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.		110650	1	34
				(2)	HWY. 70 - SOUTHLAND DR. (WEST MEMPHIS) (S)			

ARKANSAS DEPARTMENT OF TRANSPORTATION
CONSTRUCTION PLANS FOR STATE HIGHWAY

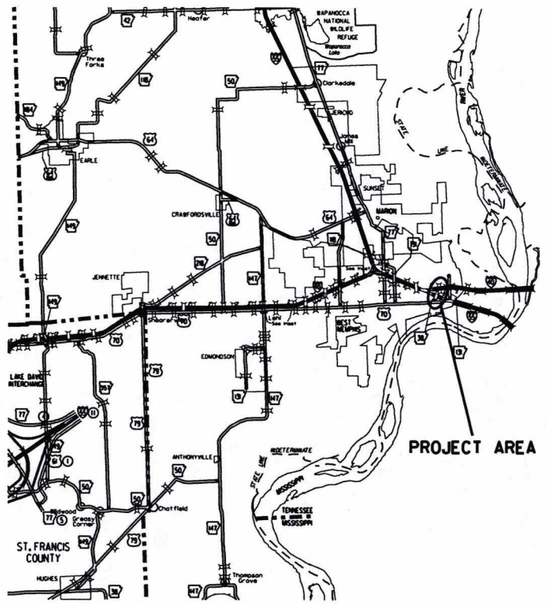
HWY. 70 - SOUTHLAND DR. (WEST MEMPHIS) (S)

CRITTENDEN COUNTY

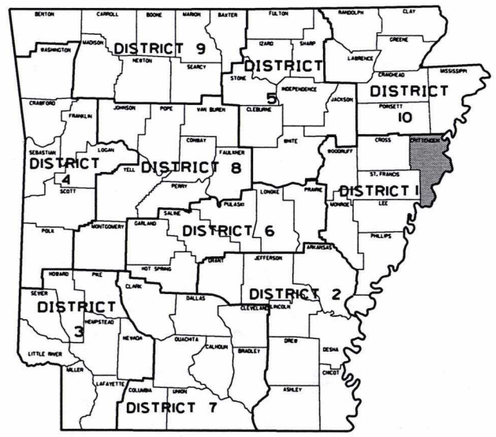
ROUTE 38 SECTION 10

FEDERAL AID PROJ. STPC-9448(44)

JOB 110650



VICINITY MAP

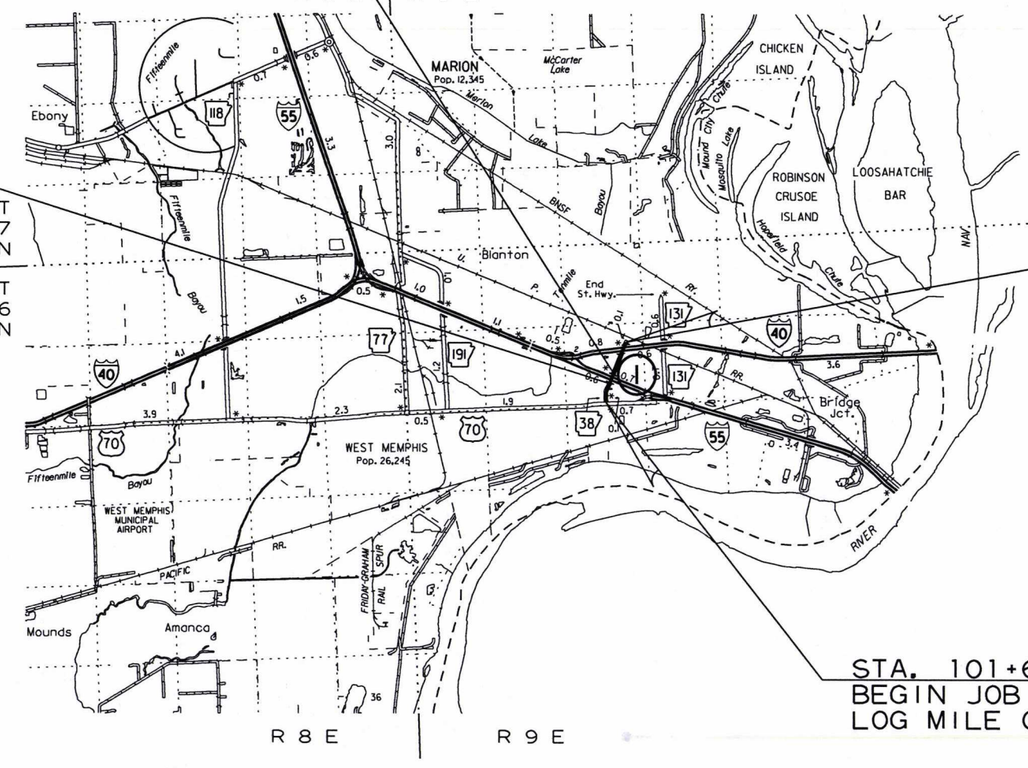


ARK. HWY. DIST. NO. 1

NOT TO SCALE

STA. 120+29.97
END EXCEPTION

STA. 117+70.59
BEGIN EXCEPTION



STA. 101+66.50
BEGIN JOB 110650
LOG MILE 0.00

STA. 145+98.00
END JOB 110650
LOG MILE 0.79

DESIGN TRAFFIC DATA

DESIGN YEAR	2038
2018 ADT	14,000
2038 ADT	17,000
2038 DHV	1,870
DIRECTIONAL DISTRIBUTION	0.60
TRUCKS	17%
DESIGN SPEED	45 MPH

BRIDGE DATA (FOR INFORMATION ONLY)

(1) STA. 117+70.59 BR. END
257'-0" CONTINUOUS W-BEAM UNIT
(50'-71'-71'-65')
259'-4 9/16" TOTAL LENGTH
64'-0" CLEAR ROADWAY
BR. NO. 06088
STA. 120+29.97 BR. END

TOTAL LENGTH OF EXCEPTIONS
259.38' MEASURED ALONG CENTERLINE

	BEGIN PROJECT	MID-POINT OF PROJECT	END PROJECT
LATITUDE	N 35°08'48"	N 35°09'09"	N 35°09'28"
LONGITUDE	W 90°08'26"	W 90°08'18"	W 90°08'07"

LENGTH OF PROJECT CALCULATED ALONG C.L.

GROSS LENGTH OF	PROJECT	4172.12	FEET	OR	0.790	MILES
NET	ROADWAY	4172.12			0.790	MILES
NET	BRIDGES	0.00			0.000	MILES
NET	PROJECT	4172.12			0.790	MILES

APPROVED

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 7836
M.E. BANKS

M.E. Banks
10-30-18

DEPUTY DIRECTOR
AND CHIEF ENGINEER

9/18/2018

R110650.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110650	2	34

(2) INDEX OF SHEETS, STD. DRAWINGS, GOV. SPECS., & GEN. NOTES

INDEX OF SHEETS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-31-18

ROADWAY STANDARD DRAWINGS

DRWG.NO.	TITLE	DATE
CG-1	CURBING DETAILS	11-29-07
CPTJ-6A	TRANSVERSE & LONGITUDINAL JOINTS FOR CONCRETE PAVEMENT (NON-REINFORCED)	05-25-06
DR-1	DETAILS OF DRIVEWAYS & ISLANDS	02-27-14
GR-8	GUARD RAIL DETAILS	11-16-17
GR-8A	GUARD RAIL DETAILS	11-16-17
GR-9	GUARD RAIL DETAILS	04-17-08
GR-9A	GUARD RAIL DETAILS	04-17-08
GR-10	GUARD RAIL DETAILS	11-16-17
GR-11	GUARD RAIL DETAILS	11-16-17
GR-12	GUARD RAIL DETAILS	11-16-17
GRT-1	GUARD RAIL DETAILS	11-16-17
PM-1	PAVEMENT MARKING DETAILS	06-01-17
PU-1	DETAILS OF PIPE UNDERDRAIN	12-08-16
RRS-1	PAVEMENT MARKING FOR RAILROAD CROSSING	12-08-16
SD-4	LOOP DETECTOR INSTALLATION	11-16-17
SE-2	TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC	10-18-96
TC-1	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	04-13-17
TC-2	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	09-02-15
TC-3	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	09-02-15
TC-4	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION-TEMPORARY PRECAST BARRIER	02-27-14
TC-5	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION-TEMPORARY PRECAST BARRIER	10-15-09
TEC-1	TEMPORARY EROSION CONTROL DEVICES	11-16-17
TEC-3	TEMPORARY EROSION CONTROL DEVICES	11-03-94

GENERAL NOTES

1. GRADE LINE DENOTES FINISHED GRADE WHERE SHOWN ON PLANS.
2. ALL PIPE LINES, POWER, TELEPHONE, AND TELEGRAPH LINES TO BE MOVED OR LOWERED BY THE RESPECTIVE OWNERS AS PER AGREEMENT WITH SUCH OWNERS.
3. ANY EQUIPMENT OR APPURTENANCE THAT INTERFERES WITH THE PROPOSED CONSTRUCTION AND WHICH MAY BE THE PROPERTY OF UTILITY SERVICE ORGANIZATIONS SHALL BE MOVED BY THE OWNERS UNLESS OTHERWISE PROVIDED.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING U. S. MAILBOXES WITHIN THE PROJECT LIMITS IN SUCH A MANNER THAT THE PUBLIC MAY RECEIVE CONTINUED MAIL SERVICE. PAYMENT WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS BID ITEMS.
5. ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE STANDARD SPECIFICATIONS.
6. ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENTS REMOVED SHALL BE PAID FOR UNDER THE ITEM NO. 210 - UNCLASSIFIED EXCAVATION.
7. 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.

GOVERNING SPECIFICATIONS

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

NUMBER	TITLE
ERRATA	ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS
FHWA-1273	REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - NOTICE TO CONTRACTORS
FHWA-1273	SUPPLEMENT - SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES (23 U.S.C. 140)
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - GOALS AND TIMETABLES
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - FEDERAL STANDARDS
FHWA-1273	SUPPLEMENT - POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS
FHWA-1273	SUPPLEMENT - WAGE RATE DETERMINATION
100-3	CONTRACTOR'S LICENSE
100-4	DEPARTMENT NAME CHANGE
102-2	ISSUANCE OF PROPOSALS
108-1	LIQUIDATED DAMAGES
108-2	WORK ALLOWED PRIOR TO ISSUANCE OF WORK ORDER
303-1	AGGREGATE BASE COURSE
400-1	TACK COATS
400-4	DESIGN AND QUALITY CONTROL OF ASPHALT MIXTURES
400-5	PERCENT AIR VOIDS FOR ACHM MIX DESIGNS
400-6	LIQUID ANTI-STRIP ADDITIVE
410-1	CONSTRUCTION REQUIREMENTS AND ACCEPTANCE OF ASPHALT CONCRETE PLANT MIX COURSES
410-2	DEVICES FOR MEASURING DENSITY FOR ROLLING PATTERNS
600-2	INCIDENTAL CONSTRUCTION
604-1	RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
617-1	GUARDRAIL TERMINAL (TYPE 2)
632-1	CONCRETE ISLAND
634-1	CURBING
JOB 110650	BIDDING REQUIREMENTS AND CONDITIONS
JOB 110650	BRIDGE DECK REPAIR FOR POLYMER OVERLAYS
JOB 110650	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB 110650	BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB 110650	CARGO PREFERENCE ACT REQUIREMENTS
JOB 110650	CLASS C FLY ASH IN PORTLAND CEMENT CONCRETE PAVEMENT AND CLASS S(AE) CONCRETE
JOB 110650	CONSTRUCTION IN SPECIAL FLOOD HAZARD AREAS
JOB 110650	DISADVANTAGED BUSINESS ENTERPRISE BIDDER'S RESPONSIBILITIES
JOB 110650	FLEXIBLE BEGINNING OF WORK – CALENDAR DAY CONTRACT
JOB 110650	GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB 110650	LOOP WIRING REVISION 1.4
JOB 110650	MANDATORY ELECTRONIC CONTRACT
JOB 110650	MANDATORY ELECTRONIC DOCUMENT SUBMITTAL
JOB 110650	PARTNERING REQUIREMENTS
JOB 110650	POLYMER OVERLAY
JOB 110650	PROSECUTION AND PROGRESS WITH BID SCHEDULE
JOB 110650	SEQUENCE OF CONSTRUCTION
JOB 110650	SETTLEMENT AGREEMENTS
JOB 110650	SITE USE (A+C METHOD) - CALENDAR DAY CONTRACT
JOB 110650	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB 110650	UTILITY ADJUSTMENTS
JOB 110650	VALUE ENGINEERING
JOB 110650	WARM MIX ASPHALT
JOB 110650	WELLHEAD PROTECTION

10/30/2018

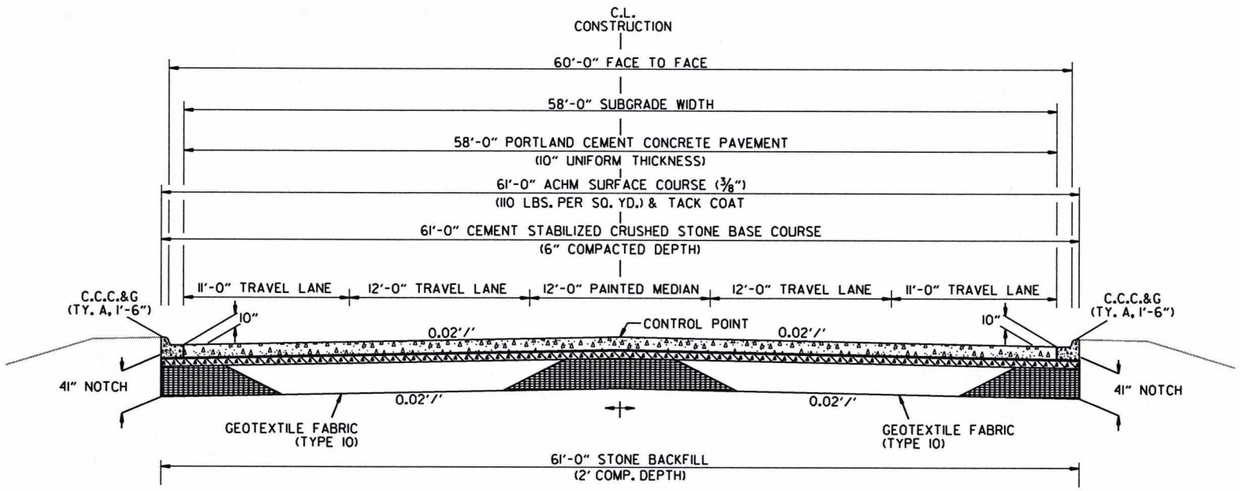
R110650.DGN

INDEX OF SHEETS, STANDARD DRAWINGS, GOVERNING SPECIFICATIONS, AND GENERAL NOTES

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.		110650	3	34

(2) TYPICAL SECTIONS OF IMPROVEMENT

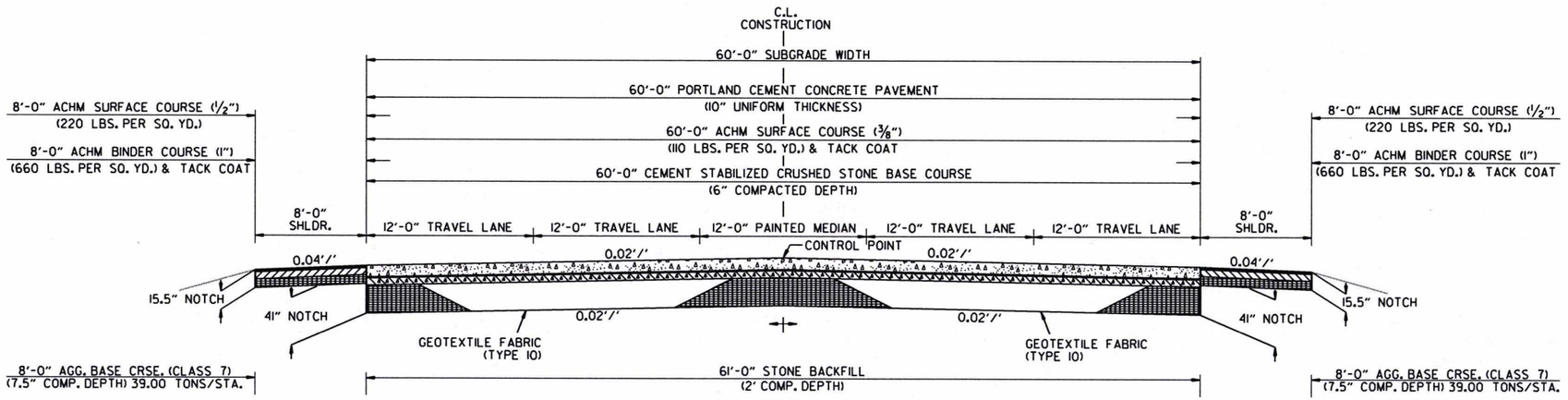
STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-29-18



60' FACE TO FACE
(CURB AND GUTTER)
STA. 101+66.50 - STA. 110+38.00

THE EXISTING 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 PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

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



60' SURFACE WIDTH
(OPEN SHOULDER)
STA. 110+38.00 - STA. 117+70.59
STA. 120+29.97 - STA. 122+65.97

10/29/2018

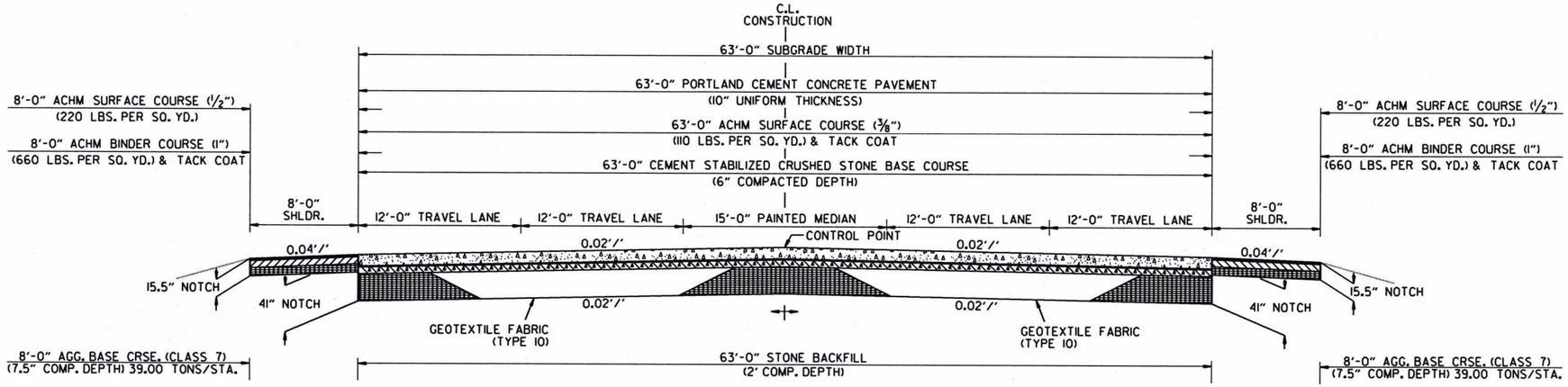
R110650.DGN

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.		110650	4	34

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-29-18

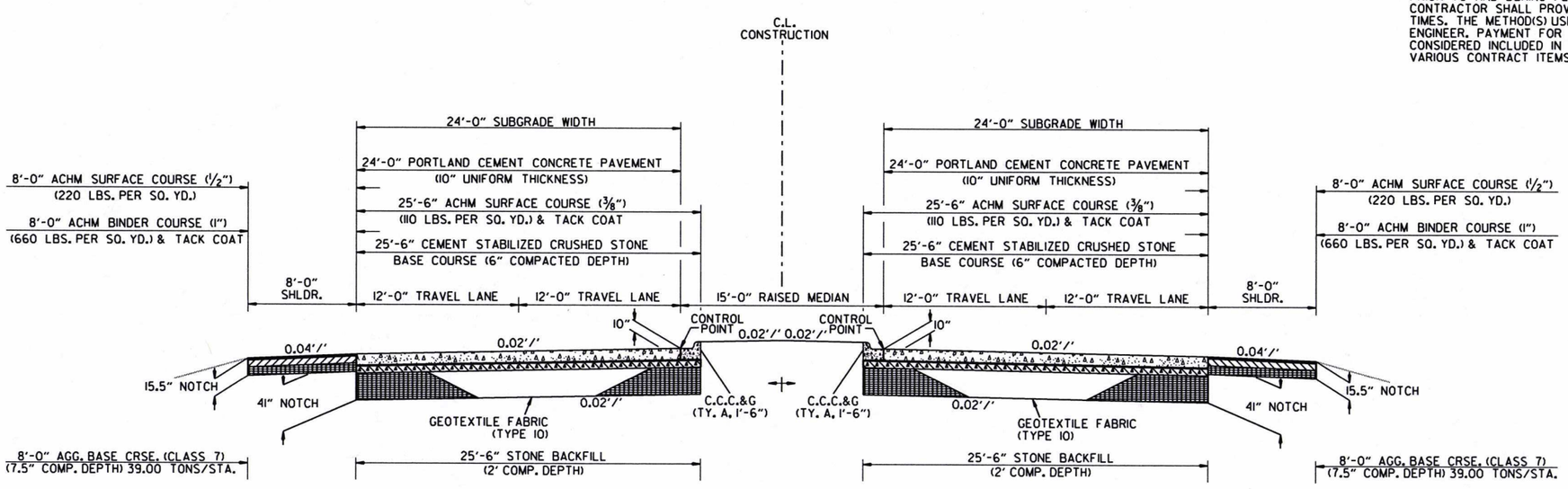


63' SURFACE WIDTH
(OPEN SHOULDER)

STA. 122+65.97 - STA. 134+48.00
STA. 137+30.00 - STA. 138+30.00
STA. 141+74.00 - STA. 142+71.00
STA. 144+92.00 - STA. 145+98.00

THE EXISTING 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 PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

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



63' SURFACE WIDTH
W/ 15' RAISED MEDIAN (OPEN SHOULDER)

STA. 134+48.00 - STA. 137+30.00
STA. 138+30.00 - STA. 141+74.00
STA. 142+71.00 - STA. 143+71.00

10/29/2018

R110650.DGN

TYPICAL SECTIONS OF IMPROVEMENT

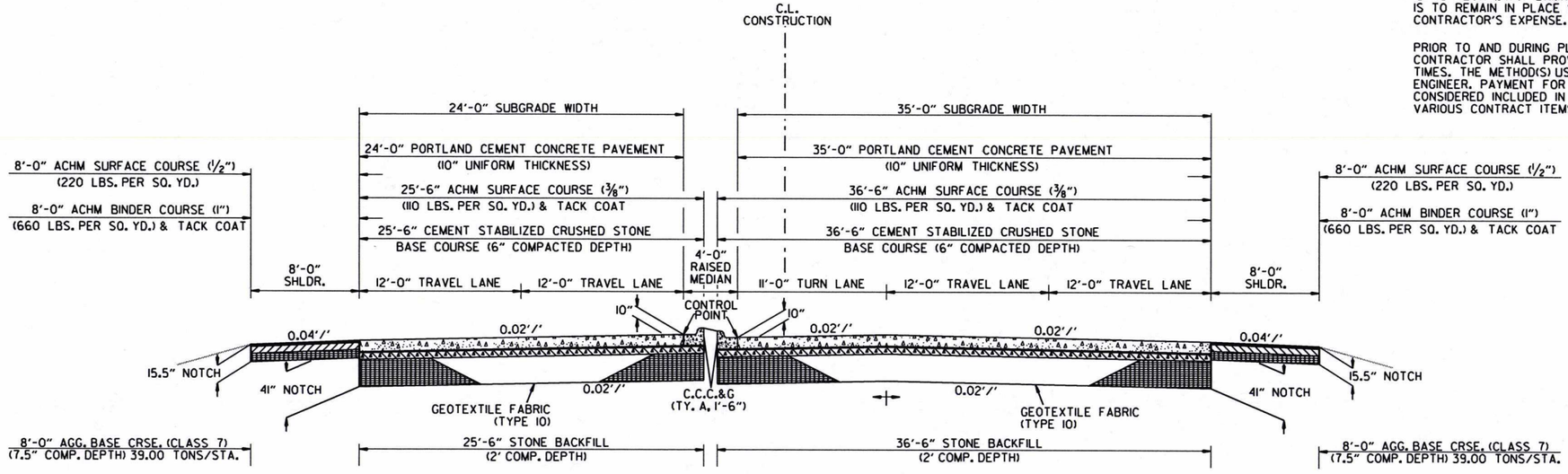
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110650	5	34

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-29-18

THE EXISTING 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 PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

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



59' SURFACE WIDTH
W/ 4' RAISED MEDIAN (OPEN SHOULDER)
STA. 143+71.00 - STA. 144+92.00

10/29/2018

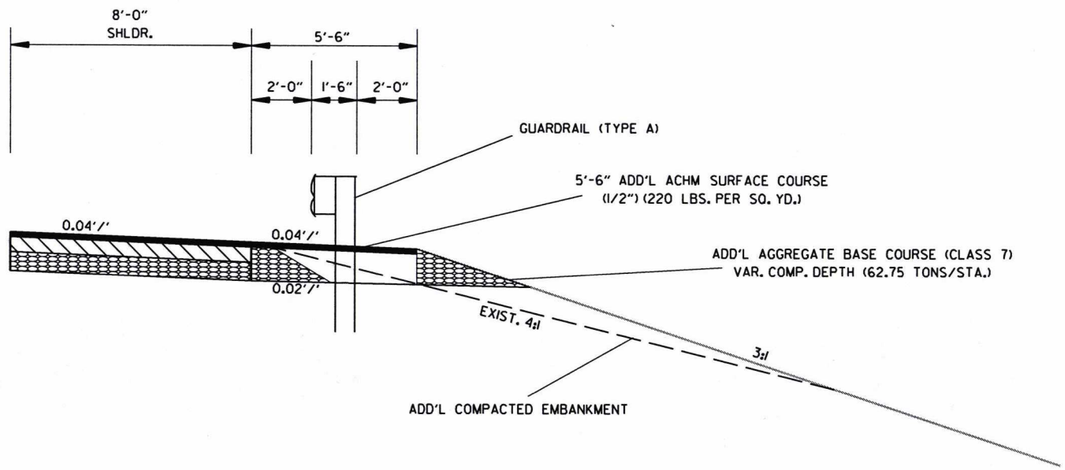
R110650.DGN

TYPICAL SECTIONS OF IMPROVEMENT

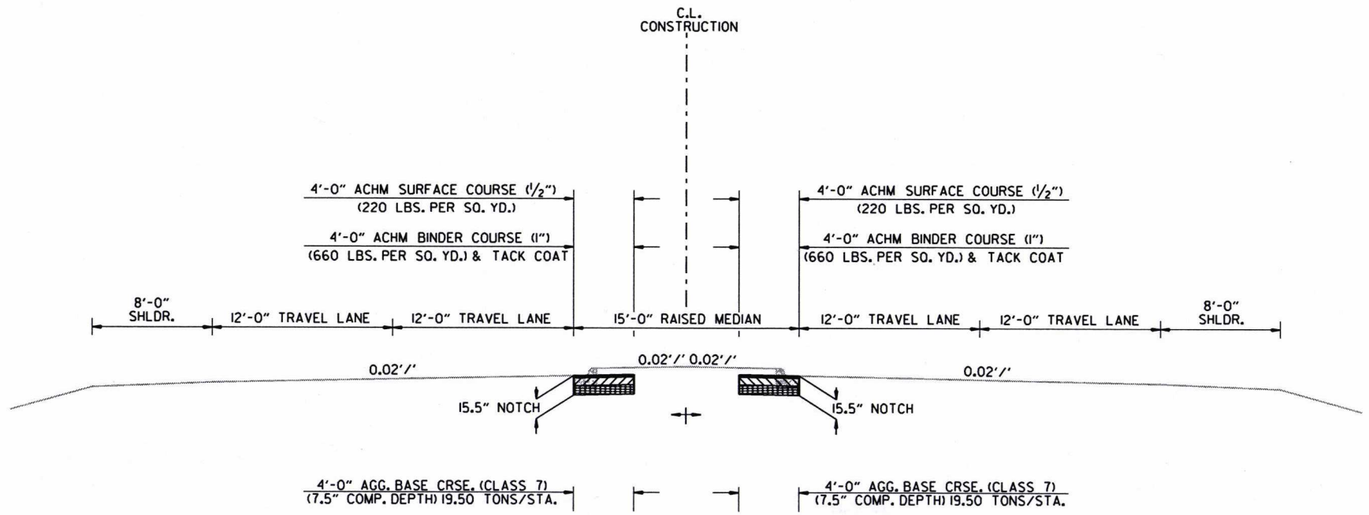
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110650	6	34

(2) SPECIAL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-29-18



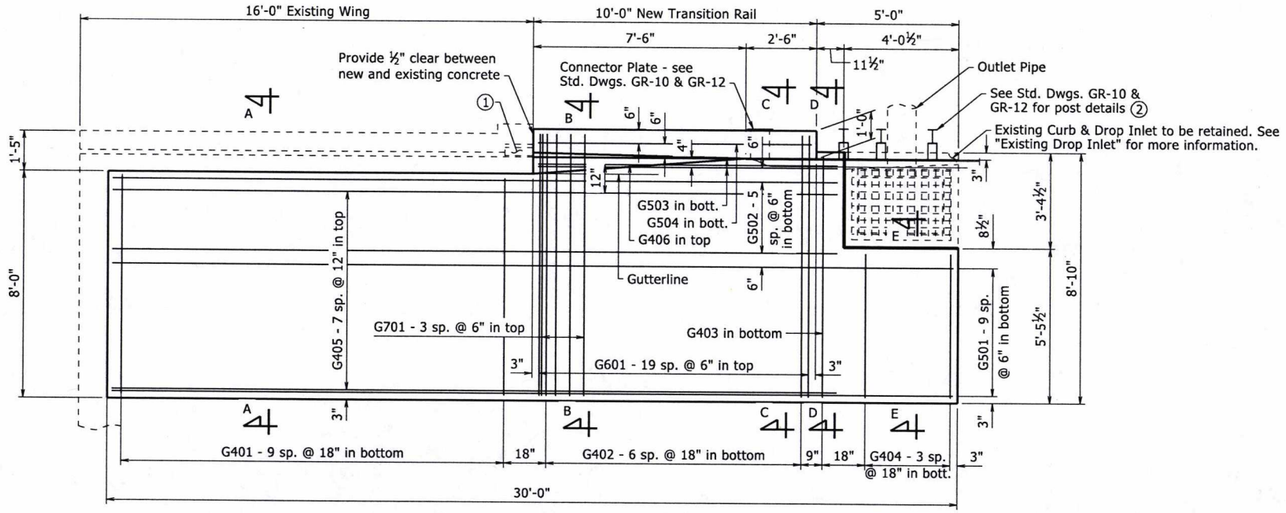
WIDENING FOR GUARDRAIL



WIDENING IN MEDIAN
FOR MAINTENANCE OF TRAFFIC
STA. 134+48.00 - STA. 137+30.00
STA. 138+30.00 - STA. 141+74.00
STA. 142+71.00 - STA. 143+33.00

10/29/2018
R110650.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110650	7	34
				①		06088 - APPROACH GUTTERS - 56904		



PLAN OF APPROACH GUTTER

⅜" = 1'-0"

① Completely fill existing guard rail connection recess with approved non-shrink grout. Work and material will not be paid for separately but will be considered subsidiary to "Approach Gutter".

② Minor adjustments of guard rail posts may be necessary to avoid conflict with existing drop inlet outlet pipes.

③ ½" Preformed Joint AASHTO M 153 Type 1 and ½" x 1" Poured Jt. Sealer (Type 3 or 4) per Subsection 501.02(h)(2).

④ Match existing dimension at end of existing drop inlet. Approximately $6\frac{1}{16}$".

BAR LIST FOR ONE TYPE SPECIAL APPROACH GUTTER

Mark	No. Req'd.	Length	BENDING DIAGRAMS
G401	10	7'-8"	
G402	7	9'-3"	
G403	1	8'-6"	
G404	4	5'-1"	
G405	8	25'-7"	
G406	1	10'-7"	
G501	10	29'-8"	
G502	6	25'-7"	
G503	2	10'-7"	
G504	1	9'-8"	
G601	20	10'-5"	
G701	4	10'-6"	
R401	6	9'-8"	
R402	5	3'-4"	
R601	14	6'-8"	

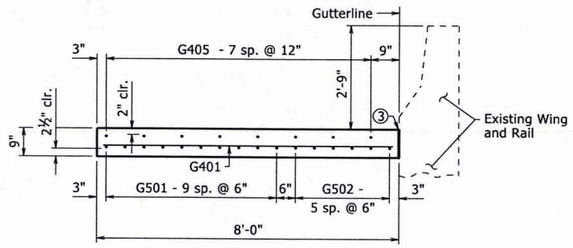
Place leg vertical into transition rail — G601: 15", 9'-3", 4½" P.D.

Place leg vertical into transition rail — G701: 17", 9'-3", 5¼" P.D.

R402: 1'-8", 12", 8⅜", 2" P.D., 11", 10"

R601: 3'-1½", 12", ¾", 3'-2", 4½" P.D., 8½"

Dimensions are out to out of bars.



SECTION A-A

½" = 1'-0"

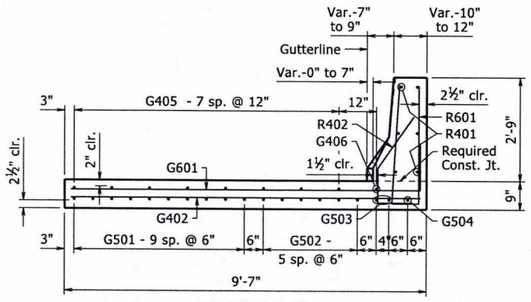
QUANTITIES FOR ONE TYPE SPECIAL APPROACH GUTTER

(FOR INFORMATION ONLY)

Reinforcing Steel (Lbs.)	Concrete (Cu. Yds.)
1,348	7.92

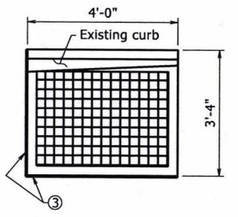
ELEVATION OF APPROACH GUTTER

⅜" = 1'-0"



SECTION B-B

½" = 1'-0"



EXISTING DROP INLET

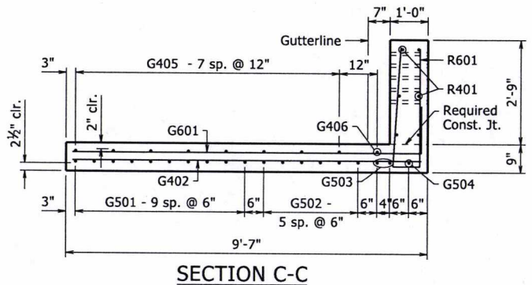
½" = 1'-0"

GENERAL NOTES:
All concrete shall be Class S or S(AE) or mixture used for Portland Cement Concrete Pavement and shall be poured in the dry.

All reinforcing steel shall be Grade 60 (yield strength = 60,000 psi) conforming to AASHTO M 31 or M 322, Type A, with mill test reports. Fabricate bar lengths to provide 2" minimum cover at each end.

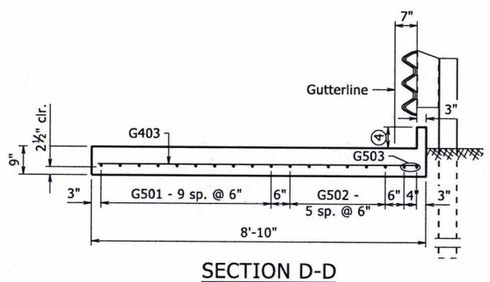
Approach gutters will be measured and paid for in accordance with Section 504.

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



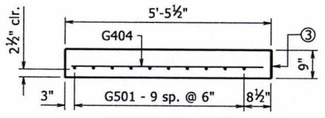
SECTION C-C

½" = 1'-0"



SECTION D-D

½" = 1'-0"



SECTION E-E

½" = 1'-0"

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS
10-30-18

BRIDGE ENGINEER

DETAILS OF TYPE SPECIAL APPROACH GUTTER

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: JYP DATE: 10-23-18 FILENAME: bl10650_ag.dgn

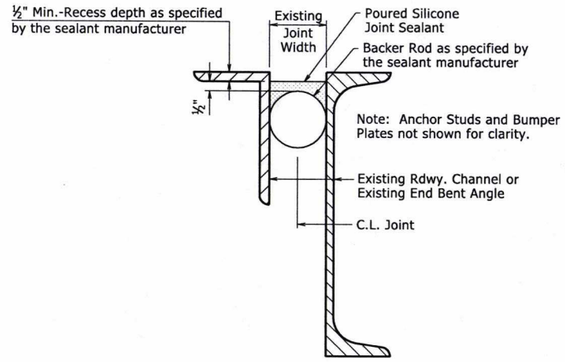
CHECKED BY: DRS DATE: 10-30-18 SCALE: As Shown

DESIGNED BY: STD. DATE: —

BRIDGE NO. 06088 DRAWING NO. 56904

PRINT DATE: 10/30/2018

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110650	7A	34
				1	06088 - JOINT REPAIR - 56905			



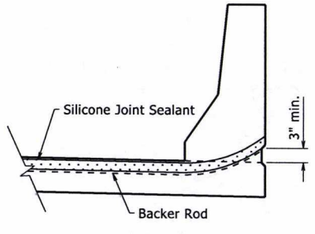
Notes: Existing Joint Seal shall be completely removed, backer rods placed, and Silicone Joint Sealant installed across the entire width of the bridge deck in accordance with these details, Section 809, and the Manufacturer's recommendations. Removal of existing Joint Seal will not be paid for directly, but shall be considered incidental to the item "Silicone Joint Sealant".

Backer rods shall be extended beyond the length of the poured joint in the initial joint repair area so that the two pieces can be properly spliced together prior to installing sealant for the adjacent joint repair. Manufacturer's recommendations shall be followed to prevent sealant leakage during repair work.

Backer rods shall be appropriately sized and set to the depth shown in the manufacturer's literature based on the joint width at the time of sealing. Except as noted, do not install more backer rod than can be sealed in the same day. The Contractor shall verify separation of the backer rod from the joint material after joint material has set.

Backer rod shall be notched or otherwise fit around any existing seal supports or bumper plates to maintain its proper depth as defined above.

POURED SILICONE JOINT SEAL DETAILS



Beam or Girder not shown.

