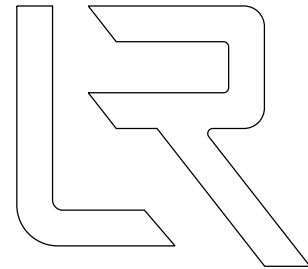


UNIVERSITY AVENUE TRAFFIC OPERATIONS IMPROVEMENTS
 (LITTLE ROCK)(s) F.A.P. STPU-9253(81)
 JOB 061468

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		1	80
				JOB NO.		061468		
				UNIVERSITY AVE.				
				ASCT PLANS				

042219 by CLR



CITY OF LITTLE ROCK, AR

PUBLIC WORKS DEPARTMENT TRAFFIC ENGINEERING DIVISION



FIBER OPTIC COMMUNICATIONS & ADAPTIVE SIGNAL CONTROL TECHNOLOGY (ASCT) CONSTRUCTION PLANS

UNIVERSITY AVE FROM I-30 EB RAMP TO CANTRELL RD (STATE HWY 10)

APPROVAL
 PUBLIC WORKS DEPARTMENT
 TRAFFIC ENGINEERING DIVISION

APPROVED BY: _____
 Jon Honeywell, Public Works Director

DATE: _____

BID NO.: _____

LIST OF PLAN SHEETS

- 1 TITLE SHEET
- 2 & 2A NOTES SHEET & SUMMARY OF QUANTITIES
- 3 KEY LAYOUT SHEET
- 4-22 COMMUNICATIONS PLAN SHEETS
- 23-69 INTERSECTION DETAIL SHEETS
- 70-77 INSTALLATION DETAILS
- 78-80 MAINTENANCE OF TRAFFIC



SUMMARY OF QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		2	80
				JOB NO.		061468		
				UNIVERSITY AVE.				
				NOTES AND SUMMARY OF QUANTITIES				

041919 by CLR

PAY ITEM NO.	PAY ITEM	UNIT	TOTAL
BID SCHEDULE A: FIBER RELATED WORK			
601	MOBILIZATION - SCHEDULE A (FIBER)	LS	1
SS & 603	MAINTENANCE OF TRAFFIC - SCHEDULE A (FIBER)	LS	1
SP	FIBER OPTIC SPLICE	EA	258
SP	FIBER OPTIC CABLE, SM 72 (AERIAL)	LF	23100
SP	FIBER OPTIC CABLE, SM 36 (AERIAL)	LF	615
SP	FIBER OPTIC CABLE, SM 72 (UG)	LF	10846
SP	FIBER OPTIC SPLICE ENCLOSURE	EA	22
711	PULL BOX (FIBER OPTIC)	EA	47
SP	FIBER OPTIC DROP CABLE, PRETERMINATED	EA	16
SP	FIBER OPTIC TERMINATION CABINET	EA	1
SP	FUSION SPLICER FOR RIBBON FIBER	EA	1
SP	FIBER CONNECTION INTEGRATION	LS	1
BID SCHEDULE B: SIGNAL RELATED WORK			
601	MOBILIZATION - SCHEDULE B (SIGNALS)	LS	1
SS & 603	MAINTENANCE OF TRAFFIC - SCHEDULE B (SIGNALS)	LS	1
SP & 701	SYSTEM LOCAL CONTROLLER TS 2 - TYPE 2, E-NET (8 PHASE)	EA	19
SP & 701	CONTROLLER CABINET	EA	4
SP & 701	CONTROLLER CABINET RELOCATION	EA	1
SP	REMOVAL OF TRAFFIC SIGNAL EQUIPMENT	LS	1
SP	CENTRAL SYSTEM SOFTWARE UPGRADE	LS	1
SP	ATCS PROCESSING UNIT	EA	22
SP	VIDEO DETECTOR (IP) for ASCT	EA	106
SP	NETWORK CABLE, EXTERIOR, CAT 5E	LF	19830
SP	ETHERNET SWITCH T100/1000 HARDENED (8 PORT Gb w/ 2 fiber ports)	EA	25
SP	POWER OVER ETHERNET EXTENDER	EA	15
SP&701	ETHERNET SWITCH MULTIPORT LAYER 3	EA	2
706	TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1 WAY)	EA	2
SP&706	TRAFFIC SIGNAL HEAD, LED, (4 SECTION, 1 WAY)	EA	20
708	TRAFFIC SIGNAL CABLE (20C)	L.F.	460
708	TRAFFIC SIGNAL CABLE (5C)	L.F.	1000
708	TRAFFIC SIGNAL CABLE (3C) - Adaptive Power	L.F.	19330
710	NON-METALLIC CONDUIT (3")	LF	1010
SP & 709	RISER ASSEMBLY	EA	7
SP&710	JACK AND BORE CONDUIT	LF	1010
DEDUCTIVE ALTERNATE 1:			
DELETE THE FOLLOWING ITEMS. NOTE THAT DEDUCTIVE UNIT PRICES SHALL BE THE SAME AS BASE BID UNIT PRICES FOR THE IDENTICAL ITEM.			
SP	FIBER CONNECTION INTEGRATION	LS	1
SP&701	ETHERNET SWITCH MULTIPORT LAYER 3	EA	2
SP	FIBER OPTIC TERMINATION CABINET	EA	1
SP	FIBER OPTIC CABLE, SM 72 (UG)	LF	3700
DEDUCTIVE ALTERNATE 2:			
DELETE THE FOLLOWING ITEMS. NOTE THAT DEDUCTIVE UNIT PRICES SHALL BE THE SAME AS BASE BID UNIT PRICES FOR THE IDENTICAL ITEM.			
601	MOBILIZATION - SCHEDULE A (FIBER)	LS	1
SS & 603	MAINTENANCE OF TRAFFIC - SCHEDULE A (FIBER)	LS	1
SP	FIBER OPTIC SPLICE	EA	258
SP	FIBER OPTIC CABLE, SM 72 (AERIAL)	LF	23100
SP	FIBER OPTIC CABLE, SM 36 (AERIAL)	LF	615
SP	FIBER OPTIC CABLE, SM 72 (UG)	LF	10846
SP	FIBER OPTIC SPLICE ENCLOSURE	EA	22
711	PULL BOX (FIBER OPTIC)	EA	47
SP	FIBER OPTIC DROP CABLE, PRETERMINATED	EA	16
SP	FIBER OPTIC TERMINATION CABINET	EA	1
SP	FUSION SPLICER FOR RIBBON FIBER	EA	1

ABBREVIATIONS

APPROX.	APPROXIMATELY	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
AQ	AQUA	NO(S)	NUMBER(S)
ASSY(S)	ASSEMBLY(S)	N.T.S.	NOT TO SCALE
AWG	AMERICAN WIRE GAUGE	O.H.	OVERHEAD
BK	BLACK	OR	ORANGE
BL	BLUE	P	POWER
BR	BROWN	PB	PULL BOX
CCTV	CLOSED CIRCUIT TELEVISION	PTZ	PAN TILT AND ZOOM
COAX	COAXIAL	PVC	POLYVINYLCHLORIDE CONDUIT
COMM.	COMMUNICATIONS	RCV	RECEIVE
DET	DETECTOR	RD	RED
DIA	DIAMETER	RGS	RIGID GALVANIZED STEEL
EB	EAST BOUND	REFL.	REFLECTIVE
EOP	END OF PROJECT	REQ'D	REQUIRED
E.O.T.L.	EDGE OF TRAVEL LANE	RT	RIGHT
EXIST	EXISTING	SCH.	SCHEDULE
F	FIBERS	SHLD.	SHOULDER
FCC	FEDERAL COMMUNICATIONS COMMISSION	SL	SLATE
FO	FIBER OPTIC	SM	SINGLE MODE
GR	GREEN	STA.	STATION
HAR	HIGHWAY ADVISORY RADIO	TMC	TRANSPORTATION MANAGEMENT CENTER
HDPE	HIGH DENSITY POLYETHYLENE	TSP	TECHNICAL SPECIAL PROVISIONS
HEX	HEXAGONAL	TYP	TYPICAL
INFO	INFORMATION	UL	UNITED LABORATORIES
IP	INTERNET PROTOCOL	V	VOLTS
ITS	INTELLIGENT TRANSPORTATION SYSTEM	VI	VIOLET
LF	LINEAR FEET	W	WATTS
LT	LEFT	W/	WITH
MUTCD	MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES	WB	WEST BOUND
		WH	WHITE
		YL	YELLOW



DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		2A	80
				JOB NO.	061468			
				UNIVERSITY AVE.				
				NOTES				

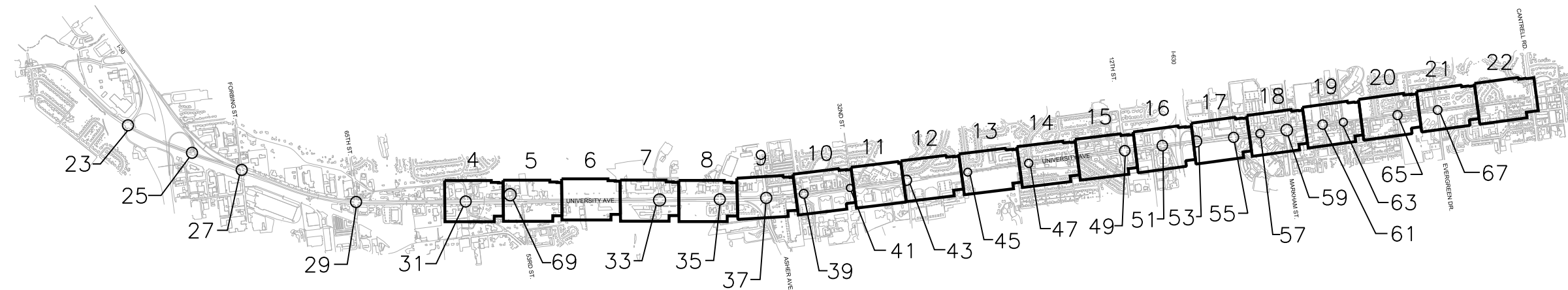
TRAFFIC SIGNAL NOTES

1. PERFORM ELECTRICAL WORK IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE NFPA 70 (2017) NATIONAL ELECTRICAL CODE, NFPA 101 (2015) 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. CONTRACTOR SHALL CONNECT A SEPARATE NEUTRAL FOR EACH LOAD SWITCH REPRESENTED ON EACH SIGNAL POLE.
4. 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.
5. CONTROLLER CABINET SHALL BE WIRED SUCH THAT DURING FLASH OPERATIONS POWER TO THE LOAD SWITCHES CANNOT BACKFEED TO LOAD SWITCH POWER BUSS.
6. 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 EDITIONS.
7. 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 WITH THE APPROVAL OF THE ENGINEER.
8. TRAFFIC SIGNAL POLES SHALL BE GALVANIZED. BLACK BACKPLATES SHALL BE SUPPLIED FOR ALL SIGNAL HEADS.
9. PAVEMENT MARKINGS SHOWN FOR REFERENCE ONLY.
10. ALL CONCRETE PULL BOXES SHALL BE (TYPE 2 HD) UNLESS OTHERWISE INDICATED. ALL CONDUIT SHALL BE THREE (3") INCH DIAMETER UNLESS SPECIFIED ON PLANS.
11. CONTRACTOR SHALL NOTIFY ALL EXISTING UTILITY OWNERS BEFORE BEGINNING WORK ON THIS PROJECT.
12. HARDWARE INPUTS MAY BE DETERMINED BY SUPPLIER. EACH DETECTOR OUTPUT SHALL INPUT THE CONTROLLER THROUGH A SEPARATE INPUT UNLESS OTHERWISE NOTED AND BE PROGRAMMED TO ACTUATE THE ASSOCIATED PHASE. COMBINATION (COMB.) DETECTORS SHALL ALSO BE PROGRAMMED TO PROVIDE VEHICLE COUNT/OCCUPANCY DATA.
13. 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.


14. 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.
15. CONTROLLER CABINET LAYOUT AND ORIENTATION SHALL CONFORM TO IMSA STANDARDS.
16. 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.
17. TRAFFIC SIGNAL CONTRACTOR MUST NOTIFY RESIDENT ENGINEER OR ASSIGNED DEPARTMENT PROJECT INSPECTOR EACH DAY PRIOR TO PERFORMING ANY WORK. NO WORK ON TRAFFIC SIGNALS WILL BE ALLOWED OR APPROVED WITHOUT THIS PRIOR NOTIFICATION.
18. DOOR PANEL TEST PUSH BUTTONS SHALL ACTUATE INDICATED PHASES. DETECTOR ASSIGNMENTS AND/OR SIDE PANEL TO WORK AS DESIRED BY THE ENGINEER/CITY OF LITTLE ROCK.
19. ALL SYSTEM DETECTOR RACKS AND ASSOCIATED EQUIPMENT SHALL BE PROTECTED BY THE MAIN CONTROLLER CABINET POWER SURGE PROTECTION.
20. CONTRACTOR TO INSTALL NEW SIGNAL EQUIPMENT REQUIRED FOR ADAPTIVE SIGNAL SYSTEM FURNISHED BY SOFTWARE SUPPLIER. CONTRACTOR TO REPLACE EXISTING CONTROLLER, INSTALL VIDEO DETECTION SENSORS TO SUPPLY INFORMATION TO ADAPTIVE SOFTWARE.
21. CONTRACTOR TO REPLACE EXISTING 5 SECTION SIGNAL HEADS WITH 4 SECTION FLASHING YELLOW ARROW (FYA) SIGNAL HEADS. INSTALLATION OF FLASHING YELLOW ARROWS WILL REQUIRE CONTROLLER MODIFICATION TO ACCOMODATE NEW FYA. CONTRACTOR IS RESPONSIBLE FOR CABINET MODIFICATION AND ANY NECESSARY EQUIPMENT FOR FYA OPERATION.
22. EXISTING CONDUIT AND PULL BOXES SHALL BE USED TO RUN VIDEO DETECTION CABLES. ANY BROKEN OR DAMAGED CONDUIT THAT NEEDS TO BE REPLACED SHALL BE APPROVED BY THE ENGINEER.
23. CONTRACTOR TO CONTACT THE CITY OF LITTLE ROCK BEFORE REMOVING ANY CALBES. CONTRACTOR MAY USE OLD VIDEO/LOOP WIRING TO PULL NEW CABLES INTO EXISTING CONDUITS.
24. CONTRACTOR TO ENSURE MINIMAL DETECTION DOWNTIME. NEW VIDEO DETECTION SHALL BE INSTALLED PRIOR TO REMOVING EXISTING DETECTION.
25. USE EXISTING TRAFFIC SIGNAL CABLE FOR NEW FLASHING YELLOW ARROW SIGNAL INSTALLATION.
26. ADAPTIVE SYSTEM TO BE WIRED IN USING SPADE CABLES.
27. ADVANCE DETECTION INPUTS SHALL BE WIRED TO THE EXISTING D CONNECTOR PANEL IN THE CABINET AND THE SIGNAL CONTROLLER SHALL BE CONFIGURED FOR THE ADVANCE DETECTION AS SYSTEM/COUNT DETECTORS ONLY (NON-CALL DETECTION).
28. D CONNECTOR INPUTS FOR ADVANCED CAMERA DETECTION TO CONTROLLER ARE:
D1 & D2 = SB ADVANCED
D3 & D4 = NB ADVANCED
D5 & D6 = EB ADVANCED
D7 & D8 = WB ADVANCED



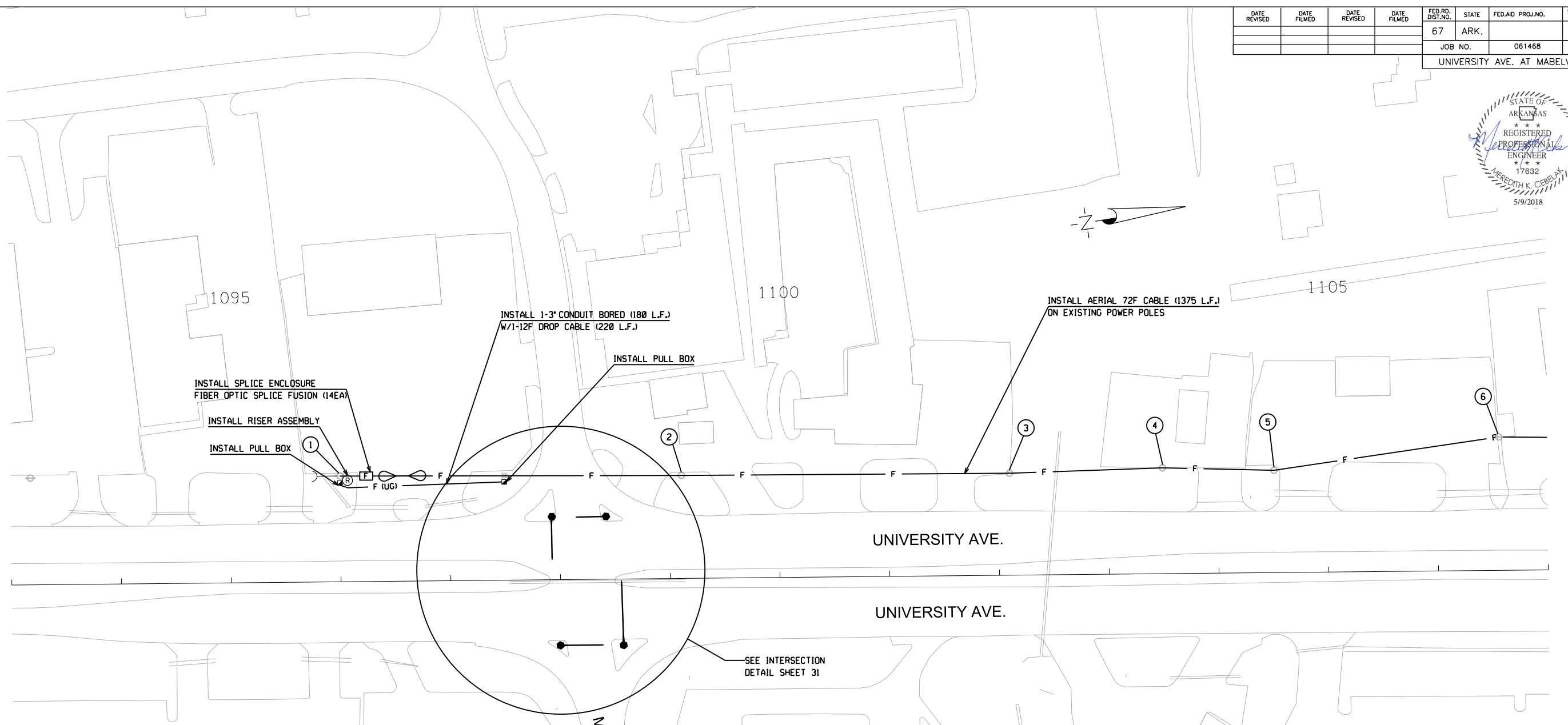
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				67	ARK.		3	80
				JOB NO.	061468			
UNIVERSITY AVE.								



NOTE: SHEETS 4-22- COMMUNICATIONS CONSTRUCTION PLAN SHEETS
SHEETS 23-68-ASCT & SIGNAL CONSTRUCTION PLANS SHEETS

		CITY OF LITTLE ROCK DEPARTMENT OF PUBLIC WORKS TRAFFIC ENGINEERING DIVISION			
		ADAPTIVE SIGNAL CONTROL COMM PLAN KEY LAYOUT SHEET			
REVISION	DATE	BY	SCALE 1" = 3000'	DATE 12/14/17	JOB NO.
			DRAWN BY TJC	CHECKED BY MKC	
			APPROVED BY XXX		SHEET 3/80

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		4	80
				JOB NO.	061468			
UNIVERSITY AVE. AT MABELVALE PIKE								



	TRAFFIC SIGNAL CONTROLLER
	PULL BOX (FIBER OPTIC)
- F (UG) -	FIBER OPTIC CABLE IN CONDUIT
- F -	OVERHEAD FIBER OPTIC CABLE
	UTILITY POLE
	MAST ARM AND POLE
	AERIAL FIBER OPTIC CABLE STORAGE 200'
	AERIAL FIBER OPTIC SPLICE ENCLOSURE
- ()	GUYING ANCHOR
	EXISTING PULL BOX
	UTILITY POLE NUMBER
	FIBER RISER

POLE #	PROPOSED ATTACHEMENT HEIGHT	DOWN GUY REQ'D
1	21'-2"	YES
2	27'-6"	NO
3	27'-0"	NO
4	22'-11"	NO
5	18'-10"	NO
6	21'-5"	NO

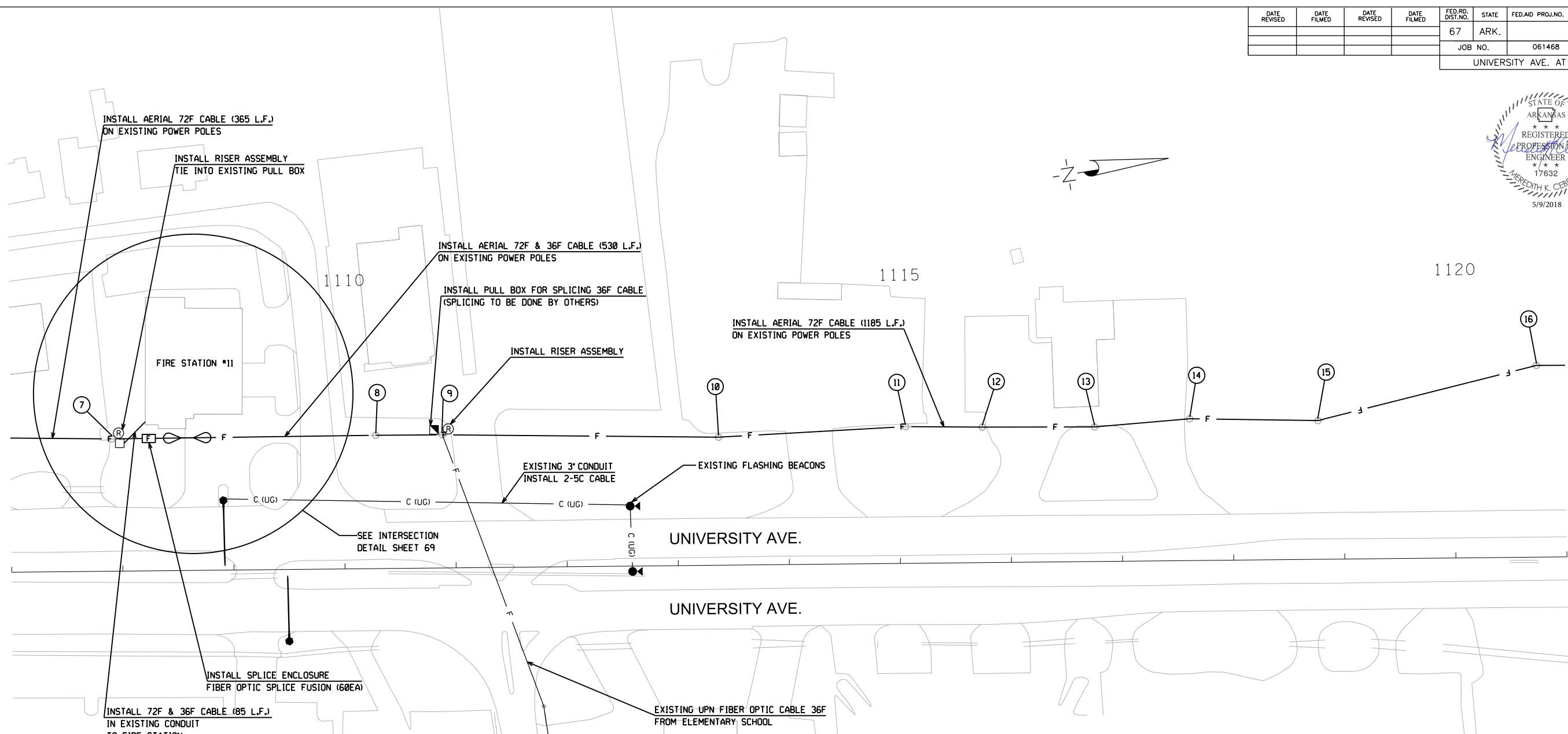


LR CITY OF LITTLE ROCK
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

ADAPTIVE SIGNAL CONTROL
COMMUNICATIONS PLAN

REVISION	DATE	BY	SCALE	DATE	JOB NO.
			1" = 40'	12/14/17	
DRAWN BY		CHECKED BY			
TJC		MKC			
APPROVED BY		XXX		SHEET 4/80	

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		5	80
				JOB NO.		061468		
UNIVERSITY AVE. AT 53RD ST.								

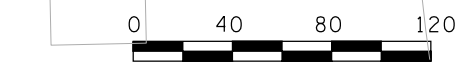


TRAFFIC SIGNAL LEGEND

	TRAFFIC SIGNAL CONTROLLER
	PULL BOX (FIBER OPTIC)
- F (UG) -	FIBER OPTIC CABLE IN CONDUIT
- F -	OVERHEAD FIBER OPTIC CABLE
	UTILITY POLE
	MAST ARM AND POLE
	AERIAL FIBER OPTIC CABLE STORAGE 200'
	AERIAL FIBER OPTIC SPLICE ENCLOSURE
	GUYING ANCHOR
	EXISTING PULL BOX
	UTILITY POLE NUMBER
	FIBER RISER
- C (UG) -	SIGNAL CABLE IN CONDUIT

UTILITY POLE ATTACHEMENT INFO

POLE #	PROPOSED ATTACHEMENT HEIGHT	DOWN GUY REQ'D
7	22'-8"	NO
8	27'-0"	NO
9	32'-0"	NO
10	25'-7"	NO
11	19'-4"	NO
12	19'-2"	NO
13	23'-8"	NO
14	21'-8"	NO
15	25'-3"	NO
16	24'-4"	NO



CITY OF LITTLE ROCK
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

ADAPTIVE SIGNAL CONTROL
COMMUNICATIONS PLAN

REVISION	DATE	BY	SCALE	DATE	JOB NO.
			1" = 40'	12/14/17	
DRAWN BY		CHECKED BY			
TJC		MKC			
APPROVED BY				SHEET 5/80	
XXX					

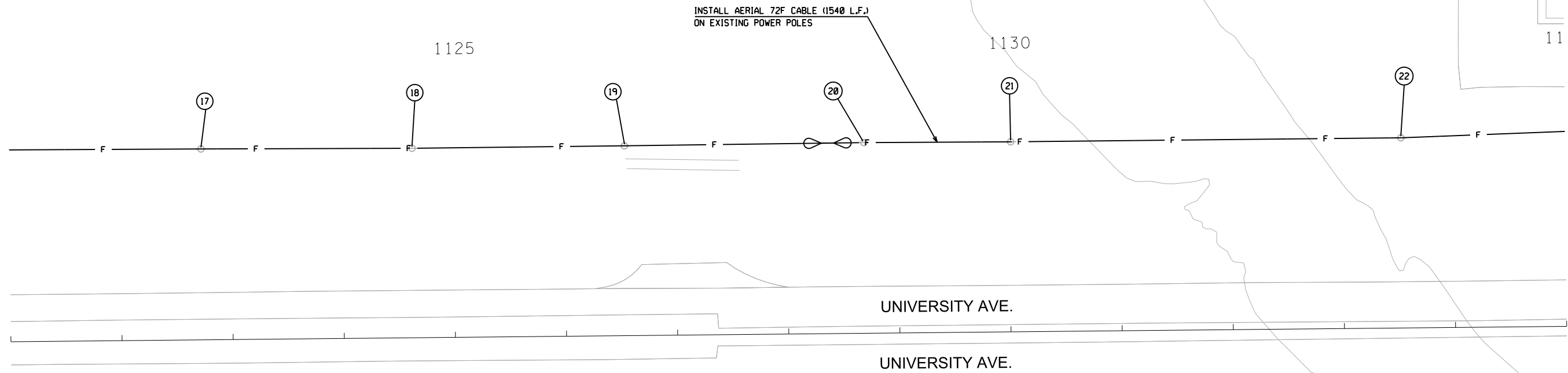
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		6	80
				JOB NO.	061468			

UNIVERSITY AVE.



11

INSTALL AERIAL 72F CABLE (1540 L.F.) ON EXISTING POWER POLES



	TRAFFIC SIGNAL CONTROLLER
	PULL BOX (FIBER OPTIC)
- F (UG) -	FIBER OPTIC CABLE IN CONDUIT
- F -	OVERHEAD FIBER OPTIC CABLE
	UTILITY POLE
	MAST ARM AND POLE
	AERIAL FIBER OPTIC CABLE STORAGE 200'
	AERIAL FIBER OPTIC SPLICE ENCLOSURE
	GUYING ANCHOR
	EXISTING PULL BOX
	UTILITY POLE NUMBER
	FIBER RISER

POLE #	PROPOSED ATTACHEMENT HEIGHT	DOWN GUY REQ'D
17	25'-5"	NO
18	23'-2"	NO
19	23'-5"	NO
20	21'-0"	NO
21	20'-9"	NO
22	23'-4"	NO

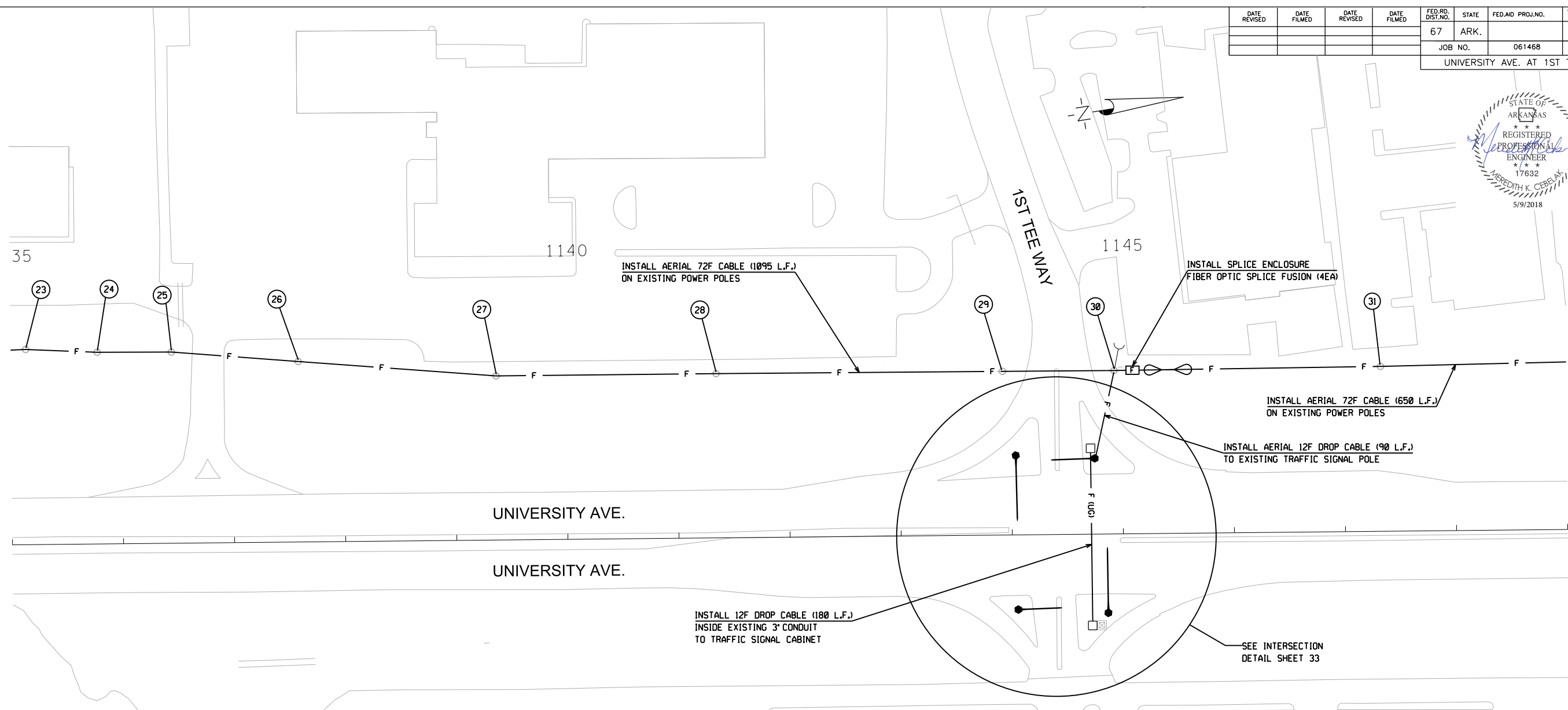


LR CITY OF LITTLE ROCK
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

ADAPTIVE SIGNAL CONTROL
COMMUNICATIONS PLAN

REVISION	DATE	BY	SCALE	DATE	JOB NO.
			1" = 40'	12/14/17	
DRAWN BY		CHECKED BY			
TJC		MKC			
APPROVED BY		SHEET		6	
XXX		80			

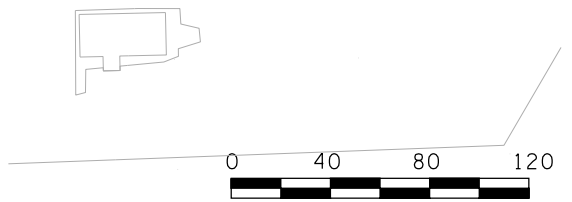
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		7	80
				JOB NO.	061468			
UNIVERSITY AVE. AT 1ST TEE WAY								



TRAFFIC SIGNAL LEGEND

- TRAFFIC SIGNAL CONTROLLER
- PULL BOX (FIBER OPTIC)
- FIBER OPTIC CABLE IN CONDUIT
- OVERHEAD FIBER OPTIC CABLE
- UTILITY POLE
- MAST ARM AND POLE
- AERIAL FIBER OPTIC CABLE STORAGE 200'
- AERIAL FIBER OPTIC SPLICE ENCLOSURE
- GUYING ANCHOR
- EXISTING PULL BOX
- UTILITY POLE NUMBER
- FIBER RISER

UTILITY POLE ATTACHEMENT INFO		
POLE #	PROPOSED ATTACHEMENT HEIGHT	DOWN GUY REQ'D
23	20'-9"	NO
24	20'-2"	NO
25	20'-2"	NO
26	20'-2"	NO
27	21'-11"	NO
28	21'-7"	NO
29	27'-0"	NO
30	25'-3"	YES
31	15'-2"	NO

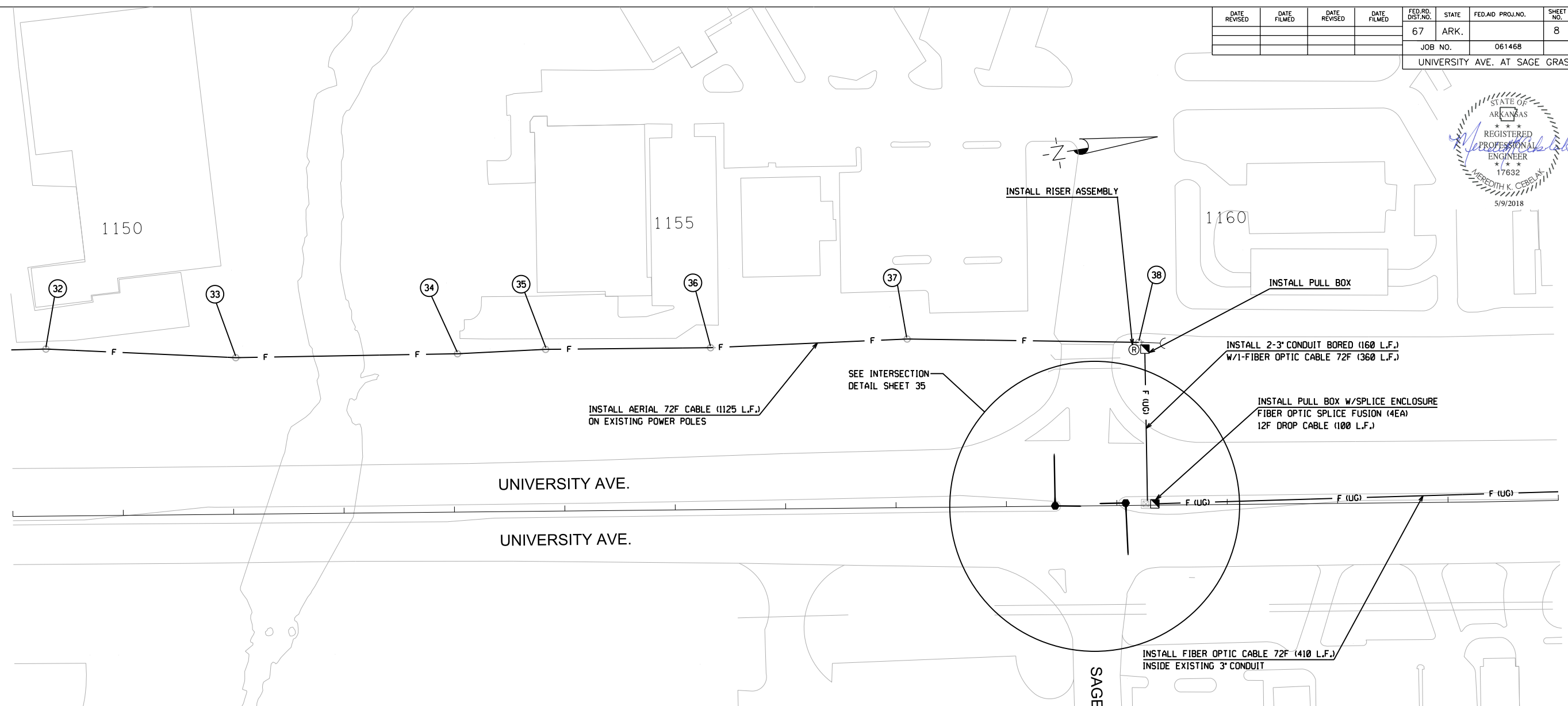


CITY OF LITTLE ROCK
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

ADAPTIVE SIGNAL CONTROL
COMMUNICATIONS PLAN

REVISION	DATE	BY	SCALE	DATE	JOB NO.
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DRAWN BY		CHECKED BY			
TJC		MKC			
APPROVED BY				SHEET	
XXX				7/80	

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		8	80
				JOB NO.		061468		
UNIVERSITY AVE. AT SAGE GRASS CT.								

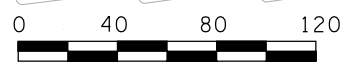


TRAFFIC SIGNAL LEGEND

- ☒ TRAFFIC SIGNAL CONTROLLER
- ▣ PULL BOX (FIBER OPTIC)
- F (UG) - FIBER OPTIC CABLE IN CONDUIT
- F - OVERHEAD FIBER OPTIC CABLE
- ⊕ UTILITY POLE
- MAST ARM AND POLE
- ∞ AERIAL FIBER OPTIC CABLE STORAGE 200'
- ▢ AERIAL FIBER OPTIC SPLICE ENCLOSURE
- C GUYING ANCHOR
- EXISTING PULL BOX
- Ⓜ UTILITY POLE NUMBER
- Ⓡ FIBER RISER

UTILITY POLE ATTACHEMENT INFO

POLE #	PROPOSED ATTACHEMENT HEIGHT	DOWN GUY REQ'D
32	16'-2"	NO
33	16'-8"	NO
34	18'-5"	NO
35	20'-7"	NO
36	20'-10"	NO
37	18'-6"	NO
38	21'-9"	YES

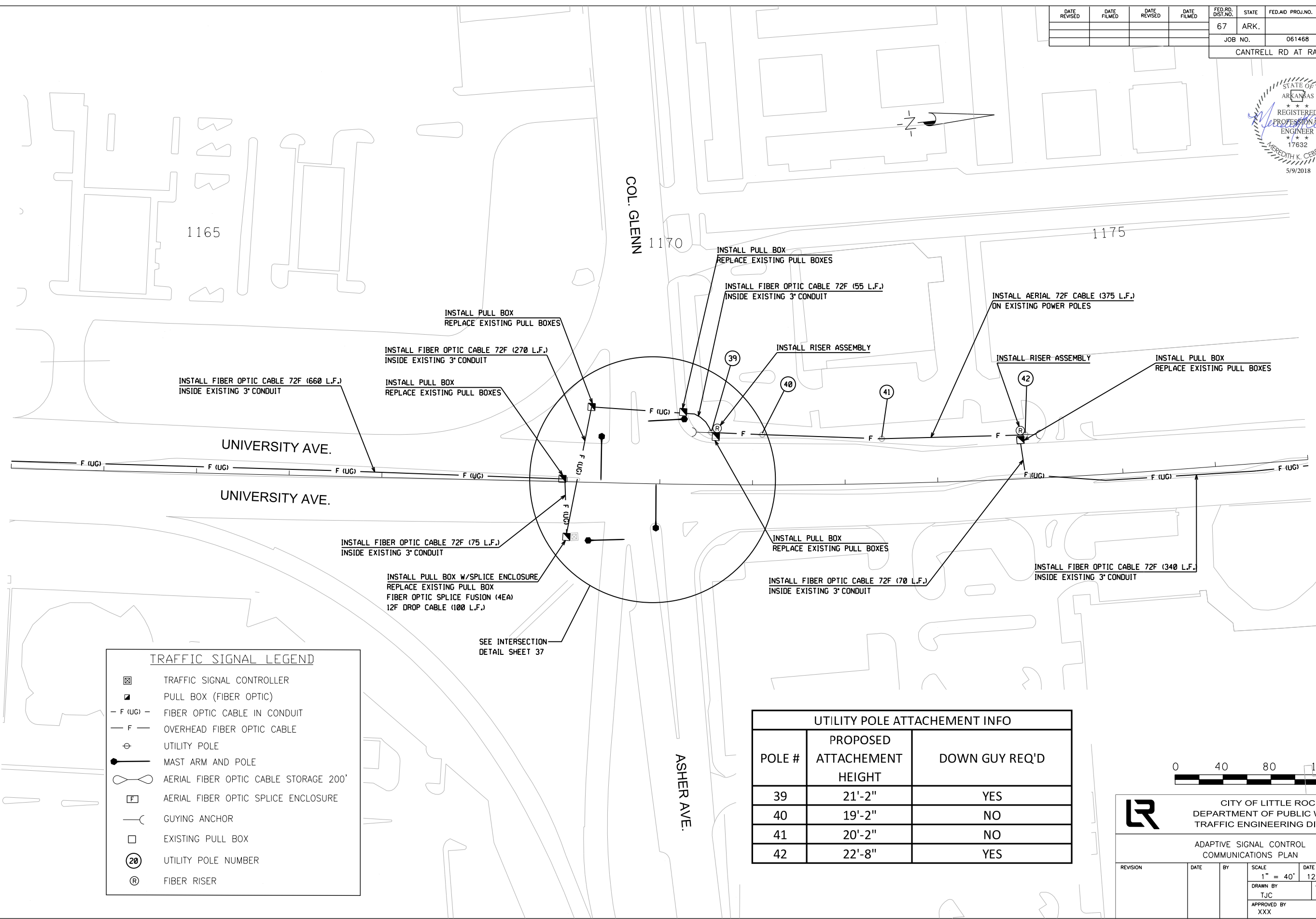


CITY OF LITTLE ROCK
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

ADAPTIVE SIGNAL CONTROL
COMMUNICATIONS PLAN

REVISION	DATE	BY	SCALE	DATE	JOB NO.
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DRAWN BY		CHECKED BY			
TJC		MKC			
APPROVED BY				SHEET	
XXX				8 / 80	

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		9	80
				JOB NO.		061468		
CANTRELL RD AT RANCH BLVD								

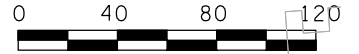


TRAFFIC SIGNAL LEGEND

	TRAFFIC SIGNAL CONTROLLER
	PULL BOX (FIBER OPTIC)
	FIBER OPTIC CABLE IN CONDUIT
	OVERHEAD FIBER OPTIC CABLE
	UTILITY POLE
	MAST ARM AND POLE
	AERIAL FIBER OPTIC CABLE STORAGE 200'
	AERIAL FIBER OPTIC SPLICE ENCLOSURE
	GUYING ANCHOR
	EXISTING PULL BOX
	UTILITY POLE NUMBER
	FIBER RISER

UTILITY POLE ATTACHEMENT INFO

POLE #	PROPOSED ATTACHEMENT HEIGHT	DOWN GUY REQ'D
39	21'-2"	YES
40	19'-2"	NO
41	20'-2"	NO
42	22'-8"	YES

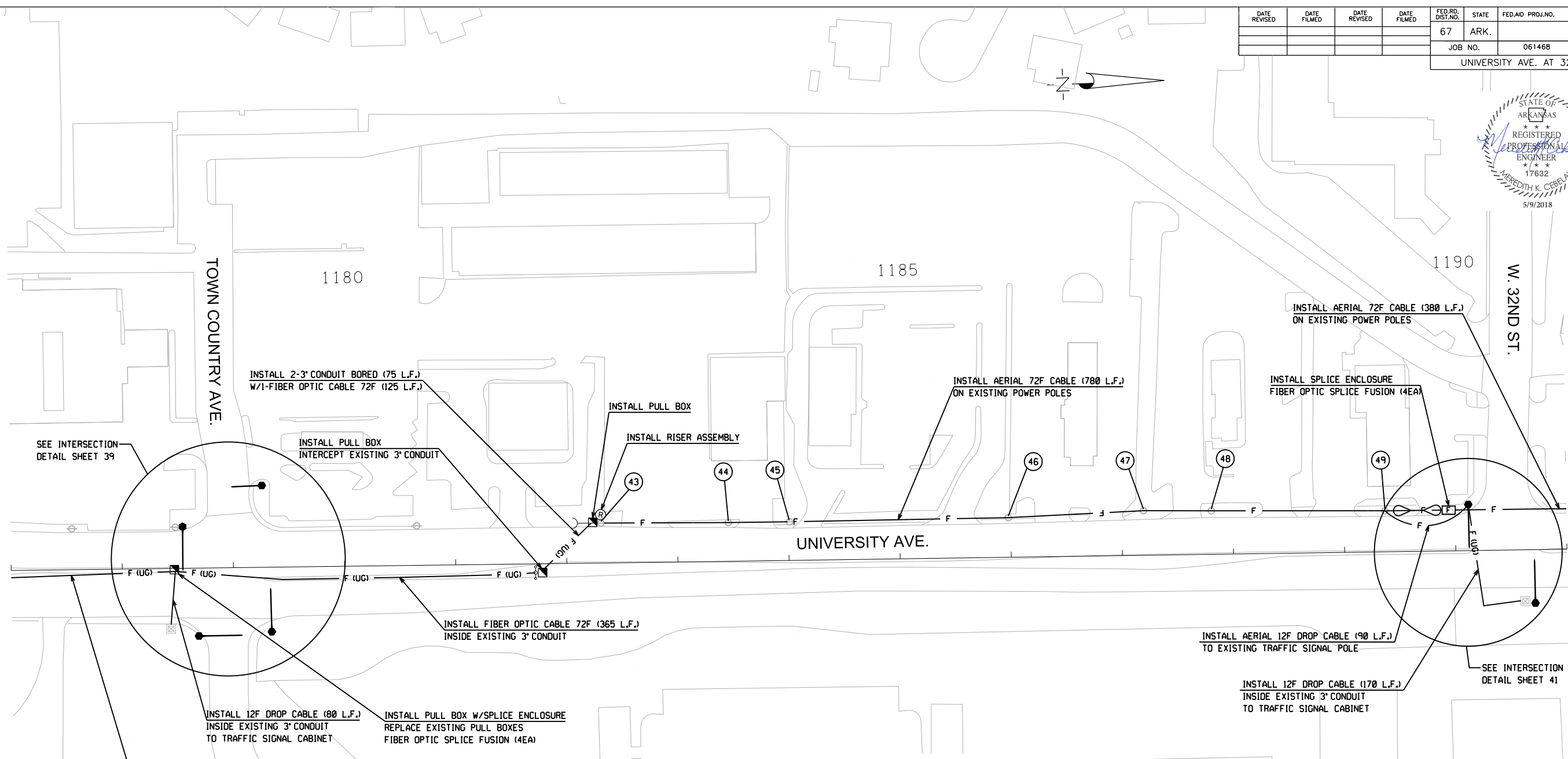


CITY OF LITTLE ROCK
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

ADAPTIVE SIGNAL CONTROL
COMMUNICATIONS PLAN

REVISION	DATE	BY	SCALE	DATE	JOB NO.
			1" = 40'	12/14/17	
DRAWN BY		CHECKED BY			
TJC		MKC			
APPROVED BY				SHEET 9/80	
XXX					

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		10	80
				JOB NO.		061468		
UNIVERSITY AVE. AT 32ND AVE.								



SEE INTERSECTION
DETAIL SHEET 39

SEE INTERSECTION
DETAIL SHEET 41

TRAFFIC SIGNAL LEGEND	
	TRAFFIC SIGNAL CONTROLLER
	PULL BOX (FIBER OPTIC)
	FIBER OPTIC CABLE IN CONDUIT
	OVERHEAD FIBER OPTIC CABLE
	UTILITY POLE
	MAST ARM AND POLE
	AERIAL FIBER OPTIC CABLE STORAGE 200'
	AERIAL FIBER OPTIC SPLICE ENCLOSURE
	GUYING ANCHOR
	EXISTING PULL BOX
	UTILITY POLE NUMBER
	FIBER RISER

UTILITY POLE ATTACHEMENT INFO		
POLE #	PROPOSED ATTACHEMENT HEIGHT	DOWN GUY REQ'D
43	21'-9"	YES
44	22'-2"	NO
45	20'-7"	NO
46	21'-9"	NO
47	19'-9"	NO
48	23'-6"	NO
49	22'-7"	NO

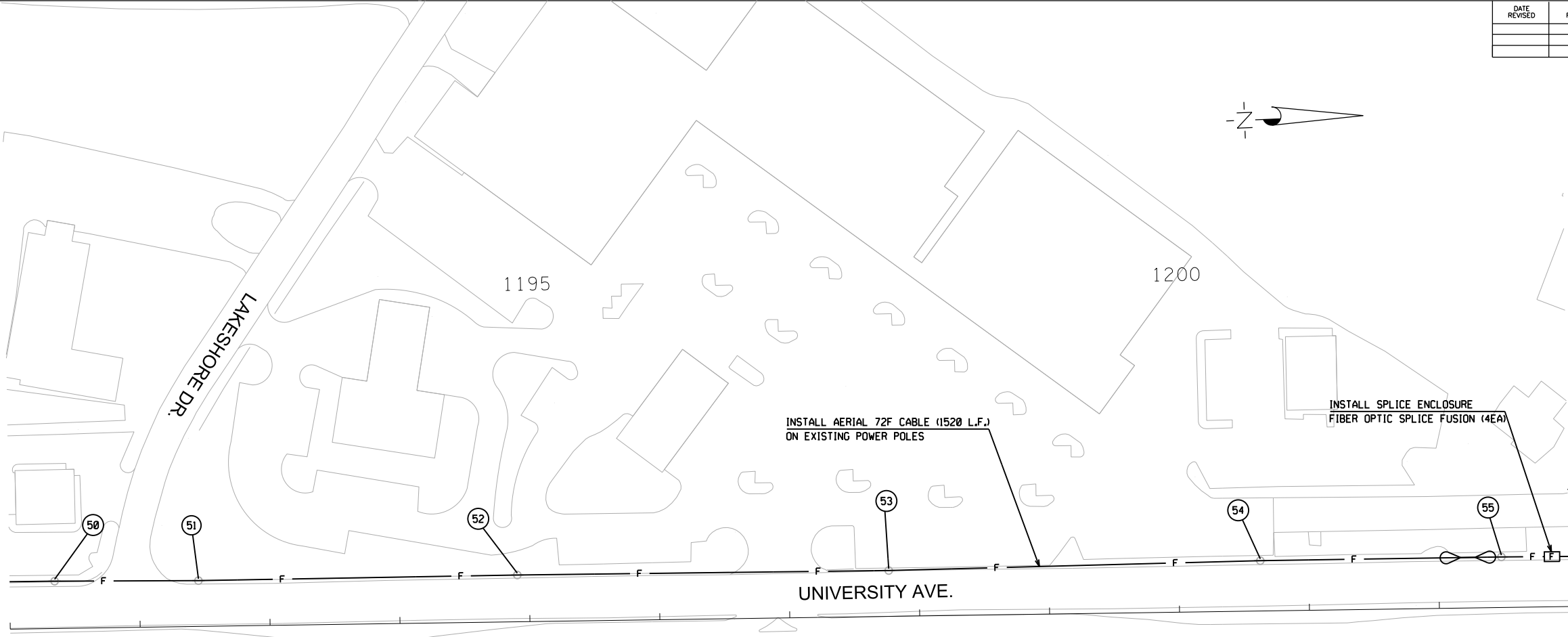
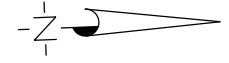


CITY OF LITTLE ROCK
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

ADAPTIVE SIGNAL CONTROL
COMMUNICATIONS PLAN

REVISION	DATE	BY	SCALE	DATE	JOB NO.
			1" = 40'	12/14/17	
DRAWN BY		CHECKED BY			
TJC		MKC			
APPROVED BY				SHEET	
XXX				10/80	

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		11	80
				JOB NO.	061468			
UNIVERSITY AVE AT LAKESHORE DR.								



TRAFFIC SIGNAL LEGEND

- TRAFFIC SIGNAL CONTROLLER
- PULL BOX (FIBER OPTIC)
- F (UG) - FIBER OPTIC CABLE IN CONDUIT
- F - OVERHEAD FIBER OPTIC CABLE
- ⊕ UTILITY POLE
- MAST ARM AND POLE
- ⊖ AERIAL FIBER OPTIC CABLE STORAGE 200'
- ⊞ AERIAL FIBER OPTIC SPLICE ENCLOSURE
- C GUYING ANCHOR
- EXISTING PULL BOX
- ⓪ UTILITY POLE NUMBER
- Ⓜ FIBER RISER

UTILITY POLE ATTACHEMENT INFO

POLE #	PROPOSED ATTACHEMENT HEIGHT	DOWN GUY REQ'D
50	25'-8"	NO
51	25'-0"	NO
52	21'-9"	NO
53	26'-7"	NO
54	21'-1"	NO
55	23'-1"	NO

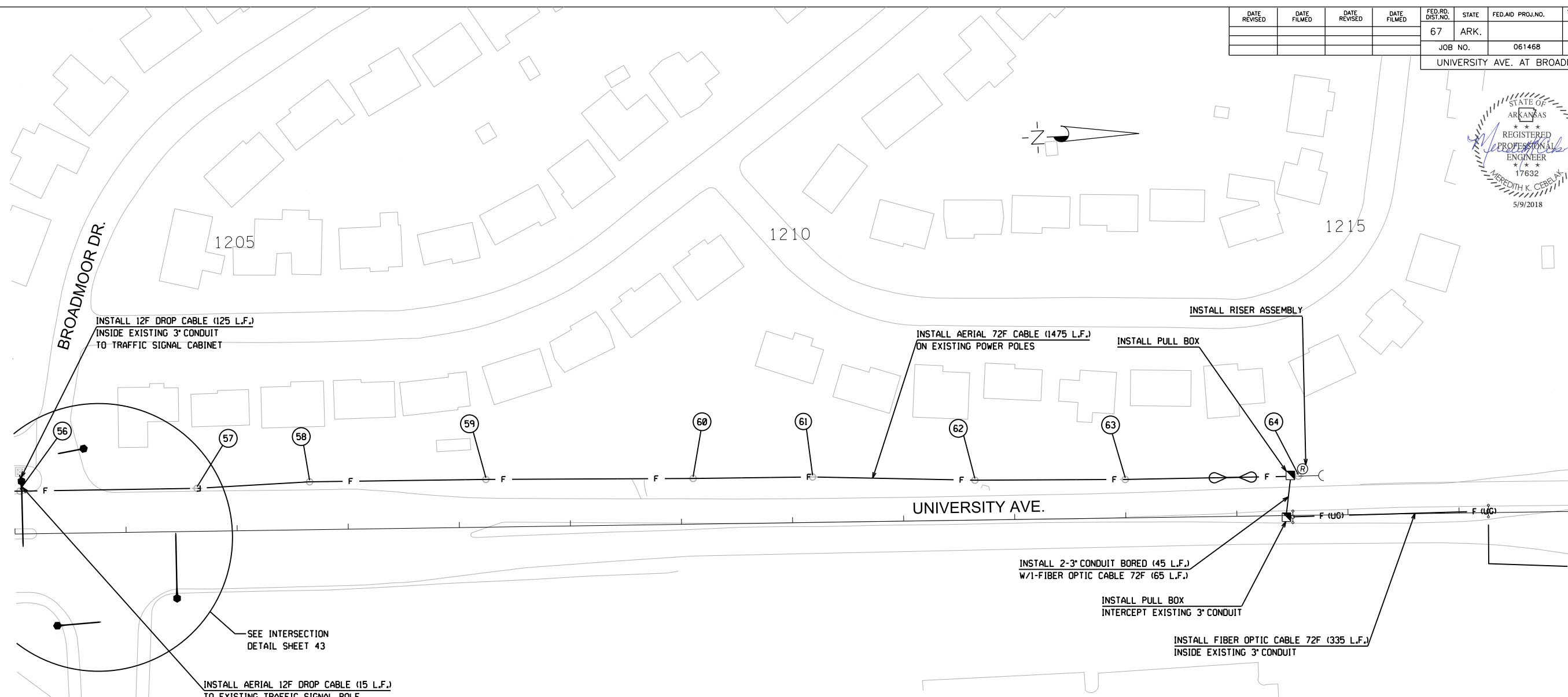


LR CITY OF LITTLE ROCK
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

ADAPTIVE SIGNAL CONTROL
COMMUNICATIONS PLAN

REVISION	DATE	BY	SCALE 1" = 40'	DATE 12/14/17	JOB NO.
DRAWN BY TJC			CHECKED BY MKC		
APPROVED BY XXX			SHEET 11/80		

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		12	80
				JOB NO.	061468			
UNIVERSITY AVE. AT BROADMOOR DR.								



SEE INTERSECTION
DETAIL SHEET 43

	TRAFFIC SIGNAL CONTROLLER
	PULL BOX (FIBER OPTIC)
	FIBER OPTIC CABLE IN CONDUIT
	OVERHEAD FIBER OPTIC CABLE
	UTILITY POLE
	MAST ARM AND POLE
	AERIAL FIBER OPTIC CABLE STORAGE 200'
	AERIAL FIBER OPTIC SPLICE ENCLOSURE
	GUYING ANCHOR
	EXISTING PULL BOX
	UTILITY POLE NUMBER
	FIBER RISER

POLE #	PROPOSED ATTACHEMENT HEIGHT	DOWN GUY REQ'D
56	22'-10"	NO
57	22'-3"	NO
58	27'-0"	NO
59	26'-11"	NO
60	17'-0"	NO
61	16'-11"	NO
62	15'-1"	NO
63	16'-6"	NO
64	17'-7"	YES



CITY OF LITTLE ROCK
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

ADAPTIVE SIGNAL CONTROL
COMMUNICATIONS PLAN

REVISION	DATE	BY	SCALE	DATE	JOB NO.
			1" = 40'	12/14/17	
DRAWN BY		CHECKED BY			
TJC		MKC			
APPROVED BY				SHEET 12/80	
XXX					

BROADMOOR DR.

W. 28TH ST.

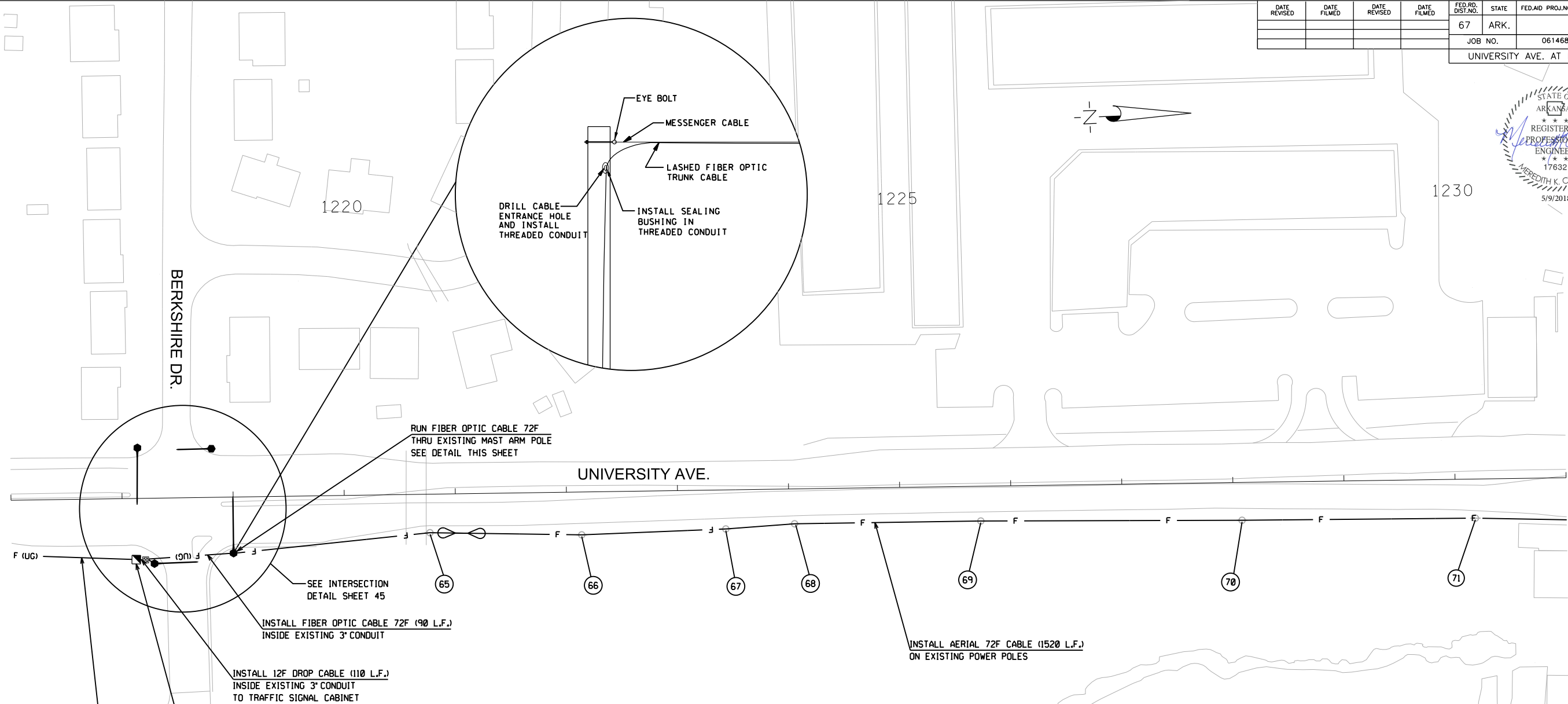
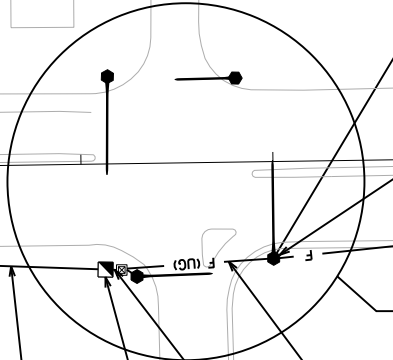
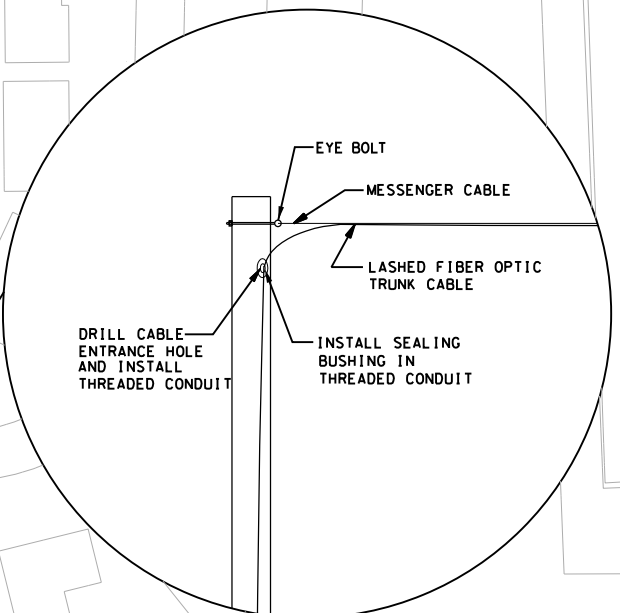
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1210

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UNIVERSITY AVE.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		13	80
				JOB NO.	061468			
UNIVERSITY AVE. AT BERKSHIRE DR.								



