DESIGN DESIGNATION

ROUTE 180
A.A.D.T. = 21.444
V = 40 M.P.H.

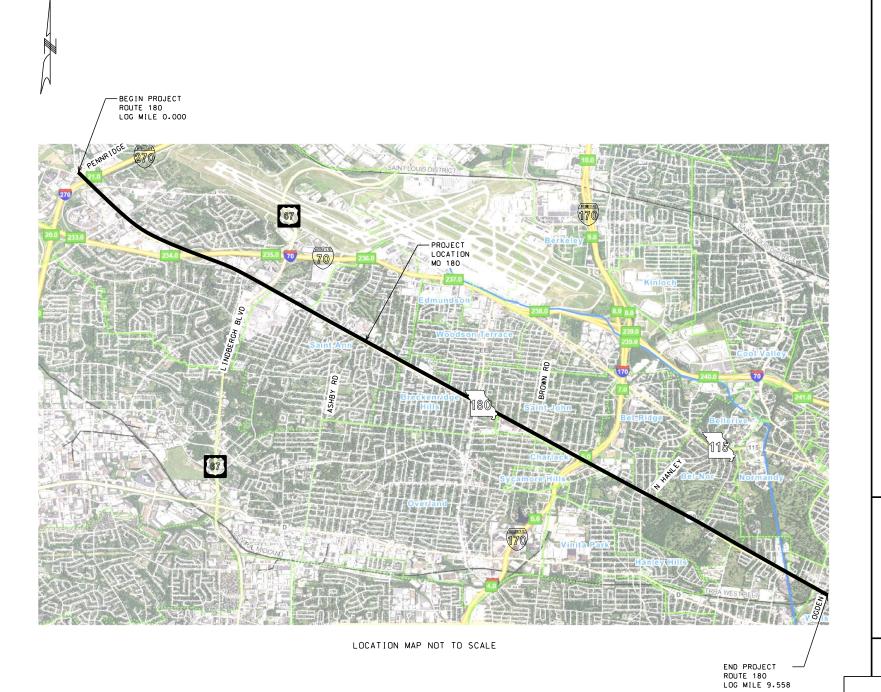
FUNCTIONAL CLASSIFICATION: PRINCIPAL ARTERIAL

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
PLANS FOR PROPOSED
ROUTE 180 SIGNAL IMPROVEMENTS

MoDOT JOB NO. JSL0179 ST. LOUIS COUNTY

NO NEW RIGHT OF WAY REQUIRED FOR THIS PROJECT

CONVENTIONAL	SYMBO	DLS
BUILDINGS AND STRUCTURES GUARD RAIL RIGHT-OF-WAY UTILITIES FIBER OPTICS OVERHEAD TELEPHONE UNDERGROUND TELEPHONE OVERHEAD POWER UNDERGROUND POWER GAS WATER	EXISTING	NE W
MANHOLE FIRE HYDRANT	нуо	нур С
WATER VALVE WATER METER DROP INLET	₩ ↔	
DITCH BLOCK GROUND MOUNTED SIGN	SIGN	SIGN_
LIGHT POLE	PP	PP
POWER POLE		
H-FRAME POWER POLE		
TELEPHONE PEDESTAL	PED	PED \triangle
FENCE CONSTRUCTION LIMITS EXISTING UTILITY EASEMENT TEMPORARY CONSTRUCTION EASEM BENCHMARK	— X — — — MENT — — —	
DENGLIMARK	0	ý



