DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	040823	1	17
		HWY. 10S/HWY. 71 SIGNAL (GREENWOOD) (S)				

ARKANSAS DEPARTMENT OF TRANSPORTATION
CONSTRUCTION PLANS FOR STATE HIGHWAY

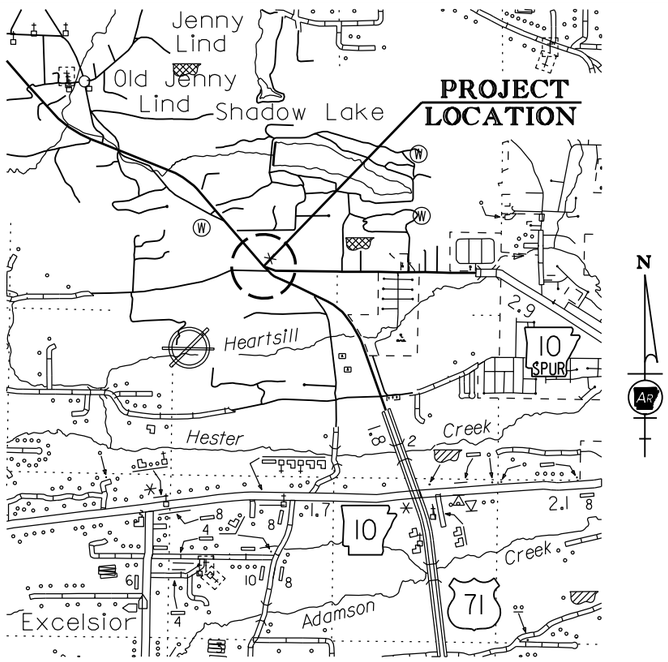
HWY. 10S / HWY. 71 SIGNAL (GREENWOOD) (S)

SEBASTIAN COUNTY
ROUTE 10S SECTION 0
ROUTE 71 SECTION 14

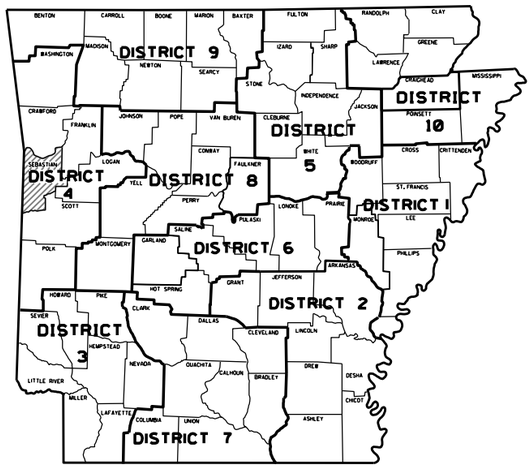
JOB 040823

FED. AID PROJ. NO. STPC-9177(6)

NOT TO SCALE



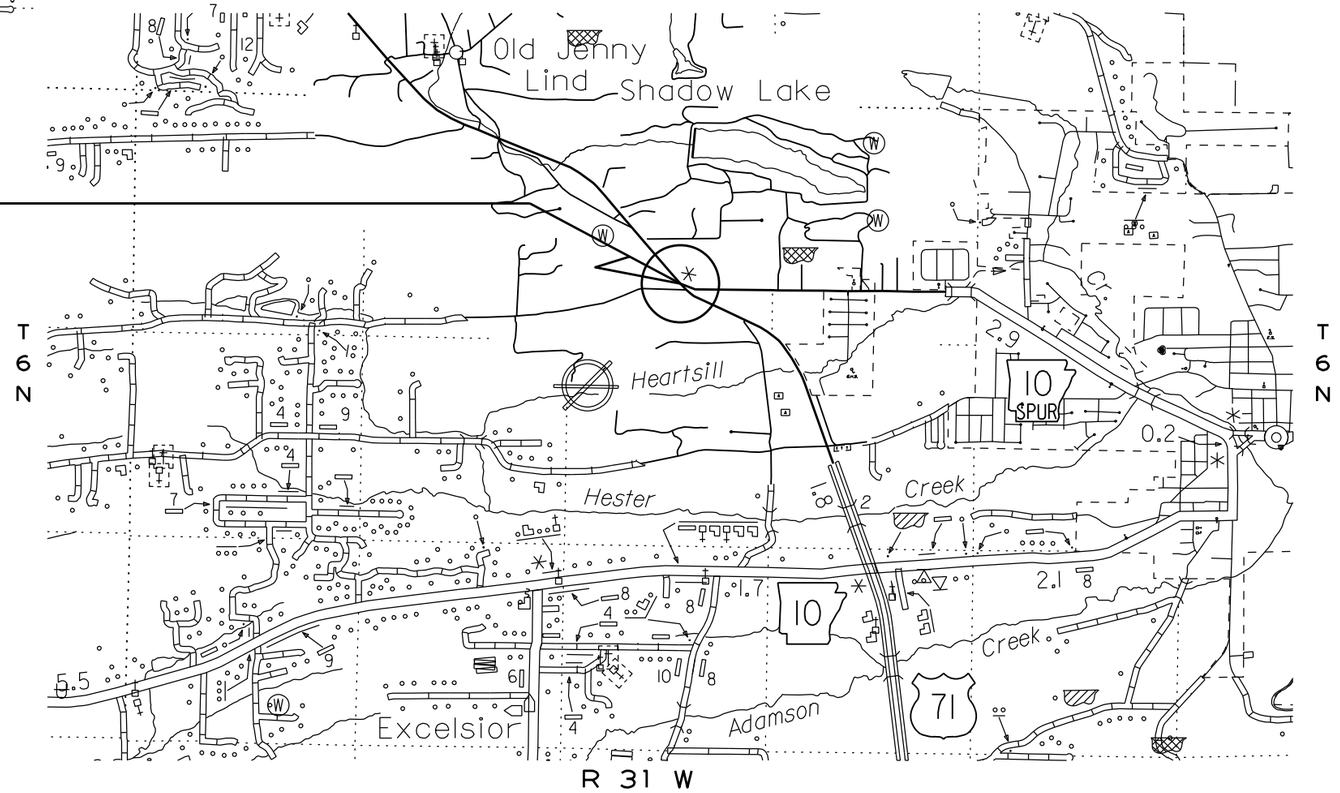
VICINITY MAP



ARKANSAS HWY. DIST. 4

R 31 W

PROJECT LOCATION
LOG MILE 0.00
(HWY. 10S)
LOG MILE 1.66
(HWY. 71)



R 31 W

PROJECT COORDINATES:

	MID-POINT
LAT.	35° 13′ 22″
LON.	94° 18′ 19″

NO LENGTH INVOLVED

GROSS LENGTH OF	PROJECT	000.00	FEET	OR	0.00	MILES
NET	ROADWAY	000.00			0.00	MILES
NET	BRIDGES	000.00			0.00	MILES
NET	PROJECT	000.00			0.00	MILES

APPROVED

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 10045
KELVIN REX VINES

Vines, Rex
Oct 1 2021 10:54 AM

DEPUTY DIRECTOR
AND CHIEF ENGINEER

gwee637 9/1/2021
T040823_JOB.DGN

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	040823	2	17
		INDEX OF SHEETS AND STANDARD DRAWINGS				

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

Sep 29 2021 12:40 PM

DocuSign

INDEX OF SHEETS

SHEET NO.		TITLE
1		TITLE SHEET
2		INDEX OF SHEETS AND STANDARD DRAWINGS
3		GOVERNING SPECIFICATIONS AND GENERAL NOTES
4		SPECIAL DETAIL
5		TEMPORARY EROSION CONTROL DETAIL
6		MAINTENANCE OF TRAFFIC DETAIL
7		PERMANENT PAVEMENT MARKING DETAIL
8		QUANTITIES
9		SUMMARY OF QUANTITIES AND REVISIONS
10	- 11	SURVEY CONTROL DETAILS
12		TRAFFIC SIGNAL QUANTITIES
13		TRAFFIC SIGNAL NOTES
14	- 17	SIGNALIZATION PLAN SHEETS

ROADWAY STANDARD DRAWINGS

DRWG.NO.	TITLE	DATE
CG-1	CURBING DETAILS	11-29-07
DR-1	DETAILS OF DRIVEWAYS & ISLANDS	11-07-19
PM-1	PAVEMENT MARKING DETAILS	02-27-20
SD-4	LOOP DETECTOR INSTALLATION	11-07-19
SD-5	CONTROLLER CABINET UTILITY DRAWER	09-12-13
SD-6	HEAVY DUTY PULL BOX	11-16-17
SD-8	SIGNAL HEAD PLACEMENT	12-08-16
SD-9	SERVICE POINT	11-07-19
SD-11	STEEL POLE WITH MAST ARM	11-16-17
TC-1	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	11-07-19
TC-2	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	05-20-21
TC-3	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	08-12-21
TEC-1	TEMPORARY EROSION CONTROL DEVICES	11-16-17

gwee637 9/1/2021
T040823_JDB.DGN

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	040823	3	17
		GOVERNING SPECIFICATIONS AND GEN. NOTES				

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

Sep 29 2021 12:35 PM

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
306-1_____	QUALITY CONTROL AND ACCEPTANCE
603-1_____	LANE CLOSURE NOTIFICATION
604-1_____	RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
604-3_____	TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES (MASH)
632-1_____	CONCRETE ISLAND
700-2_____	TRAFFIC CONTROL FACILITIES
JOB 040823__	ACTUATED CONTROLLER
JOB 040823__	BIDDING REQUIREMENTS AND CONDITIONS
JOB 040823__	CABINET DRAWER ASSEMBLY
JOB 040823__	CARGO PREFERENCE ACT REQUIREMENTS
JOB 040823__	DOCUMENTATION OF PAYMENTS MADE TO DISADVANTAGED BUSINESS ENTERPRISES
JOB 040823__	EDGE CARD VIDEO PROCESSOR
JOB 040823__	ELECTRICAL CONDUCTORS FOR LUMINAIRES
JOB 040823__	ELECTRICAL CONDUCTORS-IN-CONDUIT
JOB 040823__	ESTABLISHING CONTRACT TIME – WORKING DAY CONTRACT
JOB 040823__	LED LUMINAIRE ASSEMBLY (BUG U0 TYPE)
JOB 040823__	LED TRAFFIC SIGNAL HEAD
JOB 040823__	LOOP WIRING REVISION 1.4
JOB 040823__	MANDATORY ELECTRONIC CONTRACT
JOB 040823__	MANDATORY ELECTRONIC DOCUMENT SUBMITTAL
JOB 040823__	PROHIBITION OF CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT
JOB 040823__	REMOVAL OF TRAFFIC SIGNAL EQUIPMENT
JOB 040823__	RETROREFLECTIVE BACKPLATES
JOB 040823__	SERVICE POINT ASSEMBLY (TRAFFIC CONTROL DEVICES)
JOB 040823__	VIDEO DETECTOR (COLOR)

GENERAL NOTES

1. ALL PIPE LINES POWER, TELEPHONE, AND TELEGRAPH LINES TO BE MOVED OR LOWERED BY THE RESPECTIVE OWNERS AS PER AGREEMENT WITH SUCH OWNERS.

2. 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.

3. ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE STANDARD SPECIFICATIONS.

4. ALL TREES THAT DO NOT DIRECTLY INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE SPARED AS DIRECTED BY THE ENGINEER. CARE AND DISCRETION SHALL BE USED TO ENSURE THAT ALL TREES NOT TO BE REMOVED SHALL BE HARMED AS LITTLE AS POSSIBLE DURING THE CONSTRUCTION OPERATIONS.

gwee637 9/1/2021
T040823_JDB.DGN

GOVERNING SPECIFICATIONS AND GENERAL NOTES

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	040823	4	17
		SPECIAL DETAIL				

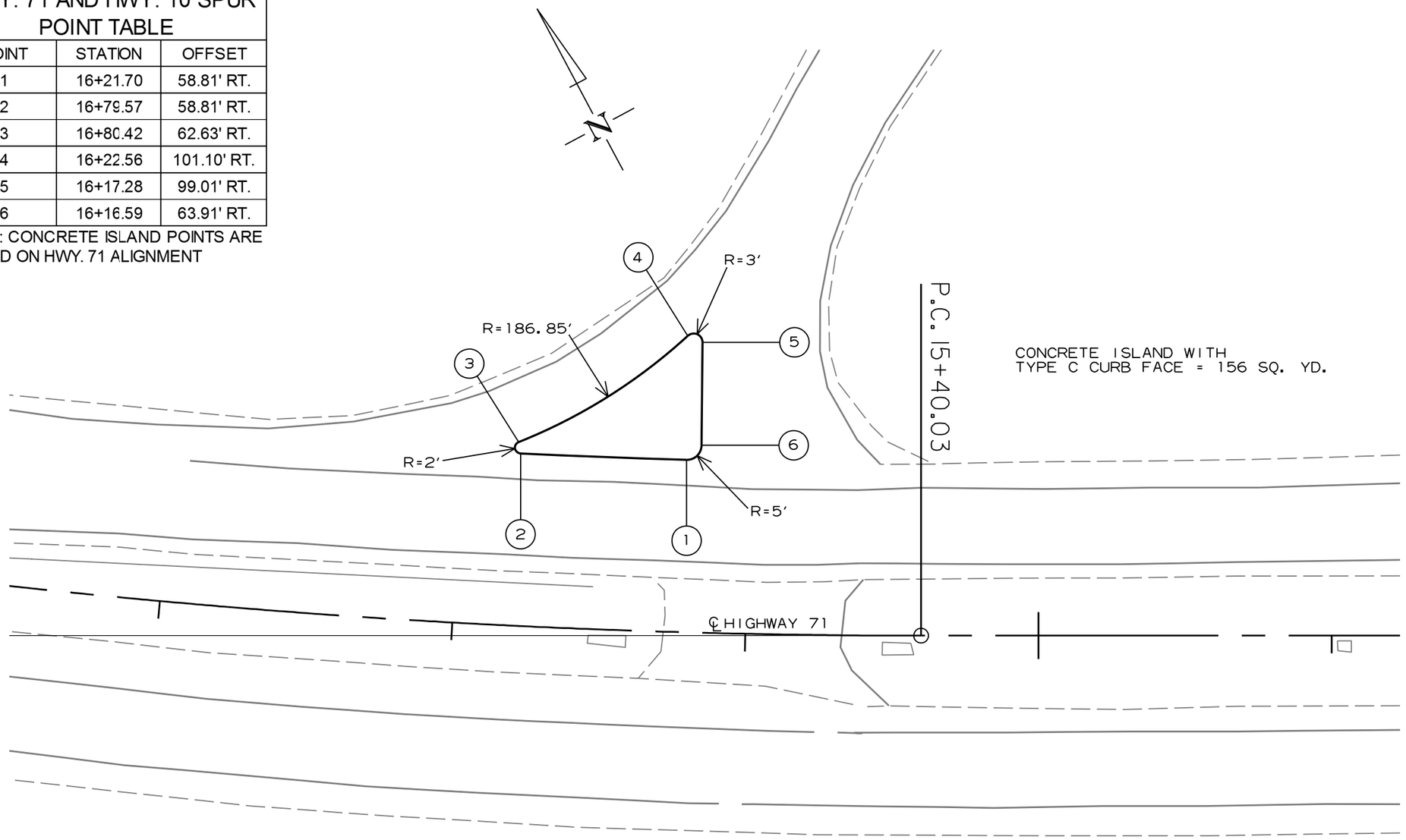
STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Sep 29 2021 12:35 PM

DocuSigned

HWY. 71 AND HWY. 10 SPUR POINT TABLE		
POINT	STATION	OFFSET
1	16+21.70	58.81' RT.
2	16+79.57	58.81' RT.
3	16+80.42	62.63' RT.
4	16+22.56	101.10' RT.
5	16+17.28	99.01' RT.
6	16+16.59	63.91' RT.

NOTE: CONCRETE ISLAND POINTS ARE BASED ON HWY. 71 ALIGNMENT



ISLAND DETAIL
TYPE C CURB FACE

5

gwee637 9/1/2021
T040823_01.DGN

SPECIAL DETAIL

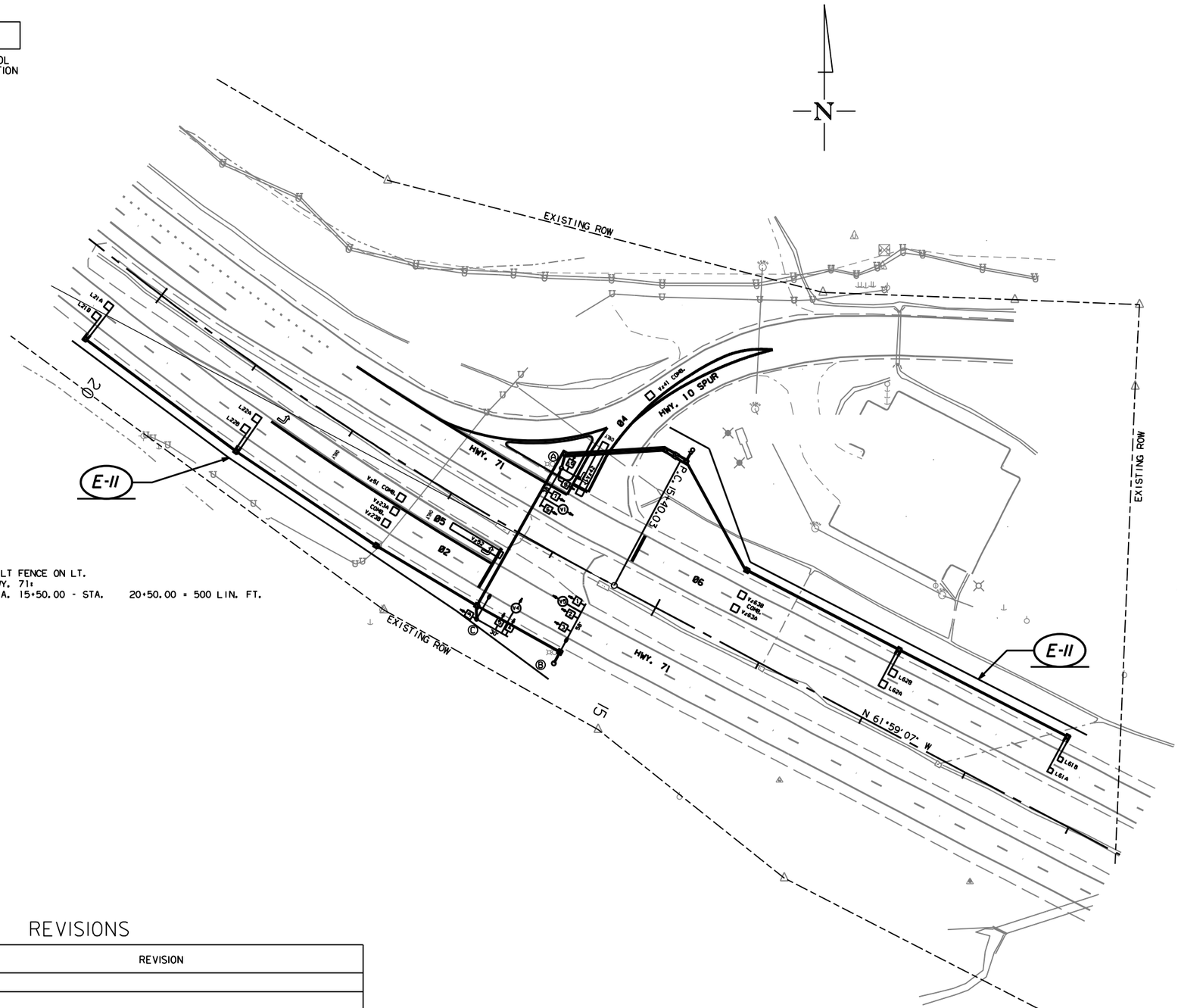
DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	040823	5	17
		TEMPORARY EROSION CONTROL DETAIL				

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Sep 29 2021 12:35 PM

LEGEND

E-II = SILT FENCE

NOTE: RETAIN ALL EROSION CONTROL DEVICES UNTIL END OF CONSTRUCTION UNLESS OTHERWISE NOTED.



E-II SILT FENCE ON LT.
HWY. 71:
STA. 15+50.00 - STA. 20+50.00 = 500 LIN. FT.

E-II SILT FENCE ON RT.
HWY. 71:
STA. 11+00.00 - STA. 15+50.00 = 465 LIN. FT.

REVISIONS

DATE OF REVISION	REVISION

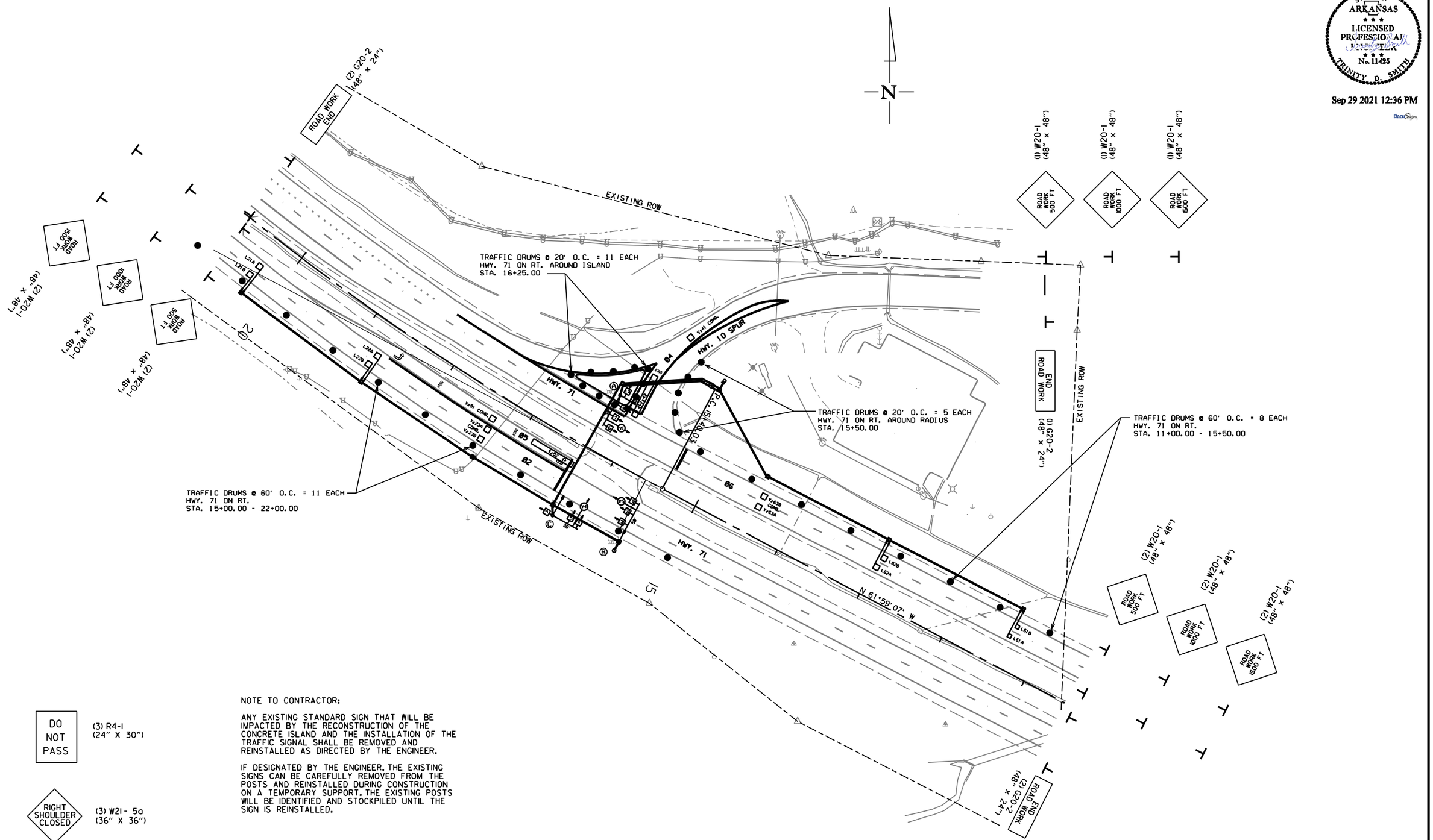
gwee637 9/1/2021
T040823_01.DGN

TEMPORARY EROSION CONTROL DETAIL

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	040823	6	17
		MAINTENANCE OF TRAFFIC DETAIL				

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

Sep 29 2021 12:36 PM



DO NOT PASS — (3) R4-1 (24" X 30")

RIGHT SHOULDER CLOSED — (3) W21-5a (36" X 36")

TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER

NOTE TO CONTRACTOR:

ANY EXISTING STANDARD SIGN THAT WILL BE IMPACTED BY THE RECONSTRUCTION OF THE CONCRETE ISLAND AND THE INSTALLATION OF THE TRAFFIC SIGNAL SHALL BE REMOVED AND REINSTALLED AS DIRECTED BY THE ENGINEER.

IF DESIGNATED BY THE ENGINEER, THE EXISTING SIGNS CAN BE CAREFULLY REMOVED FROM THE POSTS AND REINSTALLED DURING CONSTRUCTION ON A TEMPORARY SUPPORT. THE EXISTING POSTS WILL BE IDENTIFIED AND STOCKPILED UNTIL THE SIGN IS REINSTALLED.