JOINT SEAL PLACEMENT AT RAIL

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

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS
10-30-18

BRIDGE ENGINEER

DETAILS OF JOINT REPAIR

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

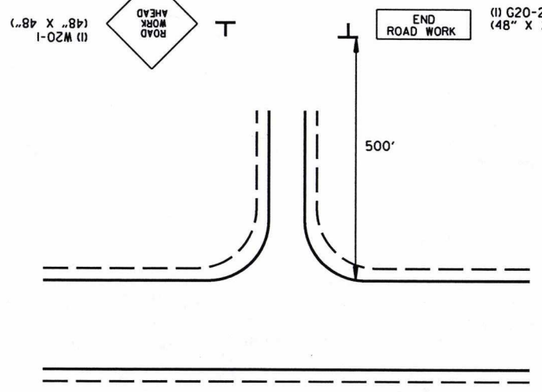
DRAWN BY: JYP DATE: 10-30-18 FILENAME: b110650_j1.dgn
CHECKED BY: DAS DATE: 10-30-18 SCALE: No Scale
DESIGNED BY: STD. DATE: —

BRIDGE NO. 06088 DRAWING NO. 56905

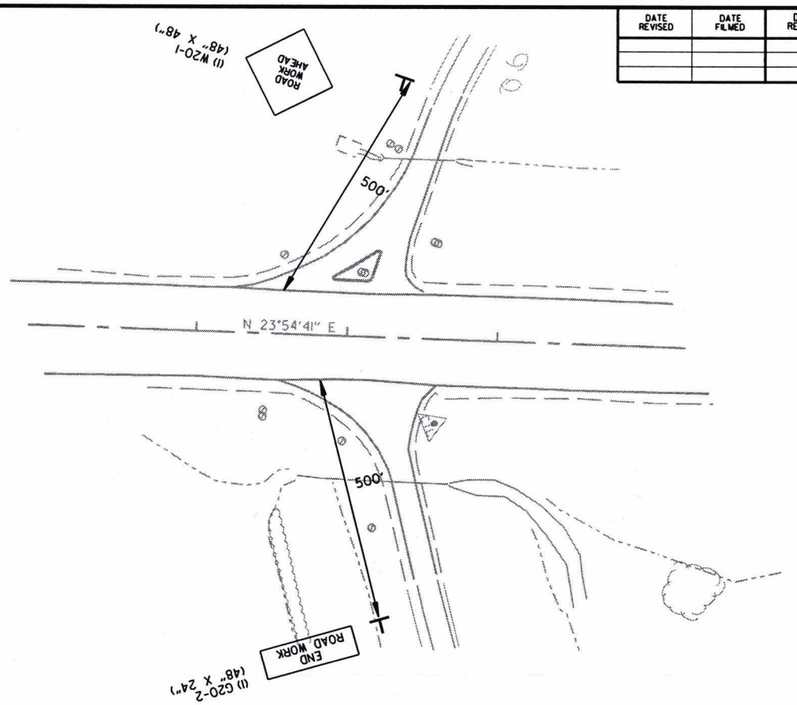
PRINT DATE: 10/30/2018

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.		110650	8	34

(2) MAINTENANCE OF TRAFFIC DETAILS

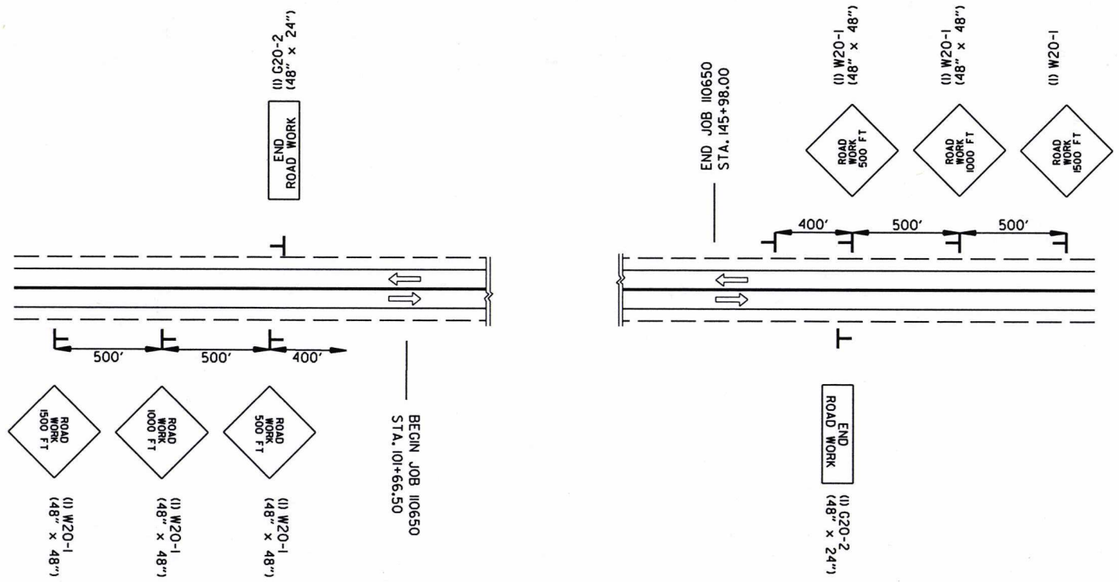


ADVANCE WARNING - SIDE ROADS



ADVANCE WARNING - RAMPS

BUMP (1) W8-1 (30" X 30") IF AND WHERE DIRECTED BY THE ENGINEER



ADVANCE WARNING (ALL STAGES)

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-29-18

10/29/2018

R110650.DGN

ADVANCE WARNING
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.		110650	9	34

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-29-18

CONSTRUCTION SEQUENCE

STAGE 1

INSTALL ADVANCE WARNING SIGNS, END ROAD WORK SIGNS, AND INSTALL ROAD WORK AHEAD (W20-1) SIGN AS SHOWN ON THE MAINTENANCE OF TRAFFIC - ADVANCE WARNING SHEET.

USE VERTICAL PANELS SPACED 50' ON CENTER TO DELINEATE THE WORK ZONE.

CONSTRUCT TEMPORARY WIDENING (IN RAISED MEDIAN SECTIONS) AS SHOWN ON THE STAGE CONSTRUCTION TYPICALS.

STAGE 2

INSTALL ADVANCE WARNING SIGNS, END ROAD WORK SIGNS, AND INSTALL ROAD WORK AHEAD (W20-1) SIGN AS SHOWN ON THE MAINTENANCE OF TRAFFIC - ADVANCE WARNING SHEET.

APPLY CONSTRUCTION PAVEMENT MARKINGS AS SHOWN IN THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.

USE PRECAST CONCRETE BARRIER WALL TO DELINEATE THE WORK ZONE.
USE TRAFFIC DRUMS TO DELINEATE DRIVEWAYS.

CONSTRUCT HWY. 38 AS SHOWN ON THE STAGE CONSTRUCTION TYPICALS.

STAGE 3A

INSTALL ADVANCE WARNING SIGNS, END ROAD WORK SIGNS, AND INSTALL ROAD WORK AHEAD (W20-1) SIGN AS SHOWN ON THE MAINTENANCE OF TRAFFIC - ADVANCE WARNING SHEET.

APPLY CONSTRUCTION PAVEMENT MARKINGS AS SHOWN IN THE STAGE 3 MAINTENANCE OF TRAFFIC DETAILS.

USE PRECAST CONCRETE BARRIER WALL TO DELINEATE THE WORK ZONE.
USE TRAFFIC DRUMS TO DELINEATE DRIVEWAYS.

CONSTRUCT HWY. 38 FROM STA. 101+66.50 TO STA. 133+60.00 AND STA. 135+10.00 - STA. 145+98.00 AS SHOWN ON THE STAGE CONSTRUCTION TYPICALS.

STAGE 3B

RELOCATE PRECAST CONCRETE BARRIER WALL AS SHOWN ON SHEETS 16 AND 17 TO DELINEATE THE WORK ZONE. USE TRAFFIC DRUMS TO DELINEATE DRIVEWAYS.

CONSTRUCT HWY. 38 FROM STA. 133+60.00 TO STA. 135+10.00 AS SHOWN ON THE STAGE CONSTRUCTION TYPICALS.

MAINTENANCE OF TRAFFIC - STAGE 1 QUANTITIES

SIGNS = 416 SQ.FT.
VERTICAL PANELS = 240 EACH

MAINTENANCE OF TRAFFIC - STAGE 2 QUANTITIES

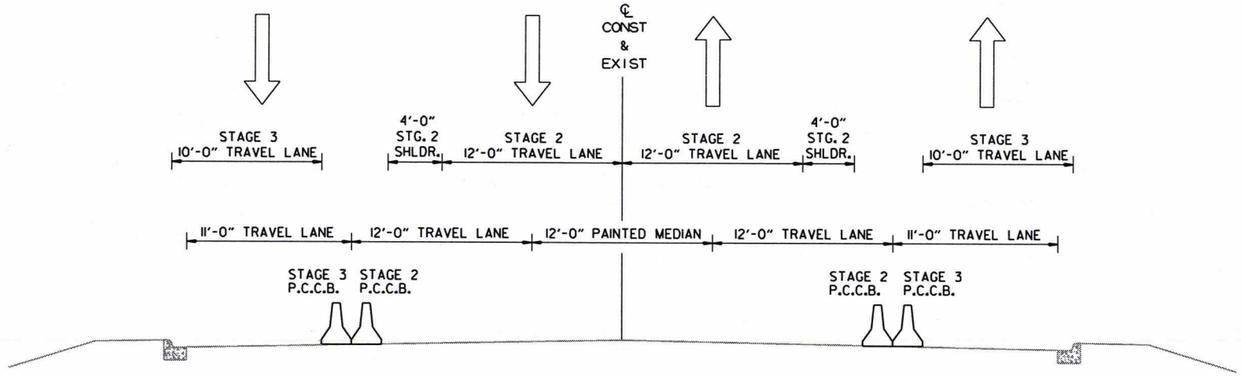
SIGNS = 438.5 SQ.FT.
VERTICAL PANELS = 12 EACH
TRAFFIC DRUMS = 240 EACH
BARRICADES (TYPE III) = 32 LIN. FT.
FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER = 5300 LIN. FT.
TEMPORARY IMPACT ATTENUATION BARRIER = 20 EACH
TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR) = 20 EACH
REMOVAL OF PERMANENT PAVEMENT MARKINGS = 11032 LIN. FT.
CONSTRUCTION PAVEMENT MARKINGS = 19304 LIN. FT.
CONSTRUCTION PAVEMENT MARKINGS (RAILROAD EMBLEMS) = 1 EACH
REMOVABLE CONSTRUCTION PAVEMENT MARKINGS = 1458 LIN. FT.

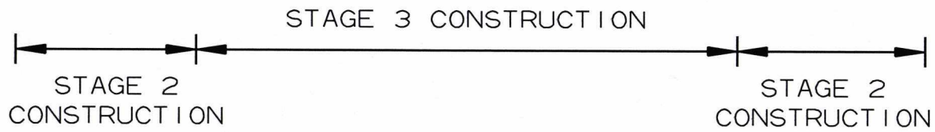
MAINTENANCE OF TRAFFIC - STAGE 3A QUANTITIES

SIGNS = 548.5 SQ.FT.
TRAFFIC DRUMS = 14 EACH
BARRICADES (TYPE III) = 32 LIN. FT.
FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER = 3540 LIN. FT.
RELOCATING PRECAST CONCRETE BARRIER = 5079 LIN. FT.
TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR) = 5 EACH
TEMPORARY IMPACT ATTENUATION BARRIER (RELOCATION) = 5 EACH
CONSTRUCTION PAVEMENT MARKINGS = 16688 LIN. FT.
CONSTRUCTION PAVEMENT MARKINGS (RAILROAD EMBLEMS) = 1 EACH
REMOVABLE CONSTRUCTION PAVEMENT MARKINGS = 1878 LIN. FT.

MAINTENANCE OF TRAFFIC - STAGE 3B QUANTITIES

SIGNS = 538.5 SQ.FT.
TRAFFIC DRUMS = 12 EACH
BARRICADES (TYPE III) = 32 LIN. FT.
RELOCATING PRECAST CONCRETE BARRIER = 252 LIN. FT.
TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR) = 4 EACH
TEMPORARY IMPACT ATTENUATION BARRIER (RELOCATION) = 4 EACH





STAGE CONSTRUCTION - CURB AND GUTTER

10/29/2018

R110650.DGN

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.		110650	10	34

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-29-18

CONSTRUCTION SEQUENCE

STAGE 1

INSTALL ADVANCE WARNING SIGNS, END ROAD WORK SIGNS, AND INSTALL ROAD WORK AHEAD (W20-1) SIGN AS SHOWN ON THE MAINTENANCE OF TRAFFIC - ADVANCE WARNING SHEET.

USE VERTICAL PANELS SPACED 50' ON CENTER TO DELINEATE THE WORK ZONE.

CONSTRUCT TEMPORARY WIDENING (IN RAISED MEDIAN SECTIONS) AS SHOWN ON THE STAGE CONSTRUCTION TYPICALS.

STAGE 2

INSTALL ADVANCE WARNING SIGNS, END ROAD WORK SIGNS, AND INSTALL ROAD WORK AHEAD (W20-1) SIGN AS SHOWN ON THE MAINTENANCE OF TRAFFIC - ADVANCE WARNING SHEET.

APPLY CONSTRUCTION PAVEMENT MARKINGS AS SHOWN IN THE STAGE 2 MAINTENANCE OF TRAFFIC DETAILS.

USE PRECAST CONCRETE BARRIER WALL TO DELINEATE THE WORK ZONE. USE TRAFFIC DRUMS TO DELINEATE DRIVEWAYS.

CONSTRUCT HWY. 38 AS SHOWN ON THE STAGE CONSTRUCTION TYPICALS.

STAGE 3A

INSTALL ADVANCE WARNING SIGNS, END ROAD WORK SIGNS, AND INSTALL ROAD WORK AHEAD (W20-1) SIGN AS SHOWN ON THE MAINTENANCE OF TRAFFIC - ADVANCE WARNING SHEET.

APPLY CONSTRUCTION PAVEMENT MARKINGS AS SHOWN IN THE STAGE 3 MAINTENANCE OF TRAFFIC DETAILS.

USE PRECAST CONCRETE BARRIER WALL TO DELINEATE THE WORK ZONE. USE TRAFFIC DRUMS TO DELINEATE DRIVEWAYS.

CONSTRUCT HWY. 38 FROM STA. 101+66.50 TO STA. 133+60.00 AND STA. 135+10.00 - STA. 145+98.00 AS SHOWN ON THE STAGE CONSTRUCTION TYPICALS.

STAGE 3B

RELOCATE PRECAST CONCRETE BARRIER WALL AS SHOWN ON SHEETS 16 AND 17 TO DELINEATE THE WORK ZONE. USE TRAFFIC DRUMS TO DELINEATE DRIVEWAYS.

CONSTRUCT HWY. 38 FROM STA. 133+60.00 TO STA. 135+10.00 AS SHOWN ON THE STAGE CONSTRUCTION TYPICALS.

MAINTENANCE OF TRAFFIC - STAGE 1 QUANTITIES

SIGNS = 416 SQ.FT.
VERTICAL PANELS = 240 EACH

MAINTENANCE OF TRAFFIC - STAGE 2 QUANTITIES

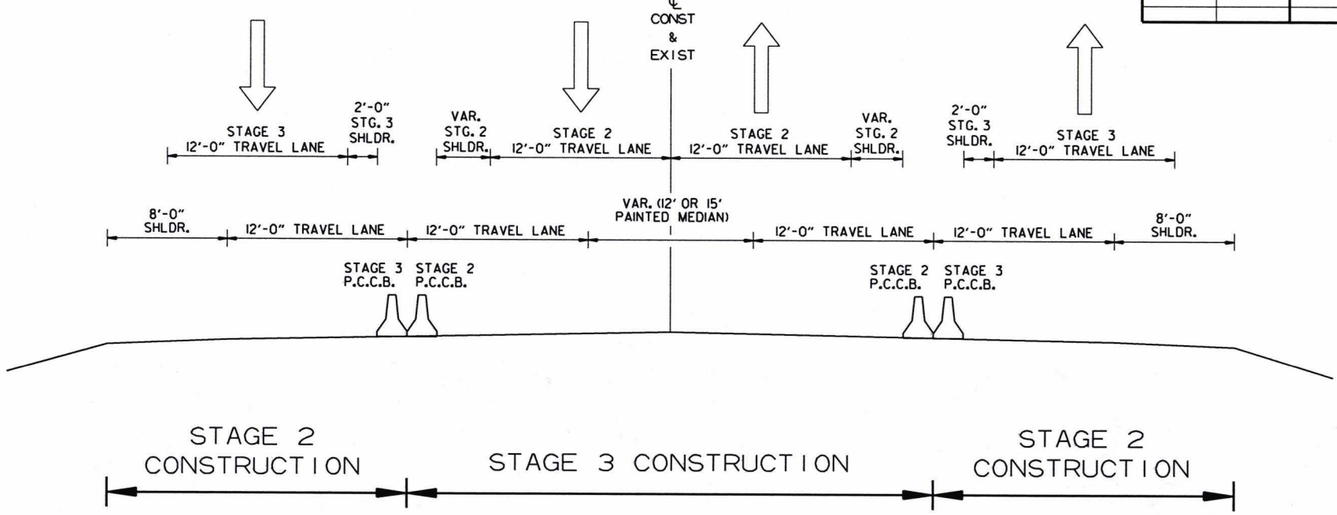
SIGNS = 438.5 SQ.FT.
VERTICAL PANELS = 12 EACH
TRAFFIC DRUMS = 240 EACH
BARRICADES (TYPE III) = 32 LIN. FT.
FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER = 5300 LIN. FT.
TEMPORARY IMPACT ATTENUATION BARRIER = 20 EACH
TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR) = 20 EACH
REMOVAL OF PERMANENT PAVEMENT MARKINGS = 11032 LIN. FT.
CONSTRUCTION PAVEMENT MARKINGS = 19304 LIN. FT.
CONSTRUCTION PAVEMENT MARKINGS (RAILROAD EMBLEMS) = 1 EACH
REMOVABLE CONSTRUCTION PAVEMENT MARKINGS = 1458 LIN. FT.

MAINTENANCE OF TRAFFIC - STAGE 3A QUANTITIES

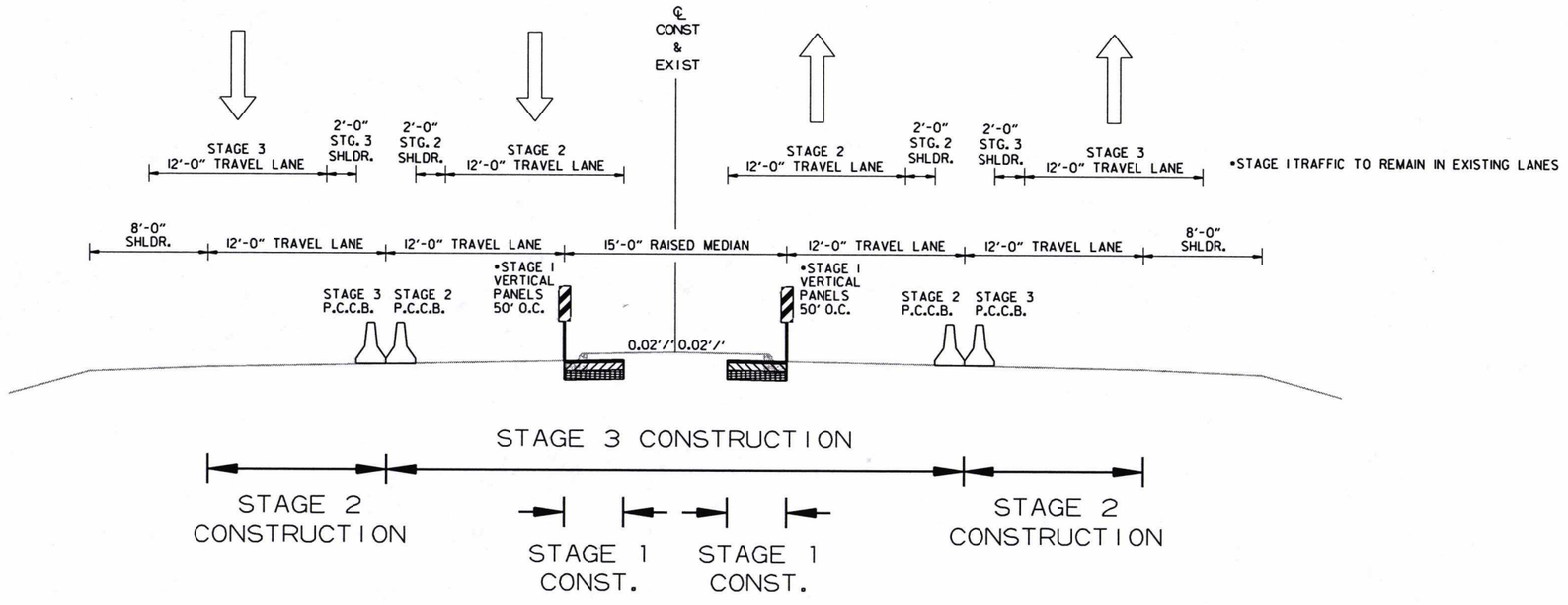
SIGNS = 548.5 SQ.FT.
TRAFFIC DRUMS = 14 EACH
BARRICADES (TYPE III) = 32 LIN. FT.
FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER = 3540 LIN. FT.
RELOCATING PRECAST CONCRETE BARRIER = 5079 LIN. FT.
TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR) = 5 EACH
TEMPORARY IMPACT ATTENUATION BARRIER (RELOCATION) = 5 EACH
CONSTRUCTION PAVEMENT MARKINGS = 16688 LIN. FT.
CONSTRUCTION PAVEMENT MARKINGS (RAILROAD EMBLEMS) = 1 EACH
REMOVABLE CONSTRUCTION PAVEMENT MARKINGS = 1878 LIN. FT.

MAINTENANCE OF TRAFFIC - STAGE 3B QUANTITIES

SIGNS = 538.5 SQ.FT.
TRAFFIC DRUMS = 12 EACH
BARRICADES (TYPE III) = 32 LIN. FT.
RELOCATING PRECAST CONCRETE BARRIER = 252 LIN. FT.
TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR) = 4 EACH
TEMPORARY IMPACT ATTENUATION BARRIER (RELOCATION) = 4 EACH



STAGE CONSTRUCTION - OPEN SHOULDER



STAGE CONSTRUCTION - RAISED MEDIAN

10/29/2018

R110650.DGN

MAINTENANCE OF TRAFFIC DETAILS

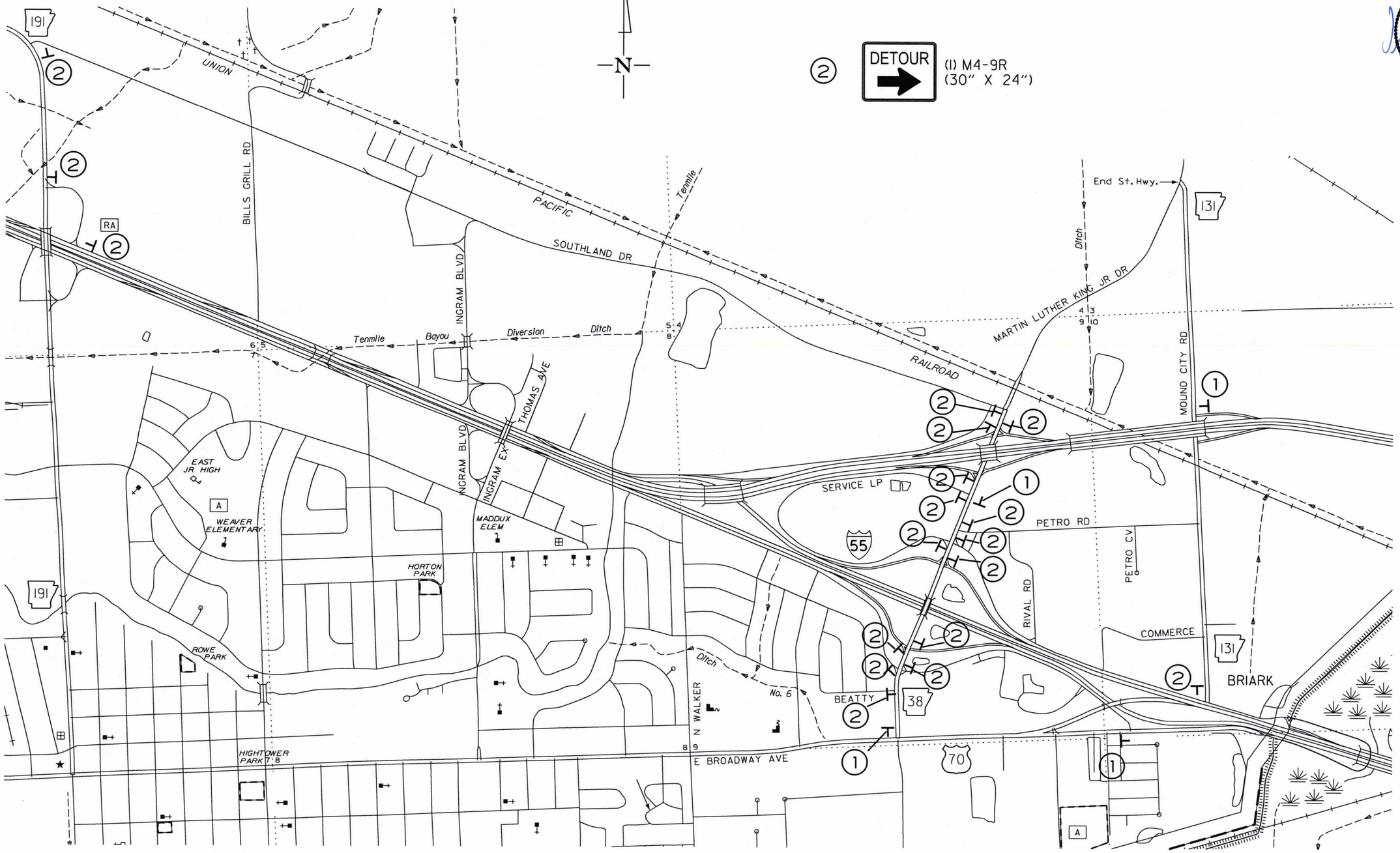
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110650	11	34

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-29-18

(1) DETOUR (I) M4-9L (30" X 24")

(2) DETOUR (I) M4-9R (30" X 24")



STAGE 3A
MAINTENANCE OF TRAFFIC DETAILS

R110650.DGN 10/29/2018

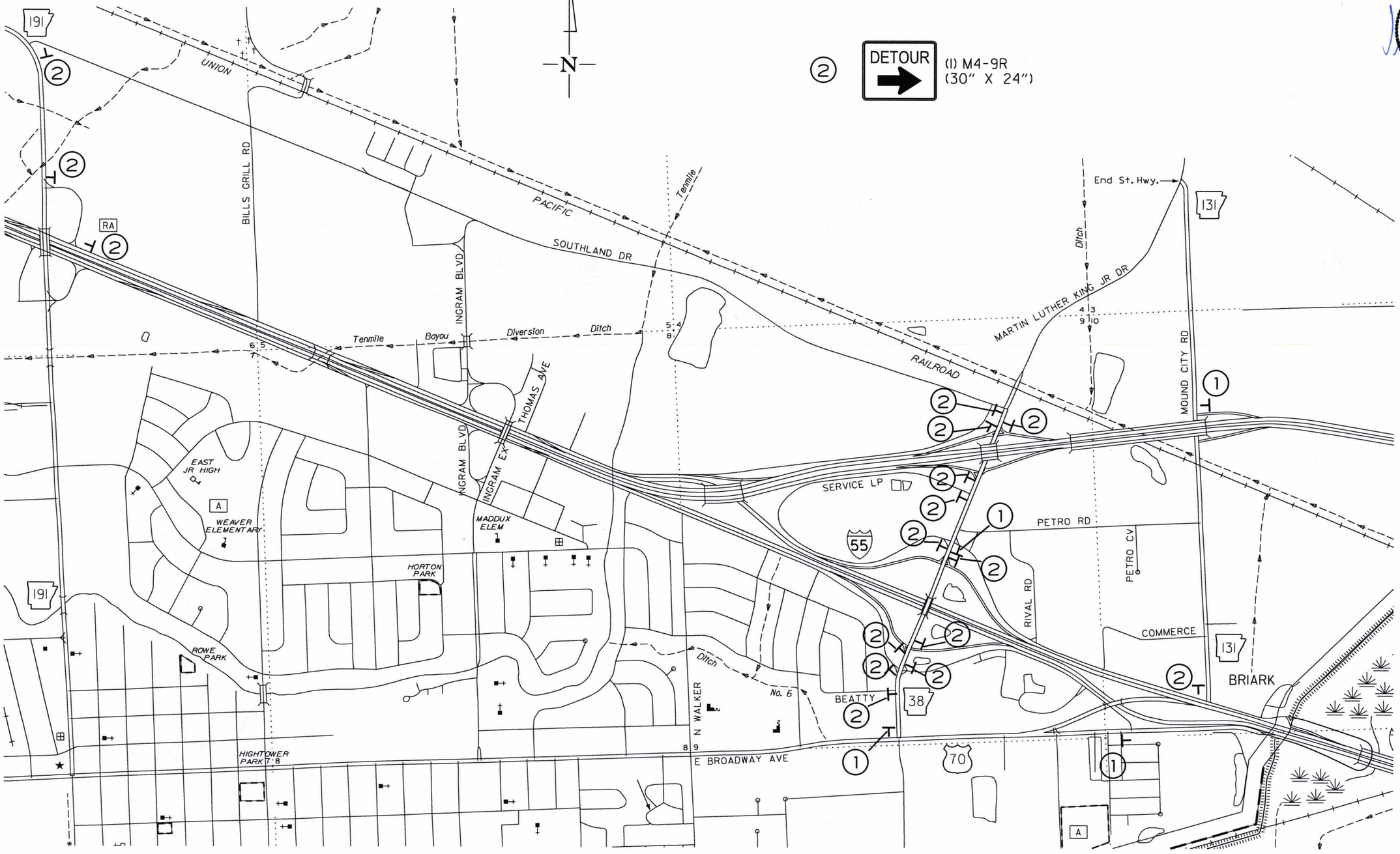
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110650	12	34

(2) MAINTENANCE OF TRAFFIC DETAILS

(1) DETOUR (I) M4-9L (30" X 24")

(2) DETOUR (I) M4-9R (30" X 24")

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-29-18



STAGE 3B
MAINTENANCE OF TRAFFIC DETAILS

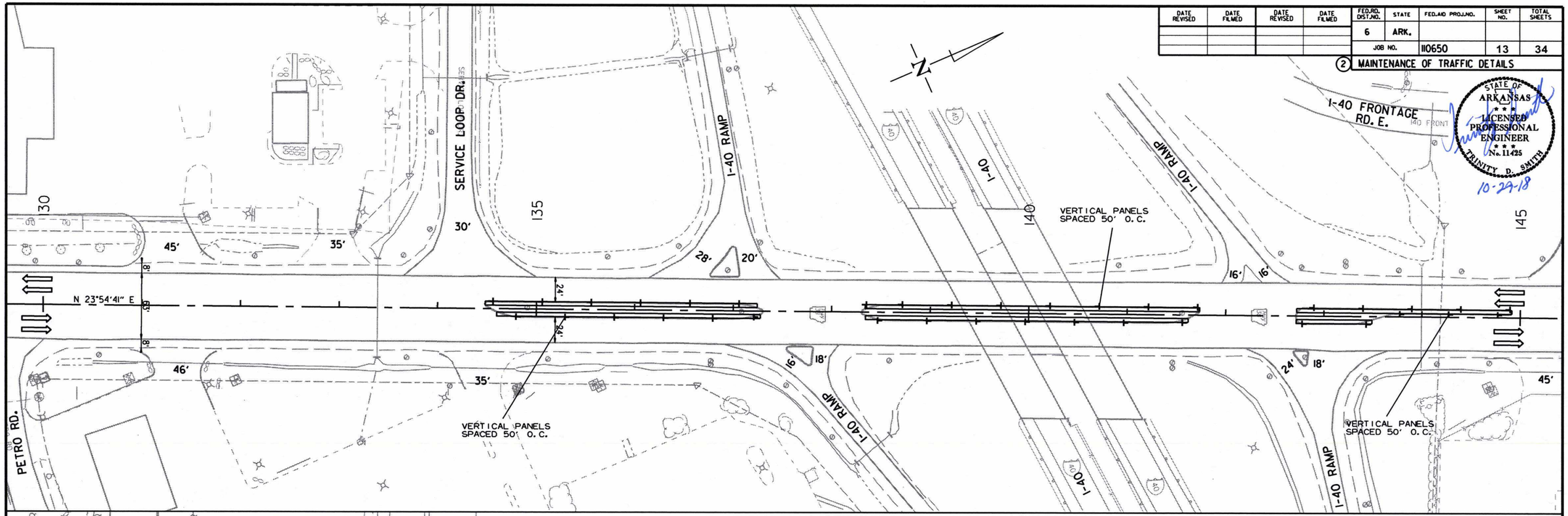
10/29/2018

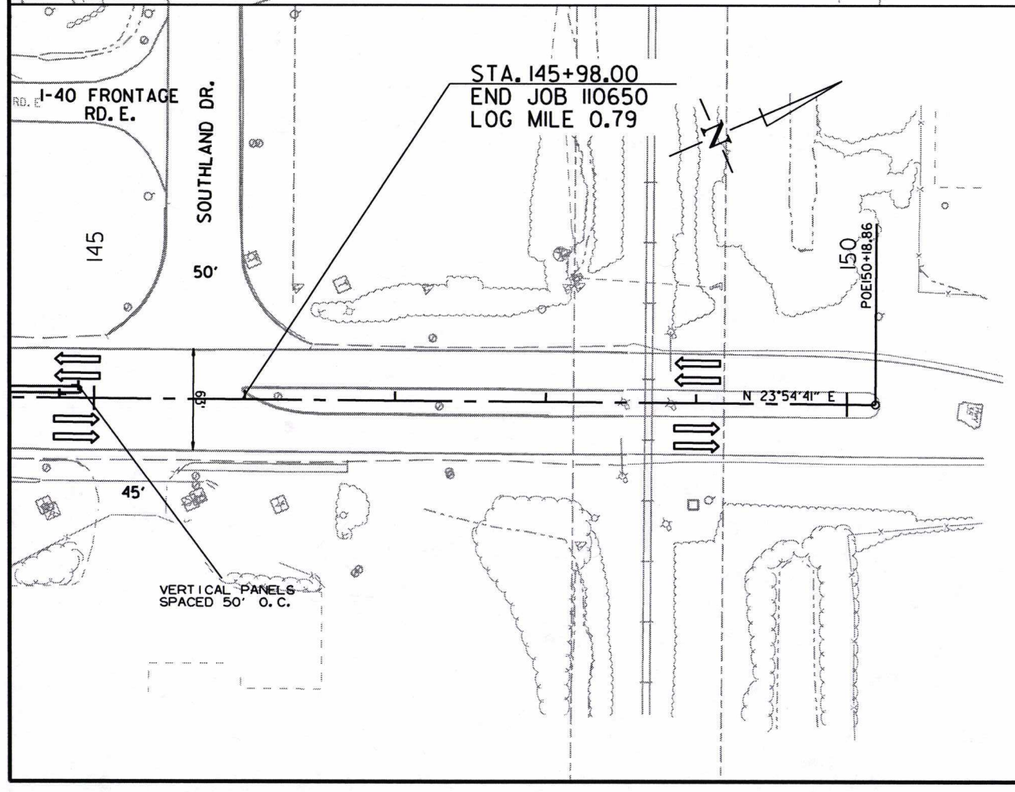
R110650.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110650	13	34

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-29-18





10/29/2018

R110650.DGN

STAGE I
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.		110650	14	34

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-29-18

STA. 101+66.50
BEGIN JOB 110650
LOG MILE 0.00

POB 100+00.00

FURNISH AND INSTALL 260' P.C.C.B.
(I) SPECIAL END UNIT & (I) T.I.A.B.

WHITE SOLID CONSTRUCTION PAVEMENT MARKINGS

FURNISH AND INSTALL 140' P.C.C.B.
(I) SPECIAL END UNIT & (I) T.I.A.B.

BEATTY ST.

PI 109+05.70

E. SERVICE RD.

FURNISH AND INSTALL 100' P.C.C.B.
(I) SPECIAL END UNIT & (I) T.I.A.B.

I-55 RAMP

N 0°20'25" W

N 23°54'41" E

HWY. 70

FURNISH AND INSTALL 100' P.C.C.B.
(I) SPECIAL END UNIT & (I) T.I.A.B.

ROAD CLOSED

(I) RII-2 (48" X 30")

16' BARR. TYP. III RT.

FURNISH AND INSTALL 100' P.C.C.B.
(I) SPECIAL END UNIT & (I) T.I.A.B.

TRAFFIC DRUMS
6 EACH LOCATION

PC 107+00.53

DBL. YELLOW SOLID CONSTRUCTION PAVEMENT MARKINGS

FURNISH AND INSTALL 340' P.C.C.B.
(I) SPECIAL END UNIT & (I) T.I.A.B.

PT 111+04.73

FURNISH AND INSTALL 100' P.C.C.B.
(I) SPECIAL END UNIT & (I) T.I.A.B.

MARTIN LUTHER KING JR. DR.

SERVICE LOOP DR.

STA. 117+71.85
BEGIN EXCEPTION

STA. 120+28.71
END EXCEPTION

FURNISH AND INSTALL 1040' P.C.C.B.
(I) SPECIAL END UNIT & (I) T.I.A.B.

DBL. YELLOW SOLID REMOVABLE CONSTRUCTION PAVEMENT MARKINGS

I-55

WHITE SOLID CONSTRUCTION PAVEMENT MARKINGS

TRAFFIC DRUMS
6 EACH LOCATION

FURNISH AND INSTALL 120' P.C.C.B.
(I) SPECIAL END UNIT & (I) T.I.A.B.

FURNISH AND INSTALL 1040' P.C.C.B.
(I) SPECIAL END UNIT & (I) T.I.A.B.

WHITE SOLID REMOVABLE CONSTRUCTION PAVEMENT MARKINGS

DBL. YELLOW SOLID CONSTRUCTION PAVEMENT MARKINGS

TRAFFIC DRUMS SPACED 50' O.C.

FURNISH AND INSTALL 100' P.C.C.B.
(I) SPECIAL END UNIT & (I) T.I.A.B.

S. SERVICE RD.

PETRO RD.

+10.59 — 90' STG. 2 SHLD. TAPER LT. & RT. — +00.59 — 170' STG. 2 LANE TRANSITION & SHLD. TAPER LT. & RT. — +70.59

+29.97 — 158' STG. 2 LANE TRANSITION & SHLD. TAPER LT. & RT. — +87.97 — 82' STG. 2 SHLD. TAPER LT. & RT. — +69.97

10/29/2018

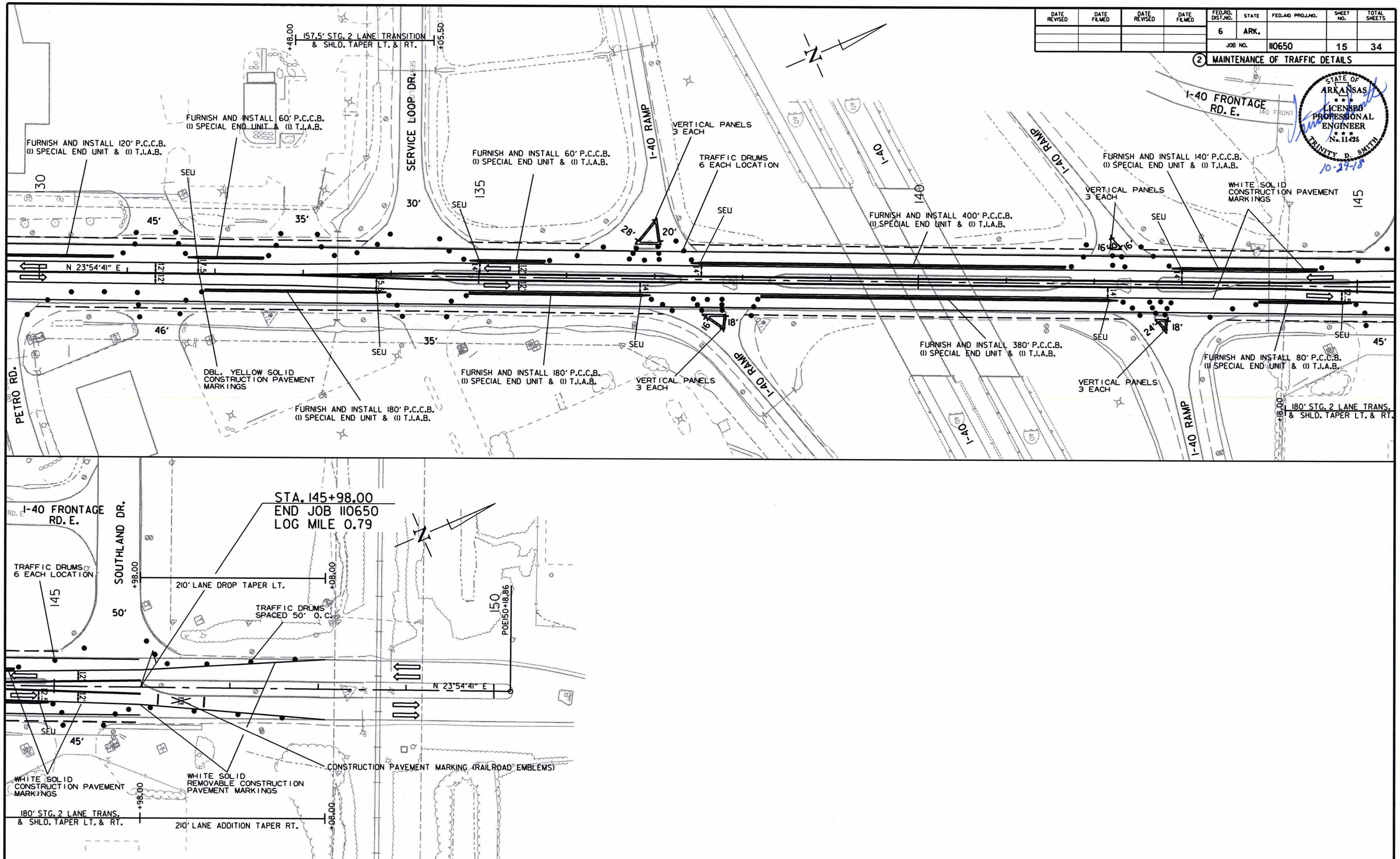
R110650.DGN

STAGE 2
MAINTENANCE OF TRAFFIC DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110650	15	34

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-29-18



157.5' STG. 2 LANE TRANSITION & SHLD. TAPER LT. & RT.
+48.00
+05.50
SERVICE LOOP DR.
I-40 RAMP
I-40
I-40 FRONTAGE RD. E.
FURNISH AND INSTALL 120' P.C.C.B. (1) SPECIAL END UNIT & (1) T.I.A.B.
FURNISH AND INSTALL 60' P.C.C.B. (1) SPECIAL END UNIT & (1) T.I.A.B.
FURNISH AND INSTALL 60' P.C.C.B. (1) SPECIAL END UNIT & (1) T.I.A.B.
VERTICAL PANELS 3 EACH
TRAFFIC DRUMS 6 EACH LOCATION
FURNISH AND INSTALL 140' P.C.C.B. (1) SPECIAL END UNIT & (1) T.I.A.B.
VERTICAL PANELS 3 EACH
WHITE SOLID CONSTRUCTION PAVEMENT MARKINGS
FURNISH AND INSTALL 400' P.C.C.B. (1) SPECIAL END UNIT & (1) T.I.A.B.
SEU
130
135
140
145
30'
45'
35'
28'
20'
16'
N 23°54'41" E
46'
35'
DBL. YELLOW SOLID CONSTRUCTION PAVEMENT MARKINGS
FURNISH AND INSTALL 180' P.C.C.B. (1) SPECIAL END UNIT & (1) T.I.A.B.
FURNISH AND INSTALL 180' P.C.C.B. (1) SPECIAL END UNIT & (1) T.I.A.B.
VERTICAL PANELS 3 EACH
FURNISH AND INSTALL 380' P.C.C.B. (1) SPECIAL END UNIT & (1) T.I.A.B.
VERTICAL PANELS 3 EACH
FURNISH AND INSTALL 80' P.C.C.B. (1) SPECIAL END UNIT & (1) T.I.A.B.
180' STG. 2 LANE TRANS. & SHLD. TAPER LT. & RT.
+18.00
18'
24'
PETRO RD.
I-40 FRONTAGE RD. E.
SOUTHLAND DR.
STA. 145+98.00
END JOB 110650
LOG MILE 0.79
TRAFFIC DRUMS 6 EACH LOCATION
+98.00
210' LANE DROP TAPER LT.
+08.00
TRAFFIC DRUMS SPACED 50' O.C.
150
POE150+18.86
50'
N 23°54'41" E
45'
SEU
WHITE SOLID CONSTRUCTION PAVEMENT MARKINGS
WHITE SOLID REMOVABLE CONSTRUCTION PAVEMENT MARKINGS
CONSTRUCTION PAVEMENT MARKING (RAILROAD EMBLEMS)
180' STG. 2 LANE TRANS. & SHLD. TAPER LT. & RT.
210' LANE ADDITION TAPER RT.