INDEX OF SHEETS

DESCRIPTION	SHEE.
TITLE SHEET	1
SUMMARY OF QUANTITIES	2-3
ROUTE 180 PLAN SHEETS	4-81
TRAFFIC CONTROL	82-88



LENGTH OF PROJECT

BEGINNING OF PROJECT

END OF PROJECT

APPARENT LENGTH

0.000 LOG MILE

9.558 MILES

FOR INFORMATION ONLY
ESTIMATED DISTURBED ACRES 0

TITLE SHEET

											FOR I	INFO	RMATI	ION O	NLY																								
	MO 180 & PENNRIDGE-BOENKER	180 & I-270 SB RAMP	MO 180 & I-270 NB RAMP	MO 180 & RTE B- MARESHELL	MO 180 & DEPAUL CENTER	MO 180 & MCKELVEY	MO 180 & HILLTOP PLAZA	MO 180 & HARMONY	MO 180 & I-70 WB RAMP	MO 180 & I-70 EB RAMP	MO 180 & MARK TWAIN	MO 180 & FEE FEE	MO 180 & HOME DEPOT	MO 180 & 67-LINDBERGH SB RAMP	MO 180 & 67-LINDBERGH NB RAMP	MO 180 & NORTHWEST PLAZA	MO 180 & ADIE	MO 180 & CYPRESS	MO 180 & ST. TIMOTHY	MO 180 & ASHBY	MO 180 & SAN CARLOS	MO 180 & ST. GREGORY	MO 180 & GERALDINE-FIRE STATION	MO 180 & WISMER	MO 180 & LYNNTOWN	MO 180 & EDMUNDSON	MO 180 & WOODSON	MO 180 & ST. JOHN'S CROSSING	MO 180 & BROWN	MO 180 & MCKIBBON	MO 180 & I-170	MO 180 & LACKLAND	MO 180 & HANLEY	MO 180 & NORMANDY	MO 180 & SPUR-PENNSYLVANIA	MO 180 & FERGUSON	MO 180 & KINGSLAND-METRO	MO 180 & LUCAS & HUNT	180 & OGDEN
ATC TRAFFIC SIGNAL CONTROLLER	1	1	1	1	1	1	1	1	1	1	1	1	1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
TRAFFIC SIGNAL VIDEO DETECTION SYSTEM (3 CAMERAS)		1							1	1				1	1	1								1		1		1						1				1	
TRAFFIC SIGNAL VIDEO DETECTION SYSTEM (4 CAMERAS)	1		1	1	1	1	1	1			1	1	1				1	1	1	1	1	1			1		1		1	1	1	1	1		1	1	1		1
TRAFFIC SIGNAL ADVANCED DETECTION SYSTEM (2 UNITS)					1		1	1			1		1			1			1		1	1		1	1	1		1		1				1	1	1	1		1
TRAFFIC SIGNAL ADVANCED DETECTION SYSTEM (3 UNITS)		1							1	1				1	1		1	1		1																		1	
TRAFFIC SIGNAL ADVANCED DETECTION SYSTEM (4 UNITS)	1		1	1		1						1															1		1		1	1	1						
REMOVAL OF IMPROVEMENTS	1	1	1	1	1	1	1	1	1	1	1	1	1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

	*LINDRERGH NB	AND SB RAMP JUNCTIONS SHARE A SINGLE CO	NTROLLER
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ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY
	ROADWAY ITEMS		
616-99.01	LUMP SUM TEMPORARY TRAFFIC CONTROL	LS	1
618-10.00	MOBILIZATION	LS	1
	SIGNAL ITEMS		
202-20.10	REMOVAL OF IMPROVEMENTS	LS	1
612-30.01	TRUCK OR TRAILER MOUNTED ATTENUATOR (TMA)	LS	1
902-99.01	TRAFFIC SIGNAL MAINTENANCE AND PROGRAMMING	LS	1
902-99.02	ATC TRAFFIC SIGNAL CONTROLLER	EA	38
902-99.03	TRAFFIC SIGNAL VIDEO DETECTION SYSTEM (3 CAMERAS)	EA	11
902-99.04	TRAFFIC SIGNAL VIDEO DETECTION SYSTEM (4 CAMERAS)	EA	27
902-99.05	TRAFFIC SIGNAL ADVANCED DETECTION SYSTEM (2 UNITS)	EA	19
902-99.06	TRAFFIC SIGNAL ADVANCED DETECTION SYSTEM (3 UNITS)	EA	9
902-99.07	TRAFFIC SIGNAL ADVANCED DETECTION SYSTEM (4 UNITS)	EA	10
902-99.09	3 INCH CONDUIT, RIGID, IN-TRENCH OR PUSHED	LF	100
902-99.10	CONDUIT REPAIR	LF	100
910-88.11	PULL BOX, PREFORMED CLASS 2	EA	1
910-88.16	PULL BOX, PREFORMED CLASS 5	EA	1
910-99.01	AS-BUILT	LS	1
910-99.02	PULL ROPES	EA	38