TRAFFIC SIGNAL LEGEND

- ☒ TRAFFIC SIGNAL CONTROLLER
- ▣ PULL BOX (FIBER OPTIC)
- F (UG) - FIBER OPTIC CABLE IN CONDUIT
- F - OVERHEAD FIBER OPTIC CABLE
- ⊕ UTILITY POLE
- MAST ARM AND POLE
- ⊖ AERIAL FIBER OPTIC CABLE STORAGE 200'
- ⊞ AERIAL FIBER OPTIC SPLICE ENCLOSURE
- C GUYING ANCHOR
- EXISTING PULL BOX
- ⓪ UTILITY POLE NUMBER
- Ⓡ FIBER RISER

UTILITY POLE ATTACHEMENT INFO

POLE #	PROPOSED ATTACHEMENT HEIGHT	DOWN GUY REQ'D
65	20'-8"	YES
66	15'-5"	NO
67	14'-11"	NO
68	14'-7"	NO
69	14'-6"	NO
70	17'-9"	NO
71	17'-9"	NO

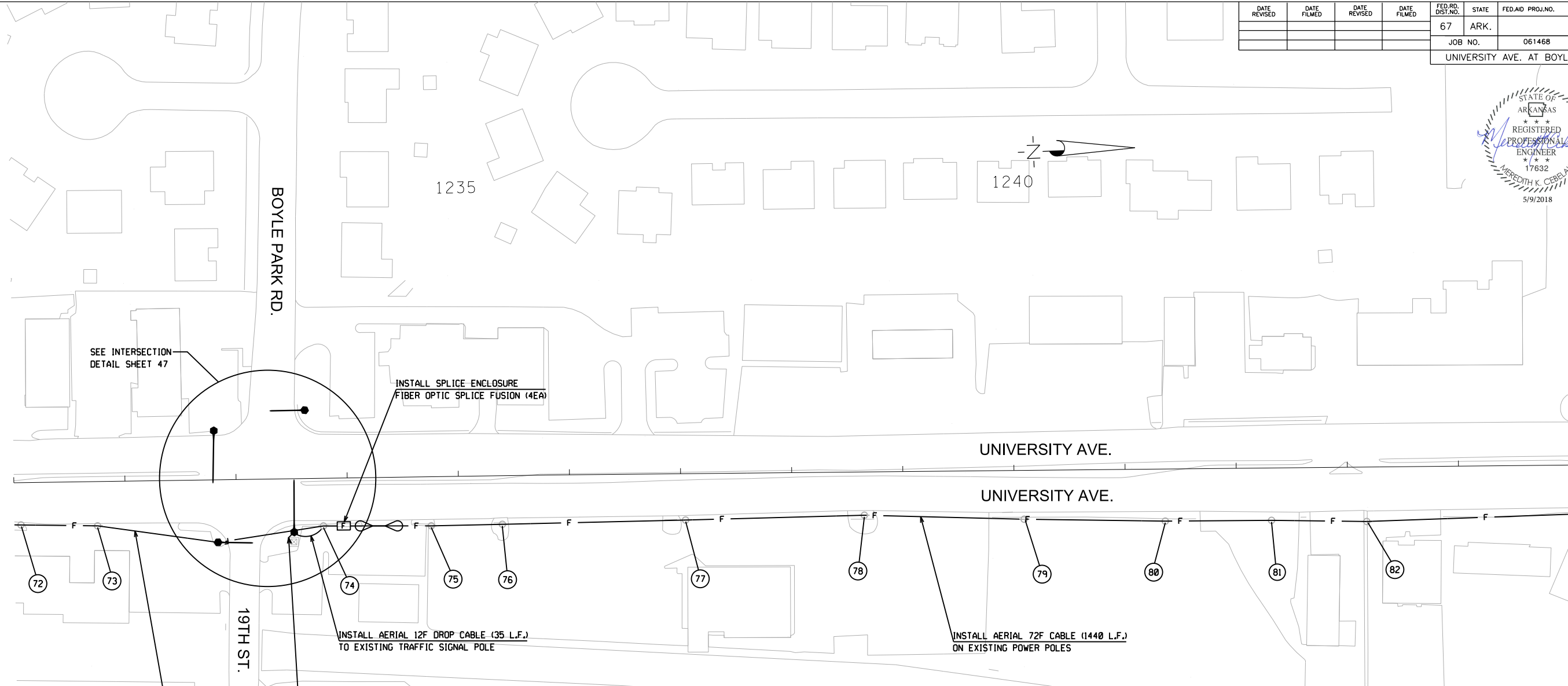


CITY OF LITTLE ROCK
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

ADAPTIVE SIGNAL CONTROL
COMMUNICATIONS PLAN

REVISION	DATE	BY	SCALE	DATE	JOB NO.
			1" = 40'	12/14/17	
DRAWN BY		CHECKED BY			
TJC		MKC			
APPROVED BY		SHEET		JOB NO.	
XXX		13		80	

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		14	80
				JOB NO.		061468		
UNIVERSITY AVE. AT BOYLE PARK RD.								



SEE INTERSECTION
DETAIL SHEET 47

INSTALL SPLICE ENCLOSURE
FIBER OPTIC SPLICE FUSION (4EA)

INSTALL AERIAL 12F DROP CABLE (35 L.F.)
TO EXISTING TRAFFIC SIGNAL POLE

INSTALL AERIAL 72F CABLE (1440 L.F.)
ON EXISTING POWER POLES

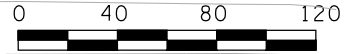
INSTALL 12F DROP CABLE (110 L.F.)
INSIDE EXISTING 3" CONDUIT
TO TRAFFIC SIGNAL CABINET

INSTALL AERIAL 72F CABLE (310 L.F.)
ON EXISTING POWER POLES

TRAFFIC SIGNAL LEGEND

- TRAFFIC SIGNAL CONTROLLER
- PULL BOX (FIBER OPTIC)
- FIBER OPTIC CABLE IN CONDUIT
- OVERHEAD FIBER OPTIC CABLE
- UTILITY POLE
- MAST ARM AND POLE
- AERIAL FIBER OPTIC CABLE STORAGE 200'
- AERIAL FIBER OPTIC SPLICE ENCLOSURE
- GUYING ANCHOR
- EXISTING PULL BOX
- UTILITY POLE NUMBER
- FIBER RISER

UTILITY POLE ATTACHEMENT INFO		
POLE #	PROPOSED ATTACHEMENT HEIGHT	DOWN GUY REQ'D
72	16'-7"	NO
73	18'-6"	NO
74	21'-10"	NO
75	24'-10"	NO
76	20'-5"	NO
77	22'-3"	NO
78	29'-0"	NO
79	22'-2"	NO
80	18'-5"	NO
81	20'-7"	NO
82	24'-10"	NO

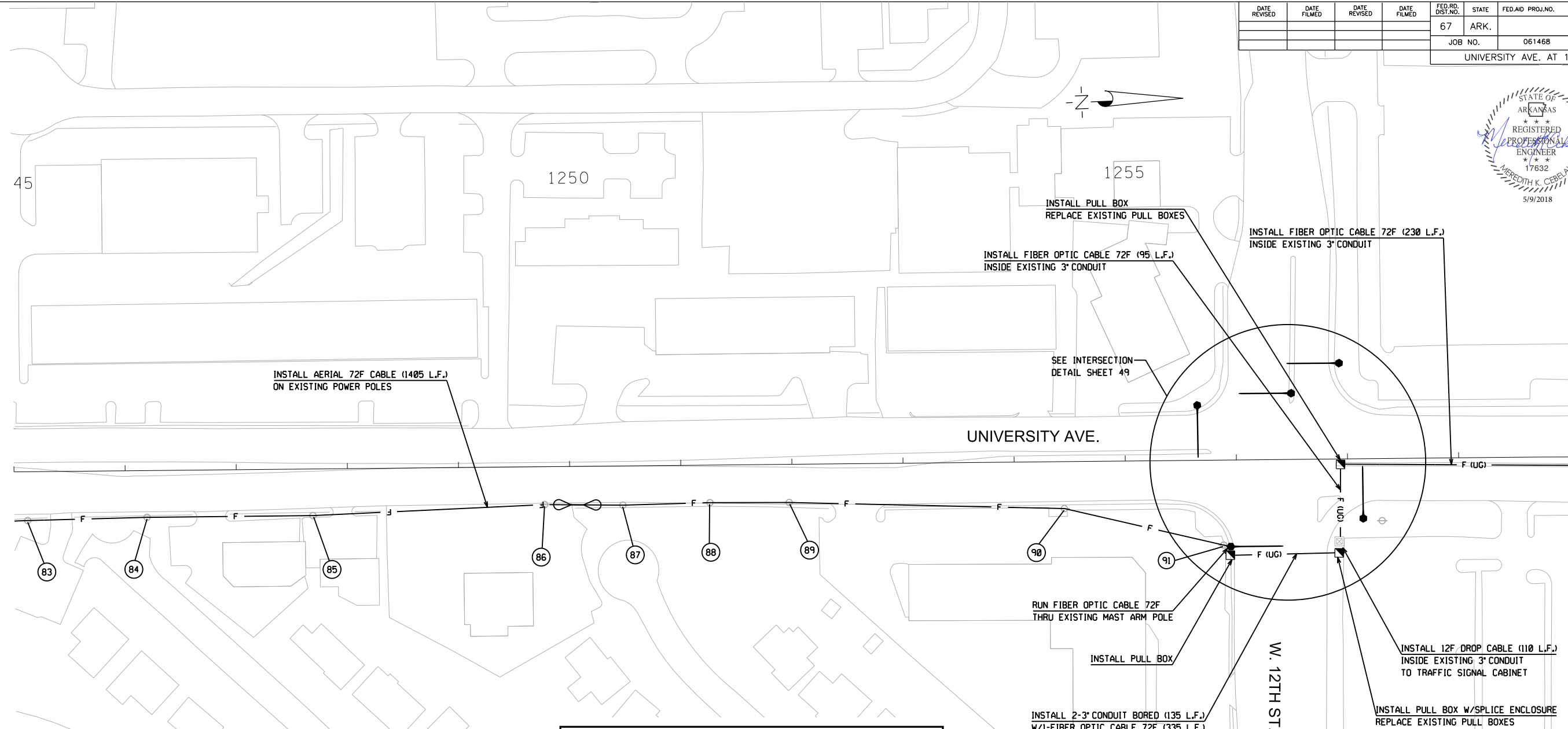


CITY OF LITTLE ROCK
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

ADAPTIVE SIGNAL CONTROL
COMMUNICATIONS PLAN

REVISION	DATE	BY	SCALE	DATE	JOB NO.
			1" = 40'	12/14/17	
DRAWN BY		CHECKED BY			
TJC		MKC			
APPROVED BY				SHEET 14	
XXX				80	

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		15	80
JOB NO. 061468							UNIVERSITY AVE. AT 12TH ST.	



TRAFFIC SIGNAL LEGEND

- TRAFFIC SIGNAL CONTROLLER
- PULL BOX (FIBER OPTIC)
- FIBER OPTIC CABLE IN CONDUIT
- OVERHEAD FIBER OPTIC CABLE
- UTILITY POLE
- MAST ARM AND POLE
- AERIAL FIBER OPTIC CABLE STORAGE 200'
- AERIAL FIBER OPTIC SPLICE ENCLOSURE
- GUYING ANCHOR
- EXISTING PULL BOX
- UTILITY POLE NUMBER
- FIBER RISER

UTILITY POLE ATTACHEMENT INFO		
POLE #	PROPOSED ATTACHEMENT HEIGHT	DOWN GUY REQ'D
83	24'-0"	NO
84	24'-2"	NO
85	23'-6"	NO
86	24'-0"	NO
87	23'-7"	NO
88	22'-11"	NO
89	29'-0"	NO
90	27'-0"	NO
91	27'-0"	NO

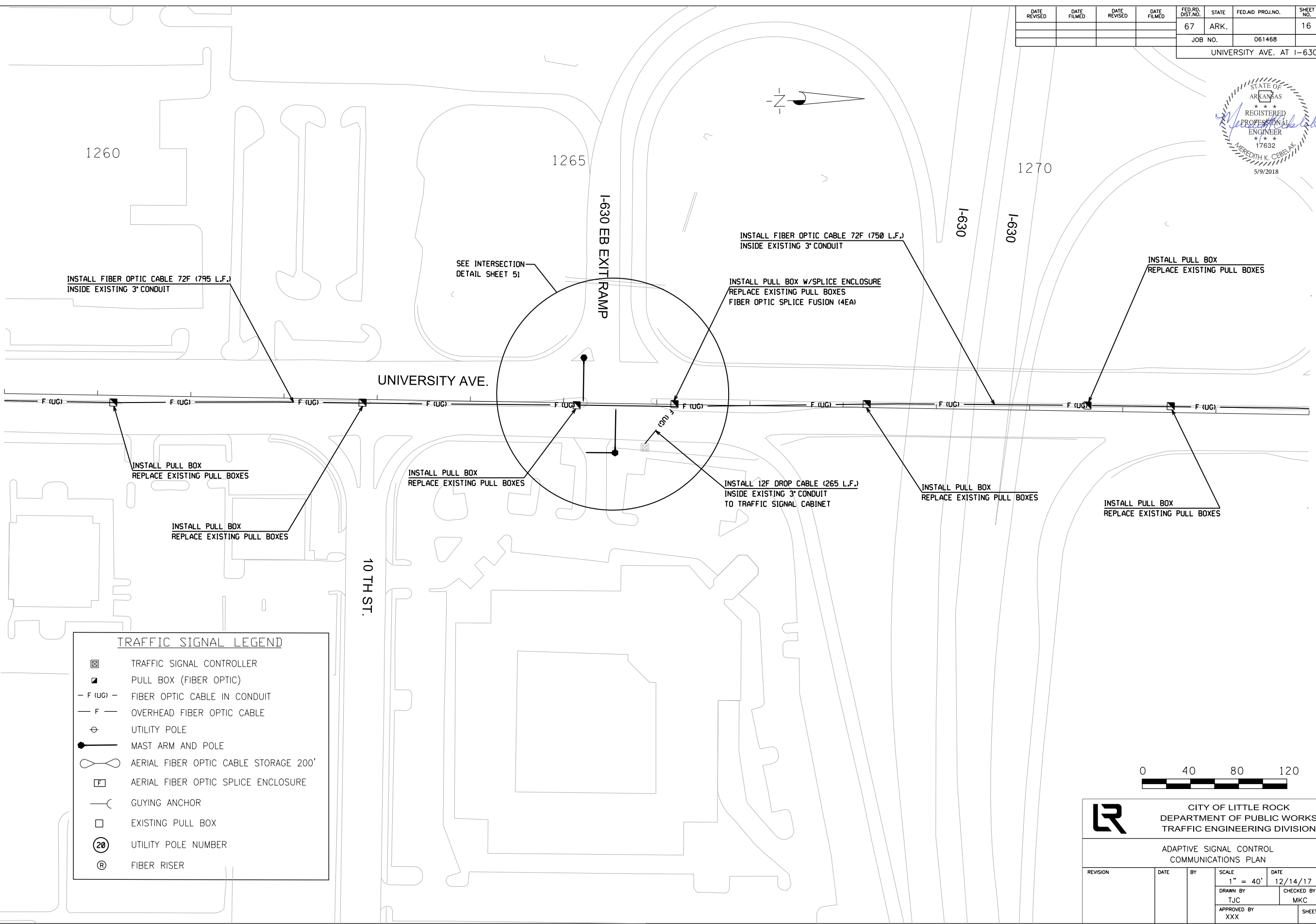
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CITY OF LITTLE ROCK
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

ADAPTIVE SIGNAL CONTROL
COMMUNICATIONS PLAN

REVISION	DATE	BY	SCALE	DATE	JOB NO.
			1" = 40'	12/14/17	
DRAWN BY		CHECKED BY			
TJC		MKC			
APPROVED BY				SHEET	
XXX				15 / 80	

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		16	80
				JOB NO.	061468			
UNIVERSITY AVE. AT I-630								

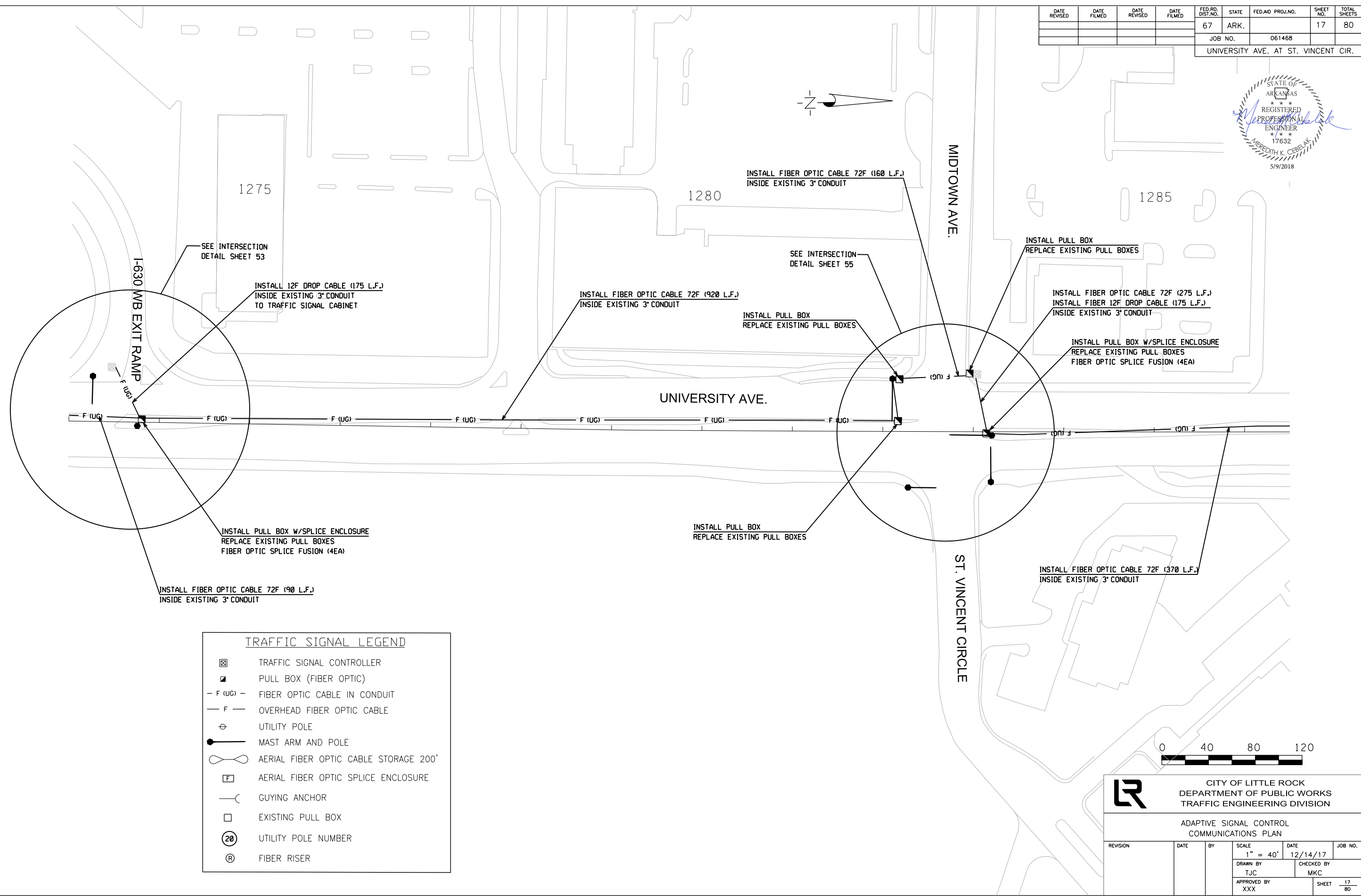
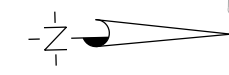


	TRAFFIC SIGNAL CONTROLLER
	PULL BOX (FIBER OPTIC)
	FIBER OPTIC CABLE IN CONDUIT
	OVERHEAD FIBER OPTIC CABLE
	UTILITY POLE
	MAST ARM AND POLE
	AERIAL FIBER OPTIC CABLE STORAGE 200'
	AERIAL FIBER OPTIC SPLICE ENCLOSURE
	GUYING ANCHOR
	EXISTING PULL BOX
	UTILITY POLE NUMBER
	FIBER RISER



CITY OF LITTLE ROCK DEPARTMENT OF PUBLIC WORKS TRAFFIC ENGINEERING DIVISION					
ADAPTIVE SIGNAL CONTROL COMMUNICATIONS PLAN					
REVISION	DATE	BY	SCALE	DATE	JOB NO.
			1" = 40'	12/14/17	
DRAWN BY TJC			CHECKED BY MKC		
APPROVED BY XXX			SHEET 16/80		

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		17	80
				JOB NO.		061468		
UNIVERSITY AVE. AT ST. VINCENT CIR.								



TRAFFIC SIGNAL LEGEND	
	TRAFFIC SIGNAL CONTROLLER
	PULL BOX (FIBER OPTIC)
	FIBER OPTIC CABLE IN CONDUIT
	OVERHEAD FIBER OPTIC CABLE
	UTILITY POLE
	MAST ARM AND POLE
	AERIAL FIBER OPTIC CABLE STORAGE 200'
	AERIAL FIBER OPTIC SPLICE ENCLOSURE
	GUYING ANCHOR
	EXISTING PULL BOX
	UTILITY POLE NUMBER
	FIBER RISER

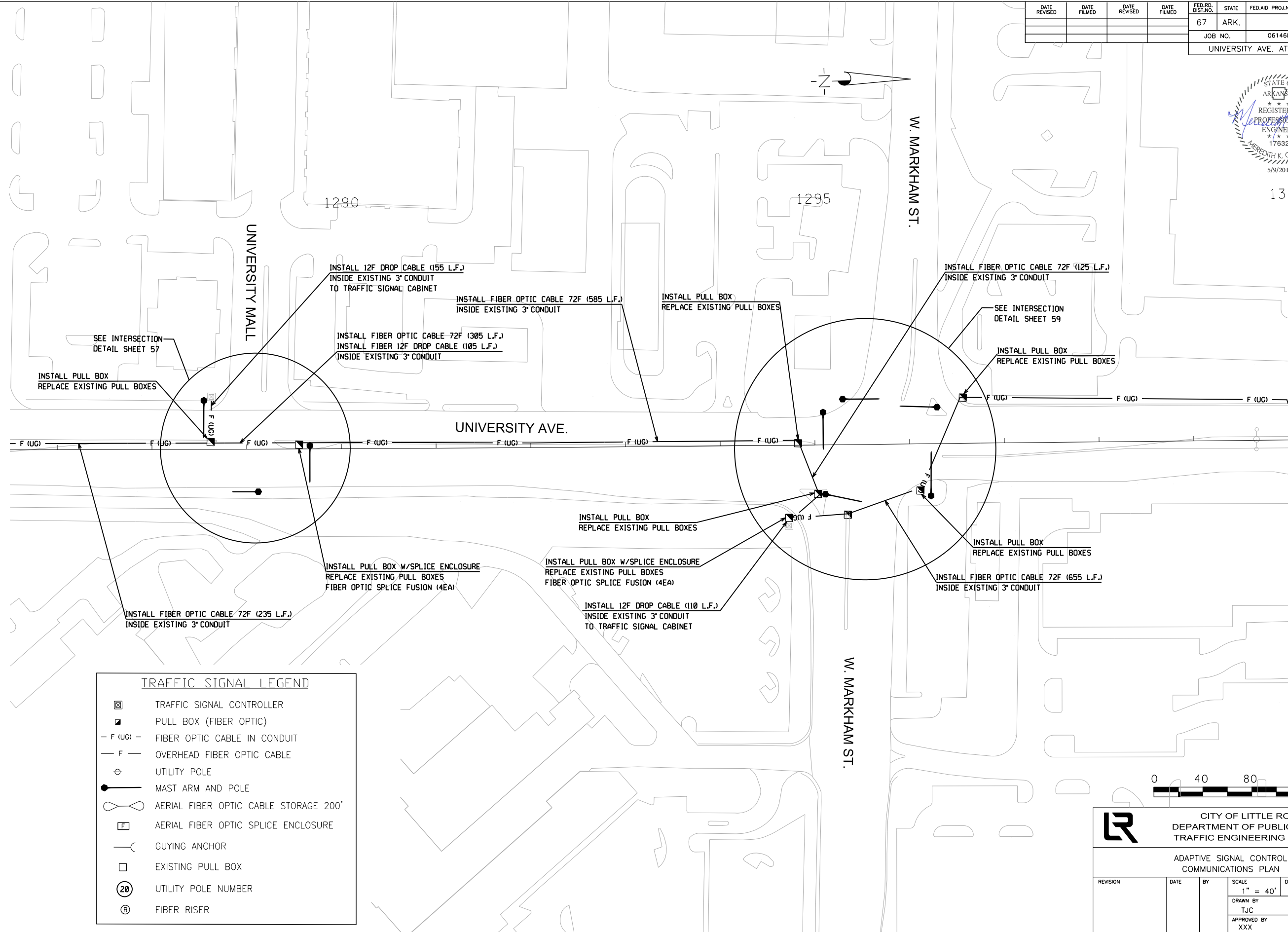


 CITY OF LITTLE ROCK DEPARTMENT OF PUBLIC WORKS TRAFFIC ENGINEERING DIVISION					
REVISION	DATE	BY	SCALE	DATE	JOB NO.
			1" = 40'	12/14/17	
DRAWN BY			CHECKED BY		
TJC			MKC		
APPROVED BY			SHEET		
XXX			17 / 80		

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		18	80
				JOB NO.	061468			
UNIVERSITY AVE. AT MARKHAM ST.								



13



TRAFFIC SIGNAL LEGEND	
	TRAFFIC SIGNAL CONTROLLER
	PULL BOX (FIBER OPTIC)
	FIBER OPTIC CABLE IN CONDUIT
	OVERHEAD FIBER OPTIC CABLE
	UTILITY POLE
	MAST ARM AND POLE
	AERIAL FIBER OPTIC CABLE STORAGE 200'
	AERIAL FIBER OPTIC SPLICE ENCLOSURE
	GUYING ANCHOR
	EXISTING PULL BOX
	UTILITY POLE NUMBER
	FIBER RISER



CITY OF LITTLE ROCK DEPARTMENT OF PUBLIC WORKS TRAFFIC ENGINEERING DIVISION					
ADAPTIVE SIGNAL CONTROL COMMUNICATIONS PLAN					
REVISION	DATE	BY	SCALE	DATE	JOB NO.
			1" = 40'	12/14/17	
DRAWN BY TJC			CHECKED BY MKC		
APPROVED BY XXX			SHEET 18 80		

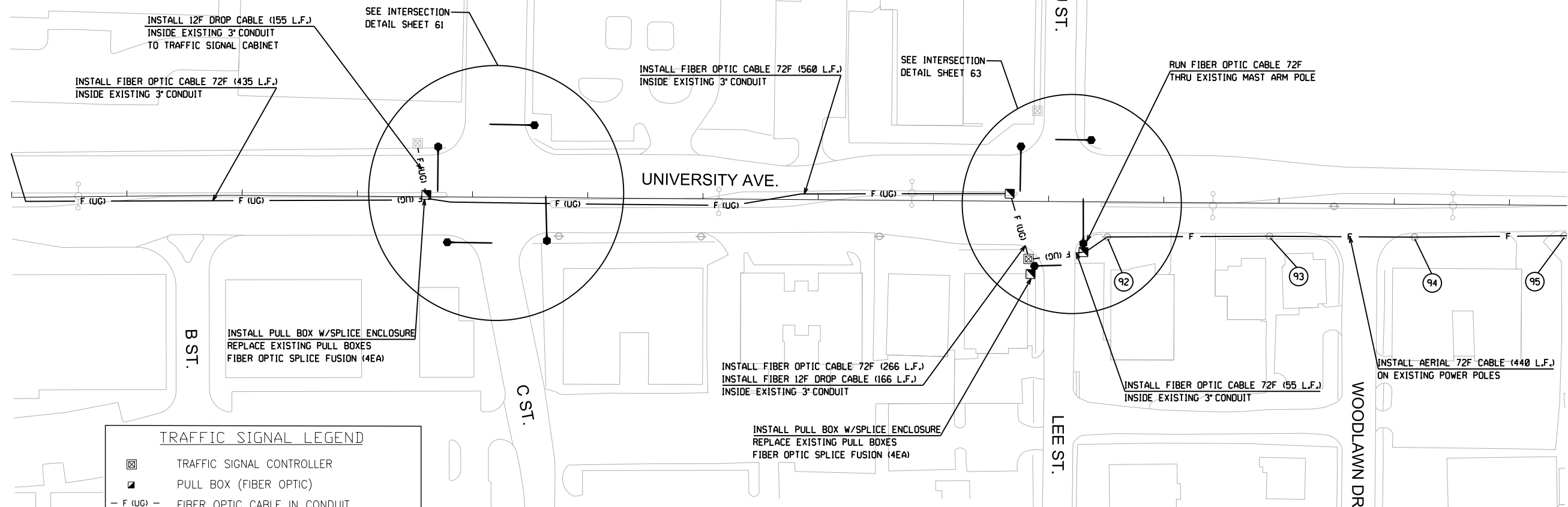
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		19	80
				JOB NO.		061468		
UNIVERSITY AVE. AT FATHER TRIBOU ST.								



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1305

1310



TRAFFIC SIGNAL LEGEND

- TRAFFIC SIGNAL CONTROLLER
- PULL BOX (FIBER OPTIC)
- FIBER OPTIC CABLE IN CONDUIT
- OVERHEAD FIBER OPTIC CABLE
- UTILITY POLE
- MAST ARM AND POLE
- AERIAL FIBER OPTIC CABLE STORAGE 200'
- AERIAL FIBER OPTIC SPLICE ENCLOSURE
- GUYING ANCHOR
- EXISTING PULL BOX
- UTILITY POLE NUMBER
- FIBER RISER

UTILITY POLE ATTACHEMENT INFO		
POLE #	PROPOSED ATTACHEMENT HEIGHT	DOWN GUY REQ'D
92	23'-1"	NO
93	23'5"	NO
94	20'-5"	NO
95	21'-1"	NO



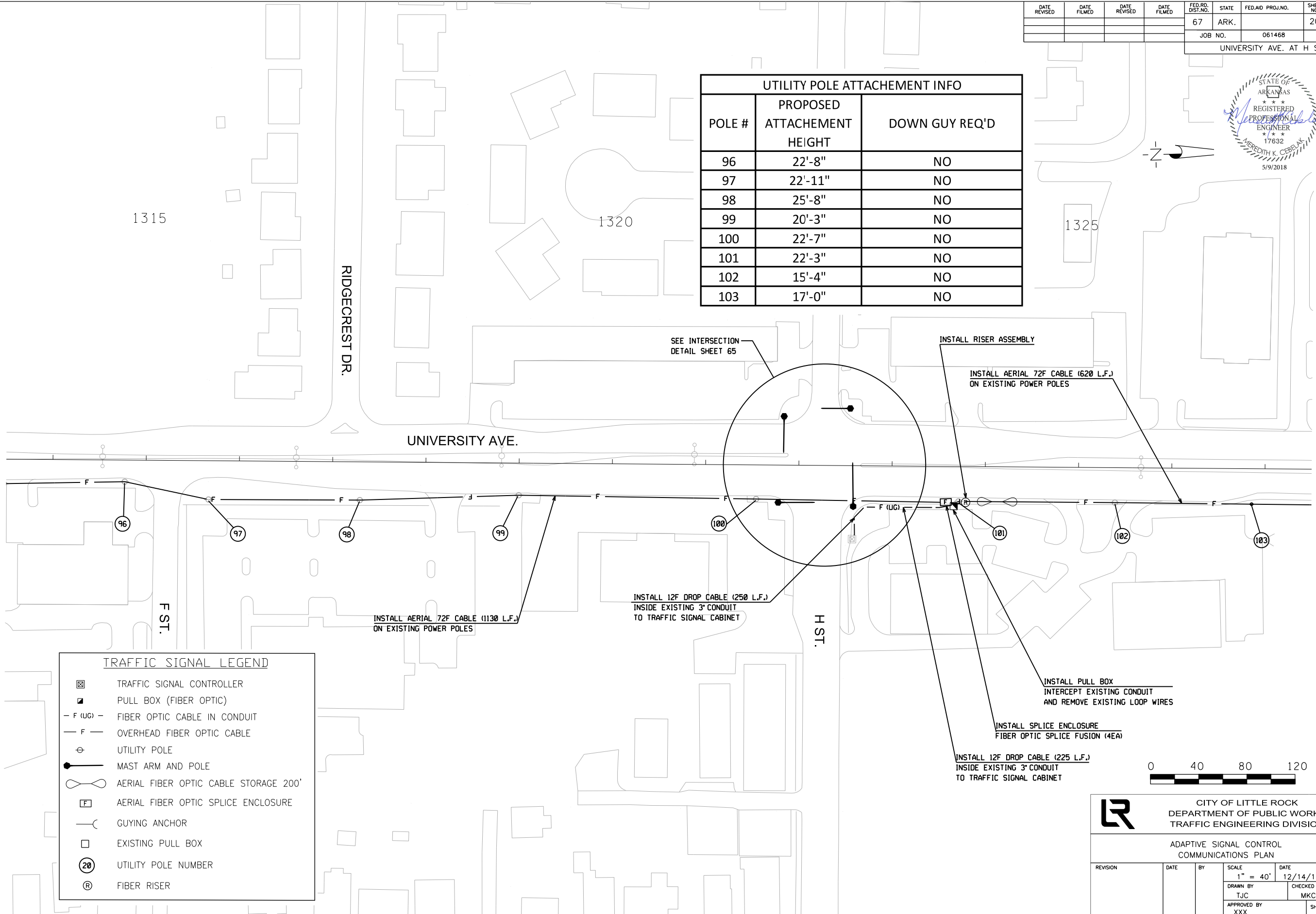
CITY OF LITTLE ROCK
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

ADAPTIVE SIGNAL CONTROL
COMMUNICATIONS PLAN

REVISION	DATE	BY	SCALE	DATE	JOB NO.
			1" = 40'	12/14/17	
DRAWN BY		CHECKED BY			
TJC		MKC			
APPROVED BY				SHEET	
XXX				19/80	

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		20	80
				JOB NO.		061468		
UNIVERSITY AVE. AT H ST.								

UTILITY POLE ATTACHEMENT INFO		
POLE #	PROPOSED ATTACHEMENT HEIGHT	DOWN GUY REQ'D
96	22'-8"	NO
97	22'-11"	NO
98	25'-8"	NO
99	20'-3"	NO
100	22'-7"	NO
101	22'-3"	NO
102	15'-4"	NO
103	17'-0"	NO



TRAFFIC SIGNAL LEGEND	
	TRAFFIC SIGNAL CONTROLLER
	PULL BOX (FIBER OPTIC)
	FIBER OPTIC CABLE IN CONDUIT
	OVERHEAD FIBER OPTIC CABLE
	UTILITY POLE
	MAST ARM AND POLE
	AERIAL FIBER OPTIC CABLE STORAGE 200'
	AERIAL FIBER OPTIC SPLICE ENCLOSURE
	GUYING ANCHOR
	EXISTING PULL BOX
	UTILITY POLE NUMBER
	FIBER RISER



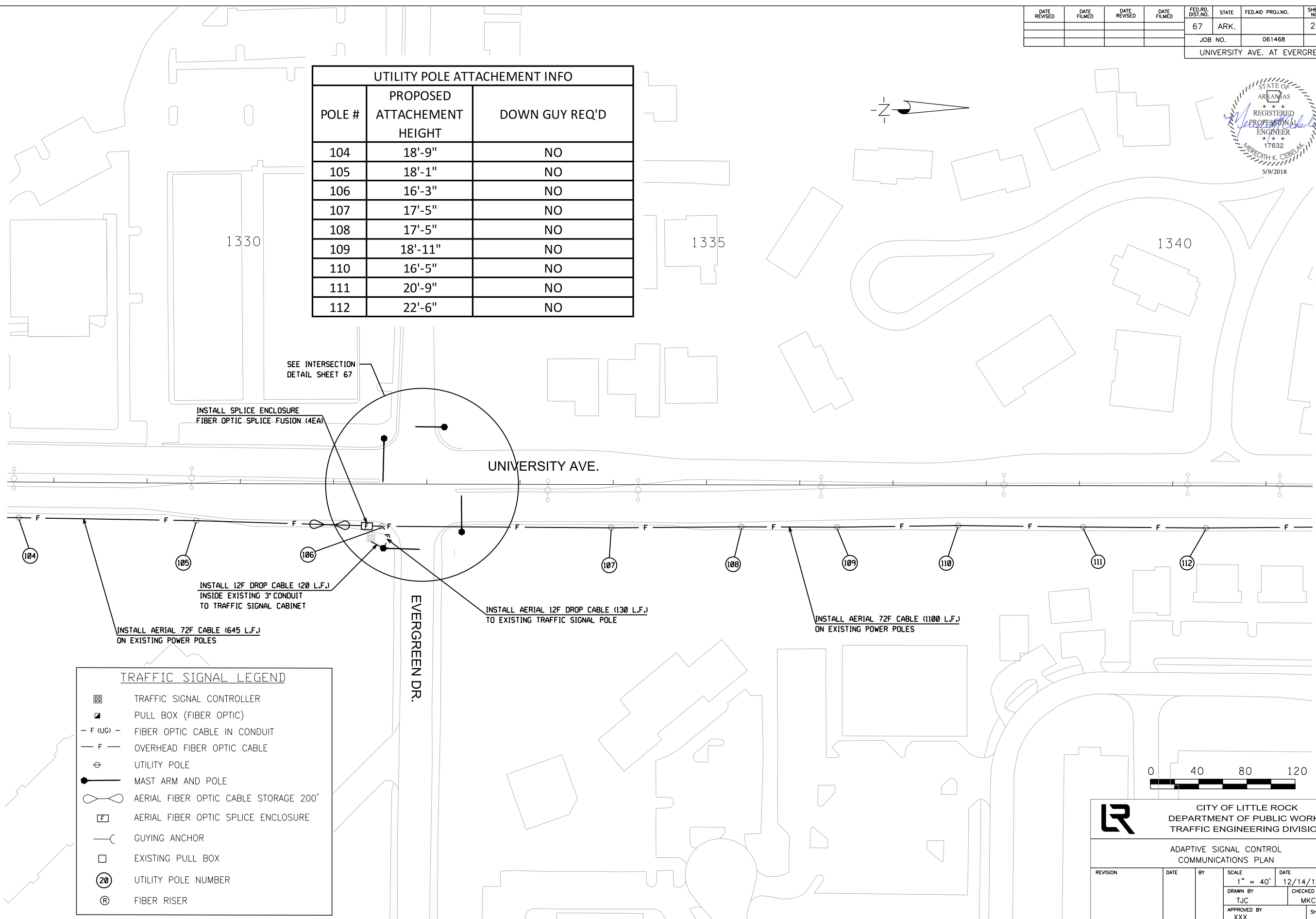
CITY OF LITTLE ROCK
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

ADAPTIVE SIGNAL CONTROL
COMMUNICATIONS PLAN

REVISION	DATE	BY	SCALE	DATE	JOB NO.
			1" = 40'	12/14/17	
		TJC		CHECKED BY	MKC
		APPROVED BY	XXX		SHEET 20/80

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		21	80
				JOB NO.		061468		
UNIVERSITY AVE. AT EVERGREEN DR.								

UTILITY POLE ATTACHEMENT INFO		
POLE #	PROPOSED ATTACHEMENT HEIGHT	DOWN GUY REQ'D
104	18'-9"	NO
105	18'-1"	NO
106	16'-3"	NO
107	17'-5"	NO
108	17'-5"	NO
109	18'-11"	NO
110	16'-5"	NO
111	20'-9"	NO
112	22'-6"	NO



SEE INTERSECTION
DETAIL SHEET 67

INSTALL SPLICE ENCLOSURE
FIBER OPTIC SPLICE FUSION (4EA)

INSTALL 12F DROP CABLE (20 L.F.)
INSIDE EXISTING 3" CONDUIT
TO TRAFFIC SIGNAL CABINET

INSTALL AERIAL 72F CABLE (645 L.F.)
ON EXISTING POWER POLES

INSTALL AERIAL 12F DROP CABLE (130 L.F.)
TO EXISTING TRAFFIC SIGNAL POLE

INSTALL AERIAL 72F CABLE (1100 L.F.)
ON EXISTING POWER POLES

TRAFFIC SIGNAL LEGEND	
	TRAFFIC SIGNAL CONTROLLER
	PULL BOX (FIBER OPTIC)
	FIBER OPTIC CABLE IN CONDUIT
	OVERHEAD FIBER OPTIC CABLE
	UTILITY POLE
	MAST ARM AND POLE
	AERIAL FIBER OPTIC CABLE STORAGE 200'
	AERIAL FIBER OPTIC SPLICE ENCLOSURE
	GUYING ANCHOR
	EXISTING PULL BOX
	UTILITY POLE NUMBER
	FIBER RISER



LR CITY OF LITTLE ROCK
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

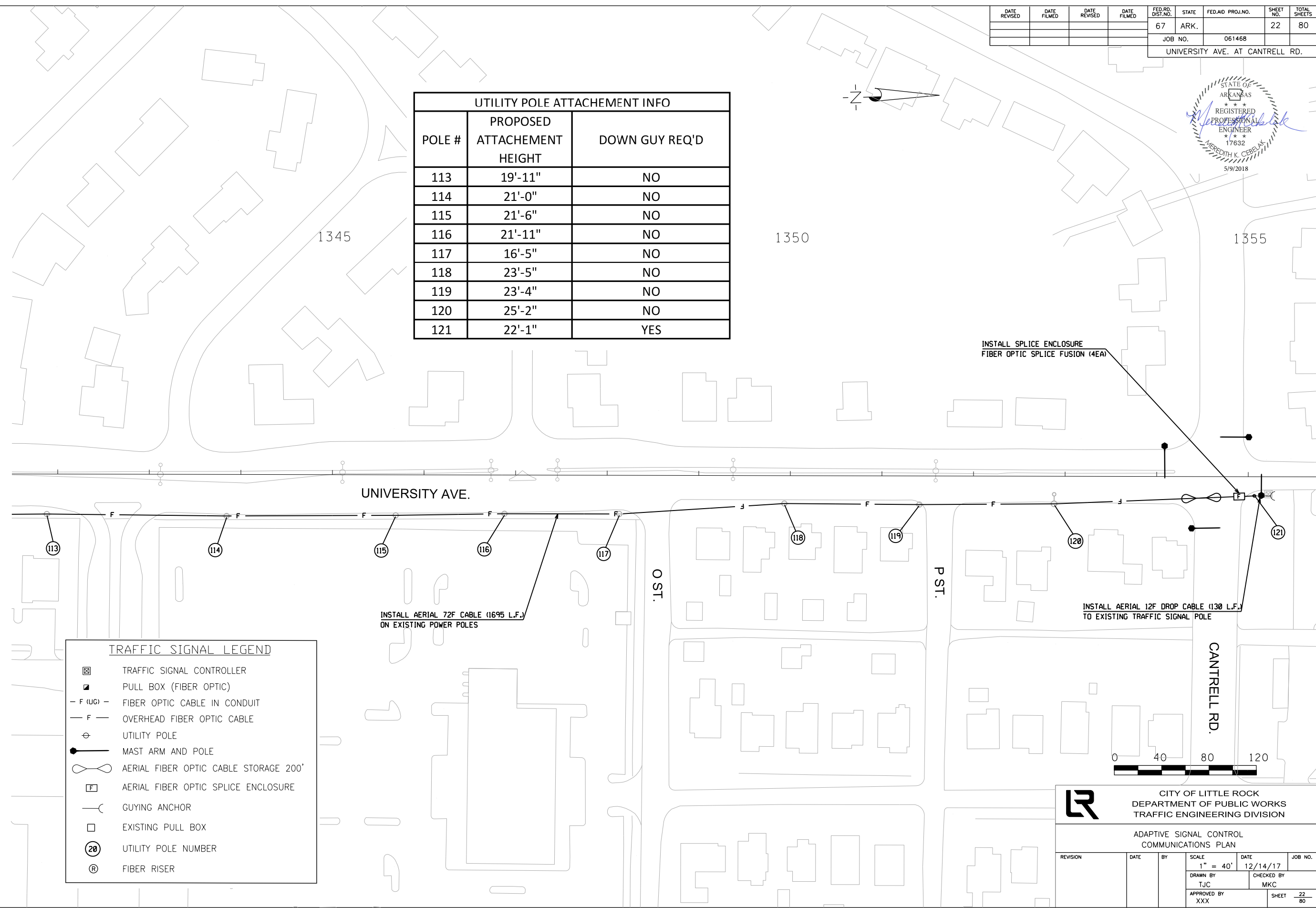
ADAPTIVE SIGNAL CONTROL
COMMUNICATIONS PLAN

REVISION	DATE	BY	SCALE	DATE	JOB NO.
			1" = 40'	12/14/17	
DRAWN BY		CHECKED BY			
TJC		MKC			
APPROVED BY				SHEET 21	
XXX				80	

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		22	80
				JOB NO.	061468			
UNIVERSITY AVE. AT CANTRELL RD.								



UTILITY POLE ATTACHEMENT INFO		
POLE #	PROPOSED ATTACHEMENT HEIGHT	DOWN GUY REQ'D
113	19'-11"	NO
114	21'-0"	NO
115	21'-6"	NO
116	21'-11"	NO
117	16'-5"	NO
118	23'-5"	NO
119	23'-4"	NO
120	25'-2"	NO
121	22'-1"	YES



INSTALL SPLICE ENCLOSURE
FIBER OPTIC SPLICE FUSION (4EA)

INSTALL AERIAL 72F CABLE (1695 L.F.)
ON EXISTING POWER POLES

INSTALL AERIAL 12F DROP CABLE (130 L.F.)
TO EXISTING TRAFFIC SIGNAL POLE

TRAFFIC SIGNAL LEGEND	
	TRAFFIC SIGNAL CONTROLLER
	PULL BOX (FIBER OPTIC)
	FIBER OPTIC CABLE IN CONDUIT
	OVERHEAD FIBER OPTIC CABLE
	UTILITY POLE
	MAST ARM AND POLE
	AERIAL FIBER OPTIC CABLE STORAGE 200'
	AERIAL FIBER OPTIC SPLICE ENCLOSURE
	GUYING ANCHOR
	EXISTING PULL BOX
	UTILITY POLE NUMBER
	FIBER RISER



CITY OF LITTLE ROCK
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

ADAPTIVE SIGNAL CONTROL
COMMUNICATIONS PLAN

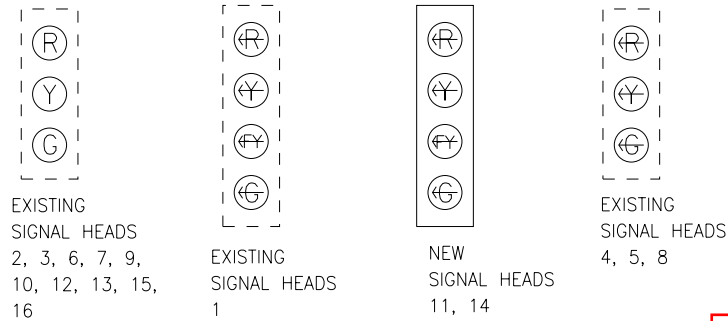
REVISION	DATE	BY	SCALE	DATE	JOB NO.
			1" = 40'	12/14/17	
DRAWN BY		CHECKED BY			
TJC		MKC			
APPROVED BY				SHEET	
XXX				22 / 80	

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		23	80
				JOB NO.	061468			

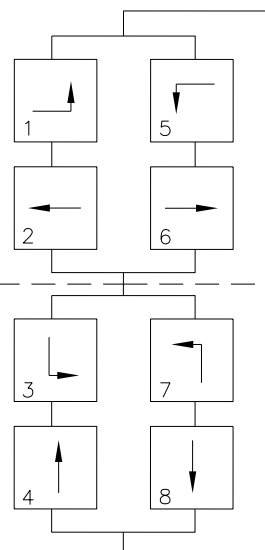
041919 by CLR



SIGNAL FACES



PHASING DIAGRAM

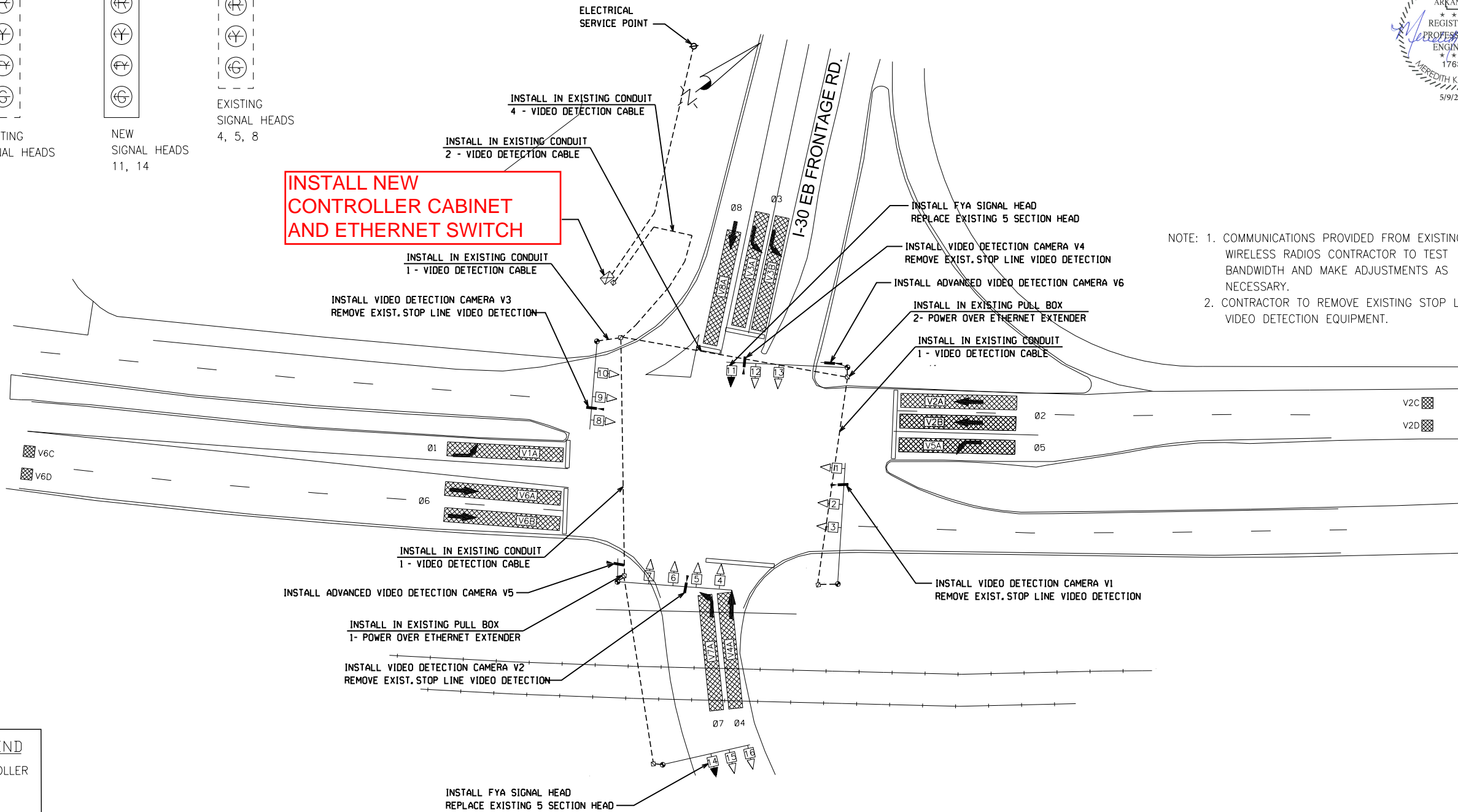


TRAFFIC SIGNAL LEGEND

- ☒ TRAFFIC SIGNAL CONTROLLER
- ☒ JUNCTION BOX
- CONDUIT
- F — AERIAL FIBER OPTIC CABLE
- MAST ARM AND POLE
- ◀4- PROPOSED FYA SIGNAL HEAD
- ◀3- EXISTING SIGNAL HEAD
- ☒ COBRA HEAD STREET LIGHT
- TRAFFIC SIGN
- VIDEO DETECTOR
- ▨ VIDEO DETECTION ZONE

POSTED SPEED LIMIT:
45 MPH NORTH AND SOUTH APPROACH
45 MPH EAST AND WEST APPROACH
NO BUS STOPS
RAILROAD TRACKS LOCATED 50 FEET EAST
OF I-30 FRONTAGE ROAD WESTBOUND
STOP LINE
WIRELESS INTERCONNECTIONS
NO FIRE STATION
NO PARKING
NO SIGHT DISTANCE RESTRICTIONS

DETECTOR SPACING CHART		
UNIVERSITY AVE.		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD LOOP	LAG LOOP
45 MPH	260'	60'
I-30EB RAMP		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD LOOP	LAG LOOP
45 MPH	NONE	60'



NOTE: 1. COMMUNICATIONS PROVIDED FROM EXISTING WIRELESS RADIOS CONTRACTOR TO TEST BANDWIDTH AND MAKE ADJUSTMENTS AS NECESSARY.
2. CONTRACTOR TO REMOVE EXISTING STOP LINE VIDEO DETECTION EQUIPMENT.



LR CITY OF LITTLE ROCK
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

ADAPTIVE SIGNAL CONTROL
INTERSECTION DETAIL SHEET

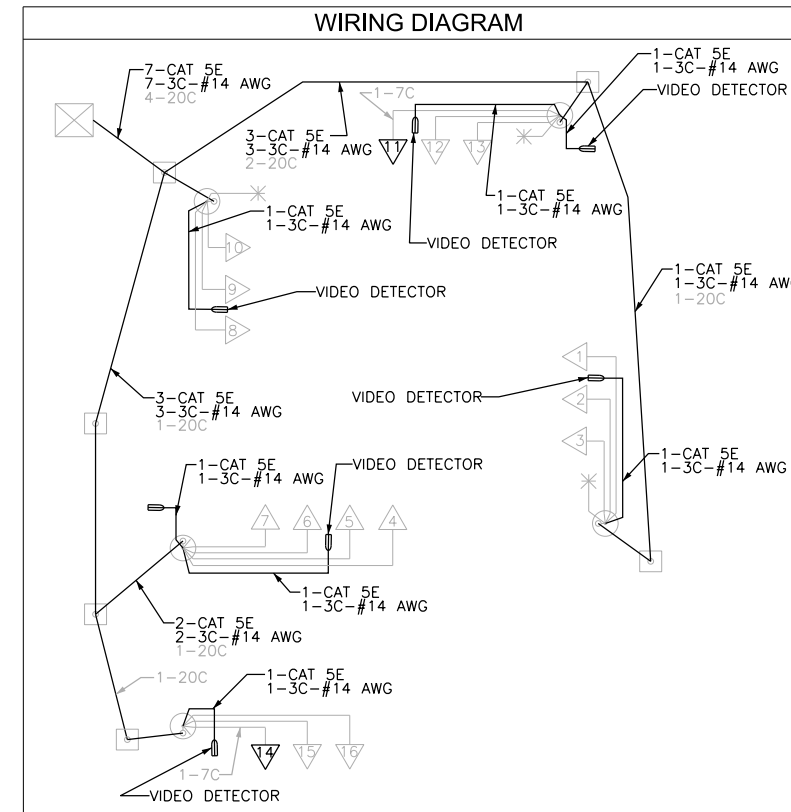
REVISION	DATE	BY	SCALE	DATE	JOB NO.
			1" = 30'	12/14/17	
DRAWN BY		CHECKED BY			
TJC		MKC			
APPROVED BY				SHEET 23	
XXX				80	

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		24	80
				JOB NO.		061468		
UNIVERSITY AVE. AT I-30 EB								



DETECTOR SYSTEM DESCRIPTION												
PULASKI COUNTY - UNIVERSITY AVE. /I-30 EB RAMP				HARDWARE INPUTS BY SUPPLIER			PROGRAM ASSIGNMENTS				COMMENTS	TUBE LENGTHS
DET. ID#	LOCATION DIRECTION	TYPE	DET.	CAB TRM#	AMP CHN#	CON. INP#	PHS	SYSTEM DET.	MASTER SYSTEM DETECTION NUMBERS			
V1A	NB LEFT TURN	LOCAL	1		2	V1	1			CAMERA V1	23"	
V2A	SB THRU LANES	COMB.	2		6	V10	2	2		CAMERA V3	23"	
V2B	SB THRU LANES	COMB.	3		6	V10	2	2		CAMERA V3	23"	
V2C	SB ADV.	LOCAL	4		5	V2(D1)	2			CAMERA V6	23"	
V2D	SB ADV.	LOCAL	5		5	V2(D2)	2			CAMERA V6	23"	
V3A	EB LEFT TURN	LOCAL	6		10	V3	3			CAMERA V2	23"	
V3B	EB LEFT TURN	LOCAL	7		10	V3	3			CAMERA V2	23"	
V4A	WB THRU LANE	COMB.	8		14	V12	4	4		CAMERA V4	23"	
V7A	WB LEFT TURN	LOCAL	9		16	V7	7			CAMERA V4	23"	
V5A	SB LEFT TURN	LOCAL	10		8	V5	5			CAMERA V3	23"	
V6A	NB THRU LANE	COMB.	11		4	V14	6	6		CAMERA V1	23"	
V6B	NB THRU LANE	COMB.	12		4	V14	6	6		CAMERA V1	23"	
V6C	NB ADV.	LOCAL	13		3	V6(D3)	6			CAMERA V5	23"	
V6D	NB ADV.	LOCAL	14		3	V6(D4)	6			CAMERA V5	23"	
V8A	EB THRU LANE	COMB.	15		12	V16	8	8		CAMERA V2	23"	

V = Vehicle input
D = System or Auxiliary input
P = Pedestrian input
Add - 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. Channel assignments for detection to be coordinated and configured with Rythm Engineering.
SPARE: 1, 7, 9, 11, 13, 15



UNIVERSITY AVE AND I-30 EB FRONTAGE RD																	
SIGNAL FACE	INTERVAL CHART FOR NORMAL OPERATION															FLASH SEQ	
	1&5	CLR	1&6	CLR	2&5	CLR	2&6	CLR	3&7	CLR	3&8	CLR	4&7	CLR	4 & 8		CLR
1	G<	*	G<	*	FY<	***	FY<	***	R<	R<	R<	R<	R<	R<	R<	R<	R<
2 & 3	R	R	G	**	R	R	G	**	R	R	R	R	R	R	R	R	R
4 & 5	R<	R<	R<	R<	R<	R<	R<	R<	G<	*	G<	*	R<	R<	R<	R<	R<
6 & 7	R	R	R	R	R	R	R	R	R	R	G	**	R	R	G	**	R
8	G<	*	R<	R<	G<	*	R<	R<	R<	R<	R<	R<	R<	R<	R<	R<	R<
9 & 10	R	R	R	R	G	**	G	**	R	R	R	R	R	R	R	R	R
11 & 14	R<	R<	R<	R<	R<	R<	R<	R<	G<	*	FY<	***	G<	*	FY<	***	R<
12, 13, 15 & 16	R	R	R	R	R	R	R	R	R	R	R	R	G	**	G	**	R

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

CITY OF LITTLE ROCK
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

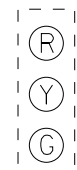
ADAPTIVE SIGNAL CONTROL
INTERSECTION DETAIL SHEET

REVISION	DATE	BY	SCALE	DATE	JOB NO.
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DRAWN BY		CHECKED BY			
TJC		MKC			
APPROVED BY				SHEET 24	
XXX				80	

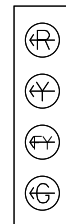
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				JOB NO.	061468			
UNIVERSITY AVE. AT I-30 WB								



SIGNAL FACES

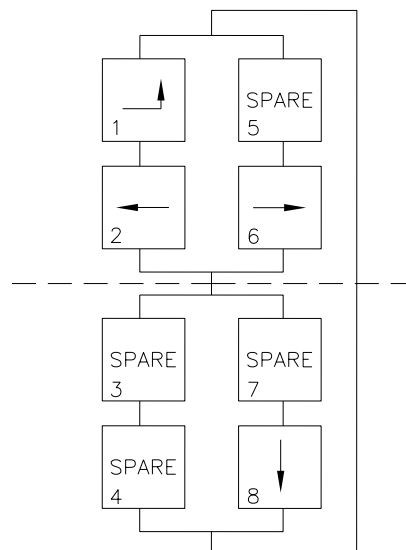


EXISTING SIGNAL HEADS
2, 3, 4, 5, 6, 7



NEW SIGNAL HEADS
1

PHASING DIAGRAM

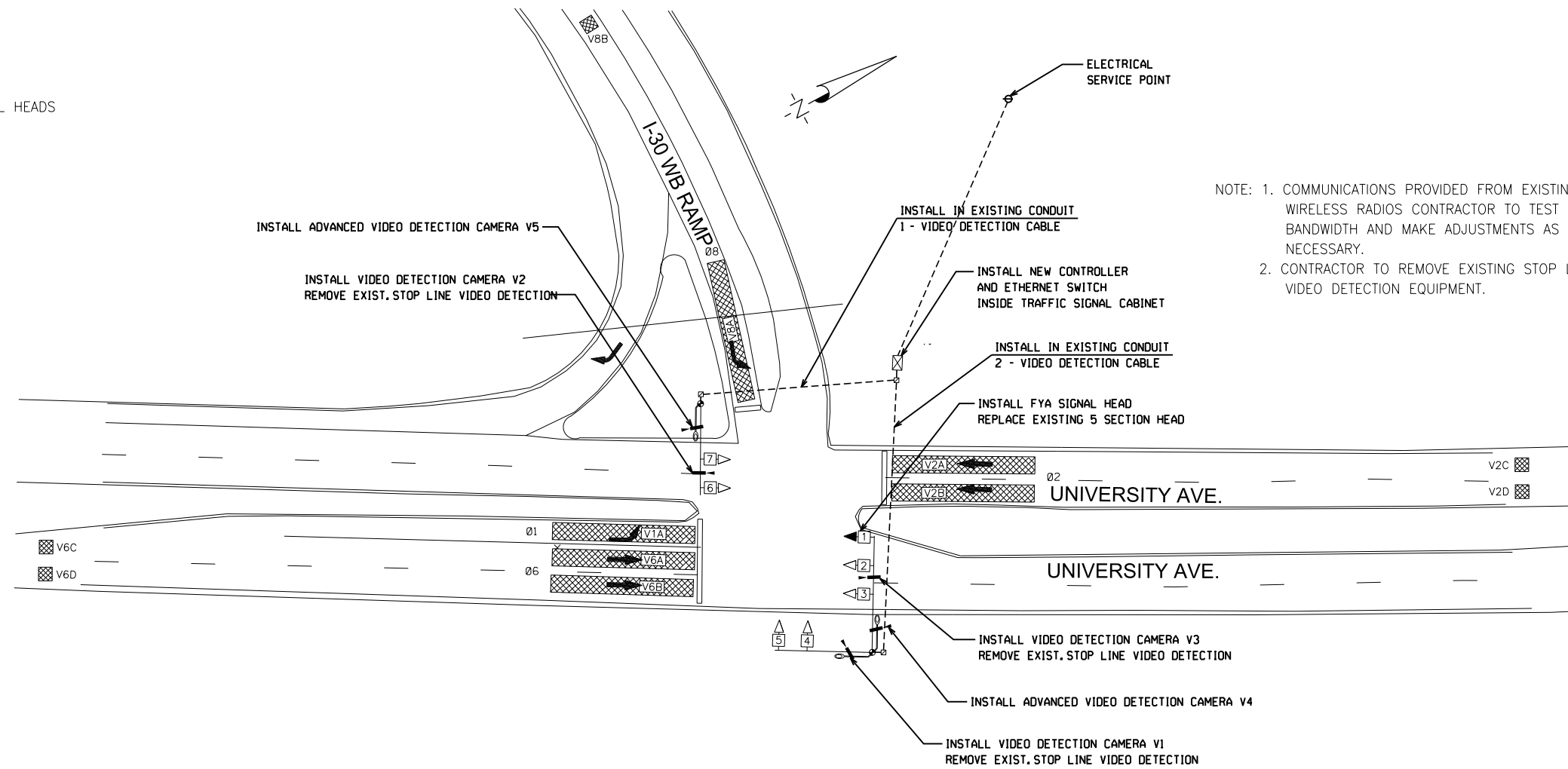


TRAFFIC SIGNAL LEGEND

- TRAFFIC SIGNAL CONTROLLER
- JUNCTION BOX
- CONDUIT
- AERIAL FIBER OPTIC CABLE
- MAST ARM AND POLE
- PROPOSED FYA SIGNAL HEAD
- EXISTING SIGNAL HEAD
- COBRA HEAD STREET LIGHT
- TRAFFIC SIGN
- VIDEO DETECTOR
- VIDEO DETECTION ZONE

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

DETECTOR SPACING CHART			
UNIVERSITY AVE.			
POSTED SPEED	DISTANCE FROM STOP LINE		
	LEAD LOOP	LAG LOOP	
45 MPH	260'	60'	
I-30WB RAMP			
POSTED SPEED	DISTANCE FROM STOP LINE		
	LEAD LOOP	LAG LOOP	
45 MPH	260'	60'	



NOTE: 1. COMMUNICATIONS PROVIDED FROM EXISTING WIRELESS RADIOS CONTRACTOR TO TEST BANDWIDTH AND MAKE ADJUSTMENTS AS NECESSARY.
2. CONTRACTOR TO REMOVE EXISTING STOP LINE VIDEO DETECTION EQUIPMENT.