STAGE 2
MAINTENANCE OF TRAFFIC DETAILS

10/29/2018
R110650.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
11-29-18				6	ARK.			
				JOB NO.		110650	16	34

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-30-18

STA. 101+66.50
BEGIN JOB 110650
LOG MILE 0.00

POB100+00.00

BROADWAY AVE.

HWY. 70

BEATTY ST.

N 0°20'25" W

N 23°54'41" E

MARTIN LUTHER KING JR. DR.

E. SERVICE RD.

I-55 RAMP

PC107+00.53

PT109+05.70

PT111+04.73

ROAD CLOSED

(1) R11-2 (48" X 30")

16' BARR. TYP. III RT.
16' BARR. TYP. III LT.

YELLOW SOLID CONSTRUCTION PAVEMENT MARKINGS

RELOCATE 640' P.C.C.B.
AND (1) T.I.A.B
FURNISH AND INSTALL 940' P.C.C.B.

RELOCATE 500' P.C.C.B.
AND (1) T.I.A.B
FURNISH AND INSTALL 1080' P.C.C.B.

WHITE SOLID CONSTRUCTION PAVEMENT MARKINGS

100 105 110 115

50' 26' 46' 18' 34' 35' 30' 16' 36' 16' 16' 18' 16'

11/29/2018

R110650.DGN

STAGE 3A
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
11-29-18				6	ARK.			
				JOB NO.	110650		17	34

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-30-18

+15.59 255' STAGE 3A LANE TRANSITION & SHLD. TAPER LT. & RT. +70.59

+29.97 236' STAGE 3A LANE TRANSITION & SHLD. TAPER LT. & RT. +65.97

STA. 117+71.85
BEGIN EXCEPTION

STA. 120+28.71
END EXCEPTION

YELLOW SOLID CONSTRUCTION PAVEMENT MARKINGS

YELLOW SOLID REMOVABLE CONSTRUCTION PAVEMENT MARKINGS

WHITE SOLID CONSTRUCTION PAVEMENT MARKINGS

WHITE SOLID REMOVABLE CONSTRUCTION PAVEMENT MARKINGS

TRAFFIC DRUMS SPACED 50' O.C.

RELOCATE 1140' P.C.C.B.
AND (1) SPECIAL END UNIT
FURNISH AND INSTALL 460' P.C.C.B.

RELOCATE 1160' P.C.C.B.
AND (1) T.I.A.B
FURNISH AND INSTALL 460' P.C.C.B.

I-55 RAMP

SERVICE LOOP DR.

S. SERVICE RD.

PETRO RD.

MARTIN LUTHER KING JR DR. N 23°54'41" E

STAGE 3A

STA. 117+71.85
BEGIN EXCEPTION

STA. 120+28.71
END EXCEPTION

YELLOW SOLID CONSTRUCTION PAVEMENT MARKINGS

YELLOW SOLID REMOVABLE CONSTRUCTION PAVEMENT MARKINGS

WHITE SOLID CONSTRUCTION PAVEMENT MARKINGS

WHITE SOLID REMOVABLE CONSTRUCTION PAVEMENT MARKINGS

TRAFFIC DRUMS SPACED 50' O.C.

RELOCATE (2) SPECIAL END UNIT & (2) T.I.A.B

SEU

I-55 RAMP

SERVICE LOOP DR.

S. SERVICE RD.

PETRO RD.

MARTIN LUTHER KING JR DR. N 23°54'41" E

STAGE 3B
MAINTENANCE OF TRAFFIC DETAILS

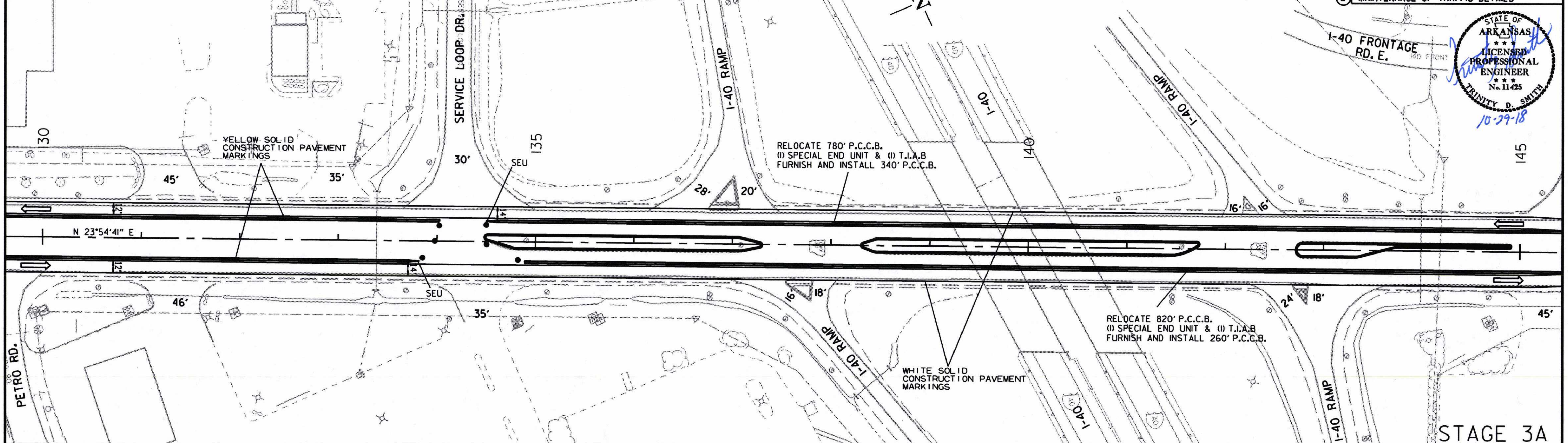
11/29/2018

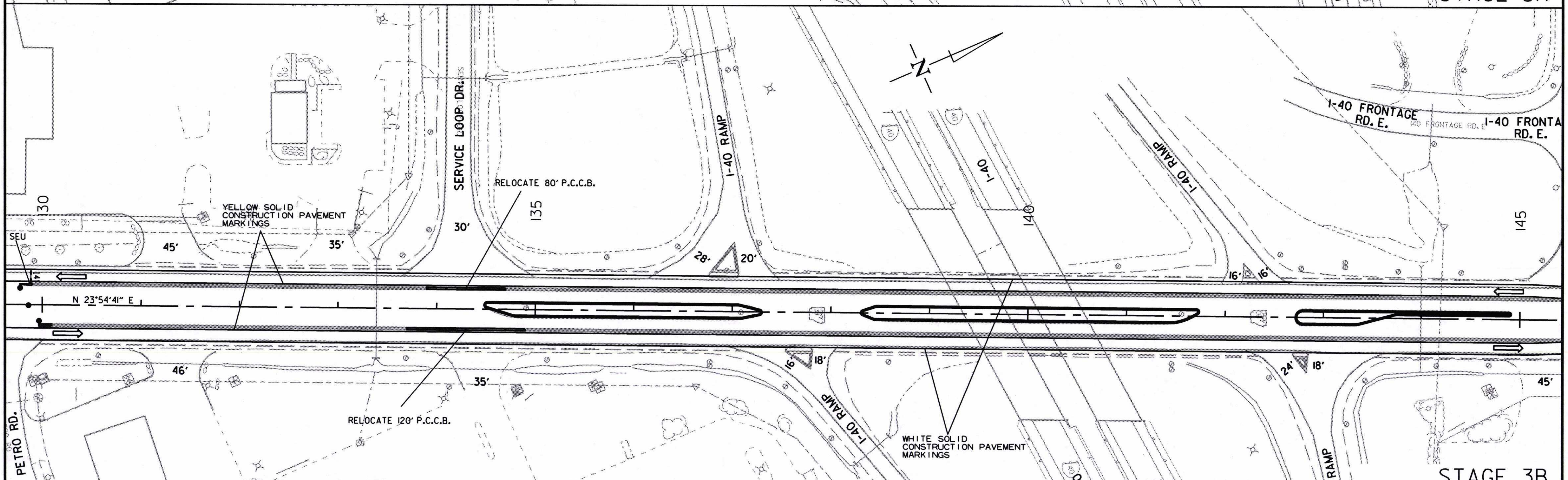
R110650.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110650	18	34

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS LICENSED PROFESSIONAL ENGINEER No. 11425 TRINITY D. SMITH 10-29-18





MAINTENANCE OF TRAFFIC DETAILS

10/29/2018

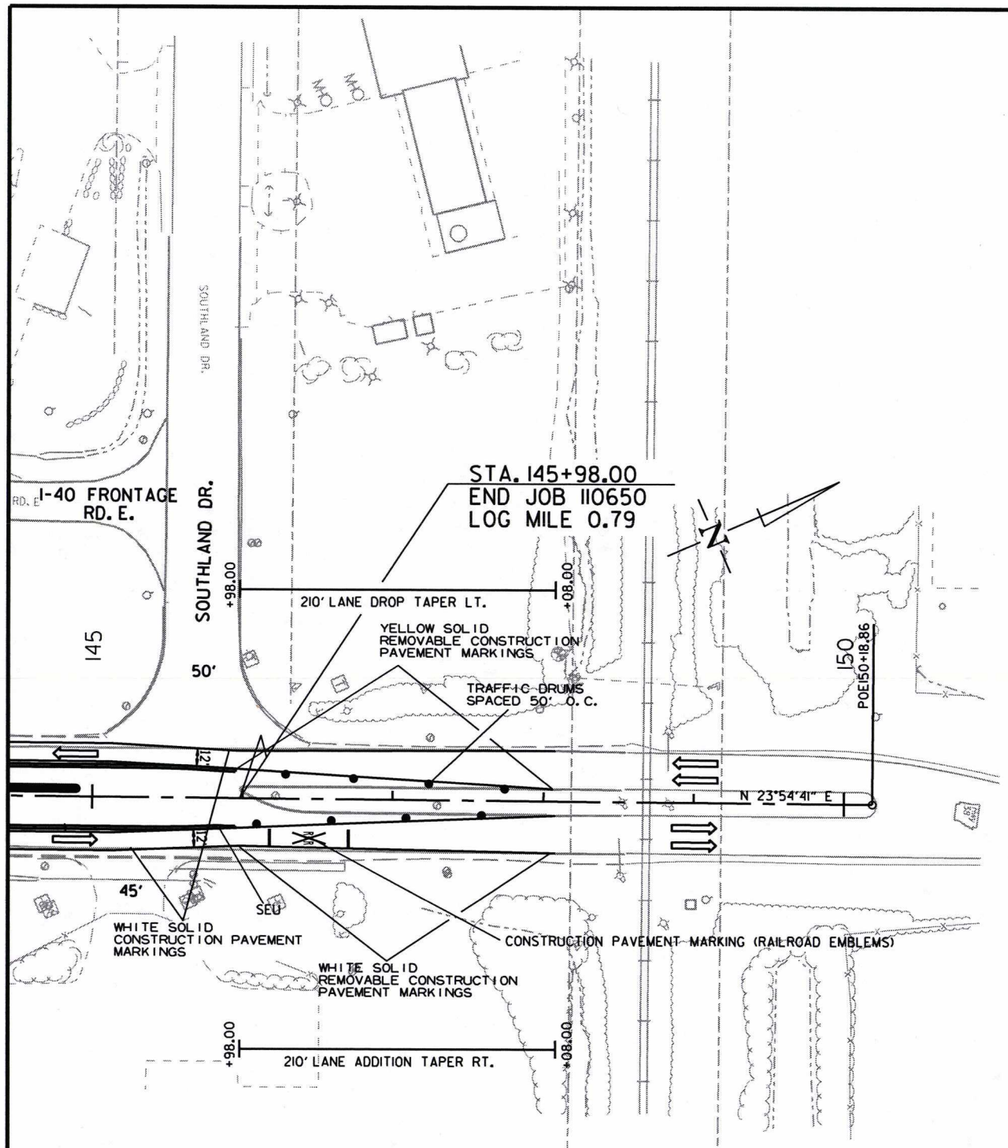
R110650.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		110650	19	34

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-29-18



10/29/2018

R110650.DGN

STAGE 3A
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.		110650	20	34

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
TRINITY D. SMITH
No. 11425
10-29-18

STA. 101+66.50
BEGIN JOB 110650
LOG MILE 0.00

THERMOPLASTIC PAVEMENT MARKING (ARROW)
THERMOPLASTIC PAVEMENT MARKING (WORD)

POB100+00.00

12" WHITE THERMOPLASTIC CROSSWALK

12" WHITE THERMOPLASTIC STOP LINE

6" YELLOW SKIP WITH 6" YELLOW THERMOPLASTIC PAVEMENT MARKING

N 0°20'25" W

PC107+00.53

6" WHITE SKIP THERMOPLASTIC PAVEMENT MARKING

RAISED PAVEMENT MARKERS (TYPE II) (YELLOW/YELLOW) SPACED 80' ON CENTER

RAISED PAVEMENT MARKERS (TYPE II) (WHITE/RED) SPACED 80' ON CENTER

PI109+05.70

PT111+04.73

6" WHITE THERMOPLASTIC PAVEMENT MARKING

N 23°54'41" E

6" DOUBLE YELLOW THERMOPLASTIC PAVEMENT MARKING

HWY. 70

BEATTY ST.

E. SERVICE RD.

I-55 RAMP

100 105 110 115

50' 26' 46' 30' 35' 34' 36' 16' 18'

STA. 117+71.85
BEGIN EXCEPTION

STA. 120+28.71
END EXCEPTION

I-55

120 125

6" DOUBLE YELLOW THERMOPLASTIC PAVEMENT MARKING

6" WHITE SKIP THERMOPLASTIC PAVEMENT MARKING

+15.59 255' LANE REDUCTION TAPER LT. & RT. +70.59

+29.97 236' LANE ADDITION TAPER LT. & RT. +65.97

160' LANE ADDITION TAPER LT. & RT. +25.97

THERMOPLASTIC PAVEMENT MARKING (ARROW)
THERMOPLASTIC PAVEMENT MARKING (WORD)

6" WHITE THERMOPLASTIC PAVEMENT MARKING

6" YELLOW SKIP WITH 6" YELLOW THERMOPLASTIC PAVEMENT MARKING

SERVICE LOOP DR.

S. SERVICE RD.

PETRO RD.

30 44' 50' 24' 32' 38' 22' 20'

RAISED PAVEMENT MARKERS (TYPE II) (YELLOW/YELLOW) SPACED 80' ON CENTER

10/29/2018

R110650.DGN

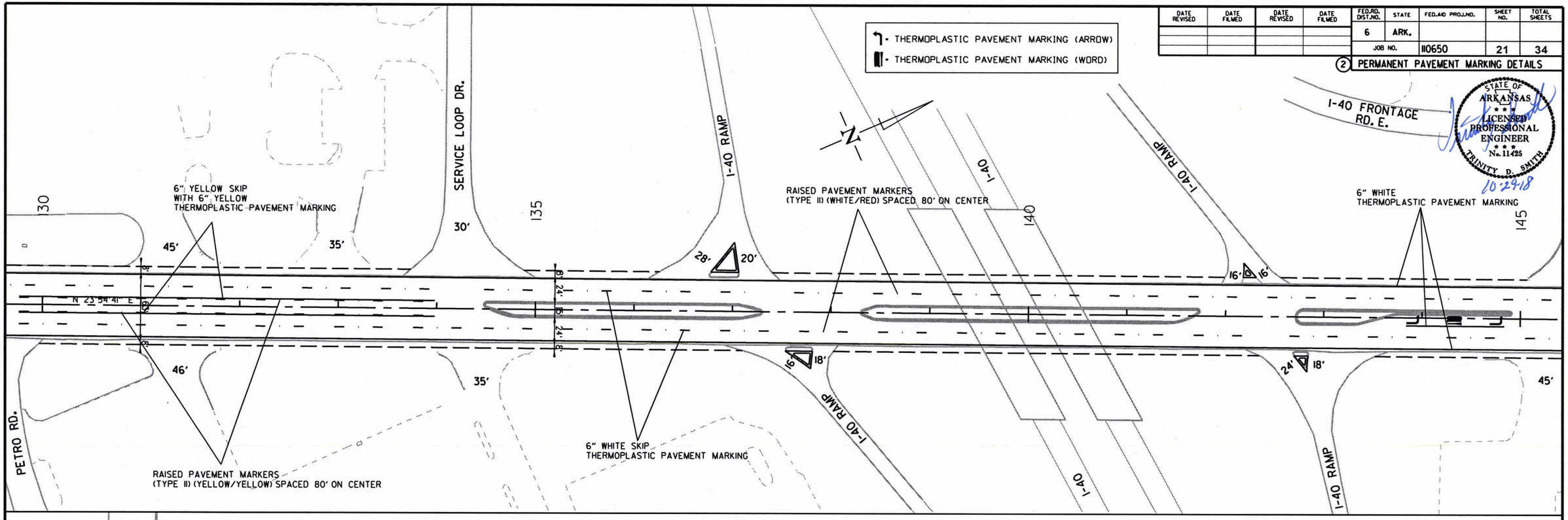
PERMANENT PAVEMENT MARKING DETAILS

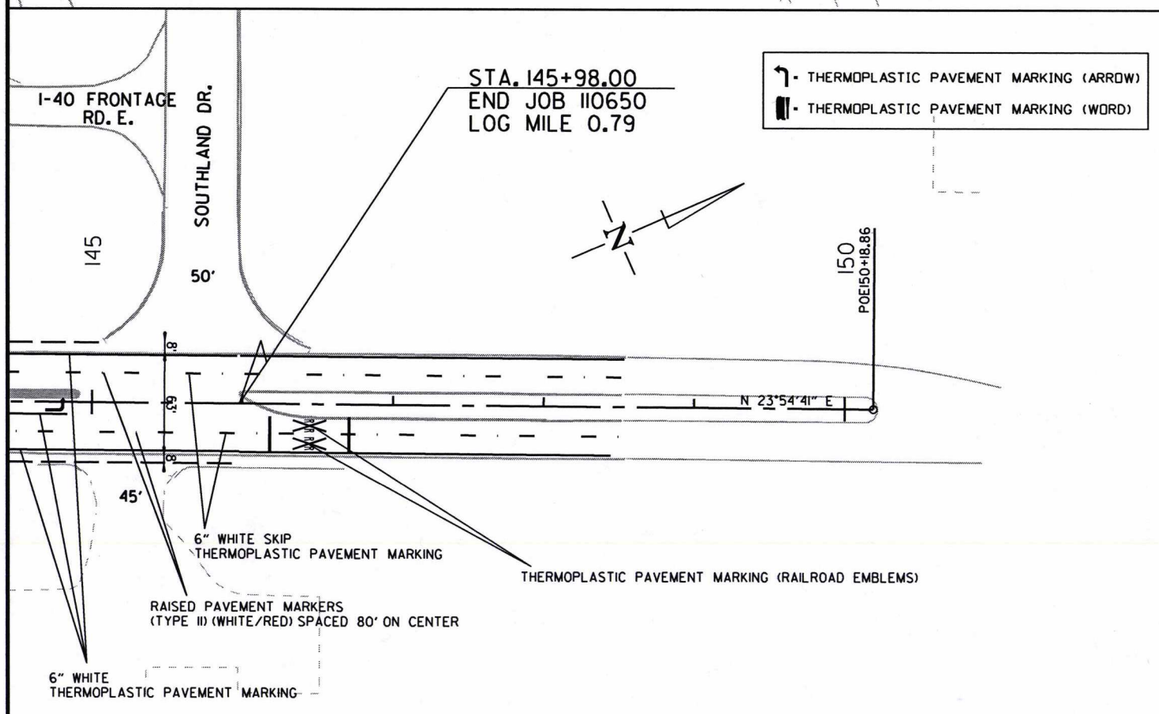
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110650	21	34

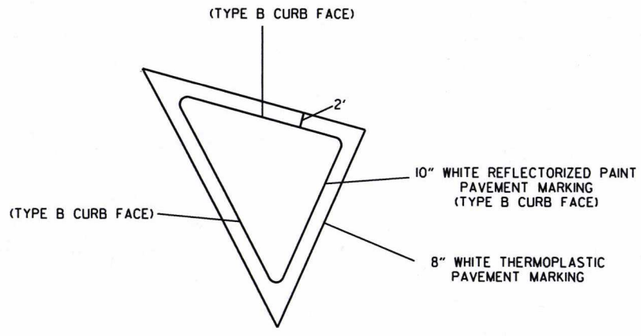
(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10.29.18

- THERMOPLASTIC PAVEMENT MARKING (ARROW)
- THERMOPLASTIC PAVEMENT MARKING (WORD)







TYPICAL ISLAND STRIPING DETAIL

10/29/2018

R110650.DGN

PERMANENT PAVEMENT MARKING DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
11-29-18				6	ARK.			
				JOB NO.		110650	22	34

(2) QUANTITIES

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
11-30-18

CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS

DESCRIPTION	STAGE 2	STAGE 3A	END OF JOB	REMOVAL OF PERMANENT PAVEMENT MARKINGS	CONSTRUCTION PAVEMENT MARKINGS	CONSTRUCTION PAVEMENT MARKINGS	REMOVABLE CONSTRUCTION PAVEMENT MARKINGS	RAISED PAVEMENT MARKERS		THERMOPLASTIC PAVEMENT MARKING							REFLECTORIZED PAINT PAVEMENT MARKING
						RAILROAD EMBLEMS		TYPE II (WHITE/RED)	TYPE II (YEL/YEL)	6" WHITE	6" YELLOW	8" WHITE	12" WHITE	WORDS	ARROWS	RAILROAD EMBLEMS	10" WHITE
	LIN. FT. - EACH			LIN. FT.		EACH	LIN. FT.	EACH		LIN. FT.				EACH			LIN. FT.
REMOVAL OF PERMANENT PAVEMENT MARKINGS	11032			11032													
CONSTRUCTION PAVEMENT MARKINGS	19304	16688			35992												
CONSTRUCTION PAVEMENT MARKINGS (RAILROAD EMBLEMS)	1	1				2											
REMOVABLE CONSTRUCTION PAVEMENT MARKINGS	1458	1878					3336										
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED)			111					111									
RAISED PAVEMENT MARKERS TYPE II (YEL/YEL)			62						62								
THERMOPLASTIC PAVEMENT MARKING WHITE (6")			9505							9505							
THERMOPLASTIC PAVEMENT MARKING YELLOW (6")			8406								8406						
THERMOPLASTIC PAVEMENT MARKING WHITE (8")			274									274					
THERMOPLASTIC PAVEMENT MARKING WHITE (12")			220										220				
THERMOPLASTIC PAVEMENT MARKING (WORDS)			6											6			
THERMOPLASTIC PAVEMENT MARKING (ARROWS)			12												12		
THERMOPLASTIC PAVEMENT MARKING (RAILROAD EMBLEMS)			2													2	
REFLECTORIZED PAINT PAVEMENT MARKING WHITE (10")			158														158
TOTALS:				**11032**	**35992**	**2**	**3336**	**111**	**62**	**9505**	**8406**	**274**	**220**	**6**	**12**	**2**	**158**

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

ADVANCE WARNING SIGNS AND DEVICES

SIGN NUMBER	DESCRIPTION	SIGN SIZE	STAGE 1	STAGE 2	STAGE 3A	STAGE 3B	MAXIMUM NUMBER REQUIRED	TOTAL SIGNS REQUIRED		VERTICAL PANELS	TRAFFIC DRUMS	BARRICADES (TYPE III)		FURNISHING & INSTALLING PRECAST CONC. BARRIER	RELOCATING PRECAST CONCRETE BARRIER	TEMPORARY IMPACT ATTENUATION BARRIER	TEMP. IMPACT ATTEN.BARR. (REPAIR)	TEMP. IMPACT ATTEN.BARR. (RELOCATION)
								NO.	SQ. FT.			RIGHT	LEFT					
			LIN. FT. - EACH					EACH		EACH		LIN. FT.		LIN. FT.		EACH		
W20-1	ROAD WORK 1500 FT.	48"x48"	2	2	2	2	2	2	32.0									
W20-1	ROAD WORK 1000 FT.	48"x48"	2	2	2	2	2	2	32.0									
W20-1	ROAD WORK 500 FT.	48"x48"	2	2	2	2	2	2	32.0									
W20-1	ROAD WORK AHEAD	48"x48"	13	13	13	13	13	13	208.0									
G20-2	END ROAD WORK	48"x24"	14	14	14	14	14	14	112.0									
R11-2	ROAD CLOSED	48"x30"		1	1	1	1	1	10.0									
W8-1	BUMP	30"x30"		2	2	2	2	2	12.5									
M4-9L	DETOUR WITH ARROW	30"X24"			4	4	4	4	20.0									
M4-9R	DETOUR WITH ARROW	30"X24"			18	16	18	18	90.0									
	VERTICAL PANELS		38	12			38			38								
	TRAFFIC DRUMS			240	14	12	240				240							
	TYPE III BARRICADE-RT. (16')			1	1	1	1					16						
	TYPE III BARRICADE-LT. (16')			1	1	1	1						16					
	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER			5300	3540		8840							8840				
	RELOCATING PRECAST CONCRETE BARRIER				5079	252	5331								5331			
	TEMPORARY IMPACT ATTENUATION BARRIER			20			20									20		
	TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR)			20	5	4	29										29	
	TEMPORARY IMPACT ATTENUATION BARRIER (RELOCATION)				5	4	9											9
TOTALS:									**548.5**	**38**	**240**	**16**	**16**	**8840**	**5331**	**20**	**29**	**9**

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

EROSION CONTROL

STATION	STATION	LOCATION	WATTLE (20")	SAND BAG DITCH CHECKS	ROCK DITCH CHECKS	*SEDIMENT REMOVAL & DISPOSAL
			(E-1)	(E-5)	(E-6)	
			LIN. FT.	BAG	CU.YD.	CU. YD.
*ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.			45	110	15	15
TOTALS:			**45**	**110**	**15**	**15**

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

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

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

REMOVAL AND DISPOSAL OF ITEMS

STATION	STATION	LOCATION	CURB AND GUTTER	CONCRETE PAVEMENT	CONCRETE ISLANDS	APPROACH GUTTERS
			LIN. FT.	SQ. YD.	SQ. YD.	EACH
102+10	104+50	HWY. 38 LT.	240			
102+14	109+06	HWY. 38 RT.	692			
105+58	107+28	HWY. 38 LT.	170			
107+95	109+22	HWY. 38 LT.	127			
117+41	117+71	HWY. 38 LT. & RT.				2
120+30	120+60	HWY. 38 LT. & RT.				2
124+26	145+98	HWY. 38 MEDIAN		8151		
134+48	137+30	HWY. 38 MEDIAN	564		347	
136+76	137+06	HWY. 38 LT.			64	
137+54	137+82	HWY. 38 RT.			39	
138+30	141+74	HWY. 38 MEDIAN	688		436	
142+14	142+37	HWY. 38 LT.			24	
142+69	142+84	HWY. 38 RT.			19	
142+71	144+91	HWY. 38 MEDIAN	440		129	
TOTALS:			**2921**	**8151**	**1058**	**4**

11/29/2018

R110650.DGN

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110650	23	34

(2) QUANTITIES

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-31-18

SOIL LOG

STATION	LATITUDE			LONGITUDE			LOCATION	DEPTH	LIQUID LIMIT	PLASTICITY INDEX	AASHTO CLASSIFICATION	COLOR
	DEG	MIN	SEC	DEG	MIN	SEC		FEET				
105+00	35	8	50.60	90	8	25.80	24RT	0-5	33	17	A-6(11)	GRAY
105+00	35	8	50.70	90	8	25.60	36RT	0-5	62	33	A-7-6(26)	BR/GR
105+00	35	8	50.70	90	8	25.60	36RT	0-5	34	14	A-6(6)	BROWN
115+00	35	9	0.20	90	8	23.30	33LT	0-5	ND	NP	A-2-4(0)	BR/GR
115+00	35	9	0.30	90	8	23.40	37LT	0-5	ND	NP	A-4(0)	BROWN
115+00	35	9	0.30	90	8	23.50	49LT	0-5	ND	NP	A-2-4(0)	BR/GR
123+00	35	9	7.30	90	8	18.60	37RT	0-5	28	10	A-4(4)	GRAY
123+00	35	9	7.30	90	8	18.50	47RT	0-5	44	30	A-7-6(27)	GRAY
123+00	35	9	7.20	90	8	18.40	57RT	0-5	52	36	A-7-6(34)	GRAY
132+00	35	9	15.60	90	8	14.50	30LT	0-5	44	27	A-7-6(23)	GRAY
132+00	35	9	15.60	90	8	14.60	42LT	0-5	38	23	A-6(16)	BR/GR
132+00	35	9	15.70	90	8	14.70	55LT	0-5	53	34	A-7-6(33)	GRAY
141+00	35	9	23.50	90	8	9.30	28RT	0-5	37	24	A-6(23)	GRAY
141+00	35	9	23.50	90	8	9.20	37RT	0-5	48	34	A-7-6(31)	GRAY
141+00	35	9	23.40	90	8	9.10	49RT	0-5	38	25	A-6(20)	GRAY

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

EARTHWORK

STATION	STATION	LOCATION / DESCRIPTION	UNCLASSIFIED EXCAVATION	COMPACTED EMBANKMENT
			CU. YD.	
ENTIRE	PROJECT	STAGE 1-MAIN LANES	289	
ENTIRE	PROJECT	STAGE 2-MAIN LANES	7023	
ENTIRE	PROJECT	STAGE 3A-MAIN LANES	7242	
ENTIRE	PROJECT	STAGE 3B-MAIN LANES	234	
ENTIRE	PROJECT	ADDITIONAL FOR GUARD RAIL WIDENING	112	179
TOTALS:			14900	179

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

STONE BACKFILL

STATION	STATION	LOCATION / DESCRIPTION	STONE BACKFILL	GEOTEXTILE FABRIC (TYPE 10)
			TON	SQ. YD.
ENTIRE	PROJECT	STAGE 2-MAIN LANES	11867	11125
ENTIRE	PROJECT	STAGE 3A-MAIN LANES	16358	15336
ENTIRE	PROJECT	STAGE 3B-MAIN LANES	528	495
TOTALS:			28753	26956

CONCRETE ISLAND

STATION	STATION	LOCATION	CURB FACE TYPE	CONCRETE ISLAND
				SQ.YD.
134+48	137+30	HWY. 38 MEDIAN		347
136+83	137+04	HWY. 38 LT.	B	28
137+62	137+79	HWY. 38 RT.	B	13
138+30	141+74	HWY. 38 MEDIAN		436
142+20	142+25	HWY. 38 LT.	B	4
142+71	144+91	HWY. 38 MEDIAN		129
142+75	142+82	HWY. 38 RT.	B	3
TOTAL:				960

CONCRETE COMBINATION CURB AND GUTTER

STATION	STATION	LOCATION	TYPE A (1' 6")
			LIN. FT.
102+10	104+50	HWY. 38 LT.	240
102+14	109+06	HWY. 38 RT.	692
105+58	107+28	HWY. 38 LT.	170
107+95	109+22	HWY. 38 LT.	127
134+48	137+30	HWY. 38 - RAISED MEDIAN CURB	564
138+30	141+74	HWY. 38 - RAISED MEDIAN CURB	688
142+71	144+91	HWY. 38 - RAISED MEDIAN CURB	440
TOTAL:			2921

4" PIPE UNDERDRAIN

	STATION	STATION	LOCATIONS	4" PIPE UNDERDRAINS	UNDERDRAIN OUTLET PROTECTORS
				LIN. FT.	EACH
*	101+67	117+72	HWY. 38 - TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	1605	8
*	120+29	145+08	HWY. 38 - TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	2479	11
TOTALS:				4084	19

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

GUARDRAIL

STATION	STATION	LOCATION	GUARDRAIL (TYPE A)	THRIE BEAM GUARDRAIL TERMINAL	GUARDRAIL TERMINAL (TYPE 2)	TERMINAL ANCHOR POST (TYPE 1)
			LIN. FT.	EACH		
115+27.81	117+46.56	RT. SIDE	150	1	1	
116+52.81	117+46.56	LT. SIDE	75	1		1
120+54.47	121+48.22	RT. SIDE	75	1		1
120+54.47	122+73.22	LT. SIDE	150	1	1	
TOTALS:			450	4	2	2

APPROACH GUTTERS AND SLABS

STATION	STATION	LOCATION	APPROACH GUTTER (TYPE SPECIAL)	REINFORCING STEEL-RDWY. (GR. 60)
			CU.YD.	POUND
117+27.71	117+55.96	LT. SIDE	7.92	1348
117+27.71	117+55.96	RT. SIDE	7.92	1348
120+45.07	120+73.32	LT. SIDE	7.92	1348
120+45.07	120+73.32	RT. SIDE	7.92	1348
TOTALS:			31.68	5392

NOTE: USE T =15.5" FOR 8' SHOULDER.

POLYMER OVERLAY

STATION	STATION	LOCATION	EPOXY COATED REINFORCING STEEL (GRADE 60)	SILICONE JOINT SEALANT	POLYMER OVERLAY	BRIDGE DECK REPAIR FOR POLYMER OVERLAYS
			LB.	LIN. FT.	SQ. YD.	SQ. FT
117+70.59	120+29.97	BRIDGE NO. 06088	700	134	1828	820
TOTAL:			700	134	1828	820

NOTES:
EXISTING BRIDGE DECK DOES NOT HAVE AN ASPHALTIC OVERLAY.

QUANTITIES SHOWN FOR "EPOXY COATED REINFORCING STEEL (GRADE 60)" & "BRIDGE DECK REPAIR FOR POLYMER OVERLAYS" ARE FOR ESTIMATING AND BIDDING PURPOSES ONLY. ACTUAL QUANTITY, IF ANY, WILL BE DETERMINED IN THE FIELD.

10/30/2018

R110650.DGN

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110650	24	34

(2) QUANTITIES

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11435
TRINITY D. SMITH
10-29-18

BASE AND SURFACING

STATION	STATION	LOCATION	LENGTH	AGGREGATE BASE COURSE (CLASS 7)		TACK COAT (0.05 GAL. PER SQ. YD.)			ACHM BINDER COURSE (1")				ACHM SURFACE COURSE (1/2")			
				TON / STATION	TON	TOTAL WID.	SQ.YD.	GALLON	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 64-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 64-22
			FEET			FEET			FEET			TON	FEET			TON
FULL DEPTH SHOULDERS																
110+46.00	112+53.00	8' SHOULDER LT.	207.00	39.00	80.73	8.00	184.00	9.20	8.00	184.00	660.00	60.72	8.00	184.00	220.00	20.24
111+04.00	112+77.00	8' SHOULDER RT.	173.00	39.00	67.47	8.00	153.78	7.69	8.00	153.78	660.00	50.75	8.00	153.78	220.00	16.92
113+40.00	117+55.96	8' SHOULDER LT.	415.96	39.00	162.22	8.00	369.74	18.49	8.00	369.74	660.00	122.01	8.00	369.74	220.00	40.67
113+53.00	117+55.96	8' SHOULDER RT.	402.96	39.00	157.15	8.00	358.19	17.91	8.00	358.19	660.00	118.20	8.00	358.19	220.00	39.40
120+45.07	122+66.00	8' SHOULDER LT. & RT.	220.93	39.00	86.16	8.00	196.38	9.82	8.00	196.38	660.00	64.81	8.00	196.38	220.00	21.60
122+66.00	124+50.00	8' SHOULDER LT.	184.00	39.00	71.76	8.00	163.56	8.18	8.00	163.56	660.00	53.97	8.00	163.56	220.00	17.99
122+66.00	124+58.00	8' SHOULDER RT.	192.00	39.00	74.88	8.00	170.67	8.53	8.00	170.67	660.00	56.32	8.00	170.67	220.00	18.77
125+19.00	126+81.00	8' SHOULDER LT.	162.00	39.00	63.18	8.00	144.00	7.20	8.00	144.00	660.00	47.52	8.00	144.00	220.00	15.84
125+44.00	127+17.00	8' SHOULDER RT.	173.00	39.00	67.47	8.00	153.78	7.69	8.00	153.78	660.00	50.75	8.00	153.78	220.00	16.92
128+29.00	133+74.00	8' SHOULDER LT.	545.00	39.00	212.55	8.00	484.44	24.22	8.00	484.44	660.00	159.87	8.00	484.44	220.00	53.29
128+58.00	128+99.00	8' SHOULDER RT.	41.00	39.00	15.99	8.00	36.44	1.82	8.00	36.44	660.00	12.03	8.00	36.44	220.00	4.01
129+97.00	137+11.00	8' SHOULDER RT.	714.00	39.00	278.46	8.00	634.67	31.73	8.00	634.67	660.00	209.44	8.00	634.67	220.00	69.81
134+88.00	136+26.00	8' SHOULDER LT.	138.00	39.00	53.82	8.00	122.67	6.13	8.00	122.67	660.00	40.48	8.00	122.67	220.00	13.49
137+40.00	142+00.00	8' SHOULDER LT.	460.00	39.00	179.40	8.00	408.89	20.44	8.00	408.89	660.00	134.93	8.00	408.89	220.00	44.98
138+02.00	142+35.00	8' SHOULDER RT.	433.00	39.00	168.87	8.00	384.89	19.24	8.00	384.89	660.00	127.01	8.00	384.89	220.00	42.34
142+55.00	145+07.00	8' SHOULDER LT.	252.00	39.00	98.28	8.00	224.00	11.20	8.00	224.00	660.00	73.92	8.00	224.00	220.00	24.64
143+51.00	145+98.00	8' SHOULDER RT.	247.00	39.00	96.33	8.00	219.56	10.98	8.00	219.56	660.00	72.45	8.00	219.56	220.00	24.15
TEMPORARY WIDENING IN MEDIAN																
134+48.00	137+25.00	4' TEMPORARY WIDENING LT.	277.00	19.50	54.02	4.00	123.11	6.16	4.00	123.11	660.00	40.63	4.00	123.11	220.00	13.54
134+60.00	137+28.00	4' TEMPORARY WIDENING RT.	268.00	19.50	52.26	4.00	119.11	5.96	4.00	119.11	660.00	39.31	4.00	119.11	220.00	13.10
138+34.00	141+62.00	4' TEMPORARY WIDENING LT.	328.00	19.50	63.96	4.00	145.78	7.29	4.00	145.78	660.00	48.11	4.00	145.78	220.00	16.04
138+34.00	141+74.00	4' TEMPORARY WIDENING RT.	340.00	19.50	66.30	4.00	151.11	7.56	4.00	151.11	660.00	49.87	4.00	151.11	220.00	16.62
142+71.00	143+49.00	4' TEMPORARY WIDENING RT.	78.00	19.50	15.21	4.00	34.67	1.73	4.00	34.67	660.00	11.44	4.00	34.67	220.00	3.81
142+72.00	144+92.00	4' TEMPORARY WIDENING LT.	220.00	19.50	42.90	4.00	97.78	4.89	4.00	97.78	660.00	32.27	4.00	97.78	220.00	10.76
ADDITIONAL FOR GUARDRAIL WIDENING																
114+84.81	115+17.81	GUARDRAIL WIDENING TRANSITION RT.	33.00	42.75	14.11								2.75	10.08	220.00	1.11
115+17.81	117+55.96	GUARDRAIL WIDENING RT.	238.15	62.75	149.44								5.50	145.54	220.00	16.01
116+09.81	116+42.81	GUARDRAIL WIDENING TRANSITION LT.	33.00	42.75	14.11								2.75	10.08	220.00	1.11
116+42.81	117+55.96	GUARDRAIL WIDENING LT.	113.15	62.75	71.00								5.50	69.15	220.00	7.61
120+45.07	121+58.22	GUARDRAIL WIDENING RT.	113.15	62.75	71.00								5.50	69.15	220.00	7.61
120+45.07	122+83.22	GUARDRAIL WIDENING LT.	238.15	62.75	149.44								5.50	145.54	220.00	16.01
121+58.22	121+91.22	GUARDRAIL WIDENING TRANSITION RT.	33.00	42.75	14.11								2.75	10.08	220.00	1.11
122+83.22	123+16.22	GUARDRAIL WIDENING TRANSITION LT.	33.00	42.75	14.11								2.75	10.08	220.00	1.11
ADDITIONAL FOR MAINTENANCE OF TRAFFIC																
ENTIRE	JOB	FOR ACCESS MAINTENANCE IN STAGE CONSTRUCTION	VAR.	VAR.	5298.14											
TOTAL:					**8024.83**		**5081.22**	**254.06**		**5081.22**		**1676.81**		**5550.92**		**610.61**

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.7% MIN. AGGR.....5.3% ASPHALT BINDER
ACHM BINDER COURSE (1").....95.7% MIN. AGGR.....4.3% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22
TACK COAT QUANTITIES WERE CALCULATED USING THE EMULSIFIED ASPHALT RATES. REFER TO SS-400-1 FOR THE RESIDUAL ASPHALT APPLICATION RATES.