06/21/2024 ROUTE STATE

180 MO
DISTRICT SHEET NO.

SL 2 ST. LOUIS

JOB NO.

JSL0179

CONTRACT ID. PROJECT NO.

QUANTITY SHEET 1 OF 2

		_						_										EFFECTIVE: 04-0
	6175	1,05,	l OTV	1 1 1	TOTAL SIGN			6.77	\ A D E A	OTV T	-OT 4.1		TOTAL					
SIGN	l		1 '	AREA RELOC	1		SIGN					EACH	RELOC	NUM.		 ITEM	TOTAL	
I STON	114.	134.11		NING SIGNS	30.11.	DESCRIPTION	310N	1111.	_	GUIDE			30.11.		DESCRIPTION	NUMBER	OTY	DESCRIPTI
WO1-1L	48X48	16.00	_			TURN (SYMBOL LEFT ARROW)	E05-1	36X48	12.00		12				GORE EXIT	6122008		IMPACT ATTENUATOR 40 MPH
WO1-1R		16.00				TURN (SYMBOL RIGHT ARROW)	E05-2		12.00	1	12				EXIT OPEN	6122009		IMPACT ATTENUATOR 45 MPH
WO1 - 2L		16.00				CURVE (SYMBOL LEFT ARROW)	E05-2a		12.00						EXIT CLOSED	6122010		IMPACT ATTENUATOR 50 MPH
WO1 - 2R WO1 - 3L		16.00	_			CURVE (SYMBOL RIGHT ARROW) REVERSE TURN (SYMBOL LEFT ARROW)	GO20-1 GO20-2		8 00						ROAD WORK NEXT XX MILES END ROAD WORK	6122012		IMPACT ATTENUATOR 55 MPH IMPACT ATTENUATOR 60 MPH
WO1 - 3R		16.00	_			REVERSE TURN (SYMBOL RIGHT ARROW)	GO20-4								PILOT CAR FOLLOW ME	6122017		IMPACT ATTENUATOR 65 MPH
WO1-4L		16.00				REVERSE CURVE (SYMBOL LEFT ARROW)	GO20-4a								PILOT CAR IN USE WAIT & FOLLOW	6122019		IMPACT ATTENUATOR 70 MPH
WO1 - 4R						REVERSE CURVE (SYMBOL RIGHT ARROW)	GO20 - 4a								PILOT CAR IN USE WAIT & FOLLOW	6122020		REPLACEMENT SAND BARREL
WO1 - 4bL						DOUBLE ARROW REVERSE CURVE (SYMBOL LT ARROWS) DOUBLE ARROW REVERSE CURVE (SYMBOL RT ARROWS)	GO20-5a MO4-8a	24X18							WORK ZONE (PLAQUE) END DETOUR	6122030 6123001	2**	IMPACT ATTENUATOR (RELOCATRUCK OR TRAILER MOUNTED
WO1 461						TRIPLE ARROW REVERSE CURVE (SYMBOL LT ARROWS)	MO4 - 9L		12 00						DETOUR (LEFT ARROW)	6161008		ADVANCED WARNING RAIL SYS
WO1-4cF	48X48	16.00)			TRIPLE ARROW REVERSE CURVE (SYMBOL RT ARROWS)	MO4 - 9R	48X36	12.00						DETOUR (RIGHT ARROW)	6161012		BUOYS (BOATS KEEP OUT)
WO1-6		12.50				HORIZONTAL ARROW (SYMBOL)	MO4 - 9P	48X12							STREET NAME (PLAQUE)	6161013		BUOYS (NO WAKE)
WO1-6a WO1-7	72X36	18.00	_			HORIZ. ARROW (SYMBOL ON PERMANENT BARRICADE) DOUBLE HEAD HORIZONTAL ARROW (SYMBOL)	MO4 - 10L MO4 - 10R								DETOUR (ARROW LEFT) DETOUR (ARROW RIGHT)	6161014		SPECIAL SIGN ASSEMBLY (BC CHANNELIZER (TRIM LINE)
WO1 - 7 WO1 - 7a		18.00				DOUBLE HEAD HORIZ. ARROW (SYMBOL ON PERM. BARR.)	MO4-10K	40/10		REGUL	ATOR	Y SIGI	NS		DETOOK (ARROW RIGHT)	6161023		TYPE III MOVEABLE BARRICA
WO1-8		3.00				CHEVRON (SYMBOL)	R1-1	48X48	13.25	1					STOP	6161033		DIRECTION INDICATOR BARRI
WO1-8a		7.50				CHEVRON (SYMBOL FOR DIVIDED HIGHWAYS)	R1-2		6.93						YIELD	6161040		FLASHING ARROW PANEL