LR CITY OF LITTLE ROCK
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

ADAPTIVE SIGNAL CONTROL
INTERSECTION DETAIL SHEET

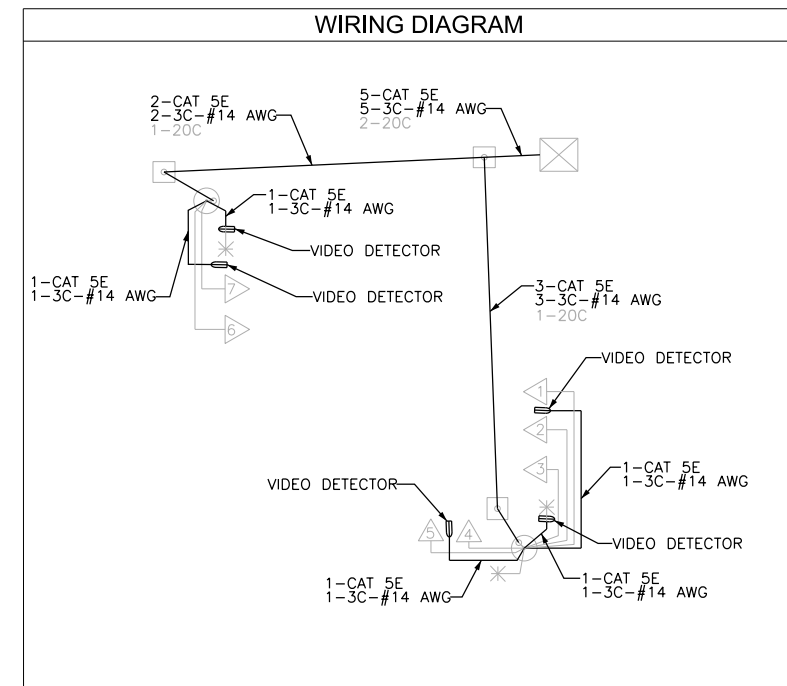
REVISION	DATE	BY	SCALE	DATE	JOB NO.
			1" = 30'	12/14/17	
DRAWN BY		CHECKED BY			
TJC		MKC			
APPROVED BY				SHEET	
XXX				25 / 80	

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		26	80
				JOB NO.	061468			
UNIVERSITY AVE. AT I-30 WB								



DETECTOR SYSTEM DESCRIPTION											
PULASKI COUNTY - UNIVERSITY AVE. /I-30 WB RAMP				HARDWARE INPUTS BY SUPPLIER			PROGRAM ASSIGNMENTS			COMMENTS	TUBE LENGTHS
DET. ID#	LOCATION DIRECTION	TYPE	DET.	CAB TRM#	AMP CHN#	CON. INP#	PHS	SYSTEM DET.	MASTER SYSTEM DETECTION NUMBERS		
V1A	NB LEFT TURN	LOCAL	1		2	V1	1			CAMERA V3	23"
V2A	SB THRU LANES	COMB.	2		6	V10	2	2		CAMERA V2	23"
V2B	SB THRU LANES	COMB.	3		6	V10	2	2		CAMERA V2	23"
V2C	SB ADV.	LOCAL	4		5	V2(D1)	2			CAMERA V4	23"
V2D	SB ADV.	LOCAL	5		5	V2(D2)	2			CAMERA V4	23"
V6A	NB THRU LANE	COMB.	6		4	V14	6	6		CAMERA V3	23"
V6B	NB THRU LANE	COMB.	7		4	V14	6	6		CAMERA V3	23"
V6C	NB ADV.	LOCAL	8		3	V3(D3)	6			CAMERA V5	23"
V6D	NB ADV.	LOCAL	9		3	V3(D4)	6			CAMERA V5	23"
V8A	EB LEFT TURN	LOCAL	10		12	V6	8	8		CAMERA V1	23"
V8A	EB ADV.	LOCAL	10		11	V8	8			CAMERA V1	23"

V = Vehicle input
D = System or Auxiliary input
P = Pedestrian input
SPARE: 1, 7-10, 13-16
Add - 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. Channel assignments for detection to be coordinated and configured with Rhythm Engineering.



UNIVERSITY AVE AND I-30 WB RAMP							
SIGNAL FACE	INTERVAL CHART FOR NORMAL OPERATION						FLASH SEQ.
	1 & 6	CLR	2 & 6	CLR	8	CLR	
1	G <	***	FY <	***	R <	R <	R <
2 & 3	G	**	G	**	R	R	R
4 & 5	R	R	R	R	G	**	R
6 & 7	R	R	G	**	R	R	R

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

LR CITY OF LITTLE ROCK
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

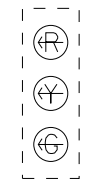
ADAPTIVE SIGNAL CONTROL
INTERSECTION DETAIL SHEET

REVISION	DATE	BY	SCALE	DATE	JOB NO.
			N.T.S.	12/14/17	
DRAWN BY		CHECKED BY			
TJC		MKC			
APPROVED BY		SHEET		JOB NO.	
XXX		26		80	

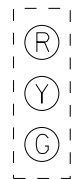
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		27	80
				JOB NO.	061468			
UNIVERSITY AVE. AT FORBING RD.								



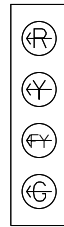
SIGNAL FACES



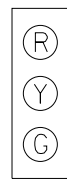
EXISTING SIGNAL HEADS
1, 2, 7, 8, 9



EXISTING SIGNAL HEADS
3, 4, 6, 10,
11, 13

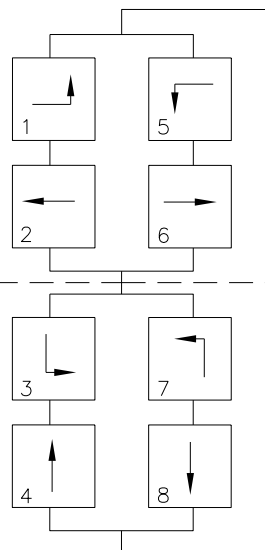


NEW SIGNAL HEADS
5, 12



NEW SIGNAL HEADS
14, 15

PHASING DIAGRAM

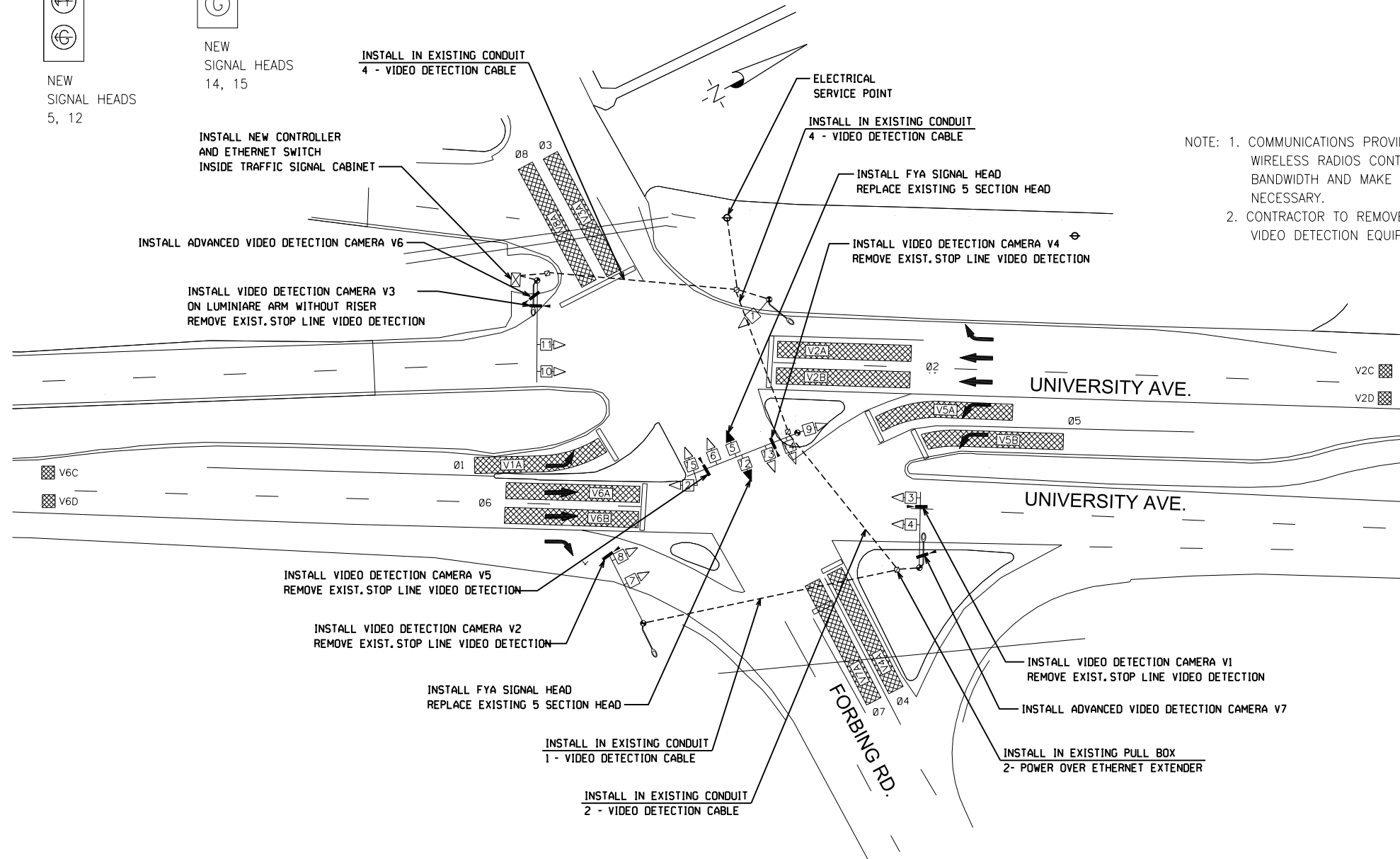


TRAFFIC SIGNAL LEGEND

- TRAFFIC SIGNAL CONTROLLER
- JUNCTION BOX
- CONDUIT
- AERIAL FIBER OPTIC CABLE
- MAST ARM AND POLE
- PROPOSED FYA SIGNAL HEAD
- EXISTING SIGNAL HEAD
- COBRA HEAD STREET LIGHT
- TRAFFIC SIGN
- VIDEO DETECTOR
- VIDEO DETECTION ZONE

POSTED SPEED LIMIT:
45 MPH NORTH AND SOUTH APPROACH
35 MPH EAST AND WEST APPROACH
NO BUS STOPS
RAILROAD TRACKS LOCATED 80 FEET EAST
OF FORBING ROAD WESTBOUND STOP LINE.
WIRELESS INTERCONNECTIONS
NO FIRE STATION
NO PARKING
NO SIGHT DISTANCE RESTRICTIONS

DETECTOR SPACING CHART		
UNIVERSITY AVE.		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD LOOP	LAG LOOP
45 MPH	260'	60'
FORBING		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD LOOP	LAG LOOP
35 MPH	NONE	60'



- NOTE: 1. COMMUNICATIONS PROVIDED FROM EXISTING WIRELESS RADIOS CONTRACTOR TO TEST BANDWIDTH AND MAKE ADJUSTMENTS AS NECESSARY.
2. CONTRACTOR TO REMOVE EXISTING STOP LINE VIDEO DETECTION EQUIPMENT.



LR CITY OF LITTLE ROCK
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

ADAPTIVE SIGNAL CONTROL
INTERSECTION DETAIL SHEET

REVISION	DATE	BY	SCALE	DATE	JOB NO.
			1" = 30'	12/14/17	
DRAWN BY		CHECKED BY			
TJC		MKC			
APPROVED BY				SHEET	
XXX				27/80	

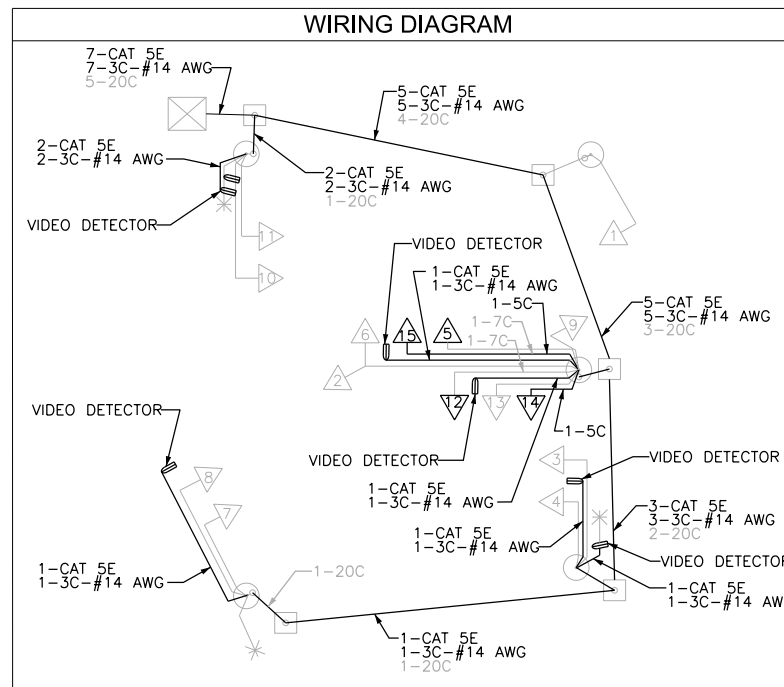
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				67	ARK.		28	80
				JOB NO.	061468			
UNIVERSITY AVE. AT FORBING RD.								



DETECTOR SYSTEM DESCRIPTION											
PULASKI COUNTY - UNIVERSITY AVE. /FORBING				HARDWARE INPUTS BY SUPPLIER			PROGRAM ASSIGNMENTS			COMMENTS	TUBE LENGTHS
DET. ID#	LOCATION DIRECTION	TYPE	DET.	CAB TRM#	AMP CHN#	CON. INP#	PHS	SYSTEM DET.	MASTER SYSTEM DETECTION NUMBERS		
V1A	NB LEFT TURN	LOCAL	1		2	V1	1			CAMERA V1	23"
V2A	SB THRU LANES	COMB.	2		6	V10	2	2		CAMERA V3	23"
V2B	SB THRU LANES	COMB.	3		6	V10	2	2		CAMERA V3	23"
V2C	SB ADV.	LOCAL	4		5	V2(D1)	2			CAMERA V7	23"
V2D	SB ADV.	LOCAL	5		5	V2(D2)	2			CAMERA V7	23"
V3A	EB LEFT TURN	LOCAL	6		10	V3	3			CAMERA V5	23"
V4A	WB THRU LANE	COMB.	7		14	V12	4	4		CAMERA V4	23"
V5A	SB LEFT TURN	LOCAL	8		8	V5	5			CAMERA V2	23"
V5B	SB LEFT TURN	LOCAL	9		8	V5	5			CAMERA V2	23"
V6A	NB THRU LANE	COMB.	10		4	V14	6	6		CAMERA V1	23"
V6B	NB THRU LANE	COMB.	11		4	V14	6	6		CAMERA V1	23"
V6C	NB ADV.	LOCAL	12		3	V6(D3)	6			CAMERA V5	23"
V6D	NB ADV.	LOCAL	13		3	V6(D4)	6			CAMERA V5	23"
V7A	WB LEFT TURN	LOCAL	14		16	V7	7			CAMERA V4	23"
V8A	EB THRU LANE	COMB.	15		12	V16	8	8		CAMERA V5	23"

V = Vehicle input
D = System or Auxiliary input
P = Pedestrian input
Add - 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. Channel assignments for detection to be coordinated and configured with Rhythm Engineering.

SPARE: 1, 7, 9, 11, 13, 15



SIGNAL FACE	UNIVERSITY AVE AND FORBING RD															FLASH SEQ
	INTERVAL CHART FOR NORMAL OPERATION															
	1&5	CLR	1&6	CLR	2&5	CLR	2&6	CLR	3&7	CLR	3&8	CLR	4&7	CLR	4 & 8	CLR
1 & 2	G<	*	G<	*	R<	R<	R<	R<	R<	R<	R<	R<	R<	R<	R<	R<
3 & 4	R	R	G	**	R	R	G	**	R	R	R	R	R	R	R	R
5	R<	R<	R<	R<	R<	R<	R<	R<	G<	*	G<	*	FY<	***	FY<	***
6 & 15	R	R	R	R	R	R	R	R	R	G	**	R	R	G	**	**
7, 8 & 9	G<	*	R<	R<	G<	*	R<	R<	R<	R<	R<	R<	R<	R<	R<	R<
10 & 11	R	R	R	R	G	**	G	**	R	R	R	R	R	R	R	R
12	R<	R<	R<	R<	R<	R<	R<	R<	G<	*	FY<	***	G<	*	FY<	***
13 & 14	R	R	R	R	R	R	R	R	R	R	R	R	G	**	G	**

* 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 THE NEXT PHASE

LR CITY OF LITTLE ROCK
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

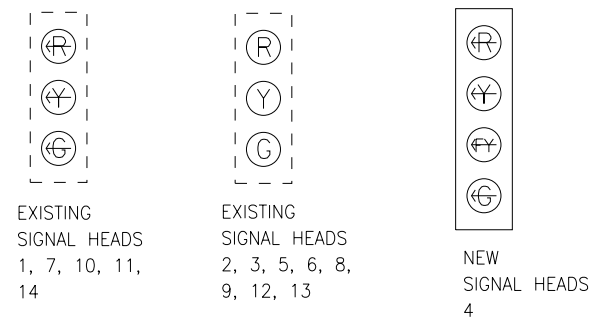
ADAPTIVE SIGNAL CONTROL
INTERSECTION DETAIL SHEET

REVISION	DATE	BY	SCALE	DATE	JOB NO.
			N.T.S.	12/14/17	
DRAWN BY		CHECKED BY			
TJC		MKC			
APPROVED BY		SHEET		JOB NO.	
XXX		28		80	

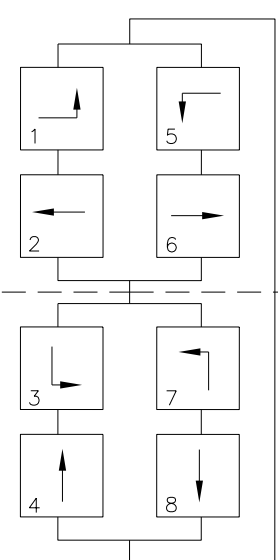
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				67	ARK.		29	80
				JOB NO.	061468			
UNIVERSITY AVE. AT 65th ST.								



SIGNAL FACES



PHASING DIAGRAM

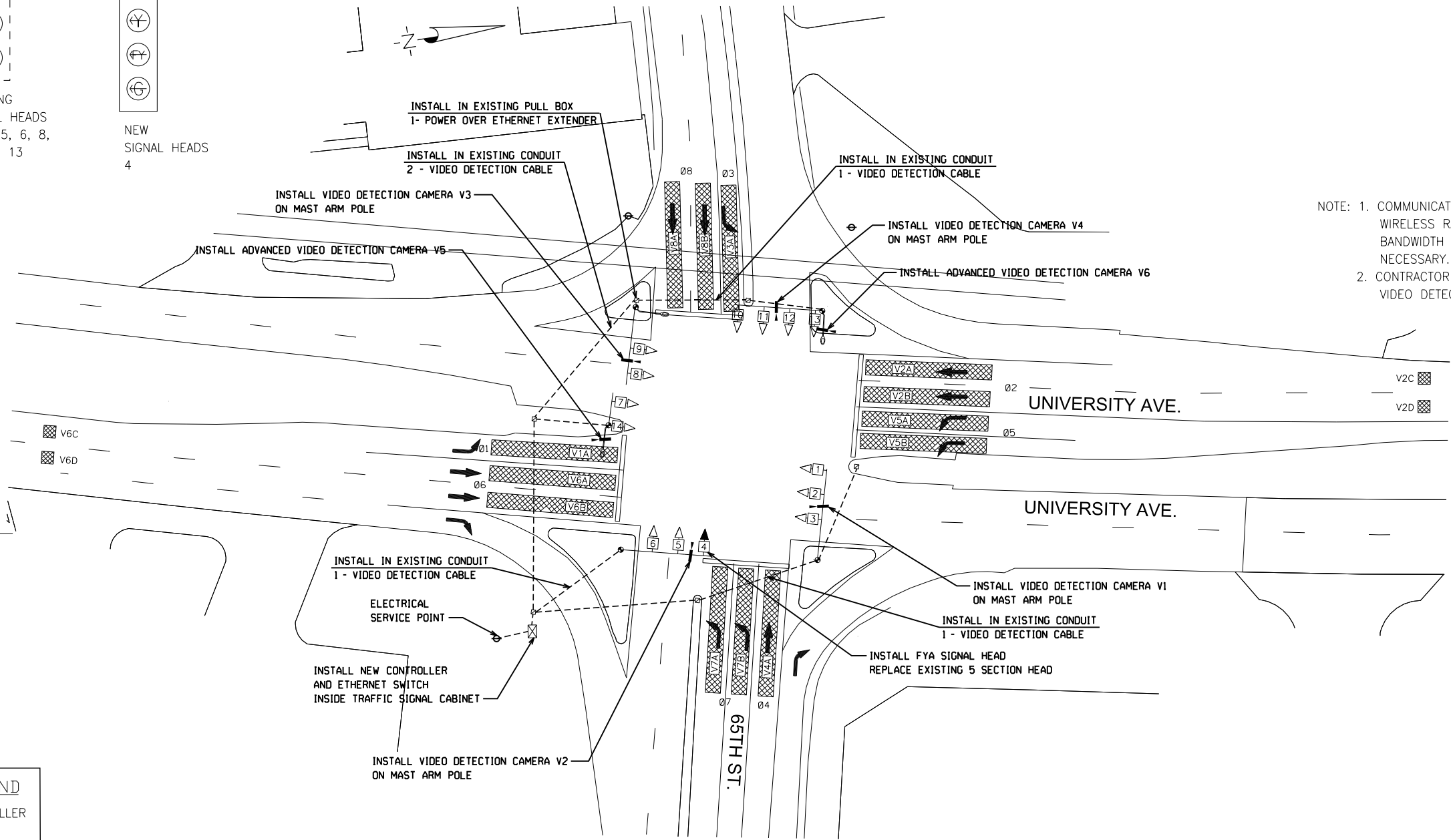


TRAFFIC SIGNAL LEGEND

- ☒ TRAFFIC SIGNAL CONTROLLER
- ☐ JUNCTION BOX
- CONDUIT
- f- AERIAL FIBER OPTIC CABLE
- ⊕ MAST ARM AND POLE
- ◀4- PROPOSED FYA SIGNAL HEAD
- ◀3- EXISTING SIGNAL HEAD
- ⊕ COBRA HEAD STREET LIGHT
- ⊕ TRAFFIC SIGN
- ⊕ VIDEO DETECTOR
- ▨ VIDEO DETECTION ZONE

POSTED SPEED LIMIT:
 45 MPH NORTH AND SOUTH APPROACH
 40 MPH EAST AND WEST APPROACH
 NO BUS STOPS
 RAILROAD TRACKS 365' FROM WB STOP LINE
 WIRELESS INTERCONNECTIONS
 NO FIRE STATION
 NO PARKING
 NO SIGHT DISTANCE RESTRICTIONS

DETECTOR SPACING CHART		
UNIVERSITY AVE.		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD LOOP	LAG LOOP
45 MPH	260'	50'
65TH		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD LOOP	LAG LOOP
40 MPH	NONE	50'



NOTE: 1. COMMUNICATIONS PROVIDED FROM EXISTING WIRELESS RADIOS CONTRACTOR TO TEST BANDWIDTH AND MAKE ADJUSTMENTS AS NECESSARY.
 2. CONTRACTOR TO REMOVE EXISTING STOP LINE VIDEO DETECTION EQUIPMENT.



LR CITY OF LITTLE ROCK
 DEPARTMENT OF PUBLIC WORKS
 TRAFFIC ENGINEERING DIVISION

ADAPTIVE SIGNAL CONTROL
 INTERSECTION DETAIL SHEET

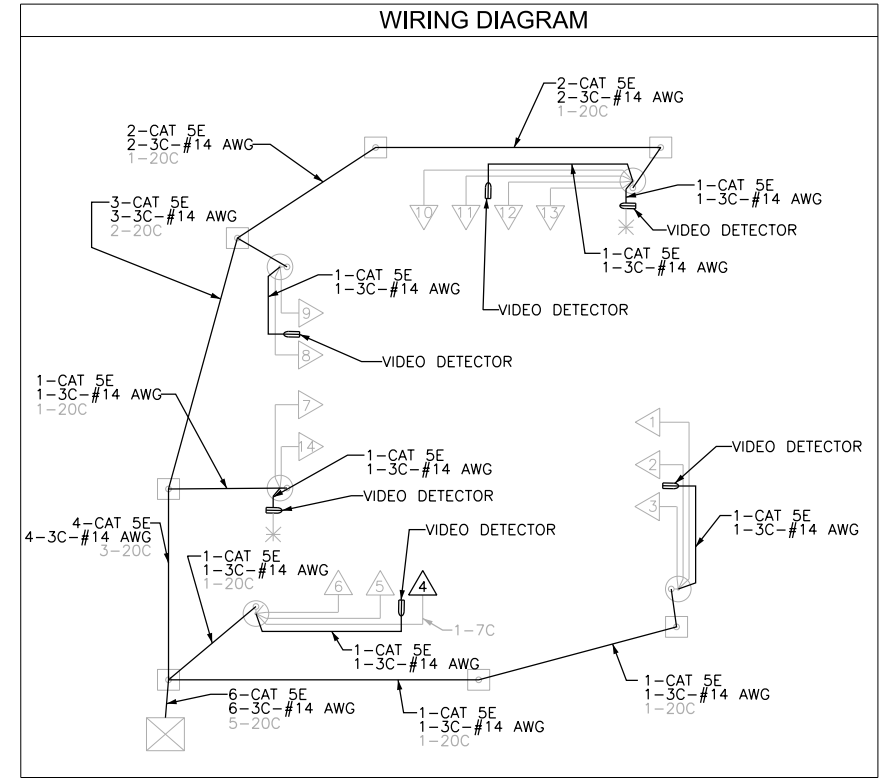
REVISION	DATE	BY	SCALE	DATE	JOB NO.
			1" = 30'	12/14/17	
DRAWN BY		CHECKED BY			
TJC		MKC			
APPROVED BY				SHEET	
XXX				29 80	

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		30	80
				JOB NO.	061468			
UNIVERSITY AVE. AT 65th ST.								



DETECTOR SYSTEM DESCRIPTION											
PULASKI COUNTY - UNIVERSITY AVE. /65TH				HARDWARE INPUTS BY SUPPLIER			PROGRAM ASSIGNMENTS			COMMENTS	TUBE LENGTHS
DET. ID#	LOCATION DIRECTION	TYPE	DET.	CAB TRM#	AMP CHN#	CON. INP#	PHS	SYSTEM DET.	MASTER SYSTEM DETECTION NUMBERS		
V1A	NB LEFT TURN	LOCAL	1		2	V1	1			CAMERA V1	23"
V2A	SB THRU LANES	COMB.	2		6	V10	2	2		CAMERA V3	23"
V2B	SB THRU LANES	COMB.	3		6	V10	2	2		CAMERA V3	23"
V2C	SB ADV.	LOCAL	4		5	V2(D1)	2			CAMERA V6	23"
V2D	SB ADV.	LOCAL	5		5	V2(D2)	2			CAMERA V6	23"
V3A	EB LEFT TURN	LOCAL	6		10	V3	3			CAMERA V2	23"
V4A	WB THRU LANE	COMB.	7		14	V12	4	4		CAMERA V4	23"
V5A	SB LEFT TURN	LOCAL	8		8	V5	5			CAMERA V3	23"
V5B	SB LEFT TURN	LOCAL	9		8	V5	5			CAMERA V3	23"
V6A	NB THRU LANE	COMB.	10		4	V14	6	6		CAMERA V1	23"
V6B	NB THRU LANE	COMB.	11		4	V14	6	6		CAMERA V1	23"
V6C	NB ADV.	LOCAL	12		3	V6(D3)	6			CAMERA V5	23"
V6D	NB ADV.	LOCAL	13		3	V6(D4)	6			CAMERA V5	23"
V7A	WB LEFT TURN	LOCAL	14		16	V7	7			CAMERA V4	23"
V7B	WB LEFT TURN	LOCAL	15		16	V7	7			CAMERA V4	23"
V8A	EB THRU LANE	COMB.	16		12	V16	8	8		CAMERA V2	23"
V8B	EB THRU LANE	COMB.	16		12	V16	8	8		CAMERA V2	23"

V = Vehicle input
D = System or Auxiliary input
P = Pedestrian input
Add - 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. Channel assignments for detection to be coordinated and configured with Rhythm Engineering.



UNIVERSITY AVE AND 65TH ST																
SIGNAL FACE	INTERVAL CHART FOR NORMAL OPERATION															FLASH SEQ
	1&5	CLR	1&6	CLR	2&5	CLR	2&6	CLR	3&7	CLR	3&8	CLR	4&7	CLR	4 & 8	
1	G<	*	G<	*	R<	R<	R<	R<	R<	R<	R<	R<	R<	R<	R<	R<
2 & 3	R	R	G	**	R	R	G	**	R	R	R	R	R	R	R	R
4	R<	R<	R<	R<	R<	R<	R<	R<	G<	*	G<	*	FY<	***	FY<	***
5 & 6	R	R	R	R	R	R	R	R	R	R	R	R	R	R	G	**
7 & 14	G<	*	R<	R<	G<	*	R<	R<	R<	R<	R<	R<	R<	R<	R<	R<
8 & 9	R	R	R	R	G	**	G	**	R	R	R	R	R	R	R	R
10 & 11	R<	R<	R<	R<	R<	R<	R<	R<	G<	*	R<	R<	G<	*	R<	R<
12 & 13	R	R	R	R	R	R	R	R	R	R	R	R	G	**	G	**

* 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 THE NEXT PHASE

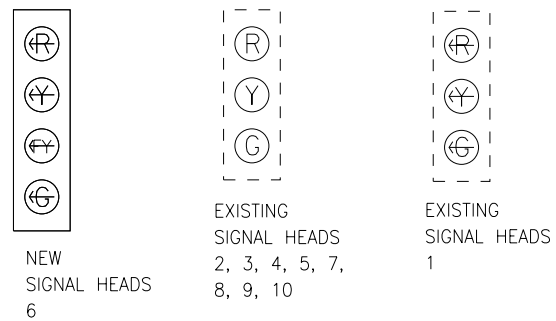
CITY OF LITTLE ROCK
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

ADAPTIVE SIGNAL CONTROL
INTERSECTION DETAIL SHEET

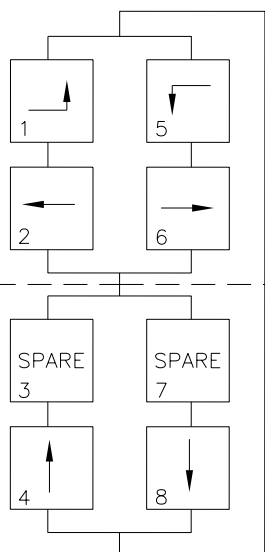
REVISION	DATE	BY	SCALE	DATE	JOB NO.
			N.T.S.	12/14/17	
DRAWN BY		CHECKED BY			
TJC		MKC			
APPROVED BY				SHEET 30	
XXX				80	

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		31	80
				JOB NO.	061468			
				UNIVERSITY AVE. AT MABELVALE PK.				

SIGNAL FACES



PHASING DIAGRAM

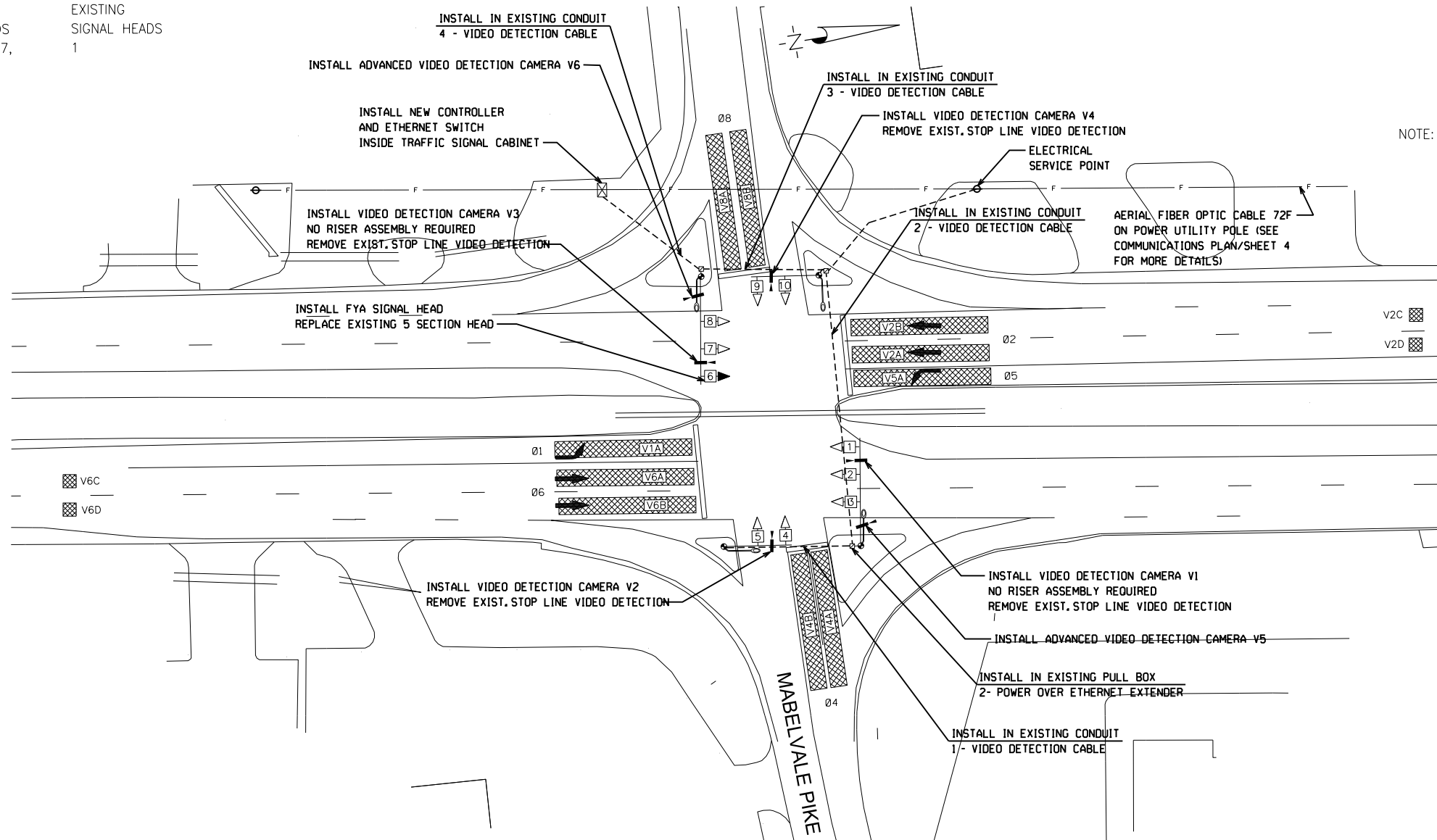


TRAFFIC SIGNAL LEGEND

- ☒ TRAFFIC SIGNAL CONTROLLER
- ☐ JUNCTION BOX
- CONDUIT
- F- AERIAL FIBER OPTIC CABLE
- ⊕ MAST ARM AND POLE
- ◀4▶ PROPOSED FYA SIGNAL HEAD
- ◀3▶ EXISTING SIGNAL HEAD
- ⊕ COBRA HEAD STREET LIGHT
- ⊕ TRAFFIC SIGN
- ⊕ VIDEO DETECTOR
- ▨ VIDEO DETECTION ZONE

POSTED SPEED LIMIT:
45 MPH NORTH AND SOUTH APPROACH
30 MPH EAST AND WEST APPROACH
BUS STOP LOCATED 65 FEET NORTH OF
UNIVERSITY AVE SOUTHBOUND STOP LINE
NO RAILROAD TRACKS
WIRELESS INTERCONNECTIONS
NO FIRE STATION
NO PARKING
SIGHT DISTANCE RESTRICTED BY
TREE & CURVE.

DETECTOR SPACING CHART		
UNIVERSITY AVE.		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD LOOP	LAG LOOP
45 MPH	260'	60'
MABELVALE		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD LOOP	LAG LOOP
30 MPH	NONE	60'



NOTE: 1. THIS SIGNAL RECEIVES COMMUNICATIONS FROM EXISTING WIRELESS RADIOS SOUTH OF SIGNAL LOCATION. CONTRACTOR TO TEST BANDWIDTH AND MAKE ADJUSTMENTS AS NECESSARY.
2. CONTRACTOR TO REMOVE EXISTING STOP LINE VIDEO DETECTION EQUIPMENT.



CITY OF LITTLE ROCK DEPARTMENT OF PUBLIC WORKS TRAFFIC ENGINEERING DIVISION					
ADAPTIVE SIGNAL CONTROL INTERSECTION DETAIL SHEET					
REVISION	DATE	BY	SCALE	DATE	JOB NO.
			1" = 30'	12/14/17	
DRAWN BY		CHECKED BY			
TJC		MKC			
APPROVED BY				SHEET	
XXX				31	
				80	

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		32	80
				JOB NO.		061468		
UNIVERSITY AVE. AT MABELVALE PK.								

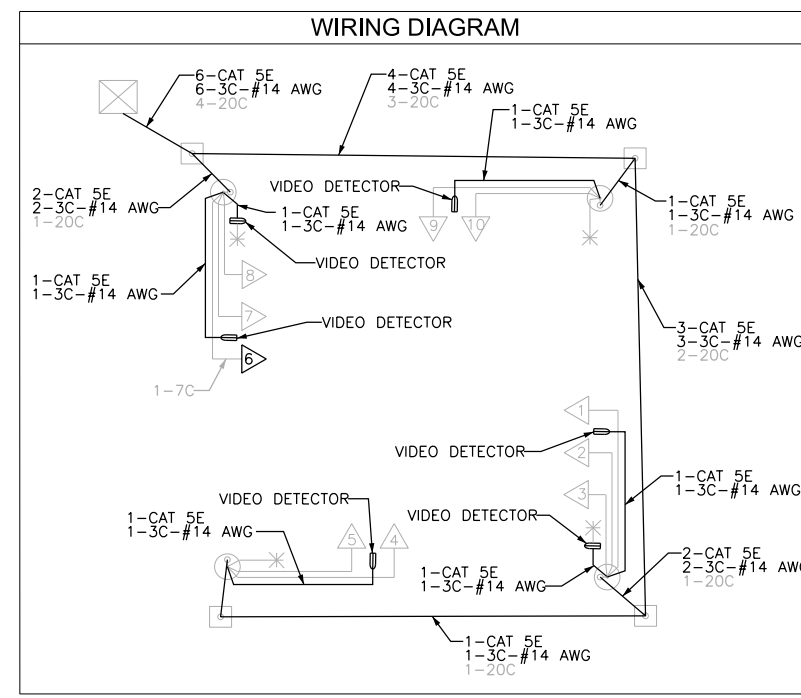


DETECTOR SYSTEM DESCRIPTION											
PULASKI COUNTY - UNIVERSITY AVE. /MABELVALE				HARDWARE INPUTS BY SUPPLIER			PROGRAM ASSIGNMENTS			COMMENTS	TUBE LENGTHS
DET. ID#	LOCATION DIRECTION	TYPE	DET.	CAB TRM#	AMP CHN#	CON. INP#	PHS	SYSTEM DET.	MASTER SYSTEM DETECTION NUMBERS		
V1A	NB LEFT TURN	LOCAL	1		2	V1	1			CAMERA V1	23"
V2A	SB THRU LANES	COMB.	2		6	V10	2	2		CAMERA V3	23"
V2B	SB THRU LANES	COMB.	3		6	V10	2	2		CAMERA V3	23"
V2C	SB ADV.	LOCAL	4		5	V2(D1)	2			CAMERA V5	23"
V2D	SB ADV.	LOCAL	5		5	V2(D2)	2			CAMERA V5	23"
V4A	WB THRU LANE	COMB.	6		14	V12	4	4		CAMERA V4	23"
V4B	WB THRU LANE	COMB.	7		14	V12	4	4		CAMERA V4	23"
V5A	SB LEFT TURN	LOCAL	8		8	V5	5			CAMERA V3	23"
V6A	NB THRU LANE	COMB.	9		4	V14	6	6		CAMERA V1	23"
V6B	NB THRU LANE	COMB.	10		4	V14	6	6		CAMERA V1	23"
V6C	NB ADV.	LOCAL	11		3	V6(D3)	6			CAMERA V6	23"
V6D	NB ADV.	LOCAL	12		3	V6(D4)	6			CAMERA V6	23"
V8A	EB THRU LANE	COMB.	13		12	V16	8			CAMERA V2	23"
V8B	EB THRU TURN	COMB.	14		12	V16	8			CAMERA V2	23"

V = Vehicle input
D = System or Auxiliary input
P = Pedestrian input

SPARE: 1, 7, 9 - 11, 13, 15 - 16

Add - 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. Channel assignments for detection to be coordinated and configured with Rhythm Engineering.



UNIVERSITY AVE AND MABELVALE PK											
SIGNAL FACE	INTERVAL CHART FOR NORMAL OPERATION										FLASH SEQ
	1&5	CLR	1&6	CLR	2&5	CLR	2&6	CLR	4 & 8	CLR	
1	G<	*	G<	*	R<	R<	R<	R<	R<	R<	R<
2 & 3	R	R	G	**	R	R	G	**	R	R	R
4 & 5	R	R	R	R	R	R	R	R	G	**	R
6	G<	*	FY<	***	G<	*	FY<	***	R<	R<	R<
7 & 8	R	R	R	R	G	**	G	**	R	R	R
9 & 10	R	R	R	R	R	R	R	R	G	**	R

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

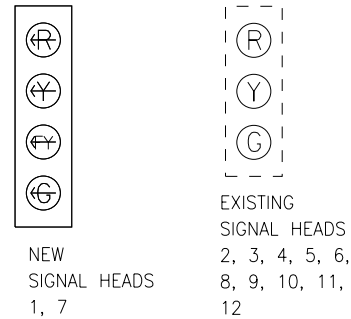
CITY OF LITTLE ROCK
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

ADAPTIVE SIGNAL CONTROL
INTERSECTION DETAIL SHEET

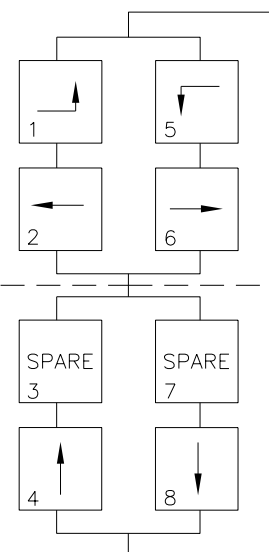
REVISION	DATE	BY	SCALE	DATE	JOB NO.
			N.T.S.	12/14/17	
DRAWN BY			CHECKED BY		
TJC			MKC		
APPROVED BY					SHEET
XXX					32/80

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		33	80
				JOB NO.	061468			
UNIVERSITY AVE. AT 1ST TEE WAY								

SIGNAL FACES



PHASING DIAGRAM



TRAFFIC SIGNAL LEGEND

- ☒ TRAFFIC SIGNAL CONTROLLER
- ☐ JUNCTION BOX
- CONDUIT
- F - AERIAL FIBER OPTIC CABLE
- ⊕ MAST ARM AND POLE
- ◀4- PROPOSED FYA SIGNAL HEAD
- ◀3- EXISTING SIGNAL HEAD
- ⊕ COBRA HEAD STREET LIGHT
- ⊕ TRAFFIC SIGN
- ⊕ VIDEO DETECTOR
- ▨ VIDEO DETECTION ZONE

POSTED SPEED LIMIT:
45 MPH NORTH AND SOUTH APPROACH
30 MPH EAST AND WEST APPROACH
BUS STOP LOCATED 200 FEET SOUTH OF UNIVERSITY AVE NORTHBOUND STOP LINE
NO RAILROAD TRACKS
WIRELESS INTERCONNECTIONS
NO FIRE STATION
NO PARKING
NO SIGHT DISTANCE RESTRICTIONS

DETECTOR SPACING CHART		
UNIVERSITY AVE.		
POSTED SPEED	DISTANCE FROM STOP LINE LEAD LOOP	LAG LOOP
45 MPH	260'	60'
1ST TEE		
POSTED SPEED	DISTANCE FROM STOP LINE LEAD LOOP	LAG LOOP
30 MPH	NONE	60'



LR CITY OF LITTLE ROCK
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

ADAPTIVE SIGNAL CONTROL
INTERSECTION DETAIL SHEET

REVISION	DATE	BY	SCALE 1" = 30'	DATE 12/14/17	JOB NO.
DRAWN BY TJC		CHECKED BY MKC			
APPROVED BY XXX				SHEET 33 80	

NOTE: 1. CONTRACTOR TO REMOVE EXISTING STOP LINE VIDEO DETECTION EQUIPMENT.



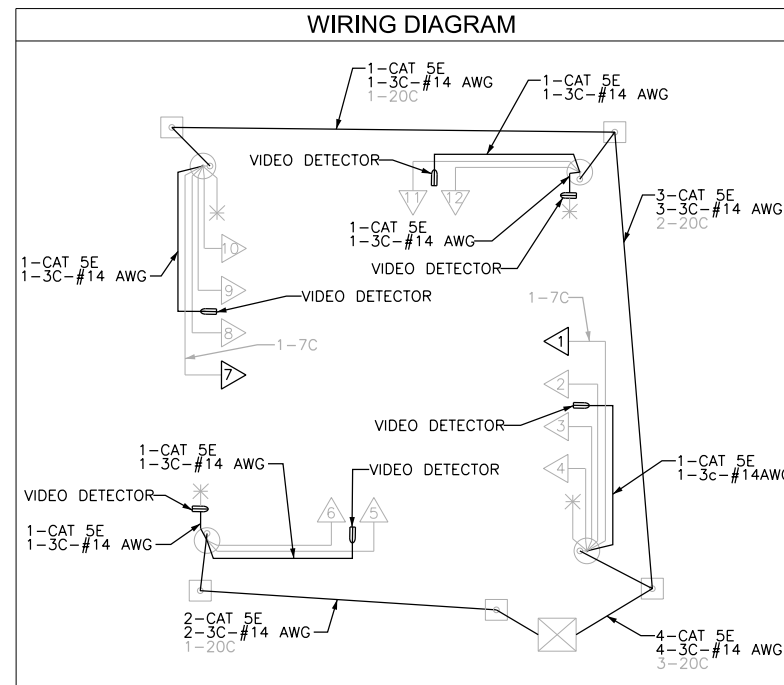
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		34	80
				JOB NO.	061468			
UNIVERSITY AVE. AT FIRST TEE WAY								



DETECTOR SYSTEM DESCRIPTION											
PULASKI COUNTY - UNIVERSITY AVE. /1ST TEE				HARDWARE INPUTS BY SUPPLIER			PROGRAM ASSIGNMENTS			COMMENTS	TUBE LENGTHS
DET. ID#	LOCATION DIRECTION	TYPE	DET.	CAB TRM#	AMP CHN#	CON. INP#	PHS	SYSTEM DET.	MASTER SYSTEM DETECTION NUMBERS		
V1A	NB LEFT TURN	LOCAL	1		2	V1	1			CAMERA V1	23"
V2A	SB THRU LANES	COMB.	2		6	V10	2	2		CAMERA V3	23"
V2B	SB THRU LANES	COMB.	3		6	V10	2	2		CAMERA V3	23"
V2C	SB THRU LANES	COMB.	4		6	V10	2	2		CAMERA V3	23"
V2D	SB ADV.	LOCAL	5		5	V2(D1)	2			CAMERA V5	23"
V2E	SB ADV.	LOCAL	6		5	V2(D2)	2			CAMERA V5	23"
V2F	SB ADV.	LOCAL	7		5	V2(D3)	2			CAMERA V5	23"
V4A	WB THRU LANE	COMB.	8		14	V12	4	4		CAMERA V4	23"
V5A	SB LEFT TURN	LOCAL	9		8	V3	5			CAMERA V3	23"
V6A	NB THRU LANE	COMB.	10		4	V14	6	6		CAMERA V1	23"
V6B	NB THRU LANE	COMB.	11		4	V14	6	6		CAMERA V1	23"
V6C	NB THRU LANE	COMB.	12		4	V14	6	6		CAMERA V1	23"
V6D	NB ADV.	LOCAL	13		3	V6(D4)	6			CAMERA V6	23"
V6E	NB ADV.	LOCAL	14		3	V6(D5)	6			CAMERA V6	23"
V6F	NB ADV.	LOCAL	15		3	V6(D6)	6			CAMERA V6	23"
V8A	EB THRU LANE	COMB.	16		12	V16	8			CAMERA V2	23"

V = Vehicle input
D = System or Auxiliary input
P = Pedestrian input
Add - 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. Channel assignments for detection to be coordinated and configured with Rhythm Engineering.

SPARE: 1, 7, 9 - 11, 13, 15 - 16



UNIVERSITY AVE AND FIRST TEE WAY											
SIGNAL FACE	INTERVAL CHART FOR NORMAL OPERATION										FLASH SEQ
	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 & 4	R	R	G	**	R	R	G	**	R	R	R
5 & 6	R	R	R	R	R	R	R	R	G	**	R
7	G<	*	FY<	***	G<	*	FY<	***	R<	R<	R<
8, 9 & 10	R	R	R	R	G	**	G	**	R	R	R
11 & 12	R	R	R	R	R	R	R	R	G	**	R

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



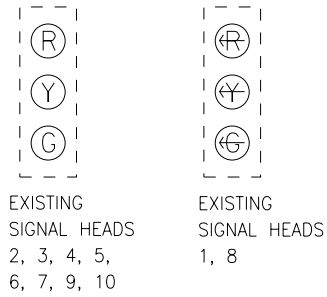
CITY OF LITTLE ROCK
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

ADAPTIVE SIGNAL CONTROL
INTERSECTION DETAIL SHEET

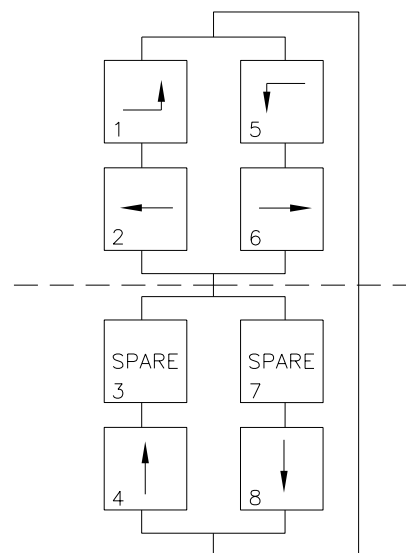
DATE	BY	SCALE	DATE	JOB NO.
		N.T.S.	12/14/17	
DRAWN BY		CHECKED BY		
TJC		MKC		
APPROVED BY		SHEET		
XXX		34 / 80		

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		35	80
				JOB NO.		061468		
UNIVERSITY AVE. AT SAGE GRASS								

SIGNAL FACES

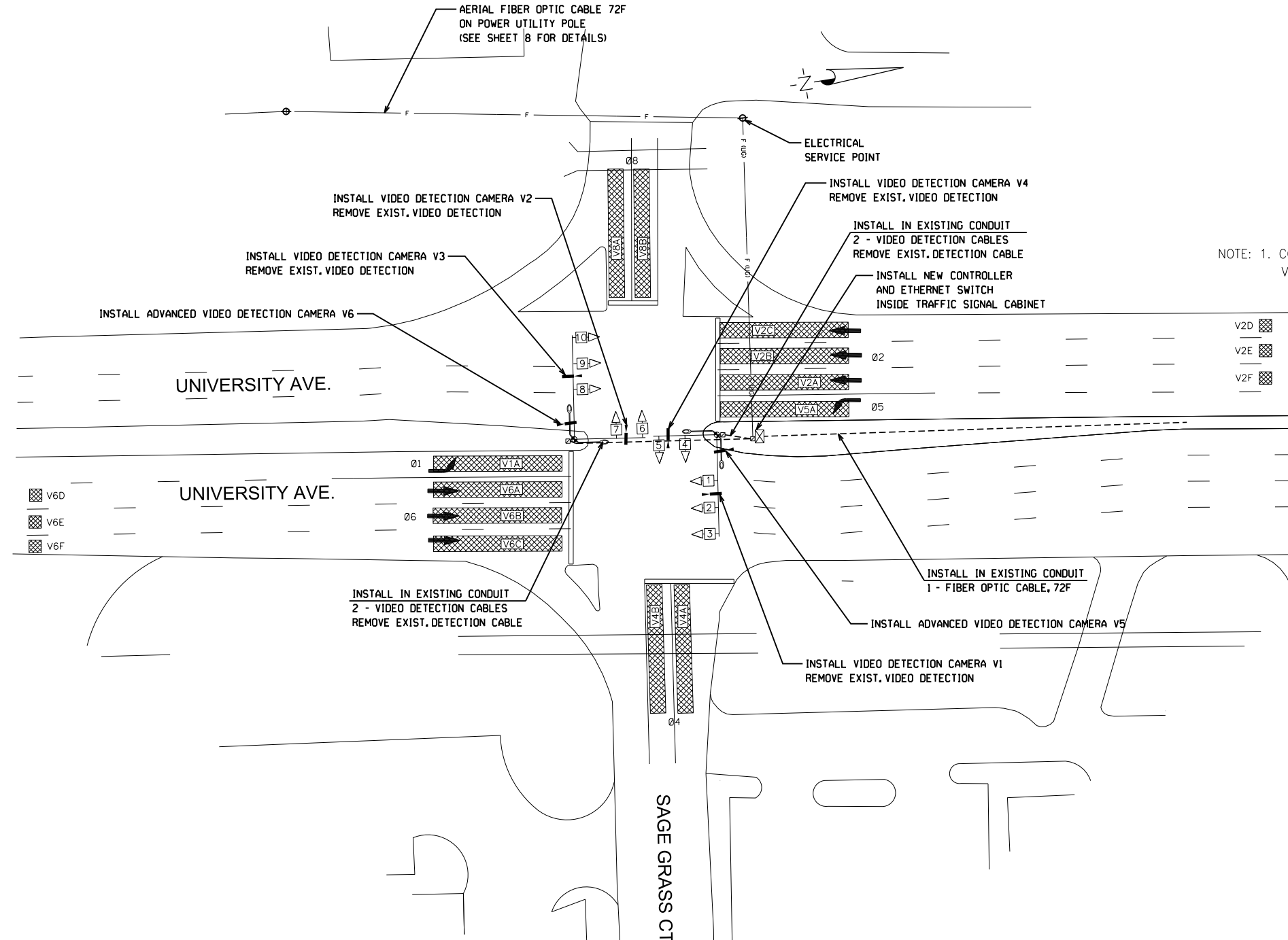


PHASING DIAGRAM



TRAFFIC SIGNAL LEGEND

- TRAFFIC SIGNAL CONTROLLER
- JUNCTION BOX
- CONDUIT
- AERIAL FIBER OPTIC CABLE
- MAST ARM AND POLE
- PROPOSED FYA SIGNAL HEAD
- EXISTING SIGNAL HEAD
- COBRA HEAD STREET LIGHT
- TRAFFIC SIGN
- VIDEO DETECTOR
- VIDEO DETECTION ZONE



NOTE: 1. CONTRACTOR TO REMOVE EXISTING STOP LINE VIDEO DETECTION EQUIPMENT.



POSTED SPEED LIMIT:
45 MPH NORTH AND SOUTH APPROACH
30 MPH EAST AND WEST APPROACH
BUS STOP LOCATED 250 FEET NORTH OF UNIVERSITY AVE SOUTHBOUND STOP LINE
NO RAILROAD TRACKS
WIRELESS INTERCONNECTIONS
NO FIRE STATION
NO PARKING
NO SIGHT DISTANCE RESTRICTIONS.

