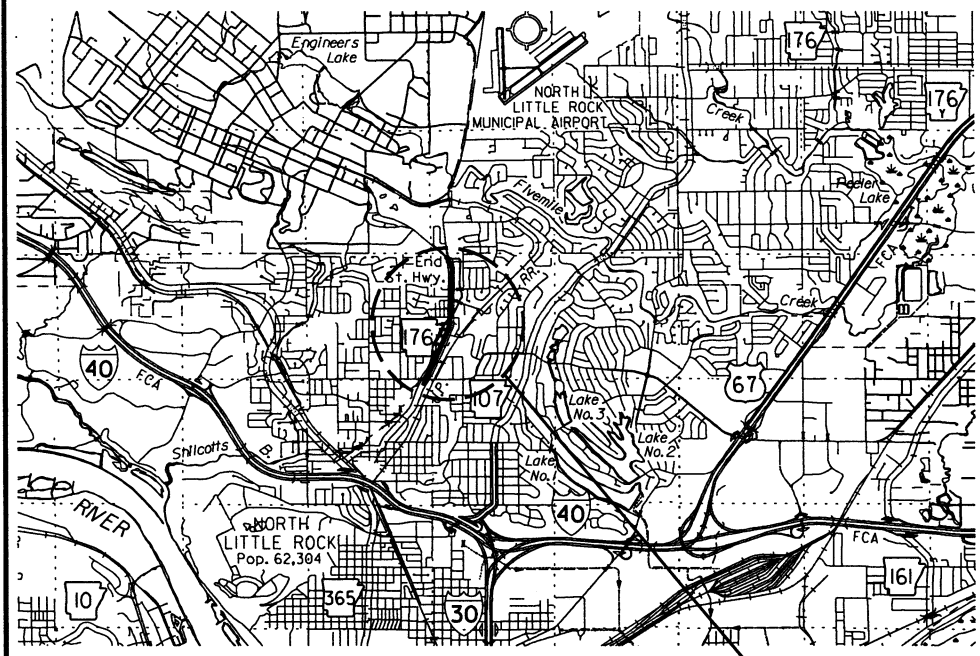


DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.	061166		1	20

② 47TH ST. - REMOUNT RD. SAFETY IMPVTS. (NLR) (S)



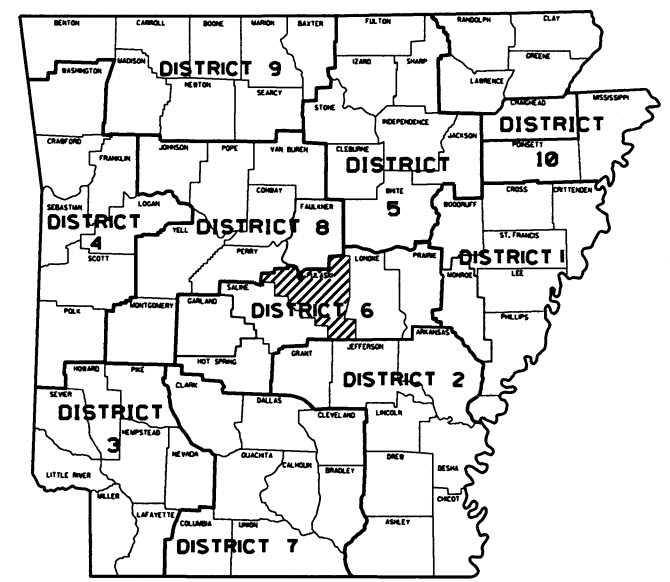
VICINITY MAP

PROJECT LOCATION

ARKANSAS DEPARTMENT OF TRANSPORTATION
CONSTRUCTION PLANS FOR STATE HIGHWAY

47TH ST. - REMOUNT RD.
SAFETY IMPVTS. (NLR) (S)

PULASKI COUNTY
ROUTE 176 SECTION 1
JOB 061166
F.A.P. NO. HSIP-9253(90)
NOT TO SCALE



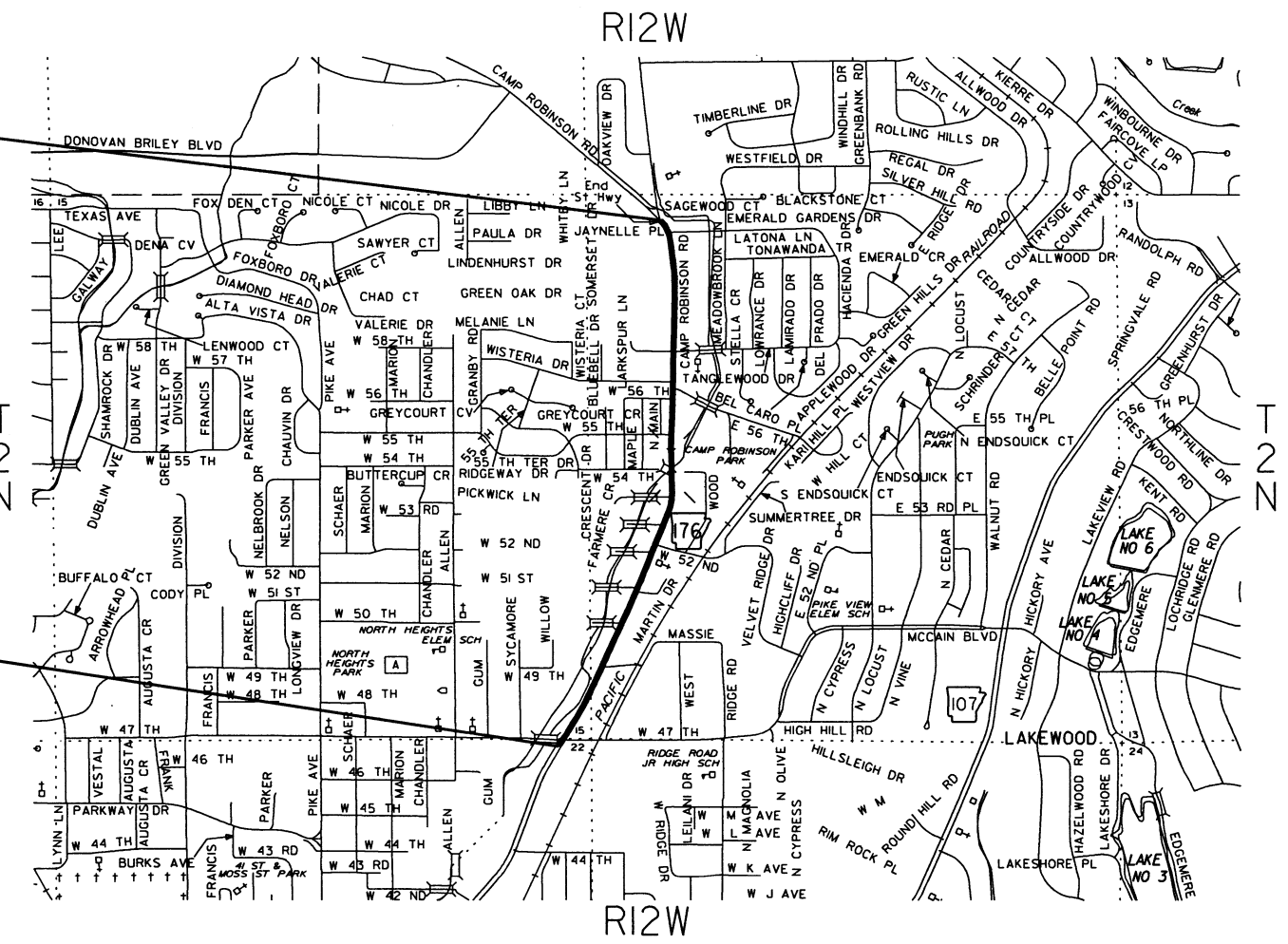
ARKANSAS HWY. DIST. 6

DESIGN TRAFFIC DATA

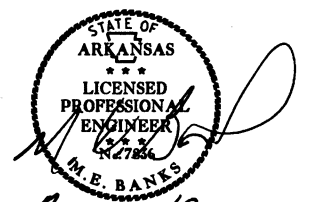
DESIGN YEAR	2039
2019 ADT	15,000
2039 ADT	18,500
2039 DHV	2035
DIRECTIONAL DISTRIBUTION	0.60
TRUCKS	2%
DESIGN SPEED	35 MPH

END JOB 061166
LOG MILE 2.03
(HWY. 176)

STA. 11+00.00
BEGIN JOB 061166
LOG MILE 0.98
(HWY. 176)



APPROVED



8-29-19
DEPUTY DIRECTOR
AND CHIEF ENGINEER

PROJECT COORDINATES:

	BEGIN	MID-POINT	END
LAT.	N34° 47' 50"	N34° 48' 15"	N34° 48' 41"
LONG.	W92° 16' 12"	W92° 15' 57"	W92° 15' 57"

GROSS LENGTH OF PROJECT	5544.00 FEET OR	1.050 MILES
NET " " ROADWAY	5544.00 " "	1.050 MILES
NET " " BRIDGE	0.00 " "	0.000 MILES
NET " " PROJECT	5544.00 " "	1.050 MILES

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12-20-19				6	ARK.			
						JOB NO. 061166	2	20

② INDEX OF SHEETS AND STANDARD DRAWINGS



INDEX OF SHEETS

SHEET NO.	TITLE
1	TITLE SHEET
2	INDEX OF SHEETS AND STANDARD DRAWINGS
3	GOVERNING SPECIFICATIONS AND GENERAL NOTES
4 - 5	TYPICAL SECTIONS OF IMPROVEMENT
6	SPECIAL DETAILS
7	MAINTENANCE OF TRAFFIC DETAILS
8 - 9	PERMANENT PAVEMENT MARKING DETAILS
10 - 11	QUANTITIES
12	SUMMARY OF QUANTITIES AND REVISIONS
13	SURVEY CONTROL DETAILS
14	PLAN SHEET
15	TRAFFIC SIGNAL NOTES
16	TRAFFIC SIGNAL QUANTITIES
17 - 20	SIGNALIZATION PLAN SHEETS

ROADWAY STANDARD DRAWINGS

DRWG.NO.	TITLE	DATE
CG-1	CURBING DETAILS	11-29-07
PM-1	PAVEMENT MARKING DETAILS	06-01-17
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	11-07-19
TC-3	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	11-07-19
TEC-1	TEMPORARY EROSION CONTROL DEVICES	11-16-17
WR-2	WHEELCHAIR RAMPS ALTERATIONS ONLY	10-09-03

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12-03-19				6	ARK.			
12-20-19								
						JOB NO. 061166	3	20

2 GOVERNING SPECIFICATIONS & GENERAL NOTES



GOVERNING SPECIFICATIONS

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

NUMBER	TITLE
ERRATA	ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS
FHWA-1273	REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - NOTICE TO CONTRACTORS
FHWA-1273	SUPPLEMENT - SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES (23 U.S.C. 140)
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - GOALS AND TIMETABLES
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - FEDERAL STANDARDS
FHWA-1273	SUPPLEMENT - POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS
FHWA-1273	SUPPLEMENT - WAGE RATE DETERMINATION
100-3	CONTRACTOR'S LICENSE
100-4	DEPARTMENT NAME CHANGE
102-2	ISSUANCE OF PROPOSALS
108-1	LIQUIDATED DAMAGES
108-2	WORK ALLOWED PRIOR TO ISSUANCE OF WORK ORDER
306-1	QUALITY CONTROL AND ACCEPTANCE
400-1	TACK COATS
400-4	DESIGN AND QUALITY CONTROL OF ASPHALT MIXTURES
400-5	PERCENT AIR VOIDS FOR ACHM MIX DESIGNS
400-6	LIQUID ANTI-STRIP ADDITIVE
410-1	CONSTRUCTION REQUIREMENTS AND ACCEPTANCE OF ASPHALT CONCRETE PLANT MIX COURSES
410-2	DEVICES FOR MEASURING DENSITY FOR ROLLING PATTERNS
603-1	LANE CLOSURE NOTIFICATION
604-1	RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
621-1	FILTER SOCKS
633-1	CONCRETE WALKS, CONCRETE STEPS, AND HAND RAILING
634-1	CURBING
700-2	TRAFFIC CONTROL FACILITIES
JOB 061166	ACTUATED CONTROLLER
JOB 061166	AIRPORT CLEARANCE REQUIREMENTS
JOB 061166	BIDDING REQUIREMENTS AND CONDITIONS
JOB 061166	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB 061166	CABINET DRAWER ASSEMBLY
JOB 061166	CARGO PREFERENCE ACT REQUIREMENTS
JOB 061166	DOCUMENTATION OF PAYMENTS MADE TO DISADVANTAGED BUSINESS ENTERPRISES
JOB 061166	EDGE CARD VIDEO PROCESSOR
JOB 061166	ELECTRICAL CONDUCTORS-IN-CONDUIT
JOB 061166	LED COUNTDOWN PEDESTRIAN SIGNAL HEAD
JOB 061166	LED TRAFFIC SIGNAL HEAD
JOB 061166	LOCAL RADIO WITH ANTENNA RELOCATION
JOB 061166	MAINTENANCE OF TRAFFIC
JOB 061166	MANDATORY ELECTRONIC CONTRACT
JOB 061166	MANDATORY ELECTRONIC DOCUMENT SUBMITTAL
JOB 061166	REMOVAL OF TRAFFIC SIGNAL EQUIPMENT
JOB 061166	RETROREFLECTIVE BACKPLATES
JOB 061166	SERVICE POINT ASSEMBLY (TRAFFIC CONTROL DEVICES)
JOB 061166	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB 061166	SYSTEM LOCAL CONTROLLER
JOB 061166	TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES (MASH)
JOB 061166	ULTRATHIN BONDED WEARING COURSE
JOB 061166	UTILITY ADJUSTMENTS
JOB 061166	VIDEO DETECTOR (COLOR)
JOB 061166	WARM MIX ASPHALT
JOB 061166	WHEELCHAIR RAMPS - ALTERATIONS

GENERAL NOTES

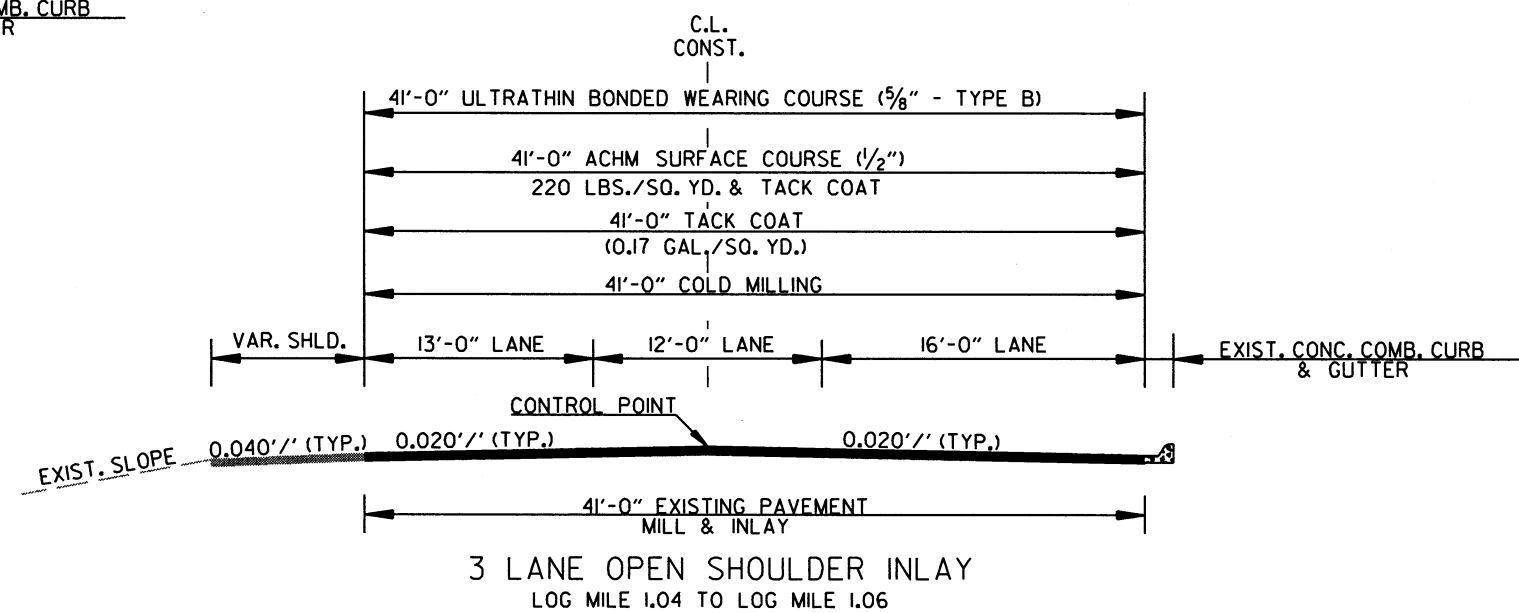
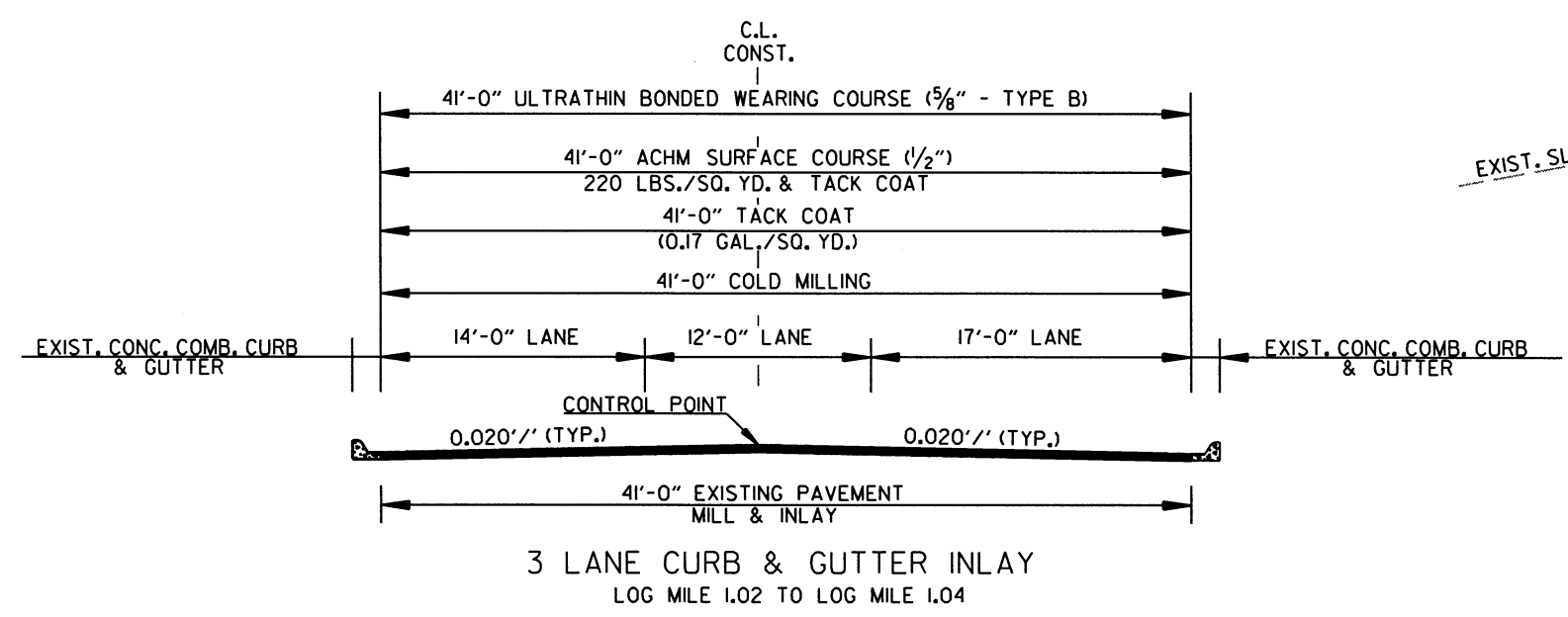
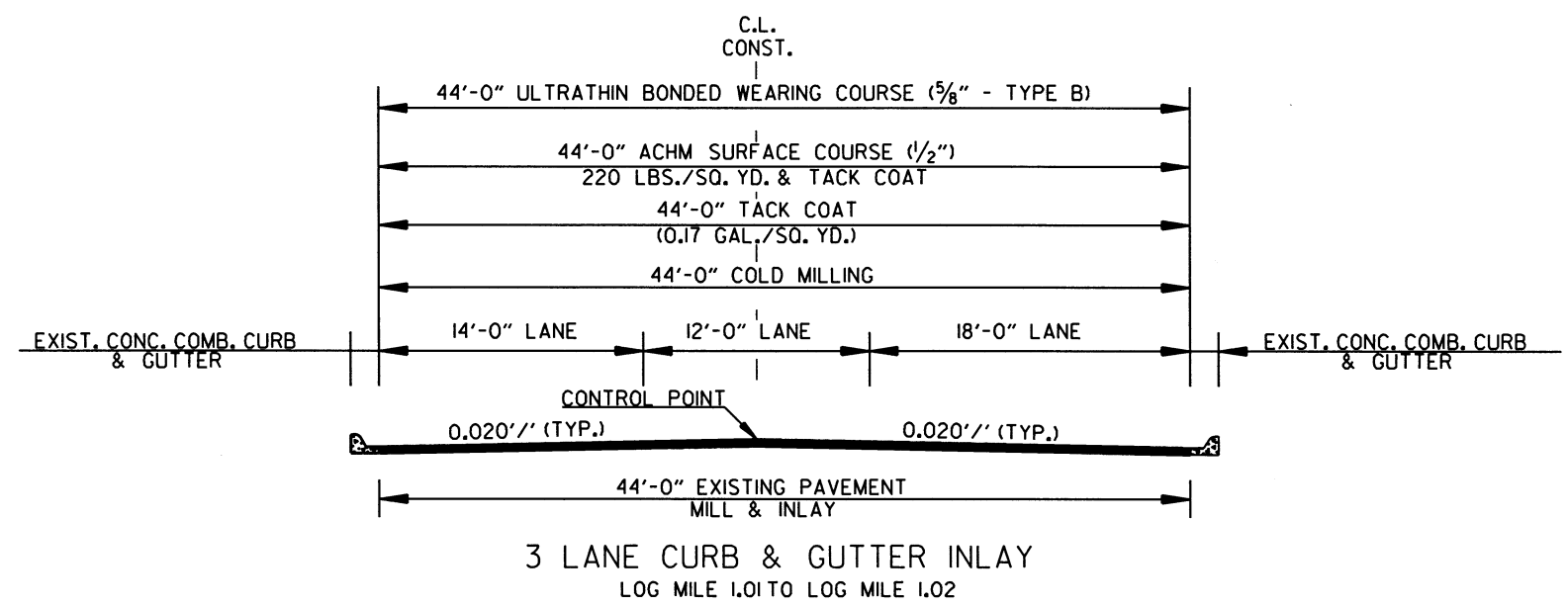
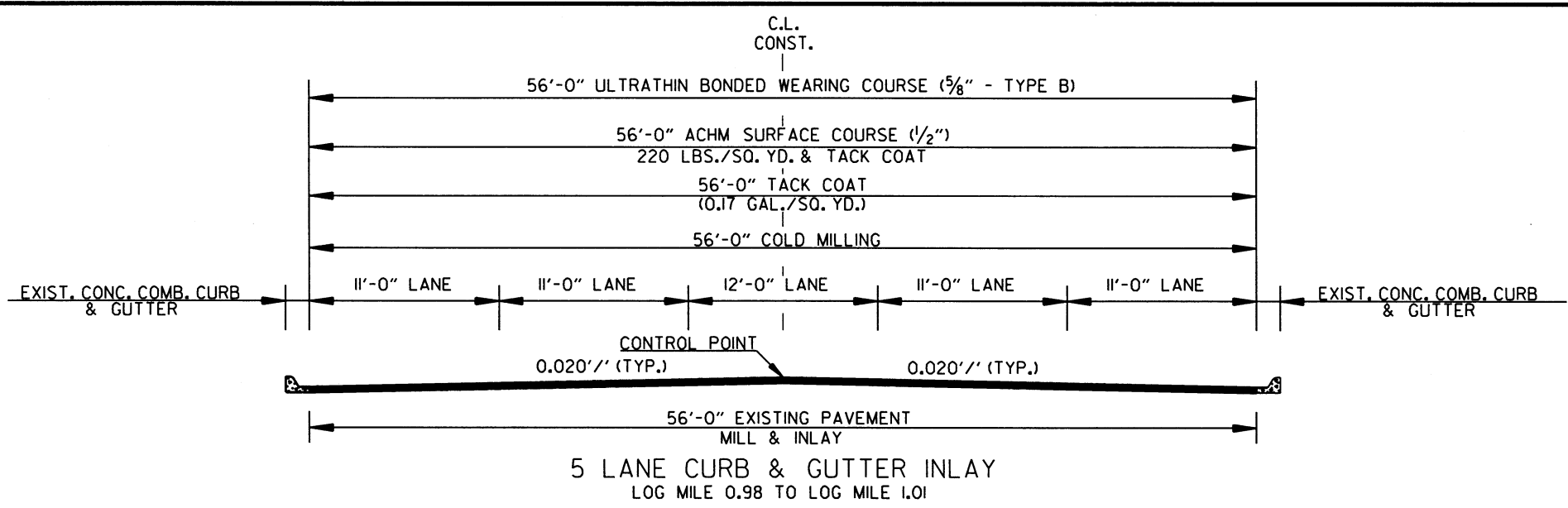
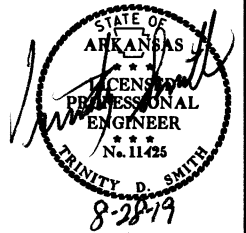
- THE CONTRACTOR SHALL PROVIDE 2-WAY RADIO COMMUNICATIONS FOR FLAG PERSONS.
- STRINGLINE WILL BE USED TO MAINTAIN A UNIFORM HORIZONTAL ALIGNMENT.
- ALL PIPE LINES, POWER, TELEPHONE, AND TELEGRAPH LINES TO BE MOVED OR LOWERED BY THE RESPECTIVE OWNERS AS PER AGREEMENT WITH SUCH OWNERS.
- ANY EQUIPMENT OR APPURTENANCE THAT INTERFERES WITH THE PROPOSED CONSTRUCTION AND WHICH MAY BE THE PROPERTY OF UTILITY SERVICE ORGANIZATIONS SHALL BE MOVED BY THE OWNERS UNLESS OTHERWISE PROVIDED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING U. S. MAILBOXES WITHIN THE PROJECT LIMITS IN SUCH A MANNER THAT THE PUBLIC MAY RECEIVE CONTINUED MAIL SERVICE. PAYMENT WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS BID ITEMS.
- ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE STANDARD SPECIFICATIONS.
- THE SEQUENCE AS SHOWN ON THE MAINTENANCE OF TRAFFIC PLANS IS A GENERAL OUTLINE FOR THE CONSTRUCTION OF THIS PROJECT, AND IN NO WAY IS IT INTENDED TO COVER EVERY ITEM IN THE PROJECT. ITEMS NOT CRITICAL TO THE CONSTRUCTION SEQUENCE MAY BE CONSTRUCTED IN ANY STAGE AS APPROVED BY THE RESIDENT ENGINEER.
- THE EXISTING ASPHALT PAVEMENT TO BE REMOVED FROM THE REMAINING PAVEMENT SHALL BE SEPARATED BY SAWING ALONG A NEAT LINE. AFTER SAWING, THE PAVEMENT TO BE REMOVED SHALL BE CAREFULLY REMOVED IN A MANNER THAT WILL NOT DAMAGE THE PAVEMENT THAT IS TO REMAIN. ANY DAMAGE OF THE ASPHALT PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL FURNISH AND MAINTAIN STD. W8-1 "BUMP" SIGNS (30" X 30") WITH BLACK LEGEND ON ORANGE BACKGROUND AT ALL TRANSVERSE JOINTS EXPOSED TO TRAFFIC.
- THE CONTRACTOR SHALL FURNISH AND MAINTAIN STD. W8-11 "UNEVEN LANES" SIGNS (48" X 48") WITH BLACK LEGEND ON ORANGE BACKGROUND AT ALL LONGITUDINAL JOINTS DURING MILLING AND PAVING OPERATIONS.
- PREPARATORY WORK TO THE EXISTING DRIVEWAYS, INCLUDING REMOVING GRASS AND DEBRIS, WILL NOT BE PAID FOR DIRECTLY BUT WILL BE CONSIDERED A PART OF THE OTHER ITEMS OF WORK. NO DIRECT PAYMENT WILL BE MADE FOR THIS WORK.
- WHERE EXISTING DRIVING LANES ARE TO BE OVERLAID, THE CROSS SLOPE SHALL BE AS DIRECTED BY THE ENGINEER (NORMALLY THIS WILL CONFORM TO THE EXISTING CROSS SLOPE).
- WHEN COLD MILLING IS INCLUDED IN THE CONTRACT, THE CONTRACTOR SHALL PROVIDE A TEMPORARY TRANSITION IN AREAS OF PAVEMENT DIFFERENTIAL RESULTING FROM THE COLD MILLING. MEASUREMENT FOR THE MATERIAL USED WILL BE BASED ON THE ACCEPTED MIX DESIGN FOR THE TYPE OF ASPHALT HOT MIX SPECIFIED IN THE PLANS FOR THE MAT TO BE PLACED AFTER COLD MILLING, AND PAYMENT WILL BE AT THE CONTRACT UNIT PRICES BID FOR THE VARIOUS COMPONENTS OF THE MIX.
- THE EDGE LINES SHALL NOT BE PLACED ON THE FINISHED ASPHALT SURFACE UNTIL AFTER ALL WORK ADJACENT TO THE PAVEMENT EDGE, INCLUDING SPREADING, COMPACTING AND ETC. IS COMPLETED IN ORDER TO AVOID DAMAGING THE EDGE LINES.
- THE CONTRACTOR SHALL SCHEDULE HIS WORK SO THAT NO LANE CLOSURES EXIST FOR THE TIME PERIOD OF THE DAY BEFORE THE HOLIDAY THROUGH THE DAY AFTER THE HOLIDAY FOR THE FOLLOWING LEGAL HOLIDAYS: NEW YEAR'S DAY, MEMORIAL DAY, INDEPENDENCE DAY, LABOR DAY, THANKSGIVING, FRIDAY AFTER THANKSGIVING, CHRISTMAS EVE, AND CHRISTMAS. IF THE LEGAL HOLIDAY IS IMMEDIATELY FOLLOWING A WEEKEND, THE WEEKEND WILL BE CONSIDERED A PART OF THE HOLIDAY.
- MATERIAL GENERATED FROM COLD MILLING OPERATIONS SHALL REMAIN THE PROPERTY OF THE CONTRACTOR.
- COLD MILLING OPERATIONS SHALL BE FOLLOWED IMMEDIATELY BY PAVING OPERATIONS. TRAFFIC WILL NOT BE ALLOWED TO RUN ON THE COLD MILLED SURFACE WITH THE EXCEPTION OF TURNING MOVEMENTS INTO DRIVES AND STREETS.
- ASPHALT DEBRIS RESULTING FROM THE PREPARATORY WORK SHALL BE REMOVED FROM THE PROJECT. THIS MATERIAL SHALL NOT BE BURIED WITHIN THE RIGHT OF WAY.
- THE ENGINEER MAY REQUIRE THE CONTRACTOR TO MODIFY THEIR SCHEDULE, DURING WORK, WHEN SPECIAL EVENTS OR OCCURRENCES MAY CAUSE TRAFFIC TO BECOME CONGESTED.