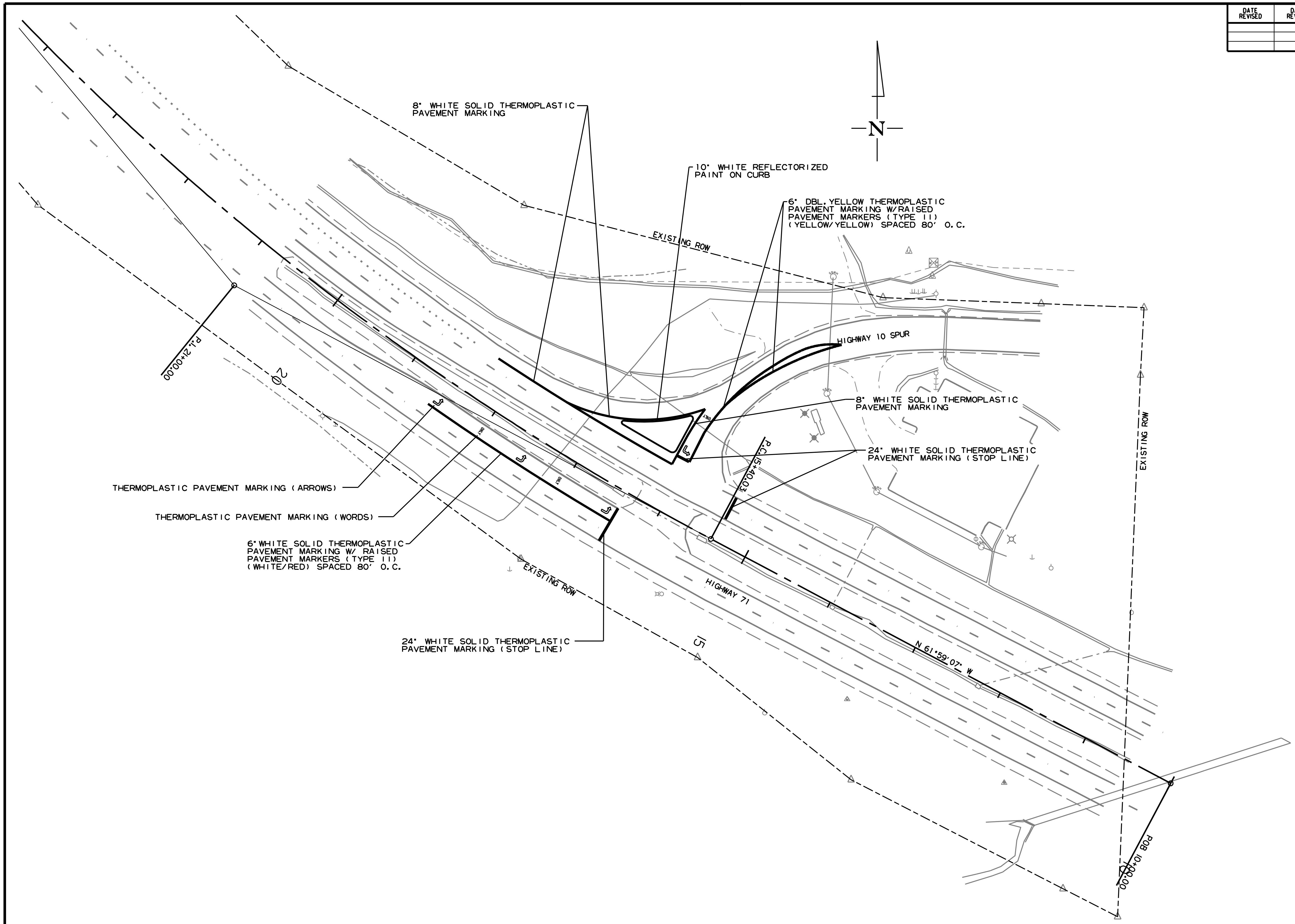
gwee637 9/1/2021
T040823_01.DGN

MAINTENANCE OF TRAFFIC DETAIL

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	040823	7	17
		PERMANENT PAVEMENT MARKING DETAIL				

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

Sep 29 2021 12:36 PM



N
8" WHITE SOLID THERMOPLASTIC PAVEMENT MARKING
10" WHITE REFLECTORIZED PAINT ON CURB
6" DBL. YELLOW THERMOPLASTIC PAVEMENT MARKING W/RAISED PAVEMENT MARKERS (TYPE II) (YELLOW/YELLOW) SPACED 80' O.C.
EXISTING ROW
HIGHWAY 10 SPUR
8" WHITE SOLID THERMOPLASTIC PAVEMENT MARKING
24" WHITE SOLID THERMOPLASTIC PAVEMENT MARKING (STOP LINE)
P.C.15+40.03
EXISTING ROW
P.I.21+00.00
20
THERMOPLASTIC PAVEMENT MARKING (ARROWS)
THERMOPLASTIC PAVEMENT MARKING (WORDS)
6"WHITE SOLID THERMOPLASTIC PAVEMENT MARKING W/ RAISED PAVEMENT MARKERS (TYPE II) (WHITE/RED) SPACED 80' O.C.
EXISTING ROW
HIGHWAY 71
24" WHITE SOLID THERMOPLASTIC PAVEMENT MARKING (STOP LINE)
15
N 61°59'07" W
POB 10+00.00

PERMENANT PAVEMENT MARKING DETAIL

gwee637 9/1/2021
T040823_01.DGN

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	040823	8	17
		QUANTITIES				

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

Sep 29 2021 12:36 PM

DocuSigned

ADVANCE WARNING SIGNS AND DEVICES

SIGN NUMBER	DESCRIPTION	SIGN SIZE	JOB TOTAL	TOTAL SIGNS REQUIRED		TRAFFIC DRUMS
			LIN. FT. - EACH	NO.	SQ. FT.	EACH
W20-1	ROAD WORK 1500 FT.	48"x48"	5	5	80.0	
W20-1	ROAD WORK 1000 FT.	48"x48"	5	5	80.0	
W20-1	ROAD WORK 500 FT.	48"x48"	5	5	80.0	
G20-2	END ROAD WORK	48"x24"	5	5	40.0	
R4-1	DO NOT PASS	24"x30"	3	3	15.0	
W21-5a	RIGHT SHOULDER CLOSED	36"x36"	3	3	27.0	
	TRAFFIC DRUMS					35
TOTALS:					**322.0**	**35**

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

EROSION CONTROL

STATION	STATION	LOCATION	PERMANENT EROSION CONTROL		TEMPORARY EROSION CONTROL		
			WATER	SOLID SODDING	SAND BAG DITCH CHECKS (E-5)	SILT FENCE (E-11)	*SEDIMENT REMOVAL & DISPOSAL
			M.GAL.	SQ.YD.	BAG	LIN. FT.	CU. YD.
ENTIRE	PROJECT	HWY. 71	0.6	45		965	36
*ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.					44		2
TOTALS:			**0.6**	**45**	**44**	**965**	**38**

BASIS OF ESTIMATE:
WATER.....12.6 GAL. / SQ. YD. OF SOLID SODDING
SAND BAG DITCH CHECKS.....22 BAGS / LOCATION

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

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

REMOVAL AND DISPOSAL OF ITEMS

STATION	LOCATION	CONCRETE ISLANDS
		SQ. YD.
16+21.70	HWY. 71 - 58.81' RT.	156
TOTAL:		**156**

CONCRETE ISLAND

STATION	LOCATION	CURB FACE TYPE	CONCRETE ISLAND
			SQ.YD.
16+21.70	HWY. 71 - 58.81' RT.	C	156
TOTAL:			**156**

CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS

DESCRIPTION	END OF JOB	REMOVAL OF PERMANENT PAVEMENT MARKINGS	RAISED PAVEMENT MARKERS		THERMOPLASTIC PAVEMENT MARKING						REFLECTORIZED PAINT PAVEMENT MARKING
			TYPE II (WHITE/RED)	TYPE II (YELLOW/YELLOW)	6" WHITE	6" YELLOW	8" WHITE	24" WHITE	WORDS	ARROWS	10" WHITE
	LIN. FT. - EACH	LIN. FT.	EACH		LIN. FT.				EACH		LIN. FT.
REMOVAL OF PERMANENT PAVEMENT MARKINGS	400	400									
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED)	3		3								
RAISED PAVEMENT MARKERS TYPE II (YELLOW/YELLOW)	6			6							
THERMOPLASTIC PAVEMENT MARKING WHITE (6")	225				225						
THERMOPLASTIC PAVEMENT MARKING YELLOW (6")	690					690					
THERMOPLASTIC PAVEMENT MARKING WHITE (8")	420						420				
THERMOPLASTIC PAVEMENT MARKING WHITE (24")	88							88			
THERMOPLASTIC PAVEMENT MARKING (WORDS)	3								3		
THERMOPLASTIC PAVEMENT MARKING (ARROWS)	4									4	
REFLECTORIZED PAINT PAVEMENT MARKING WHITE (10")	180										180
TOTALS:		**400**	**3**	**6**	**225**	**690**	**420**	**88**	**3**	**4**	**180**

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

gwee637 9/1/2021
T040823_JOB.DGN

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	040823	9	17
		SUMMARY OF QUANTITIES AND REVISIONS				

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

Sep 29 2021 12:36 PM

DocuSigned

SUMMARY OF QUANTITIES

ITEM NUMBER	ITEM	QUANTITY	UNIT
202	REMOVAL AND DISPOSAL OF CONCRETE ISLANDS	156	SQ. YD.
601	MOBILIZATION	1.00	LUMP SUM
SS & 603	MAINTENANCE OF TRAFFIC	1.00	LUMP SUM
SS & 604	SIGNS	322	SQ. FT.
SS & 604	TRAFFIC DRUMS	35	EACH
604	REMOVAL OF PERMANENT PAVEMENT MARKINGS	400	LIN. FT.
620	WATER	0.6	M. GAL.
621	SILT FENCE	965	LIN. FT.
621	SAND BAG DITCH CHECKS	44	BAG
621	SEDIMENT REMOVAL AND DISPOSAL	38	CU. YD.
624	SOLID SODDING	45	SQ. YD.
SS & 632	CONCRETE ISLAND	156	SQ. YD.
635	ROADWAY CONSTRUCTION CONTROL	1.00	LUMP SUM
SP & 701	ACTUATED CONTROLLER TS2-TYPE 2 (8 PHASES)	1	EACH
SP	LOOP WIRING CLASS III (1C/16 A.W.G.)	784	LIN. FT.
704	FEEDER WIRE	1927	LIN. FT.
SP & 706	TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1 WAY)	9	EACH
SP & 706	TRAFFIC SIGNAL HEAD, LED, (4 SECTION, 1 WAY)	1	EACH
708	TRAFFIC SIGNAL CABLE (5C/14 A.W.G.)	443	LIN. FT.
708	TRAFFIC SIGNAL CABLE (7C/14 A.W.G.)	95	LIN. FT.
708	TRAFFIC SIGNAL CABLE (20C/14 A.W.G.)	786	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/8 A.W.G., E.G.C.)	523	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/12 A.W.G., E.G.C.)	178	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/6 A.W.G.)	50	LIN. FT.
SP	ELECTRICAL CONDUCTORS FOR LUMINAIRES	961	LIN. FT.
709	GALVANIZED STEEL CONDUIT (2")	20	LIN. FT.
710	NON-METALLIC CONDUIT (1")	320	LIN. FT.
710	NON-METALLIC CONDUIT (1.25")	80	LIN. FT.
710	NON-METALLIC CONDUIT (2")	584	LIN. FT.
710	NON-METALLIC CONDUIT (3")	522	LIN. FT.
711	CONCRETE PULL BOX (TYPE 1 HD)	6	EACH
711	CONCRETE PULL BOX (TYPE 2 HD)	5	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (30')	1	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (38')	1	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (58')	1	EACH
SP	LED LUMINAIRE ASSEMBLY	3	EACH
SP	SERVICE POINT ASSEMBLY (2 CIRCUITS)	1	EACH
SP	REMOVAL OF TRAFFIC SIGNAL EQUIPMENT	1.00	LUMP SUM
718	REFLECTORIZED PAINT PAVEMENT MARKING WHITE (10")	180	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING WHITE (6")	225	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING WHITE (8")	420	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING WHITE (24")	88	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING YELLOW (6")	690	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING (WORDS)	3	EACH
719	THERMOPLASTIC PAVEMENT MARKING (ARROWS)	4	EACH
721	RAISED PAVEMENT MARKERS (TYPE II)	9	EACH
SP & 733	VIDEO DETECTOR (CLR)	4	EACH
733	VIDEO CABLE	988	LIN. FT.
733	VIDEO MONITOR (CLR)	1	EACH
SP & 733	VIDEO PROCESSOR, EDGE CARD (2 CAMERA)	4	EACH
SP & 733	VEHICLE DETECTOR RACK (16 CHANNEL)	1	EACH

REVISIONS

DATE	REVISION	SHEET NUMBER

gwee637 9/1/2021
T040823_JDB.DGN

SUMMARY OF QUANTITIES AND REVISIONS

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	040823	10	17
		SURVEY CONTROL DETAILS				

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

Sep 29 2021 12:37 PM

SURVEY CONTROL COORDINATES

Project Name: s040823
Date: 9/30/2020
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	331227.6850	624931.7913	584.988	CTL	ARDOT STD. MON. STAMPED PN: 1
2	331542.9572	624458.2725	600.262	CTL	ARDOT STD. MON. STAMPED PN: 2
3	331831.8250	623907.2841	617.670	CTL	ARDOT STD. MON. STAMPED PN: 3
4	332522.0190	623060.5515	622.135	CTL	ARDOT STD. MON. STAMPED PN: 4
5	331951.1310	624364.5764	631.142	CTL	ARDOT STD. MON. STAMPED PN: 5
6	331930.2833	624983.3426	637.916	CTL	ARDOT STD. MON. STAMPED PN: 6
7	331944.0967	625672.1647	626.268	CTL	ARDOT STD. MON. STAMPED PN: 7
100	331981.9775	623375.6328	629.089	GPS	ARDOT GPS *650005
101	333196.4118	622413.7976	613.731	GPS	ARDOT GPS *650041
901	331236.5645	624911.3028	583.416	TBM	SQ.CUT SE COR DI
902	331562.3305	624476.2551	594.727	TBM	ARDOT BM ALUMCAP W/CENTER PUNCH
903	331852.5346	623914.4076	615.047	TBM	SQ.CUT IN RCP HDWL,E OF 71 / S OF 10S
904	331934.6592	624505.4562	631.652	TBM	SQ.CUT NE COR DI,S OF HWY 10S

*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 0.999936797722 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 s040823gi.ctl
HORIZONTAL DATUM: NAD 83 (19XX)
VERTICAL DATUM: NAVD 88 POSITIONAL ACCURACY THIRD ORDER, UNLESS SPECIFIED OTHERWISE AT A SPECIFIC POINT.

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

BASIS OF BEARING:
ARKANSAS STATE PLANE GRID BEARINGS - 0301-NORTH ZONE
DETERMINED FROM GPS CONTROL POINTS: 650005 - 650041
CONVERGENCE ANGLE: 1°20'29.19" LEFT AT LT: N 35°13'22.11" LG: W 94°18'19.02"
GRID AZIMUTH = ASTRONOMICAL AZIMUTH - CONVERGENCE ANGLE.

HWY. 71

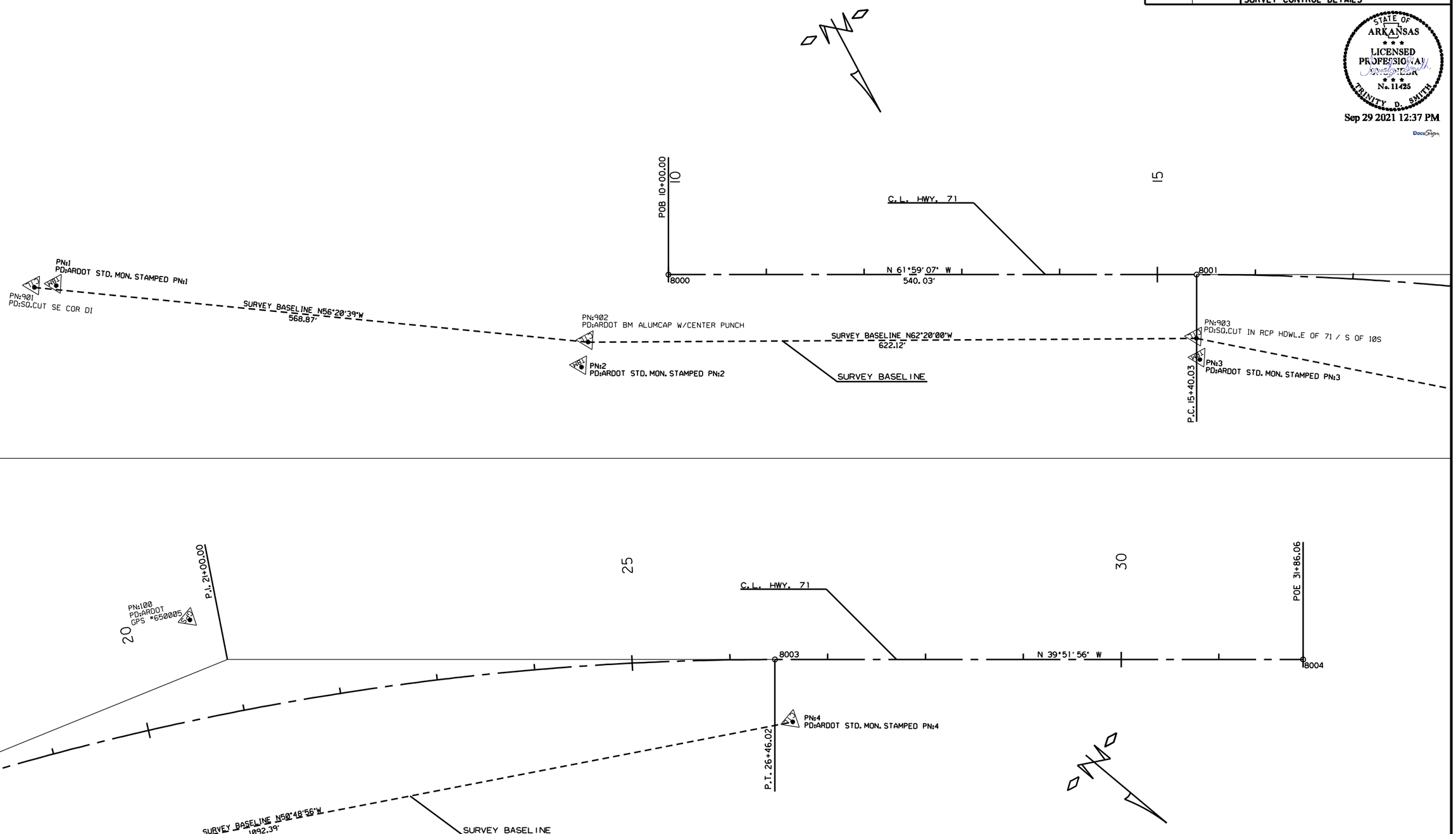
POINT NO.	TYPE	STATION	NORTHING	EASTING
8000	POB	10+00.00	331520.5612	624353.3285
8001	PC	15+40.03	331774.2135	623876.5733
8003	PT	26+46.02	332467.0334	623023.2867
8004	POE	31+86.06	332881.5361	622677.1328

gwee637 9/1/2021
T040823_01.DGN

SURVEY CONTROL DETAILS

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	040823	11	17
		SURVEY CONTROL DETAILS				

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Sep 29 2021 12:37 PM



P. I. - 21+00.00
Δ - 22°07'11" RT.
D - 2°00'00"
T - 559.97'
L - 1105.99'
P. C. - 15+40.03
P. T. - 26+46.02

gwee637 9/1/2021
T040823_01.DGN

SURVEY CONTROL DETAILS

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	040823	12	17
		TRAFFIC SIGNAL QUANTITIES				

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

Sep 29 2021 12:38 PM

DocuSign

TRAFFIC SIGNAL QUANTITIES

	ITEM NUMBER	ITEM	QUANTITY	UNIT
	SP & 701	ACTUATED CONTROLLER TS2-TYPE 2 (8 PHASES)	1	EACH
	SP	LOOP WIRING CLASS III (1C/16 A.W.G.)	784	LIN. FT.
	704	FEEDER WIRE	1927	LIN. FT.
	SP & 706	TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1 WAY)	9	EACH
	SP & 706	TRAFFIC SIGNAL HEAD, LED, (4 SECTION, 1 WAY)	1	EACH
	708	TRAFFIC SIGNAL CABLE (5C/14 A.W.G.)	443	LIN. FT.
	708	TRAFFIC SIGNAL CABLE (7C/14 A.W.G.)	95	LIN. FT.
	708	TRAFFIC SIGNAL CABLE (20C/14 A.W.G.)	786	LIN. FT.
	SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/8 A.W.G., E.G.C.)	523	LIN. FT.
	SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/12 A.W.G., E.G.C.)	178	LIN. FT.
	SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/6 A.W.G.)	50	LIN. FT.
	SP	ELECTRICAL CONDUCTORS FOR LUMINAIRES	961	LIN. FT.
	709	GALVANIZED STEEL CONDUIT (2")	20	LIN. FT.
	710	NON-METALLIC CONDUIT (1")	320	LIN. FT.
	710	NON-METALLIC CONDUIT (1.25")	80	LIN. FT.
	710	NON-METALLIC CONDUIT (2")	584	LIN. FT.
	710	NON-METALLIC CONDUIT (3")	522	LIN. FT.
	711	CONCRETE PULL BOX (TYPE 1 HD)	6	EACH
	711	CONCRETE PULL BOX (TYPE 2 HD)	5	EACH
	SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (30')	1	EACH
	SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (38')	1	EACH
	SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (58')	1	EACH
	SP	LED LUMINAIRE ASSEMBLY	3	EACH
	SP	SERVICE POINT ASSEMBLY (2 CIRCUITS)	1	EACH
	SP	REMOVAL OF TRAFFIC SIGNAL EQUIPMENT	1.00	LUMP SUM
*	SP & 733	VIDEO DETECTOR (CLR)	4	EACH
	733	VIDEO CABLE	988	LIN. FT.
	733	VIDEO MONITOR (CLR)	1	EACH
*	SP & 733	VIDEO PROCESSOR, EDGE CARD (2 CAMERA)	4	EACH
	SP & 733	VEHICLE DETECTOR RACK (16 CHANNEL)	1	EACH

* ONE SPARE VIDEO DETECTOR AND ONE SPARE VIDEO PROCESSOR SHALL BE SUPPLIED

DATE: 09-01-2021 FILE NAME: t040823_01.dgn

LOCATION: HWY. 71/HWY. 10S
CITY: GREENWOOD
COUNTY: SEBASTIAN
DISTRICT: 04 SCALE: N/A DRAWN BY: GWE

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	040823	13	17
		TRAFFIC SIGNAL NOTES				

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

Sep 29 2021 12:39 PM

DocuSigned

TRAFFIC SIGNAL NOTES:

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

2. EXTEND GREEN EQUIPMENT GROUNDING CONDUCTOR (E.G.C.) FROM GROUND BAR AT MAIN BREAKER TO CONTROL PANEL AND TO FIRST POLE. SOLIDLY BOND E.G.C. TO GROUND LUG OF CONTROL CABINET AND TO POLE GROUND. ENSURE THAT ONLY ONE NEUTRAL-TO-GROUND BOND EXISTS IN THE SYSTEM AND THAT IT IS AT THE MAIN BREAKER.

3. ELECTRICAL SERVICE SHALL BE PROVIDED BY THE CITY/COUNTY TO A SERVICE POLE WITH EXTERNAL RAINTIGHT BREAKER (MAIN BREAKER), GALVANIZED STEEL SERVICE RISER, METER LOOP (IF REQUIRED), AND WEATHERHEAD AT A MUTUALLY ACCEPTABLE POINT WITHIN THE RIGHT-OF-WAY. IF THE SERVICE POINT IS OVER 10 FEET FROM THE CONTROLLER, THE CONTRACTOR SHALL PROVIDE AND INSTALL A SEPARATE TWO CIRCUIT EXTERNAL BREAKER (SECONDARY BREAKER) ON OR NEAR THE TRAFFIC SIGNAL CONTROLLER CABINET AND SHALL INSTALL CONDUIT, ELECTRICAL SERVICE WIRE (2c#6 A.W.G. USE RATED, WITH GROUND TYPICAL), AND PERFORM WIRING TO TAP INTO THE CITY'S/ COUNTY'S MAIN BREAKER AS PART OF THIS CONTRACT. CONDUIT IS PAID FOR AS A SEPARATE ITEM OF THIS CONTRACT. TWO CIRCUIT BREAKERS, CONSIDERED SUBSIDIARY TO THE CONTROL EQUIPMENT, ARE NEEDED WHERE STREET LIGHTING IS INCLUDED. AS PART OF THE SIGNAL INSTALLATION, STREET LIGHTING CIRCUIT (2c#12 A.W.G. UF RATED, TYPICAL) SHALL BE KEPT FROM THE CIRCUIT SERVING THE TRAFFIC SIGNAL CONTROL EQUIPMENT FROM THE POINT OF TIE-IN AT THE SECONDARY BREAKER PROVIDED BY THE CONTRACTOR.