DETECTOR SPACING CHART

UNIVERSITY AVE.		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD LOOP	LAG LOOP
45 MPH	260'	60'
SAGE GRASS		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD LOOP	LAG LOOP
30 MPH	NONE	60'



CITY OF LITTLE ROCK
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

ADAPTIVE SIGNAL CONTROL
INTERSECTION DETAIL SHEET

REVISION	DATE	BY	SCALE	DATE	JOB NO.
			1" = 30'	12/14/17	
DRAWN BY		CHECKED BY			
TJC		MKC			
APPROVED BY				SHEET	
XXX				35 / 80	

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		36	80
				JOB NO.	061468			
UNIVERSITY AVE. AT SAGE GRASS								

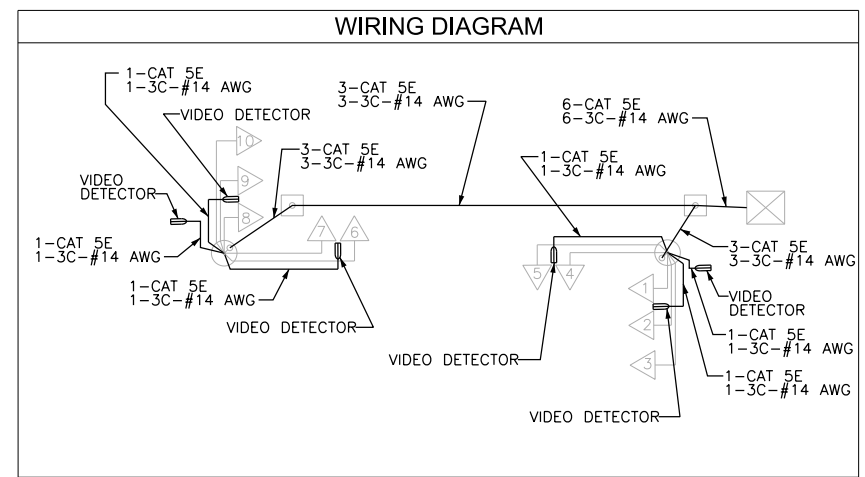


DETECTOR SYSTEM DESCRIPTION											
PULASKI COUNTY - UNIVERSITY AVE. /SAGE GRASS				HARDWARE INPUTS BY SUPPLIER			PROGRAM ASSIGNMENTS		COMMENTS	TUBE LENGTHS	
DET. ID#	LOCATION DIRECTION	TYPE	DET.	CAB TRM#	AMP CHN#	CON. INP#	PHS	SYSTEM DET.			MASTER SYSTEM DETECTION NUMBERS
V1A	NB LEFT TURN	LOCAL	1		2	V1	1			CAMERA V1	23"
V2A	SB THRU LANES	COMB.	2		6	V10	2	2		CAMERA V3	23"
V2B	SB THRU LANES	COMB.	3		6	V10	2	2		CAMERA V3	23"
V2C	SB THRU LANES	COMB.	4		6	V10	2	2		CAMERA V3	23"
V2D	SB ADV.	LOCAL	5		5	V2(D1)	2			CAMERA V5	23"
V2E	SB ADV.	LOCAL	6		5	V2(D2)	2			CAMERA V5	23"
V2F	SB ADV.	LOCAL	7		5	V2(D3)	2			CAMERA V5	23"
V4A	WB THRU LANE	COMB.	8		14	V12	4	4		CAMERA V4	23"
V4B	WB THRU LANE	COMB.	8		14	V12	4	4		CAMERA V4	23"
V5A	SB LEFT TURN	LOCAL	10		8	V5	5			CAMERA V3	23"
V6A	NB THRU LANE	COMB.	11		4	V14	6	6		CAMERA V1	23"
V6B	NB THRU LANE	COMB.	12		4	V14	6	6		CAMERA V1	23"
V6C	NB THRU LANE	COMB.	13		4	V14	6	6		CAMERA V1	23"
V6D	NB ADV.	LOCAL	14		3	V6(D4)	6			CAMERA V6	23"
V6E	NB ADV.	LOCAL	15		3	V6(D5)	6			CAMERA V6	23"
V6F	NB ADV.	LOCAL	16		3	V6(D6)	6			CAMERA V6	23"
V8A	EB THRU LANE	COMB.	17		12	V16	8			CAMERA V2	23"
V8B	EB THRU LANE	COMB.	18		12	V16	8			CAMERA V2	23"

V = Vehicle input
D = System or Auxiliary input
P = Pedestrian input

SPARE: 1, 7, 9 - 11, 13, 15 - 16

Add - 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. Channel assignments for detection to be coordinated and configured with Rhythm Engineering.



SIGNAL FACE	UNIVERSITY AVE AND SAGE GRASS										FLASH SEQ
	INTERVAL CHART FOR NORMAL OPERATION										
1	G <	*	G <	*	R <	R <	R <	R <	R <	R <	R <
2 & 3	R	R	G	**	R	R	G	**	R	R	R
4 & 5	R	R	R	R	R	R	R	R	G	**	R
6 & 7	R	R	R	R	R	R	R	R	G	**	R
8	G <	*	R <	R <	G	*	R <	R <	R <	R <	R <
9 & 10	R	R	R	R	G	**	G	**	R	R	R

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

CITY OF LITTLE ROCK
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

ADAPTIVE SIGNAL CONTROL
INTERSECTION DETAIL SHEET

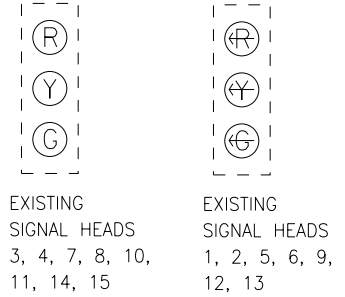
REVISION	DATE	BY	SCALE	DATE	JOB NO.
			N.T.S.	12/14/17	
DRAWN BY			CHECKED BY		
TJC			MKC		
APPROVED BY					SHEET
XXX					36 / 80

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		37	80
				JOB NO.		061468		

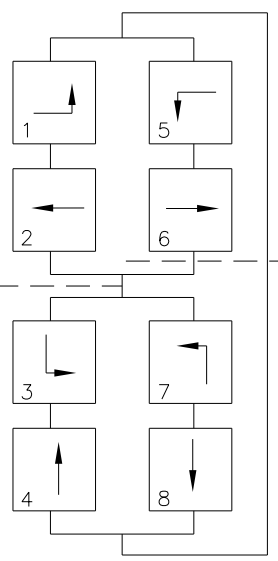
UNIVERSITY AVE. AT ASHER AVE./COL. GLENN RD.



SIGNAL FACES



PHASING DIAGRAM



TRAFFIC SIGNAL LEGEND

- ☒ TRAFFIC SIGNAL CONTROLLER
- ☒ JUNCTION BOX
- CONDUIT
- F- AERIAL FIBER OPTIC CABLE
- ⊕ MAST ARM AND POLE
- ◀4- PROPOSED FYA SIGNAL HEAD
- ◀3- EXISTING SIGNAL HEAD
- ⊕ COBRA HEAD STREET LIGHT
- ⊕ TRAFFIC SIGN
- ⊕ VIDEO DETECTOR
- ▨ VIDEO DETECTION ZONE

POSTED SPEED LIMIT:
 45 MPH NORTH AND SOUTH APPROACH
 40 MPH EAST AND WEST APPROACH
 NO BUS STOPS
 NO RAILROAD TRACKS
 FIBER INTERCONNECTIONS
 NO FIRE STATION
 NO PARKING
 NO SIGHT DISTANCE RESTRICTIONS.

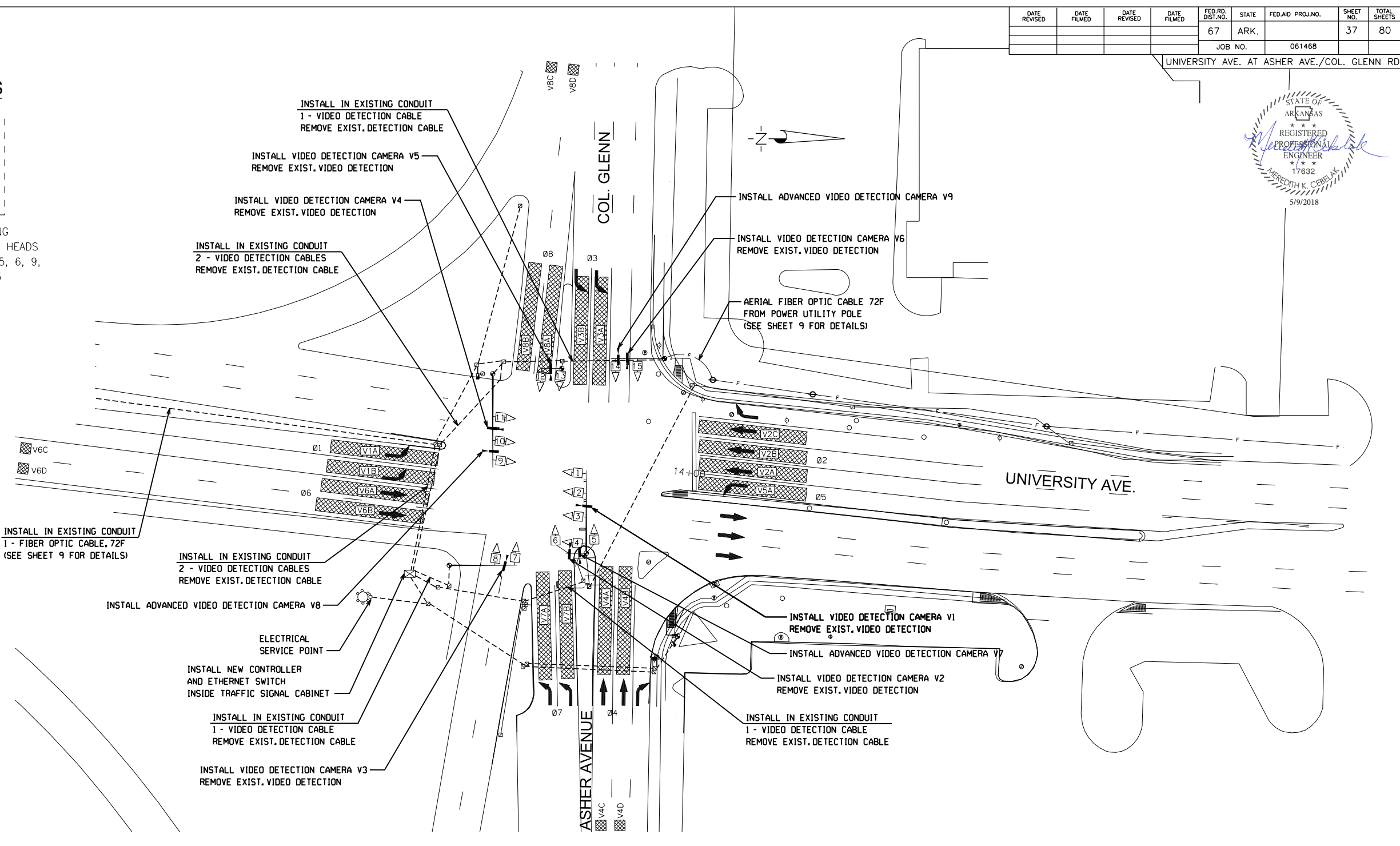
DETECTOR SPACING CHART		
UNIVERSITY AVE.		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD LOOP	LAG LOOP
45 MPH	260'	60'
ASHER AVE.		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD LOOP	LAG LOOP
40 MPH	230'	60'



CITY OF LITTLE ROCK
 DEPARTMENT OF PUBLIC WORKS
 TRAFFIC ENGINEERING DIVISION

ADAPTIVE SIGNAL CONTROL
 INTERSECTION DETAIL SHEET

REVISION	DATE	BY	SCALE	DATE	JOB NO.
			1" = 30'	12/14/17	
DRAWN BY		CHECKED BY			
TJC		MKC			
APPROVED BY				SHEET	
XXX				37/80	



DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		38	80
JOB NO.						061468		

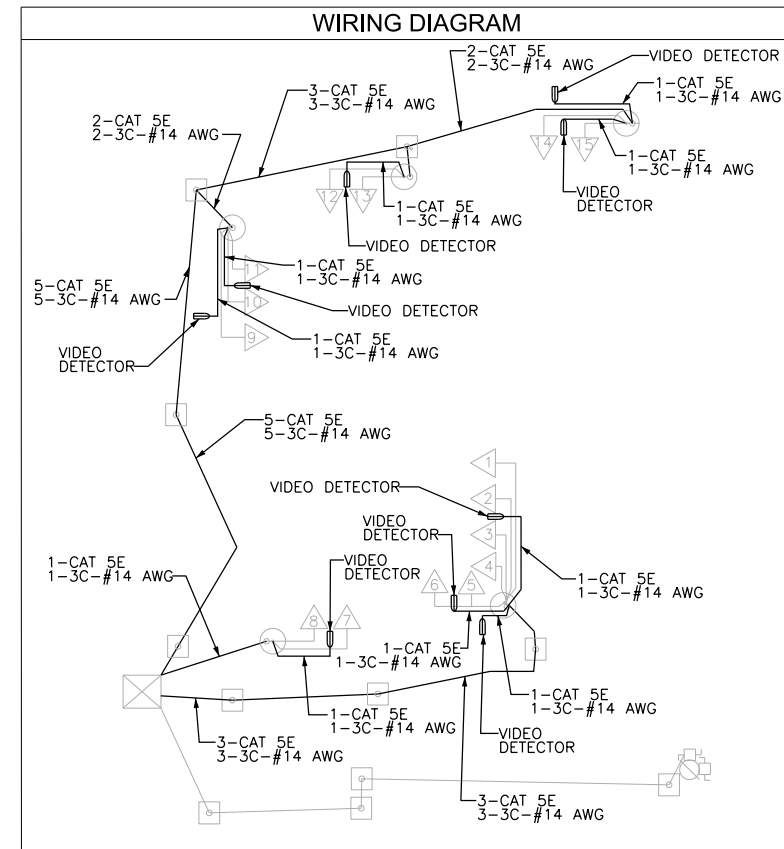
UNIVERSITY AVE. AT ASHER AVE./COL. GLENN RD.



DETECTOR SYSTEM DESCRIPTION											
PULASKI COUNTY - UNIVERSITY AVE. /ASHER				HARDWARE INPUTS BY SUPPLIER			PROGRAM ASSIGNMENTS			COMMENTS	TUBE LENGTHS
DET. ID#	LOCATION DIRECTION	TYPE	DET.	CAB TRM#	AMP CHN#	CON. INP#	PHS	SYSTEM DET.	MASTER SYSTEM DETECTION NUMBERS		
V1A	NB LEFT TURN	LOCAL	1		2	V1	1			CAMERA V1	23"
V1B	NB LEFT TURN	LOCAL	2		2	V1	1			CAMERA V1	23"
V2A	SB THRU LANES	COMB.	3		6	V10	2	2		CAMERA V4	23"
V2B	SB THRU LANES	COMB.	4		6	V10	2	2		CAMERA V4	23"
V2C	SB THRU LANES	COMB.	5		6	V10	2	2		CAMERA V4	23"
V3A	EB LEFT TURN	LOCAL	6		10	V3	3			CAMERA V2	23"
V3B	EB LEFT TURN	LOCAL	7		10	V3	3			CAMERA V2	23"
V4A	WB THRU LANE	COMB.	8		14	V12	4	4		CAMERA V6	23"
V4B	WB THRU LANE	COMB.	9		14	V12	4	4		CAMERA V6	23"
V4C	WB ADV.	LOCAL	10		13	V3(D7)	4			CAMERA V7	23"
V4D	WB ADV.	LOCAL	11		13	V3(D8)	4			CAMERA V7	23"
V5A	SB LEFT TURN	LOCAL	12		8	V5	5			CAMERA V4	23"
V6A	NB THRU LANE	COMB.	13		4	V14	6	6		CAMERA V1	23"
V6B	NB THRU LANE	COMB.	14		4	V14	6	6		CAMERA V1	23"
V6C	NB ADV.	LOCAL	15		3	V6(D3)	6			CAMERA V8	23"
V6D	NB ADV.	LOCAL	16		3	V6(D4)	6			CAMERA V8	23"
V7A	WB LEFT TURN	LOCAL	17		16	V7	7			CAMERA V5	23"
V7B	WB LEFT TURN	LOCAL	18		16	V7	7			CAMERA V5	23"
V8A	EB THRU LANE	COMB.	19		12	V16	8	8		CAMERA V3	23"
V8B	EB THRU LANE	COMB.	20		12	V16	8	8		CAMERA V3	23"
V8C	EB ADV.	LOCAL	21		11	V8(D5)	8			CAMERA V9	23"
V8D	EB ADV.	LOCAL	22		11	V8(D6)	8			CAMERA V9	23"

V = Vehicle input
D = System or Auxiliary input
P = Pedestrian input
Add - 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. Channel assignments for detection to be coordinated and configured with Rhythm Engineering.

SPARE: 1, 5, 7, 9, 15



SIGNAL FACE	UNIVERSITY AVE AND ASHER														FLASH SEQ.		
	INTERVAL CHART FOR NORMAL OPERATION																
1 & 2	G<	*	G<	*	R<	R<	R<	R<	R<	R<	R<	R<	R<	R<	R<	R<	R<
3 & 4	R	R	G	**	R	R	G	**	R	R	R	R	R	R	R	R	R
5 & 6	R<	R<	R<	R<	R<	R<	R<	R<	G<	*	G<	*	R<	R<	R<	R<	R<
7 & 8	R	R	R	R	R	R	R	R	R	R	G	**	R	R	G	**	R
9	G<	*	R<	R<	G<	*	R<	R<	R<	R<	R<	R<	R<	R<	R<	R<	R<
10 & 11	R	R	R	R	G	**	G	**	R	R	R	R	R	R	R	R	R
12 & 13	R<	R<	R<	R<	R<	R<	R<	R<	G<	*	R<	R<	G<	*	R<	R<	R<
14 & 15	R	R	R	R	R	R	R	R	R	R	R	G	**	G	**	R	R

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

LR CITY OF LITTLE ROCK
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

ADAPTIVE SIGNAL CONTROL
INTERSECTION DETAIL SHEET

REVISION	DATE	BY	SCALE	DATE	JOB NO.
			N.T.S.	12/14/17	
DRAWN BY			CHECKED BY		
TJC			MKC		
APPROVED BY					SHEET
XXX					38/80

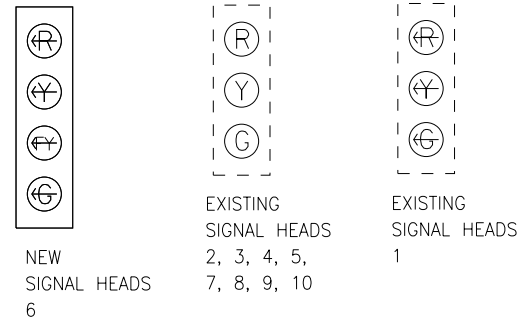
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		39	80
JOB NO.						061468		

041919 by CLR

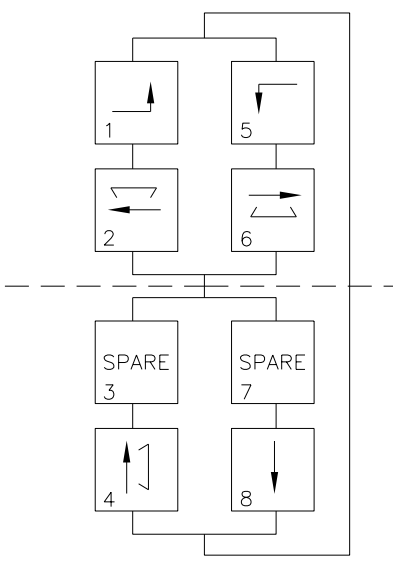
UNIVERSITY AVE. AT UNIVERSITY DR./TOWN AND COUNTRY



SIGNAL FACES



PHASING DIAGRAM

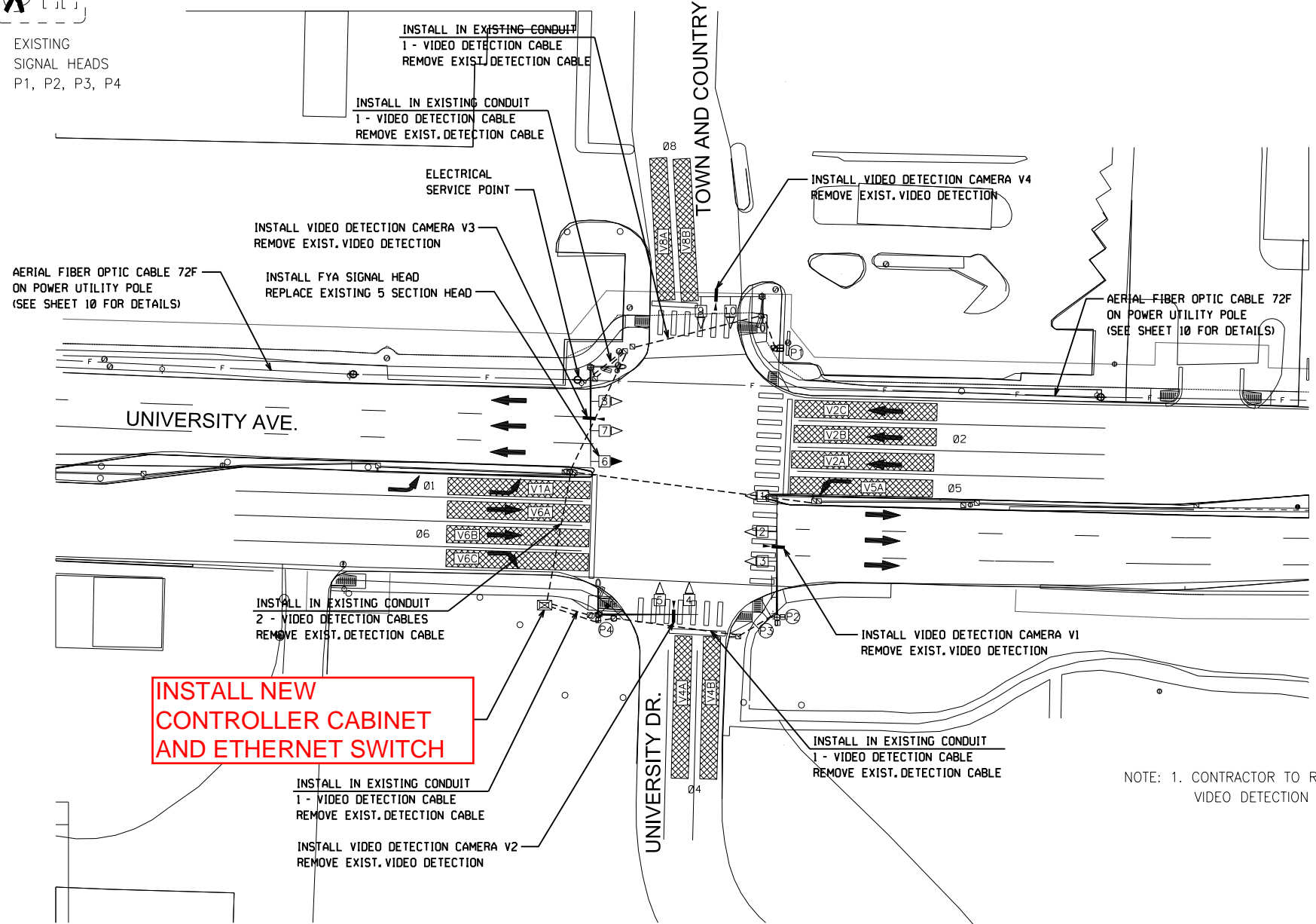


TRAFFIC SIGNAL LEGEND

- ☒ TRAFFIC SIGNAL CONTROLLER
- ☐ JUNCTION BOX
- CONDUIT
- F- AERIAL FIBER OPTIC CABLE
- ⊕ MAST ARM AND POLE
- ◀4 PROPOSED FYA SIGNAL HEAD
- ◀3 EXISTING SIGNAL HEAD
- ⊕ COBRA HEAD STREET LIGHT
- ⊕ TRAFFIC SIGN
- ⊕ VIDEO DETECTOR
- ▨ VIDEO DETECTION ZONE



EXISTING SIGNAL HEADS P1, P2, P3, P4



INSTALL NEW CONTROLLER CABINET AND ETHERNET SWITCH

POSTED SPEED LIMIT:
25 MPH NORTH AND SOUTH APPROACH
NO BUS STOPS
NO RAILROAD TRACKS
FIBER INTERCONNECTIONS
NO FIRE STATION
NO PARKING
NO SIGHT DISTANCE RESTRICTIONS.

DETECTOR SPACING CHART		
UNIVERSITY AVE.		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD LOOP	LAG LOOP
25 MPH	NONE	60'
UALR		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD LOOP	LAG LOOP
10 MPH	NONE	60'

NOTE: 1. CONTRACTOR TO REMOVE EXISTING STOP LINE VIDEO DETECTION EQUIPMENT.



CITY OF LITTLE ROCK
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

ADAPTIVE SIGNAL CONTROL
INTERSECTION DETAIL SHEET

REVISION	DATE	BY	SCALE	DATE	JOB NO.
			1" = 30'	12/14/17	
DRAWN BY		CHECKED BY			
TJC		MKC			
APPROVED BY		SHEET			
XXX		39		80	

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		40	80
JOB NO.						061468		

UNIVERSITY AVE. AT UNIVERSITY DR./TOWN AND COUNTRY



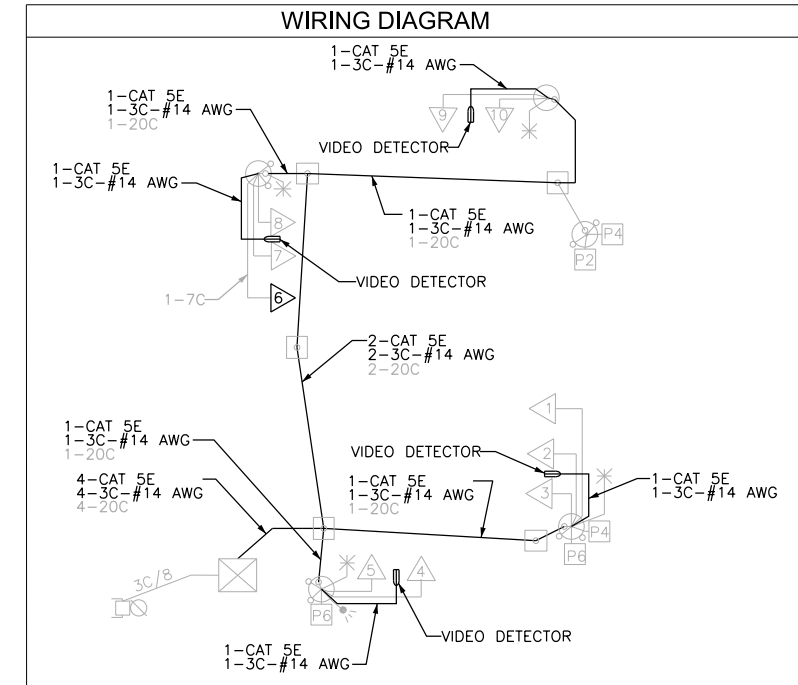
DETECTOR SYSTEM DESCRIPTION											
PULASKI COUNTY - UNIVERSITY AVE. /UALR				INPUTS BY SUPPLIER			PROGRAM ASSIGNMENTS			COMMENTS	TUBE LENGTHS
DET. ID#	LOCATION DIRECTION	TYPE	DET.	CAB TRM#	AMP CHN#	CON. INP#	PHS	SYSTEM DET.	MASTER SYSTEM DETECTION NUMBERS		
V1A	NB LEFT TURN	LOCAL	1			V1	1			CAMERA V1	23"
V2A	SB THRU LANES	LOCAL	2			V2	2			CAMERA V3	23"
V2B	SB THRU LANES	LOCAL	3			V3	2			CAMERA V3	23"
V2C	SB THRU LANES	LOCAL	4			V4	2			CAMERA V3	23"
V4A	WB THRU LANE	LOCAL	5			V5	4			CAMERA V4	23"
V4B	WB THRU LANE	LOCAL	6			V6	4			CAMERA V4	23"
V5A	SB LEFT TURN	LOCAL	7			V7	5			CAMERA V3	23"
V6A	NB THRU LANE	LOCAL	8			V8	6			CAMERA V1	23"
V6B	NB THRU LANE	LOCAL	9			V9	6			CAMERA V1	23"
V6C	NB THRU LANE	LOCAL	10			V10	6			CAMERA V1	23"
V8A	EB THRU LANE	LOCAL	11			V11	8			CAMERA V2	23"
V8B	EB THRU LANE	LOCAL	12			V12	8			CAMERA V2	23"

V = Vehicle input

D = System or Auxiliary input

P = Pedestrian input

Add - 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. Channel assignments for detection to be coordinated and configured with Rhythm Engineering.



UNIVERSITY AVE AND UNIVERSITY DR. / TOWN AND COUNTRY															FLASH SEQ.		
SIGNAL FACE	INTERVAL CHART FOR NORMAL OPERATION																
	1&5	CLR	1&6	CLR	2&5	CLR	2&6	CLR	3&7	CLR	3&8	CLR	4&7	CLR	4 & 8	CLR	
1	G<	*	G<	*	FY<	***	FY<	***							R	R	R
2	R	R	G	**	R	R	G	**							R	R	R
3	R	R	G	**	R	R	G	**							R	R	R
4	R	R	R	R	R	R	R	R							G	**	R
5	R	R	R	R	R	R	R	R							G	**	R
6	G<	*	R	R	G<	*	R	R							R	R	R
7	R	R	R	R	G	**	G	**							R	R	R
8	R	R	R	R	G	**	G	**							R	R	R
9	R	R	R	R	R	R	R	R							G	**	R
10	R	R	R	R	R	R	R	R							G	**	R
P1	DW	DW	DW	DW	DW	DW	DW	DW							W	FDW	
P2	DW	DW	DW	DW	DW	DW	DW	DW							W	FDW	
P3	DW	DW	W	FDW	DW	DW	W	FDW							DW	DW	
P4	DW	DW	W	FDW	DW	DW	W	FDW							DW	DW	

* 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 THE NEXT PHASE

CITY OF LITTLE ROCK
 DEPARTMENT OF PUBLIC WORKS
 TRAFFIC ENGINEERING DIVISION

ADAPTIVE SIGNAL CONTROL
 INTERSECTION DETAIL SHEET

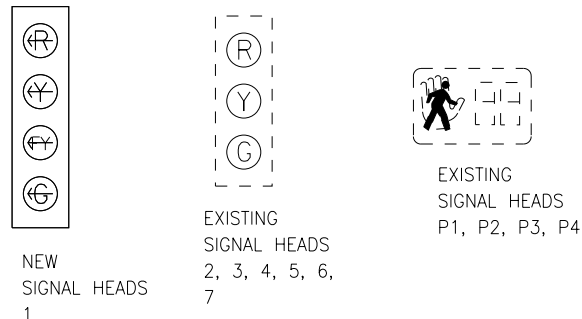
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			N.T.S.	12/14/17	
DRAWN BY			CHECKED BY		
TJC			MKC		
APPROVED BY			SHEET		
XXX			40 / 80		

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		41	80
				JOB NO.	061468			
				UNIVERSITY AVE. AT W. 32ND ST.				

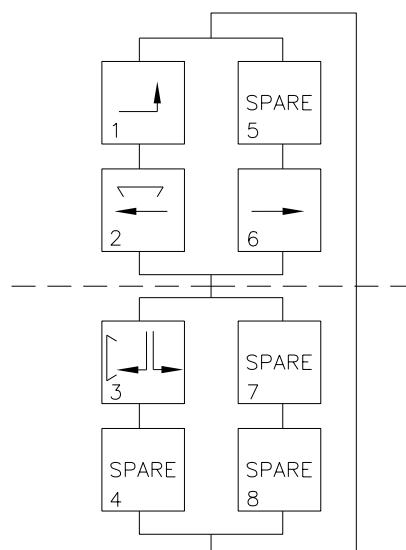
041919 by CLR



SIGNAL FACES

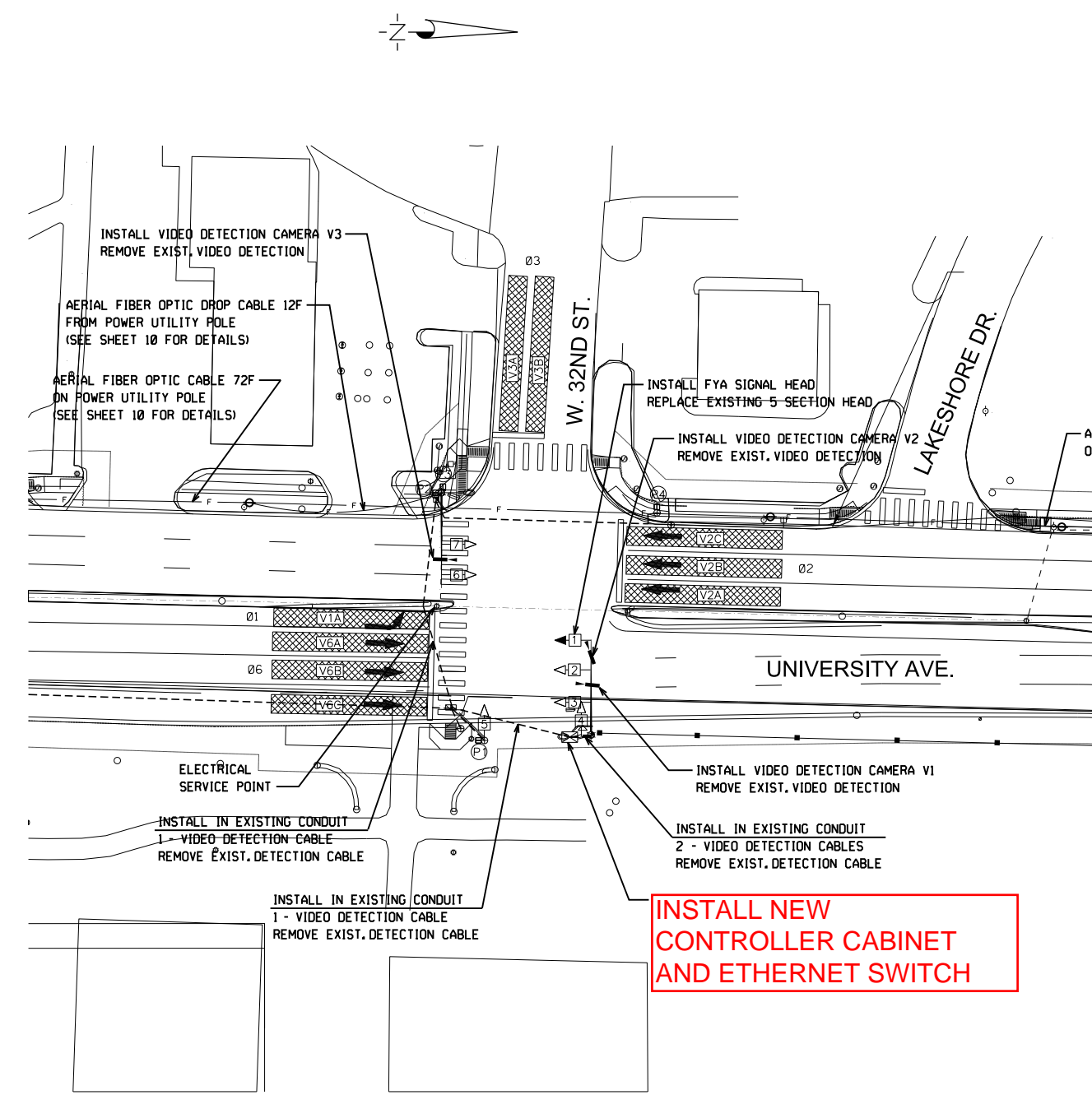


PHASING DIAGRAM



TRAFFIC SIGNAL LEGEND

- ☒ TRAFFIC SIGNAL CONTROLLER
- ☐ JUNCTION BOX
- CONDUIT
- f- AERIAL FIBER OPTIC CABLE
- ⊕ MAST ARM AND POLE
- ◀4- PROPOSED FYA SIGNAL HEAD
- ◀3- EXISTING SIGNAL HEAD
- ⊕ COBRA HEAD STREET LIGHT
- ⊕ TRAFFIC SIGN
- ⊕ VIDEO DETECTOR
- ▨ VIDEO DETECTION ZONE



NOTE: 1. CONTRACTOR TO REMOVE EXISTING STOP LINE VIDEO DETECTION EQUIPMENT.

INSTALL NEW CONTROLLER CABINET AND ETHERNET SWITCH

POSTED SPEED LIMIT:
25 MPH NORTH AND SOUTH APPROACH
25 MPH EAST AND WEST APPROACH
BUS STOP LOCATED 90 FEET SOUTH OF UNIVERSITY AVE NORTHBOUND STOP LINE
NO RAILROAD TRACKS
FIBER INTERCONNECTIONS
NO FIRE STATION
NO PARKING
NO SIGHT DISTANCE RESTRICTIONS.

DETECTOR SPACING CHART

UNIVERSITY AVE.	DISTANCE FROM STOP LINE	
	LEAD LOOP	LAG LOOP
POSTED SPEED		
25 MPH	NONE	60'
32ND		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD LOOP	LAG LOOP
25 MPH	NONE	60'



CITY OF LITTLE ROCK
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

ADAPTIVE SIGNAL CONTROL
INTERSECTION DETAIL SHEET

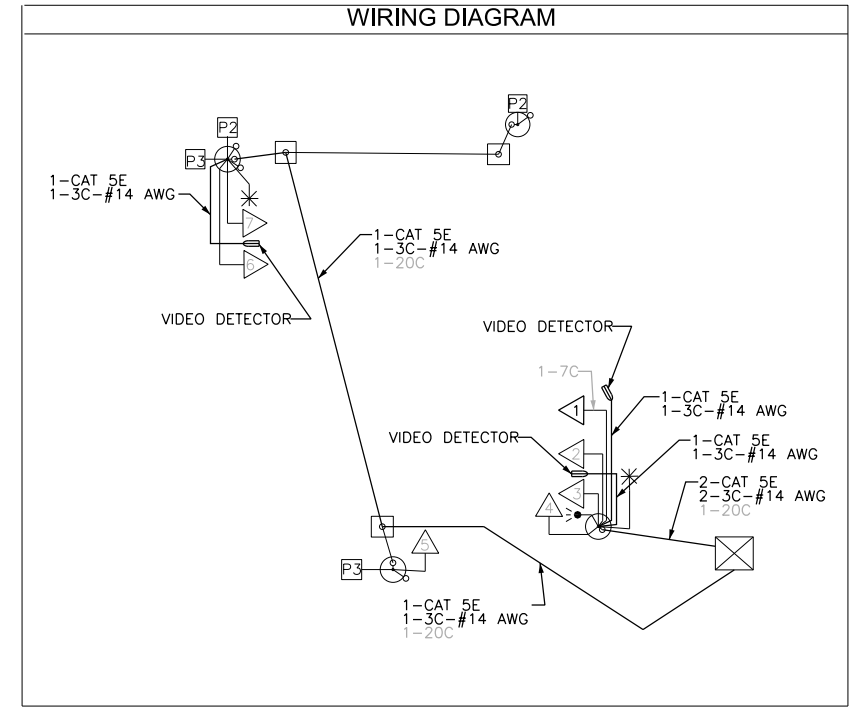
REVISION	DATE	BY	SCALE	DATE	JOB NO.
			1" = 30'	12/14/17	
DRAWN BY		CHECKED BY			
TJC		MKC			
APPROVED BY				SHEET 41/80	
XXX					

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		42	80
				JOB NO.	061468			
UNIVERSITY AVE. AT W. 32ND ST.								



DETECTOR SYSTEM DESCRIPTION												
PULASKI COUNTY - UNIVERSITY AVE. /32ND ST.				INPUTS BY SUPPLIER			PROGRAM ASSIGNMENTS				COMMENTS	TUBE LENGTHS
DET. ID#	LOCATION DIRECTION	TYPE	DET.	CAB TRM#	AMP CHN#	CON. INP#	PHS	SYSTEM DET.	MASTER SYSTEM DETECTION NUMBERS			
V1A	NB LEFT TURN	LOCAL	1			V1	1			CAMERA V1	23"	
V2A	SB THRU LANES	LOCAL	2			V2	2			CAMERA V3	23"	
V2B	SB THRU LANES	LOCAL	3			V3	2			CAMERA V3	23"	
V2C	SB THRU LANES	LOCAL	4			V4	2			CAMERA V3	23"	
V3A	EB THRU LANE	LOCAL	5			V5	3			CAMERA V2	23"	
V3B	EB THRU LANE	LOCAL	6			V6	3			CAMERA V2	23"	
V6A	NB THRU LANE	LOCAL	7			V7	6			CAMERA V1	23"	
V6B	NB THRU LANE	LOCAL	8			V8	6			CAMERA V1	23"	
V6C	NB THRU LANE	LOCAL	9			V9	6			CAMERA V1	23"	

V = Vehicle input
D = System or Auxiliary input
P = Pedestrian input
Add - 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. Channel assignments for detection to be coordinated and configured with Rhythm Engineering.



UNIVERSITY AVE AND 32ND ST																	
SIGNAL FACE	INTERVAL CHART FOR NORMAL OPERATION															FLASH SEQ	
	1&5	CLR	1&6	CLR	2&5	CLR	2&6	CLR	3&7	CLR	3&8	CLR	4&7	CLR	4 & 8		CLR
1			G <	*	FY <	***	FY <	***							R	R	R
2			G	**	R	R	G	**							R	R	R
3			G	**	R	R	G	**							R	R	R
4			R	R	R	R	R	R							G	**	R
5			R	R	R	R	R	R							G	**	R
6			R	R	G	**	G	**							R	R	R
7			R	R	G	**	G	**							R	R	R
P1			DW	DW	DW	DW	DW	DW							W	FDW	
P2			DW	DW	DW	DW	DW	DW							W	FDW	
P3			DW	DW	W	FDW	W	FDW							DW	DW	
P4			DW	DW	W	FDW	W	FDW							DW	DW	

* 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 THE NEXT PHASE

CITY OF LITTLE ROCK
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

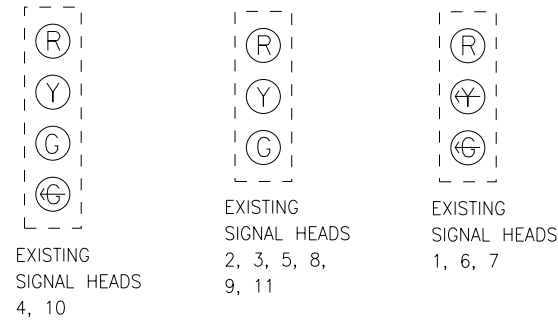
ADAPTIVE SIGNAL CONTROL
INTERSECTION DETAIL SHEET

REVISION	DATE	BY	SCALE	DATE	JOB NO.
			N.T.S.	12/14/17	
DRAWN BY			CHECKED BY		
TJC			MKC		
APPROVED BY					SHEET
XXX					42 / 80

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		43	80
				JOB NO.	061468			
UNIVERSITY AVE. AT W. 28TH ST.								

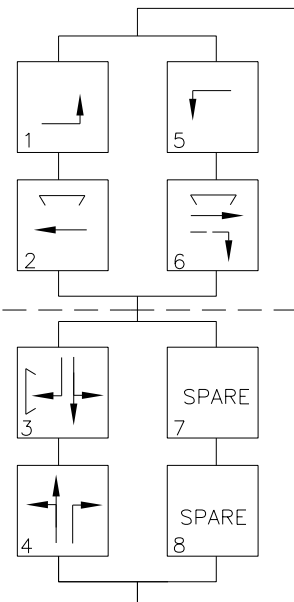


SIGNAL FACES



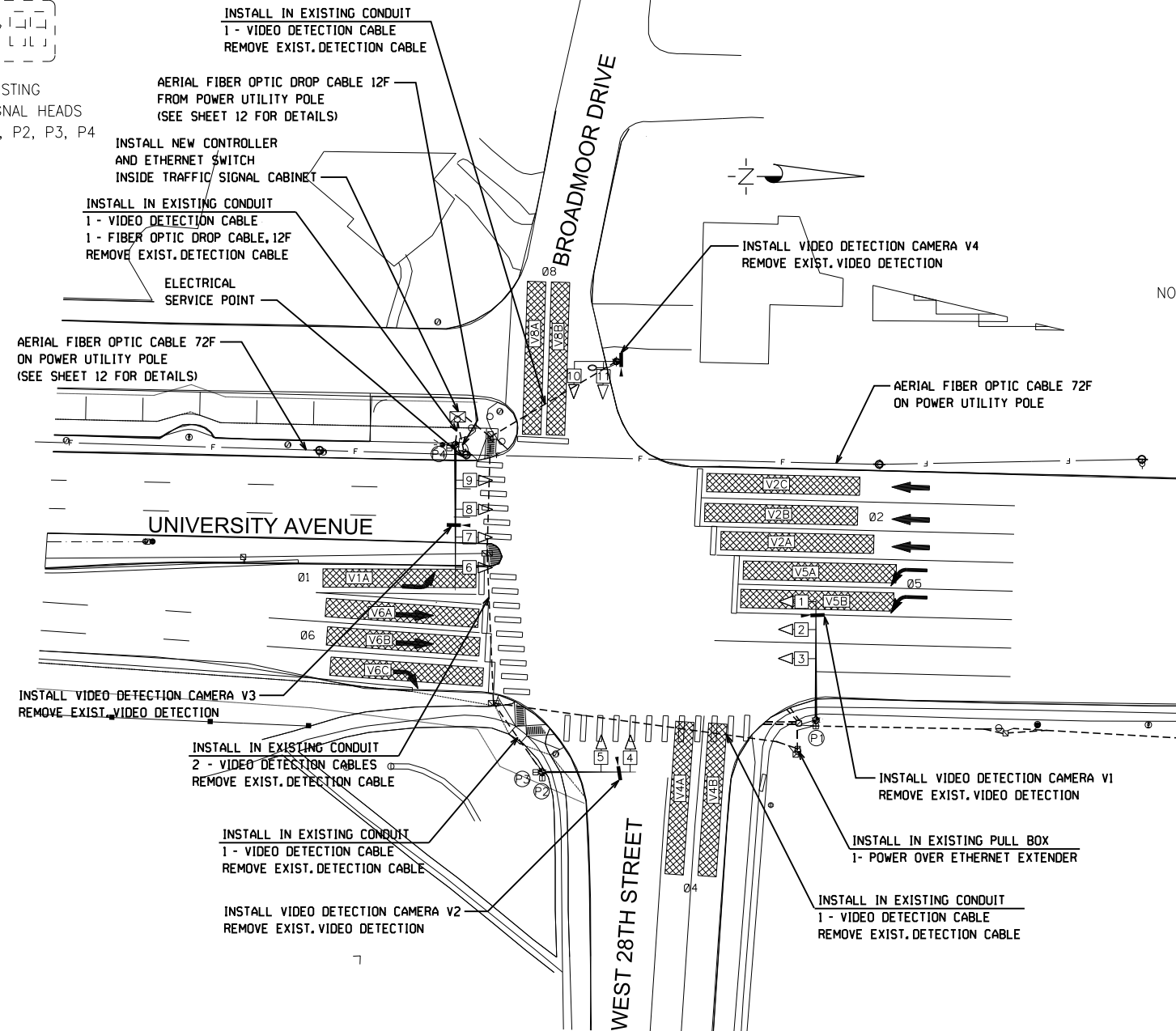
EXISTING SIGNAL HEADS
P1, P2, P3, P4

PHASING DIAGRAM



TRAFFIC SIGNAL LEGEND

- TRAFFIC SIGNAL CONTROLLER
- JUNCTION BOX
- CONDUIT
- AERIAL FIBER OPTIC CABLE
- MAST ARM AND POLE
- PROPOSED FYA SIGNAL HEAD
- EXISTING SIGNAL HEAD
- COBRA HEAD STREET LIGHT
- TRAFFIC SIGN
- VIDEO DETECTOR
- VIDEO DETECTION ZONE



NOTE: 1. CONTRACTOR TO REMOVE EXISTING STOP LINE VIDEO DETECTION EQUIPMENT.

POSTED SPEED LIMIT:
25 MPH NORTH AND SOUTH APPROACH
25 MPH EAST AND WEST APPROACH
BUS STOP LOCATED 100 FEET SOUTH OF UNIVERSITY AVE NORTHBOUND STOP LINE
NO RAILROAD TRACKS
FIBER INTERCONNECTIONS
NO FIRE STATION
NO PARKING
NO SIGHT DISTANCE RESTRICTIONS.

DETECTOR SPACING CHART		
UNIVERSITY AVE.		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD LOOP	LAG LOOP
25 MPH	NONE	60'
BROADMOOR		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD LOOP	LAG LOOP
25 MPH	NONE	60'



CITY OF LITTLE ROCK
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

ADAPTIVE SIGNAL CONTROL
INTERSECTION DETAIL SHEET

REVISION	DATE	BY	SCALE	DATE	JOB NO.
			1" = 30'	12/14/17	
DRAWN BY		CHECKED BY			
TJC		MKC			
APPROVED BY				SHEET	
XXX				43 / 80	

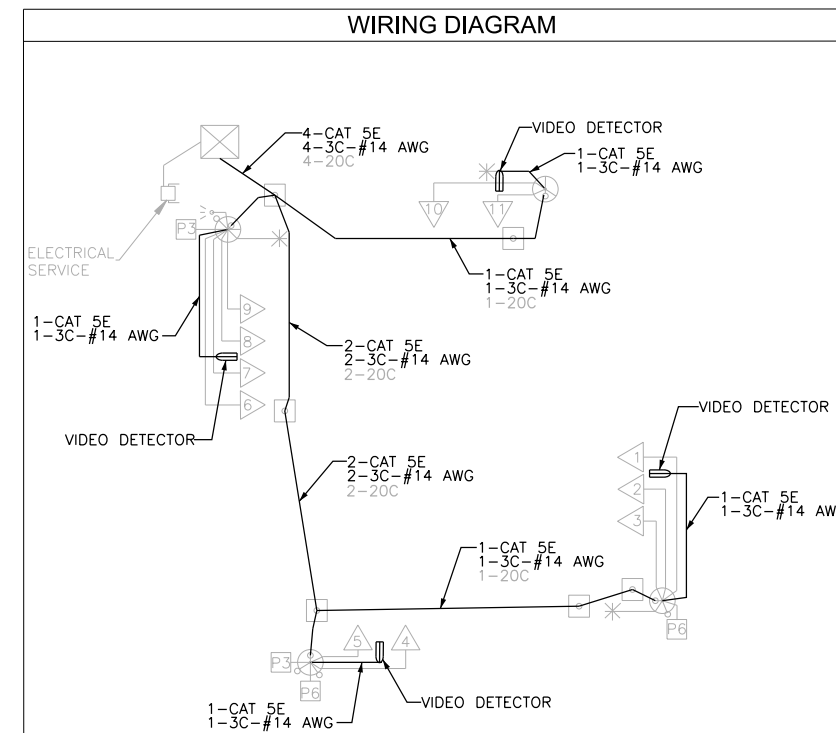
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		44	80
				JOB NO.	061468			
UNIVERSITY AVE. AT W. 28TH ST.								



DETECTOR SYSTEM DESCRIPTION											
PULASKI COUNTY - UNIVERSITY AVE. /BROADMOOR				INPUTS BY SUPPLIER			PROGRAM ASSIGNMENTS			COMMENTS	TUBE LENGTHS
DET. ID#	LOCATION DIRECTION	TYPE	DET.	CAB TRM#	AMP CHN#	CON. INP#	PHS	SYSTEM DET.	MASTER SYSTEM DETECTION NUMBERS		
V1A	NB LEFT TURN	LOCAL	1			V1	1			CAMERA V1	23"
V2A	SB THRU LANES	LOCAL	2			V2	2			CAMERA V3	23"
V2B	SB THRU LANES	LOCAL	3			V3	2			CAMERA V3	23"
V2C	SB THRU LANES	LOCAL	4			V4	2			CAMERA V3	23"
V4A	WB THRU LANE	LOCAL	5			V5	4			CAMERA V4	23"
V4B	WB RIGHT TURN	LOCAL	5			V6	4			CAMERA V4	23"
V5A	SB LEFT TURN	LOCAL	6			V7	5			CAMERA V3	23"
V5B	SB LEFT TURN	LOCAL	7			V8	5			CAMERA V3	23"
V6A	NB THRU LANE	LOCAL	8			V9	6			CAMERA V1	23"
V6B	NB THRU LANE	LOCAL	9			V10	6			CAMERA V1	23"
V6C	NB THRU LANE	LOCAL	10			V11	6			CAMERA V1	23"
V8A	EB THRU LANE	LOCAL	11			V12	8			CAMERA V2	23"
V8B	EB THRU LANE	LOCAL	12			V13	8			CAMERA V2	23"

V = Vehicle input
D = System or Auxiliary input
P = Pedestrian input

Add - 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. Channel assignments for detection to be coordinated and configured with Rhythm Engineering.



UNIVERSITY AVE AND 28TH ST																	
SIGNAL FACE	INTERVAL CHART FOR NORMAL OPERATION																FLASH SEQ
	1&5	CLR	1&6	CLR	2&5	CLR	2&6	CLR	3&7	CLR	3&8	CLR	4&7	CLR	4 & 8	CLR	
1	G <	*	G <	*	R	R	R	R							R	R	R
2	R	R	G	**	R	R	G	**							R	R	R
3	R	R	G	**	R	R	G	**							R	R	R
4	R	R	R	R	R	R	R	R							G	*/**	R
5	R	R	R	R	R	R	R	R							G	**	R
6	G <	*	R	R	R	R	R	R							R	R	R
7	G <	*	R	R	R	R	R	R							R	R	R
8	R	R	R	R	G	**	G	**							R	R	R
9	R	R	R	R	G	**	G	**							R	R	R
10	R	R	R	R	R	R	R	R							G	*/**	R
11	R	R	R	R	R	R	R	R							G	*/**	R
P1	DW	DW	W	FDW	DW	DW	W	FDW							DW	DW	
P2	DW	DW	W	FDW	DW	DW	W	FDW							DW	DW	
P3	DW	DW	DW	DW	DW	DW	DW	DW							W	FDW	
P4	DW	DW	DW	DW	DW	DW	DW	DW							W	FDW	

* 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 THE NEXT PHASE

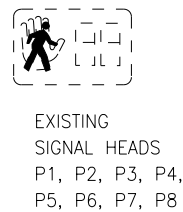
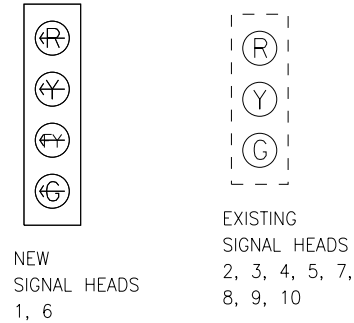
LR CITY OF LITTLE ROCK
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

ADAPTIVE SIGNAL CONTROL
INTERSECTION DETAIL SHEET

REVISION	DATE	BY	SCALE	DATE	JOB NO.
			N.T.S.	12/14/17	
DRAWN BY			CHECKED BY		
TJC			MKC		
APPROVED BY			SHEET		
XXX			44 / 80		

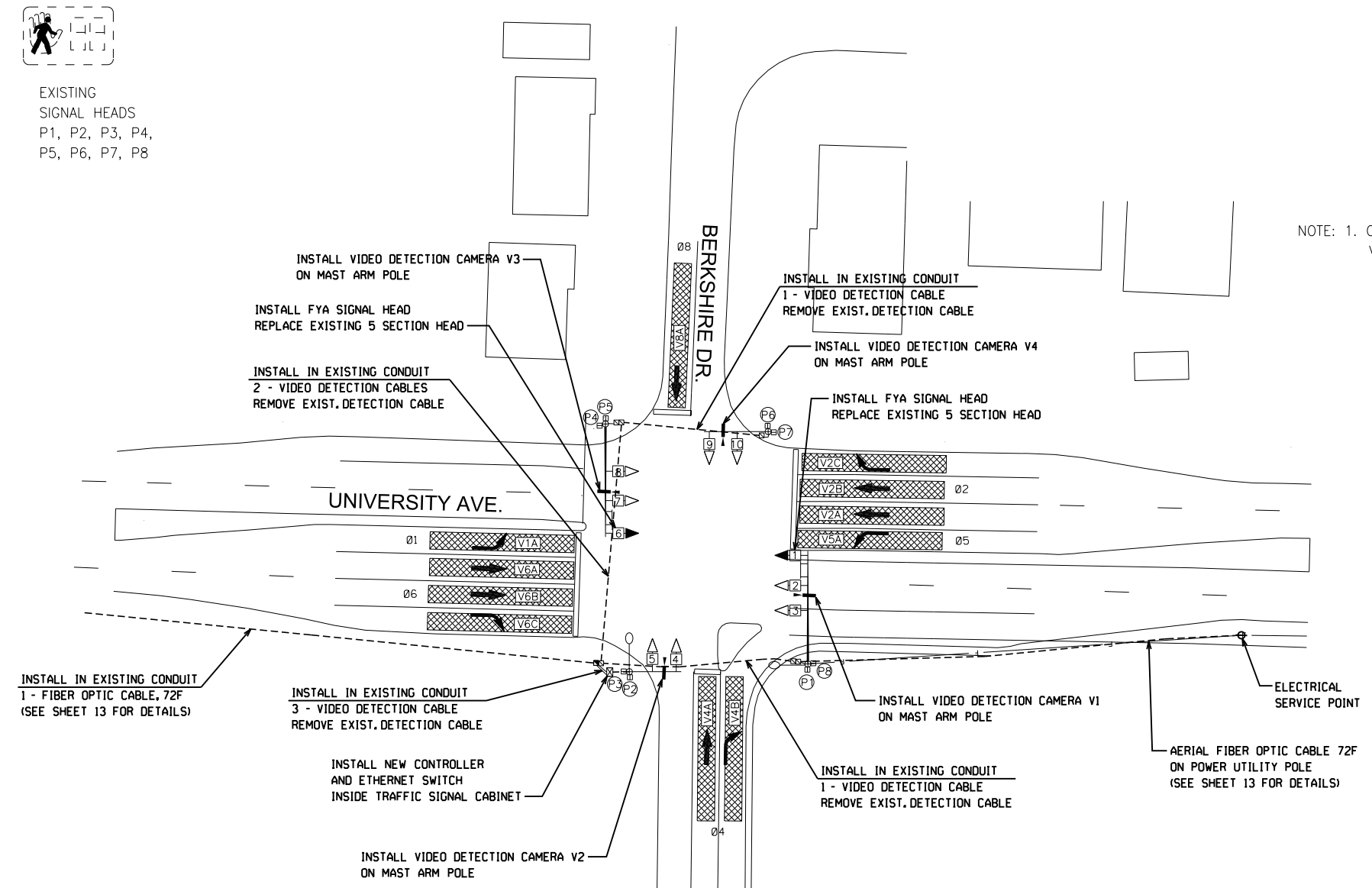
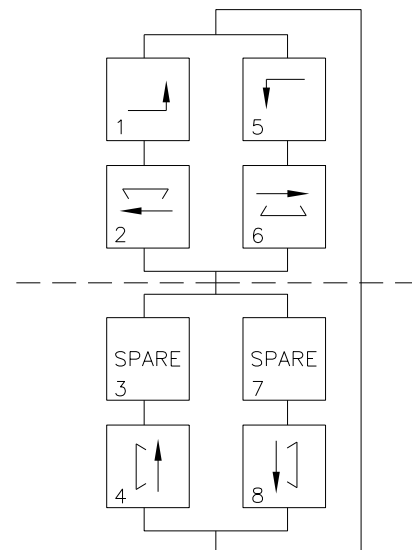
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		45	80
				JOB NO.	061468			
UNIVERSITY AVE. AT BERKSHIRE DR.								

SIGNAL FACES



NOTE: 1. CONTRACTOR TO REMOVE EXISTING STOP LINE VIDEO DETECTION EQUIPMENT.

PHASING DIAGRAM



TRAFFIC SIGNAL LEGEND

- TRAFFIC SIGNAL CONTROLLER
- JUNCTION BOX
- CONDUIT
- AERIAL FIBER OPTIC CABLE
- MAST ARM AND POLE
- PROPOSED FYA SIGNAL HEAD
- EXISTING SIGNAL HEAD
- COBRA HEAD STREET LIGHT
- TRAFFIC SIGN
- VIDEO DETECTOR
- VIDEO DETECTION ZONE

POSTED SPEED LIMIT:
25 MPH NORTH AND SOUTH APPROACH
25 MPH EAST AND WEST APPROACH
BUS STOP LOCATED 120 FEET SOUTH OF
UNIVERSITY AVE SOUTHBOUND STOP LINE
NO RAILROAD TRACKS
FIBER INTERCONNECTIONS
NO FIRE STATION
NO PARKING
NO SIGHT DISTANCE RESTRICTIONS.

DETECTOR SPACING CHART

UNIVERSITY AVE.		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD LOOP	LAG LOOP
25 MPH	NONE	60'
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD LOOP	LAG LOOP
25 MPH	NONE	60'



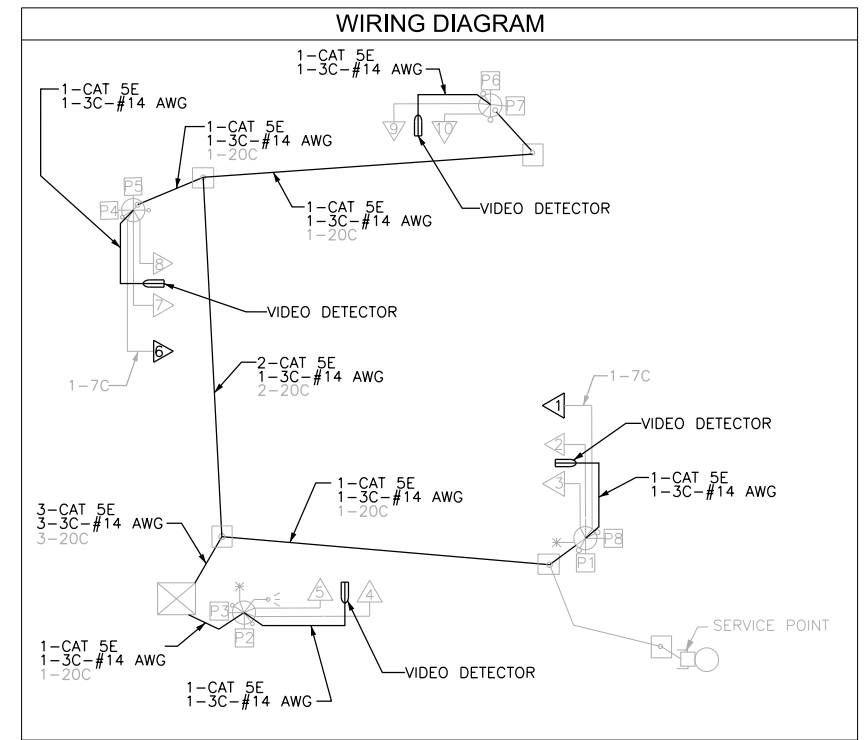
CITY OF LITTLE ROCK DEPARTMENT OF PUBLIC WORKS TRAFFIC ENGINEERING DIVISION					
ADAPTIVE SIGNAL CONTROL INTERSECTION DETAIL SHEET					
REVISION	DATE	BY	SCALE 1" = 30'	DATE 12/14/17	JOB NO.
			DRAWN BY TJC	CHECKED BY MKC	
			APPROVED BY XXX		SHEET 45 80

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		46	80
				JOB NO.	061468			
UNIVERSITY AVE. AT BERKSHIRE DR.								



