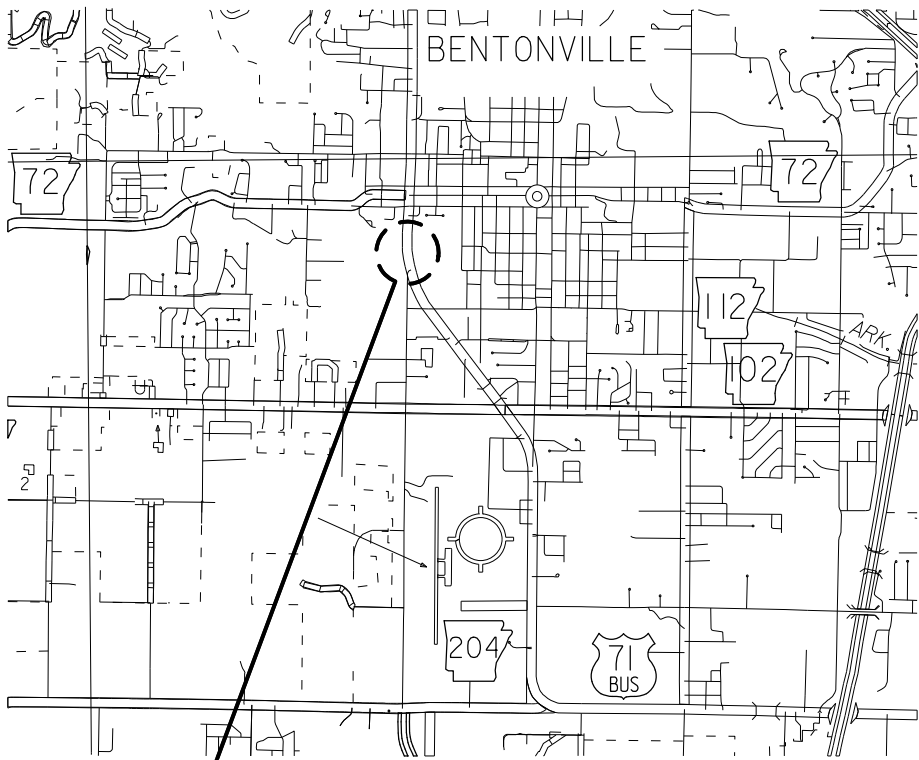


DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	PIIP22-0031	1	18
S. WALTON & SW 5TH STREET INTERSECTION						

01/28/2023

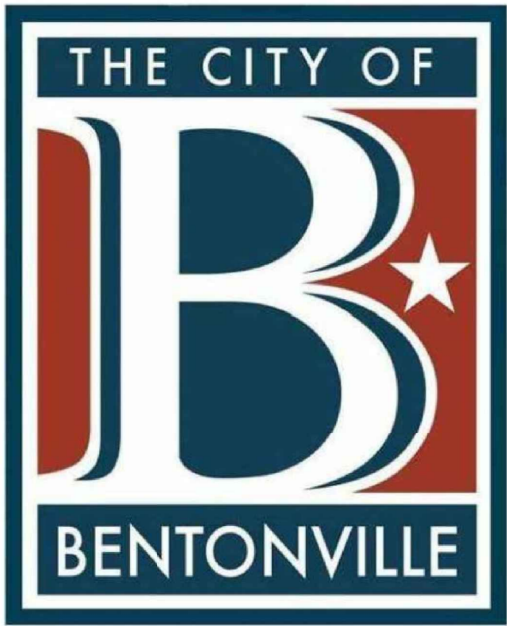
CITY OF BENTONVILLE
CONSTRUCTION PLANS FOR CITY STREET

S. WALTON & SW 5TH
STREET INTERSECTION
BENTON COUNTY
SW 5TH STREET
PIIP22-0031



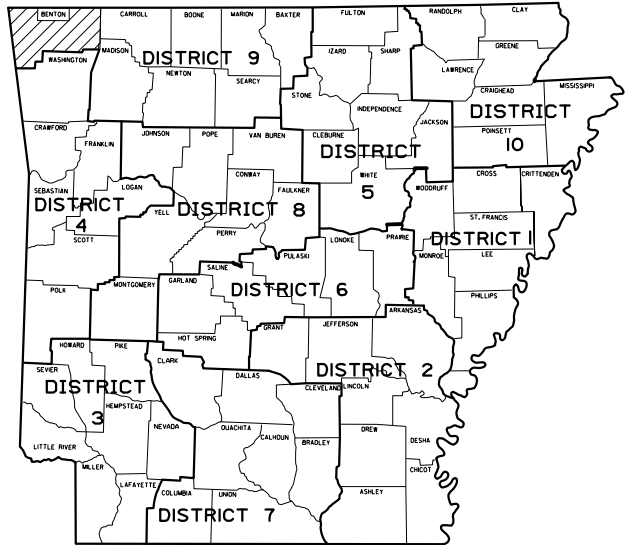
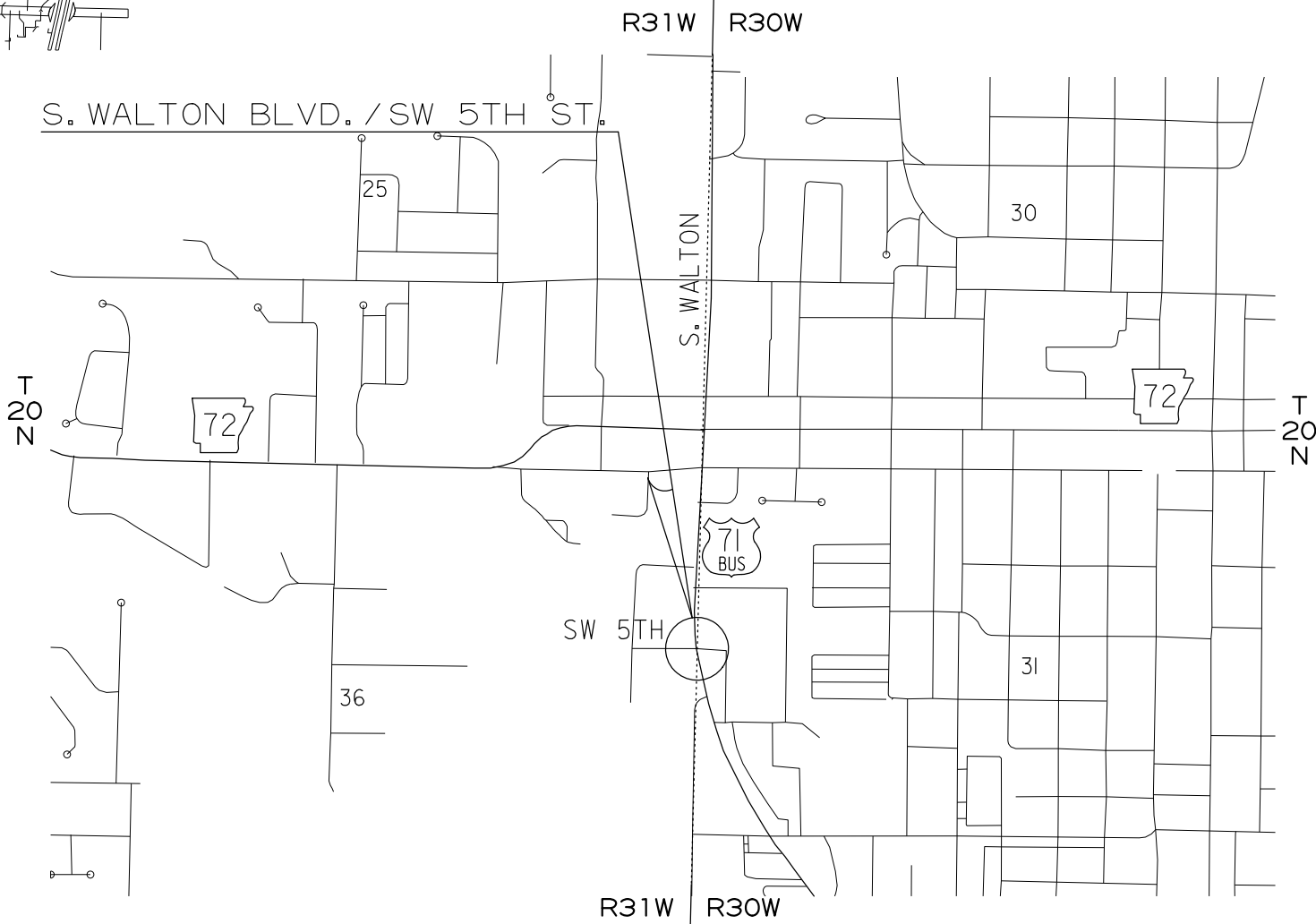
PROJECT AREA

VICINITY MAP

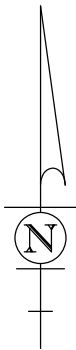


MID-POINT OF PROJECT
LAT. = N 36°22'05"
LONG. = W 94°13'18"

NOT TO SCALE



ARK. HWY. DIST. NO. 9



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DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	PI1P22-0031	2	18
INDEX, STD. DWGS., GOVERNING SPECIFICATIONS						

01/28/2023

INDEX OF SHEETS	
SHEET NO.	TITLE
1	TITLE SHEET
2	INDEX OF SHEETS, STANDARD DRAWINGS, AND GOVERNING SPECIFICATIONS
3	LEGEND, GENERAL NOTES, AND CONTACTS
4	GENERAL PROJECT LAYOUT
5	SPECIAL DETAILS
6	TEMPORARY EROSION CONTROL DETAILS
7	MAINTENANCE OF TRAFFIC DETAILS
8	PERMANENT PAVEMENT MARKING DETAILS
9	QUANTITIES
10	SUMMARY OF QUANTITIES AND REVISIONS
11	PLAN SHEET
12 - 14	TRAFFIC SIGNAL QUANTITIES AND NOTES
15 - 18	SIGNALIZATION PLAN SHEETS

ROADWAY STANDARD DRAWINGS		
DRWG.NO.	TITLE	DATE
PCM-1	METAL PIPE CULVERT FILL HEIGHTS & BEDDING	02-27-14
PM-1	PAVEMENT MARKING DETAILS	02-27-20
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
SD-12	SERVICE POINT INSTALLATION WITH SUPPLEMENTAL GROUNDING ARRAY	11-07-19
SI-3	CONCRETE WALK (TYPE SPECIAL)	05-14-20
TC-1	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	11-07-19
TC-2	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	05-20-21
TC-3	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	05-20-21
TEC-1	TEMPORARY EROSION CONTROL DEVICES	11-16-17
TEC-2	TEMPORARY EROSION CONTROL DEVICES	06-02-94
TEC-3	TEMPORARY EROSION CONTROL DEVICES	11-03-94
TEC-4	TEMPORARY EROSION CONTROL DEVICES	07-26-12
WR-1	WHEELCHAIR RAMPS NEW CONSTRUCTION AND ALTERATIONS	11-10-05

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
100-3	CONTRACTOR'S LICENSE
100-4	DEPARTMENT NAME CHANGE
102-2	ISSUANCE OF PROPOSALS
105-4	MAINTENANCE DURING CONSTRUCTION
107-2	RESTRAINING CONDITIONS
108-2	WORK ALLOWED PRIOR TO ISSUANCE OF WORK ORDER
603-1	LANE CLOSURE NOTIFICATION
604-1	RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
604-3	TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES (MASH)
700-2	TRAFFIC CONTROL FACILITIES
SP	CABINET DRAWER ASSEMBLY
SP	CONTINGENCY ALLOWANCE
SP	DELAY IN RIGHT OF WAY OCCUPANCY
SP	ELECTRICAL CONDUCTORS FOR LUMINAIRES
SP	EMERGENCY BATTERY BACKUP SYSTEM INSTALLATION
SP	IP VIDEO DETECTION SYSTEM
SP	LED BLANK OUT SIGN
SP	LED COUNTDOWN PEDESTRIAN SIGNAL HEAD
SP	LED LUMINAIRE ASSEMBLY (BUG UO TYPE)
SP	LED TRAFFIC SIGNAL HEAD
SP	LIQUIDATED DAMAGES
SP	MAINTENANCE OF TRAFFIC
SP	REMOVAL OF TRAFFIC SIGNAL EQUIPMENT
SP	SERVICE POINT ASSEMBLY (TRAFFIC CONTROL DEVICES)
SP	SIGNALIZED INTERSECTION EQUIPMENT STANDARDS
SP	STREET NAME SIGN (MAST ARM MOUNTED)
SP	TRAFFIC SIGNAL CONTROLLER (MODIFICATION)

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GENERAL NOTES

1. CONSTRUCTION SHALL TAKE PLACE ENTIRELY WITHIN THE PROJECT LIMITS. PROJECT LIMITS ARE WITHIN THE STREET RIGHT-OF-WAY AND/OR WITHIN PERMANENT AND TEMPORARY EASEMENTS IF NOTED ON THE PLANS. NO ENTRY ONTO PRIVATE PROPERTY IS GRANTED BY THE CITY OF BENTONVILLE. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING STAGING AREAS AT HIS COST.
2. THE CONTRACTOR IS HEREBY CAUTIONED THAT THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THE PLANS ARE BASED ON ONE-CALL LOCATOR MARKINGS. THE ENGINEER DOES NOT GUARANTEE, NOR SHALL THE CONTRACTOR RELY ON THE LOCATIONS, VERTICAL OR HORIZONTAL, NOTED ON THE PLANS AS BEING EXACT OR COMPLETE. ACTUAL LOCATIONS MAY VARY FROM THE LOCATIONS NOTED ON THE PLANS, AND SOME UNDERGROUND UTILITIES MAY EXIST, BUT ARE NOT SHOWN ON THE PLANS. NO EXCAVATIONS WERE MADE TO LOCATE UNDERGROUND UTILITIES DURING THE ENGINEERING DESIGN PROCESS. THE LOCATIONS OF ALL EXISTING UTILITIES SHOWN ON THIS PLAN HAVE BEEN DETERMINED FROM THE BEST INFORMATION AVAILABLE AND ARE GIVEN FOR THE CONVENIENCE OF THE CONTRACTOR. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THEIR ACCURACY.
3. PRIOR TO THE START OF ANY DEMOLITION ACTIVITY, THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES FOR MARKING ONSITE LOCATIONS OF EXISTING UTILITIES. CONTRACTOR SHALL CONTACT ARKANSAS ONE-CALL FOR UNDERGROUND UTILITIES TO BE MARKED AND SHALL BE RESPONSIBLE FOR CONFIRMING LOCATION OF ALL SUCH UNDERGROUND UTILITIES BEFORE COMMENCING ANY DEMOLITION/EXCAVATION OPERATIONS.
4. CONTRACTOR SHALL MAINTAIN PROPERTY & MAILBOX ACCESS DURING CONSTRUCTION AND SHALL SCHEDULE TEMPORARY CLOSURES WITH ALL PROPERTY OWNERS OR TENANTS. NO STREET OR DRIVEWAY CLOSURES SHALL BE ALLOWED DURING NIGHTS, WEEKENDS, OR HOLIDAYS.
5. UNLESS SPECIFICALLY NOTED OTHERWISE ON THE PLANS, ALL TREES, SHRUBS, IRRIGATION SYSTEMS, FENCES AND OTHER LANDSCAPING SHALL NOT BE DISTURBED. IF LANDSCAPING IS DISTURBED DUE TO CONFLICT WITH PROPOSED IMPROVEMENTS, CONTRACTOR SHALL RESTORE OR REPLACE IT TO ITS ORIGINAL CONDITION AT CONTRACTOR'S EXPENSE. ALL AREAS DISTURBED BY THE CONTRACTOR DURING CONSTRUCTION SHALL BE GRADED SMOOTH AND SODDED (WITH 2" TOPSOIL) UPON COMPLETION OF CONSTRUCTION AND MAINTAINED UNTIL PROJECT IS ACCEPTED BY OWNER.
6. UNLESS OTHERWISE SPECIFICALLY NOTED ON PLANS, RESTORATION, RELOCATION OR REPAIR OF EXIST. WATER/SEWER MAINS OR SERVICES THAT ARE IN CONFLICT WITH THE PROPOSED IMPROVEMENTS SHALL BE CONSIDERED INCIDENTAL TO THE COST OF CONSTRUCTION WITH NO SEPARATE PAYMENT BEING MADE.
7. THE PLANS INDICATE THE LOCATIONS OF TEMPORARY BENCHMARKS (TBM). USE ONLY THOSE BENCHMARKS NOTED ON THE PLANS AS CONTROL POINTS FOR ELEVATION DATUM. OTHER ELEVATIONS NOTED ON THE PLANS ARE FOR INFORMATION PURPOSES ONLY, AND SHALL NOT BE USED AS BENCHMARKS. ELEVATIONS ON THE PLANS SHALL BE CONFIRMED BY THE CONTRACTOR BEFORE COMMENCING WITH CONSTRUCTION. ADDITIONALLY, CONTRACTOR SHALL VERIFY FINAL RIM ELEVATIONS WITH ENGINEER PRIOR TO PLACEMENT OF RIM.
8. CONTRACTOR SHALL PROTECT ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA DURING ALL PHASES OF CONSTRUCTION. CONTRACTOR SHALL, AT HIS EXPENSE, EMPLOY A REGISTERED PROFESSIONAL LAND SURVEYOR TO REESTABLISH ANY DISTURBED MONUMENTS.
9. CONTRACTOR SHALL NOTIFY AND COORDINATE WITH THE APPROPRIATE FRANCHISED UTILITY COMPANY BEFORE COMMENCING WITH ANY CONSTRUCTION OPERATIONS IMMEDIATELY ADJACENT TO EXISTING POWER POLES AND/OR GUY WIRES TO ALLOW THE POLES TO BE PROPERLY SUPPORTED IF NECESSARY. SHOULD IT BE NECESSARY, ANY CONFLICTING FRANCHISE UTILITY SHALL BE RELOCATED BY THE APPROPRIATE FRANCHISED UTILITY COMPANY.
10. THE OWNER WILL PROVIDE QUALITY ASSURANCE TESTING IN ACCORDANCE WITH THE SPECIFICATIONS FOR THE PURPOSE OF DETERMINING ACCEPTABILITY OF ALL MATERIALS, INCLUDING ASPHALT, CONCRETE AND TRENCH BACKFILL MATERIALS AND COMPACTION.
11. CONTRACTOR SHALL UNCOVER EXISTING UTILITY LINES AND SERVICES WHERE THE PROPOSED DRAINAGE IMPROVEMENTS CROSS, AND VERIFY GRADES, SIZES, AND LOCATIONS OF SUCH BEFORE COMMENCING CONSTRUCTION (INCLUDING LOCATIONS NOTED ON PLANS TO FIELD VERIFY). NOT ALL EXISTING UTILITY LINES AND SERVICES/CONNECTIONS ARE SHOWN ON THE PLANS AND THOSE THAT ARE SHOWN WERE NOT LOCATED DURING DESIGN. ADDITIONALLY, BEFORE COMMENCING CONSTRUCTION, CONTRACTOR SHALL VERIFY INVERTS OF EXISTING DRAINAGE FACILITIES AT PROPOSED TIE-IN POINTS TO PROPOSED DRAINAGE IMPROVEMENTS. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY CONFLICTS PRIOR TO COMMENCING CONSTRUCTION TO ALLOW ENGINEER TO MAKE NECESSARY DESIGN REVISIONS.
- IF CONTRACTOR ELECTS TO ORDER PROPOSED DRAINAGE-RELATED MATERIALS (PIPE, PRE-CAST INLETS, ETC ¾) PRIOR TO PERFORMING THE ABOVE VERIFICATIONS, AND VERIFICATION RESULTS REQUIRE THE ENGINEER TO MAKE MODIFICATIONS TO THE PROPOSED DRAINAGE IMPROVEMENTS THAT REQUIRE MODIFICATIONS TO ANY MATERIALS, CONTRACTOR SHALL MAKE THE NECESSARY MODIFICATIONS TO ITS MATERIALS, WHETHER DELIVERED TO THE CONTRACTOR OR NOT, AT NO COST TO THE OWNER OR ENGINEER.
12. THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS AT THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING ALL PHASES OF CONSTRUCTION OF THE PROJECT. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND SHALL NOT BE LIMITED TO CONSTRUCTION WORKING HOURS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO TAKE ALL PRECAUTIONS NECESSARY TO AVOID PROPERTY DAMAGE TO ADJACENT PROPERTIES DURING THE CONSTRUCTION PHASES OF THIS PROJECT.
13. NO WORK SHALL BEGIN UNTIL APPROPRIATE EROSION CONTROL MEASURES HAVE BEEN INSTALLED AND INSPECTED BY THE CITY. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS TO PREVENT SOIL SEDIMENT FROM LEAVING THE SITE. CONTRACTOR SHALL SEED, FERTILIZE, AND MULCH ALL DISTURBED AREAS. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL ALL CONTRIBUTING AREAS ARE GRADED AND STABILIZED WITH VEGETATION. CONTRACTOR SHALL COMPLY IN FULL WITH THE OWNER PROVIDED SWPPP.
14. IT SHALL BE UNDERSTOOD BY CONTRACTOR THAT WORK NOT SPECIFICALLY INDICATED IN THE CONTRACT DOCUMENTS WHICH IS REQUIRED TO COMPLETE THIS PROJECT SHALL NOT RELIEVE THE CONTRACTOR OF HIS/HER RESPONSIBILITY TO PERFORM SUCH WORK.
15. CONTRACTOR SHALL PROVIDE EACH CUSTOMER A FORTY-EIGHT HOUR ADVANCE WRITTEN NOTICE PRIOR TO SCHEDULING TEMPORARY SHUT-OFF OF ANY WATER AND/OR SEWER SERVICE. INCLUDE IN THE CUSTOMER NOTICE A REASONABLE ESTIMATE OF DISRUPTION TIME. ALL SERVICE SHALL BE RESTORED TO THE CUSTOMER BY THE END OF EACH WORK DAY. CONTRACTOR SHALL COORDINATE ANY TEMPORARY SHUT-OFF WITH THE GRAVETTE UTILITIES DEPARTMENT.
16. THE CONTRACTOR SHALL NOT CLOSE ANY PUBLIC TRAFFIC-WAY (STREET, ROAD, SIDEWALK, ETC.) UNTIL HE HAS OBTAINED THE NECESSARY PERMITS, THE PERMISSION OF THE APPROPRIATE AUTHORITIES AND HAS NOTIFIED THE LOCAL FIRE AND POLICE DEPARTMENTS AND AMBULANCE SERVICE. CONTRACTOR SHALL MAINTAIN ONE (1) LANE OPEN TO LOCAL TRAFFIC AT ALL TIMES AND/OR PROVIDE A SAFE, SUBSTITUTE ROUTE IF NECESSARY FOR ANY PORTION OF A TRAFFICWAY OBSTRUCTED WHOLLY OR PARTIALLY BY HIS OPERATIONS. SEE SECTION 120 OF THE TECHNICAL SPECIFICATIONS FOR ADDITIONAL INFORMATION REGARDING TRAFFIC CONTROL AND MAINTENANCE.
17. THE CONTRACTOR SHALL COORDINATE WITH RESPECTIVE UTILITY COMPANIES PRIOR TO THE REMOVAL/RELOCATION OF UTILITIES. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANY CONCERNING PORTIONS OF WORK WHICH MAY BE PERFORMED BY THE UTILITY COMPANY'S FORCES AND ANY FEES WHICH ARE TO BE PAID TO THE UTILITY COMPANY FOR THEIR SERVICES. THE CONTRACTOR IS RESPONSIBLE FOR PAYING ALL FEES AND CHARGES.
18. ALL SIGNAGE, PAVEMENT MARKINGS, AND STRIPING SHALL CONFORM TO THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) STANDARDS AND REGULATIONS.
19. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE LAWS, CODES AND ORDINANCES.
20. THE CONTRACTOR SHALL KEEP A SWEEP PAVED PATH FOR PEDESTRIAN AND BIKE TRAFFIC OPEN AT ALL TIMES EXCEPT FOR LIMITED CLOSURES OF 24 HOURS OR LESS.

LEGEND

	EXISTING WATER VALVE		PROPOSED SIDEWALK
	EXISTING WATER METER		PROPOSED ASPHALT PAVEMENT
	EXISTING FIRE HYDRANT		PROPOSED CONCRETE DRIVE
	EXISTING GAS METER		PROPOSED CURB
	EXISTING SIGN		PROPOSED CONSTRUCTION LIMITS
	EXISTING FIBER OPTIC		PROPOSED RIGHT OF WAY
	EXISTING STORM SEWER MANHOLE		PROPOSED DRAINAGE FLOWLINE
	EXISTING SANITARY SEWER MANHOLE		STORM SEWER - PIPE
	EXISTING TELEPHONE MANHOLE		OBLITERATION OF ASPHALT PAVEMENT
	EXISTING ELECTRIC MANHOLE		STORM SEWER - GRATE INLET
	EXISTING TELEPHONE PEDESTAL		STORM SEWER - JUNCTION BOX
	EXISTING ELECTRIC BOX		STORM SEWER - FLARED END SECTION
	EXISTING POWER POLE		STORM SEWER - CURB INLET
	EXISTING GUY WIRE		PROPOSED TOP OF SIDEWALK SPOT ELEVATION
	EXISTING LIGHT POLE		PROPOSED FLOWLINE SPOT ELEVATION
	EXISTING TREE		
	EXISTING R/W LINE		
	EXISTING TEMP. CONST. EASEMENT		
	EXISTING EASEMENT LINE		
	EXISTING CURB		
	EXISTING FENCE		
	EXISTING OVERHEAD ELECTRIC		
	EXISTING OVERHEAD TELEPHONE		
	EXISTING UNDERGROUND TELEPHONE		
	EXISTING UNDERGROUND ELECTRIC		
	EXISTING FIBER OPTIC CABLE		
	EXISTING WATER LINE		
	EXISTING SEWER LINE		
	EXISTING GAS LINE		
	EXISTING STORM SEWER/CULVERT		
	EXISTING EDGE OF WOODS		
	EXISTING CONTOUR LINE		
	EXISTING SIDEWALK		
	EXISTING ASPHALT PAVEMENT		
	EXISTING CONCRETE PAVEMENT		

SITE UTILITY CONTACTS

NATURAL GAS

BLACK HILLS ENERGY
CONTACT: JOSH KNIGHT
1301 FEDERAL WAY
PO BOX 2129
LOWELL, AR 72745
PHONE: (479) 721-4543
EMAIL: joshua.knight@blackhillscorp.co

CABLE TELEVISION

COX COMMUNICATIONS
CONTACT: KIP SMITH
4901 S. 48th STREET
SPRINGDALE, AR
PHONE: (479) 717-3796
EMAIL: kip.smith@cox.co

WATER & SEWER

CITY OF BENTONVILLE
CONTACT: BEAU THOMPSON
3200 S.W. MUNICIPAL DRIVE
BENTONVILLE, AR 72712
PHONE: (479) 271-3140

ELECTRIC

CITY OF BENTONVILLE
CONTACT: CHARLIE BARNES
3200 S.W. MUNICIPAL DRIVE
BENTONVILLE, AR 72712
PHONE: (479) 271-3135 x 2

TELEPHONE

AT&T
CONTACT: SCOTT SEAMAN
PHONE: 479-442-1967
CONTACT: LAYNE RHODES
PHONE: (479) 442-1977
627 WHITE ROAD
SPRINGDALE, AR 72766

FIRE DEPARTMENT

FIRE DEPARTMENT
CITY OF BENTONVILLE
CONTACT: BRENT BOYDSTON
(FIRE CHIEF)
800 SW "A" STREET
BENTONVILLE, AR 72712
PHONE: (479) 271-3151

GOVERNING AGENCIES CONTACTS

CITY OF BENTONVILLE

3200 S.W. MUNICIPAL DRIVE
BENTONVILLE, AR 72712

STAFF ENGINEER

ANDREA JOBE
PHONE: (479) 254-2026

TRANSPORTATION DIRECTOR

CONTACT: DENNIS BIRGE
3200 S.W. MUNICIPAL DRIVE
PHONE: (479) 271-6840

PUBLIC WORKS

CONTACT: MIKE BENDER
PHONE: (479) 271-6720

STORMWATER

CONTACT: JANET PAITH
PHONE: (479) 271-3168

DEPARTMENT OF HEALTH

ARKANSAS DEPARTMENT OF HEALTH
DIVISION OF ENGINEERING, SLOT 37
4815 W. MARKHAM
LITTLE ROCK, AR 72205
PHONE: (501) 661-2623

TRAFFIC TECHNICIAN

CONTACT: ROB KINTZ
PHONE: (479) 271-6186

DATE REVISED

DATE REVISED

FED. RD. DIST. NO.

STATE

JOB NO.

SHEET NO.

TOTAL SHEETS

6 ARK. P11P22-0031

3

18

LEGEND, GENERAL NOTES, AND CONTACTS

01/28/2023

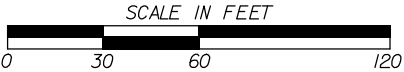
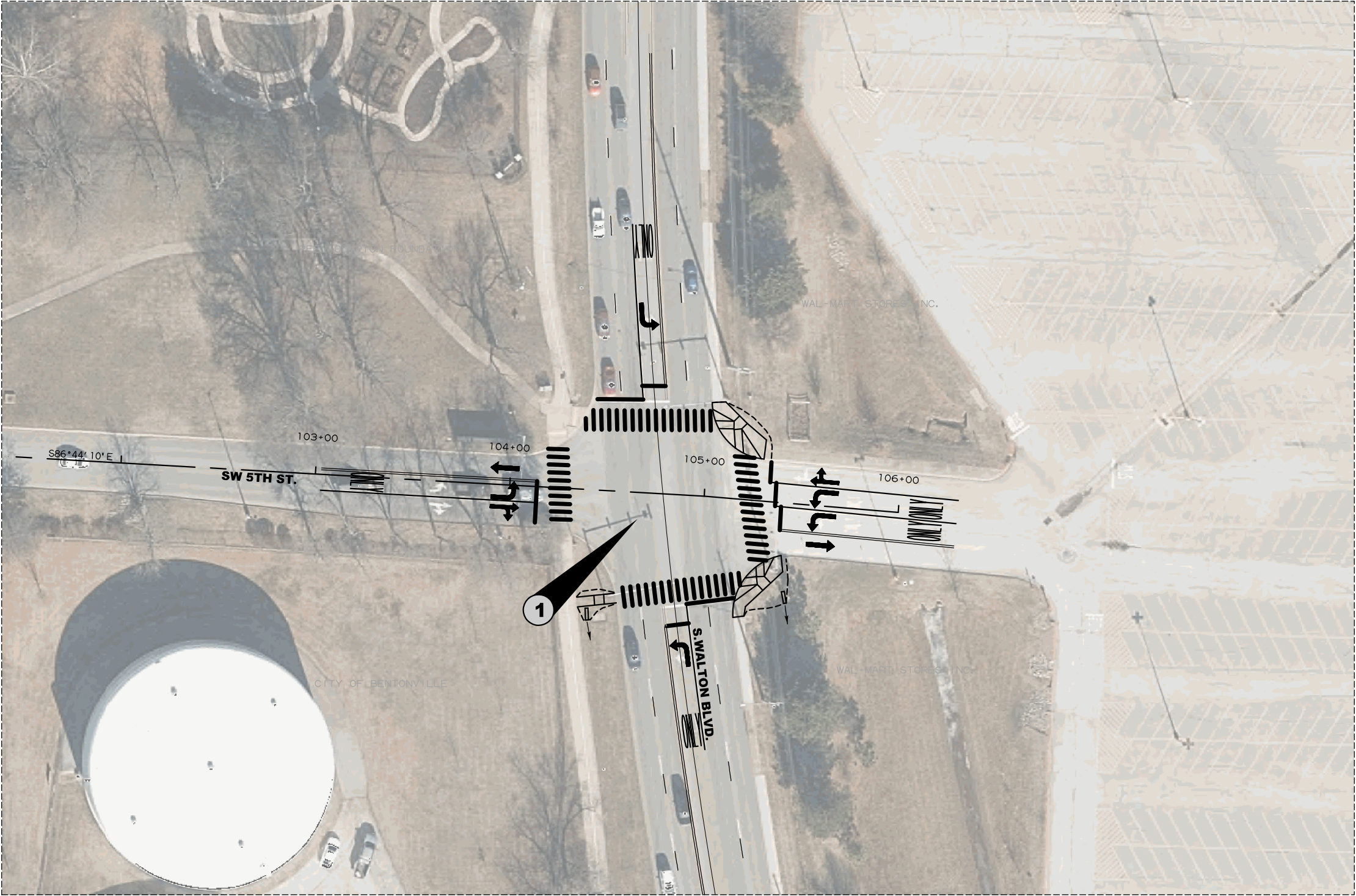
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DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	PI1P22-0031	4	18
GENERAL PROJECT LAYOUT						

01/28/2023

1 S WALTON BLVD @ SW 5TH ST:
- TRAFFIC SIGNAL IMPROVEMENTS



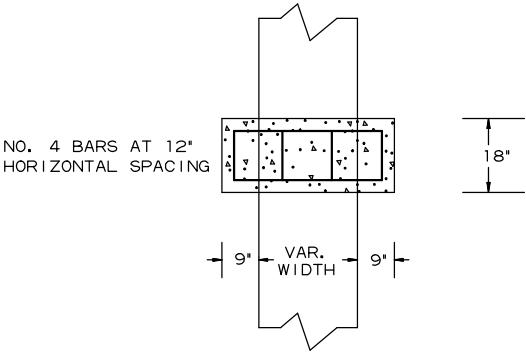
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CITY: BENTONVILLE
COUNTY: BENTON
SCALE: 1" = 60' DRAWN BY: RFR

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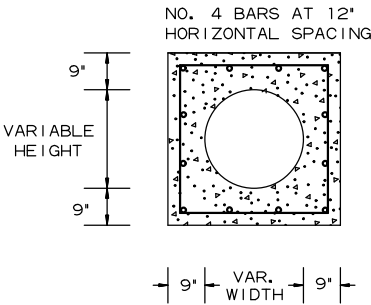
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		6	ARK.	PI1P22-0031	5	18
SPECIAL DETAILS						