4. CONTRACTOR SHALL CONNECT A SEPARATE NEUTRAL FOR EACH LOAD SWITCH REPRESENTED ON EACH SIGNAL POLE.

5. TRAFFIC CONTROLLER CABINET AND LAYOUT SHALL BE SUCH THAT IT IS NOT NECESSARY TO SHUT DOWN POWER OR REMOVE LOAD SWITCHES IN ORDER TO EASILY TEST OR MODIFY DETECTOR INPUTS TO THE CONTROLLER.

6. CONTROLLER CABINET SHALL BE WIRED SUCH THAT DURING FLASH OPERATIONS POWER TO THE LOAD SWITCHES CANNOT BACKFEED TO LOAD SWITCH POWER BUSS.

7. 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.

8. CONDUIT INSTALLED UNDER ROADWAY SURFACES SHALL BE INSTALLED BY PUSHING OR BORING METHODS. IF THE ENGINEER DETERMINES THIS IS NOT FEASIBLE, THEN A TRENCHING METHOD AS SHOWN IN THE STANDARD DRAWINGS MAY BE USED.

9. TRAFFIC SIGNAL POLES SHALL BE GALVANIZED. BACKPLATES SHALL BE SUPPLIED FOR ALL SIGNAL HEADS.

10. PAVEMENT MARKINGS SHOWN FOR REFERENCE ONLY. SEE PERMANENT PAVEMENT MARKING DETAILS.

11. FOUNDATION FOR ALL POLES SHALL BE EXTENDED IF NECESSARY TO ACCOMMODATE THE REQUIREMENTS FOR SIGNAL HEAD CLEARANCE ABOVE ROADWAY ONLY AT LOCATIONS WHERE THE GROUND ELEVATION AT THE POLE IS BELOW THE ELEVATION OF THE ROADWAY (SEE NOTES ON STANDARD DRAWING). PAYMENT WILL BE INCLUDED IN SECTION 714 TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, CURRENT EDITION.

12. ALL CONCRETE PULL BOXES SHALL BE (TYPE 2 HD) UNLESS OTHERWISE INDICATED. ALL CONDUIT SHALL BE THREE (3") INCH DIAMETER UNLESS SPECIFIED ON PLANS.

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

14. LED LUMINAIRE ASSEMBLIES SHALL HAVE A BUG RATING OF U0.

15. HARDWARE INPUTS MAY BE DETERMINED BY SUPPLIER. EACH DETECTOR OUTPUT SHALL INPUT THE CONTROLLER THROUGH A SEPARATE INPUT UNLESS OTHERWISE NOTED AND BE PROGRAMMED TO ACTUATE THE ASSOCIATED PHASE. COMBINATION (COMB.) DETECTORS SHALL ALSO BE PROGRAMMED TO PROVDE VEHICLE COUNT/OCCUPANCY DATA.

16. THE LOCAL RADIO WITH ANTENNA SHALL BE COMPATIBLE WITH THE EXISTING CLOSED LOOP COORDINATION SYSTEM IN THE CITY/COUNTY.

17. TO DETERMINE UTILITY CLEARANCES ABOVE THE TRAFFIC SIGNAL POLE, REFER TO THE POLE SCHEDULE FOR VERTICAL SHAFT HEIGHT. WHERE THE POLE SCHEDULE INDICATES THAT A LUMINAIRE ARM WILL BE USED, THIRTY-EIGHT (38') FEET SHOULD BE USED TO DETERMINE UTILITY CLEARANCE ABOVE THE LUMINAIRE ARM. WHERE THE POLE SCHEDULE INDICATES A TRAFFIC SIGNAL POLE WITHOUT A LUMINAIRE ARM, A HEIGHT OF TWENTY-ONE (21') FEET SHOULD BE USED TO DETERMINE UTILITY CLEARANCE ABOVE THE TRAFFIC SIGNAL MAST ARM. AN ADDITIONAL SIX (6') FEET SHOULD BE USED DIRECTLY ABOVE "VIDEO DETECTOR" AT LOCATIONS SHOWN ON THE SIGNAL PLANS.

18. THE DESIRABLE MINIMUM DISTANCE FROM THE FACE OF ROADWAY CURB OR SHOULDER EDGE TO THE FACE OF NON-BREAKAWAY POLE OR OBSTRUCTION IS SIX (6') FEET. REFER TO TRAFFIC SIGNAL PLANS FOR SPECIFIC LOCATION OF POLES, CONTROLLER AND ANY OTHER NON-BREAKAWAY OBSTRUCTIONS. REFER TO "DESIGN PARAMETERS, MINIMUM CLEAR ZONE DISTANCE" FOR MINIMUM DISTANCE FROM THE EDGE OF TRAVELED WAY TO THE FACE OF A NON-BREAKAWAY POLE OR OBSTRUCTION. TRAFFIC SIGNAL POLES OR ANY OTHER NON-BREAKAWAY OBSTRUCTION SHALL NOT BE INSTALLED WITHIN THE CLEAR ZONE.

19. AS DETERMINED BY THE ENGINEER, FOUNDATION EMBEDMENT MAY BE DECREASED BY A MAXIMUM OF TWO FEET IF COMPETENT ROCK IS ENCOUNTERED PRIOR TO ACHIEVING PLAN EMBEDMENT AND AT LEAST HALF OF THE REMAINING PLAN EMBEDMENT LENGTH IS KEYED INTO COMPETENT ROCK.

20. 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.

21. CONTROLLER CABINET LAYOUT AND ORIENTATION SHALL CONFORM TO IMSA STANDARDS.

22. ONE VIDEO PROGRAMMNG MODULE SHALL BE PROVIDED FOR AIMING AND SETUP OF DETECTORS IF THE VIDEO SYSTEM CANNOT BE ADJUSTED THROUGH HARDWARE AND SOFTWARE PROVIDED BY ITEMS WITHN THE JOB.

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

24. ALL STEEL POLES SHALL BE DESIGNED TO MEET THE AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, 4th EDITION (2001) WITH 2003 AND 2006 INTERIMS.

25. DOOR PANEL TEST PUSH BUTTONS SHALL ACTUATE INDICATED PHASES. DETECTOR ASSIGNMENTS AND/OR SIDE PANEL JUMPERS MAY REQUIRE MODIFICATION.

26. ALL SYSTEM DETECTOR RACKS AND ASSOCIATED EQUIPMENT SHALL BE PROTECTED BY THE MAIN CONTROLLER CABINET POWER SURGE PROTECTION.

27. IN PULL BOXES, POLE BASES, JUNCTION BOXES, AND CONTROLLER CABINETS, THE DIRECTION OF EACH CABLE RUN SHALL BE INDICATED BY ATTACHING A PERMANENT TAG OF RIGID PLASTIC OR NON-FERROUS METAL TO THE CONDUIT. TAGS SHALL BE EMBOSSED, STAMPED OR ENGRAVED WITH LETTERS 1/4" OR GREATER IN HEIGHT AND SECURED TO THE CONDUIT WITH NYLON OR PLASTIC TIES. IN INSTANCES WHERE THE CONDUIT OR CONDUIT ENTRANCES ARE NOT VISIBLE OR ACCESSIBLE, A DIRECTION TAG SHALL BE ATTACHED TO EACH CABLE.

28. THE CONTRACTOR SHALL PERFORM ALL WORK POSSIBLE THAT WILL MINIMIZE THE TIME THAT THE TRAFFIC SIGNAL IS OUT OF OPERATION. IF, IN THE OPINION OF THE ENGINEER, TRAFFIC CONDITIONS WARRANT, THE CONTRACTOR SHALL PROVIDE FLAGMEN TO DIRECT TRAFFIC WHILE THE TRAFFIC SIGNAL IS OUT OF OPERATION.

29. ALL NON-METALLIC CONDUIT RUNS SHALL HAVE BELL RING FITTINGS INSTALLED ON THE TERMINATING ENDS OF THE CONDUIT. THIS INCLUDES PULL BOXES, POLE BASES, AND TRAFFIC SIGNAL CABINETS.

30. ALL CONCRETE PULL BOXES SHALL BE SET ON A GRAVEL OR CRUSHED STONE BEDDING AS SPECIFIED IN SECTION 711, CONCRETE PULL BOX, OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 2014.

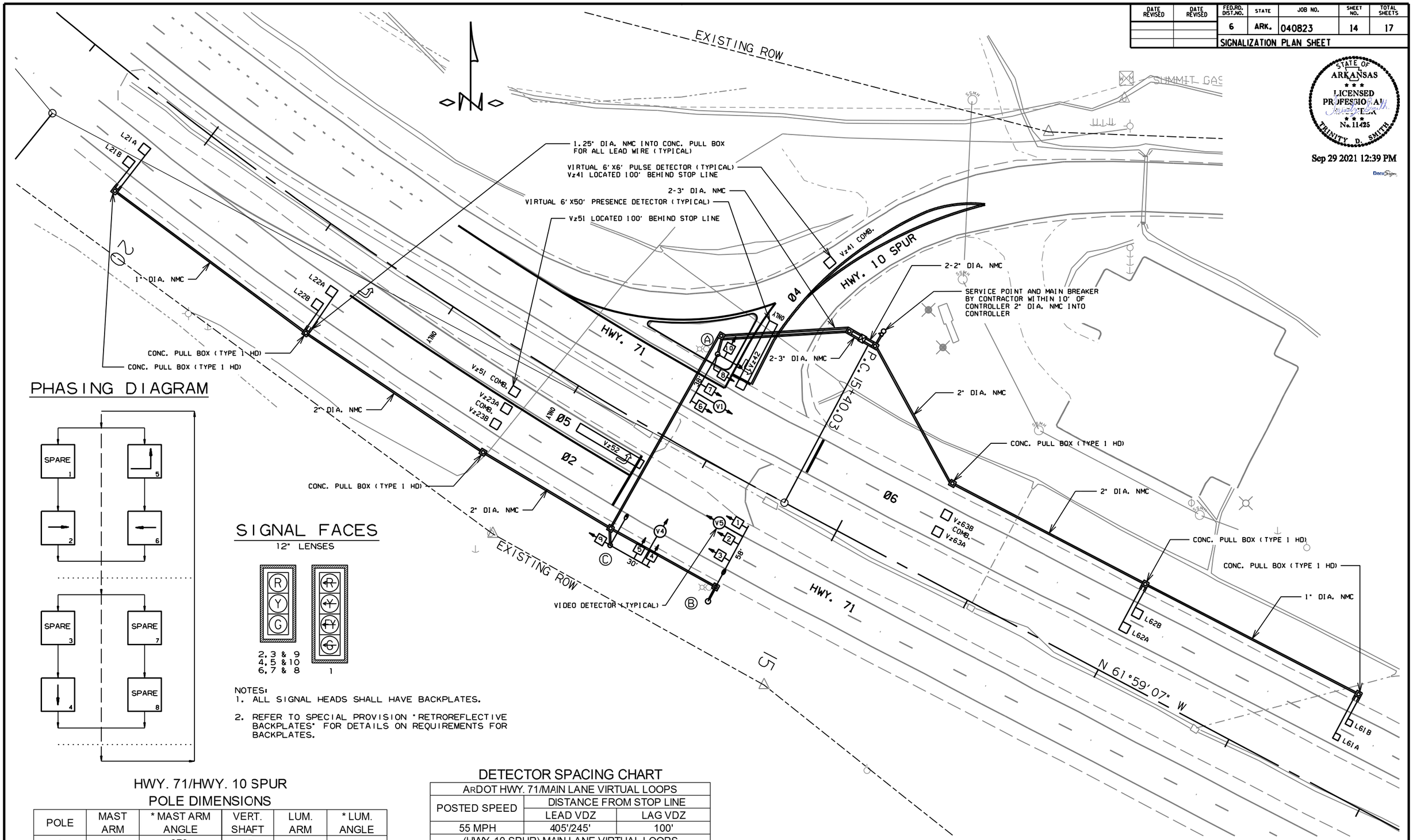
DATE: 09-01-2021 FILE NAME: t040823_job.dgn

LOCATION:	HWY. 71/HWY. 10S			
CITY:	GREENWOOD			
COUNTY:	SEBASTIAN			
DISTRICT:	04	SCALE: N/A	DRAWN BY:	GWE

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	040823	14	17
		SIGNALIZATION PLAN SHEET				

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

Sep 29 2021 12:39 PM



PHASING DIAGRAM

SIGNAL FACES

12" LENSES

NOTES:
1. ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
2. REFER TO SPECIAL PROVISION "RETROREFLECTIVE BACKPLATES" FOR DETAILS ON REQUIREMENTS FOR BACKPLATES.

HWY. 71/HWY. 10 SPUR POLE DIMENSIONS

POLE	MAST ARM	* MAST ARM ANGLE	VERT. SHAFT	LUM. ARM	* LUM. ANGLE
A	38'	270°	35'	15'	180°
B	58'	180°	35'	20'	180°
C	30'	270°	35'	20'	180°

* ANGLE MEASURED CLOCKWISE FROM HAND HOLE.

DETECTOR SPACING CHART

ARDOT HWY. 71/MAIN LANE VIRTUAL LOOPS		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD VDZ	LAG VDZ
55 MPH	405'/245'	100'
(HWY. 10 SPUR) MAIN LANE VIRTUAL LOOPS		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD VDZ	LAG VDZ
45 MPH	N/A	100'

SCALE IN FEET
0 30 60 120

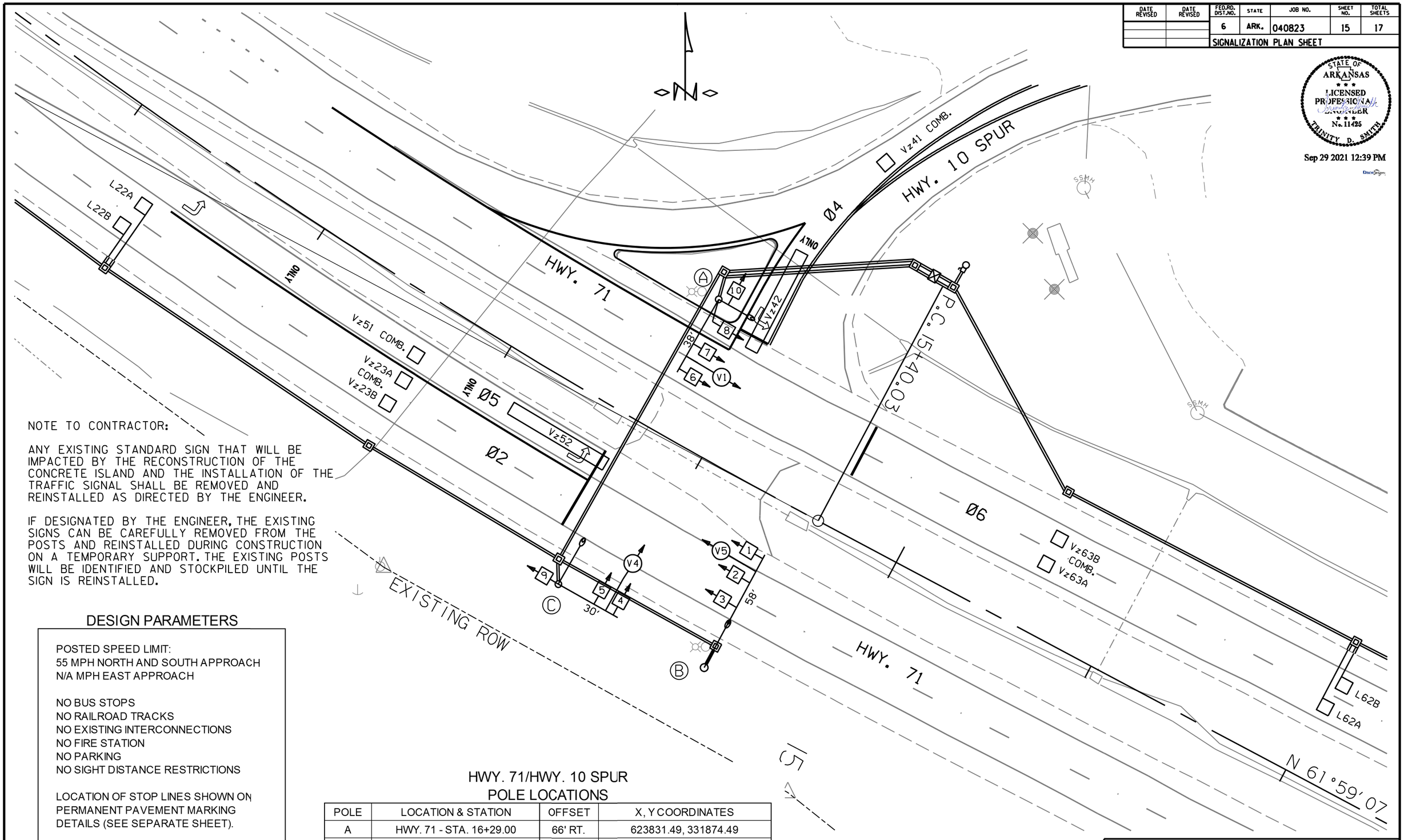
DATE: 09-01-2021 FILE NAME: t040823_01.dgn

LOCATION: HWY. 71/HWY. 10 SPUR
CITY: GREENWOOD
COUNTY: SEBASTIAN
DISTRICT: 04 SCALE: 1"=60' DRAWN BY: GWE

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	040823	15	17
		SIGNALIZATION PLAN SHEET				

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

Sep 29 2021 12:39 PM



NOTE TO CONTRACTOR:

ANY EXISTING STANDARD SIGN THAT WILL BE IMPACTED BY THE RECONSTRUCTION OF THE CONCRETE ISLAND AND THE INSTALLATION OF THE TRAFFIC SIGNAL SHALL BE REMOVED AND REINSTALLED AS DIRECTED BY THE ENGINEER.

IF DESIGNATED BY THE ENGINEER, THE EXISTING SIGNS CAN BE CAREFULLY REMOVED FROM THE POSTS AND REINSTALLED DURING CONSTRUCTION ON A TEMPORARY SUPPORT. THE EXISTING POSTS WILL BE IDENTIFIED AND STOCKPILED UNTIL THE SIGN IS REINSTALLED.

DESIGN PARAMETERS

POSTED SPEED LIMIT:
55 MPH NORTH AND SOUTH APPROACH
N/A MPH EAST APPROACH

NO BUS STOPS
NO RAILROAD TRACKS
NO EXISTING INTERCONNECTIONS
NO FIRE STATION
NO PARKING
NO SIGHT DISTANCE RESTRICTIONS

LOCATION OF STOP LINES SHOWN ON PERMANENT PAVEMENT MARKING DETAILS (SEE SEPARATE SHEET).

MINIMUM CLEAR ZONE DISTANCE
22 FEET (HWY. 71 & HWY. 10S)

HWY. 71/HWY. 10 SPUR
POLE LOCATIONS

POLE	LOCATION & STATION	OFFSET	X, Y COORDINATES
A	HWY. 71 - STA. 16+29.00	66' RT.	623831.49, 331874.49
B	HWY. 71 - STA. 15+54.00	83' LT.	623824.92, 331707.72
C	HWY. 71 - STA. 16+28.00	82' LT.	623758.84, 331745.54

SCALE IN FEET
0 20 40 80

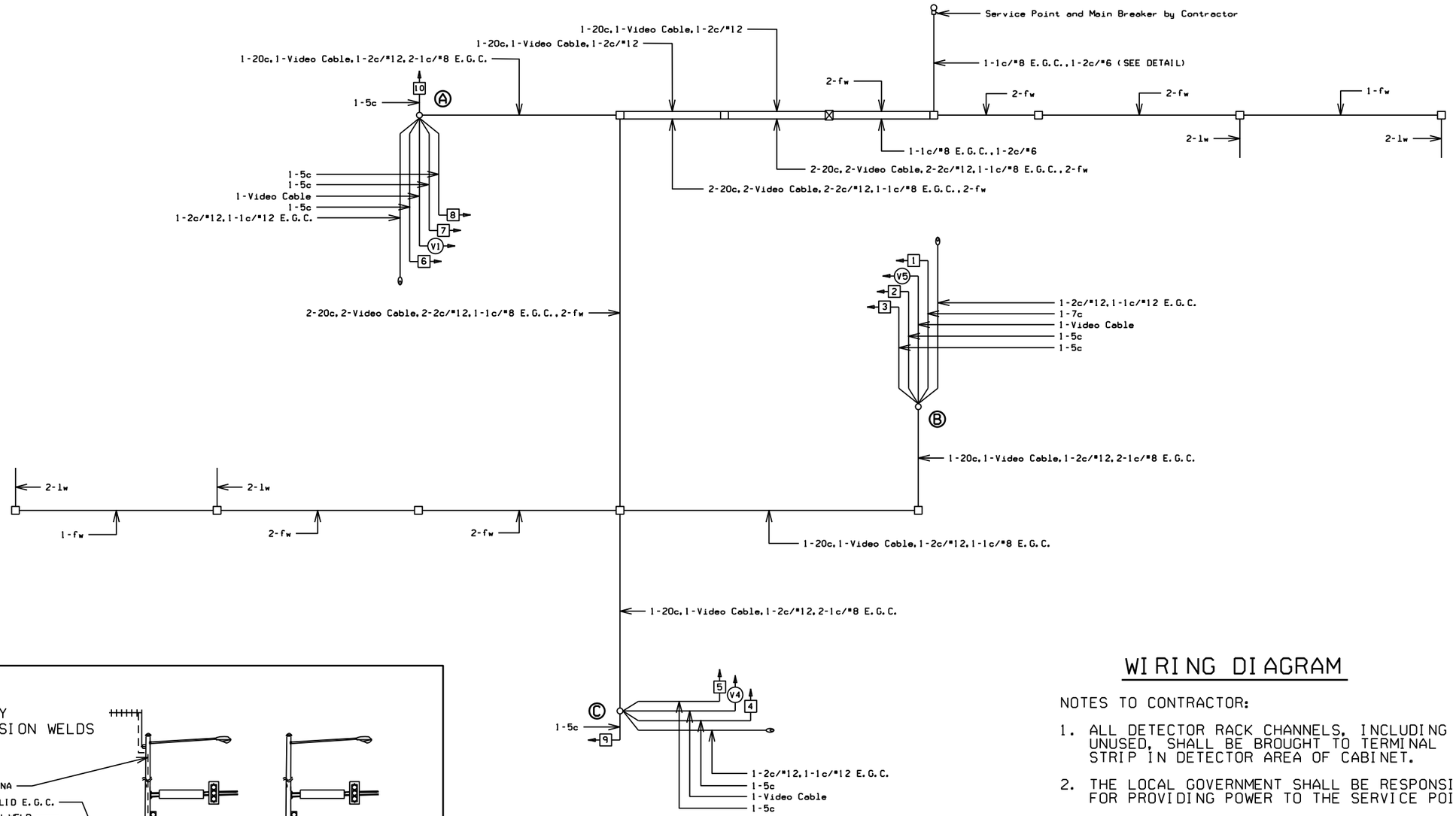
DATE: 09-01-2021 FILE NAME: t040823_01.dgn

LOCATION: HWY. 71/HWY. 10 SPUR
CITY: GREENWOOD
COUNTY: SEBASTIAN
DISTRICT: 04 SCALE: 1"=40' DRAWN BY: GWE

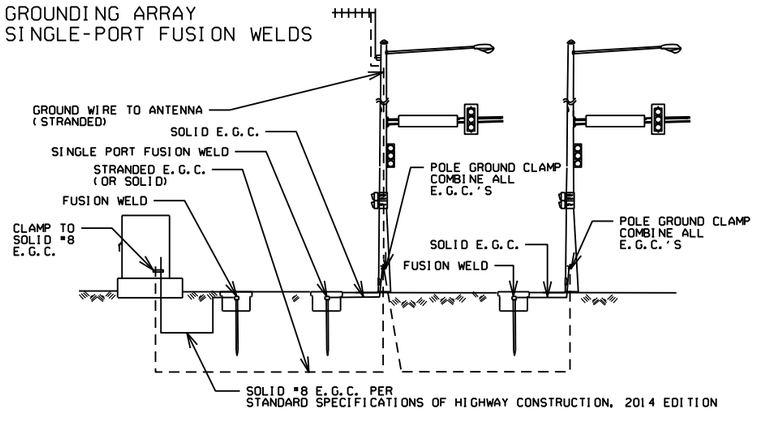
DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	040823	16	17
		SIGNALIZATION PLAN SHEET				

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

Sep 29 2021 12:40 PM



GROUNDING ARRAY
SINGLE-PORT FUSION WELDS



WIRING DIAGRAM

NOTES TO CONTRACTOR:

1. ALL DETECTOR RACK CHANNELS, INCLUDING UNUSED, SHALL BE BROUGHT TO TERMINAL STRIP IN DETECTOR AREA OF CABINET.
2. THE LOCAL GOVERNMENT SHALL BE RESPONSIBLE FOR PROVIDING POWER TO THE SERVICE POINT.