PORTLAND CEMENT CONCRETE PAVEMENT

STATION	STATION	LOCATION	LENGTH	CEMENT STABILIZED CRUSHED STONE BASE COURSE (6" COMP'D. DEPTH)				ACHM SURFACE COURSE (3/8") 110 LBS. PER SQ. YD.			TACK COAT 0.05 GAL. PER SQ. YD.			PORTLAND CEMENT CONCRETE PAVEMENT	
				AVG. WID.	PROCESSING	CEMENT	AGGREGATE	AVG. WID.	SQ. YD.	PG 64-22	AVG. WID.	SQ. YD.	GAL.	AVG. WID.	10" U.T.
			FEET	FEET	SQ. YD.	TON	TON	FEET		TON	FEET			FEET	SQ. YD.
101+66.50	110+38.00	60' FACE TO FACE - CURB AND GUTTER	871.50	61.00	5906.83	124.04	1943.35	61.00	5906.83	324.88	61.00	5906.83	295.34	58.00	5616.33
110+38.00	115+11.85	60' SURFACE WIDTH - OPEN SHOULDER	473.85	60.00	3159.00	66.34	1039.31	60.00	3159.00	173.75	60.00	3159.00	157.95	60.00	3159.00
115+15.59	117+70.59	60' - 48' SURFACE WIDTH TRANSITION - OPEN SHOULDER	255.00	VAR.	1529.85	32.13	503.32	VAR.	1529.85	84.14	VAR.	1529.85	76.49	VAR.	1529.85
120+29.97	122+65.97	48' - 60' SURFACE WIDTH TRANSITION - OPEN SHOULDER	236.00	VAR.	1416.21	29.74	465.93	VAR.	1416.21	77.89	VAR.	1416.21	70.81	VAR.	1416.21
122+65.97	124+25.97	60' - 63' SURFACE WIDTH TRANSITION - OPEN SHOULDER	160.00	VAR.	1093.33	22.96	359.71	VAR.	1093.33	60.13	VAR.	1093.33	54.67	VAR.	1093.33
124+25.97	134+48.00	63' SURFACE WIDTH - OPEN SHOULDER	1022.03	63.00	7154.21	150.24	2353.74	63.00	7154.21	393.48	63.00	7154.21	357.71	63.00	7154.21
134+48.00	137+30.00	48' SURFACE WIDTH W/ RAISED MEDIAN - OPEN SHOULDER	282.00	51.00	1598.00	33.56	525.74	51.00	1598.00	87.89	51.00	1598.00	79.90	48.00	1504.00
137+30.00	138+30.00	63' SURFACE WIDTH - OPEN SHOULDER	100.00	63.00	700.00	14.70	230.30	63.00	700.00	38.50	63.00	700.00	35.00	63.00	700.00
138+30.00	141+74.00	48' SURFACE WIDTH W/ RAISED MEDIAN - OPEN SHOULDER	344.00	51.00	1949.33	40.94	641.33	51.00	1949.33	107.21	51.00	1949.33	97.47	48.00	1834.67
141+74.00	142+71.00	63' SURFACE WIDTH - OPEN SHOULDER	97.00	63.00	679.00	14.26	223.39	63.00	679.00	37.35	63.00	679.00	33.95	63.00	679.00
142+71.00	143+33.00	48' SURFACE WIDTH W/ RAISED MEDIAN - OPEN SHOULDER	62.00	51.00	351.33	7.38	115.59	51.00	351.33	19.32	51.00	351.33	17.57	48.00	330.67
143+33.00	143+71.00	48' - 60' SURFACE WIDTH TRANSITION W/ RAISED MEDIAN - OPEN SHOULDER	38.00	VAR.	222.70	4.68	73.27	VAR.	235.37	12.95	VAR.	235.37	11.77	VAR.	235.37
143+71.00	144+92.00	60' SURFACE WIDTH W/ RAISED MEDIAN - OPEN SHOULDER	121.00	62.00	833.56	17.50	274.24	62.00	833.56	45.85	62.00	833.56	41.68	59.00	793.22
144+92.00	145+98.00	63' SURFACE WIDTH - OPEN SHOULDER	106.00	63.00	742.00	15.58	244.12	63.00	742.00	40.81	63.00	742.00	37.10	63.00	742.00
TOTALS:					**27335.35**	**574.05**	**8993.34**		**27348.02**	**1504.15**		**27348.02**	**1367.41**		**26787.86**

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (3/8").....94.7% MIN. AGGR.....5.3% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22
CEMENT STABILIZED CRUSHED STONE BASE COURSE = 94.0% AGGR. 6.0% CEMENT
TACK COAT QUANTITIES WERE CALCULATED USING THE EMULSIFED ASPHALT RATES. REFER TO SS-400-1 FOR THE RESIDUAL ASPHALT APPLICATION RATES.

10/29/2018

R110650.DGN

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
11-28-18				6	ARK.			
11-29-18				JOB NO.		110650	25	34
				(2) SUMMARY OF QUANTITIES AND REVISIONS				

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
TRINITY D. SMITH
No. 11426
11-30-18

SUMMARY OF QUANTITIES

ITEM NUMBER	ITEM	QUANTITY	UNIT
202	REMOVAL AND DISPOSAL OF CURB AND GUTTER	2921	LIN. FT.
202	REMOVAL AND DISPOSAL OF CONCRETE PAVEMENT	8151	SQ. YD.
202	REMOVAL AND DISPOSAL OF CONCRETE ISLANDS	1058	SQ. YD.
202	REMOVAL AND DISPOSAL OF APPROACH GUTTERS	4	EACH
207	STONE BACKFILL	28753	TON
210	UNCLASSIFIED EXCAVATION	14900	CU. YD.
210	COMPACTED EMBANKMENT	179	CU. YD.
SS & 303	AGGREGATE BASE COURSE (CLASS 7)	8025	TON
308	AGGREGATE IN CEMENT STABILIZED CRUSHED STONE BASE COURSE	8993	TON
308	CEMENT IN CEMENT STABILIZED CRUSHED STONE BASE COURSE	574	TON
308	PROCESSING CEMENT STABILIZED CRUSHED STONE BASE COURSE	27335	SQ. YD.
SS & 401	TACK COAT	1621	GAL.
SP, SS, & 406	MINERAL AGGREGATE IN ACHM BINDER COURSE (1")	1605	TON
SP, SS, & 406	ASPHALT BINDER (PG 64-22) IN ACHM BINDER COURSE (1")	72	TON
SP, SS, & 407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (3/8")	1424	TON
SP, SS, & 407	ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (3/8")	80	TON
SP, SS, & 407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2")	579	TON
SP, SS, & 407	ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (1/2")	32	TON
SP & 501	PORTLAND CEMENT CONCRETE PAVEMENT (10" UNIFORM THICKNESS)	26788	SQ. YD.
504	APPROACH GUTTERS	31.68	CU. YD.
601	MOBILIZATION	1.00	LUMP SUM
SP & 602	FURNISHING FIELD OFFICE	1	EACH
603	MAINTENANCE OF TRAFFIC	1.00	LUMP SUM
SS & 604	SIGNS	549	SQ. FT.
SS & 604	BARRICADES	32	LIN. FT.
SS & 604	TRAFFIC DRUMS	240	EACH
604	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER	8840	LIN. FT.
604	RELOCATING PRECAST CONCRETE BARRIER	5331	LIN. FT.
604	CONSTRUCTION PAVEMENT MARKINGS	35992	LIN. FT.
604	CONSTRUCTION PAVEMENT MARKINGS (RAILROAD EMBLEMS)	2	EACH
604	REMOVABLE CONSTRUCTION PAVEMENT MARKINGS	3336	LIN. FT.
604	REMOVAL OF PERMANENT PAVEMENT MARKINGS	11032	LIN. FT.
SS & 604	VERTICAL PANELS	38	EACH
SS & 611	4" PIPE UNDERDRAINS	4084	LIN. FT.
SS & 611	UNDERDRAIN OUTLET PROTECTORS	19	EACH
SS & 617	GUARDRAIL (TYPE A)	450	LIN. FT.
SS & 617	TERMINAL ANCHOR POSTS (TYPE 1)	2	EACH
SS & 617	GUARDRAIL TERMINAL (TYPE 2)	2	EACH
SS & 617	THRIE BEAM GUARDRAIL TERMINAL	4	EACH
621	SAND BAG DITCH CHECKS	110	BAG
621	SEDIMENT REMOVAL AND DISPOSAL	15	CU. YD.
621	ROCK DITCH CHECKS	15	CU. YD.
621	WATTLE (20")	45	LIN. FT.
625	GEOTEXTILE FABRIC (TYPE 10)	26956	SQ. YD.
SS & 632	CONCRETE ISLAND	960	SQ. YD.
SS & 634	CONCRETE COMBINATION CURB AND GUTTER (TYPE A) (1' 6")	2921	LIN. FT.
635	ROADWAY CONSTRUCTION CONTROL	1.00	LUMP SUM
SP	LOOP WIRING CLASS III (1C/16 A.W.G.)	1588	LIN. FT.
718	REFLECTORIZED PAINT PAVEMENT MARKING WHITE (10")	158	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING WHITE (6")	9505	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING WHITE (8")	274	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING WHITE (12")	220	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING YELLOW (6")	8406	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING (WORDS)	6	EACH
719	THERMOPLASTIC PAVEMENT MARKING (ARROWS)	12	EACH
719	THERMOPLASTIC PAVEMENT MARKING (RAILROAD EMBLEMS)	2	EACH
721	RAISED PAVEMENT MARKERS (TYPE II)	173	EACH
731	TEMPORARY IMPACT ATTENUATION BARRIER	20	EACH
731	TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR)	29	EACH
731	TEMPORARY IMPACT ATTENUATION BARRIER (RELOCATION)	9	EACH
804	REINFORCING STEEL-ROADWAY (GRADE 60)	5392	POUND
	STRUCTURES OVER 20' SPAN		
804	EPOXY COATED REINFORCING STEEL (GRADE 60)	700	POUND
809	SILICONE JOINT SEALANT	134	LIN. FT.
SP	BRIDGE DECK REPAIR FOR POLYMER OVERLAYS	820	SQ. FT.
SP	POLYMER OVERLAY	1828	SQ. YD.

REVISIONS

DATE	REVISION	SHEET NUMBER
11-28-18	ADDED "TERMINAL ANCHOR POSTS (TYPE 1)" QUANTITY	25
11-29-18	REVISED SHEETS TO CORRECT PRECAST CONCRETE BARRIER QUANTITIES. REVISED "FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER", "RELOCATING PRECAST CONCRETE BARRIER", "TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR)", AND "TEMPORARY IMPACT ATTENUATION BARRIER (RELOCATION)" QUANTITIES.	16, 17, 22, 25

11/29/2018

R110650.DGN

SUMMARY OF QUANTITIES AND REVISIONS

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.		110650	26	34

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-29-18

SURVEY CONTROL COORDINATES

Project Name: s110650
Date: 11/8/2017
Coordinate System: ARKANSAS STATE PLANE - NORTH ZONE BASED ON GPS CONTROL, PROJECTED TO GROUND.
Units: U.S. SURVEY FOOT

Point Name	Northing	Easting	Elev	Feature	Description
1	301136.1206	1868223.7416	215.355	CTL	STD ARDOT MON. STAMPED PN: 1
2	301821.6703	1868293.6297	214.574	CTL	STD ARDOT MON. STAMPED PN: 2
3	302382.0938	1868495.3705	217.083	CTL	STD ARDOT MON. STAMPED PN: 3
4	302741.6364	1868635.6766	235.872	CTL	STD ARDOT MON. STAMPED PN: 4
5	303060.9958	1868695.4062	236.327	CTL	STD ARDOT MON. STAMPED PN: 5
6	303537.1534	1868995.2113	214.833	CTL	STD ARDOT MON. STAMPED PN: 6
7	304126.4791	1869258.4027	214.104	CTL	STD ARDOT MON. STAMPED PN: 7
8	304638.2654	1869487.3667	213.988	CTL	STD ARDOT MON. STAMPED PN: 8
9	305189.3975	1869632.5820	214.723	CTL	STD ARDOT MON. STAMPED PN: 9
10	305581.8631	1869854.2717	225.972	CTL	STD ARDOT MON. STAMPED PN: 10
100	301510.7012	1862953.6720	214.496	GPS	ARDOT GPS MON. 180012
101	310093.9733	1872110.9830	217.642	GPS	ARDOT GPS MON. 180028
900	301047.3833	1865619.4002	213.899	TBM	CH SQ TOP OF CA WEST MEMPHIS
901	307431.0955	1871644.6887	214.228	TBM	CH SQ TOP OF 36" RCP WEST MEMPHIS
902	300997.9242	1868361.3856	214.144	TBM	ARDOT CAP TOP OF CA WEST MEMPHIS

*Note - Rebar and Cap - Standard - 5/8" Rebar with 2" Aluminum Cap stamped
*(standard markings common to all caps), or as indicated
(other markings indicated in the point description of the individual point).
USE CAF = 1.0 FOR STAKEOUT FOR THIS PROJECT
A PROJECT CAF OF 0.999956431 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 s110650gi.ctl
HORIZONTAL DATUM: NAD 83 (2011)
VERTICAL DATUM: NAVD 88 POSITIONAL ACCURACY THIRD ORDER, UNLESS SPECIFIED OTHERWISE AT A SPECIFIC POINT.

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

BASIS OF BEARING:
ARKANSAS STATE PLANE GRID BEARINGS - 0301-NORTH ZONE or 0302-SOUTH ZONE
DETERMINED FROM GPS CONTROL POINTS: 180012 - 180028
CONVERGENCE ANGLE: 01-05-01 RIGHT AT LT: N 35-09-10.0 LG: W090-08-16.8
GRID AZIMUTH = ASTRONOMICAL AZIMUTH - CONVERGENCE ANGLE.

HWY. 38

POINT NO.	TYPE	STATION	NORTHING	EASTING
8000	POB	100+00.00	301078.0121	1868263.1250
8001	PC	107+00.53	301778.5301	1868258.9635
8003	PT	111+04.73	302171.2588	1868340.9053
8004	POE	150+18.86	305749.4522	1869927.3968

10/29/2018

R110650.DGN

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.		110650	27	34

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-29-18

STA. 101+66.50
BEGIN JOB 110650
LOG MILE 0.00

POB100+00.00

100

105

110

115

C.L. HWY. 38

PI109+05.70

PNI
PDSTD AHTD MON. STAMPED PNI

B000

N0°20'25"W
700.53'

SURVEY BASELINE N05°49'15"E
689.10'

B001

N0°20'25"W
205.17'

N23°54'41"E
205.17'

PC107+00.53

PN2
PDSTD AHTD MON. STAMPED PN2

SURVEY BASELINE N19°47'52"E
595.63'

HWY. 38
PI = 109+05.70
Δ = 24°15'06"RT.
D = 6°00'00"
T = 205.17'
L = 404.20'
PC = 107+00.53
PT = 111+04.73
MATCH EXISTING SUPERELEVATION

SURVEY BASELINE

PT111+04.73

B003

N23°54'41"E
3914.13'

PN3
PDSTD AHTD MON. STAMPED PN3

SURVEY BASELINE N21°19'03"E
385.95'

115

120

125

130

STA. 117+71.85
BEGIN EXCEPTION

STA. 120+28.71
END EXCEPTION

C.L. HWY. 38

N23°54'41"E
3914.13'

SURVEY BASELINE N10°35'37"E
324.90'

PN5
PDSTD AHTD MON. STAMPED PN5

SURVEY BASELINE N32°11'45"E
562.68'

SURVEY BASELINE N21°19'03"E
385.95'

PN4
PDSTD AHTD MON. STAMPED PN4

PN6
PDSTD AHTD MON. STAMPED PN6

SURVEY BASELINE N24°03'56"E
645.43'

SURVEY BASELINE

10/29/2018

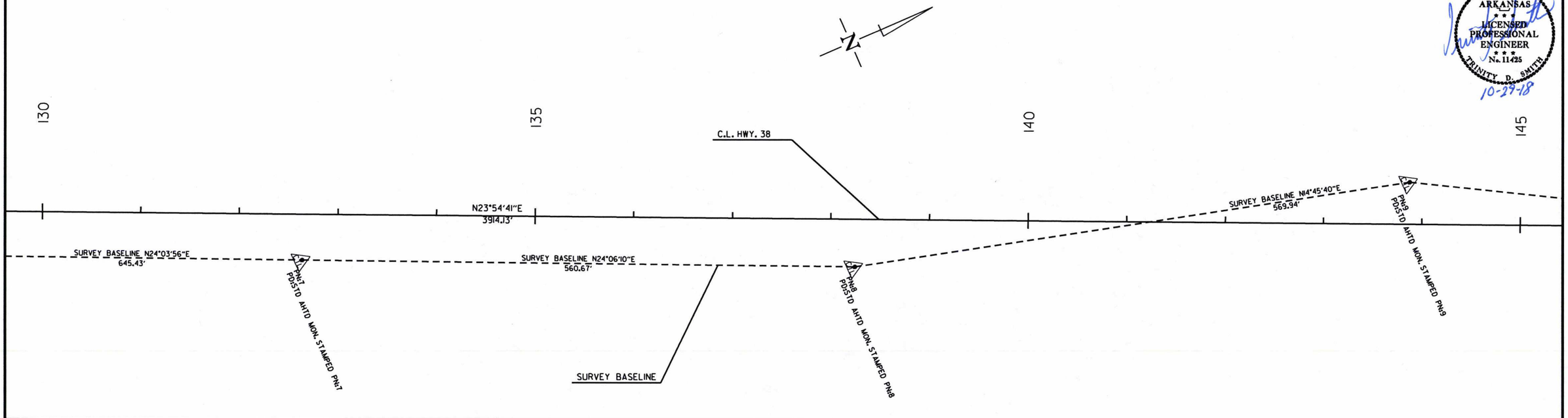
R110650.DGN

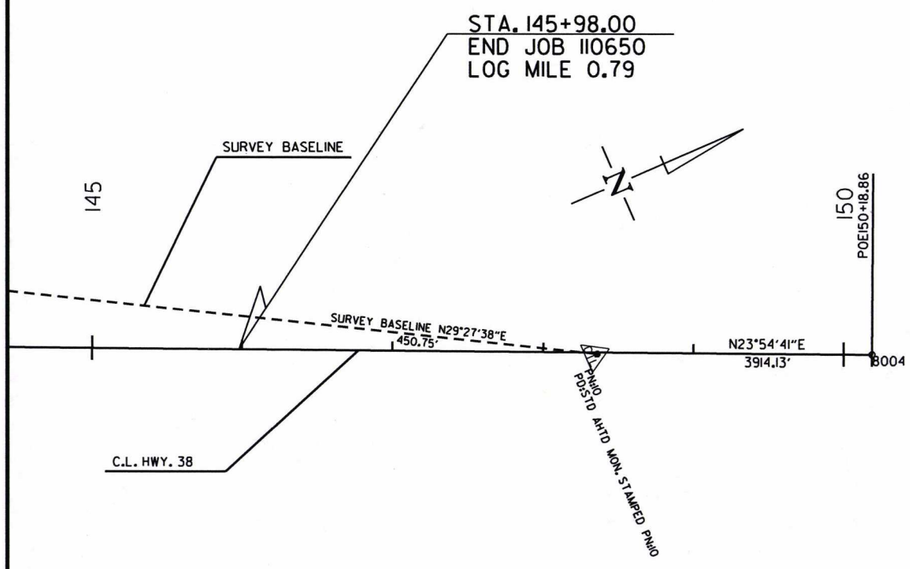
SURVEY CONTROL DETAILS

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.		110650	28	34

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-27-18





10/29/2018

R110650.DGN

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.		110650	29	34

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-29-18

STA. 102+10 TO STA. 104+50 LT. SHLDR.
CURB AND GUTTER (TYPE A) = 240 LIN. FT.

STA. 105+58 TO STA. 107+28 LT. SHLDR.
CURB AND GUTTER (TYPE A) = 170 LIN. FT.

STA. 107+95 TO STA. 109+22 LT. SHLDR.
CURB AND GUTTER (TYPE A) = 127 LIN. FT.

STA. 101+66.50
BEGIN JOB 110650
LOG MILE 0.00

STA. 101+76 IN PLACE
DROP INLET LT.
WITH 18" X 92' R.C.
PIPE OUTLET CROSS DRAIN
RETAIN

STA. 105+66 IN PLACE
DROP INLET LT.
WITH 18" X 66' R.C.
PIPE OUTLET CROSS DRAIN
RETAIN

SPECIAL FLOOD HAZARD AREA

BEATTY ST.

E. SERVICE RD.

I-55 RAMP

POB100+00.00

PI109+05.70

PC107+00.53

PT111+04.73

N 0°20'25" W

N 23°54'41" E

HWY. 70

HWY. 38

PI = 109+05.70
Δ = 24°15'06"RT.
D = 6°00'00"
T = 205.17'
L = 404.20'
PC = 107+00.53
PT = 111+04.73
MATCH EXISTING SUPERELEVATION

STA. 102+14 TO STA. 109+06 RT. SHLDR.
CURB AND GUTTER (TYPE A) = 692 LIN. FT.

105+66 IN PLACE
DROP INLET RT.
WITH 48" X 346' R.C. PIPE OUTLET
RETAIN

100+68 IN PLACE
DROP INLET RT.
WITH 48" X 234' R.C. PIPE OUTLET
RETAIN

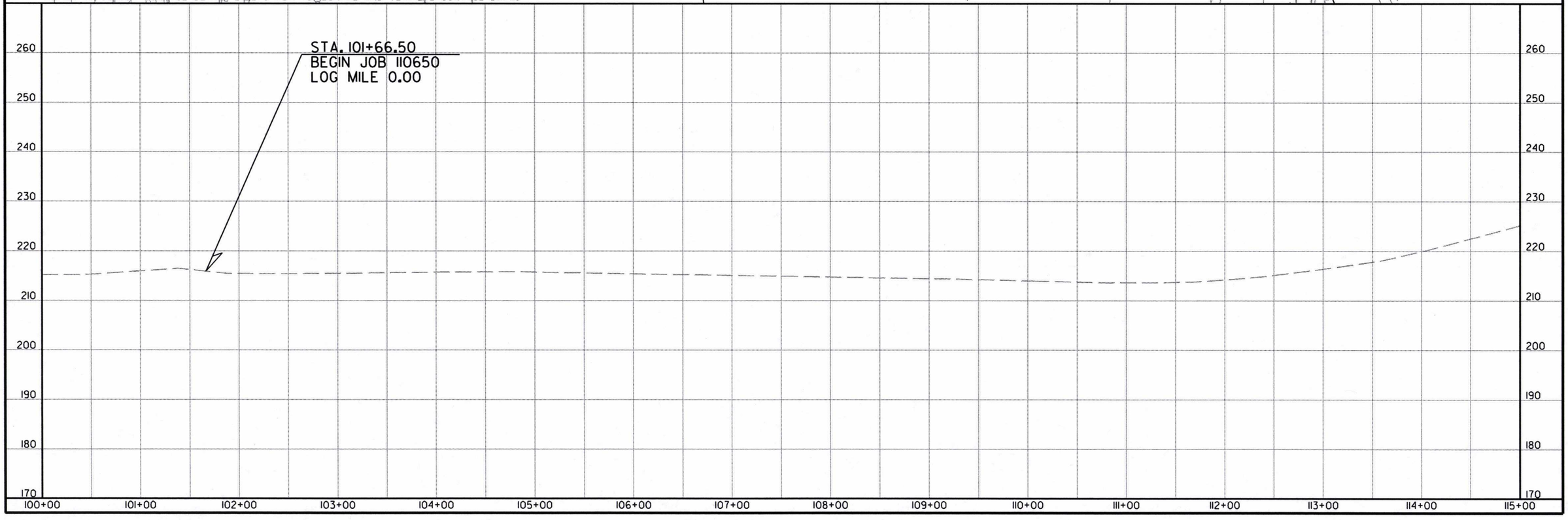
102+18 IN PLACE
DROP INLET RT.
WITH 48" X 150' R.C. PIPE OUTLET
RETAIN

108+68 IN PLACE
DROP INLET RT.
WITH 36" X 305' R.C. PIPE OUTLET
AND 36" X 800' R.C. PIPE OUTLET
RETAIN

109+98 IN PLACE
DBL. 36" X 240' R.C. PIPE CULVERTS
RETAIN

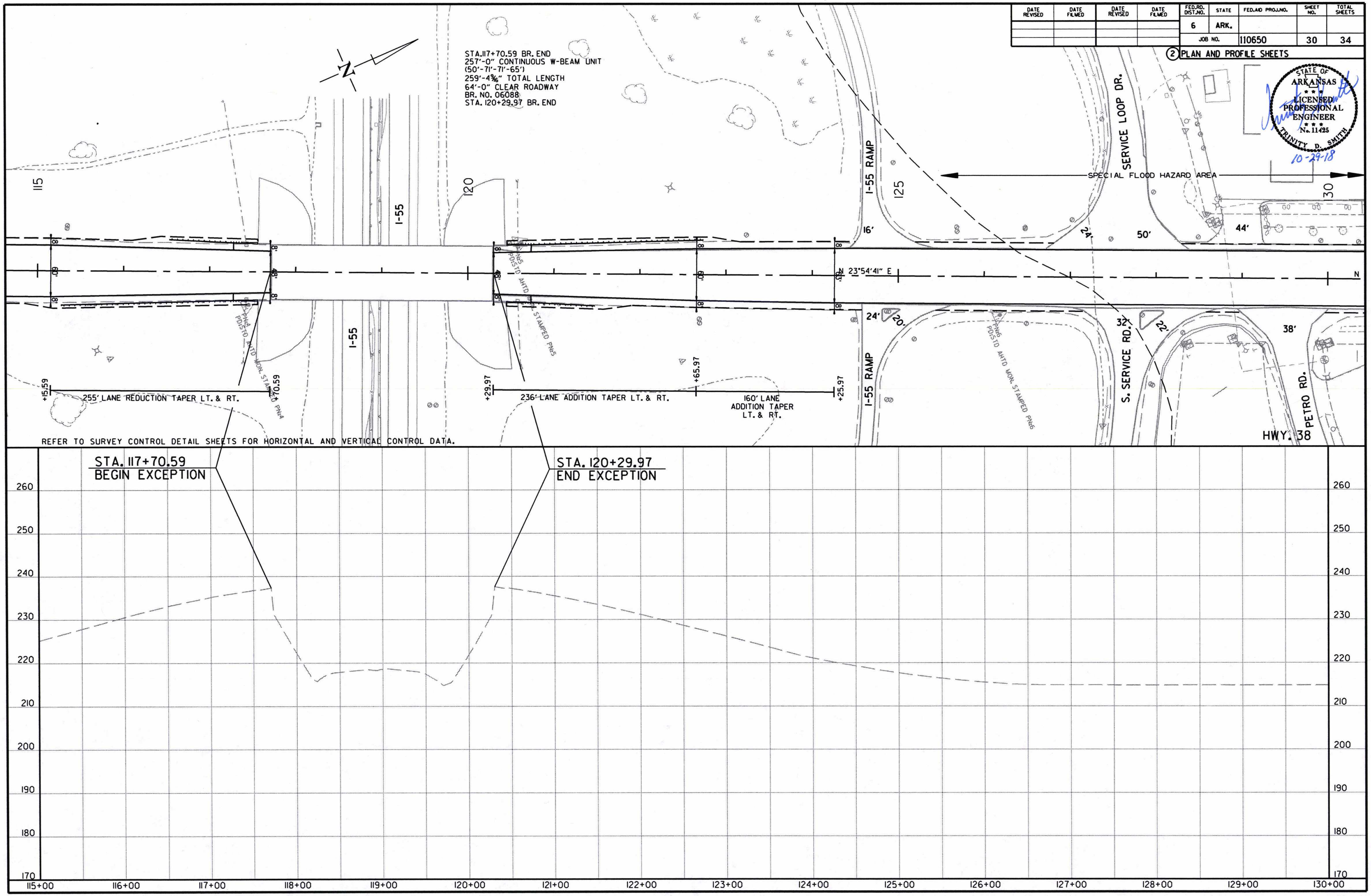
PINC
PGS1D AHTD MON STAMPED

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



10/29/2018

R110650.DGN



DATE REVISED
DATE FILMED
DATE REVISED
DATE FILMED
FED.RD. DIST.NO. 6
STATE ARK.
FED.AID PROJ.NO.
JOB NO. 110650
SHEET NO. 30
TOTAL SHEETS 34
2 PLAN AND PROFILE SHEETS
STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-29-18
STA.117+70.59 BR. END
257'-0" CONTINUOUS W-BEAM UNIT
(50'-71'-71'-65')
259'-4⅜" TOTAL LENGTH
64'-0" CLEAR ROADWAY
BR. NO. 06088
STA. 120+29.97 BR. END
I-55
SERVICE LOOP DR.
SPECIAL FLOOD HAZARD AREA
I-55 RAMP
S. SERVICE RD.
PETRO RD.
HWY. 38
N 23°54'41" E
255' LANE REDUCTION TAPER LT. & RT.
236' LANE ADDITION TAPER LT. & RT.
160' LANE ADDITION TAPER LT. & RT.
REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.
STA. 117+70.59
BEGIN EXCEPTION
STA. 120+29.97
END EXCEPTION
115+00
116+00
117+00
118+00
119+00
120+00
121+00
122+00
123+00
124+00
125+00
126+00
127+00
128+00
129+00
130+00
10/29/2018
R110650.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		110650	31	34

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-24-18

SERVICE LOOP DR.
I-40 RAMP
I-40
I-40 FRONTAGE RD. E.
PETRO RD.
HWY. 38
SPECIAL FLOOD HAZARD AREA
N 23°54'41" E
REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

131+38 IN PLACE
18" X 85' R.C. PIPE
SIDE DRAIN
RETAIN

131+38 IN PLACE
24" X 100' R.C. PIPE
CROSS DRAIN
RETAIN

134+40 IN PLACE
18" X 85' R.C. PIPE
SIDE DRAIN
RETAIN

144+00 IN PLACE
18" X 100' R.C. PIPE
CROSS DRAIN
RETAIN

10/29/2018
R110650.DGN

260 250 240 230 220 210 200 190 180 170

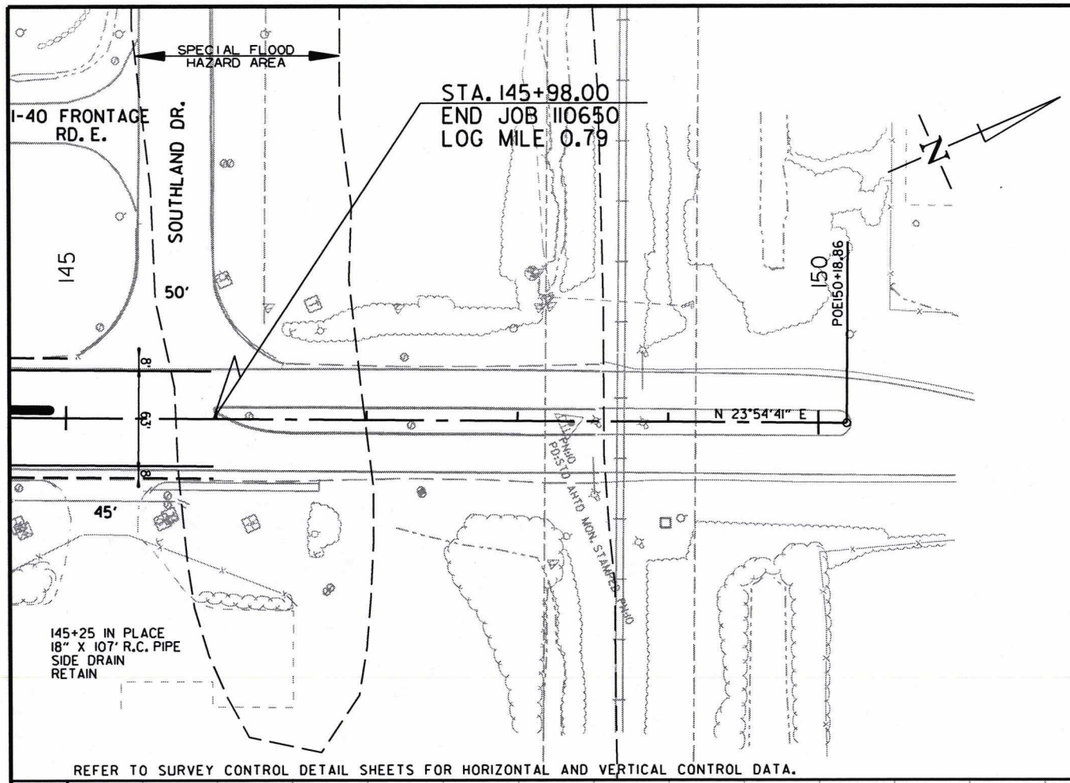
130+00 131+00 132+00 133+00 134+00 135+00 136+00 137+00 138+00 139+00 140+00 141+00 142+00 143+00 144+00 145+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		110650	32	34

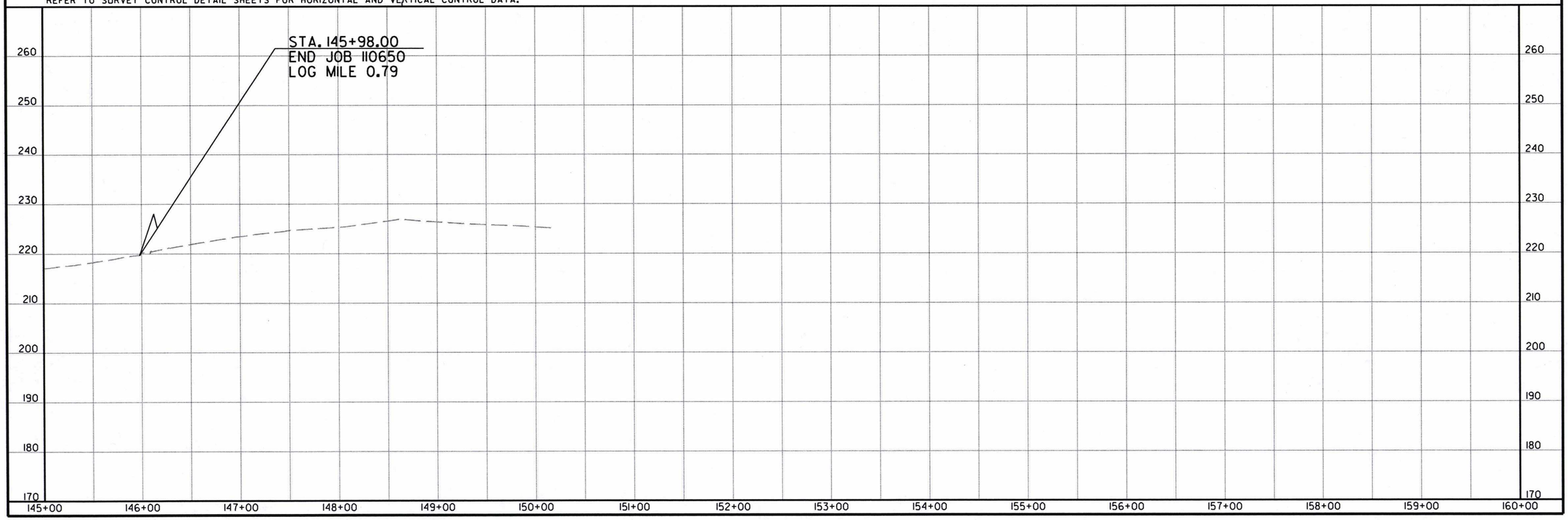
(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-29-18



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

HWY. 38



10/29/2018

R110650.DGN

TRAFFIC SIGNAL NOTES:

1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE NFPA 70 (2017) NATIONAL ELECTRICAL CODE, NFPA 101 (CURRENT EDITION) LIFE SAFETY CODE, STATE ELECTRICAL CODE AND LOCAL ELECTRICAL CODE.

2. ALL PARTS OF THIS INSTALLATION SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, STANDARD DRAWINGS AND WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITION.

3. PAVEMENT MARKING SHOWN FOR REFERENCE ONLY. SEE PERMANENT PAVEMENT MARKING DETAILS.

4. CONTRACTOR SHALL NOTIFY ALL EXISTING UTILITY OWNERS BEFORE BEGINNING WORK ON THIS PROJECT.

5. CONNECTION OF TRAFFIC SIGNAL DISPLAY TO FIELD WIRING SHALL UTILIZE AN APPROVED TERMINAL STRIP BEHIND HAND-HOLE COVER AT BASE OF POLE. TERMINAL STRIP SHALL PROVIDE PROTECTION TO PREVENT EXPOSURE TO THE PUBLIC IN THE EVENT THAT POLE COVER IS MISSING. PAYMENT FOR TERMINAL STRIPS SHALL BE INCLUDED IN ITEM 714 TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, CURRENT EDITION.

6. TRAFFIC SIGNAL CONTRACTOR SHALL NOTIFY THE RESIDENT ENGINEER OR ASSIGNED DEPARTMENT PROJECT INSPECTOR EACH DAY PRIOR TO SIGNAL RELATED WORK. NO WORK ON TRAFFIC SIGNALS WILL BE ALLOWED OR APPROVED WITHOUT THIS PRIOR NOTIFICATION.

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.		110650	33	34

(2) SIGNALIZATION PLAN SHEET

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
10-29-18

6'x6' PULSE LOOP DETECTION ZONE (TYPICAL) LOCATED 290' BEHIND STOP LINE

INSTALL 2-6'x6' PULSE LOOPS. RUN LOOP WIRING INTO EXISTING CONDUIT AND PULL BOX. SPLICE THE LOOP WIRING TO THE EXISTING LEAD WIRE.

6'x6' PULSE LOOP DETECTION ZONE (TYPICAL) LOCATED 150' BEHIND STOP LINE

INSTALL 2-6'x6' PULSE LOOPS. RUN LOOP WIRING INTO EXISTING CONDUIT AND PULL BOX. SPLICE THE LOOP WIRING TO THE EXISTING LEAD WIRE.

6'x6' PULSE LOOP DETECTION ZONE (TYPICAL) LOCATED 100' BEHIND STOP LINE

INSTALL 3-6'x6' PULSE LOOPS. RUN LOOP WIRING INTO EXISTING CONDUIT AND PULL BOX. SPLICE THE LOOP WIRING TO THE EXISTING LEAD WIRE.