WO3 - 1		16.00				STOP AHEAD (SYMBOL)	R1-2a		9.00						TO ONCOMING TRAFFIC (PLAQUE)	6161047		TYPE III OBJECT MARKER
WO3 - 2 WO3 - 3		16.00				YIELD AHEAD (SYMBOL) SIGNAL AHEAD (SYMBOL)	R1-3P R2-1	_	12.00						ALL WAY (PLAQUE) SPEED LIMIT XX	6161055 6161070		SEQUENTIAL FLASHING WARNI TUBULAR MARKER
WO3 - 4		16.00				BE PREPARED TO STOP	R3-1	_	16.00						NO RIGHT TURN (SYMBOL)	6161095		RADAR SPEED ADVISORY SYST
WO3-5	48X48	16.00)			SPEED LIMIT AHEAD	R3-2	48X48	16.00						NO LEFT TURN (SYMBOL)			CHANGEABLE MESSAGE SIGN,
WO4-1L	_	16.00				MERGE (SYMBOL FROM LEFT)	R3-3		9.00						NO TURNS	6161096		COMMISSION FURNISHED/RETA
WO4 - 1R		16.00		1.6		MERGE (SYMBOL FROM RIGHT)	R3-4	_	16.00	2	12 5				NO U-TURN (SYMBOL)	- 		CHANGEABLE MESSAGE SIGN W
WO4 - 1 a L WO4 - 1 a F		16.00	_	16		MERGE (ARROW SYMBOL) MERGE (ARROW SYMBOL)	R3-7L R3-7R		6.25	2	12.5				RIGHT LANE MUST TURN LEFT RIGHT LANE MUST TURN RIGHT	01010904		INTERFACE - CONTRACTOR FU CHANGEABLE MESSAGE SIGN W
WO5 - 1		16.00				ROAD/BRIDGE/RAMP NARROWS	R4-1		12.00						DO NOT PASS	6161099		INTERFACE - CONTRACTOR FU
WO5 - 3		16.00				ONE LANE BRIDGE	R4-2		12.00						PASS WITH CARE	6162000A		WORK ZONE TRAFFIC SIGNAL
WO5 - 5		16.00				NARROW LANES	R4-8a		12.00						KEEP LEFT (HORIZONTAL ARROW)	6162002		TEMPORARY LONG-TERM RUMBL
WO6 - 1 WO6 - 2		16.00				DIVIDED HIGHWAY (SYMBOL) DIVIDED HIGHWAY END (SYMBOL)	R4-7a R5-1		12.00						KEEP RIGHT (HORIZONTAL ARROW) DO NOT ENTER	1 6173600E		TEMPORARY TRAFFIC BARRIER CONTRACTOR FURNISHED/RETA
WO6 - 3		16.00				TWO WAY TRAFFIC (SYMBOL)	R5-1a		6.00						WRONG WAY	101730002		TEMPORARY TRAFFIC BARRIER
WO7-3a	30X24	5.00				NEXT XX MILES (PLAQUE)	R6-1L	54X18	6.75						ONE WAY ARROW (LEFT)	6173602E		CONTRACTOR FURNISHED/COMM
WO8 - 1		16.00				ВИМР	R6-1R		6.75						ONE WAY ARROW (RIGHT)	6174000A		TEMP. TRAFFIC BARRIER HEI
WO8 - 2 WO8 - 3		16.00				DIP PAVEMENT ENDS	R6-2L R6-2R		5.00						ONE WAY (LEFT) ONE WAY (RIGHT)	61750104		RELOCATING TEMPORARY TRAF TEMPORARY TRAFFIC BARRIER
WO8-3	_	16.00				SOFT SHOULDER	R9-9		2.00						SIDEWALK CLOSED	1 6176000E		COMMISSION FURNISHED/RETA
WO8 - 5		16.00	_			SLIPPERY WHEN WET (SYMBOL)									SIDEWALK CLOSED AHEAD,			TEMP TRAFFIC BARRIER HEI
WO8 - 6		16.00	_			TRUCK CROSSING (WITH FLAGS)	R9-11L	24X18	3.00						(ARROW LEFT) CROSS HERE	6177000E		COMMISSION FURNISHED/RETA
WO8 - 6 c		16.00				TRUCK ENTRANCE	 R9-11R	24710] , ,,,						SIDEWALK CLOSED AHEAD, (ARROW RIGHT) CROSS HERE	6208064A		TEMPORARY RAISED PAVEMENT