01/28/2023

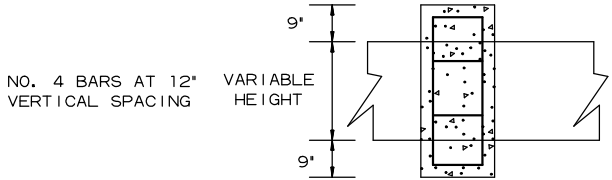


TOP VIEW

MIN 3" COVER



FRONT VIEW

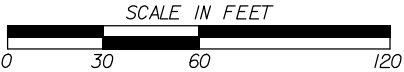
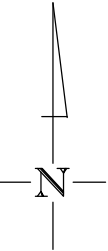
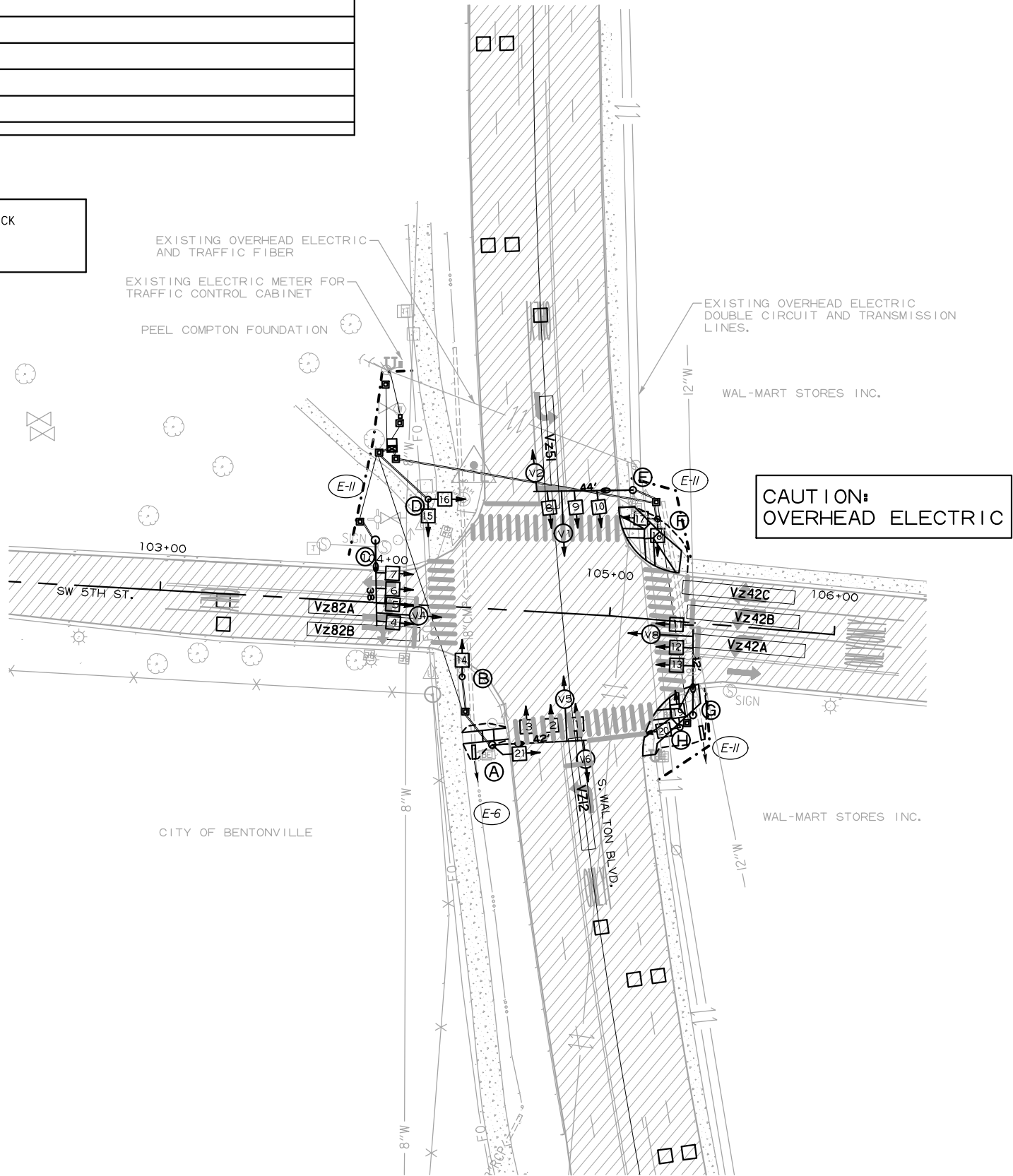


SIDE VIEW

PIPE EXTENSION
REINFORCED CONCRETE COLLAR DETAIL

REVISIONS	
DATE	REVISION

LEGEND	
<div><div>E-6</div></div>	= ROCK DITCH CHECK
<div><div>E-II</div></div>	= SILT FENCE

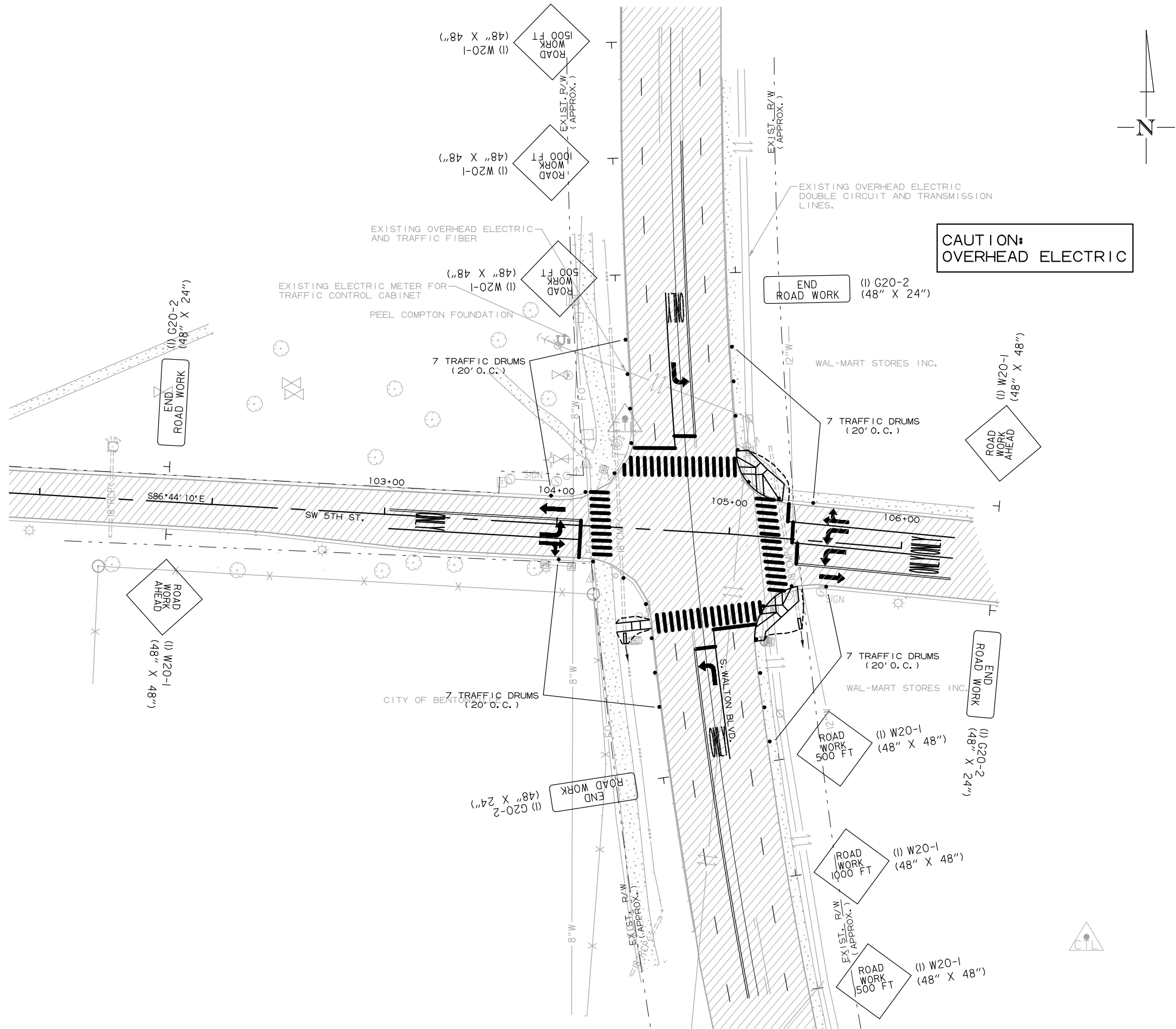


DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	PI 11P22-0031	6	18
TEMPORARY EROSION CONTROL DETAILS						

01/28/2023

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	PI1P22-0031	7	18
MAINTENANCE OF TRAFFIC						

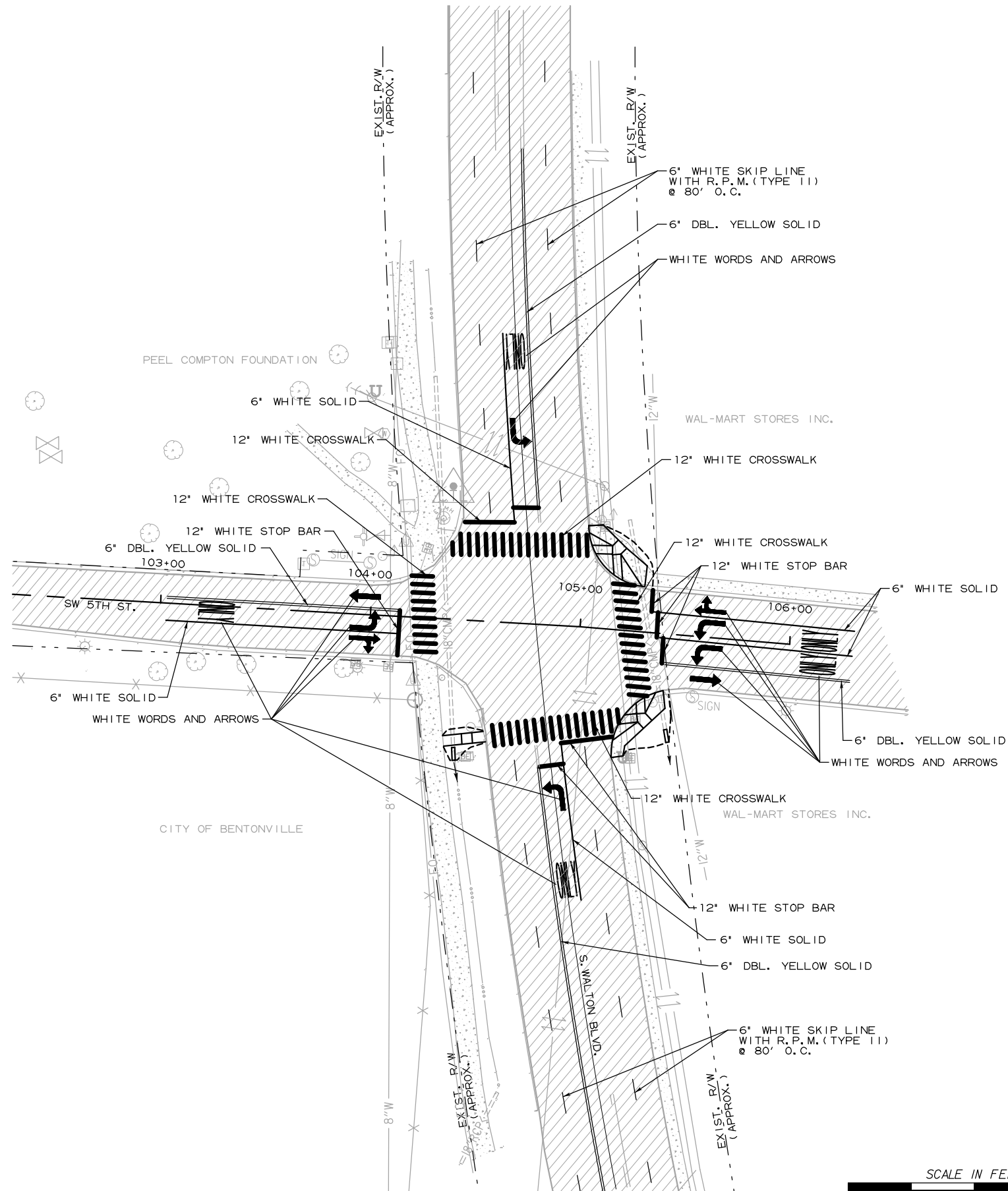
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LOCATION: S WALTON BLVD @ SW 5TH ST
CITY: BENTONVILLE
COUNTY: BENTON
SCALE: 1" = 60' DRAWN BY: RFR

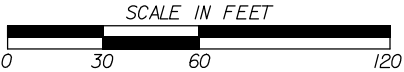
DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	21ST0006	8	18
PERMANENT PAVEMENT MARKING DETAILS						

01/28/2023



- NOTES:
1. FOR TYPICAL STRIPING DIMENSIONS, REFER TO STD. DWG. PM-1.
 2. CROSSWALK STRIPES ARE 10' IN LENGTH, 12" WIDE SPACED 4'-0" O.C.
 3. FOR RAISED PAVEMENT MARKERS, REFER TO STANDARD DRAWING PM-1

THERMOPLASTIC PAVEMENT MARKINGS	
6" YELLOW SOLID	1150 L. F.
6" WHITE SOLID	468 L. F.
6" WHITE SKIP	240 L. F.
12" WHITE STOP LINE	128 L. F.
12" WHITE CROSS WALK	565 L. F.
WORDS	5 EACH
ARROWS	9 EACH
RAISED PAVEMENT MARKINGS (TYPE 111) (80' O. C.)	
WHITE/RED	11 EACH



LOCATION: S WALTON BLVD @ SW 5TH ST
CITY: BENTONVILLE
COUNTY: BENTON
SCALE: 1" = 60' DRAWN BY: RFR

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DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	P11P22-0031	9	18
QUANTITIES						

01/28/2023

REMOVAL AND DISPOSAL OF ITEMS

STATION	LOCATION	WALKS
		SQ. YD.
105+15	LEFT OF C.L.	46
105+30	RIGHT OF C.L.	7
TOTALS:		53

EARTHWORK

STATION	STATION	LOCATION / DESCRIPTION	UNCLASSIFIED EXCAVATION	COMPACTED EMBANKMENT
			CU. YD.	
ENTIRE	PROJECT	WHEELCHAIR RAMPS	1	9
TOTALS:			1	9

NOTE: EARTHWORK QUANTITIES SHALL BE PAID AS PLAN QUANTITY.

WHEELCHAIR RAMPS

STATION	LOCATION	TYPE 1	TYPE 3
		SQ.YD.	
104+50	SW CORNER		11.0
105+15	NE CORNER	46.0	
105+30	SE CORNER	37.0	
TOTALS:		83.0	11.0

CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS

DESCRIPTION	END OF JOB	REMOVAL OF PERMANENT PAVEMENT MARKINGS	RAISED PAVEMENT MARKERS	THERMOPLASTIC PAVEMENT MARKING				
			TYPE II	6"		12"	WORDS	ARROWS
			(WHITE/RED)	WHITE	YELLOW	WHITE		
	LIN. FT. - EACH	LIN. FT.	EACH	LIN. FT.			EACH	
REMOVAL OF PERMANENT PAVEMENT MARKINGS		2203						
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED)	11		11					
THERMOPLASTIC PAVEMENT MARKING WHITE (6")	708			708				
THERMOPLASTIC PAVEMENT MARKING YELLOW (6")	1150				1150			
THERMOPLASTIC PAVEMENT MARKING WHITE (12")	693					693		
THERMOPLASTIC PAVEMENT MARKING (WORDS)	5						5	
THERMOPLASTIC PAVEMENT MARKING (ARROWS)	9							9
TOTALS:		2203	11	708	1150	693	5	9

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

ADVANCE WARNING SIGNS AND DEVICES

SIGN NUMBER	DESCRIPTION	SIGN SIZE	STAGE 1	MAXIMUM NUMBER REQUIRED	TOTAL SIGNS REQUIRED		TRAFFIC DRUMS
			LIN. FT. - EACH		NO.	SQ. FT.	
W20-1	ROAD WORK 1500 FT.	48"x48"	2	2	2	32.0	
W20-1	ROAD WORK 1000 FT.	48"x48"	2	2	2	32.0	
W20-1	ROAD WORK 500 FT.	48"x48"	2	2	2	32.0	
W20-1	ROAD WORK AHEAD	48"x48"	2	2	2	32.0	
G20-2	END ROAD WORK	48"x24"	4	4	4	32.0	
W1-4AL	REVERSE CURVE LT.	48"x48"	1	1	1	16.0	
W13-1	SPEED LIMIT (ADVISORY)	24"x24"	1	1	1	4.0	
W1-6	LARGE ARROW	48"x24"	3	3	3	24.0	
W4-2	MERGE	36"X36"	2	2	2	18.0	
W20-5	RIGHT LANE CLOSED	48"x48"	2	2	2	32.0	
	TRAFFIC DRUMS		228	228			228
TOTALS:						254.0	228

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

EROSION CONTROL

STATION	STATION	LOCATION	PERMANENT EROSION CONTROL		TEMPORARY EROSION CONTROL					
			WATER	SOLID SODDING	TEMPORARY SEEDING	MULCH COVER	WATER	ROCK DITCH CHECKS	SILT FENCE	*SEDIMENT REMOVAL & DISPOSAL
								(E-6)	(E-11)	
*ENTIRE PROJECT TO BE USED F AND WHERE DIRECTED BY THE ENGINEER			M.GAL.	SQ.YD.	ACRE	ACRE	M.GAL.	CU.YD.	LIN. FT.	CU. YD.
			0.6	50	0.01	0.01	0.2	12	175	3
TOTALS:			0.6	50	0.01	0.01	0.2	12	175	3

BASIS OF ESTIMATE:

WATER.....20.4 M.G. / ACRE OF TEMPORARY SEEDING

WATER.....12.6 GAL. / SQ. YD. OF SOLID SODDING

ROCK DITCH CHECKS.....3 CU.YD./LOCATION

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

*QUANTITIES ESTIMATED.

SEE SECTION 104.03 OF THE STD. SPECS.

STRUCTURES

STATION	DESCRIPTION	CORRUGATED METAL PIPE CULVERT ALTERNATES	STD. DWG. NOS.
		16 GAUGE	
		18"	
		LIN. FT.	
104+36	EXTEND 18"x177' CM PIPE CULVERT TO RT.	6	PCM-1 & SPECIAL DETAIL
105+33	EXTEND 18"x101' CM PIPE CULVERT TO RT.	6	PCM-1 & SPECIAL DETAIL
TOTALS:		12	

QUANTITIES

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	PI 11P22-0031	11	18
PLAN SHEET						

01/28/2023

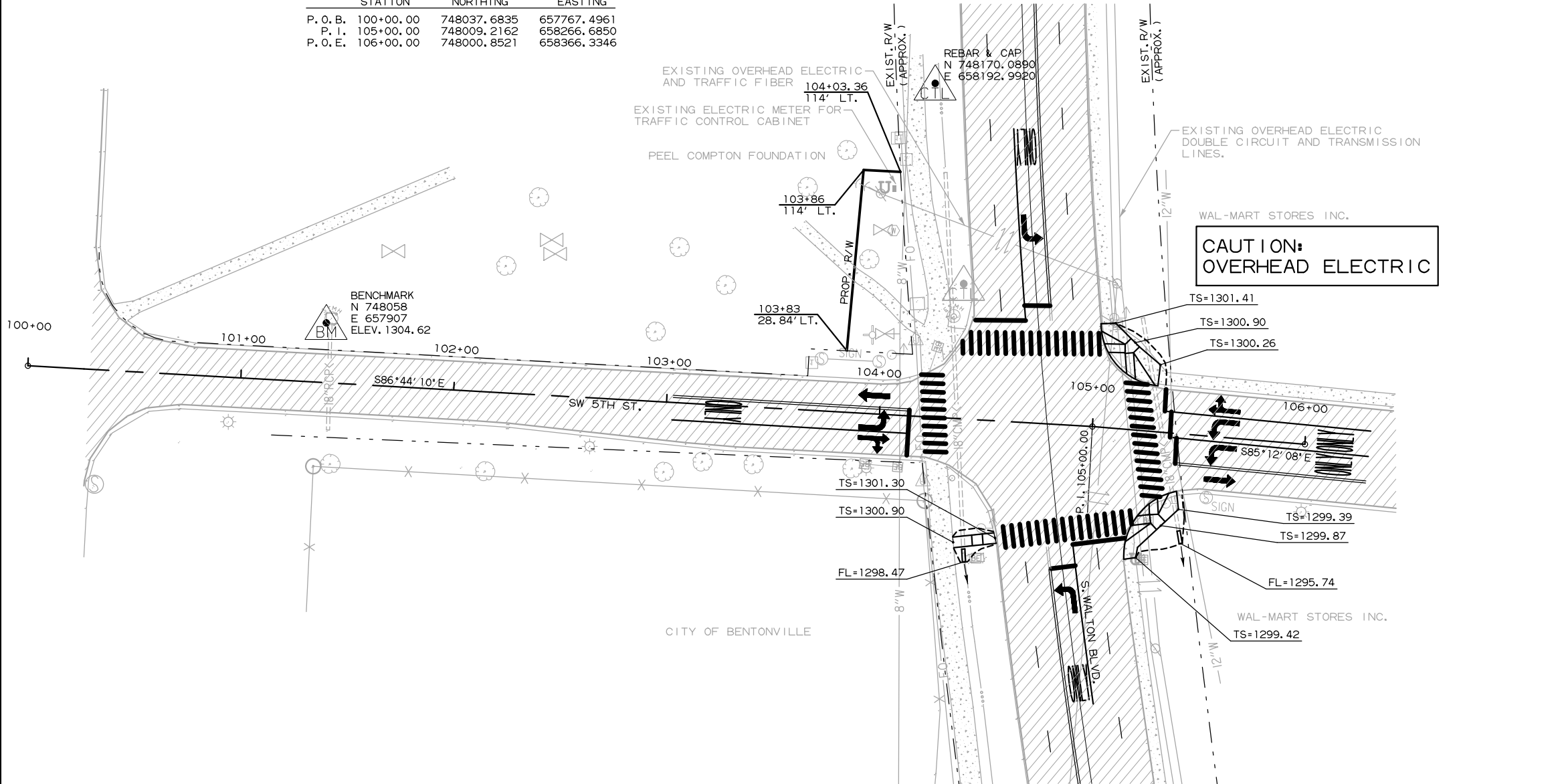


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N 748316.2070
E 657820.8000

SURVEY CONTROL COORDINATES

Project Name: 21ST0006
Date: 09/10/2021
Coordinate System: ARKANSAS STATE PLANE - NORTH ZONE (0301)
BASED ON GPS CONTROL, CITY OF BENTONVILLE
Units: U.S. SURVEY FOOT

	STATION	NORTHING	EASTING
P. O. B.	100+00.00	748037.6835	657767.4961
P. I.	105+00.00	748009.2162	658266.6850
P. O. E.	106+00.00	748000.8521	658366.3346



STA. 104+50 - RT. CONSTRUCT
WHEELCHAIR RAMP (TYPE 3) = 11.0 S.Y.

STA. 104+36 IN PLACE
18' x 177' C.M. PIPE CULVERT
RETAIN & EXTEND 6 FT. RT.

STA. 105+15 - LT. CONSTRUCT
WHEELCHAIR RAMP (TYPE 1) = 46.0 S.Y.

STA. 105+30 - RT. CONSTRUCT
WHEELCHAIR RAMP (TYPE 1) = 37.0 S.Y.

STA. 105+33 IN PLACE
18' x 101' C.M. PIPE CULVERT
RETAIN & EXTEND 6 FT. RT.



DATE: 01-25-2023 FILE NAME: S.Walton-SW5th_Plan.dgn

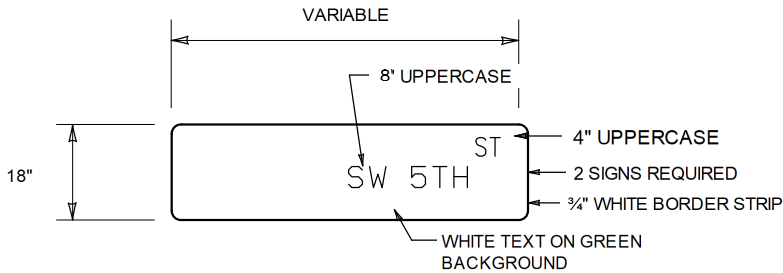
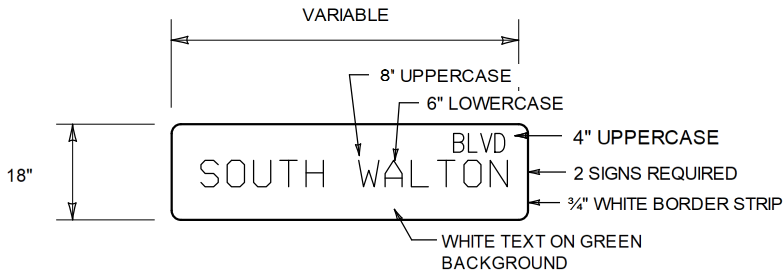
LOCATION: S WALTON BLVD @ SW 5TH ST
CITY: BENTONVILLE
COUNTY: BENTON
SCALE: 1" = 60' DRAWN BY: RFR

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	PIIP22-0031	12	18
TRAFFIC SIGNAL QUANTITIES						

01/28/2023

ITEM NUMBER	ITEM	QUANTITY	UNIT
SP & 701	SYSTEM LOCAL CONTROLLER TS2-TYPE 2, E-NET (8 PHASES)	1	EACH
SP	TRAFFIC SIGNAL CONTROLLER (MODIFICATION)	1	EACH
SP	ETHERNET SWITCH, T100 HARDENED (8-PORT)	1	EACH
SP	E-NET CABLE (EXTERIOR CAT 5E)	400	LIN. FT.
SP	BATTERY BACKUP SYSTEM	1	EACH
SP & 706	TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1 WAY)	11	EACH
SP & 706	TRAFFIC SIGNAL HEAD, LED, (4 SECTION, 1 WAY)	2	EACH
SP & 707	COJNTDOWN PEDESTRIAN SIGNAL HEAD, LED	8	EACH
708	TRAFFIC SIGNAL CABLE (5C/14 A.W.G.)	2500	LIN. FT.
708	TRAFFIC SIGNAL CABLE (7C/14 A.W.G.)	590	LIN. FT.
SP	ELECTRICAL CONDUCTORS FOR LUMINAIRES	1025	LIN. FT.
SP & 710	NON-METALLIC CONDUIT (2")	200	LIN. FT.
SP & 710	NON-METALLIC CONDUIT (3")	2200	LIN. FT.
711	CONCRETE PULL BOX (TYPE 3 HD)	6	EACH
SP & 711	CONCRETE PULL BOX (TYPE 4 HD)	1	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (38')	1	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (42')	1	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (42')	1	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (44')	1	EACH
SP	LED LUMINAIRE ASSEMBLY	4	EACH
SS & 715	TRAFFIC SIGNAL PEDESTAL POLE WITH FOUNDATION	4	EACH
SP	SERVICE POINT ASSEMBLY (2 CIRCUITS)	1	EACH
SP	REMOVAL OF TRAFFIC SIGNAL EQUIPMENT	1.00	LUMP SUM
SP	18" STREET NAME SIGN	4	EACH
719	THERMOPLASTIC PAVEMENT MARKING WHITE (8")	300	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING WHITE (24")	36	LIN. FT.
SP & 733	VIDEO CABLE (EXTERIOR CAT 5E)	1610	LIN. FT.
733	VIDEO MONITOR (CLR)	1	EACH
SP & 733	VEHICLE DETECTOR RACK (16 CHANNEL)	1	EACH
SP & 733	VEHICLE DETECTOR RACK (32 CHANNEL)	2	EACH
SP	LED BLANK OUT SIGN	1	EACH
SP	EAGLE SIZE SUPER P CABINET (WITH INTEGRATED BBS COMPARTMENT)	1	EACH
SP	6 POSITION VIDEO DETECTION CARD RACK	1	EACH
SP	SIEMENS EAGLE M62 CONTROLLER	1	EACH
SP	VANTAGE NEXT CAMERA	2	EACH
SP	ITERIS VANTAGE VELOCITY	1	EACH
SP	SDLC HUB AND CABLES	1	EACH
SP	EZ COMMUNICATOR NAVIGATOR TOUCHLESS APS	1	EACH
SP	POLARA IDS TOUCHLESS APS PUSHBUTTON STATION: 9 BY 15	5	EACH
SP	ICCU-S: ICCU SHELF MODEL	1	EACH
SP	850-390 CUSTOM CABLE HARNESS WITH ICCU-S	1	EACH
SP	iN2-ICB: INTERCONNECT BOARD	1	EACH
SP	CLARY SP1250LX-N	1	EACH
SP	51Ah BATTERIES	1	EACH
SP	SNMP ADAPTER	1	EACH
SP	KY-3170XM	1	EACH
SP	RJ-45 SFP	2	EACH
SP	SM SFP (1GB)	2	EACH
SP	GLOBAL TRAFFIC TECHNOLOGIES OPTICOM GPS PREEMPTION	1	EACH
SP	PHASE SELECTOR MODEL 764	1	EACH
SP	AIP MODEL 768	1	EACH
SP	RADIO MODEL 3101	1	EACH
SP	CABINET MOUNT ANTENNA	1	EACH
SP	PELCO LOUVERED VACUUM FORMED ABS BACK PLATE: P/N BK-5003	1	EACH
SP	PELCO LOUVERED VACUUM FORMED ABS BACK PLATE: BK-5004	1	EACH
SP	PELCO LOUVERED VACUUM FORMED ABS BACK PLATE: BK-5005	1	EACH
SP	DECORATIVE POLES	4	EACH
SP	MP_2BKTG3SS HOLOPHANE MEMPHIS TEARDROP LED SERIES	1	EACH
SP	MP_2P40SBK3PP7PCLL	1	EACH
SP	WL_F 200 S CA BK WEST LIBERTY SLIP FITTER	1	EACH
SP	PEDESTRIAN POLE BLACK POWDER COAT (P33)	4	EACH
SP	OCTAGONAL BASE FOR PEDESTRIAN POLES: P/N PB-5349-1S-GL-P33	4	EACH
SP	POLE CAP, ACORN PB-5401-P33	4	EACH

OVERHEAD STREET NAME
MARKER STANDARD
MAST ARM MOUNTED



- NOTES:
1. REFLECTIVE SHEETING SHALL COMPLY WITH ASTM 4956 TYPE 8 OR 9 REFLECTIVE SHEETING. SHEETING AND LEGEND SHALL BE APPLIED IN SUCH A MANNER TO PROVIDE WRNKLE AND BUBBLE FREE SURFACES. APPLICATION OF SHEETING IS CAUSE FOR REJECTION OF MATERIALS DUE TO WORKMANSHIP.
 2. ALUMINUM SIGN BLANK SHALL EE ALLOY 6061-T6 OR 5052-H38. THE ALUMINUM SIGN SHALL BE ALSO ANODIZED. THE ALUMINUM SHEETING SHALL BE 0.100 INCH NOMINAL THICKNESS AND OF THE SIZE SHOWN WITH 1.5" CORNER RADII. PRIOR TO FABRICATION OF THE SIGNS, THE LAYOUT SHALL FIRST BE APPROVED BY AN AGENT OF THE CITY/ COUNTY.
 3. WHEN CROSSROAD HAS TWO NAMES, THE SIGN FOR THE CROSSROAD TO THE LEFT MAY BE INSTALLED ON THE BACKSIDE OF THE MAST ARM ON THE NEARSIDE LEFT POLE. SEE STANDARD DRAWING SHEET FOR MORE INFORMATION FOR MOUNTING ON MAST ARM ASSEMBLY.
 4. THE SERIES C 2000 STANDARD ALPHABET SHALL BE USED FOR ALL LETTERS.

LOCATION: S Walton Blvd @ Sw 5th st
CITY: bentonville
COUNTY: benton
SCALE: N/A DRAWN BY: PCH

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TRAFFIC SIGNAL NOTES:

1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE NFPA 70 (CURRENT EDITION) NATIONAL ELECTRICAL CODE, NFPA 101 (CURRENT EDITION) LIFE SAFETY CODE, STATE ELECTRICAL CODE AND LOCAL ELECTRICAL CODE.
2. EXTEND GREEN EQUIPMENT GROUNDING CONDUCTOR (E.G.C.) FROM GROUND BAR AT MAIN BREAKER TO CONTROL PANEL AND TO FIRST POLE. SOLIDLY BOND E.G.C. TO GROUND LUG OF CONTROL CABINET AND TO POLE GROUND. ENSURE THAT ONLY ONE NEUTRAL-TO-GROUND BOND EXISTS IN THE SYSTEM AND THAT IT IS AT THE MAIN BREAKER.
3. ELECTRICAL SERVICE SHALL BE PROVIDED BY THE CITY/COUNTY TO A SERVICE POLE WITH EXTERNAL 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 AND MAST ARMS SHALL BE GALVANIZED AND POWDER COATED BLACK PER CITY STANDARDS. THE HAND HOLE MUST BE RECESSED INTO THE POLE AND BE PROPERLY SIZED IN ORDER TO ACCOMMODATE THE DECORATIVE BASES TO BE CLAMPED AROUND THE POLE BASE.
10. PAVEMENT MARKINGS SHOWN FOR REFERENCE ONLY. SEE PERMANENT PAVEMENT MARKING PLAN SHEET AND 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. FOUNDATIONS SHOULD OTHERWISE BE LEVEL WITH THE ADJACENT SIDEWALK FOR PROPER APPEARANCE OR DECORATIVE POLE BASES WHICH SHOULD GENERALLY SIT FLUSH WITH GROUND LEVEL.
12. ALL CONCRETE PULL BOXES SHALL BE (TYPE 3 HD) UNLESS OTHERWISE INDICATED. ALL CONDUIT SHALL BE THREE (3") INCH DIAMETER UNLESS SPECIFIED ON PLANS. PULL BOXES NEED TO BE LABELED "TRAFFIC SIGNALS" OR "CITY FIBER" FOR THE FUTURE SIGNALS.
13. LUMINAIRE ASSEMBLIES SHALL BE OF THE FULL CUTOFF TYPE.
14. 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 ALSO BE PROGRAMMED TO PROVIDE VEHICLE COUNT/OCCUPANCY DATA.
15. THE LOCAL RADIO WITH ANTENNA SHALL BE COMPATIBLE WITH THE EXISTING CLOSED LOOP COORDINATION SYSTEM IN THE CITY/COUNTY.
16. 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.

17. 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.
18. 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.
19. 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.
20. CONTROLLER CABINET LAYOUT AND ORIENTATION SHALL CONFORM TO IMSA STANDARDS.
21. 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.
22. TRAFFIC SIGNAL CONTRACTOR MUST NOTIFY THE CITY PROJECT INSPECTOR EACH DAY PRIOR TO SIGNAL RELATED WORK. NO WORK ON TRAFFIC SIGNALS WILL BE ALLOWED OR APPROVED WITHOUT THIS PRIOR NOTIFICATION.
23. 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.
24. DOOR PANEL TEST PUSH BUTTONS SHALL ACTUATE INDICATED PHASES. DETECTOR ASSIGNMENTS AND/OR SIDE PANEL JUMPERS MAY REQUIRE MODIFICATION.
25. ALL SYSTEM DETECTOR RACKS AND ASSOCIATED EQUIPMENT SHALL BE PROTECTED BY THE MAIN CONTROLLER CABINET POWER SURGE PROTECTION.
26. 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.
27. CONTRACTOR SHALL NOTIFY ALL EXISTING UTILITY OWNERS BEFORE BEGINNING WORK ON THIS PROJECT.
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.

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	PI1P22-0031	13	18
TRAFFIC SIGNAL NOTES						

01/28/2023

LOCATION: S Walton Blvd @ Sw 5th st
CITY: bentonville
COUNTY: benton
SCALE: N/A DRAWN BY: PCH

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ADDITIONAL TRAFFIC SIGNAL NOTES:

29. ALL PARTS OF THIS INSTALLATION SHALL BE IN ACCORDANCE WITH THE AHTD STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, STANDARD DRAWINGS, AND WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), CUREENT EDITIONS.