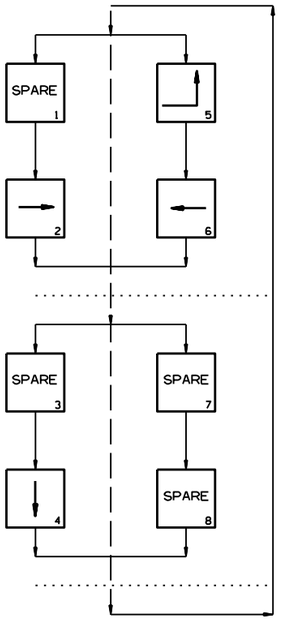
DATE: 09-01-2021 FILE NAME: t040823_01.dgn

LOCATION:	HWY. 71/HWY. 10S			
CITY:	GREENWOOD			
COUNTY:	SEBASTIAN			
DISTRICT: 04	SCALE: N/A	DRAWN BY: GWE		

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	040823	17	17
		SIGNALIZATION PLAN SHEET				

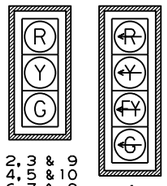
STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
Sep 29 2021 12:40 PM
DocuSign

PHASING DIAGRAM



SIGNAL FACES

12" LENSES



2, 3 & 9
4, 5 & 10
6, 7 & 8

1

NOTES:
1. ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
2. REFER TO SPECIAL PROVISION "RETROREFLECTIVE BACKPLATES" FOR DETAILS ON REQUIREMENTS FOR BACKPLATES.

DETECTOR CHART

DETECTOR SYSTEM DESCRIPTION: JOB 040823											
HWY. 71/HWY. 10S DETECTOR ASSIGNMENTS				HARDWARE INPUTS BY SUPPLIER			PROGRAM ASSIGNMENTS			COMMENTS	TUBE LENGTHS
							LOCAL		MASTER SYSTEM		
DET. ID #	LOCATION DIRECTION	TYPE	DET. #	CAB. TRM. #	AMP CHN. #	CON. IMP. #	PHS	SYSTEM DET. #	DETECTOR NUMBERS		
L21 A&B	EB ADVANCE	LOCAL	2			V2	2				
L22 A&B	EB INTERMEDIATE	LOCAL	26			V2	2				
Vz23 A&B	EB NEAR	COMB.			4	V10	2	2		CAMERA V5	37"
Vz41	SB ADVANCE	COMB.			9	V12	4	4		CAMERA V4	74"
Vz42	SB NEAR	LOCAL			10	V4	4			CAMERA V4	74"
Vz51	EB LEFT TURN FAR	COMB.			1	V13	5	5		CAMERA V5	37"
Vz52	EB LEFT TURN	LOCAL			2	V5	5			CAMERA V5	37"
L61 A&B	WB ADVANCE	LOCAL	6			V6	6				
L62 A&B	WB INTERMEDIATE	LOCAL	30			V6	6				
Vz63 A&B	WB NEAR	COMB.			5	V14	6	6		CAMERA V1	37"
					SPARE 3, 6 - 8, 11 - 16						

CONTROLLER INPUT ABBREVIATIONS:
V = VEHICLE INPUT
D = SYSTEM OR AUXILIARY INPUT
P = PEDESTRIAN INPUT

NOTE: "AMP CHN =" REFERS TO THE RACK OUTPUT POSITION.
THIS IS WIRED TO CONTROLLER INPUT DETECTOR NUMBER WHICH IS PROGRAMMED TO ACTUATE THE DESIGNATED PHASE.
EXAMPLE: V9 = SYSTEM DETECTOR 1, V10 = SYSTEM DETECTOR 2

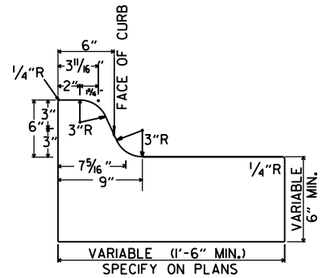
INTERVAL CHART

SIGNAL FACES	HIGHWAY 71 AND HIGHWAY 10S							FLASH SEQUENCE
	2+5	CLR.	2+6	CLR.	4	CLR.		
1	~~←G~~	*	~~←FY~~	***	~~←R~~	~~←R~~		~~←R~~
2,3 & 9	G	**	G	**	R	R		R
4,5 & 10	R	R	R	R	G	Y		R
6,7 & 8	R	R	G	**	R	R		R

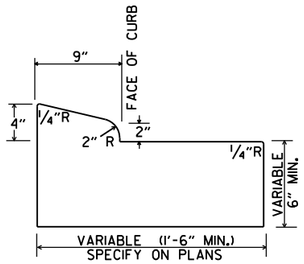
* DENOTES GREEN OR YELLOW ARROW DEPENDING ON NEXT PHASE
** DENOTES GREEN OR YELLOW BALL DEPENDING ON NEXT PHASE
*** DENOTES FLASHING YELLOW ARROW OR YELLOW ARROW DEPENDING ON NEXT PHASE

DATE: 09-01-2021 FILE NAME: t040823_01.dgn

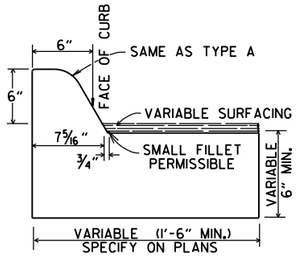
LOCATION: HWY. 71/HWY. 10S
CITY: GREENWOOD
COUNTY: SEBASTIAN
DISTRICT: 04 SCALE: N/A DRAWN BY: GWE



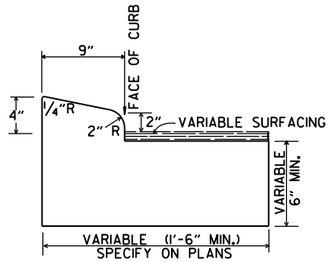
TYPE A



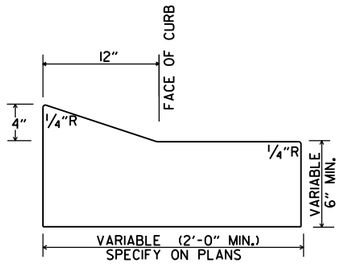
TYPE B-1



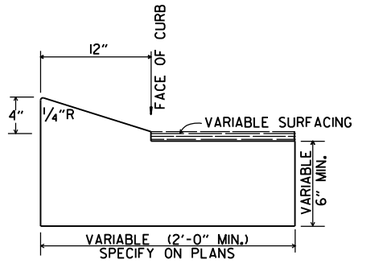
TYPE C



TYPE B-2

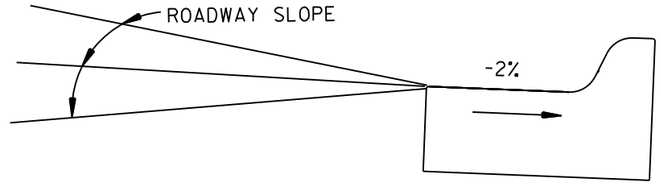


TYPE E-1



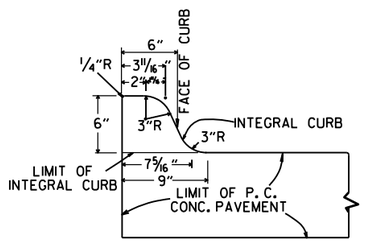
TYPE E-2

CONCRETE COMBINATION CURB AND GUTTER

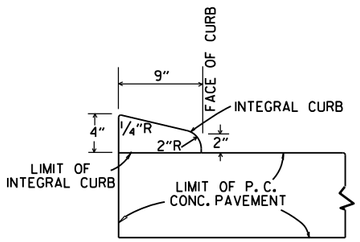


DETAIL OF GUTTER SLOPE

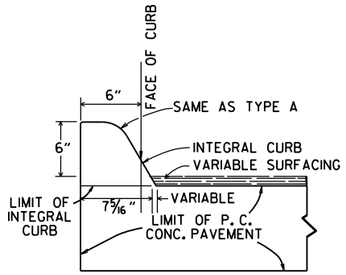
GUTTER SHALL BE CONSTRUCTED ON 2% SLOPE AWAY FROM ROADWAY, REGARDLESS OF ROADWAY SLOPE.



TYPE A

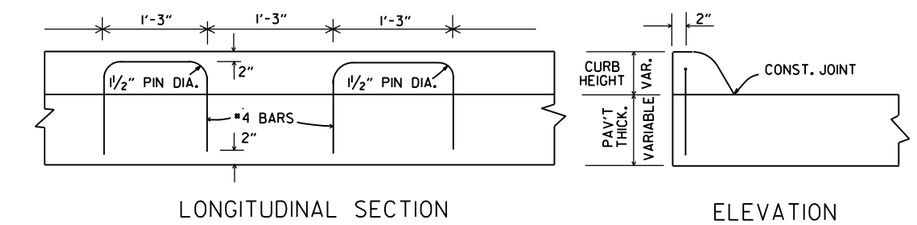


TYPE B



TYPE C

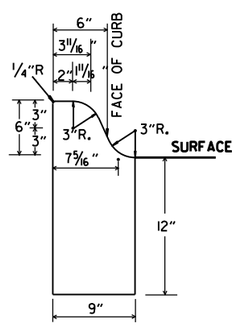
INTEGRAL CURB



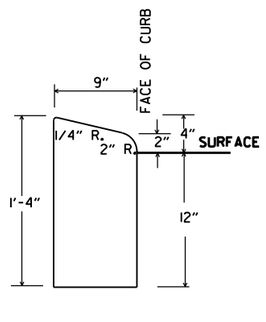
LONGITUDINAL SECTION

ELEVATION

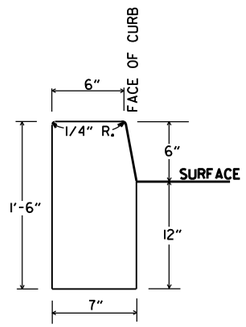
ALTERNATE CONSTRUCTION METHOD FOR INTEGRAL CURB



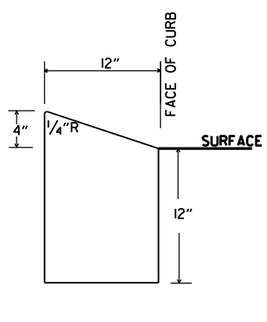
TYPE A



TYPE B

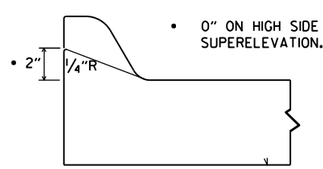


TYPE D



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.

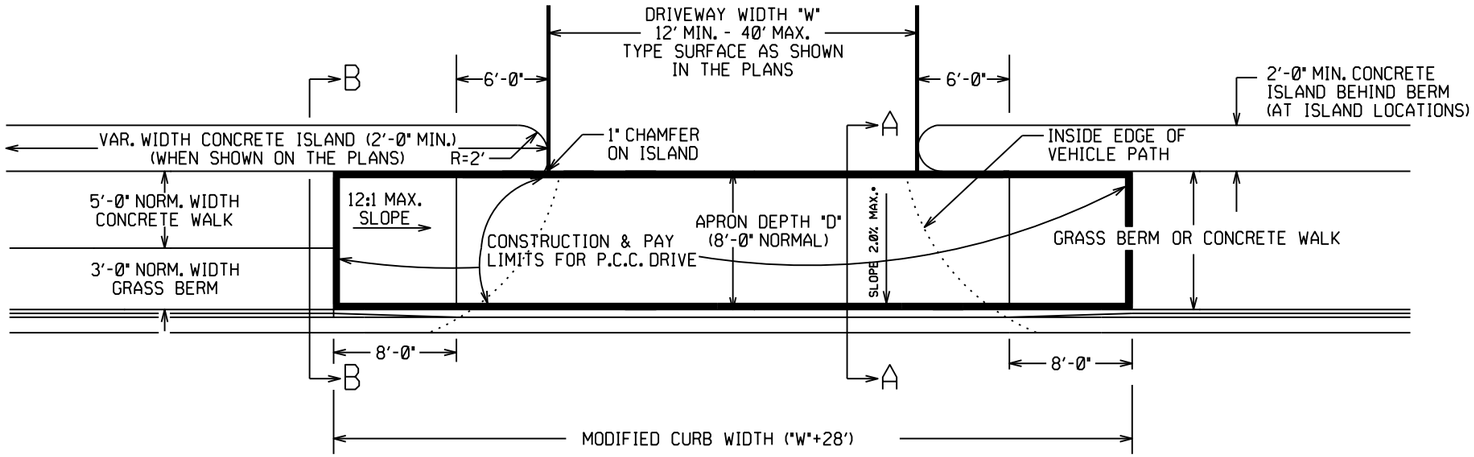
DETAILS OF MODIFIED CURB

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

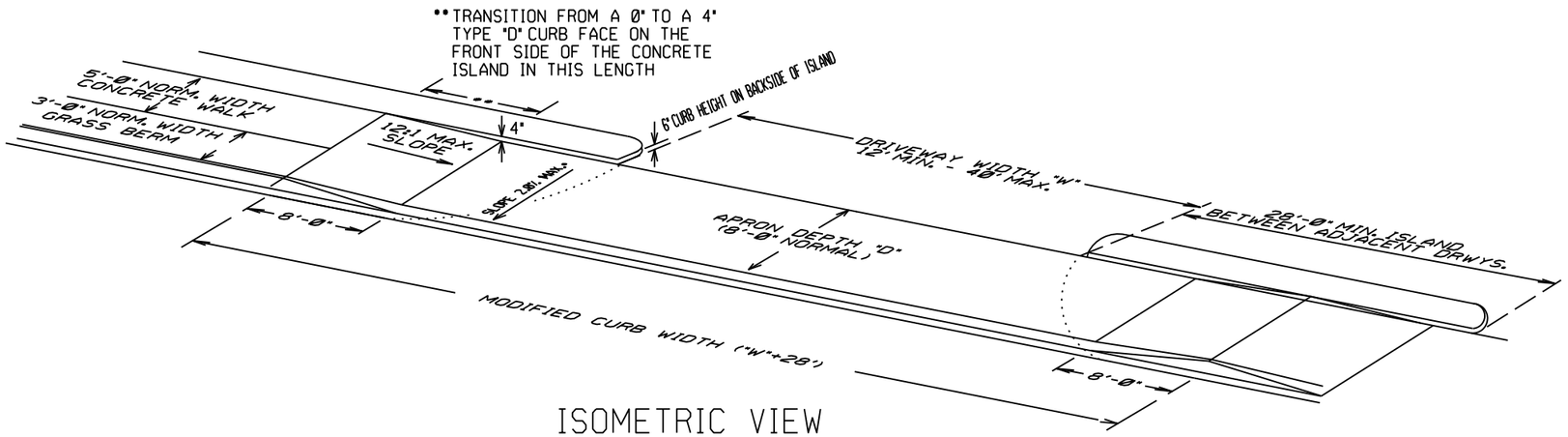
ARKANSAS STATE HIGHWAY COMMISSION

CURBING DETAILS

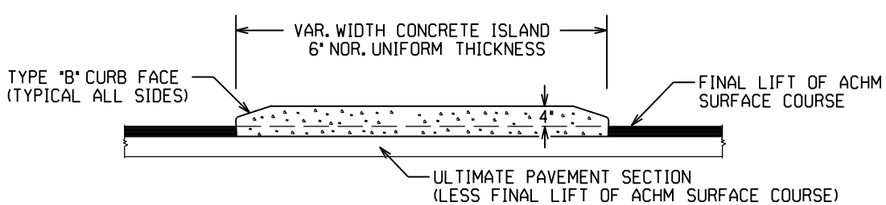
STANDARD DRAWING CG-1



PLAN VIEW

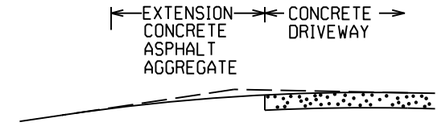


ISOMETRIC VIEW



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

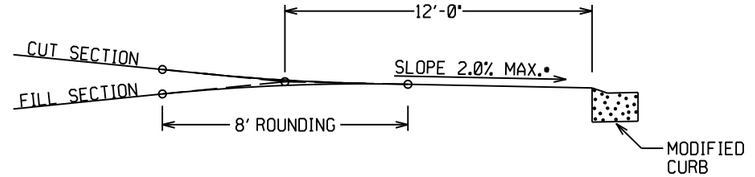
2: ASPHALT - 2" ACHM SURFACE COURSE (1/2")
4" ACHM BINDER COURSE (1") OR
4" ACHM BASE COURSE (1-1/2")

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

4: AGGREGATE - 6" AGGREGATE BASE COURSE

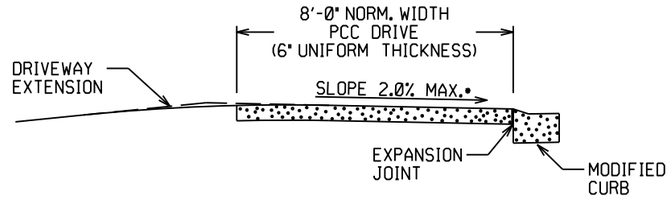
THE TYPE OF EXTENSION SHALL BE AS SHOWN IN THE PLANS. THE CONTRACTOR MAY, WITH THE APPROVAL OF THE ENGINEER, SUBSTITUTE A LOWER NUMBERED TYPE OF EXTENSION IN LIEU OF THE TYPE SPECIFIED IN THE PLANS, BUT AT NO ADDITIONAL COST TO THE DEPARTMENT.

DRIVEWAY EXTENSION DETAILS

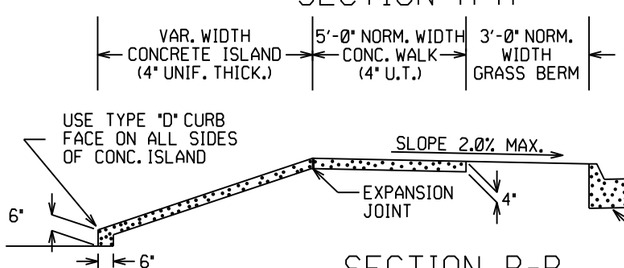


DRIVEWAY VERTICAL ALIGNMENT DETAILS

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



SECTION A-A



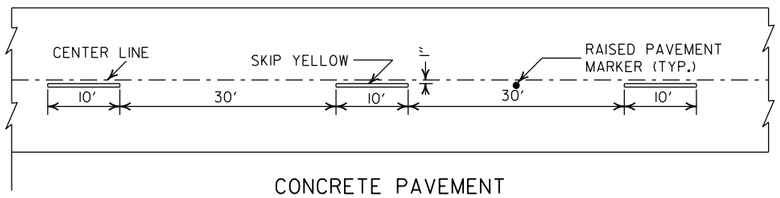
SECTION B-B
CURBED ISLAND BEHIND WALK

DATE REV	DATE FILMED	DESCRIPTION
11-07-19		REVISED WALK DETAILS
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

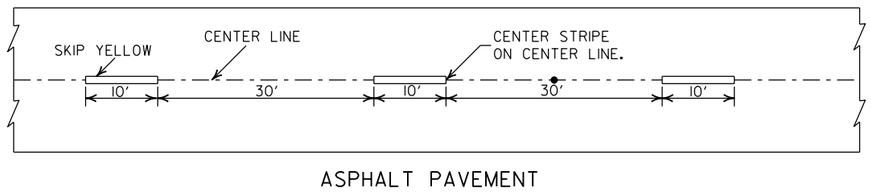
ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DRIVEWAYS & ISLANDS

STANDARD DRAWING DR-1

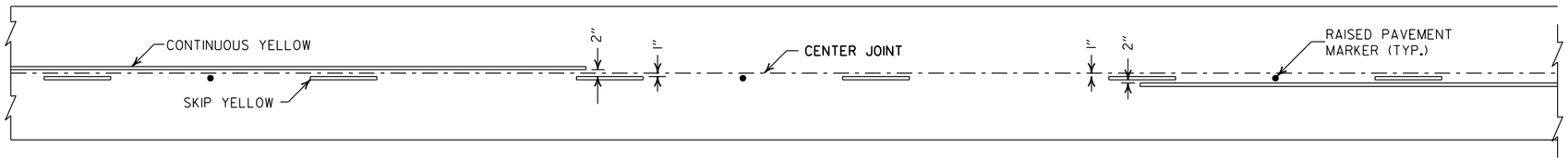


CONCRETE PAVEMENT

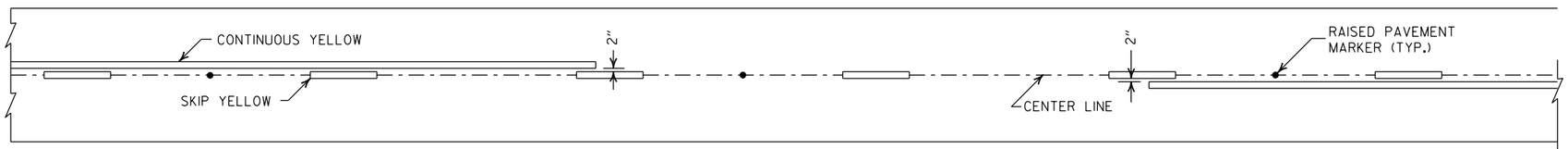


ASPHALT PAVEMENT

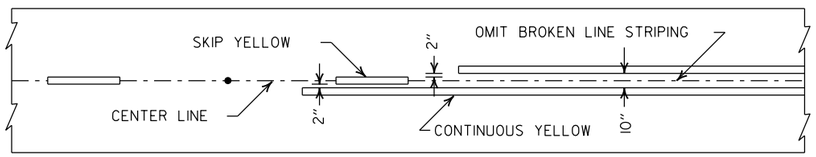
BROKEN LINE STRIPING



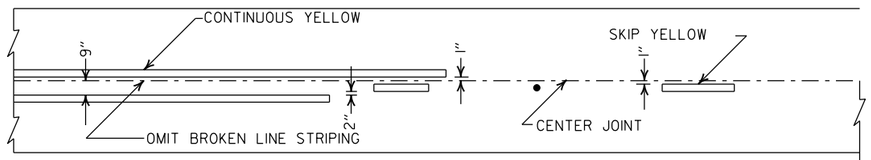
SOLID LINE STRIPING ON CONCRETE PAVEMENT



SOLID LINE STRIPING ON ASPHALT PAVEMENT

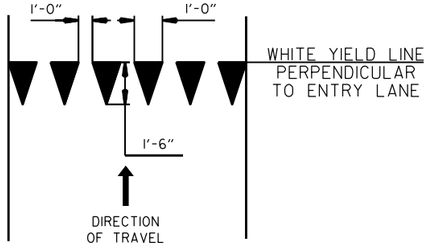


ASPHALT PAVEMENT

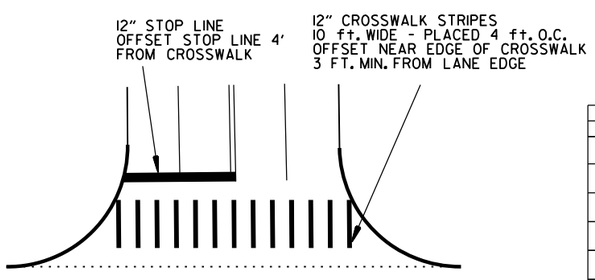


CONCRETE PAVEMENT

STRIPING AT ADJACENT NO PASSING LANES

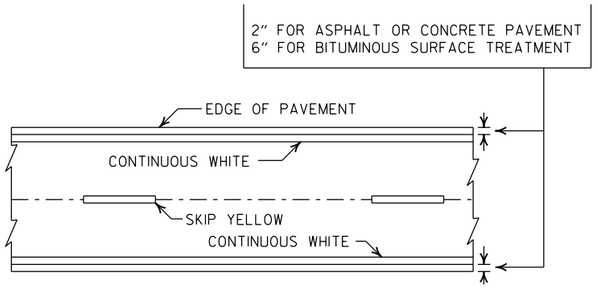


YIELD LINE DETAIL



CROSSWALK AND STOP LINE DETAILS

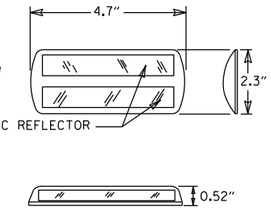
NOTES:
1. REFER TO THE STRIPING DETAILS FOR PAVEMENT MARKING LINE WIDTHS.
2. THIS DRAWING SHALL BE USED IN CONJUNCTION WITH THE LATEST REVISED ADDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."
3. RAISED PAVEMENT MARKERS SHALL BE PLACED ON AN 80 FEET SPACING UNLESS OTHERWISE SHOWN IN THE PLANS.