INSTALL 6'x50' PRESENCE LOOP. RUN LOOP WIRING INTO EXISTING CONDUIT AND PULL BOX. SPLICE THE LOOP WIRING TO THE EXISTING LEAD WIRE.

6'x6' PULSE LOOP DETECTION ZONE (TYPICAL) LOCATED 80' BEHIND STOP LINE

6'x50' PRESENCE LOOP DETECTION ZONE (TYPICAL)

105

50'

35'

30'

N 0°20'25" W

RET/WALL

70

BROADWAY AVE.

HWY. 70

BROADWAY AVE.

70

100

POB100+00.00

SCALE IN FEET
0 30 60 120

DATE: 08-10-18 FILE NAME: t110650_t01.dgn

LOCATION: HWY. 70 AND HWY. 38
CITY: WEST MEMPHIS
COUNTY: CRITTENDEN
DISTRICT: 1 SCALE: 1"=60' DRAWN BY: BRB

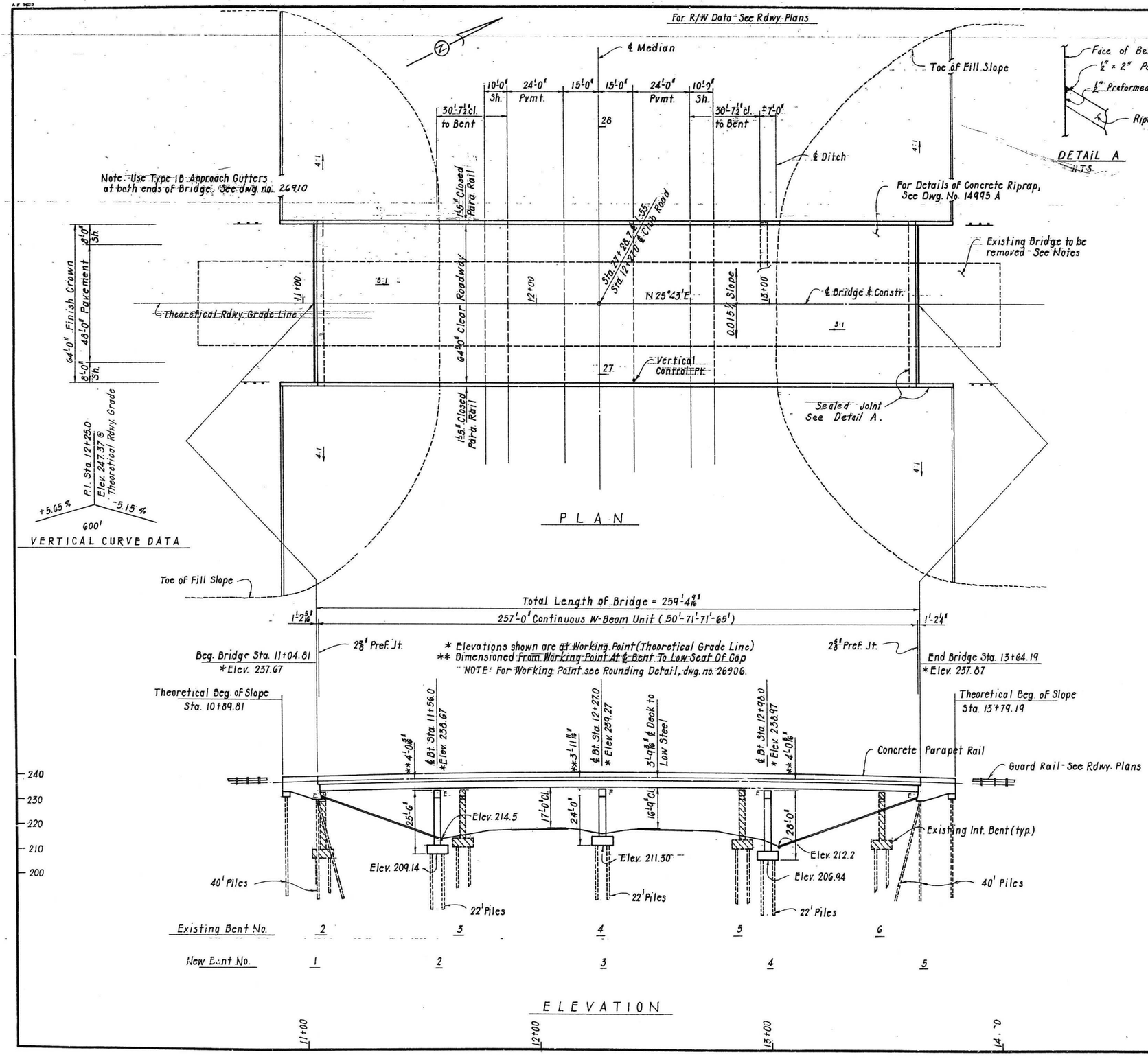
TRAFFIC SIGNAL QUANTITIES

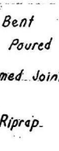
ITEM NUMBER	ITEM	QUANTITY	UNIT
SP	LOOP WIRING CLASS III (1C/16 A.W.G.)	1588	LIN. FT.

T110650_T01.DGN 8/10/2018

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
1-25-85								
				6	ARK.			
				JOB NO.		110650	34	34
				6088		LAYOUT 26902		

For R/W Data - See Rdwy Plans





GENERAL NOTES

BENCH MARK: BEG. OF EXISTING BRIDGE STA. 10+55.8, ELEV. 233.87.

THE PROPOSED WORK INCLUDES THE REMOVAL OF THE FOLLOWING PARTS OF THE EXISTING BRIDGE:

COMPLETE SUPERSTRUCTURE
ALL CONCRETE RIPRAP
END BENTS DOWN TO THE TOP OF THE CAP
BENT 2 CAP, COLUMNS, FOOTING STRUT, FOOTING, & ONLY PILES WHICH INTERFERE WITH THE NEW CONSTRUCTION.
BENTS 3, 5, & 6 CAP & COLUMNS
BENT 4, CAP, COLUMN & FOOTING STRUT.

DESIGN LIVE LOADING: HS20

DESIGN SPECIFICATIONS: FOR NEW WORK, AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 1983 WITH CURRENT INTERIM SPECIFICATIONS.

CONSTRUCTION SPECIFICATIONS: ARKANSAS STATE HIGHWAY COMMISSION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 1978 AND CURRENT INTERIM SPECIFICATIONS.

DETAIL DRAWINGS:	DRAWING NO.
END BENTS	26903, 26904
INTERMEDIATE BENTS	26905
SPANS	26906 - 26909
EXCAVATION FOR STRUCTURES	1891F
EMBANKMENT CONSTRUCTION	1888A
PILING SPLICES	14995A
PERMANENT STEEL BRIDGE DECK FORMS	14991
GUARD RAIL CONNECTION	GR-8A
TYPE C BRIDGE NAME PLATES	2389A
TYPE 1B APPROACH GUTTERS	26910
SHOES	26910A, 26910B

HALF-SIZE DETAIL SHEETS OF THE EXISTING BRIDGE MAY BE OBTAINED FROM THE ARKANSAS HIGHWAY AND TRANSPORTATION DEPARTMENT UPON REQUEST TO THE BRIDGE ENGINEER. DRAWINGS NO. 9615, 9616, 5457B, 5457, 5457F.

THE BRIDGE DECK SHALL BE GIVEN A TINE FINISH AS SPECIFIED FOR FINAL FINISHING OF CLASS 6, ROADWAY SURFACE FINISH IN SUBSECTION 802.23 OF THE STANDARD SPECIFICATIONS.

PILES SHALL BE 16" OCT OR 14" SQ PRECAST CONCRETE AND SHALL BE DRIVEN WITH AN APPROVED AIR, STEAM, OR DIESEL HAMMER TO A MINIMUM BEARING CAPACITY OF 44 TONS PER PILE. ORDER AND DRIVE THE LENGTHS SHOWN. PILE LENGTHS BASED ON THE EXISTING PILES. PILE SHAPES SHALL NOT BE MIXED.

THE FOLLOWING EXISTING BRIDGE MATERIALS SHALL BE SALVAGED FOR RE-ERECTION AND TO BE DELIVERED TO DISTRICT ONE HEADQUARTERS.

20	I-BEAMS 36" WF X 150# X 60' LONG
4	I-BEAMS 36" WF X 150# X 50' LONG
6	I-BEAMS 33" WF X 130# X 50' LONG
680 L.F.	ALUMINUM BRIDGE RAIL 3-1/2" Ø
680 L.F.	ALUMINUM BRIDGE RAIL 4-1/2" Ø
96	ALUMINUM BRIDGE POST
150 L.F.	GUARD RAIL 12" FLEXBEAM
14	STEEL GUARD RAIL POST
14	STEEL SPACER BLOCKS
6	CONCRETE GUARD RAIL POST

ALL OTHER MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE PROJECT OR DISPOSED OF AS PROVIDED IN SUBSECTION 104.06 OF THE STANDARD SPECIFICATIONS.

INFORMATION ONLY

LAYOUT OF
CLUB ROAD UNDERPASS
CLUB ROAD INTERCHANGE MODIFICATIONS
CRITTENDEN COUNTY

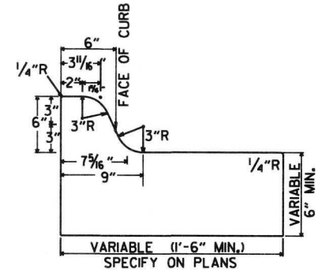
ROUTE 61 SEC. 1

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

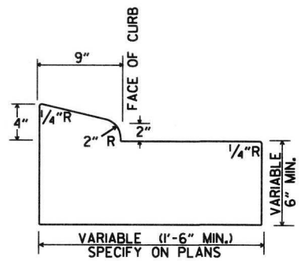
DRAWN BY: L.M. DATE: 6-27-84
CHECKED BY: M.R.T. DATE: 9-27-84
DESIGNED BY: D.F.L. DATE: 9-27-84
SCALE: 1"=20'

Wisal Pinkerton
BRIDGE ENGINEER

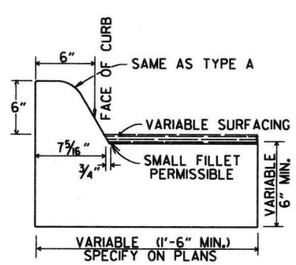
BRIDGE NO. 6088 DRAWING NO. 26902



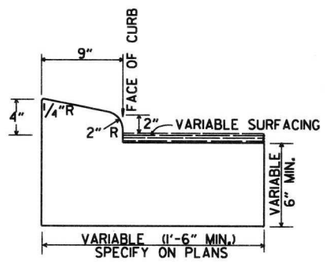
TYPE A



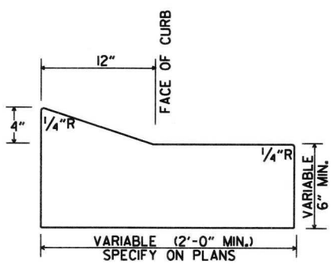
TYPE B-1



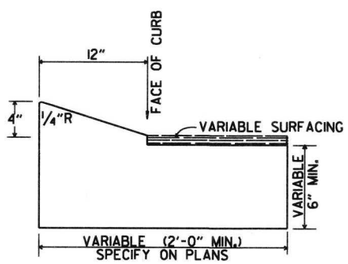
TYPE C



TYPE B-2

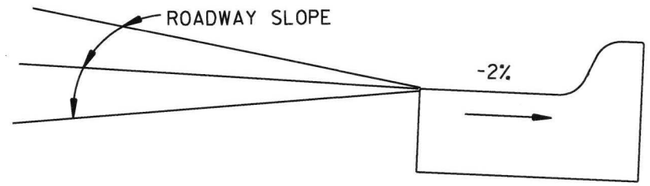


TYPE E-1



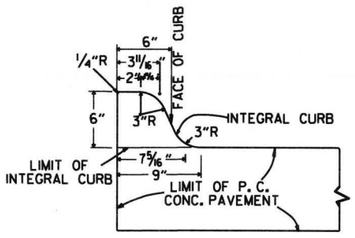
TYPE E-2

CONCRETE COMBINATION CURB AND GUTTER

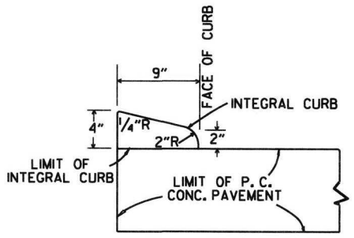


DETAIL OF GUTTER SLOPE

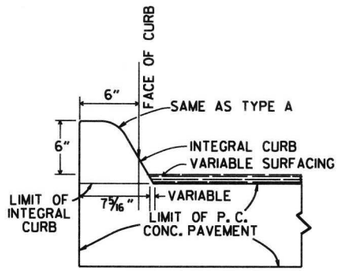
GUTTER SHALL BE CONSTRUCTED ON 2% SLOPE AWAY FROM ROADWAY, REGARDLESS OF ROADWAY SLOPE.



TYPE A

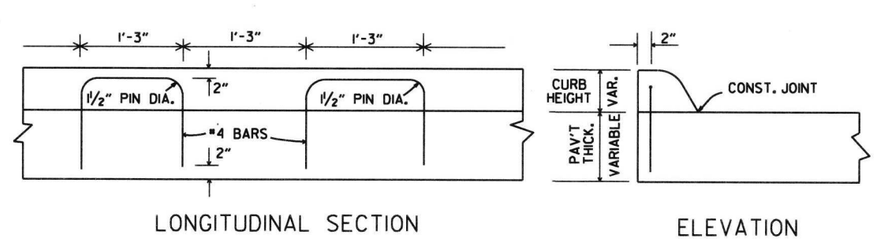


TYPE B



TYPE C

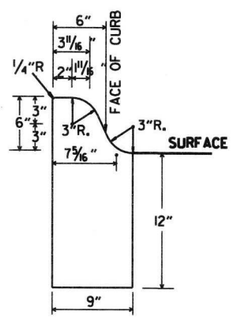
INTEGRAL CURB



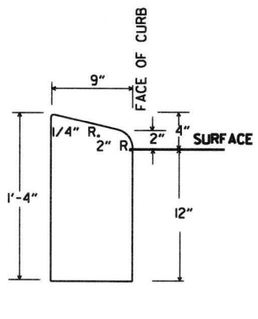
LONGITUDINAL SECTION

ELEVATION

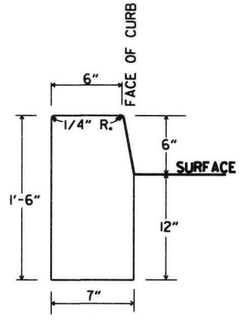
ALTERNATE CONSTRUCTION METHOD FOR INTEGRAL CURB



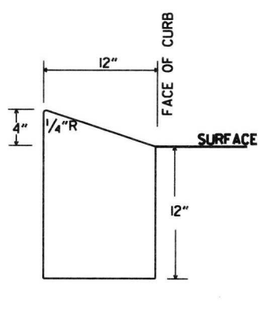
TYPE A



TYPE B

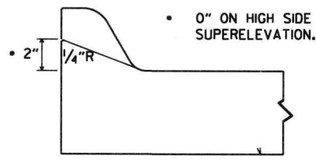


TYPE D



TYPE E

CONCRETE CURB



NOTE: USE MODIFIED CURB AS SPECIFIED ON STD. DR-1. COMPENSATION FOR MODIFIED CURB WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE TYPE OF CURB OR CURB AND GUTTER SPECIFIED.

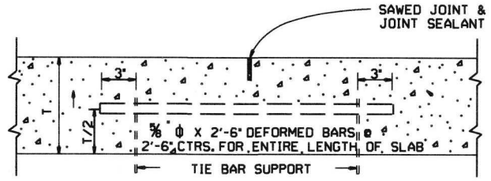
DETAILS OF MODIFIED CURB

DATE	REVISION	DATE FILMED
11-29-07	REVISED GUTTER SLOPE & MODIFIED CURB DETAILS	
11-10-05	ADDED DETAILS OF TYPE E CURBS	
11-16-01	REVISED CONCRETE CURB TYPE B	
11-18-98	REVISED MODIFIED CURB	
6-2-94	ADDED NOTE TO SPECIAL MODIFIED CURB	
8-5-93	CORRECTED GUTTER SLOPE	8-5-93
10-1-92	ADDED DETAILS OF GUTTER SLOPE	10-1-92
5-24-90	ADDED DETAILS OF MODIFIED CURB	5-24-90
11-30-89	VARIBLE DEPTH TYPE A & B I	11-30-89
7-15-88	REVISED MODIFIED CURB	630-7-15-88
11-1-73	REVISED MODIFIED CURB	500-11-1-73
10-2-72	REVISED AND REDRAWN	512-10-2-72

ARKANSAS STATE HIGHWAY COMMISSION

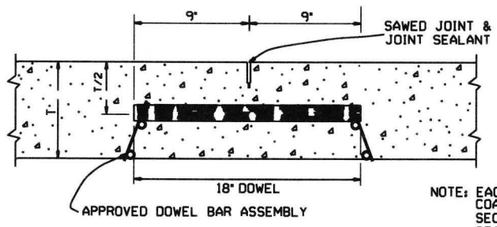
CURBING DETAILS

STANDARD DRAWING CG-1



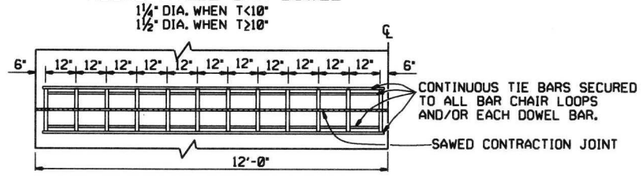
LONGITUDINAL JOINT

NOTE: THE TIE BAR SUPPORT SHOWN ABOVE MAY BE ELIMINATED IF OTHER APPROVED METHODS FOR PLACING AND SUPPORTING THE TIE BARS ARE PROVIDED.
TIE BARS SHALL BE 15" FROM TRANSVERSE JOINTS.



NOTE: EACH DOWEL TO BE COATED ACCORDING TO SECTION 502 OF THE STANDARD SPECIFICATIONS.

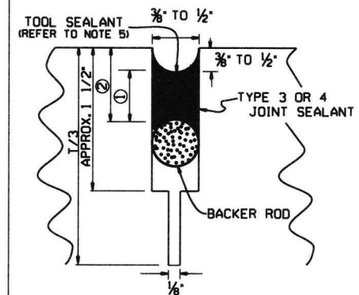
ROUND STEEL BAR DOWEL
1¼" DIA. WHEN T<10"
1½" DIA. WHEN T≥10"



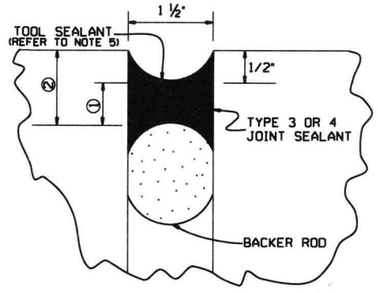
ONE-HALF 24' PAVEMENT
12 DOWELS
PLAN

NOTE: FOR 20' PAVEMENT USE 20 DOWELS @ 12" CTRS. WITH 6" SPACING FROM C.L. AND EDGE OF SLAB TO FIRST BAR.
FOR 15' PAVEMENT USE 15 DOWELS @ 12" CTRS. WITH 6" SPACING FROM C.L. AND EDGE OF SLAB TO FIRST BAR.
FOR 26' PAVEMENT USE 26 DOWELS @ 12" CTRS. WITH 6" SPACING FROM C.L. AND EDGE OF SLAB TO FIRST BAR.
FOR PAVEMENT WIDTHS OTHER THAN THOSE SHOWN ABOVE, USE DOWELS AT 12" CTRS. WITH 6" MAX. SPACING FROM C.L. TO FIRST BAR. DISTANCE FROM EDGE OF SLAB TO FIRST BAR SHALL BE ADJUSTED TO MAINTAIN 12" DOWEL BAR SPACING

CONTRACTION JOINT DETAILS



DETAIL OF SAWED CONTRACTION JOINT



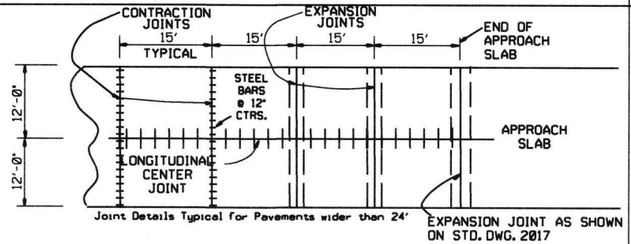
DETAIL OF EXPANSION JOINT

JOINT CONFIGURATION FOR TYPE 3 OR 4 JOINT SEALANT

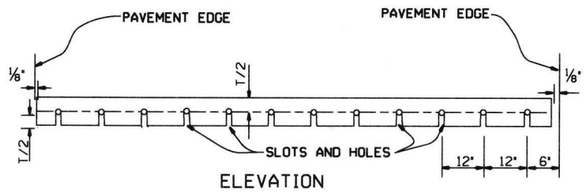
JOINT WIDTH	SEALANT THICKNESS ①	BACKER ROD DIAMETER	BACKER ROD PLACEMENT DEPTH ②
INCHES			
¼	¼	⅜	½
⅜	¼	½	½
½	¼	⅝	½
½	⅜	⅝	⅝
⅝	⅜	¾	⅝
¾	⅜	⅞	⅝
1 ½	¾	2	1 ¼

JOINT CONFIGURATION FOR TYPE 5 JOINT SEALANT

JOINT WIDTH	SEALANT THICKNESS ①	BACKER ROD DIAMETER	BACKER ROD PLACEMENT DEPTH ②
INCHES			
¼	½	⅜	¾
⅜	¾	½	1

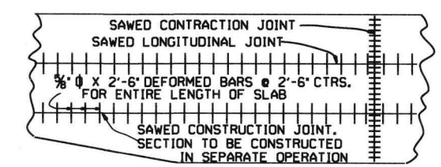


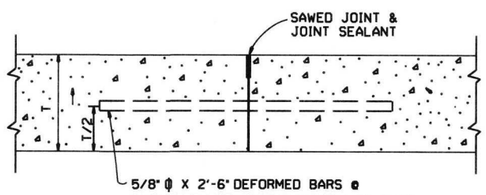
PLAN SHOWING EXPANSION JOINTS AT BRIDGE APPROACH SLABS



ELEVATION

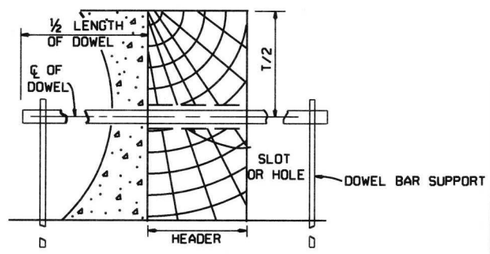
NOTE: ALL DOWEL BARS SHALL CONFORM TO THE DETAILS FOR CONTRACTION JOINTS.





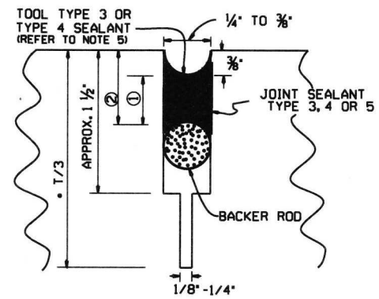
NOTE: TIE BARS SHALL BE 15" FROM TRANSVERSE JOINTS.

LONGITUDINAL CONSTRUCTION JOINT



SECTION

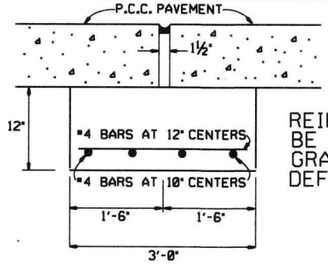
TRANSVERSE CONSTRUCTION JOINT



*NOTE: T/3 SAW CUT NOT REQUIRED FOR LONGITUDINAL CONSTRUCTION JOINT.

DETAIL OF SAWED LONGITUDINAL JOINT AND LONGITUDINAL CONSTRUCTION JOINT

DATE	REVISION	DATE FILMED
5-25-06	ADDED GENERAL NOTE 7	
10-9-03	REMOVED TIE BAR COATING & REVISED GENERAL NOTES	
11-16-01	ADDED TOOL SEALANT AND NOTE 5; REVISED NOTE 3	
4-26-96	REVISED CONTRACTION JOINT NOTE	
11- 3-94	ADDED NOTE RE: REINF. BARS	
4- 1-93	REVISED DOWEL BARS & GEN. NOTES	4- 1-93
10- 1-92	REVISED DOWEL SPACING	10- 1-92
8- 15-91	ADDED SPAC FOR CONTR JTS & DEL KEYWAY	
05-24-90	REVISED TIE BAR, DOWEL & JOINT SIZE	
01-25-90	ADDED EXPANSION JOINT	01-25-90
11-30-89	CHANGED T/4+1 TO T/3+1	11-30-89
03-23-89	ALTERED SAWED JOINT & ADDED NOTE	512-03-23-89
07-15-88	REVISED AND REDRAWN	632-07-15-88



REINFORCING SHALL BE GRADE 40 OR GRADE 60 DEFORMED BARS.

DETAIL OF JOINT SUPPORT FOR EXPANSION JOINTS

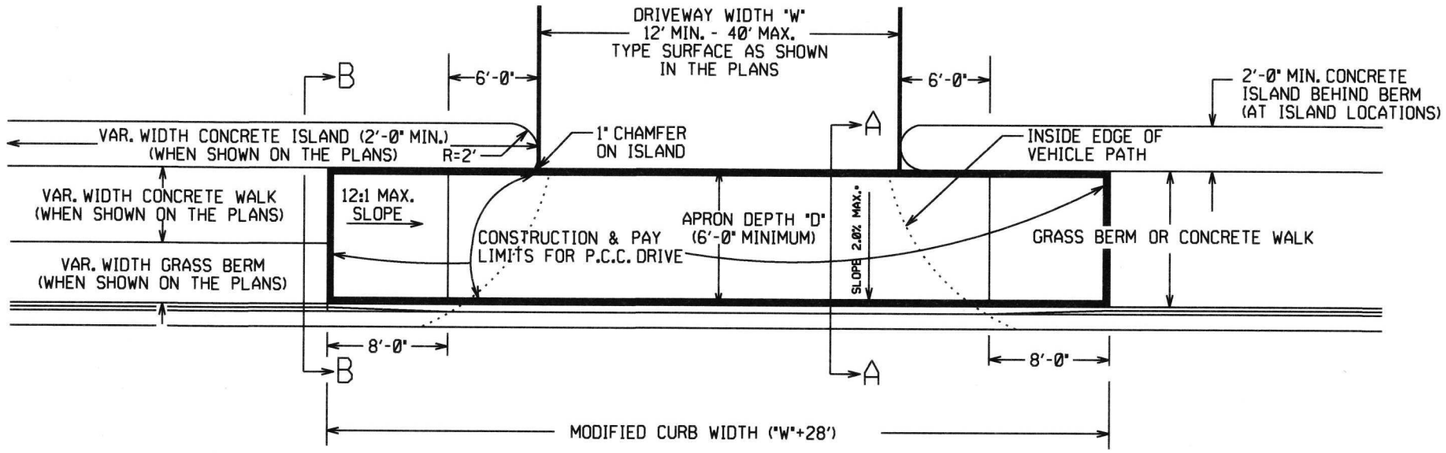
GENERAL NOTES

1. "T" DENOTES THICKNESS OF SLAB.
2. DOWEL BARS SHALL BE PLACED IN ACCORDANCE WITH THE DIMENSIONS SHOWN. A TOLERANCE OF PLUS OR MINUS ONE INCH WILL BE ALLOWED FOR THE VERTICAL AND LATERAL PLACEMENT AND A TOLERANCE OF PLUS OR MINUS ¼" WILL BE ALLOWED FOR THE TILT AND SKEW. DOWEL BARS SHALL BE FIELD COATED FOR A MINIMUM DISTANCE OF 2" GREATER THAN HALF THE LENGTH OF THE BAR WITH AN APPROVED GREASE AS A BOND BREAKER JUST PRIOR TO PLACEMENT OF CONCRETE.
3. THE EXPANSION JOINT SUPPORT MAY BE CONSTRUCTED WITH CLASS "A", "S" OR PAVING CONCRETE. PAYMENT FOR THE JOINT SUPPORT SHALL BE FOR THE CONTRACT UNIT PRICE BID FOR THE CLASS OF CONCRETE SPECIFIED IN THE PLANS. PAYMENT FOR ALL OTHER WORK AND MATERIALS REQUIRED FOR THE CONSTRUCTION OF THE JOINT SUPPORT SHALL BE INCLUDED IN THE PRICE BID FOR THE ABOVE ITEMS.
4. CONTRACTION JOINTS SHALL BE CONSTRUCTED ON 15' CENTERS.
5. TOOLING NOT REQUIRED FOR SELF-LEVELING SILICONE.
6. UNLESS OTHERWISE SPECIFIED IN THE PLANS, CONCRETE SHOULDERS SHALL BE CONSTRUCTED ACCORDING TO THE DETAILS SHOWN HEREON. CONTRACTION JOINTS SHALL MATCH CONTRACTION JOINTS IN THE LANES.
7. TIE WIRES IN DOWEL BAR ASSEMBLIES SHALL NOT BE CUT PRIOR TO PLACEMENT OF PAVING CONCRETE.

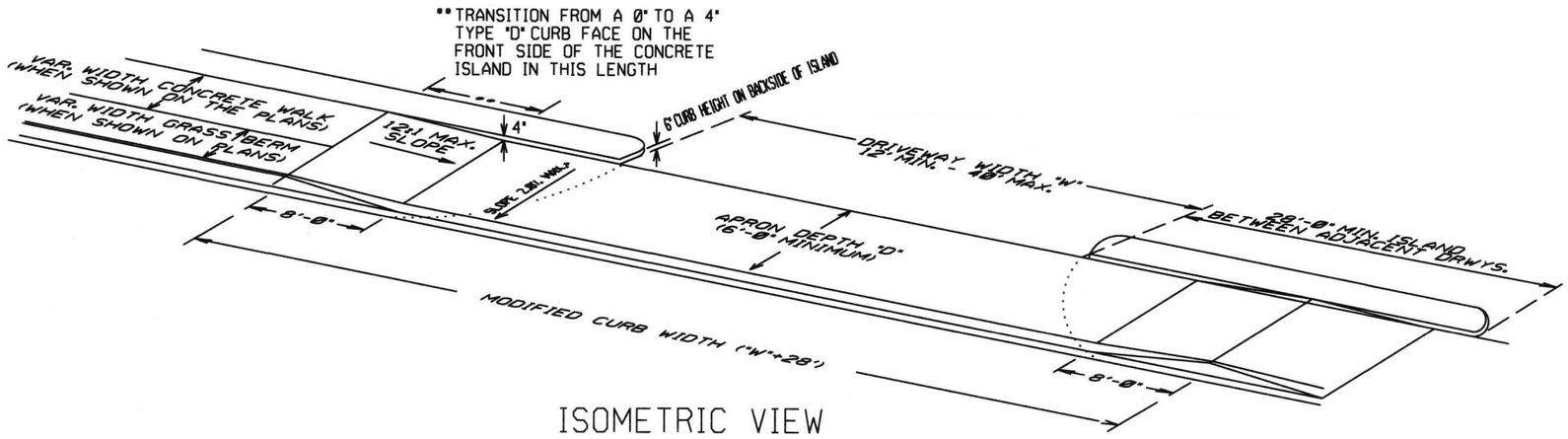
ARKANSAS STATE HIGHWAY COMMISSION

TRANSVERSE & LONGITUDINAL JOINTS FOR CONCRETE PAVEMENT (NON-REINFORCED)

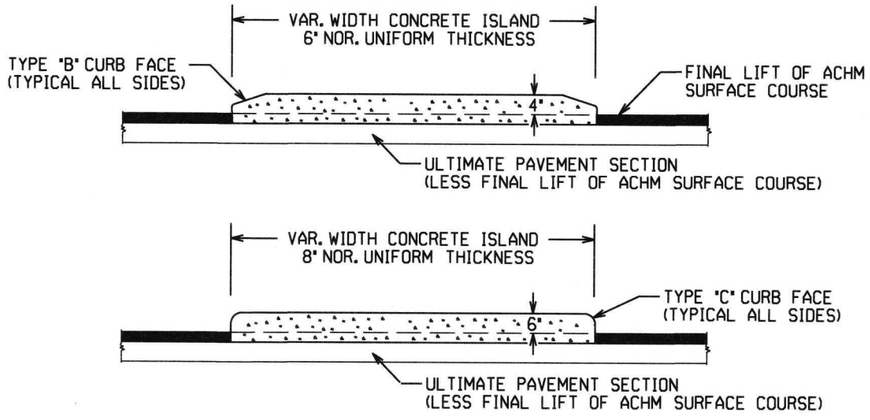
STANDARD DRAWING CPTJ - 6A



PLAN VIEW

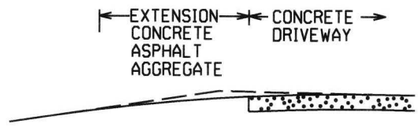


ISOMETRIC VIEW



CURBED ISLANDS FOR CHANNELIZATION

REFER TO PLANS FOR TYPE OF CURB FACE TO BE USED. NO DIRECT PAYMENT WILL BE MADE FOR THE CURB FACES SHOWN ON THE ISLAND DETAILS. PAYMENT FOR THE CURB FACE WILL BE INCLUDED IN THE UNIT PRICE BID FOR THE ITEM "CONCRETE ISLAND".



EXTENSION TYPICAL SECTIONS

1: CONCRETE - 6" P.C. CONCRETE DRIVEWAY

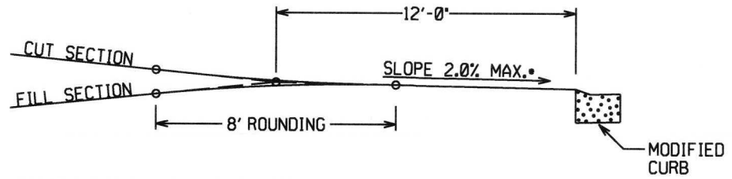
2: ASPHALT - 2" ACHM SURFACE COURSE (1/2")
4" ACHM BINDER COURSE,(1") OR
4" ACHM BASE COURSE (1-1/2")

3: ASPHALT - 2" ACHM SURFACE COURSE (1/2")
7" AGGREGATE BASE COURSE

4: AGGREGATE - 6" AGGREGATE BASE COURSE

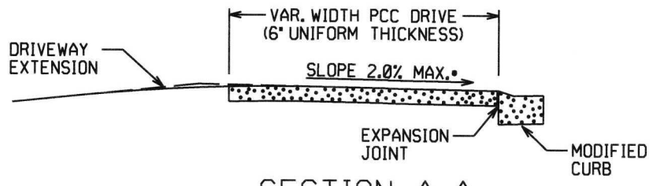
THE TYPE OF EXTENSION SHALL BE AS SHOWN IN THE PLANS. THE CONTRACTOR MAY, WITH THE APPROVAL OF THE ENGINEER, SUBSTITUTE A LOWER NUMBERED TYPE OF EXTENSION IN LIEU OF THE TYPE SPECIFIED IN THE PLANS, BUT AT NO ADDITIONAL COST TO THE DEPARTMENT.

DRIVEWAY EXTENSION DETAILS

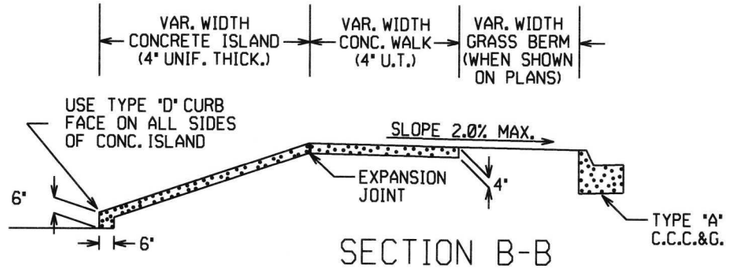


DRIVEWAY VERTICAL ALIGNMENT DETAILS

• NOTE: DRIVEWAYS MAY NOT BE SLOPED AWAY FROM THE ROADWAY UNLESS APPROVED BY THE ENGINEER.



SECTION A-A



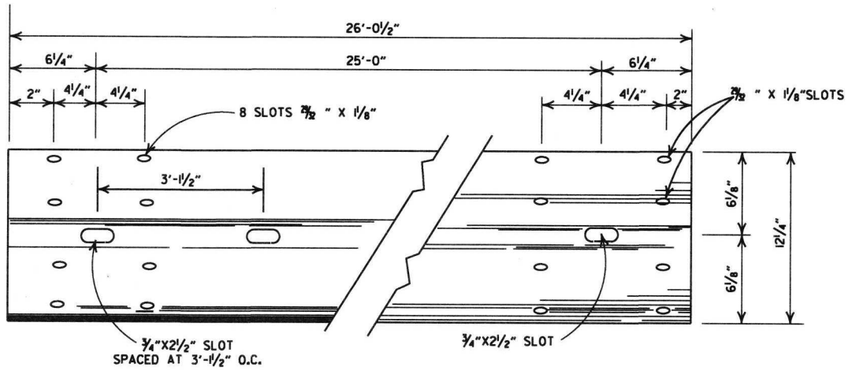
SECTION B-B
CURBED ISLAND BEHIND WALK

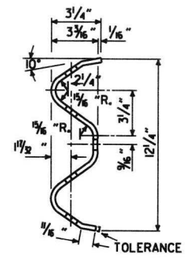
DATE REV	DATE FILMED	DESCRIPTION
2-27-14		REVISED PLAN & ISOMETRIC VIEW
11-29-07		ADDED CHANNELIZATION ISLAND WITH TYPE C CURB FACE & REVISED DRIVEWAY SLOPE NOTE & VERTICAL ALIGNMENT DETAIL
11-10-05		REV. APRON SLOPE & DEPTH OF AGG. BASE.
8-22-02		ADDED ISLAND DETAILS & NOTES
3-30-00		REV. MOD. CURB WIDTH & TRANS. NOTE
11-19-98		REVISED NOTES
11-18-98		REDRAWN AND REISSUED

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DRIVEWAYS & ISLANDS

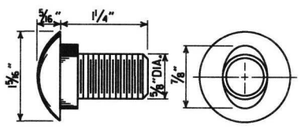
STANDARD DRAWING DR-1



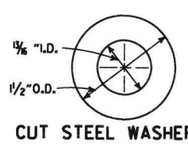


DETAILS OF W-BEAM GUARD RAIL

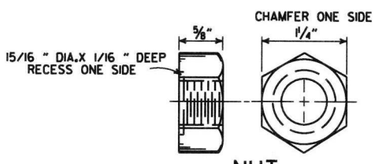
RAIL SECTION OF CLOSELY SIMILAR DIMENSIONS AND COMPARABLE STRENGTH MAY BE SUBSTITUTED IF APPROVED BY THE ENGINEER.



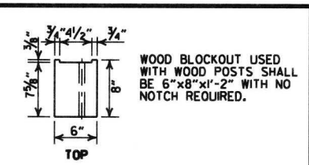
SPLICE BOLT
POST BOLT - SAME EXCEPT LENGTH



CUT STEEL WASHER

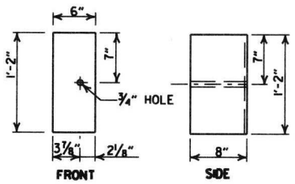


NUT

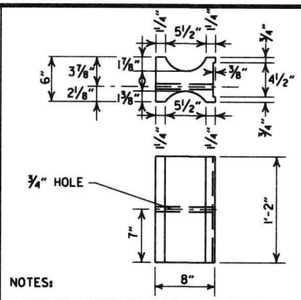


WOOD BLOCKOUT USED WITH WOOD POSTS SHALL BE 6"x8"x1'-2" WITH NO NOTCH REQUIRED.

TOP



WOOD BLOCKOUT (W-BEAM)

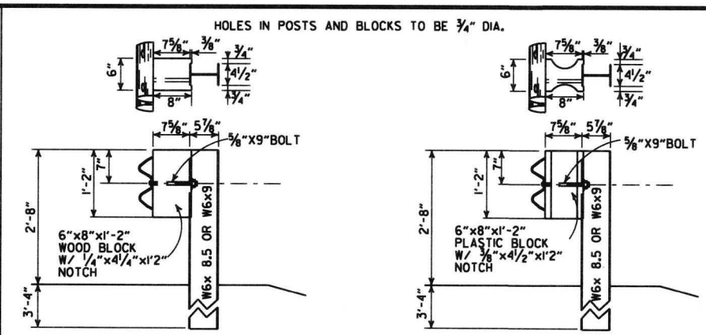


NOTES:

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

PLASTIC BLOCKOUT (W-BEAM)

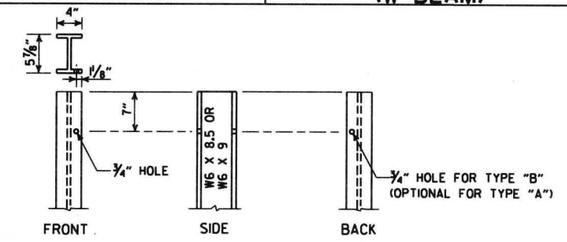
HOLES IN POSTS AND BLOCKS TO BE ¾" DIA.



