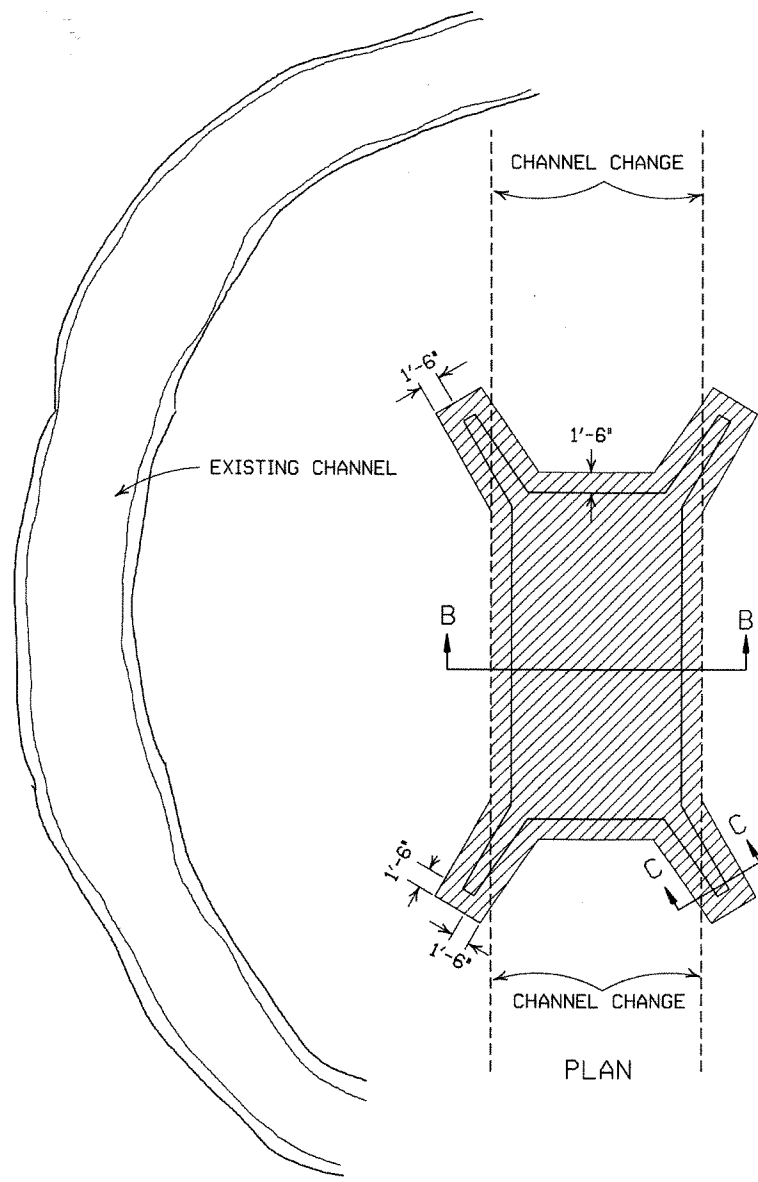
R.C. BOX CULVERT HEADWALL MODIFICATIONS

ARKANSAS STATE HIGHWAY COMMISSION

REINFORCED CONCRETE BOX CULVERT DETAILS

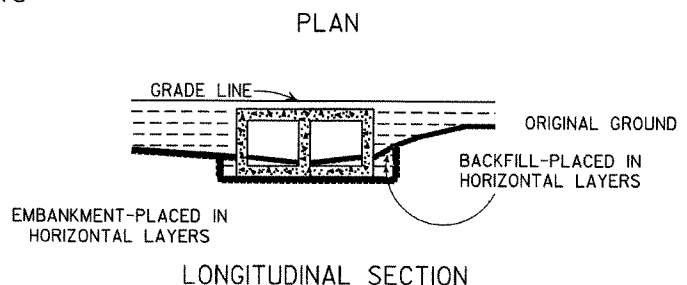
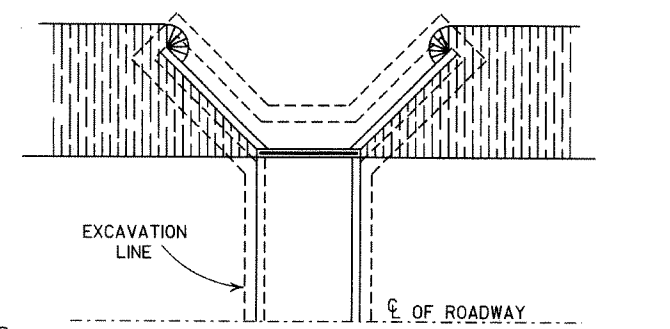
STANDARD DRAWING RCB-1

DATE	REVISION	DATE FILMED
05-25-06	REV. GEN. NOTES AND DETAILS FOR WEEP HOLES; BAR DIAGRAM	
11-16-01	ADDED WINGWALL DRAINAGE DETAIL/EDITED GEN. NOTES	
10-18-96	REV. ASTM REF. TO AASHTO & ADDED BAR DIAGRAM	
10-12-95	MOVED SOLID SODDING DETAIL TO RCB-2	
6-2-94	ADDED SOLID SODDING PLAN DETAIL	
8-5-93	REVISED PIN DIAMETER TO SPECS.	
8-15-91	DRAWN AND ISSUED	

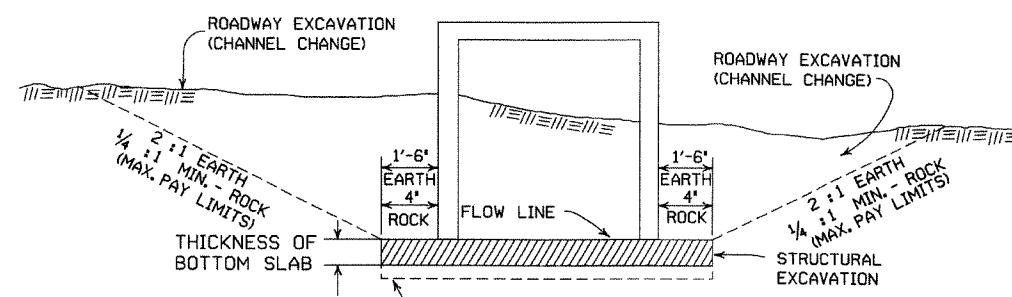
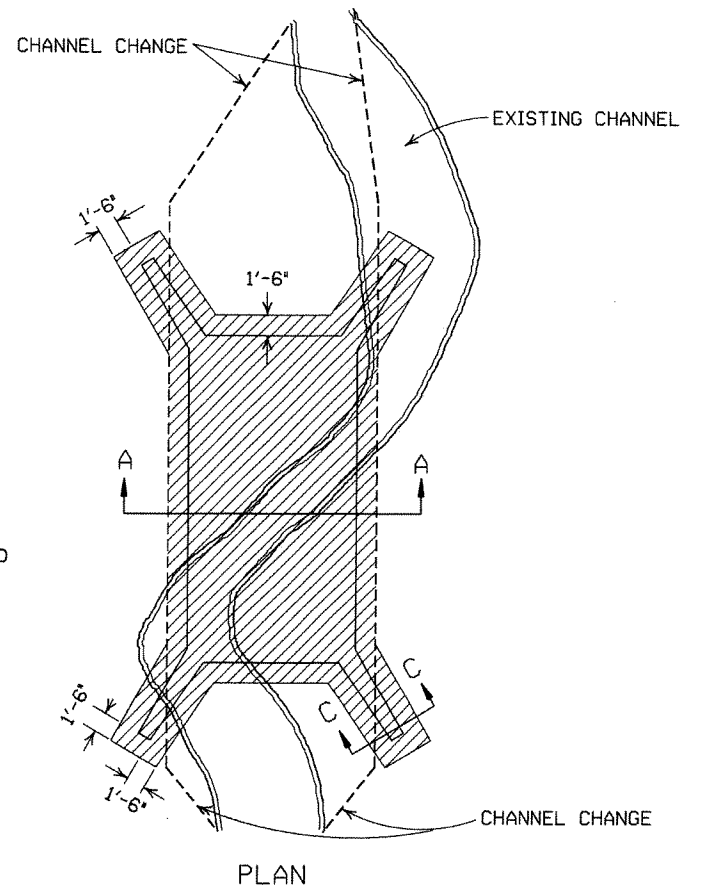


PARTIAL SECTION SHOWING SOLID SODDING AT HEADWALLS AND WING WALLS

NOTE: LENGTH MEASURED ALONG THE CENTER OF 2' STRIP OF SOLID SODDING.

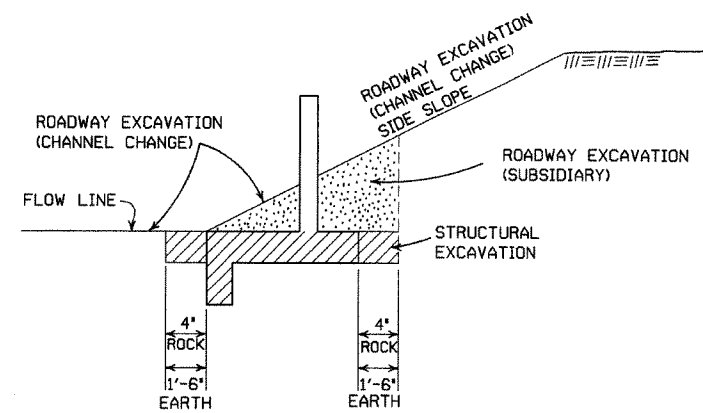


BACKFILL DETAILS FOR BOX CULVERT

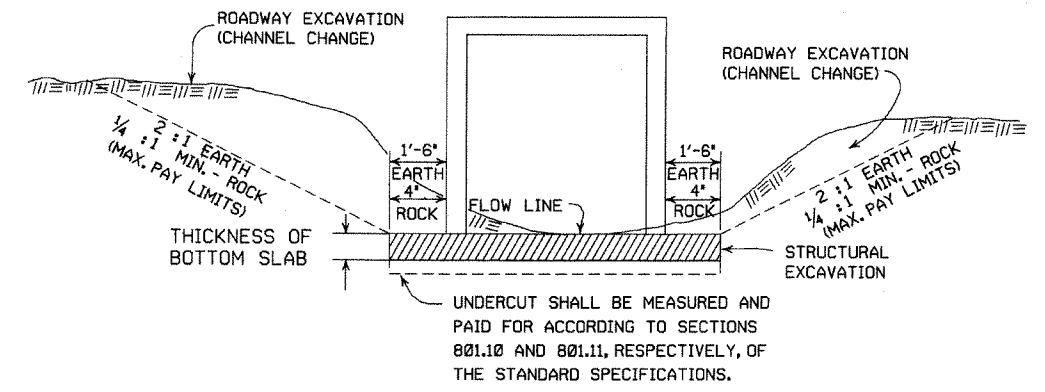


SECTION B-B
DETAILS FOR NEW CHANNELS

UNDERCUT SHALL BE MEASURED AND PAID FOR ACCORDING TO SECTIONS 801.10 AND 801.11, RESPECTIVELY, OF THE STANDARD SPECIFICATIONS.



SECTION C-C



SECTION A-A
DETAILS THROUGH EXISTING CHANNELS

UNDERCUT SHALL BE MEASURED AND PAID FOR ACCORDING TO SECTIONS 801.10 AND 801.11, RESPECTIVELY, OF THE STANDARD SPECIFICATIONS.

GENERAL NOTES:

ROADWAY EXCAVATION (CHANNEL CHANGE) WILL BE PAID FOR AT R.C. BOX CULVERT LOCATIONS. IT WILL BE PAID TO THE LIMITS ACTUALLY CUT AND WILL BE CONFINED TO THAT PORTION OF THE INDICATED AREA THAT IS ABOVE THE FLOW LINE. ROADWAY EXCAVATION (CHANNEL CHANGE) SHALL BE MEASURED BY CROSS SECTIONS AND VOLUMES COMPUTED BY AVERAGE END AREA METHOD. ALL CHANNEL CHANGES SHALL BE BROUGHT TO GRADE PRIOR TO MAKING ANY EXCAVATION FOR STRUCTURES.

EXCAVATION FOR STRUCTURES WILL BE PAID FOR AT ALL R.C. BOX CULVERT LOCATIONS. IT WILL BE PAID TO THE LIMITS SHOWN AND SHALL BE CONFINED TO THAT PORTION OF THE INDICATED AREA THAT IS BELOW THE CHANNEL FLOW LINE.

ROADWAY EXCAVATION SHOWN IN SECTION C-C ABOVE AS SUBSIDIARY WILL NOT BE MEASURED OR PAID FOR DIRECTLY, BUT PAYMENT WILL BE CONSIDERED TO BE INCLUDED IN THE VARIOUS ITEMS OF EXCAVATION.

11-20-03	REVISED SECTION A-A NOTE	
8-22-02	REVISED SECTION B-B NOTE	
10-12-95	COMBINED 1891B AND 1888A	
1-4-83	REVISED GENERAL NOTES AND ADDED MAXIMUM PAY LIMIT NOTES.	674-1-4-83
2-2-76	EXCAV. PAY LIMITS	917-2-2-76
10-2-72	REVISED AND REDRAWN	564-10-16-72
DATE	REVISION	FILMED

ARKANSAS STATE HIGHWAY COMMISSION

EXCAVATION PAY LIMITS, BACKFILL, & SOLID SODDING FOR BOX CULVERTS

STANDARD DRAWING RCB-2

ADVANCE DISTANCES (XXXX)


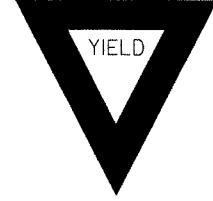
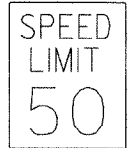
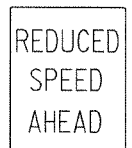



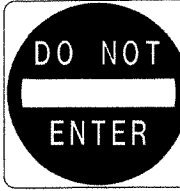
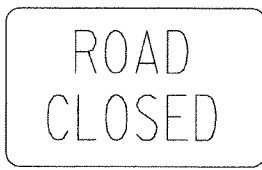
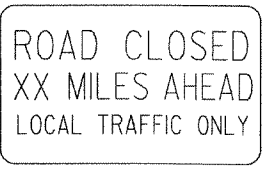
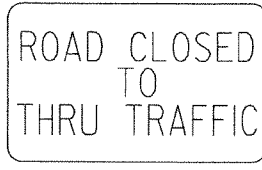
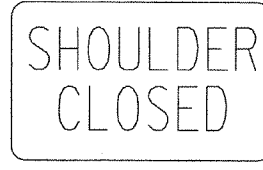
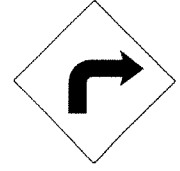
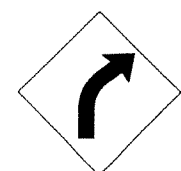




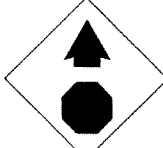
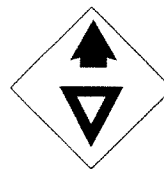
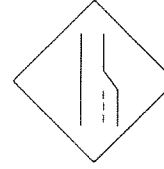



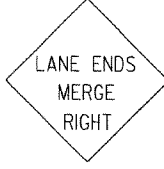


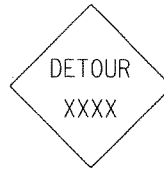





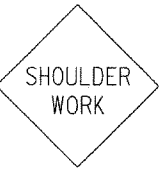
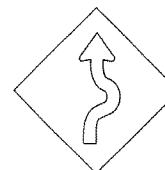