PAVEMENT EDGE LINE MARKING

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

TYPE II
RED/CLEAR OR
YELLOW/YELLOW



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

DETAIL OF STANDARD RAISED PAVEMENT MARKERS

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

ARKANSAS STATE HIGHWAY COMMISSION

PAVEMENT MARKING DETAILS

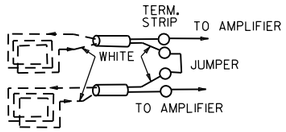
STANDARD DRAWING PM-1

LOOP DETECTOR INSTALLATION AND TESTING

NOTES:

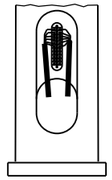
1. LOOPS WITH A PERIMETER GREATER THAN 40' SHALL HAVE TWO TURNS. LOOPS WITH A PERIMETER LESS THAN OR EQUAL TO 40' SHALL HAVE THREE TURNS, UNLESS OTHERWISE NOTED ON THE PLANS. QUADRUPOLE LOOPS SHALL BE TWO TURNS IN A (2-4-2 CONFIGURATION), UNLESS OTHERWISE NOTED ON THE PLANS.
2. LOOP AND FEEDER WIRE SHALL 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 (1.25") 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 SATISIFACTION 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.

SERIES CONNECTED LOOPS

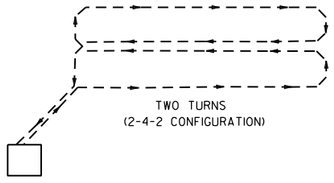


WIND LOOPS COUNTERCLOCKWISE; TAG WIRE EXITING SLOT AND TIE TO WHITE LEAD OF FEEDER WIRE; WHEN LOOPS ARE TIED TO SAME VEHICLE DETECTOR, SERIES CONNECT IN CABINET AS SHOWN.

HANDHOLE TERMINAL

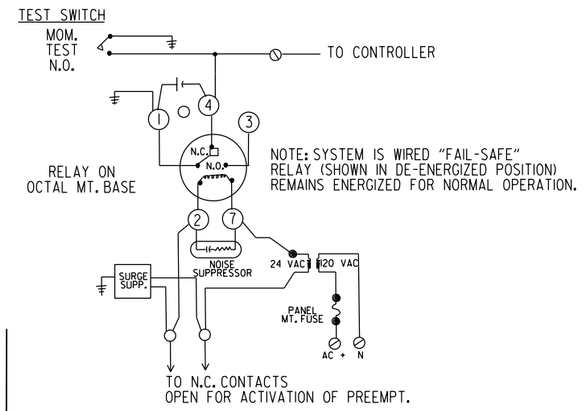


QUADRUPOLE LOOP



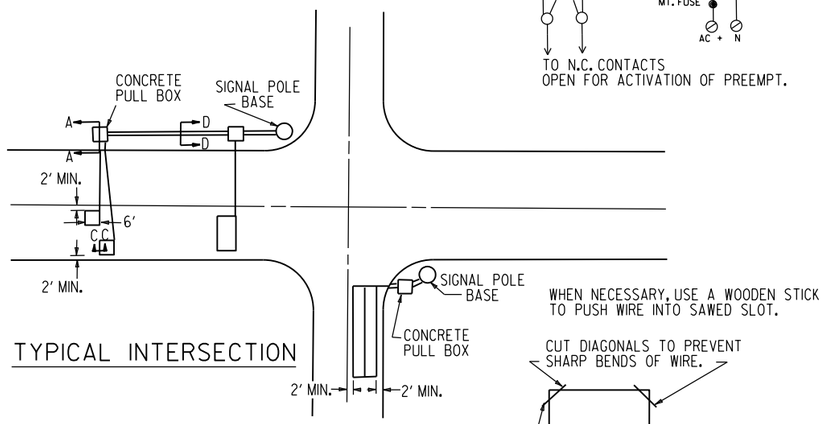
TWO TURNS
(2-4-2 CONFIGURATION)

TRAFFIC SIGNAL PRE-EMPTION INTERFACE WIRING DIAGRAM



NOTE: SYSTEM IS WIRED "FAIL-SAFE" RELAY (SHOWN IN DE-ENERGIZED POSITION) REMAINS ENERGIZED FOR NORMAL OPERATION.

TYPICAL INTERSECTION



WHEN NECESSARY, USE A WOODEN STICK TO PUSH WIRE INTO SAWED SLOT.

CUT DIAGONALS TO PREVENT SHARP BENDS OF WIRE.

SLOT CUT BY SAW SHOWING OVERLAP TO PROVIDE FULL DEPTH AT CORNERS.

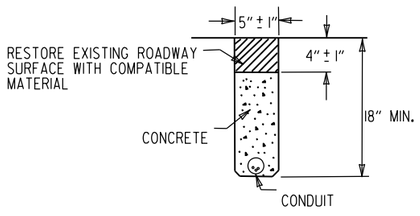
TYPICAL PROCEDURE FOR DETECTOR LOOP TESTING

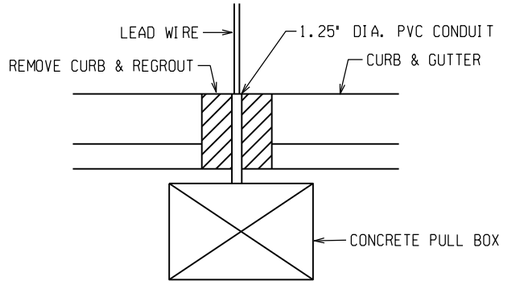
1. DISCONNECT AND TEST CONTINUITY (< 10 OHMS) IF CONTINUITY IS BAD, GO TO TEST 3.
2. TEST INSULATION (@ 500 VOLT TEST > 10 MEG-OHM)

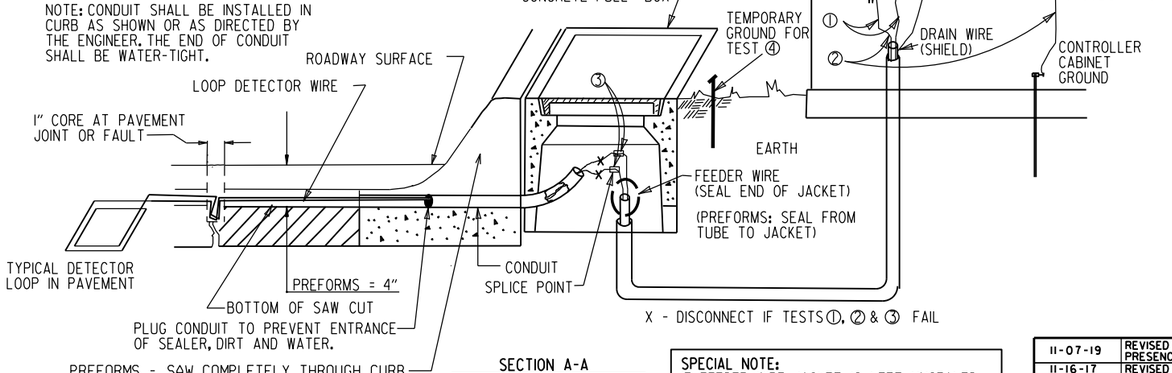
   IF TESTS 1& 2 ARE GOOD, NO FURTHER TESTING IS NECESSARY. RECORDED RESULTS CONSIST OF TESTS 1& 2 FROM CONTROL CABINET WITH FEEDER WIRE CONNECTED TO LOOP.
3. OPEN SPACE (DO NOT BREAK CONNECTION) REPEAT TEST 1& 2 IF TEST 3 IS BAD, GO TO TEST 4.
4. BREAK SPLICE, INSTALL JUMPER IN CABINET, REPEAT TESTS 1&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





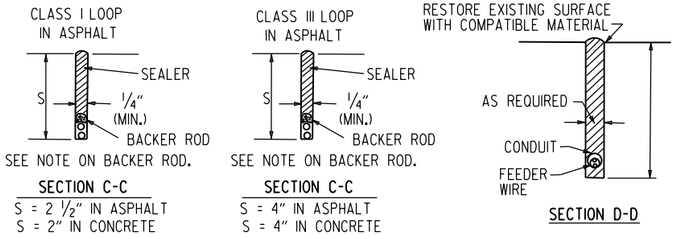


SECTION A-A

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



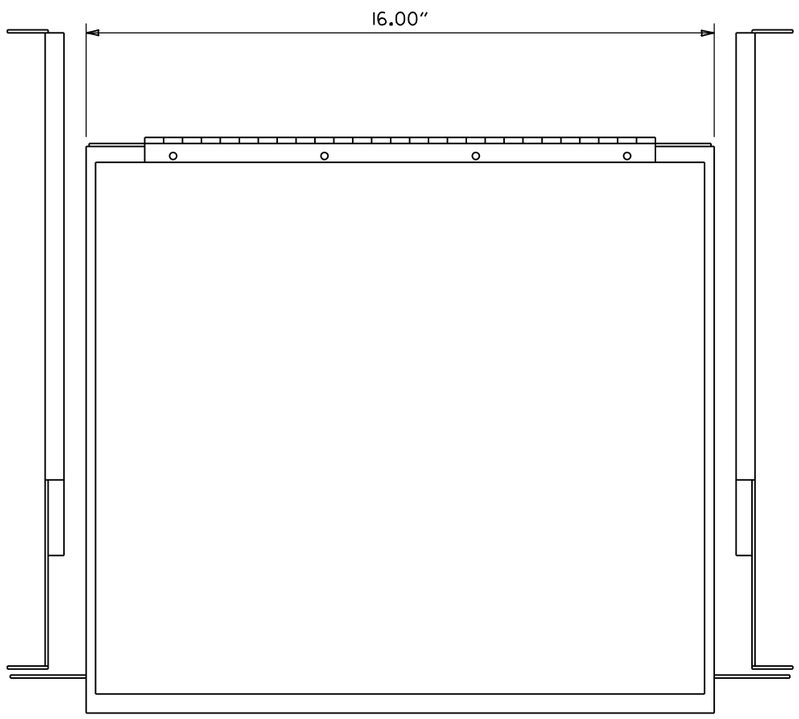
DATE	REVISION	FILMED
11-07-19	REVISED NOTE 6 & TYPICAL FOR PRESENCE LOOP DETECTORS	
11-16-17	REVISED NOTES	
09-12-13	ISSUED AS STANDARD DRAWING	
05-17-01	REVISED	
04-11-01	REVISED	
02-04-00	REVISED PRE-EMPTION TEST SWITCH	
11-18-98	REVISED NOTES	
11-21-95	ISSUED	

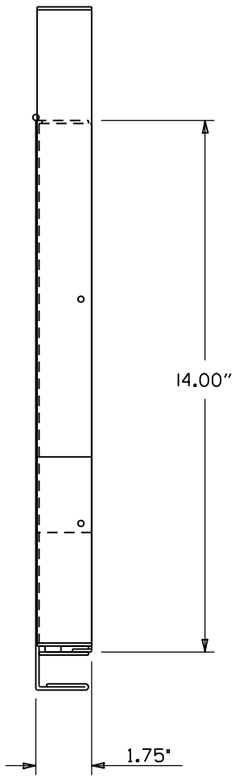
ARKANSAS STATE HIGHWAY COMMISSION

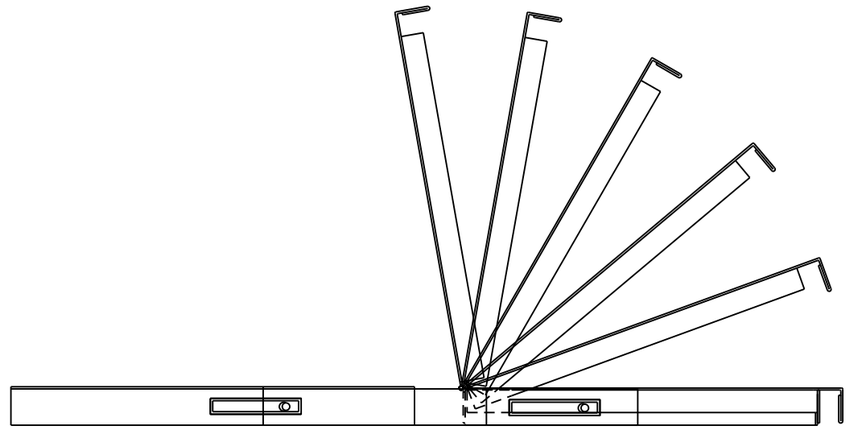
LOOP DETECTOR INSTALLATION

STANDARD DRAWING SD-4

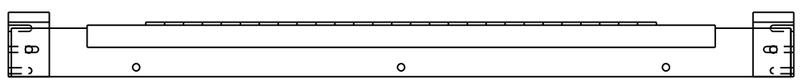
DRAWER PLAN VIEW



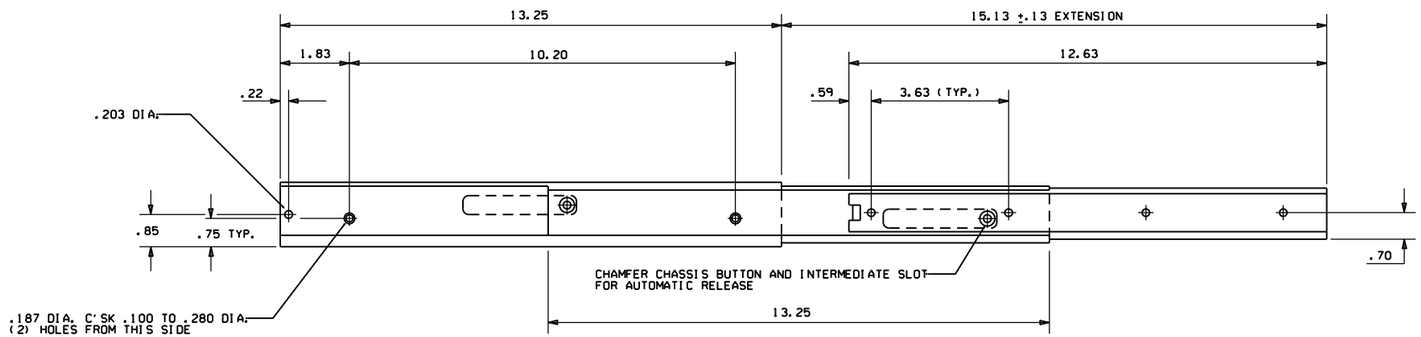




NOTES:
1. RIGHT HAND SLIDE SHOWN, LEFT SLIDE OPPOSITE.
2. GENERAL DEVICES (CC3002-99-0102) OR EQUAL AND CONTAINS (1) RIGHT HAND SLIDE ASSEMBLY, (1) LEFT HAND SLIDE ASSEMBLY.
3. ALL HARDWARE NECESSARY TO FASTEN SLIDE ASSEMBLY TO UNDERSIDE OF CONTROLLER SHELF SHALL BE INCLUDED.



FRONT VIEW



RIGHT SIDE ASSEMBLY

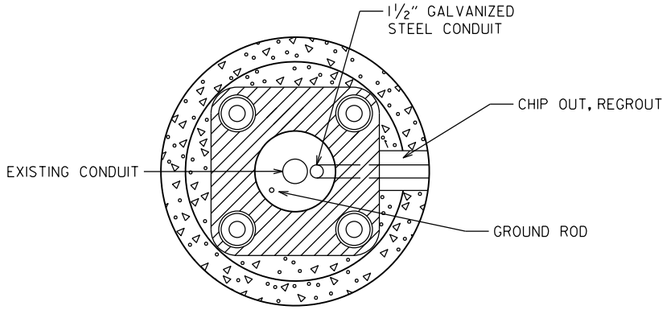
DATE	REVISION	DATE FILM
9-12-13	ISSUED AS STANDARD DRAWING	
6-15-05	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

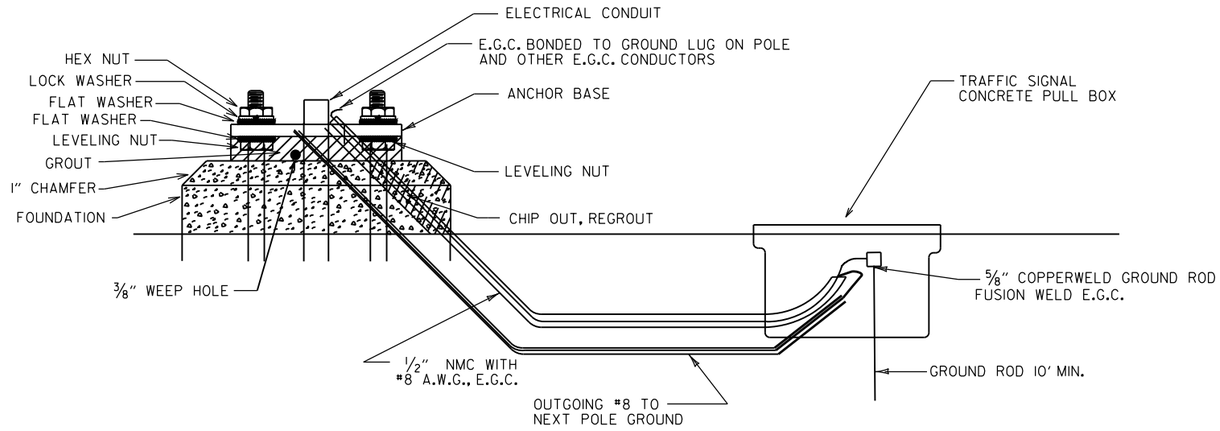
CONTROLLER CABINET UTILITY DRAWER

STANDARD DRAWING SD-5

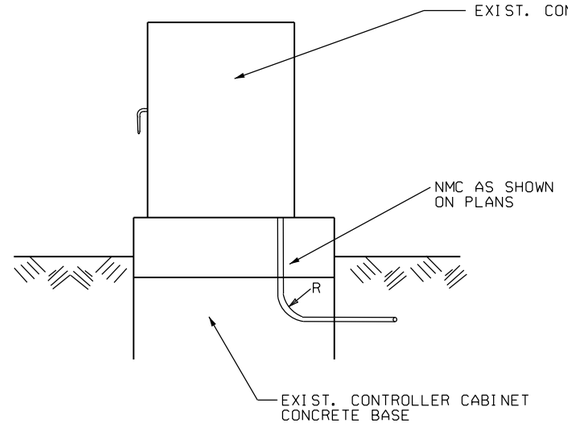
CONDUIT ENTRY TO EXISTING POLE BASE



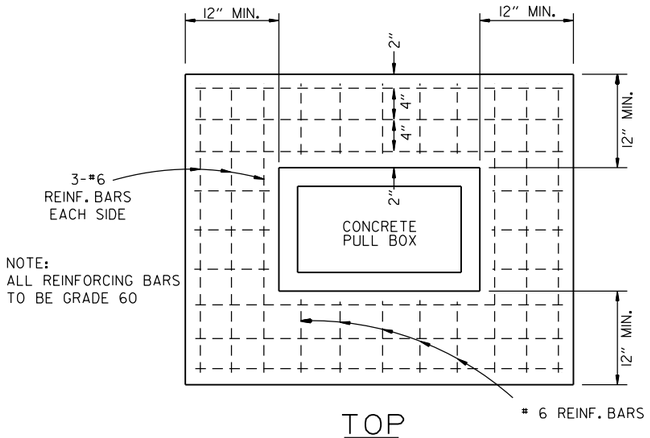
ANCHOR BASE



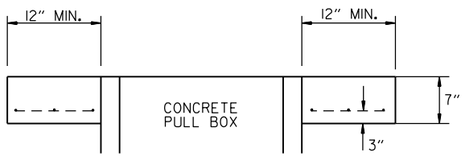
CONDUIT ENTRY TO EXISTING CONTROLLER CABINET



NOTE: ENTRY TO CABINET SHALL BE THROUGH A CUT IN THE BASE SUFFICIENT TO PROVIDE ADEQUATE CONDUIT RADIUS FOR ITEM.

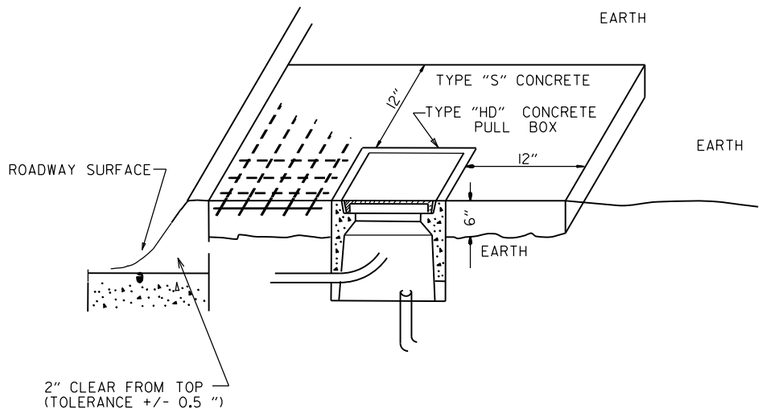


TOP



ELEVATION

TYPE "HD" CONCRETE PULL BOX DETAIL



NOTE:
ALL TYPE 1 AND TYPE 2 HD CONCRETE PULL BOXES ARE INSTALLED WITH AN APRON OF CONCRETE 12" WIDE AND 7" IN DEPTH. ALL PAYMENT SHALL BE INCLUDED IN THE PRICE OF THE TYPE HD CONCRETE PULL BOX. THE CONCRETE PULL BOX SHALL BE INSTALLED FLUSH TO SURROUNDING GRADE UNLESS OTHERWISE INSTRUCTED BY THE ENGINEER. THE CONCRETE SHALL BE CLASS "S". THREE #6 REINFORCING BARS IN THE APRON ON ALL SIDES OF THE CONCRETE PULL BOX IS REQUIRED IN CONCRETE.

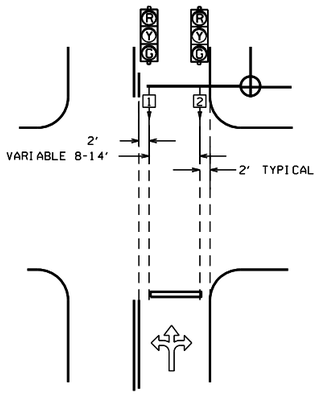
DATE	REVISION	FILMED
11-16-17	REVISED NOTES	
09-02-15	REVISED PULL BOX DEPTH	
09-12-13	ISSUED AS STANDARD DRAWING	
05-21-09	REVISED GROUNDING	
07-31-08	ADDED & REVISED CONDUIT ENTRY	
06-23-04	REVISED CLEARANCE AT CURB ENTRY	
01-04-02	ADDED REINFORCING TO BOX APRON	
07-02-01	REVISED	
12-27-99	REVISED NOTES	
11-18-98	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

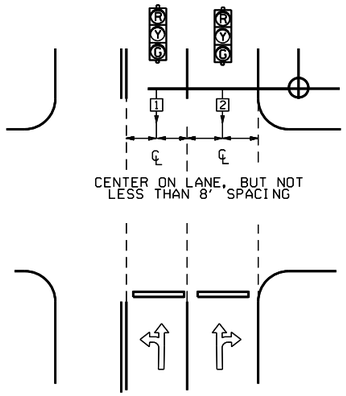
HEAVY DUTY PULL BOX

STANDARD DRAWING SD-6

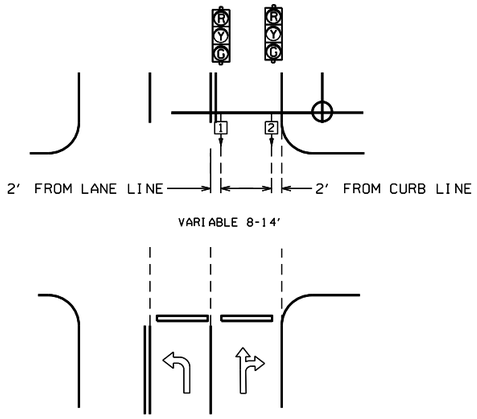
(A)



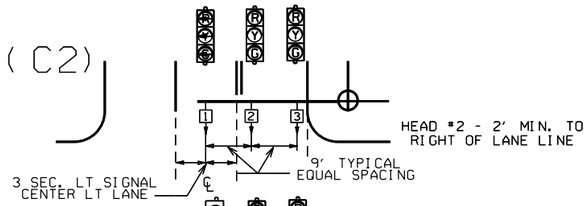
(B)



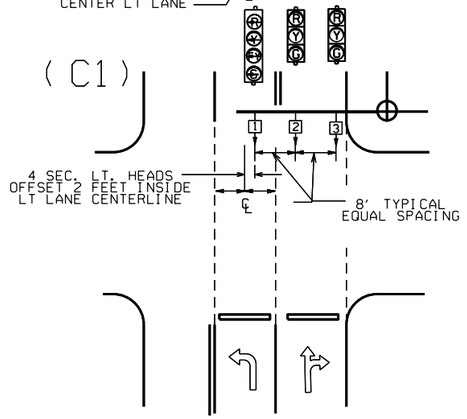
(C)



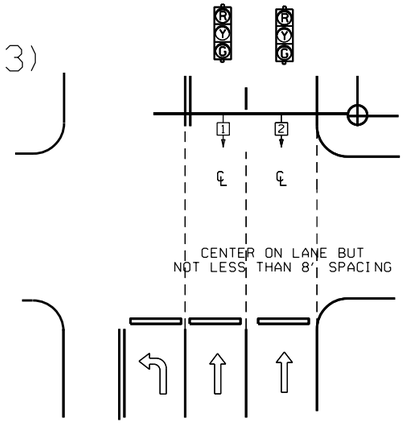
(C2)



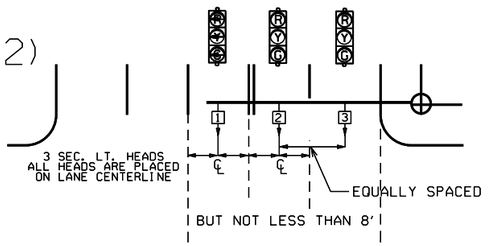
(C1)



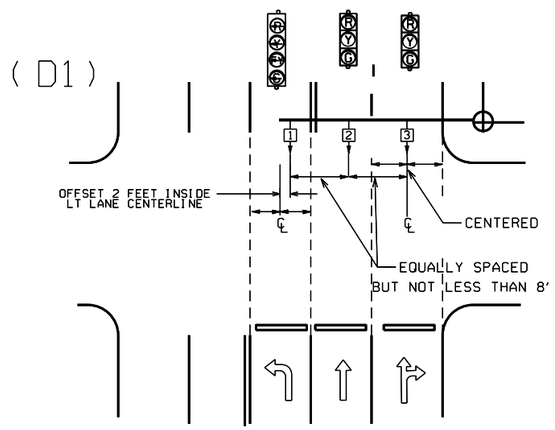
(C3)



(D2)

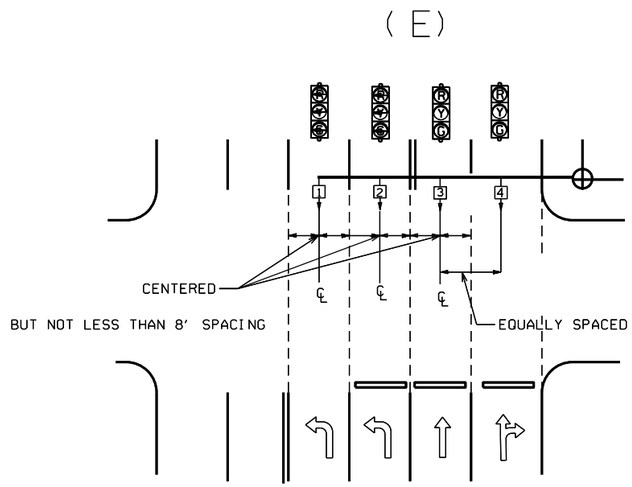


(D1)



NOTE: WHERE LEFT TURN HEAD (HEAD 1 ON D1 AND D2) IS NOT CALLED FOR ON PLANS, MAST ARM LENGTH MAY STILL BE ALLOWED FOR FUTURE INSTALLATION. HEADS FOR THROUGH MOVEMENTS SHALL STILL BE ALIGNED WITH THROUGH LANES AS SHOWN ON DETAILS.