30. ALL PARTS OF THIS INSTALLATION SHALL BE IN ACCORDANCE WITH CITY OF BENTONVILLE STANDARDS FOR EQUIPMENT, MATERIALS, METHODS, FEATURES, AND COLORS CURRENTLY IN EFFECT AT THE TIME OF INSTALLATION.

31. THE CONTRACTOR SHALL CONNECT TO POWER AT FREE-STANDING METER RACK PER BEUD SPEC DS-1003. METER LOCATION AS SHOWN ON SIGNAL LAYOUT DRAWING. MUST BE MINIMUM 10" AWAY FROM BEUD POLES.

32. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL EQUIPMENT AND MATERIALS NECESSARY FOR COMPLETE OPERATION OF EACH TRAFFIC SIGNAL SYSTEM WHETHER SPECIFICALLY MENTIONED OR NOT.

33. CONTROLLER CABINET SHALL BE THE LATEST VERSION EAGLE SIZE SUPER P NEMA CABINET WITH AN INTEGRATED UNINTERRUPTABLE POWER SUPPLY (UPS) COMPARTMENT (MODEL ELS1014). CABINET SHALL HAVE BOTH FRONT AND REAR DOORS ALONG WITH THE BATTERY COMPARTMENT SIDE DOOR. CABINET SHALL BE POWER COATED BLACK PER CURRENT CITY STANDARDS FOR THE DECORATIVE TRAFFIC SIGNALS.

34. CONTROLLER SHALL BE THE LATEST VERSION SIEMENS EAGLE EPAC M62 TS-2, TYPE 2 NEMA CONTROLLER CURRENTLY IN USE BY THE CITY, AND SHALL BE FULLY COMPATIBLE WITH EXISTING EQUIPMENT, SOFTWARE, AND NETWORK.

35. THE UPS HOUSED IN THE CONTROLLER CABINET SHALL BE A CLARY SPI250LX-N UPS OPERATING AS A LINE FILTER FOR INCOMING SIGNALS, AND MUST BE FULLY COMPATIBLE WITH EXISTING EQUIPMENT, SOFTWARE, AND NETWORK. THE UPS SYTEM SHALL BE PROVIDED WITH OP72D-5I-5IAH BATTERIES AND A SNMP/HTTP ADAPTER FOR ETHERNET COMMUNICATION TO THE NETWORK.

36. AN EDIS SMART MONITOR MMU-16LE(IP) MALFUNCTION MANAGEMENT UNIT (MMU) WITH ETHERNET PORT SHALL BE PROVIDED AND INSTALLED IN THE CONTROLLER CABINET.

37. A DETECTION SYSTEM SHALL BE PROVIDED AND INSTALLED. THE DETECTION SYSTEM MUST BE FULLY COMPATIBLE WITH EXISTING EQUIPMENT SOFTWARE AND NETWORK. THE SYSTEM SHALL INCLUDE:
A. ITERIS VANTAGE NEXT VIDEO DETECTION SYSTEM ON THE FOLLOWING APPROACHES 5TH ST (2 TOTAL):
B. ITERIS VANTAGE NEXT VECTOR VIDEO/RADAR DETECTION SYSTEM ON THE FOLLOWING APPROACHES S WALTON BLVD (2 TOTAL):
C. SHELF MOUNTED CCU. USE THE TS-2 SDLC PORT
D. SDLU HUB
E. VIDEO PROCESSOR
F. COLOR VIDEO MONITOR VIEWING IN THE CABINET
G. ALL OTHER NECESSARY ITEMS TO COMPLETE THE VIDEO/RADAR DETECTION SYSTEM

38. ONE 6-POSITION VIDEO DETECTOR CARD RACKS SHALL BE PROVIDED AND INSTALLED IN THE CONTROLLER CABINET.

39. DECORATIVE ACCESSORIES TO BE INSTALLED ON EACH SIGNAL POLE INCLUDE PELCO PART NUMBERS PB-5315 ORNAMENTALS POLE TOP, PB-5354 OR PB-5355 OR PB-5381 ORNAMENTAL POLE BASE AS DETERMINED BY POLE DIAMTER, AND DECORATIVE 15' DBL BEND LUMINAIRE ARM PELCO PART NUMBER SP-3015-AR-1 OR VALMONT PART NUMBER J298127 SPECIAL LUMINAIRE ARM FOR TRAFFIC SIGNAL POLE MOUNTING, ALONG WITH HOLOPHANE MEMPHIS TEARDROP LED SERIES 2 (BLACK IN COLOR) PART NUMBERS MPL2 P40S 40K AS BK TG 3 P P7 PCLL SS MEMPHIS STYLE LUMINAIRE WITH DARK SKY COMPLAINT SKIRT, AND WLLF 200 S CA BK - WEST LIBRARY SLIP FITTER. ALL ACCESSORIES, BRACKETS, TUBES, STRAPS, AND OTHER MOUNTING HAEDWARE SHALL BE POWDER COATED BLACK PER CITY STANDARDS.

40. DECORATIVE ACCESSORIES TO BE INSTALLED ON EACH PED POLE INCLUDE PN-5100-12-P33 (12' TYP.), PELCO PART NUMBER PB-5349-IS-GL-P33 OCTAGONAL BASE, AND PB-5401-P33 ACORN POLE CAP. ALL ACCESSORIES, BRACKETS, TUBES, STRAPS, AND OTHER MOUNTING HARDWARE SHALL BE POWER COATED BLACK PER CITY STANDARDS.

41. BACKPLATES SHALL BE SUPPLIED FOR ALL SIGNAL HEADS AND SHALL BE PELCO VACUUM FORMED ABS BACKPLATES, MODEL BK-5003 OR BK-5004 OR BK-5005. HARDWARE FOR MOUNTING SIGNAL HEADS, VIDEO DETECTORS, AND OTHER EQUIPMENT SHALL BE POWER COATED BLACK PER CITY STANDARDS.

42. TRAFFIC SIGNAL COMMUNICATIONS INTERFACE SHALL INCLUDE A KYLAND KY-3170XM, 10-PORT MANAGED ETHERNET SWITCH CARD RACK MOUNTABLE WITH 2 RJ-45 SFP AND 2 SM SFP (1GB) SUITABLE WALL-MOUNTABLE INTERCONNECT CENTER (WIC) BOX ALONG WITH OTHER NECESSARY ELECTRONICS, EQUIPMENT, AND OTHER MATERIALS NECESSARY TO PROVIDE TRAFFIC SIGNAL COMMUNICATIONS VIA THE EXISTING FIBER OPTIC NETWORK CURRENTLY OPERATED BY THE CITY. CONTROLLER SHALL INSTALL ADDITIONAL CONDUITS INTO THE CONTROLLER CABINET BASE AS REQUIRED TO ACCOMMODATE THE NECESSARY FIBER OPTIC LINES.

43. EMERGENCY VEHICLE PREEMPTION SHALL BE PROVIDED WITH A GLOBAL TRAFFIC TECHNOLOGIES OPTICOM GPS PREEMPTION SYSTEM AND MUST BE FULLY COMPATIBLE WITH EXISTING EQUIPMENT, SOFTWARE, AND NETWORK. SYSTEM SHALL INCLUDE A PHASE SELECTOR MODEL 764, AIP MODEL 768, RADIO MODEL 3101, AND A CABINET MOUNTED ANTENNA.

44. TRAFFIC SIGNAL POLES OR ANY OTHER NON-BREAKAWAY OBSTRUCTION SHALL NOT BE INSTALLED WITHIN THE CLEAR ZONE.

45. CONTRACTOR SHALL PREPARE ALL SCUFFS AND SCRATES TO BLACK POWER COAT AND PAINTED FINISHES WITH CITY APPROVED MATERIALS.

46. CITY OF BENTONVILLE WILL PROVIDE THE STREET NAME SIGNS FOR THE CONTRACTOR TO INSTALL. ALL OTHER SIGNS SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR.

47. ANY ITEMS NOT SPECIFICALLY MENTIONED, BUT NECESSARY TO PROVIDE A COMPLETE, FULLY FUNCTIONAL, AND FULLY ACTUATED TRAFFIC SIGNAL SYSTEM THAT COMPLIES WITH CURRENT CITY OF BENTONVILLE STANDARDS, SHALL BE INCLUDED WITH THIS SINGAL INSTALLATION AND CONSIDERED SUBSIDIARY TO THE ITEMS ABOVE.

48. CONDUITS AND TRACER WIRE SHALL BE INCLUDED AS PART OF THE FIBER OPTIC INSTALLATION, WITH TYPE 3 HD PULL BOXES LABELED "FIBER". TRENCHING SHALL ADHERE TO THE BEUD TRENCH DETAIL AND INSPECTIONS. DETAILS CAN BE FOUND AT [HTTP://WWW.BENTONVILLEAR.COM/194/ELECTRIC](http://www.bentonvillear.com/194/ELECTRIC)

49. EZ COMMUNICATOR NAVIGATOR APS WITH CUSTOM AUDIO MESSAGES FOR EACH LOCATION, BLACK IN COLOR. MUST BE FULLY COMPATIBLE WITH EXISTING EQUIPMENT, SOFTWARE, AND NETWORK.
A. POLARA IDS TOUCHLESS APS PUSHBUTTON STATION: 9 BY 15 IN23TBIB
B. ICCU-S: ICCU SHELF MODEL
C. 850-390 CUSTON CABLE HARNESS WITH ICCU-S USED FOR PREEMPTION
D. IN2-ICB: INTERCONNECT BOARD

50. POLARA MOUNTING EXTENDERS AS DETERMINED BY ENGINEER TO MEET MUTCD AND ADA STANDARDS.
A. IN-EXT-06, IN-EXT-12, IN-EXTHTRED, OR INPA4X2-B

51. TRACER WIRE SHALL BE #10 SOLID COPPER. TRACER WIRE SHALL BE TAPED TO THE TOP OF CONDUITS OR INSIDE CONDUITS WITH FIBER AND SHALL BE JOINED FROM ONE END OF PROJECT TO THE OTHER END OF PROJECT AS A CONTINUOUS CONNECTION.

52. ONE ADDITIONAL NEXT VECTOR DETECTOR AND ONE ADDITIONAL POLARA IDS APS TOUCHLESS PUSHBUTTON SHALL BE PROVIDED TO THE CITY OF BENTONVILLE.

53. CONTRACTOR SHALL INSTALL THE ELECTRICAL METER SERVICE POINT, MEETING CITY OF BENTONVILLE ELECTRIC DEPARTMENT STANDARDS. DETAILS CAN BE FOUND AT [HTTP://WWW.BENTONVILLE.COM/194/ELECTRIC](http://www.bentonville.com/194/ELECTRIC). CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH THIS DOCUMENT.

54. CONTRACTOR SHALL INSTALL, TERMINATE AND TEST FIBER FROM NEAREST SERVICE POINT INTO CABINET. THE FIBER SHALL BE A PRE-TERMINATED 12 COUNT PIGTAIL. THE TYPE, PATH, AND COUNT SIZE TBD BY THE ENGINEER ON RECORD AND FIBER SHALL BE OPERATIONAL PRIOR TO TURN ON OF SIGNAL.

55. WIC ENCLOSURE FOR FIBER TERMINATION POINT, WITH SPACE FOR 12 SC CONNECTORS.

56. CONTACT BEUD AT 479-271-3135 BEFORE PERFORMING ANY GRADING WITHIN 5' OF EXISTING OR PROPOSED POWER POLES.

57. RELOCATION OF ANY EXISTING FACILITIES SHALL BE AT THE OWNER'S EXPENSE.

58. ANY CHANGES TO THE ELECTRIC FEED OR SERVICE SIZE AFTER THE PRECON COULD RESULT IN A DELAY OF THE DEVELOPMENT RECEIVING POWER AND A CHARGE TO THE DEVELOPER FOR THE CHANGE.

59. ITERIS VANTAGE VELOCITY SHALL BE INSTALLED IN EXISTING AND PROPOSED CABINETS AT ALL INTERSECTIONS MODIFIED WITH THIS PROJECT.

60. CONTRACTOR SHALL PROVIDE FINAL AS-BUILT DRAWINGS TO THE CITY OF BENTONVILLE.

61. CONTRACTOR SHALL PROVIDE EQUIPMENT SUBMITTALS TO THE CITY OF BENTONVILLE FOR APPROVAL PRIOR TO PURCHASING.

62. THE CITY RESERVES THE RIGHT TO REJECT ANY MATERIALS OR EQUIPMENT THAT HAS BEEN DAMAGED IN SHIPPING, HANDLING, OR UNLOADING AND MAY REQUIRE REPLACEMENT OF SAID DAMAGED ITEMS AT NO COST TO THE CITY.

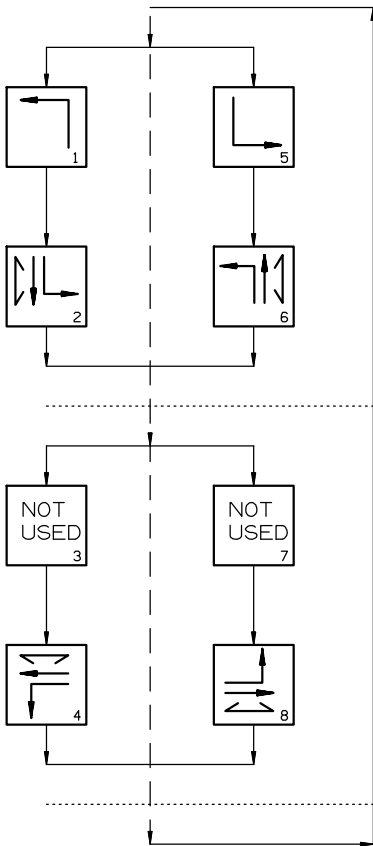
DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	PI1P22-0031	14	18
TRAFFIC SIGNAL NOTES						

01/28/2023

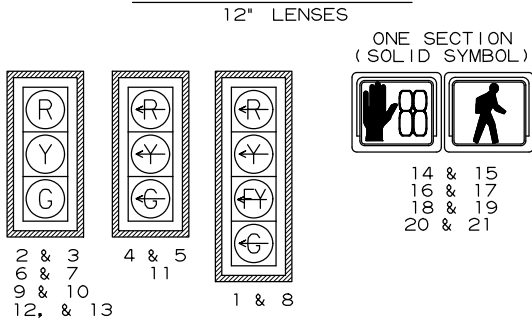
LOCATION:	S Walton Blvd @ Sw 5th st
CITY:	bentonville
COUNTY:	benton
SCALE:	N/A
DRAWN BY:	PCH

01/28/2023

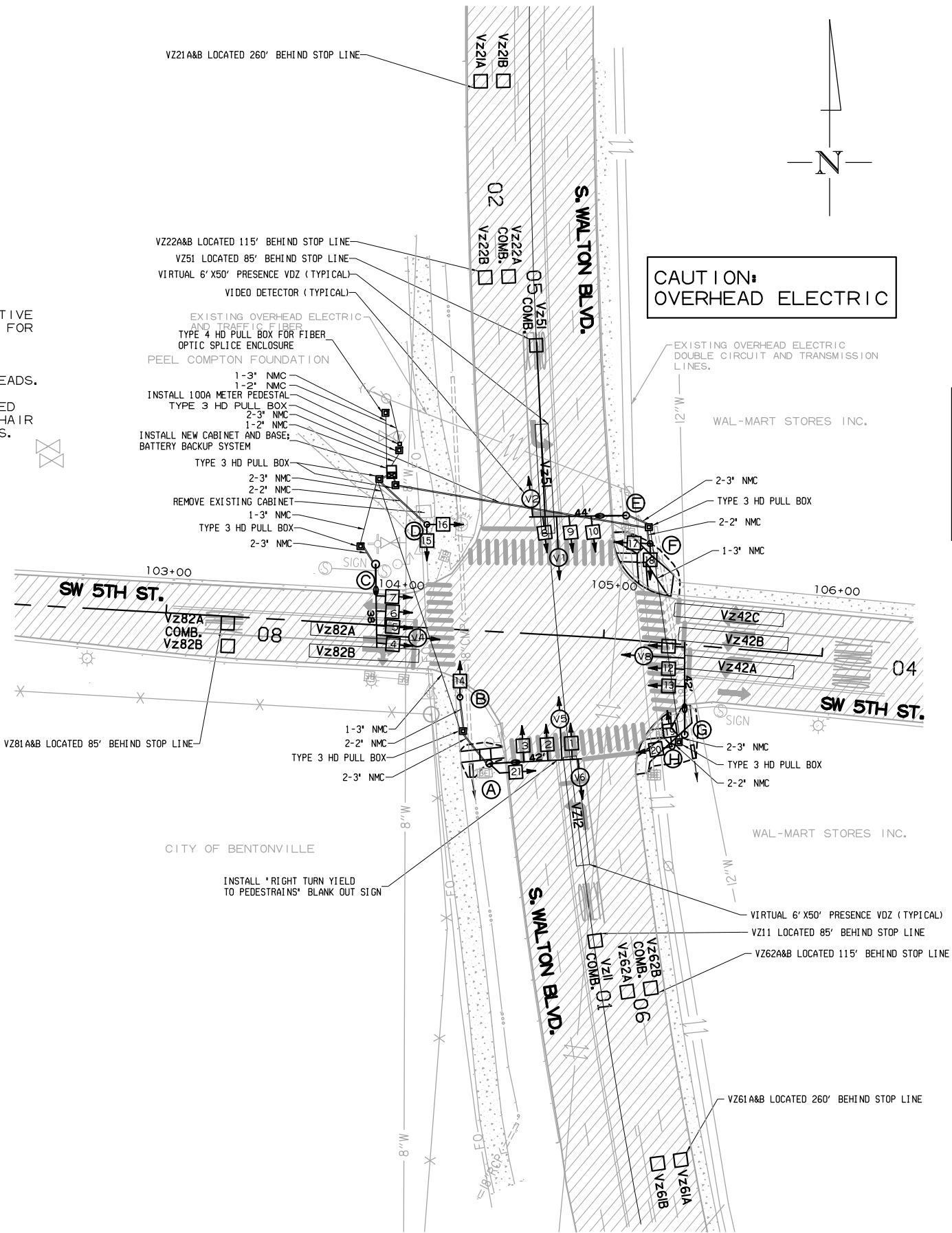
PHASING DIAGRAM



SIGNAL FACES



- NOTES:
- ALL SIGNAL HEADS SHALL HAVE BACKPLATES.
 - REFER TO SPECIAL PROVISION "RETROREFLECTIVE BACKPLATES" FOR DETAILS ON REQUIREMENTS FOR BACKPLATES.
 - REFER TO SPECIAL PROVISIONS FOR DETAILS ON REQUIREMENTS FOR PEDESTRIAN SIGNAL HEADS.
 - 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.



CAUTION:
OVERHEAD ELECTRIC

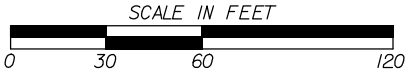
DETECTOR SPACING CHART

SOUTH WALTON BLVD VIRTUAL LOOPS		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD VDZ	LAG VDZ
40 MPH	260'	115'
SW 5TH ST. VIRTUAL LOOPS		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD VDZ	LAG VDZ
N/A	85'	N/A

SOUTH WALTON BLVD AND SW 5TH ST. POLE DIMENSIONS

POLE	MAST ARM	* MAST ARM ANGLE	VERT. SHAFT	LUM. ARM	* LUM. ANGLE
A	42'	270°	35'	15'	270°
B	N/A	N/A	12'	N/A	N/A
C	38'	270°	35'	15'	270°
D	N/A	N/A	12'	N/A	N/A
E	44'	270°	35'	15'	270°
F	N/A	N/A	12'	N/A	N/A
G	42'	270°	35'	15'	270°
H	N/A	N/A	12'	N/A	N/A

* ANGLE MEASURED CLOCKWISE FROM HAND HOLE.



DATE: 1-24-2023 FILE NAME: PIIP22-0031-Traffic Signal 60scale.p04.dgn

LOCATION: S Walton Blvd @ Sw 5th st
CITY: bentonville
COUNTY: benton
SCALE: 1"=60' DRAWN BY: PCH

01/28/2023

DESIGN PARAMETERS

POSTED SPEED LIMIT:
N/A FOR EAST AND WEST APPROACH
40 MPH NORTH AND SOUTH APPROACH

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

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

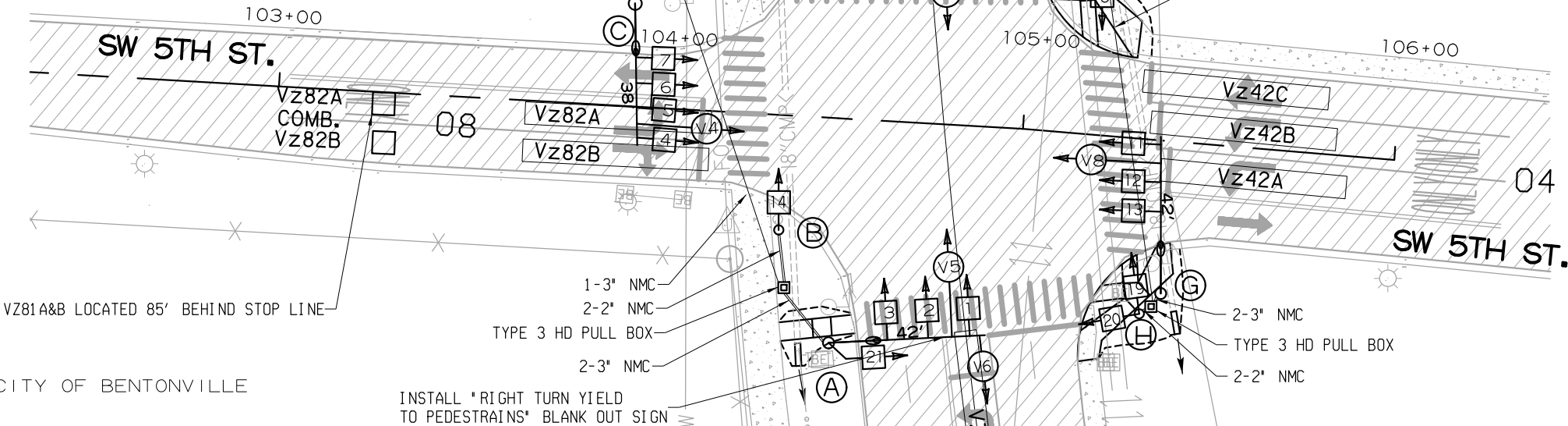
MINIMUM CLEAR ZONE DISTANCE
4 FEET BEHIND CURB

VZ22A&B LOCATED 115' BEHIND STOP LINE
VZ51 LOCATED 85' BEHIND STOP LINE
VIRTUAL 6' X50' PRESENCE VDZ (TYPICAL)
VIDEO DETECTOR (TYPICAL)

EXISTING OVERHEAD ELECTRIC
AND TRAFFIC FIBER
TYPE 4 HD PULL BOX FOR FIBER
OPTIC SPLICE ENCLOSURE
PEEL COMPTON FOUNDATION

1-3" NMC
1-2" NMC
INSTALL 100A METER PEDESTAL
TYPE 3 HD PULL BOX
2-3" NMC
1-2" NMC
INSTALL NEW CABINET AND BASE;
BATTERY BACKUP SYSTEM

TYPE 3 HD PULL BOX
2-3" NMC
2-2" NMC
REMOVE EXISTING CABINET
1-3" NMC
TYPE 3 HD PULL BOX
2-3" NMC



SOUTH WALTON BLVD AND SW 5TH ST.
POLE LOCATIONS

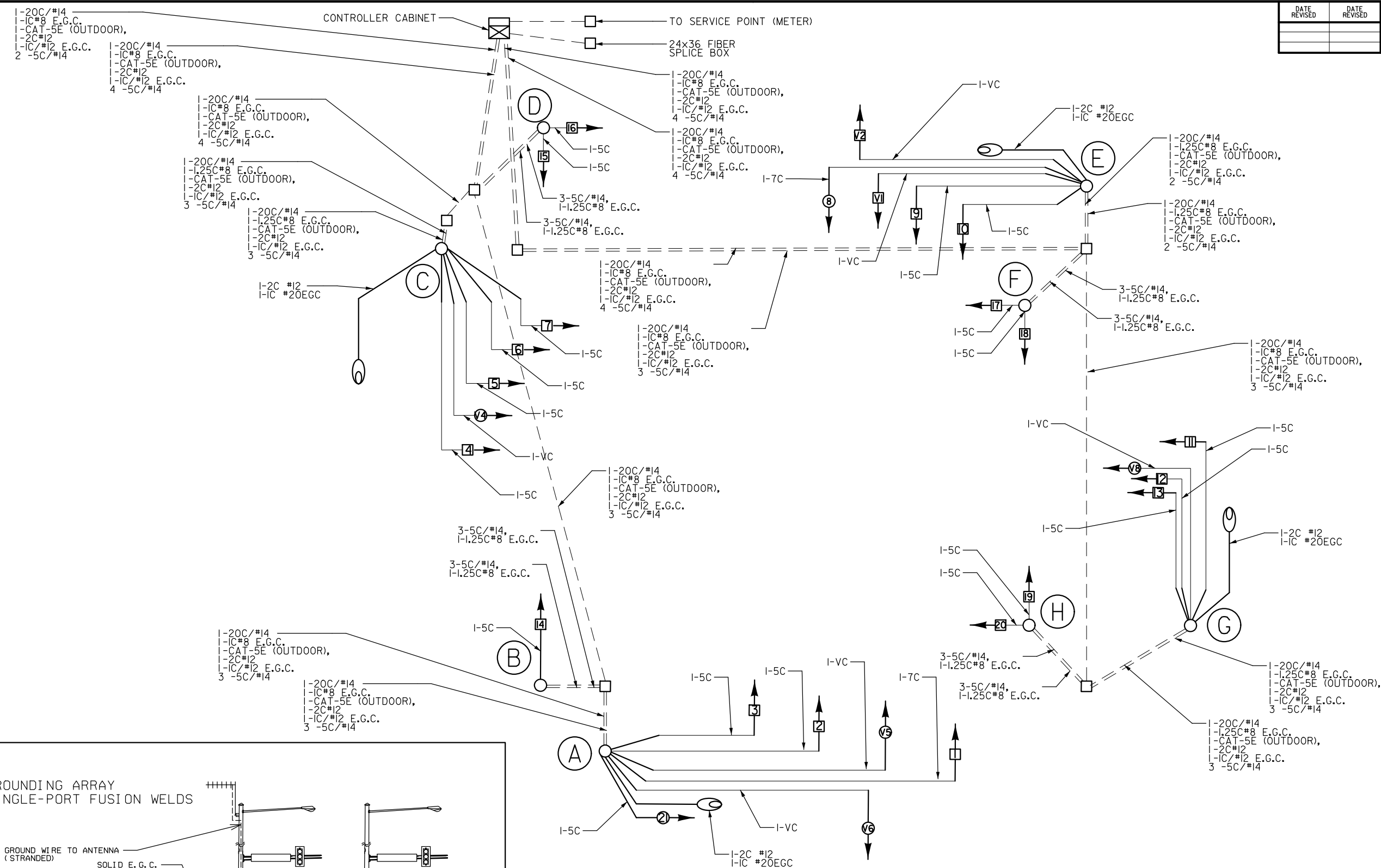
POLE	LOCATION & STATION	OFFSET	X, Y COORDINATES
A	S. WALTON - STA. 104+47.73	60.72' RT.	658214.50, 747951.47
B	S. WALTON - STA. 104+34.33	30.84' RT.	658201.12, 747982.11
C	S. WALTON - STA. 103+95.75	27.68' LT.	658162.60, 748042.83
D	S. WALTON - STA. 104+20.70	47.61' LT.	658187.52, 748061.34
E	S. WALTON - STA. 105+10.29	56.71' LT.	658276.94, 748065.06
F	S. WALTON - STA. 105+21.31	44.79' LT.	658287.92, 748052.22
G	S. WALTON - STA. 105+33.00	45.12' RT.	658306.11, 747966.89
H	S. WALTON - STA. 105+39.56	39.02' RT.	658299.57, 747961.34



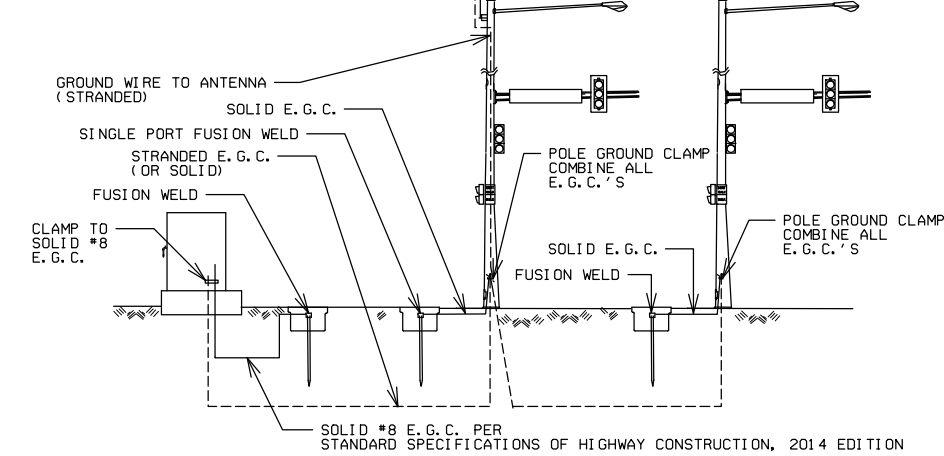
LOCATION: S Walton Blvd @ Sw 5th st
CITY: bentonville
COUNTY: benton
SCALE: 1"=40' DRAWN BY: PCH

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	PIIP22-0031	17	18
SIGNALIZATION PLAN SHEET						

01/28/2023



GROUNDING ARRAY SINGLE-PORT FUSION WELDS



WIRING DIAGRAM

NOTES:

1. A SEPARATE I-5C IS RUN TO EACH POLE FOR THE PEDESTRIAN PUSH BUTTON
2. ALL DETECTOR RACK CHANNELS, INCLUDING UNUSED, SHALL BE BROUGHT TO TERMINAL STRIP IN DETECTOR AREA OF CABINET.
3. THE LOCAL GOVERNMENT SHALL BE RESPONSIBLE FOR PROVIDING POWER TO THE SERVICE POINT.

DATE: 1-24-2023 FILE NAME: PIIP22-0031.Traffic Wiring Diagram.p06.dgn

LOCATION: S Walton Blvd @ Sw 5th st
CITY: bentonville
COUNTY: benton
SCALE: N/A DRAWN BY: PCH

I:\Jobs\03543300 Bentonville S Walton-SW 5th Intersection\700 CADD Files\713 Traffic Files\21ST0006-Traffic Signal details.p06.dgn

1/27/2023 3:40:43 PM ...\\21ST0006-Traffic Signal details.p06.dgn

DATE REVISED	DATE REVISED	FED.RD. DIST.NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
		6	ARK.	PI1P22-0031	18	18
SIGNALIZATION PLAN SHEET						

01/28/2023

DETECTOR CHART

DETECTOR SYSTEM DESCRIPTION: JOB 21ST0006										
SOUTH WALTON BLVD AND SW 5TH ST DETECTOR ASSIGNMENTS				HARDWARE INPUTS BY SUPPLIER			PROGRAM ASSIGNMENTS			COMMENTS
DET. ID #	LOCATION DIRECTION	TYPE	DET. #	CAB. TRM. #	AMP CHN. #	CON. IMP. #	PHS	SYSTEM DET. #	MASTER SYSTEM DETECTOR NUMBERS	
Vz11	SB LEFT TURN FAR	COMB.			1	V9	1	1		CAMERA V1
Vz12	SB LEFT TURN	LOCAL			2	V1	1			CAMERA V1
Vz21 A&B	NB ADVANCE	LOCAL			5	V2	2			CAMERA V2
Vz22 A&B	NB NEAR	COMB.			6	V10	2	2		CAMERA V5
Vz32 A&B	WB LEFT TURN	LOCAL			10	V3	3	3		CAMERA V3
Vz41	EB ADVANCE	LOCAL			13	V4	4			CAMERA V7
Vz42	EB NEAR	COMB.			14	V12	4	4		CAMERA V7
Vz51	NB LEFT TURN FAR	COMB.			7	V13	5	5		CAMERA V5
Vz52	NB LEFT TURN	LOCAL			8	V5	5			CAMERA V5
Vz61 A&B	SB ADVANCE	LOCAL			3	V6	6			CAMERA V6
Vz62 A&B	SB NEAR	COMB.			4	V14	6	6		CAMERA V1
Vz71	EB LEFT TURN FAR	COMB.			15	V15	7	7		CAMERA V7
Vz72	EB LEFT TURN	LOCAL			16	V7	7			CAMERA V7
Vz82	WB NEAR	LOCAL			12	V16	8	8		CAMERA V3
PB2 A&B	SW 5TH EAST LEG	PED.				P2	2			
PB4 A&B	S. WALTON SOUTH LEG	PED.				P4	4			
PB6 A&B	SW 5TH WEST LEG	PED.				P6	6			
PB8 A&B	S. WALTON NORTH LEG	PED.				P8	8			
					SPARE:					

CONTROLLER INPUT ABBREVIATIONS:

V = VEHICLE INPUT

D = SYSTEM OR AUXILIARY INPUT

P = PEDESTRIAN INPUT

NOTE:

"AMP CHN =" REFERS TO THE RACK OUTPUT POSITION.

THIS IS WIRED TO CONTROLLER INPUT DETECTOR NUMBER WHICH IS PROGRAMMED TO ACTUATE THE DESIGNATED PHASE.