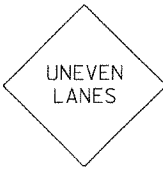
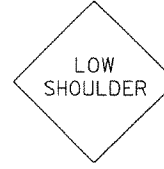

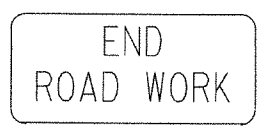
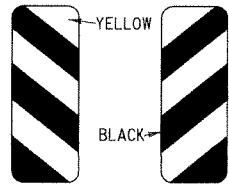
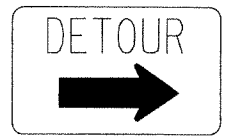

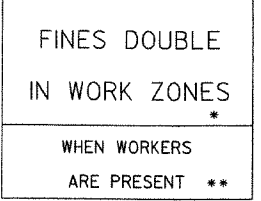
500 FT	1/2 MILE
1000 FT	3/4 MILE
1500 FT	1 MILE AHEAD

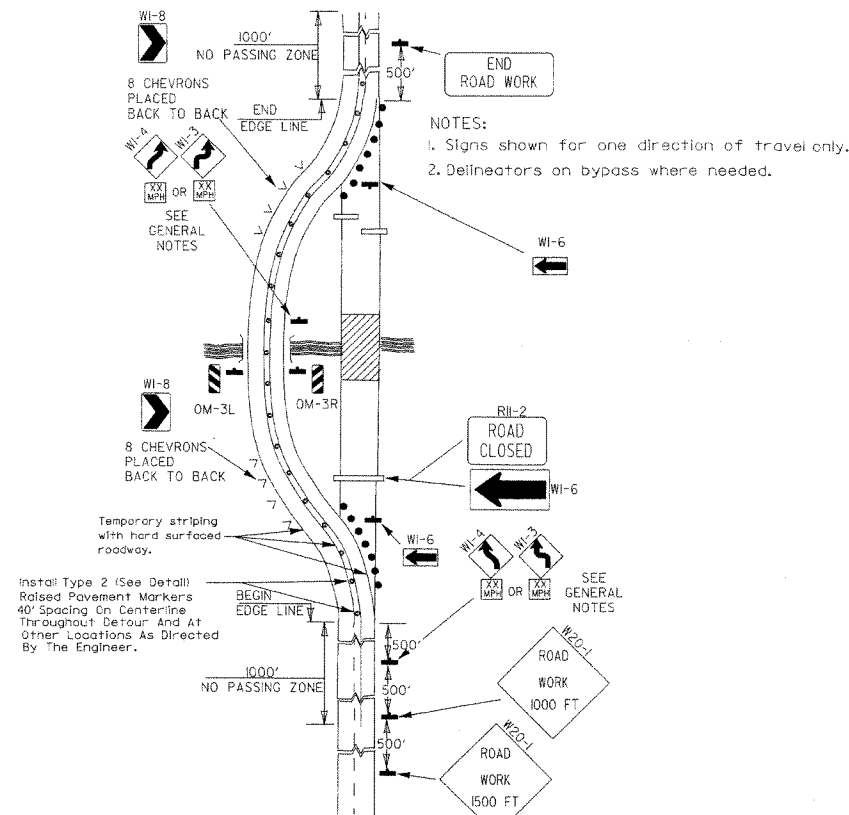
GENERAL NOTES:

- 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.
- 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.
- 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.
- SIGNS ARE USUALLY MOUNTED ON A SINGLE POST, ALTHOUGH THOSE WIDER THAN 36" OR LARGER THAN 10 SO. FT. SHALL BE MOUNTED ON TWO POSTS OR ABOVE A TYPE III BARRICADE.
- 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.
- 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.
- 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.
- FLAGGERS SHALL USE REFLECTORIZED STOP-SLOW PADDLES. FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS.
- 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.
- 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.

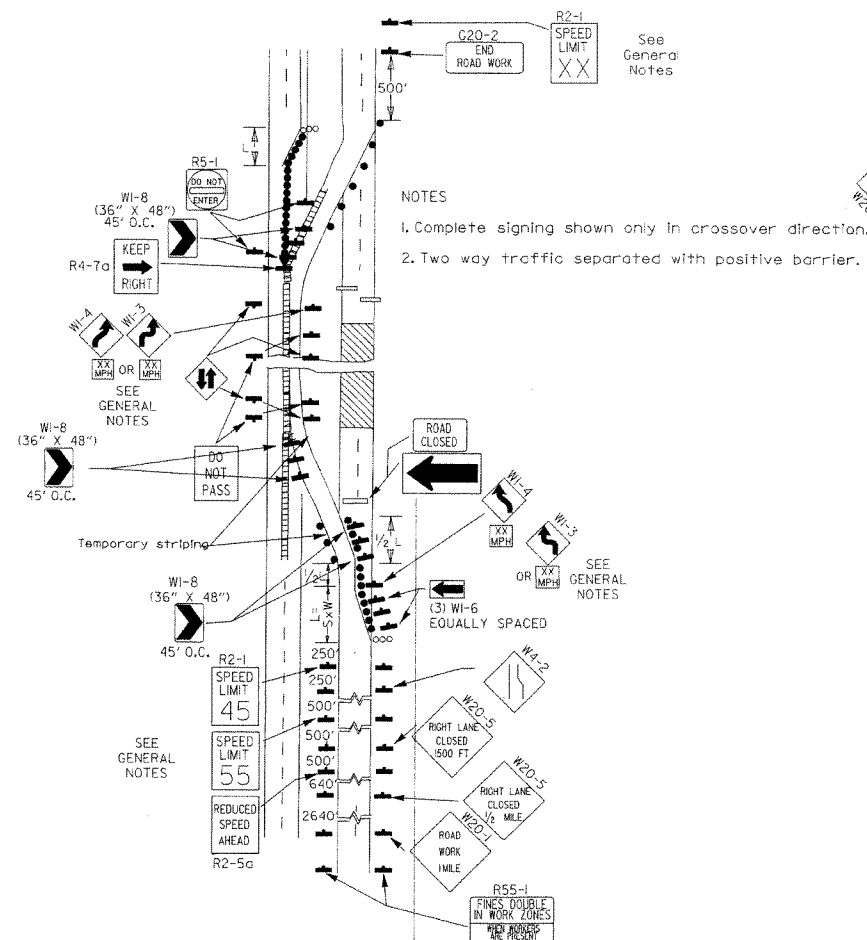
* NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5 BUT MEET THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) IS REQUIRED FOR ALL PROJECTS.

DATE	REVISION	FILMED
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	

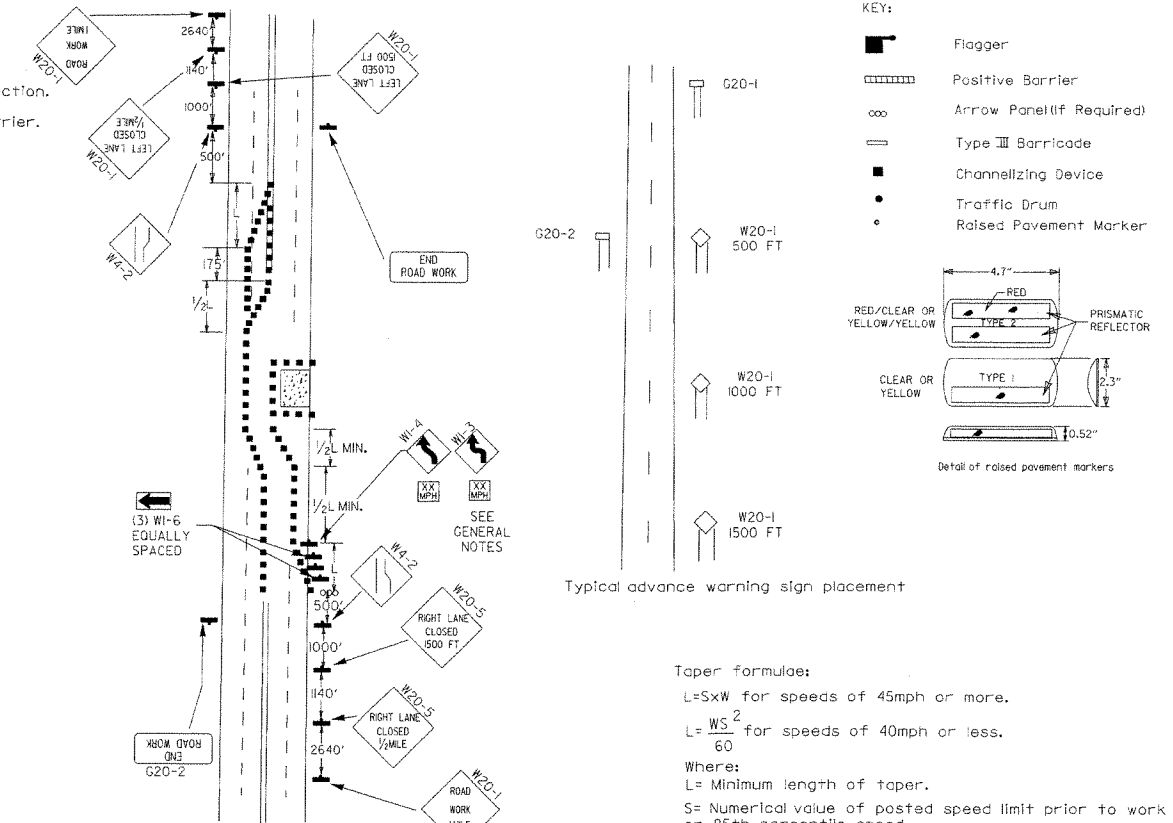
<p>RI-1</p>  <p>STANDARD 30"x30" EXPRESSWAY 36"x36" SPECIAL 48"x48"</p>	<p>RI-2</p>  <p>STD. 36"x36"x36" EXPWY. 48"x48"x48" FWY. 60"x60"x60"</p>	<p>R2-1</p>  <p>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</p>	<p>R2-5A</p>  <p>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</p>	<p>R2-5C</p>  <p>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</p>	<p>R4-1</p>  <p>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</p>	<p>R4-2</p>  <p>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</p>	
<p>R5-1</p>  <p>STD. 30"x30" EXPWY. 36"x36" SPECIAL 48"x48"</p>	<p>R11-2</p>  <p>48"x30"</p>	<p>R11-3A</p>  <p>60"x30"</p>	<p>R11-4</p>  <p>60"x30"</p>	<p>RSP-1</p>  <p>48"x30"</p>	<p>WI-1</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	<p>WI-2</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	
<p>WI-3</p>  <p>STD. 48"x48"</p>	<p>WI-4</p>  <p>STD. 48"x48"</p>	<p>WI-6</p>  <p>STD. 48"x24" SPECIAL 60"x30"</p>	<p>WI-8</p>  <p>STD. 18"x24" SPECIAL 24"x30" EXPWY. 30"x36" FWY. 36"x48"</p>	<p>W3-1</p>  <p>STD. 36"x36" SPECIAL 48"x48"</p>	<p>W3-2</p>  <p>STD. 36"x36" SPECIAL 48"x48"</p>	<p>W4-2</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	
<p>W5-1</p>  <p>STD. 36"x36" SPECIAL 48"x48"</p>	<p>W6-3</p>  <p>EXPWY. 36"x36" SPECIAL 48"x48"</p>	<p>W8-7</p>  <p>EXPWY. 36"x36" FWY. 48"x48"</p>	<p>W9-2</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	<p>W13-1</p>  <p>STD. 24"x24"</p>	<p>W20-1</p>  <p>STD. 48"x48"</p>	<p>W20-2</p>  <p>STD. 48"x48"</p>	<p>W20-3</p>  <p>STD. 48"x48"</p>
<p>W20-4</p>  <p>STD. 48"x48"</p>	<p>W20-5</p>  <p>STD. 48"x48"</p>	<p>W20-7a</p>  <p>18" 500 FEET 24" W16-2</p> <p>STD. 36"x36" FWY. 48"x48"</p>	<p>W21-2</p>  <p>STD. 30"x30" SPECIAL 36"x36"</p>	<p>W21-5</p>  <p>STD. 30"x30" SPECIAL 36"x36"</p>	<p>W24-1</p>  <p>STD. 36"x36"</p>	<p>WI-4b</p>  <p>STD. 48"x48"</p>	<p>R56-1</p>  <p>STD. 18"x18"</p>
<p>W8-11</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	<p>W8-9</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	<p>G20-1</p>  <p>60"x24"</p>	<p>G20-2</p>  <p>48"x24"</p>	<p>OM-3L OM-3R</p>  <p>12"x36"</p>	<p>M4-9</p>  <p>STD. 30"x24" SPECIAL 48"x36" SPECIAL 60"x48"</p>	<p>M4-10</p>  <p>48"x18"</p>	<p>R55-1</p>  <p>36"x60"</p> <p>WHEN WORKERS ARE PRESENT **</p> <p>* USE 6" C LETTERS ** USE 4" D LETTERS</p>



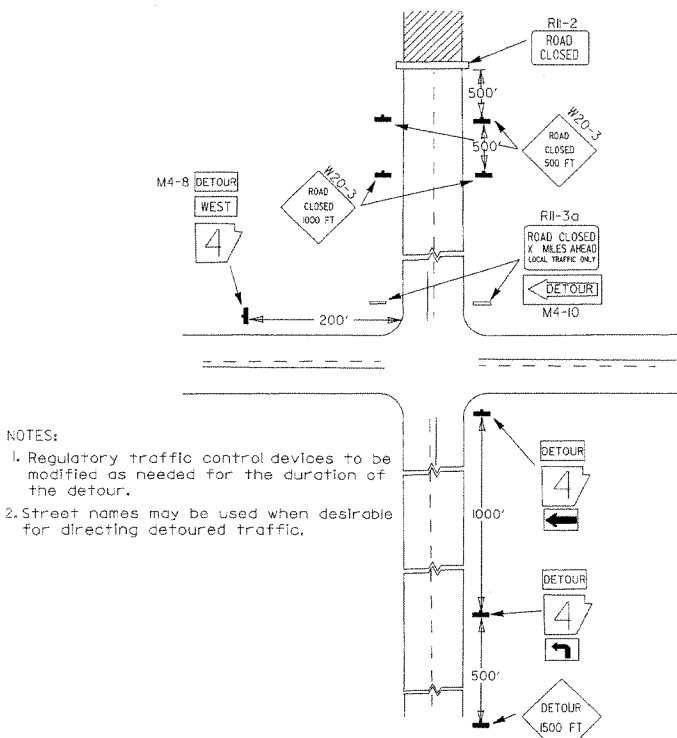
(A) Typical application of traffic control devices on a 2-lane highway where the entire roadway is closed and a bypass detour is provided.