12/20/2019

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				6	ARK.			
							JOB NO. 061166	4 20

2 TYPICAL SECTIONS OF IMPROVEMENT



NOTES:

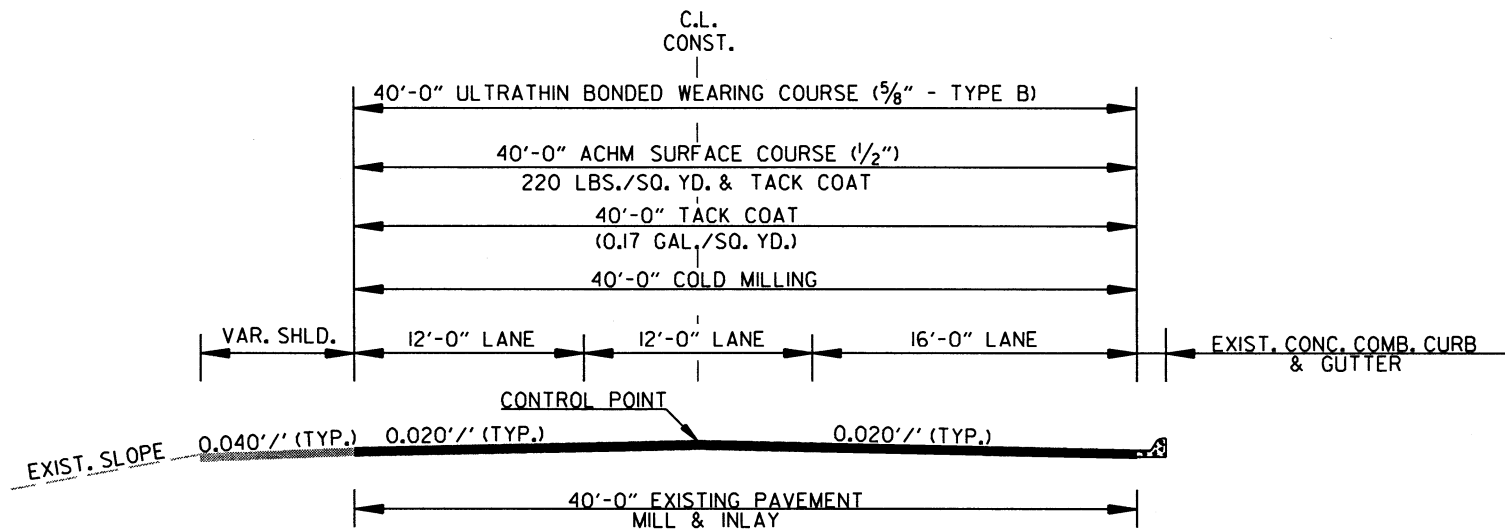
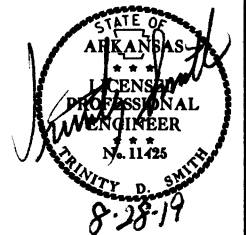
1. THE CONTRACTOR SHALL PROVIDE 2-WAY RADIO COMMUNICATION FOR FLAG PERSONS.
2. STRINGLINE WILL BE USED TO MAINTAIN A UNIFORM HORIZONTAL ALIGNMENT.
3. THE CONTRACTOR SHALL FURNISH & MAINTAIN STD. W8-I "BUMP" SIGNS (30" X 30") WITH BLACK LEGEND ON ORANGE BACKGROUND AT ALL TRANSVERSE JOINTS EXPOSED TO TRAFFIC.
4. THE CONTRACTOR SHALL FURNISH & MAINTAIN STD. W8-II "UNEVEN LANES" SIGNS (48" X 48") WITH BLACK LEGEND ON ORANGE BACKGROUND AT ALL LONGITUDINAL JOINTS DURING MILLING AND PAVING OPERATIONS.
5. LONGITUDINAL JOINTS ARE TO BE PLACED PER TYPICAL SECTION IN ACCORDANCE WITH SECTION 410.07 UNLESS OTHERWISE APPROVED BY THE ENGINEER.
6. ALL CROSS SLOPES ARE TO MATCH EXISTING CROSS SLOPES UNLESS OTHERWISE APPROVED BY THE ENGINEER.

8/20/2019

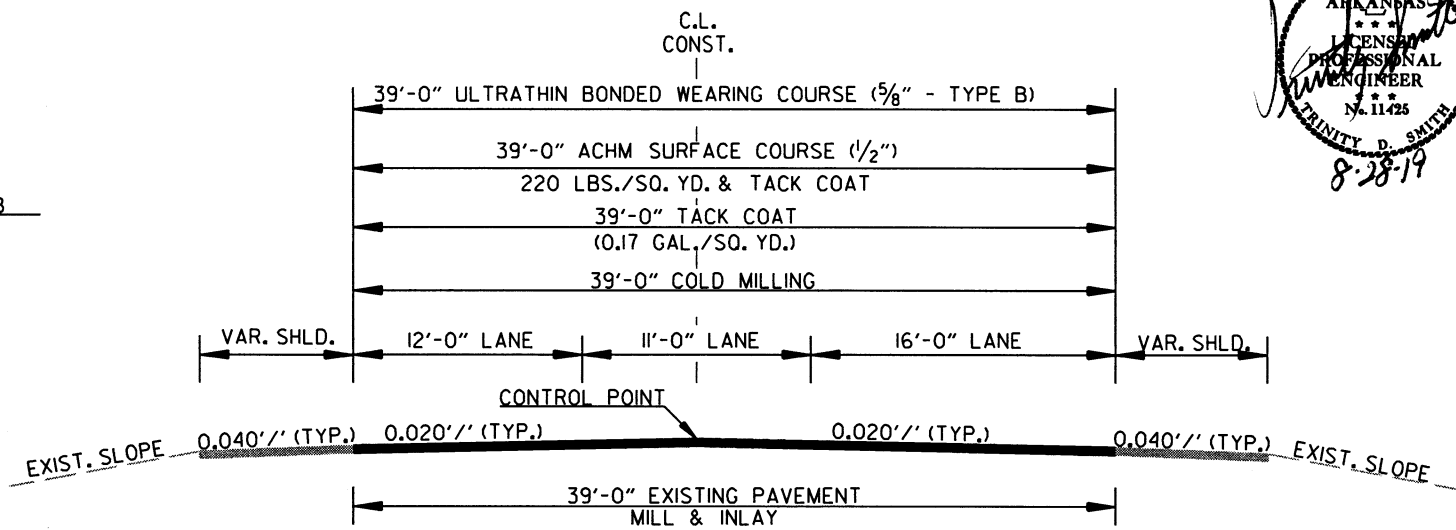
R061166.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 061166	5	20

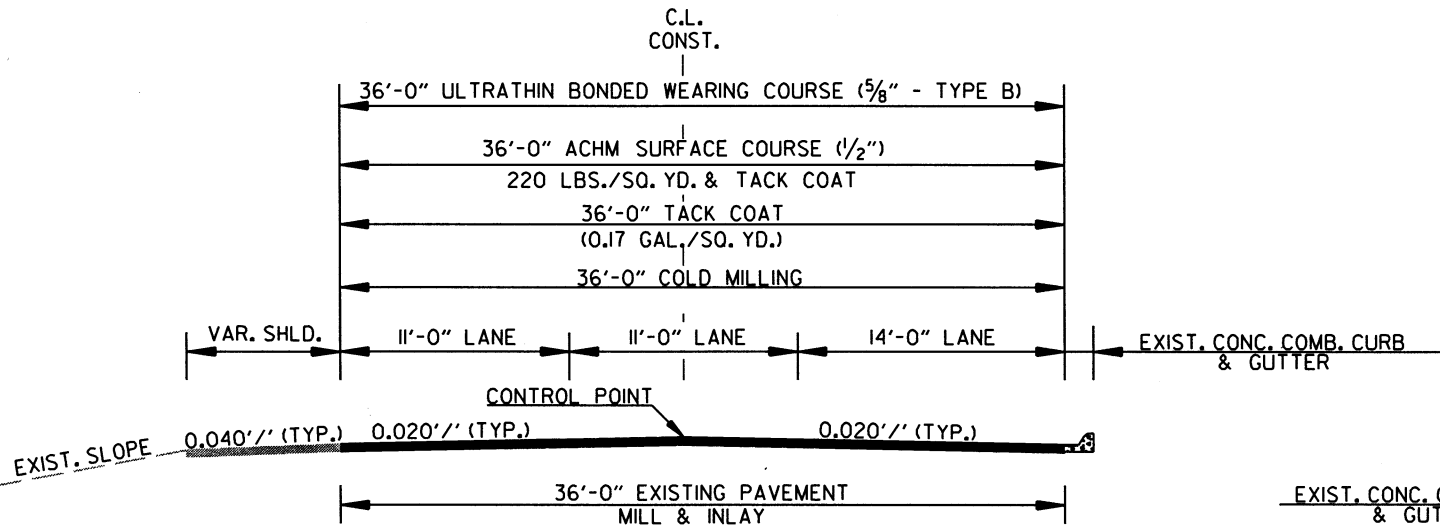
② TYPICAL SECTIONS OF IMPROVEMENT



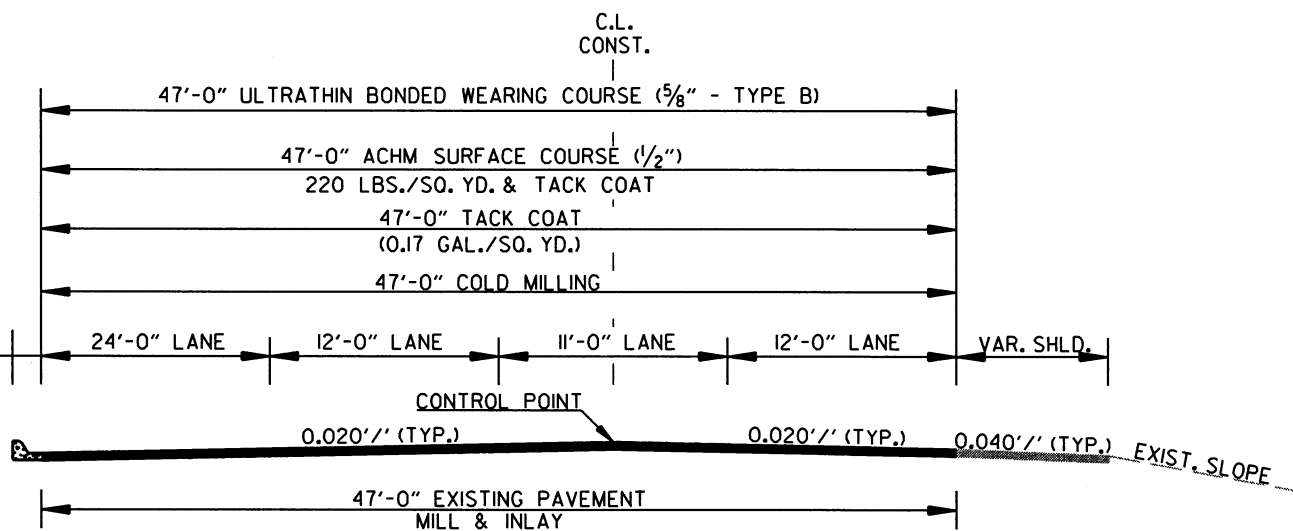
3 LANE OPEN SHOULDER INLAY
LOG MILE 1.06 TO LOG MILE 1.08



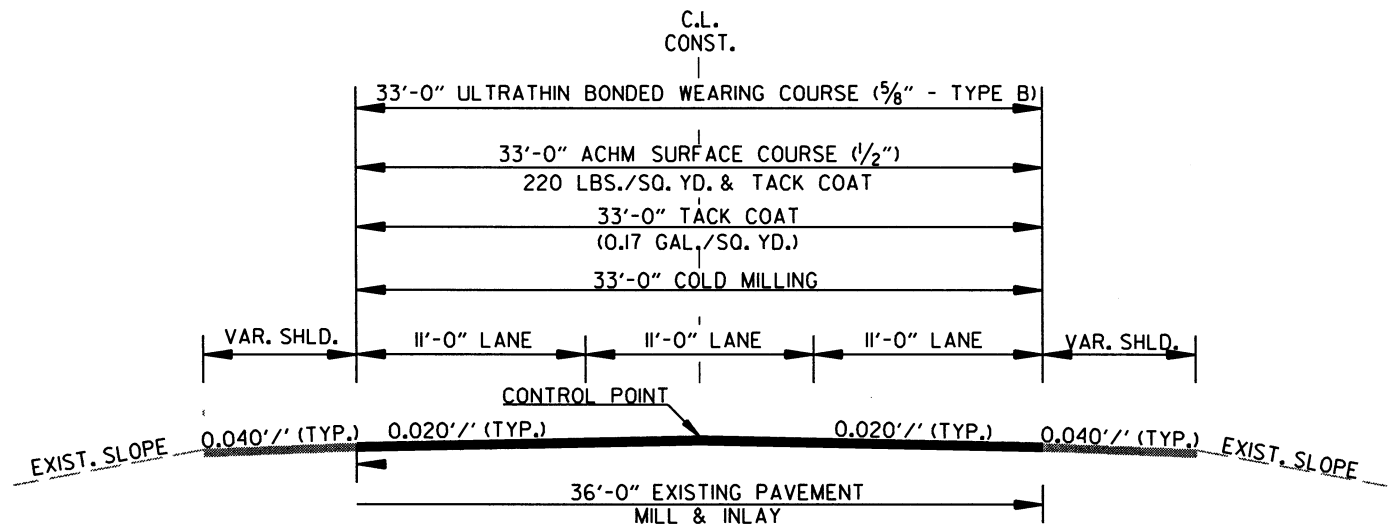
3 LANE OPEN SHOULDER INLAY
LOG MILE 1.98 TO LOG MILE 1.99



3 LANE OPEN SHOULDER INLAY
LOG MILE 1.08 TO LOG MILE 1.11



4 LANE OPEN SHOULDER INLAY
LOG MILE 1.99 TO LOG MILE 2.03



3 LANE OPEN SHOULDER INLAY
LOG MILE 1.11 TO LOG MILE 1.98

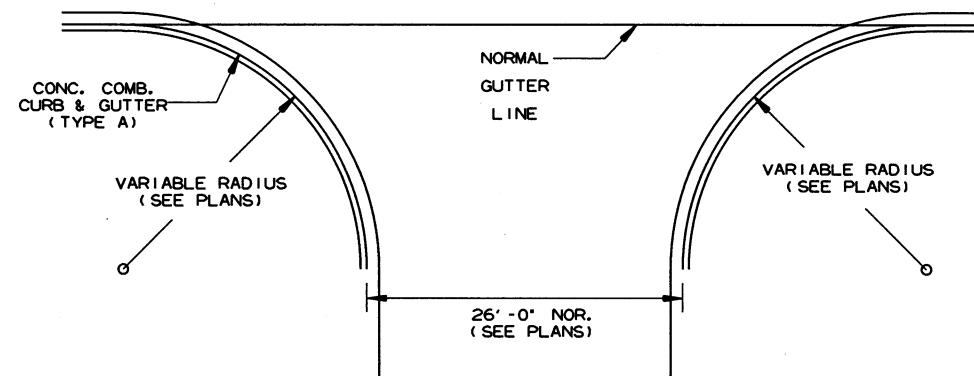
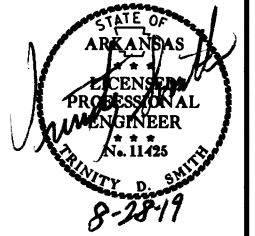
- NOTES:
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 3. THE CONTRACTOR SHALL FURNISH & MAINTAIN STD. W8-1 "BUMP" SIGNS (30" X 30") WITH BLACK LEGEND ON ORANGE BACKGROUND AT ALL TRANSVERSE JOINTS EXPOSED TO TRAFFIC.
 4. THE CONTRACTOR SHALL FURNISH & MAINTAIN STD. W8-11 "UNEVEN LANES" SIGNS (48" X 48") WITH BLACK LEGEND ON ORANGE BACKGROUND AT ALL LONGITUDINAL JOINTS DURING MILLING AND PAVING OPERATIONS.
 5. LONGITUDINAL JOINTS ARE TO BE PLACED PER TYPICAL SECTION IN ACCORDANCE WITH SECTION 410.07 UNLESS OTHERWISE APPROVED BY THE ENGINEER.
 6. ALL CROSS SLOPES ARE TO MATCH EXISTING CROSS SLOPES UNLESS OTHERWISE APPROVED BY THE ENGINEER.

TYPICAL SECTIONS OF IMPROVEMENT

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						061166	6	20

② SPECIAL DETAILS



NOTE:
PAVEMENT STRUCTURE FOR STATE HIGHWAYS, CITY STREETS,
& COUNTY ROADS TO BE SAME AS MAIN LANES.

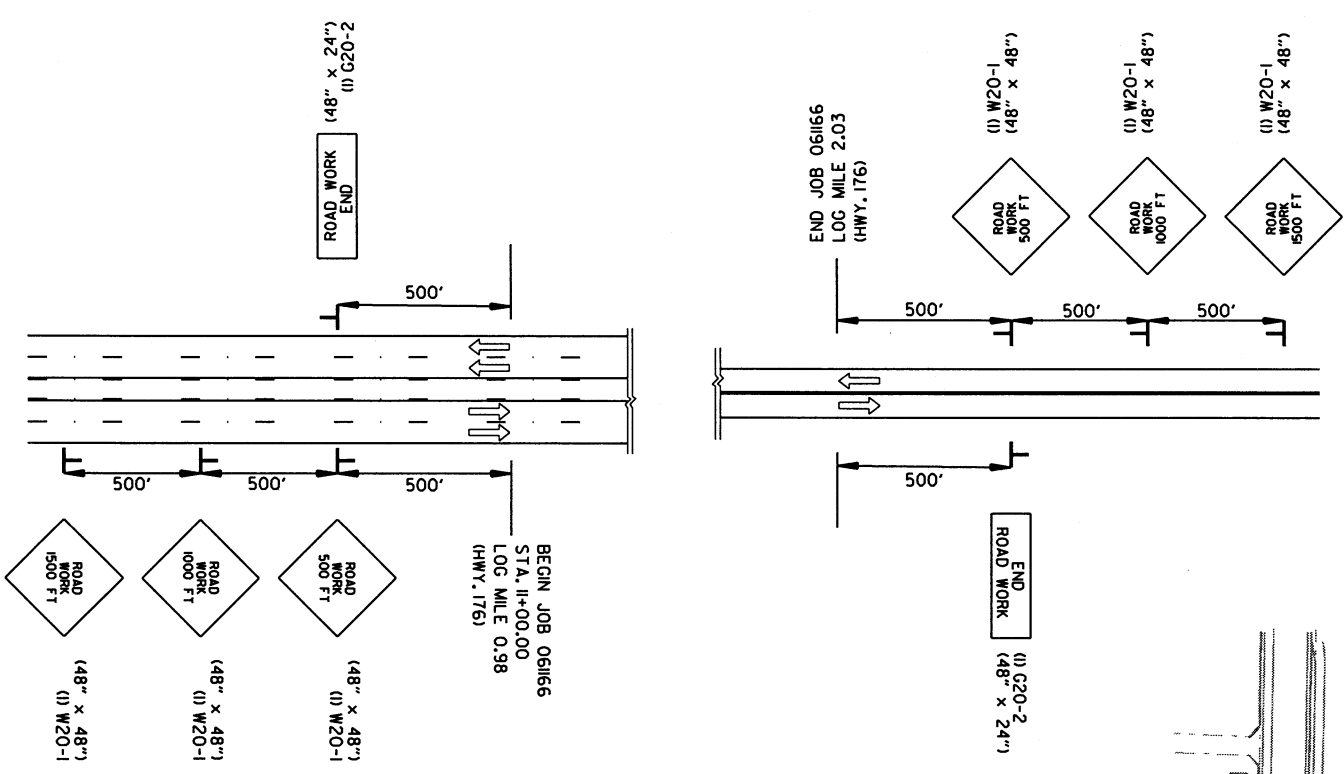
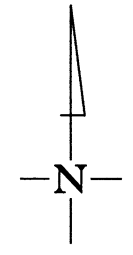
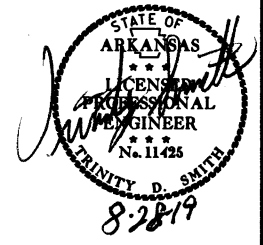
DETAIL OF TURNOUTS, ASPHALT STREETS,
COUNTY ROADS & STATE HIGHWAYS
CURB & GUTTER SECTION

5/7/2019

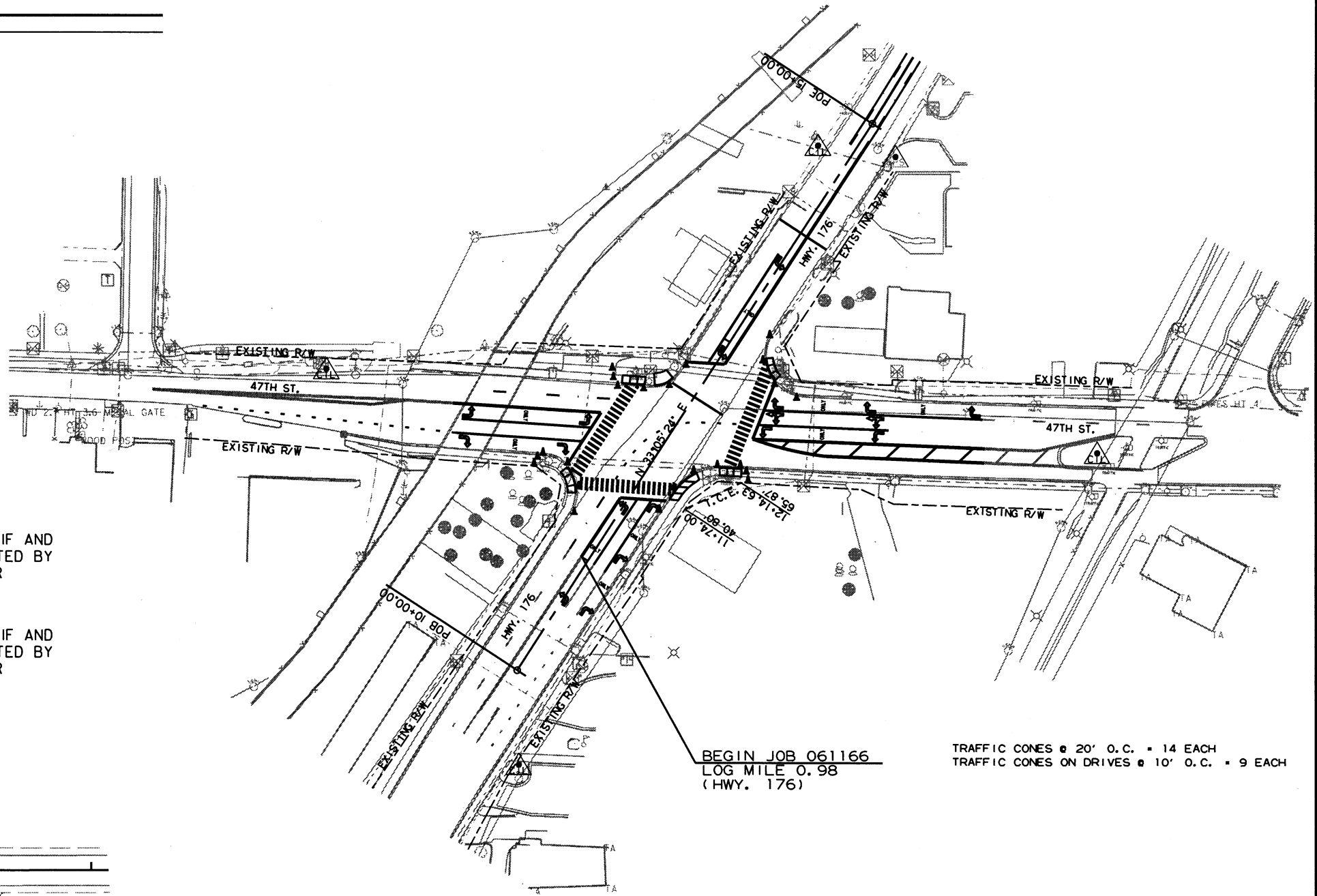
R061166.DGN



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				JOB NO.		061166	7	20

② MAINTENANCE OF TRAFFIC DETAILS



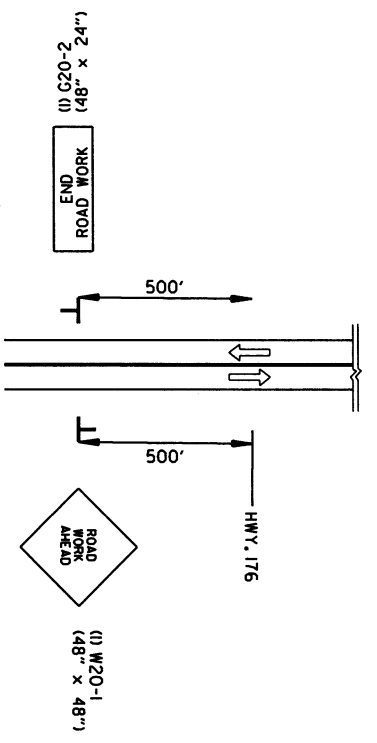
ADVANCE WARNING HWY. 176



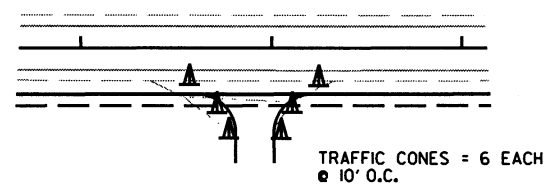
-  (8) WB-I (30" X 30") TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER
-  (8) WB-II (48" X 48") TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER

TRAFFIC CONES @ 20' O.C. = 14 EACH
 TRAFFIC CONES ON DRIVES @ 10' O.C. = 9 EACH

BEGIN JOB 061166
 LOG MILE 0.98
 (HWY. 176)