WO8 - 7 WO8 - 7 a		9.00				LOOSE GRAVEL FRESH OIL/LOOSE GRAVEL	R10-6		3.00 6.00						STOP HERE ON RED (45^ ARROW)	9029400		TEMPORARY TRAFFIC SIGNALS TEMPORARY TRAFFIC SIGNALS
WO8 - 9						LOW SHOULDER	4	_	10.00						ROAD CLOSED	1		
WO8 - 11						UNEVEN LANES									ROAD CLOSED XX MILES AHEAD			
WO8 - 12						NO CENTER LINE	R11-3a		12.50						LOCAL TRAFFIC ONLY			
WO8 - 15 WO8 - 15F		_	_			GROOVED PAVEMENT MOTORCYCLE (PLAQUE)	R11-4 CONST-3								ROAD CLOSED TO THRU TRAFFIC			
WO8 - 17						SHOULDER DROP-OFF (SYMBOL)	CONST-3	_							SPEEDING/PASSING (PLATE)			
WO8 - 17F						SHOULDER DROP-OFF (PLAQUE)				MISCE	LLAN	EOUS S	SIGNS			** ITEN	NOT IN	CLUDED IN TEMP. TRAFFIC CO
W10-1			_			RAILROAD CROSSING	CONST - 5								POINT OF PRESENCE	BID ITE		III IIII IIIII III
WO12-1 WO12-2						DOUBLE DOWN ARROW (SYMBOL) LOW CLEARANCE (SYMBOL)	CONST - 5	_							POINT OF PRESENCE RATE OUR WORK ZONE	-		
W012-2			_			LOW CLEARANCE (STMBOL)	CONST - 7								RATE OUR WORK ZONE	†		DICCLAIMED
WO12-2a						OVERHEAD LOW CLEARANCE (FEET AND INCHES)	CONST-8								WORK ZONE NO PHONE ZONE]	E DDOEF	DISCLAIMER SSIONAL WHOSE SIGNATURE AN
WO12-4						LOW CLEARANCE XX FT XX IN XX MILES AHEAD												AR HEREON ASSUMES RESPONSI
WO12-5						WIDTH RESTRICTION XX FT XX IN XX MILES AHEAD	-											WHAT APPEARS ON THIS PAGE,
WO13-1 WO16-2						ADVISORY SPEED (PLAQUE) XXX FEET (PLAQUE)	1											(PURSUANT TO SECTION 327.
WO16-3			_			X MILE (PLAQUE)												TION, ESTIMATES, REPORTS, OR INSTRUMENTS NOT SEALED
WO20-1			_	64		ROAD/BRIDGE/RAMP WORK AHEAD												ED PROFESSIONAL RELATING T
WO20-2						DETOUR AHEAD	-											TO BE USED FOR ANY PART OF
WO20-3 WO20-4						ROAD CLOSED AHEAD ONE LANE ROAD AHEAD	616-10	0.5			OTAL					_ ТН	E PROJEC	CT TO WHICH THIS PAGE REFE
WO20 - 5			_	16		RIGHT/CENTER/LEFT LANE CLOSED AHEAD	CONSTR		ON SIG	_	196.5	1						
WO20 - 5 a			_			2 RIGHT/CENTER/LEFT LANES CLOSED AHEAD	616-10	0.10					TOTAL					
WO20 - 6a			_	32		RIGHT/CENTER/LEFT LANE CLOSED	RELOCA			CON:=== =		TNC: ::=	*		4 646 00 04 1177 517			
WO20 - 7 a						FLAGGER (SYMBOL, WITH FLAGS) FRESH OIL									M 616-99.01, LUMP SUM IN THE PLANS. THESE			
WO21-2				32		SHOULDER WORK AHEAD	QUANT	ITIES A							CHANGE BASED UPON FIELD	ſ		QUANTITY SHEET 2
WO22 - 1						BLASTING ZONE AHEAD	CONDIT	I IONS.								}		
WO22-2			_			TURN OFF 2-WAY RADIO AND PHONE	SIGN A	AND DEV	ICE LO	CATION	WILL	BE FIEL	D VERIF	IED AI	ND APPROVED BY THE ENGINEER.			ST. LOUIS COUN
WO22-3			_			END BLASTING ZONE	* NO F	DIRECT	PAYMEN	T WILL	ВЕ МА	DE FOR	RELOCAT	ING O	R COVERING/UNCOVERING		R	OUTE 180 SIGNAL IMP
GO22 - 1	∠1X15	2.19				WET PAINT (ARROW PIVOTS)						PECIFIE						