(E)



℄ = CENTER OF LANE FROM APPROACH SIDE

GENERAL NOTES:

1. FOUR SECTION "PROTECTED/PERMISSIVE" LEFT TURN HEADS SHOULD BE PLACED A MINIMUM OF TWO (2') FEET TO THE RIGHT OF THE CENTERLINE OF THE APPROACHING LEFT TURN LANE.

2. THREE SECTION "PROTECTED" LEFT TURN HEADS SHOULD BE PLACED ON THE CENTERLINE OF THE APPROACHING LEFT TURN LANE.

3. WHEN IT IS NECESSARY TO PLACE POLES OTHER THAN AS SHOWN ON PLAN SHEET(S) RESULTING IN MAST ARM EXTENDING MORE THAN TWO FEET PAST (TO THE LEFT OF) THE CENTERLINE OF THE APPROACHING LEFT TURN LANE, MAST ARM SHALL BE CUT TO APPROPRIATE LENGTH AS DETERMINED BY THE ENGINEER, AND A NEW END CAP PROVIDED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THIS PRIOR TO INSTALLING THE MAST ARM IF ADDITIONAL COMPENSATION IS REQUIRED.

4. SIGNAL HEAD SPACING SHALL, IN NO CASE, BE LESS THAN EIGHT (8') FEET BETWEEN HEADS ON CENTER, MEASURED HORIZONTALLY PERPENDICULAR TO THE APPROACH.

5. ALL SIGNAL HEADS SHOWN ON THIS DETAIL SHEET SHALL BE LOCATED ACCORDING TO THE DIMENSIONS SHOWN IN RELATION TO THE APPROACH SIDE OF THE INTERSECTION.

6. MAXIMUM MOUNTING HEIGHT OF SIGNAL FACES LOCATED BETWEEN 40 FEET AND 53 FEET FROM STOP BAR SHALL BE IN ACCORDANCE WITH FIGURE 4D-5 OF 2009 MUTCD.

12-8-16	REVISED NOTE 6	
9-12-13	ISSUED AS STANDARD DRAWING	
3-11-10	2009 MUTCD	
12-9-99	ISSUED	
DATE	REVISION	DATE FILM

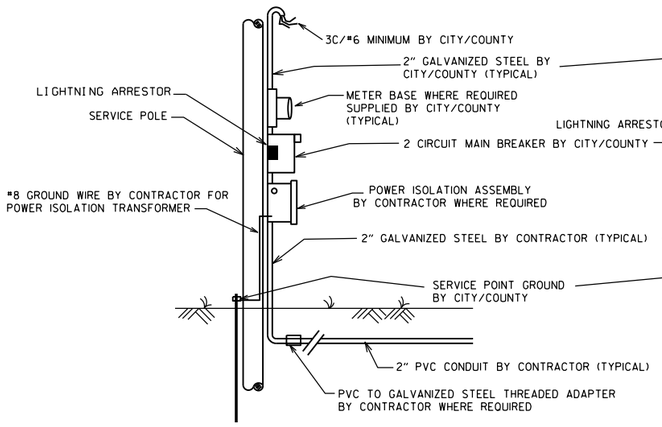
ARKANSAS STATE HIGHWAY COMMISSION

SIGNAL HEAD PLACEMENT

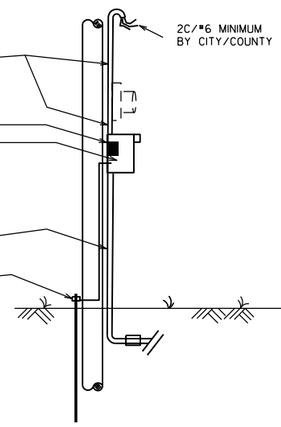
STANDARD DRAWING SD-8

MAIN BREAKER NOT NEAR CONTROLLER CABINET SECONDARY REQUIRED

WITH POWER ISOLATION ASSEMBLY



WITHOUT POWER ISOLATION ASSEMBLY



NOTES TO CONTRACTOR AND AGENCY RESPONSIBLE FOR MAINTENANCE OF THE INTERSECTION (CITY/COUNTY):

ELECTRICAL SERVICE TYPICALLY FALLS INTO TWO CATEGORIES:
MAIN BREAKER NEAR CONTROLLER CABINET; AND MAIN BREAKER NOT NEAR CONTROLLER CABINET. THE CONTRACTOR'S AND THE CITY'S/COUNTY'S RESPONSIBILITY VARIES ACCORDINGLY AS INDICATED ON THESE DETAILS.

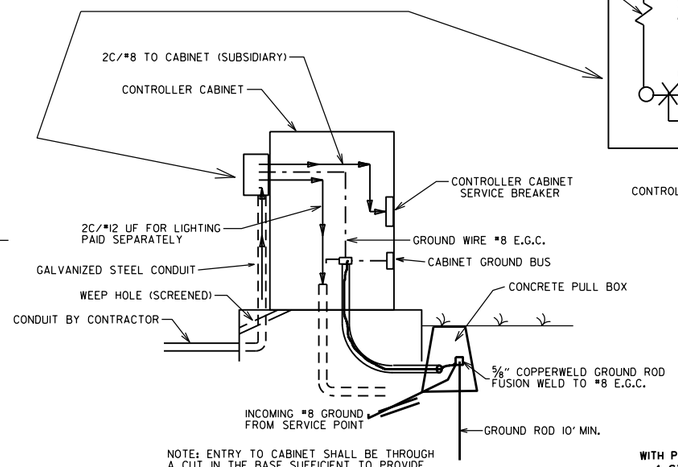
ALL SITUATIONS:
ELECTRICAL SERVICE SHALL BE PROVIDED BY THE CITY/COUNTY TO A SERVICE POLE WITH EXTERNAL RAINTIGHT BREAKER (MAIN BREAKER) AT A MUTUALLY ACCEPTABLE POINT WITHIN THE RIGHT-OF-WAY. SERVICE POINT INCLUDES GALVANIZED STEEL CONDUIT TO A POINT 18" BELOW GROUND LINE, TWO CIRCUIT MAIN BREAKER, LIGHTNING ARRESTOR, POWER ISOLATION ASSEMBLY WHERE REQUIRED, METER LOOP IF REQUIRED BY LOCAL UTILITY COMPANY, ELECTRICAL CONDUCTORS AND WEATHERHEAD. WHERE STREET LIGHTING IS INCLUDED AS PART OF SIGNAL INSTALLATION STREET LIGHTING CIRCUIT (2C/#12 A.W.G. UF RATED, TYPICAL) SHALL BE KEPT SEPARATE FROM THE CIRCUIT SERVING TRAFFIC SIGNAL. SERVICE WIRE AND WIRING FROM THE CONTROLLER TO MAIN BREAKER IS PROVIDED BY THE CONTRACTOR AS A PART OF THIS CONTRACT. WIRE AND WIRING FROM MAIN BREAKER, AND CONNECTION TO THE UTILITY IS THE RESPONSIBILITY OF THE CITY/COUNTY.

MAIN BREAKER NOT NEAR CONTROLLER CABINET:
THE MAIN BREAKER ASSEMBLY, GALVANIZED STEEL CONDUIT. WEATHERHEAD AND WIRE ABOVE MAIN BREAKER AND CONNECTION TO THE UTILITY SHALL BE PROVIDED BY CITY/COUNTY. CONTRACTOR SHALL PROVIDE AS PART OF CONTRACT SECONDARY BREAKER, CONDUIT, WIRE AND WIRING TO THE MAIN BREAKER.

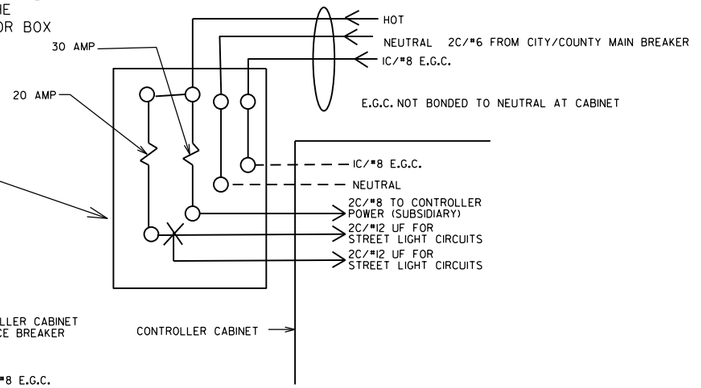
MAIN BREAKER NEAR CONTROLLER CABINET:
ALL COMPONENTS OF THE SERVICE POINT WITH THE EXCEPTION OF THE WIRE AND WIRING ABOVE THE MAIN BREAKER IS FURNISHED AND INSTALLED BY THE CONTRACTOR. WIRING FROM MAIN BREAKER INCLUDING CONNECTION TO THE UTILITY, IS THE RESPONSIBILITY OF THE CITY/COUNTY. IF METER LOOP IS REQUIRED, METER BASE AND HARDWARE IS PROVIDED BY THE CITY/COUNTY AND INSTALLED BY THE CONTRACTOR.

GROUND ROD - A 10' X 5/8" GROUND ROD SHALL BE INSTALLED IN THE CONCRETE PULL BOX FOR EACH POLE AND THE CONTROLLER. PAYMENT FOR THE GROUND ROD AND 1/2" NMC SHALL BE INCLUDED IN ITEM 701. THE CONCRETE PULL BOX AND CONDUCTOR BOX SHALL BE PAID FOR SEPARATELY.

SECONDARY BREAKER BY CONTRACTOR (SUBSIDIARY)



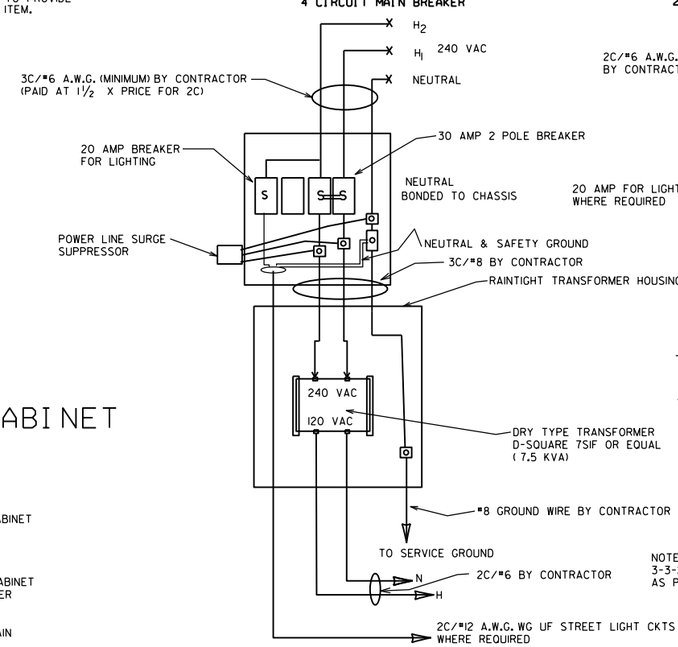
NOTE: ENTRY TO CABINET SHALL BE THROUGH A CUT IN THE BASE SUFFICIENT TO PROVIDE ADEQUATE CONDUIT RADIUS FOR ITEM.



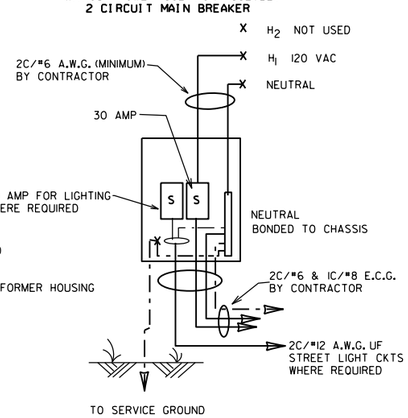
MAIN BREAKER WIRING (TYPICAL)

SERVICE GROUND IS TYPICALLY TIED TO NEUTRAL AT THE MAIN BREAKER. AS SUCH, CONTROLLER GROUND IS NOT TIED TO NEUTRAL AT SECONDARY BREAKER OR IN CONTROLLER CABINET.

WITH POWER ISOLATION ASSEMBLY
4 CIRCUIT MAIN BREAKER

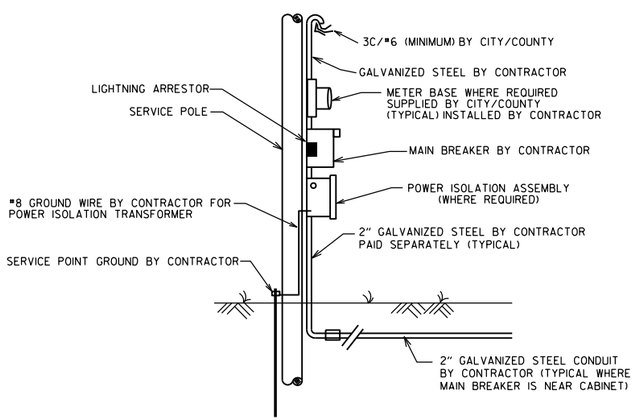


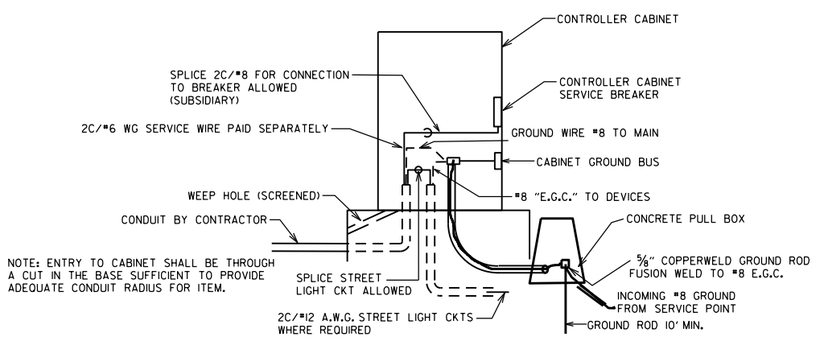
WITHOUT POWER ISOLATION ASSEMBLY
2 CIRCUIT MAIN BREAKER



NOTE: ELECTRICAL GROUND CONDUCTOR (E.C.G.) ADDED 3-3-2003, CONSISTING OF A IC/#8 A.W.G. CU GREEN WIRE AS PER NATIONAL ELECT. CODES.

MAIN BREAKER NEAR CONTROLLER CABINET SECONDARY NOT REQUIRED





NOTE: ENTRY TO CABINET SHALL BE THROUGH A CUT IN THE BASE SUFFICIENT TO PROVIDE ADEQUATE CONDUIT RADIUS FOR ITEM.

DATE	REVISION	FILMED
11-07-19	REVISED	
11-16-17	REVISED NOTES	
09-12-13	ISSUED AS STANDARD DRAWING	
04-18-13	ADDED LIGHTNING ARRESTOR	
05-21-09	REVISED GROUNDING	
07-31-08	REVISED GROUNDING	
03-03-03	ADDED EGC NOTE	
09-26-01	REVISED	
12-27-99	REVISED	
07-28-99	REVISED	
02-05-99	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

SERVICE POINT

STANDARD DRAWING SD-9

NOTES:
PEDESTRIAN AND TRAFFIC SIGNAL HEAD SIGNS:
EACH ITEM "TRAFFIC SIGNAL HEAD (4 SEC., 1-WAY)" SHALL INCLUDE A SPECIAL SIGN AS SHOWN, ATTACHED TO THE MAST ARM OR SPAN ASSEMBLY 12" TO THE RIGHT OF THE SIGNAL HEAD UNLESS REMOVED WITHIN THE SIGNAL PLAN NOTES.

EACH ITEM "TRAFFIC SIGNAL HEAD (3 SEC., 1-WAY)" TO BE USED AS A LEFT TURN INDICATION ONLY SHALL INCLUDE A SIGN (R10-10) AS SHOWN, ATTACHED TO THE MAST ARM OR SPAN ASSEMBLY 12" TO THE RIGHT OF THE SIGNAL HEAD.

EACH PEDESTRIAN PUSHBUTTON SHALL HAVE ONE R10-3E SIGN ATTACHED TO THE POLE ABOVE THE BUTTON. ALL SIGNS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 723 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

ALL SIGN BLANKS SHALL BE CONSTRUCTED OF ALUMINUM ALLOY (ASTM DESIGNATION B-209. ALLOY 5052-H38) WITH THICKNESS OF 0.100 INCH.

GENERAL NOTES:
1. MAST ARM POLES SHALL BE MOUNTED A MINIMUM OF FOUR (4') FEET BEHIND CURB OR SHOULDER.

2. OCTAGONAL POLES AND ARMS MEETING THE REQUIREMENTS OF THE PLANS SPECIFICATIONS CAN BE INSTALLED IN LIEU OF ROUND. ALL POLES AND ARMS IN A JOB MUST BE THE SAME SHAPE.

3. MINIMUM STRUCTURAL REQUIREMENTS:
DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, 4TH EDITION (2001) WITH 2003 AND 2006 INTERIMS.

USE FATIGUE CATEGORY I FOR ALL STRUCTURES ON ROUTES WHERE THE SPEED LIMIT IS 65 MPH AND GREATER AT THE STRUCTURE LOCATION AND ON ROUTES WHERE THE SPEED LIMIT IS GREATER THAN 45 MPH WITH AN MAST ARM OF 60' OR LONGER.

USE FATIGUE CATEGORY II FOR ALL STRUCTURES ON ROUTES WHERE THE SPEED LIMIT IS LESS THAN 65 MPH AND GREATER THAN 45 MPH WITH MAST ARMS LESS THAN 60' AND ON ROUTES WHERE THE SPEED LIMITS OF 45 MPH AND LESS WITH AN MAST ARM OF 60' OR LONGER.

USE FATIGUE CATEGORY III FOR ALL STRUCTURES WHERE THE SPEED LIMIT IS 45 MPH AND LESS AND MAST ARMS LESS THAN 60'.

CONSTRUCTION SPECIFICATIONS:
STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION) WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS.

BASE WIND SPEED: 90 MPH.

STEEL MEMBERS CONSIDERED MAIN LOAD CARRYING MEMBERS WITH A THICKNESS GREATER THAN ½" SHALL MEET THE LONGITUDINAL CHARPY V-NOTCH TEST SPECIFIED IN SUBSECTION 807.05 OF THE STANDARD SPECIFICATIONS.

DEAD LOAD: AS A MINIMUM, DESIGN SHALL BE BASED ON THE FIXED ATTACHMENTS SHOWN BELOW OR AS MODIFIED IN THE PLANS.

ALL SIGNAL HEADS TO BE ONE WAY, TWELVE (12") INCH AND HAVE FIVE (5") INCH BACK PLATES:

SIGNAL HEADS AT THE END OF MAST ARM - ONE 4 SEC., 85 LB., 14.5 SQ. FT., ONE SIGN MOUNTED 3 FEET FROM SIGNAL HEAD (2'-0" X 2'-6"; 20 LB.) REMAINING SIGNAL HEADS SPACED AT 8 FT. (3 SEC., 56 LB., 8.3 SQ. FT.):
DESIGN TO ACCOMMODATE:
2 SIGNAL HEADS FOR MAST ARMS 10 FT. TO 16 FT.
3 SIGNAL HEADS FOR MAST ARMS 18 FT. TO 24 FT.
4 SIGNAL HEADS FOR MAST ARMS OVER 26 FT.

STREET NAME SIGN - 72" X 18", 36 LB., MOUNTED SUCH THAT OUTSIDE EDGE IS NOT GREATER THAT 12 FT. FROM POLE. DEPENDING UPON POSITION OF SIGNAL HEAD ADJACENT TO POLE, SIGN MAY OVERLAP POLE SHAFT.
ROADWAY LUMINAIRES (WHERE REQUIRED ON PLAN SHEET) - VARIABLE ARM LENGTH (MAX. WT. 75 LB., 3.3 SQ. FT.)
PEDESTRIAN SIGNALS - TWO 1 SEC., 12 INCH MOUNTED 8 FT. FROM BASE OF POLE. POST MOUNTED 3 SEC. SIGNAL HEAD AT 10 FT. ON SIDE OF POLE.

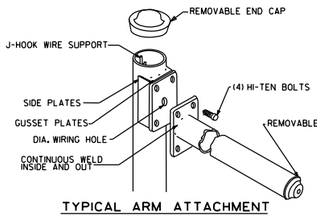
4. POLE/MAST ARM CAP - POLE AND MAST ARM CAPS SHALL BE PROVIDED, FABRICATED OF EITHER STEEL OR CAST ALUMINUM.

5. HAND HOLE - HAND HOLES SHALL BE 4 IN. X 6 IN. FOR STANDARD, AND 3 IN. X 5 IN. FOR PED POLES. MINIMUM PLACED APPROXIMATELY 12 INCHES FROM BASE, AND SHALL BE FIXED WITH A BOLT DOWN COVER. A VACCUM FORMED ABS COVER IS AN ACCEPTABLE ALTERNATE TO STEEL. POLES GREATER THAN 21FT. IN HEIGHT (FOR ROADWAY LUMINAIRE ATTACHMENT) SHALL INCLUDED A HAND HOLE WITHIN 12 INCHES OF MAST ARM(S) ATTACHMENT(S).

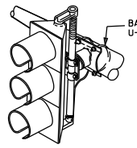
6. POLE/MAST ARM TAPER SLOPE - AVERAGE TAPER OF SIGNAL MAST ARMS AND POLE SHAFT SHALL BE 0.125 TO 0.15 INCHES PER FOOT.

MAST ARM CENTERLINE ANGLE AT ATTACHMENT POINT WITH POLE SHALL MAINTAIN NOT LESS THAN 0.5 DEGREES OR MORE THAN 4 DEGREES POSITIVE SLOPE WITH A LINE PERPENDICULAR TO THE POLE CENTERLINE. THE MAST ARM SHALL MAINTAIN A POSITIVE SLOPE AFTER IT IS PLACED UNDER LOAD.

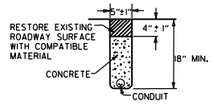
7. NUT COVERS - EACH POLE SHALL INCLUDE A BOLT DOWN NUT COVER FOR EACH ANCHOR BOLT.



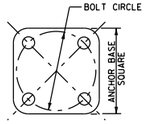
TYPICAL ARM ATTACHMENT



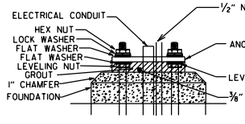
NOTE: THE SIGNAL SHALL BE CONNECTED TO THE MAST ARM BY BRACKETING AS DIRECTED BY THE ENGINEER.