EXAMPLE: V9 = SYSTEM DETECTOR 1, V10 = SYSTEM DETECTOR 2

INTERVAL CHART

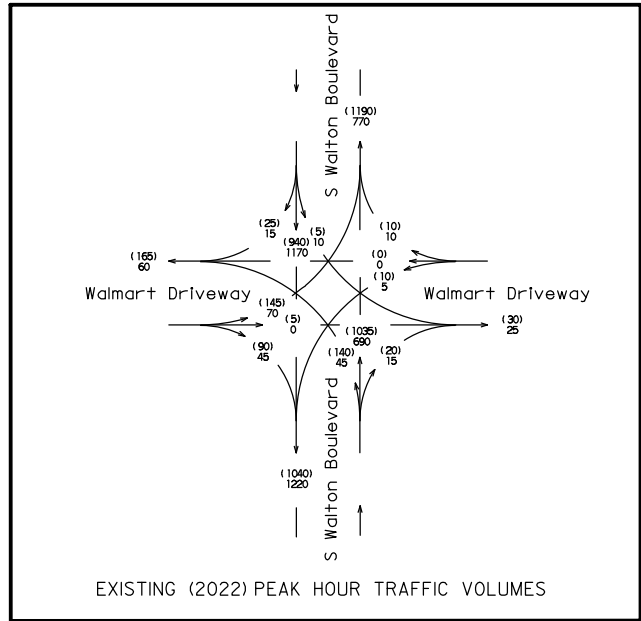
SIGNAL FACES	SOUTH WALTON BLVD AND SW 5TH ST										FLASH SEQUENCE
	1+5	CLR.	1+6	CLR.	2+5	CLR.	2+6	CLR.	4+8	CLR.	
1	←G	*	←G	*	←FY	***	←FY	***	←R	←R	←R
2 & 3	R	R	G	**	R	R	G	**	R	R	R
4, 5, 6, & 7	R	R	R	R	R	R	R	R	G	**	R
8	←G	*	←FY	***	←G	*	←FY	***	←R	←R	←R
9 & 10	R	R	R	R	G	**	G	**	R	R	R
11	←R	←R	←R	←R	←R	←R	←R	←R	←G	***	←R
12 & 13	R	R	R	R	R	R	R	R	G	**	R
14 & 15	DW	DW	W	FDW	DW	DW	W	FDW	DW	DW	BLK
16 & 17	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	BLK
18 & 19	DW	DW	DW	DW	W	FDW	W	FDW	DW	DW	BLK
20 & 21	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	BLK

* DENOTES GREEN OR YELLOW ARROW DEPENDING ON NEXT PHASE

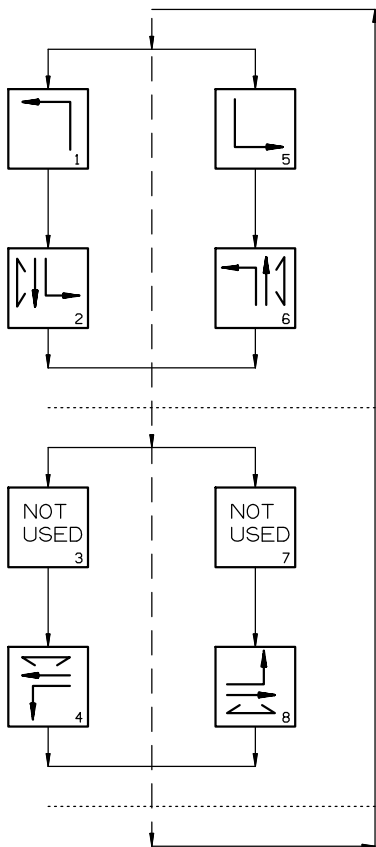
** DENOTES GREEN OR YELLOW BALL DEPENDING ON NEXT PHASE

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

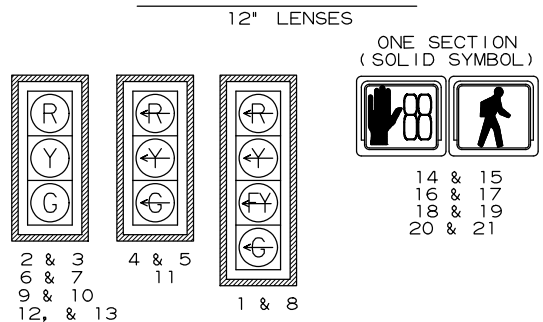
TRAFFIC FLOW DIAGRAM



PHASING DIAGRAM



SIGNAL FACES



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.

LOCATION: S Walton Blvd @ Sw 5th st
CITY: bentonville
COUNTY: BENTON
SCALE: N/A DRAWN BY: PCH

DATE: 1-24-2023 FILE NAME: PI1P22-0031-Traffic Signal details.p07.dgn

CORRUGATED STEEL PIPE (ROUND)

PIPE DIAMETER (INCHES)	① MINIMUM COVER TOP OF PIPE TO TOP OF GROUND "H" (FEET)	MAX. FILL HEIGHT "H" ABOVE TOP OF PIPE (FEET)				
		METAL THICKNESS (INCHES)				
		0.064	0.079	0.109	0.138	0.168
2 3/8 INCH BY 1/2 INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM						
12	1	84	91			
15	1	67	73			
18	1	56	61			
24	1	42	46	59		
30	2	34	36	47		
36	2		30	39	41	
42	2		43	67	70	73
48	2		37	58	61	64
② 3 INCH BY 1 INCH OR 5 INCH BY 1 INCH CORRUGATION RIVETED, WELDED, BOLTED, OR HELICAL LOCK-SEAM						
36	1	48	60	88	111	118
42	1	41	51	72	90	102
48	1	36	45	64	77	85
54	2	32	40	59	71	79
60	2	29	36	53	64	71
66	2	26	33	47	58	64
72	2	24	30	44	53	59
78	2		28	41	49	54
84	2		26	38	45	51
90	2		24	35	43	45
96	2		22	33	40	44
102	2			31	38	42
108	2			30	35	39
114	2			28	34	37
120	2			27	32	35

CORRUGATED ALUMINUM PIPE (ROUND)

PIPE DIAMETER (INCHES)	① MINIMUM COVER TOP OF PIPE TO TOP OF GROUND "H" (FEET)	MAX. FILL HEIGHT "H" ABOVE TOP OF PIPE (FEET)				
		METAL THICKNESS IN INCHES				
		0.060	0.075	0.105	0.135	0.164
		2 3/8 INCH BY 1/2 INCH CORRUGATION RIVETED OR HELICAL LOCK-SEAM				
12	1	45	45			
18	2	30	30	52		
24	2	22	22	39	41	
30	2		18	31	32	34
36	2.5		15	26	27	28
42	2			43	43	44
48	2			40	41	43
54	2			35	37	38
60	2				33	34
66	2					31
72	2					29

CORRUGATED METAL PIPE ARCHES

EQUIV. DIA. (INCHES)	PIPE DIMENSION SPAN X RISE (INCHES)	MINIMUM CORNER RADIUS (INCHES)	STEEL				ALUMINUM			
			MIN. THICKNESS REQUIRED INCHES	① MIN. HEIGHT OF FILL, "H" (FT.)	MAX. HEIGHT OF FILL, "H" (FT.)	MIN. THICKNESS REQUIRED INCHES	① MIN. HEIGHT OF FILL, "H" (FT.)	MAX. HEIGHT OF FILL, "H" (FT.)		
				INSTALLATION	INSTALLATION		INSTALLATION	INSTALLATION		
				TYPE 1	TYPE 1		TYPE 1	TYPE 1		
			2 5/8 INCH BY 1/2 INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM				2 5/8 INCH BY 1/2 INCH CORRUGATION RIVETED OR HELICAL LOCK-SEAM			
15	17x13	3	0.064	2	15	0.060	2	15		
18	21x15	3	0.064	2	15	0.060	2	15		
21	24x18	3	0.064	2,25	15	0.060	2,25	15		
24	28x20	3	0.064	2,5	15	0.075	2,5	15		
30	35x24	3	0.079	3	12	0.075	3	12		
36	42x29	3 1/2	0.079	3	12	0.105	3	12		
42	49x33	4	0.079	3	12	0.105	3	12		
48	57x38	5	0.109	3	13	0.135	3	13		
54	64x43	6	0.109	3	14	0.135	3	14		
60	71x47	7	0.138	3	15	0.164	3	15		
66	77x52	8	0.168	3	15					
72	83x57	9	0.168	3	15					
			② 3 INCH BY 1 INCH OR 5 INCH BY 1 INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM							
				INSTALLATION		INSTALLATION				
				TYPE 2	TYPE 1	TYPE 2	TYPE 1			
36	40x31	5	0.079	3	2	12	15	① FOR MINIMUM COVER VALUES, "H" SHALL ② WHERE THE STANDARD 2 2/3" x 1/2" COR WITH A 3' x 1' OR 5' x 1' CORRUGATION OR GREATER THAN THE MAXIMUM FILL		
42	46x36	6	0.079	3	2	13	15			
48	53x41	7	0.079	3	2	13	15			
54	60x46	8	0.079	3	2	13	15			
60	66x51	9	0.079	3	2	13	15			
66	73x55	12	0.079	3	2	15	15			
72	81x59	14	0.079	3	2	15	15			
78	87x63	14	0.079	3	2	15	15			
84	95x67	16	0.109	3	2	15	15			
90	103x71	16	0.109	3	2	15	15			
96	112x75	18	0.109	3	2	15	15			
102	117x79	18	0.109	3	2	15	15			
108	128x83	18	0.138	3	2	15	15			

CONSTRUCTION SEQUENCE

1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. COMPLETE STRUCTURAL BACKFILL OPERATION BY WORKING FROM SIDE TO SIDE OF THE PIPE. THE SIDE TO SIDE STRUCTURAL BACKFILL DIFFERENTIAL SHALL NOT EXCEED 24 INCHES OR 1/3 THE SIZE OF THE PIPE, WHICHEVER IS LESS.

NOTE: STRUCTURAL BACKFILL AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF METAL PIPE.

INSTALLATION TYPE	MATERIAL REQUIREMENTS FOR STRUCTURAL BACKFILL AND STRUCTURAL BEDDING
TYPE 1	AGGREGATE BASE COURSE (CLASS 4, 5, 6, OR 7)
TYPE 2	SELECTED MATERIALS (CLASS SM-1, SM-2, OR SM-4) OR TYPE 1 INSTALLATION MATERIAL ③

③ SM-3 WILL NOT BE ALLOWED.

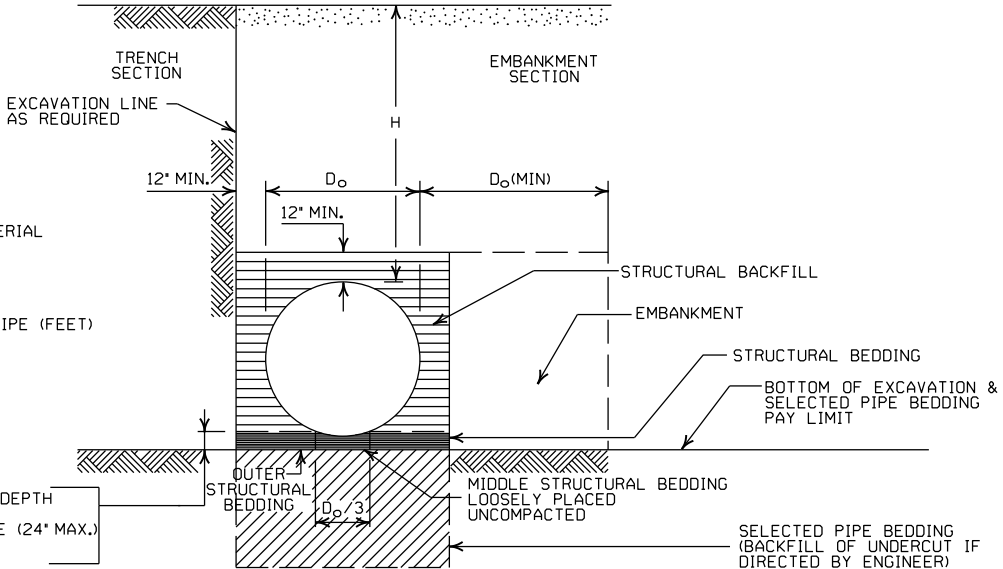
EQUIVALENT METAL THICKNESSES AND GAUGES

METAL THICKNESS IN INCHES			GAUGE NUMBER
STEEL		ALUMINUM	
ZINC COATED	UNCOATED		
0.064	0.0598	0.060	16
0.079	0.0747	0.075	14
0.109	0.1046	0.105	12
0.138	0.1345	0.135	10
0.168	0.1644	0.164	8

- LEGEND -

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

IN SOIL-MIN. EQUALS TWICE CORRUGATION DEPTH
IN ROCK-MIN. EQUALS GREATER OF:
1/2" PER FOOT OF FILL OVER PIPE (24" MAX.)
TWICE CORRUGATION DEPTH



EMBANKMENT AND TRENCH INSTALLATIONS

1. STRUCTURAL BACKFILL, EMBANKMENT, AND OUTER STRUCTURAL BEDDING MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.
2. INSTALLATION TYPE 1 OR 2 MAY BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE (ROUND).
3. INSTALLATION TYPE 1 SHALL BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE ARCHES WITH 2 3/8" X 1/2" CORRUGATION.
4. INSTALLATION TYPE 1 OR 2 MAY BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE ARCHES WITH 3" X 1" OR 5" X 1" CORRUGATION.

GENERAL NOTES

1. METAL PIPE CULVERT CONSTRUCTION SHALL CONFORM TO ARKANSAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION), WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS. UNLESS OTHERWISE NOTED IN THE PLANS, SECTION AND SUBSECTION REFER TO THE STANDARD CONSTRUCTION SPECIFICATIONS.
2. METAL PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. METAL PIPE CULVERT MATERIALS AND INSTALLATIONS SHALL CONFORM TO SECTION 606 AND JOB SPECIAL PROVISION "METAL PIPE".
4. ALL PIPE SHALL BE PROTECTED DURING CONSTRUCTION BY A COVER SUFFICIENT TO PREVENT DAMAGE FROM PASSAGE OF EQUIPMENT.
5. THE MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF THE PIPE PLUS 24 INCHES. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PRACTICABLE FOR WORKING CONDITIONS.
6. MULTIPLE PIPE CULVERTS SHALL BE INSTALLED WITH A MINIMUM CLEARANCE OF 24 INCHES BETWEEN STRINGS OF PIPE. REFER TO STD. DWG. FES-2 FOR MINIMUM CLEARANCE WHERE FLARED END SECTIONS ARE USED.
7. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
8. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
9. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED AS STRUCTURAL BACKFILL), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."

① FOR MINIMUM COVER VALUES, "H" SHALL INCLUDE A MINIMUM 12" OF PAVEMENT AND/OR BASE.

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

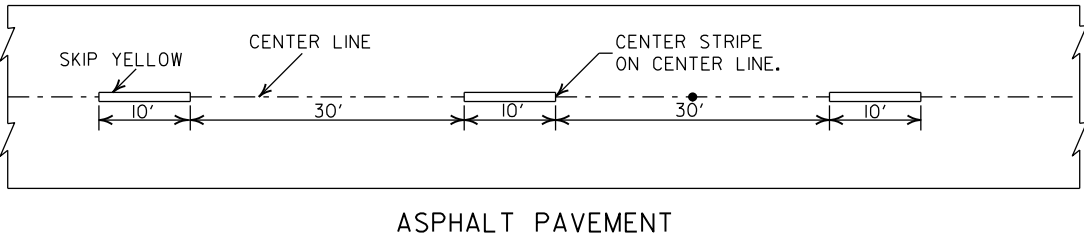
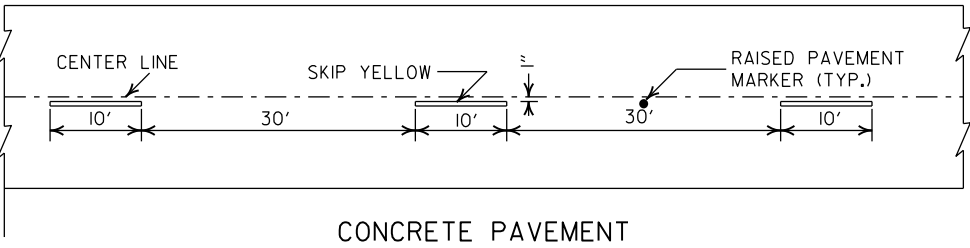
2-27-14	REVISED GENERAL NOTE 1.	
12-15-11	REVISED FOR LRFD DESIGN SPECS	
3-30-00	REVISED INSTALLATIONS	
11-06-97	ISSUED	
DATE	REVISION	DATE FILMED

ARKANSAS STATE HIGHWAY COMMISSION

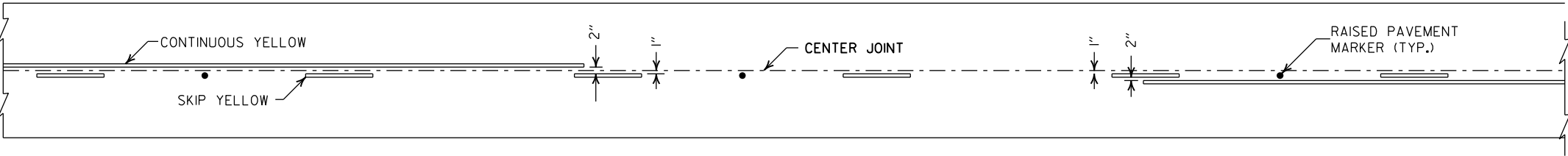
METAL PIPE CULVERT
FILL HEIGHTS & BEDDING

STANDARD DRAWING PCM-1

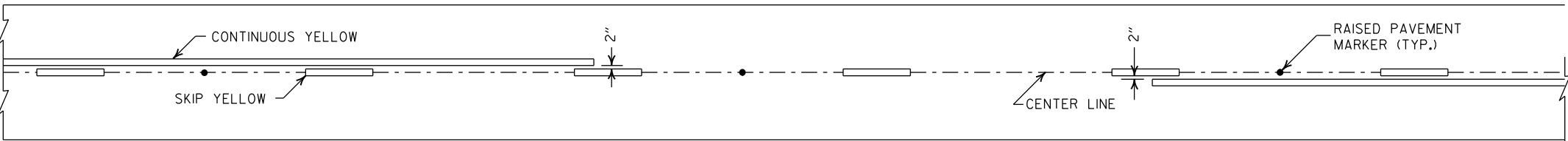




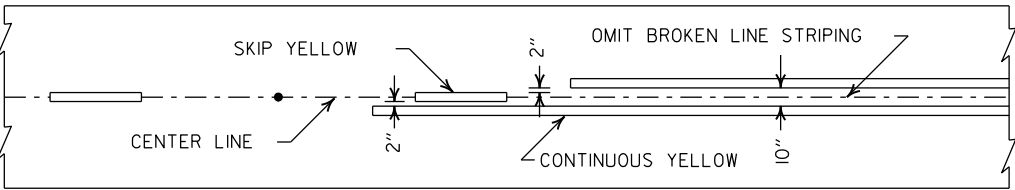
BROKEN LINE STRIPING



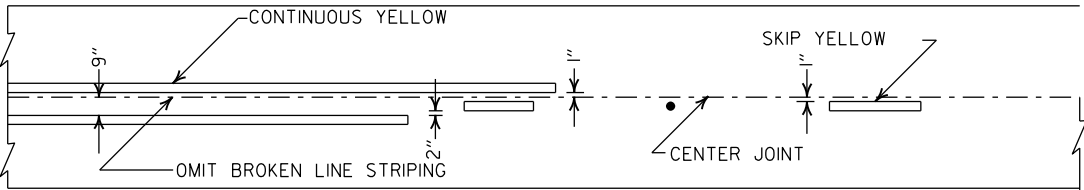
SOLID LINE STRIPING ON CONCRETE PAVEMENT



SOLID LINE STRIPING ON ASPHALT PAVEMENT

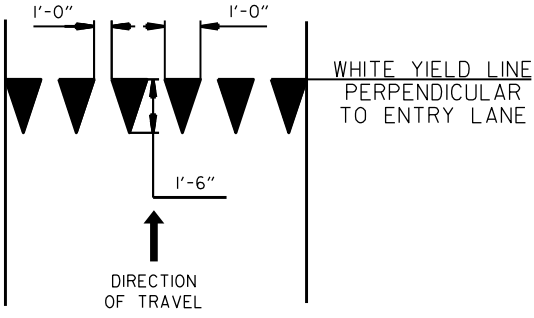


ASPHALT PAVEMENT

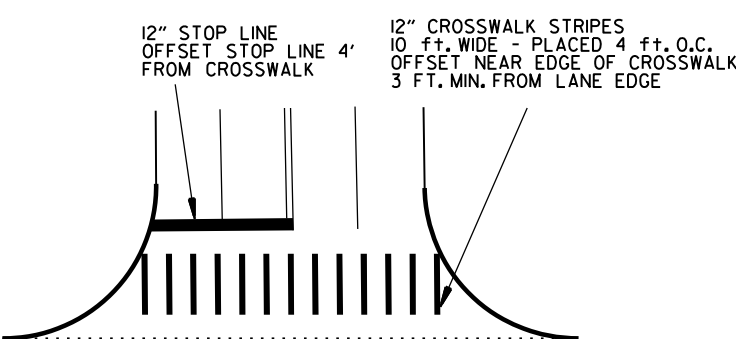


CONCRETE PAVEMENT

STRIPING AT ADJACENT NO PASSING LANES

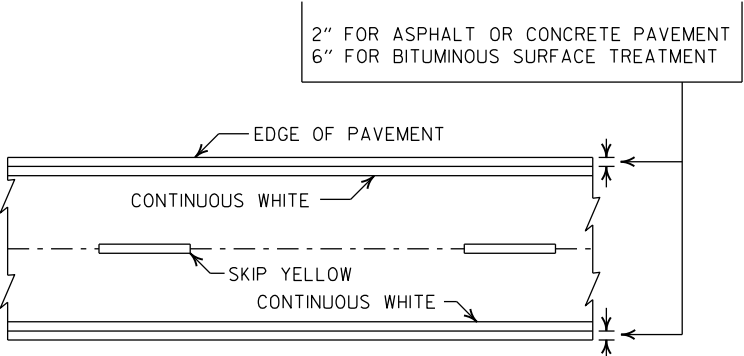


YIELD LINE DETAIL

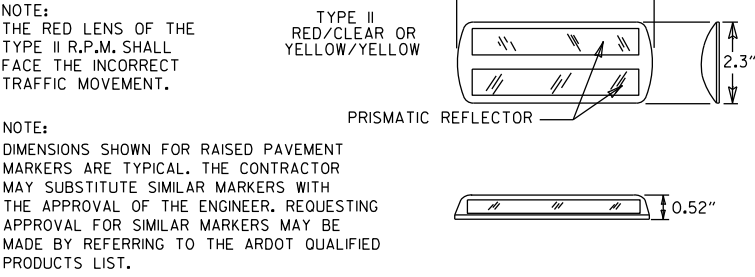


CROSSWALK AND STOP LINE DETAILS

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



PAVEMENT EDGE LINE MARKING

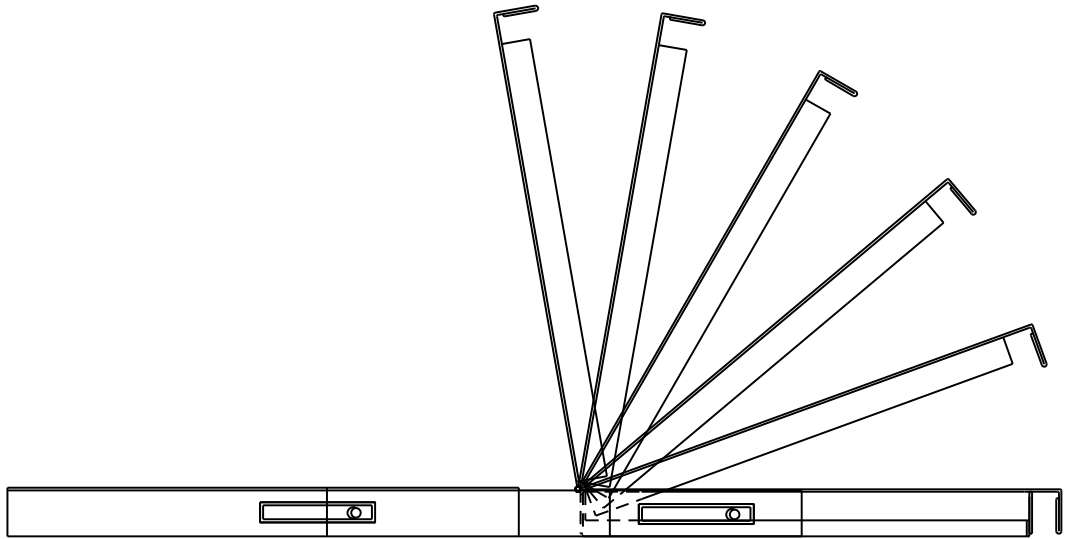
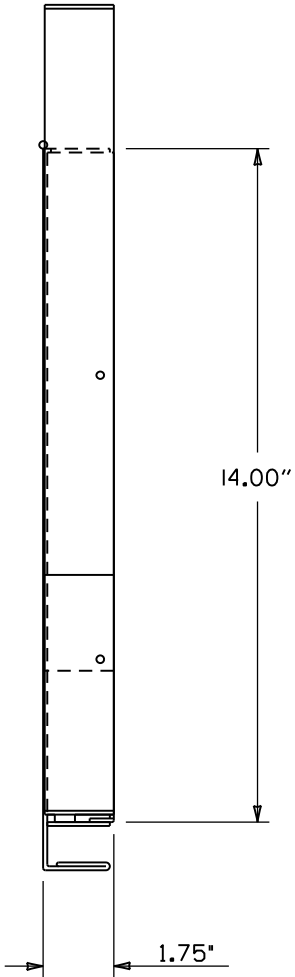
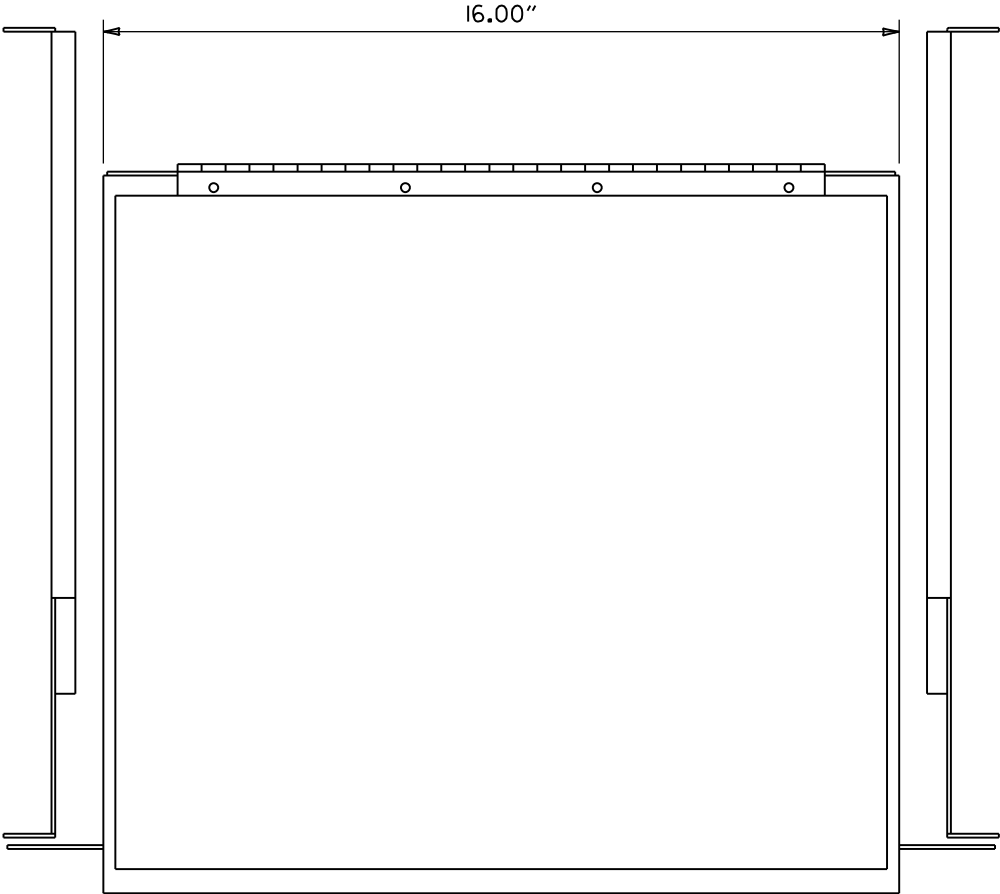


DETAIL OF STANDARD RAISED PAVEMENT MARKERS

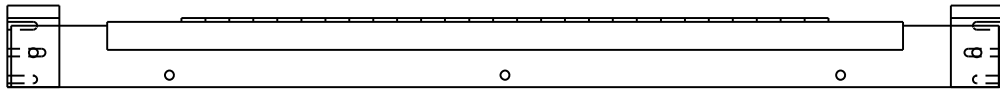
2-27-20	REVISED STOP LINE DETAILS	
6-1-17	ADDED YIELD LINE DETAIL	
5-12-16	REVISED LINE WIDTHS, SPACING, & NOTES	
9-12-13	REVISED DETAIL OF STANDARD RAISED PAVEMENT MARKERS	
11-17-10	REVISED GENERAL NOTES & REMOVED PLOWABLE PVMT MRKRS	
11-18-04	REVISED NOTE 2 & GENERAL NOTES	
8-22-02	ADDED CROSSWALK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

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

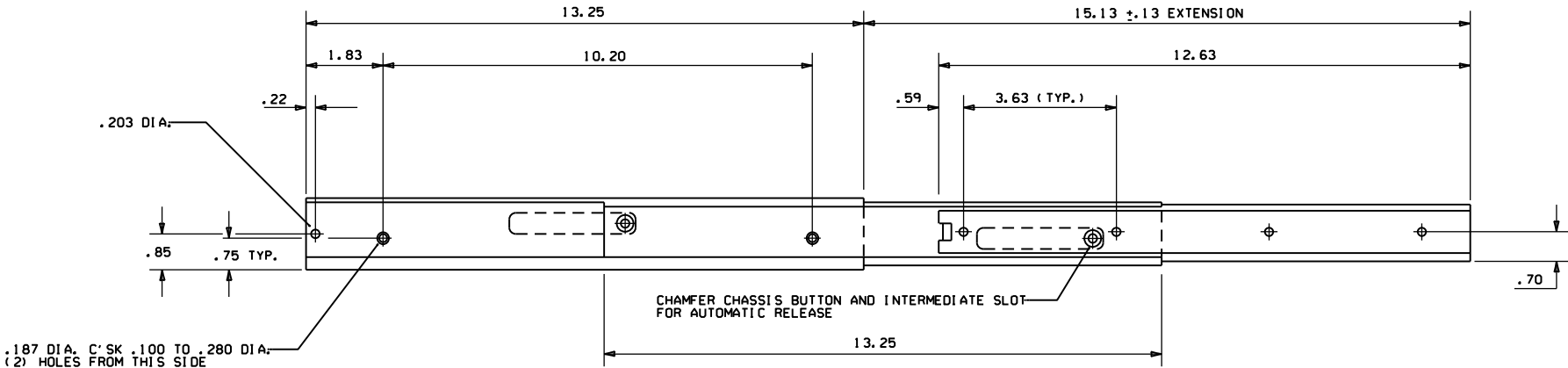
DRAWER PLAN VIEW



- 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.



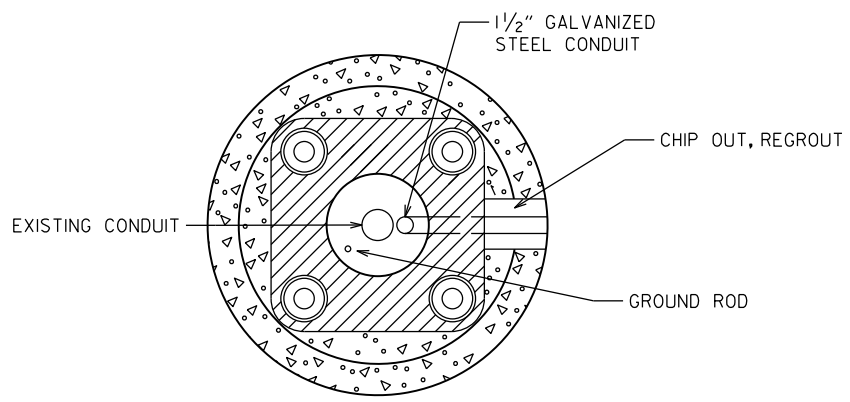
FRONT VIEW



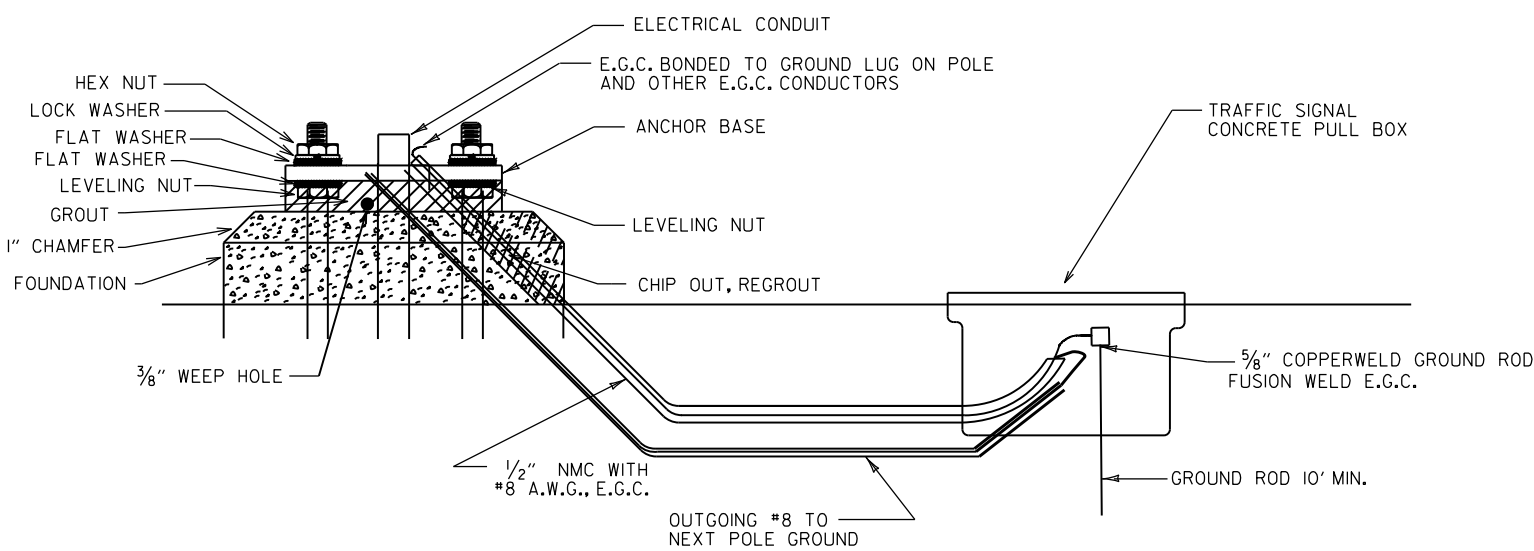
RIGHT SIDE ASSEMBLY

			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

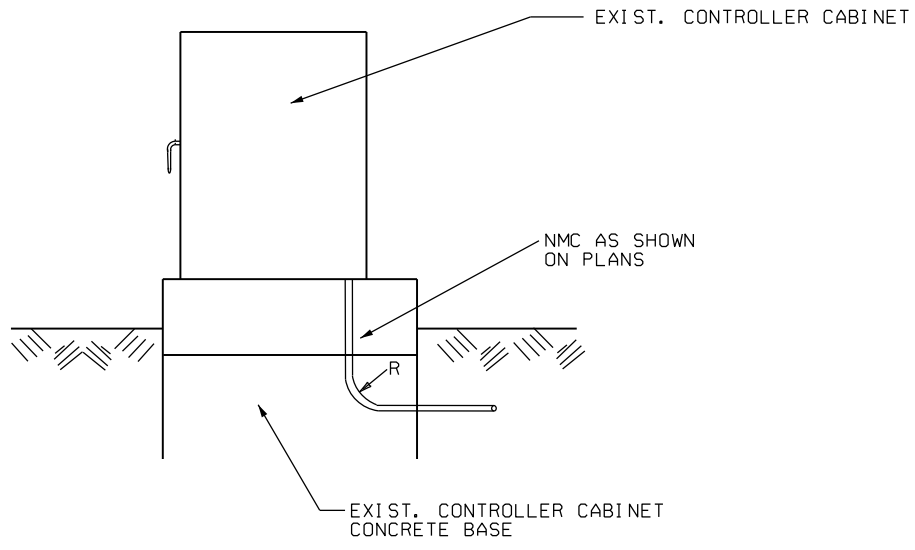
CONDUIT ENTRY TO EXISTING POLE BASE



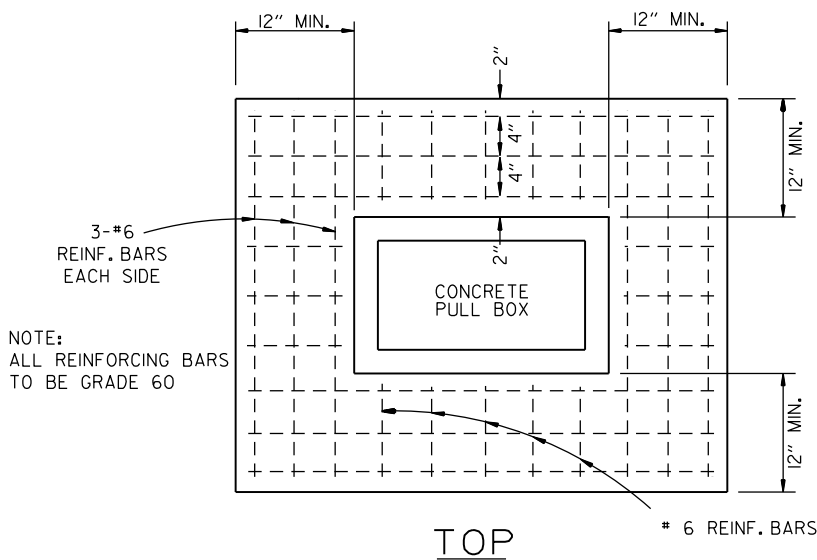
ANCHOR BASE



CONDUIT ENTRY TO EXISTING CONTROLLER CABINET

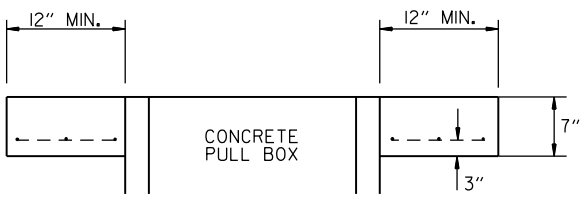


NOTE: ENTRY TO CABINET SHALL BE THROUGH A CUT IN THE BASE SUFFICIENT TO PROVIDE ADEQUATE CONDUIT RADIUS FOR ITEM.