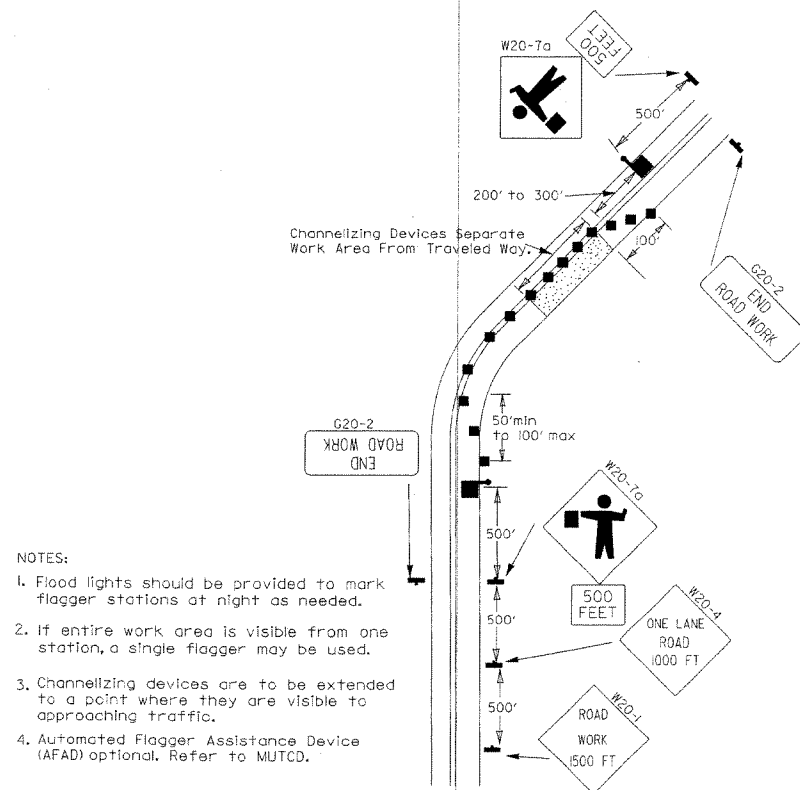
(B) Typical application - 4-lane divided roadway where one roadway is closed.



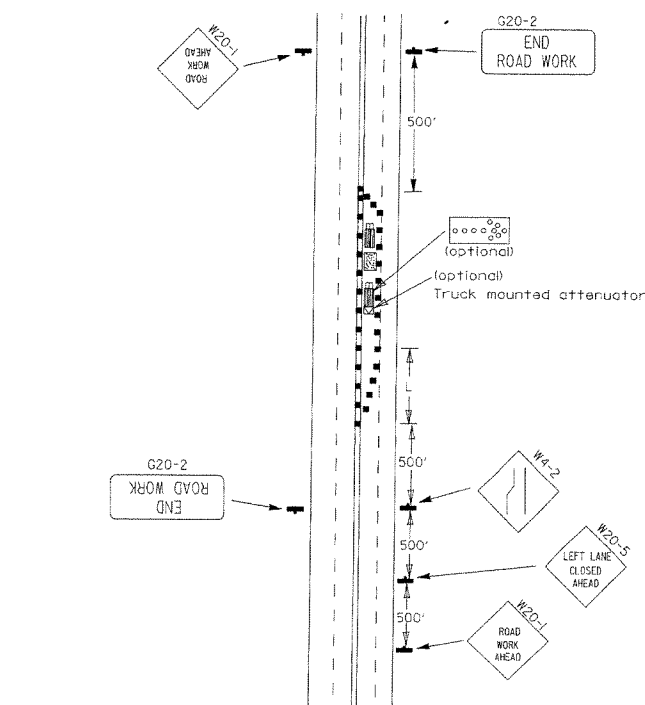
(C) Typical application - 4-lane undivided roadway where half of the roadway is closed.



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



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



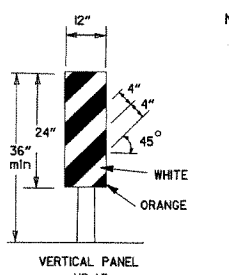
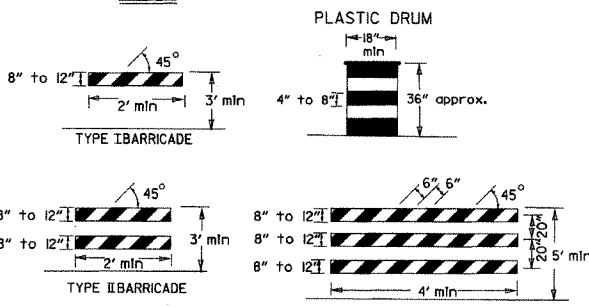
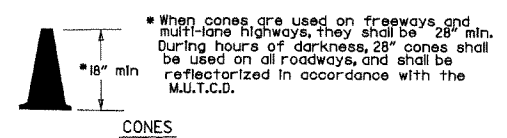
(F) Typical application - 4-lane undivided roadway with inside lane closed.

DATE	REVISION	FILMED
3-11-10	ADDED (AFAD)	
8-20-08	REVISED SIGN DESIGNATIONS	
1-18-04	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	

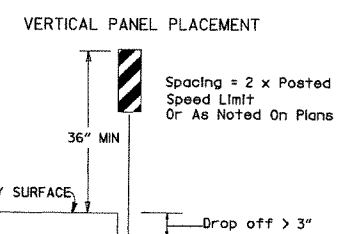
ARKANSAS STATE HIGHWAY COMMISSION
 STANDARD TRAFFIC CONTROLS
 FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-2

Channelizing devices



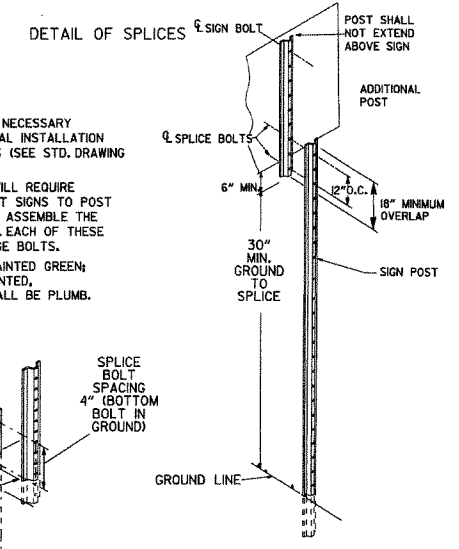
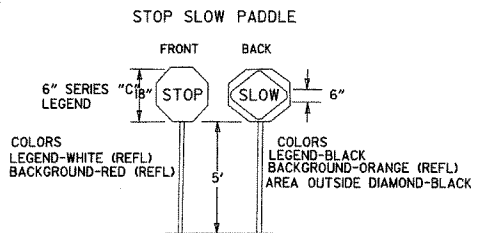
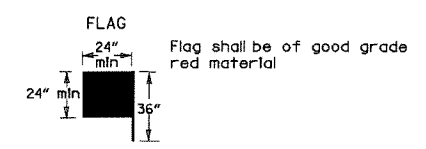
NOTE:
 For all road closures, the Type III barricades shall be of sufficient length to extend across entire roadway.



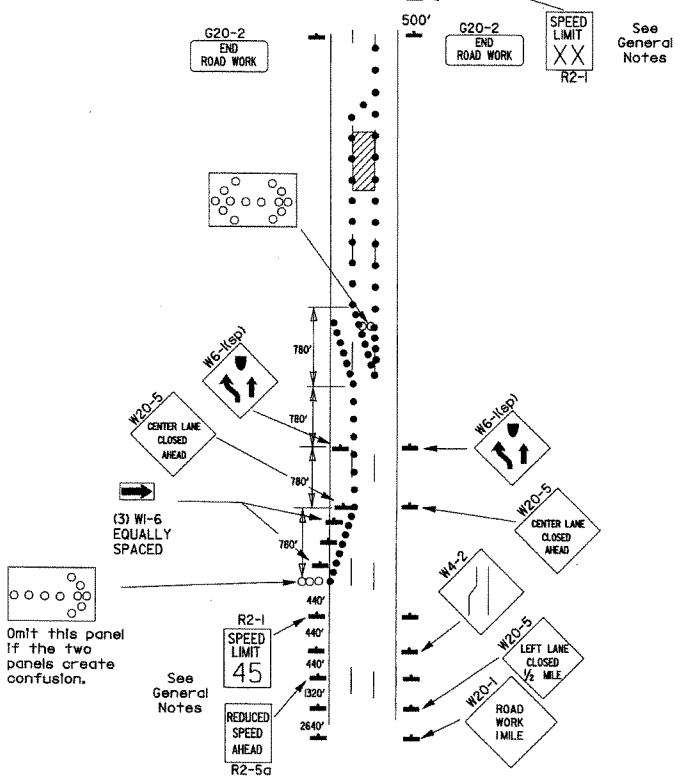
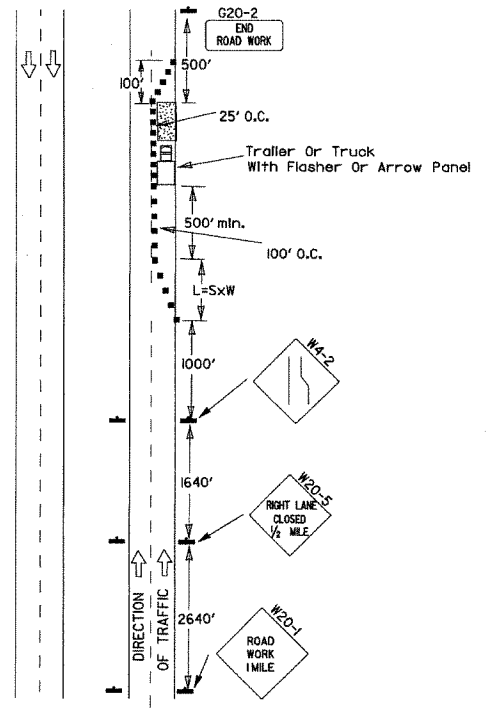
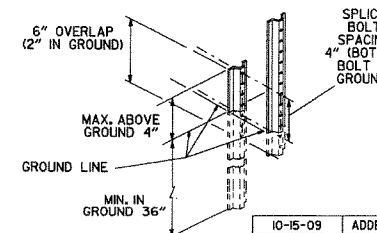
TRAFFIC CONTROL DEVICES FOR VERTICAL PAVEMENT DIFFERENTIALS

VERTICAL DIFFERENTIAL	LOCATIONS	TRAFFIC CONTROL
1" to 3"	Centerline, lane lines	W8-11
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-land 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.



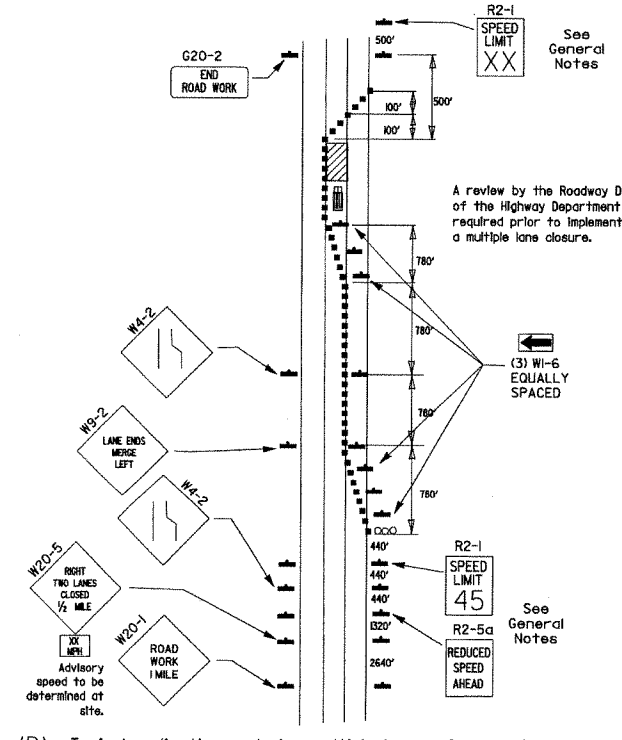
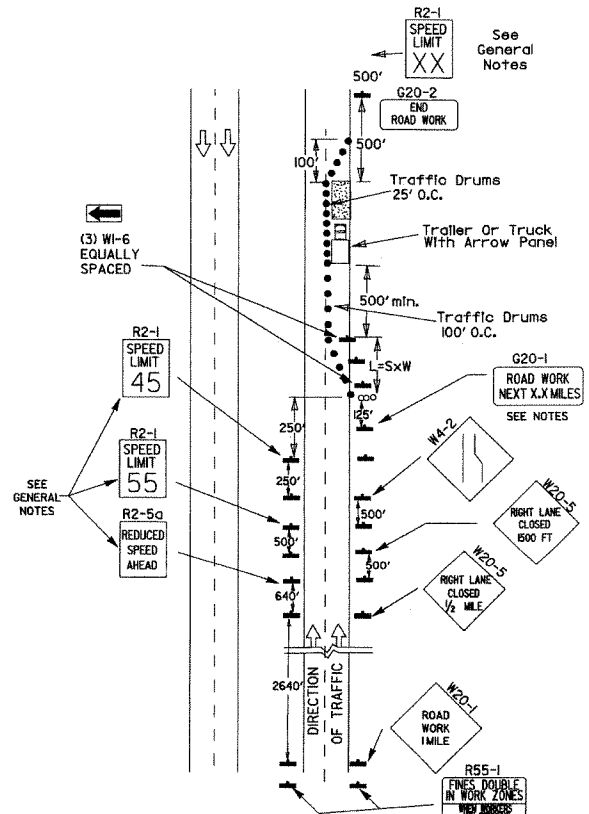
NOTES:
 USE SPLICES ONLY WHEN NECESSARY FOR INSTALLATION. TYPICAL INSTALLATION SHOULD HAVE NO SPLICES (SEE STD. DRAWING NO. SHS-2)
 NORMAL INSTALLATIONS WILL REQUIRE 1/4" DIA. BOLTS TO MOUNT SIGNS TO POST AND 5/16" DIA. BOLTS TO ASSEMBLE THE VARIOUS POST SUPPORTS. EACH OF THESE BOLTS SHALL BE CARRIAGE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



- KEY:
 ○○○ Arrow Panel (if Required)
 ■ Channelizing Device
 ● Traffic drum

GENERAL NOTES:

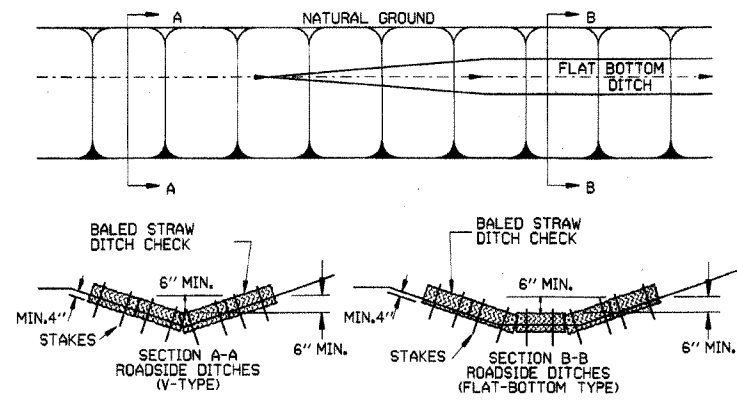
- A speed limit reduction may be implemented ONLY when designated in the plan or when recommended by the Roadway Design Division.
- When the existing speed limit is 55mph and the plans require a speed limit of 45mph, the R2-1(55) shall be omitted and the R2-5A shall be installed at that location. Additional R2-145mph speed limit signs shall be installed at a maximum of 1/2 mile intervals. At the end of the work area a R2-1(XX) 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(45) 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 R2-1(XX) 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 (1/2 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.