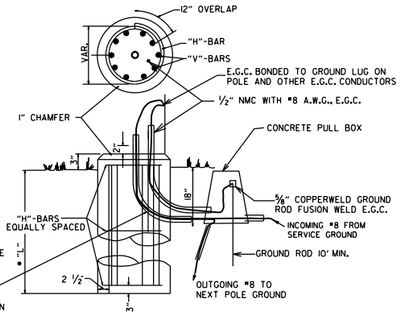


TRENCHING DETAIL
(FOR SAW CUT TRENCH IN ROADWAY)



ANCHOR BASE





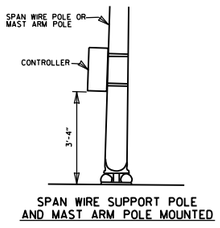
THE SWEEPING "L" IN THE FOUNDATION SHALL BE THE SAME SIZE AS THE CONDUIT FROM THE FOUNDATION TO THE PULL BOX AS SHOWN ON THE PLANS.

THE GROUND ROD SHALL BE FUSION WELDED TO A 1C/#8 A.W.G. SOLID COPPER GROUND WIRE. ATTACHMENT TO THE PRIMARY GROUND MAY BE BY AN APPROVED CLAMP. THE GROUND ROD IS TO BE LOCATED IN THE CONCRETE PULL BOX.

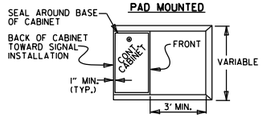
TYPICAL FOUNDATION DETAILS

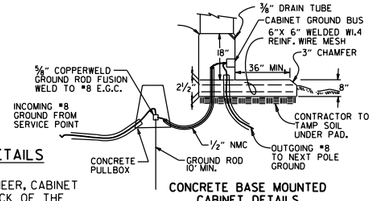
POLE FOUNDATION MINIMUM DIMENSIONS AND STEEL REINFORCING. ALL REINFORCING STEEL SHALL BE GRADE 40 MIN.

ARM LENGTH	FOUNDATION DIAMETER	DEPTH "L"*	STEEL		
			VERTICAL	HORIZONTAL	O.C.
PED	30"	7'-0"	12-#7 (6'-6")	10-#4	8.44"
2' TO 12'	30"	10'-6"	12-#7 (10'-0")	15-#4	8.42"
OVER 12' TO 20'	30"	11'-6"	12-#7 (11'-0")	16-#4	8.66"
OVER 20' TO 35'	36"	12'-6"	13-#8 (12'-0")	17-#4	8.88"
OVER 35' TO 50'	36"	13'-6"	13-#8 (13'-0")	19-#4	8.56"
OVER 50' TO 72'	42"	14'-6"	18-#8 (14'-0")	20-#4	8.74"
TWINS TO 20'	30"	16'-0"	12-#6 (15'-6")	22-#4	8.76"
TWINS OVER 20' TO 44'	36"	16'-0"	13-#8 (15'-6")	22-#4	8.76"
TWINS OVER 44' TO 50'	42"	16'-0"	18-#8 (15'-6")	22-#4	8.76"
TWINS OVER 50' TO 72'	42"	16'-6"	18-#8 (16'-0")	23-#4	8.64"



SPAN WIRE SUPPORT POLE AND MAST ARM POLE MOUNTED





CONCRETE BASE MOUNTED CABINET DETAILS

CONTROLLER CABINET MOUNTING DETAILS

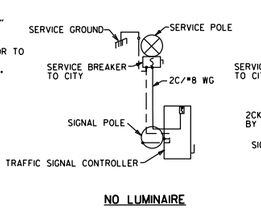
NOTE:
UNLESS OTHERWISE DIRECTED BY THE ENGINEER, CABINET ORIENTATION SHALL BE SUCH THAT THE BACK OF THE CABINET IS PARALLEL TO THE STREET AND POSITIONED TO ALLOW VISIBILITY OF THE SIGNAL DISPLAY WHILE OBSERVING THE CONTROLLER FRONT PANEL.

8. GROUND ROD - A 10' X ⅝" GROUND ROD SHALL BE INSTALLED IN THE CONCRETE PULL BOX FOR EACH POLE AND THE CONTROLLER. PAYMENT FOR THE GROUND ROD AND ½" NMC SHALL BE INCLUDED IN ITEM 714 FOR SIGNAL POLES AND ITEM 701 FOR THE CONTROLLER. THE CONCRETE PULL BOX AND CONDUCTOR BOX SHALL BE PAID SEPERATELY.

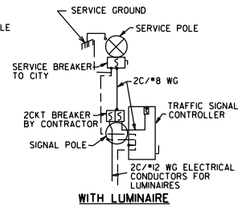
9. POLE BASE/FOUNDATION - ANCHOR BOLTS SHALL INCLUDE AS A MINIMUM, ONE LEVELING NUT, TWO FLAT WASHERS, ONE LOCK WASHER, AND ONE HEX NUT. PERIMETER OF ANCHOR BASE SHALL BE GROUTED WITH A ¼" WEEP HOLE. ALL CONCRETE SHALL BE CLASS "S" OR GREATER.

10. CONCRETE - ALL CONCRETE FOR CONTROLLER CABINET AND POLE FOUNDATIONS SHALL BE CLASS "S" OR GREATER.

11. PEDESTRIAN PHASES - PEDESTRIAN MOVEMENTS SHALL BE PUSH BUTTON ACTUATED AND CONCURRENTLY TIMED, UNLESS OTHERWISE INDICATED ON THE PLAN SHEET(S). FURNISHING AND INSTALLING PEDESTRIAN PUSH SWITCH SHALL BE CONSIDERED SUBSIDIARY TO THE ITEM 707 PEDESTRIAN SIGNAL HEAD.



NO LUMINAIRE



WITH LUMINAIRE

SERVICE DISCONNECT
NOTE: ELECTRICAL GROUND CONDUCTOR IS BONDED TO ALL METAL ENCLOSURES

* WHEN THE GROUND ELEVATION AT THE POLE IS LOWER THAN THE ROADWAY ELEVATION, THE LENGTH OF FOUNDATION ABOVE THE GROUND MAY BE INCREASED TO PROVIDE THE REQUIRED SIGNAL HEAD CLEARANCE ABOVE THE ROADWAY. WHEN THE REQUIRED LENGTH OF FOUNDATION ABOVE THE GROUND IS 18" OR LESS, NO INCREASE IN DEPTH "L" WILL BE REQUIRED. WHEN THE REQUIRED LENGTH OF FOUNDATION ABOVE THE GROUND IS 5'-6" OR LESS, INCREASE DEPTH "L" BY 1'-0". FOR LENGTHS GREATER THAN 5'-6", DEPTH "L" SHALL BE ADJUSTED AS DIRECTED BY THE ENGINEER. LONGITUDINAL REINFORCING, AS SHOWN IN THE TABLE, SHALL BE PROVIDED FOR THE LENGTH OF THE EXTENDED SHAFT AND #4 TIES SHALL BE PROVIDED AT A SPACING NOT TO EXCEED 9" ON CENTERS. PAYMENT WILL BE IN ACCORDANCE WITH SECTION 714 TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION OF THE STANDARD SPECIFICATIONS.

** IN LIEU OF DESIGNING THE STRUCTURE TO RESIST PERIODIC GALLOPING, A VIBRATORY MITIGATION DEVICE MAY BE PROVIDED BY THE POLE MANUFACTURER. THE VIBRATORY MITIGATION DEVICE SHALL BE AN ANTI-GALLOPING PANEL CONSISTING OF A 60" X 16" X 0.125" SIGN BLANK MOUNTED NEAR THE END OF THE MAST ARM NOT TO EXCEED ONE QUARTER OF THE LENGTH OF THE MAST ARM FROM THE END OF THE MAST ARM WITH THE LONG AXIS OF THE PANEL COLLINEAR WITH THE LONG AXIS OF THE MAST ARM. THE PANEL SHOULD BE MOUNTED AT SUCH THE HEIGHT AS TO PROVIDE AT LEAST 6" CLEAR FROM THE TOP OF ANY SIGNAL ASSEMBLY OF SIGN PANEL LOCATED ON THE MAST ARM WITHIN THE LENGTH OF THE ANTI-GALLOPING PANEL.

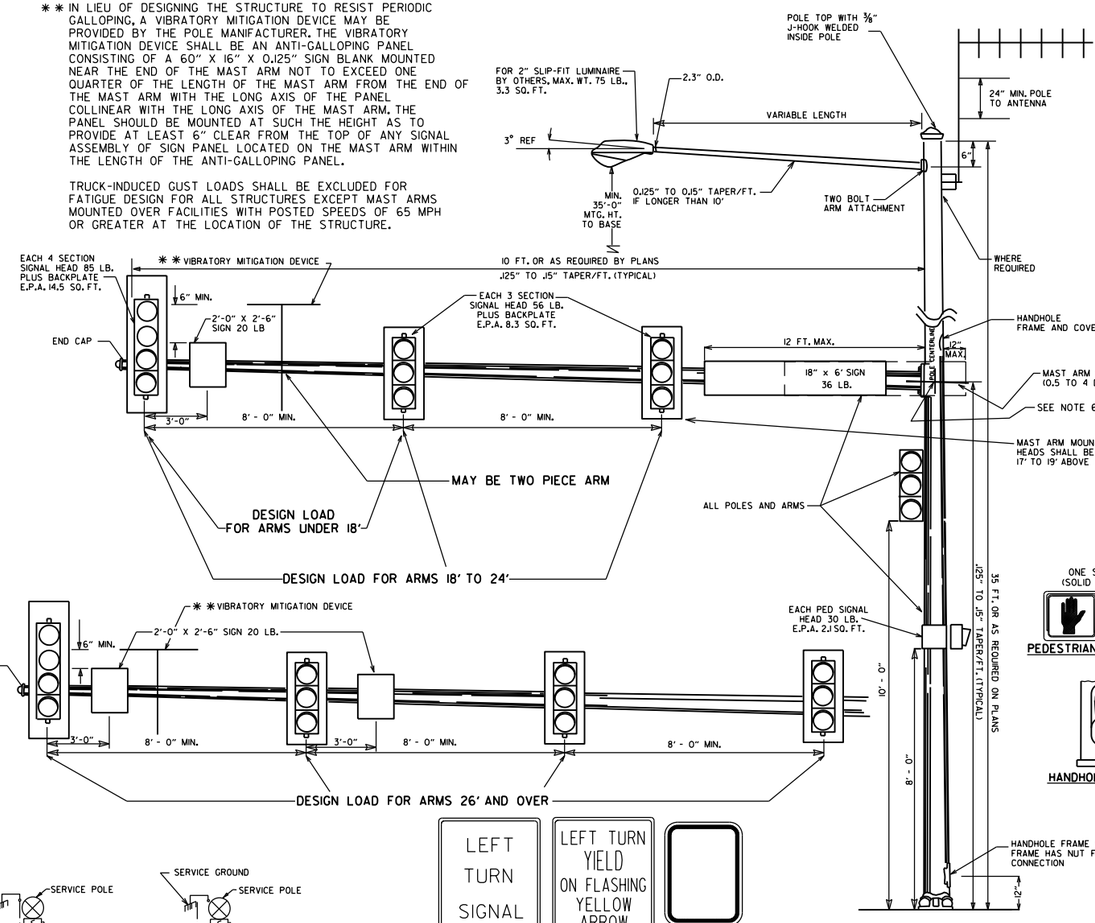
TRUCK-INDUCED GUST LOADS SHALL BE EXCLUDED FOR FATIGUE DESIGN FOR ALL STRUCTURES EXCEPT MAST ARMS MOUNTED OVER FACILITIES WITH POSTED SPEEDS OF 65 MPH OR GREATER AT THE LOCATION OF THE STRUCTURE.

SIGNAL OPERATION NOTES:

FLASHING OPERATION - PRIOR TO NORMAL OPERATION, SIGNAL SHALL BE FLASHED FOR A PERIOD OF 3 TO 5 WORK DAYS OR AS DIRECTED BY THE ENGINEER. SIGNAL SHALL BE PLACED IN OPERATION ONLY ON A REGULAR WORK DAY, EXCEPT FRIDAY.

THE CONTRACTOR MAY BE REQUIRED TO ALTER THE FLASHING DISPLAY DURING THE TEMPORARY FLASH PERIOD. AT THE TIME THE INTERSECTION IS PLACED IN PERMANENT OPERATION, THE FLASH SEQUENCE SHALL THEN BE RETURNED TO THAT INDICATED ON THE PLAN SHEETS. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED FOR THESE ALTERATION IN FLASH SEQUENCE.

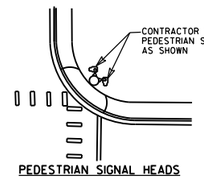
SPECIAL NOTE: 90 MPH WIND ZONE DESIGN, SEE NOTE 3. MINIMUM STRUCTURAL REQUIREMENTS.



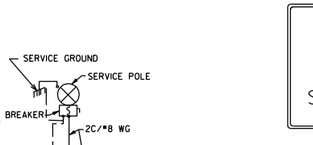
PEDESTRIAN SIGNAL HEAD

HANDHOLE TERMINAL

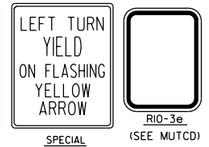
HANDHOLE FRAME AND COVER, FRAME HAS NUT FOR GROUND CONNECTION



PEDESTRIAN SIGNAL HEADS



R10-10



SPECIAL

R10-3e
(SEE MUTCD)

DATE	REVISION	FILMED
11-16-17	REVISED NOTES, ADDED PEDESTRIAN SIGNAL HEAD DETAIL, ADDED HANDHOLE TERMINAL DETAIL, ADDED TRENCHING DETAIL	
02-27-14	REVISED NOTES.	
09-12-13	ISSUED AS STANDARD DRAWING	
12-08-16	REVISED NOTES	
02-27-14	REVISED NOTES	
09-12-13	ISSUED AS STANDARD DRAWING	
07-21-11	REVISED VMD, SIGNAL HEADS	
05-21-09	REVISED GROUNDING	
07-31-08	REVISED GROUNDING	
04-25-08	ADDED VIBRATORY MITIGATION DEVICE & NOTES	
04-18-08	REVISED AASHTO NOTES	
04-17-08	REVISED TO 2001 AASHTO STANDARDS	
10-12-04	REVISED CABINET ORIENTATION	
06-23-04	REVISED	
05-11-04	REV. NOTE 3/AASHTO REQUIREMENTS	
06-11-01	REV. NOTES & POLE MAST ARM SLOPE	
04-11-01	REVISED POLE TAPERS	
04-25-00	REV. NOTES & SIGNAL HEAD PLACEMENT	
11-22-99	REVISED FOUNDATION DETAILS	
11-17-98	REVISED DETAILS AND NOTES	
11-21-95	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

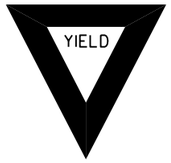
STEEL POLE WITH MAST ARM

STANDARD DRAWING SD-11

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"

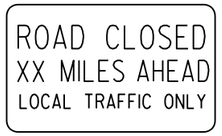
R5-1

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

R11-2

48"X30"

R11-3A



60"X30"

R11-4

60"X30"

W21-5a

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

W1-1

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

W1-2

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

W1-3

STD. 48"X48"

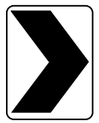
W1-4

STD. 48"X48"

W1-6

STD. 48"X24"
SPECIAL 60"X30"

W1-8



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

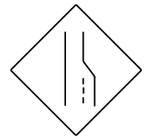
W3-1

STD. 36"X36"
SPECIAL 48"X48"

W3-2

STD. 36"X36"
SPECIAL 48"X48"

W4-2



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

W5-1

STD. 36"X36"
SPECIAL 48"X48"

W6-3

EXPWY. 36"X36"
SPECIAL 48"X48"

W8-7

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

W9-2

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

W13-1

STD. 24"X24"

W20-1

STD. 48"X48"

W20-2

STD. 48"X48"

W20-3

STD. 48"X48"

W20-4

STD. 48"X48"

W20-5

STD. 48"X48"

W20-7a

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"

W1-4b

STD. 48"X48"

R56-1

STD. 18"X18"

W8-11

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

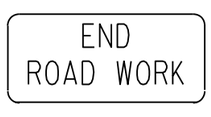
W8-9

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

G20-1

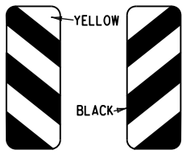
60"X24"

G20-2



48"X24"

OM-3L OM-3R



12"X36"

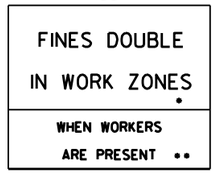
M4-9

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

M4-10

48"X18"

R55-1



36"X60"

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

ADVANCE DISTANCES
(XXXX)

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

GENERAL NOTES:

1. ALL TRAFFIC CONTROL DEVICES USED ON ROAD CONSTRUCTION SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION, AND TO THE STANDARD HIGHWAY SIGNS, LATEST EDITION, OR AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION.
2. TRAFFIC CONTROL DEVICES SHALL BE SET UP JUST BEFORE THE START OF CONSTRUCTION OPERATIONS AND SHALL BE PROPERLY MAINTAINED DURING THE TIME SUCH CONDITIONS EXIST. THEY SHALL REMAIN IN PLACE ONLY AS LONG AS NEEDED AND REMOVED THEREAFTER.
3. EXISTING SIGNS AND CONSTRUCTION SIGNS SHALL BE KEPT IN PROPER POSITION, AND BE CLEAN AND LEGIBLE AT ALL TIMES. SIGNS THAT DO NOT APPLY TO EXISTING CONDITIONS SHALL BE REMOVED. SIGNS THAT ARE DAMAGED, DEFACED, OR THAT ACCUMULATE DIRT DURING CONSTRUCTION SHALL BE CLEANED, REPAIRED, OR REPLACED.
- 4. SIGNS ARE USUALLY MOUNTED ON A SINGLE POST, ALTHOUGH THOSE WIDER THAN 36" OR LARGER THAN 10 SQ. FT. SHALL BE MOUNTED ON TWO POSTS OR ABOVE A TYPE III BARRICADE.
- 5. SIGN POSTS DIRECT BURIED IN SOIL SHALL BE 2 LB. MINIMUM CHANNEL POST OR 4"x4" WOOD POSTS. CHANNEL POSTS SHALL BE PAINTED GREEN. WOOD POSTS SHALL BE PAINTED WHITE. ALL POSTS SHALL BE NEATLY CONSTRUCTED, AND SHALL BE REPLUMBED, CLEANED, OR REPAIRED AS NEEDED FOR THE DURATION OF THE JOB. THERE SHALL NOT BE MORE THAN 2 POSTS IN A 7' PATH FOR WOOD OR CHANNEL POSTS. ANY CHANNEL POST SPLICE SHALL BE IN ACCORDANCE WITH STANDARD DRAWING TC-3.
6. POST MOUNTED SIGNS IN RURAL AREAS SHALL BE CONSTRUCTED WITH THE NEAR EDGE OF THE SIGN FROM 6 TO 12 FEET FROM THE PAVEMENT EDGE. SIGNS IN URBAN AREAS AND BARRICADE MOUNTED SIGNS SHALL BE MOUNTED A MINIMUM OF 2 FEET FROM THE PAVEMENT EDGE.
7. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN URBAN AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN RURAL AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE, EXCEPT A MINIMUM OF 6' SHALL BE USED WHEN MOUNTING AN ADVISORY SIGN BELOW A WARNING SIGN. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR INTERMEDIATE TERM STATIONARY WORK CONDITIONS. THE SIGNS MINIMUM MOUNTING HEIGHT SHALL BE 5'. RETROREFLECTIVE DEVICES SHALL BE USED. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR SHORT-TERM, SHORT DURATION, AND MOBILE CONDITIONS. THEY SHALL BE NO LESS THAN ONE (1) FOOT ABOVE THE TRAVELED WAY. LONG-TERM STATIONARY SIGNS SHALL BE DIRECT BURIED IN SOIL, UNLESS CONDITIONS NECESSITATE THE USE OF PORTABLE SIGNS, OR AS APPROVED BY THE ENGINEER. CONCRETE PADS, CONCRETE OR ROCK BALLAST, OR OTHER SOLID MATERIALS SHALL NOT BE UTILIZED WITH PORTABLE SIGN SUPPORTS.
8. FLAGGERS SHALL USE REFLECTORIZED STOP-SLOW PADDLES. FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS.
9. MOST OF THE SIGNS SHOWN ARE ORIENTED TO THE RIGHT. HOWEVER, THIS DOES NOT PRECLUDE THE USE OF MIRROR IMAGES OF THESE SIGNS WHERE THE REVERSE ORIENTATION MIGHT BETTER CONVEY TO MOTORISTS THE PROPER DIRECTION OF MOVEMENT.
10. R55-1 SIGNS SHALL BE PLACED AT LEAST 1500' BUT NOT MORE THAN 1 MILE IN ADVANCE OF THE WORK ZONE. IF A SPEED LIMIT REDUCTION IS IN EFFECT, THE SIGN SHALL BE PLACED A MINIMUM OF 500' IN ADVANCE OF THE "REDUCED SPEED AHEAD" SIGN.

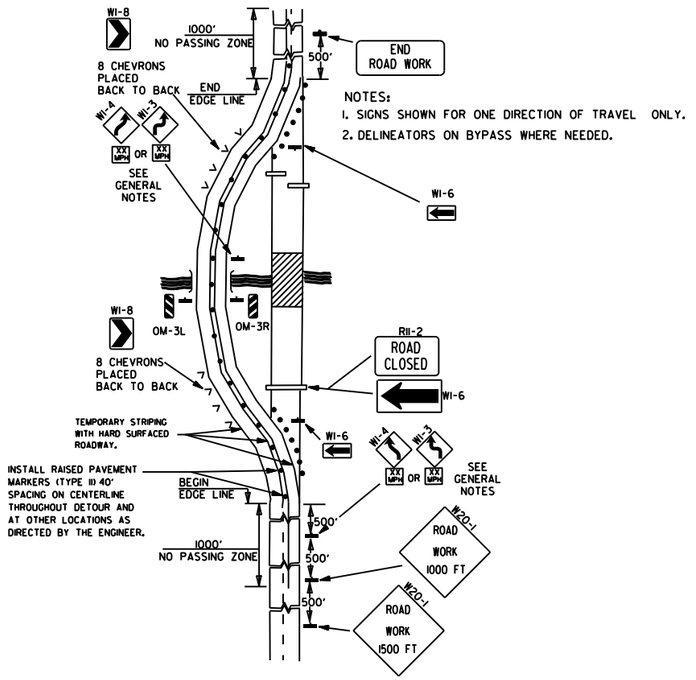
- NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) IS REQUIRED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

DATE	REVISION	FILMED
11-07-19	REVISED FOR MASH	
4-13-17	DELETED RSP-1 & ADDED W21-5a	
9-2-15	REVISED REDUCED SPEED LIMIT AHEAD SIGNS REVISED ROAD WORK NEXT XX MILES	
12-15-11	REVISED W24-1	
11-17-10	DELETED W8-9a & ADDED W8-9	
10-15-09	ADDED REFERENCE TO MASH & ADDED SIGN W24-1	
4-17-08	REVISED SIGN DESIGNATIONS	
11-18-04	REVISED NOTES	
10-9-03	REVISED NOTE 1	
11-16-01	REVISED NOTE 7	
9-28-00	REVISED NOTE	
11-18-98	ADDED NOTE	
6-26-97	REVISED NOTE 5	
4-03-97	REVISED NOTE 5	
10-18-96	ADDED CONTROLLED ACCESS HWY. SIGN & TO NOTE 7	
10-12-95	ADDED R55-1	
6-8-95	REVISED TO CORRECT SIGN ILLUSTRATIONS	6-8-95
2-2-95	REVISED PER PART VI, MUTCD SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

ARKANSAS STATE HIGHWAY COMMISSION

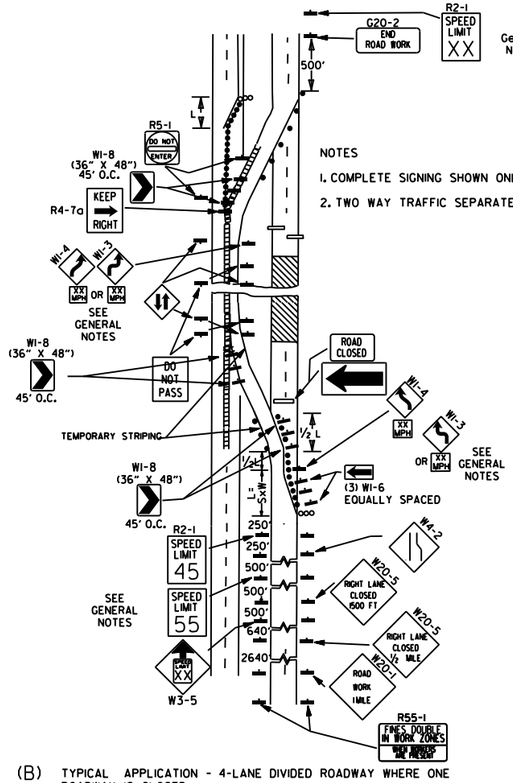
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-1



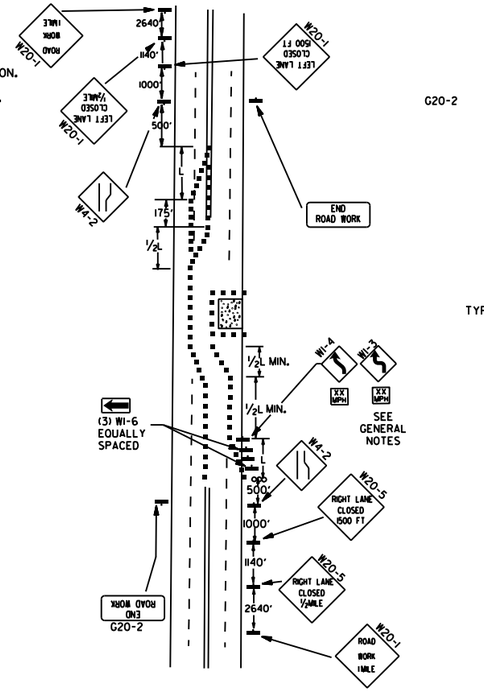
NOTES:
1. SIGNS SHOWN FOR ONE DIRECTION OF TRAVEL ONLY.
2. DELINEATORS ON BYPASS WHERE NEEDED.