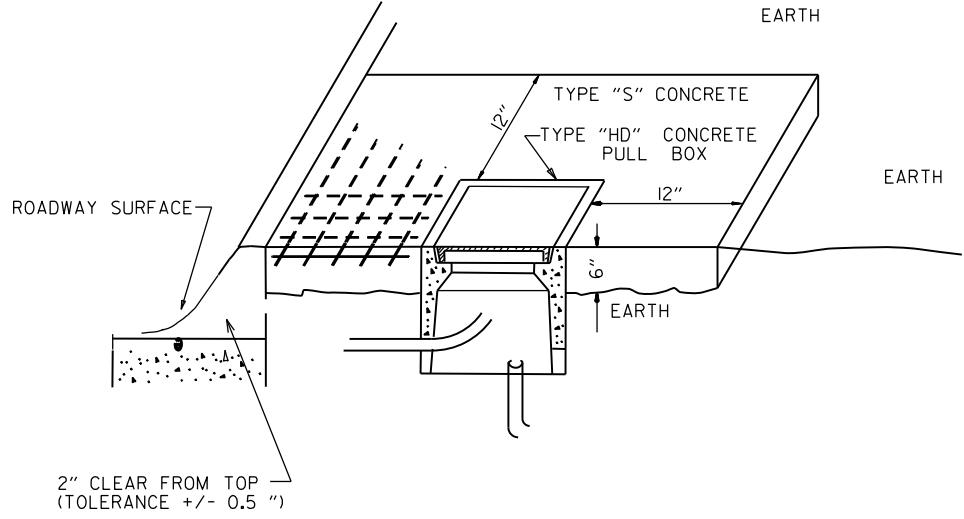
NOTE: ALL REINFORCING BARS TO BE GRADE 60

TOP



ELEVATION

TYPE "HD" CONCRETE PULL BOX DETAIL



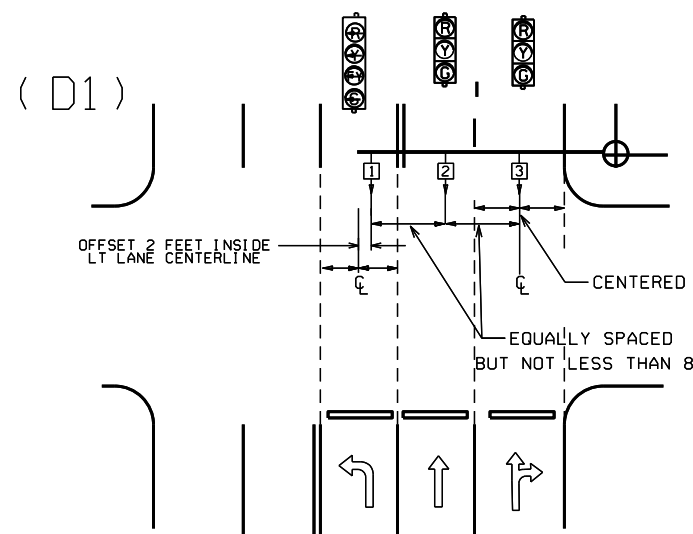
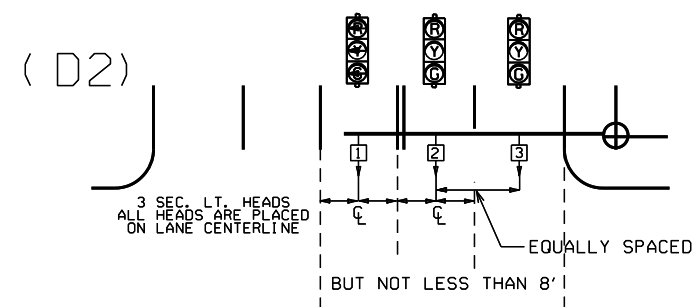
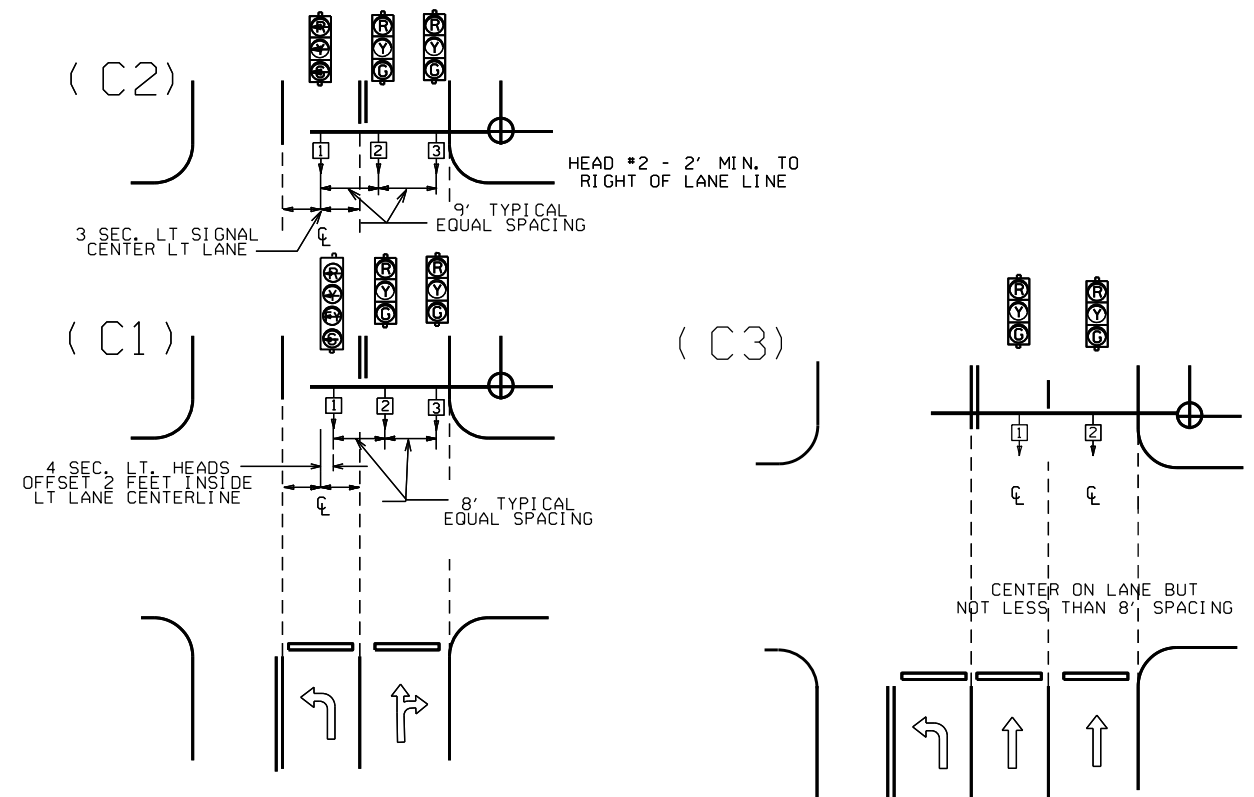
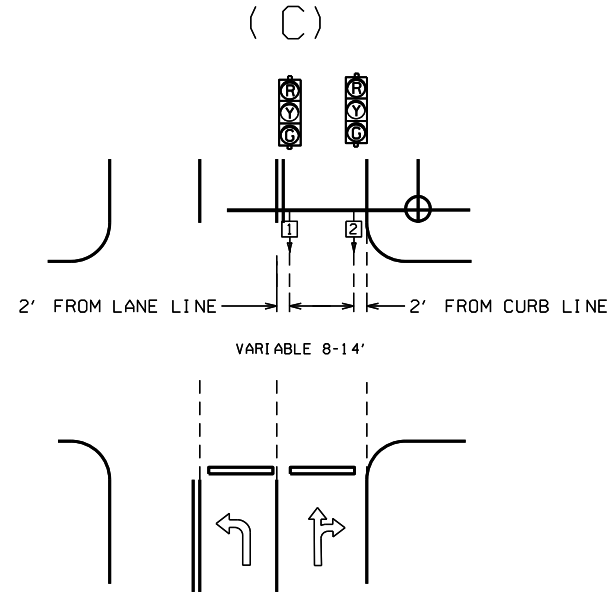
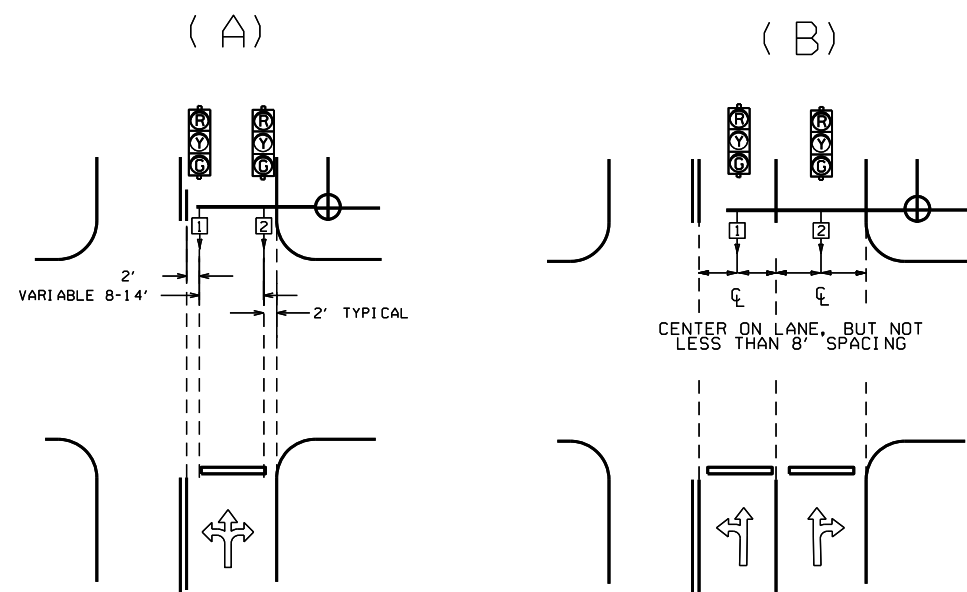
NOTE: ALL TYPE 1 AND TYPE 2 HD CONCRETE PULL BOXES ARE INSTALLED WITH AN APRON OF CONCRETE 12" WIDE AND 7" IN DEPTH. ALL PAYMENT SHALL BE INCLUDED IN THE PRICE OF THE TYPE HD CONCRETE PULL BOX. THE CONCRETE PULL BOX SHALL BE INSTALLED FLUSH TO SURROUNDING GRADE UNLESS OTHERWISE INSTRUCTED BY THE ENGINEER.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

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

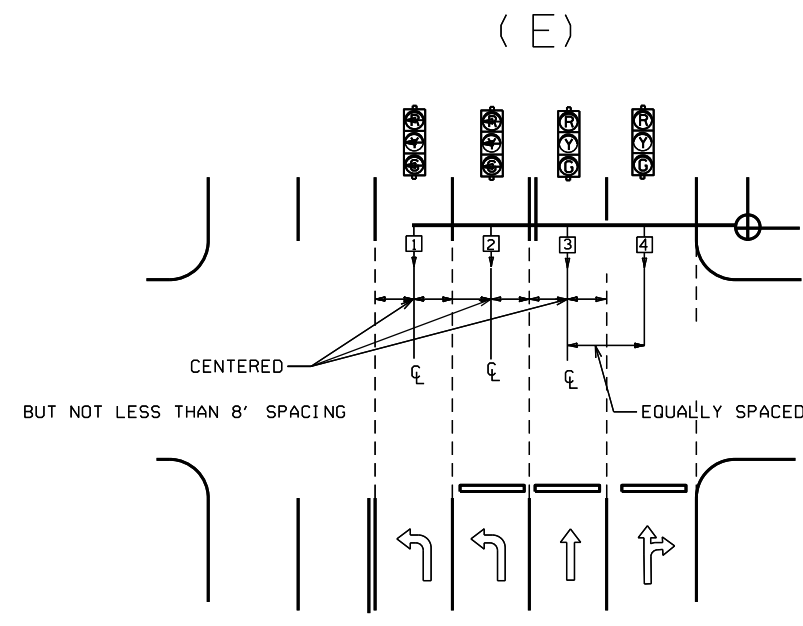
ARKANSAS STATE HIGHWAY COMMISSION

HEAVY DUTY PULL BOX

STANDARD DRAWING SD-6



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.



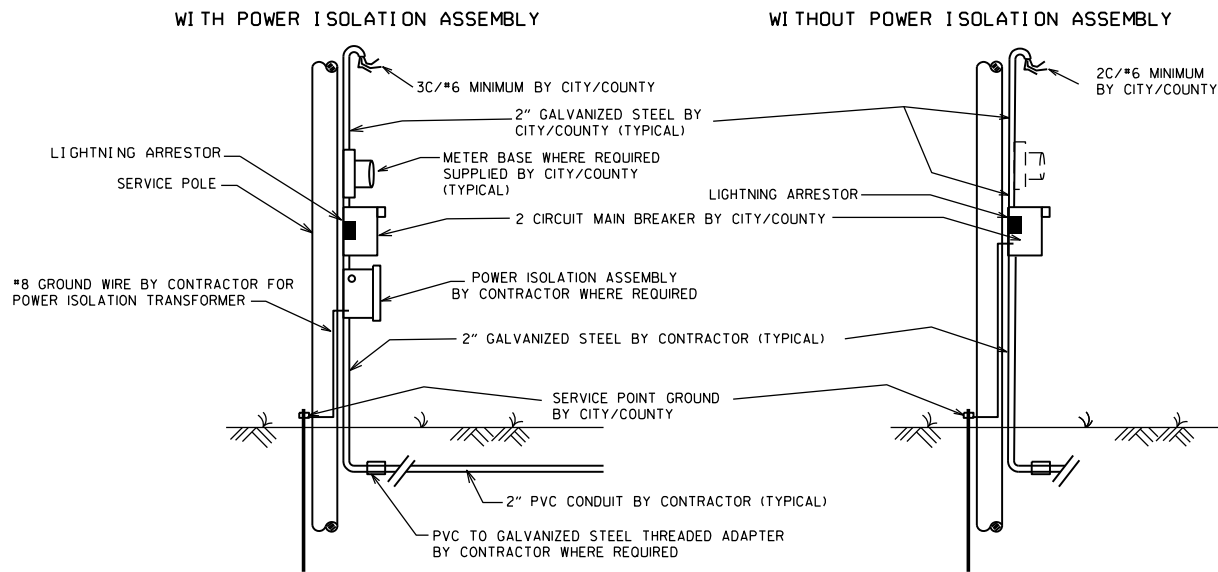
GENERAL NOTES:

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

DATE	REVISION	DATE FILED	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		
12-9-99	ISSUED		
			STANDARD DRAWING SD-8

MAIN BREAKER NOT NEAR CONTROLLER CABINET
SECONDARY REQUIRED



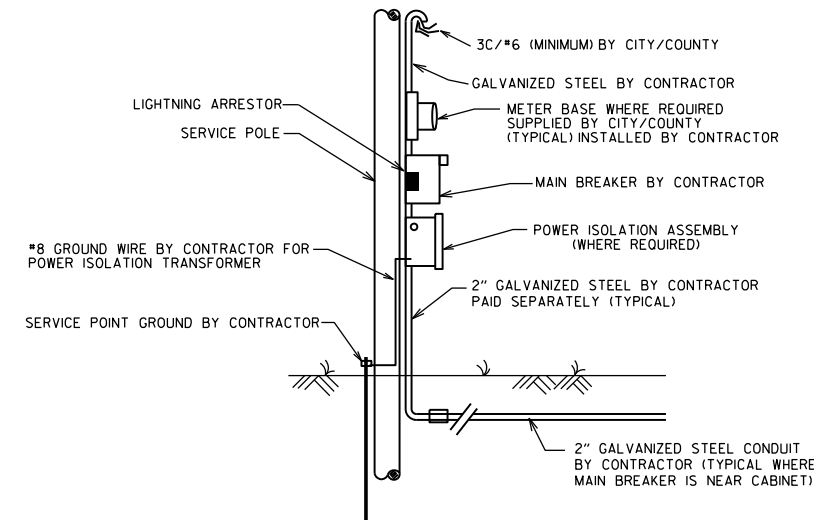
NOTES TO CONTRACTOR AND AGENCY RESPONSIBLE FOR MAINTENANCE OF THE INTERSECTION (CITY/COUNTY):

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.

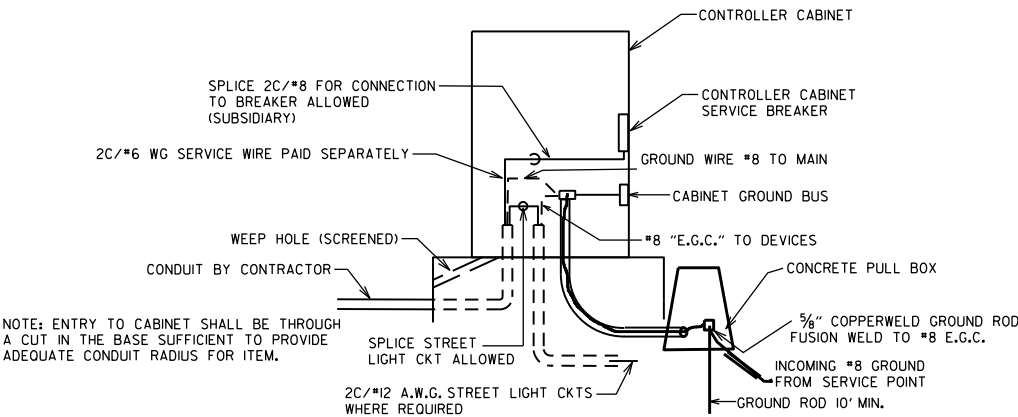
ALL SITUATIONS: ELECTRICAL SERVICE SHALL BE PROVIDED BY THE CITY/COUNTY TO A SERVICE POLE WITH EXTERNAL RAINIGHT BREAKER (MAIN BREAKER) AT A MUTUALLY ACCEPTABLE POINT WITHIN THE RIGHT-OF-WAY. SERVICE POINT INCLUDES GALVANIZED STEEL CONDUIT TO A POINT 18" BELOW GROUND LINE, TWO CIRCUIT MAIN BREAKER, LIGHTNING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

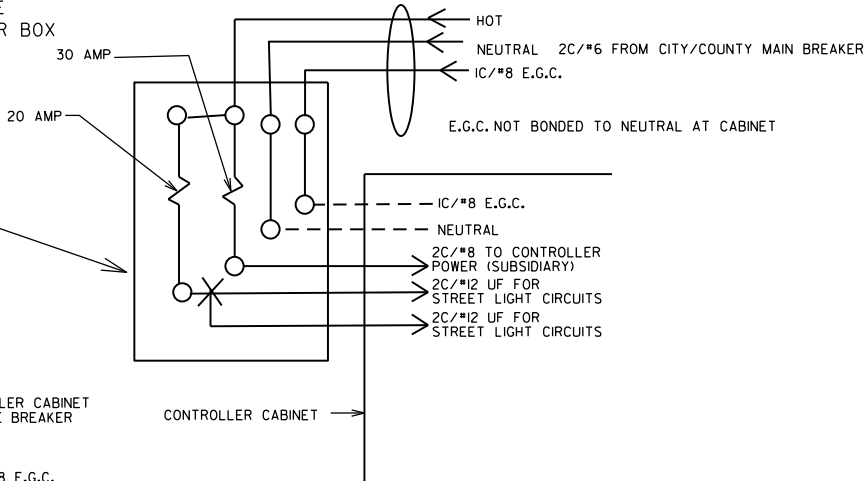
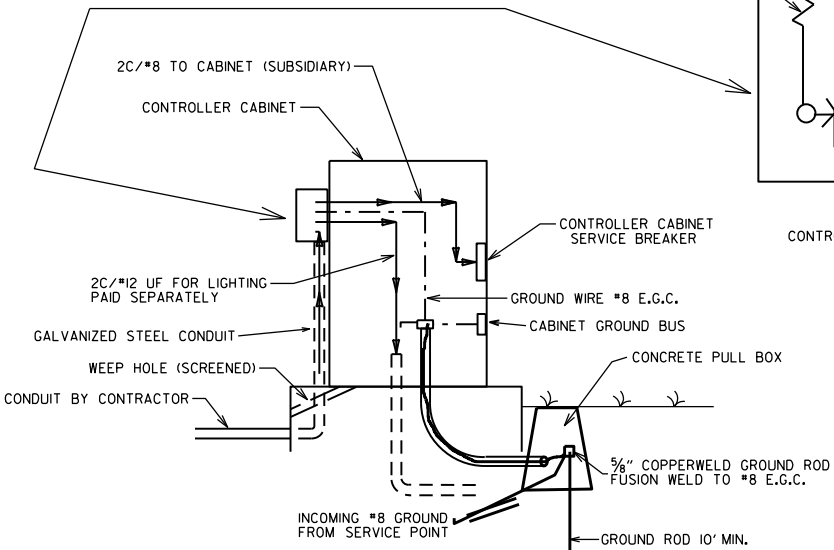


MAIN BREAKER NEAR CONTROLLER CABINET
SECONDARY NOT REQUIRED



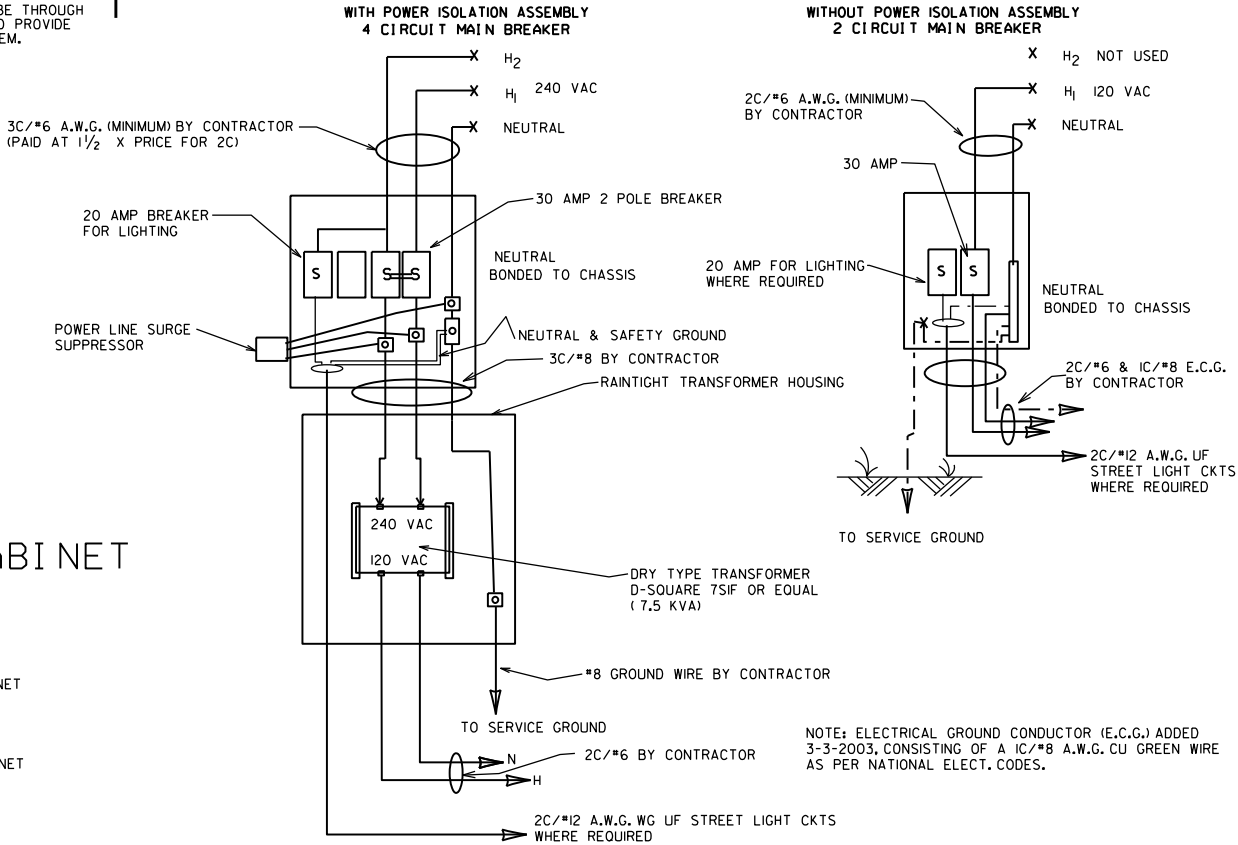
GROUND ROD - A 10' X 5/8" GROUND ROD SHALL BE INSTALLED IN THE CONCRETE PULL BOX FOR EACH POLE AND THE CONTROLLER. PAYMENT FOR THE GROUND ROD AND 1/2" NMC SHALL BE INCLUDED IN ITEM 701. THE CONCRETE PULL BOX AND CONDUCTOR BOX SHALL BE PAID FOR SEPARATELY.

SECONDARY BREAKER BY CONTRACTOR
(SUBSIDIARY)



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.



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

ARKANSAS STATE HIGHWAY COMMISSION
SERVICE POINT
STANDARD DRAWING SD-9

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

EACH ITEM "TRAFFIC SIGNAL HEAD (3 SEC., 1-WAY)" TO BE USED AS A LEFT TURN INDICATION ONLY SHALL INCLUDE A SIGN (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 0.100 INCH.

GENERAL NOTES:

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

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

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

USE FATIGUE CATEGORY IFOR 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 IIFOR 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 IIIFOR 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 CHARPY V-NOTCH TEST SPECIFIED IN SUBSECTION 807.05 OF THE STANDARD SPECIFICATIONS.

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

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

SIGNAL HEADS AT THE END OF MAST ARM - ONE 4 SEC., 85 LB., 14.5 SQ. FT., ONE SIGN MOUNTED 3 FEET FROM SIGNAL HEAD (2'-0" X 2'-6" 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.

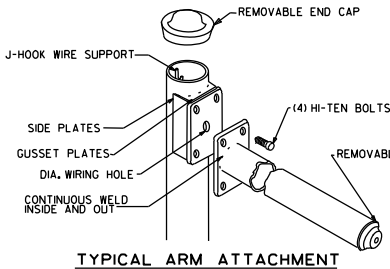
4. POLE/MAST ARM CAP - POLE AND MAST ARM CAPS SHALL BE PROVIDED, FABRICATED OF EITHER STEEL OR CAST ALUMINUM.

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 ARM(S) ATTACHMENT(S).

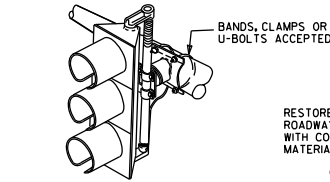
6. POLE/MAST ARM TAPER SLOPE - AVERAGE TAPER OF SIGNAL MAST ARMS AND POLE SHAFT SHALL BE 0.125 TO 0.15 INCHES PER FOOT.

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

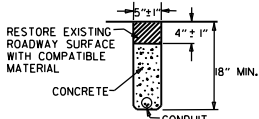
7. NUT COVERS - EACH POLE SHALL INCLUDE A BOLT DOWN NUT COVER FOR EACH ANCHOR BOLT.



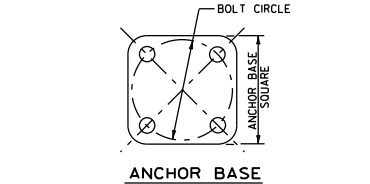
TYPICAL ARM ATTACHMENT



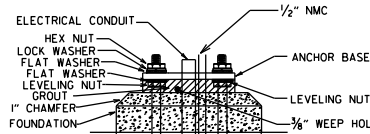
NOTE: THE SIGNAL SHALL BE CONNECTED TO THE MAST ARM BY BRACKETING AS DIRECTED BY THE ENGINEER.



TRENCHING DETAIL (FOR SAW CUT TRENCH IN ROADWAY)



ANCHOR BASE



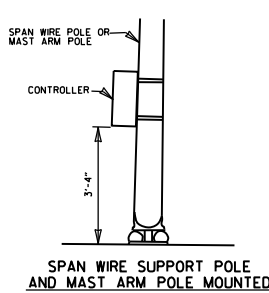
THE SWEEPING "L" IN THE FOUNDATION SHALL BE THE SAME SIZE AS THE CONDUIT FROM THE FOUNDATION TO THE PULL BOX AS SHOWN ON THE PLANS.

THE GROUND ROD SHALL BE FUSION WELDED TO A 1/2" X 1/2" A.W.G. SOLID COPPER GROUND WIRE. ATTACHMENT TO THE PRIMARY GROUND MAY BE BY AN APPROVED CLAMP. THE GROUND ROD IS TO BE LOCATED IN THE CONCRETE PULL BOX.

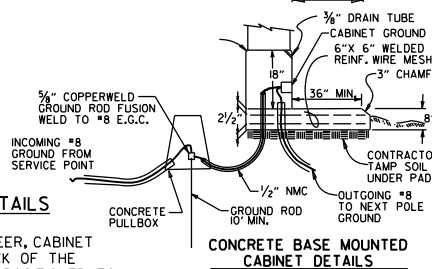
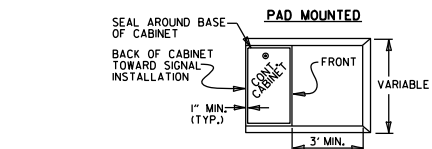
TYPICAL FOUNDATION DETAILS

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

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



SPAN WIRE SUPPORT POLE AND MAST ARM POLE MOUNTED



CONCRETE BASE MOUNTED CABINET DETAILS

CONTROLLER CABINET MOUNTING DETAILS

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

8. GROUND ROD - A 10' X 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 GROUTED WITH A 1/4" WEEP HOLE. ALL CONCRETE SHALL BE CLASS "S" OR GREATER.

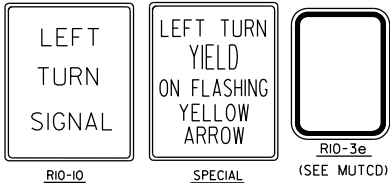
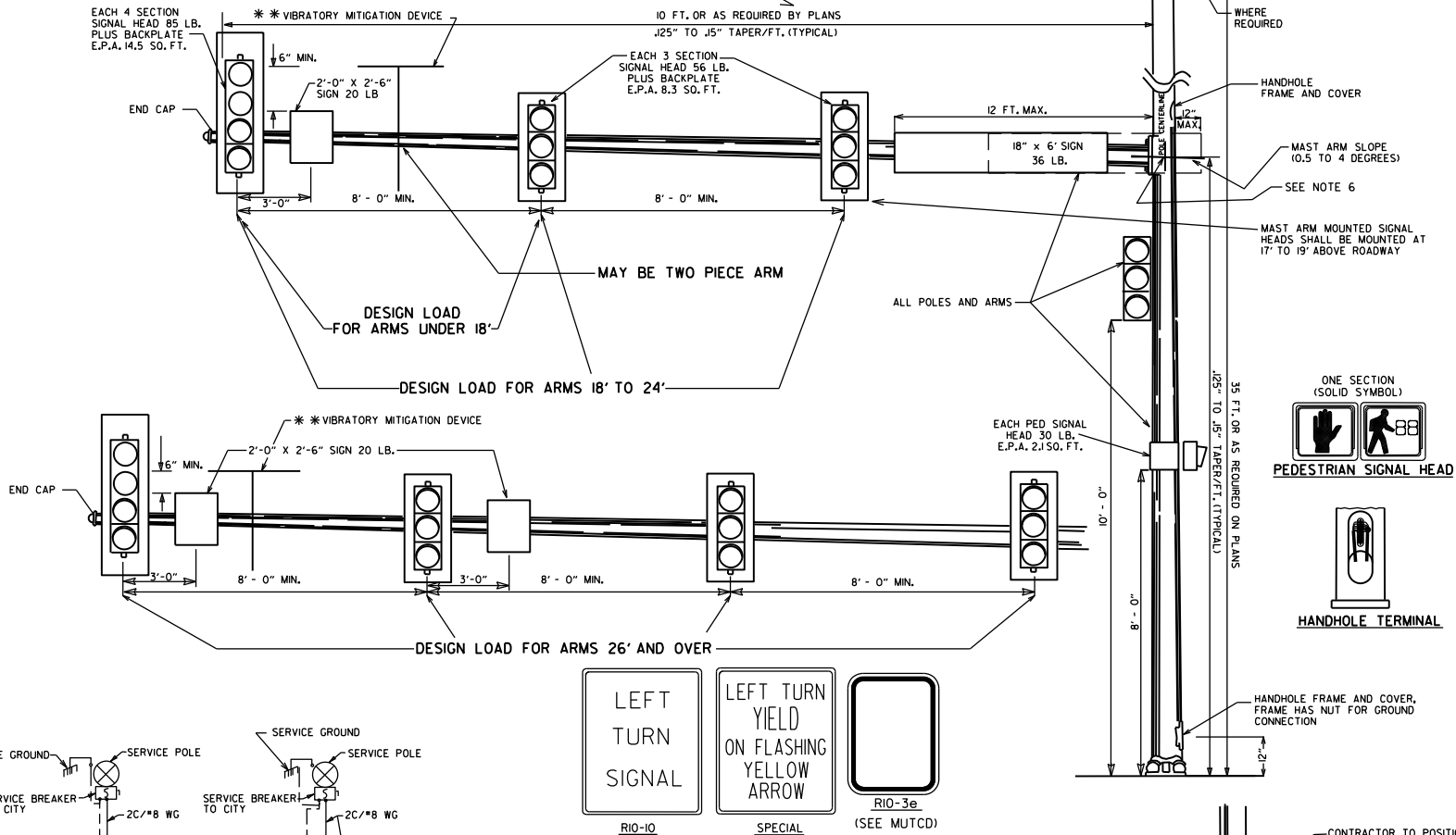
10. CONCRETE - ALL CONCRETE FOR CONTROLLER CABINET AND POLE FOUNDATIONS SHALL BE CLASS "S" OR GREATER.