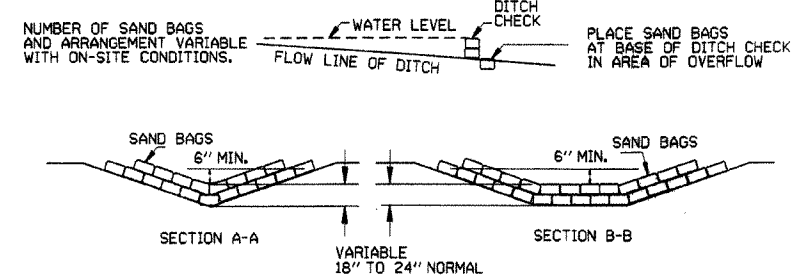
DATE	REVISION	FILMED
10-15-09	ADDED REFERENCE TO MASH	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED NOTE	
10-1-98	ADDED NOTE	
4-03-97	ADDED (SP) TO W6-1 & REVISED TRAFFIC CONTROL DEVICES NOTE	
10-18-96	ADDED R55-1	
10-12-95	MOVED UPPER SPLICE	
6-8-95	REVISED SPLICE DETAIL, TEXT	6-8-95
2-2-95	REVISED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

GENERAL NOTES

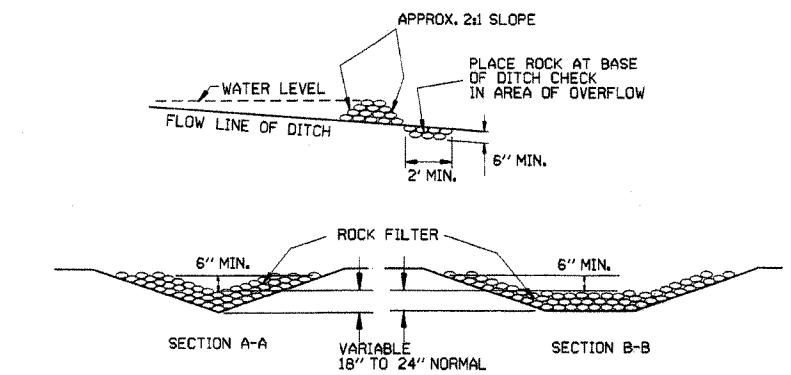
1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.
2. STRAW BALES SHALL BE KEYED INTO SOIL A MINIMUM OF 4' AND NO GAPS SHALL BE LEFT BETWEEN BALES.



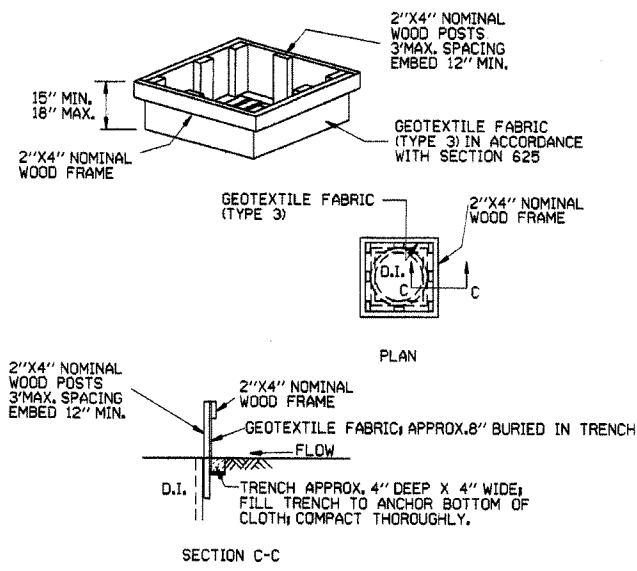
BALED STRAW DITCH CHECK (E-1)



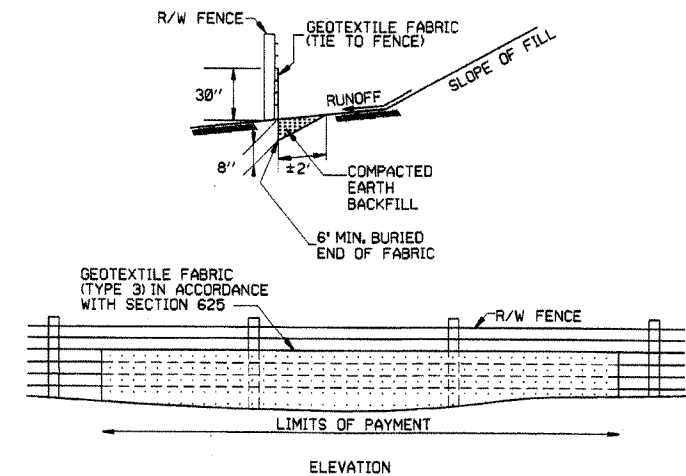
SAND BAG DITCH CHECK (E-5)



ROCK DITCH CHECK (E-6)



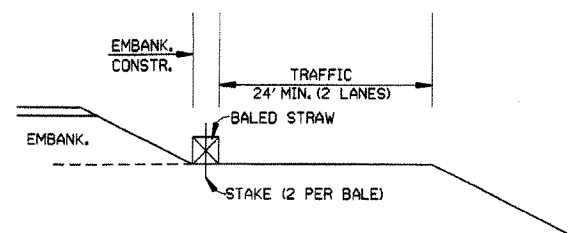
DROP INLET SILT FENCE (E-7)



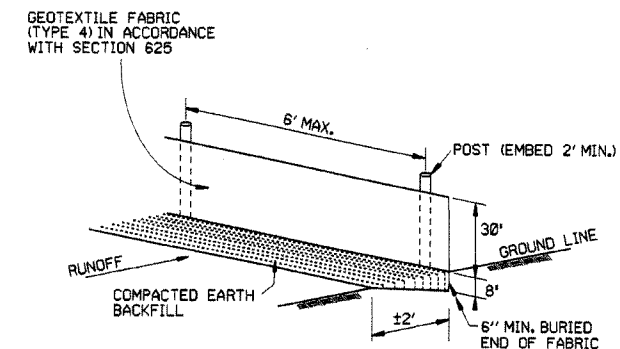
SILT FENCE ON R/W FENCE (E-4)

- 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.

- 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.



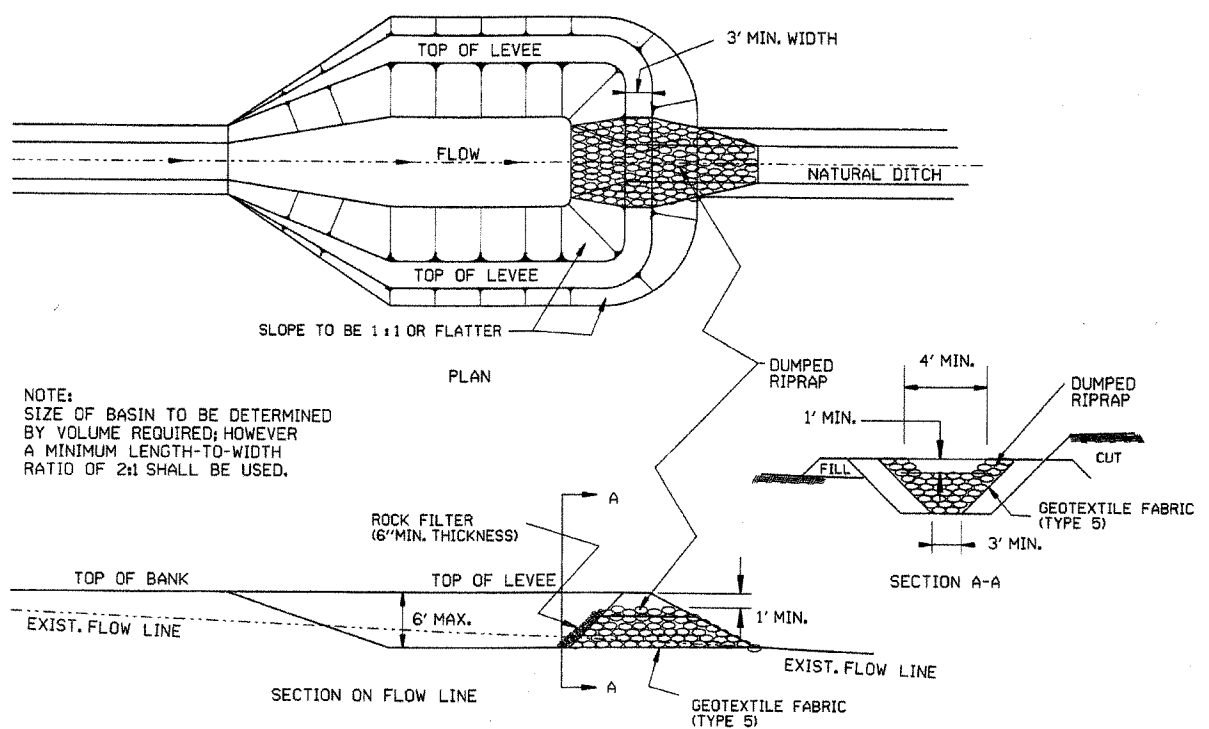
BALED STRAW FILTER BARRIER (E-2)



SILT FENCE (E-11)

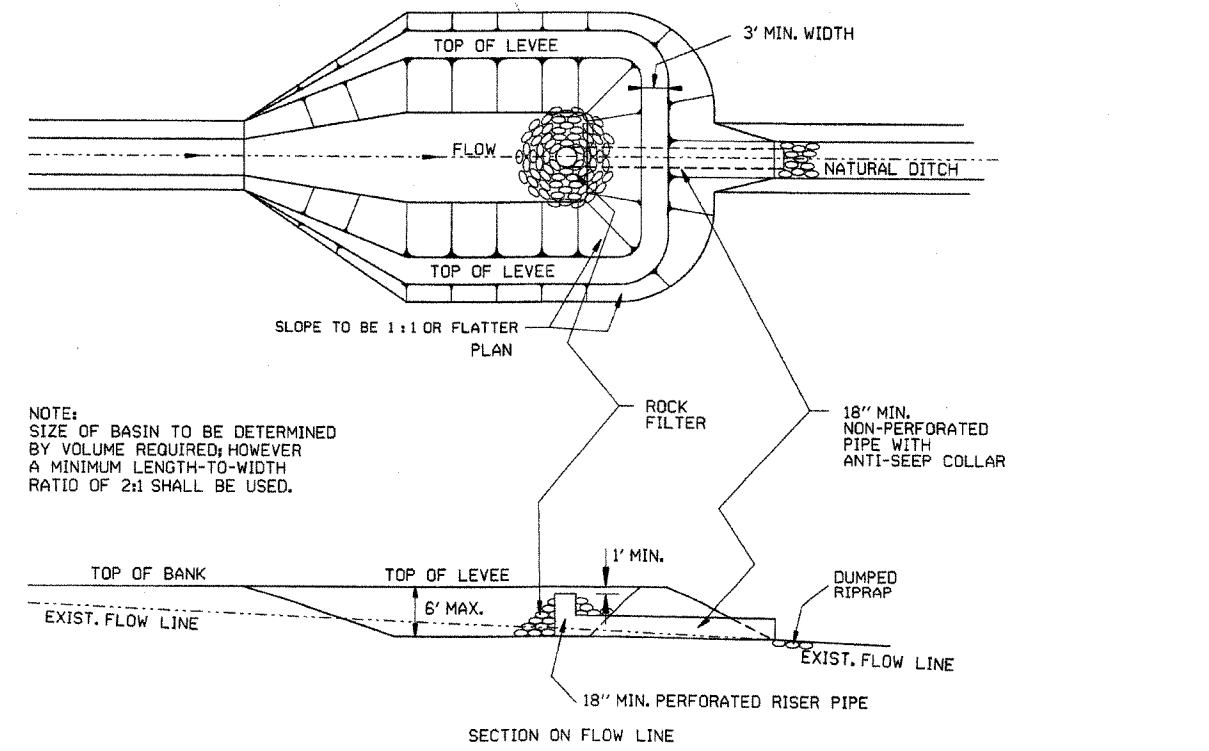
- GENERAL NOTES
- GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST, OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

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	
7-15-94	Rev. E-4 & E-11 Min. 13' Buried End of Fabric		STANDARD DRAWING TEC-1
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	



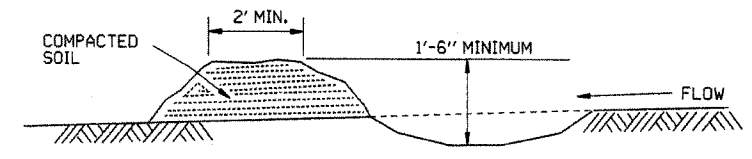
NOTE:
SIZE OF BASIN TO BE DETERMINED
BY VOLUME REQUIRED; HOWEVER
A MINIMUM LENGTH-TO-WIDTH
RATIO OF 2:1 SHALL BE USED.

SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)

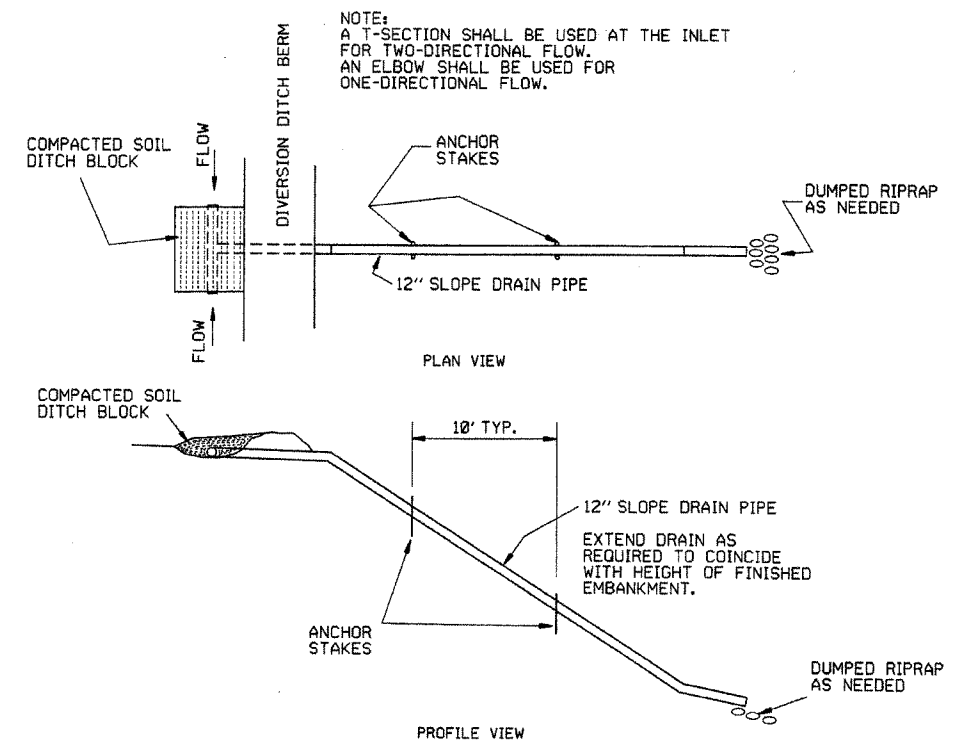


NOTE:
SIZE OF BASIN TO BE DETERMINED
BY VOLUME REQUIRED; HOWEVER
A MINIMUM LENGTH-TO-WIDTH
RATIO OF 2:1 SHALL BE USED.