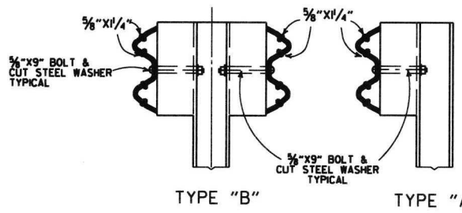
WOOD BLOCKOUT CONNECTIONS

PLASTIC BLOCKOUT CONNECTIONS

DETAILS OF STEEL LINE POST CONNECTIONS (W-BEAM)



STEEL POST



TYPE "B" TYPE "A"

DETAILS OF STEEL LINE POST CONNECTIONS (W-BEAM)

-GENERAL NOTES-

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

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

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

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

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

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

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

HOLES IN POSTS AND BLOCKS TO BE ¾" DIA.

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

WOOD BLOCKOUT CONNECTIONS

PLASTIC BLOCKOUT CONNECTIONS

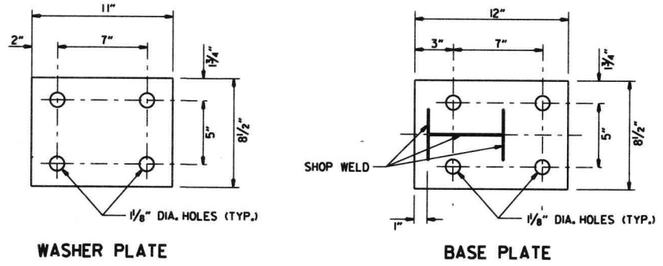
DETAILS OF WOOD LINE POST CONNECTIONS (W-BEAM)

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

ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

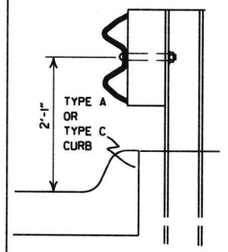
STANDARD DRAWING GR-8



WASHER PLATE

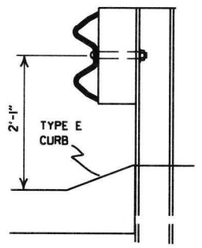
BASE PLATE

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



FOR DESIGN SPEEDS OF 50 MPH OR LESS

ALIGN FACE OF GUARD RAIL WITH FACE OF CURB.

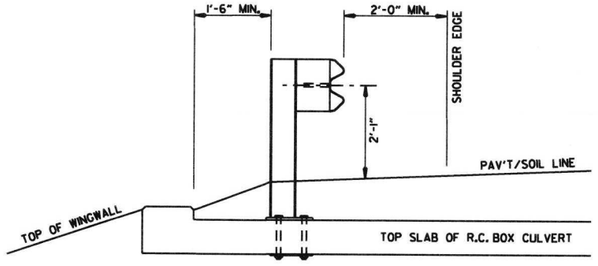


FOR DESIGN SPEEDS OF 55 MPH OR MORE

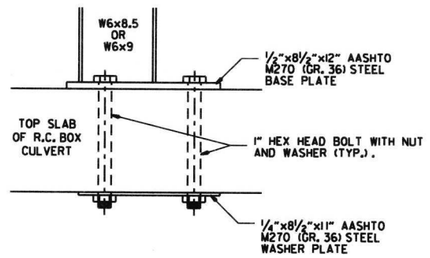
PLACE GUARD RAIL POSTS AGAINST BACK OF CURB.

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

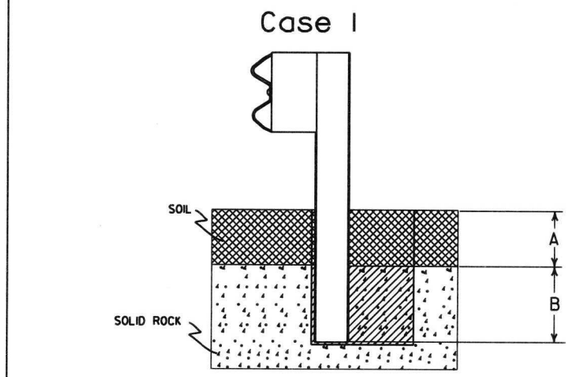
FOR DESIGN SPEEDS OF 50 MPH OR LESS ALL CURB FACES, AS SHOWN ON STD. DRWG. CG-1, MAY BE USED. FOR DESIGN SPEEDS OF 55 MPH OR MORE TYPE "E" CURB FACE SHALL BE USED.

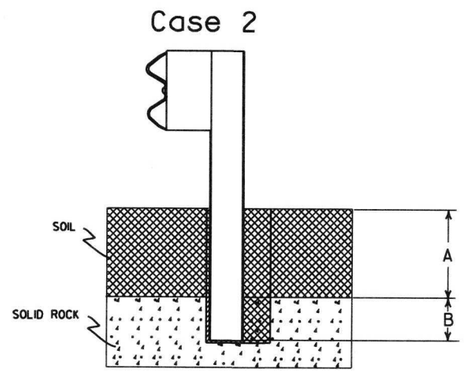


SECTION A-A



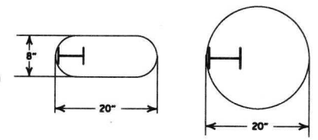
DETAIL OF CONNECTION

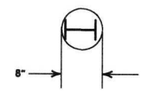




Plan View Steel Posts

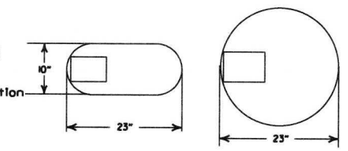
Either hole configuration acceptable

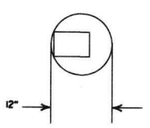




Plan View Wood Posts

Either hole configuration acceptable





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

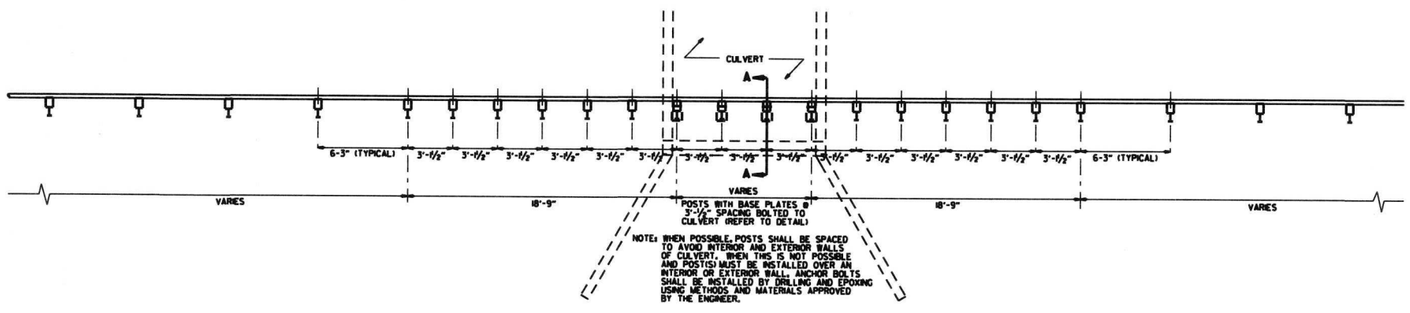
Zone A:
Backfill according to Section 617.03(a).

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

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

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

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



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

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

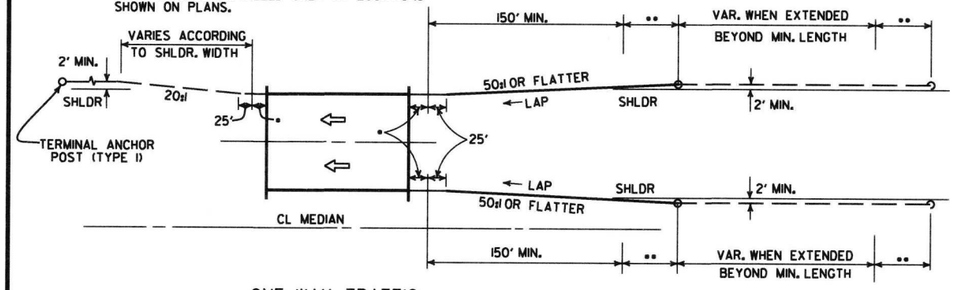
DATE	REVISION	FILMED
11-16-17	REVISED GUARD RAIL HEIGHT	
07-14-10	RAISED HEIGHT OF GUARD RAIL 1"	
04-12-07	REVISED DETAIL OF GUARD RAIL PLACEMENT BEHIND CURB	
11-10-05	ADDED GUARD RAIL PLACEMENT BEHIND CURB; REVISED DETAIL OF CONNECTION	
11-18-04	REVISED POST PLACEMENT IN ROCK & CULVERT CONNECTION DETAILS. ADDED DETAIL FOR GUARD RAIL PLACEMENT AT LOW-FILL CULVERTS	
03-30-00	REMOVED CONCRETE INSERT ANCHOR	
08-12-98	CHANGED STEEL SPACER BLOCK TO WOOD BLOCKOUT, ADDED DET. OF GUARD RAIL CONNECTION TO R.C. BOX CULV'T., DELETED DET. OF STEEL LINE POST CONN. & ADDED DET. OF GUARD RAIL PLACE. BEHIND CURB & DET. OF POSTPLACE. IN SOLID ROCK	
04-03-96	PLACED ARROWS AT CUT STEEL WASHERS	4-3-96
10-18-96	REV. ASTM REF. TO AASHTO	
11-22-95	ADDED OPTIONAL HOLES	
06-02-94	REVISED ALTERNATE POST SIZE	
08-05-93	REVISED STEEL POST SIZE	
10-01-92	REDRAWN & REVISED	10-1-92
08-02-90	DEL. WASHER ON ANCHOR ASSEMBLY	8-2-90
07-5-88	CONFORMED TO 1988 SPECS	
03-04-88	REVISED ANCHOR NOTE	
10-30-87	REVISED ANCHOR ASSEMBLY	712-10-30-87
10-30-87	REVISED PLACEMENT BEHIND CURB	547-10-30-87
10-09-87	REDRAWN & REVISED	803-10-9-87

ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

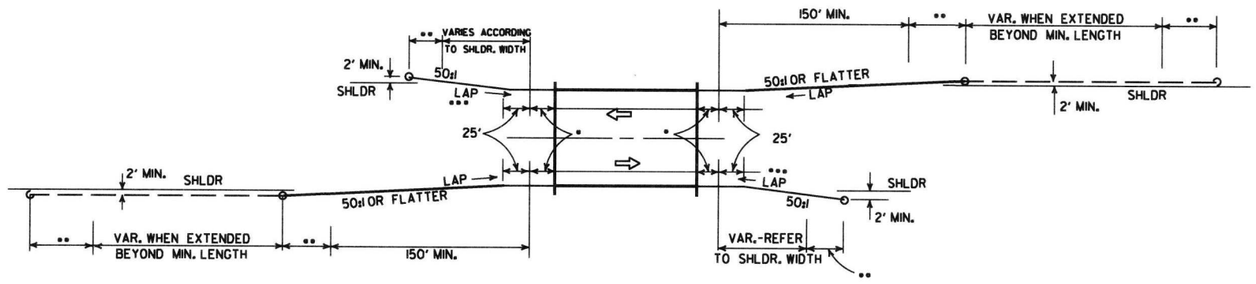
STANDARD DRAWING GR-8A

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



ONE-WAY TRAFFIC

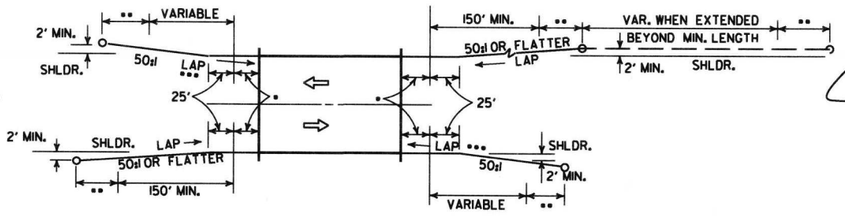
••• LAP OF GUARD RAIL SHALL BE AS SHOWN FOR A DISTANCE OF UP TO 200', CHANGE TO LAP IN DIRECTION OF TRAVEL.



TWO-WAY TRAFFIC

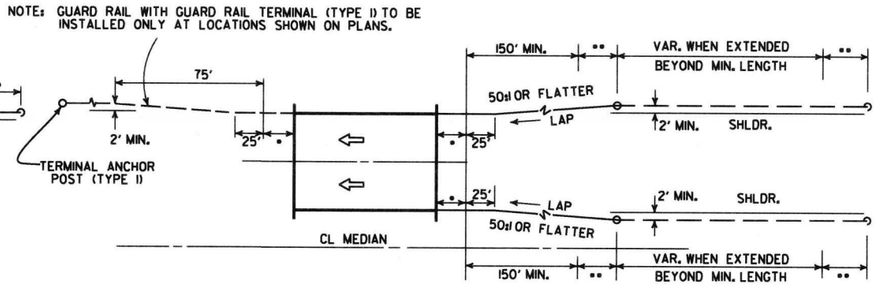
METHODS OF INSTALLATION OF GUARD RAIL AT LESS THAN FULL SHOULDER WIDTH BRIDGES USING GUARD RAIL TERMINAL (TYPE 2)

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



TWO-WAY TRAFFIC

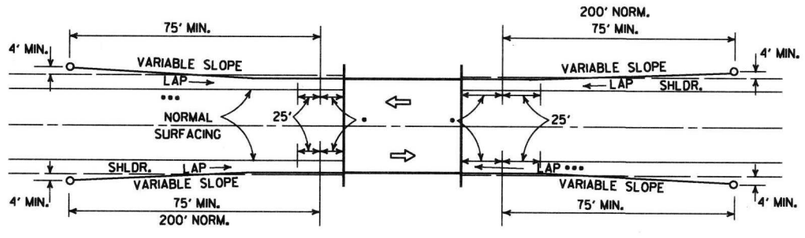
NOTE: GUARD RAIL WITH GUARD RAIL TERMINAL (TYPE 1) TO BE INSTALLED ONLY AT LOCATIONS SHOWN ON PLANS.



ONE-WAY TRAFFIC

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

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



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

LEGEND

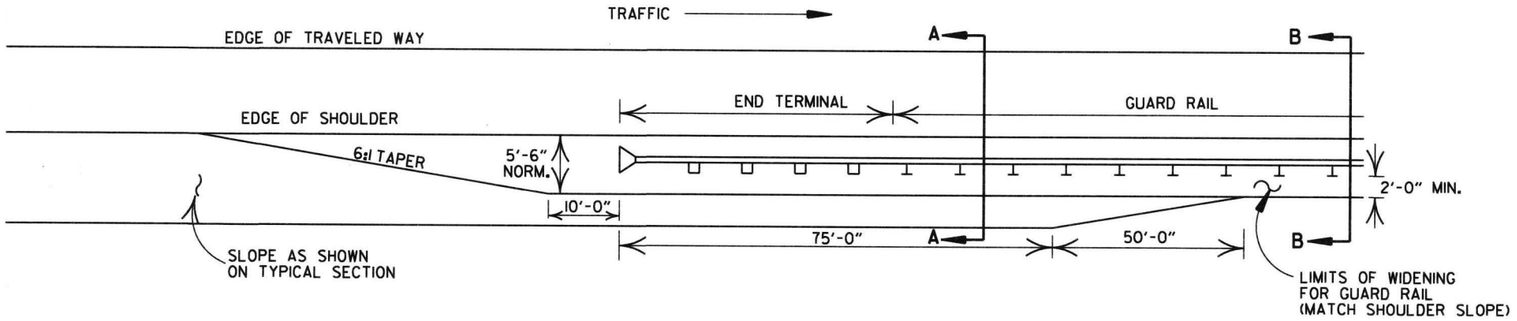
- • THRIE BEAM GUARD RAIL TERMINAL
- •• GUARD RAIL TERMINAL (TYPE 2)

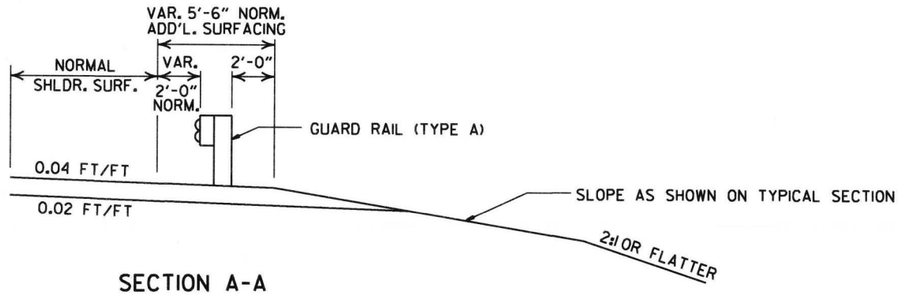
DATE	REVISION	DATE FILM
4-17-08	REVISED LAYOUTS	
11-10-05	REMOVED GUARD RAIL NOTES AND DETAILS	
11-16-01	DELETED NOTE-METHOD OF INSTALLATION OF GUARD RAIL USING GUARD RAIL TERM. (TY. 1)	
1-12-00	ADDED CONSTRUCTION NOTE	1-12-00
6-26-97	REVISED LAYOUT	
10-1-92	REDRAWN & REVISED	10-1-92
	ADDED NOTE	
10-9-87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

ARKANSAS STATE HIGHWAY COMMISSION

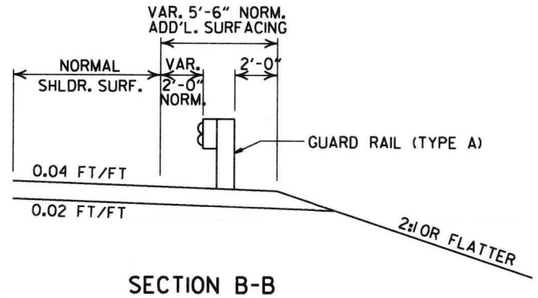
GUARD RAIL DETAILS

STANDARD DRAWING GR-9





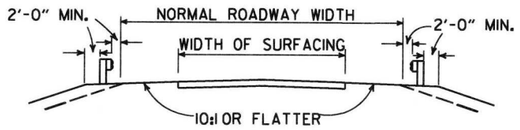
SECTION A-A



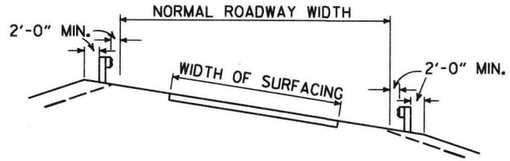
SECTION B-B

DETAILS OF WIDENING FOR GUARD RAIL

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

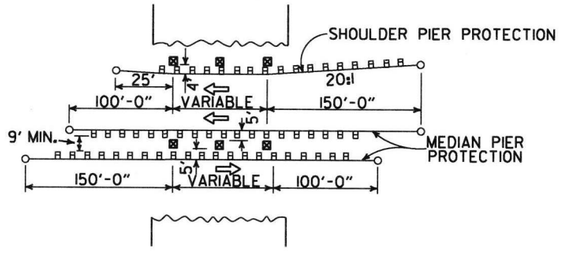


SECTION ON TANGENT



SECTION ON CURVE

DETAILS SHOWING POSITION OF GUARD RAIL ON HIGHWAY



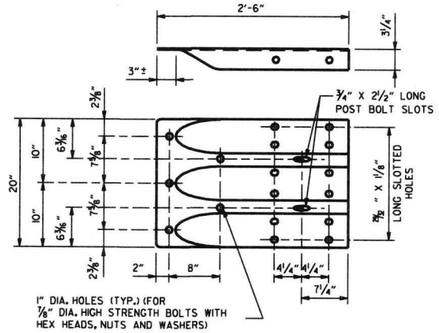
METHOD OF INSTALLATION OF GUARD RAIL AT FIXED OBSTACLE

DATE	REVISION	DATE FILM
4-17-08	MINOR REVISION	
11-10-05	DRAWN	

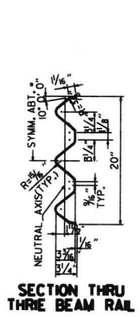
ARKANSAS STATE HIGHWAY COMMISSION

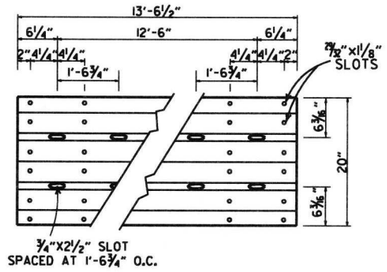
GUARD RAIL DETAILS

STANDARD DRAWING GR-9A

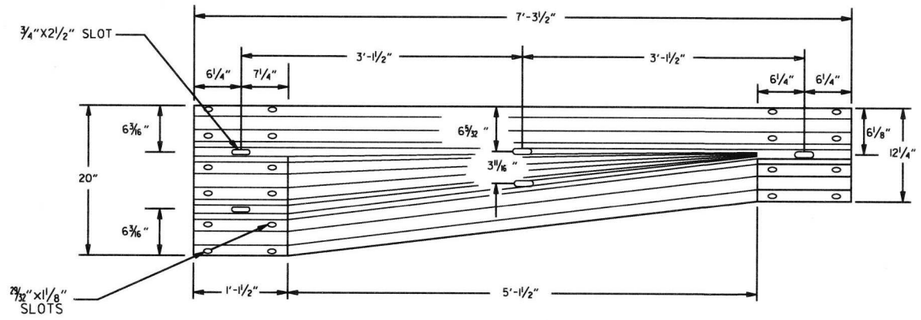


SPECIAL END SHOE

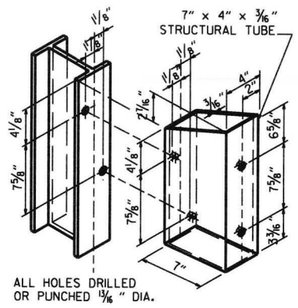




THRIE BEAM RAIL

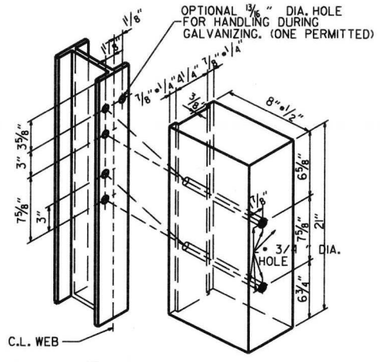


TRANSITION SECTION



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

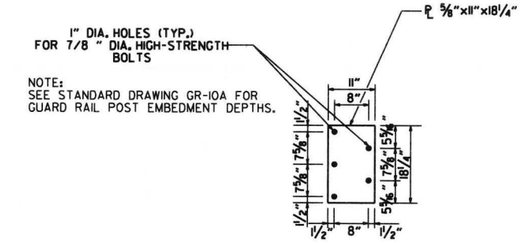
STRUCTURAL STEEL TUBING BLOCKOUT DETAIL



ALL HOLES 13/16" DIAMETER EXCEPT AS NOTED

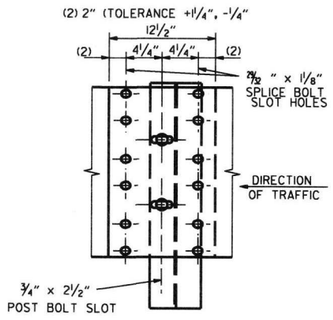
HOLE PUNCHING DETAIL FOR STEEL POST & WOOD OR PLASTIC BLOCKOUTS

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



CONNECTOR PLATE

CONNECTOR PLATE SHALL BE AASHTO M270, GR. 36 AND SHALL BE GALVANIZED AFTER FABRICATION. GALVANIZING SHALL CONFORM TO SUBSECTION 807.19 OF THE STANDARD SPECIFICATIONS. CONNECTOR PLATE TO BE BOLTED TO SPECIAL END SHOE USING 7/8" DIA. HIGH STRENGTH BOLTS, WITH THE HEADS PLACED ON THE TRAFFIC FACE. WASHERS SHALL BE USED UNDER THE HEAD AND NUT. BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AND SHALL CONFORM TO SUBSECTION 807.06.



THRIE BEAM RAIL SPLICE AT POST

GENERAL NOTES:

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

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

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

ALL LAP SPLICES, INCLUDING SPECIAL END SHOES, SHALL BE MADE IN THE DIRECTION SHOWN ON STANDARD DRAWINGS GR-9 & GR-13.

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

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

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

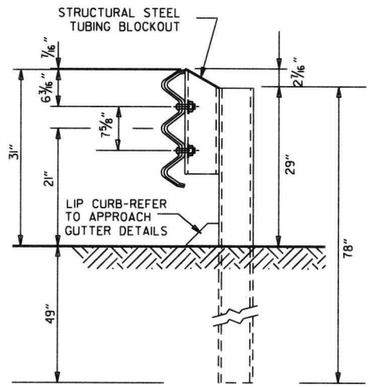
WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7 f (1400 f) OR NO. 1 1350 f SOUTHERN PINE.

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

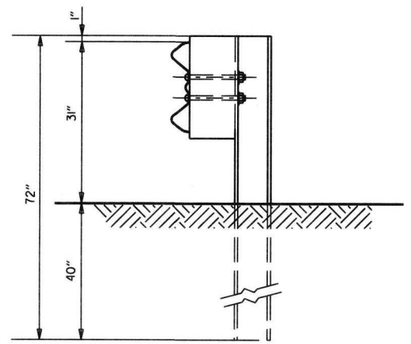
ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

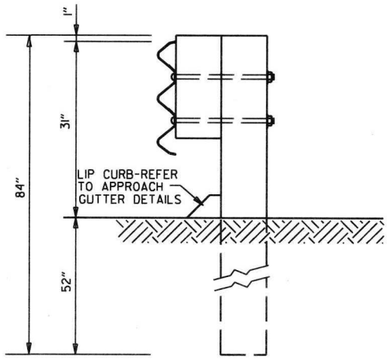
STANDARD DRAWING GR-10



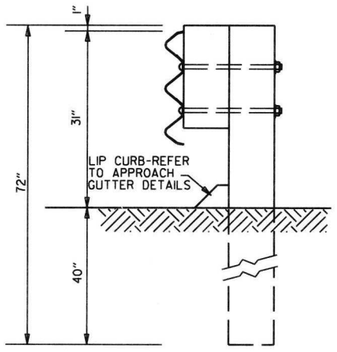
THRIE BEAM RAIL WITH STEEL TUBING BLOCKOUT
AND STEEL POST
POSTS 1-7



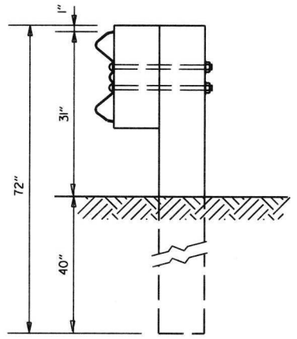
W-BEAM TO THRIE BEAM TRANSITION RAIL
WITH WOOD OR PLASTIC BLOCKOUT AND STEEL POST
POST 8



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



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



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

GENERAL NOTES:

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

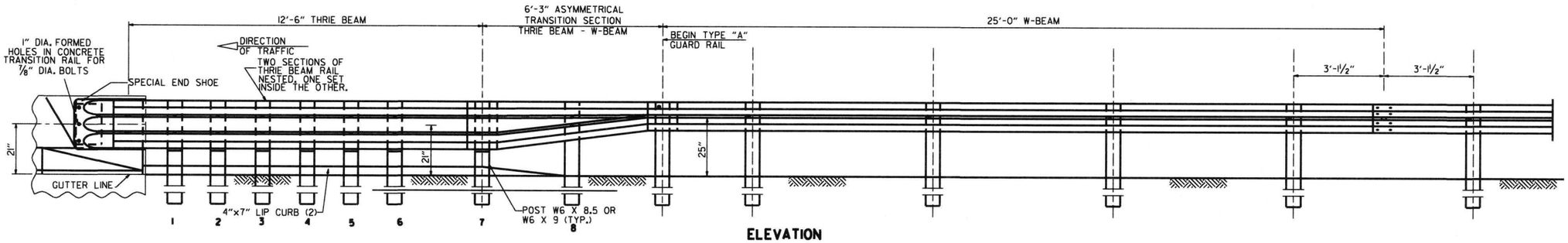
WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7f (1400 f) OR NO. 1 1350 f SOUTHERN PINE.

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

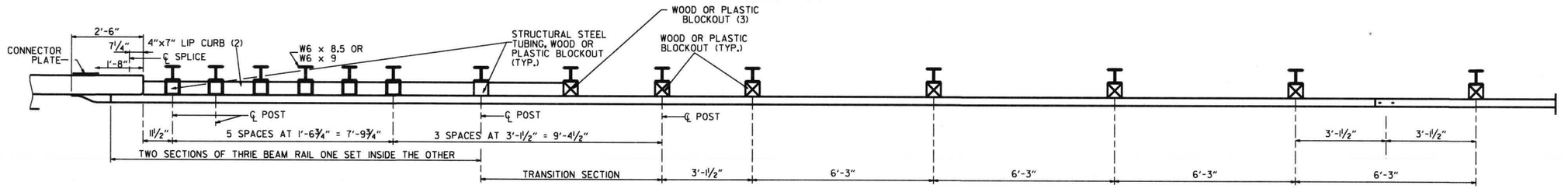
ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

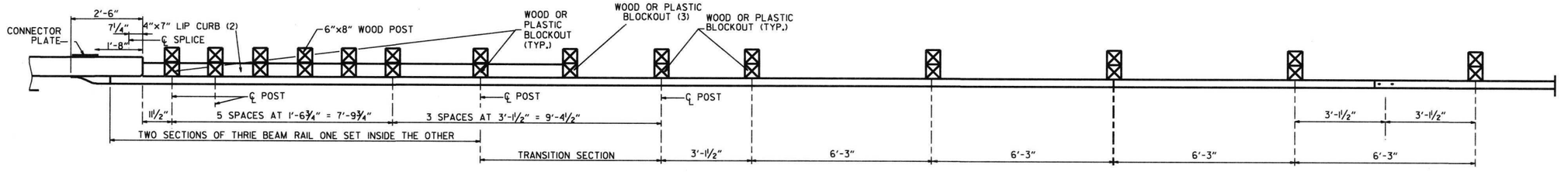
STANDARD DRAWING GR-11



ELEVATION



PLAN



PLAN

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

THRIE BEAM GUARD RAIL CONNECTION AT BRIDGE ENDS

GENERAL NOTES:

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

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

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

ALL LAP SPLICES, INCLUDING SPECIAL END SHOES, SHALL BE MADE IN THE DIRECTION SHOWN ON STANDARD DRAWINGS GR-9 & GR-13.

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

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

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

POSTS SHALL BE PLACED AT THE MID-SPAN OF THE W-BEAM.

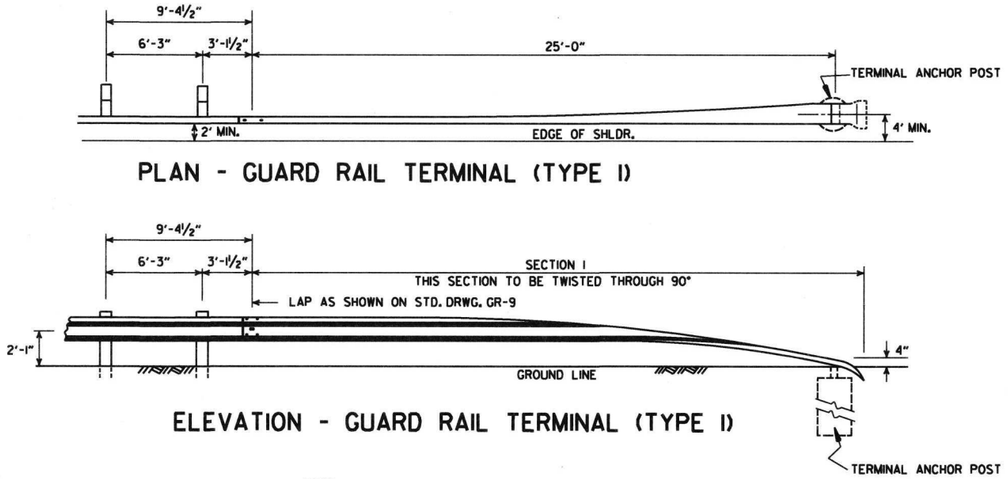
WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7 f (1400 f) OR NO. 1 1350 f SOUTHERN PINE.

DATE	REVISION	FILMED
11-16-17	RE-DRAWN FROM STD. DWG. GR-10 & ISSUED	

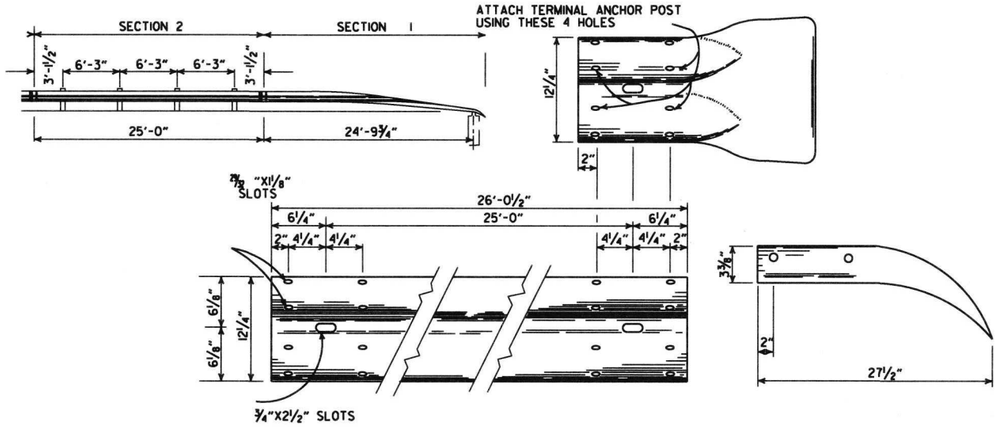
ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

STANDARD DRAWING GR-12

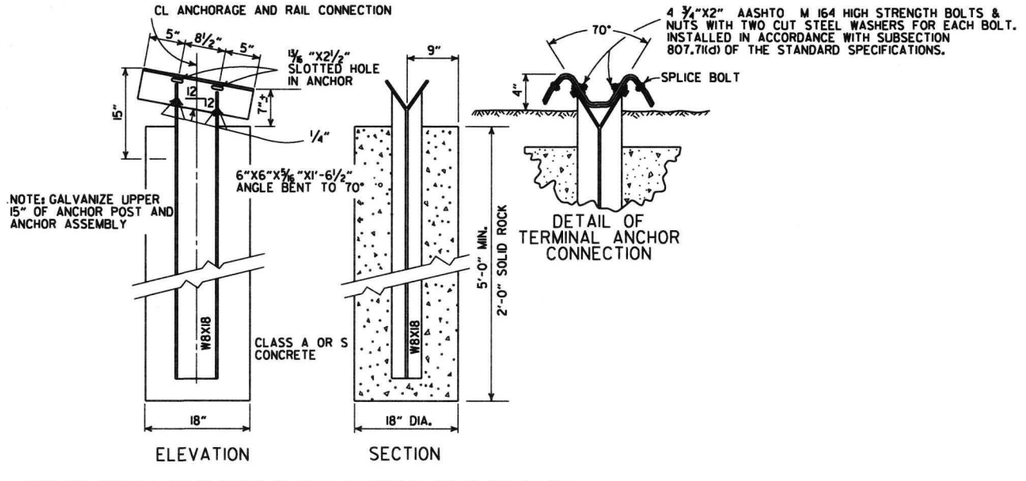


NOTE:
SECTIONS 1 AND 2 OF GUARD RAIL TERMINAL SHALL BE PAID FOR AT THE PRICE BID PER LINEAR FOOT OF THE TYPE OF GUARD RAIL SPECIFIED.



SECTION 1

TERMINAL SECTION



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

DETAIL OF TERMINAL ANCHOR POST (TYPE I)

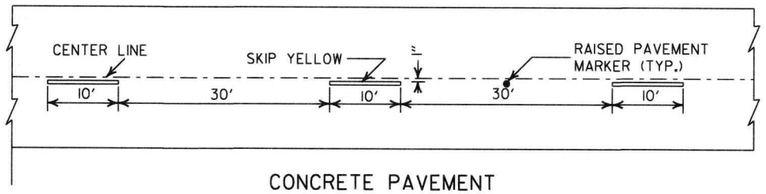
DATE	REVISION	FILMED
11-16-17	REVISED GUARD RAIL HEIGHT AND LOCATION OF POSTS	
07-14-10	RAISED HEIGHT OF GUARD RAIL 1"	
06-26-97	REVISED LAP NOTE	
10-18-96	REVISED ASTM REF. TO AASHTO	
11-03-94	DIMENSION TERMINAL DETAIL	
11-11-92	ADDED NOTE FOR PAYMENT	11-11-92
10-01-92	DRAWN & ISSUED	10-1-92

ARKANSAS STATE HIGHWAY COMMISSION

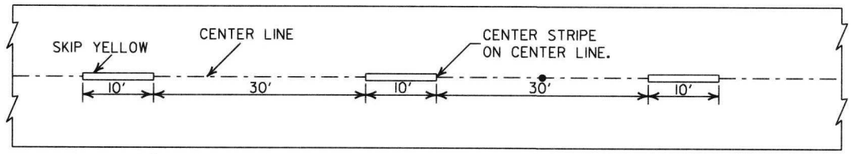
GUARD RAIL DETAILS

STANDARD DRAWING GRT-1

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

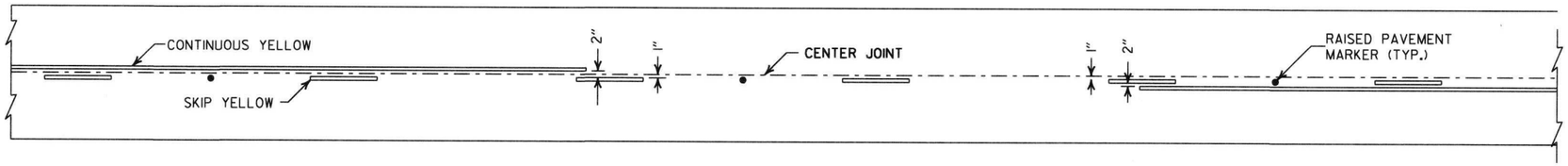


CONCRETE PAVEMENT

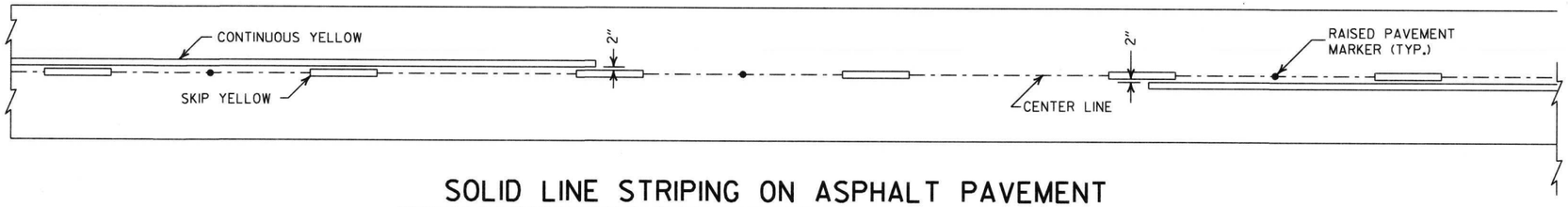


ASPHALT PAVEMENT

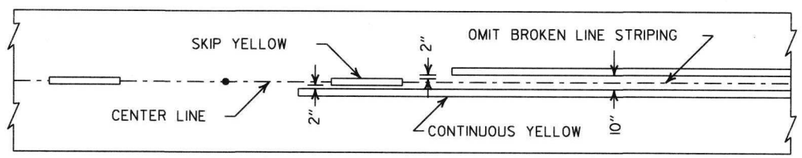
BROKEN LINE STRIPING



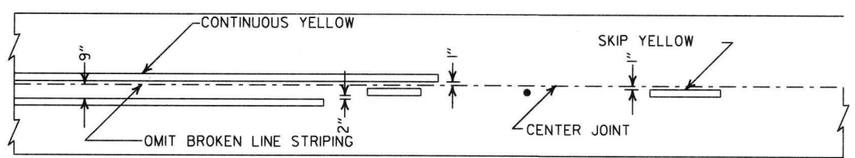
SOLID LINE STRIPING ON CONCRETE PAVEMENT



SOLID LINE STRIPING ON ASPHALT PAVEMENT

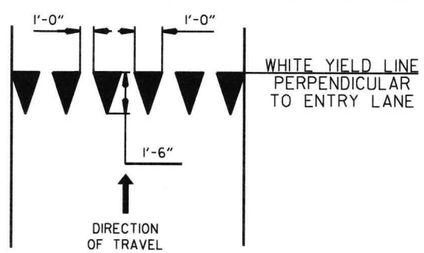


ASPHALT PAVEMENT

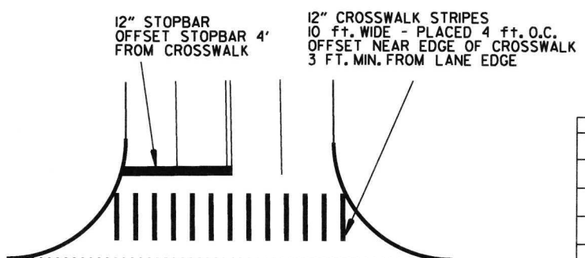


CONCRETE PAVEMENT

STRIPING AT ADJACENT NO PASSING LANES

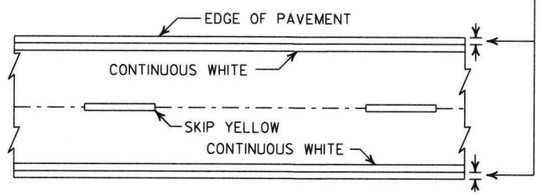


YIELD LINE DETAIL



CROSSWALK AND STOPBAR DETAILS

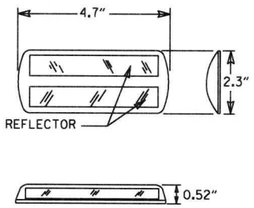
2" FOR ASPHALT OR CONCRETE PAVEMENT
6" FOR BITUMINOUS SURFACE TREATMENT



PAVEMENT EDGE LINE MARKING

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

TYPE II
RED/CLEAR OR
YELLOW/YELLOW



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

DETAIL OF STANDARD RAISED PAVEMENT MARKERS

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

ARKANSAS STATE HIGHWAY COMMISSION

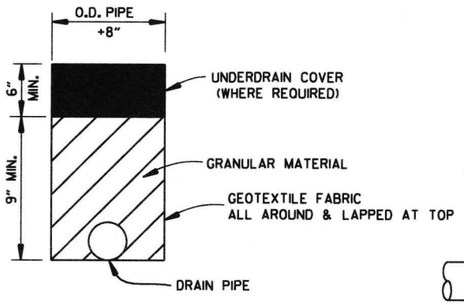
PAVEMENT MARKING DETAILS

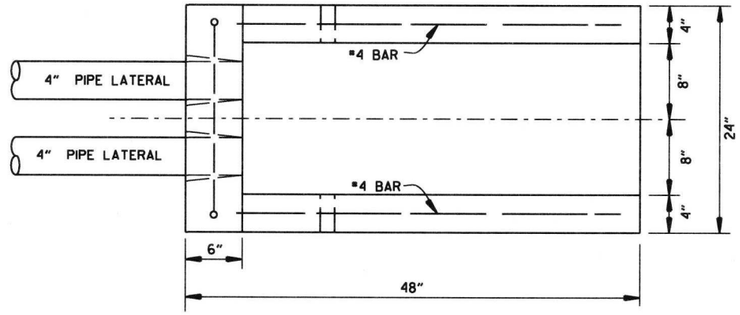
STANDARD DRAWING PM-1

NOTE:

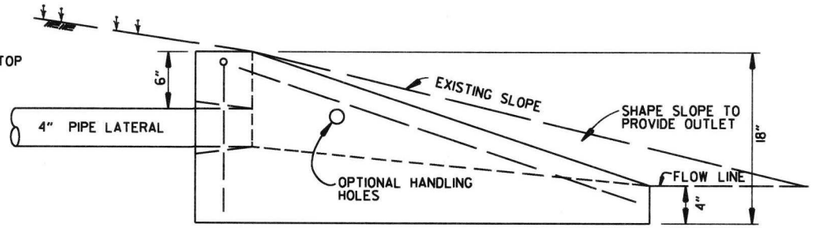
1. UNLESS OTHERWISE SPECIFIED ON THE PLANS, THE UNDERDRAIN COVER SHALL BE THOROUGHLY COMPACTED EARTH AND SHALL BE SUBSIDIARY TO PIPE UNDERDRAIN.