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

* 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.



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

ARKANSAS STATE HIGHWAY COMMISSION

STEEL POLE WITH MAST ARM

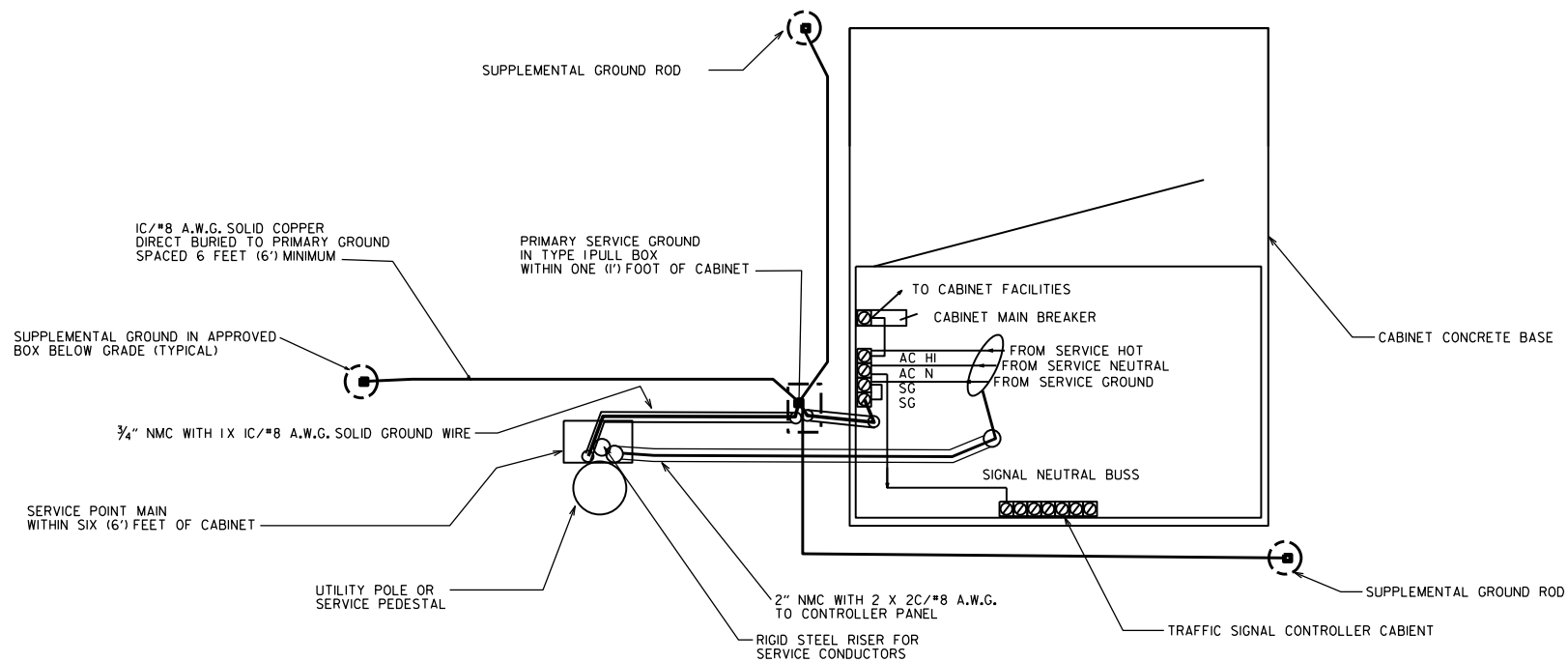
STANDARD DRAWING SD-II

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.

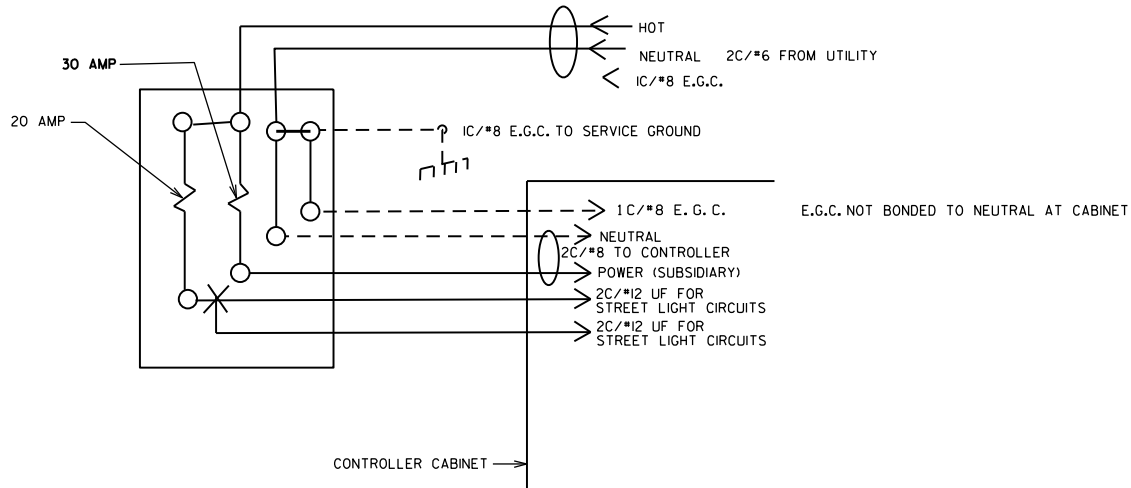


NOTES:

LOCATION OF SERVICE:
TO MEET THE REQUIREMENTS FOR SAFETY AND MAXIMIZE LIGHTNING PROTECTION, THE "SERVICE POINT MAIN" FROM THE UTILITY PRIMARY SERVICE POINT MUST BE WITHIN SIX (6') FEET OF THE TRAFFIC SIGNAL CONTROLLER CABINET. ELECTRICAL SERVICE SHALL BE PROVIDED BY THE CITY/COUNTY TO A SERVICE POLE OR PEDESTAL WITH EXTERNAL RAINTIGHT BREAKER (MAIN BREAKER) AT A MUTUALLY ACCEPTABLE POINT WITHIN THE RIGHT-OF-WAY. SERVICE POINT INCLUDES GALVANIZED STEEL CONDUIT TO A POLE 18" BELOW GROUND LINE, TWO CIRCUIT MAIN BREAKER, 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 RESPONSIBILITY OF THE CITY/COUNTY.

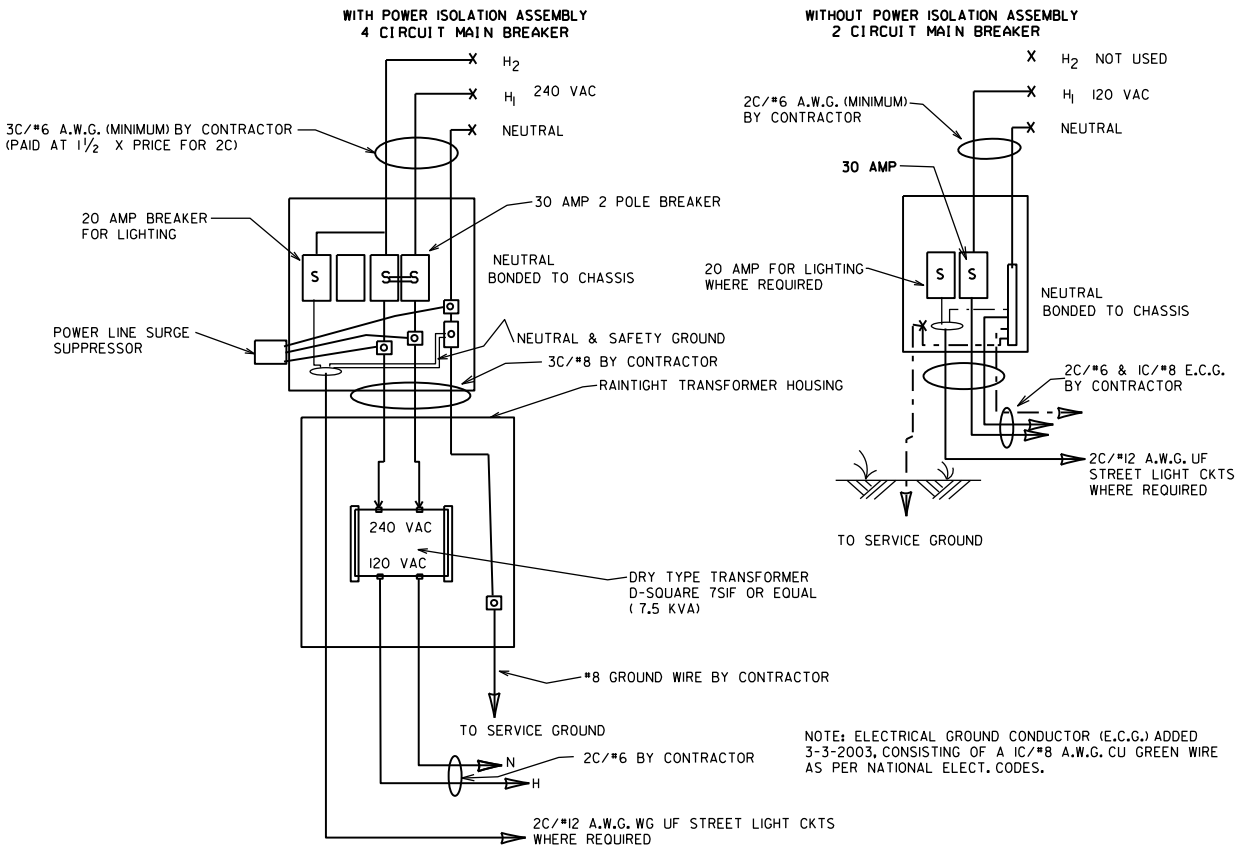
METER LOOP:
ALL COMPONENTS OF THE SERVICE POINT WITH THE EXCEPTION OF THE WIRE AND WIRING ABOVE THE MAIN BREAKER IS FURNISHED AND INSTALLED BY THE CONTRACTOR. WIRING FROM MAIN BREAKER INCLUDING CONNECTION TO THE UTILITY, IS THE RESPONSIBILITY OF THE CITY/COUNTY. IF METER LOOP IS REQUIRED, METER BASE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

SUPPLEMENT GROUND RODS:
SUPPLEMENT GROUND RODS ARE FUSION WELDED TO 1C/#8 A.W.G. SOLID COPPER GROUND WIRE. ATTACHMENT TO PRIMARY GROUND MAY BE AN APPROVED CLAMP. GROUND RODS ARE LOCATED IN A BOX APPROVED BY THE ENGINEER MEETING THE SAME LOADING REQUIREMENTS AS SECTION 711 CONCRETE PULL BOX OF THE STANDARD SPECIFICATIONS, WITH THE EXCEPTION TO DIMENSIONS. THE CONCRETE PULL BOX MAY BE EITHER ROUND OR SQUARE APPROXIMATELY SIX (6") INCHES MINIMUM INSIDE DIMENSIONS AND SIX (6") INCHES DEPTH. (STRONGWELL PC0608BA06 WITH PC0608CA00 LID OR EQUAL).



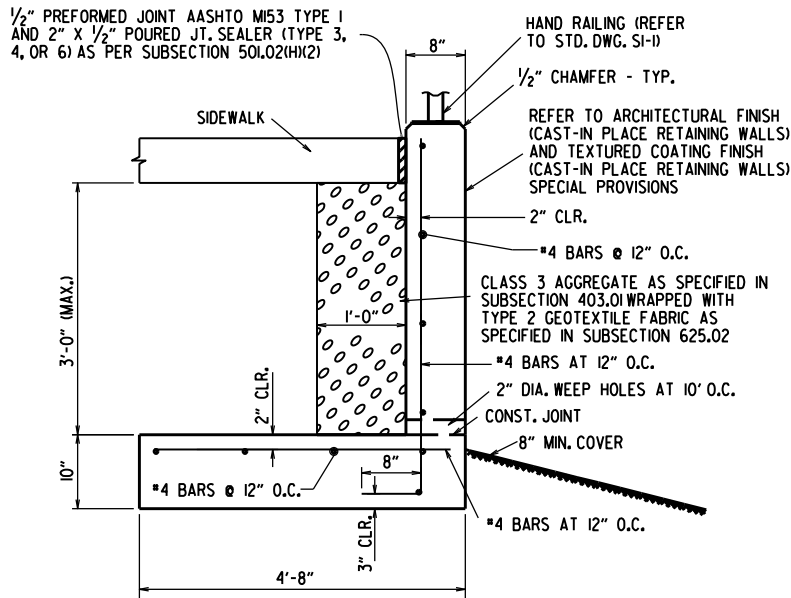
MAIN BREAKER WIRING
(TYPICAL)

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.



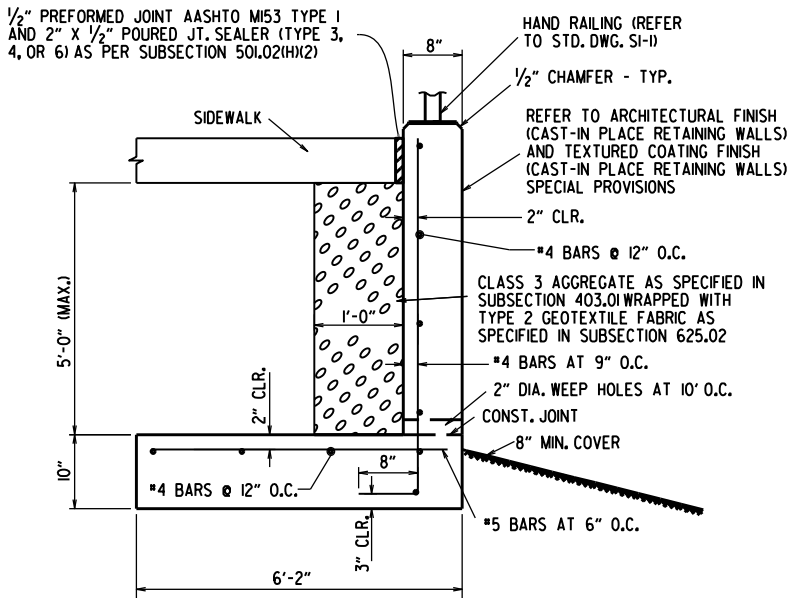
NOTE: ELECTRICAL GROUND CONDUCTOR (E.G.C.) ADDED 3-3-2003, CONSISTING OF A 1C/#8 A.W.G. CU GREEN WIRE AS PER NATIONAL ELECT. CODES.

		ARKANSAS STATE HIGHWAY COMMISSION
		SERVICE POINT INSTALLATION WITH SUPPLEMENT GROUNDING ARRAY
		STANDARD DRAWING SD-12
11-07-19	REVISED NOTES	
11-16-17	REVISED NOTES	
09-12-13	ISSUED AS STANDARD DRAWING	
01-17-08	ISSUED	
DATE	REVISION	FILMED



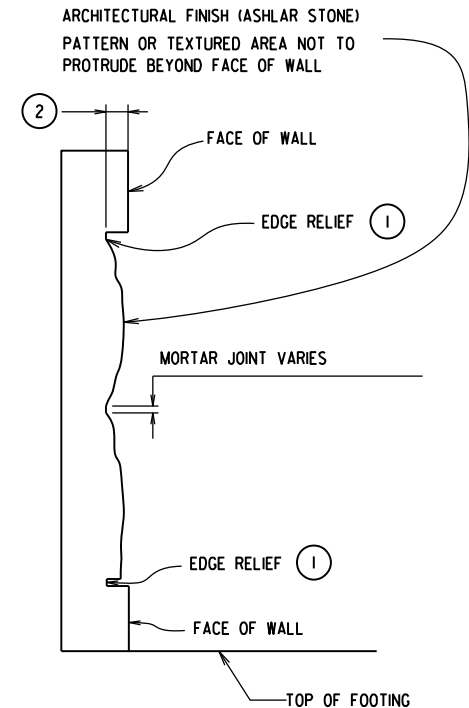
CONCRETE WALK (TYPE SPECIAL) DETAIL
MAX HEIGHT 3'-0"

N.T.S.



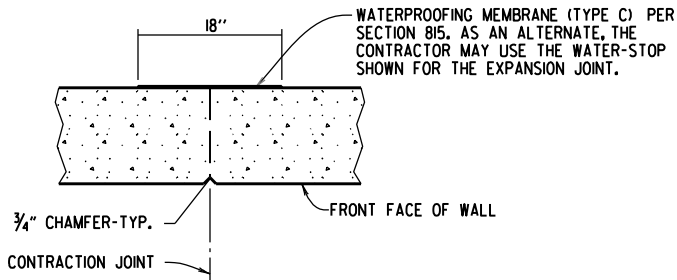
CONCRETE WALK (TYPE SPECIAL) DETAIL
MAX HEIGHT 5'-0"

N.T.S.



ARCHITECTURAL FINISH DETAILS
N.T.S.

- 1 PROVIDE EDGE RELIEF AROUND PERIMETER OF TEXTURE. EDGE RELIEF DIMENSIONS SHALL MATCH MANUFACTURERS EDGE DISTANCE.
- 2 DEPTH OF ASHLAR STONE PATTERN APPROX. 1 5/8". SEE SP "ARCHITECTURAL FINISH (CAST-IN PLACE RETAINING WALLS)".

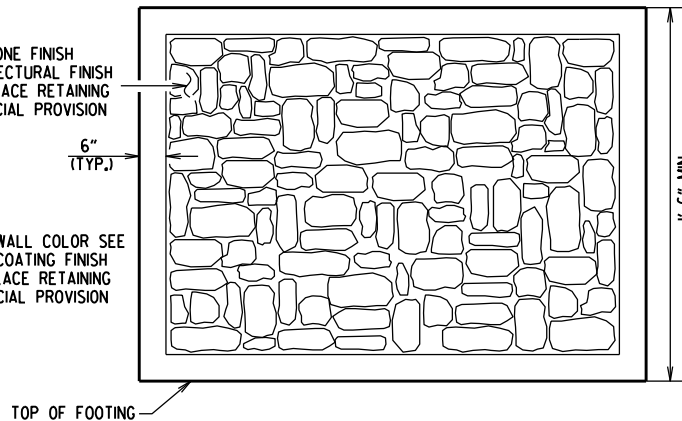


TYPICAL CONTRACTION JOINT DETAIL
N.T.S.

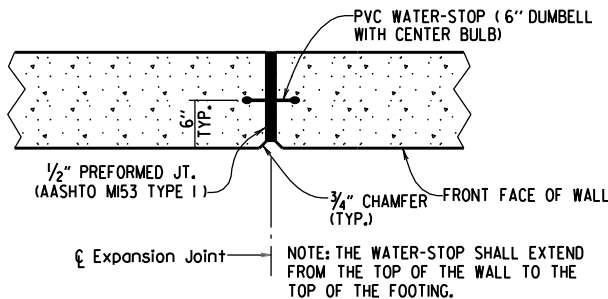
NOTE: 20'-0" MAX. SPACING BETWEEN CONTRACTION JOINTS. HORIZONTAL REINFORCEMENT SHALL BE CONTINUOUS THROUGH CONTRACTION JOINTS.

ASHLAR STONE FINISH
SEE ARCHITECTURAL FINISH
(CAST-IN PLACE RETAINING
WALLS) SPECIAL PROVISION

NOTE: FOR WALL COLOR SEE
TEXTURED COATING FINISH
(CAST-IN PLACE RETAINING
WALLS) SPECIAL PROVISION



ASHLAR STONE FINISH DETAIL



TYPICAL EXPANSION JOINT DETAIL
N.T.S.

NOTE: 60'-0" MAX. SPACING BETWEEN EXPANSION JOINTS. HORIZONTAL REINFORCING SHALL STOP 2" FROM EXPANSION JOINT.

NOTES:

WALL PATTERN SHALL BE APPLIED TO THE EXPOSED SURFACES OF WALL IN ACCORDANCE WITH SP "ARCHITECTURAL FINISH (CAST-IN PLACE RETAINING WALLS)" AND AS SHOWN IN THE PLANS. CARE SHALL BE TAKEN WITH FORM LINER HANDLING AND INSTALLATION TO ENSURE AESTHETIC QUALITY OF THE WALL TEXTURING IS MAINTAINED. WHERE FORM LINER PANELS REQUIRE MODIFICATION TO CONFORM TO THE LOCATION, DIMENSIONS AND LINES SHOWN IN THE PLANS, THE CONTRACTOR SHALL PROVIDE EDGE RELIEF MATCHING THAT OF THE UNALTERED FORM LINER. PAYMENT FOR WALL TEXTURING SHALL BE IN ACCORDANCE WITH SP "ARCHITECTURAL FINISH (CAST-IN PLACE RETAINING WALLS)".

NO ADJUSTMENTS WILL BE MADE IN CONCRETE VOLUME DUE TO THE USE OF "ARCHITECTURAL FINISH". CLASS "S" CONCRETE SHALL BE MEASURED IN ACCORDANCE WITH SUBSECTION 802.24(A). CARE SHALL BE TAKEN IN PLACING CONCRETE TO AVOID SEGREGATION AND TO ELIMINATE FLOW LINES.

CLASS 3 TEXTURED COATING FINISH SHALL BE APPLIED TO WALL SURFACES AS SPECIFIED IN SP "TEXTURED COATING FINISH (CAST-IN PLACE RETAINING WALLS)" AND IN ACCORDANCE WITH SUBSECTION 802.19(B)(3).

GENERAL NOTES

CONSTRUCTION SPECIFICATIONS: ARKANSAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION) WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS. UNLESS OTHERWISE NOTED IN THE PLANS, SECTION AND SUBSECTION REFER TO THE STANDARD CONSTRUCTION SPECIFICATIONS.

DESIGN SPECIFICATIONS: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SIXTH EDITION (2012).

LIVE LOAD: LIVE LOAD SURCHARGE IS NOT INCLUDED IN THE DESIGN OF THESE WALLS. VEHICULAR LIVE LOAD SHALL NOT BE ALLOWED WITHIN A DISTANCE EQUAL TO ONE-HALF THE HEIGHT OF THE WALL.

CONCRETE: CONCRETE SHALL BE POURED IN THE DRY AND ALL EXPOSED CORNERS TO BE CHAMFERED 1/2". ALL CONCRETE SHALL BE CLASS S WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH F'C = 3,500 PSI. A CLASS 2 SURFACE FINISH SHALL BE USED ON ALL SURFACES OF THE CONCRETE UNLESS OTHERWISE NOTED. REFER TO ARCHITECTURAL FINISH (CAST-IN PLACE RETAINING WALLS) AND TEXTURED COATING FINISH (CAST-IN PLACE RETAINING WALLS) SPECIAL PROVISIONS.

REINFORCING STEEL: ALL REINFORCING STEEL SHALL CONFORM TO AASHTO M31 OR M53, GRADE 60.

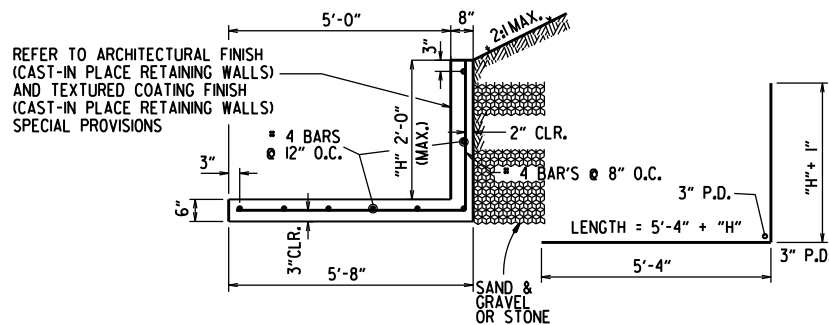
FOUNDATIONS FOR FOOTINGS SHALL BE PREPARED IN ACCORDANCE WITH SUBSECTION 801.04. BACKFILL FOR RETAINING WALLS SHALL BE IN ACCORDANCE WITH SUBSECTION 801.08.

WATERPROOF MEMBRANE (TYPE C), WATERSTOPS, PREFORMED JOINTS, WEEP HOLES & GEOTEXTILE FABRIC SHALL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED SUBSIDIARY TO CLASS S CONCRETE.

JOINTS IN THE WALL SHALL MATCH TYPE AND SPACING OF THE JOINTS IN THE WALK.

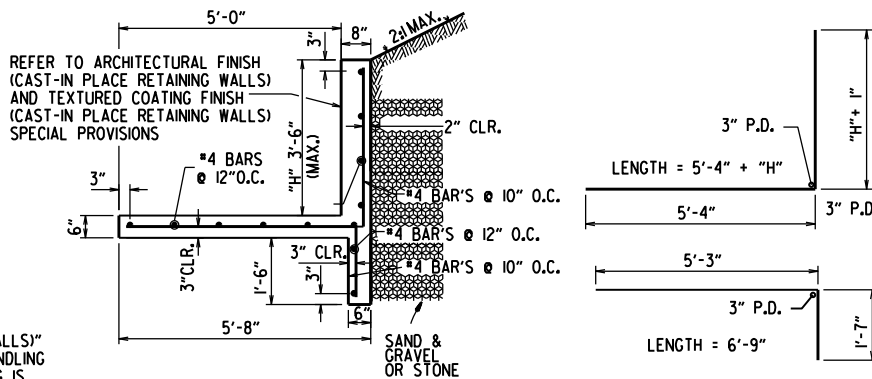
DRAINAGE FILL MATERIAL (CLASS 3) AND SELECT BACKFILL SHALL BE MEASURED AND PAID FOR AS COMPACTED EMBANKMENT.

THESE DETAILS ARE NOT INTENDED FOR USE ALONG STREAMS OR DITCHES WITHOUT CONSIDERATION FOR SCOUR.



CONCRETE WALK (TYPE SPECIAL) DETAILS
MAX HEIGHT 2'-0"

N.T.S.



CONCRETE WALK (TYPE SPECIAL) DETAILS
MAX HEIGHT 3'-6"


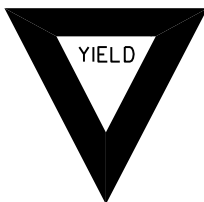



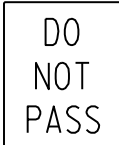



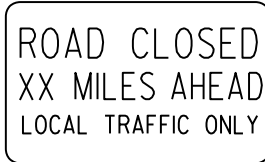


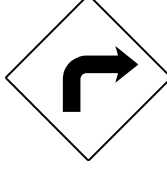





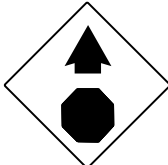
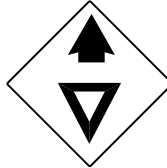
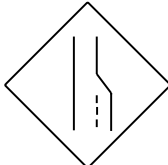

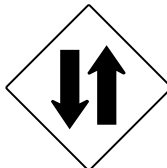

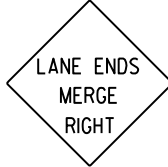


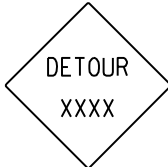






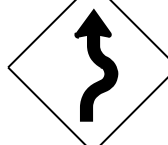



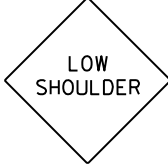

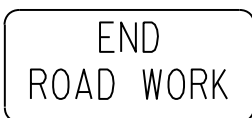
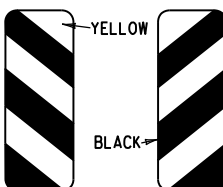
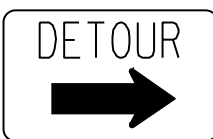

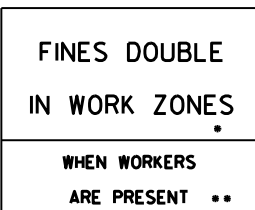
N.T.S.

ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE WALK
(TYPE SPECIAL)

STANDARD DRAWING SI - 3

5-14-20	DRAWING ISSUED		
DATE	REVISION	DATE FILMED	

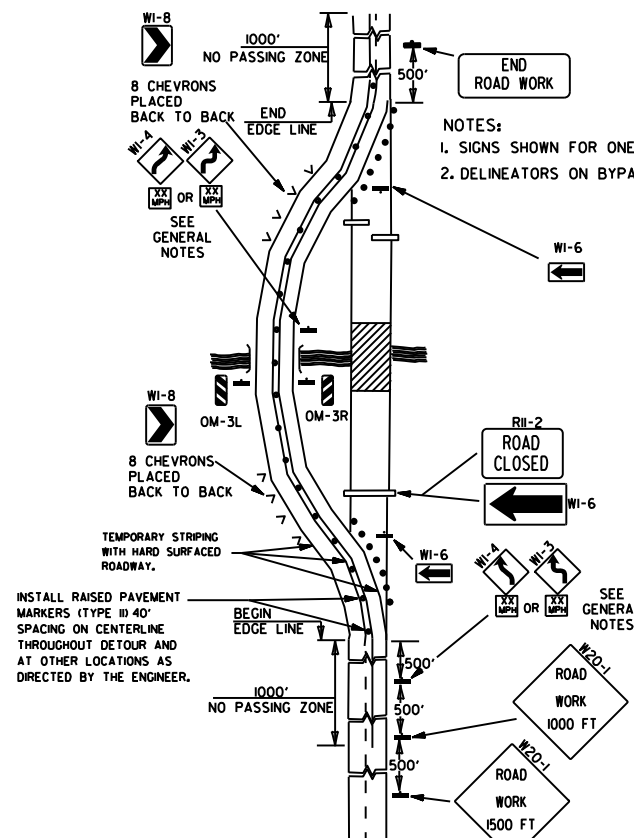
<div>RI-1</div> <div></div> <div>STANDARD 30"x30" EXPRESSWAY 36"x36" SPECIAL 48"x48"</div>	<div>RI-2</div> <div></div> <div>STD. 36"x36"x36" EXPWY. 48"x48"x48" FWY. 60"x60"x60"</div>	<div>R2-1</div> <div></div> <div>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</div>	<div>W3-5</div> <div></div> <div>STD. 36"x36" EXPWY. 48"x48" FWY. 48"x48"</div>	<div>W3-5a</div> <div></div> <div>STD. 36"x36" EXPWY. 48"x48" FWY. 48"x48"</div>	<div>R4-1</div> <div></div> <div>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</div>	<div>R4-2</div> <div></div> <div>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</div>	<div>ADVANCE DISTANCES (XXXX)</div> <div>500 FT 1/2 MILE 1000 FT 3/4 MILE 1500 FT 1 MILE AHEAD</div> <div>GENERAL NOTES: 1. ALL TRAFFIC CONTROL DEVICES USED ON ROAD CONSTRUCTION SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION, AND TO THE STANDARD HIGHWAY SIGNS, LATEST EDITION, OR AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION. 2. TRAFFIC CONTROL DEVICES SHALL BE SET UP JUST BEFORE THE START OF CONSTRUCTION OPERATIONS AND SHALL BE PROPERLY MAINTAINED DURING THE TIME SUCH CONDITIONS EXIST. THEY SHALL REMAIN IN PLACE ONLY AS LONG AS NEEDED AND REMOVED THEREAFTER. 3. EXISTING SIGNS AND CONSTRUCTION SIGNS SHALL BE KEPT IN PROPER POSITION, AND BE CLEAN AND LEGIBLE AT ALL TIMES. SIGNS THAT DO NOT APPLY TO EXISTING CONDITIONS SHALL BE REMOVED. SIGNS THAT ARE DAMAGED, DEFACED, OR THAT ACCUMULATE DIRT DURING CONSTRUCTION SHALL BE CLEANED, REPAIRED, OR REPLACED. 4. SIGNS ARE USUALLY MOUNTED ON A SINGLE POST, ALTHOUGH THOSE WIDER THAN 36" OR LARGER THAN 10 SO. FT. SHALL BE MOUNTED ON TWO POSTS OR ABOVE A TYPE III BARRICADE. 5. SIGN POSTS DIRECT BURIED IN SOIL SHALL BE 2 LB. MINIMUM CHANNEL POST OR 4"x4" WOOD POSTS. CHANNEL POSTS SHALL BE PAINTED GREEN. WOOD POSTS SHALL BE PAINTED WHITE. ALL POSTS SHALL BE NEATLY CONSTRUCTED, AND SHALL BE REPLUMBED, CLEANED, OR REPAIRED AS NEEDED FOR THE DURATION OF THE JOB. THERE SHALL NOT BE MORE THAN 2 POSTS IN A 7' PATH FOR WOOD OR CHANNEL POSTS. ANY CHANNEL POST SPLICE SHALL BE IN ACCORDANCE WITH STANDARD DRAWING TC-3. 6. POST MOUNTED SIGNS IN RURAL AREAS SHALL BE CONSTRUCTED WITH THE NEAR EDGE OF THE SIGN FROM 6 TO 12 FEET FROM THE PAVEMENT EDGE. SIGNS IN URBAN AREAS AND BARRICADE MOUNTED SIGNS SHALL BE MOUNTED A MINIMUM OF 2 FEET FROM THE PAVEMENT EDGE. 7. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN URBAN AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN RURAL AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE, EXCEPT A MINIMUM OF 6' SHALL BE USED WHEN MOUNTING AN ADVISORY SIGN BELOW A WARNING SIGN. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR INTERMEDIATE TERM STATIONARY WORK CONDITIONS. THE SIGNS MINIMUM MOUNTING HEIGHT SHALL BE 5'. RETROREFLECTIVE DEVICES SHALL BE USED. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR SHORT-TERM, SHORT DURATION, AND MOBILE CONDITIONS. THEY SHALL BE NO LESS THAN ONE (1) FOOT ABOVE THE TRAVELED WAY. LONG-TERM STATIONARY SIGNS SHALL BE DIRECT BURIED IN SOIL, UNLESS CONDITIONS NECESSITATE THE USE OF PORTABLE SIGNS, OR AS APPROVED BY THE ENGINEER. CONCRETE PADS, CONCRETE OR ROCK BALLAST, OR OTHER SOLID MATERIALS SHALL NOT BE UTILIZED WITH PORTABLE SIGN SUPPORTS. 8. FLAGGERS SHALL USE REFLECTORIZED STOP-SLOW PADDLES. FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS. 9. MOST OF THE SIGNS SHOWN ARE ORIENTED TO THE RIGHT. HOWEVER, THIS DOES NOT PRECLUDE THE USE OF MIRROR IMAGES OF THESE SIGNS WHERE THE REVERSE ORIENTATION MIGHT BETTER CONVEY TO MOTORISTS THE PROPER DIRECTION OF MOVEMENT. 10. R55-1 SIGNS SHALL BE PLACED AT LEAST 1500' BUT NOT MORE THAN 1MILE 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.</div>
<div>R5-1</div> <div></div> <div>STD. 30"x30" EXPWY. 36"x36" SPECIAL 48"x48"</div>	<div>RII-2</div> <div></div> <div>48"x30"</div>	<div>RII-3A</div> <div></div> <div>60"x30"</div>	<div>RII-4</div> <div></div> <div>60"x30"</div>	<div>W2I-5a</div> <div></div> <div>STD. 36"x36" FWY. 48"x48"</div>	<div>WI-1</div> <div></div> <div>STD. 36"x36" FWY. 48"x48"</div>	<div>WI-2</div> <div></div> <div>STD. 36"x36" FWY. 48"x48"</div>	
<div>WI-3</div> <div></div> <div>STD. 48"x48"</div>	<div>WI-4</div> <div></div> <div>STD. 48"x48"</div>	<div>WI-6</div> <div></div> <div>STD. 48"x24" SPECIAL 60"x30"</div>	<div>WI-8</div> <div></div> <div>STD. 18"x24" SPECIAL 24"x30" EXPWY. 30"x36" FWY. 36"x48"</div>	<div>W3-1</div> <div></div> <div>STD. 36"x36" SPECIAL 48"x48"</div>	<div>W3-2</div> <div></div> <div>STD. 36"x36" SPECIAL 48"x48"</div>	<div>W4-2</div> <div></div> <div>STD. 36"x36" FWY. 48"x48"</div>	
<div>W5-1</div> <div></div> <div>STD. 36"x36" SPECIAL 48"x48"</div>	<div>W6-3</div> <div></div> <div>EXPWY. 36"x36" SPECIAL 48"x48"</div>	<div>W8-7</div> <div></div> <div>EXPWY. 36"x36" FWY. 48"x48"</div>	<div>W9-2</div> <div></div> <div>STD. 36"x36" FWY. 48"x48"</div>	<div>WI3-1</div> <div></div> <div>STD. 24"x24"</div>	<div>W20-1</div> <div></div> <div>STD. 48"x48"</div>	<div>W20-2</div> <div></div> <div>STD. 48"x48"</div>	
<div>W20-3</div> <div></div> <div>STD. 48"x48"</div>	<div>W20-4</div> <div></div> <div>STD. 48"x48"</div>	<div>W20-5</div> <div></div> <div>STD. 48"x48"</div>	<div>W20-7a</div> <div> 18" 500 FEET 24" W16-2</div> <div>STD. 36"x36" FWY. 48"x48"</div>	<div>W2I-2</div> <div></div> <div>STD. 30"x30" SPECIAL 36"x36"</div>	<div>W2I-5</div> <div></div> <div>STD. 30"x30" SPECIAL 36"x36"</div>	<div>W24-1</div> <div></div> <div>STD. 36"x36"</div>	
<div>WI-4b</div> <div></div> <div>STD. 48"x48"</div>	<div>R56-1</div> <div></div> <div>STD. 18"x18"</div>	<div>W8-II</div> <div></div> <div>STD. 36"x36" FWY. 48"x48"</div>	<div>W8-9</div> <div></div> <div>STD. 36"x36" FWY. 48"x48"</div>	<div>G20-1</div> <div></div> <div>60"x24"</div>	<div>G20-2</div> <div></div> <div>48"x24"</div>	<div>OM-3L OM-3R</div> <div></div> <div>12"x36"</div>	
<div>M4-9</div> <div></div> <div>STD. 30"x24" SPECIAL 48"x36" SPECIAL 60"x48"</div>	<div>M4-10</div> <div></div> <div>48"x18"</div>	<div>R55-1</div> <div></div> <div>36"x60" • USE 6" C LETTERS •• USE 4" D LETTERS</div>					