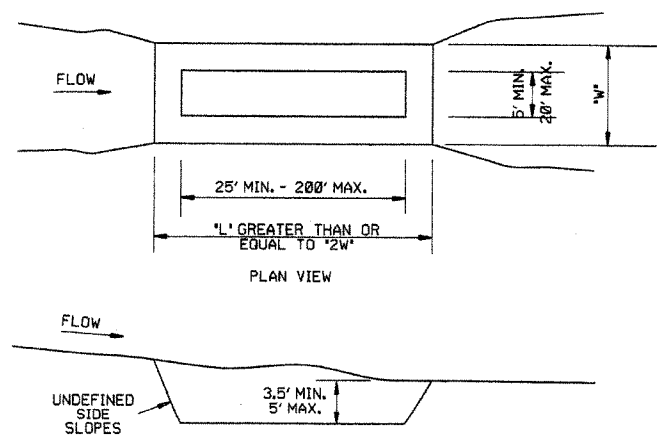
SEDIMENT BASIN WITH PIPE OUTLET (E-10)



DIVERSION DITCH (E-8)



SLOPE DRAIN (E-12)



SEDIMENT BASIN (E-14)

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

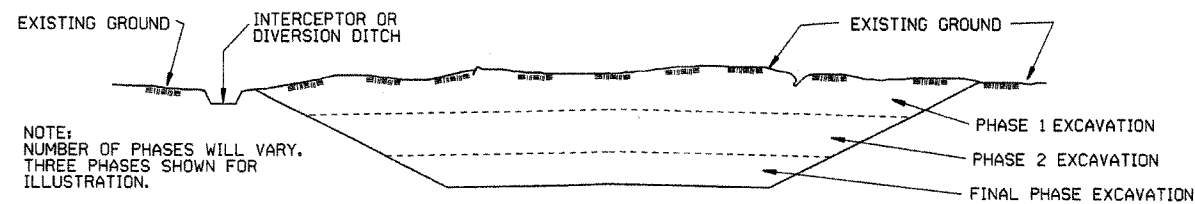
ARKANSAS STATE HIGHWAY COMMISSION
 TEMPORARY EROSION
 CONTROL DEVICES
 STANDARD DRAWING TEC-2

CLEARING AND GRUBBING

CONSTRUCTION SEQUENCE

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

EXCAVATION



NOTE:
NUMBER OF PHASES WILL VARY.
THREE PHASES SHOWN FOR ILLUSTRATION.

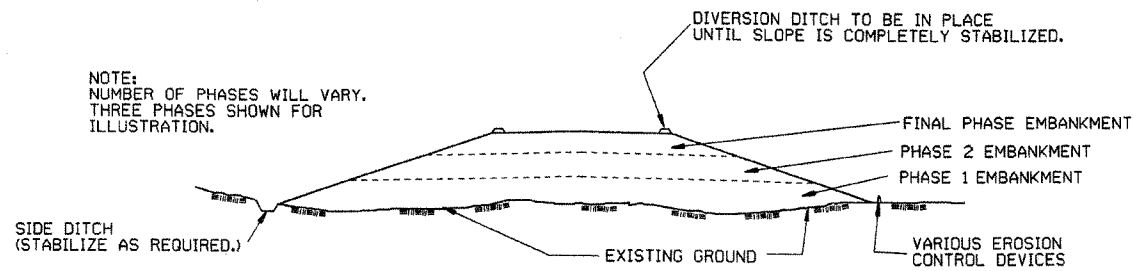
GENERAL NOTE

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



NOTE:
NUMBER OF PHASES WILL VARY.
THREE PHASES SHOWN FOR ILLUSTRATION.

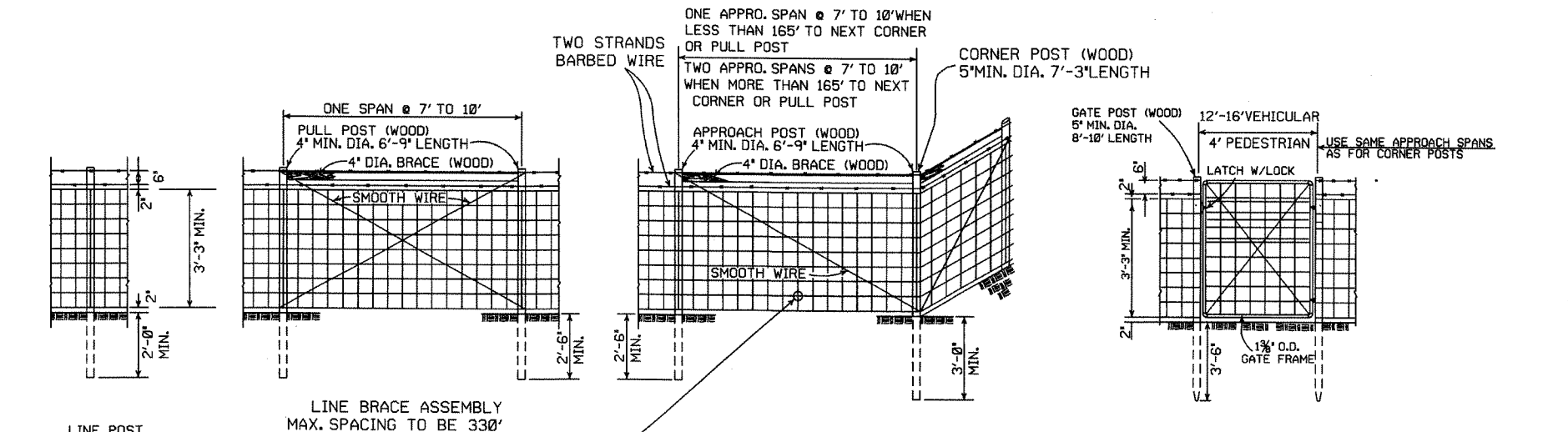
GENERAL NOTE

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.

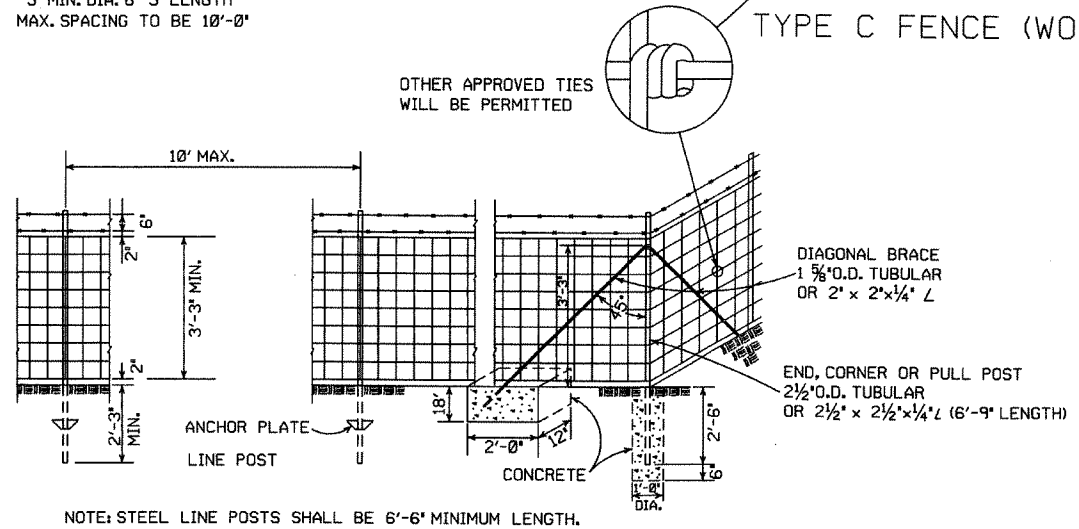
CONSTRUCTION SEQUENCE

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.

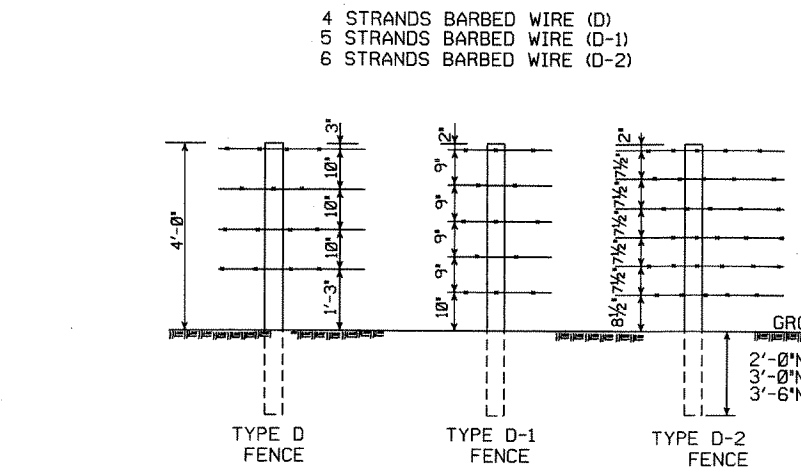
		ARKANSAS STATE HIGHWAY COMMISSION	
		TEMPORARY EROSION CONTROL DEVICES	
		STANDARD DRAWING TEC-3	
11-03-94	CORRECTED SPELLING		
6-2-94	Drawn & Issued		
DATE	REVISION	6-2-94	FILMED



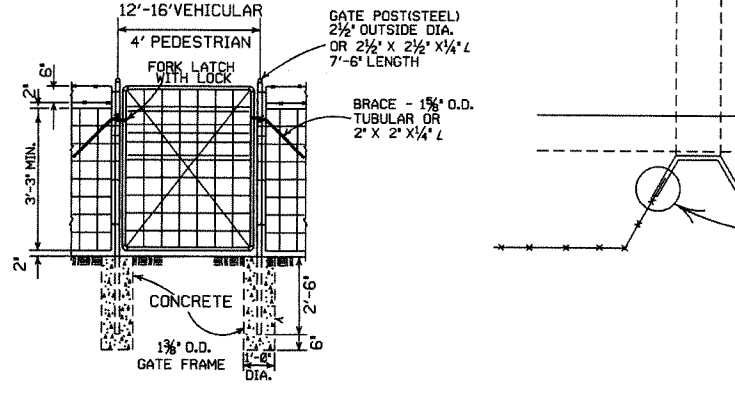
TYPE C FENCE (WOOD POSTS)



TYPE C FENCE (STEEL POSTS)

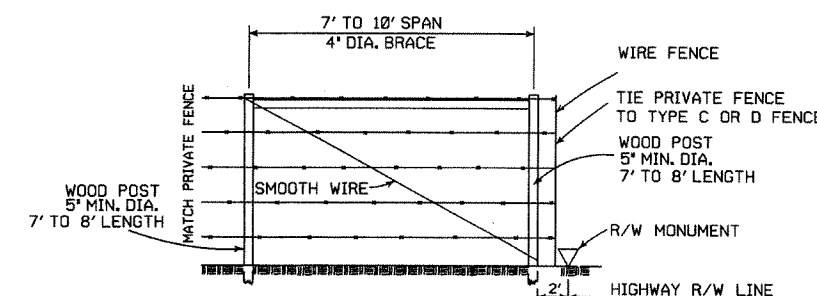


NOTE: SPACING AND SIZE (EXCEPT LENGTH) OF POSTS, APPROACH SPANS, PULL POST ASSEMBLIES, AND CORNER BRACING FOR TYPE D FENCE SHALL CONFORM TO TYPE C FENCE. USE GALVANIZED STAPLES ON WOOD POSTS AND APPROVED FASTENERS ON STEEL POSTS.



NOTE: RIGHT-OF-WAY MONUMENTS SHALL NOT BE DISTURBED BY FENCE CONSTRUCTION. CORNER POSTS SHALL BE CONSTRUCTED 2' FROM THE RIGHT-OF-WAY MONUMENT OR AS DIRECTED BY THE ENGINEER.

RIGHT-OF-WAY FENCE LOCATION



PRIVATE FENCE TERMINAL INSTALLATION WHERE EXISTING FENCE CONSISTS OF STEEL POSTS, USE END POST ASSEMBLY AS SHOWN IN TYPE C FENCE OR OTHER END POST ASSEMBLY AS APPROVED BY THE ENGINEER.

GENERAL NOTES:
STEEL LINE POSTS SHALL BE PAINTED OR GALVANIZED. TUBULAR END, CORNER, PULL, OR DIAGONAL BRACES MUST CONFORM TO THE DIMENSIONS AND WEIGHTS SPECIFIED ON STANDARD DRAWING WF-3 (CHAIN LINK). APPROVED ALTERNATES ARE ACCEPTABLE. AN ACCEPTABLE TOLERANCE IN LENGTH OF TUBULAR OR WOODEN POSTS SHALL BE -1' TO +2'. TUBULAR POSTS MUST BE PAINTED OR GALVANIZED.

THE CONTRACTOR SHALL FURNISH AT LEAST 25% OF TIMBER LINE POSTS OF 7 FOOT LENGTHS IN ORDER TO PROVIDE SUFFICIENT SET IN SOFT GROUND OR SMALL DEPRESSIONS.

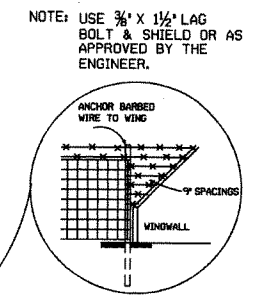
DRIVEWAY GATES, EITHER SINGLE 12' TO 16' OR DOUBLE 6' TO 8' OPENING OF THE SAME TYPE AS THE PEDESTRIAN GATE, SHALL BE INSTALLED ON THE RIGHT SIDE OF EACH THROUGH LANE ROAD AT LARGE CULVERTS OR BRIDGE CROSS FENCE, FOR USE OF MAINTENANCE EQUIPMENT. LOCATION OF GATES TO BE SHOWN ON PLANS OR AS DESIGNATED BY THE ENGINEER.

AT STREAM CROSSINGS, THE FENCE SHALL NOT BE CONSTRUCTED ACROSS LARGE STREAMS. WHERE CLEARANCE IS SUFFICIENT FROM THE TOP OF THE BANK TO THE BRIDGE STRUCTURE A CROSS CONNECTION SHALL BE CONSTRUCTED BETWEEN THE FENCE ON EACH SIDE OF THE ROAD. WHERE THE CLEARANCE IS NOT SUFFICIENT, THE FENCE SHALL BE TERMINATED WITH CROSS CONNECTIONS AND END POSTS ADJACENT TO BRIDGE ABUTMENTS OR CULVERT WINGWALLS.

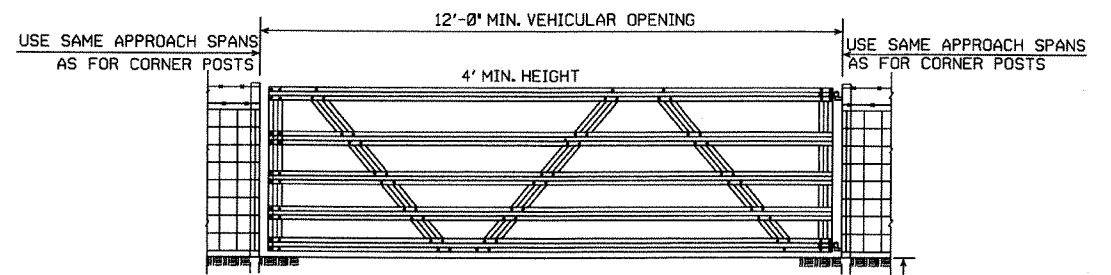
SPLICE FOR BARBED WIRE BETWEEN PULL POST ASSEMBLY SHALL BE BY THE 'EYE METHOD' AS DESCRIBED AS FOLLOWS: THE ENDS OF THE BARBED WIRE SHALL BE BENT TO FORM A LOOP. THE LOOPS SHALL BE CONNECTED. AFTER THE LOOPS ARE CONNECTED THE ENDS OF THE WIRE SHALL BE WRAPPED AROUND THE PROJECTING WIRES A MINIMUM OF 4 TIMES FOR EACH WIRE LOOP.