DETECTOR SYSTEM DESCRIPTION											
PULASKI COUNTY - UNIVERSITY AVE. /BERKSHIRE				INPUTS BY SUPPLIER			PROGRAM ASSIGNMENTS			COMMENTS	TUBE LENGTHS
DET. ID#	LOCATION DIRECTION	TYPE	DET.	CAB TRM#	AMP CHN#	CON. INP#	PHS	SYSTEM DFT.	MASTER SYSTEM DETECTION NUMBERS		
V1A	NB LEFT TURN	LOCAL	1			V1	1			CAMERA V1	23"
V2A	SB THRU LANES	LOCAL	2			V2	2			CAMERA V3	23"
V2B	SB THRU LANES	LOCAL	3			V3	2			CAMERA V3	23"
V2C	SB THRU LANES	LOCAL	4			V4	2			CAMERA V3	23"
V4A	WB THRU LANE	LOCAL	5			V5	4			CAMERA V4	23"
V4B	WB RIGHT TURN	LOCAL	6			V6	4			CAMERA V4	23"
V5A	SB LEFT TURN	LOCAL	7			V7	5			CAMERA V3	23"
V6A	NB THRU LANE	LOCAL	8			V8	6			CAMERA V1	23"
V6B	NB THRU LANE	LOCAL	9			V9	6			CAMERA V1	23"
V6C	NB THRU LANE	LOCAL	10			V10	6			CAMERA V1	23"
V8A	EB THRU LANE	LOCAL	11			V11	8			CAMERA V2	23"

V = Vehicle input
D = System or Auxiliary input
P = Pedestrian input
Add - 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. Channel assignments for detection to be coordinated and configured with Rhythm Engineering.



UNIVERSITY AVE AND BERKSHIRE																	
SIGNAL FACE	INTERVAL CHART FOR NORMAL OPERATION														FLASH SEQ.		
	1&5	CLR	1&6	CLR	2&5	CLR	2&6	CLR	3&7	CLR	3&8	CLR	4&7	CLR		4 & 8	CLR
1	G<-	*	G<-	*	FY<-	***	FY<-	***									R
2	R	R	G	**	R	R	G	**							R	R	R
3	R	R	G	**	R	R	G	**							R	R	R
4	R	R	R	R	R	R	R	R							G	**	R
5	R	R	R	R	R	R	R	R							G	**	R
6	G<-	*	FY<-	***	G<-	*	FY<-	***							R	R	R
7	R	R	R	R	G	**	G	**							R	R	R
8	R	R	R	R	G	**	G	**							R	R	R
9	R	R	R	R	R	R	R	R							G	**	R
10	R	R	R	R	R	R	R	R							G	**	R
P1	DW	DW	W	FDW	DW	DW	W	FDW							DW	DW	
P2	DW	DW	W	FDW	DW	DW	W	FDW							DW	DW	
P3	DW	DW	DW	DW	DW	DW	DW	DW							W	FDW	
P4	DW	DW	DW	DW	DW	DW	DW	DW							W	FDW	
P5	DW	DW	DW	DW	W	FDW	W	FDW							DW	DW	
P6	DW	DW	DW	DW	W	FDW	W	FDW							DW	DW	
P7	DW	DW	DW	DW	DW	DW	DW	DW							W	FDW	
P8	DW	DW	DW	DW	DW	DW	DW	DW							W	FDW	

* 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 THE NEXT PHASE

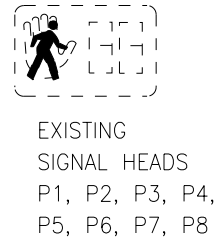
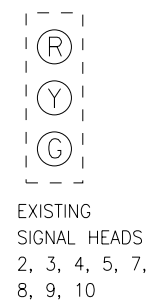
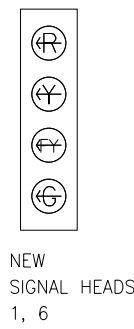
LR CITY OF LITTLE ROCK
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

ADAPTIVE SIGNAL CONTROL
INTERSECTION DETAIL SHEET

REVISION	DATE	BY	SCALE	DATE	JOB NO.
			N.T.S.	12/14/17	
DRAWN BY			CHECKED BY		
TJC			MKC		
APPROVED BY			SHEET		
XXX			46/80		

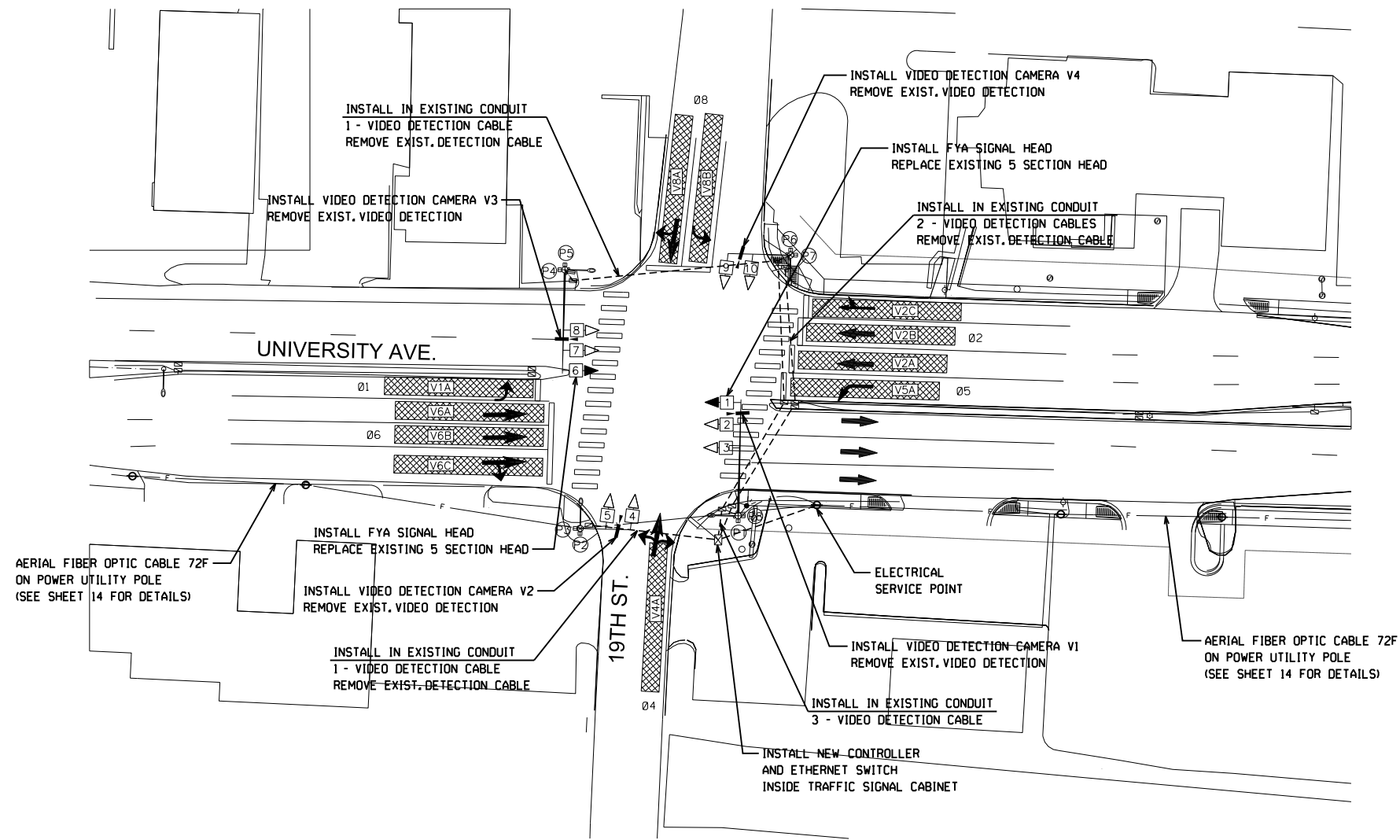
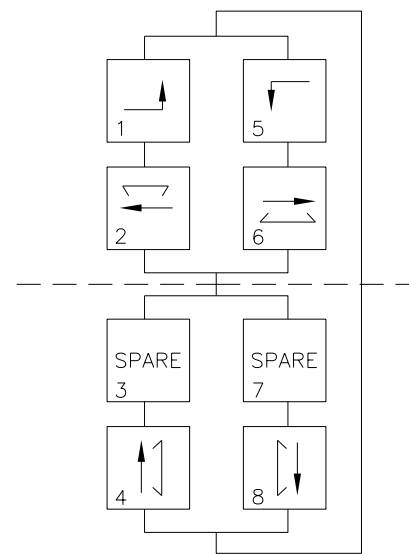
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		47	80
				JOB NO.		061468		
UNIVERSITY AVE. AT 19TH ST.								

SIGNAL FACES



NOTE: 1. CONTRACTOR TO REMOVE EXISTING STOP LINE VIDEO DETECTION EQUIPMENT.

PHASING DIAGRAM



TRAFFIC SIGNAL LEGEND

- TRAFFIC SIGNAL CONTROLLER
- JUNCTION BOX
- CONDUIT
- AERIAL FIBER OPTIC CABLE
- MAST ARM AND POLE
- PROPOSED FYA SIGNAL HEAD
- EXISTING SIGNAL HEAD
- COBRA HEAD STREET LIGHT
- TRAFFIC SIGN
- VIDEO DETECTOR
- VIDEO DETECTION ZONE

POSTED SPEED LIMIT:
 25 MPH NORTH AND SOUTH APPROACH
 25 MPH EAST AND WEST APPROACH
 BUS STOP LOCATED 100 FEET NORTH OF UNIVERSITY AVE SOUTHBOUND STOP LINE
 NO RAILROAD TRACKS
 FIBER INTERCONNECTIONS
 NO FIRE STATION
 NO PARKING
 NO SIGHT DISTANCE RESTRICTIONS.

UNIVERSITY AVE.		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD LOOP	LAG LOOP
25 MPH	NONE	60'
19TH ST.		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD LOOP	LAG LOOP
25 MPH	NONE	60'



CITY OF LITTLE ROCK
 DEPARTMENT OF PUBLIC WORKS
 TRAFFIC ENGINEERING DIVISION

ADAPTIVE SIGNAL CONTROL
 INTERSECTION DETAIL SHEET

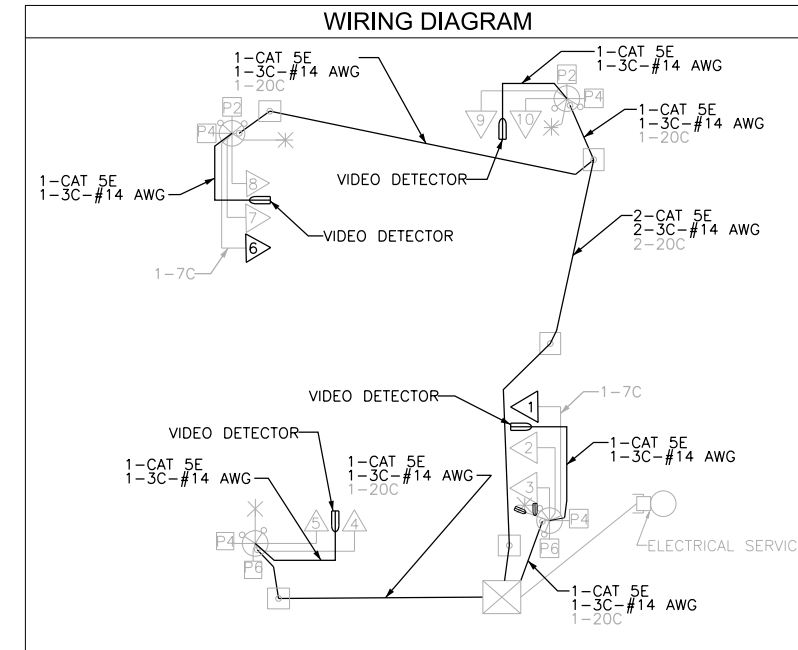
REVISION	DATE	BY	SCALE	DATE	JOB NO.
			1" = 30'	12/14/17	
		TJC		CHECKED BY	MKC
		APPROVED BY	XXX		SHEET 47/80

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		48	80
				JOB NO.		061468		
UNIVERSITY AVE. AT 19TH ST.								



DETECTOR SYSTEM DESCRIPTION												
PULASKI COUNTY - UNIVERSITY AVE. /19TH ST.				INPUTS BY SUPPLIER			PROGRAM ASSIGNMENTS				COMMENTS	TUBE LENGTHS
DET. ID#	LOCATION DIRECTION	TYPE	DET.	CAB TRM#	AMP CHN#	CON. INP#	PHS	SYSTEM DET.	MASTER SYSTEM DETECTION NUMBERS			
V1A	NB LEFT TURN	LOCAL	1			V1	1			CAMERA V1	23"	
V2A	SB THRU LANES	LOCAL	2			V2	2			CAMERA V3	23"	
V2B	SB THRU LANES	LOCAL	3			V3	2			CAMERA V3	23"	
V2C	SB THRU LANES	LOCAL	4			V4	2			CAMERA V3	23"	
V4A	WB THRU LANE	LOCAL	5			V5	4			CAMERA V4	23"	
V5A	SB LEFT TURN	LOCAL	6			V6	5			CAMERA V3	23"	
V6A	NB THRU LANE	LOCAL	7			V7	6			CAMERA V1	23"	
V6B	NB THRU LANE	LOCAL	8			V8	6			CAMERA V1	23"	
V6C	NB THRU LANE	LOCAL	9			V9	6			CAMERA V1	23"	
V8A	EB THRU LANE	LOCAL	10			V10	8			CAMERA V2	23"	
V8B	EB THRU LANE	LOCAL	11			V11	8			CAMERA V2	23"	

V = Vehicle input
D = System or Auxiliary input
P = Pedestrian input
Add - 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. Channel assignments for detection to be coordinated and configured with Rhythm Engineering.



UNIVERSITY AVE AND 19TH ST																	
SIGNAL FACE	INTERVAL CHART FOR NORMAL OPERATION															FLASH SEQ	
	1&5	CLR	1&6	CLR	2&5	CLR	2&6	CLR	3&7	CLR	3&8	CLR	4&7	CLR	4 & 8		CLR
1	G <	*	G <	*	FY <	***	FY <	***									R
2	R	R	G	**	R	R	G	**									R
3	R	R	G	**	R	R	G	**									R
4	R	R	R	R	R	R	R	R									R
5	R	R	R	R	R	R	R	R									R
6	G <	*	FY <	***	G <	*	FY <	***									R
7	R	R	R	R	R	R	R	R									R
8	R	R	R	R	G	**	G	**									R
9	R	R	R	R	R	R	R	R									R
10	R	R	R	R	R	R	R	R									R
P1	DW	DW	W	FDW	DW	DW	W	FDW									
P2	DW	DW	W	FDW	DW	DW	W	FDW									
P3	DW	DW	DW	DW	DW	DW	DW	DW									
P4	DW	DW	DW	DW	DW	DW	DW	DW									
P5	DW	DW	DW	DW	W	FDW	W	FDW									
P6	DW	DW	DW	DW	W	FDW	W	FDW									
P7	DW	DW	DW	DW	DW	DW	DW	DW									
P8	DW	DW	DW	DW	DW	DW	DW	DW									

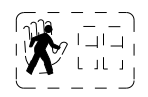
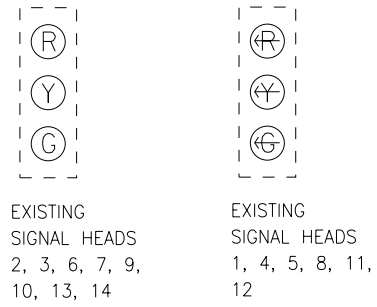
* DENOTES GREEN OR YELLOW ARROW DEPENDING ON NEXT PHASE ** DENOTES GREEN OR YELLOW BALL DEPENDING ON NEXT PHASE
*** DENOTES FLASHING YELLOW ARROW OR YELLOW ARROW DEPENDING ON THE NEXT PHASE

CITY OF LITTLE ROCK DEPARTMENT OF PUBLIC WORKS TRAFFIC ENGINEERING DIVISION					
ADAPTIVE SIGNAL CONTROL INTERSECTION DETAIL SHEET					
REVISION	DATE	BY	SCALE	DATE	JOB NO.
			N.T.S.	12/14/17	
DRAWN BY		CHECKED BY			
TJC		MKC			
APPROVED BY				SHEET	
XXX				48 / 80	

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		49	80
				JOB NO.	061468			
UNIVERSITY AVE. AT W. 12TH ST.								

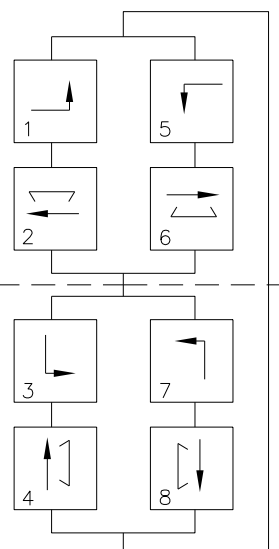


SIGNAL FACES



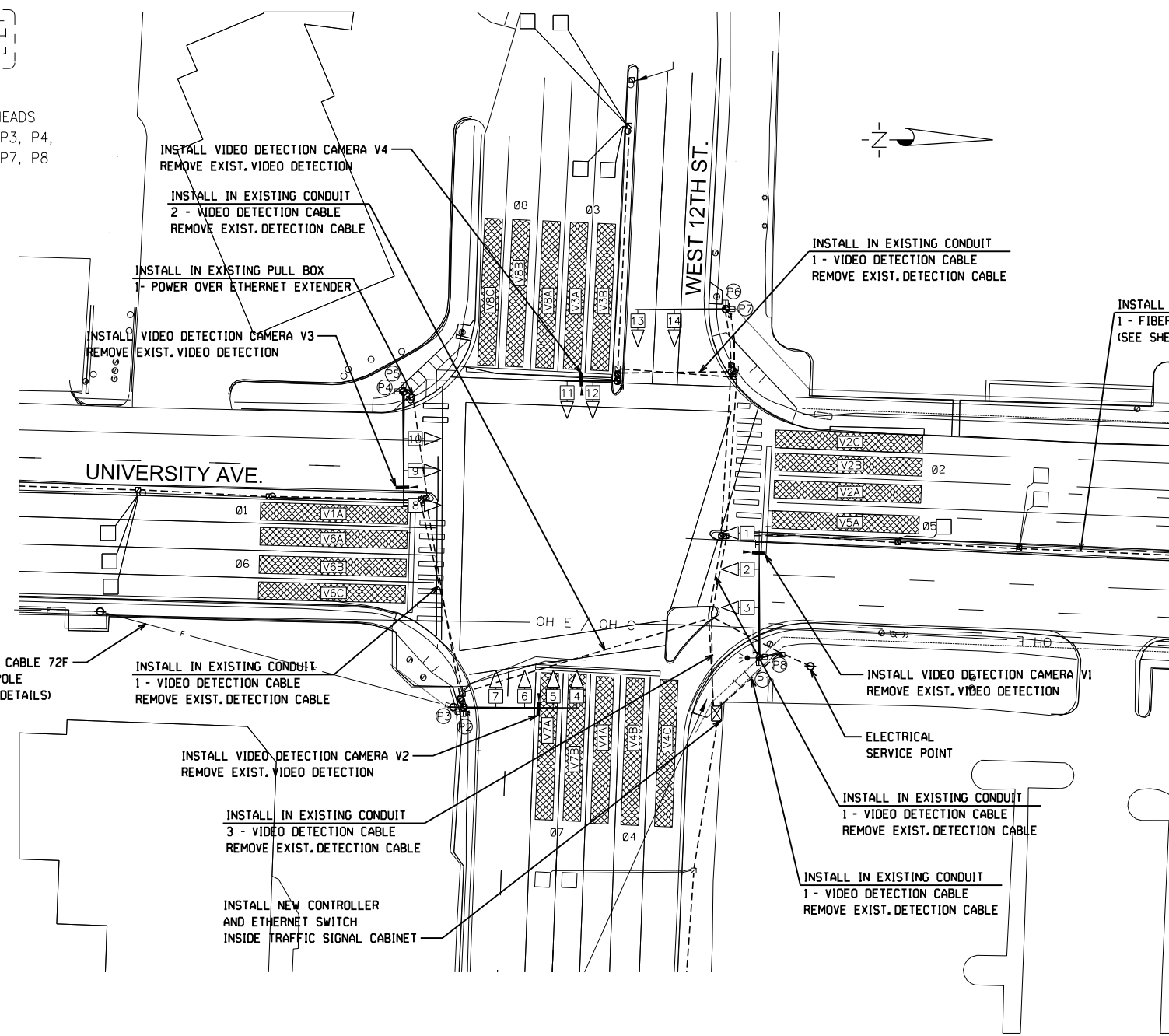
EXISTING SIGNAL HEADS
P1, P2, P3, P4,
P5, P6, P7, P8

PHASING DIAGRAM



TRAFFIC SIGNAL LEGEND

- ☒ TRAFFIC SIGNAL CONTROLLER
- ☐ JUNCTION BOX
- CONDUIT
- f- AERIAL FIBER OPTIC CABLE
- ⊙ MAST ARM AND POLE
- ◀4- PROPOSED FYA SIGNAL HEAD
- ◀3- EXISTING SIGNAL HEAD
- ⊙ COBRA HEAD STREET LIGHT
- ⊙ TRAFFIC SIGN
- ⊙ VIDEO DETECTOR
- ▨ VIDEO DETECTION ZONE



NOTE: 1. CONTRACTOR TO REMOVE EXISTING STOP LINE VIDEO DETECTION EQUIPMENT.

POSTED SPEED LIMIT:
40 MPH NORTH AND SOUTH APPROACH
35 MPH EAST AND WEST APPROACH
BUS STOP LOCATED 50 FEET SOUTH OF UNIVERSITY AVE NORTHBOUND STOP LINE
NO RAILROAD TRACKS
FIBER INTERCONNECTIONS
NO FIRE STATION
NO PARKING
NO SIGHT DISTANCE RESTRICTIONS.

DETECTOR SPACING CHART		
UNIVERSITY AVE.		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD LOOP	LAG LOOP
40 MPH	230'	60'
12TH ST.		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD LOOP	LAG LOOP
35 MPH	115'	60'



LR CITY OF LITTLE ROCK
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

ADAPTIVE SIGNAL CONTROL
INTERSECTION DETAIL SHEET

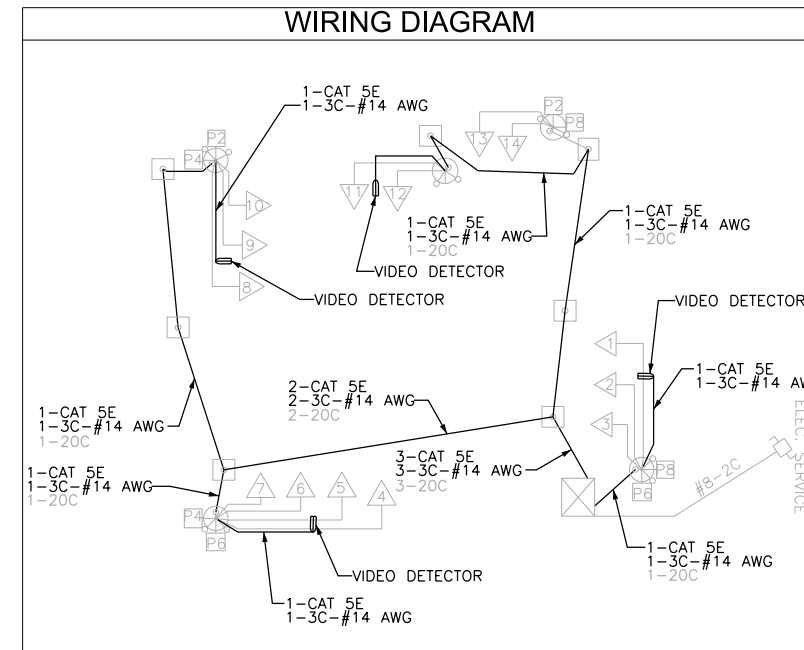
REVISION	DATE	BY	SCALE	DATE	JOB NO.
			1" = 30'	12/14/17	
DRAWN BY		CHECKED BY			
TJC		MKC			
APPROVED BY		SHEET		JOB NO.	
XXX		49		80	

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		50	80
				JOB NO.	061468			
UNIVERSITY AVE. AT W. 12TH ST.								



DETECTOR SYSTEM DESCRIPTION											
PULASKI COUNTY - UNIVERSITY AVE. /12TH ST.				INPUTS BY SUPPLIER			PROGRAM ASSIGNMENTS			COMMENTS	TUBE LENGTHS
DET. ID#	LOCATION DIRECTION	TYPE	DET.	CAB TRM#	AMP CHN#	CON. INP#	PHS	SYSTEM DET.	MASTER SYSTEM DETECTION NUMBERS		
V1A	NB LEFT TURN	LOCAL	1			V1	1			CAMERA V1	23"
V2A	SB THRU LANES	LOCAL	2			V2	2			CAMERA V3	23"
V2B	SB THRU LANES	LOCAL	3			V3	2			CAMERA V3	23"
V2C	SB THRU LANES	LOCAL	4			V4	2			CAMERA V3	23"
V3A	EB LEFT TURN	LOCAL	5			V5	3			CAMERA V2	23"
V3B	EB LEFT TURN	LOCAL	6			V6	3			CAMERA V2	23"
V4A	WB THRU LANE	LOCAL	7			V7	4			CAMERA V4	23"
V4B	WB THRU LANE	LOCAL	8			V8	4			CAMERA V4	23"
V4C	WB THRU LANE	LOCAL	9			V9	4			CAMERA V4	23"
V5A	SB LEFT TURN	LOCAL	10			V10	5			CAMERA V3	23"
V6A	NB THRU LANE	LOCAL	11			V11	6			CAMERA V1	23"
V6B	NB THRU LANE	LOCAL	12			V12	6			CAMERA V1	23"
V6C	NB THRU LANE	LOCAL	13			V13	6			CAMERA V1	23"
V7A	WB LEFT TURN	LOCAL	14			V14	7			CAMERA V4	23"
V7B	WB LEFT TURN	LOCAL	15			V15	7			CAMERA V4	23"
V8A	EB THRU LANE	LOCAL	16			V16	8			CAMERA V2	23"
V8B	EB THRU LANE	LOCAL	17			V17	8			CAMERA V2	23"
V8C	EB THRU LANE	LOCAL	18			V18	8			CAMERA V2	23"

V = Vehicle input
D = System or Auxiliary input
P = Pedestrian input
Add - 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. Channel assignments for detection to be coordinated and configured with Rhythm Engineering.



SIGNAL FACE	UNIVERSITY AVE AND 12TH ST																FLASH SEQ	
	INTERVAL CHART FOR NORMAL OPERATION																	
	1&5	CLR	1&6	CLR	2&5	CLR	2&6	CLR	3&7	CLR	3&8	CLR	4&7	CLR	4 & 8	CLR		
1	G<-	*	G<-	*	R	R	R	R	R	R	R	R	R	R	R	R	R	R
2	R	R	R	**	R	R	G	**	R	R	R	R	R	R	R	R	R	R
3	R	R	G	**	R	R	G	**	R	R	R	R	R	R	R	R	R	R
4	R	R	R	R	R	R	R	R	G<-	*	G<-	*	R	R	R	R	R	R
5	R	R	R	R	R	R	R	R	R	G<-	*	G<-	*	R	R	R	R	R
6	R	R	R	R	R	R	R	R	R	R	G	**	R	R	G	**	R	R
7	R	R	R	R	R	R	R	R	R	R	G	**	R	R	G	**	R	R
8	G<-	*	R	R	G<-	*	R	R	R	R	R	R	R	R	R	R	R	R
9	R	R	R	R	G	**	G	**	R	R	R	R	R	R	R	R	R	R
10	R	R	R	R	G	**	G	**	R	R	R	R	R	R	R	R	R	R
11	R	R	R	R	R	R	R	R	G<-	*	R	R	G<-	*	R	R	R	R
12	R	R	R	R	R	R	R	R	G<-	*	R	R	G<-	*	R	R	R	R
13	R	R	R	R	R	R	R	R	R	R	R	R	G	**	G	**	R	R
14	R	R	R	R	R	R	R	R	R	R	R	R	G	**	G	**	R	R
P1	DW	DW	W	FDW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
P2	DW	DW	W	FDW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
P3	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	W	FDW	DW	DW
P4	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	W	FDW	DW	DW
P5	DW	DW	DW	DW	W	FDW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
P6	DW	DW	DW	DW	W	FDW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
P7	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	W	FDW	DW	DW
P8	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	W	FDW	DW	DW

* 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 THE NEXT PHASE

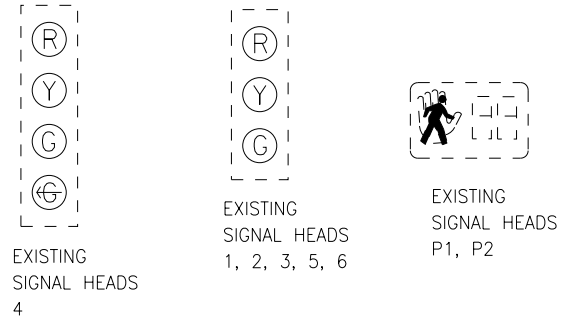
CITY OF LITTLE ROCK
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

ADAPTIVE SIGNAL CONTROL
INTERSECTION DETAIL SHEET

REVISION	DATE	BY	SCALE	DATE	JOB NO.
			N.T.S.	12/14/17	
DRAWN BY		CHECKED BY			
TJC		MKC			
APPROVED BY				SHEET 50/80	
XXX					

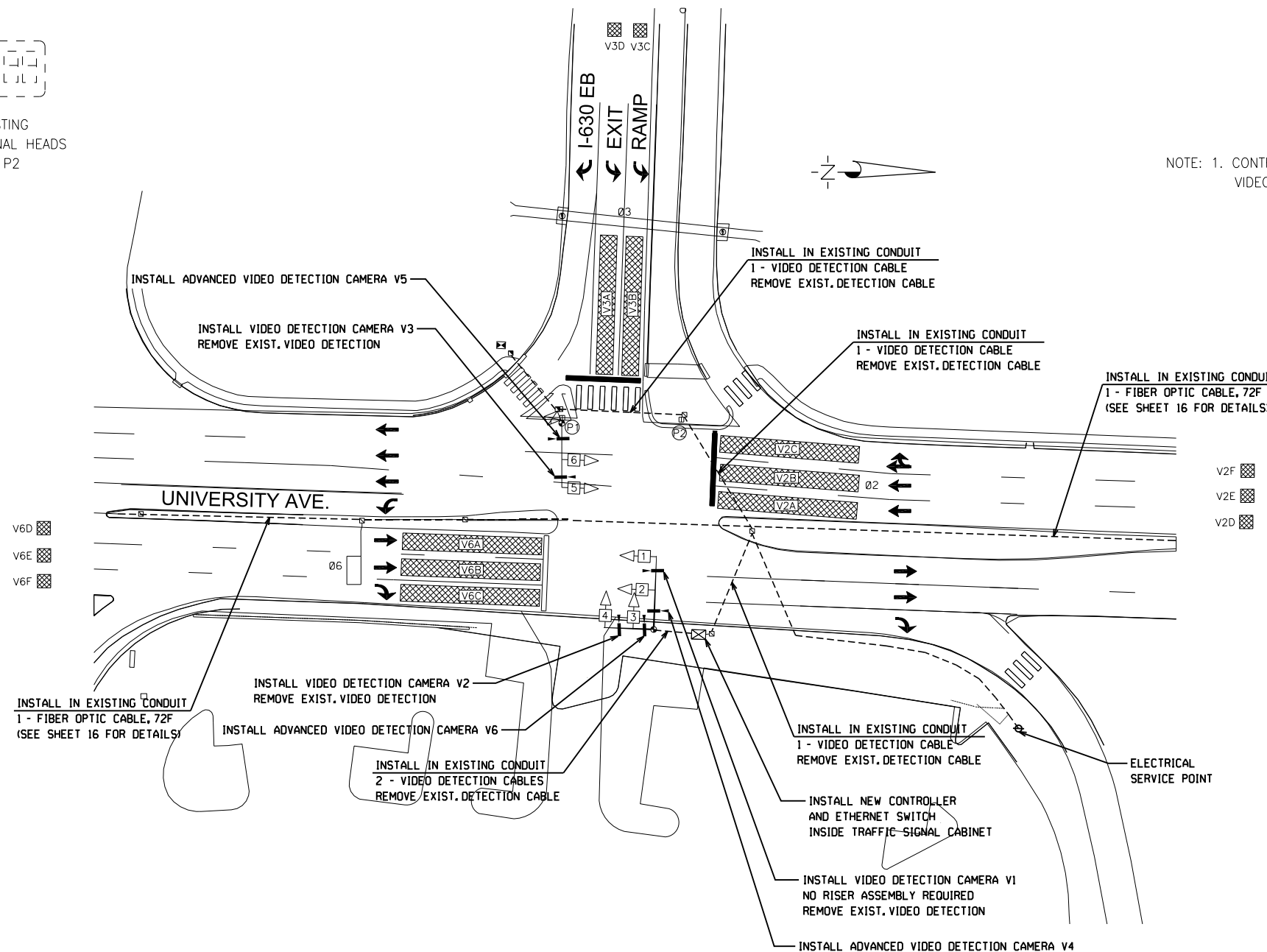
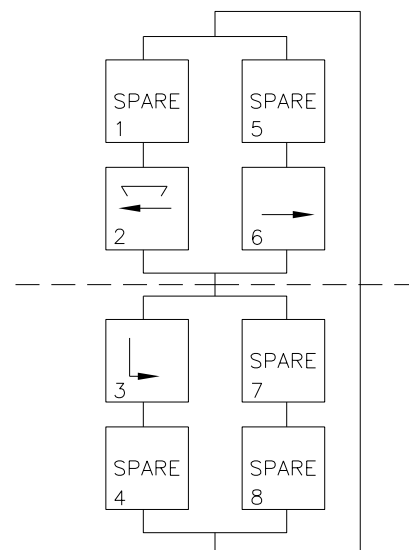
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		51	80
				JOB NO. 061468				
UNIVERSITY AVE. AT I-630 EB								

SIGNAL FACES



NOTE: 1. CONTRACTOR TO REMOVE EXISTING STOP LINE VIDEO DETECTION EQUIPMENT.

PHASING DIAGRAM



TRAFFIC SIGNAL LEGEND

- ☒ TRAFFIC SIGNAL CONTROLLER
- ☒ JUNCTION BOX
- CONDUIT
- F — AERIAL FIBER OPTIC CABLE
- MAST ARM AND POLE
- ◀4 PROPOSED FYA SIGNAL HEAD
- ◀3 EXISTING SIGNAL HEAD
- ☪ COBRA HEAD STREET LIGHT
- ⊕ TRAFFIC SIGN
- VIDEO DETECTOR
- ▨ VIDEO DETECTION ZONE

POSTED SPEED LIMIT:
40 MPH NORTH AND SOUTH APPROACH
35 MPH EAST AND WEST APPROACH
BUS STOP LOCATED 300 FEET SOUTH OF UNIVERSITY AVE NORTHBOUND STOP LINE
NO RAILROAD TRACKS
FIBER INTERCONNECTIONS
NO FIRE STATION
NO PARKING
NO SIGHT DISTANCE RESTRICTIONS.

DETECTOR SPACING CHART		
UNIVERSITY AVE.		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD LOOP	LAG LOOP
40 MPH	230'	60'
I-630 EB RAMP		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD LOOP	LAG LOOP
35 MPH	115'	60'



CITY OF LITTLE ROCK
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

ADAPTIVE SIGNAL CONTROL
INTERSECTION DETAIL SHEET

REVISION	DATE	BY	SCALE	DATE	JOB NO.
			1" = 30'	12/14/17	
DRAWN BY		CHECKED BY			
TJC		MKC			
APPROVED BY		SHEET		JOB NO.	
XXX		51		80	

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		52	80
				JOB NO.		061468		

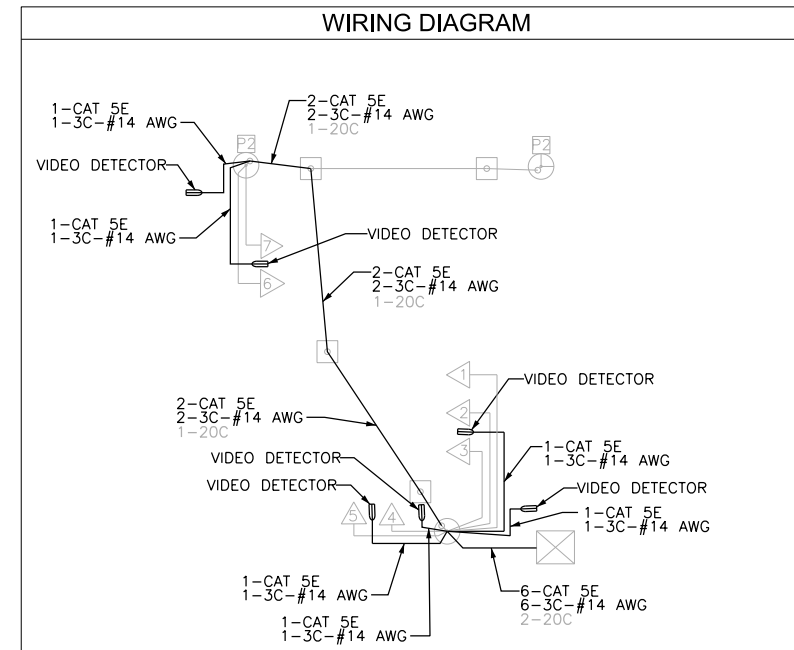
UNIVERSITY AVE. AT I-630 EB



DETECTOR SYSTEM DESCRIPTION											
PULASKI COUNTY - UNIVERSITY AVE. /I-630 EB RAMP				HARDWARE INPUTS BY SUPPLIER			PROGRAM ASSIGNMENTS		COMMENTS	TUBE LENGTHS	
DET. ID#	LOCATION DIRECTION	TYPE	DET.	CAB TRM#	AMP CHN#	CON. INP#	PHS	SYSTEM DET.			MASTER SYSTEM DETECTION NUMBERS
V2A	SB THRU LANES	COMB.	1		6	V10	2	2		CAMERA V3	23"
V2B	SB THRU LANES	COMB.	2		6	V10	2	2		CAMERA V3	23"
V2C	SB THRU LANES	COMB.	3		6	V10	2	2		CAMERA V3	23"
V2D	SB ADV.	LOCAL	4		5	V2(D1)	2			CAMERA V4	23"
V2E	SB ADV.	LOCAL	5		5	V2(D2)	2			CAMERA V4	23"
V2F	SB ADV.	LOCAL	6		5	V2(D3)	2			CAMERA V4	23"
V3A	EB LEFT TURN	LOCAL	7		10	V3	3			CAMERA V2	23"
V3B	EB LEFT TURN	LOCAL	8		10	V3	3			CAMERA V2	23"
V3C	EB ADV.	COMB.	9		9	V11(D7)	3	3		CAMERA V6	23"
V3D	EB ADV.	COMB.	10		9	V11(D8)	3	3		CAMERA V6	23"
V6A	NB THRU LANE	COMB.	11		4	V6	6	6		CAMERA V1	23"
V6B	NB THRU LANE	COMB.	12		4	V6	6	6		CAMERA V1	23"
V6C	NB THRU LANE	COMB.	13		4	V6	6	6		CAMERA V1	23"
V6D	NB ADV.	LOCAL	14		3	V14(D4)	6			CAMERA V5	23"
V6E	NB ADV.	LOCAL	15		3	V14(D5)	6			CAMERA V5	23"
V6F	NB ADV.	LOCAL	16		3	V14(D6)	6			CAMERA V5	23"
P1	West Leg	PED					P2	2			
P2	West Leg	PED					P2	2			

V = Vehicle input
D = System or Auxiliary input
P = Pedestrian input
Add - 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. Channel assignments for detection to be coordinated and configured with Rhythm Engineering.

SPARE: 1 - 2, 7 - 8, 11 - 16



UNIVERSITY AVE AND I-630 EB					
SIGNAL FACE	INTERVAL CHART FOR NORMAL OPERATION				FLASH SEQ.
	2&6	CLR	3	CLR	
1 & 2	G	**	R	R	R
3	R	R	G	**	R
4	R	R	G <-	**	R
5 & 6	G	**	R	R	R
P1	W	FDW	DW	DW	BLK
P2	W	FDW	DW	DW	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 THE NEXT PHASE

CITY OF LITTLE ROCK DEPARTMENT OF PUBLIC WORKS TRAFFIC ENGINEERING DIVISION					
ADAPTIVE SIGNAL CONTROL INTERSECTION DETAIL SHEET					
REVISION	DATE	BY	SCALE	DATE	JOB NO.
			N.T.S.	12/14/17	
DRAWN BY			CHECKED BY		
TJC			MKC		
APPROVED BY			SHEET		
XXX			52		
			80		

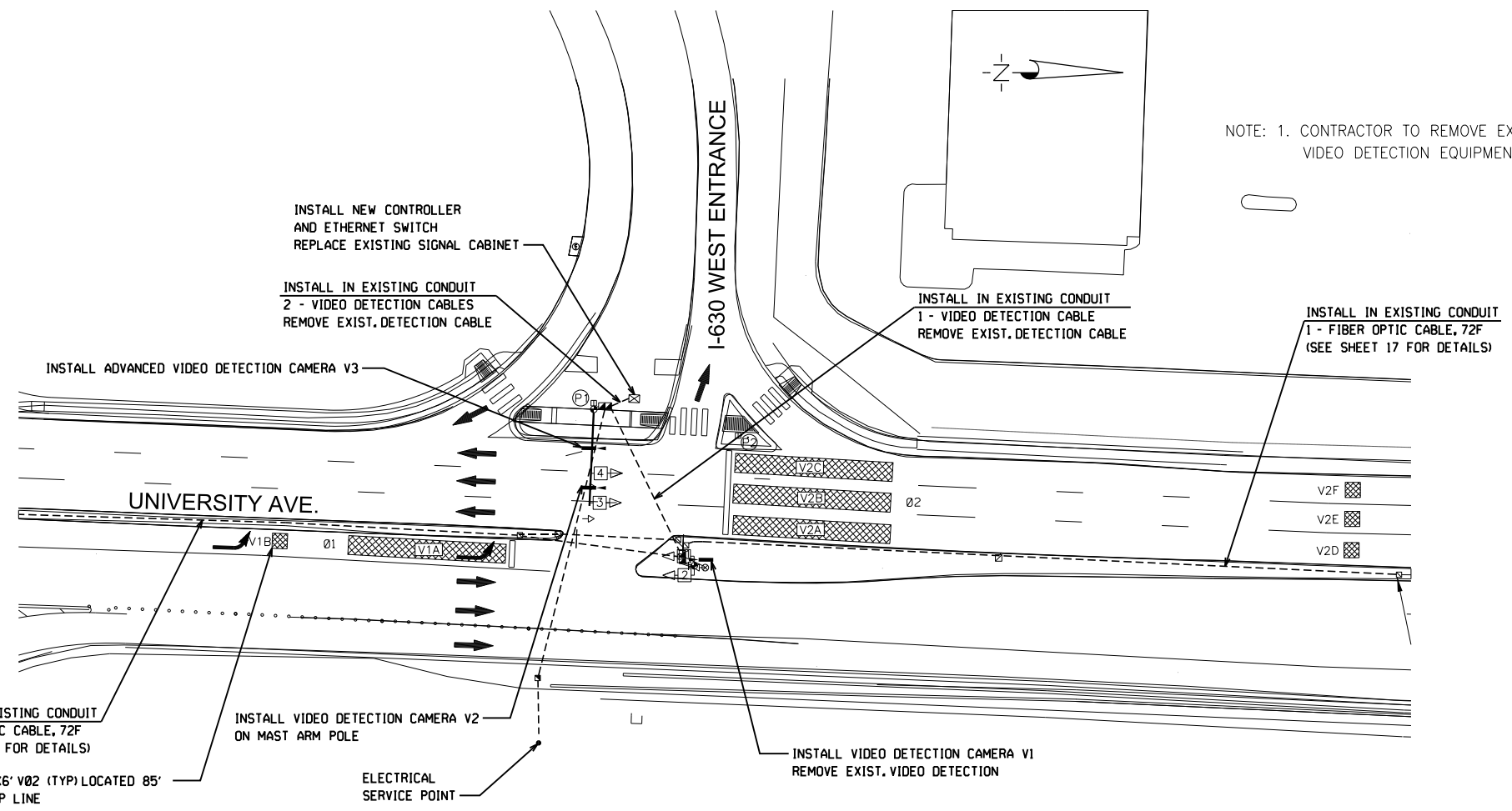
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		53	80
				JOB NO.	061468			
UNIVERSITY AVE. AT I-630 WB								



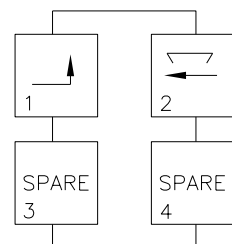
SIGNAL FACES



NOTE: 1. CONTRACTOR TO REMOVE EXISTING STOP LINE VIDEO DETECTION EQUIPMENT.



PHASING DIAGRAM



TRAFFIC SIGNAL LEGEND

- ☒ TRAFFIC SIGNAL CONTROLLER
- ☒ JUNCTION BOX
- CONDUIT
- F — AERIAL FIBER OPTIC CABLE
- M — MAST ARM AND POLE
- ◀4▶ PROPOSED FYA SIGNAL HEAD
- ◀3▶ EXISTING SIGNAL HEAD
- ☪ COBRA HEAD STREET LIGHT
- T TRAFFIC SIGN
- VIDEO DETECTOR
- ▨ VIDEO DETECTION ZONE

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

DETECTOR SPACING CHART		
UNIVERSITY AVE.		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD LOOP	LAG LOOP
40 MPH	230'	60'
I-630 WB RAMP		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD LOOP	LAG LOOP
35 MPH	NONE	60'



LR CITY OF LITTLE ROCK
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

ADAPTIVE SIGNAL CONTROL
INTERSECTION DETAIL SHEET

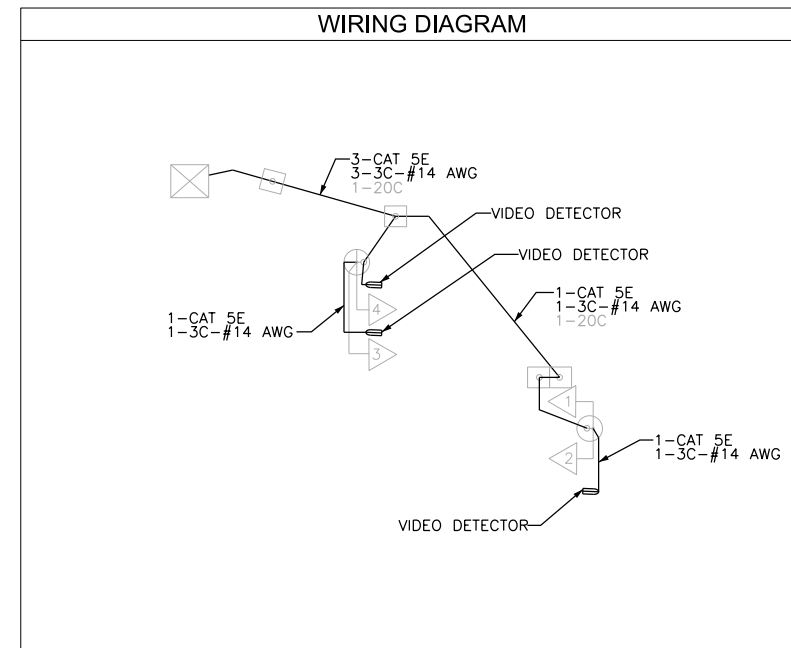
REVISION	DATE	BY	SCALE	DATE	JOB NO.
			1" = 30'	12/14/17	
DRAWN BY		CHECKED BY			
TJC		MKC			
APPROVED BY		SHEET		JOB NO.	
XXX		53		80	

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		54	80
				JOB NO.	061468			
UNIVERSITY AVE. AT I-630 WB								



DETECTOR SYSTEM DESCRIPTION												
PULASKI COUNTY - UNIVERSITY AVE. /I-630 WB RAMP				INPUTS BY SUPPLIER			PROGRAM ASSIGNMENTS				COMMENTS	TUBE LENGTHS
DET. ID#	LOCATION DIRECTION	TYPE	DET.	CAB TRM#	AMP CHN#	CON. INP#	PHS	SYSTEM DET.	MASTER SYSTEM DETECTION NUMBERS			
V1A	NB LEFT TURN	LOCAL	1		2	V1	1			CAMERA V1	23"	
V1B	NB LEFT TURN ADV.	COMB.	8		1	V9	1	1		CAMERA V1	23"	
V2A	SB THRU LANES	COMB.	2		6	V10	2	2		CAMERA V2	23"	
V2B	SB THRU LANES	COMB.	3		6	V10	2	2		CAMERA V2	23"	
V2C	SB THRU LANES	COMB.	4		6	V10	2	2		CAMERA V2	23"	
V2D	SB ADV.	LOCAL	5		5	V2	2			CAMERA V3	23"	
V2E	SB ADV.	LOCAL	6		5	V2	2			CAMERA V3	23"	
V2F	SB ADV.	LOCAL	7		5	V2	2			CAMERA V3	23"	
P1	WEST LEG	PED					P2	2				
P2	WEST LEG	PED					P2	2				

V = Vehicle input
D = System or Auxiliary input
P = Pedestrian input
SPARE: 3-4, 7-16
Add - 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. Channel assignments for detection to be coordinated and configured with Rhythm Engineering.



UNIVERSITY AVE AND I-630 WB					
SIGNAL FACE	INTERVAL CHART FOR NORMAL OPERATION				FLASH SEQ
	1&5	CLR	2&6	CLR	
1 & 2	G <-	*	R	R	R
3 & 4	R	R	G	**	R
P1	DW	DW	W	FDW	BLK
P2	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 THE NEXT PHASE

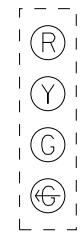
LR CITY OF LITTLE ROCK
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

ADAPTIVE SIGNAL CONTROL
INTERSECTION DETAIL SHEET

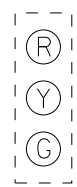
REVISION	DATE	BY	SCALE	DATE	JOB NO.
			N.T.S.	12/14/17	
DRAWN BY		CHECKED BY			
TJC		MKC			
APPROVED BY		SHEET		JOB NO.	
XXX		54		80	

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		55	80
				JOB NO.	061468			
UNIVERSITY AVE. AT ST. VINCENT CIR.								

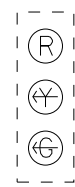
SIGNAL FACES



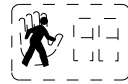
EXISTING
SIGNAL HEADS
5, 11



EXISTING
SIGNAL HEADS
3, 4, 6, 8, 9,
10



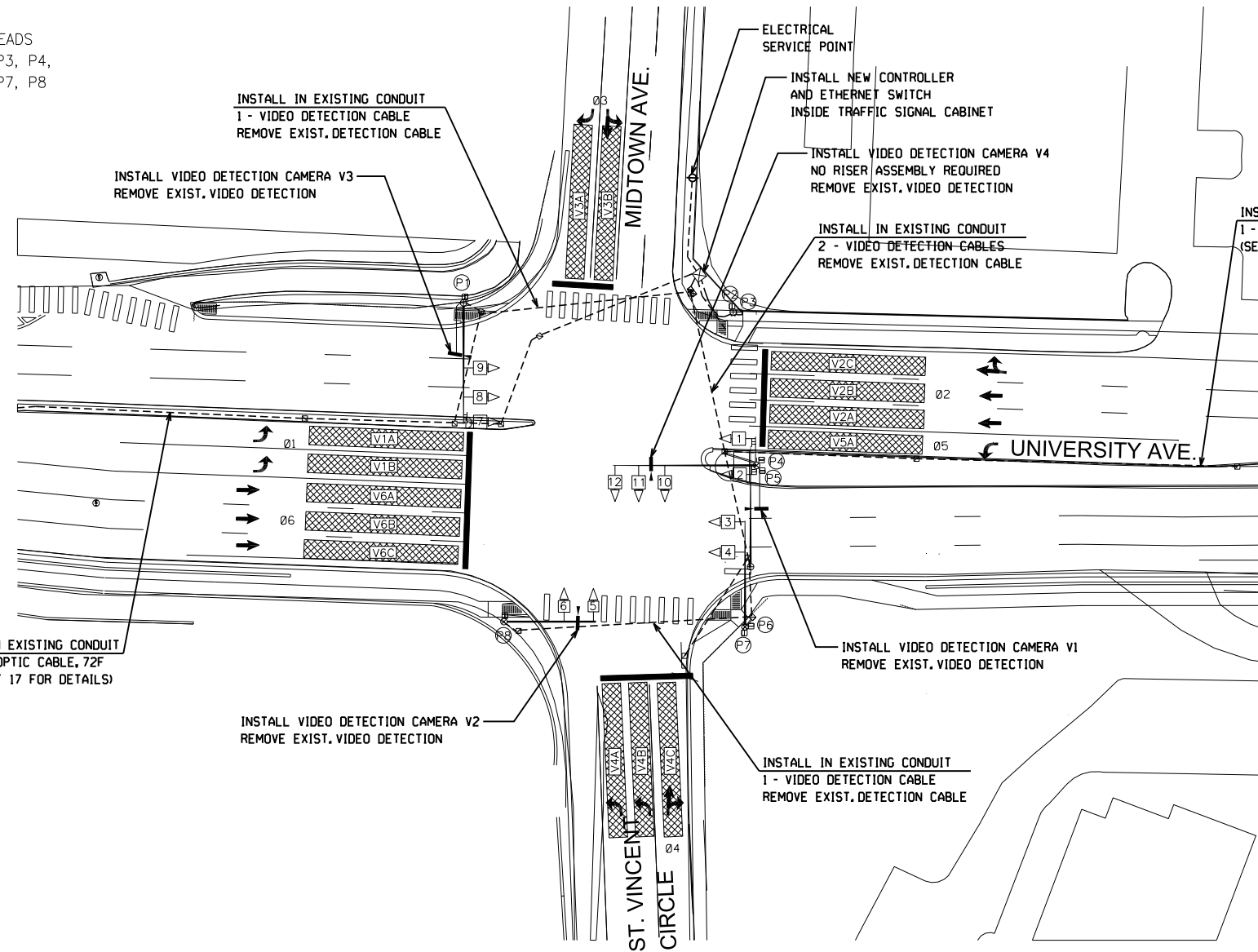
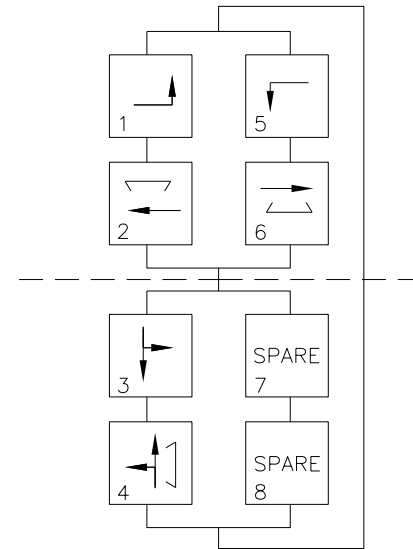
EXISTING
SIGNAL HEADS
1, 2, 7, 12



EXISTING
SIGNAL HEADS
P1, P2, P3, P4,
P5, P6, P7, P8



PHASING DIAGRAM



NOTE: 1. CONTRACTOR TO REMOVE EXISTING STOP LINE VIDEO DETECTION EQUIPMENT.

TRAFFIC SIGNAL LEGEND

- TRAFFIC SIGNAL CONTROLLER
- JUNCTION BOX
- CONDUIT
- AERIAL FIBER OPTIC CABLE
- MAST ARM AND POLE
- PROPOSED FYA SIGNAL HEAD
- EXISTING SIGNAL HEAD
- COBRA HEAD STREET LIGHT
- TRAFFIC SIGN
- VIDEO DETECTOR
- VIDEO DETECTION ZONE

POSTED SPEED LIMIT:
40 MPH NORTH AND SOUTH APPROACH
25 MPH EAST AND WEST APPROACH
NO BUS STOPS
NO RAILROAD TRACKS
FIBER INTERCONNECTIONS
NO FIRE STATION
NO PARKING
NO SIGHT DISTANCE RESTRICTIONS.

DETECTOR SPACING CHART		
UNIVERSITY AVE.		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD LOOP	LAG LOOP
40 MPH	NONE	60'
ST. VINCENT CIR.		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD LOOP	LAG LOOP
25 MPH	NONE	60'



CITY OF LITTLE ROCK
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

ADAPTIVE SIGNAL CONTROL
INTERSECTION DETAIL SHEET

REVISION	DATE	BY	SCALE	DATE	JOB NO.
			1" = 30'	12/14/17	
DRAWN BY		CHECKED BY			
TJC		MKC			
APPROVED BY		SHEET		NO.	
XXX		55		80	

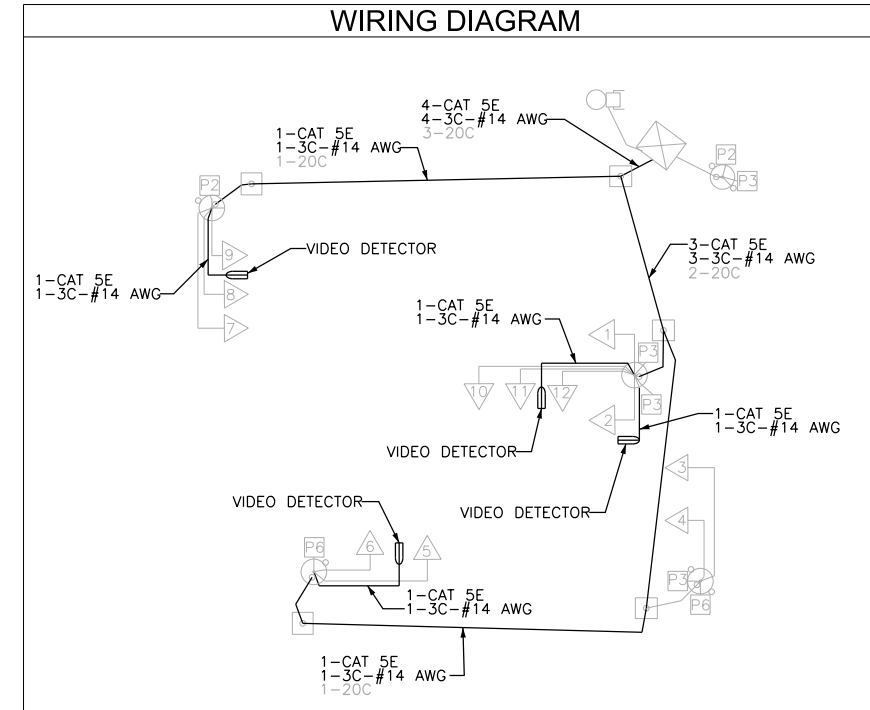
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		56	80
JOB NO. 061468							UNIVERSITY AVE. AT ST. VINCENT CIR.	



DETECTOR SYSTEM DESCRIPTION												
PULASKI COUNTY - UNIVERSITY AVE. /ST. VINCENT				INPUTS BY SUPPLIER			PROGRAM ASSIGNMENTS				COMMENTS	TUBE LENGTHS
DET. ID#	LOCATION DIRECTION	TYPE	DET.	CAB TRM#	AMP CHN#	CON. INP#	PHS	SYSTEM DET.	MASTER SYSTEM DETECTION NUMBERS			
V1A	NB LEFT TURN	LOCAL	1			V1	1			CAMERA V1	23"	
V1B	NB LEFT TURN	LOCAL	2			V2	1			CAMERA V1	23"	
V2A	SB THRU LANES	LOCAL	3			V3	2			CAMERA V3	23"	
V2B	SB THRU LANES	LOCAL	4			V4	2			CAMERA V3	23"	
V2C	SB THRU LANES	LOCAL	5			V5	2			CAMERA V3	23"	
V3A	EB THRU LANE	LOCAL	13			V6	3			CAMERA V2	23"	
V3B	EB THRU LANE	LOCAL	14			V7	3			CAMERA V2	23"	
V4A	WB THRU LANE	LOCAL	6			V8	4			CAMERA V4	23"	
V4B	WB THRU LANE	LOCAL	7			V9	4			CAMERA V4	23"	
V4C	WB THRU LANE	LOCAL	8			V10	4			CAMERA V4	23"	
V5A	SB LEFT TURN	LOCAL	9			V11	5			CAMERA V3	23"	
V6A	NB THRU LANE	LOCAL	10			V12	6			CAMERA V1	23"	
V6B	NB THRU LANE	LOCAL	11			V13	6			CAMERA V1	23"	
V6C	NB THRU LANE	LOCAL	12			V14	6			CAMERA V1	23"	

V = Vehicle input
D = System or Auxiliary input
P = Pedestrian input

Add - 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. Channel assignments for detection to be coordinated and configured with Rhythm Engineering.