II-07-19	REVISED FOR MASH	
4-13-17	DELETED RSP-1 & ADDED W2I-5a	
9-2-15	REVISED REDUCED SPEED LIMIT AHEAD SIGNS REVISED ROAD WORK NEXT XX MILES	
12-15-11	REVISED W24-1	
11-17-10	DELETED W8-9a & ADDED W8-9	
10-15-09	ADDED REFERENCE TO MASH & ADDED SIGN W24-1	
4-17-08	REVISED SIGN DESIGNATIONS	
11-18-04	REVISED NOTES	
10-9-03	REVISED NOTE 1	
11-16-01	REVISED NOTE 7	
9-28-00	REVISED NOTE	
11-18-98	ADDED NOTE	
6-26-97	REVISED NOTE 5	
4-03-97	REVISED NOTE 5	
10-18-96	ADDED CONTROLLED ACCESS HWY. SIGN & TO NOTE 7	
10-12-95	ADDED R55-1	
6-8-95	REVISED TO CORRECT SIGN ILLUSTRATIONS	6-8-95
2-2-95	REVISED PER PART VI, MUTCD SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	
DATE	REVISION	FILMED

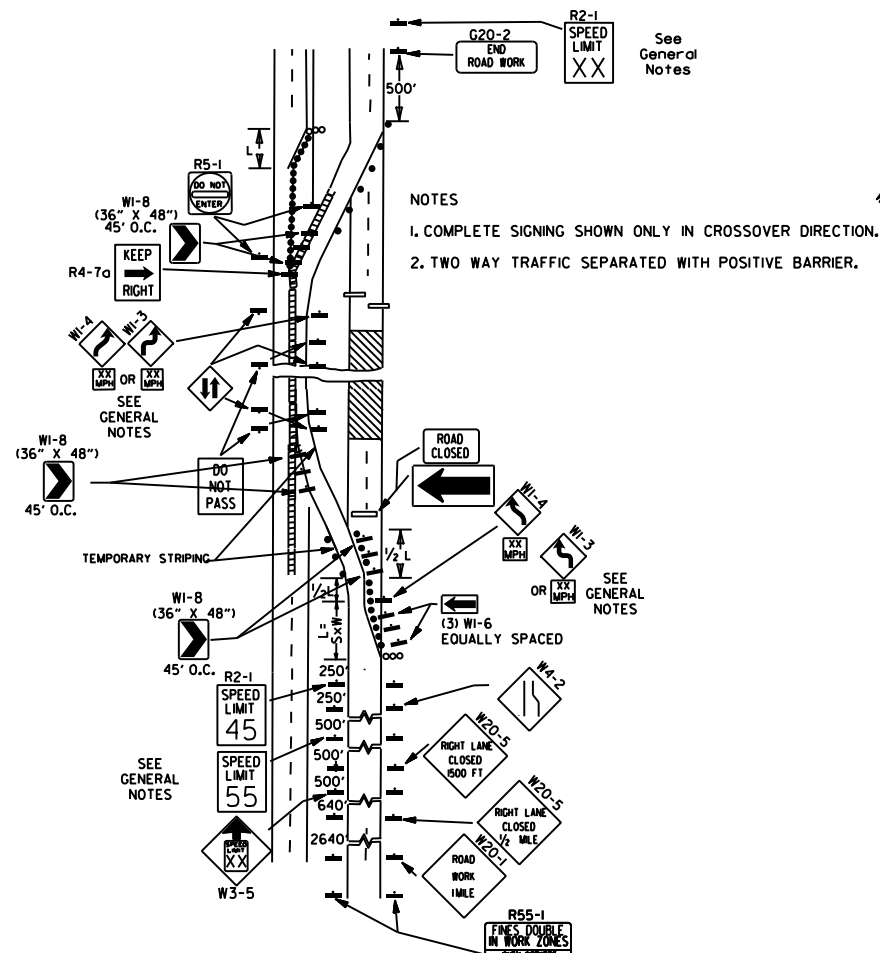
ARKANSAS STATE HIGHWAY COMMISSION
STANDARD TRAFFIC CONTROLS
FOR HIGHWAY CONSTRUCTION
STANDARD DRAWING TC-1

11-07-19	REVISED FOR MASH	
4-13-17	DELETED RSP-1 & ADDED W2I-5a	
9-2-15	REVISED REDUCED SPEED LIMIT AHEAD SIGNS	
	REVISED ROAD WORK NEXT XX MILES	
12-15-11	REVISED W24-1	
11-17-10	DELETED W8-9a & ADDED W8-9	
10-15-09	ADDED REFERENCE TO MASH & ADDED SIGN W24-1	
4-17-08	REVISED SIGN DESIGNATIONS	
11-18-04	REVISED NOTES	
10-9-03	REVISED NOTE 1	
11-16-01	REVISED NOTE 7	
9-28-00	REVISED NOTE	
11-18-98	ADDED NOTE	
6-26-97	REVISED NOTE 5	
4-03-97	REVISED NOTE 5	
10-18-96	ADDED CONTROLLED ACCESS HWY. SIGN & TO NOTE 7	
10-12-95	ADDED R55-1	
6-8-95	REVISED TO CORRECT SIGN ILLUSTRATIONS	6-8-95
2-2-95	REVISED PER PART VI, MUTCD SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	
DATE	REVISION	FILMED

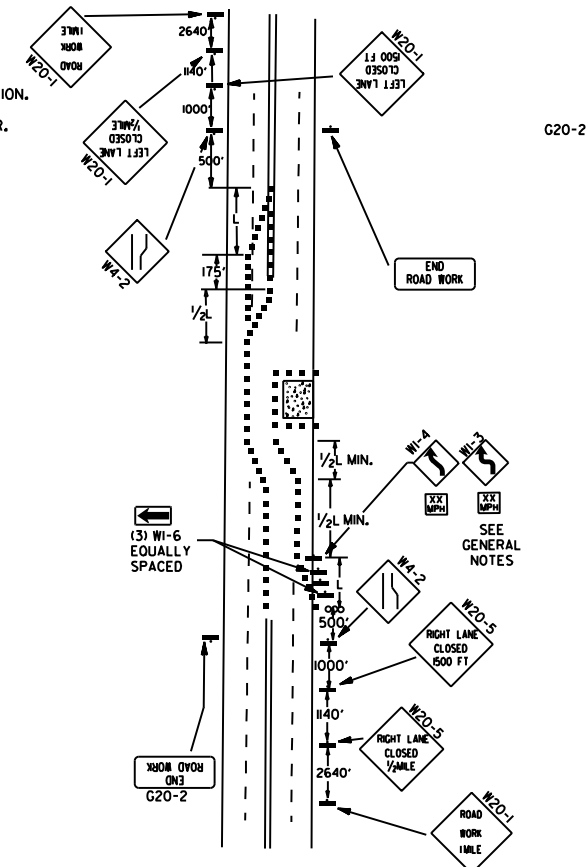
ARKANSAS STATE HIGHWAY COMMISSION
STANDARD TRAFFIC CONTROLS
FOR HIGHWAY CONSTRUCTION
STANDARD DRAWING TC-1



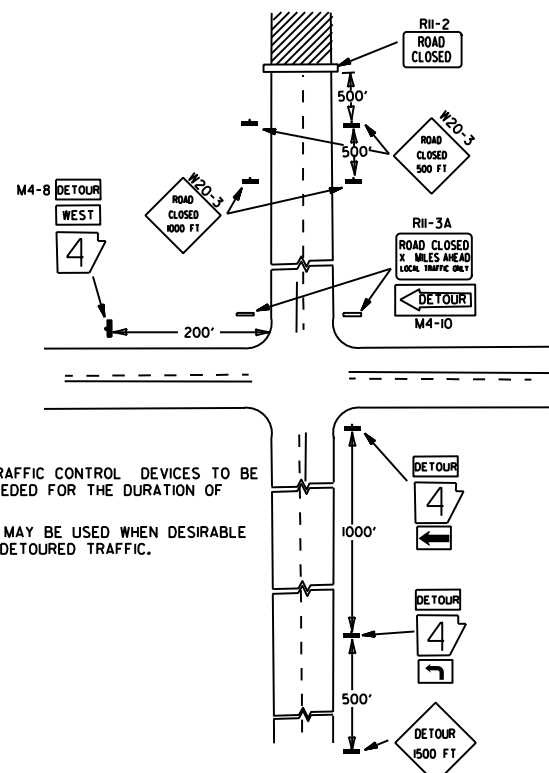
(A) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON A 2-LANE HIGHWAY WHERE THE ENTIRE ROADWAY IS CLOSED AND A BYPASS DETOUR IS PROVIDED.



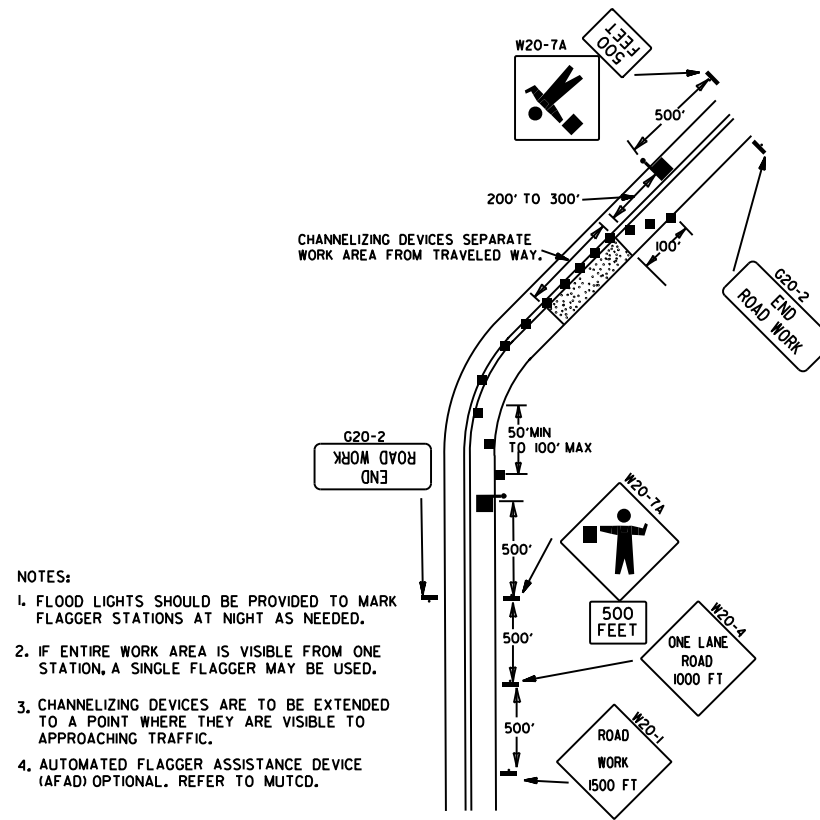
(B) TYPICAL APPLICATION - 4-LANE DIVIDED ROADWAY WHERE ONE ROADWAY IS CLOSED.



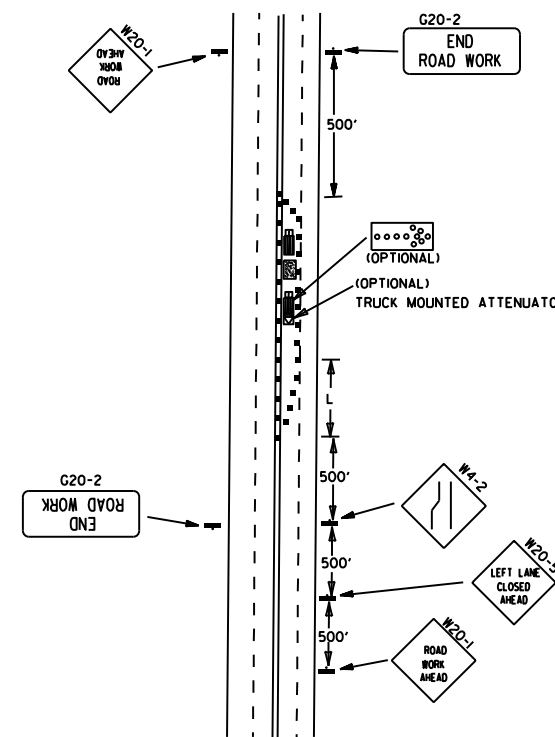
(C) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.



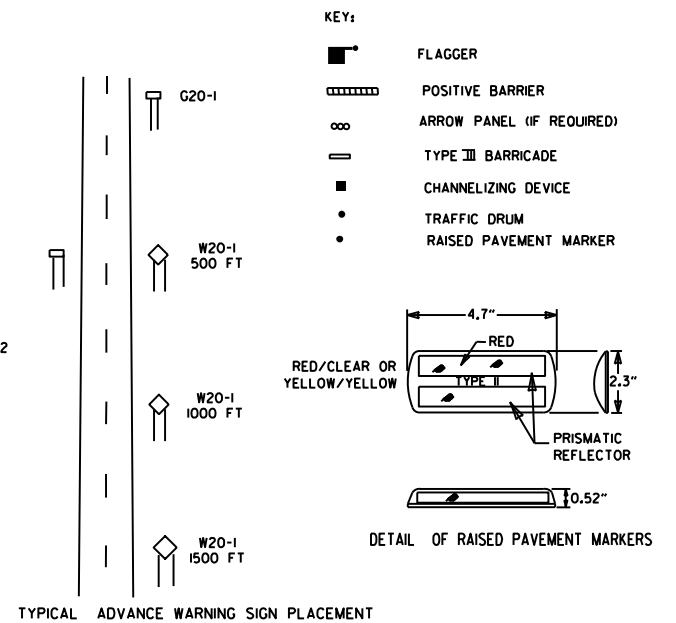
(D) TYPICAL APPLICATION - ROADWAY CLOSED BEYOND DETOUR POINT.



(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:
1. THE MAINTENANCE DIVISION SHALL CONDUCT A BALL BANK STUDY TO DETERMINE THE ADVISORY SPEED LIMIT PRIOR TO OPENING TO TRAFFIC. THE ADVISORY SPEED WILL BE POSTED ON W1-3 OR W1-4 CURVE WARNING SIGNS. USE W1-4 WHEN SPEED IS GREATER THAN 30MPH AND W1-3 WHEN 30MPH OR LESS.
 2. WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-155 SHALL BE OMITTED AND THE W3-5 SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL R2-145MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-KXX 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 R2-145 SHALL BE OMITTED. ADDITIONAL R2-155MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-KXX SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
 4. THE MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES IN A TAPER SHOULD BE APPROXIMATELY EQUAL IN FEET TO THE SPEED LIMIT. BEYOND THE TAPER, MAXIMUM SPACING SHALL BE TWO TIMES THE SPEED LIMIT, OR AS DIRECTED BY THE ENGINEER.
 5. WARNING LIGHTS AND/OR FLAGS MAY BE MOUNTED TO SIGNS OR CHANNELIZING DEVICES AT NIGHT AS NEEDED.
 6. PAVEMENT MARKINGS NO LONGER APPLICABLE WHICH MIGHT CREATE CONFUSION IN THE MINDS OF VEHICLE OPERATORS SHALL BE REMOVED OR OBLITERATED AS SOON AS PRACTICABLE.
 7. TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE DELINEATED BY AFFIXING CONSPICUITY MATERIAL IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER. WHEN PLACED ON OR ADJACENT TO THE SHOULDER AND NOT BEHIND A POSITIVE BARRIER, THESE DEVICES SHALL BE DELINEATED BY PLACING FIVE (5) TRAFFIC DRUMS, EQUALLY SPACED ALONG THE TRAFFIC SIDE OF THE DEVICE.
 8. DIMENSIONS SHOWN FOR RAISED PAVEMENT MARKERS ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR MARKERS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR SIMILAR MARKERS MAY BE MADE BY REFERRING TO THE ARDOT QUALIFIED PRODUCTS LIST.
 9. ALL TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL MEET THE REQUIREMENTS OF THE MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).

11-07-19	REVISED NOTE 1, ADDED NOTE 9	
9-2-15	REVISED NOTE 2, ADDED NOTE 8, REVISED DRAWING (A) & REPLACED R2-5A WITH W3-5	
9-12-13	REVISED DETAIL OF RAISED PAVEMENT MARKERS	
3-11-10	ADDED (AFAD)	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED GENERAL NOTE	
10-18-96	ADDED R55-1	
4-26-96	CORRECTED (a) BEHIND G20-2	
6-8-95	CORRECTED SIGN IDENT. ON W1-4A	6-8-95
2-2-95	REVISED PER PART VI, MUTCD, SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	
DATE	REVISION	FILMED

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

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

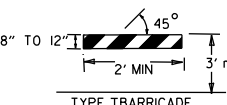
(C) TYPICAL APPLICATION - CONSTRUCTION OPERATIONS OF INTERMEDIATE TO LONG TERM DURATION ON A 4-LANE DIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.

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

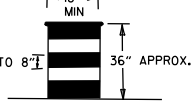
CHANNELIZING DEVICES

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

CONES



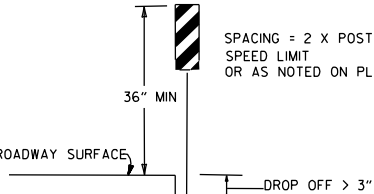
PLASTIC DRUM



TYPE III BARRICADE

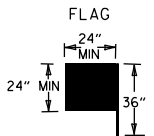
NOTE:
FOR ALL ROAD CLOSURES, THE TYPE III BARRICADES SHALL BE OF SUFFICIENT LENGTH TO EXTEND ACROSS ENTIRE ROADWAY.

VERTICAL PANEL PLACEMENT



FLAG

FLAG SHALL BE OF GOOD GRADE RED MATERIAL



KEY:

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

GENERAL NOTES:

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

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

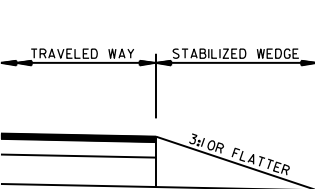
TRAFFIC CONTROL DEVICES

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 ⁽²⁾
> 18"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS ⁽¹⁾	A STABILIZED WEDGE, W8-17, EDGE LINE STRIPING AND TRAFFIC DRUMS ⁽³⁾
> 24"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	PRECAST CONCRETE BARRIER ⁽⁴⁾ & EDGE LINES	PRECAST CONCRETE BARRIER ⁽⁴⁾ & EDGE LINES

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

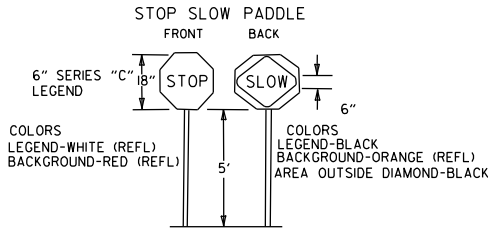
INTERSTATE AND NON-INTERSTATE		
FORESLOPE	HEIGHT	TRAFFIC CONTROL
1:1	> 2 FT	PRECAST CONCRETE BARRIER
2:1	≤ 5 FT	TRAFFIC DRUMS
2:1	> 5 FT	PRECAST CONCRETE BARRIER
Flatter than 2:1	N/A	TRAFFIC DRUMS

- GENERAL NOTES:
- 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.
 - WHEN THERE IS INSUFFICIENT WIDTH TO PLACE TRAFFIC DRUMS ON THE REMAINING SHOULDER WIDTH, A STABILIZED WEDGE SHALL BE USED.
 - PRECAST CONCRETE BARRIER WALL CAN BE USED IN LIEU OF A STABILIZED WEDGE, W8-17 SIGN, EDGE LINE STRIPING, AND TRAFFIC DRUMS, IF AND WHERE DIRECTED BY THE ENGINEER.
 - 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.
 - W21-5, W21-5a, AND/OR W21-5b SIGNS SHALL BE USED WHERE THE ROADWAY IS UNOBSTRUCTED IF AND WHERE DIRECTED BY THE ENGINEER.



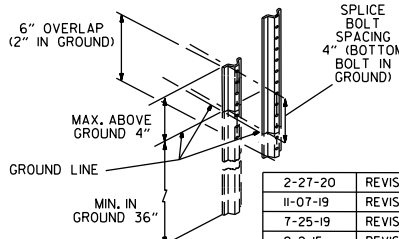
STABILIZED WEDGE

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



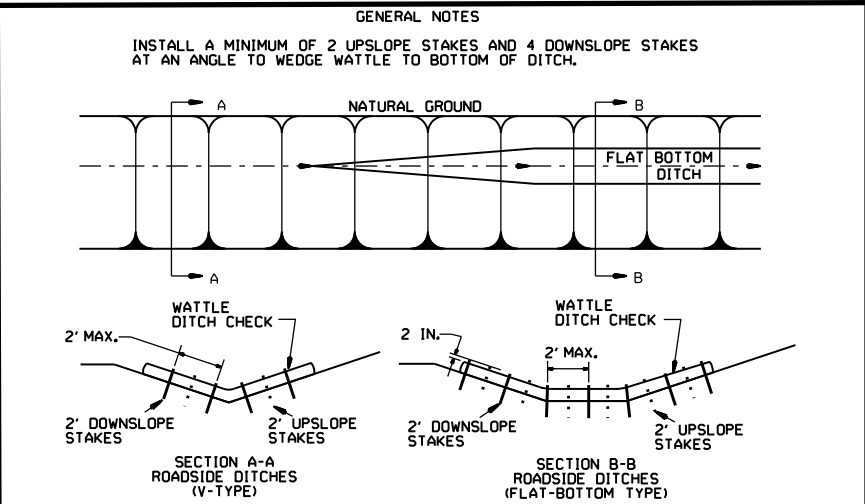
DETAIL OF SPLICES

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.

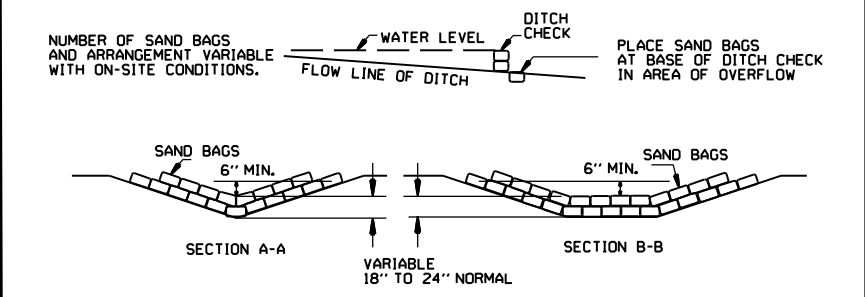


2-27-20	REVISED TRAFFIC CONTROL DEVICES DETAILS	
11-07-19	REVISED NOTE 9, ADDED NOTE 11	
7-25-19	REVISED TRAFFIC CONTROL DEVICES DETAILS	
9-2-15	REVISED NOTE 2 & REPLACED R2-5A WITH W3-5	
10-15-09	ADDED REFERENCE TO MASH	
11-20-08	REVISED SIGN DESIGNATIONS	
11-18-04	ADDED NOTE	
10-1-98	ADDED NOTE	
4-03-97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

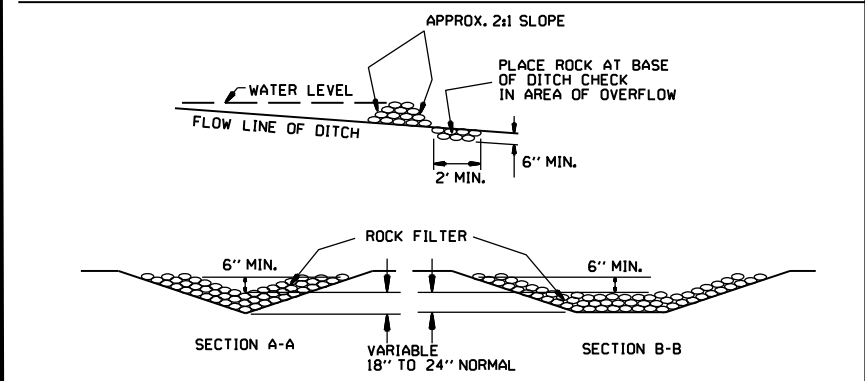
ARKANSAS STATE HIGHWAY COMMISSION
STANDARD TRAFFIC CONTROLS
FOR HIGHWAY CONSTRUCTION
STANDARD DRAWING TC-3



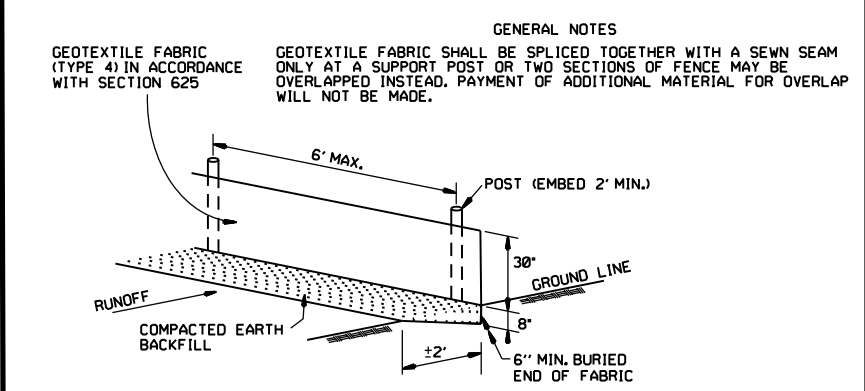
WATTLE DITCH CHECK (E-1)



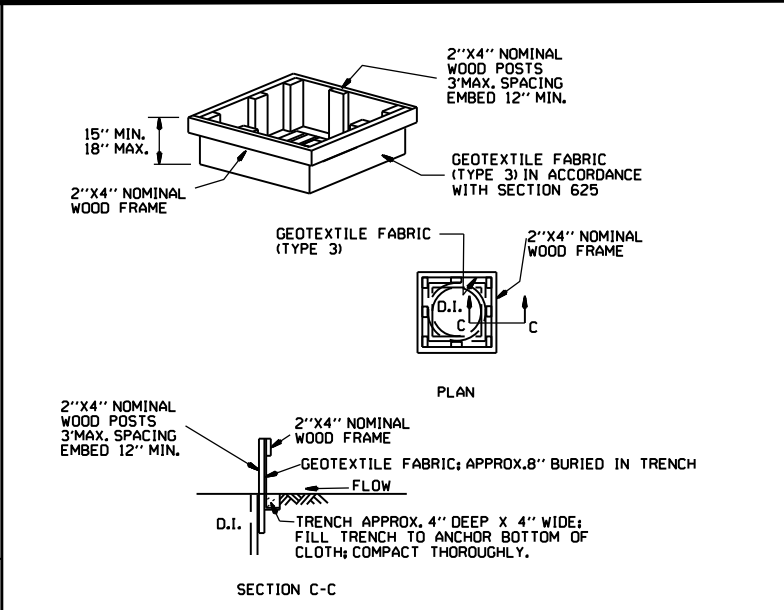
SAND BAG DITCH CHECK (E-5)



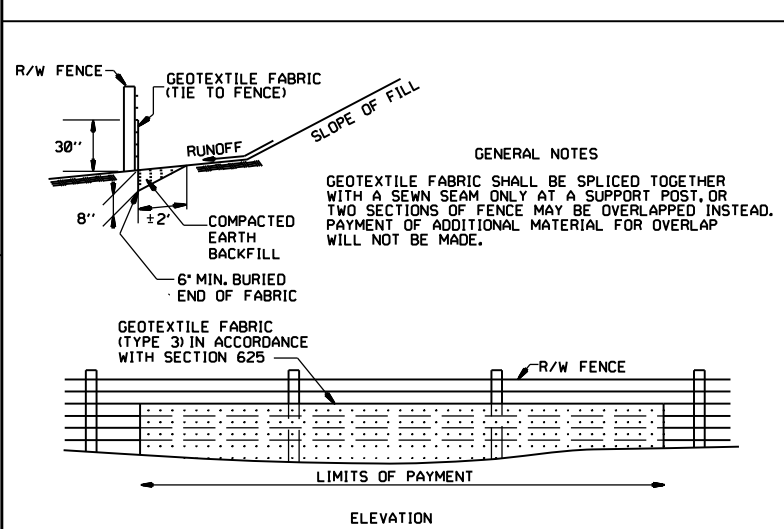
ROCK DITCH CHECK (E-6)



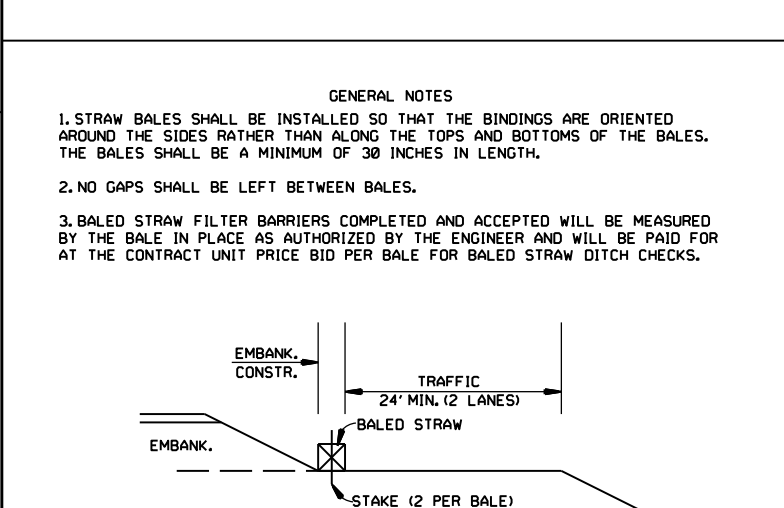
SILT FENCE (E-11)