SPLICE FOR WOVEN WIRE BETWEEN PULL POST SHALL BE BY THE 'WESTERN UNION METHOD' AS DESCRIBED AS FOLLOWS: THE VERTICAL WIRES FOR EACH END OF THE FENCE FABRIC SHALL BE PLACED SIDE BY SIDE AND THE PROJECTING HORIZONTAL WIRES SHALL BE WRAPPED A MINIMUM OF 4 TIMES AROUND THE HORIZONTAL WIRES OF THE FIRST WEB.

STAPLE AT LEAST TOP, BOTTOM AND ALTERNATE WIRES OF WOVEN FABRIC FOR WOOD LINE POSTS.



DETAIL OF FENCE CONSTRUCTION AT LARGE CULVERTS (5' IN HEIGHT AND OVER)



OTHER STYLE VEHICULAR GATES MAY BE USED WITH THE APPROVAL OF THE ENGINEER. THE METHOD OF SECURING GATE (LATCH AND/OR LOCK) SHALL MEET THE APPROVAL OF THE ENGINEER.

8-22-82	REVISED GENERAL NOTES	
10-18-96	REVISED AASHTO	
11-22-95	REVISED R/W LOCATION DETAIL	
6-2-94	REVISED BARB WIRE AND ADDED CORNER POST NOTES	6-2-94
8-5-93	REVISED R/W INSTALLATION FENCE	8-5-93
10-1-92	ADDED STAPLE NOTE	10-1-92
8-15-91	ADDED TYPE D-2 FENCE	8-15-91
11-30-89	DELETED CLASS CONCRETE	11-30-89
7-15-88	ADDED SPLICE NOTE	700-7-15-88
10-30-87	GENERAL REVISIONS	549-10-30-87
11-1-84	MAX. POST SPACING MIN. WIRE GAUGE	507-11-1-84
1-4-83	MIN. DIA. LINE POST	648-1-4-83
3-2-81	TOLERANCE FOR POST LENGTH	722-3-2-81
12-1-72	ADDED D-1 & FENCE INSTALLATION	564-12-1-72
10-2-72	REVISED AND REDRAWN	540-10-2-72
DATE	REVISION	FILMED

ARKANSAS STATE HIGHWAY COMMISSION

WIRE FENCE
TYPE C AND D

STANDARD DRAWING WF-4

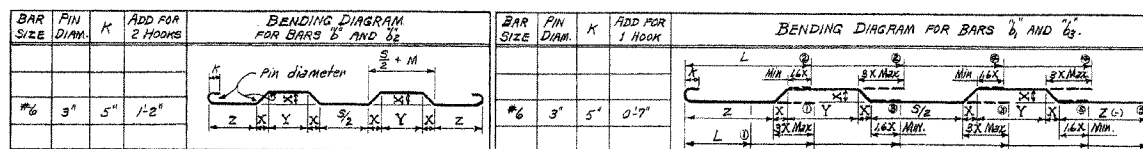
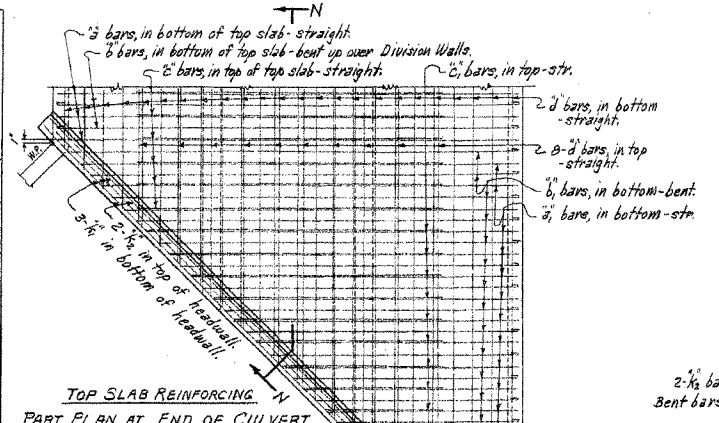
BAR LIST FOR BARREL SECTION 60'-0" IN LENGTH - TWO 45° SKEWED ENDS

Table with columns: FED. ROAD NO., STATE, FED. AID PROJECT, FISCAL YEAR, SHEET NO., TOTAL SHEETS. Values: 6, ARK., 39.

Main bar list table with columns: D, H, S, A, O, W, T, C, M, B, OH, RL, K, CL, LD, LB, LA. Rows represent different span lengths and bar types.

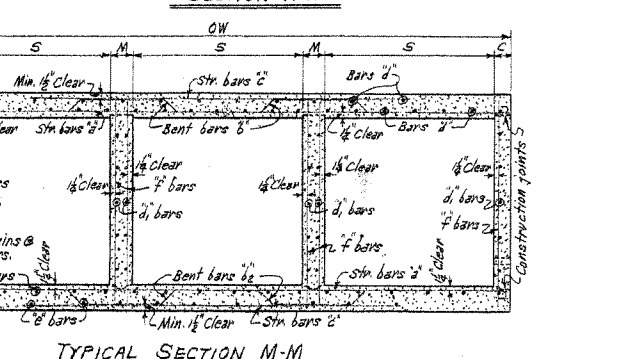
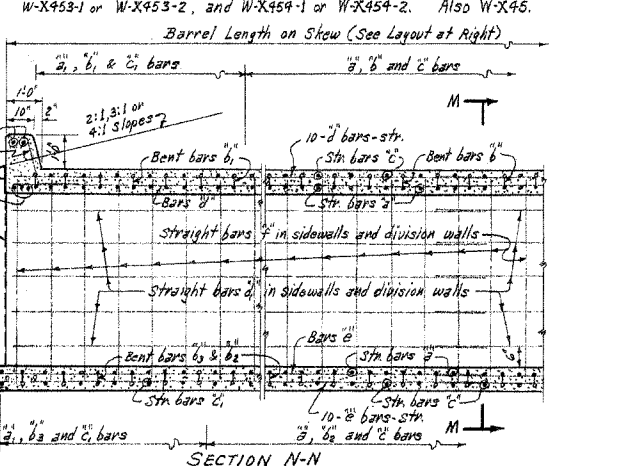
Table with columns: MAX. DESIGN DEPTH OF COVER, CLEAR SPANS, CLEAR HEIGHT, SRT. OPENING, OVERALL WIDTH, THICKNESS OF TOP SLAB, THICKNESS OF SIDEWALLS, THICKNESS OF DIVISION WALLS, THICKNESS OF BOTTOM SLAB, OVERALL HEIGHT, ROADWAY LENGTH, LENGTH OF HEADWALLS, CLASS 5 CONC. PER LIN. FT. OF BARREL, TOTAL BAR LENGTH OF BARREL, PER LIN. FT. OF BARREL, ADDITIONAL BAR LAP. Rows represent different span lengths and bar types.

Table with columns: DOWEL BARS FOR TWO HEADWALLS, NO. HEAD, LENGTH, SPACING. Rows represent different span lengths and bar types.

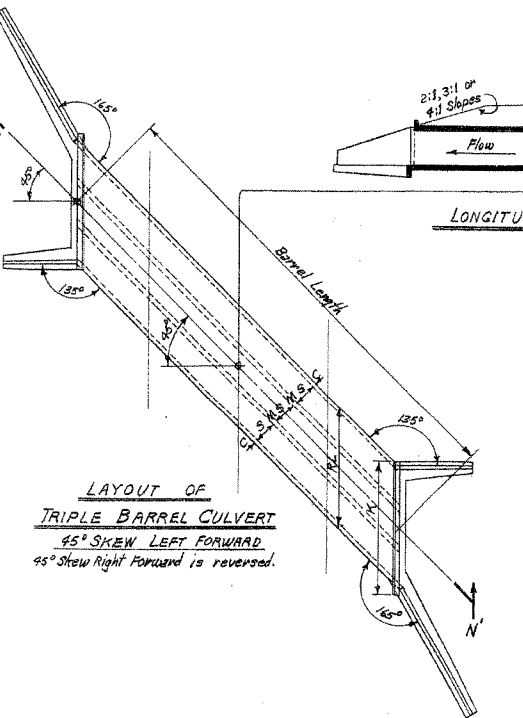


NOTE: Dimensions are to centers of bars. (b1, b2 & b3). The X, Y & Z values for b1 bars are same as b2 bars, and for b3 bars same as for b2 bars.

NOTE: For Details of Standard Wings and bar lists, see Drawing No. W-X452-1 or W-X452-2; W-X453-1 or W-X453-2, and W-X454-1 or W-X454-2. Also W-X45.



These bars are in the skewed portion of barrel only. The length of b1 and b2 bars and overall length 'L' of b1 and b2 bars vary by 1/8" for 12" spacing and 0" for 11" spacing. These bars are spliced to make full length bars, b1 bars being spliced at alt. division walls and b2 bars at center of center span.



GENERAL NOTES: CONCRETE- All concrete to be Class S, and shall be poured in the dry. All exposed corners to have 3/8" chamfers. REINFORCING STEEL- Reinforcing to be deformed bars of intermediate or hard grade. BAR LAPS- In computing the quantities of steel from the tables add one lap for each additional 33'-0" length of barrel over 32'-0" lap longitudinal bars so dimensions min. CONSTRUCTION JOINTS- Construction joints between wingwalls, side walls, division walls and slabs shall be only where shown on plans. SPECIFICATIONS- Arkansas State Highway Commission Standard Specifications for Highway Construction and applicable Special Provisions.

DESIGN LIVE LOAD: H20-S16 LOADING A.A.S.H.O 1961 AND SPECIAL MILITARY LOADING: Two 24,000 Lb. Axles @ 4'-0" ctrs. UNIT STRESSES: Class S Concrete (n=10) 1200 psi, Reinforcing Steel 20,000 psi.

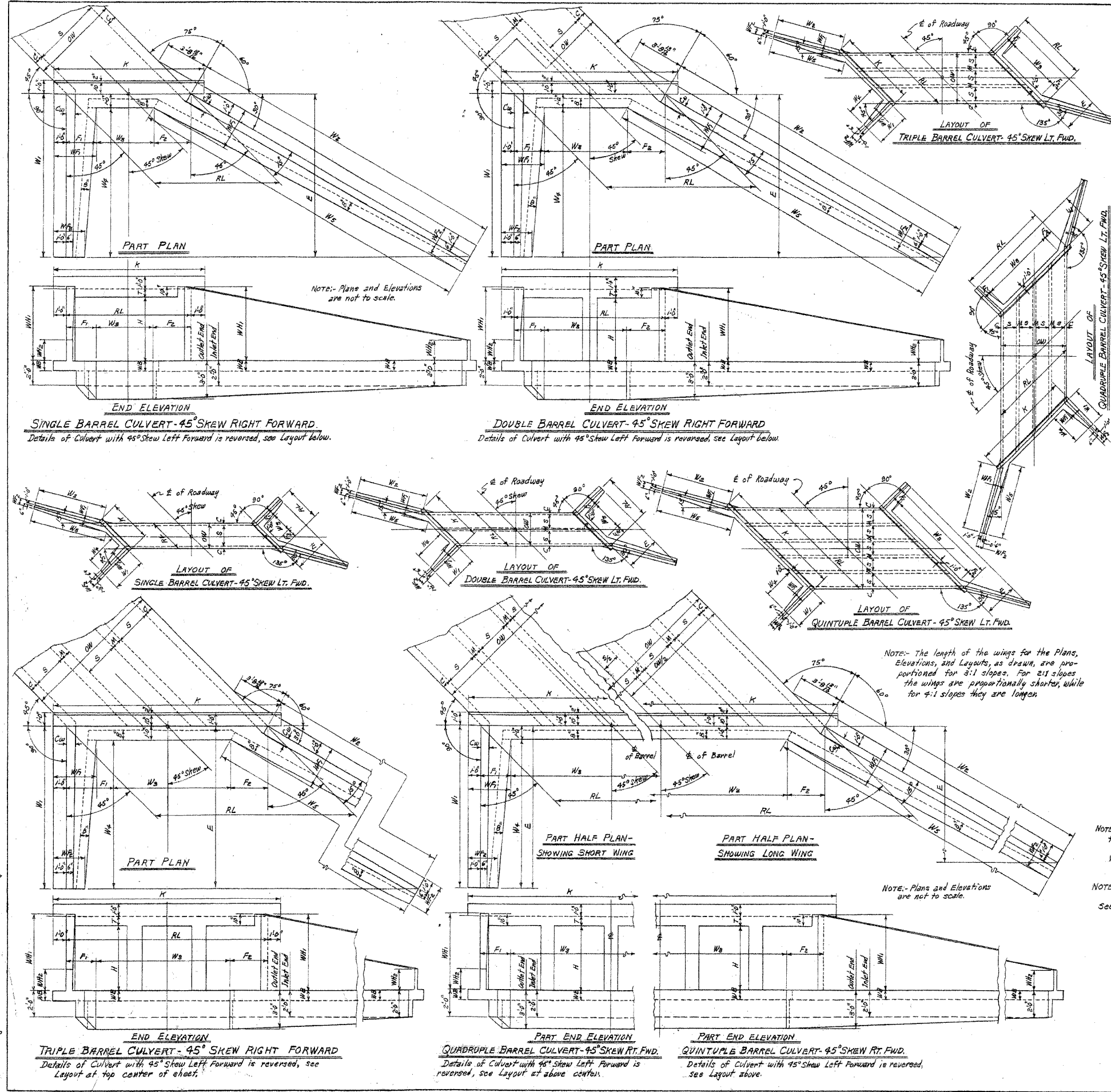
NOTE: This drawing to be used in conjunction with Standard Wing Drawing Nos. W-X452-1 or W-X452-2, W-X453-1 or W-X453-2, and W-X454-1 or W-X454-2. Also W-X45.

CLASS 5 CONCRETE. ARKANSAS STATE HIGHWAY COMMISSION. DETAILS OF STANDARD BARREL SECTIONS FOR REINFORCED CONCRETE BOX CULVERTS 45° SKEW. 9, 10, 11 AND 12 SPANS. 2:1, 3:1 OR 4:1 SLOPES UNDER 5'-0" COVER. STANDARD DRAWING No. R-345X-02.

Checked by: W.C.H. 1-22-63, Drawn by: W.C.H. 7-22-63, Quantities by: W.C.H. 10-7-64.

NOTE: In the regular portion of the barrel begin and end with a set of b1 & b2 bars. If the spacing is such that the last set of bars would be b1 & b2 bars use a set of b1 & b2 bars instead.

FED. ROAD NO.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET No.	TOTAL SHEETS
6	ARK.			40	
JOB No.					