ADVANCE WARNING SIDE ROADS



DRIVEWAY/TRAFFIC DRUM DETAIL

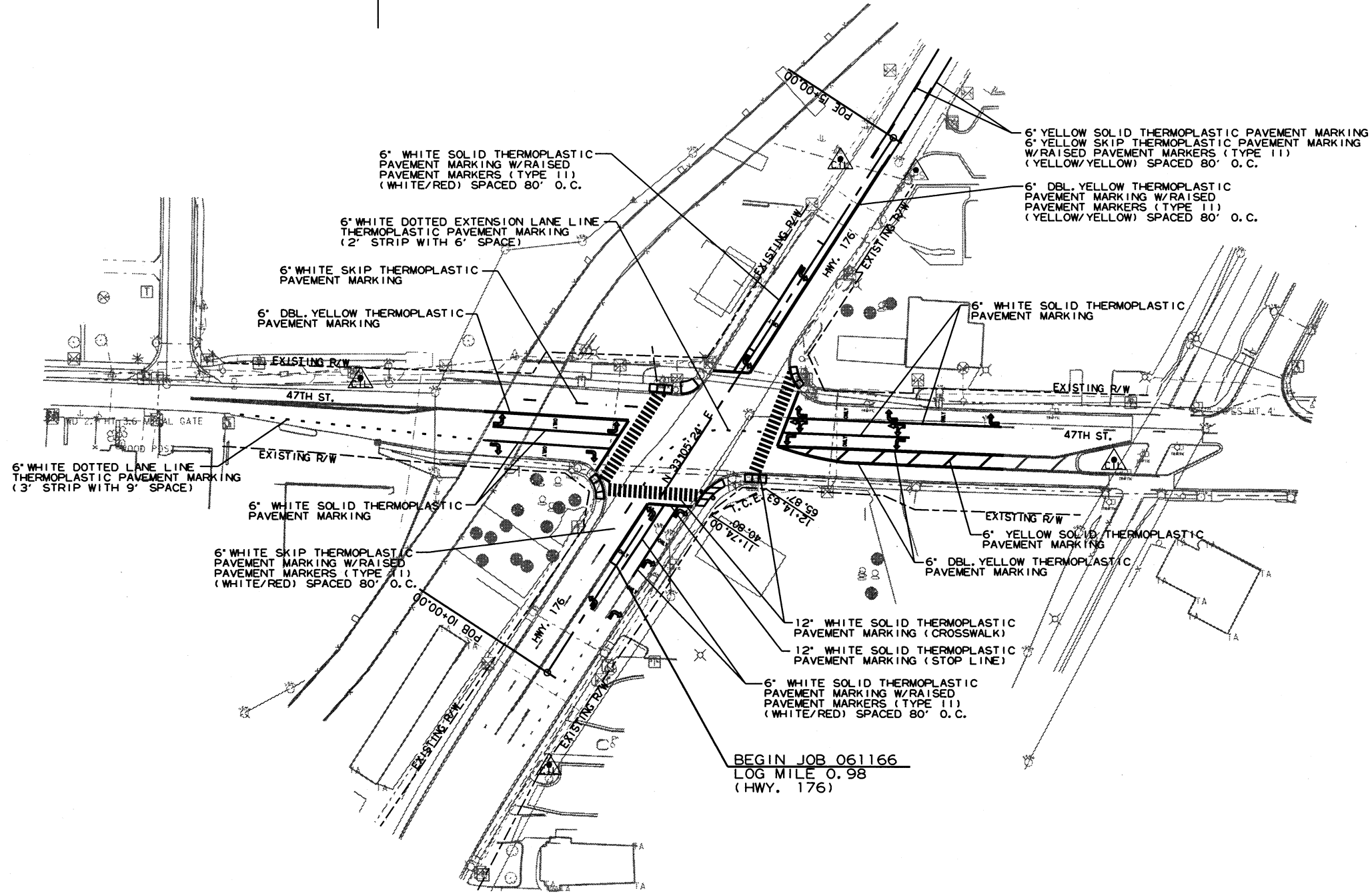
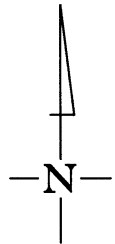
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				6	ARK.		8	20
							JOB NO.	061166

② PERMANENT PAVEMENT MARKING DETAILS

PERMANENT PAVEMENT MARKING QUANTITIES:

- THERMOPLASTIC PAVEMENT MARKING WHITE (6") = 10642 LIN. FT.
- THERMOPLASTIC PAVEMENT MARKING YELLOW (6") = 12208 LIN. FT.
- THERMOPLASTIC PAVEMENT MARKING WHITE (8") = 105 LIN. FT.
- THERMOPLASTIC PAVEMENT MARKING WHITE (12") = 743 LIN. FT.
- THERMOPLASTIC PAVEMENT MARKING WHITE (WORDS) = 10 EACH
- THERMOPLASTIC PAVEMENT MARKING WHITE (ARROWS) = 19 EACH
- RAISED PAVEMENT MARKERS TYPE II (WHITE/RED)(80' O.C.) = 8 EACH
- RAISED PAVEMENT MARKERS TYPE II (YELLOW/YELLOW)(80' O.C.) = 110 EACH



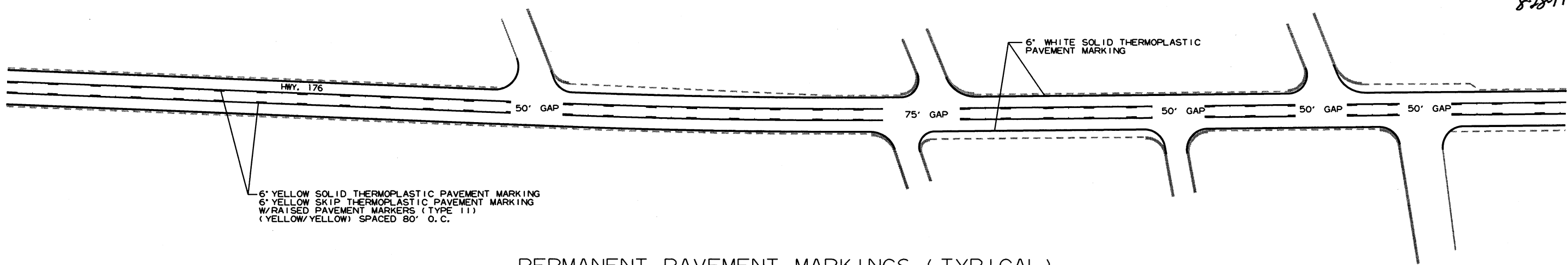
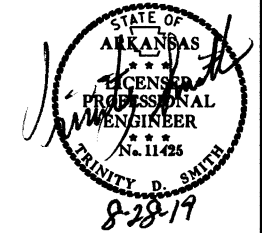
BEGIN JOB 061166
LOG MILE 0.98
(HWY. 176)

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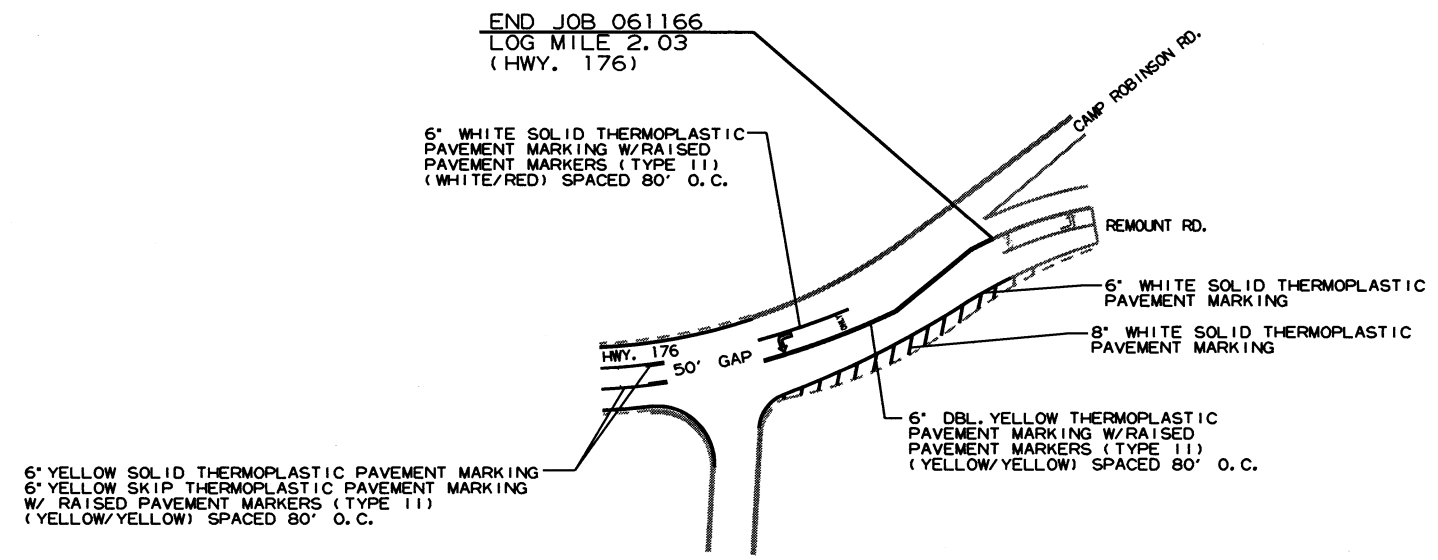
② PERMANENT PAVEMENT MARKING DETAILS



6" YELLOW SOLID THERMOPLASTIC PAVEMENT MARKING
 6" YELLOW SKIP THERMOPLASTIC PAVEMENT MARKING
 W/RAISED PAVEMENT MARKERS (TYPE 11)
 (YELLOW/YELLOW) SPACED 80' O.C.

6" WHITE SOLID THERMOPLASTIC PAVEMENT MARKING

PERMANENT PAVEMENT MARKINGS (TYPICAL)
 LOG MILE 1.06 - LOG MILE 1.99



END JOB 061166
 LOG MILE 2.03
 (HWY. 176)

6" WHITE SOLID THERMOPLASTIC PAVEMENT MARKING W/RAISED PAVEMENT MARKERS (TYPE 11) (WHITE/RED) SPACED 80' O.C.

6" WHITE SOLID THERMOPLASTIC PAVEMENT MARKING
 8" WHITE SOLID THERMOPLASTIC PAVEMENT MARKING

6" YELLOW SOLID THERMOPLASTIC PAVEMENT MARKING
 6" YELLOW SKIP THERMOPLASTIC PAVEMENT MARKING
 W/RAISED PAVEMENT MARKERS (TYPE 11)
 (YELLOW/YELLOW) SPACED 80' O.C.

6" DBL. YELLOW THERMOPLASTIC PAVEMENT MARKING W/RAISED PAVEMENT MARKERS (TYPE 11) (YELLOW/YELLOW) SPACED 80' O.C.

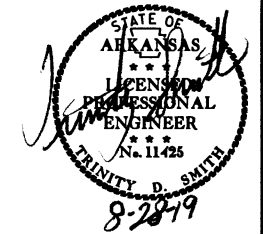
PERMANENT PAVEMENT MARKINGS
 LOG MILE 1.99 - LOG MILE 2.03

8/20/2019

R061166.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
							JOB NO.	061166
								10
								20

② QUANTITIES



ADVANCE WARNING SIGNS AND DEVICES

SIGN NUMBER	DESCRIPTION	SIGN SIZE	TOTAL SIGNS REQUIRED		TRAFFIC CONES
			NO.	SQ. FT.	
W20-1	ROAD WORK 1500 FT.	48"x48"	3	48.0	
W20-1	ROAD WORK 1000 FT.	48"x48"	3	48.0	
W20-1	ROAD WORK 500 FT.	48"x48"	3	48.0	
W20-1	ROAD WORK AHEAD	48"x48"	22	352.0	
G20-2	END ROAD WORK	48"x24"	25	200.0	
W8-1	BUMP	30"x30"	8	50.0	
W8-11	UNEVEN LANES	48"x48"	8	128.0	
	TRAFFIC CONES		23		23
TOTALS:				874.0	23

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

PERMANENT PAVEMENT MARKINGS

DESCRIPTION	RAISED PAVEMENT MARKERS		THERMOPLASTIC PAVEMENT MARKING					
	TYPE II (WHITE/RED)	TYPE II (YEL/YEL)	6"		8"	12"	WORDS	ARROWS
			WHITE	YELLOW	WHITE	WHITE		
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED)	8							
RAISED PAVEMENT MARKERS TYPE II (YEL/YEL)		110						
THERMOPLASTIC PAVEMENT MARKING WHITE (6")			10642					
THERMOPLASTIC PAVEMENT MARKING YELLOW (6")				12208				
THERMOPLASTIC PAVEMENT MARKING WHITE (8")					105			
THERMOPLASTIC PAVEMENT MARKING WHITE (12")						743		
THERMOPLASTIC PAVEMENT MARKING (WORDS)							10	
THERMOPLASTIC PAVEMENT MARKING (ARROWS)								19
TOTALS:	8	110	10642	12208	105	743	10	19

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

NOTE: THE CONSTRUCTION PAVEMENT MARKINGS AND THE PERMANENT PAVEMENT MARKINGS SHALL MATCH THE EXISTING PAVEMENT MARKINGS.

TEMPORARY EROSION CONTROL

STATION	STATION	LOCATION	FILTER SOCK (18")
			(E-13)
			LIN. FT.
*ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.			80
TOTAL:			80

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

ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC

LOCATION	TON	TACK COAT GALLON
ENTIRE PROJECT - TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	26	52
TOTALS:	26	52

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

REMOVAL AND DISPOSAL OF ITEMS

STATION	STATION	LOCATION	CURB AND GUTTER	WALKS
			LIN. FT.	SQ. YD.
11+38	11+51	HWY. 176 ON LT.	22	13
11+74	12+02	HWY. 176 ON RT.	30	17
12+15	12+24	HWY. 176 ON RT.	17	11
12+28	12+37	HWY. 176 ON LT.	17	11
12+40	12+53	HWY. 176 ON LT.	16	13
12+94	13+04	HWY. 176 ON RT.	19	9
TOTALS:			121	74

WHEELCHAIR RAMPS - ALTERATIONS

STATION	LOCATION	TYPE 5	TYPE 6
		SQ.YD.	
11+44	HWY. 176 ON LT.		12.6
11+84	HWY. 176 ON RT.	12.1	
12+16	HWY. 176 ON RT.	10.9	
12+34	HWY. 176 ON LT.	11.3	
13+00	HWY. 176 ON RT.		9.1
TOTALS:		34.3	21.7

ACHM PATCHING OF EXISTING ROADWAY

DESCRIPTION	TON
ENTIRE PROJECT - TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	10
TOTAL:	10

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

CONCRETE COMBINATION CURB AND GUTTER

STATION	STATION	LOCATION	TYPE A (1' 6")
			LIN. FT.
11+91	12+02	HWY. 176 ON RT.	12
12+40	12+53	HWY. 176 ON LT.	16
TOTAL:			28

CONCRETE WALKS

STATION	STATION	LOCATION	LENGTH	CONCRETE WALKS
			LIN. FT.	SQ.YD.
11+91	12+02	HWY. 176 ON RT.	11	5
12+40	12+53	HWY. 176 ON LT.	13	13
TOTAL:				18

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				6	ARK.			
				JOB NO.		061166	11	20

② QUANTITIES



COLD MILLING ASPHALT PAVEMENT

LOG MILE	LOG MILE	LOCATION	AVG. WIDTH	TOTAL LENGTH	COLD MILLING ASPHALT PAVEMENT
			FEET	FEET	SQ. YD.
0.98	1.01	HWY. 176	56.00	158.40	985.60
1.00	1.01	HWY. 176 - 47TH ST. ON LEFT	56.00	145.00	902.22
1.00	1.01	HWY. 176 - 47TH ST. ON RIGHT	56.00	210.00	1306.67
1.01	1.02	HWY. 176	44.00	52.80	258.13
1.02	1.06	HWY. 176	41.00	211.20	962.13
1.06	1.08	HWY. 176	40.00	105.60	469.33
1.08	1.11	HWY. 176	36.00	158.40	633.60
1.11	1.98	HWY. 176	33.00	4593.60	16843.20
1.98	1.99	HWY. 176	39.00	52.80	228.80
1.99	2.03	HWY. 176	47.00	211.20	1102.93
TOTAL:					23692.61

NOTE: AVERAGE MILLING DEPTH 2".

BASE AND SURFACING

LOG MILE	LOG MILE	LOCATION	LENGTH FEET	TACK COAT						ACHM SURFACE COURSE (1/2")				
				(0.05 GAL. PER SQ. YD.)			(0.17 GAL. PER SQ. YD.)			TOTAL GALLONS	AVG. WID. FEET	SQ. YD.	POUND / SQ. YD.	PG 70-22 TON
				AVG. WID. FEET	SQ. YD.	GALLONS	AVG. WID. FEET	SQ. YD.	GALLONS					
MAIN LANES														
0.98	1.01	HWY. 176	158.40	56.00	985.60	49.28	56.00	985.60	167.55	216.83	56.00	985.60	220.00	108.42
1.00	1.01	HWY. 176 - 47TH ST. ON LEFT	52.80	56.00	328.53	16.43	56.00	328.53	55.85	72.28	56.00	328.53	220.00	36.14
1.00	1.01	HWY. 176 - 47TH ST. ON RIGHT	52.80	56.00	328.53	16.43	56.00	328.53	55.85	72.28	56.00	328.53	220.00	36.14
1.01	1.02	HWY. 176	52.80	44.00	258.13	12.91	44.00	258.13	43.88	56.79	44.00	258.13	220.00	28.39
1.02	1.06	HWY. 176	211.20	41.00	962.13	48.11	41.00	962.13	163.56	211.67	41.00	962.13	220.00	105.83
1.06	1.08	HWY. 176	105.60	40.00	469.33	23.47	40.00	469.33	79.79	103.26	40.00	469.33	220.00	51.63
1.08	1.11	HWY. 176	158.40	36.00	633.60	31.68	36.00	633.60	107.71	139.39	36.00	633.60	220.00	69.70
1.11	1.98	HWY. 176	4593.60	33.00	16843.20	842.16	33.00	16843.20	2863.34	3705.50	33.00	16843.20	220.00	1852.75
1.98	1.99	HWY. 176	52.80	39.00	228.80	11.44	39.00	228.80	38.90	50.34	39.00	228.80	220.00	25.17
1.99	2.03	HWY. 176	211.20	47.00	1102.93	55.15	47.00	1102.93	187.50	242.65	47.00	1102.93	220.00	121.32
TOTALS:						22140.78	1107.06		22140.78	3763.93	4870.99	22140.78		2435.49

BASIS OF ESTIMATE:
 ACHM SURFACE COURSE (1/2").....95.1% MN. AGGR.....4.9% ASPHALT BINDER
 MAXIMUM NUMBER OF GYRATIONS = 160 FOR PG 70-22
 TACK COAT QUANTITIES WERE CALCULATED USING THE EMULSIFIED ASPHALT RATES. REFER TO SS-400-1 FOR THE RESIDUAL ASPHALT APPLICATION RATES.

ULTRATHIN BONDED WEARING COURSE

LOG MILE	LOG MILE	LOCATION	TOTAL LENGTH	AVG. WIDTH	ULTRATHIN BONDED WEARING COURSE (5/8" - TYPE B)
			FEET	FEET	SQ. YD.
0.98	1.01	HWY. 176	158.40	56.00	985.60
1.01	1.02	HWY. 176	52.80	44.00	258.13
1.02	1.06	HWY. 176	211.20	41.00	962.13
1.06	1.08	HWY. 176	105.60	40.00	469.33
1.08	1.11	HWY. 176	158.40	36.00	633.60
1.11	1.98	HWY. 176	4593.60	33.00	16843.20
1.98	1.99	HWY. 176	52.80	39.00	228.80
1.99	2.03	HWY. 176	211.20	47.00	1102.93
TOTAL:			5544.00		21483.72

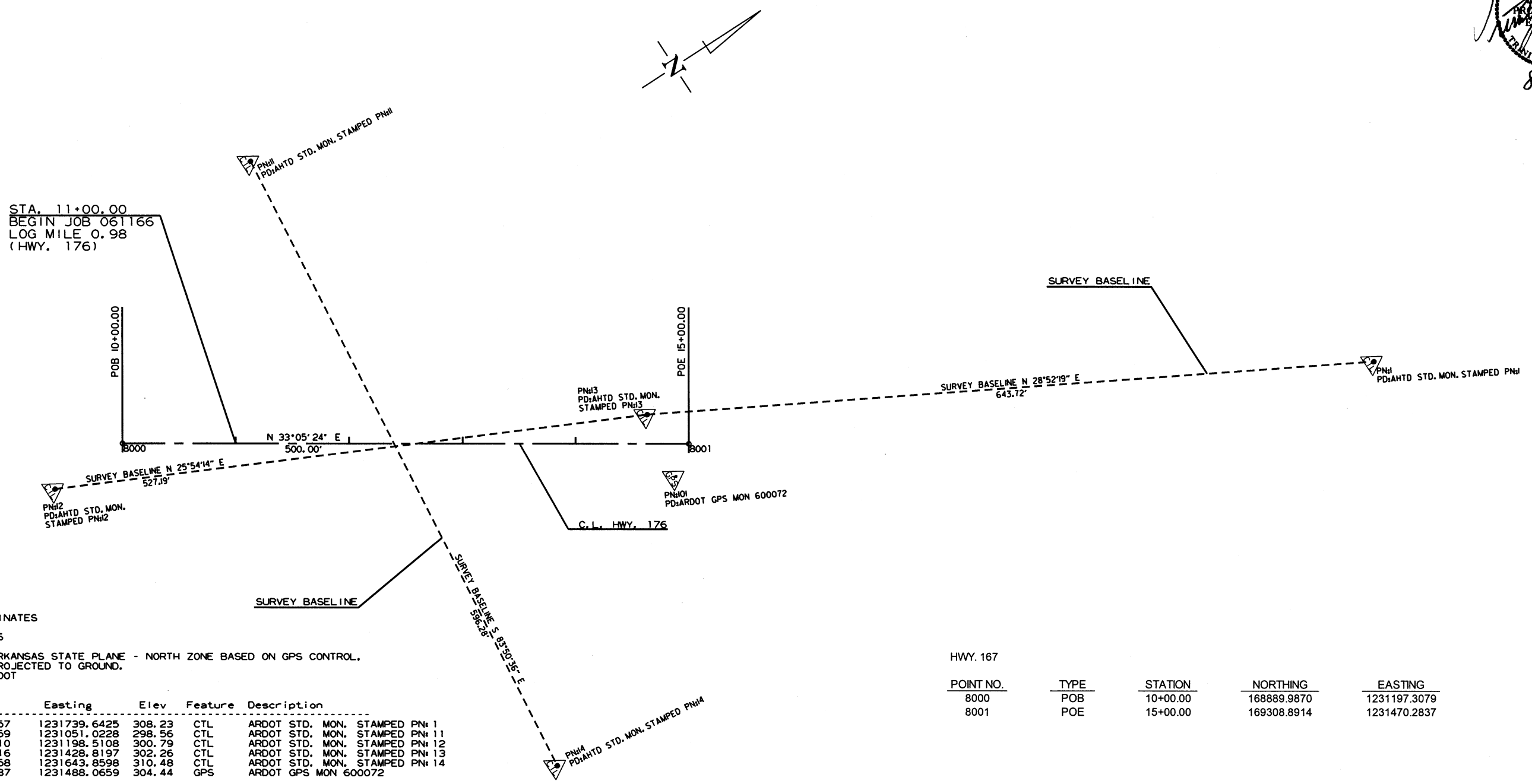
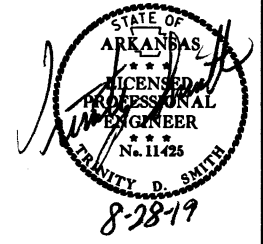
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QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS	
				6	ARK.				
JOB NO.							061166	13	20

② SURVEY CONTROL DETAILS



SURVEY CONTROL COORDINATES

Project Name: s061166
Date: 8/27/2018
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	169855.9657	1231739.6425	308.23	CTL	ARDOT STD. MON. STAMPED PN# 1
11	169120.6659	1231051.0228	298.56	CTL	ARDOT STD. MON. STAMPED PN# 11
12	168818.0410	1231198.5108	300.79	CTL	ARDOT STD. MON. STAMPED PN# 12
13	169292.2616	1231428.8197	302.26	CTL	ARDOT STD. MON. STAMPED PN# 13
14	169056.7158	1231643.8598	310.48	CTL	ARDOT STD. MON. STAMPED PN# 14
101	169283.6087	1231488.0659	304.44	GPS	ARDOT GPS MON 600072

HWY. 167

POINT NO.	TYPE	STATION	NORTHING	EASTING
8000	POB	10+00.00	168889.9870	1231197.3079
8001	POE	15+00.00	169308.8914	1231470.2837

*Note - Rebar and Cap - Standard - 5/8" Rebar with 2" Aluminum Cap stamped
(standard markings common to all caps), or as indicated
(other markings indicated in the point description of the individual point).
ALL DISTANCES ARE GROUND.
USE CAF = 1.0 FOR STAKEOUT FOR THIS PROJECT.
A PROJECT CAF OF 1.0000135471 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: s061166g.ctl
HORIZONTAL DATUM: NAD 83 (1997)
VERTICAL DATUM: NAVD 88 POSITIONAL ACCURACY THIRD ORDER, UNLESS SPECIFIED OTHERWISE
AT A SPECIFIC POINT.

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

BASIS OF BEARING:
ARKANSAS STATE PLANE GRID BEARINGS - 0301-NORTH ZONE
DETERMINED FROM GPS CONTROL POINTS: PN# 1 JOB 061506
CONVERGENCE ANGLE: 0-09-24.4 LEFT AT LT: 34-47-53.3 LG: 92-16-09.9
GRID AZIMUTH = ASTRONOMICAL AZIMUTH - CONVERGENCE ANGLE.

SURVEY CONTROL DETAILS

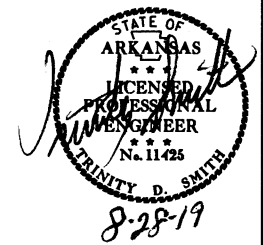
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REFER TO SURVEY CONTROL DETAIL SHEETS
FOR HORIZONTAL AND VERTICAL CONTROL DATA.

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				6	ARK.		14	20
						JOB NO.	061166	

2 PLAN SHEET



STA. 12+34 CONSTRUCT
TYPE 5 WHEELCHAIR RAMP = 11.4 SQ. YDS.
ON LT.

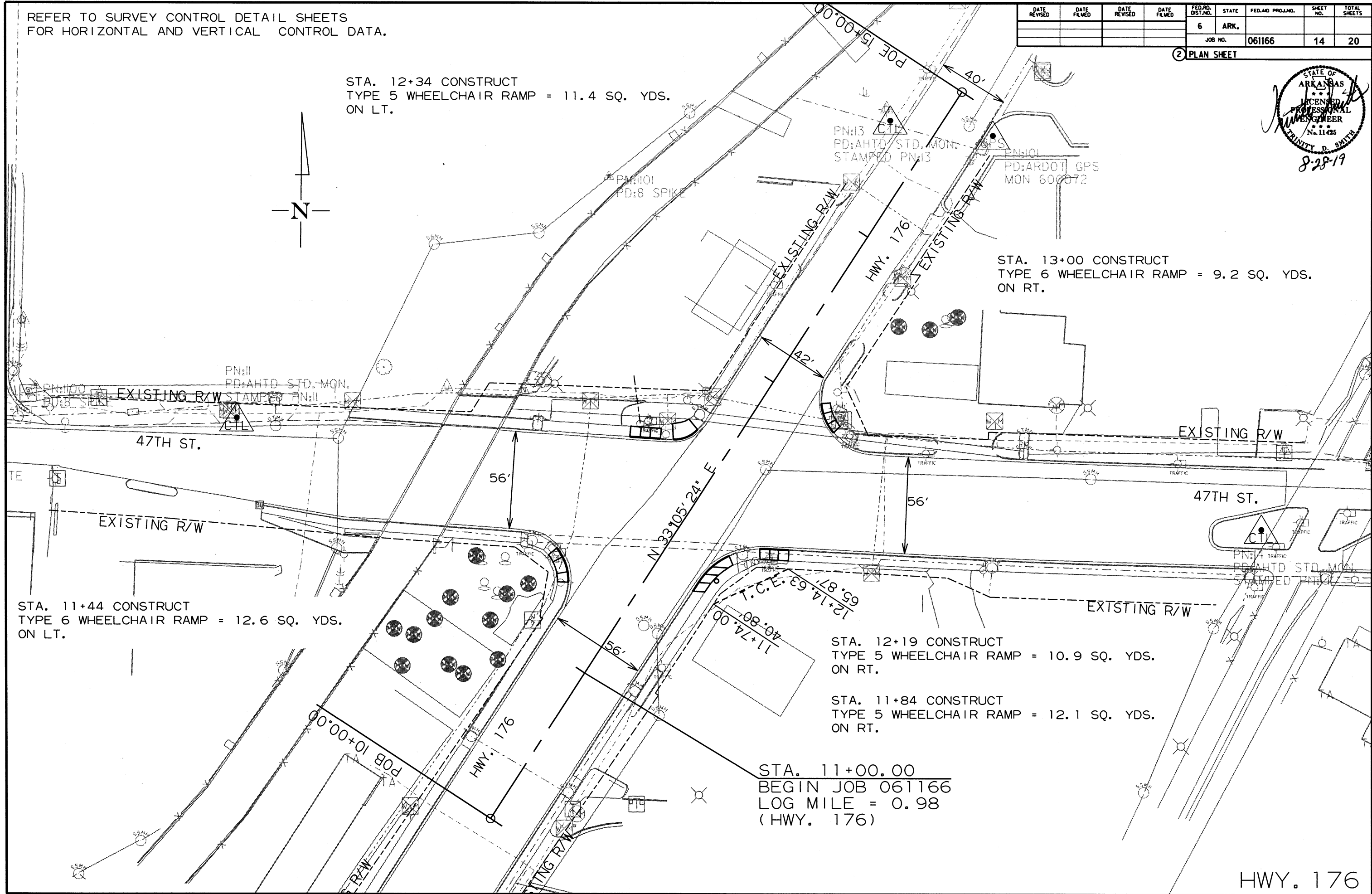
STA. 13+00 CONSTRUCT
TYPE 6 WHEELCHAIR RAMP = 9.2 SQ. YDS.
ON RT.

STA. 11+44 CONSTRUCT
TYPE 6 WHEELCHAIR RAMP = 12.6 SQ. YDS.
ON LT.

STA. 12+19 CONSTRUCT
TYPE 5 WHEELCHAIR RAMP = 10.9 SQ. YDS.
ON RT.

STA. 11+84 CONSTRUCT
TYPE 5 WHEELCHAIR RAMP = 12.1 SQ. YDS.
ON RT.