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

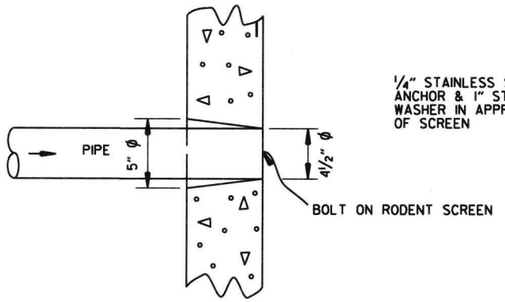




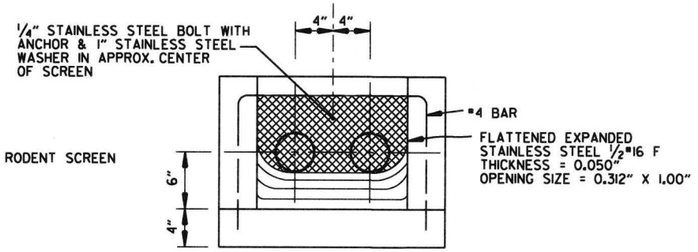
PLAN VIEW



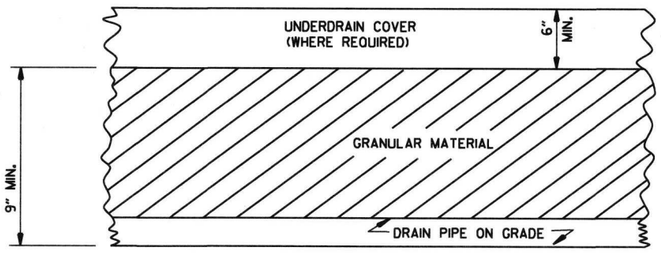
SIDE VIEW



DETAIL OF HOLE FOR 4" PIPE

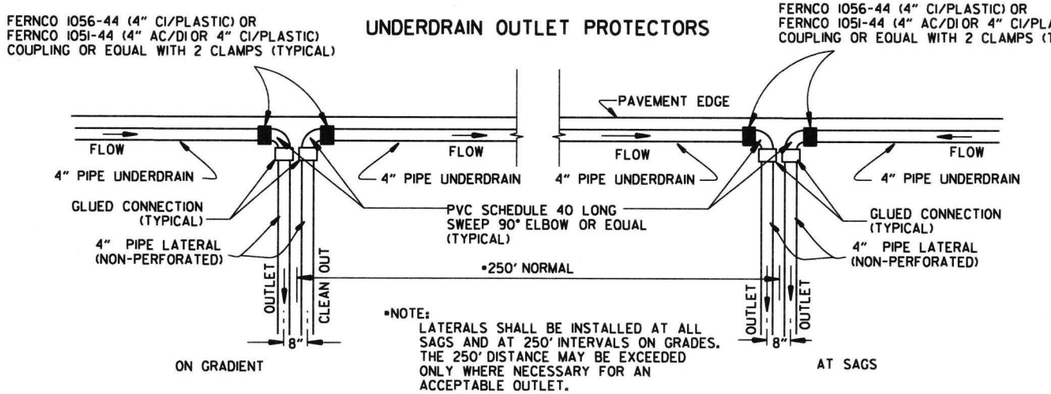


FRONT VIEW
(DETAIL OF RODENT SCREEN)



DETAILS OF PIPE UNDERDRAIN

UNDERDRAIN OUTLET PROTECTORS



DETAIL OF PIPE UNDERDRAIN LATERALS WHEN PLACED ALONG PAVEMENT EDGE

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

NOTES FOR PIPE UNDERDRAINS

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

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

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

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

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

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

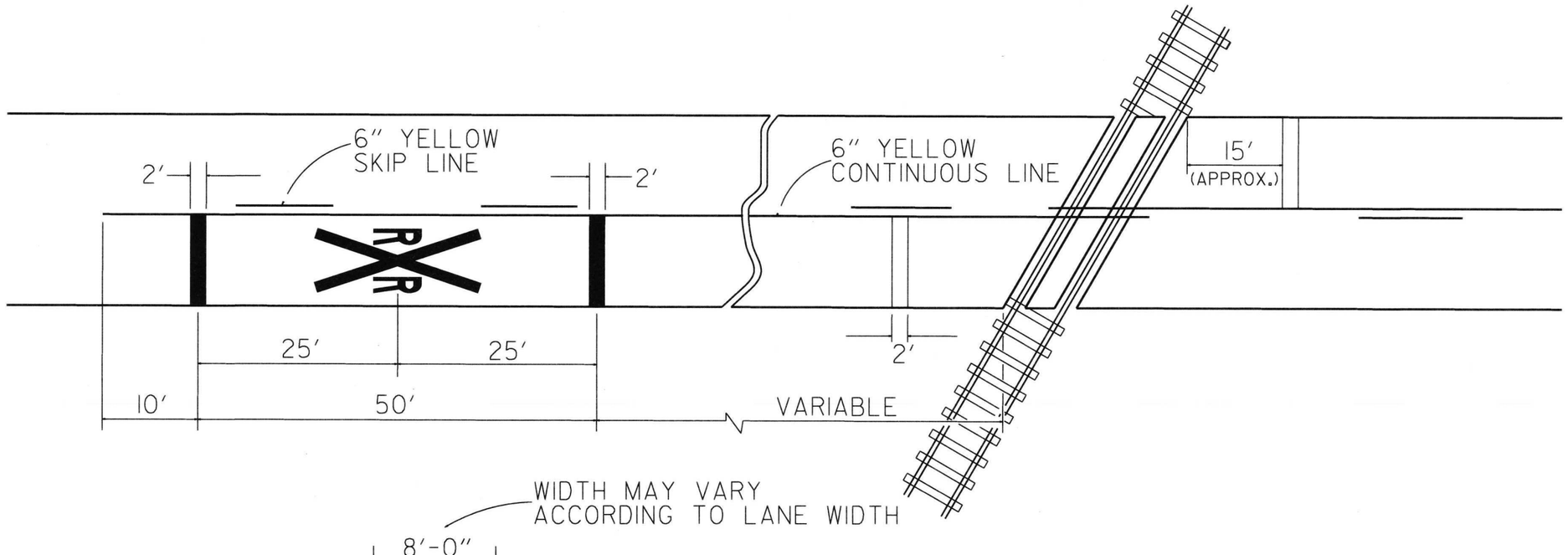
7. AT LOCATIONS WHERE A SINGLE LATERAL IS USED THE CONTRACTOR SHALL HAVE THE FOLLOWING OPTIONS: 1. INSTALL OUTLET PROTECTOR AS SHOWN ON STANDARD DRAWING PU-1 AND GROUT THE UNUSED HOLE OR 2. INSTALL AN OUTLET PROTECTOR WITH A SINGLE HOLE.

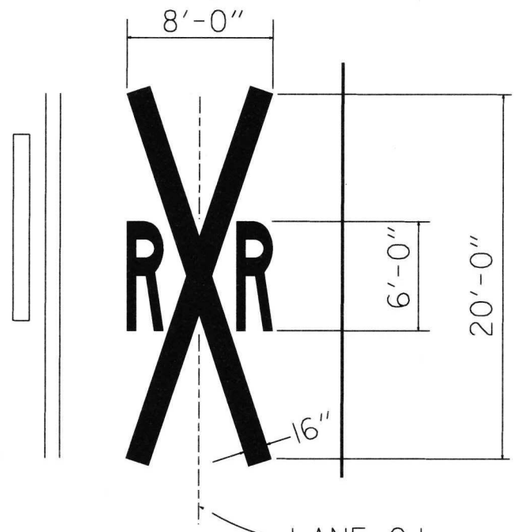
DATE	REVISION	DATE FILMED
12-8-16	ADDED NOTES FOR PIPE UNDERDRAINS, REVISED RODENT SCREEN DETAIL AND NOTES, REMOVED NOTE 1 FOR GRANULAR MATERIAL, ADDED NOTE FOR GEOTEXTILE FABRIC	
4-10-03	REVISED NOTE 3	
1-12-00	REVISED DETAIL OF UNDERDRAIN LATERALS	
11-18-98	REVISED NOTE	
10-18-96	REVISED MIN. DEPTH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

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF PIPE UNDERDRAIN

STANDARD DRAWING PU-1





DETAIL OF PAVEMENT MARKINGS FOR RAILROAD CROSSING

PAVEMENT MARKING TO BE SYMMETRICAL ABOUT RAILROAD

NOTES:
THE DISTANCE FROM THE RAILROAD CROSSING MARKING TO THE NEAREST TRACK WILL VARY ACCORDING TO THE APPROACH SPEED AND THE SIGHT DISTANCE OF THE VEHICULAR TRAFFIC APPROACHING, BUT PROBABLY SHOULD BE NOT LESS THAN 50 FEET.

A THREE LANE ROADWAY SHOULD BE MARKED WITH A CENTERLANE FOR TWO-LANE APPROACH OPERATION ON THE APPROACH TO A CROSSING.

ON MULTI-LANE ROADS THE TRANSVERSE BANDS SHOULD EXTEND ACROSS ALL APPROACH LANES, AND INDIVIDUAL RXR SYMBOLS SHOULD BE USED IN EACH APPROACH LANE.

REFER TO STANDARD ALPHABET FOR HIGHWAY SIGNS AND MARKINGS FOR RXR SYMBOLS DETAILS.

DATE	REVISION	DATE FILMED
12-8-16	REVISED CENTERLINE LABELS	
11-20-08	CORRECTED SPELLING	
4-10-03	REVISED NOTES	
3-2-81	DELETED LETTER & ADDED NOTE	684-3-2-81
7-20-79	STOP LINE CHGD. TO PERP.	636-8-30-79
4-23-75	SHEET RENUMBER	697-4-20-79
4-23-75	REDRAWN	860-4-23-75

ARKANSAS STATE HIGHWAY COMMISSION

PAVEMENT MARKING
FOR RAILROAD CROSSING

STANDARD DRAWING RRS-1

LOOP DETECTOR INSTALLATION AND TESTING

NOTES:

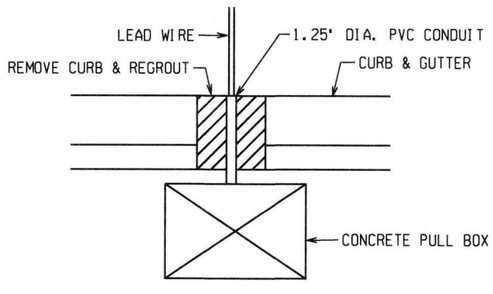
1. LOOPS WITH A PERIMETER GREATER THAN 40' SHALL HAVE TWO TURNS. LOOPS WITH A PERIMETER LESS THAN OR EQUAL TO 40' SHALL HAVE THREE TURNS, UNLESS OTHERWISE NOTED ON THE PLANS. QUADRUPOLE LOOPS SHALL BE TWO TURNS IN A (2-4-2 CONFIGURATION), UNLESS OTHERWISE NOTED ON THE PLANS.
2. LOOP AND FEEDER WIRE SHALL BE CONTINUOUS WITHOUT SPLICES EXCEPT AT THE LOOP/FEEDER WIRE SPLICE AS SHOWN. SPLICES SHALL BE ROSIN SOLDERED AND WATERPROOFED WITH AN ACCEPTED SPLICE KIT. A DRIAN WIRE SHALL BE GROUNDED IN THE CABINET AND INSULATED AT THE LOOP TO FEEDER WIRE SPLICE.
3. THE LOOP TO FEEDER WIRE SPLICE, THE FEEDER WIRE JACKET AND LOOP WIRE JACKET IN DUCT SHALL BE COMPLETELY SEALED AND WATERPROOFED.
4. THE CONTRACTOR MAY MAKE CONNECTIONS TO THE SIGNAL CABLE AND LOOP TO FEEDER WIRE CONNECTION AT THE TERMINAL STRIPS MOUNTED TO POLE INSIDE THE HAND HOLD COVER AS SHOWN IN DETAIL. HANDHOLE TERMINALS MUST BE EASILY ACCESSIBLE, BUT PROTECTED AGAINST ACCIDENTAL CONTACT. THE CONNECTION OF POWER CARRYING CIRCUITS MUST BE SEPERATED FROM LOOP OR LOGIC CIRCUITS. ALL CONNECTIONS TO TERMINAL STRIPS SHALL UTILIZE SPADE LUGS OR AS APPROVED BY THE ENGINEER.
5. EACH LOOP SHALL HAVE A SEPERATE "FEEDER WIRE" UNLESS OTHERWISE NOTED ON THE PLANS. ALL FEEDER WIRES SHALL BE LABELED AS TO LOOP NUMBER AS DESIGNATED ON THE PLANS.
6. ALL LOOP WIRE ENTERING CONCRETE PULL BOXES SHALL BE ENCLOSED IN CONDUIT. EACH LOOP WIRE SHALL ENTER CONCRETE PULL BOX OR POLE BASE THROUGH A SEPARATE PIECE OF ONE (1") INCH CONDUIT.
7. LOOP WIRE FROM LOOP TO CONDUIT IS NOT TWISTED. LOOP WIRE IN THE CONDUIT MUST BE TWISTED TWO TO FIVE TURNS PER FOOT.
8. "30-DAY PERFORMANCE TEST SHALL NOT COMMENCE UNTIL ALL LOOPS ARE TESTED BY THE CONTRACTOR, THEN APPROVED AND ACCEPTED BY THE ENGINEER, AND THE TESTING RECORDS HAVE BEEN SUBMITTED TO THE ENGINEER. THE WARRENTY PERIOD FOR LOOPS SHALL NOT COMMENCE UNTIL TESTED BY THE CONTRACTOR AND ACCEPTED BY THE ENGINEER. THE CONTRACTOR SHALL PERFORM TEST AND PROVIDE A RECORD TO THE ENGINEER AS LISTED IN THE LOOP DETECTOR TESTING PROCEDURE.
9. UNLESS OTHERWISE APPROVED BY THE ENGINEER, BACKER ROD SHALL BE INSTALLED IN SHORT SECTIONS SPACED NO MORE THAN 18" APART AND WEDGED INTO THE SLOT TO THE CABLE IN PLACE. CABLE SHALL BE TOTALLY ENCAPSULATED IN SEALER.
10. "HOT POUR" SEALER SHALL NOT ALLOW WITH 705-LOOP WIRING IN DUCT.
11. WHERE UNDERGROUND SPLICES OF SIGNAL CABLE ARE REQUIRED. CONNECTIONS SHALL BE SOLDERED AND COMPLETELY WATERPROOFED TO THE SATISFACTION OF THE ENGINEER. WATERPROOFING SHALL EXTEND A MININUM OF TWO (2") INCHES PAST THE SIGNAL CABLE JACKET AND SHALL COMPLETELY COVER ALL INDIVIDUAL CONDUCTORS OF THE SIGNAL CABLE. WATERPROOFING DOES NOT APPLY TO CONNECTIONS MADE IN POLE BASES.
12. THE CONTRACTOR SHALL CONNECT A SEPARATE NEUTRAL FOR EACH LOAD SWITCH REPRESENTED ON EACH SIGNAL POLE. ONLY ONE NEUTRAL IS REQUIRED FOR PEDESTRIAN SIGNALS. A SEPERATE 5C (TYPICAL) IS PROVIDED FOR PEDESTRIAN PUSH BUTTONS.
13. TRAFFIC CONTROLLER CABINET LAYOUT SHALL BE SUCH THAT IT IS NOT NECESSARY TO SHUT DOWN POWER TO REMOVE LOAD SWITCHES IN ORDER TO EASILY TEST OR MODIFY DETECTOR INPUTS TO THE CONTROLLER. THE CONTROLLER CABINET SHALL BE WIRED SUCH THAT THE POWER TO LOAD SWITCHES CANNOT BACKFEED TO THE LOAD SWITCH POWER BUSS DURING FLASH OPERATION.

TYPICAL PROCEDURE FOR DETECTOR LOOP TESTING

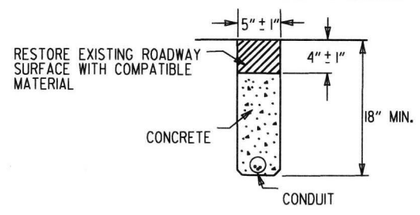
1. DISCONNECT AND TEST CONTINUITY (< 10 OHMS) IF CONTINUITY IS BAD, GO TO TEST 3.
2. TEST INSULATION (@ 500 VOLT TEST > 10 MEG-OHM)

   IF TESTS 1& 2 ARE GOOD, NO FURTHER TESTING IS NECESSARY. RECORDED RESULTS CONSIST OF TESTS 1& 2 FROM CONTROL CABINET WITH FEEDER WIRE CONNECTED TO LOOP.
3. OPEN SPACE (DO NOT BREAK CONNECTION) REPEAT TEST 1& 2 IF TEST 3 IS BAD, GO TO TEST 4.
4. BREAK SPLICE, INSTALL JUMPER IN CABINET, REPEAT TESTS 1& 2 SEPARATELY FOR FEEDER AND FOR LOOP.

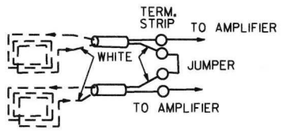
FAILURES TYPICALLY RESULT FROM BROKEN WIRE IN PAVEMENT, FAULTY INSULATION OF LOOP OR FEEDER WIRE, OR POORLY INSULATED SPLICE CONNECTION.



TRENCHING DETAIL
(FOR SAW CUT TRENCH IN ROADWAY)

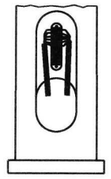


SERIES CONNECTED LOOPS



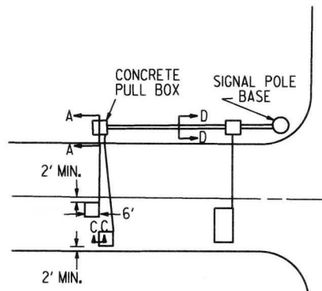
WIND LOOPS COUNTERCLOCKWISE; TAG WIRE EXITING SLOT AND TIE TO WHITE LEAD OF FEEDER WIRE; WHEN LOOPS ARE TIED TO SAME VEHICLE DETECTOR, SERIES CONNECT IN CABINET AS SHOWN.

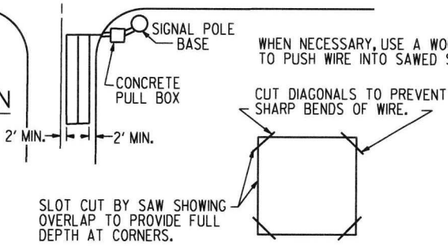
HANDHOLE TERMINAL



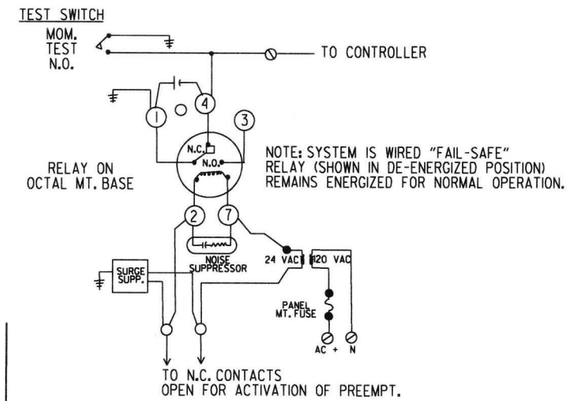
QUADRUPOLE LOOP

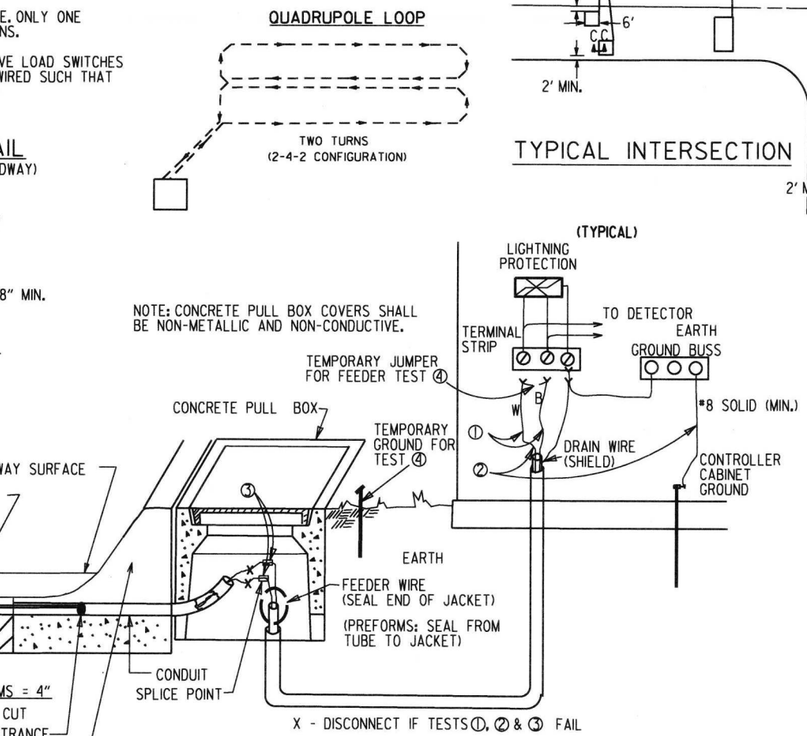
TYPICAL INTERSECTION





TRAFFIC SIGNAL PRE-EMPTION INTERFACE WIRING DIAGRAM

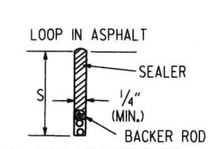




SECTION A-A
1'-6" CONCRETE COMBINATION CURB AND GUTTER

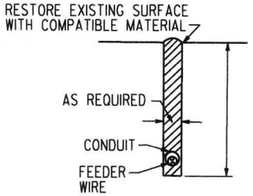
SPECIAL NOTE:
IF FEEDER WIRE JACKET IS LEFT UNSEALED AND WATER IS ALLOWED TO ENTER JACKET, CONTRACTOR WILL BE REQUIRED TO REPLACE FEEDER WIRE AT NO COST TO DEPARTMENT.

TYPICAL SECTIONS FOR PULSE AND PRESENCE LOOP DETECTORS



SEE NOTE ON BACKER ROD.

SECTION C-C
S=2 1/2" IN ASPHALT
S=1 1/2" IN CONCRETE



SECTION D-D

DATE	REVISION	FILMED
11-16-17	REVISED NOTES	
09-12-13	ISSUED AS STANDARD DRAWING	
05-17-01	REVISED	
04-11-01	REVISED	
02-04-00	REVISED PRE-EMPTION TEST SWITCH	
11-18-98	REVISED NOTES	
11-21-95	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

LOOP DETECTOR INSTALLATION

STANDARD DRAWING SD-4

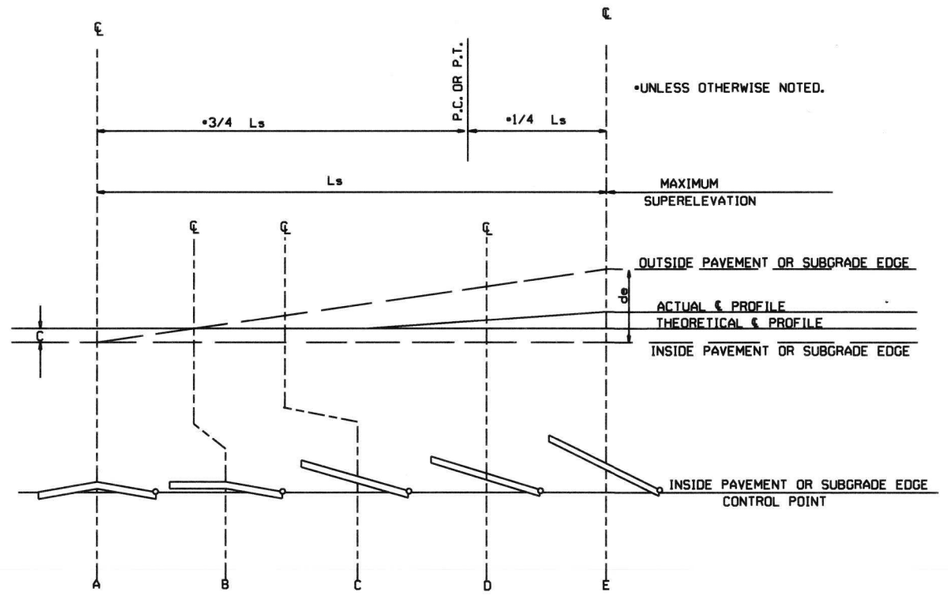
SUPERELEVATION TABLE FOR TWO - WAY TRAFFIC

DEGREE OF CURVE	30 MPH			40 MPH			50 MPH			55 MPH			60 MPH			70 MPH		
	e	Ls (FT)		e	Ls (FT)		e	Ls (FT)		e	Ls (FT)		e	Ls (FT)		e	Ls (FT)	
		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE		MINIMUM	DESIRABLE
0° 15'	N.C.			N.C.			N.C.			N.C.			N.C.			N.C.		
0° 30'	N.C.			N.C.			N.C.			N.C.			N.C.			N.C.		
0° 45'	N.C.			N.C.			R.C.			0.022			0.023			0.028		
1° 00'	N.C.			N.C.			0.021			0.026			0.030			0.037		
1° 15'	N.C.			R.C.			0.025			0.032			0.037			0.046		
1° 30'	N.C.			0.021			0.031	200		0.037	225		0.043	250		0.054	275	
1° 45'	N.C.			0.025	175		0.036			0.043			0.049			0.062		
2° 00'	R.C.			0.028			0.040			0.048			0.055			0.070		
2° 15'	R.C.			0.031			0.045		250	0.053			0.061			0.078	300	
2° 30'	0.021			0.034			0.049			0.058			0.067			0.085	315	350
2° 45'	0.023			0.037			0.053			0.063			0.072			0.091	335	
3° 00'	0.025			0.040		200	0.057			0.067	230		0.077	260		0.096	350	
3° 15'	0.027	150		0.043			0.061			0.072	245		0.082	275		0.098	360	400
3° 30'	0.029			0.046			0.065	205		0.076	255		0.086	285		0.100	360	
3° 45'	0.031			0.049			0.069	215		0.080	265		0.090	295				
4° 00'	0.033			0.051			0.072	225		0.083	270		0.093	305	350			
4° 30'	0.037			0.056			0.078	240		0.087	280		0.096	315				
5° 00'	0.040			0.061			0.083	250		0.091	295	350	0.098	320				
5° 30'	0.043			0.066	185		0.088	260		0.094	300							
6° 00'	0.046			0.070	190		0.092	270		0.096	305							
6° 30'	0.050			0.074	200		0.095	280	300	0.100	315							
7° 00'	0.053			0.078	210		0.098	285										
7° 30'	0.056			0.081	215		0.099	290										
8° 00'	0.058			0.084	220	250	0.100	290										
8° 30'	0.061			0.087	225													
9° 00'	0.063			0.089	230													
10° 00'	0.068	160		0.094	235													
11° 00'	0.072	170		0.097	250													
12° 00'	0.076	175		0.099	250													
13° 00'	0.080	180		0.100	250													
14° 00'	0.083	190																
15° 00'	0.086	195																
16° 00'	0.089	200																
17° 00'	0.091	200																
18° 00'	0.093	205																
19° 00'	0.095	210																
20° 00'	0.097	215	250															
21° 00'	0.098	215																
22° 00'	0.099	215																
23° 00'	0.099	215																
24° 00'	0.100	220																

D MAX = 24° 45' | D MAX = 13° 15' | D MAX = 8° 15' | D MAX = 6° 30' | D MAX = 5° 15' | D MAX = 3° 30'

ABBREVIATIONS

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



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

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

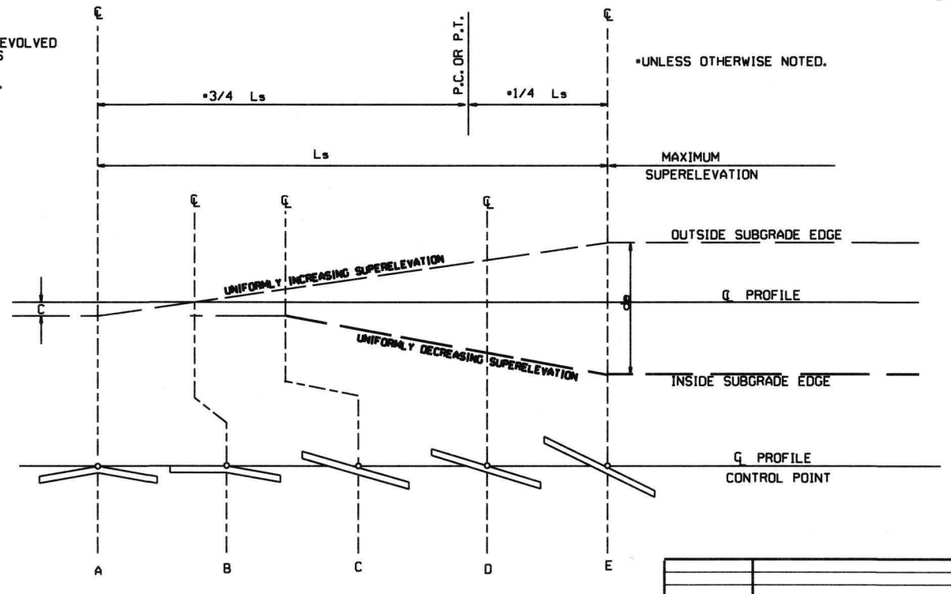
GENERAL NOTES

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

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

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

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



STANDARD METHOD WHEN SUPERELEVATION REVOLVES AROUND CENTER LINE

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

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

ARKANSAS STATE HIGHWAY COMMISSION

TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC

STANDARD DRAWING SE-2

R1-1

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

R1-2

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

R2-1

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

W3-5

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

W3-5a

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

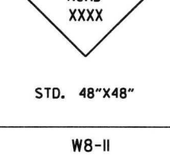
R4-1

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

R4-2

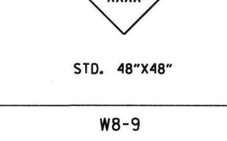
STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

R5-1



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

RII-2

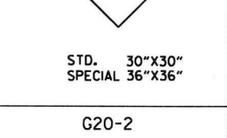


48"X30"

RII-3A

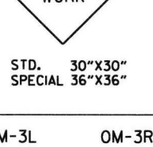
60"X30"

RII-4



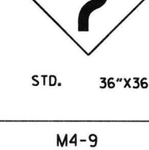
60"X30"

W21-5a



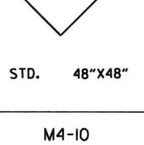
STD. 36"X36"
FWY. 48"X48"

WI-1



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

WI-2



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

WI-3

STD. 48"X48"

WI-4

STD. 48"X48"

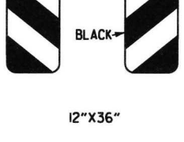
WI-6

STD. 48"X24"
SPECIAL 60"X30"

WI-8

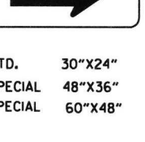
STD. 18"X24"
SPECIAL 24"X30"
EXPWY. 30"X36"
FWY. 36"X48"

W3-1



STD. 36"X36"
SPECIAL 48"X48"

W3-2



STD. 36"X36"
SPECIAL 48"X48"

W4-2

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

W5-1

STD. 36"X36"
SPECIAL 48"X48"

W6-3

EXPWY. 36"X36"
SPECIAL 48"X48"

W8-7

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

W9-2

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

WI3-1

STD. 24"X24"

W20-1

STD. 48"X48"

W20-2

STD. 48"X48"

W20-3

STD. 48"X48"

W20-4

STD. 48"X48"

W20-5

STD. 48"X48"

W20-7a

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

W21-2

STD. 30"X30"
SPECIAL 36"X36"

W21-5

STD. 30"X30"
SPECIAL 36"X36"

W24-1

STD. 36"X36"

WI-4b

STD. 48"X48"

R56-1

STD. 18"X18"

W8-11

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

W8-9

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

G20-1

60"X24"

G20-2

48"X24"

OM-3L OM-3R

12"X36"

M4-9

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

M4-10

48"X18"

R55-1

36"X60"

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

ADVANCE DISTANCES
(XXXX)

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

GENERAL NOTES:

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

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

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

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

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

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

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

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

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

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

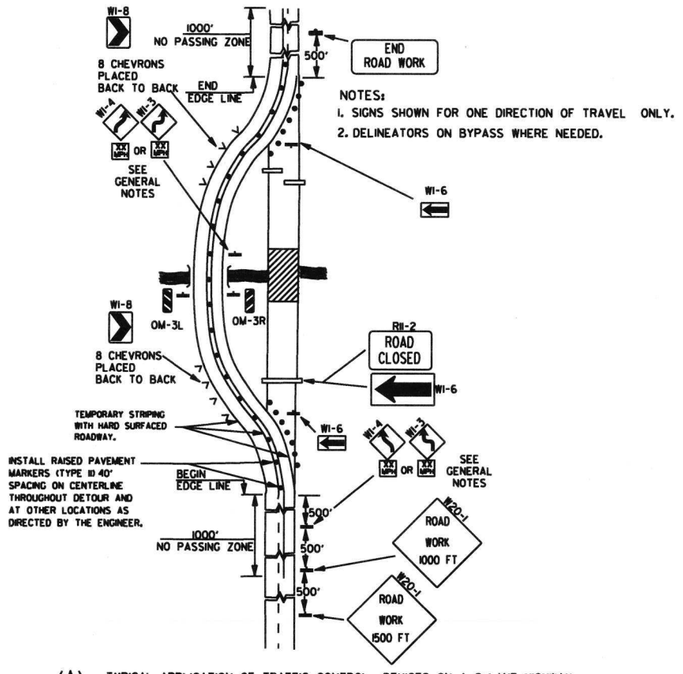
• NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY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

DATE	REVISION	FILMED
4-13-17	DELETED RSP-1 & ADDED W21-5a	
9-2-15	REVISED REDUCED SPEED LIMIT AHEAD SIGNS REVISED ROAD WORK NEXT XX MILES	
12-15-11	REVISED W24-1	
11-17-10	DELETED W8-9a & ADDED W8-9	
10-15-09	ADDED REFERENCE TO MASH & ADDED SIGN W24-1	
4-17-08	REVISED SIGN DESIGNATIONS	
11-18-04	REVISED NOTES	
10-9-03	REVISED NOTE 1	
11-16-01	REVISED NOTE 7	
9-28-00	REVISED NOTE	
8-18-98	ADDED NOTE	
6-26-97	REVISED NOTE 5	
4-03-97	REVISED NOTE 5	
10-18-96	ADDED CONTROLLED ACCESS HWY. SIGN & TO NOTE 7	
10-12-95	ADDED R55-1	
6-8-95	REVISED TO CORRECT SIGN ILLUSTRATIONS	6-8-95
2-2-95	REVISED PER PART VI, MUTCD SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

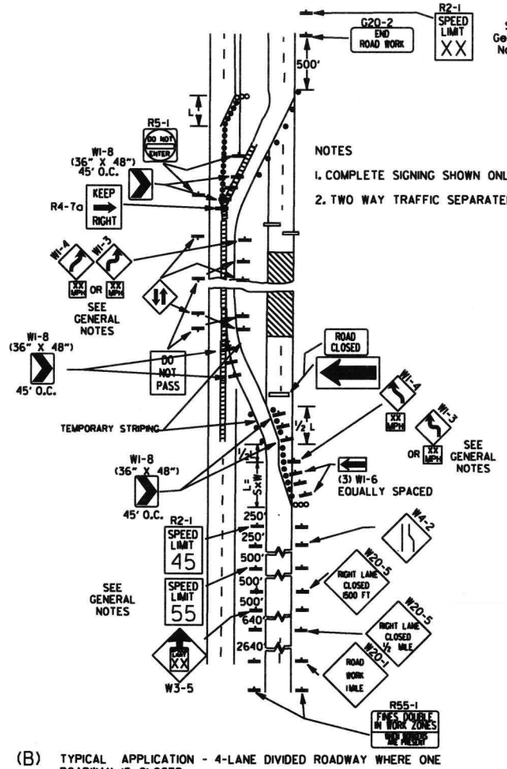
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

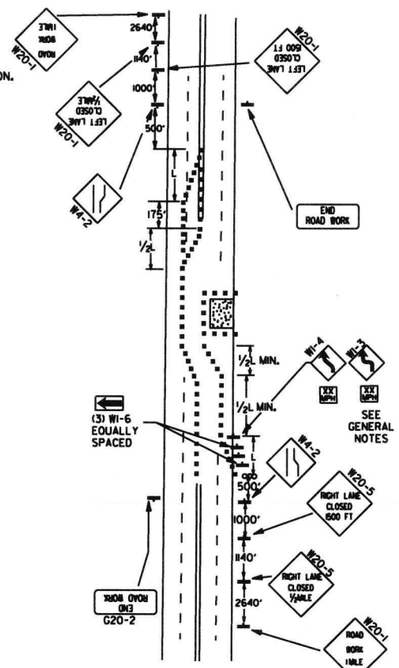
STANDARD DRAWING TC-1



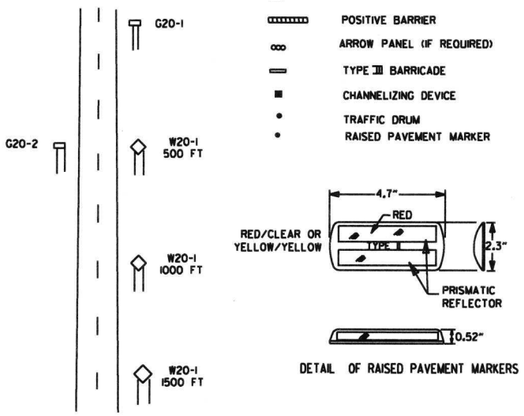
(A) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON A 2-LANE HIGHWAY WHERE THE ENTIRE ROADWAY IS CLOSED AND A BYPASS DETOUR IS PROVIDED.