UNIVERSITY AVE AND ST VINCENT CIR																
SIGNAL FACE	INTERVAL CHART FOR NORMAL OPERATION															FLASH SEQ
	1&5	CLR	1&6	CLR	2&5	CLR	2&6	CLR	3&7	CLR	3&8	CLR	4&7	CLR	4 & 8	
1	G <-	*	G <-	*	R	R	R	R			R	R	R	R		R
2	G <-	*	G <-	*	R	R	R	R			R	R	R	R		R
3	R	R	G	**	R	R	G	**			R	R	R	R		R
4	R	R	G	**	R	R	G	**			R	R	R	R		R
5	R	R	R	R	R	R	R	R			G <-	*	R	R		R
6	R	R	R	R	R	R	R	R			G	**	R	R		R
7	G <-	*	R	R	G <-	*	R	R			R	R	R	R		R
8	R	R	R	R	G	**	G	**			R	R	R	R		R
9	R	R	R	R	G	**	G	**			R	R	R	R		R
10	R	R	R	R	R	R	R	R			R	R	G	**		R
11	R	R	R	R	R	R	R	R			R	R	G	**		R
12	R	R	R	R	R	R	R	R			R	R	G <-	*		R
P1	DW	DW	DW	DW	W	FDW	W	FDW			DW	DW	DW	DW		
P2	DW	DW	DW	DW	W	FDW	W	FDW			DW	DW	DW	DW		
P3	DW	DW	DW	DW	DW	DW	DW	DW			DW	DW	W	FDW		
P4	DW	DW	DW	DW	DW	DW	DW	DW			DW	DW	W	FDW		
P5	DW	DW	DW	DW	DW	DW	DW	DW			DW	DW	W	FDW		
P6	DW	DW	DW	DW	DW	DW	DW	DW			DW	DW	W	FDW		
P7	DW	DW	W	FDW	DW	DW	W	FDW			DW	DW	DW	DW		
P8	DW	DW	W	FDW	DW	DW	W	FDW			DW	DW	DW	DW		

* 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 THE NEXT PHASE

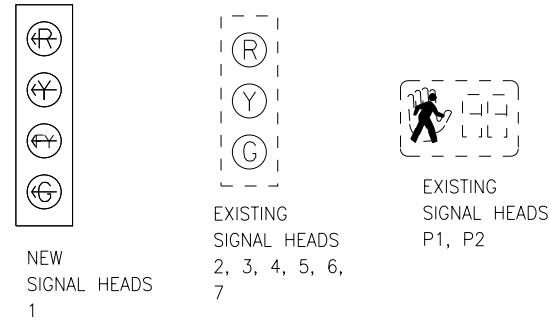
CITY OF LITTLE ROCK
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

ADAPTIVE SIGNAL CONTROL
INTERSECTION DETAIL SHEET

REVISION	DATE	BY	SCALE	DATE	JOB NO.
			N.T.S.	12/14/17	
DRAWN BY			CHECKED BY		
TJC			MKC		
APPROVED BY					SHEET
XXX					56/80

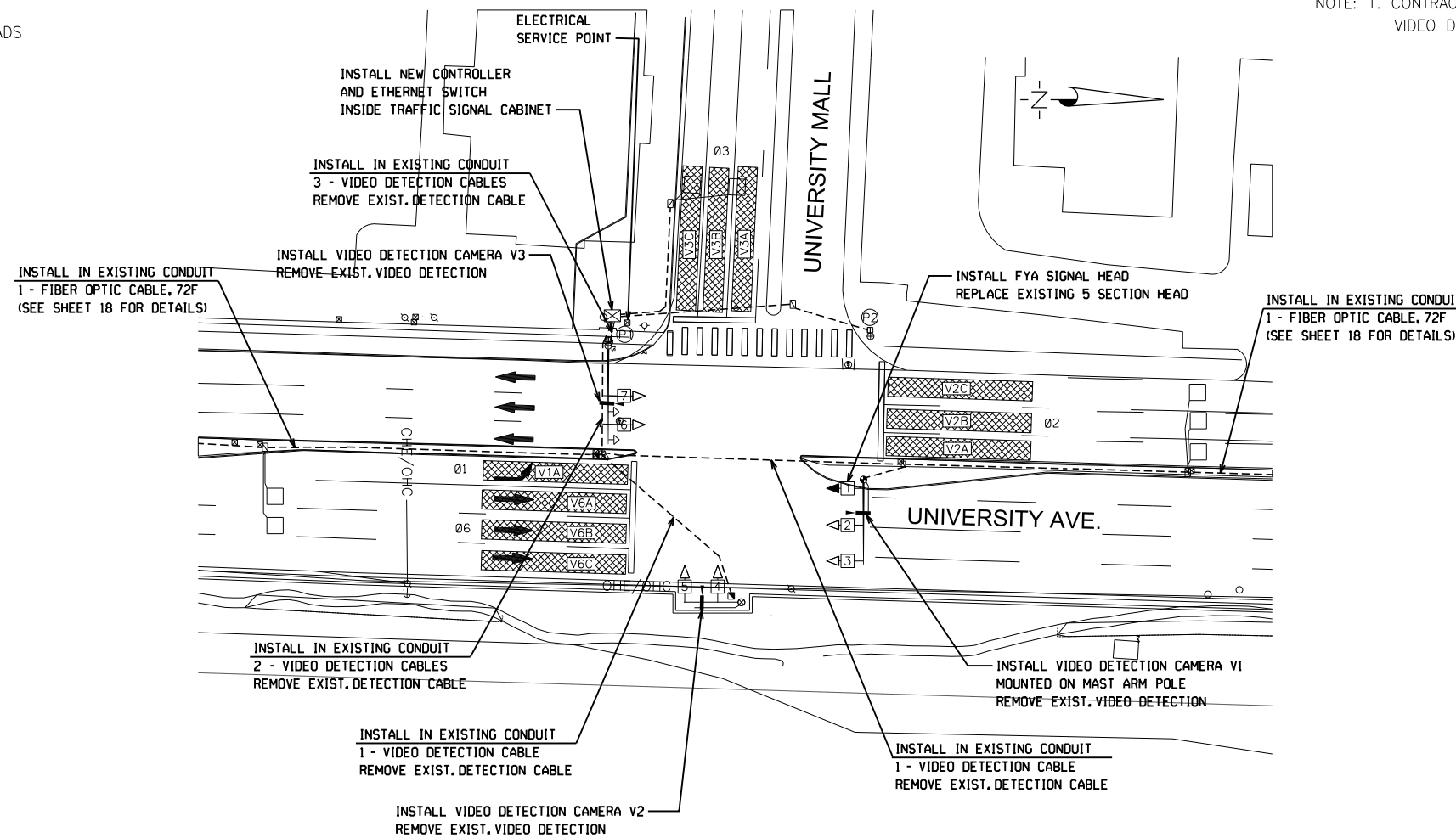
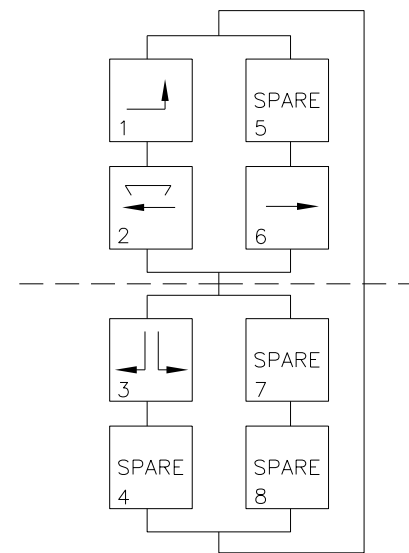
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		57	80
				JOB NO.		061468		
UNIVERSITY AVE. AT UNIVERSITY MALL								

SIGNAL FACES



NOTE: 1. CONTRACTOR TO REMOVE EXISTING VIDEO DETECTION EQUIPMENT.

PHASING DIAGRAM



TRAFFIC SIGNAL LEGEND

- ☒ TRAFFIC SIGNAL CONTROLLER
- ☐ JUNCTION BOX
- CONDUIT
- F — AERIAL FIBER OPTIC CABLE
- ⊕ MAST ARM AND POLE
- ◀4▶ PROPOSED FYA SIGNAL HEAD
- ◀3▶ EXISTING SIGNAL HEAD
- ⊕ COBRA HEAD STREET LIGHT
- ⊕ TRAFFIC SIGN
- ⊕ VIDEO DETECTOR
- ▨ VIDEO DETECTION ZONE

POSTED SPEED LIMIT:
40 MPH NORTH AND SOUTH APPROACH
BUS STOPS LOCATED 250 FEET NORTH OF UNIVERSITY AVE SOUTHBOUND STOP LINE & 250 FEET SOUTH OF UNIVERSITY AVE NORTHBOUND STOP LINE
NO RAILROAD TRACKS
FIBER INTERCONNECTIONS
NO FIRE STATION
NO PARKING
NO SIGHT DISTANCE RESTRICTIONS.

DETECTOR SPACING CHART		
UNIVERSITY AVE.		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD LOOP	LAG LOOP
40 MPH	NONE	60'
UNIVERSITY MALL		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD LOOP	LAG LOOP
10 MPH	NONE	60'



CITY OF LITTLE ROCK
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

ADAPTIVE SIGNAL CONTROL
INTERSECTION DETAIL SHEET

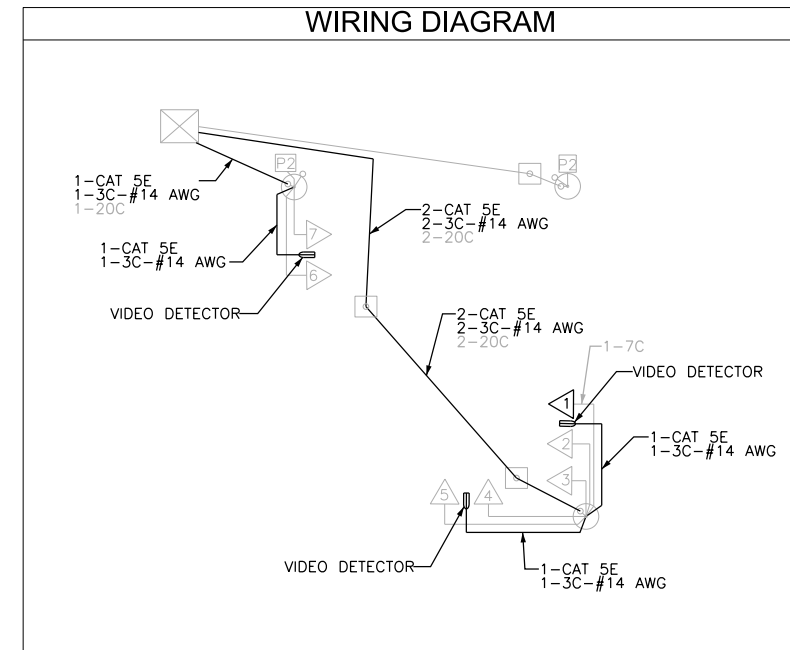
REVISION	DATE	BY	SCALE	DATE	JOB NO.
			1" = 30'	12/14/17	
DRAWN BY		CHECKED BY			
TJC		MKC			
APPROVED BY		SHEET		JOB NO.	
XXX		57		80	

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		58	80
				JOB NO.		061468		
UNIVERSITY AVE. AT UNIVERSITY MALL								



DETECTOR SYSTEM DESCRIPTION											
PULASKI COUNTY - UNIVERSITY AVE. /UNIV. MALL				INPUTS BY SUPPLIER			PROGRAM ASSIGNMENTS			COMMENTS	TUBE LENGTHS
DET. ID#	LOCATION DIRECTION	TYPE	DET.	CAB TRM#	AMP CHN#	CON. INP#	PHS	SYSTEM DET.	MASTER SYSTEM DETECTION NUMBERS		
V1A	NB LEFT TURN	LOCAL	1			V1	1			CAMERA V1	23"
V2A	SB THRU LANES	LOCAL	2			V2	2			CAMERA V3	23"
V2B	SB THRU LANES	LOCAL	3			V3	2			CAMERA V3	23"
V2C	SB THRU LANES	LOCAL	4			V4	2			CAMERA V3	23"
V3A	EB LT TURN LANES	LOCAL	5			V5	3			CAMERA V2	23"
V3B	EB LT TURN LANES	LOCAL	6			V6	3			CAMERA V2	23"
V3C	EB RT TURN LANES	LOCAL	7			V7	3			CAMERA V2	23"
V6A	NB THRU LANE	LOCAL	8			V8	6			CAMERA V1	23"
V6B	NB THRU LANE	LOCAL	9			V9	6			CAMERA V1	23"
V6C	NB THRU LANE	LOCAL	10			V10	6			CAMERA V1	23"

V = Vehicle input
D = System or Auxiliary input
P = Pedestrian input
Add - 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. Channel assignments for detection to be coordinated and configured with Rhythm Engineering.



UNIVERSITY AVE AND UNIVERSITY MALL																	
SIGNAL	INTERVAL CHART FOR NORMAL OPERATION															FLASH SEQ.	
FACE	1&5	CLR	1&6	CLR	2&5	CLR	2&6	CLR	3&7	CLR	3&8	CLR	4&7	CLR	4 & 8	CLR	
1			G <	***			FY <	***			R	R					R
2			G	**			G	**			R	R					R
3			G	**			G	**			R	R					R
4			R	R			R	R			G	Y					R
5			R	R			R	R			G	Y					R
6			R	R			G	**			R	R					R
7			R	R			G	**			R	R					R
P1			W	FDW			W	FDW			DW	DW					
P2			W	FDW			W	FDW			DW	DW					

* 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 THE NEXT PHASE

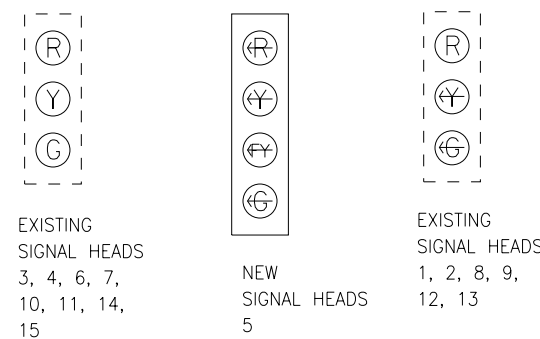
		CITY OF LITTLE ROCK DEPARTMENT OF PUBLIC WORKS TRAFFIC ENGINEERING DIVISION			
		ADAPTIVE SIGNAL CONTROL INTERSECTION DETAIL SHEET			
REVISION	DATE	BY	SCALE	DATE	JOB NO.
			N.T.S.	12/14/17	
DRAWN BY		CHECKED BY			
TJC		MKC			
APPROVED BY		XXX		SHEET	58/80

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		59	80
				JOB NO.	061468			
				UNIVERSITY AVE. AT W. MARKHAM ST.				

041919 by CLR

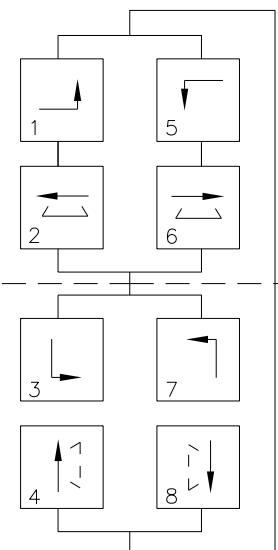


SIGNAL FACES



EXISTING SIGNAL HEADS
P1, P2, P3, P4,
P5, P6, P7, P8

PHASING DIAGRAM

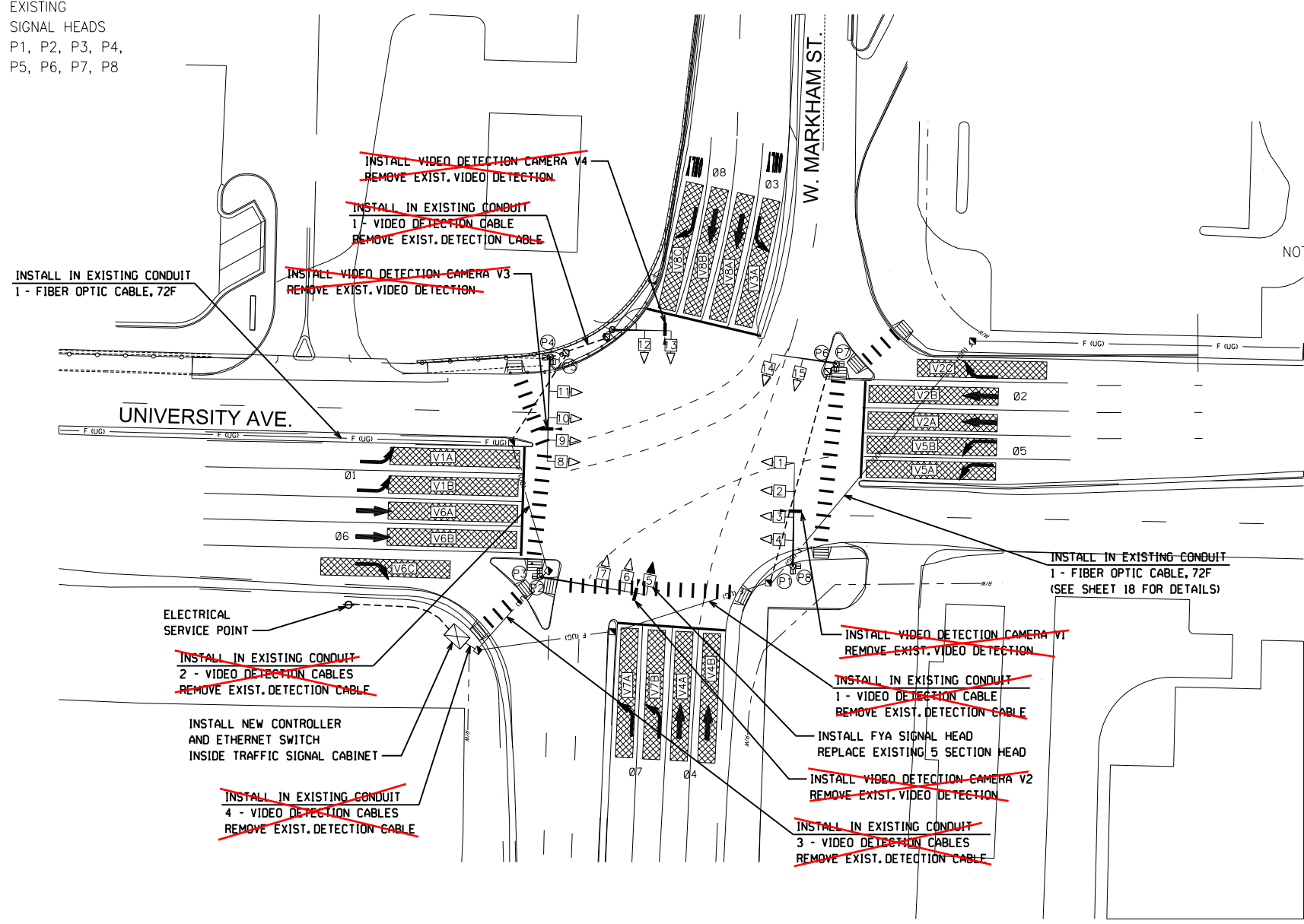


TRAFFIC SIGNAL LEGEND

- TRAFFIC SIGNAL CONTROLLER
- JUNCTION BOX
- CONDUIT
- AERIAL FIBER OPTIC CABLE
- MAST ARM AND POLE
- PROPOSED FYA SIGNAL HEAD
- EXISTING SIGNAL HEAD
- COBRA HEAD STREET LIGHT
- TRAFFIC SIGN
- VIDEO DETECTOR
- VIDEO DETECTION ZONE

POSTED SPEED LIMIT:
40 MPH NORTH AND SOUTH APPROACH
40 MPH EAST AND WEST APPROACH
NO BUS STOPS
NO RAILROAD TRACKS
FIBER INTERCONNECTIONS
NO FIRE STATION
NO PARKING
NO SIGHT DISTANCE RESTRICTIONS.

DETECTOR SPACING CHART		
UNIVERSITY AVE.		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD LOOP	LAG LOOP
40 MPH	NONE	60'
W. MARKHAM ST.		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD LOOP	LAG LOOP
40 MPH	NONE	60'



NOTE: 1. CONTRACTOR TO REMOVE EXISTING STOP LINE VIDEO DETECTION EQUIPMENT.
2. EXISTING INSYNC EQUIPMENT TO BE RETURNED TO THE CITY

1. EXISTING INSYNC EQUIPMENT SHALL BE UTILIZED & RECONFIGURED TO INTERFACE WITH NEW ATMS.

2. PEDESTRIAN MODULE TO BE CONFIGURED TO INTERCEPT PEDESTRIAN CALLS TO RUN CONCURRENT WITH CONCURRENT PHASES



 CITY OF LITTLE ROCK DEPARTMENT OF PUBLIC WORKS TRAFFIC ENGINEERING DIVISION					
ADAPTIVE SIGNAL CONTROL INTERSECTION DETAIL SHEET					
REVISION	DATE	BY	SCALE	DATE	JOB NO.
			1" = 30'	12/14/17	
			DRAWN BY TJC	CHECKED BY MKC	
			APPROVED BY XXX		SHEET 59 80

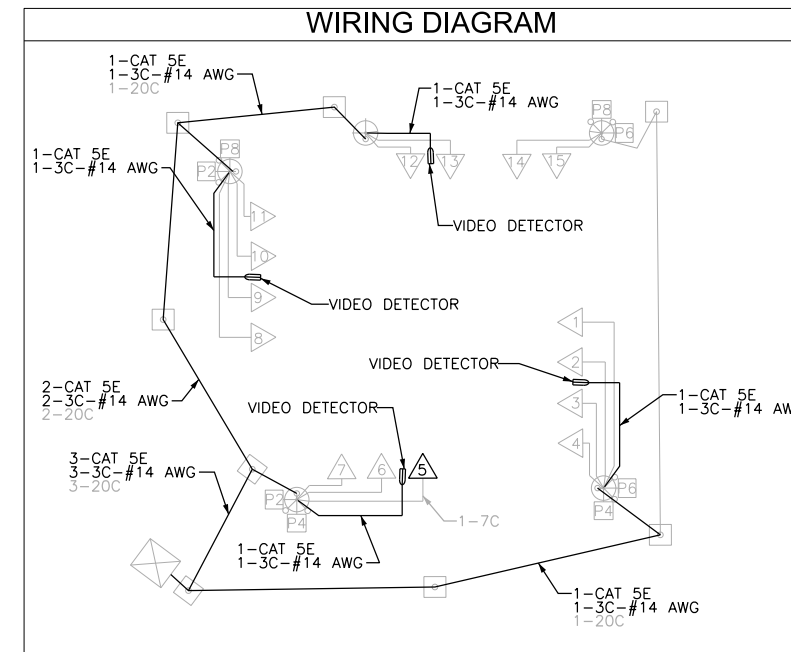
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		60	80
				JOB NO.	061468			
UNIVERSITY AVE. AT W. MARKHAM ST.								



DETECTOR SYSTEM DESCRIPTION												
PULASKI COUNTY - UNIVERSITY AVE. /MARKHAM				INPUTS BY SUPPLIER			PROGRAM ASSIGNMENTS				COMMENTS	TUBE LENGTHS
DET. ID#	LOCATION DIRECTION	TYPE	DET.	CAB TRM#	AMP CHN#	CON. INP#	PHS	SYSTEM DET.	MASTER SYSTEM DETECTION NUMBERS			
V1A	NB LEFT TURN	LOCAL	1			V1	1			CAMERA V1	23"	
V1B	NB LEFT TURN	LOCAL	2			V2	1			CAMERA V1	23"	
V2A	SB THRU LANES	LOCAL	3			V3	2			CAMERA V3	23"	
V2B	SB THRU LANES	LOCAL	4			V4	2			CAMERA V3	23"	
V2C	SB RT TURN LANE	LOCAL	5			V5	2			CAMERA V3	23"	
V3A	EB LEFT TURN	LOCAL	6			V6	3			CAMERA V2	23"	
V4A	WB THRU LANE	LOCAL	7			V7	4			CAMERA V4	23"	
V4B	WB THRU LANE	LOCAL	8			V8	4			CAMERA V4	23"	
V5A	SB LEFT TURN	LOCAL	9			V9	5			CAMERA V3	23"	
V5B	SB LEFT TURN	LOCAL	10			V10	5			CAMERA V3	23"	
V6A	NB THRU LANE	LOCAL	11			V11	6			CAMERA V1	23"	
V6B	NB THRU LANE	LOCAL	12			V12	6			CAMERA V1	23"	
V6C	NB RT TURN LANE	LOCAL	13			V13	6			CAMERA V1	23"	
V7A	WB LEFT TURN	LOCAL	14			V14	7			CAMERA V4	23"	
V7B	WB LEFT TURN	LOCAL	15			V15	7			CAMERA V4	23"	
V8A	EB THRU LANE	LOCAL	16			V16	8			CAMERA V2	23"	
V8B	EB THRU LANE	LOCAL	17			V17	8			CAMERA V2	23"	
V8C	EB RT TURN LANE	LOCAL	18			V18	8			CAMERA V2	23"	

V = Vehicle input
D = System or Auxiliary input
P = Pedestrian input

Add - 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. Channel assignments for detection to be coordinated and configured with Rhythm Engineering.



UNIVERSITY AVE AND MARKHAM ST																	
SIGNAL FACE	INTERVAL CHART FOR NORMAL OPERATION																FLASH SEQ
	1&5	CLR	1&6	CLR	2&5	CLR	2&6	CLR	3&7	CLR	3&8	CLR	4&7	CLR	4 & 8	CLR	
1	G<-	*	G<-	*	R	R	R	R	R	R	R	R	R	R	R	R	R
2	G<-	*	G<-	*	R	R	R	R	R	R	R	R	R	R	R	R	R
3	R	R	G	**	R	R	G	**	R	R	R	R	R	R	R	R	R
4	R	R	G	**	R	R	G	**	R	R	R	R	R	R	R	R	R
5	R	R	R	R	R	R	R	R	R	G<-	**	G<-	**	R	R	G	**
6	R	R	R	R	R	R	R	R	R	R	G	**	R	R	G	**	R
7	R	R	R	R	R	R	R	R	R	R	G	**	R	R	G	**	R
8	G<-	*	R	R	G<-	*	R	R	R	R	R	R	R	R	R	R	R
9	G<-	*	R	R	G<-	*	R	R	R	R	R	R	R	R	R	R	R
10	R	R	R	R	G	**	G	**	R	R	R	R	R	R	R	R	R
11	R	R	R	R	G	**	G	**	R	R	R	R	R	R	R	R	R
12	R	R	R	R	R	R	R	R	R	G<-	*	R	R	G<-	*	R	R
13	R	R	R	R	R	R	R	R	R	G<-	*	R	R	G<-	*	R	R
14	R	R	R	R	R	R	R	R	R	R	R	G	**	G	**		
15	R	R	R	R	R	R	R	R	R	R	R	G	**	G	**		
P1	DW	DW	W	FDW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW
P2	DW	DW	W	FDW	DW	DW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW
P3	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	W	FDW	
P4	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	DW	DW	W	FDW	
P5	DW	DW	DW	DW	W	FDW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW
P6	DW	DW	DW	DW	W	FDW	W	FDW	DW	DW	DW	DW	DW	DW	DW	DW	DW
P7	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	W	FDW	
P8	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	W	FDW	W	FDW	

* 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 THE NEXT PHASE

CITY OF LITTLE ROCK
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

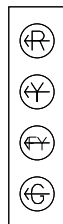
ADAPTIVE SIGNAL CONTROL
INTERSECTION DETAIL SHEET

REVISION	DATE	BY	SCALE	DATE	JOB NO.
			N.T.S.	12/14/17	
DRAWN BY			CHECKED BY		
TJC			MKC		
APPROVED BY			SHEET		
XXX			60		
			80		

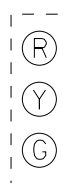
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		61	80
				JOB NO.	061468			
UNIVERSITY AVE. AT C ST.								



SIGNAL FACES



NEW SIGNAL HEADS
1, 6

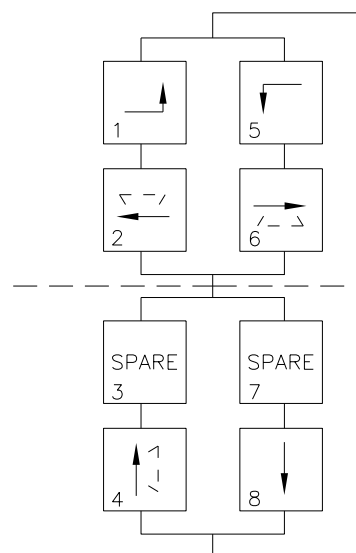


EXISTING SIGNAL HEADS
2, 3, 4, 5, 7,
8, 9, 10



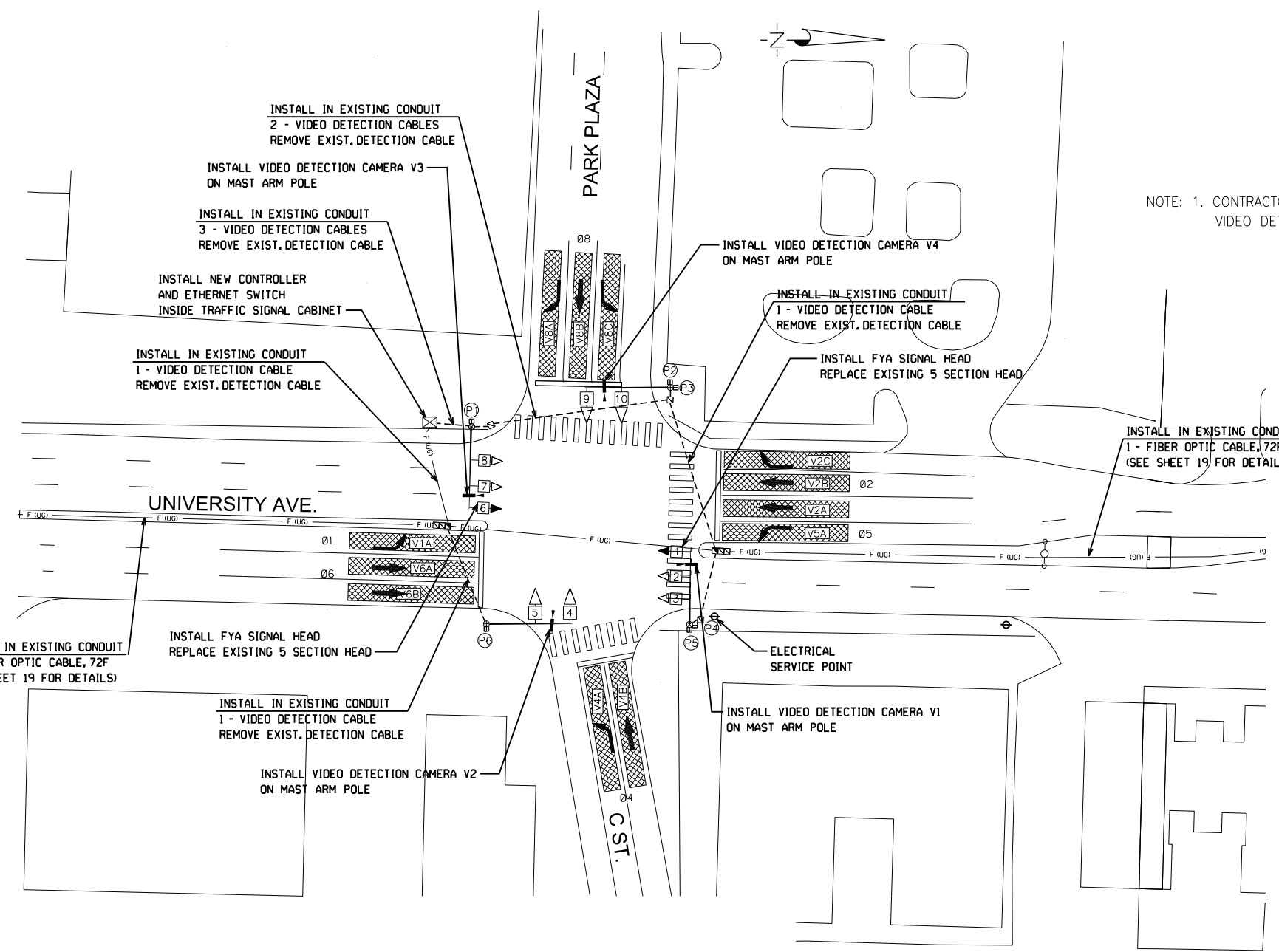
EXISTING SIGNAL HEADS
P1, P2, P3, P4,
P5, P6

PHASING DIAGRAM



TRAFFIC SIGNAL LEGEND

- TRAFFIC SIGNAL CONTROLLER
- JUNCTION BOX
- CONDUIT
- AERIAL FIBER OPTIC CABLE
- MAST ARM AND POLE
- PROPOSED FYA SIGNAL HEAD
- EXISTING SIGNAL HEAD
- COBRA HEAD STREET LIGHT
- TRAFFIC SIGN
- VIDEO DETECTOR
- VIDEO DETECTION ZONE



NOTE: 1. CONTRACTOR TO REMOVE EXISTING STOP LINE VIDEO DETECTION EQUIPMENT.

POSTED SPEED LIMIT:
40 MPH NORTH AND SOUTH APPROACH
20 MPH EAST AND WEST APPROACH
NO BUS STOPS
NO RAILROAD TRACKS
FIBER INTERCONNECTIONS
NO FIRE STATION
NO PARKING
NO SIGHT DISTANCE RESTRICTIONS.

DETECTOR SPACING CHART		
UNIVERSITY AVE.		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD LOOP	LAG LOOP
40 MPH	NONE	60'
C ST.		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD LOOP	LAG LOOP
20 MPH	NONE	60'



CITY OF LITTLE ROCK
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

ADAPTIVE SIGNAL CONTROL
INTERSECTION DETAIL SHEET

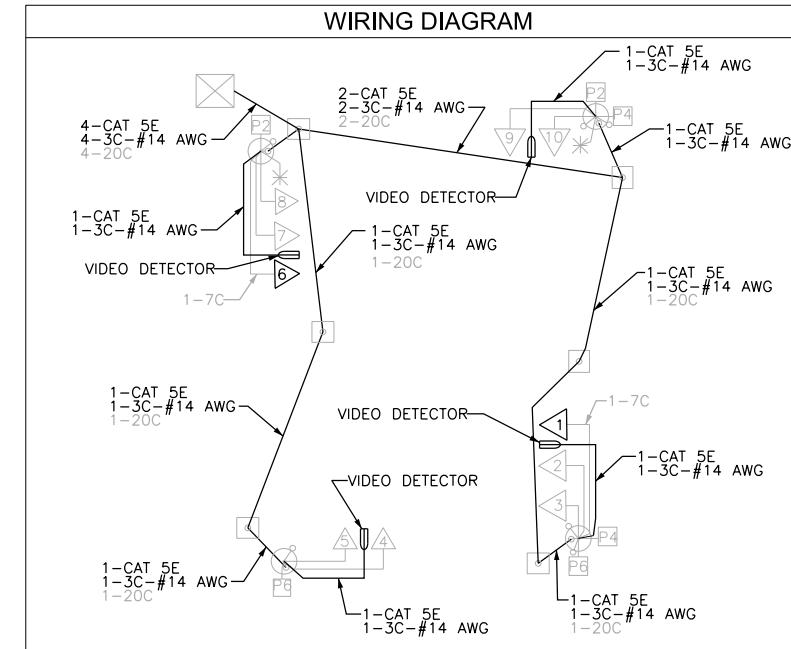
REVISION	DATE	BY	SCALE	DATE	JOB NO.
			1" = 30'	12/14/17	
DRAWN BY		CHECKED BY			
TJC		MKC			
APPROVED BY				SHEET	
XXX				61 / 80	

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		62	80
				JOB NO.	061468			
UNIVERSITY AVE. AT C ST.								



DETECTOR SYSTEM DESCRIPTION											
PULASKI COUNTY - UNIVERSITY AVE. /C ST.				INPUTS BY SUPPLIER			PROGRAM ASSIGNMENTS			COMMENTS	TUBE LENGTHS
DET. ID#	LOCATION DIRECTION	TYPE	DET.	CAB TRM#	AMP CHN#	CON. INP#	PHS	SYSTEM DET.	MASTER SYSTEM DETECTION NUMBERS		
V1A	NB LEFT TURN	LOCAL	1			V1	1			CAMERA V1	23"
V2A	SB THRU LANES	LOCAL	2			V2	2			CAMERA V3	23"
V2B	SB THRU LANES	LOCAL	3			V3	2			CAMERA V3	23"
V2C	SB RT TURN LANE	LOCAL	4			V4	2			CAMERA V3	23"
V4A	WB THRU LANE	LOCAL	5			V5	4			CAMERA V4	23"
V4B	WB THRU LANE	LOCAL	6			V6	4			CAMERA V4	23"
V5A	SB LEFT TURN	LOCAL	7			V7	5			CAMERA V3	23"
V6A	NB THRU LANE	LOCAL	8			V8	6			CAMERA V1	23"
V6B	NB THRU LANE	LOCAL	9			V9	6			CAMERA V1	23"
V8A	EB RT TURN LANE	LOCAL	11			V10	8			CAMERA V2	23"
V8B	EB THRU LANE	LOCAL	12			V11	8			CAMERA V2	23"
V8C	EB RT TURN LANE	LOCAL	12			V12	8			CAMERA V2	23"

V = Vehicle input
D = System or Auxiliary input
P = Pedestrian input
Add - 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. Channel assignments for detection to be coordinated and configured with Rhythm Engineering.



SIGNAL FACE	UNIVERSITY AVE AND C ST																FLASH SEQ.
	INTERVAL CHART FOR NORMAL OPERATION																
	1&5	CLR	1&6	CLR	2&5	CLR	2&6	CLR	3&7	CLR	3&8	CLR	4&7	CLR	4 & 8	CLR	
1	G<	*	G<	*/**	FY<	***	FY<	***							R	R	R
2	R	R	G	**	R	R	G	**							R	R	R
3	R	R	G	**	R	R	G	**							R	R	R
4	R	R	R	R	R	R	R	R							G	**	R
5	R	R	R	R	R	R	R	R							G	**	R
6	G<	*	FY<	***	G<	*	FY<	***							R	R	R
7	R	R	R	R	G	**	G	**							R	R	R
8	R	R	R	R	G	**	G	**							R	R	R
9	R	R	R	R	R	R	R	R							G	**	R
10	R	R	R	R	R	R	R	R							G	**	R
P1	DW	DW	DW	DW	W	FDW	W	FDW							DW	DW	
P2	DW	DW	DW	DW	W	FDW	W	FDW							DW	DW	
P3	DW	DW	DW	DW	DW	DW	DW	DW							W	FDW	
P4	DW	DW	DW	DW	DW	DW	DW	DW							W	FDW	
P5	DW	DW	W	FDW	DW	DW	W	FDW							DW	DW	
P6	DW	DW	W	FDW	DW	DW	W	FDW							DW	DW	

* 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 THE NEXT PHASE

LR CITY OF LITTLE ROCK
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

ADAPTIVE SIGNAL CONTROL
INTERSECTION DETAIL SHEET

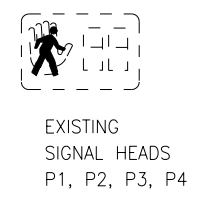
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			N.T.S.	12/14/17	
DRAWN BY		CHECKED BY			
TJC		MKC			
APPROVED BY		SHEET		62	
XXX				80	

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		63	80
				JOB NO.	061468			
				UNIVERSITY AVE. AT LEE ST.				

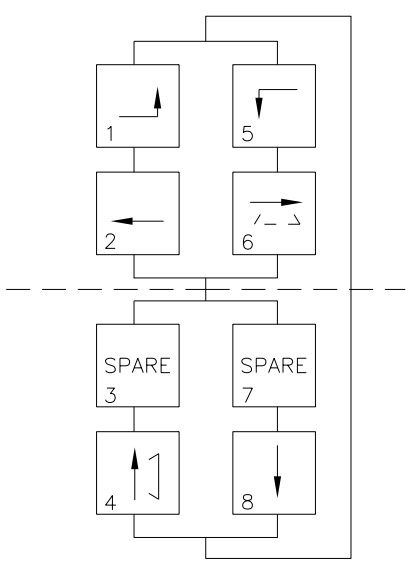
4/22/19 by CLR



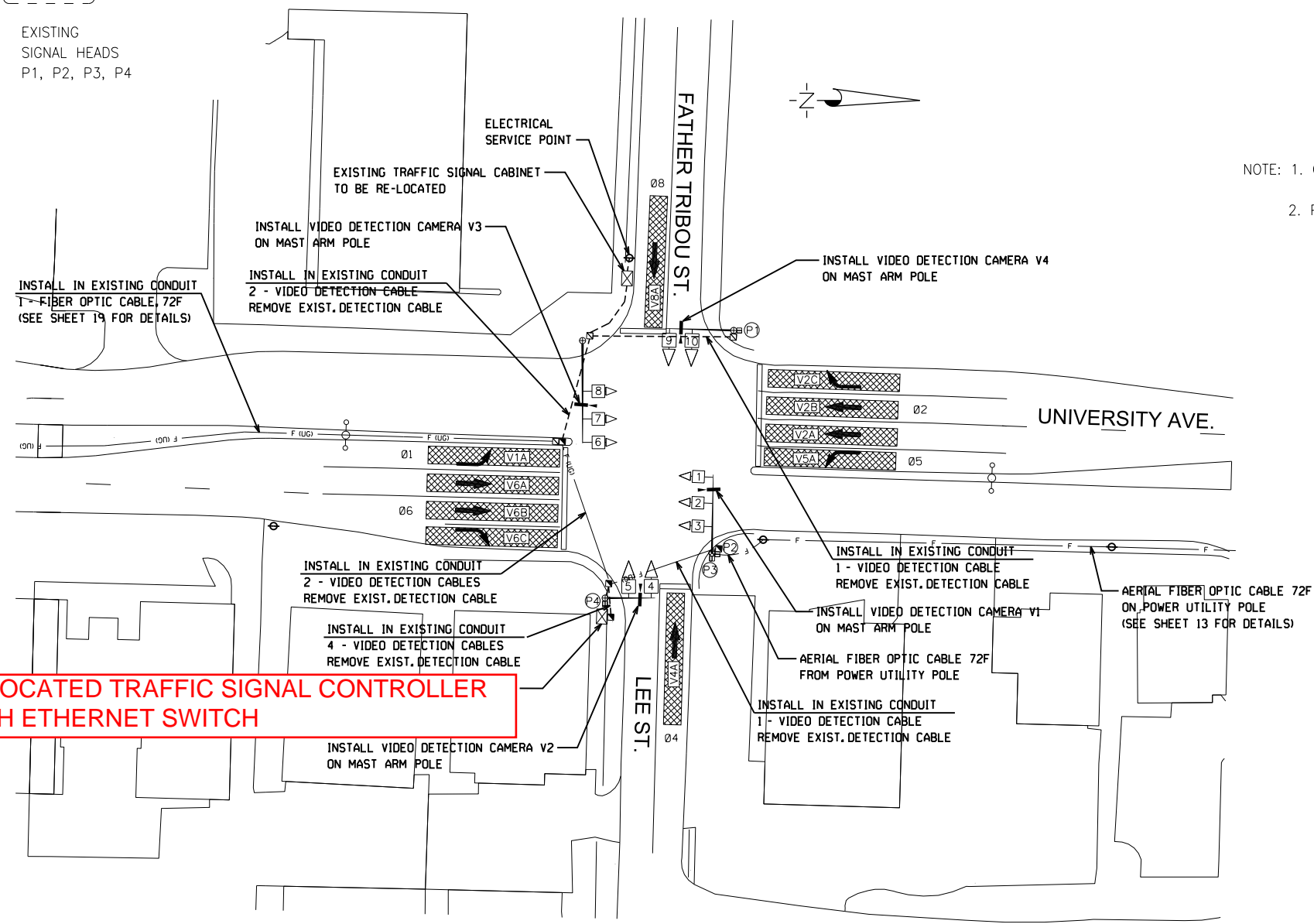
SIGNAL FACES



PHASING DIAGRAM



RELOCATED TRAFFIC SIGNAL CONTROLLER WITH ETHERNET SWITCH



NOTE: 1. CONTRACTOR TO REMOVE EXISTING STOP LINE VIDEO DETECTION EQUIPMENT.
 2. PHASING OF WORK TO MOVE TRAFFIC SIGNAL CONTROLLER CABINET TO BE COORDINATED WITH THE ENGINEER/CITY OF LITTLE ROCK.

TRAFFIC SIGNAL LEGEND

- ☒ TRAFFIC SIGNAL CONTROLLER
- ☐ JUNCTION BOX
- CONDUIT
- F- AERIAL FIBER OPTIC CABLE
- ⊕ MAST ARM AND POLE
- ◀4 PROPOSED FYA SIGNAL HEAD
- ◀3 EXISTING SIGNAL HEAD
- ⊕ COBRA HEAD STREET LIGHT
- ⊕ TRAFFIC SIGN
- ⊕ VIDEO DETECTOR
- ▨ VIDEO DETECTION ZONE

POSTED SPEED LIMIT:
 40 MPH NORTH AND SOUTH APPROACH
 30 MPH EAST AND WEST APPROACH
 BUS STOP LOCATED 100 FEET WEST OF FATHER TRIBOU ST EASTBOUND STOP LINE
 NO RAILROAD TRACKS
 FIBER INTERCONNECTIONS
 NO FIRE STATION
 NO PARKING
 NO SIGHT DISTANCE RESTRICTIONS.

UNIVERSITY AVE.		
POSTED SPEED	DISTANCE FROM STOP LINE	
40 MPH	LEAD LOOP	LAG LOOP
	NONE	60'
FATHER TRIBOU ST.		
POSTED SPEED	DISTANCE FROM STOP LINE	
30 MPH	LEAD LOOP	LAG LOOP
	NONE	60'



CITY OF LITTLE ROCK
 DEPARTMENT OF PUBLIC WORKS
 TRAFFIC ENGINEERING DIVISION

ADAPTIVE SIGNAL CONTROL
 INTERSECTION DETAIL SHEET

REVISION	DATE	BY	SCALE	DATE	JOB NO.
			1" = 30'	12/14/17	
DRAWN BY		CHECKED BY			
TJC		MKC			
APPROVED BY				SHEET	
XXX				63 / 80	

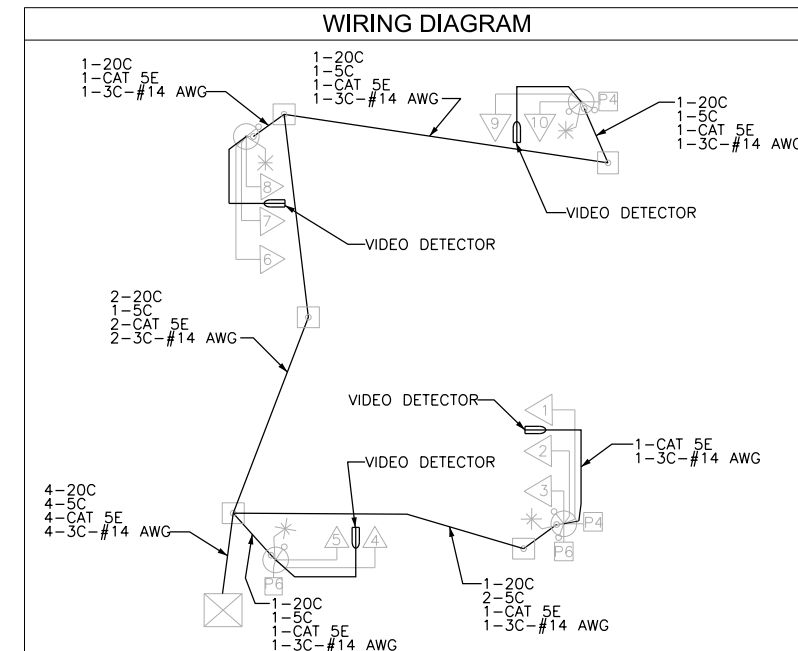
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		64	80
				JOB NO.	061468			
UNIVERSITY AVE. AT LEE ST.								



DETECTOR SYSTEM DESCRIPTION											
PULASKI COUNTY - UNIVERSITY AVE. /FATHER TRIBOU				INPUTS BY SUPPLIER			PROGRAM ASSIGNMENTS			COMMENTS	TUBE LENGTHS
DET. ID#	LOCATION DIRECTION	TYPE	DET.	CAB TRM#	AMP CHN#	CON. INP#	PHS	SYSTEM DET.	MASTER SYSTEM DETECTION NUMBERS		
V1A	NB LEFT TURN	LOCAL	1			V1	1			CAMERA V1	23"
V2A	SB THRU LANES	LOCAL	2			V2	2			CAMERA V3	23"
V2B	SB THRU LANES	LOCAL	3			V3	2			CAMERA V3	23"
V2C	SB RT TURN LANE	LOCAL	4			V4	2			CAMERA V3	23"
V4A	WB THRU LANE	LOCAL	5			V5	4			CAMERA V4	23"
V5A	SB LEFT TURN	LOCAL	7			V6	5			CAMERA V3	23"
V6A	NB THRU LANE	LOCAL	8			V7	6			CAMERA V1	23"
V6B	NB THRU LANE	LOCAL	9			V8	6			CAMERA V1	23"
V6C	NB RIGHT TURN	LOCAL	10			V9	6			CAMERA V1	23"
V8A	EB THRU LANE	LOCAL	6			V10	8			CAMERA V2	23"

V = Vehicle input
D = System or Auxiliary input
P = Pedestrian input

Add - 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. Channel assignments for detection to be coordinated and configured with Rhythm Engineering.



UNIVERSITY AVE AND LEE ST																	
SIGNAL FACE	INTERVAL CHART FOR NORMAL OPERATION															FLASH SEQ	
	1&5	CLR	1&6	CLR	2&5	CLR	2&6	CLR	3&7	CLR	3&8	CLR	4&7	CLR	4 & 8		CLR
1	G <	*	G <	*/**	FY <	***	FY <	***							R	R	R
2	R	R	G	**	R	R	G	**							R	R	R
3	R	R	G	**	R	R	G	**							R	R	R
4	R	R	R	R	R	R	R	R							G	**	R
5	R	R	R	R	R	R	R	R							G	**	R
6	G <	*	FY <	***	G <	*	FY <	***							R	R	R
7	R	R	R	R	G	**	G	**							R	R	R
8	R	R	R	R	G	**	G	**							R	R	R
9	R	R	R	R	R	R	R	R							G	**	R
10	R	R	R	R	R	R	R	R							G	**	R
P1	DW	DW	DW	DW	DW	DW	DW	DW							W	FDW	
P2	DW	DW	DW	DW	DW	DW	DW	DW							W	FDW	
P3	DW	DW	W	FDW	DW	DW	W	FDW							DW	DW	
P4	DW	DW	W	FDW	DW	DW	W	FDW							DW	DW	

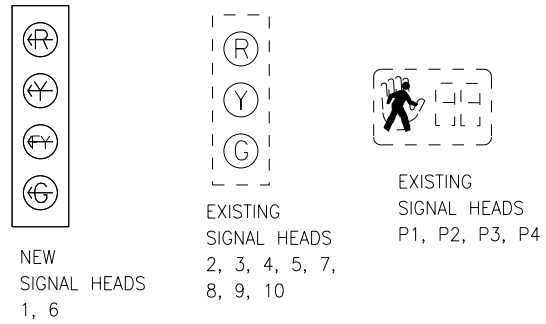
* DENOTES GREEN OR YELLOW ARROW DEPENDING ON NEXT PHASE ** DENOTES GREEN OR YELLOW BALL DEPENDING ON NEXT PHASE
*** DENOTES FLASHING YELLOW ARROW OR YELLOW ARROW DEPENDING ON THE NEXT PHASE

		CITY OF LITTLE ROCK DEPARTMENT OF PUBLIC WORKS TRAFFIC ENGINEERING DIVISION			
		ADAPTIVE SIGNAL CONTROL INTERSECTION DETAIL SHEET			
REVISION	DATE	BY	SCALE	DATE	JOB NO.
			N.T.S.	12/14/17	
DRAWN BY		CHECKED BY			
TJC		MKC			
APPROVED BY		SHEET		JOB NO.	
XXX		64		80	

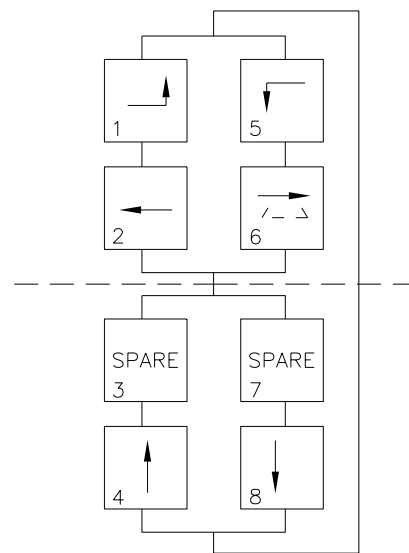
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		65	80
				JOB NO.	061468			
UNIVERSITY AVE. AT H ST.								



SIGNAL FACES

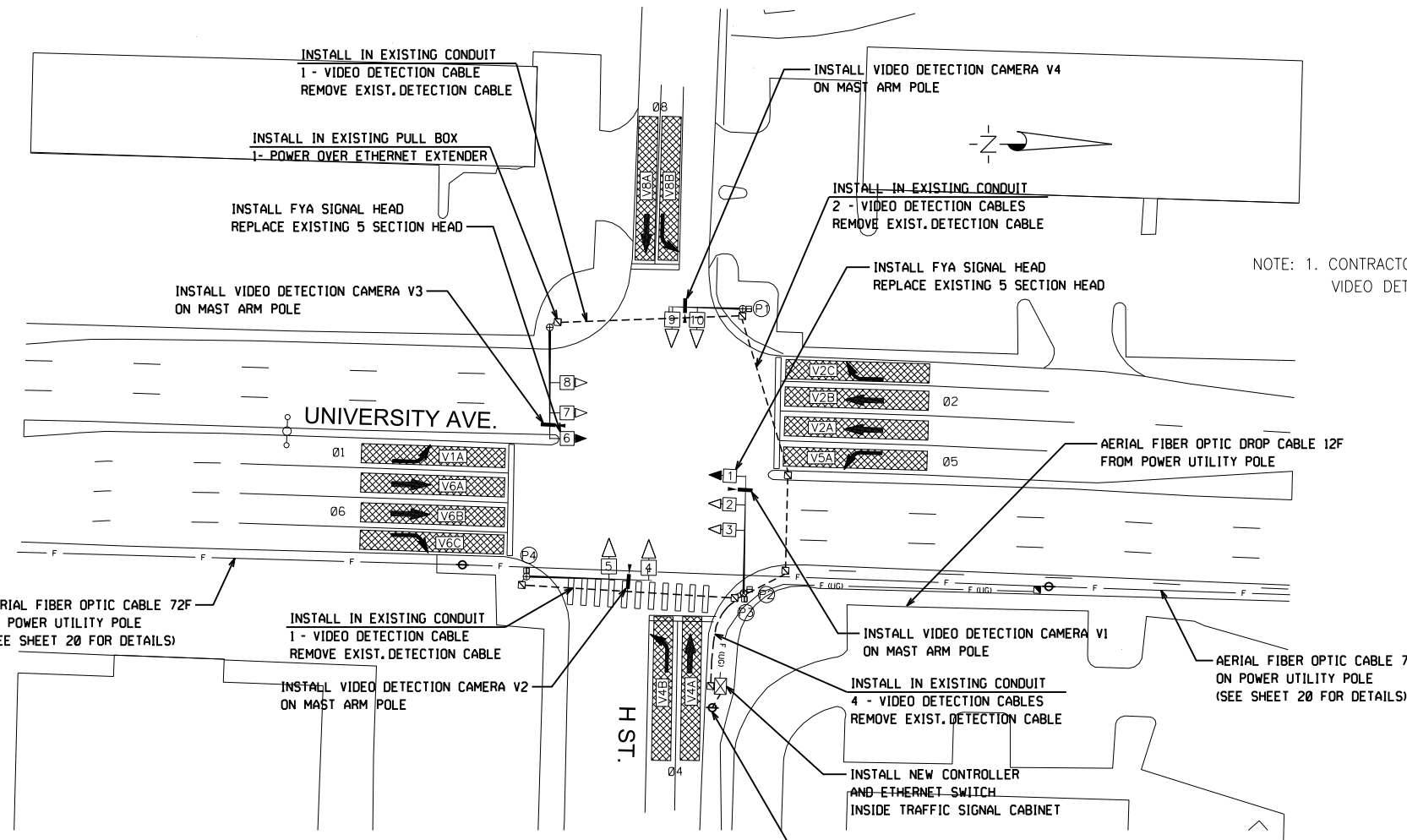


PHASING DIAGRAM



TRAFFIC SIGNAL LEGEND

- TRAFFIC SIGNAL CONTROLLER
- JUNCTION BOX
- CONDUIT
- AERIAL FIBER OPTIC CABLE
- MAST ARM AND POLE
- PROPOSED FYA SIGNAL HEAD
- EXISTING SIGNAL HEAD
- COBRA HEAD STREET LIGHT
- TRAFFIC SIGN
- VIDEO DETECTOR
- VIDEO DETECTION ZONE



NOTE: 1. CONTRACTOR TO REMOVE EXISTING STOP LINE VIDEO DETECTION EQUIPMENT.

POSTED SPEED LIMIT:
40 MPH NORTH AND SOUTH APPROACH
25 MPH EAST AND WEST APPROACH
BUS STOP LOCATED 100 FEET SOUTH OF UNIVERSITY AVE NORTHBOUND STOP LINE
NO RAILROAD TRACKS
FIBER INTERCONNECTIONS
NO FIRE STATION
NO PARKING
NO SIGHT DISTANCE RESTRICTIONS.

DETECTOR SPACING CHART		
UNIVERSITY AVE.		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD LOOP	LAG LOOP
40 MPH	NONE	60'
H ST.		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD LOOP	LAG LOOP
25 MPH	NONE	60'



CITY OF LITTLE ROCK
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

ADAPTIVE SIGNAL CONTROL INTERSECTION DETAIL SHEET

REVISION	DATE	BY	SCALE	DATE	JOB NO.
			1" = 30'	12/14/17	
DRAWN BY		CHECKED BY			
TJC		MKC			
APPROVED BY				SHEET	
XXX				65 / 80	

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		66	80
				JOB NO.	061468			
UNIVERSITY AVE. AT H ST.								



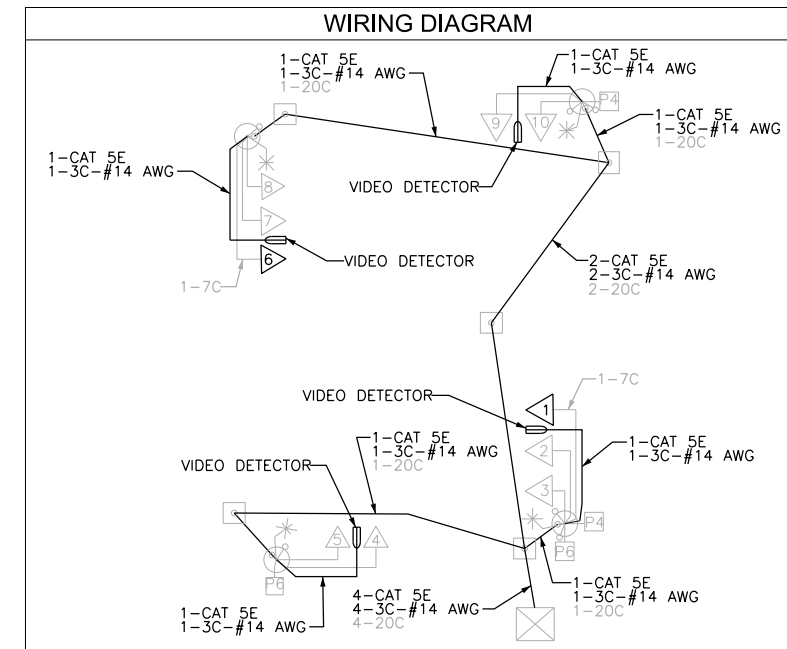
DETECTOR SYSTEM DESCRIPTION											
PULASKI COUNTY - UNIVERSITY AVE. /H ST.				INPUTS BY SUPPLIER			PROGRAM ASSIGNMENTS			COMMENTS	TUBE LENGTHS
DET. ID#	LOCATION DIRECTION	TYPE	DET.	CAB TRM#	AMP CHN#	CON. INP#	PHS	SYSTEM DET.	MASTER SYSTEM DETECTION NUMBERS		
V1A	NB LEFT TURN	LOCAL	1			V1	1			CAMERA V1	23"
V2A	SB THRU LANES	LOCAL	2			V2	2			CAMERA V3	23"
V2B	SB THRU LANES	LOCAL	3			V3	2			CAMERA V3	23"
V2C	SB RIGHT TURN	LOCAL	4			V4	2			CAMERA V3	23"
V4A	WB THRU LANE	LOCAL	5			V5	4			CAMERA V4	23"
V4B	WB LT TURN LANE	LOCAL	6			V6	4			CAMERA V4	23"
V5A	SB LEFT TURN	LOCAL	7			V7	5			CAMERA V3	23"
V6A	NB THRU LANE	LOCAL	8			V8	6			CAMERA V1	23"
V6B	NB THRU LANE	LOCAL	9			V9	6			CAMERA V1	23"
V6C	NB RIGHT TURN	LOCAL	10			V10	6			CAMERA V1	23"
V8A	EB THRU LANE	LOCAL	11			V11	8			CAMERA V2	23"
V8B	EB LT TURN LANE	LOCAL	12			V12	8			CAMERA V2	23"

V = Vehicle input

D = System or Auxiliary input

P = Pedestrian input

Add - 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. Channel assignments for detection to be coordinated and configured with Rhythm Engineering.