STA. 11+00.00
BEGIN JOB 061166
LOG MILE = 0.98
(HWY. 176)



10/26/2018
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HWY. 176

TRAFFIC SIGNAL NOTES:

DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 061166	15	20

② TRAFFIC SIGNAL NOTES



1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE NFPA 70 (2017) NATIONAL ELECTRICAL CODE, NFPA 101 (CURRENT EDITION) LIFE SAFETY CODE, STATE ELECTRICAL CODE AND LOCAL ELECTRICAL CODE.
2. 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 RAIN-TIGHT 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 MARKING 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. LUMINAIRE ASSEMBLIES SHALL BE OF THE FULL CUTOFF TYPE.
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 PROVIDE 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 PROGRAMMING MODULE SHALL BE PROVIDED FOR AIMING AND SETUP OF DETECTORS IF THE VIDEO SYSTEM CANNOT BE ADJUSTED THROUGH HARDWARE AND SOFTWARE PROVIDED BY ITEMS WITHIN THE JOB.
23. TRAFFIC SIGNAL CONTRACTOR SHALL NOTIFY THE RESIDENT ENGINEER OR ASSIGNED DEPARTMENT PROJECT INSPECTOR EACH DAY PRIOR TO SIGNAL RELATED WORK. NO WORK ON TRAFFIC SIGNALS WILL BE ALLOWED OR APPROVED WITHOUT THIS PRIOR NOTIFICATION.
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.

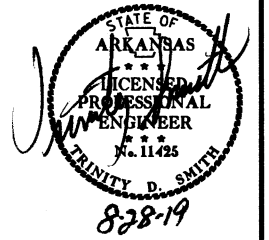
R061166.DGN 8/20/2019

DATE: 08-20-19 FILE NAME: r-061166.dgn

LOCATION: HWY. 176 AND 47TH STREET
 CITY: NORTH LITTLE ROCK
 COUNTY: PULASKI
 DISTRICT: 6 SCALE: N/A DRAWN BY: BRB

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
							JOB NO.	061166
								16
								20

② TRAFFIC SIGNAL QUANTITIES



TRAFFIC SIGNAL QUANTITIES

ITEM NUMBER	ITEM	QUANTITY	UNIT
SP & 701	SYSTEM LOCAL CONTROLLER TS2-TYPE 2 (8 PHASES)	1	EACH
SP	LOCAL RADIO WITH ANTENNA RELOCATION	1	EACH
SP	ANTENNA CABLE (TYPE 6)	70	LIN. FT.
SP & 706	TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1 WAY)	9	EACH
SP & 706	TRAFFIC SIGNAL HEAD, LED, (4 SECTION, 1 WAY)	3	EACH
SP & 707	COUNTDOWN PEDESTRIAN SIGNAL HEAD, LED	6	EACH
708	TRAFFIC SIGNAL CABLE (5C/14 A.W.G.)	1411	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/8 A.W.G., E.G.C.)	165	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/6 A.W.G.)	70	LIN. FT.
710	NON-METALLIC CONDUIT (3")	155	LIN. FT.
711	CONCRETE PULL BOX (TYPE 2)	3	EACH
711	CONCRETE PULL BOX (TYPE 2 HD)	2	EACH
SS & 715	TRAFFIC SIGNAL PEDESTAL POLE WITH FOUNDATION	1	EACH
SP	SERVICE POINT ASSEMBLY (2 CIRCUITS)	1	EACH
SP	REMOVAL OF TRAFFIC SIGNAL EQUIPMENT	1.00	LUMP SUM
* SP & 733	VIDEO DETECTOR (CLR)	7	EACH
733	VIDEO CABLE	1459	LIN. FT.
733	VIDEO MONITOR (CLR)	1	EACH
* SP & 733	VIDEO PROCESSOR, EDGE CARD (2 CAMERA)	5	EACH
SP & 733	VEHICLE DETECTOR RACK (16 CHANNEL)	1	EACH

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

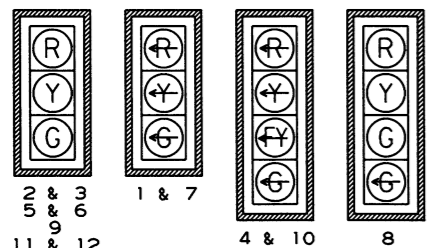
R061166.DGN 8/20/2019

DATE: 08-20-19 FILE NAME: r061166.dgn

LOCATION: HWY. 176 AND 47TH STREET
 CITY: NORTH LITTLE ROCK
 COUNTY: PULASKI
 DISTRICT: 6 SCALE: N/A DRAWN BY: BRB

SIGNAL FACES

12" LENSES



ONE SECTION (SOLID SYMBOL)



13 & 14
15 & 16
17 & 18

NOTES:

1. ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
2. REFER TO SPECIAL PROVISION "RETROREFLECTIVE BACKPLATES" FOR DETAILS ON REQUIREMENTS FOR BACKPLATES.
3. REFER TO SPECIAL PROVISIONS FOR DETAILS ON REQUIREMENTS FOR PEDESTRIAN SIGNAL HEADS.
4. ALL PEDESTRIAN SIGNAL HEADS CAN BE PLACED INTO OPERATION IF THERE ARE BOTH WHEELCHAIR RAMPS AND A CROSSWALK THAT MEETS A. D. A. S. STANDARD.

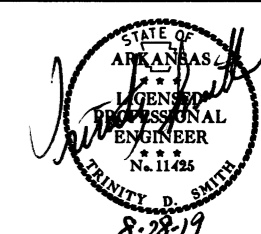
HWY. 176/ 47TH STREET POLE DIMENSIONS

POLE	MAST ARM	*MAST ARM ANGLE	VERT. SHAFT	LUM. ARM	*LUM. ANGLE
A	36'	180°	21'	N/A	N/A
B	42'	270°	21'	N/A	N/A
C	46'	180°	21'	N/A	N/A
D	34'	270°	21'	N/A	N/A
E	N/A	N/A	10'	N/A	N/A

* ANGLE MEASURED CLOCKWISE FROM HAND HOLE.
EXISTING SIGNAL POLES A - D TO REMAIN.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		17	20

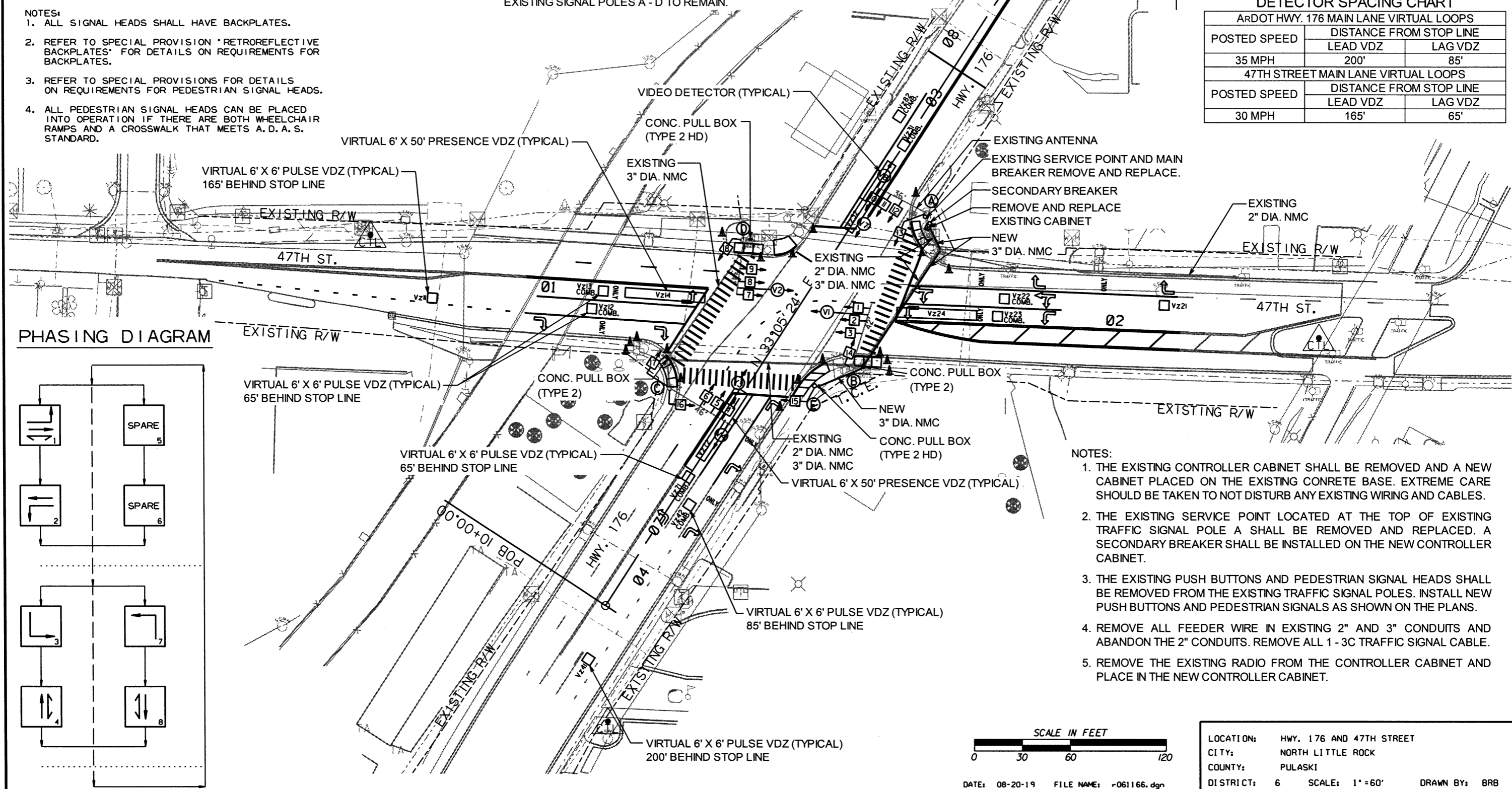
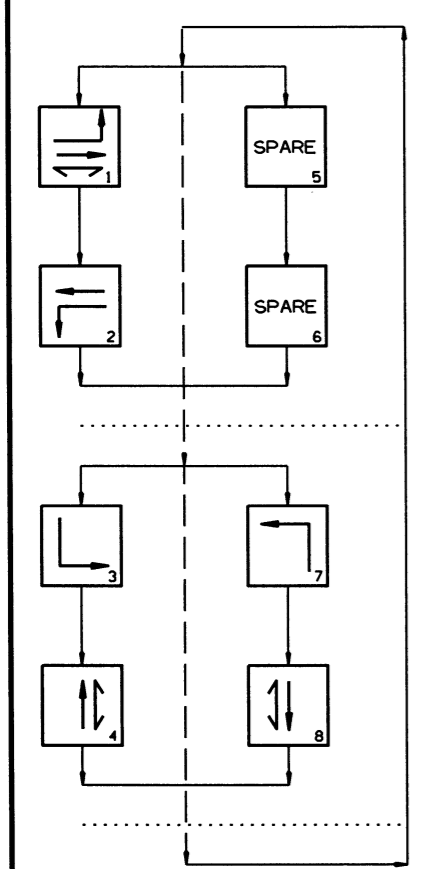
2 SIGNALIZATION PLAN SHEETS



DETECTOR SPACING CHART

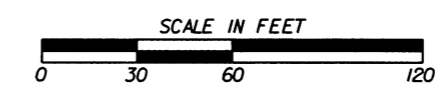
ARDOT HWY. 176 MAIN LANE VIRTUAL LOOPS		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD VDZ	LAG VDZ
35 MPH	200'	85'
47TH STREET MAIN LANE VIRTUAL LOOPS		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD VDZ	LAG VDZ
30 MPH	165'	65'

PHASING DIAGRAM



NOTES:

1. THE EXISTING CONTROLLER CABINET SHALL BE REMOVED AND A NEW CABINET PLACED ON THE EXISTING CONCRETE BASE. EXTREME CARE SHOULD BE TAKEN TO NOT DISTURB ANY EXISTING WIRING AND CABLES.
2. THE EXISTING SERVICE POINT LOCATED AT THE TOP OF EXISTING TRAFFIC SIGNAL POLE A SHALL BE REMOVED AND REPLACED. A SECONDARY BREAKER SHALL BE INSTALLED ON THE NEW CONTROLLER CABINET.
3. THE EXISTING PUSH BUTTONS AND PEDESTRIAN SIGNAL HEADS SHALL BE REMOVED FROM THE EXISTING TRAFFIC SIGNAL POLES. INSTALL NEW PUSH BUTTONS AND PEDESTRIAN SIGNALS AS SHOWN ON THE PLANS.
4. REMOVE ALL FEEDER WIRE IN EXISTING 2" AND 3" CONDUITS AND ABANDON THE 2" CONDUITS. REMOVE ALL 1-3C TRAFFIC SIGNAL CABLE.
5. REMOVE THE EXISTING RADIO FROM THE CONTROLLER CABINET AND PLACE IN THE NEW CONTROLLER CABINET.



DATE: 08-20-19 FILE NAME: r061166.dgn

LOCATION: HWY. 176 AND 47TH STREET
 CITY: NORTH LITTLE ROCK
 COUNTY: PULASKI
 DISTRICT: 6 SCALE: 1" = 60' DRAWN BY: BRB

DESIGN PARAMETERS

POSTED SPEED LIMIT:
 30 MPH EAST AND WEST APPROACH
 35 MPH NORTH AND SOUTH APPROACH
 NO BUS STOPS
 NO RAILROAD TRACKS
 NO EXISTING INTERCONNECTIONS
 NO FIRE STATION
 NO PARKING
 NO SIGHT DISTANCE RESTRICTIONS

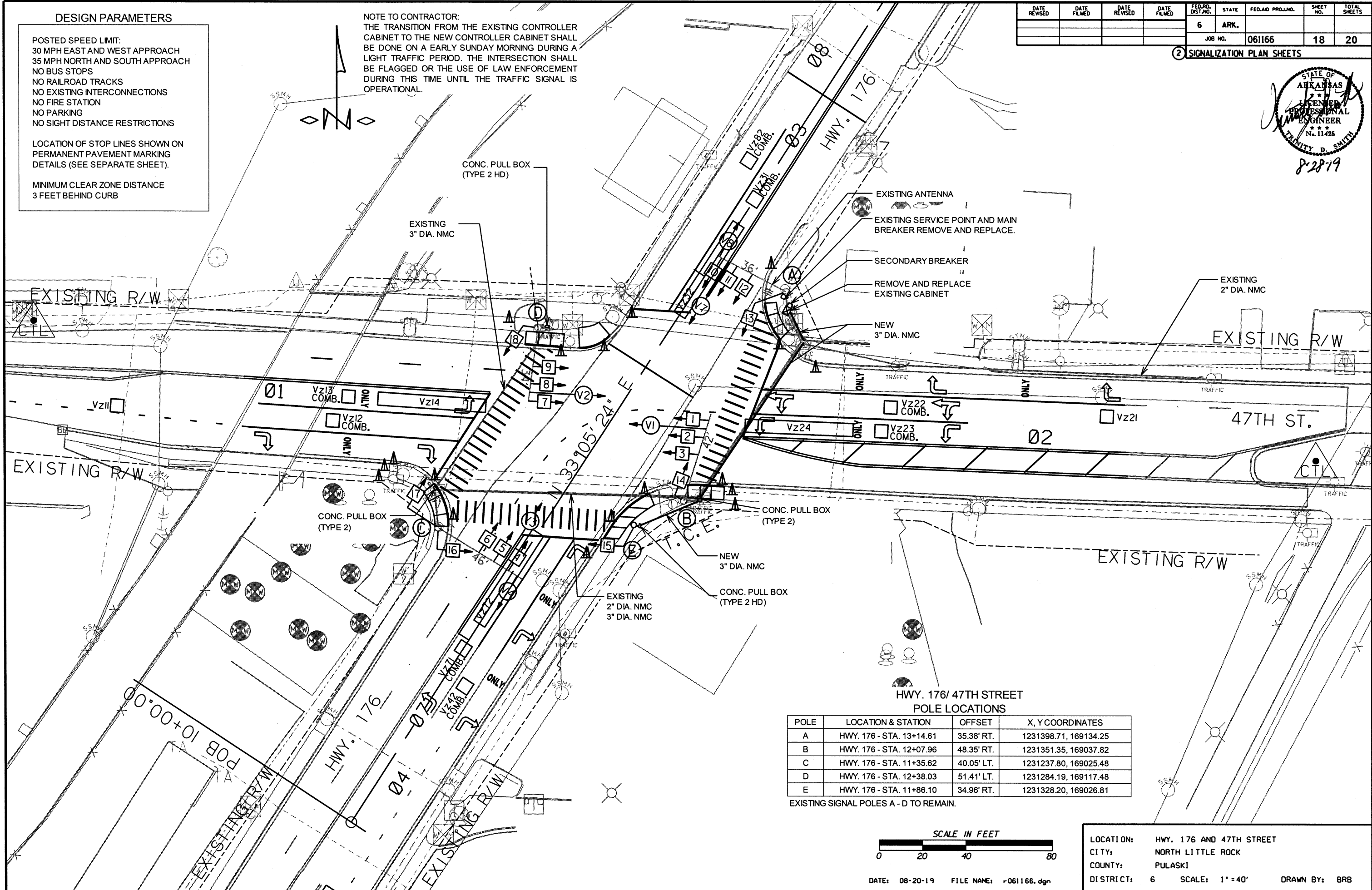
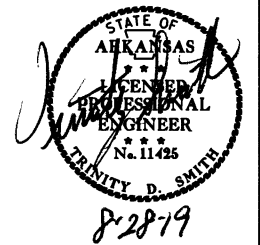
LOCATION OF STOP LINES SHOWN ON
 PERMANENT PAVEMENT MARKING
 DETAILS (SEE SEPARATE SHEET).

MINIMUM CLEAR ZONE DISTANCE
 3 FEET BEHIND CURB

NOTE TO CONTRACTOR:
 THE TRANSITION FROM THE EXISTING CONTROLLER CABINET TO THE NEW CONTROLLER CABINET SHALL BE DONE ON A EARLY SUNDAY MORNING DURING A LIGHT TRAFFIC PERIOD. THE INTERSECTION SHALL BE FLAGGED OR THE USE OF LAW ENFORCEMENT DURING THIS TIME UNTIL THE TRAFFIC SIGNAL IS OPERATIONAL.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		18	20

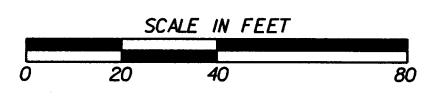
2 SIGNALIZATION PLAN SHEETS



**HWY. 176/ 47TH STREET
 POLE LOCATIONS**

POLE	LOCATION & STATION	OFFSET	X, Y COORDINATES
A	HWY. 176 - STA. 13+14.61	35.38' RT.	1231398.71, 169134.25
B	HWY. 176 - STA. 12+07.96	48.35' RT.	1231351.35, 169037.82
C	HWY. 176 - STA. 11+35.62	40.05' LT.	1231237.80, 169025.48
D	HWY. 176 - STA. 12+38.03	51.41' LT.	1231284.19, 169117.48
E	HWY. 176 - STA. 11+86.10	34.96' RT.	1231328.20, 169026.81

EXISTING SIGNAL POLES A - D TO REMAIN.



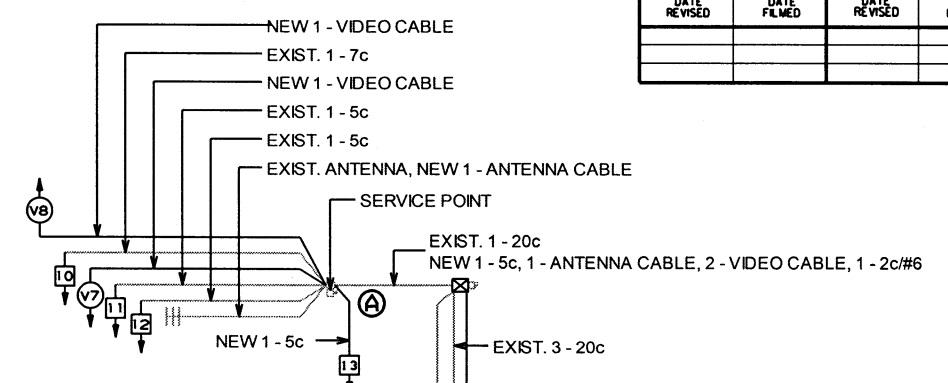
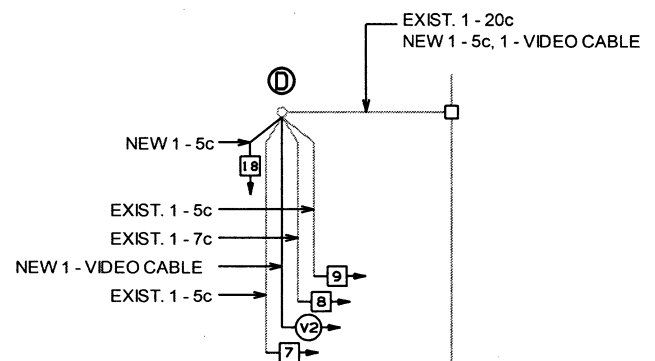
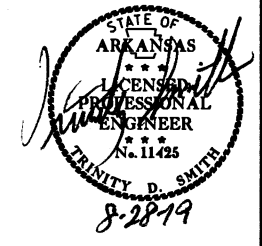
DATE: 08-20-19 FILE NAME: r-061166.dgn

LOCATION: HWY. 176 AND 47TH STREET
 CITY: NORTH LITTLE ROCK
 COUNTY: PULASKI
 DISTRICT: 6 SCALE: 1" = 40' DRAWN BY: BRB

R061166.DGN 8/20/2019

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
						JOB NO. 061166	19	20

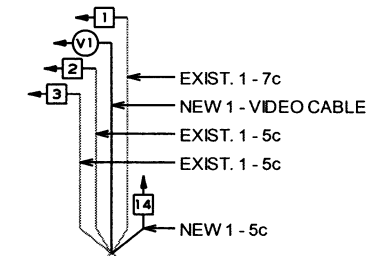
2 SIGNALIZATION PLAN SHEETS



EXIST. 1 - 20c
NEW 1 - 5c, 1 - VIDEO CABLE

EXIST. 1 - 20c
NEW 1 - 5c, 1 - ANTENNA CABLE, 2 - VIDEO CABLE, 1 - 2c/#6
EXIST. 3 - 20c
NEW 6 - 5c, 4 - VIDEO CABLE, 1 - 1c/#8 E.G.C.
EXIST. 3 - 20c
NEW 6 - 5c, 4 - VIDEO CABLE, 1 - 1c/#8 E.G.C.

ABANDON EXIST. 2" CONDUIT

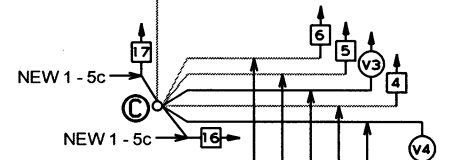


EXIST. 2 - 20c
NEW 3 - 5c, 3 - VIDEO CABLE

EXIST. 1 - 20c
NEW 1 - 5c, 1 - VIDEO CABLE

EXIST. 1 - 20c
NEW 2 - 5c, 2 - VIDEO CABLE

NEW 2 - 5c, 1 - 1c/#8 E.G.C.

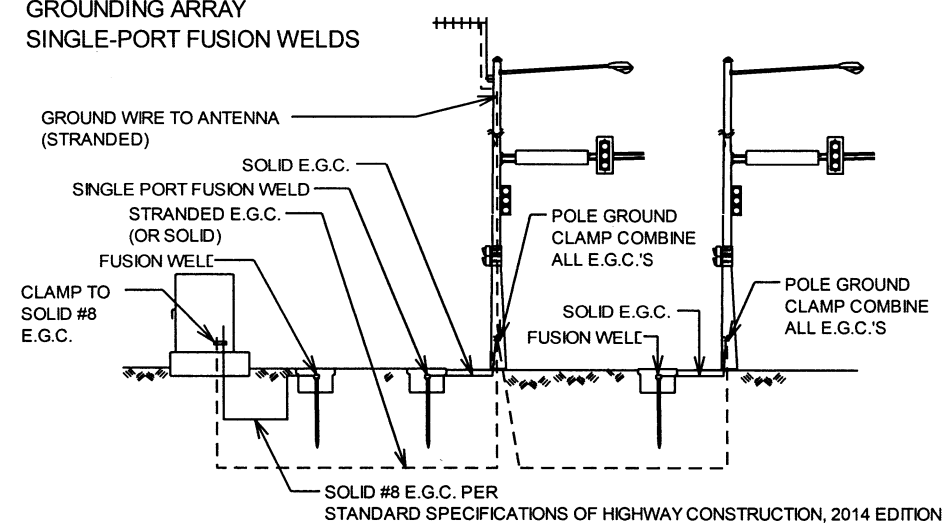


NEW 1 - VIDEO CABLE
EXIST. 1 - 7c
NEW 1 - VIDEO CABLE
EXIST. 1 - 5c
EXIST. 1 - 5c

WIRING DIAGRAM

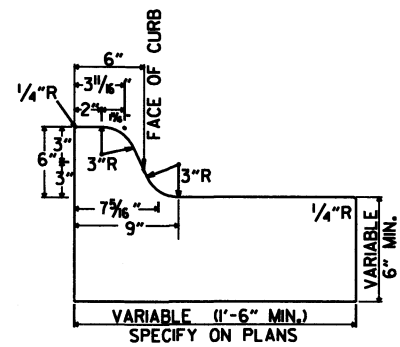
- NOTES TO CONTRACTOR:
- ONE SEPARATE 1-5c IS RUN TO EACH POLE FOR THE PEDESTRIAN PUSH BUTTON.
 - ALL DETECTOR RACK CHANNELS, INCLUDING UNUSED, SHALL BE BROUGHT TO TERMINAL STRIP IN DETECTOR AREA OF CABINET.
 - THE LOCAL GOVERNMENT SHALL BE RESPONSIBLE FOR PROVIDING POWER TO THE SERVICE POINT.

GROUNDING ARRAY
SINGLE-PORT FUSION WELDS

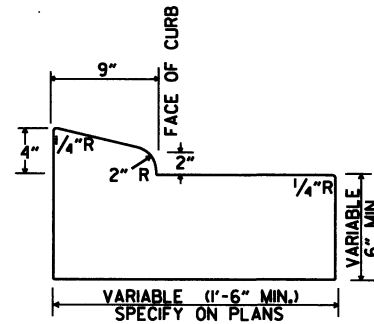


LOCATION:	HWY. 176 AND 47TH STREET
CITY:	NORTH LITTLE ROCK
COUNTY:	PULASKI
DISTRICT:	6
SCALE:	N/A
DRAWN BY:	BRB

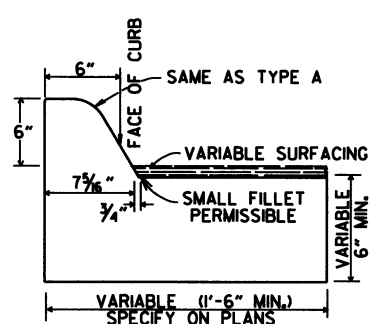
R061166.DGN 10/25/2018



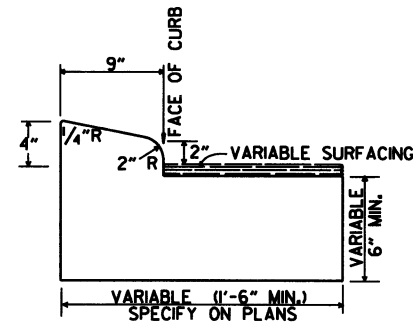
TYPE A



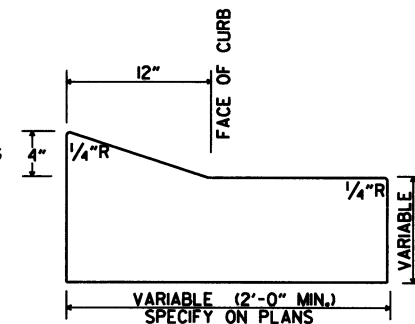
TYPE B-1



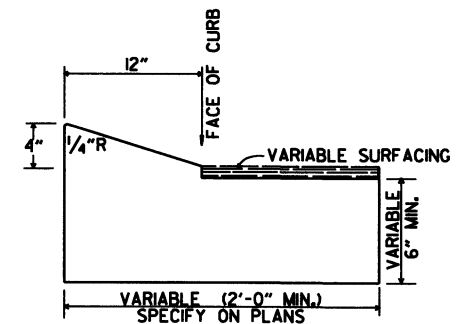
TYPE C



TYPE B-2

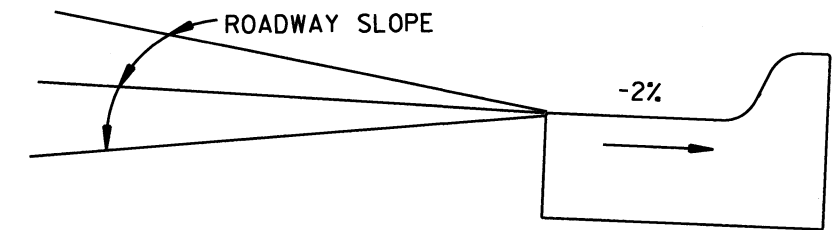


TYPE E-1

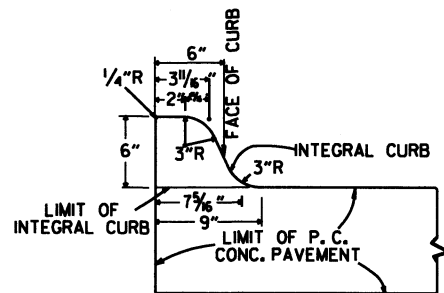


TYPE E-2

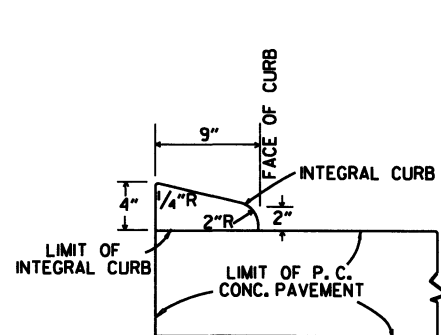
CONCRETE COMBINATION CURB AND GUTTER



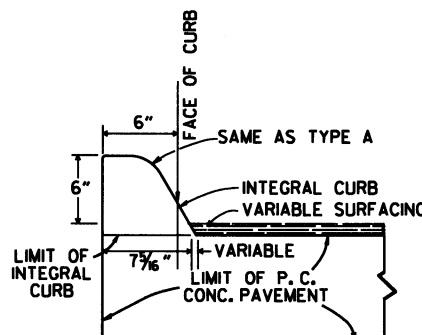
DETAIL OF GUTTER SLOPE
GUTTER SHALL BE CONSTRUCTED ON 2% SLOPE AWAY FROM ROADWAY, REGARDLESS OF ROADWAY SLOPE.