USE WITH DRAWING NO.	CLEAR SPAN	CLEAR HEIGHT	ROADWAY LENGTH RL					HEADWALL LENGTH K					APRON DIMENSION W ₃							
			RL = OW x 1.41421					K = RL(2'0)					W ₃ = RL(F + F ₂)							
			SINGLE BARREL CULVERT		DOUBLE BARREL CULVERT			TRIPLE BARREL CULVERT			QUADRUPLE BARREL CULVERT			QUINTUPLE BARREL CULVERT						
S	H	F & F ₂	OW	RL	K	W ₃	OW	RL	K	W ₃	OW	RL	K	W ₃	OW	RL	K	W ₃		
			2	2'3"	5'0"	7'0"	9'0"	4'5"	9'0"	13'0"	15'0"	11'4"	14'4"	20'3"	22'3"	18'0"	19'0"	26'0"	28'0"	23'8"

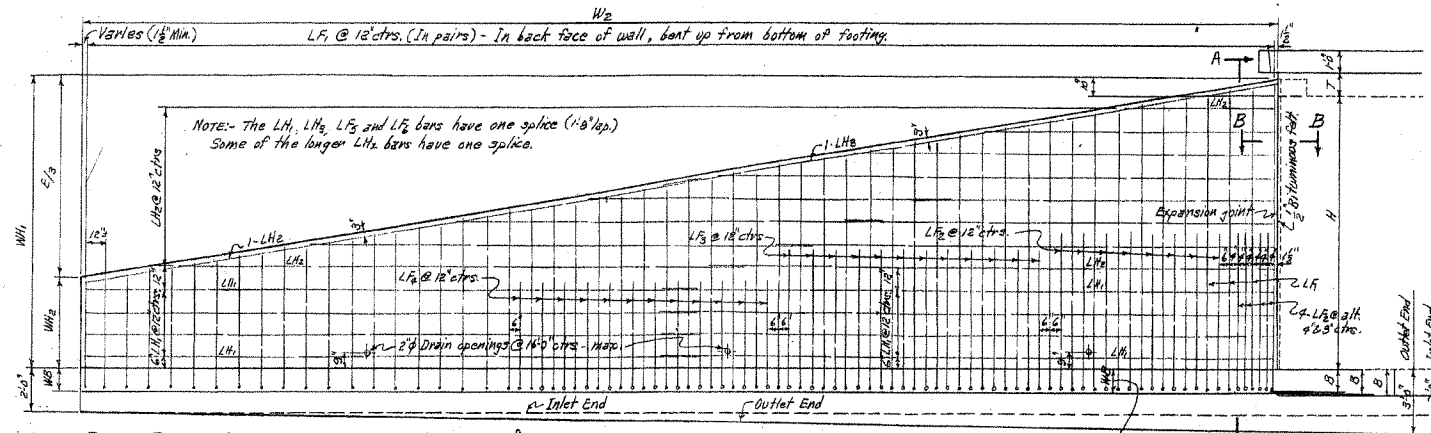
Notes: This drawing to be used in conjunction with Standard Wing Drawings for 45° Skews for each slope as listed below.
 2:1 Slopes
 3:1 Slopes
 4:1 Slopes
 W-X452-1 or W-X452-2 W-X453-1 or W-X453-2 W-X454-1 or W-X454-2

Notes: This drawing to be used in conjunction with Standard Barrel Sections, Drawing Nos.-
 SINGLES DOUBLES TRIPLES QUADRUPLES QUINTUPLES
 R-145X-0 R-245X-01 R-345X-01 R-445X-01 R-545X-01
 R-245X-02 R-345X-02 R-445X-02 R-545X-02
 R-145X-1 R-245X-1 R-345X-2 R-445X-1

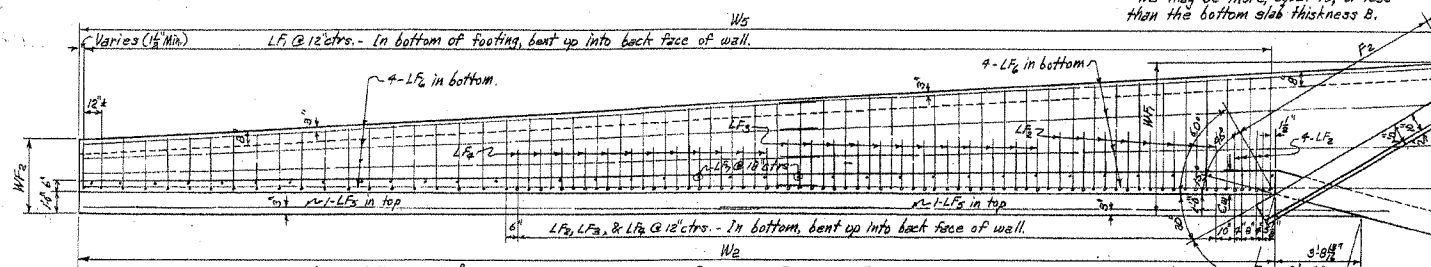
CLASS 3 CONCRETE
 ARKANSAS STATE HIGHWAY COMMISSION
 DETAILS OF STANDARD WINGS
 FOR
 REINFORCED CONCRETE BOX CULVERTS
 45° SKEW
 4', 5', 6', 7', 8', 9', 10', 11' & 12' SPANS 2:1, 3:1 & 4:1 SLOPES
 SINGLES, DOUBLES, TRIPLES, ALL DEPTHS OF COVER
 QUADRUPLES & QUINTUPLES H = 2', 3', 4', 5', 6', 7', 8', 9', 10', 11' & 12'
 STANDARD DRAWING No. W-X45

Checked by: W.C.M. 5-16-63
 Checked by: J.E.M. 6-23-64
 Drawn by: W.C.M. 6-15-64
 Checked by: G.M.H. 6-15-64

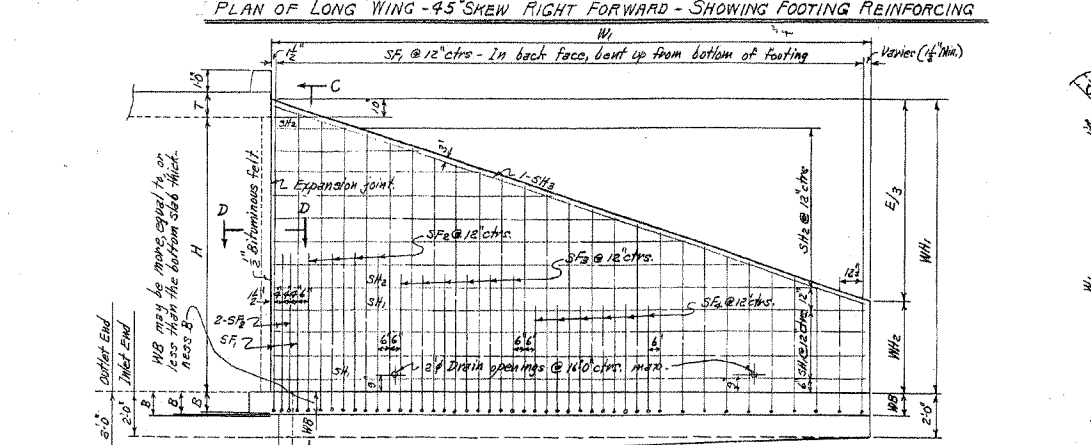
Table with columns: FED. ROAD No., STATE, FED. AID PROJECT, FISCAL YEAR, SHEET No., TOTAL SHEETS. Values: 6, ARK., , , 41, .



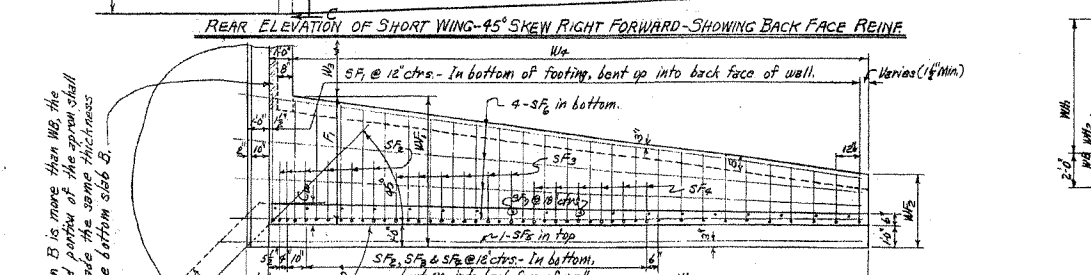
PART REAR ELEVATION OF LONG WING - 45° SKEW RIGHT FORWARD - SHOWING BACK FACE REINFORCING



PLAN OF LONG WING - 45° SKEW RIGHT FORWARD - SHOWING FOOTING REINFORCING



REAR ELEVATION OF SHORT WING - 45° SKEW RIGHT FORWARD - SHOWING BACK FACE REINFORCING



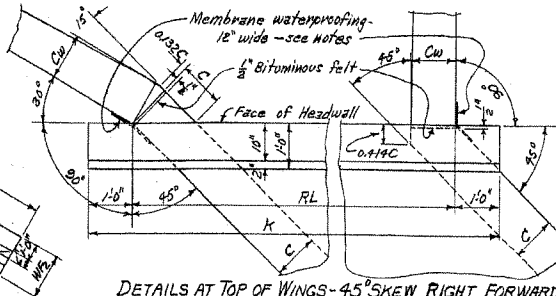
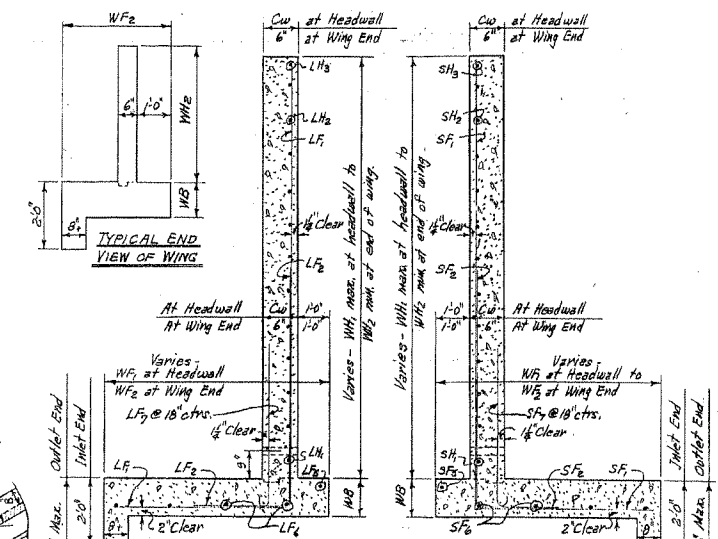
PLAN OF SHORT WING - 45° SKEW RIGHT FORWARD - SHOWING FOOTING REINFORCING

BAR LIST FOR ONE SHORT AND ONE LONG WING - 2 EACH REQUIRED

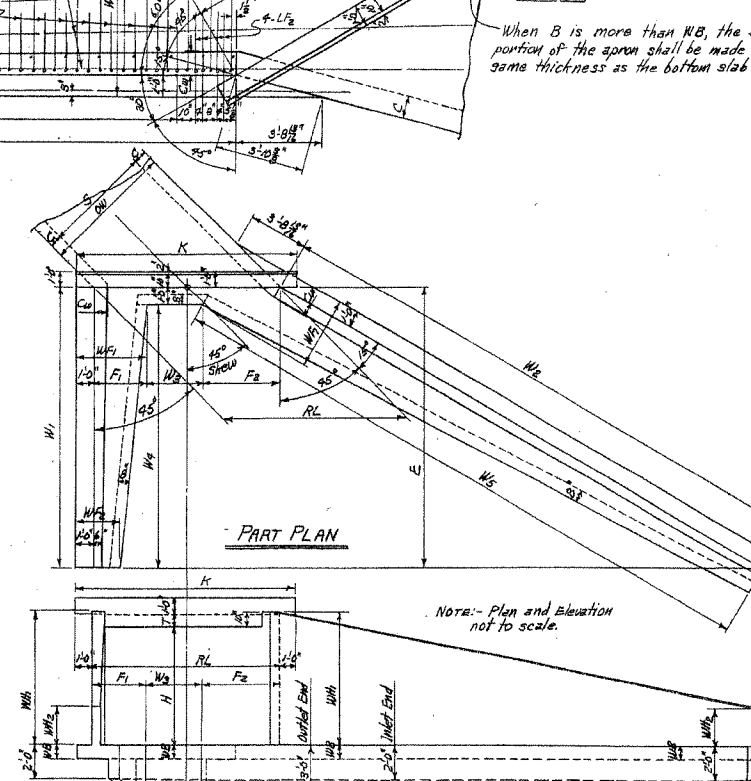
Table with columns: CLEAR HEIGHT, WING LOCATION, BAR BENDING DIAGRAMS, QUANTITY. Rows for 9', 10', 11', 12' heights and Short/Long wing locations.

Table titled 'REGULAR WING DIMENSIONS - 3:1 SLOPES'. Columns: CLEAR HEIGHT OF BOX, WING WALL HEIGHTS, WIDTHS OF WING FOOTINGS, LENGTHS OF WING WALLS, INSIDE FOOTING DIMENSIONS, QUANTITY PER WING.

* Quantity per wing does not include headwall or that portion of apron or foewall for the length W.



DETAILS AT TOP OF WINGS - 45° SKEW RIGHT FORWARD



SINGLE BARREL CULVERT - 45° SKEW RIGHT FORWARD. Details of Culvert with 45° Skew Left Forward is reversed, see Drawing No. W-X-45.

NOTE: For remainder of General Plans and Elevations of Single, Double, Triple, Quadruple and Quintuple span Culverts, see Std. Drawing No. W-X-45. For values of RL, K and W3 for each box, see above Std. also.

Table titled 'QUANTITIES CLASS 5 CONCRETE - 4 WINGS'. Columns: CLEAR SPAN, CLEAR HEIGHT, QUANTITY.

* For reinforcing steel in Headwalls and Aprons, see Drawing Nos. of Barrel Sections listed at left below.

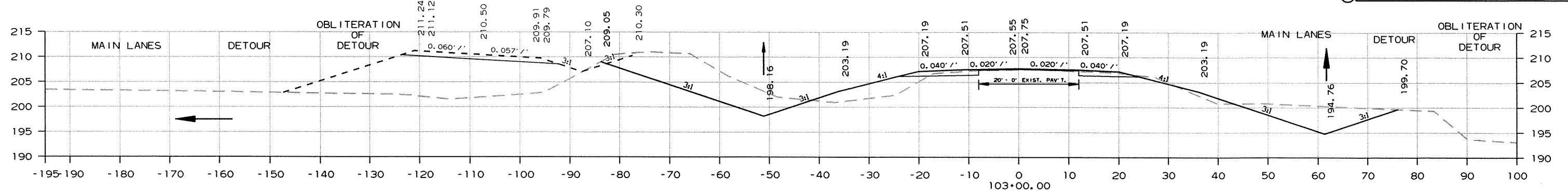
GENERAL NOTES: Concrete - All concrete to be Class 5, and shall be poured in the dry. All exposed corners to have 3/8 chamfers. REINFORCING STEEL - Reinforcing steel to be deformed bars of intermediate or hard grade.