UNIVERSITY AVE AND H ST.																	
SIGNAL FACE	INTERVAL CHART FOR NORMAL OPERATION															FLASH SEQ	
	1&5	CLR	1&6	CLR	2&5	CLR	2&6	CLR	3&7	CLR	3&8	CLR	4&7	CLR	4 & 8		CLR
1	G <-	*	G <-	*	FY <-	***	FY <-	***							R	R	R
2	R	R	G	**	R	R	G	**							R	R	R
3	R	R	G	**	R	R	G	**							R	R	R
4	R	R	R	R	R	R	R	R							G	**	R
5	R	R	R	R	R	R	R	R							G	**	R
6	G <-	*	FY <-	***	G <-	*	FY <-	***							R	R	R
7	R	R	R	R	R	R	R	R							R	R	R
8	R	R	R	R	G	**	G	**							R	R	R
9	R	R	R	R	R	R	R	R							G	**	R
10	R	R	R	R	R	R	R	R							G	**	R
P1	DW	DW	DW	DW	DW	DW	DW	DW							W	FDW	
P2	DW	DW	DW	DW	DW	DW	DW	DW							W	FDW	
P3	DW	DW	W	FDW	DW	DW	W	FDW							DW	DW	
P4	DW	DW	W	FDW	DW	DW	W	FDW							DW	DW	

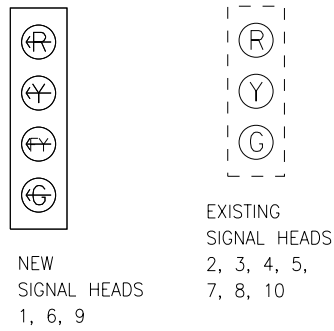
* DENOTES GREEN OR YELLOW ARROW DEPENDING ON NEXT PHASE

** DENOTES GREEN OR YELLOW BALL DEPENDING ON NEXT PHASE

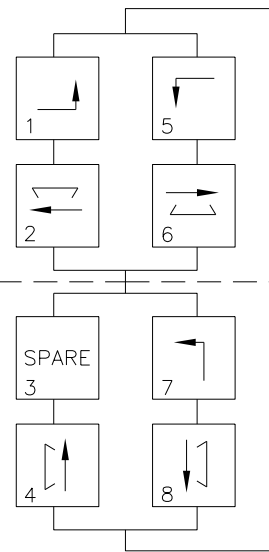
*** DENOTES FLASHING YELLOW ARROW OR YELLOW ARROW DEPENDING ON THE NEXT PHASE

CITY OF LITTLE ROCK DEPARTMENT OF PUBLIC WORKS TRAFFIC ENGINEERING DIVISION					
ADAPTIVE SIGNAL CONTROL INTERSECTION DETAIL SHEET					
REVISION	DATE	BY	SCALE	DATE	JOB NO.
			N.T.S.	12/14/17	
DRAWN BY		CHECKED BY			
TJC		MKC			
APPROVED BY				SHEET	
XXX				66 / 80	

SIGNAL FACES



PHASING DIAGRAM



TRAFFIC SIGNAL LEGEND

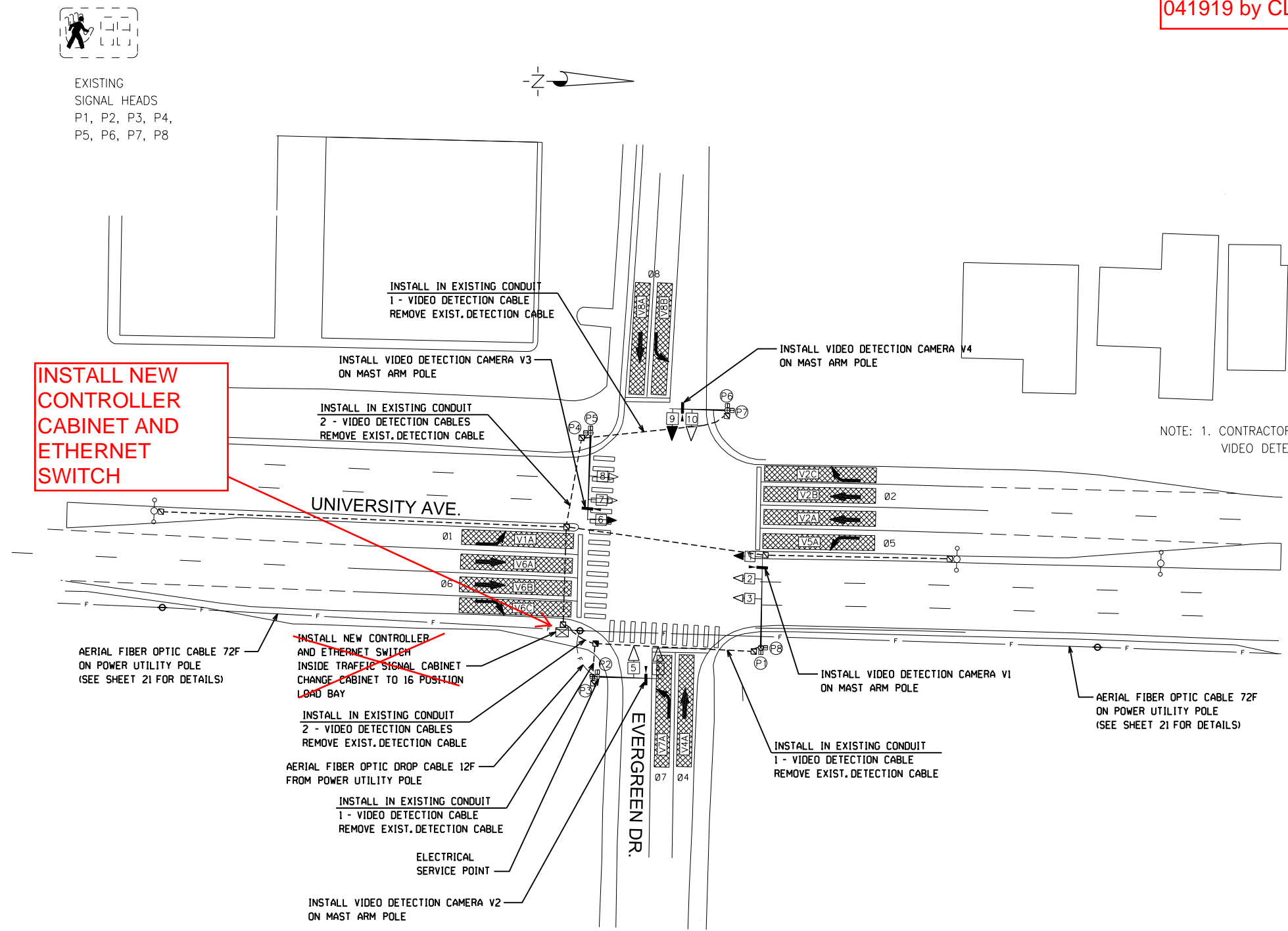
- ☒ TRAFFIC SIGNAL CONTROLLER
- ☐ JUNCTION BOX
- CONDUIT
- F- AERIAL FIBER OPTIC CABLE
- MAST ARM AND POLE
- ◀4▶ PROPOSED FYA SIGNAL HEAD
- ◀3▶ EXISTING SIGNAL HEAD
- ☪ COBRA HEAD STREET LIGHT
- ↑ TRAFFIC SIGN
- VIDEO DETECTOR
- ▨ VIDEO DETECTION ZONE

POSTED SPEED LIMIT:
40 MPH NORTH AND SOUTH APPROACH
25 MPH EAST AND WEST APPROACH
BUS STOP LOCATED 70 FEET NORTH OF
UNIVERSITY AVE SOUTHBOUND STOP LINE
NO RAILROAD TRACKS
FIBER INTERCONNECTIONS
NO FIRE STATION
NO PARKING
NO SIGHT DISTANCE RESTRICTIONS

UNIVERSITY AVE.		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD LOOP	LAG LOOP
40 MPH	NONE	60'
H. ST.		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD LOOP	LAG LOOP
25 MPH	NONE	60'

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		67	80
JOB NO. 061468						UNIVERSITY AVE. AT EVERGREEN DR.		

041919 by CLR



CITY OF LITTLE ROCK
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

ADAPTIVE SIGNAL CONTROL
INTERSECTION DETAIL SHEET

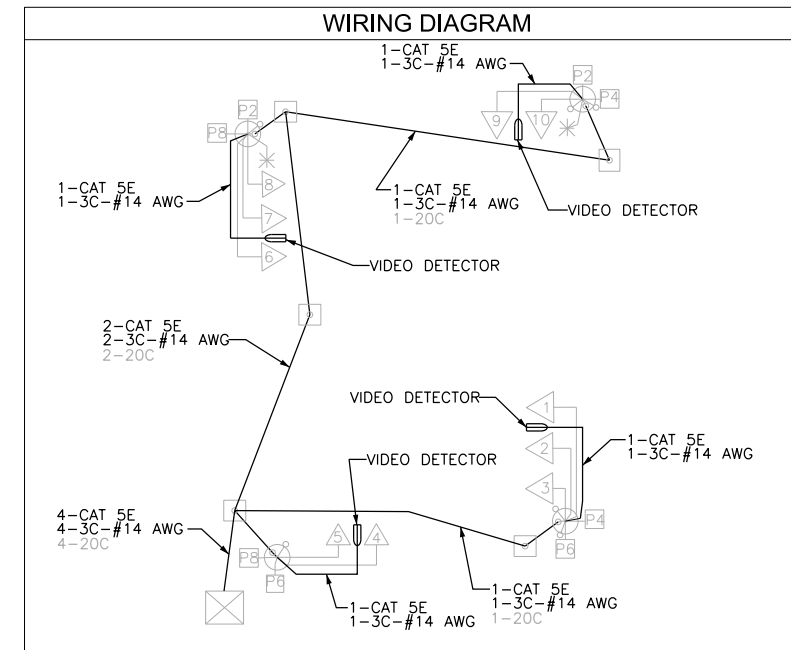
REVISION	DATE	BY	SCALE	DATE	JOB NO.
			1" = 30'	12/14/17	
DRAWN BY TJC			CHECKED BY MKC		
APPROVED BY XXX			SHEET 67/80		

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		68	80
				JOB NO.	061468			
UNIVERSITY AVE. AT EVERGREEN DR.								



DETECTOR SYSTEM DESCRIPTION											
PULASKI COUNTY - UNIVERSITY AVE. /EVERGREEN				INPUTS BY SUPPLIER			PROGRAM ASSIGNMENTS			COMMENTS	TUBE LENGTHS
DET. ID#	LOCATION DIRECTION	TYPE	DET.	CAB TRM#	AMP CHN#	CON. INP#	PHS	SYSTEM DET.	MASTER SYSTEM DETECTION NUMBERS		
V1A	NB LEFT TURN	LOCAL	1			V1	1			CAMERA V1	23"
V2A	SB THRU LANES	LOCAL	2			V2	2			CAMERA V3	23"
V2B	SB THRU LANES	LOCAL	3			V3	2			CAMERA V3	23"
V2C	SB RIGHT TURN	LOCAL	4			V4	2			CAMERA V3	23"
V4A	WB THRU LANE	LOCAL	5			V5	4			CAMERA V4	23"
V5A	SB LEFT TURN	LOCAL	7			V6	5			CAMERA V3	23"
V6A	NB THRU LANE	LOCAL	8			V7	6			CAMERA V1	23"
V6B	NB THRU LANE	LOCAL	9			V8	6			CAMERA V1	23"
V6C	NB RIGHT TURN	LOCAL	10			V9	6			CAMERA V1	23"
V7A	WB LT TURN LANE	LOCAL	11			V10	7			CAMERA V4	23"
V8A	EB THRU LANE	LOCAL	12			V11	8			CAMERA V2	23"
V8B	EB LT TURN LANE	LOCAL	13			V12	8			CAMERA V2	23"

V = Vehicle input
D = System or Auxiliary input
P = Pedestrian input
Add - 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. Channel assignments for detection to be coordinated and configured with Rhythm Engineering.



UNIVERSITY AVE AND EVERGREEN DR																	
SIGNAL FACE	INTERVAL CHART FOR NORMAL OPERATION															FLASH SEQ	
	1&5	CLR	1&6	CLR	2&5	CLR	2&6	CLR	3&7	CLR	3&8	CLR	4&7	CLR	4 & 8		CLR
1	G<	*	G<	*	R	R	R	R					R	R	R	R	R
2	R	R	G	**	R	R	G	**					R	R	R	R	R
3	R	R	G	**	R	R	G	**					R	R	R	R	R
4	R	R	R	R	R	R	R	R					R	R	G	**	R
5	R	R	R	R	R	R	R	R					R	R	G	**	R
6	G<	*	R	R	G<	*	R	R					R	R	R	R	R
7	R	R	R	R	G	**	G	**					R	R	R	R	R
8	R	R	R	R	G	**	G	**					R	R	R	R	R
9	R	R	R	R	R	R	R	R					G<	*	G	**	R
10	R	R	R	R	R	R	R	R					G	**	G	**	R
P1	DW	DW	W	FDW	DW	DW	W	FDW					DW	DW	DW	DW	
P2	DW	DW	W	FDW	DW	DW	W	FDW					DW	DW	DW	DW	
P3	DW	DW	DW	DW	DW	DW	DW	DW					DW	DW	W	FDW	
P4	DW	DW	DW	DW	DW	DW	DW	DW					DW	DW	W	FDW	
P5	DW	DW	DW	DW	W	FDW	W	FDW					DW	DW	DW	DW	
P6	DW	DW	DW	DW	W	FDW	W	FDW					DW	DW	DW	DW	
P7	DW	DW	DW	DW	DW	DW	DW	DW					W	FDW	W	FDW	
P8	DW	DW	DW	DW	DW	DW	DW	DW					W	FDW	W	FDW	

* 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 THE NEXT PHASE

CITY OF LITTLE ROCK
DEPARTMENT OF PUBLIC WORKS
TRAFFIC ENGINEERING DIVISION

ADAPTIVE SIGNAL CONTROL
INTERSECTION DETAIL SHEET

REVISION	DATE	BY	SCALE	DATE	JOB NO.
			N.T.S.	12/14/17	
DRAWN BY			CHECKED BY		
TJC			MKC		
APPROVED BY			SHEET		
XXX			68 / 80		

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		69	80
				JOB NO.		061468		
UNIVERSITY AVE. AT FIRESTATION								



EDGE OF TRAVEL LANE

UNIVERSITY AVENUE

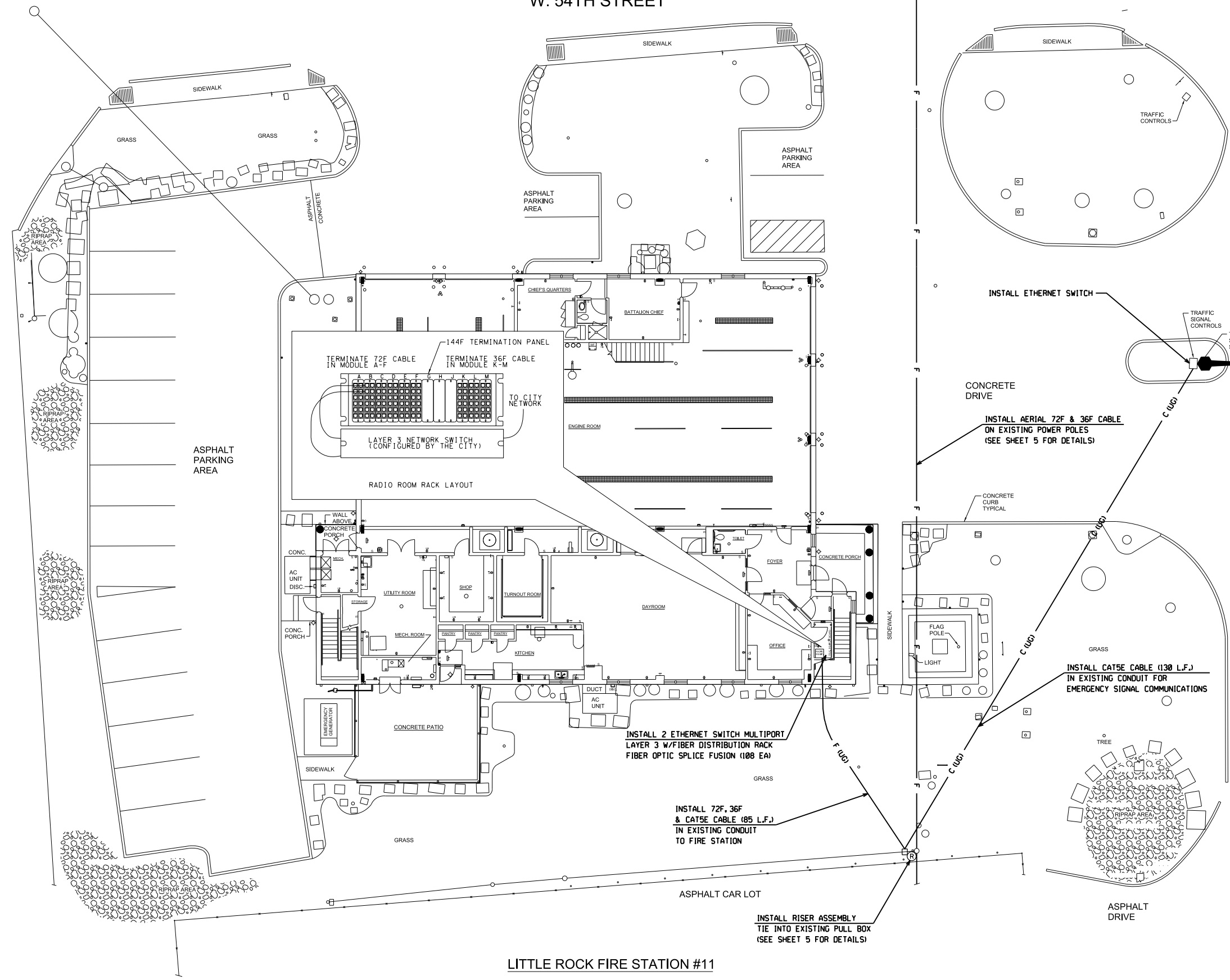


CITY OF LITTLE ROCK DEPARTMENT OF PUBLIC WORKS TRAFFIC ENGINEERING DIVISION					
ADAPTIVE SIGNAL CONTROL FIRESTATION FIBER INSTALLATION SHEET					
REVISION	DATE	BY	SCALE	DATE	JOB NO.
			1" = 20'	12/14/17	
DRAWN BY TJC			CHECKED BY MKC		
APPROVED BY XXX			SHEET 69 80		

W. 54TH STREET

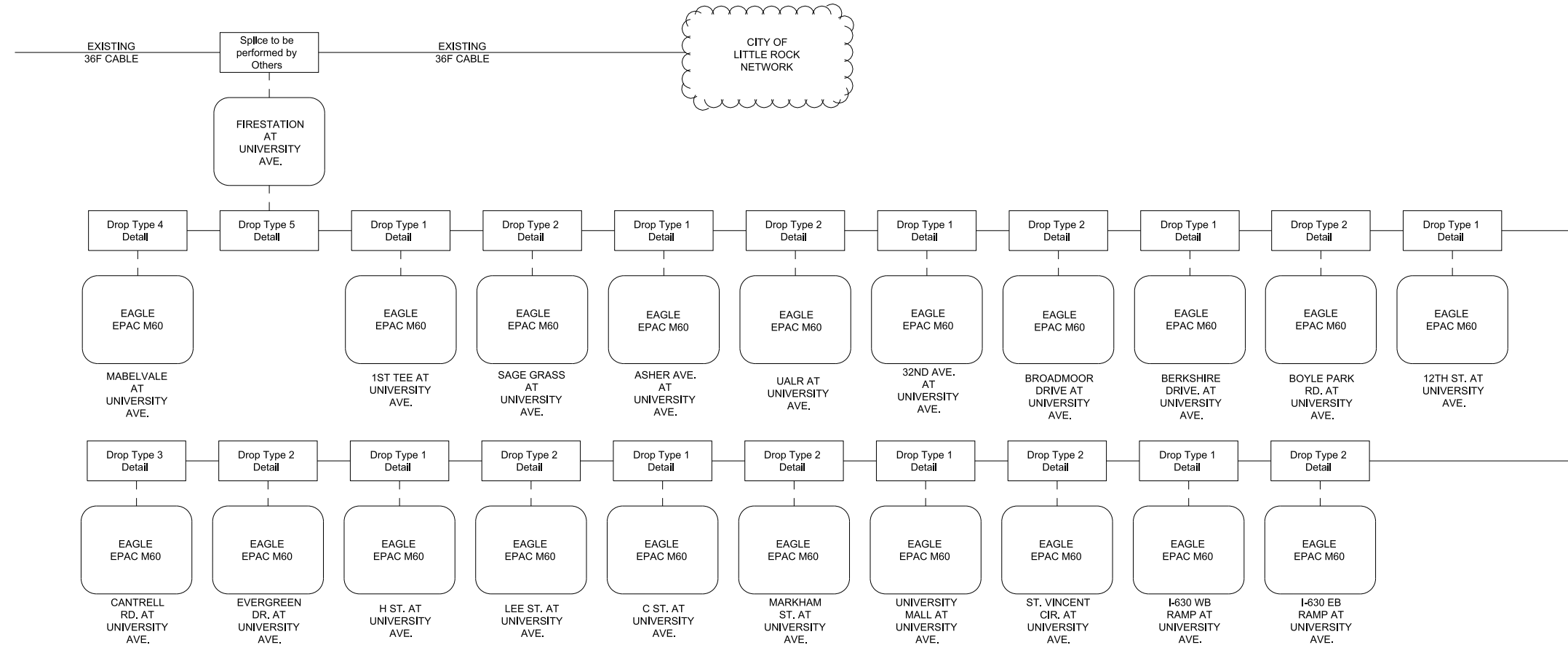
S. 47TH STREET

LITTLE ROCK FIRE STATION #11



DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		70	80

JOB NO. 061468
UNIVERSITY AVE.
FIBER SPLICING DETAILS

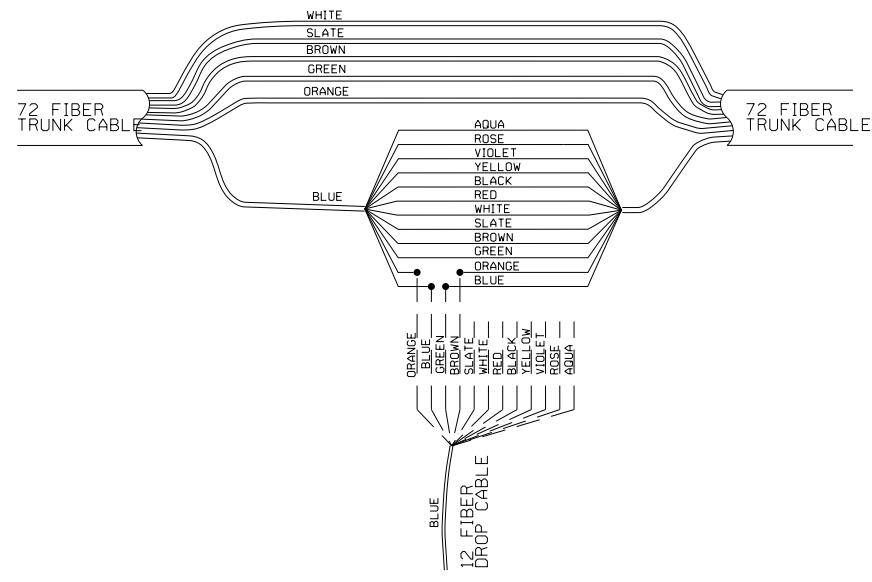


Legend

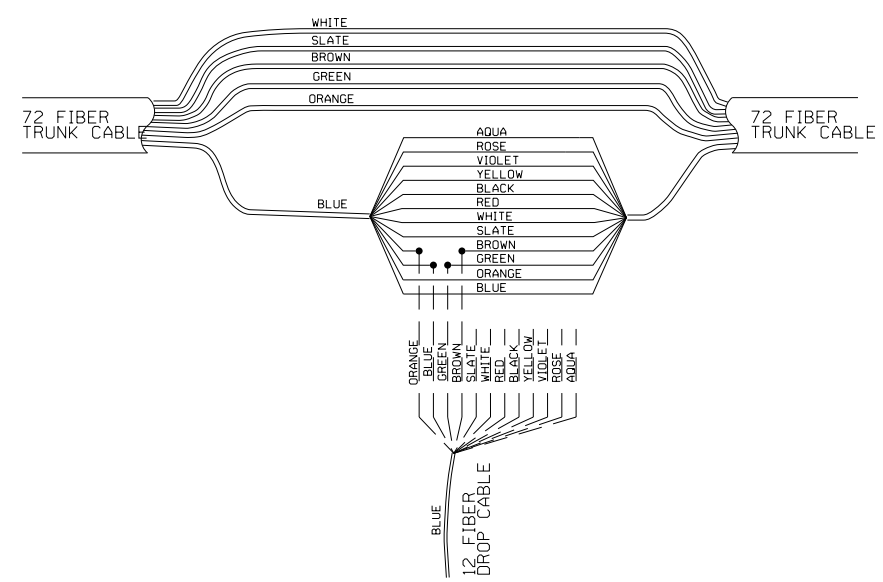
- Trunk Cable ———
- Drop Cable - - - - -
- Splice Boot
- Control Box

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		71	80

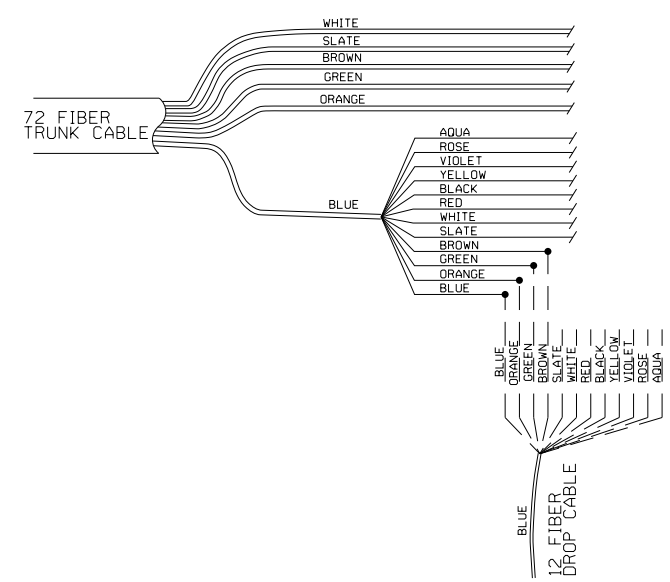
JOB NO. 061468
UNIVERSITY AVE.
FIBER SPLICING DETAILS



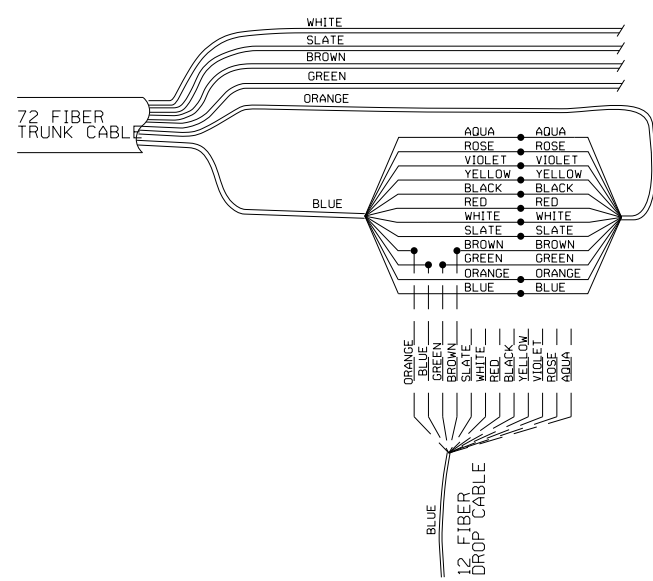
DROP TYPE 1



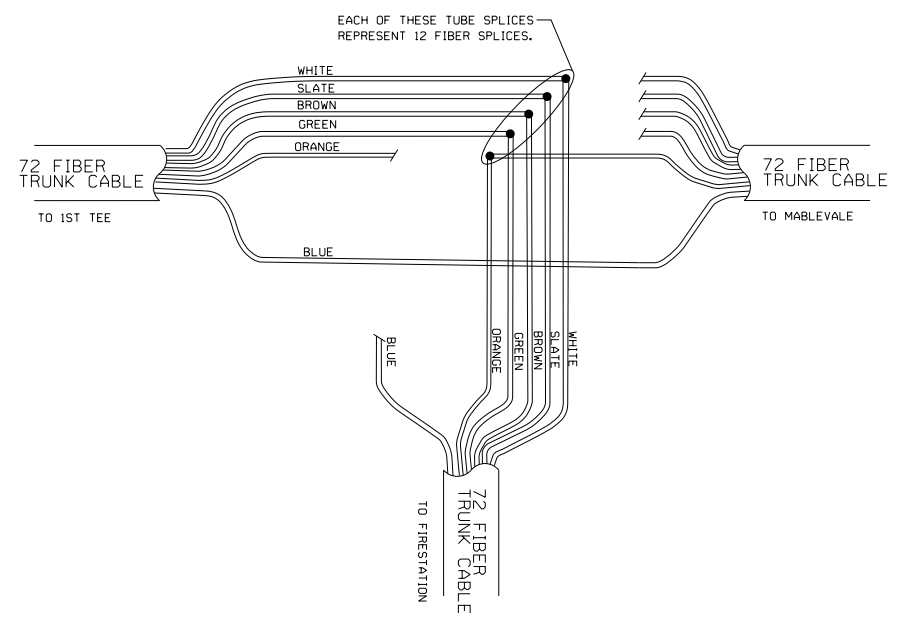
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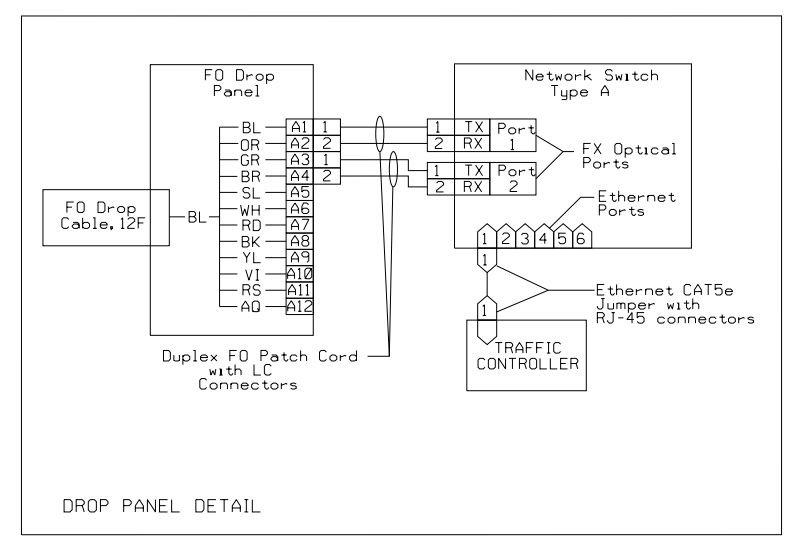
DROP TYPE 3



DROP TYPE 4



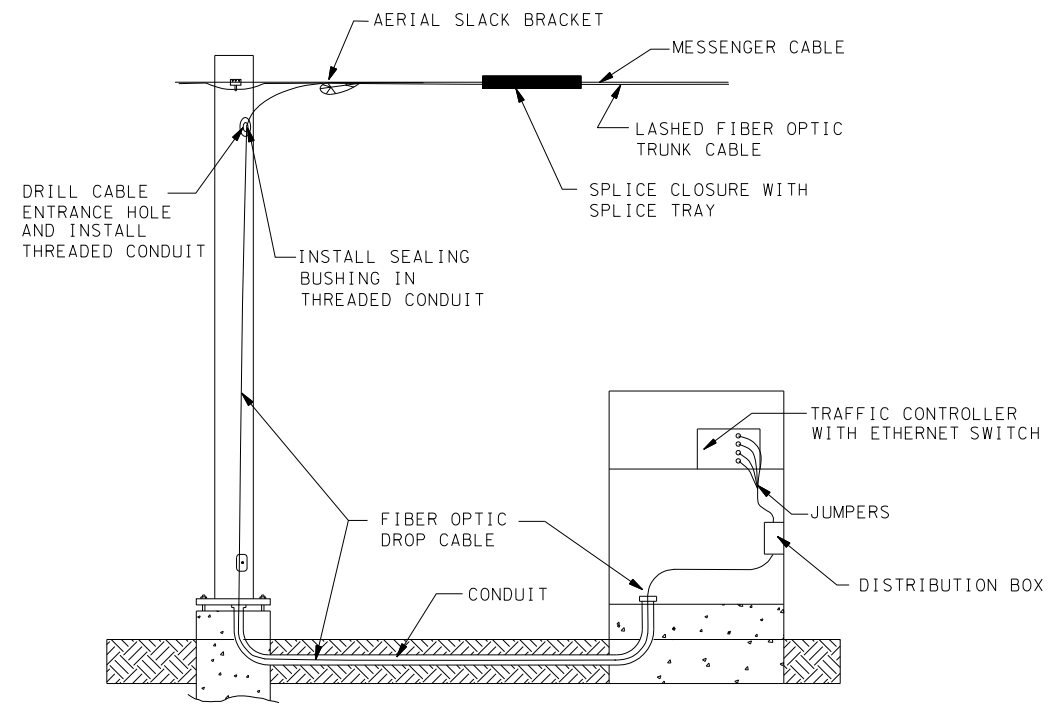
DROP TYPE 5



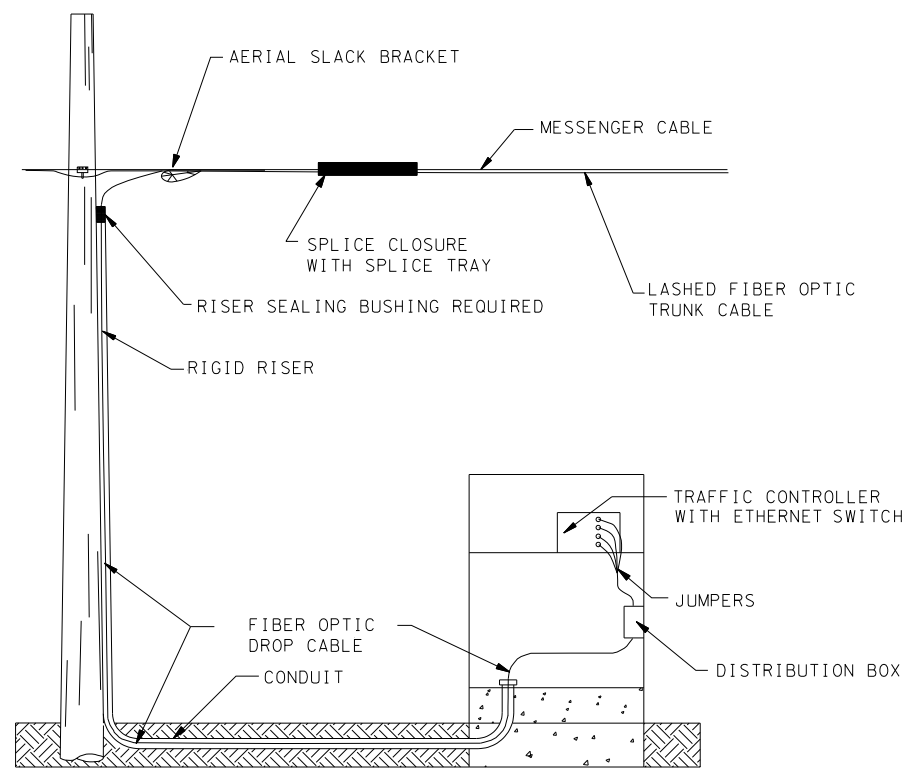
DROP PANEL DETAIL

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		72	80

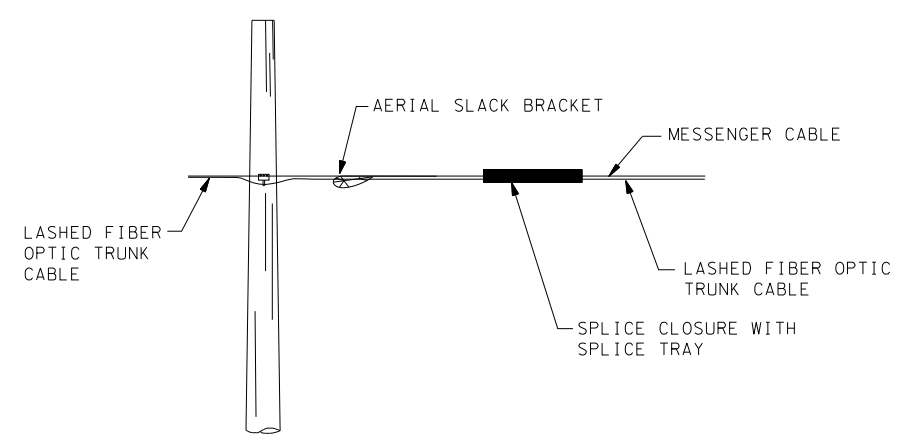
JOB NO. 061468
UNIVERSITY AVE.
FIBER INSTALLATION DETAILS 1



AERIAL ENTRANCE FOR STEEL POLE INTO BASE MOUNTED CABINET (EXTERNAL SPLICE)



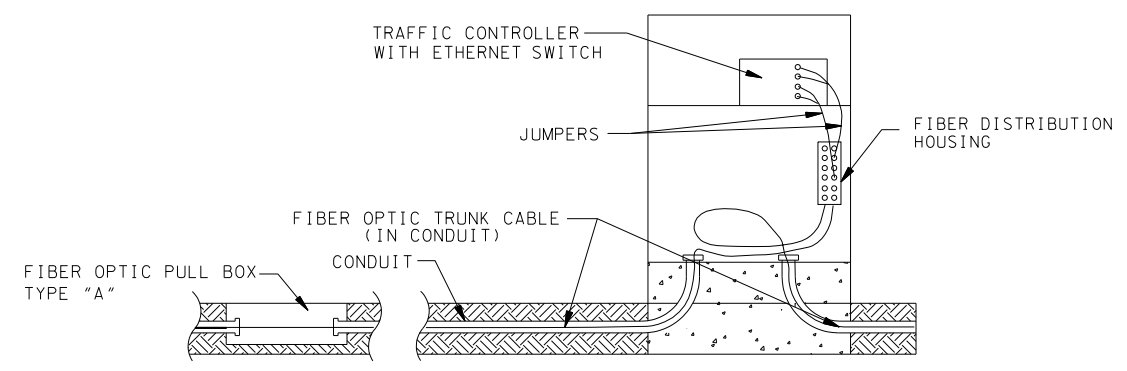
AERIAL ENTRANCE FOR EMBEDDED STEEL, CONCRETE, OR WOOD POLE INTO BASE MOUNTED CABINET (EXTERNAL SPLICE)



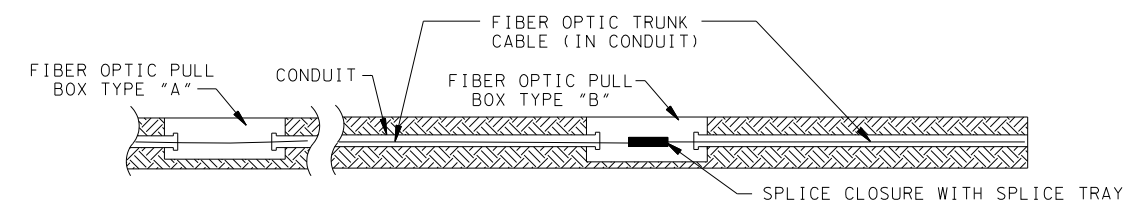
TYPICAL OVERHEAD SPLICE

- GENERAL NOTES**
- (A) CONDUIT FOR FIBER OPTIC CABLE REQUIRED TO UTILIZE LARGE RADIUS BENDS (MINIMUM RADIUS 6 INCHES) NO ELBOW JOINTS ALLOWED.
 - (B) ALL SPLICE CLOSURES TO CONTAIN SUFFICIENT SLACK FIBER TO PERFORM SPLICE ON GROUND IN MAINTENANCE VEHICLE (MINIMUM 25 FEET OF SLACK FOR EACH DROP CABLE).
 - (C) ALL SPLICES TO BE FUSION UNLESS OTHERWISE NOTED.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		73	80
JOB NO. 061468								
UNIVERSITY AVE.								
FIBER INSTALLATION DETAILS 2								



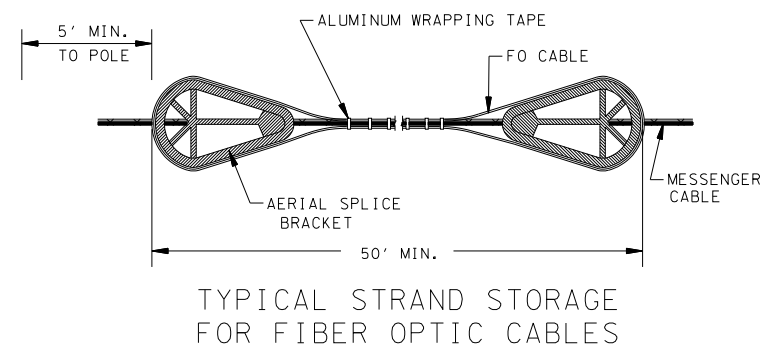
UNDERGROUND ENTRANCE
 INTO BASE MOUNTED CABINET
 (INTERNAL SPLICE-MAX. 12 FIBER SPLICES)



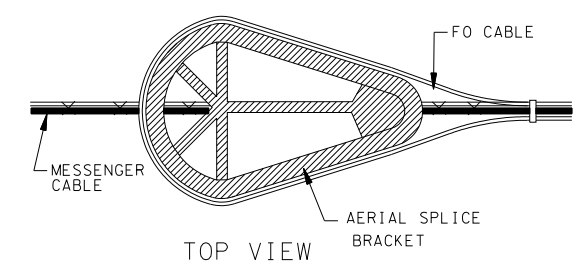
TYPICAL UNDERGROUND SPLICE

- GENERAL NOTES**
- (A) CONDUIT FOR FIBER OPTIC CABLE REQUIRED TO UTILIZE LARGE RADIUS BENDS (MINIMUM RADIUS 6 INCHES) NO ELBOW JOINTS ALLOWED.
 - (B) ALL UNDERGROUND SPLICES IN PULL BOXES TO CONTAIN SUFFICIENT SLACK FIBER TO PERFORM SPLICE ON MAINTENANCE VEHICLE (MINIMUM 25 FEET OF SLACK FOR EACH CABLE).
 - (C) ALL CABINET SPLICES TO CONTAIN SUFFICIENT SLACK TO PERFORM SPLICE IN MAINTENANCE VEHICLE (MINIMUM OF 25 FEET OF SLACK FOR EACH CABLE).
 - (D) ALL SPLICES TO BE FUSION UNLESS OTHERWISE NOTED.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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JOB NO. 061468								
UNIVERSITY AVE.								
FIBER INSTALLATION DETAILS 3								

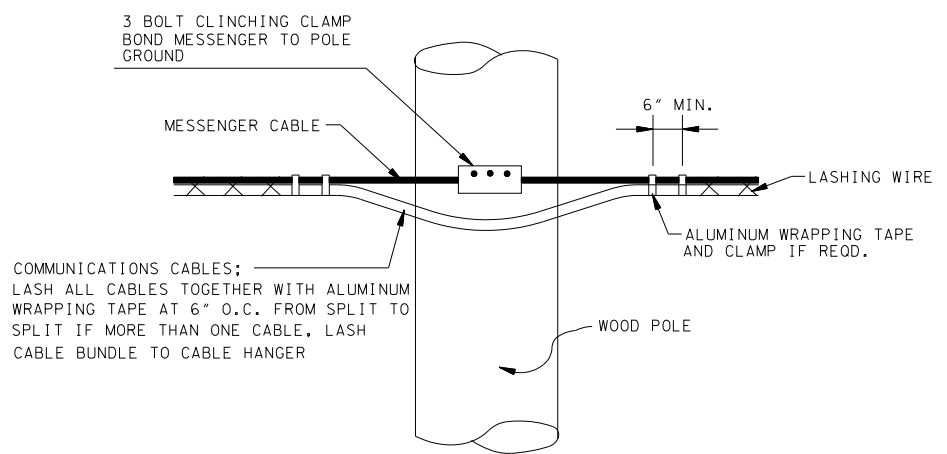


TYPICAL STRAND STORAGE FOR FIBER OPTIC CABLES

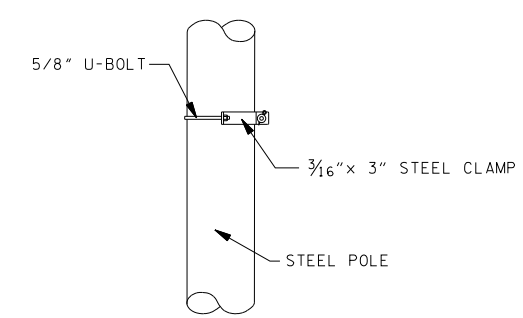


TOP VIEW AERIAL SLACK BRACKET DETAIL

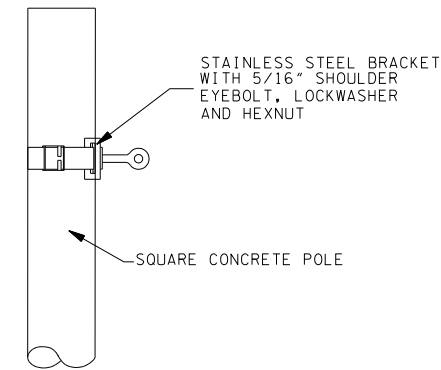
NOTE:
1. BRACKET RADIUS SHALL BE LARGER THAN CABLE MANUFACTURERS MINIMUM BEND RADIUS FOR LONG TERM STORAGE OF LARGEST CABLE DIAMETER.



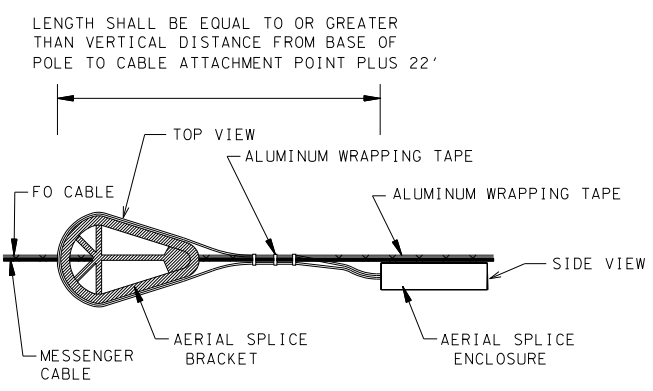
TYPICAL CABLE CONTINUATION-SAME MESSENGER CABLE



TYPICAL POLE ATTACHMENT FOR STEEL POLE



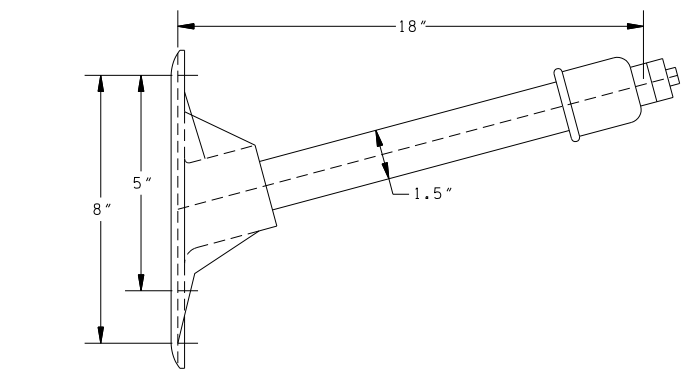
TYPICAL POLE ATTACHMENT FOR SQUARE CONCRETE POLE



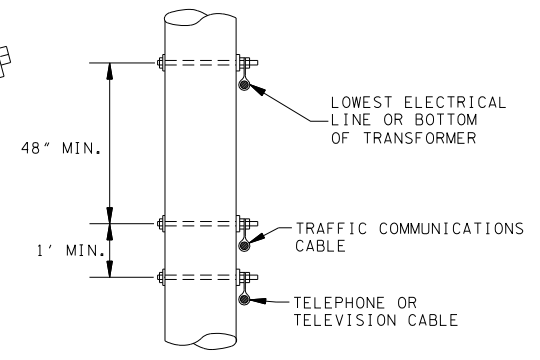
AERIAL SPLICE DETAIL

NOTE:
1. AERIAL SLACK BRACKETS SHALL BE USED AT ALL AERIAL SPLICE LOCATIONS.
2. ALL CABLES SHALL ENTER SPLICE ENCLOSURE AT SAME END.

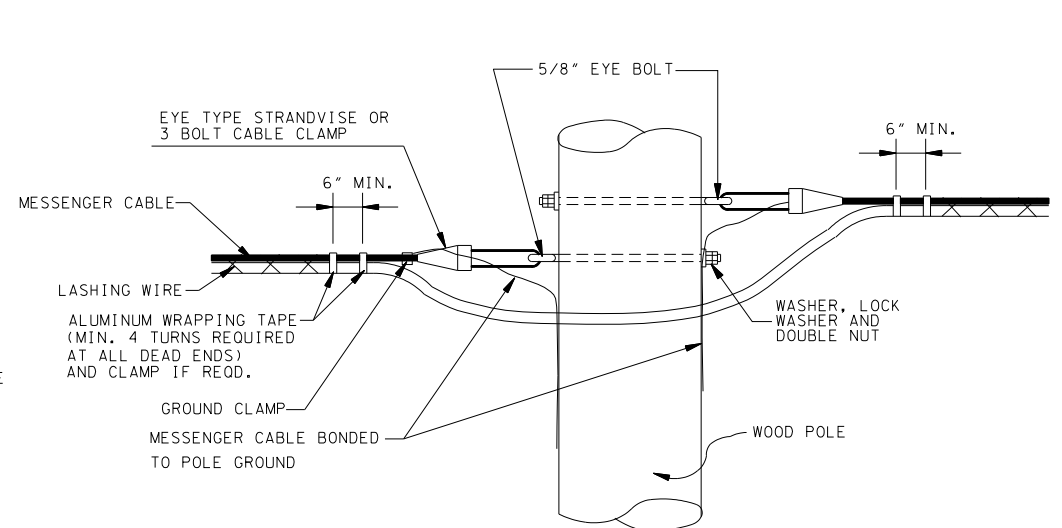
LENGTH SHALL BE EQUAL TO OR GREATER THAN VERTICAL DISTANCE FROM BASE OF POLE TO CABLE ATTACHMENT POINT PLUS 22'



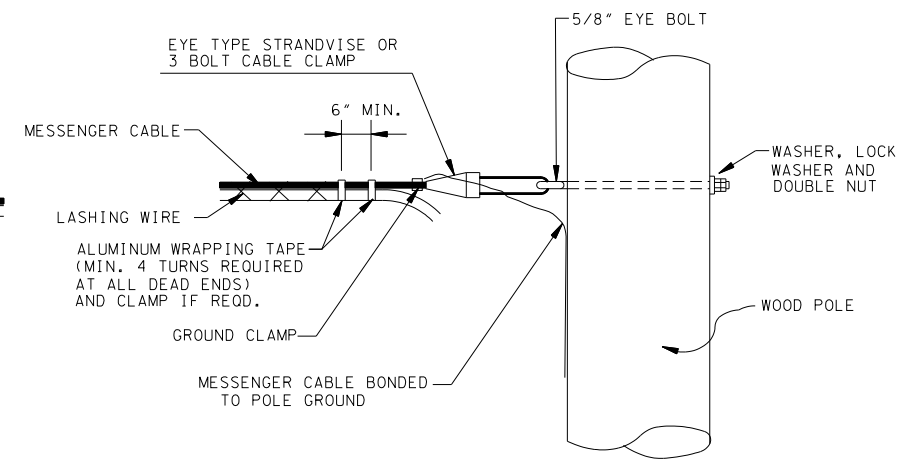
CABLE EXTENSION BRACKET MEDIUM DUTY



MINIMUM CLEARANCE TO TELEPHONE TELEVISION OR ELECTRICAL CABLE

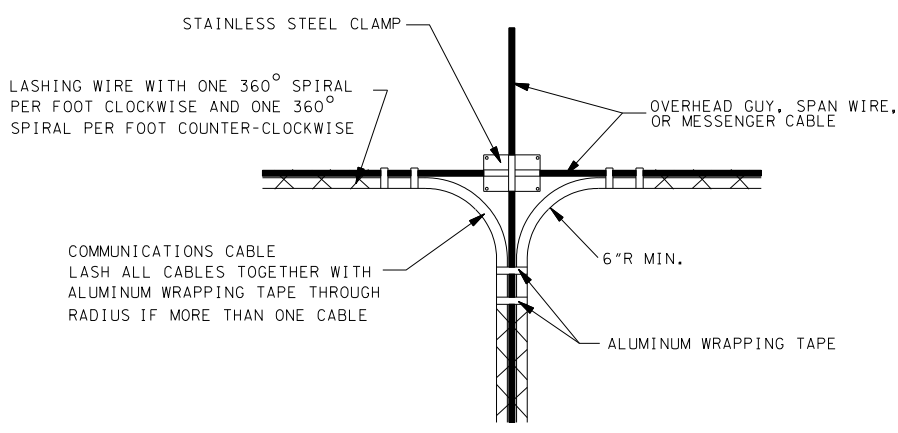


ALTERNATE CABLE CONTINUATION-SEPARATE MESSENGER CABLE

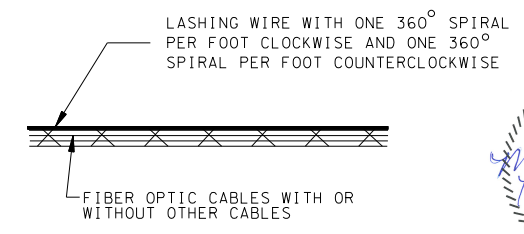


TYPICAL POLE ATTACHMENT DETAIL FOR MESSENGER DEAD END OR TURNS

NOTE: DEAD END ATTACHMENTS TO BE UTILIZED ON ALL TRANSFERS FROM UTILITY POLES TO SIGNAL POLES.



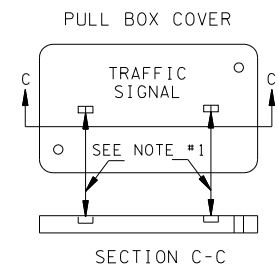
CABLE LASHED TO OVERHEAD MESSENGER CABLE



TYPICAL CABLE LASHING DETAIL DOUBLE LASHING

NOTE: ALL FIBER TRUNK CABLE SHALL BE DOUBLE LASHED. DROP CABLE MAY BE SINGLE LASHED.

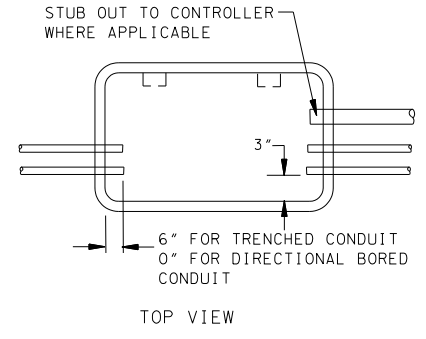
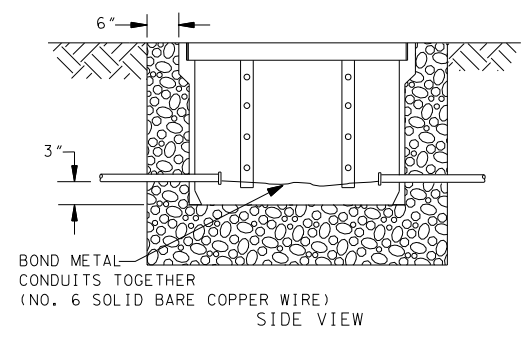




FIBER OPTIC PULLBOX MINIMUM DIMENSIONS

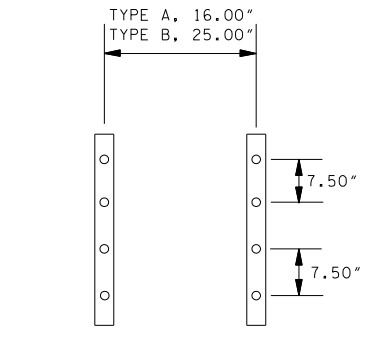
TYPE	LENGTH	WIDTH	DEPTH
A	36"	26"	32"
B	49"	32"	36"

TYPE "A" FIBER OPTIC PULLBOXES ARE TO BE USED WHEN NO SPLICING IS REQUIRED IN THE PULLBOX. TYPE "B" FIBER OPTIC PULLBOXES ARE TO BE USED WHEN SPLICING IS REQUIRED IN THE PULLBOX.



FIBER OPTIC PULLBOX DETAILS (TYPICAL)

- NOTES:
1. NOTCHES SHALL BE PROVIDED FOR REMOVING THE COVER.
 2. COVER SHALL BOLT DOWN.
 3. THE MESSAGE "TRAFFIC SIGNAL" IS TO BE INSCRIBED ON TOP OF THE COVER.
 4. ASSEMBLY SHALL BE RATED FOR A MINIMUM STATIC LOAD OF 15,000 lbs OVER A 10"x10" AREA AND PASS MINIMUM STATIC TEST LOAD OF 22,000 lbs.
 5. CONDUIT TO USE LARGE RADIUS BENDS.
 6. TYPE B COVER TO BE 2 PIECES.
 7. INSTALL CONDUIT OPPOSITE OF CHANNEL RACKING.
 8. INSTALL INCOMING CONDUIT BOTH VERTICALLY AND HORIZONTALLY PARALLEL TO CORRESPONDING EXITING CONDUIT.
 9. GROUT COMPLETELY AROUND ALL CONDUIT ENTRIES TO THE FULL THICKNESS OF THE BOX WALL.
 10. ALL CONDUIT SHALL ENTER THE PULL BOX LEVEL, STRAIGHT AND PERPENDICULAR TO THE WALL OF THE PULL BOX.
 11. CONDUIT SHALL SLOPE AWAY FROM SIDES OF PULL BOX TO BORE OR TRENCH GRADE.



CHANNEL RACKING DETAILS

- NOTES:
1. INSERTS TO BE CENTERED ON ONE WALL OF TYPE A & B BOXES, 5.625" FROM THE TOP OF EACH BOX.
 2. TWO PIECE STEEL PIERCED CHANNEL 22" LONG. (UNISTRUT NO. P1000-H3 OR EQUAL) TO BE SUPPLIED WITH EACH BOX. CHANNEL TO BE PIERCED ON THREE SIDES.
 3. BOLTS TO BE 1/2" x 3/4" LONG STAINLESS STEEL 1/8" SPACERS TO BE PLACED BETWEEN CHANNELS AND WALL OF PULL BOX.
 4. CHANNEL RACKING TO BE FACTORY INSTALLED.

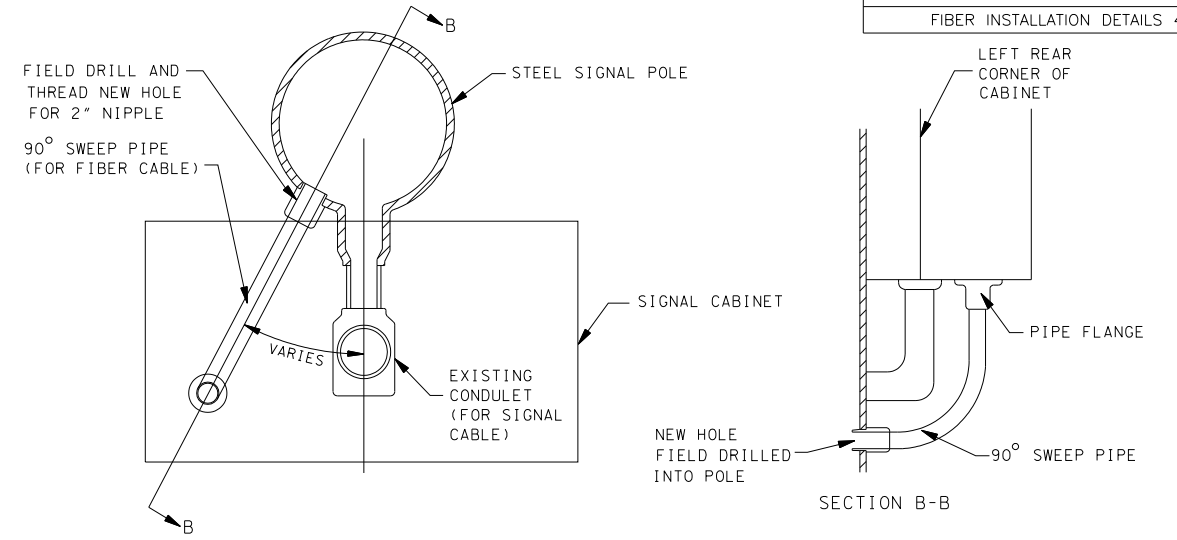
GENERAL NOTES

(A) CONDUIT FOR FIBER OPTIC CABLE REQUIRED TO UTILIZE LARGE RADIUS BENDS (MINIMUM RADIUS 6"). NO ELBOW JOINTS ALLOWED.

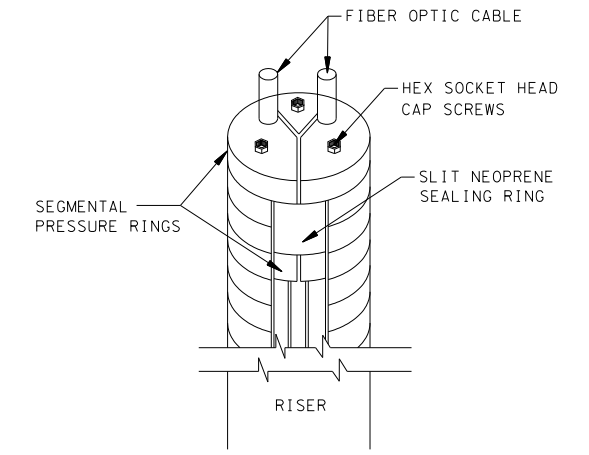
(B) FIBER OPTIC CABLE RUNS TO UTILIZE MIN. 1.5" CONDUIT.

(C) WHEN EXISTING PULLBOXES ARE TO BE REPLACED BY LARGER FIBER OPTIC PULLBOXES, THE COST OF REMOVAL IS TO BE INCLUDED IN ITEM FOR PULLBOX.

(D) THE COST OF ALL MODIFICATIONS, ADJUSTMENTS, MATERIALS, MOUNTING HARDWARE, ETC. TO BE INCLUDED IN OTHER ITEMS, UNLESS A DIRECT PAY ITEM IS PROVIDED.