TYPE A

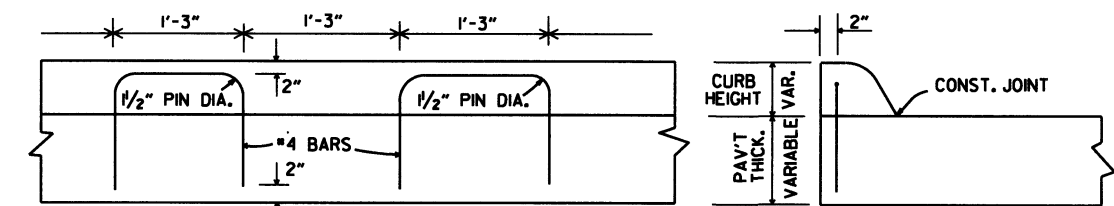


TYPE B



TYPE C

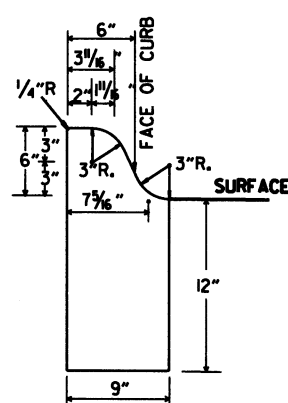
INTEGRAL CURB



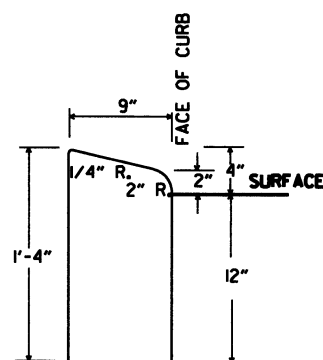
LONGITUDINAL SECTION

ELEVATION

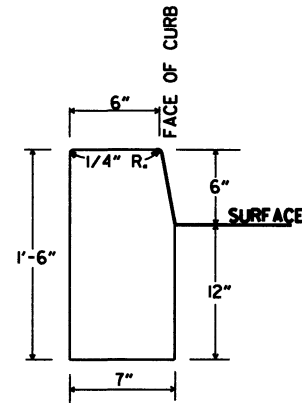
ALTERNATE CONSTRUCTION METHOD FOR INTEGRAL CURB



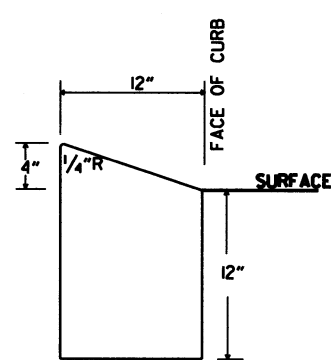
TYPE A



TYPE B

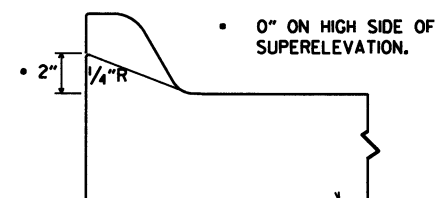


TYPE D



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.

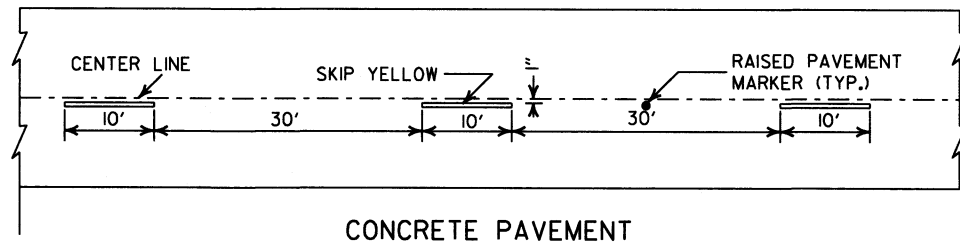
DETAILS OF MODIFIED CURB

DATE	REVISION	DATE FILMED
8-23-07	REVISED GUTTER SLOPE & MODIFIED CURB DETAILS	
8-10-06	ADDED DETAILS OF TYPE E CURBS	
8-16-06	REVISED CONCRETE CURB TYPE B	
8-18-06	REVISED CONCRETE CURB TYPE B	
6-2-04	REVISED MODIFIED CURB	
6-2-04	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
8-30-89	VARIABLE DEPTH TYPE A & B 1	8-30-89
7-8-88	REVISED MODIFIED CURB	630-7-8-88
1-1-73	REVISED MODIFIED CURB	500-1-1-73
10-2-72	REVISED AND REDRAWN	52-10-2-72

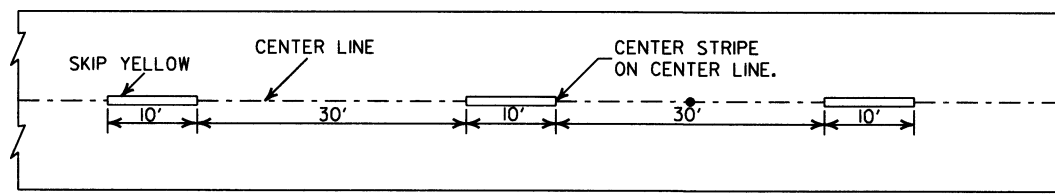
ARKANSAS STATE HIGHWAY COMMISSION

CURBING DETAILS

STANDARD DRAWING CG-1

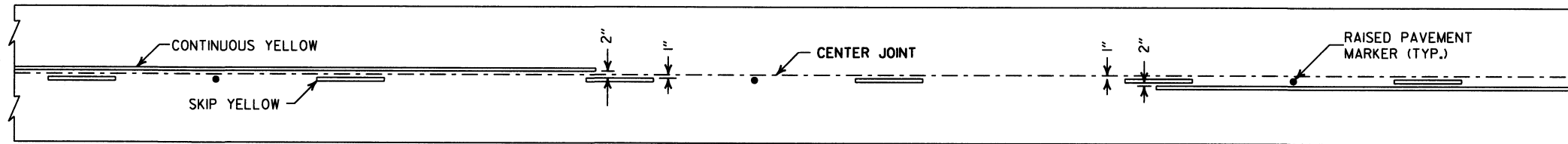


CONCRETE PAVEMENT

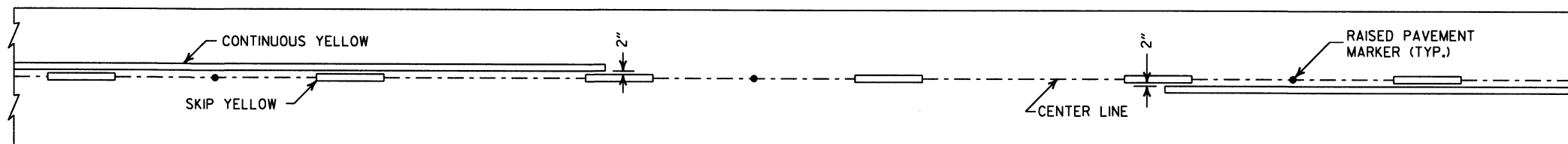


ASPHALT PAVEMENT

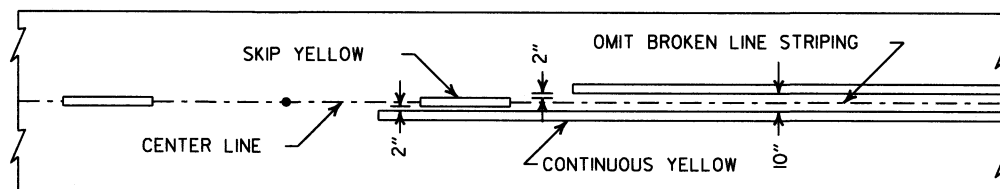
BROKEN LINE STRIPING



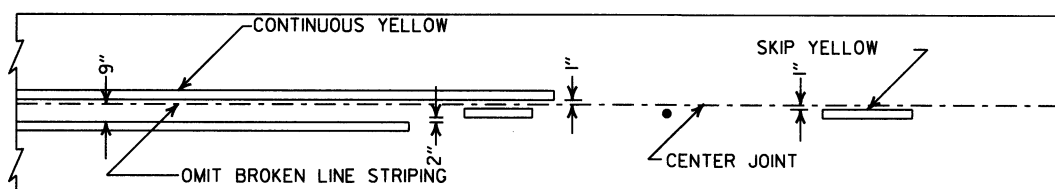
SOLID LINE STRIPING ON CONCRETE PAVEMENT



SOLID LINE STRIPING ON ASPHALT PAVEMENT

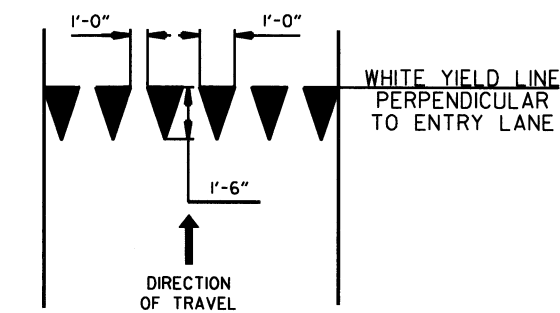


ASPHALT PAVEMENT

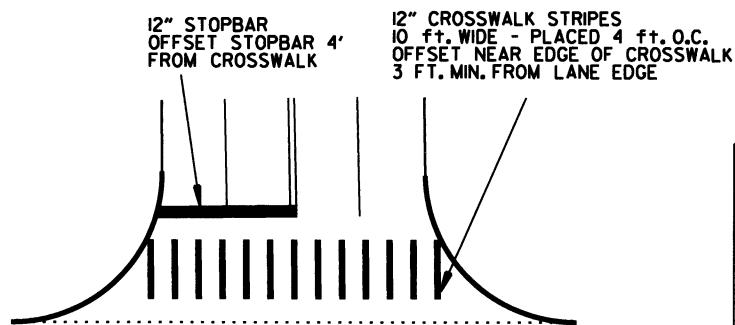


CONCRETE PAVEMENT

STRIPING AT ADJACENT NO PASSING LANES

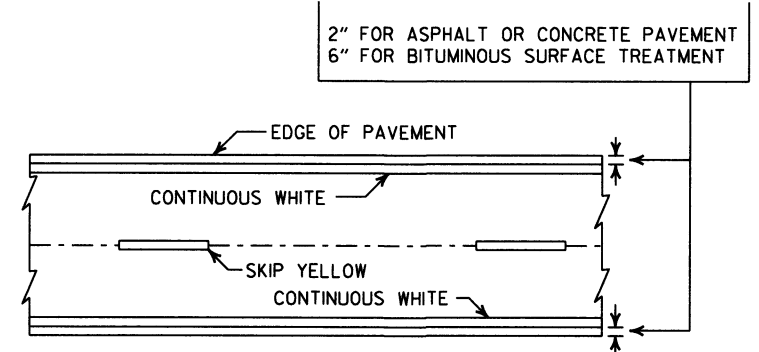


YIELD LINE DETAIL



CROSSWALK AND STOPBAR DETAILS

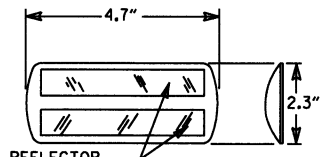
- NOTES:
1. REFER TO THE STRIPING DETAILS FOR PAVEMENT MARKING LINE WIDTHS.
 2. THIS DRAWING SHALL BE USED IN CONJUNCTION WITH THE LATEST REVISED ADDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."
 3. RAISED PAVEMENT MARKERS SHALL BE PLACED ON AN 80 FEET SPACING UNLESS OTHERWISE SHOWN IN THE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



PAVEMENT EDGE LINE MARKING

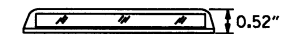
NOTE:
THE RED LENS OF THE TYPE II R.P.M. SHALL FACE THE INCORRECT TRAFFIC MOVEMENT.

TYPE II
RED/CLEAR OR
YELLOW/YELLOW



PRISMATIC REFLECTOR

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



DETAIL OF STANDARD RAISED PAVEMENT MARKERS

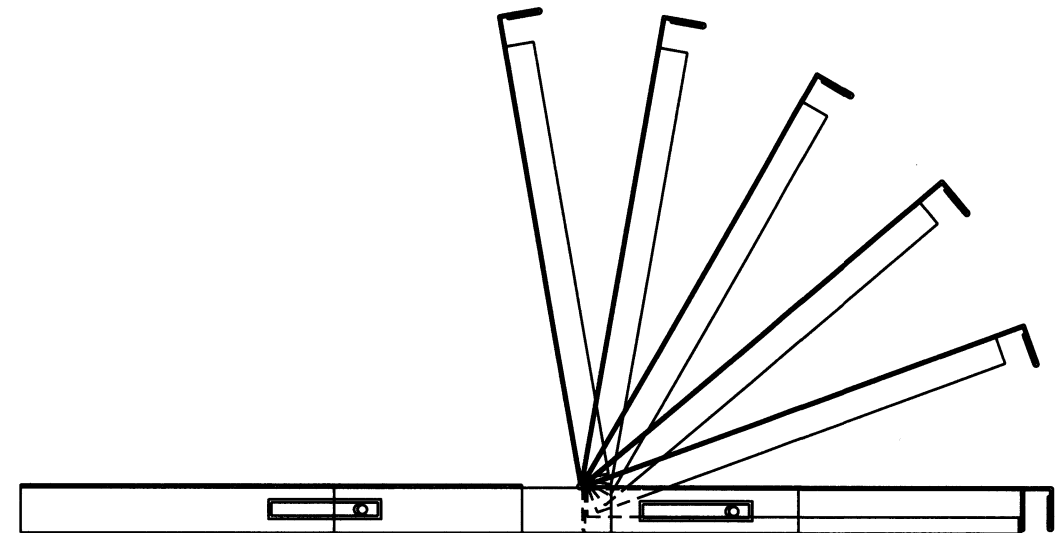
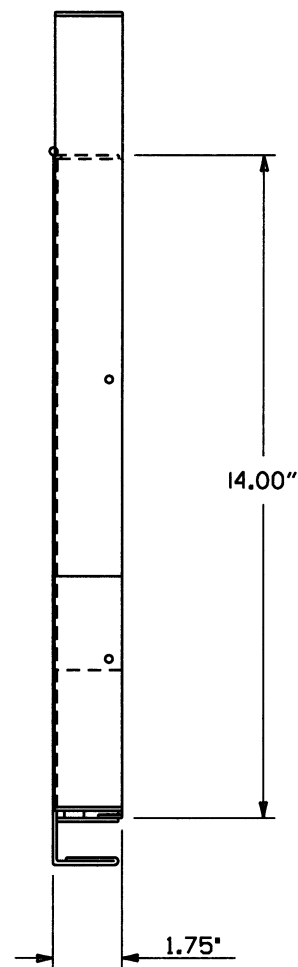
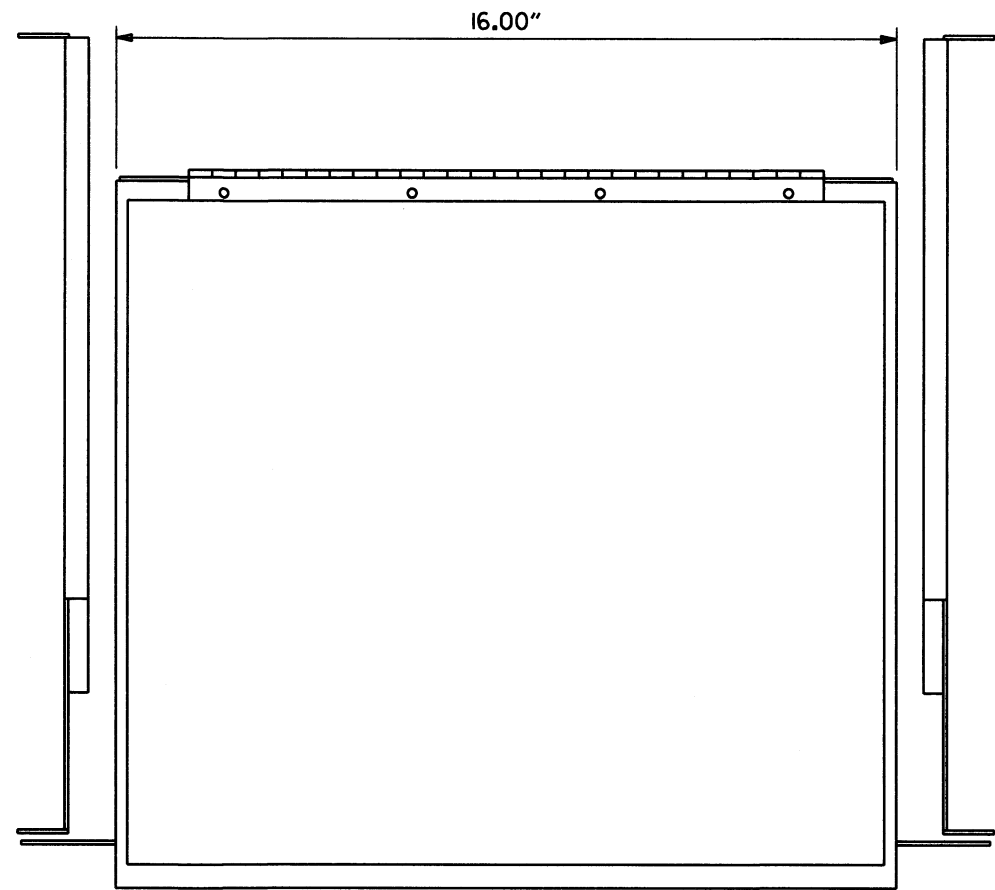
DATE	REVISION	FILMED
6-1-17	ADDED YIELD LINE DETAIL	
5-12-16	REVISED LINE WIDTHS, SPACING, & NOTES	
9-12-13	REVISED DETAIL OF STANDARD RAISED PAVEMENT MARKERS	
11-17-10	REVISED GENERAL NOTES & REMOVED PLOWABLE PAV'T. MRKRS	
11-18-04	REVISED NOTE 2 & GENERAL NOTES	
8-22-02	ADDED CROSSWALK & STOPBAR DTLS.	
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

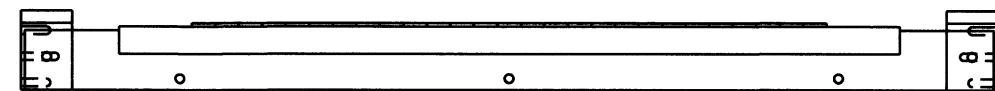
PAVEMENT MARKING DETAILS

STANDARD DRAWING PM-1

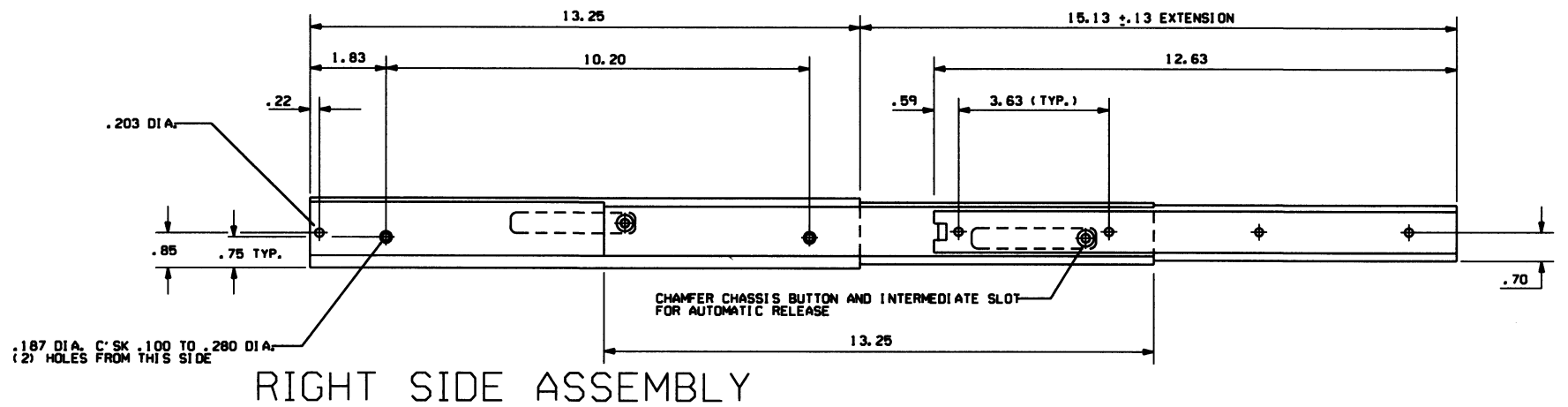
DRAWER PLAN VIEW



- 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.



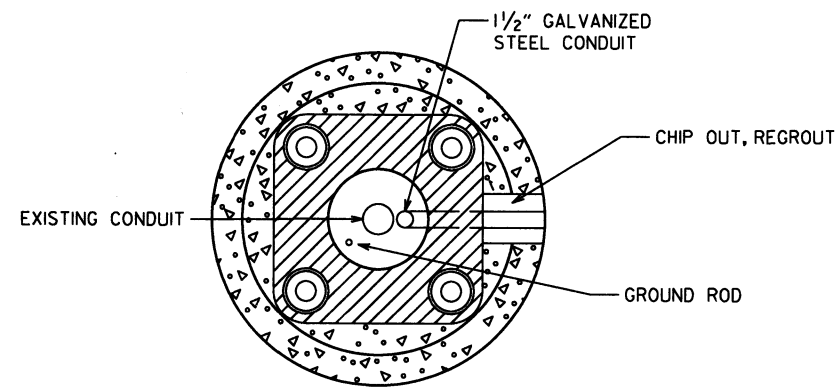
FRONT VIEW



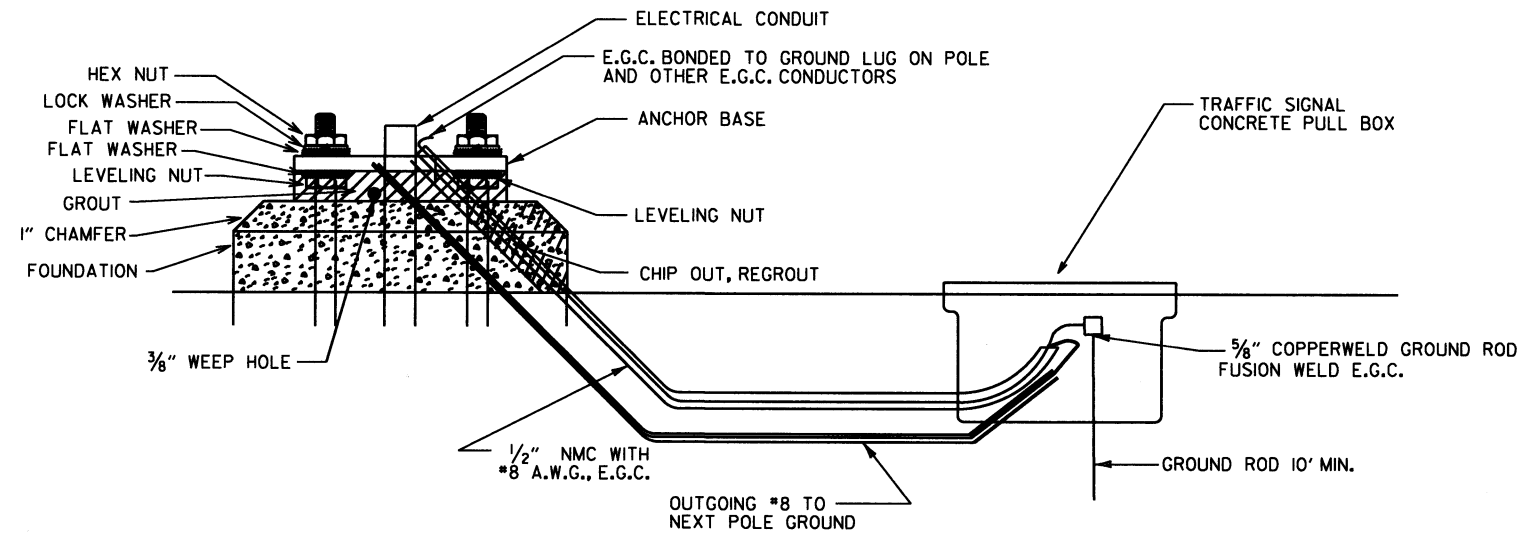
RIGHT SIDE ASSEMBLY

			ARKANSAS STATE HIGHWAY COMMISSION
			CONTROLLER CABINET UTILITY DRAWER
9-12-13	ISSUED AS STANDARD DRAWING		
6-15-05	ISSUED		
DATE	REVISION	DATE FILM	STANDARD DRAWING SD-5

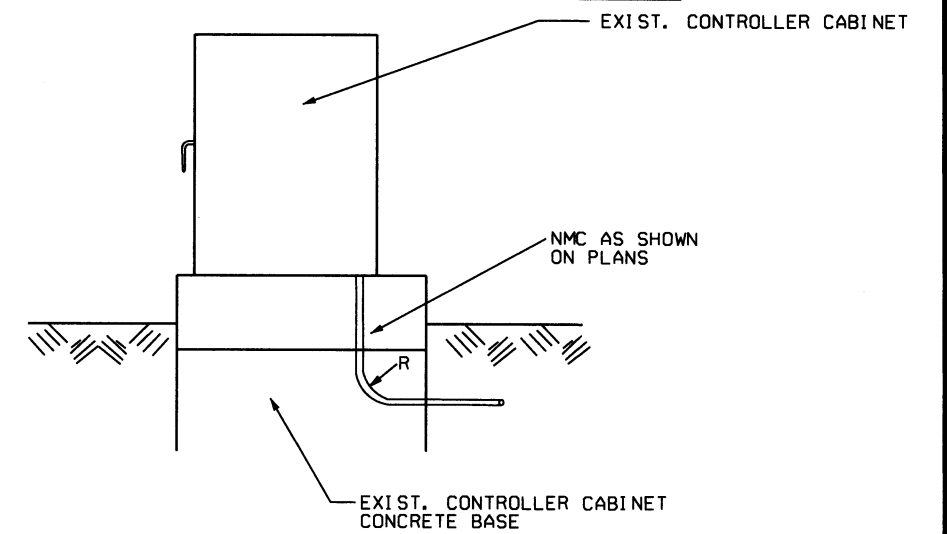
CONDUIT ENTRY TO EXISTING POLE BASE



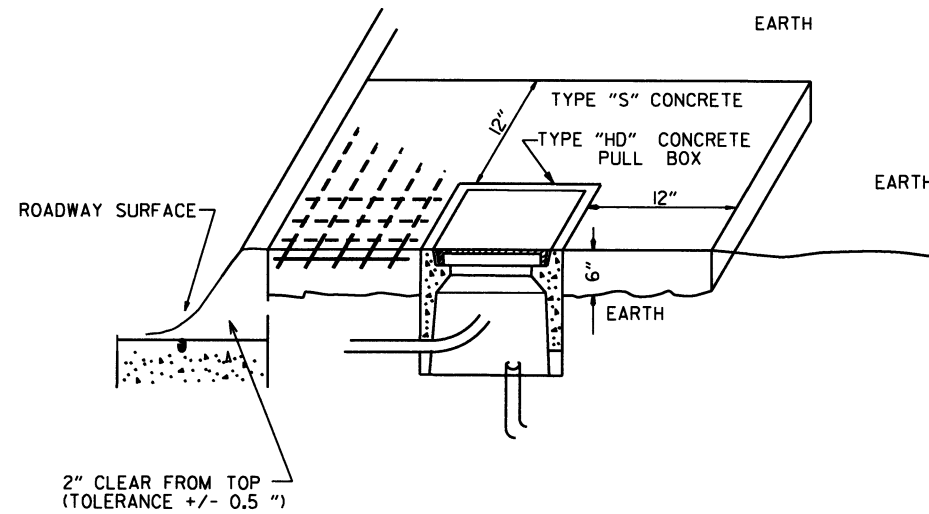
ANCHOR BASE



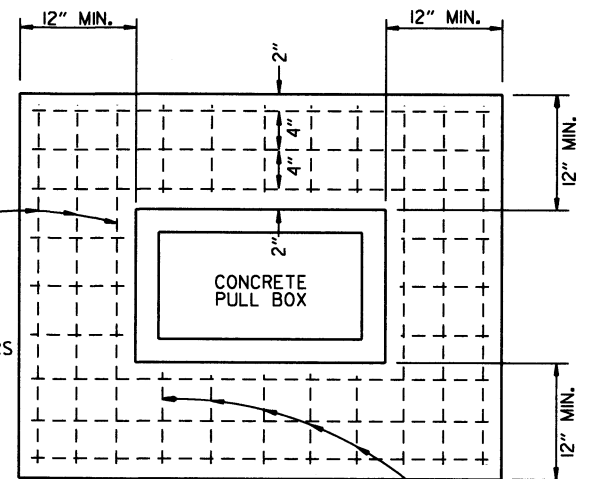
CONDUIT ENTRY TO EXISTING CONTROLLER CABINET