Checked By: W.C.H. 5-16-63, 7-20-64, 7-21-64. Drawn By: W.C.H. 6-8-64, 7-2-64. Quantities By: W.C.H. 7-2-64

ARKANSAS STATE HIGHWAY COMMISSION. DETAILS OF STANDARD WINGS FOR REINFORCED CONCRETE BOX CULVERTS 45° SKEW. 7', 8', 9', 10', 11' & 12' SPANS. 3:1 SLOPES. SINGLE, DOUBLE, TRIPLES, QUADRUPLES & QUINTUPLES. FOR H=9'-0" & OVER. STANDARD DRAWING NO. W-X453-2.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 020506							42	46

2 CROSS SECTIONS



AREA CUT 310
AREA FILL 57

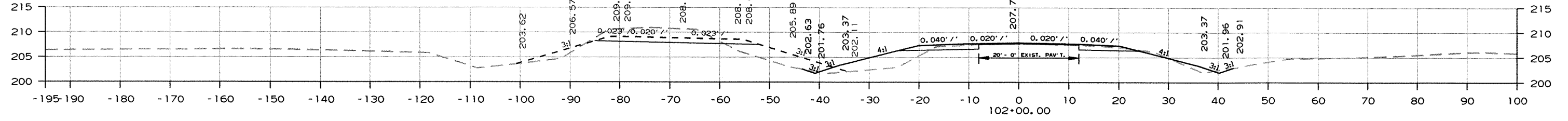
10
328

354
0

CUT VOLUME 607
FILL VOLUME 191

128
709

763
69



AREA CUT 18
AREA FILL 46

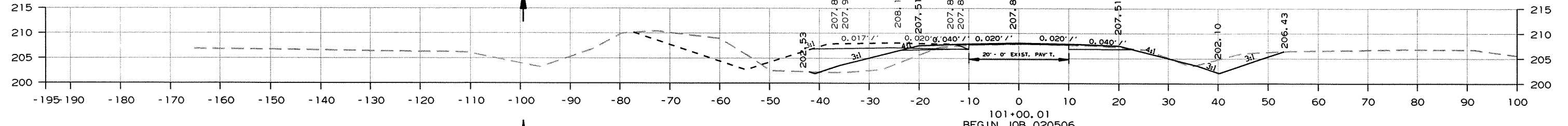
59
55

58
37

CUT VOLUME 98
FILL VOLUME 96

237
302

352
196



AREA CUT 35
AREA FILL 6

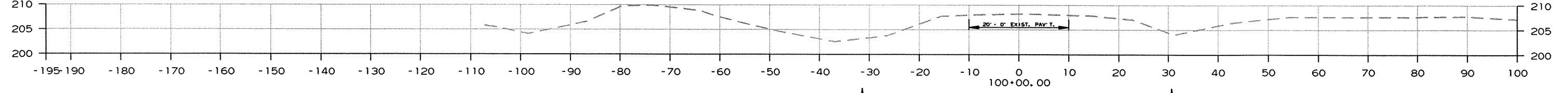
69
108

132
69

CUT VOLUME 65
FILL VOLUME 11

128
200

244
128



AREA CUT 0
AREA FILL 0

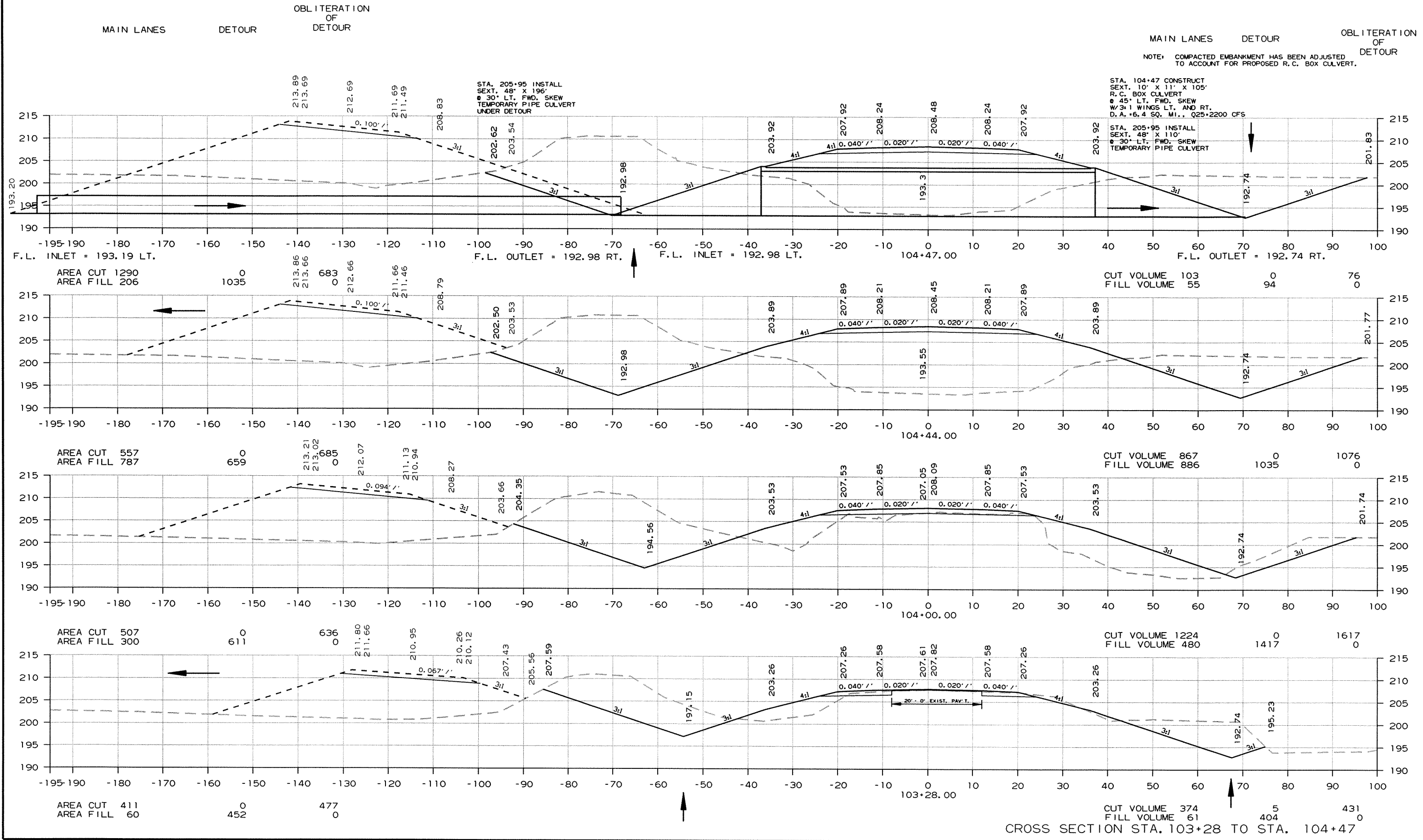
0
0

0
0

CUT VOLUME 0
FILL VOLUME 0

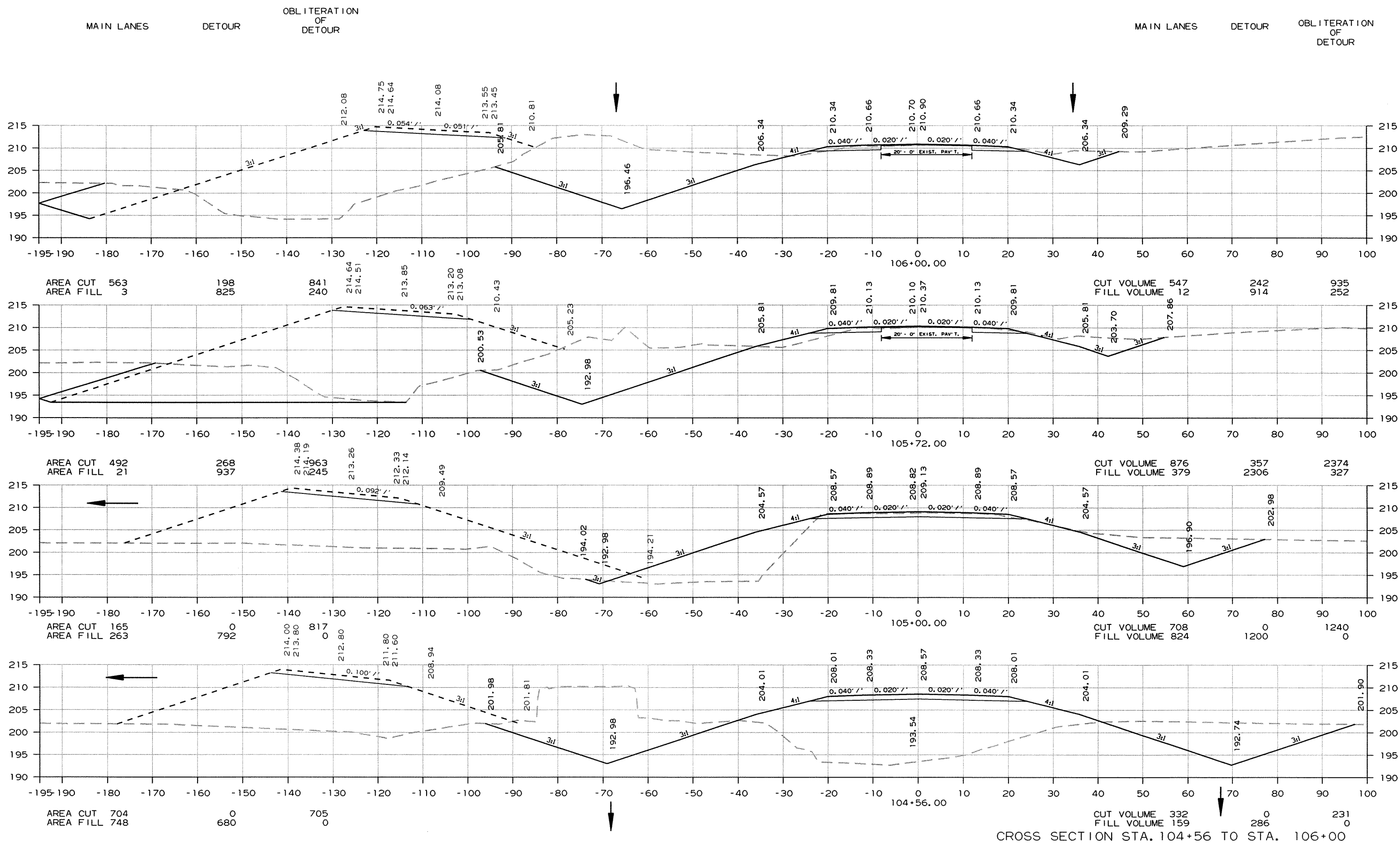
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
JOB NO. 020506							43	46

2 CROSS SECTIONS



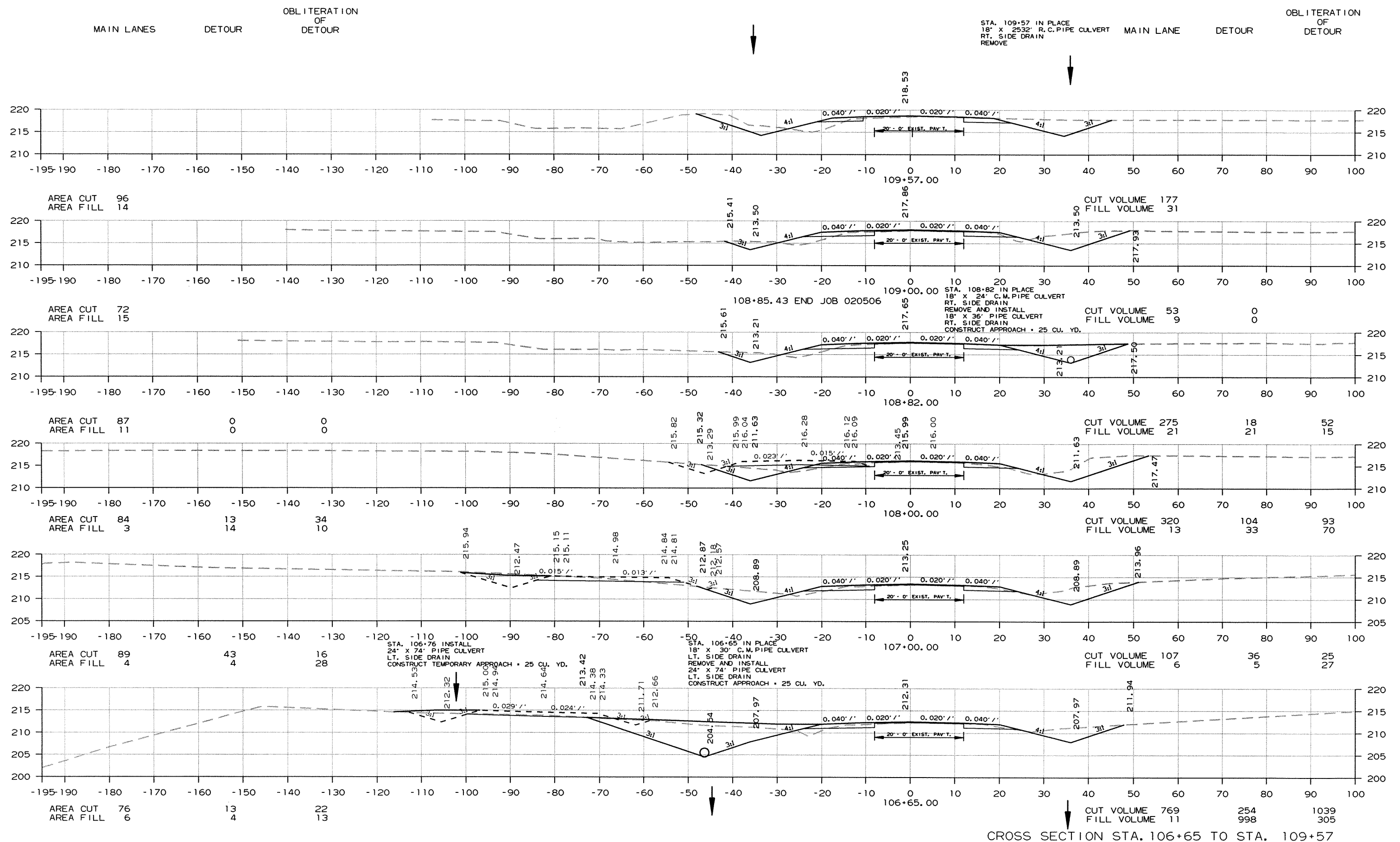
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		44	46
JOB NO. 020506								

2 CROSS SECTIONS



DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		45	46
				JOB NO. 020506				

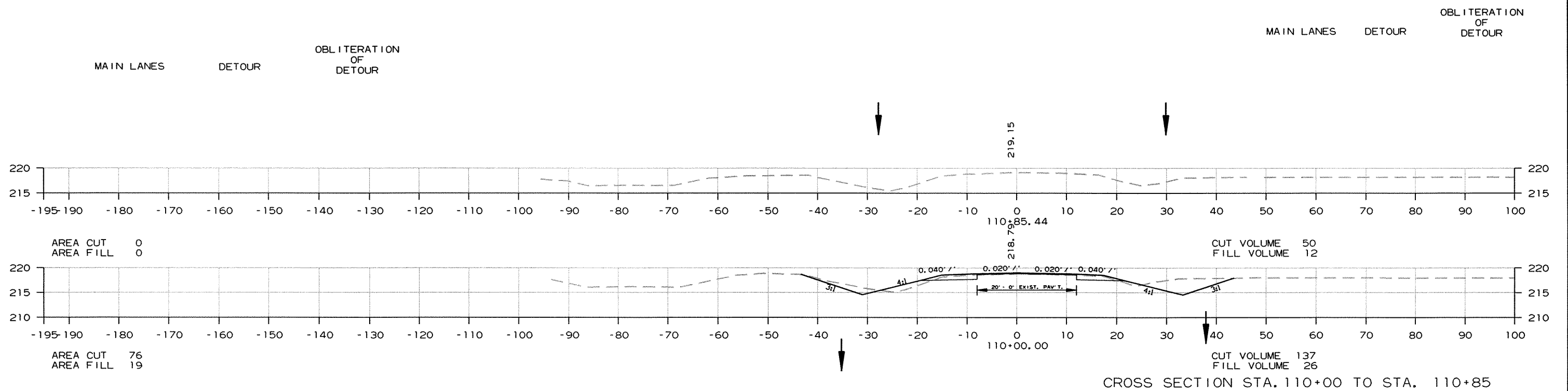
2 CROSS SECTIONS



CROSS SECTION STA. 106+65 TO STA. 109+57

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.		020506	46	46

② CROSS SECTIONS



CROSS SECTION STA. 110+00 TO STA. 110+85