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

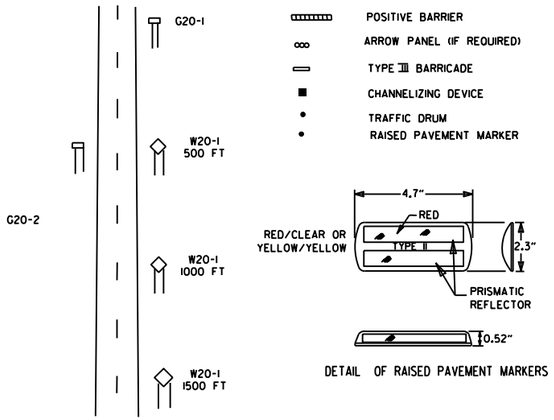


NOTES
1. COMPLETE SIGNING SHOWN ONLY IN CROSSOVER DIRECTION.
2. TWO WAY TRAFFIC SEPARATED WITH POSITIVE BARRIER.

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



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



DETAIL OF RAISED PAVEMENT MARKERS

TYPICAL ADVANCE WARNING SIGN PLACEMENT

TAPER FORMULAE:

L=SXW FOR SPEEDS OF 45MPH OR MORE.

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

WHERE:

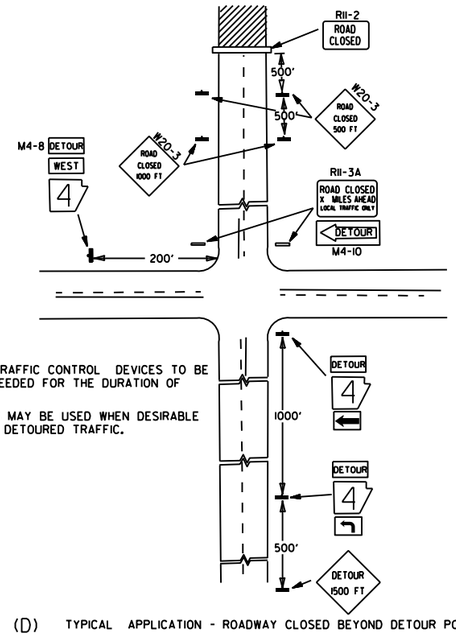
L= MINIMUM LENGTH OF TAPER.

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

W= WIDTH OF OFFSET.

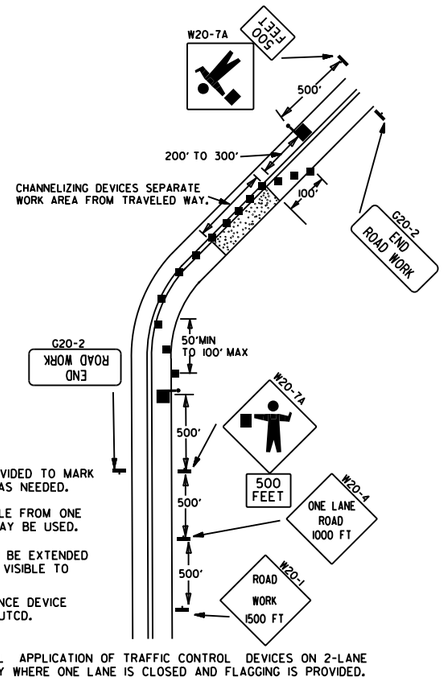
GENERAL NOTES:

1. THE MAINTENANCE DIVISION SHALL CONDUCT A BALL BANK STUDY TO DETERMINE THE ADVISORY SPEED LIMIT PRIOR TO OPENING TO TRAFFIC. THE ADVISORY SPEED WILL BE POSTED ON WI-3 OR WI-4 CURVE WARNING SIGNS. USE WI-4 WHEN SPEED IS GREATER THAN 30MPH AND WI-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 R2-145MPH 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 R2-155MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
4. THE MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES IN A TAPER SHOULD BE APPROXIMATELY EQUAL IN FEET TO THE SPEED LIMIT. BEYOND THE TAPER, MAXIMUM SPACING SHALL BE TWO TIMES THE SPEED LIMIT, OR AS DIRECTED BY THE ENGINEER.
5. WARNING LIGHTS AND/OR FLAGS MAY BE MOUNTED TO SIGNS OR CHANNELIZING DEVICES AT NIGHT AS NEEDED.
6. PAVEMENT MARKINGS NO LONGER APPLICABLE WHICH MIGHT CREATE CONFUSION IN THE MINDS OF VEHICLE OPERATORS SHALL BE REMOVED OR OBLITERATED AS SOON AS PRACTICABLE.
7. TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE DELINEATED BY AFFIXING CONSPICUITY MATERIAL IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER. WHEN PLACED ON OR ADJACENT TO THE SHOULDER AND NOT BEHIND A POSITIVE BARRIER, THESE DEVICES SHALL BE DELINEATED BY PLACING FIVE (5) TRAFFIC DRUMS, EQUALLY SPACED ALONG THE TRAFFIC SIDE OF THE DEVICE. PAYMENT FOR TRAFFIC DRUMS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR VARIOUS TRAILER MOUNTED DEVICES.
8. DIMENSIONS SHOWN FOR RAISED PAVEMENT MARKERS ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR MARKERS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR SIMILAR MARKERS MAY BE MADE BY REFERRING TO THE ARDOT QUALIFIED PRODUCTS LIST.
9. ALL TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL MEET THE REQUIREMENTS OF THE MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).



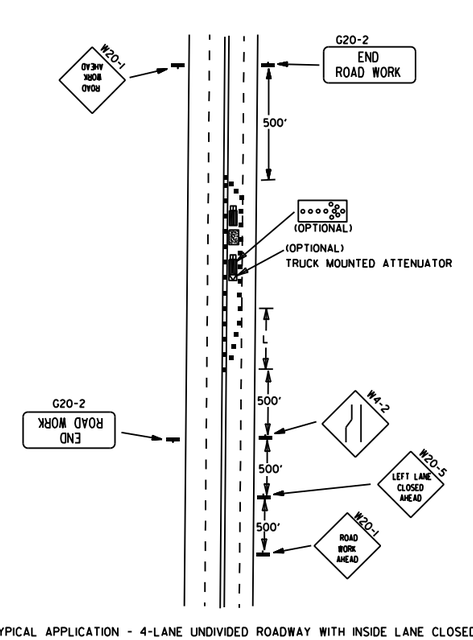
NOTES:
1. REGULATORY TRAFFIC CONTROL DEVICES TO BE MODIFIED AS NEEDED FOR THE DURATION OF THE DETOUR.
2. STREET NAMES MAY BE USED WHEN DESIRABLE FOR DIRECTING DETOURED TRAFFIC.

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



NOTES:
1. FLOOD LIGHTS SHOULD BE PROVIDED TO MARK FLAGGER STATIONS AT NIGHT AS NEEDED.
2. IF ENTIRE WORK AREA IS VISIBLE FROM ONE STATION, A SINGLE FLAGGER MAY BE USED.
3. CHANNELIZING DEVICES ARE TO BE EXTENDED TO A POINT WHERE THEY ARE VISIBLE TO APPROACHING TRAFFIC.
4. AUTOMATED FLAGGER ASSISTANCE DEVICE (AFAD) OPTIONAL. REFER TO MUTCD.

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



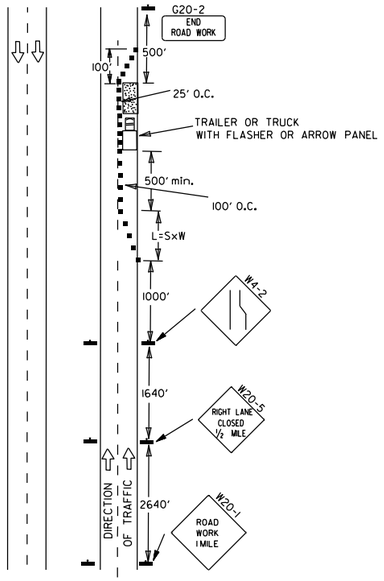
(F) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WITH INSIDE LANE CLOSED.

DATE	REVISION	FILMED
05-20-21	REVISED NOTE 7	
11-07-19	REVISED NOTE 1, ADDED NOTE 9	
9-2-15	REVISED NOTE 2, ADDED NOTE 8, REVISED DRAWING (A) & REPLACED R2-5A WITH W3-5	
9-12-13	REVISED DETAIL OF RAISED PAVEMENT MARKERS	
3-11-10	ADDED (AFAD)	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED GENERAL NOTE	
10-18-96	ADDED R55-1	
4-26-96	CORRECTED (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	

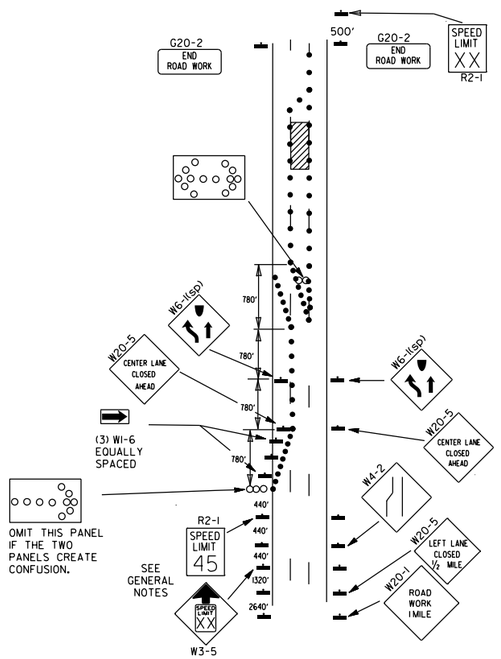
ARKANSAS STATE HIGHWAY COMMISSION

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.

KEY:

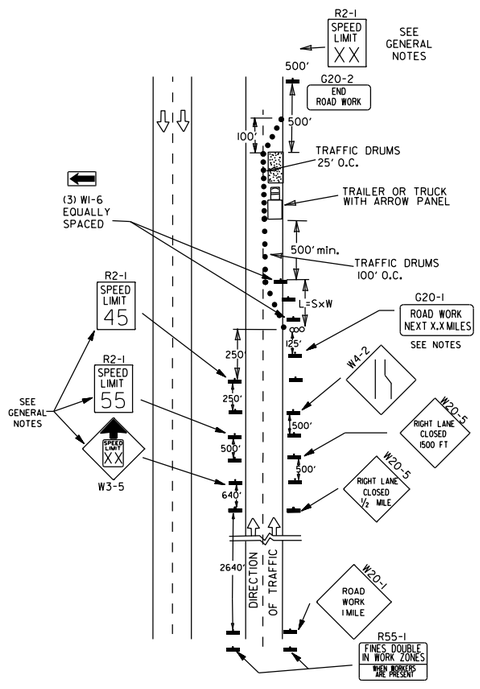
ARROW PANEL (IF REQUIRED)

■ CHANNELIZING DEVICE

● TRAFFIC DRUM

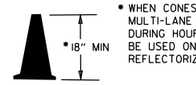
GENERAL NOTES:

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



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

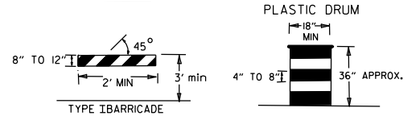
CHANNELIZING DEVICES



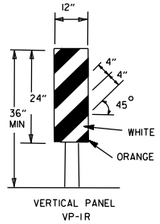
* WHEN CONES ARE USED ON FREEWAYS AND MULTI-LANE HIGHWAYS, THEY SHALL BE 28" MIN. DURING HOURS OF DARKNESS, 28" CONES SHALL BE USED ON ALL ROADWAYS, AND SHALL BE REFLECTORIZED IN ACCORDANCE WITH THE M.U.T.C.D.

CONES

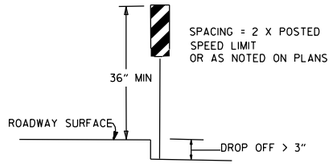
PLASTIC DRUM



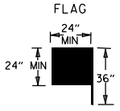
NOTE:
FOR ALL ROAD CLOSURES, THE TYPE III BARRICADES SHALL BE OF SUFFICIENT LENGTH TO EXTEND ACROSS ENTIRE ROADWAY.



VERTICAL PANEL PLACEMENT



FLAG



FLAG SHALL BE OF GOOD GRADE RED MATERIAL

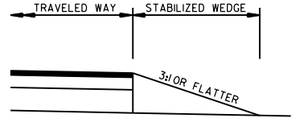
TRAFFIC CONTROL DEVICES			
NON-INTERSTATE			
VERTICAL DIFFERENTIAL	LOCATION	TRAFFIC CONTROL	
		≤ 45 MPH	> 45 MPH
≤ 1"	CENTERLINE	W8-11	W8-11
> 1" ≤ 3"	CENTERLINE	W8-11 AND CENTERLINE LANE STRIPING	W8-11 AND CENTERLINE LANE STRIPING
> 3"	CENTERLINE	STANDARD LANE CLOSURE[6]	STANDARD LANE CLOSURE[6]
≤ 3"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

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

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

GENERAL NOTES:

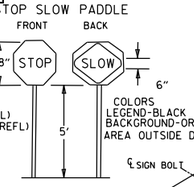
1. WHEN THE SHOULDER AREA IS USED AS PART OF THE TRAVELED LANE AND THERE IS INSUFFICIENT WIDTH TO PLACE TRAFFIC DRUMS ON THE REMAINING SHOULDER WIDTH, THEN VERTICAL PANELS SHALL BE USED.
2. WHEN THERE IS INSUFFICIENT WIDTH TO PLACE TRAFFIC DRUMS ON THE REMAINING SHOULDER WIDTH, A STABILIZED WEDGE SHALL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

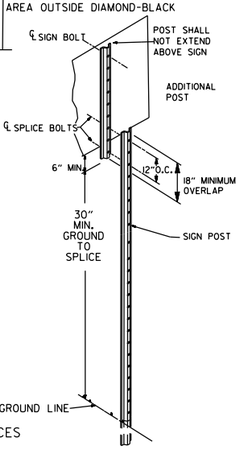


STABILIZED WEDGE

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

STOP SLOW PADDLE

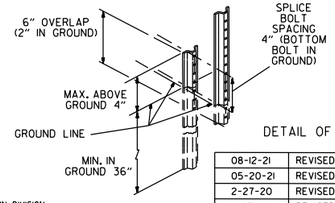




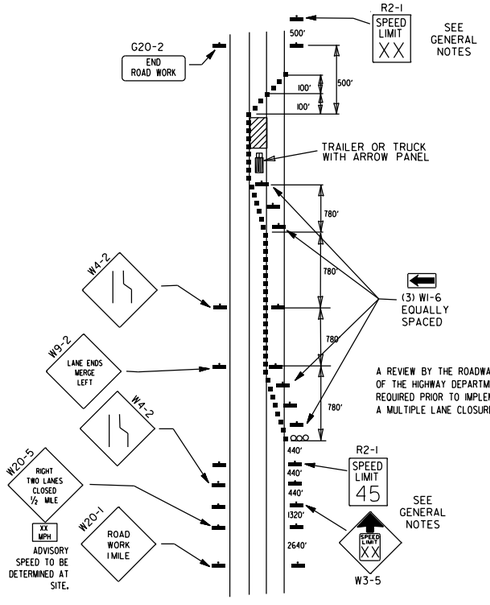
NOTES: USE SPLICES ONLY WHEN NECESSARY FOR INSTALLATION. TYPICAL INSTALLATION SHOULD HAVE NO SPLICES (SEE STD. DRAWING NO. SHS-21)

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

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



DETAIL OF SPLICES



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.

DATE	REVISION	FILMED
08-12-21	REVISED TRAFFIC CONTROL DEVICES AND NOTES	
05-20-21	REVISED NOTE 10	
2-27-20	REVISED TRAFFIC CONTROL DEVICES DETAILS	
11-07-19	REVISED NOTE 9, ADDED NOTE 11	
7-25-19	REVISED TRAFFIC CONTROL DEVICES DETAILS	
9-2-15	REVISED NOTE 2 & REPLACED R2-5A WITH W3-5	
10-15-09	ADDED REFERENCE TO MASH	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED NOTE	
10-1-98	ADDED NOTE	
4-03-97	ADDED (SP) TO W6-1& REVISED TRAFFIC CONTROL DEVICES NOTE	
10-18-96	ADDED R55-1	
10-12-95	MOVED UPPER SPLICE	
6-8-95	REVISED SPLICE DETAIL, TEXT	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	

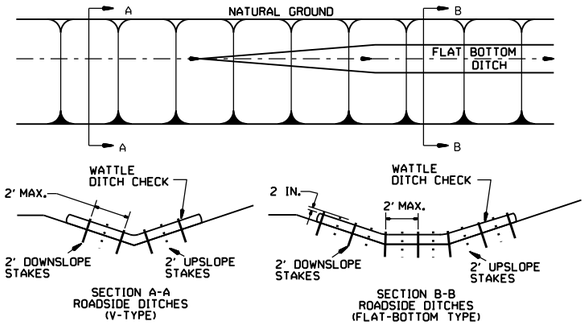
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

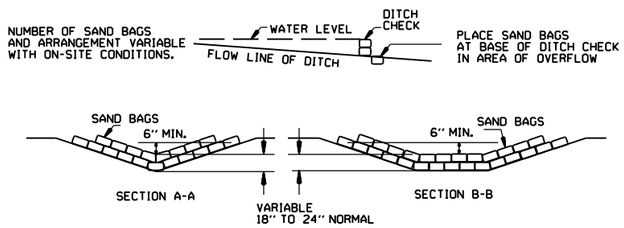
STANDARD DRAWING TC-3

GENERAL NOTES

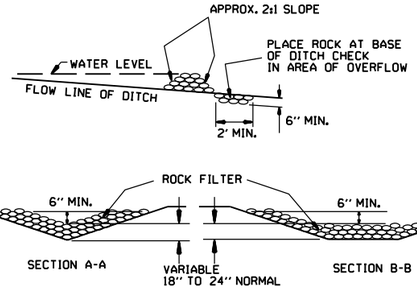
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.



WATTLE DITCH CHECK (E-1)



SAND BAG DITCH CHECK (E-5)

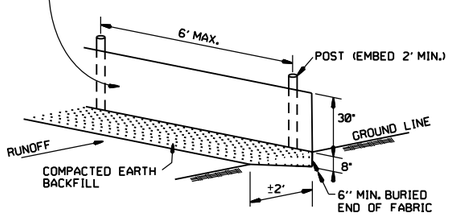


ROCK DITCH CHECK (E-6)

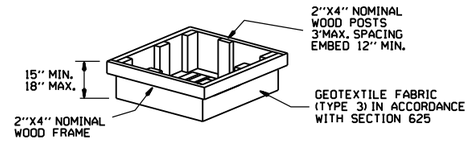
GENERAL NOTES

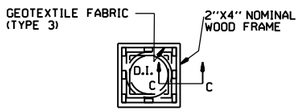
GEOTEXTILE FABRIC (TYPE 4) IN ACCORDANCE WITH SECTION 625

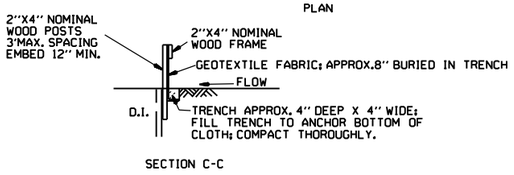
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.



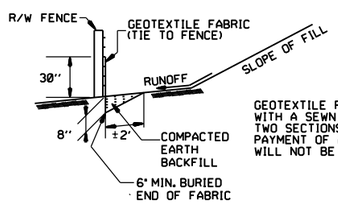
SILT FENCE (E-11)





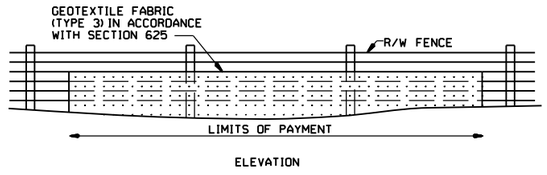


DROP INLET SILT FENCE (E-7)



GENERAL NOTES

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



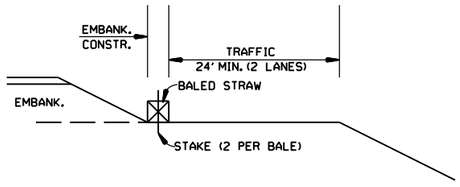
SILT FENCE ON R/W FENCE (E-4)

GENERAL NOTES

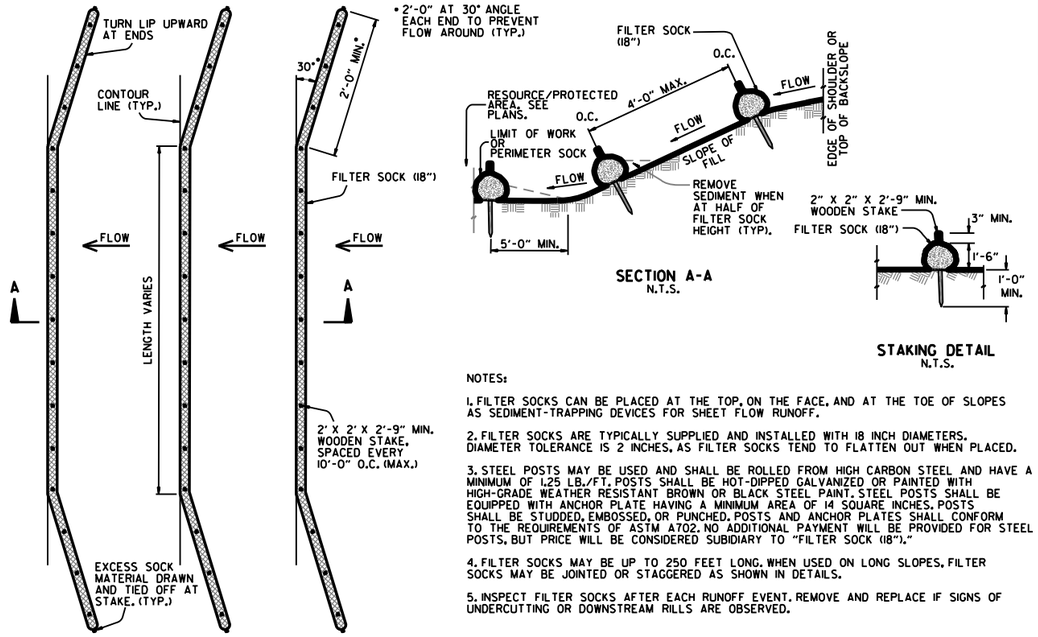
1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.

2. NO GAPS SHALL BE LEFT BETWEEN BALES.

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



BALED STRAW FILTER BARRIER (E-2)



NOTES:

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

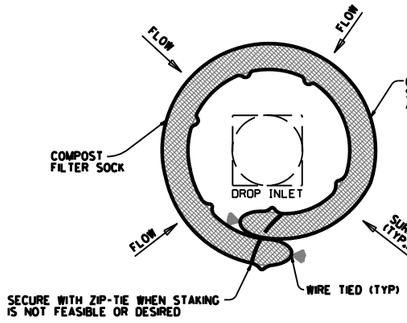
2. FILTER SOCKS ARE TYPICALLY SUPPLIED AND INSTALLED WITH 18 INCH DIAMETERS. DIAMETER TOLERANCE IS 2 INCHES, AS FILTER SOCKS TEND TO FLATTEN OUT WHEN PLACED.

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

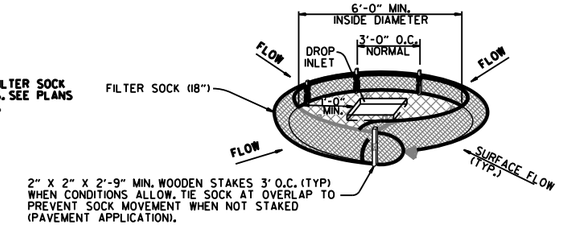
4. FILTER SOCKS MAY BE UP TO 250 FEET LONG. WHEN USED ON LONG SLOPES, FILTER SOCKS MAY BE JOINTED OR STAGGERED AS SHOWN IN DETAILS.

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

FILTER SOCK ALONG SLOPE (E-3)



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