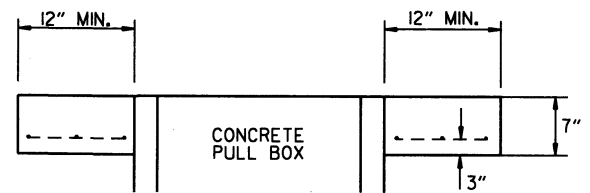
TYPE "HD" CONCRETE PULL BOX DETAIL



NOTE: ALL REINFORCING BARS TO BE GRADE 60



TOP



ELEVATION

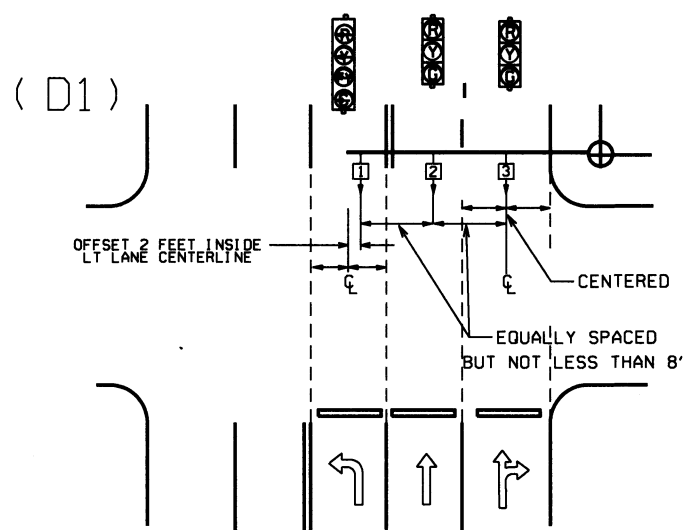
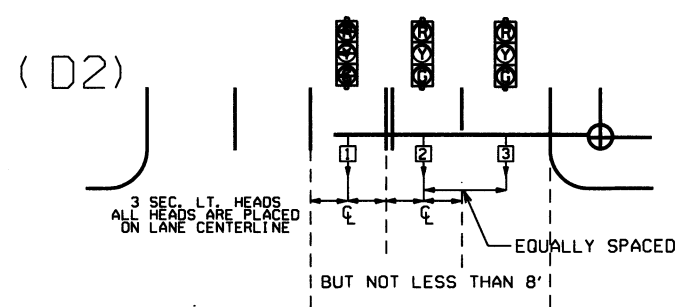
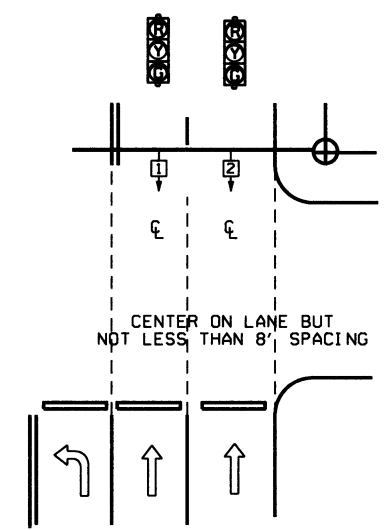
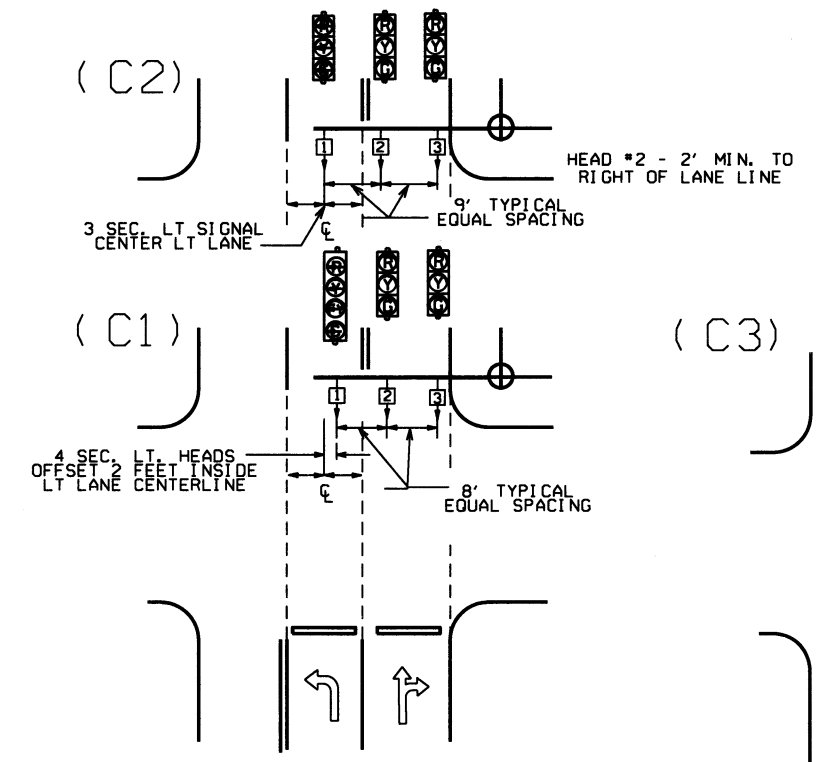
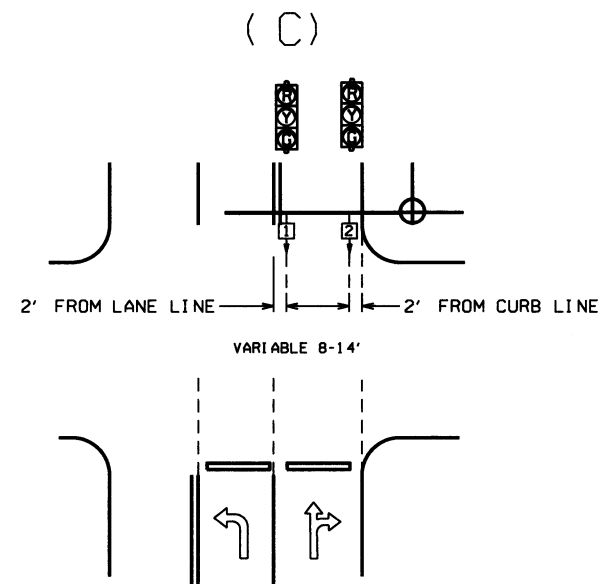
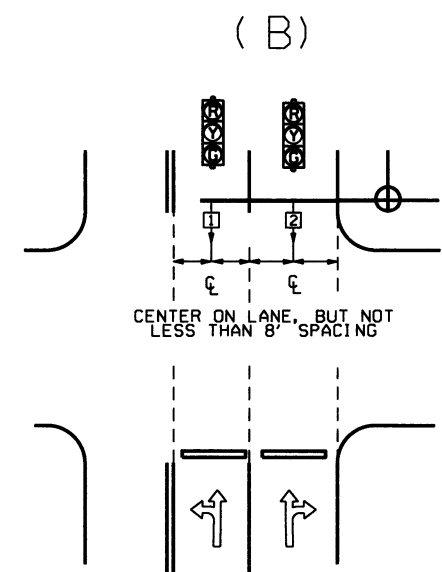
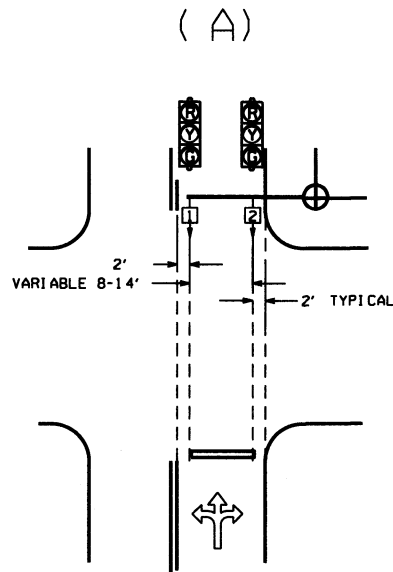
NOTE: ALL TYPE 1 AND TYPE 2 HD CONCRETE PULL BOXES ARE INSTALLED WITH AN APRON OF CONCRETE 12" WIDE AND 7" IN DEPTH. ALL PAYMENT SHALL BE INCLUDED IN THE PRICE OF THE TYPE HD CONCRETE PULL BOX. THE CONCRETE PULL BOX SHALL BE INSTALLED FLUSH TO SURROUNDING GRADE UNLESS OTHERWISE INSTRUCTED BY THE ENGINEER. 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	FILED
11-16-17	REVISED NOTES	
09-02-15	REVISED PULL BOX DEPTH	
09-02-15	ISSUED AS STANDARD DRAWING	
08-21-09	REVISED GROUNDING	
07-21-08	ADDED A REVISED CONDUIT ENTRY	
06-23-04	REVISED CLEARANCE AT CURB ENTRY	
04-04-02	ADDED REINFORCING TO BOX APRON	
07-02-00	REVISED	
12-27-99	REVISED NOTES	
11-18-98	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

HEAVY DUTY PULL BOX

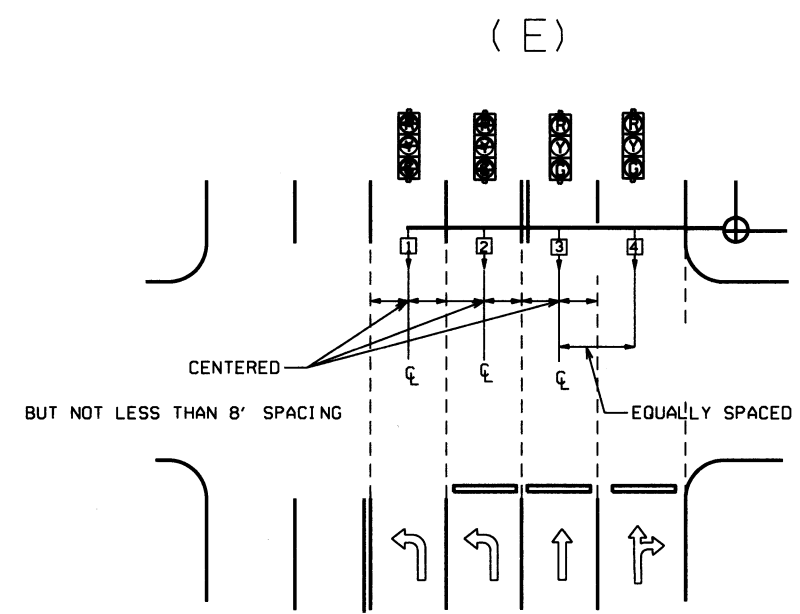
STANDARD DRAWING SD-6



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.

GENERAL NOTES:

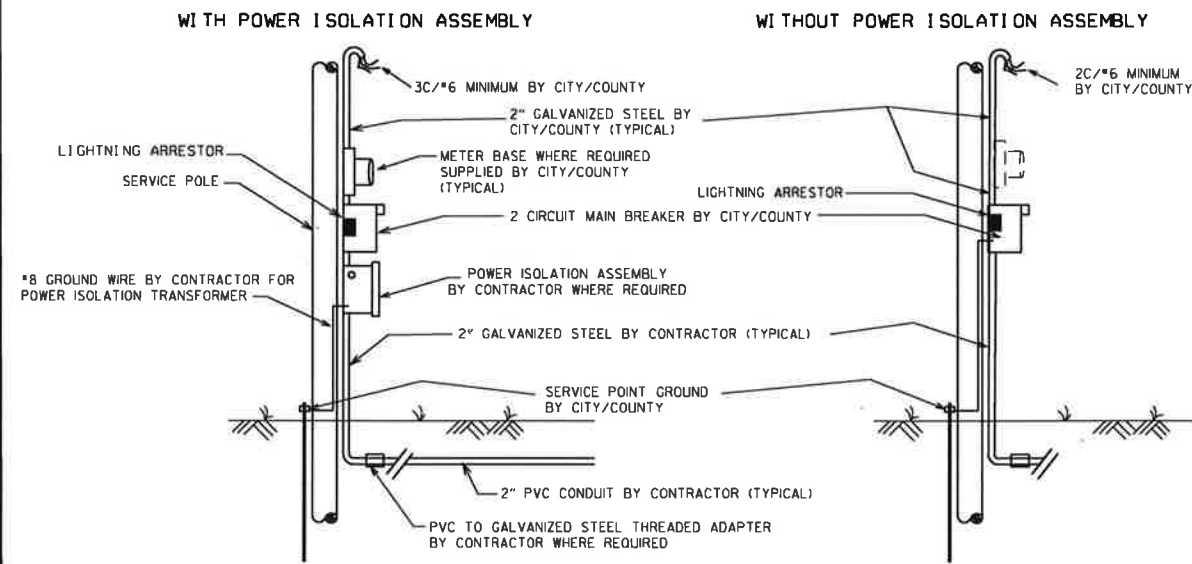
1. FOUR SECTION "PROTECTED/PERMISSIVE" LEFT TURN HEADS SHOULD BE PLACED A MINIMUM OF TWO (2') FEET TO THE RIGHT OF THE CENTERLINE OF THE APPROACHING LEFT TURN LANE.
2. THREE SECTION "PROTECTED" LEFT TURN HEADS SHOULD BE PLACED ON THE CENTERLINE OF THE APPROACHING LEFT TURN LANE.
3. WHEN IT IS NECESSARY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



℄ = CENTER OF LANE FROM APPROACH SIDE

			ARKANSAS STATE HIGHWAY COMMISSION
12-8-16	REVISED NOTE 6		SIGNAL HEAD PLACEMENT
9-12-13	ISSUED AS STANDARD DRAWING		
3-11-10	2009 MUTCD		STANDARD DRAWING SD-8
12-9-99	ISSUED		
DATE	REVISION	DATE FILM	

MAIN BREAKER NOT NEAR CONTROLLER CABINET SECONDARY REQUIRED



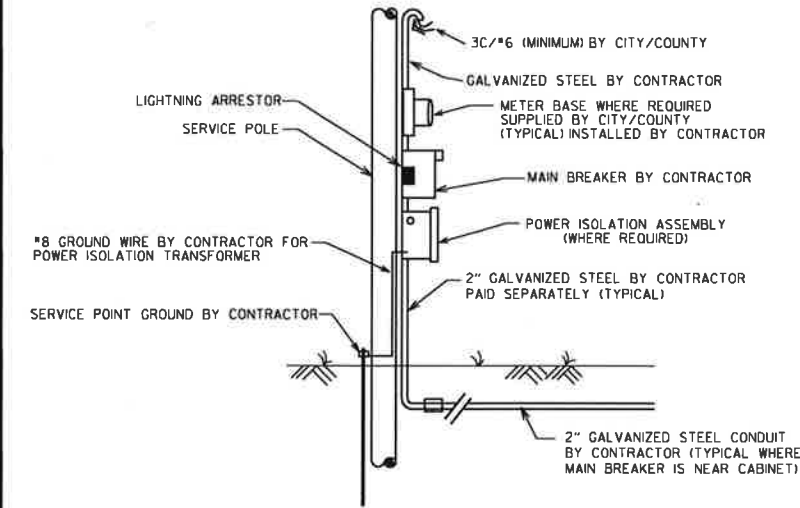
NOTES TO CONTRACTOR AND AGENCY RESPONSIBLE FOR MAINTENANCE OF THE INTERSECTION (CITY/COUNTY):

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.

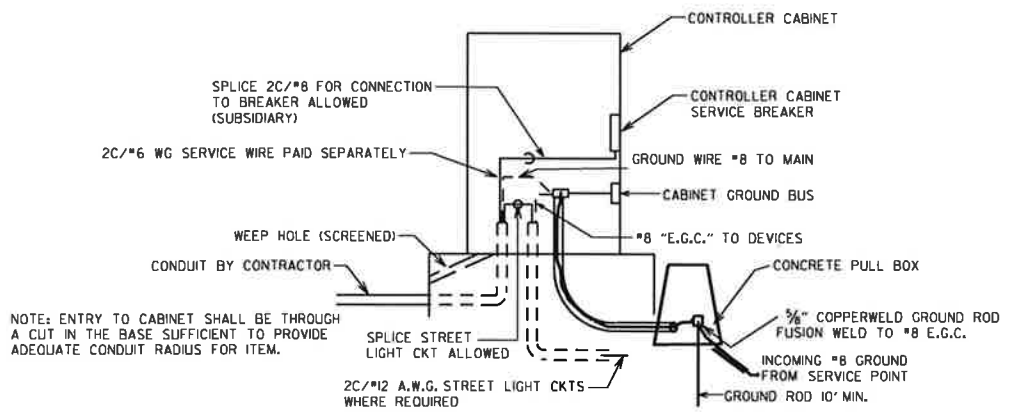
ALL SITUATIONS: ELECTRICAL SERVICE SHALL BE PROVIDED BY THE CITY/COUNTY TO A SERVICE POLE WITH EXTERNAL RAIN-TIGHT BREAKER (MAIN BREAKER) AT A MUTUALLY ACCEPTABLE POINT WITHIN THE RIGHT-OF-WAY. SERVICE POINT INCLUDES GALVANIZED STEEL CONDUIT TO A POINT 18" BELOW GROUND LINE, TWO CIRCUIT MAIN BREAKER, 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.



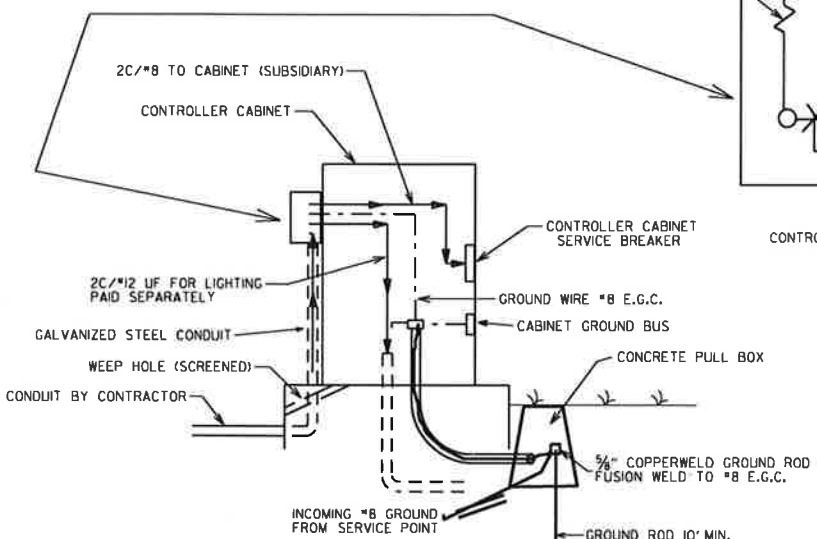
MAIN BREAKER NEAR CONTROLLER CABINET SECONDARY NOT REQUIRED



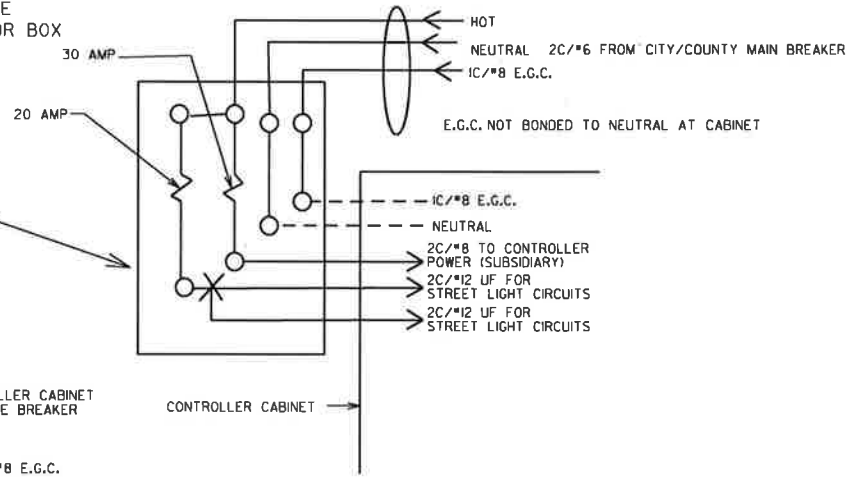
NOTE: ENTRY TO CABINET SHALL BE THROUGH A CUT IN THE BASE SUFFICIENT TO PROVIDE ADEQUATE CONDUIT RADIUS FOR ITEM.

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)



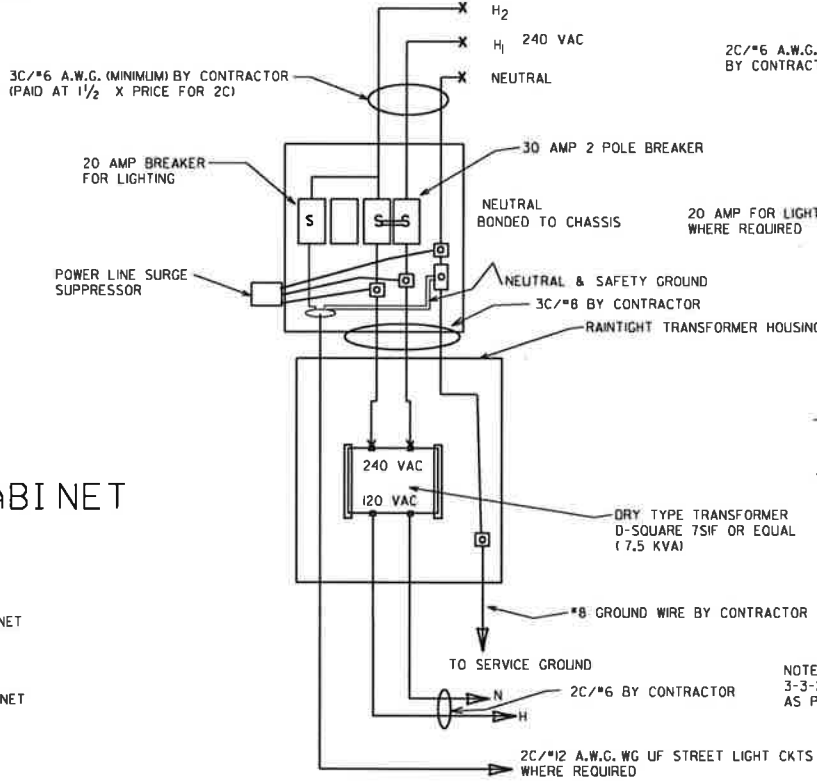
NOTE: ENTRY TO CABINET SHALL BE THROUGH A CUT IN THE BASE SUFFICIENT TO PROVIDE ADEQUATE CONDUIT RADIUS FOR ITEM.



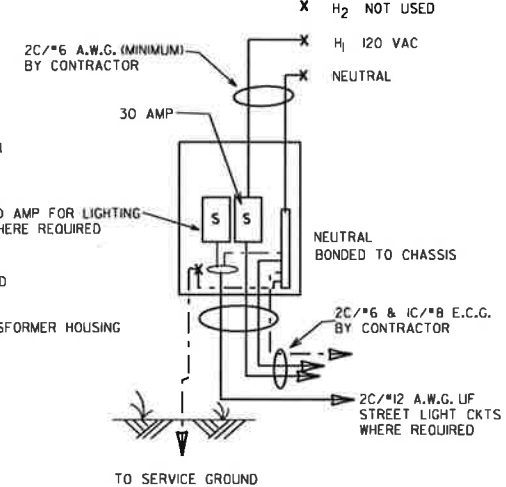
MAIN BREAKER WIRING (TYPICAL)

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.G.C.) ADDED 3-3-2003, CONSISTING OF A 1C/#8 A.W.G. CU GREEN WIRE AS PER NATIONAL ELECT. CODES.

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 EGG 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 (RIO-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 RIO-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 0.010 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 (2000 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 1/2" SHALL MEET THE LONGITUDINAL CHERRY 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" X 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 THAN 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.

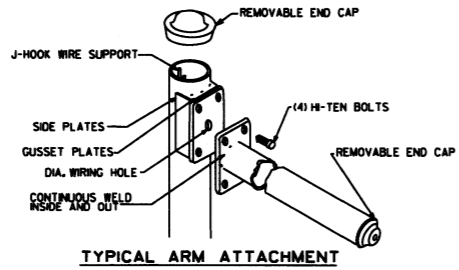
4. POLE/MAST ARM CAP - POLE AND MAST ARM CAPS SHALL BE PROVIDED, FABRICATED OF EITHER STEEL OR CAST ALUMINUM.

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 VACUUM FORMED ABS COVER IS AN ACCEPTABLE ALTERNATE TO STEEL. POLES GREATER THAN 21 FT. IN HEIGHT (FOR ROADWAY LUMINAIRE ATTACHMENT) SHALL INCLUDE A HAND HOLE WITHIN 12 INCHES OF MAST ARMS ATTACHMENT(S).

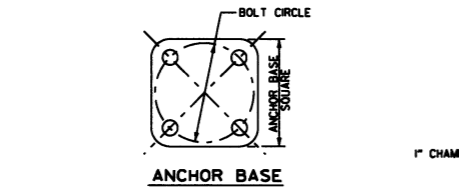
6. POLE/MAST ARM TAPER SLOPE - AVERAGE TAPER OF SIGNAL MAST ARMS AND POLE SHAFT SHALL BE 0.125 TO 0.15 INCHES PER FOOT.

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.

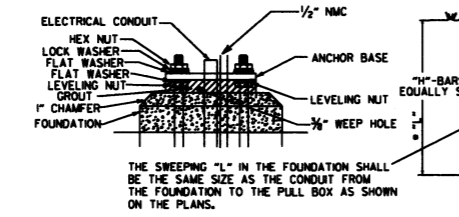
7. NUT COVERS - EACH POLE SHALL INCLUDE A BOLT DOWN NUT COVER FOR EACH ANCHOR BOLT.



TYPICAL ARM ATTACHMENT

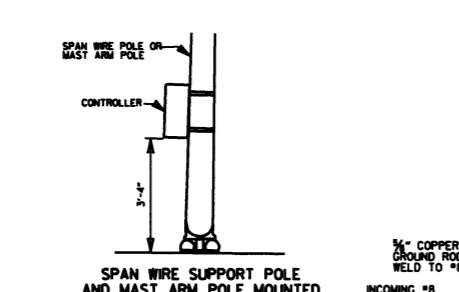


ANCHOR BASE



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"



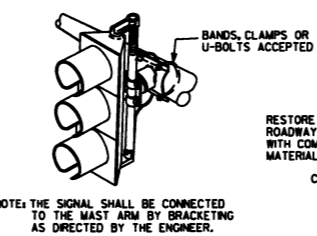
CONTROLLER CABINET MOUNTING DETAILS

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.

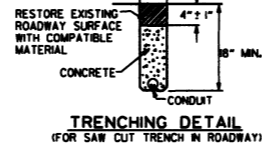
8. GROUND ROD - A 10' X 5/8" GROUND ROD SHALL BE INSTALLED IN THE CONCRETE PULL BOX FOR EACH POLE AND THE CONTROLLER. PAYMENT FOR THE GROUND ROD AND 1/2" NMC SHALL BE INCLUDED IN ITEM 714 FOR SIGNAL POLES AND ITEM 701 FOR THE CONTROLLER. THE CONCRETE PULL BOX AND CONDUCTOR BOX SHALL BE PAID SEPARATELY.

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 GROUDED WITH A 1/4" 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.