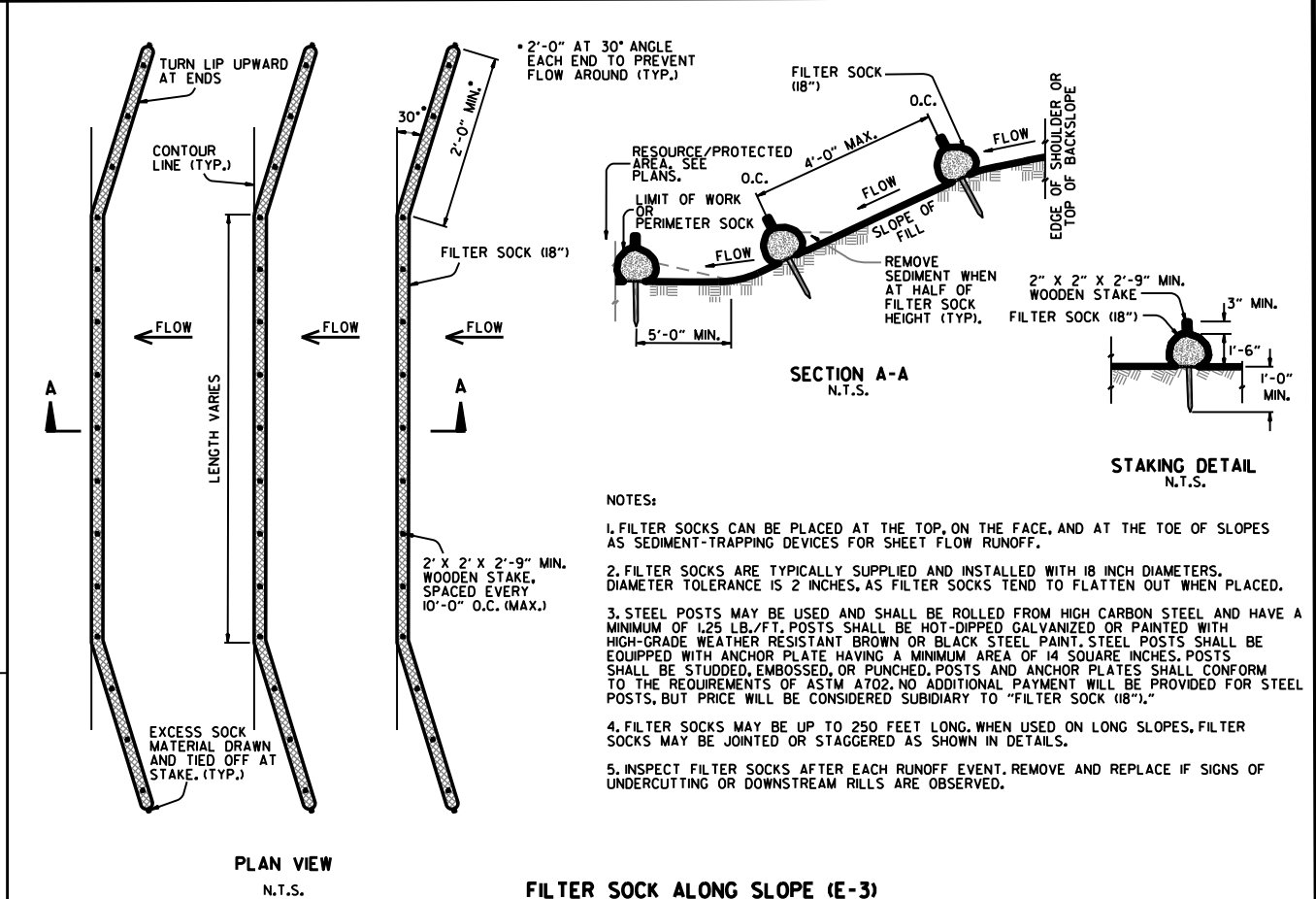
DROP INLET SILT FENCE (E-7)



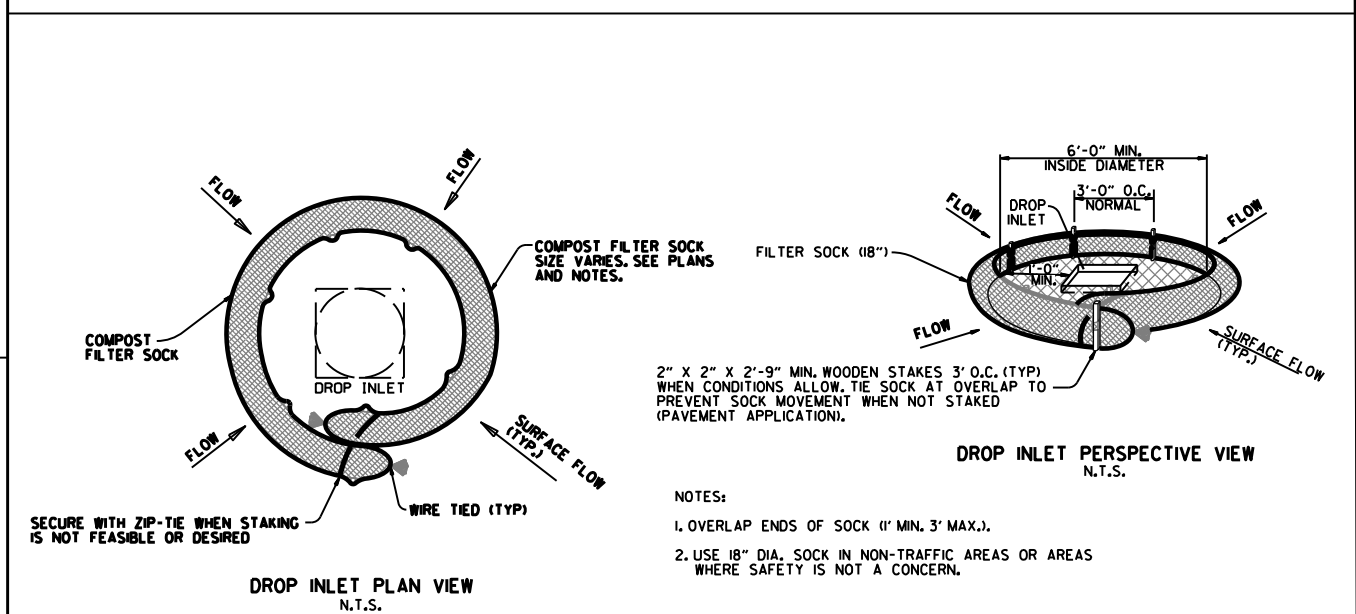
SILT FENCE ON R/W FENCE (E-4)



BALED STRAW FILTER BARRIER (E-2)

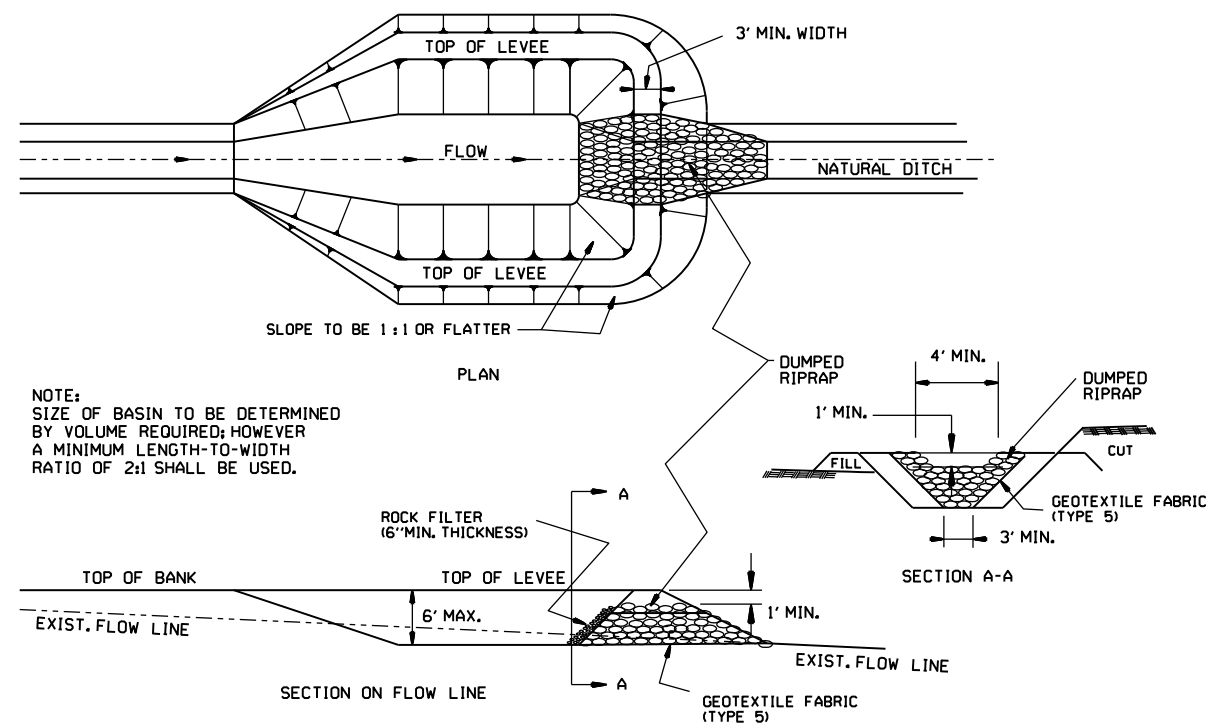


FILTER SOCK ALONG SLOPE (E-3)

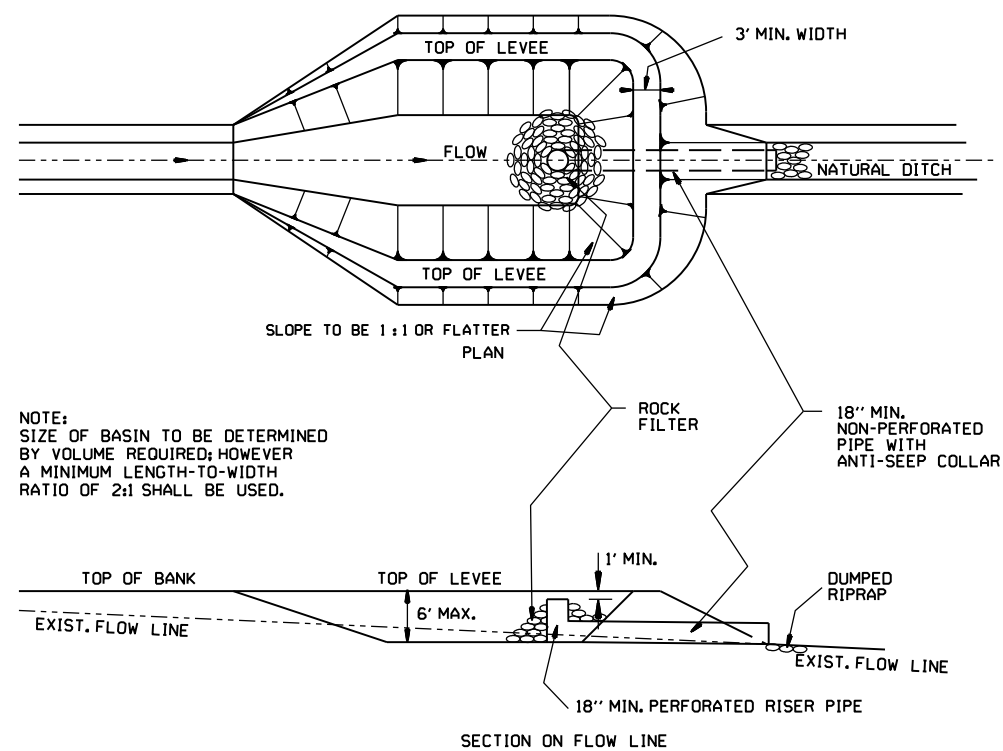


COMPOST FILTER SOCK DROP INLET PROTECTION (E-13)

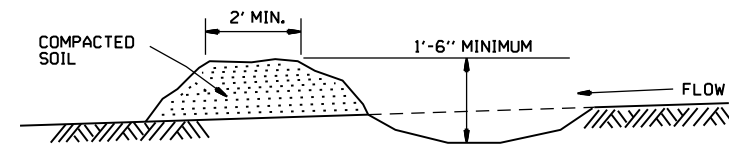
11-16-17	ADDED FILTER SOCK E-3 AND E-13	
12-15-11	DELETED BALED STRAW DITCH CHECK & ADDED WATTLE DITCH CHECK	
11-18-98	ADDED NOTES	
07-02-98	ADDED BALED STRAW FILTER BARRIER (E-2)	
07-20-95	REVISED SILT FENCE E-4 AND E-11	7-20-95
07-15-94	REV. E-4 & E-11 MIN. 13" BURIED END OF FABRIC	
06-02-94	REVISED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



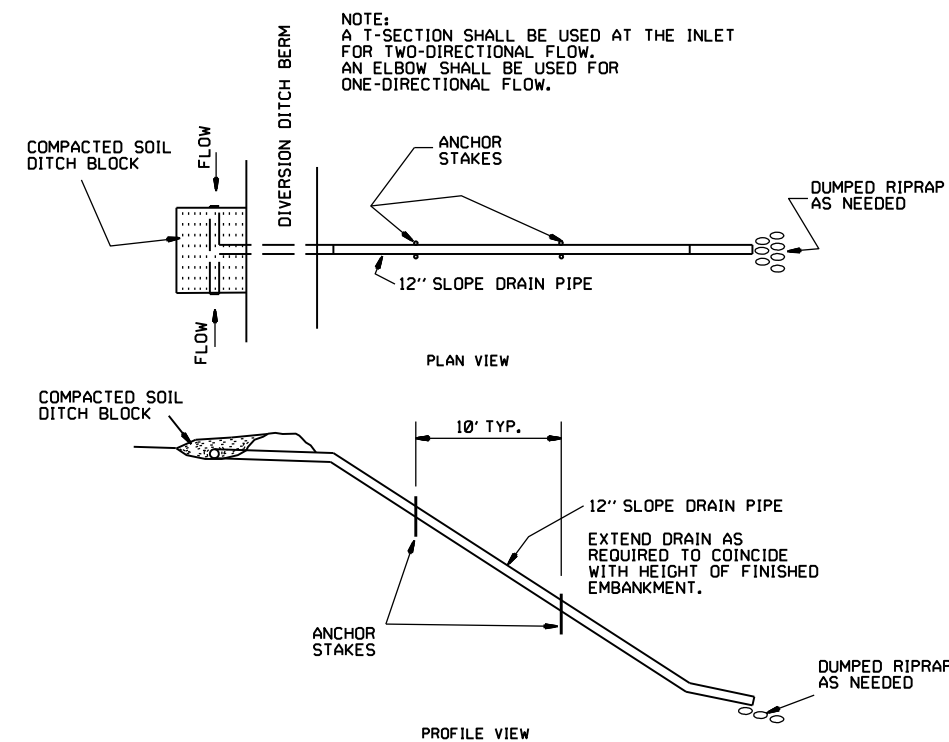
SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



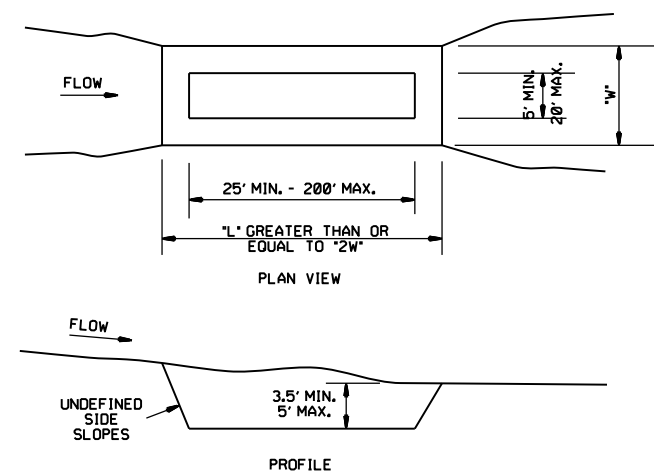
SEDIMENT BASIN WITH PIPE OUTLET (E-10)



DIVERSION DITCH (E-8)



SLOPE DRAIN (E-12)



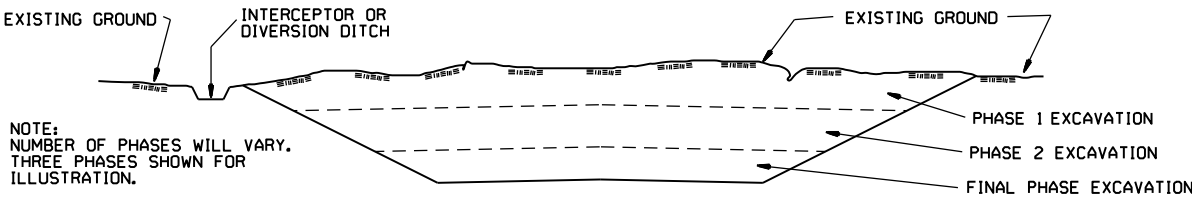
SEDIMENT BASIN (E-14)

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

CLEARING AND GRUBBING

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

EXCAVATION

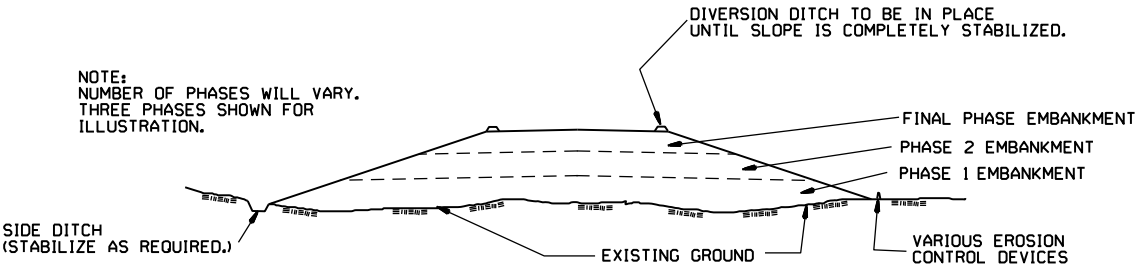


GENERAL NOTE

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

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

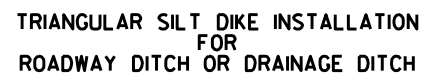
EMBANKMENT



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

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

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



-
- Diagram illustrating the construction of a dike section, showing the apron, staples, and trench details.
- Labels and Callouts:
- STAPLES (pointing to the staples securing the apron)
 - APRON (pointing to the apron material)
 - APRON ON THIS SIDE OF THE DIKE SHOULD BE FOLDED UNDER THE DIKE SECTION AND STAPLED DOWN.
 - D (pointing to the dike section)
 - 3" TO 6" TRENCH (pointing to the trench detail)
 - STAPLES (pointing to the staples securing the apron)
 - CONCRETE CURB OR RIGHT-OF-WAY (pointing to the curb or right-of-way)
- SECTION D-D

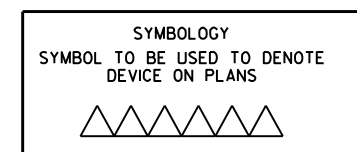
TRIANGULAR SILT DIKE INSTALLATION FOR CONTINUOUS BARRIER



1. THIS WORK SHALL CONSIST OF FURNISHING, INSTALLING, AND MAINTAINING THE TRIANGULAR SILT DIKE. THE DIKES SHALL BE USED AS A CONTINUOUS LINE BARRIER AT THE TOE OF SLOPE OR ACROSS THE ROADWAY DITCH TO CONTAIN SEDIMENT AND MINIMIZE EROSION, OR AS DIRECTED BY THE ENGINEER. THESE DIKES SHALL BE INSTALLED AND LOCATED AS SOON AS CONSTRUCTION WILL ALLOW OR AS DIRECTED BY THE ENGINEER.
2. TRIANGULAR SILT DIKE SHALL BE TRIANGULAR SHAPED HAVING A HEIGHT OF AT LEAST 8" TO 10" IN THE CENTER WITH EQUAL SIDES AND A 16" TO 20" BASE. THE TRIANGULAR SHAPED INNER MATERIAL SHALL BE URETHANE FOAM. THE OUTER COVER SHALL BE A WOVEN GEOTEXTILE FABRIC PLACED AROUND THE INNER MATERIAL & ALLOWED TO EXTEND BEYOND BOTH SIDES OF THE TRIANGLE 24" TO 36". THIS FABRIC SHOULD BE MILDEW RESISTANT, ROT-PROOF AND RESISTANT TO HEAT AND ULTRAVIOLET RADIATION MEETING REQUIREMENTS FOR SEDIMENT CONTROL IN AASHTO M288. THE DIKES SHALL BE ATTACHED TO THE GROUND WITH WIRE STAPLES. THE STAPLES SHALL BE NO. 10 GAUGE WIRE AND BE AT LEAST 6" TO 8" LONG. STAPLES SHALL BE PLACED AS SHOWN ON THESE DETAILS.

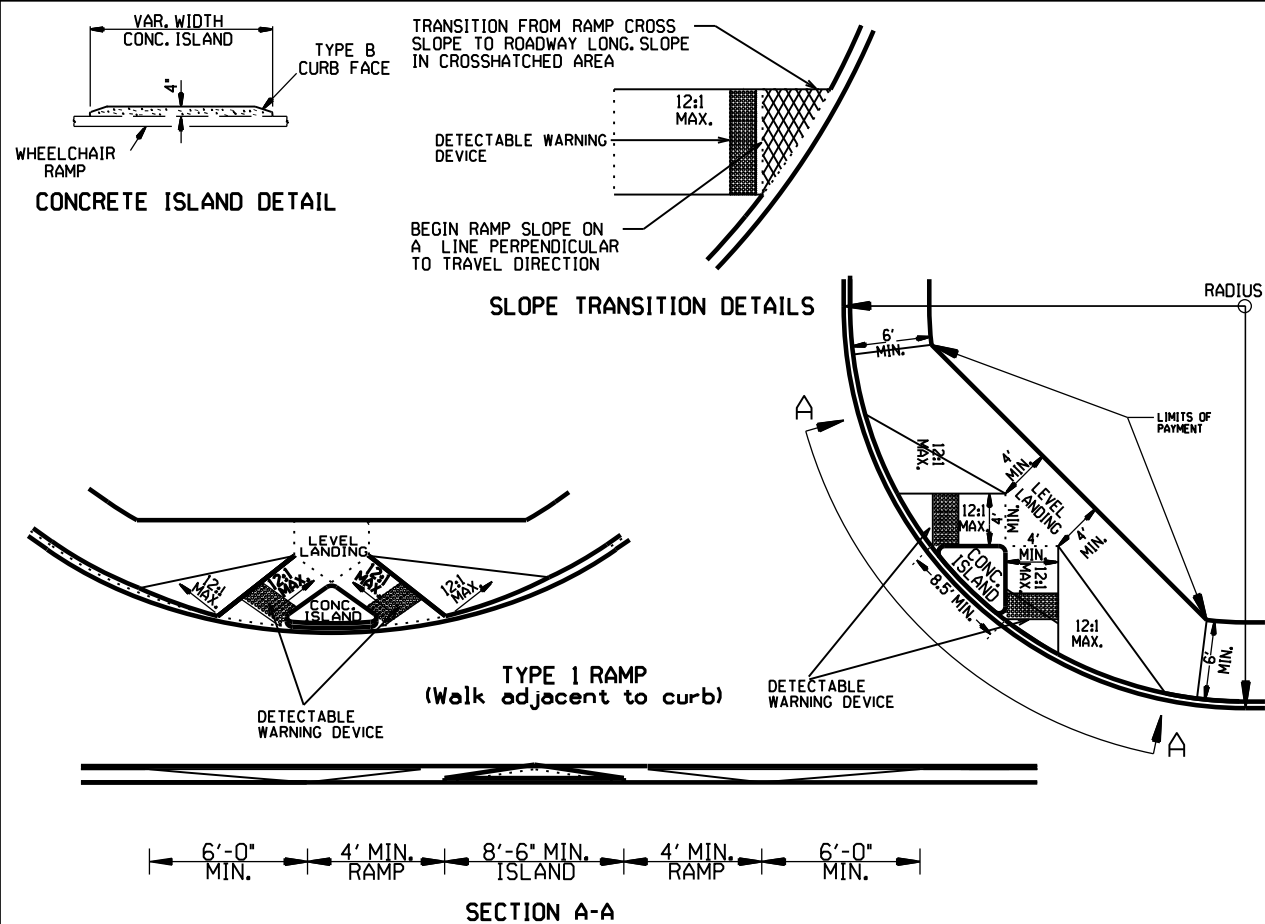
THE CONTRACTOR SHALL INSPECT ALL DIKES AFTER EACH RAINFALL EVENT OF AT LEAST 0.5" OR GREATER. ANY DEFICIENCIES OR DAMAGE SHALL BE REPAIRED BY THE CONTRACTOR. ACCUMULATED SILT OR DEBRIS SHALL BE REMOVED AND RELOCATED AS DIRECTED BY THE ENGINEER. IF THE DIKES ARE DAMAGED OR INADVERTENTLY MOVED DURING THE SILT REMOVAL PROCESS, THE CONTRACTOR SHALL IMMEDIATELY REPLACE AFTER DAMAGE OCCURS.

3. ACCEPTED TRIANGULAR SILT DIKE, MEASURED AS PROVIDED ABOVE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID FOR TRIANGULAR SILT DIKE. PRICE BID WILL INCLUDE THE COST OF FURNISHING THE DIKES, INSTALLING, MAINTAINING AND REMOVAL WHEN DIRECTED BY THE ENGINEER.

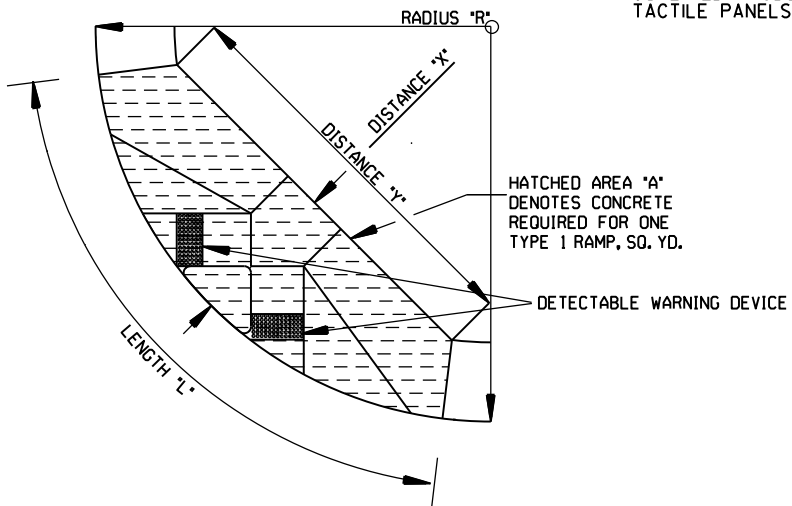


NOTE: SILT DIKE SHOULD ONLY BE USED FOR
DROP INLETS IN SUMP LOCATIONS.

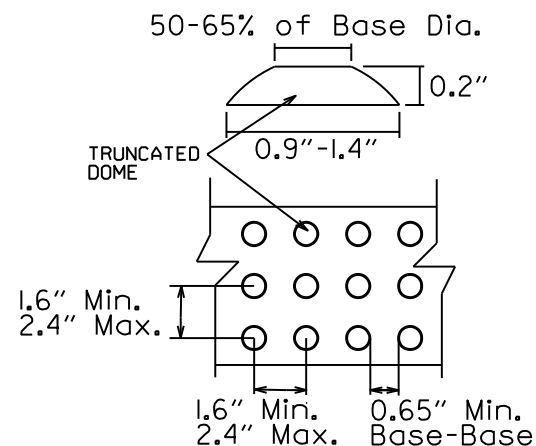
			ARKANSAS STATE HIGHWAY COMMISSION
			TEMPORARY EROSION CONTROL DEVICES
7-26-12	REVISED GENERAL NOTE 2.		STANDARD DRAWING TEC-4
12-15-11	ISSUED		
DATE	REVISION	FILMED	



TYPE 1 RAMP DIMENSIONS AND QUANTITIES					
RADIUS "R"	DISTANCE "X"	DISTANCE "Y"	LENGTH "L"	RAMP AREA "A"	
FEET	FEET	FEET	FEET	SQ. YD.	
15	11.67	18.82	32.18	26.21	
20	11.52	22.28	35.46	30.07	
25	11.43	26.60	38.77	33.80	
30	11.37	30.26	40.93	36.90	
35	11.33	33.51	43.11	39.77	
40	11.30	36.45	45.26	42.45	
45	11.27	39.16	47.34	44.97	
50	11.25	41.69	49.36	47.35	
55	11.24	44.07	51.31	49.63	
60	11.22	46.33	53.21	51.80	



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 ARDOT QUALIFIED PRODUCTS LIST FOR CAST-IN-PLACE TACTILE PANELS (ADA DETECTABLE WARNING).

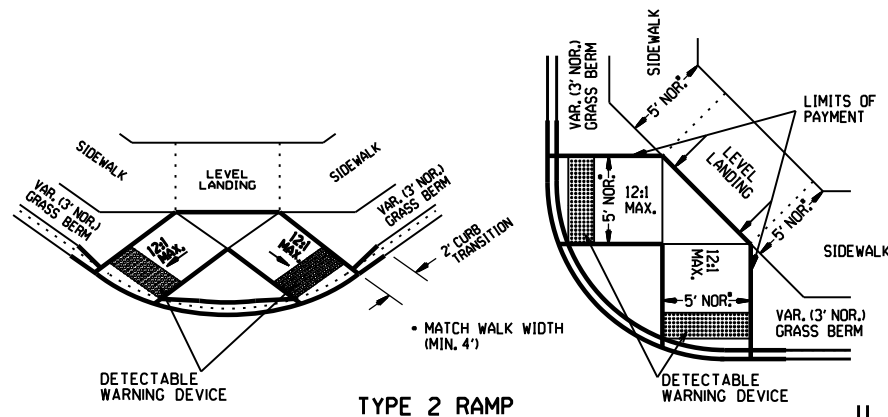


DETECTABLE WARNING DEVICE DETAIL

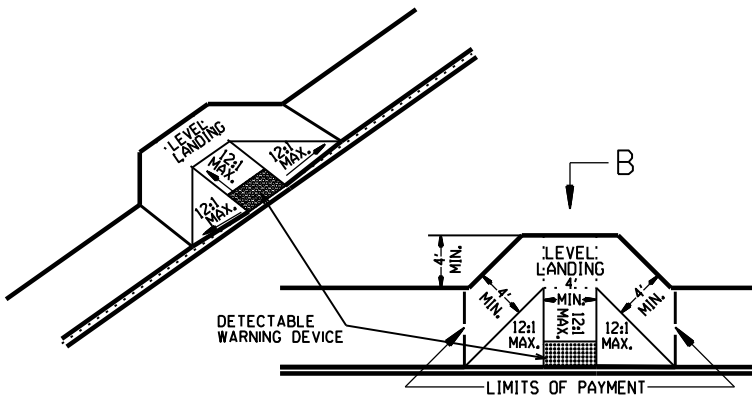
GENERAL NOTES:

- IN NEW CONSTRUCTION, UNLESS OTHERWISE INDICATED ON THE PLANS, WHEELCHAIR RAMPS ARE TO BE PROVIDED AT ALL CORNERS OF CURBED STREET INTERSECTIONS AND MID-BLOCK CROSSWALK LOCATIONS.
IN ALTERATIONS WHEELCHAIR RAMPS 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 RAMPS SHALL BE THE WALK WIDTH OR 36", WHICHEVER IS GREATER.
RAMPS SHALL BE MODIFIED AS NECESSARY TO INSURE THAT THEY ARE PARALLEL TO A LINE DRAWN FROM THE CENTER OF ONE RAMP TO THE CENTER OF THE RAMP ON THE OPPOSITE SIDE OF THE INTERSECTION.
THE DIMENSIONS AND QUANTITIES SHOWN ON THIS DRAWING ARE FOR A 90° INTERSECTION ONLY. DIMENSIONS AND QUANTITIES FOR SKEWED INTERSECTIONS WILL VARY, AND ARE TO BE DETERMINED BY THE ENGINEER.

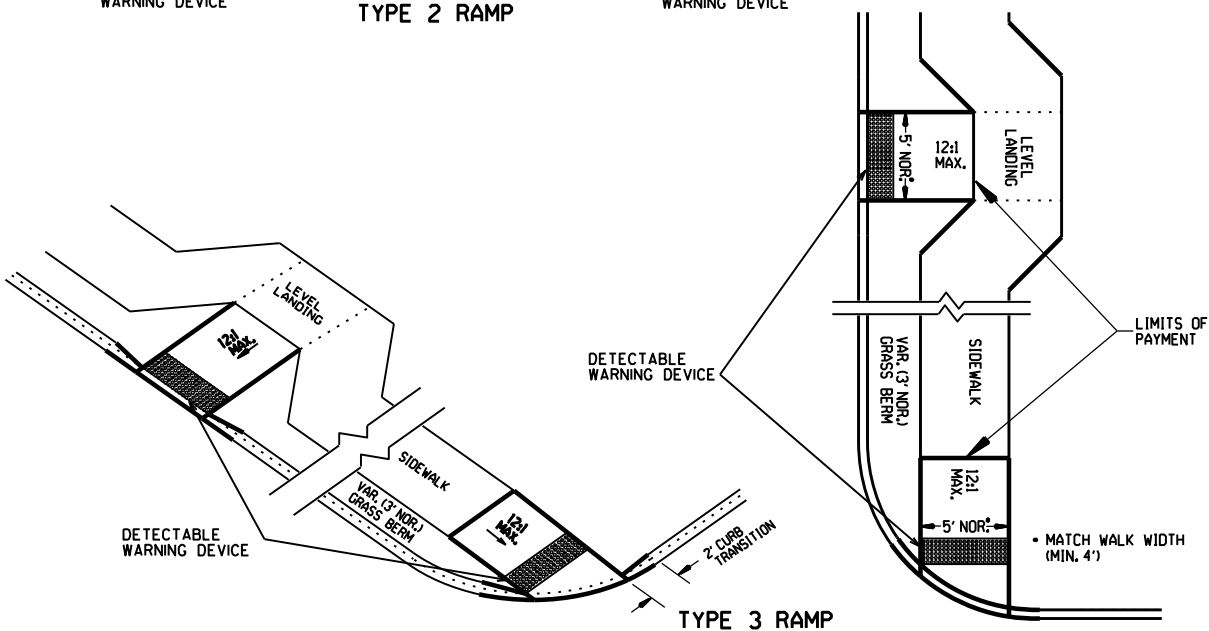
NOTE:
THE CROSS SLOPE OF THE RAMPS, LEVEL LANDINGS, AND SIDEWALKS SHALL NOT EXCEED 2.0% UNLESS REQUIRED TO MATCH STREET LONGITUDINAL GRADE.



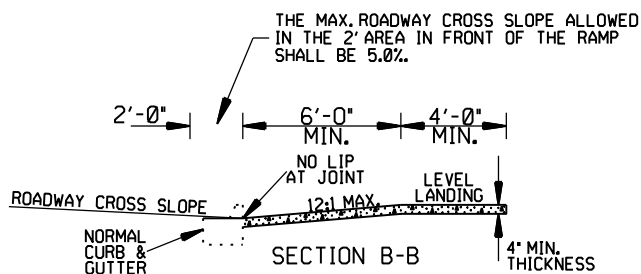
TYPE 2 RAMP



TYPE 4 RAMP
(Walk adjacent to curb)



TYPE 3 RAMP



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).
SECOND CHOICE	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).
THIRD CHOICE	TYPE 5	TANGENT LOCATIONS (ALTERATIONS ONLY).
FOURTH CHOICE	TYPE 6	CORNER LOCATIONS (ALTERATIONS ONLY). THIS RAMP MAY BE USED ONLY IF THE TYPE 5 RAMPS CANNOT BE PLACED AT THE ENDS OF THE RADIUS.
NOTE: 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 RAMPS 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.

DATE	REVISION	DATE	FILM
11-10-05	REVISED TO NEW SIDEWALK POLICY		
10-9-03	REVISED GEN. NOTES & ADDED NOTE		
4-10-03	REV. DETECTABLE WARNING DEVICES		
8-22-02	ADD DETECTABLE WARNING DEVICES		
3-30-00	ADD SLOPE TRANS. & REV. ISL. DIMS.		
11-18-98	REVISED NOTES		
8-12-98	REVISED TEXTURE		
7-02-98	REBARN & REISSUED		
10-18-96	CORRECTED DIMENSIONS	10-18-96	
5-24-90	FROM 10:1 MAX. SLOPE	5-24-90	
7-15-88	ADJUSTED MAX. SLOPE	652-7-15-88	
7-14-88	INCLUD. "CONC. ISL." IN PAY ITEM		
6-02-76	ISSUED-P.H.D.	299-7-28-76	

ARKANSAS STATE HIGHWAY COMMISSION

WHEELCHAIR RAMPS
NEW CONSTRUCTION
AND ALTERATIONS

STANDARD DRAWING WR-1