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



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



DETAIL OF RAISED PAVEMENT MARKERS

TYPICAL ADVANCE WARNING SIGN PLACEMENT

TAPER FORMULAE:

L=SXW FOR SPEEDS OF 45MPH OR MORE.

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

WHERE:

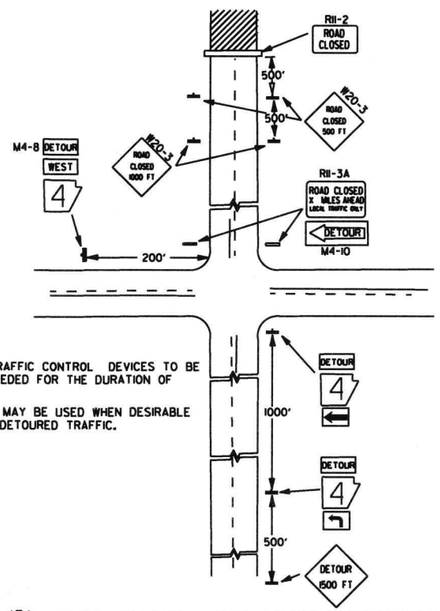
L= MINIMUM LENGTH OF TAPER.

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

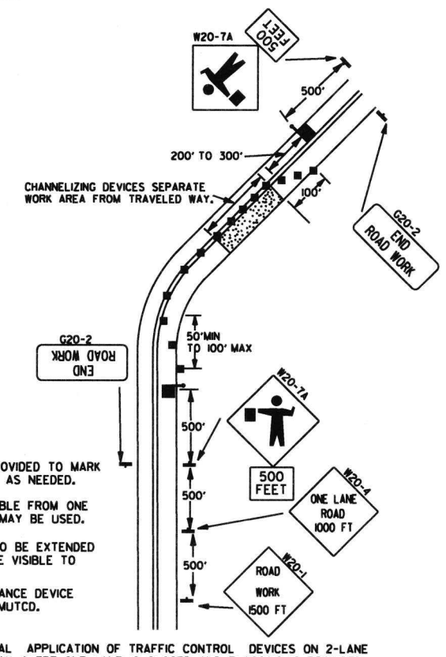
W= WIDTH OF OFFSET.

GENERAL NOTES:

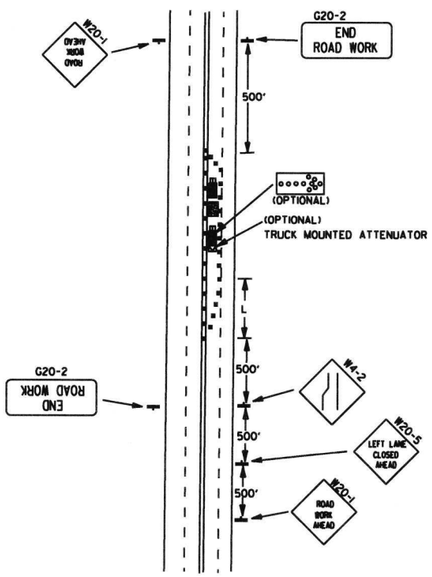
1. ADVISORY SPEED POSTED ON W1-3 OR W1-4 CURVE WARNING SIGNS TO BE DETERMINED AT SITE. USE W1-4 WHEN SPEED IS GREATER THAN 30MPH AND W1-3 WHEN 30MPH OR LESS.
2. WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-1(55) SHALL BE OMITTED AND THE W3-5 SHALL BE INSTALLED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



(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.



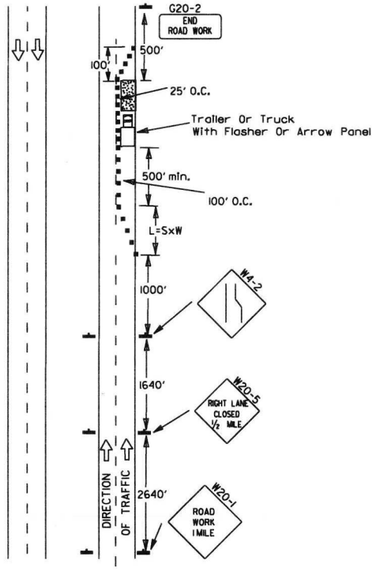
(F) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WITH INSIDE LANE CLOSED.

DATE	REVISION	FILMED
9-2-15	REVISED NOTE 2, ADDED NOTE 8, REVISED DRAWING (A) & REPLACED R2-5A WITH W3-5	
9-12-13	REVISED DETAIL OF RAISED PAVEMENT MARKERS	
3-11-10	ADDED (AFAD)	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED GENERAL NOTE	
10-18-96	ADDED R55-1	
4-26-96	CORRECTED (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	

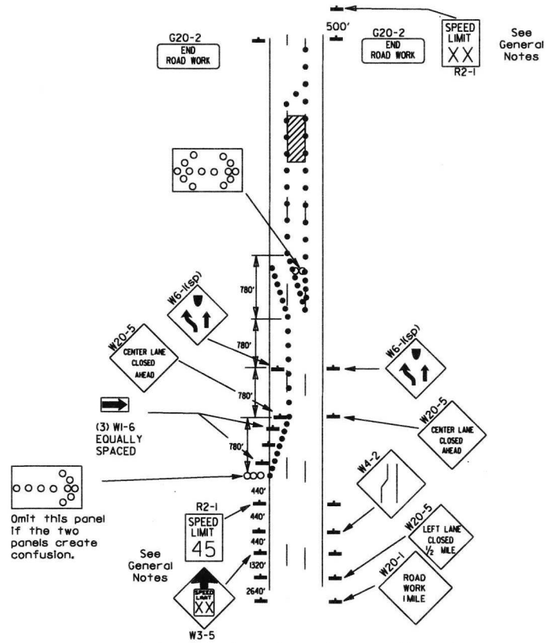
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

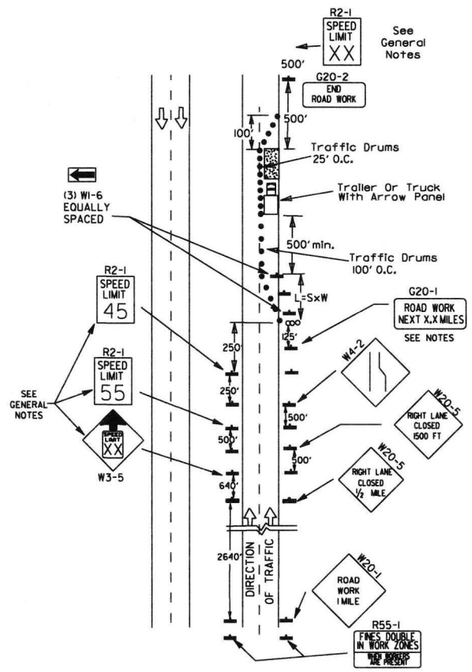
STANDARD DRAWING TC-2



(A) Typical application - daytime maintenance operations of short duration on a 4-lane divided roadway where half of the roadway is closed.



(B) Typical application - 3-lane oneway roadway where center lane is closed.



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

KEY:

ooo Arrow Panel (If Required)

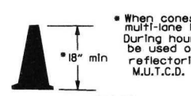
■ Channelizing Device

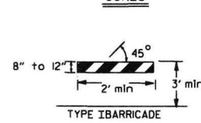
● Traffic drum

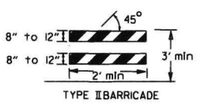
GENERAL NOTES:

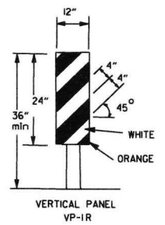
1. A speed limit reduction may be implemented ONLY when designated in the plan or when recommended by the Roadway Design Division.
2. When the existing speed limit is 55mph and the plans require a speed limit of 45mph, the R2-1(55) shall be omitted and the W3-5 shall be installed at that location. Additional R2-1 45mph speed limit signs shall be installed at a maximum of 1 mile intervals. At the end of the work area a R2-1(XX) shall be installed to match original speed limit.
3. When the existing speed limit is 65mph and the plans require a speed limit of 55mph, the R2-1(45) shall be omitted. Additional R2-1 55mph speed limit signs shall be installed at a maximum of 1 mile intervals. At the end of the work area a R2-1(XX) shall be installed to match original speed limit.
4. The maximum spacing between channelizing devices in a taper should be approximately equal in feet to the speed limit. Beyond the taper, maximum spacing shall be two times the speed limit or as directed by the Engineer.
5. Warning lights and/or flags may be mounted to signs or channelizing devices at night as needed.
6. Pavement markings no longer applicable which might create confusion in the minds of vehicle operators shall be removed or obliterated as soon as practicable.
7. The G20-1 sign will be required on jobs of over two miles in length. When the lane closure is not at the beginning of the project, the G20-1 sign shall be erected 125' in advance of the job limit. Additional W20-1 (1 MILE) signs are not required in advance of lane closures that begin inside the project limits.
8. Flaggers shall use STOP/SLOW paddles for controlling traffic through work zones. Flags may be used only for emergency situations.
9. All plastic drums and cones shall meet the requirements of NCHRP-350 or Manual For Assessing Safety Hardware (MASH).
10. Trailer mounted devices such as arrow panels and portable changeable message signs shall be delineated by affixing conspicuity material in a continuous line on the face of the trailer. When placed on or adjacent to the shoulder and not behind a positive barrier, these devices shall be delineated by placing five (5) traffic drums, equally spaced along the traffic side of the device.

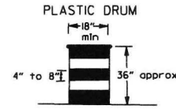
Channelizing devices

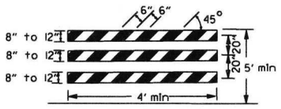












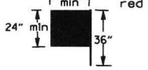
NOTE:
For all road closures, the Type III barricades shall be of sufficient length to extend across entire roadway.

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-1 and vertical panels, drums or concrete barrier
Greater than 3"	Edge of shoulder	*Vertical panels, drums or concrete barrier

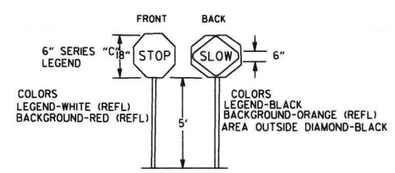
* When shown on the plans concrete barrier will be used.
When the shoulder area is used as part of the traveled lane and there is insufficient width to place drums on the remaining shoulder width, then vertical panels shall be used.

FLAG

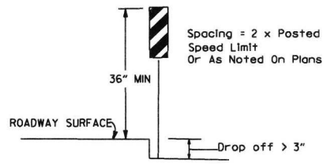


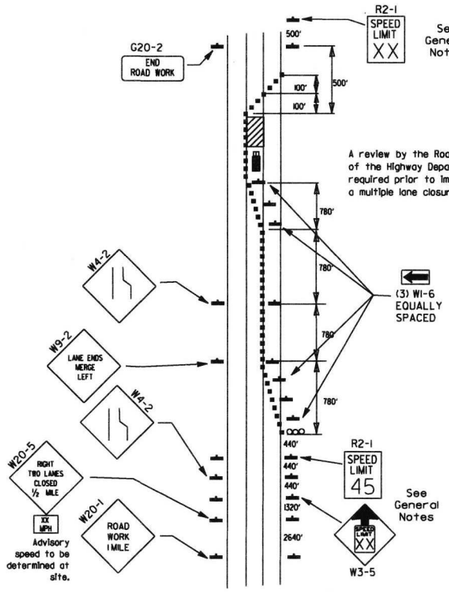
Flag shall be of good grade red material

STOP SLOW PADDLE



VERTICAL PANEL PLACEMENT





A review by the Roadway Design Division of the Highway Department will be required prior to implementing a multiple lane closure.

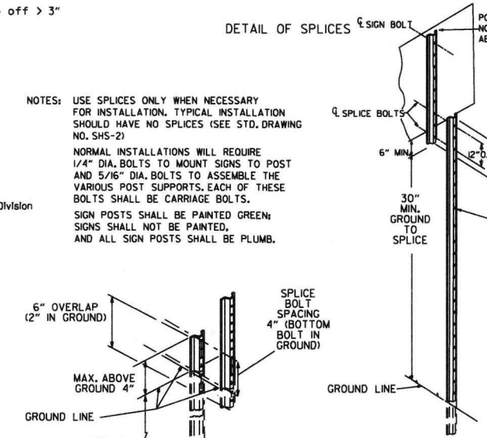
(D) Typical application - closing multiple lanes of a multilane highway.

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.

DETAIL OF SPLICES



DATE	REVISION	FILMED
9-2-15	REVISED NOTE 2 & REPLACED R2-5A WITH W3-5	
10-15-09	ADDED REFERENCE TO MASH	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED NOTE	
10-1-98	ADDED NOTE	
4-03-97	ADDED (SP) TO W6-1& REVISED TRAFFIC CONTROL DEVICES NOTE	
10-18-96	ADDED R55-1	
10-12-95	MOVED UPPER SPLICE	
6-8-95	REVISED SPLICE DETAIL, TEXT	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

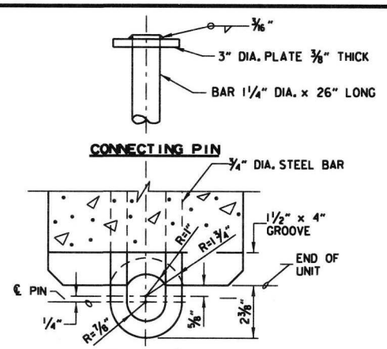
ARKANSAS STATE HIGHWAY COMMISSION

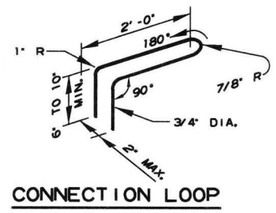
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

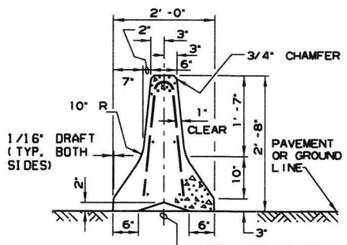
STANDARD DRAWING TC-3

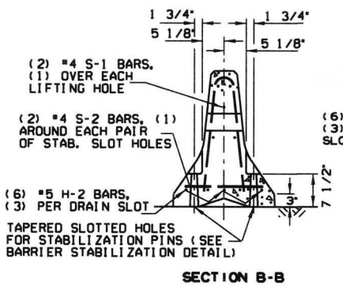
REINFORCING BAR TABLE PER BARRIER UNIT

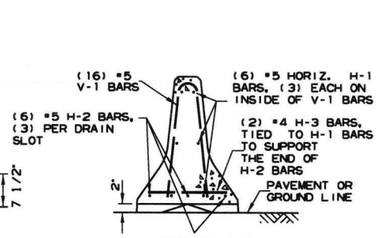
MARK	LOCATION	BAR SIZE	(NO. BARS)	SKETCH
H-1	HORIZONTAL IN BARRIER TIED INSIDE V-1 BARS	#5	(6)	19'-3"
H-2	CENTERED ABOVE DRAIN SLOTS LONG. & TRANSVERSELY	#5	(6)	6'-6"
H-3	TIED ABOVE H-1 BARS TO SUPPORT H-2, TIED TO V-1	#4	(2)	1'-6"
S-1	OVER LIFT HOLES	#4	(2)	2'-5", LIFTING HOLE, 90°, 3 3/8" R
S-2	HORIZ. AROUND SLOTS BETWEEN V-1'S @ DRAIN SLOTS	#4	(2)	1 1/2" R, SLOTS, 7", 1'-6", 1" MIN. CLEAR TO BAR; 5'-1" BAR W/(4) 1 1/2" R BENDS & MIN. 1'-0" OVERLAP
V-1	VERTICAL IN BARRIER(3) EACH END & (2) AT EACH DRAIN SLOTS	#5	(16)	TOTAL LENGTH 4'-9", 2 3/16" R, 12°, 9 1/2", 2'-1 3/8", 4 3/8"

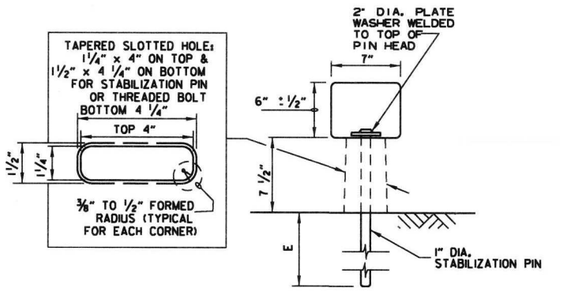




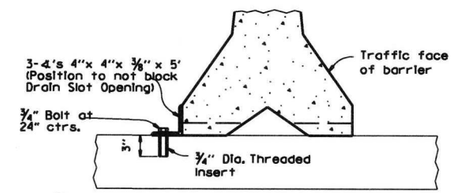




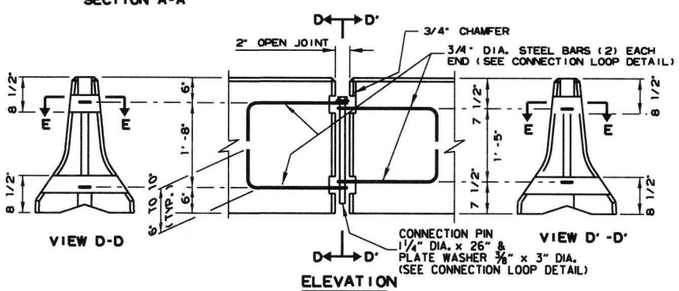


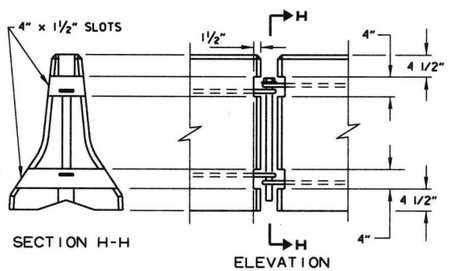


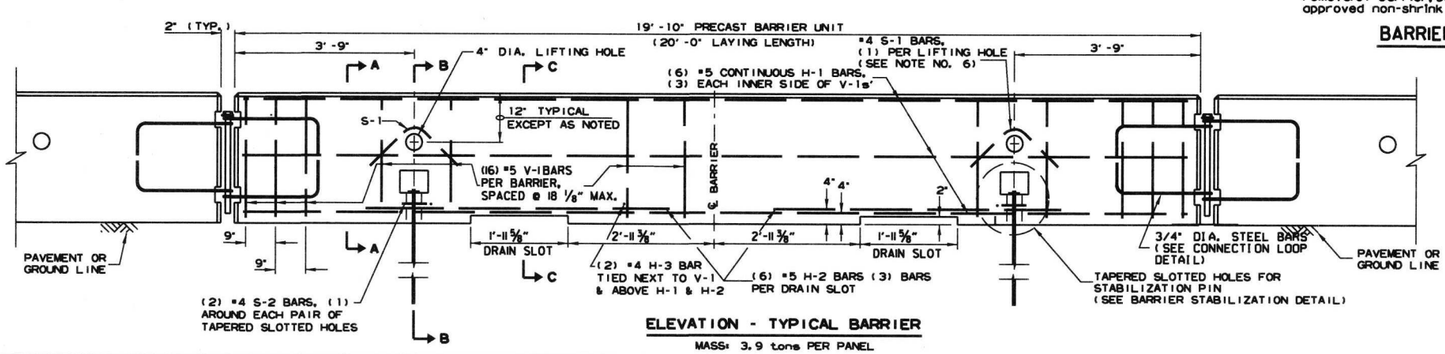
Ⓔ 4" - Concrete Pavement
8" - Asphalt Pavement
12" - Shoulder Areas



NOTE: 3/4" Threaded Inserts shall be cast in place for all new bridge decks and drilled and grouted for existing bridge decks. Inserts shall have a minimum ultimate load capacity of 8000 lbs. in tension. After removal of barrier, bolts, and angles, the inserts shall be filled with approved non-shrink epoxy.







MASS: 3.9 tons PER PANEL

General Notes

1. The contractor shall furnish the Precast Concrete Barrier Units and shall be responsible for the manufacture, shipment, storage, placement and removal. At the completion of the project, the precast units will remain the property of the contractor.
2. Materials shall meet the following minimum requirements:
   Concrete: 2500 psi compressive strength at 28 days.
   Reinforcing Steel: AASHTO M 31 or M 53, Grade 60
   Structural Steel: AASHTO-M270 Grade 36 shall be used for the Connection Pin, Connection Loops, and Stabilization Pins. A One Piece Pin with a 3" rounded top may be used in place of the detailed Connection Pin.
   Delineators: Delineators shall be mounted at 10' spacing on top of precast barrier.

   In applications where barrier walls within 6 feet of a traffic lane, additional delineators shall be placed on the barrier at 10' spacing approximately one (1) foot from the top of the barrier. Delineators shall be on the AHTD Qualified Products List for Construction Concrete Barrier Markers.
   Delineator color shall be in accordance with the Manual on Uniform Traffic Control Devices.
   Payment for delineators shall be considered included in the price bid per Lin. Ft. for "Furnishing and Installing Precast Concrete Barrier". The contractor shall certify to the Engineer that the material and the design used in the precast barrier units meets the requirements as shown on this standard drawing.
3. Other Precast Concrete Barriers that have been crash tested and approved by the Federal Highway Administration to meet the requirements of NCHRP-350 test level 3 or Manual For Assessing Safety Hardware (MASH) will be accepted in lieu of the barrier shown. Drain slots shall be provided as needed or as directed by the Engineer. The Contractor shall furnish a certification of NCHRP Report 350 or Manual For Assessing Safety Hardware (MASH) compliance for any other types of precast barrier to be used. The certification shall state that the precast concrete barrier meets the requirements of NCHRP Report 350 or Manual For Assessing Safety Hardware (MASH) and include a copy of the Federal Highway Administration's (FHWA) approval letter with all attachments. Precast concrete barrier units shall be fabricated and installed in accordance with crash testing and documentation provided in the FHWA approval letter. Mixing of shapes will not be allowed in a continuous line of units.
4. Dowel holes in pavement or bridge slabs that are to remain in place shall be filled. Holes in concrete pavement and bridge slabs shall be filled with an approved non-shrink epoxy grout. Holes in asphalt pavement shall be filled with an approved asphalt joint filler. Payment for drilling and filling holes to be included in the price for various barrier items.
5. Attach Units To Roadway Surface with Stabilization Pins and to Deck Slabs using bolts when required.
6. A 4" White PVC Sleeve may be used to form the Lifting Hole and if used the Sleeve is to be left in place.

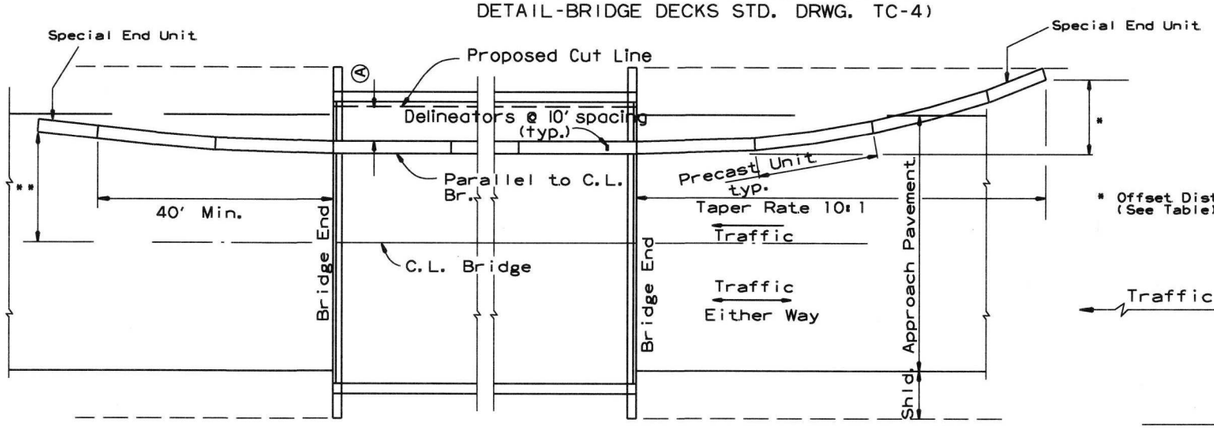
DATE	REVISION	FILMED
2-27-14	REVISED BARRIER STABILIZATION DETAIL	
10-15-09	ADDED REFERENCE TO MASH	
8-5-09	REV. NOTE 3 CONCERNING DRAIN SLOTS	
11-29-07	REVISED NOTE 3	
5-25-06	DELETED GENERAL NOTE 7	
11-18-04	REVISED BARRIER STABILIZATION DETAIL BRIDGE DECKS	
4-10-03	REVISED GENERAL NOTE 2	
8-22-02	ISSUED NEW DRAWING	

ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

STANDARD DRAWING TC-4

Ⓐ 4 feet or greater preferred. If less than 4 feet, Precast Units shall be connected to slab (SEE BARRIER STABILIZATION DETAIL-BRIDGE DECKS STD. DRWG. TC-4)

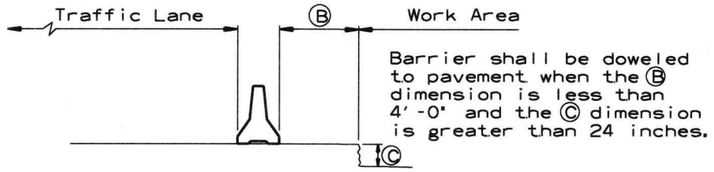


BARRIER PLACEMENT ALONG BRIDGE WITH OFFSET

No Scale

** Offset Distance for Two Way Traffic Only

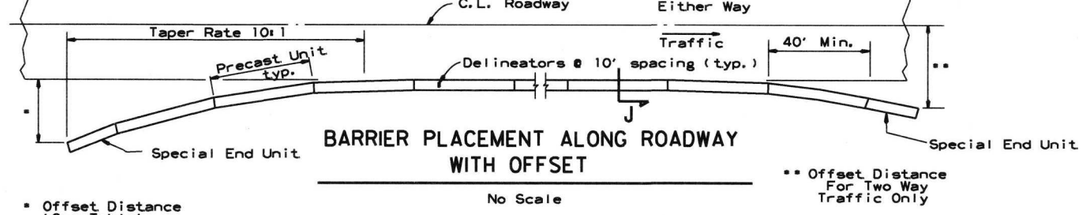
* Offset Distance (See Table)



Barrier shall be doweled to pavement when the Ⓑ dimension is less than 4'-0" and the Ⓒ dimension is greater than 24 inches.

SECTION J-J

No Scale



BARRIER PLACEMENT ALONG ROADWAY WITH OFFSET

No Scale

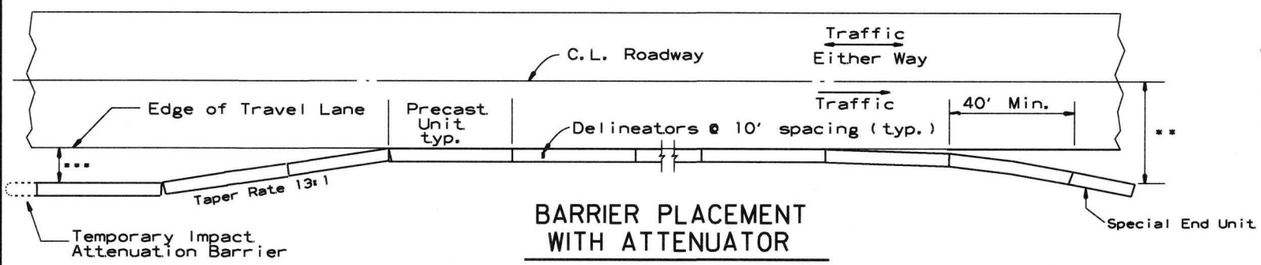
* Offset Distance (See Table)

** Offset Distance For Two Way Traffic Only

Offset Distance Table

Speed (MPH)	Offset Distance (FT.)
≤ 45	12
> 45	18

If offset distance is not attainable, then see "Barrier Placement With Attenuator" Detail shown below.

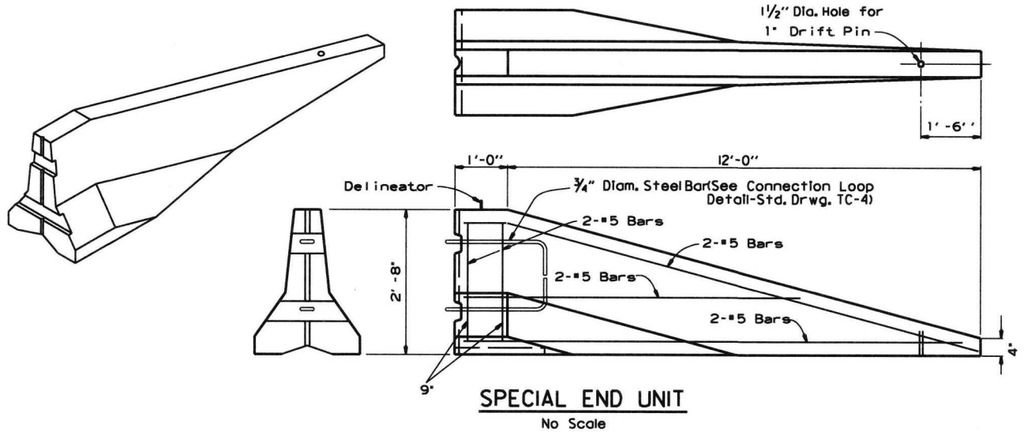


BARRIER PLACEMENT WITH ATTENUATOR

No Scale

*** Min. 3'-0" From Edge of Travel Lane to Nearest Edge of Attenuator

** Offset Distance For Two Way Traffic Only



SPECIAL END UNIT

No Scale

General Notes

When shown on the Plans, the ends of the Temporary Precast Concrete Barrier shall be protected with an NCHRP-350 or Manual For Assessing Safety Hardware (MASH) approved Crash Cushion. Payment for Crash Cushions shall be made under the item of "Temporary Impact Attenuation Barrier."

DATE	REVISION	FILMED
10-15-09	ADDED REFERENCE TO MASH	
5-25-06	REVISED BARRIER PLACEMENT	
8-22-02	ISSUED NEW DRAWING	

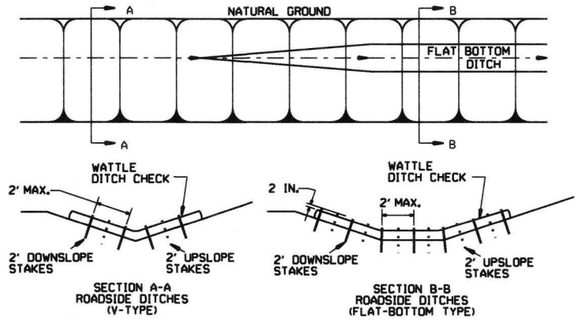
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

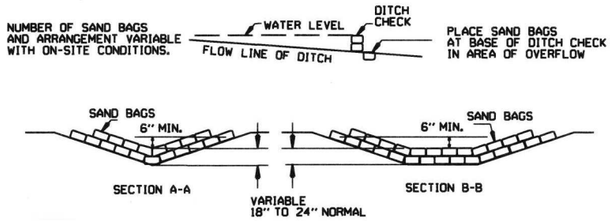
STANDARD DRAWING TC-5

GENERAL NOTES

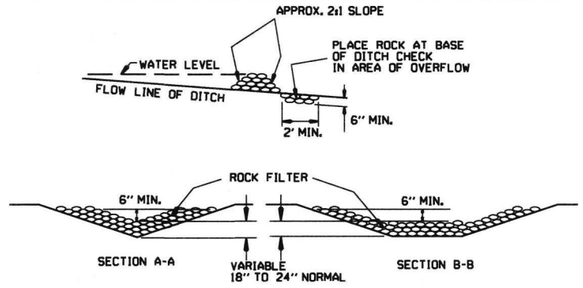
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.



WATTLE DITCH CHECK (E-1)



SAND BAG DITCH CHECK (E-5)

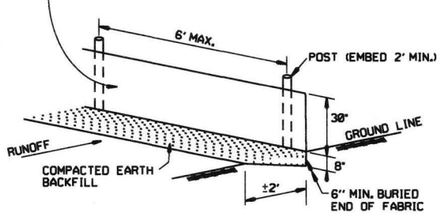


ROCK DITCH CHECK (E-6)

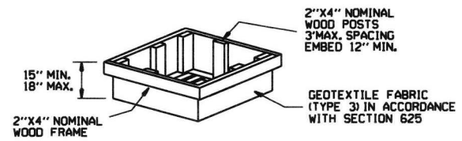
GENERAL NOTES

GEOTEXTILE FABRIC (TYPE 4) IN ACCORDANCE WITH SECTION 625

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

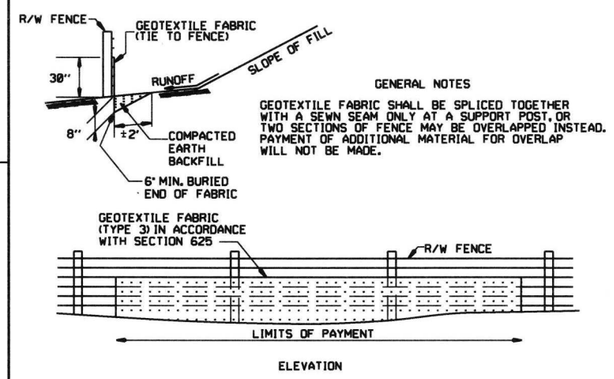


SILT FENCE (E-11)



SECTION C-C

DROP INLET SILT FENCE (E-7)



GENERAL NOTES

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

ELEVATION

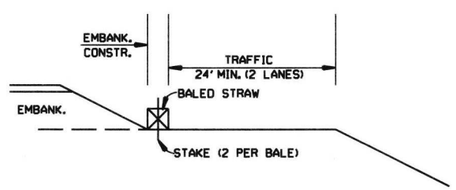
SILT FENCE ON R/W FENCE (E-4)

GENERAL NOTES

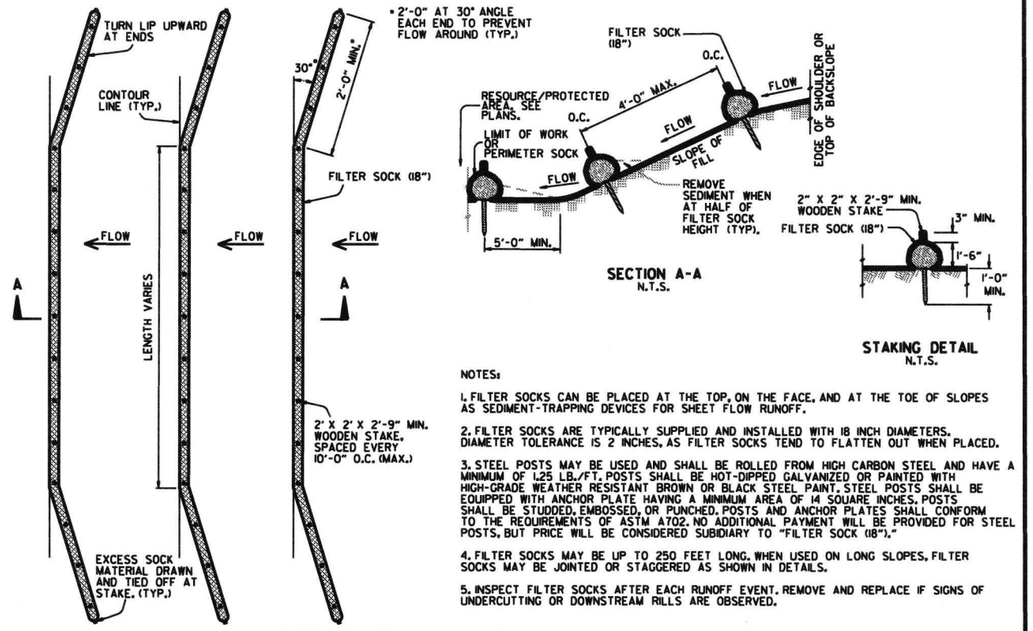
1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.

2. NO GAPS SHALL BE LEFT BETWEEN BALES.

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



BALED STRAW FILTER BARRIER (E-2)



PLAN VIEW
N.T.S.

SECTION A-A
N.T.S.

STAKING DETAIL
N.T.S.

NOTES:

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

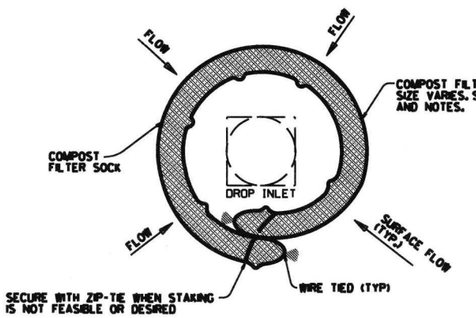
2. FILTER SOCKS ARE TYPICALLY SUPPLIED AND INSTALLED WITH 18 INCH DIAMETERS. DIAMETER TOLERANCE IS 2 INCHES, AS FILTER SOCKS TEND TO FLATTEN OUT WHEN PLACED.

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

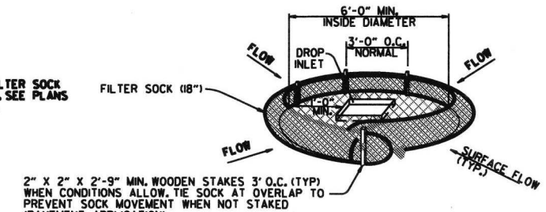
4. FILTER SOCKS MAY BE UP TO 250 FEET LONG. WHEN USED ON LONG SLOPES, FILTER SOCKS MAY BE JOINTED OR STAGGERED AS SHOWN IN DETAILS.

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

FILTER SOCK ALONG SLOPE (E-3)



DROP INLET PLAN VIEW
N.T.S.



DROP INLET PERSPECTIVE VIEW
N.T.S.

NOTES:

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

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

COMPOST FILTER SOCK DROP INLET PROTECTION (E-13)

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

ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

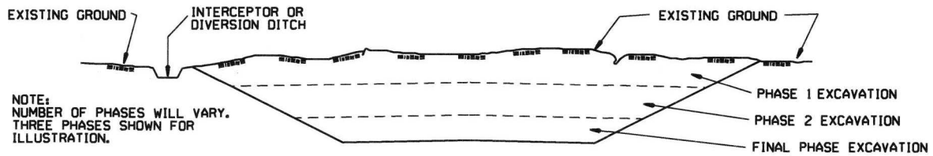
STANDARD DRAWING TEC-1

CLEARING AND GRUBBING

CONSTRUCTION SEQUENCE

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

EXCAVATION



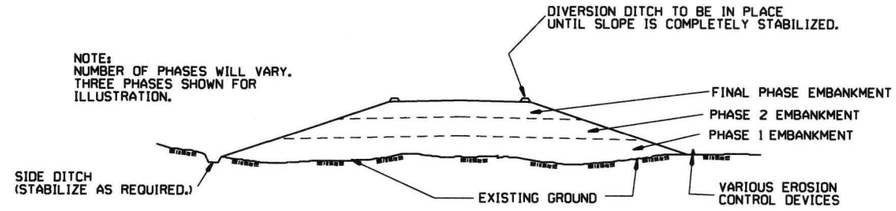
GENERAL NOTE

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

CONSTRUCTION SEQUENCE

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

EMBANKMENT



GENERAL NOTE

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

CONSTRUCTION SEQUENCE

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

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

ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-3