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

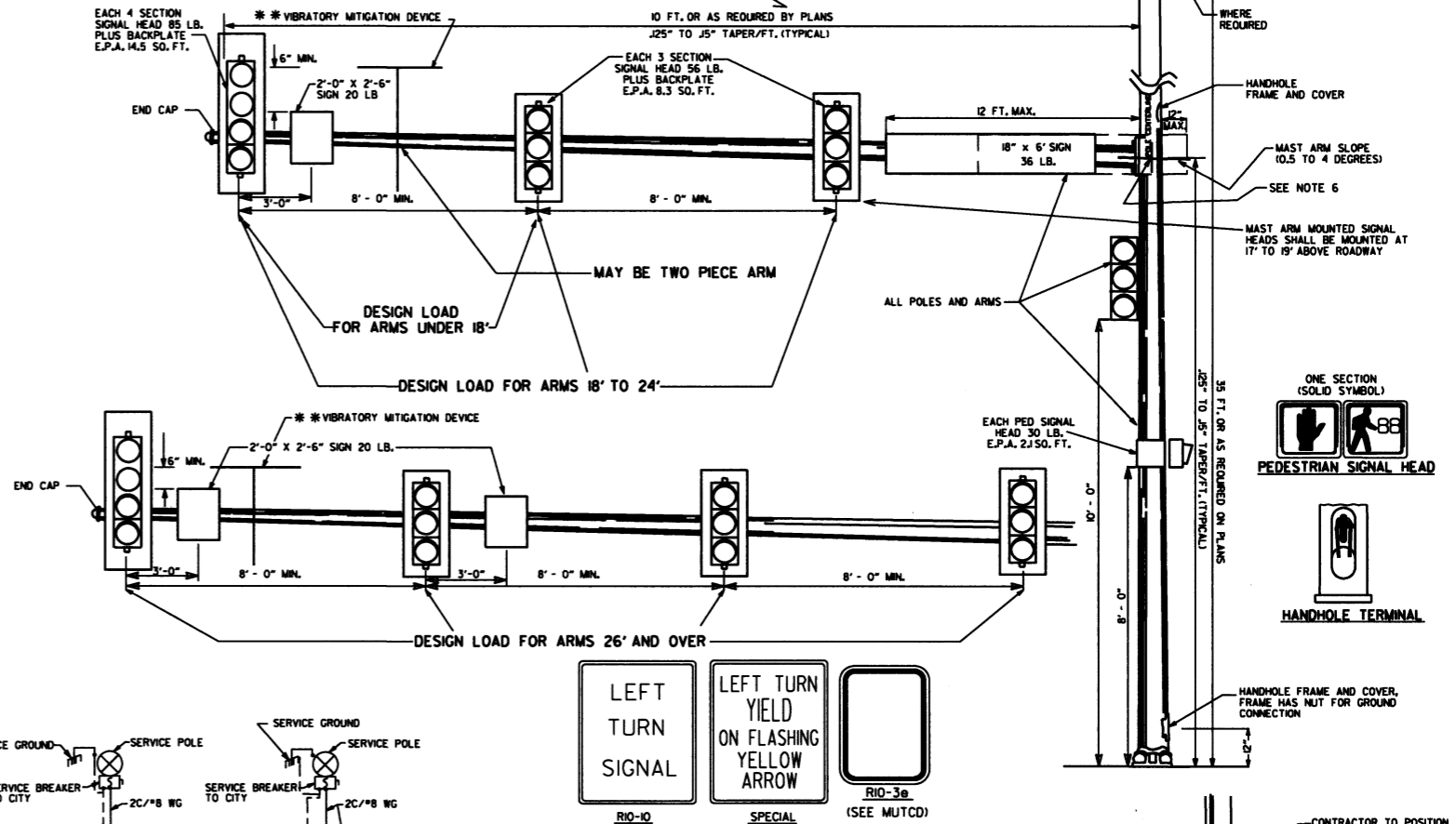


TRENCHING DETAIL (FOR SAW CUT TRENCH IN ROADWAY)

* 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.










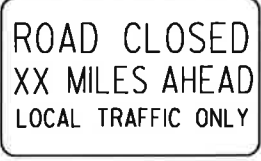










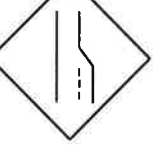

















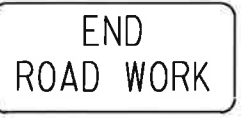
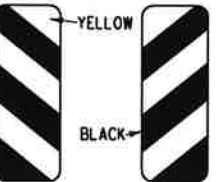



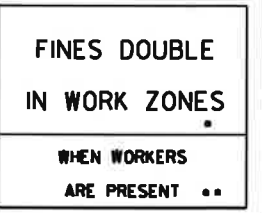
SPECIAL NOTE: 90 MPH WIND ZONE DESIGN, SEE NOTE 3. MINIMUM STRUCTURAL REQUIREMENTS.

DATE	REVISION	FILED
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	
07-3-08	REVISED GROUNDING	
04-28-08	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-II

<p>RI-1</p>  <p>STANDARD 30"x30" EXPRESSWAY 36"x36" SPECIAL 48"x48"</p>	<p>RI-2</p>  <p>STD. 36"x36"x36" EXPWY. 48"x48"x48" FWY. 60"x60"x60"</p>	<p>R2-1</p>  <p>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</p>	<p>W3-5</p>  <p>STD. 36"x36" EXPWY. 48"x48" FWY. 48"x48"</p>	<p>W3-5a</p>  <p>STD. 36"x36" EXPWY. 48"x48" FWY. 48"x48"</p>	<p>R4-1</p>  <p>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</p>	<p>R4-2</p>  <p>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</p>
<p>R5-1</p>  <p>STD. 30"x30" EXPWY. 36"x36" SPECIAL 48"x48"</p>	<p>R11-2</p>  <p>48"x30"</p>	<p>R11-3A</p>  <p>60"x30"</p>	<p>R11-4</p>  <p>60"x30"</p>	<p>W21-5a</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	<p>W1-1</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	<p>W1-2</p>  <p>STD. 36"x36" FWY. 48"x48"</p>
<p>W1-3</p>  <p>STD. 48"x48"</p>	<p>W1-4</p>  <p>STD. 48"x48"</p>	<p>W1-6</p>  <p>STD. 48"x24" SPECIAL 60"x30"</p>	<p>W1-8</p>  <p>STD. 18"x24" SPECIAL 24"x30" EXPWY. 30"x36" FWY. 36"x48"</p>	<p>W3-1</p>  <p>STD. 36"x36" SPECIAL 48"x48"</p>	<p>W3-2</p>  <p>STD. 36"x36" SPECIAL 48"x48"</p>	<p>W4-2</p>  <p>STD. 36"x36" FWY. 48"x48"</p>
<p>W5-1</p>  <p>STD. 36"x36" SPECIAL 48"x48"</p>	<p>W6-3</p>  <p>EXPWY. 36"x36" SPECIAL 48"x48"</p>	<p>W8-7</p>  <p>EXPWY. 36"x36" FWY. 48"x48"</p>	<p>W9-2</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	<p>W13-1</p>  <p>STD. 24"x24"</p>	<p>W20-1</p>  <p>STD. 48"x48"</p>	<p>W20-2</p>  <p>STD. 48"x48"</p>
<p>W20-4</p>  <p>STD. 48"x48"</p>	<p>W20-5</p>  <p>STD. 48"x48"</p>	<p>W20-7a</p>  <p>500 FEET 24" W8-2</p> <p>STD. 36"x36" FWY. 48"x48"</p>	<p>W21-2</p>  <p>STD. 30"x30" SPECIAL 36"x36"</p>	<p>W21-5</p>  <p>STD. 30"x30" SPECIAL 36"x36"</p>	<p>W24-1</p>  <p>STD. 36"x36"</p>	<p>W1-4b</p>  <p>STD. 48"x48"</p>
<p>W8-11</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	<p>W8-9</p>  <p>STD. 36"x36" FWY. 48"x48"</p>	<p>G20-1</p>  <p>60"x24"</p>	<p>G20-2</p>  <p>48"x24"</p>	<p>OM-3L OM-3R</p>  <p>12"x36"</p>	<p>M4-9</p>  <p>STD. 30"x24" SPECIAL 48"x36" SPECIAL 60"x48"</p>	<p>M4-10</p>  <p>48"x18"</p>
						<p>R56-1</p>  <p>STD. 18"x18"</p>
						<p>R55-1</p>  <p>36"x60"</p> <p>• USE 6" C LETTERS •• USE 4" D LETTERS</p>

ADVANCE DISTANCES
(XXXX)

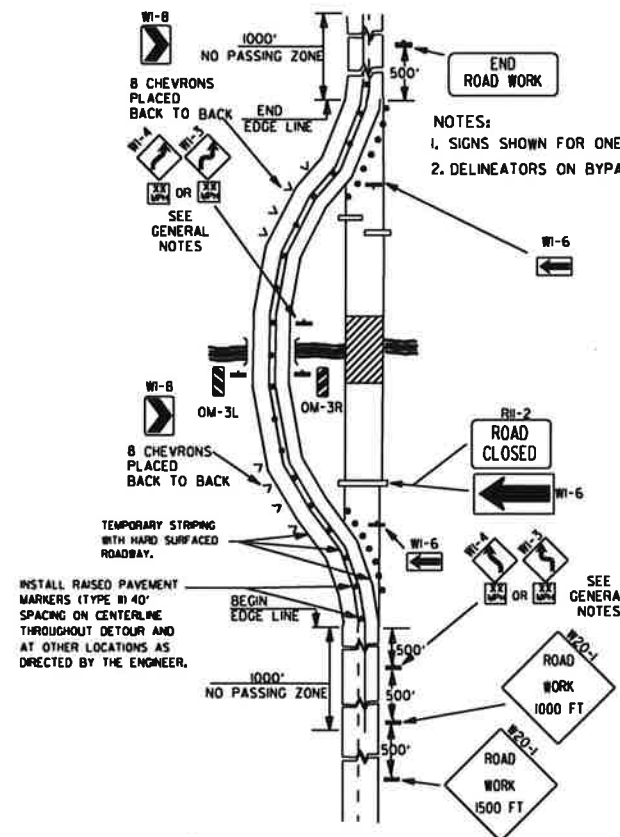
500 FT	1/2 MILE
1000 FT	3/4 MILE
1500 FT	1 MILE AHEAD

GENERAL NOTES:

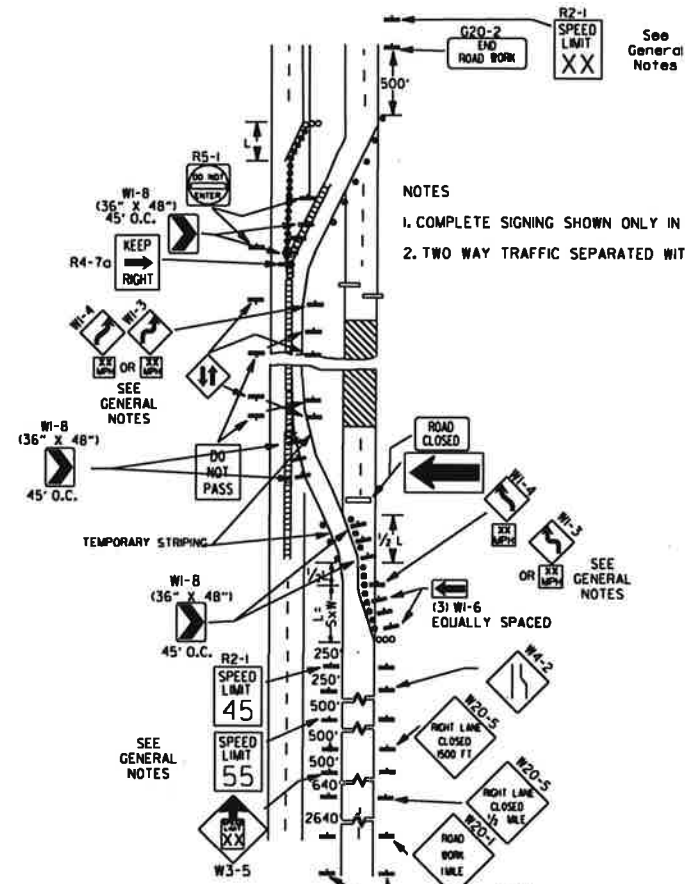
- ALL TRAFFIC CONTROL DEVICES USED ON ROAD CONSTRUCTION SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION, AND TO THE STANDARD HIGHWAY SIGNS, LATEST EDITION, OR AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION.
- TRAFFIC CONTROL DEVICES SHALL BE SET UP JUST BEFORE THE START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

NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF 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.

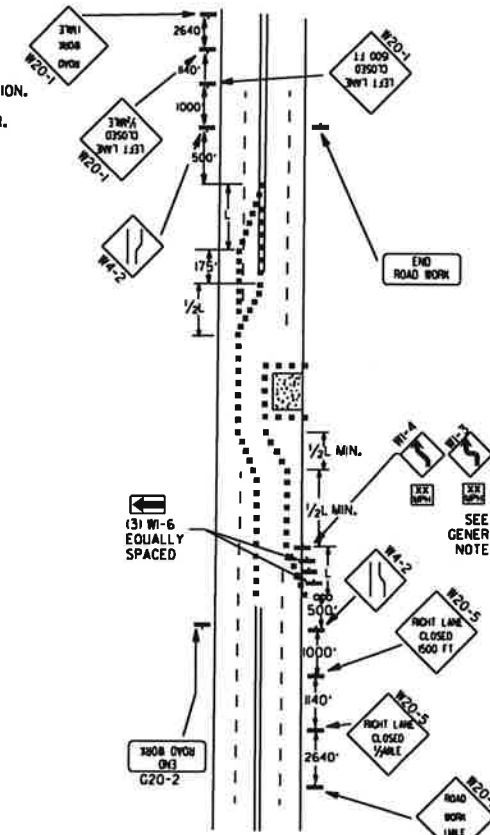
11-07-19	REVISED FOR MASH	
4-13-17	DELETED RSP-1 & ADDED W21-5a	
9-2-15	REVISED REDUCED SPEED LIMIT AHEAD SIGNS REVISED ROAD WORK NEXT XX MILES	
12-15-11	REVISED W24-1	
8-17-10	DELETED W8-9a & ADDED W8-9	
10-15-09	ADDED REFERENCE TO MASH & ADDED SIGN W24-1	
4-17-08	REVISED SIGN DESIGNATIONS	
8-18-04	REVISED NOTES	
10-9-03	REVISED NOTE 1	
11-16-01	REVISED NOTE 7	
9-28-00	REVISED NOTE	
1-18-98	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	
	REVISION	FILMED



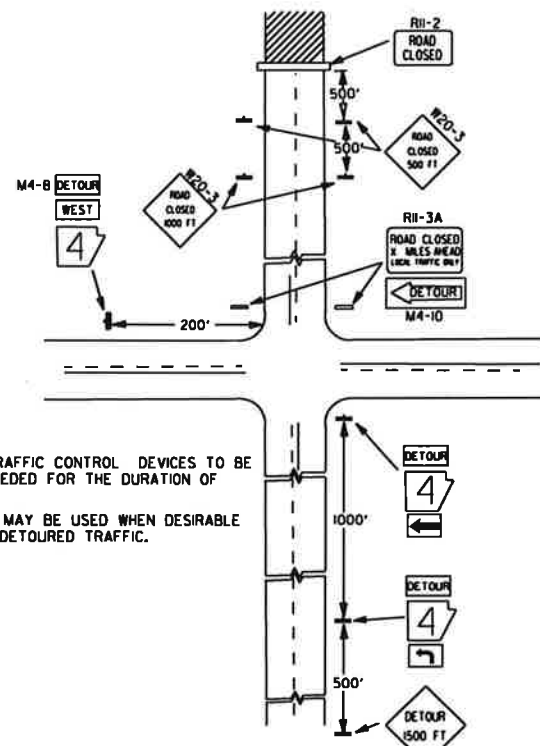
(A) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON A 2-LANE HIGHWAY WHERE THE ENTIRE ROADWAY IS CLOSED AND A BYPASS DETOUR IS PROVIDED.



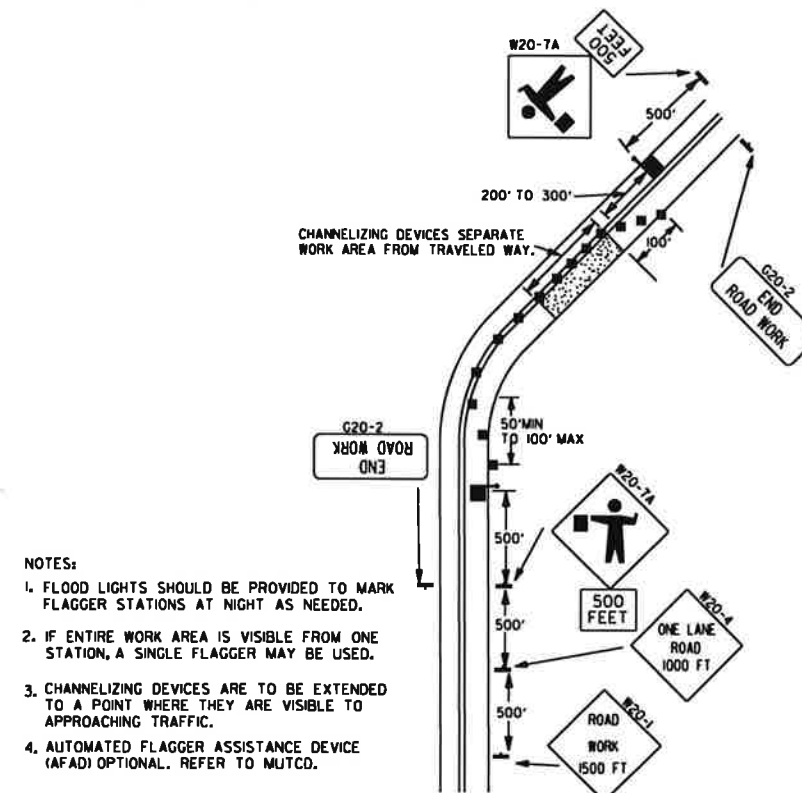
(B) TYPICAL APPLICATION - 4-LANE DIVIDED ROADWAY WHERE ONE ROADWAY IS CLOSED.



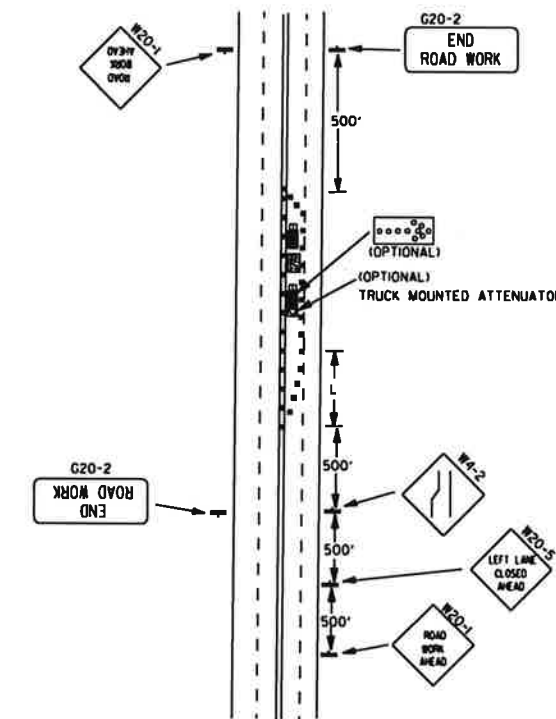
(C) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.



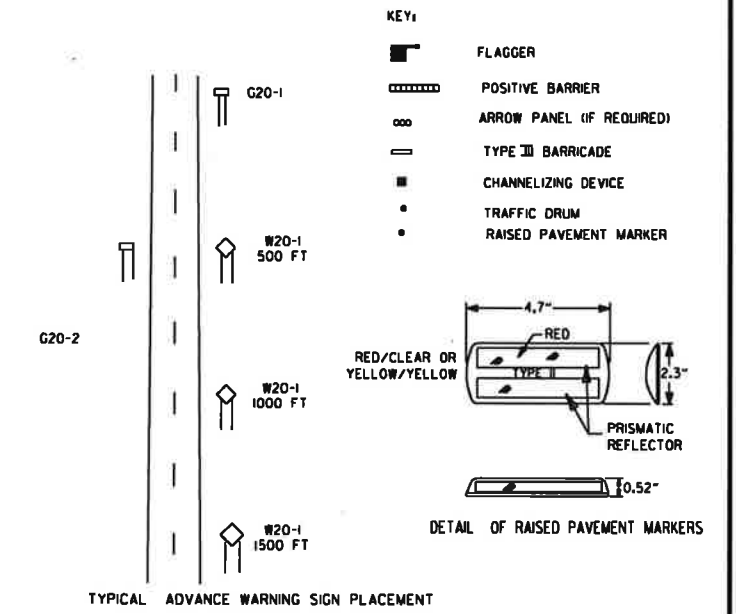
(D) TYPICAL APPLICATION - ROADWAY CLOSED BEYOND DETOUR POINT.



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



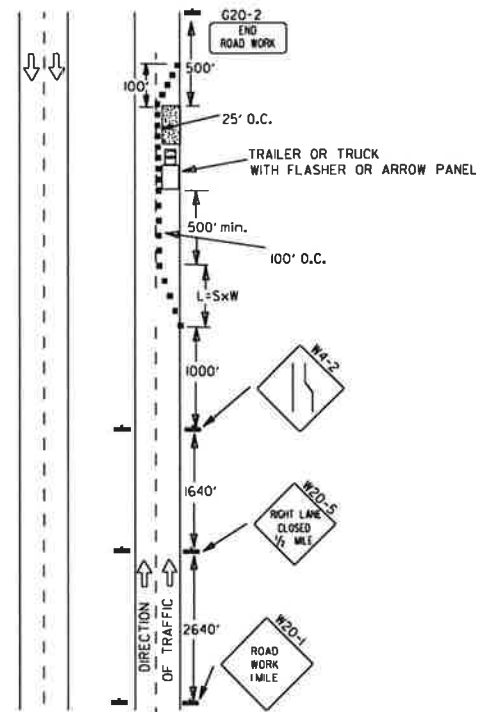
(F) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WITH INSIDE LANE CLOSED.



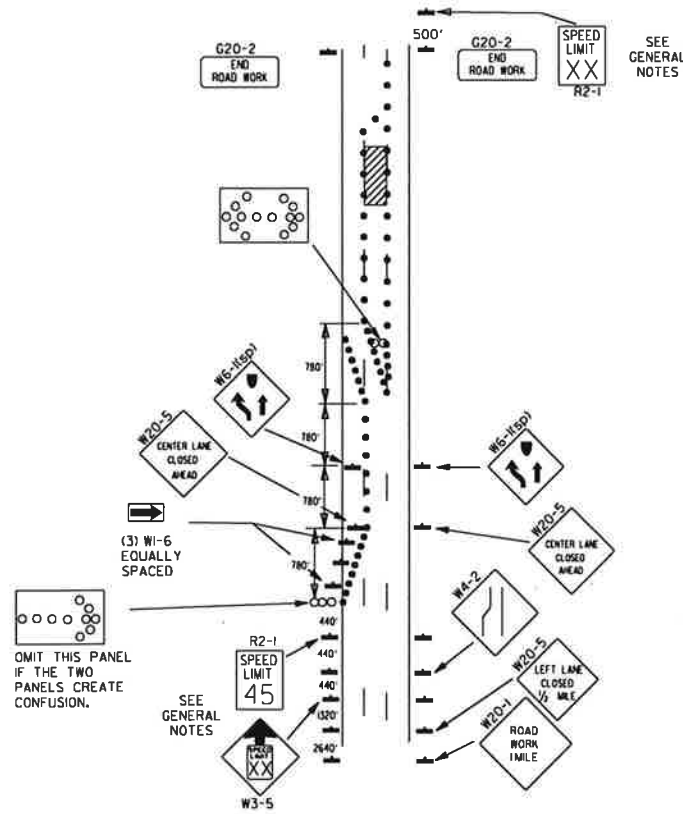
TAPER FORMULAE:
 $L = SXW$ FOR SPEEDS OF 45MPH OR MORE.
 $L = \frac{WS^2}{60}$ FOR SPEEDS OF 40MPH OR LESS.
 WHERE:
 L = MINIMUM LENGTH OF TAPER.
 S = NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK OR 85TH PERCENTILE SPEED.
 W = WIDTH OF OFFSET.

- GENERAL NOTES:
- THE MAINTENANCE DIVISION SHALL CONDUCT A BALL BANK STUDY TO DETERMINE THE ADVISORY SPEED LIMIT PRIOR TO OPENING TO TRAFFIC. THE ADVISORY SPEED WILL BE POSTED ON W1-3 OR W1-4 CURVE WARNING SIGNS. USE W1-4 WHEN SPEED IS GREATER THAN 30MPH AND W1-3 WHEN 30MPH OR LESS.
 - WHEN THE EXISTING SPEED LIMIT IS 45MPH, THE R2-(K55) 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 1 MILE INTERVALS. AT THE END OF THE WORK AREA A R2-(KXX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
 - WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-(K45) SHALL BE OMITTED. ADDITIONAL R2-155MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1 MILE INTERVALS. AT THE END OF THE WORK AREA A R2-(KXX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
 - THE MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES IN A TAPER SHOULD BE APPROXIMATELY EQUAL IN FEET TO THE SPEED LIMIT. BEYOND THE TAPER, MAXIMUM SPACING SHALL BE TWO TIMES THE SPEED LIMIT, OR AS DIRECTED BY THE ENGINEER.
 - WARNING LIGHTS AND/OR FLAGS MAY BE MOUNTED TO SIGNS OR CHANNELIZING DEVICES AT NIGHT AS NEEDED.
 - PAVEMENT MARKINGS NO LONGER APPLICABLE WHICH MIGHT CREATE CONFUSION IN THE MINDS OF VEHICLE OPERATORS SHALL BE REMOVED OR OBLITERATED AS SOON AS PRACTICABLE.
 - TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE DELINEATED BY AFFIXING CONSPICUITY MATERIAL IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER. WHEN PLACED ON OR ADJACENT TO THE SHOULDER AND NOT BEHIND A POSITIVE BARRIER, THESE DEVICES SHALL BE DELINEATED BY PLACING FIVE (5) TRAFFIC DRUMS, EQUALLY SPACED ALONG THE TRAFFIC SIDE OF THE DEVICE.
 - 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 APPROVED PRODUCTS LIST.
 - 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).

DATE	REVISION	FILED
8-07-19	REVISED NOTE 4, 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	
3-8-10	ADDED (AFAD)	
8-20-08	REVISED SIGN DESIGNATIONS	
1-18-04	ADDED GENERAL NOTE	
10-18-96	ADDED R55-1	
4-26-96	CORRECTED (a) BEHIND G20-2	
6-8-95	CORRECTED SIGN IDENT. ON W1-4A	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	



(A) TYPICAL APPLICATION - DAYTIME MAINTENANCE OPERATIONS OF SHORT DURATION ON A 4-LANE DIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.



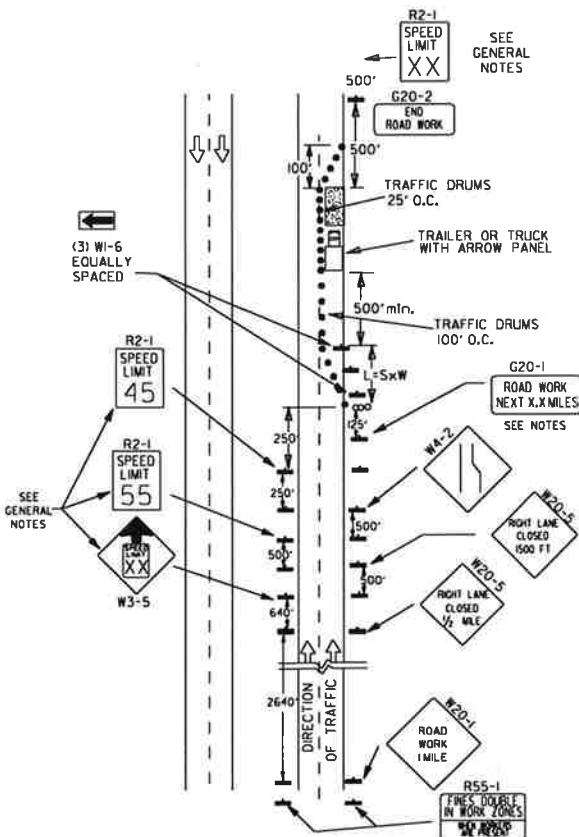
(B) TYPICAL APPLICATION - 3-LANE ONEWAY ROADWAY WHERE CENTER LANE IS CLOSED.

KEY:

- ○ ○ ○ ARROW PANEL (IF REQUIRED)
- CHANNELIZING DEVICE
- TRAFFIC DRUM

GENERAL NOTES:

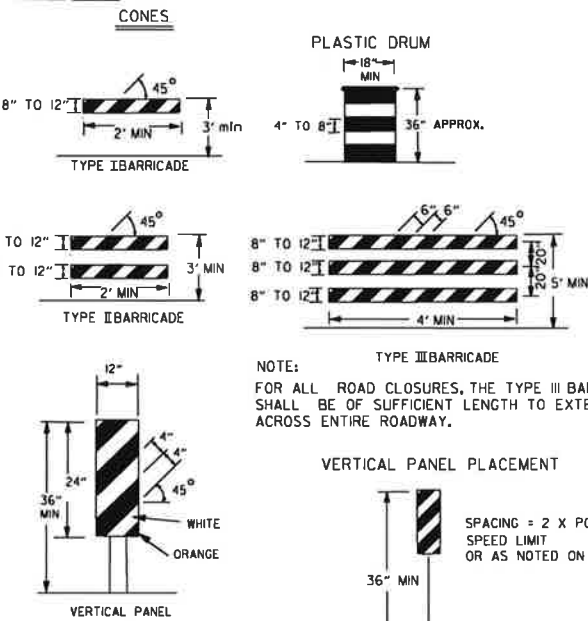
1. A SPEED LIMIT REDUCTION MAY BE IMPLEMENTED ONLY WHEN DESIGNATED IN THE PLAN OR WHEN RECOMMENDED BY THE ROADWAY DESIGN DIVISION.
2. WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-1(45) SHALL BE OMITTED AND THE W3-5 SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL R2-1(45)MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1/2 MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
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(55)MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1/2 MILE INTERVALS. AT THE END OF THE WORK AREA A R2-1(XX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
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 ERRECTED 125' IN ADVANCE OF THE JOB LIMIT. ADDITIONAL W20-1(1/2 MILE) SIGNS ARE NOT REQUIRED IN ADVANCE OF LANE CLOSURES THAT BEGIN INSIDE THE PROJECT LIMITS.
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.
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.

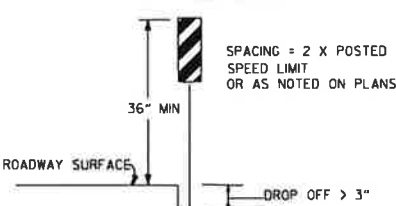
CHANNELIZING DEVICES

* 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.