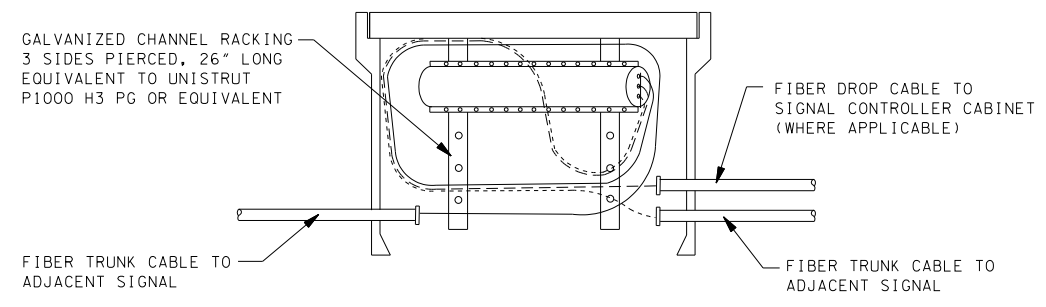


DETAIL OF NEW CONDUIT SWEEP INTO BOTTOM OF POLE MOUNTED CABINET ON STEEL OR CONCRETE POLE



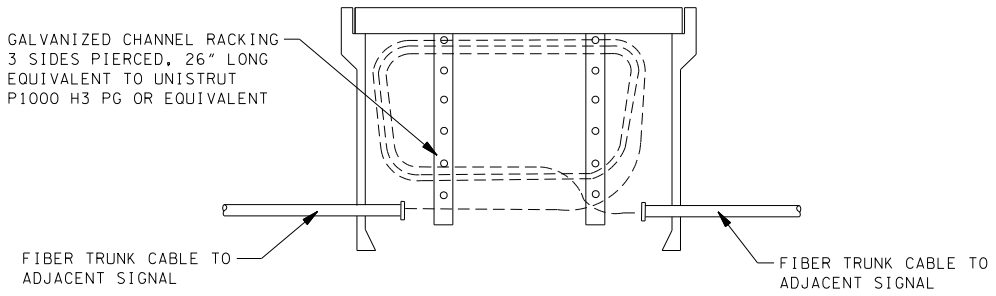
RISER SEALING BUSHING FOR FIBER OPTIC CABLE

NOTE: TOP OF BUSHING SHALL BE APPROXIMATELY 1 INCH BELOW MESSENGER ATTACHMENT HEIGHT.



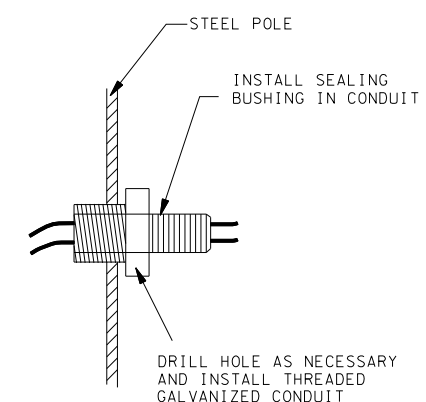
FIBER OPTIC SPLICE CLOSURE TYPE B PULL BOX

- NOTES:
1. CABLES SHALL BE DRESSED IN A COMMON BUNDLE EVERY 3 FEET WITH UV RESISTANT NYLON CABLE TIES OR ELECTRICAL TAPE.
 2. SECURE CABLE SLACK AND CLOSURE TO CHANNEL RACKING VIA UV RESISTANT BLACK NYLON 120-LB (MIN.) TENSILE STRENGTH CABLE TIES.
 3. MAINTAIN MINIMUM BEND RADIUS (ACCORDING TO MANUFACTURERS SPECIFICATIONS FOR CABLE AT REST) FOR LARGEST CABLE IN BUNDLE.
 4. MAINTAIN 6 INCHES OF CLEARANCE BETWEEN TOP OF PULL BOX AND CABLE/ CLOSURE.
 5. ROUTE CABLE EXITING CONDUIT AS TO NOT INTERFERE WITH FUTURE USE OF EMPTY CONDUIT.



FIBER OPTIC CLOSURE TYPE A PULL BOX

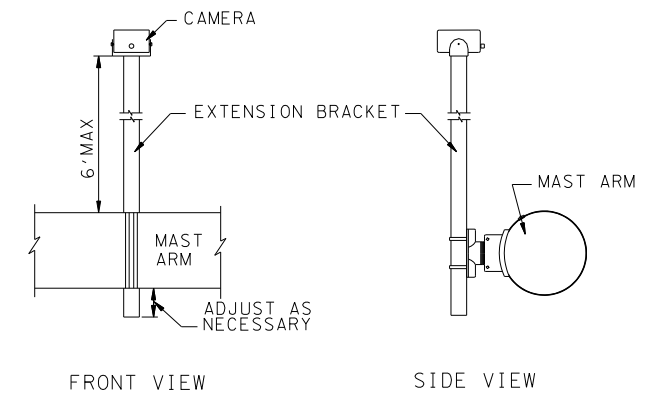
- NOTES:
1. SECURE CABLE SLACK AND CLOSURE TO CHANNEL RACKING VIA UV RESISTANT BLACK NYLON 120-LB (MIN.) TENSILE STRENGTH CABLE TIES.
 2. MAINTAIN MINIMUM BEND RADIUS (ACCORDING TO MANUFACTURERS SPECIFICATIONS FOR CABLE AT REST) FOR LARGEST CABLE IN BUNDLE.
 3. MAINTAIN 6 INCHES OF CLEARANCE BETWEEN TOP OF PULL BOX AND CABLE/ CLOSURE.
 4. ROUTE CABLE EXITING CONDUIT AS TO NOT INTERFERE WITH FUTURE USE OF EMPTY CONDUIT.
 5. CABLE SLACK SHALL NOT BE STORED ON THE FLOOR OF THE PULL BOX.



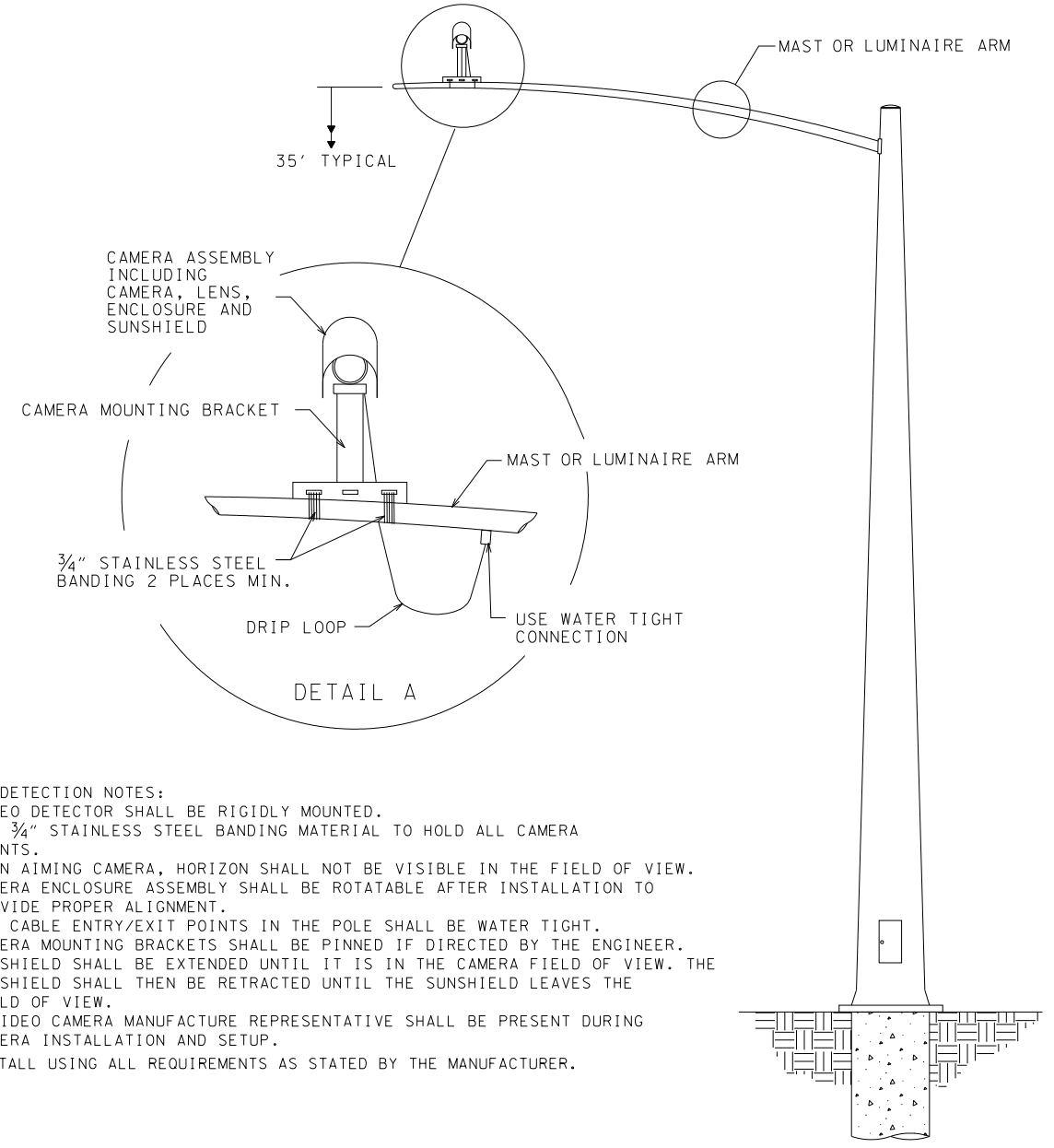
FIBER ENTRANCE TO EXISTING STEEL POLES



DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. RD. DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				67	ARK.		76	80
JOB NO. 061468								
UNIVERSITY AVE.								
VIDEO DETECTION DETAILS								

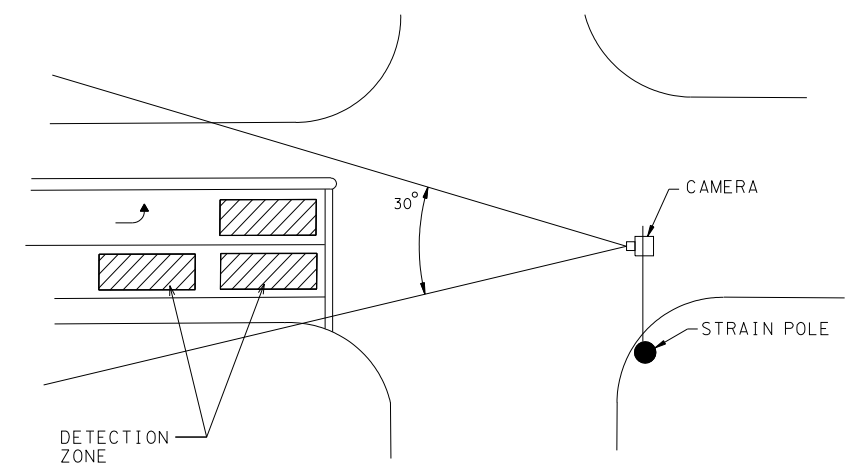


FRONT VIEW SIDE VIEW
 ALTERNATE CAMERA MOUNTING DETAIL
 (MAST ARM)
 (TO EXTEND CAMERA
 HEIGHT ABOVE MAST ARM)



- VIDEO DETECTION NOTES:
1. VIDEO DETECTOR SHALL BE RIGIDLY MOUNTED.
 2. USE 3/4" STAINLESS STEEL BANDING MATERIAL TO HOLD ALL CAMERA MOUNTS.
 3. WHEN AIMING CAMERA, HORIZON SHALL NOT BE VISIBLE IN THE FIELD OF VIEW.
 4. CAMERA ENCLOSURE ASSEMBLY SHALL BE ROTATABLE AFTER INSTALLATION TO PROVIDE PROPER ALIGNMENT.
 5. ALL CABLE ENTRY/EXIT POINTS IN THE POLE SHALL BE WATER TIGHT.
 6. CAMERA MOUNTING BRACKETS SHALL BE PINNED IF DIRECTED BY THE ENGINEER.
 7. SUNSHIELD SHALL BE EXTENDED UNTIL IT IS IN THE CAMERA FIELD OF VIEW. THE SUNSHIELD SHALL THEN BE RETRACTED UNTIL THE SUNSHIELD LEAVES THE FIELD OF VIEW.
 8. A VIDEO CAMERA MANUFACTURE REPRESENTATIVE SHALL BE PRESENT DURING CAMERA INSTALLATION AND SETUP.
 9. INSTALL USING ALL REQUIREMENTS AS STATED BY THE MANUFACTURER.

TYPICAL VIDEO DETECTION DETAIL



TYPICAL VIDEO DETECTOR PLACEMENT



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

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

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

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

BASE WIND SPEED: 90 MPH.

STEEL MEMBERS CONSIDERED MAIN LOAD CARRYING MEMBERS WITH A THICKNESS GREATER THAN 1/2" SHALL MEET THE LONGITUDINAL CHARPY V-NOTCH TEST SPECIFIED IN SUBSECTION 807.05 OF THE STANDARD SPECIFICATIONS.

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

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

SIGNAL HEADS AT THE END OF MAST ARM - ONE 4 SEC., 85 LB., 14.5 SQ. FT., ONE SIGN MOUNTED 3 FEET FROM SIGNAL HEAD (2'-0" X 2'-6" 20 LB.) REMAINING SIGNAL HEADS SPACED AT 8 FT. (13 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.

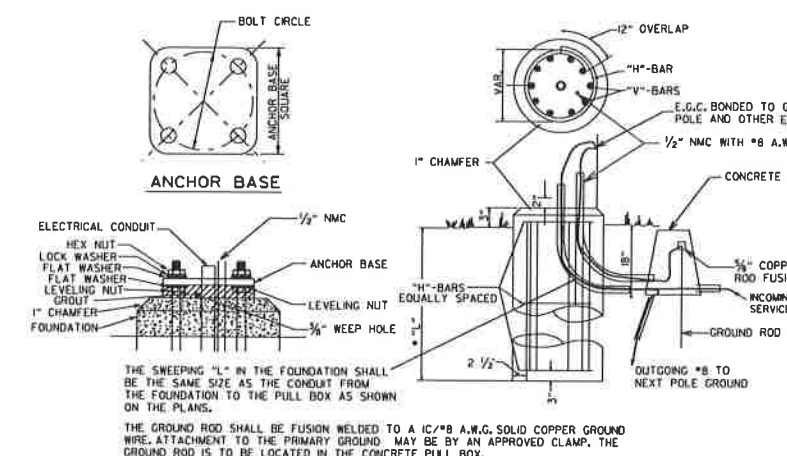
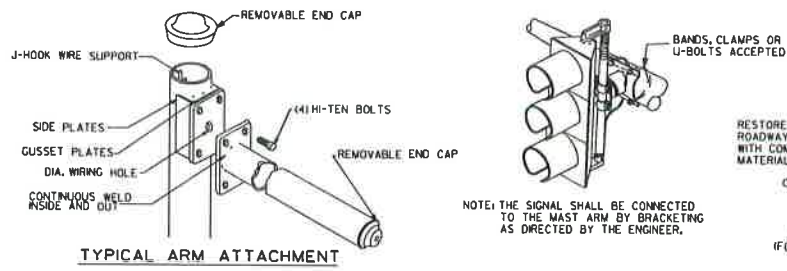
STREET NAME SIGN - 72" X 18", 36 LB., MOUNTED SUCH THAT OUTSIDE EDGE IS NOT GREATER THAN 12 FT. FROM POLE, DEPENDING UPON POSITION OF SIGNAL HEAD ADJACENT TO POLE, SIGN MAY OVERLAP POLE SHAFT.
 ROADWAY LUMINAIRES (WHERE REQUIRED ON PLAN SHEET) - VARIABLE ARM LENGTH (MAX. WT. 75 LB., 3.3 SQ. FT.)
 PEDESTRIAN 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 0.25 TO 0.15 INCHES PER FOOT.

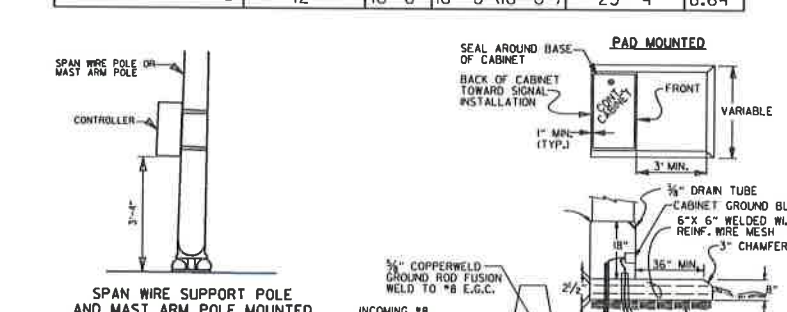
MAST ARM CENTERLINE ANGLE AT ATTACHMENT POINT WITH POLE SHALL MAINTAIN NOT LESS THAN 0.5 DEGREES OR MORE THAN 4 DEGREES POSITIVE SLOPE WITH A LINE PERPENDICULAR TO THE POLE CENTERLINE. THE MAST ARM SHALL MAINTAIN A POSITIVE SLOPE AFTER IT IS PLACED UNDER LOAD.

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



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

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



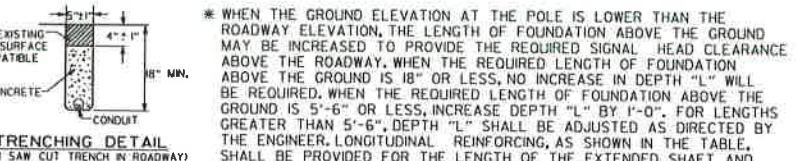
CONTROLLER CABINET MOUNTING DETAILS

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

8. GROUND ROD - A 10' X 3/4" GROUND ROD SHALL BE INSTALLED IN THE CONCRETE PULL BOX FOR EACH POLE AND THE CONTROLLER. PAYMENT FOR THE GROUND ROD AND 1/2" NMC SHALL BE INCLUDED IN ITEM 714 FOR SIGNAL POLES AND ITEM 701 FOR THE CONTROLLER. THE CONCRETE PULL BOX AND CONDUCTOR BOX SHALL BE PAID SEPARATELY.

9. POLE BASE/FOUNDATION - ANCHOR BOLTS SHALL INCLUDE AS A MINIMUM, ONE LEVELING NUT, TWO FLAT WASHERS, ONE LOCK WASHER, AND ONE HEX NUT. PERIMETER OF ANCHOR BASE SHALL BE GROUDED WITH A 1/4" WEEP HOLE. ALL CONCRETE SHALL BE CLASS "S" OR GREATER.

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

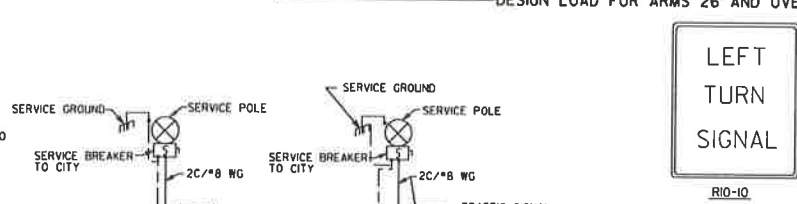
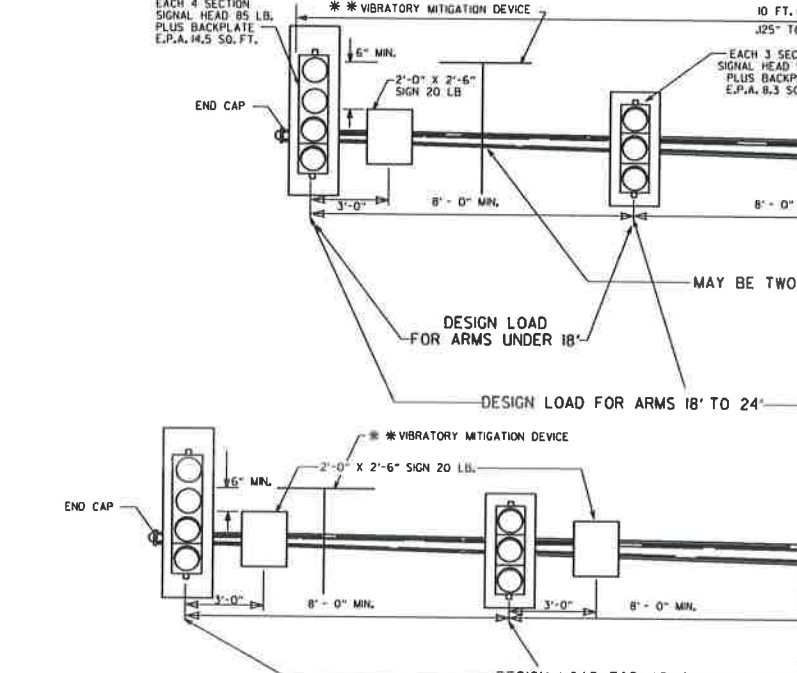


TRENCHING DETAIL
 (FOR SAW CUT TRENCH IN ROADWAY)

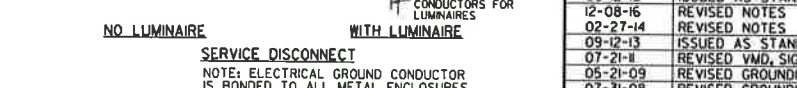
WHEN THE GROUND ELEVATION AT THE POLE IS LOWER THAN THE ROADWAY ELEVATION, THE LENGTH OF FOUNDATION ABOVE THE ROADWAY SHALL BE INCREASED TO PROVIDE THE REQUIRED SIGNAL HEAD CLEARANCE ABOVE THE ROADWAY. WHEN THE REQUIRED LENGTH OF FOUNDATION ABOVE THE GROUND IS 18" OR LESS, NO INCREASE IN DEPTH "L" WILL 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.



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

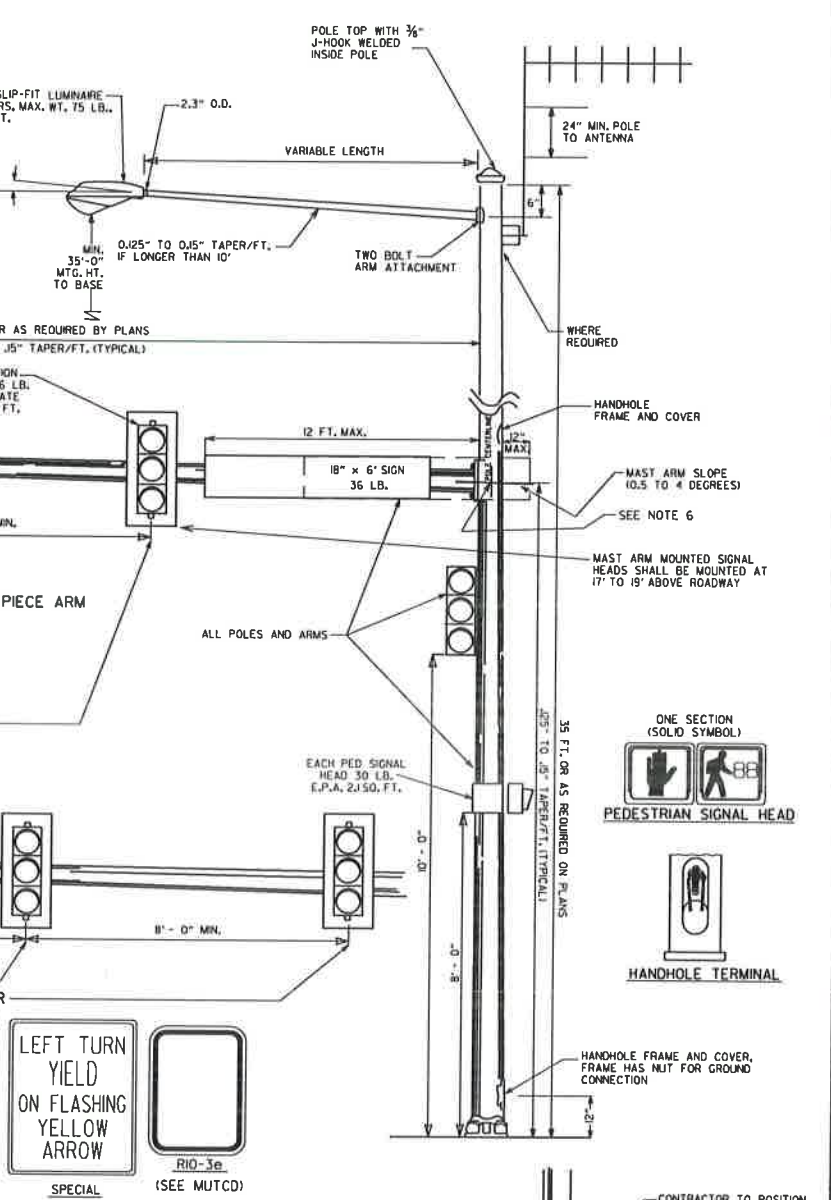


11. PEDESTRIAN PHASES - PEDESTRIAN MOVEMENTS SHALL BE PUSH BUTTON ACTUATED AND CONCURRENTLY TIMED, UNLESS OTHERWISE INDICATED ON THE PLAN SHEET(S). FURNISHING AND INSTALLING PEDESTRIAN PUSH SWITCH SHALL BE CONSIDERED SUBSIDIARY TO THE ITEM 707 PEDESTRIAN SIGNAL HEAD.

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.



STEEL POLE WITH MAST ARM


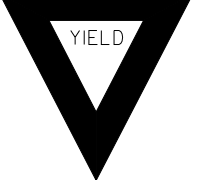

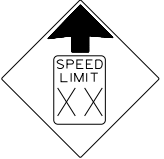





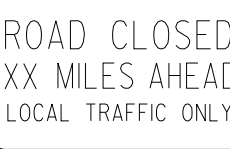

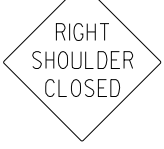
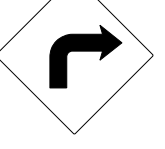
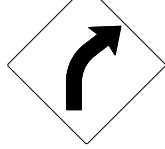



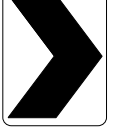
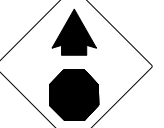
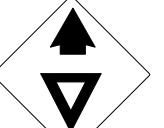
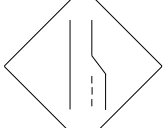



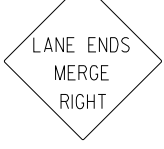






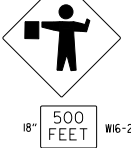

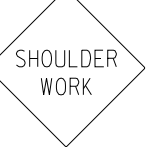
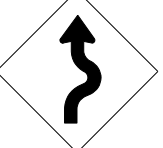



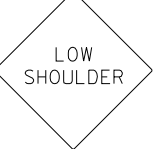


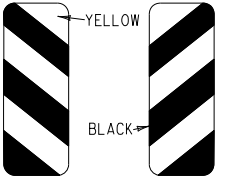
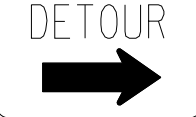

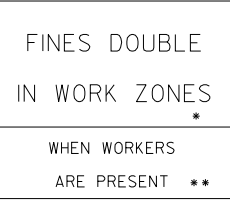


PEDESTRIAN SIGNAL HEADS

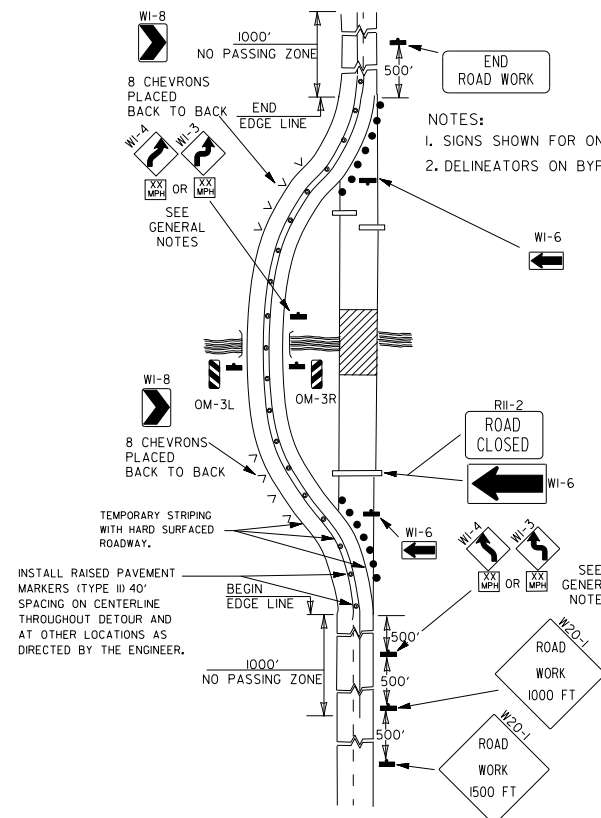
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD DRAWING SD-11

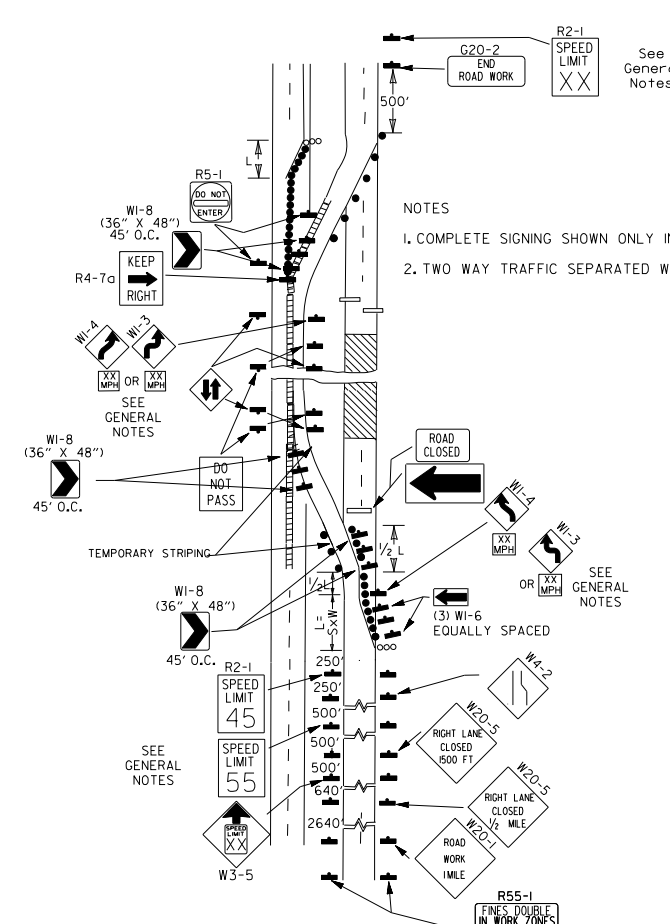
DATE	REVISION	FILMED
11-16-17	REVISED NOTES, ADDED PEDESTRIAN SIGNAL HEAD DETAIL, ADDED HANDHOLE TERMINAL DETAIL, ADDED TRENCHING DETAIL	
02-27-14	REVISED NOTES	
09-12-13	ISSUED AS STANDARD DRAWING	
12-08-16	REVISED NOTES	
02-27-14	REVISED NOTES	
09-12-13	ISSUED AS STANDARD DRAWING	
07-21-11	REVISED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

<p>RI-1</p>  <p>STANDARD 30"X30" EXPRESSWAY 36"X36" SPECIAL 48"X48"</p>	<p>RI-2</p>  <p>STD. 36"X36"X36" EXPWY. 48"X48"X48" FWY. 60"X60"X60"</p>	<p>R2-1</p>  <p>STD. 24"X30" EXPWY. 36"X48" FWY. 48"X60"</p>	<p>W3-5</p>  <p>STD. 36"X36" EXPWY. 48"X48" FWY. 48"X48"</p>	<p>W3-5a</p>  <p>STD. 36"X36" EXPWY. 48"X48" FWY. 48"X48"</p>	<p>R4-1</p>  <p>STD. 24"X30" EXPWY. 36"X48" FWY. 48"X60"</p>	<p>R4-2</p>  <p>STD. 24"X30" EXPWY. 36"X48" FWY. 48"X60"</p>	<p>ADVANCE DISTANCES (XXXX)</p> <p>500 FT 1/2 MILE 1000 FT 3/4 MILE 1500 FT 1 MILE AHEAD</p> <p>GENERAL NOTES:</p> <ol style="list-style-type: none"> ALL TRAFFIC CONTROL DEVICES USED ON ROAD CONSTRUCTION SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION, AND TO THE STANDARD HIGHWAY SIGNS, LATEST EDITION, OR AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION. TRAFFIC CONTROL DEVICES SHALL BE SET UP JUST BEFORE THE START OF CONSTRUCTION OPERATIONS AND SHALL BE PROPERLY MAINTAINED DURING THE TIME SUCH CONDITIONS EXIST. THEY SHALL REMAIN IN PLACE ONLY AS LONG AS NEEDED AND REMOVED THEREAFTER. EXISTING SIGNS AND CONSTRUCTION SIGNS SHALL BE KEPT IN PROPER POSITION, AND BE CLEAN AND LEGIBLE AT ALL TIMES. SIGNS THAT DO NOT APPLY TO EXISTING CONDITIONS SHALL BE REMOVED. SIGNS THAT ARE DAMAGED, DEFACED, OR THAT ACCUMULATE DIRT DURING CONSTRUCTION SHALL BE CLEANED, REPAIRED, OR REPLACED. SIGNS ARE USUALLY MOUNTED ON A SINGLE POST, ALTHOUGH THOSE WIDER THAN 36" OR LARGER THAN 10 SQ. FT. SHALL BE MOUNTED ON TWO POSTS OR ABOVE A TYPE III BARRICADE. SIGN POSTS DIRECT BURIED IN SOIL SHALL BE 2 LB. MINIMUM CHANNEL POST OR 4"x4" WOOD POSTS. CHANNEL POSTS SHALL BE PAINTED GREEN. WOOD POSTS SHALL BE PAINTED WHITE. ALL POSTS SHALL BE NEATLY CONSTRUCTED, AND SHALL BE REPLUMBED, CLEANED, OR REPAIRED AS NEEDED FOR THE DURATION OF THE JOB. THERE SHALL NOT BE MORE THAN 2 POSTS IN A 7' PATH FOR WOOD OR CHANNEL POSTS. ANY CHANNEL POST SPLICE SHALL BE IN ACCORDANCE WITH STANDARD DRAWING TC-3. POST MOUNTED SIGNS IN RURAL AREAS SHALL BE CONSTRUCTED WITH THE NEAR EDGE OF THE SIGN FROM 6 TO 12 FEET FROM THE PAVEMENT EDGE. SIGNS IN URBAN AREAS AND BARRICADE MOUNTED SIGNS SHALL BE MOUNTED A MINIMUM OF 2 FEET FROM THE PAVEMENT EDGE. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN URBAN AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN RURAL AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE, EXCEPT A MINIMUM OF 6' SHALL BE USED WHEN MOUNTING AN ADVISORY SIGN BELOW A WARNING SIGN. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR INTERMEDIATE TERM STATIONARY WORK CONDITIONS. THE SIGNS MINIMUM MOUNTING HEIGHT SHALL BE 5'. RETROREFLECTIVE DEVICES SHALL BE USED. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR SHORT-TERM, SHORT DURATION, AND MOBILE CONDITIONS. THEY SHALL BE NO LESS THAN ONE (1) FOOT ABOVE THE TRAVELED WAY. LONG-TERM STATIONARY SIGNS SHALL BE DIRECT BURIED IN SOIL, UNLESS CONDITIONS NECESSITATE THE USE OF PORTABLE SIGNS, OR AS APPROVED BY THE ENGINEER. CONCRETE PADS, CONCRETE OR ROCK BALLAST, OR OTHER SOLID MATERIALS SHALL NOT BE UTILIZED WITH PORTABLE SIGN SUPPORTS. FLAGGERS SHALL USE REFLECTORIZED STOP-SLOW PADDLES. FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS. MOST OF THE SIGNS SHOWN ARE ORIENTED TO THE RIGHT. HOWEVER, THIS DOES NOT PRECLUDE THE USE OF MIRROR IMAGES OF THESE SIGNS WHERE THE REVERSE ORIENTATION MIGHT BETTER CONVEY TO MOTORISTS THE PROPER DIRECTION OF MOVEMENT. R55-1 SIGNS SHALL BE PLACED AT LEAST 1500' BUT NOT MORE THAN 1 MILE IN ADVANCE OF THE WORK ZONE. IF A SPEED LIMIT REDUCTION IS IN EFFECT, THE SIGN SHALL BE PLACED A MINIMUM OF 500' IN ADVANCE OF THE "REDUCED SPEED AHEAD" SIGN. <p>* NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) IS REQUIRED FOR ALL PROJECTS.</p>
<p>R5-1</p>  <p>STD. 30"X30" EXPWY. 36"X36" SPECIAL 48"X48"</p>	<p>R11-2</p>  <p>48"X30"</p>	<p>R11-3A</p>  <p>60"X30"</p>	<p>R11-4</p>  <p>60"X30"</p>	<p>W21-5a</p>  <p>STD. 36"X36" FWY. 48"X48"</p>	<p>W1-1</p>  <p>STD. 36"X36" FWY. 48"X48"</p>	<p>W1-2</p>  <p>STD. 36"X36" FWY. 48"X48"</p>	
<p>W1-3</p>  <p>STD. 48"X48"</p>	<p>W1-4</p>  <p>STD. 48"X48"</p>	<p>W1-6</p>  <p>STD. 48"X24" SPECIAL 60"X30"</p>	<p>W1-8</p>  <p>STD. 18"X24" SPECIAL 24"X30" EXPWY. 30"X36" FWY. 36"X48"</p>	<p>W3-1</p>  <p>STD. 36"X36" SPECIAL 48"X48"</p>	<p>W3-2</p>  <p>STD. 36"X36" SPECIAL 48"X48"</p>	<p>W4-2</p>  <p>STD. 36"X36" FWY. 48"X48"</p>	
<p>W5-1</p>  <p>STD. 36"X36" SPECIAL 48"X48"</p>	<p>W6-3</p>  <p>EXPWY. 36"X36" SPECIAL 48"X48"</p>	<p>W8-7</p>  <p>EXPWY. 36"X36" FWY. 48"X48"</p>	<p>W9-2</p>  <p>STD. 36"X36" FWY. 48"X48"</p>	<p>W13-1</p>  <p>STD. 24"X24"</p>	<p>W20-1</p>  <p>STD. 48"X48"</p>	<p>W20-2</p>  <p>STD. 48"X48"</p>	<p>W20-3</p>  <p>STD. 48"X48"</p>
<p>W20-4</p>  <p>STD. 48"X48"</p>	<p>W20-5</p>  <p>STD. 48"X48"</p>	<p>W20-7a</p>  <p>18" 500 FEET W16-2 24"</p> <p>STD. 36"X36" FWY. 48"X48"</p>	<p>W21-2</p>  <p>STD. 30"X30" SPECIAL 36"X36"</p>	<p>W21-5</p>  <p>STD. 30"X30" SPECIAL 36"X36"</p>	<p>W24-1</p>  <p>STD. 36"X36"</p>	<p>W1-4b</p>  <p>STD. 48"X48"</p>	<p>R56-1</p>  <p>STD. 18"X18"</p>
<p>W8-11</p>  <p>STD. 36"X36" FWY. 48"X48"</p>	<p>W8-9</p>  <p>STD. 36"X36" FWY. 48"X48"</p>	<p>G20-1</p>  <p>60"X24"</p>	<p>G20-2</p>  <p>48"X24"</p>	<p>OM-3L OM-3R</p>  <p>12"X36"</p>	<p>M4-9</p>  <p>STD. 30"X24" SPECIAL 48"X36" SPECIAL 60"X48"</p>	<p>M4-10</p>  <p>48"X18"</p>	<p>R55-1</p>  <p>36"X60"</p> <p>* USE 6" C LETTERS ** USE 4" D LETTERS</p>

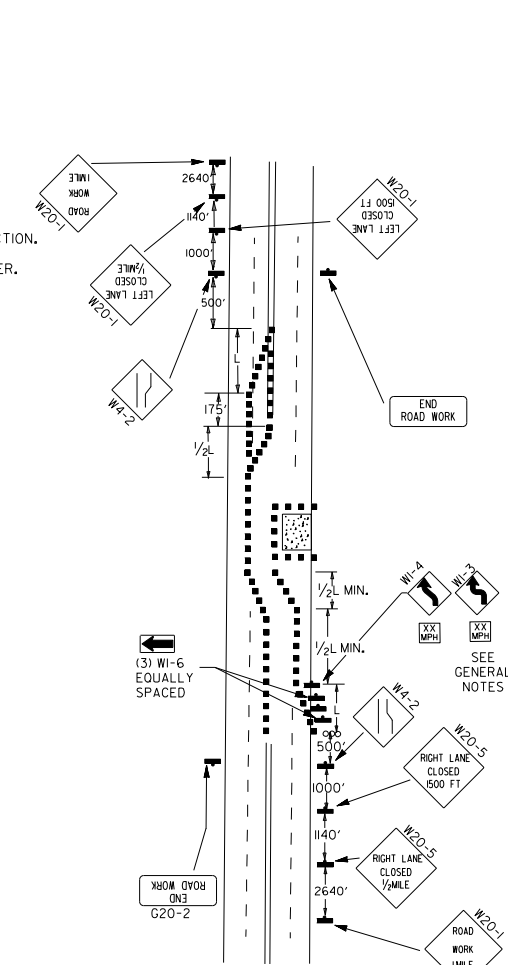
4-13-17	DELETED RSP-1 & ADDED W21-5a	
9-2-15	REVISED REDUCED SPEED LIMIT AHEAD SIGNS REVISED ROAD WORK NEXT XX MILES	
12-15-11	REVISED W24-1	
11-17-10	DELETED W8-9a & ADDED W8-9	
10-15-09	ADDED REFERENCE TO MASH & ADDED SIGN W24-1	
4-17-08	REVISED SIGN DESIGNATIONS	
11-18-04	REVISED NOTES	
10-9-03	REVISED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



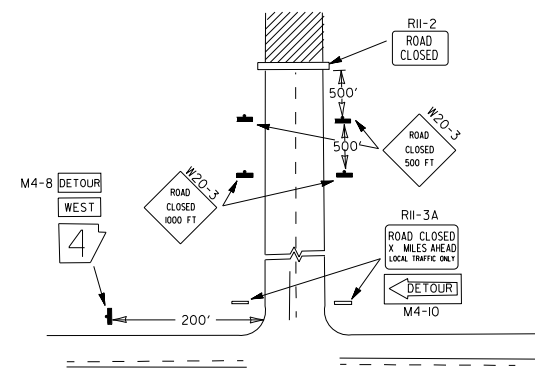
(A) TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES ON A 2-LANE HIGHWAY WHERE THE ENTIRE ROADWAY IS CLOSED AND A BYPASS DETOUR IS PROVIDED.



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

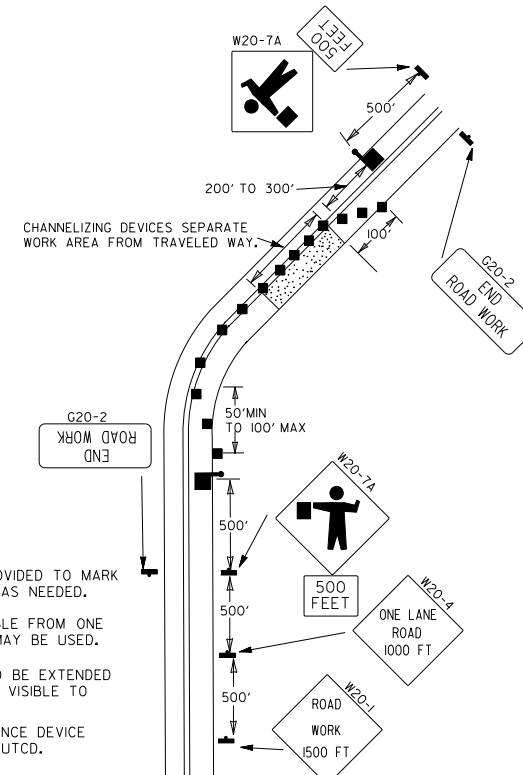


(C) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.



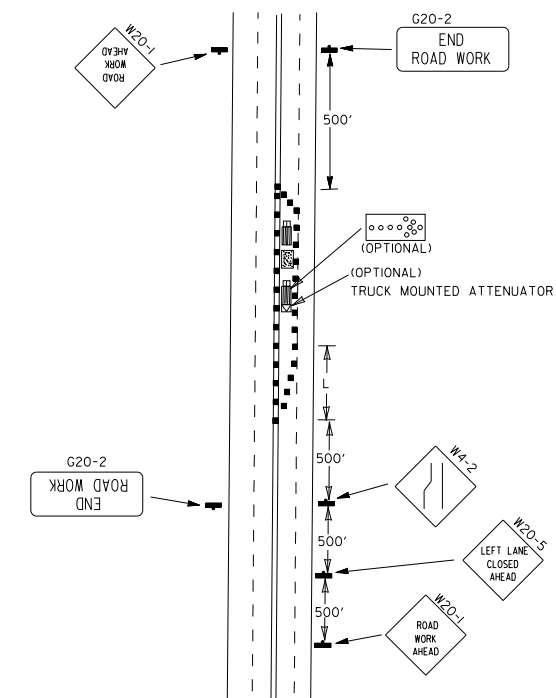
- NOTES:
- REGULATORY TRAFFIC CONTROL DEVICES TO BE MODIFIED AS NEEDED FOR THE DURATION OF THE DETOUR.
 - STREET NAMES MAY BE USED WHEN DESIRABLE FOR DIRECTING DETOURED TRAFFIC.

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



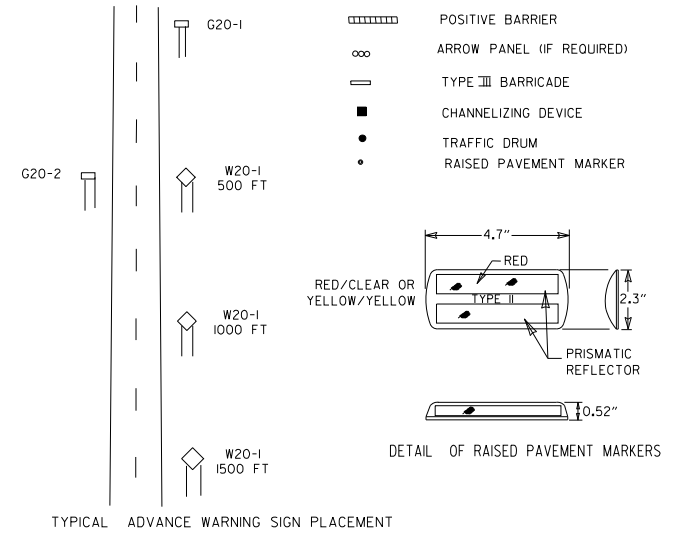
- NOTES:
- FLOOD LIGHTS SHOULD BE PROVIDED TO MARK FLAGGER STATIONS AT NIGHT AS NEEDED.
 - IF ENTIRE WORK AREA IS VISIBLE FROM ONE STATION, A SINGLE FLAGGER MAY BE USED.
 - CHANNELIZING DEVICES ARE TO BE EXTENDED TO A POINT WHERE THEY ARE VISIBLE TO APPROACHING TRAFFIC.
 - AUTOMATED FLAGGER ASSISTANCE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

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



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

- KEY:
- FLAGGER
 - POSITIVE BARRIER
 - ARROW PANEL (IF REQUIRED)
 - TYPE III BARRICADE
 - CHANNELIZING DEVICE
 - TRAFFIC DRUM
 - RAISED PAVEMENT MARKER

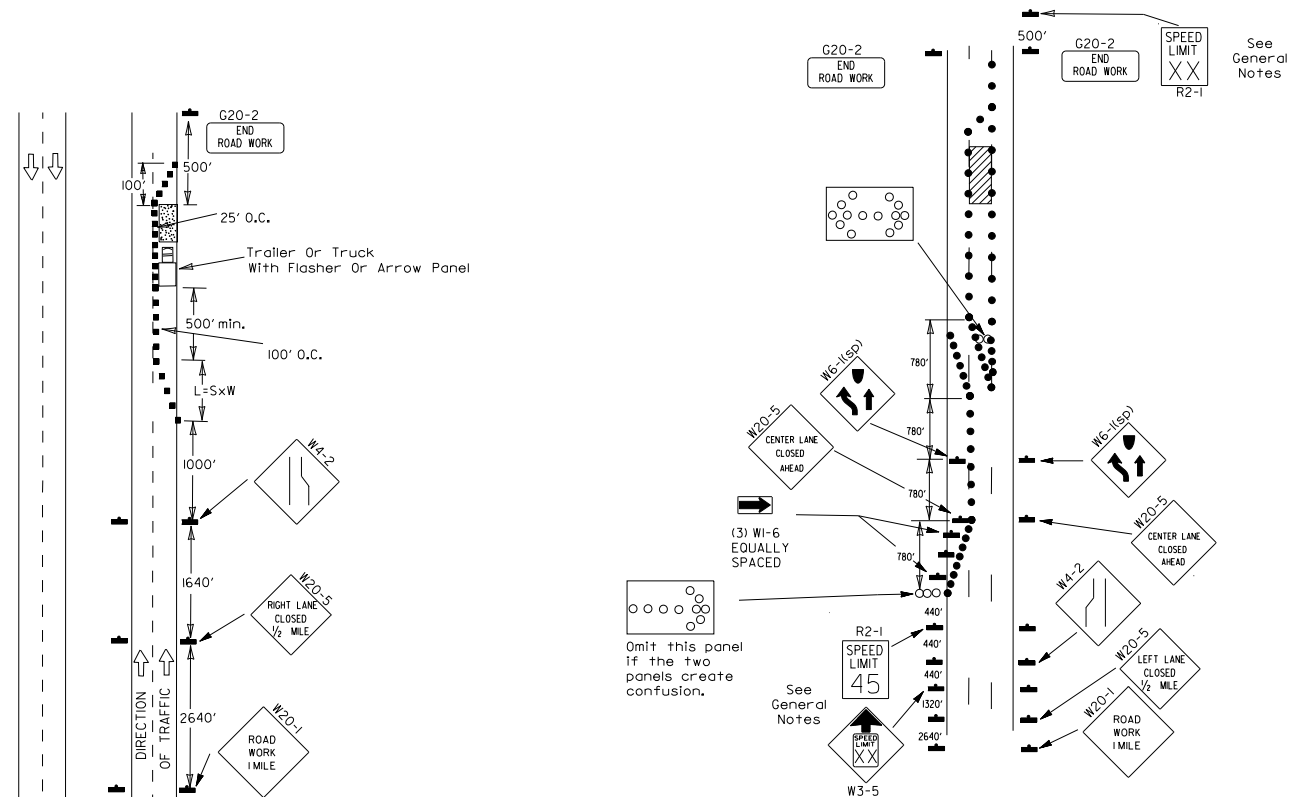


- TAPER FORMULAE:
- $L = SXW$ FOR SPEEDS OF 45MPH OR MORE.
- $L = \frac{WS^2}{60}$ FOR SPEEDS OF 40MPH OR LESS.
- WHERE:
- L = MINIMUM LENGTH OF TAPER.
 - S = NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK OR 85TH PERCENTILE SPEED.
 - W = WIDTH OF OFFSET.

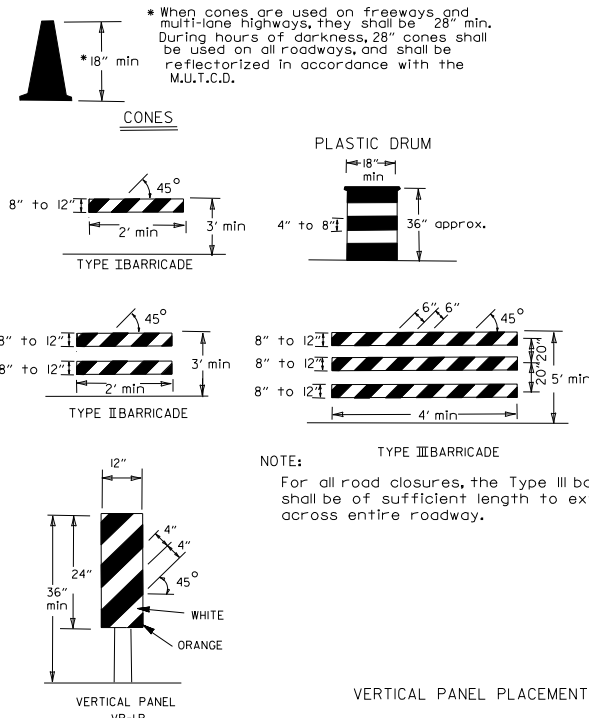
- GENERAL NOTES:
- ADVISORY SPEED POSTED ON W1-3 OR W1-4 CURVE WARNING SIGNS TO BE DETERMINED AT SITE. USE W1-4 WHEN SPEED IS GREATER THAN 30MPH AND W1-3 WHEN 30MPH OR LESS.
 - WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-(K55) SHALL BE OMITTED AND THE W3-5 SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL R2-145MPH SPEED LIMIT SIGNS SHALL BE INSTALLED AT A MAXIMUM OF 1MILE INTERVALS. AT THE END OF THE WORK AREA A R2-(IXX) 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-(K45) 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-(IXX) SHALL BE INSTALLED TO MATCH ORIGINAL SPEED LIMIT.
 - THE MAXIMUM SPACING BETWEEN CHANNELIZING DEVICES IN A TAPER SHOULD BE APPROXIMATELY EQUAL IN FEET TO THE SPEED LIMIT. BEYOND THE TAPER, MAXIMUM SPACING SHALL BE TWO TIMES THE SPEED LIMIT, OR AS DIRECTED BY THE ENGINEER.
 - WARNING LIGHTS AND/OR FLAGS MAY BE MOUNTED TO SIGNS OR CHANNELIZING DEVICES AT NIGHT AS NEEDED.
 - PAVEMENT MARKINGS NO LONGER APPLICABLE WHICH MIGHT CREATE CONFUSION IN THE MINDS OF VEHICLE OPERATORS SHALL BE REMOVED OR OBLITERATED AS SOON AS PRACTICABLE.
 - TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL BE DELINEATED BY AFFIXING CONSPICUITY MATERIAL IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER. WHEN PLACED ON OR ADJACENT TO THE SHOULDER AND NOT BEHIND A POSITIVE BARRIER, THESE DEVICES SHALL BE DELINEATED BY PLACING FIVE (5) TRAFFIC DRUMS, EQUALLY SPACED ALONG THE TRAFFIC SIDE OF THE DEVICE.
 - DIMENSIONS SHOWN FOR RAISED PAVEMENT MARKERS ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR MARKERS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR SIMILAR MARKERS MAY BE MADE BY REFERRING TO THE AHTD QUALIFIED PRODUCTS LIST.

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

Channelizing devices



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



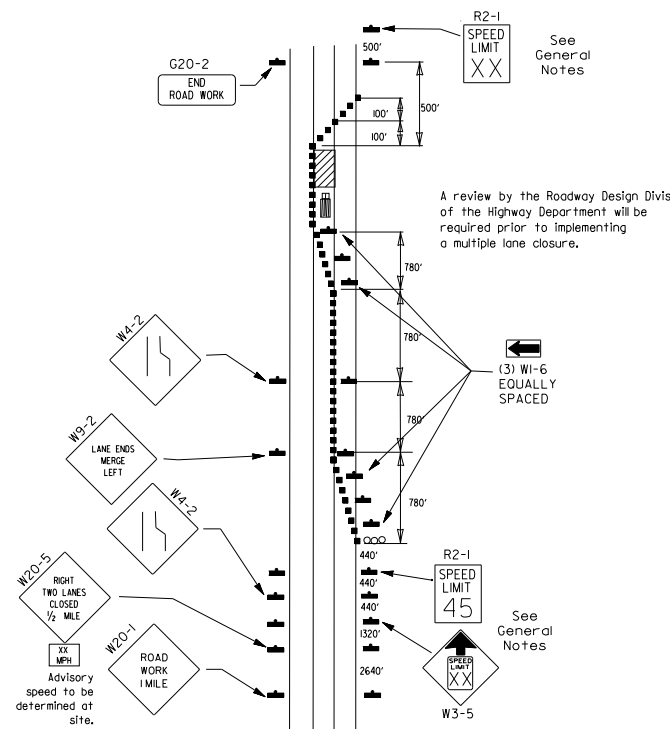
(B) Typical application - 3-lane oneway roadway where center lane is closed.

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

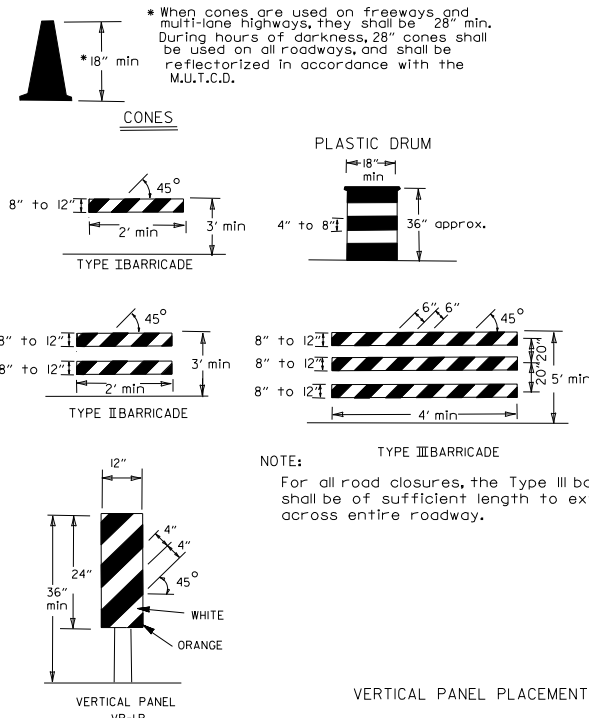
GENERAL NOTES:

1. A speed limit reduction may be implemented ONLY when designated in the plan or when recommended by the Roadway Design Division.
2. When the existing speed limit is 55mph and the plans require a speed limit of 45mph, the R2-1(45) shall be omitted and the W3-5 shall be installed at that location. Additional R2-145mph speed limit signs shall be installed at a maximum of 1 mile intervals. At the end of the work area a R2-1(XX) shall be installed to match original speed limit.
3. When the existing speed limit is 65mph and the plans require a speed limit of 45mph, the R2-1(45) shall be omitted. Additional R2-155mph speed limit signs shall be installed at a maximum of 1 mile intervals. At the end of the work area a R2-1(XX) shall be installed to match original speed limit.
4. The maximum spacing between channelizing devices in a taper should be approximately equal in feet to the speed limit. Beyond the taper, maximum spacing shall be two times the speed limit or as directed by the Engineer.
5. Warning lights and/or flags may be mounted to signs or channelizing devices at night as needed.
6. Pavement markings no longer applicable which might create confusion in the minds of vehicle operators shall be removed or obliterated as soon as practicable.
7. The G20-1 sign will be required on jobs of over two miles in length. When the lane closure is not at the beginning of the project, the G20-1 sign shall be erected 125' in advance of the job limit. Additional W20-1(1 MILE) signs are not required in advance of lane closures that begin inside the project limits.
8. Flaggers shall use STOP/SLOW paddles for controlling traffic through work zones. Flags may be used only for emergency situations.
9. All plastic drums and cones shall meet the requirements of NCHRP-350 or Manual For Assessing Safety Hardware (MASH).
10. Trailer mounted devices such as arrow panels and portable changeable message signs shall be delineated by affixing conspicuity material in a continuous line on the face of the trailer. When placed on or adjacent to the shoulder and not behind a positive barrier, these devices shall be delineated by placing five (5) traffic drums, equally spaced along the traffic side of the device.

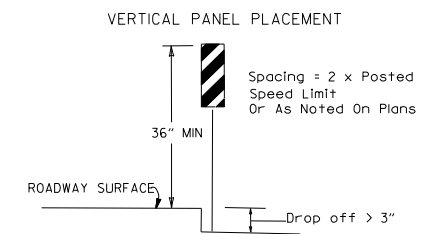
(C) Typical application - construction operations of intermediate to long term duration on a 4-lane divided roadway where half of the roadway is closed.



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



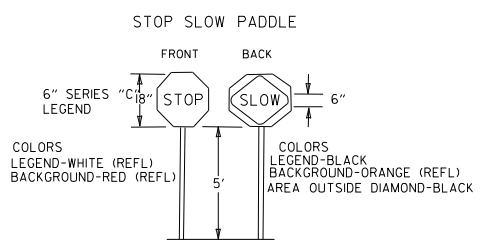
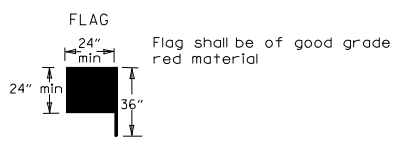
NOTE: For all road closures, the Type III barricades shall be of sufficient length to extend across entire roadway.



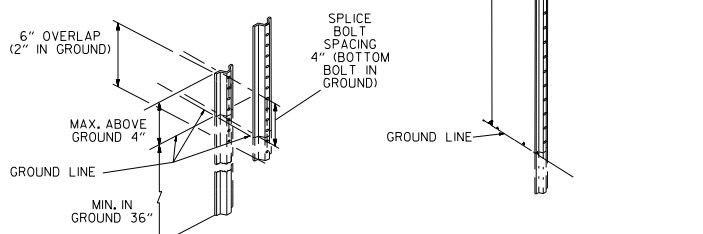
TRAFFIC CONTROL DEVICES FOR VERTICAL PAVEMENT DIFFERENTIALS

VERTICAL DIFFERENTIAL	LOCATIONS	TRAFFIC CONTROL
1" to 3"	Centerline, lane lines	W8-11
1" to 3"	Edge of shoulder	W8-9
Greater than 3"	Lane lines	Standard lane closure required
Greater than 3"	Edge of traveled lane	*RSP-land vertical panels, drums or concrete barrier
Greater than 3"	Edge of shoulder	*Vertical panels, drums or concrete barrier

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



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



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