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

VERTICAL PANEL PLACEMENT



FLAG



(D) TYPICAL APPLICATION - CLOSING MULTIPLE LANES OF A MULTILANE HIGHWAY.

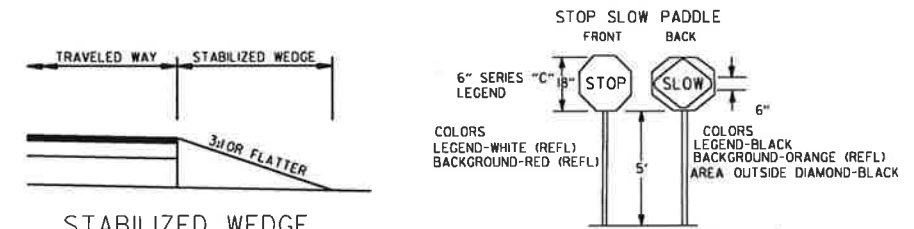
TRAFFIC CONTROL DEVICES

VERTICAL DIFFERENTIAL	LOCATION	NON-INTERSTATE	
		TRAFFIC CONTROL	
		≤ 45 MPH	> 45 MPH
≤ 2"	CENTERLINE	W8-11 AND LANE STRIPING	W8-11 AND LANE STRIPING
> 2"	CENTERLINE	STANDARD LANE CLOSURE	STANDARD LANE CLOSURE
≤ 3"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-9, EDGE LINE STRIPING, AND VERTICAL PANELS	W8-9, EDGE LINE STRIPING, AND VERTICAL PANELS
> 3"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND VERTICAL PANELS	W8-17, EDGE LINE STRIPING, AND VERTICAL PANELS
≤ 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"	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⁾
> 12"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS ⁽¹⁾	PRECAST CONCRETE BARRIER ⁽²⁾
> 24"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	PRECAST CONCRETE BARRIER ⁽²⁾ & EDGE LINES	PRECAST CONCRETE BARRIER ⁽²⁾ & EDGE LINES

VERTICAL DIFFERENTIAL	LOCATION	INTERSTATE	
		TRAFFIC CONTROL	
		≤ 45 MPH	> 45 MPH
≤ 2"	CENTERLINE	W8-11 AND LANE STRIPING	W8-11 AND LANE STRIPING
> 2"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-9, EDGE LINE STRIPING, AND TRAFFIC DRUMS ⁽¹⁾	W8-9, EDGE LINE STRIPING, AND TRAFFIC DRUMS ⁽¹⁾
> 3"	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"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS ⁽¹⁾	PRECAST CONCRETE BARRIER & EDGE LINES

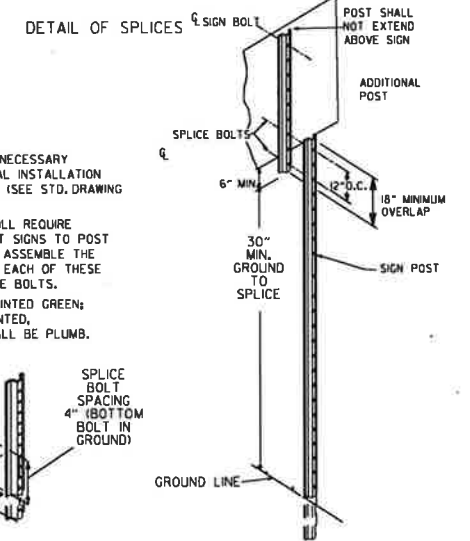
INTERSTATE AND NON-INTERSTATE		
FORESLOPE	HEIGHT	TRAFFIC CONTROL
1:1	> 2 FT	PRECAST CONCRETE BARRIER
2:1	≤ 5 FT	TRAFFIC DRUMS
2:1	> 5 FT	PRECAST CONCRETE BARRIER
Flatter than 2:1	N/A	TRAFFIC DRUMS

- 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. 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.
 3. W21-5, W21-5a, AND/OR W21-5b SIGNS SHALL BE USED WHERE THE ROADWAY IS UNOBSTRUCTED BY AND WHERE DIRECTED BY THE ENGINEER.



STABILIZED WEDGE

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

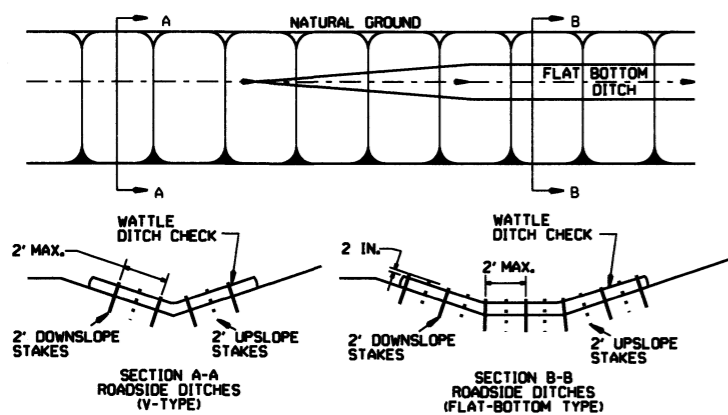


- NOTES:**
- USE SPLICES ONLY WHEN NECESSARY FOR INSTALLATION. TYPICAL INSTALLATION SHOULD HAVE NO SPLICES (SEE STD. DRAWING NO. SHS-2)
 - NORMAL INSTALLATIONS WILL REQUIRE 1/4" DIA. BOLTS TO MOUNT SIGNS TO POST AND 5/16" DIA. BOLTS TO ASSEMBLE THE VARIOUS POST SUPPORTS. EACH OF THESE BOLTS SHALL BE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

DATE	REVISION	FILMED
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	

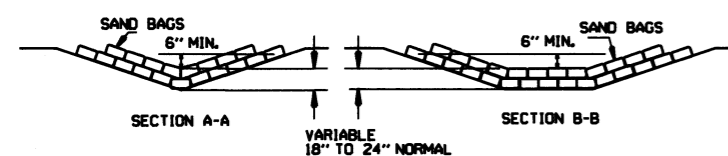
GENERAL NOTES

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

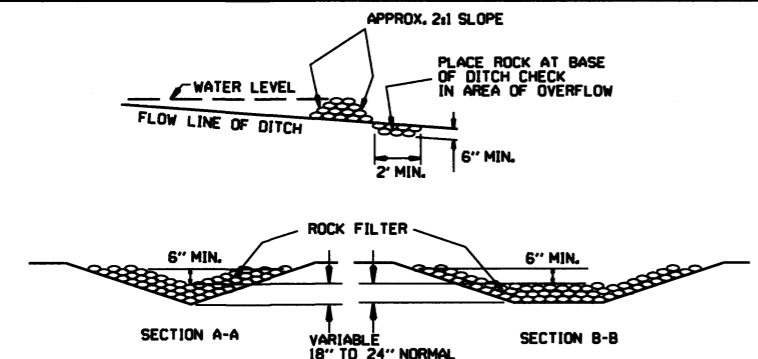


WATTLE DITCH CHECK (E-1)

NUMBER OF SAND BAGS AND ARRANGEMENT VARIABLE WITH ON-SITE CONDITIONS. PLACE SAND BAGS AT BASE OF DITCH CHECK IN AREA OF OVERFLOW.



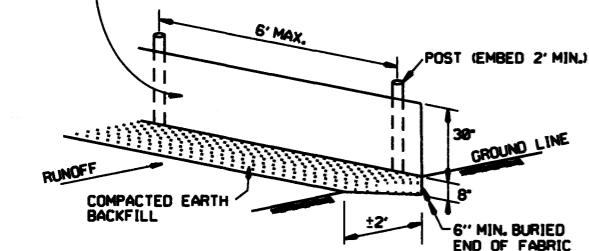
SAND BAG DITCH CHECK (E-5)



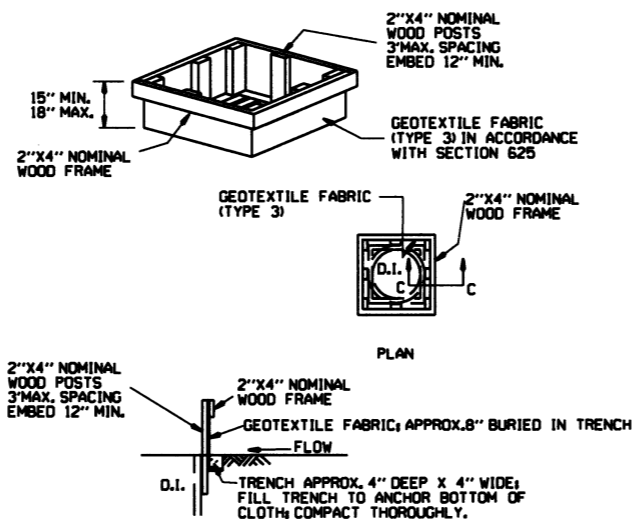
ROCK DITCH CHECK (E-6)

GENERAL NOTES

GEOTEXTILE FABRIC (TYPE 4) IN ACCORDANCE WITH SECTION 625. GEOTEXTILE FABRIC SHALL BE SPICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

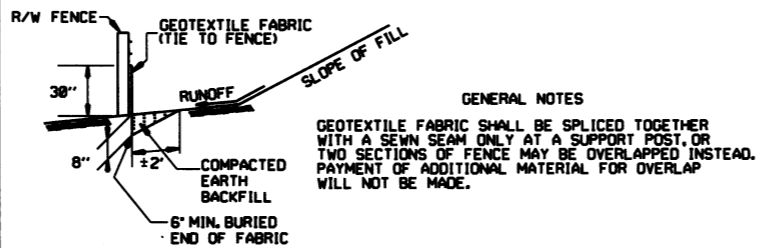


SILT FENCE (E-11)



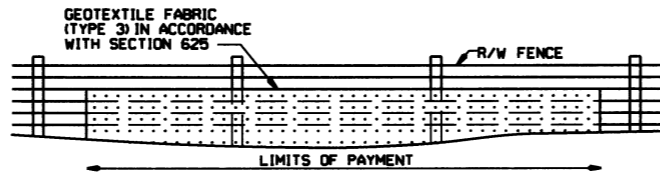
SECTION C-C

DROP INLET SILT FENCE (E-7)



GENERAL NOTES

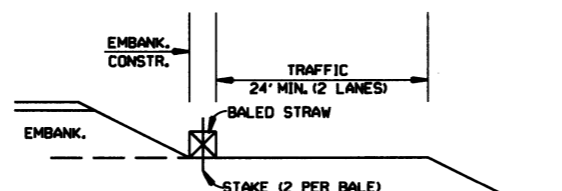
GEOTEXTILE FABRIC SHALL BE SPICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST, OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.



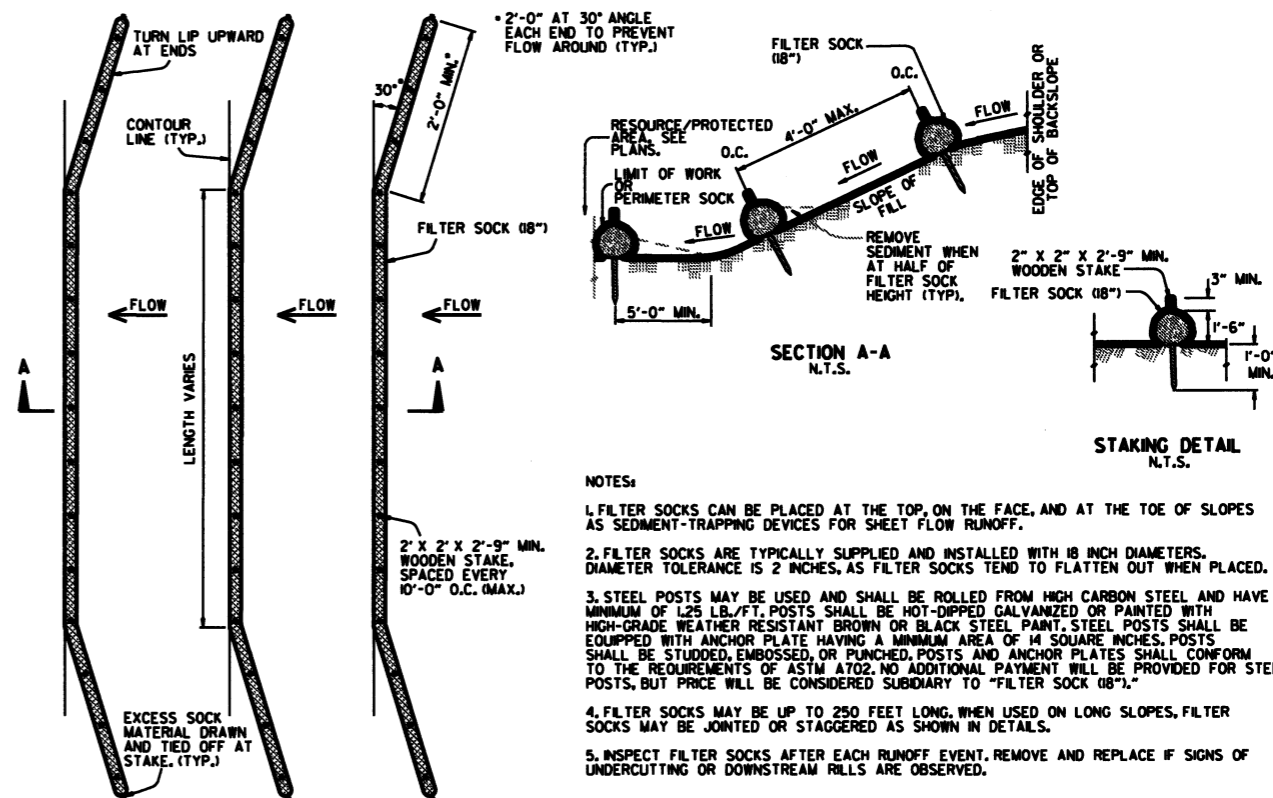
SILT FENCE ON R/W FENCE (E-4)

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)

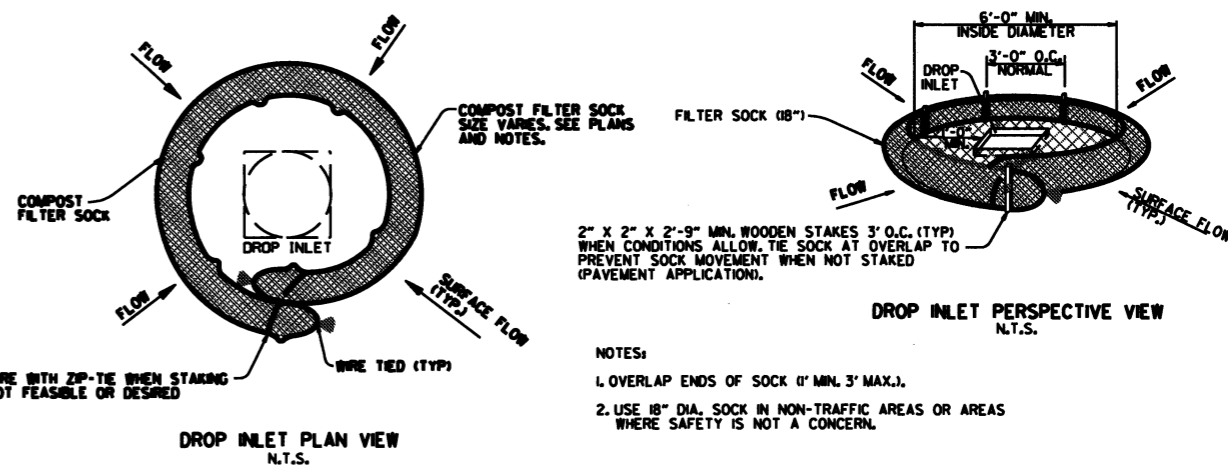


**PLAN VIEW
N.T.S.**

FILTER SOCK ALONG SLOPE (E-3)

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 125 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 SUBSIDIARY 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.



**DROP INLET PLAN VIEW
N.T.S.**

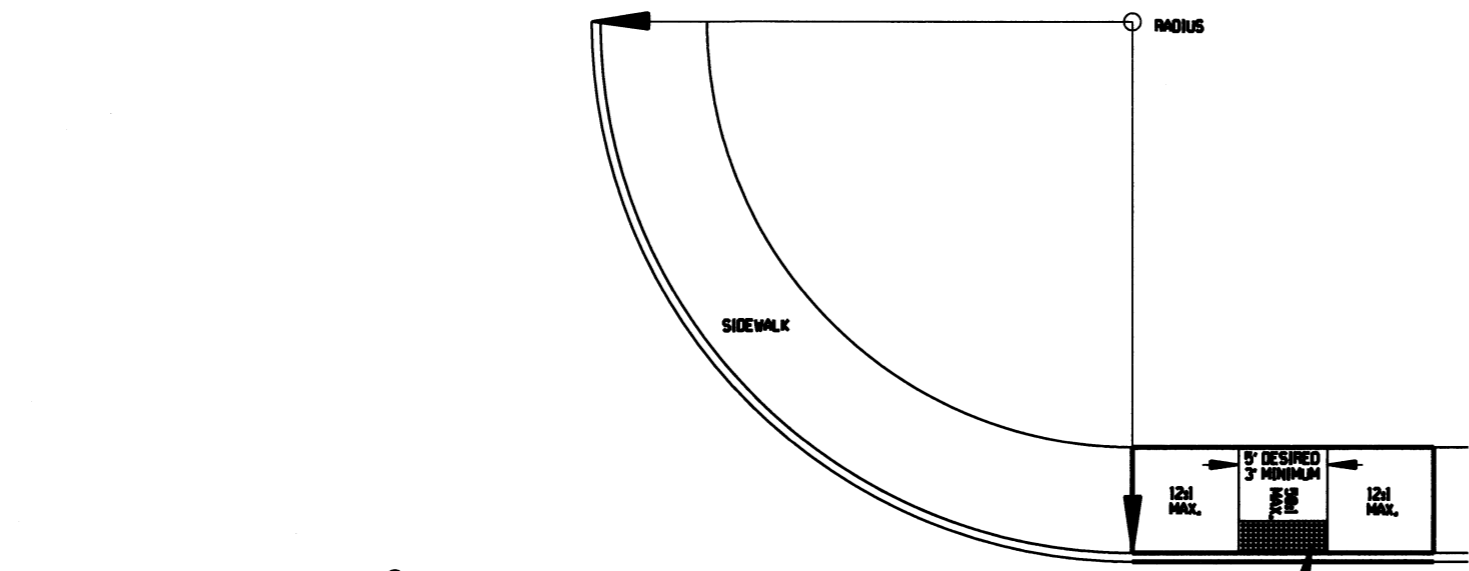
COMPOST FILTER SOCK DROP INLET PROTECTION (E-13)

NOTES:

1. OVERLAP ENDS OF SOCK (1\"/>

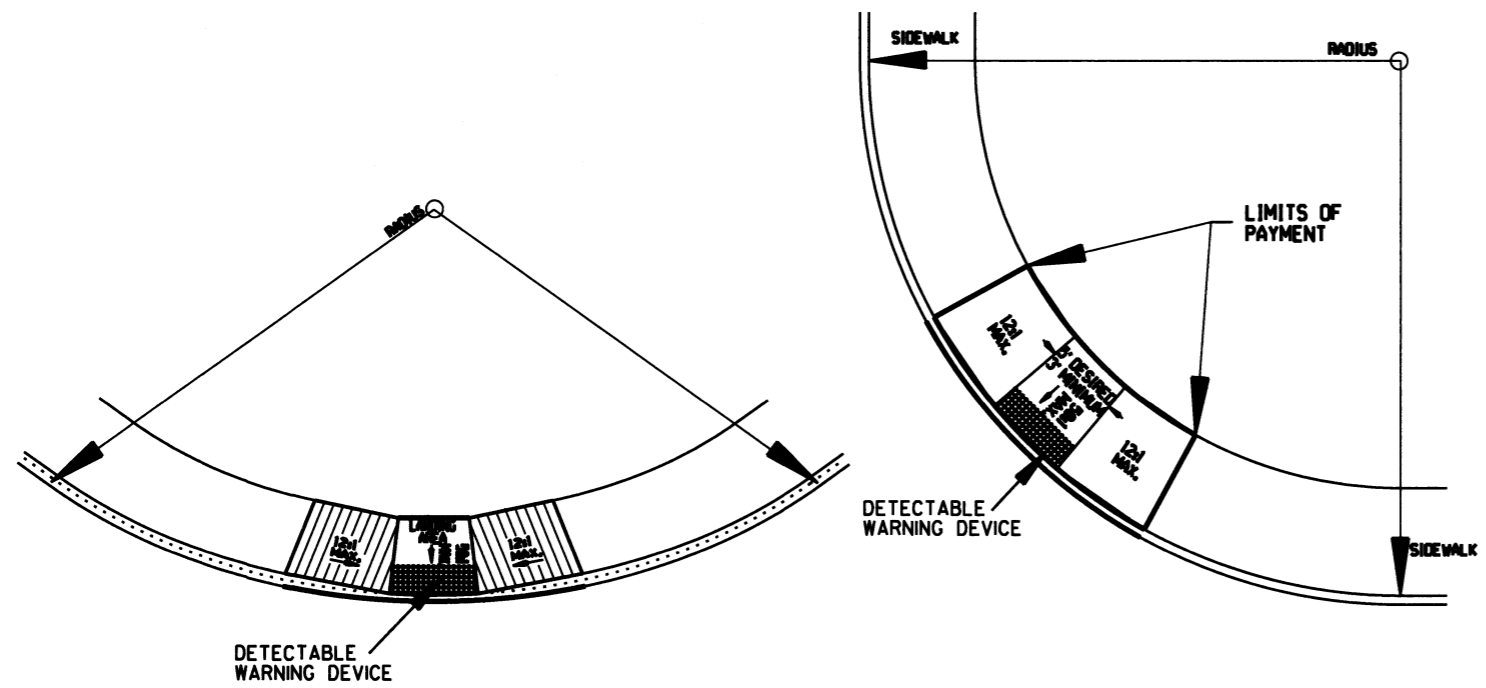
DATE	REVISION	FILED
11-15-17	ADDED FILTER SOCK E-3 AND E-13	
12-15-11	DELETED BALED STRAW DITCH CHECK & ADDED WATTLE DITCH CHECK	
11-18-98	ADDED NOTES	
07-02-98	ADDED BALED STRAW FILTER BARRIER (E-2)	
07-20-95	REVISED SILT FENCE E-4 AND E-11	7-20-95
07-15-94	REV. E-4 & E-11 MIN. 15\"/>	
06-02-94	REVISED 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



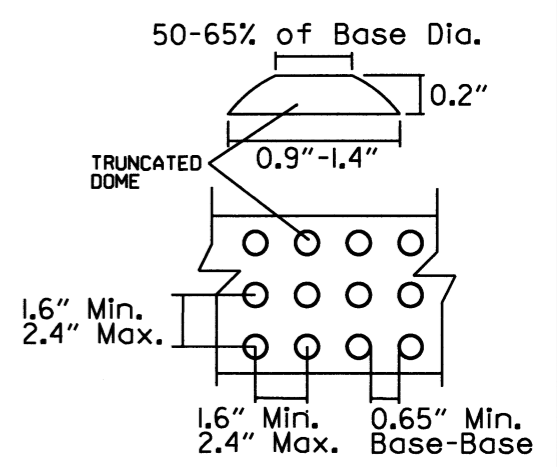
NOTE:
THE CROSS SLOPE OF THE RAMP AND SIDEWALKS SHALL NOT EXCEED 2.0% UNLESS REQUIRED TO MATCH STREET LONGITUDINAL GRADE.

TYPE 5 RAMP



TYPE 6 RAMP

GENERAL NOTES FOR DETECTABLE WARNING DEVICES
 THE DETECTABLE WARNING DEVICE SHALL BE LOCATED SO THAT THE NEAREST EDGE OF THE DEVICE IS 6 TO 8 INCHES FROM THE FACE OF THE CURB. TRUNCATED DOMES IN THE DETECTABLE WARNING SURFACE SHALL MEET THE REQUIREMENTS OF THE GEOMETRIC CONFIGURATION SHOWN. DOMES SHALL BE ALIGNED ON A SQUARE GRID IN THE PREDOMINANT DIRECTION OF TRAVEL TO PERMIT WHEELS TO ROLL BETWEEN DOMES. DETECTABLE WARNING DEVICE SHALL BE 24 INCHES IN THE DIRECTION OF TRAVEL AND EXTEND THE FULL WIDTH OF THE CURB RAMP OR FLUSH SURFACE. DETECTABLE WARNING DEVICE SHALL BE ON THE AHTD QUALIFIED PRODUCTS LIST FOR CAST-IN-PLACE TACTILE PANELS (ADA DETECTABLE WARNING).



DETECTABLE WARNING DEVICE DETAIL

GENERAL NOTES:
 IN ALTERATIONS WHEELCHAIR RAMP ARE TO BE PROVIDED AT CURBED STREET INTERSECTIONS WITH PEDESTRIAN TRAFFIC AND MID-BLOCK CROSSWALK LOCATIONS.
 THE LENGTH OF THE RAMP SHALL BE SUCH THAT THE SLOPE DOES NOT EXCEED 12:1. THE SURFACE TEXTURE OF THE RAMP SHALL CONFORM TO A CLASS 6 FINISH ACCORDING TO SECTION 802.19.
 THE NORMAL GUTTER GRADE SHALL BE MAINTAINED THROUGH THE AREA OF THE RAMP.
 ALL PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION.
 THE MINIMUM THICKNESS OF THE RAMP, WALK, & LANDING SHALL BE 4". THE MINIMUM WIDTH OF THE RAMP SHALL BE THE EXISTING WALK WIDTH OR 36", WHICHEVER IS GREATER.
 MINOR MODIFICATIONS OF THESE DETAILS, AS APPROVED BY THE ENGINEER, MAY BE MADE TO ADJUST TO LOCAL CONDITIONS.

RAMP SELECTION CRITERIA

FIRST CHOICE	TYPE 1	CORNER LOCATIONS WITH THE WALK ADJACENT TO THE CURB (BOTH NEW CONSTRUCTION AND ALTERATIONS).
	TYPE 2	CORNER LOCATIONS WITH THE WALK OFFSET FROM THE CURB A DISTANCE INSUFFICIENT TO ALLOW THE REQUIRED RAMP SLOPE (BOTH NEW CONSTRUCTION AND ALTERATIONS).
	TYPE 3	CORNER LOCATIONS WITH THE WALK OFFSET FROM THE CURB A DISTANCE SUFFICIENT TO ALLOW THE REQUIRED RAMP SLOPE (BOTH NEW CONSTRUCTION AND ALTERATIONS).
	TYPE 4	TANGENT LOCATIONS (BOTH NEW CONSTRUCTION AND ALTERATIONS).
SECOND CHOICE	TYPE 5	TANGENT LOCATIONS (ALTERATIONS ONLY).
THIRD CHOICE	TYPE 6	CORNER LOCATIONS (ALTERATIONS ONLY). THIS RAMP MAY BE USED ONLY IF THE TYPE 5 RAMP CANNOT BE PLACED AT THE ENDS OF THE RADIUS.
FOURTH CHOICE		IF SITE CONSTRAINTS PREVENT THE CONSTRUCTION OF ANY OF THE TYPES LISTED, THEN AND ONLY THEN CAN THE 12:1 MAX. SLOPE ON THE RAMP BE EXCEEDED TO PROVIDE ACCESS TO THE STREET LEVEL (ALTERATIONS ONLY). THE SLOPE CAN BE STEEPENED TO A 10:1 MAX. FOR A MAX. LENGTH OF 5' OR A 8:1 MAX. FOR A MAX. LENGTH OF 2'. SLOPES STEEPER THAN 8:1 ARE NOT ALLOWED UNDER ANY CIRCUMSTANCES.

NOTE: IN ALTERATIONS, THE SELECTION OF THE TYPE OF WHEELCHAIR RAMP TO BE CONSTRUCTED SHALL BE BASED ON THE AMOUNT OF RIGHT-OF-WAY AVAILABLE, AND ON THE PRESENCE OF OTHER SITE CONSTRAINTS (UTILITIES, BUILDINGS, ETC.). THE TABLE ABOVE LISTS THE ORDER IN WHICH THE RAMP ARE TO BE CONSIDERED.

AN ALTERATION IS DEFINED AS A PROJECT THAT CHANGES OR AFFECTS THE USE OF A PEDESTRIAN PATHWAY (OVERLAYS, SIGNALIZATION PROJECTS, ETC.) BUT DOES NOT REQUIRE THE PURCHASE OF ADDITIONAL RIGHT-OF-WAY. ALL PROJECTS THAT REQUIRE THE PURCHASE OF ADDITIONAL RIGHT-OF-WAY WILL USUALLY BE CONSIDERED NEW CONSTRUCTION FOR THE PURPOSES OF THE CHART ABOVE.

			ARKANSAS STATE HIGHWAY COMMISSION
			WHEELCHAIR RAMP ALTERATIONS ONLY
			STANDARD DRAWING WR-2
10-9-03	REVISED GENERAL NOTES & ADDED NOTE		
4-10-03	REVISED DETECTABLE WARNING DEVICE DETAIL		
8-22-02	ADDED DETECTABLE WARNING DEVICES DETAILS		
11-18-98	REV. FOURTH CHOICE NOTE		
8-12-98	REVISED TEXTURE		
7-02-98	ISSUED		
DATE	REVISION	DATE	FILM