IMPACT ATTENUATOR 40 MPH (SAND BARRELS) IMPACT ATTENUATOR 45 MPH (SAND BARRELS) IMPACT ATTENUATOR 50 MPH (SAND BARRELS) IMPACT ATTENUATOR 55 MPH (SAND BARRELS) IMPACT ATTENUATOR 60 MPH (SAND BARRELS) 06/21/2024 IMPACT ATTENUATOR 65 MPH (SAND BARRELS) IMPACT ATTENUATOR 70 MPH (SAND BARRELS) 180 MO SHEET NO SL 3 001 2** TRUCK OR TRAILER MOUNTED ATTENUATOR (TMA) ST. LOUIS JSL0179 SPECIAL SIGN ASSEMBLY (BOATS KEEP OUT) PROJECT NO. BRIDGE NO. INTERFACE - CONTRACTOR FURNISHED/RETAINED INTERFACE - CONTRACTOR FURNISHED/RETAINED CONTRACTOR FURNISHED/COMMISSION RETAINED TEMP. TRAFFIC BARRIER HEIGHT TRANSITION RELOCATING TEMPORARY TRAFFIC BARRIER TEMP. TRAFFIC BARRIER HEIGHT TRANSITION TEMPORARY TRAFFIC SIGNALS AND LIGHTING

TEM NOT INCLUDED IN TEMP. TRAFFIC CONTROL LUMP SUM

EFFECTIVE: 04-01-2023

DESCRIPTION

DIRECTION INDICATOR BARRICADE

RADAR SPEED ADVISORY SYSTEM CHANGEABLE MESSAGE SIGN, COMMISSION FURNISHED/RETAINED CHANGEABLE MESSAGE SIGN W/O COMM.

SEQUENTIAL FLASHING WARNING LIGHT

CHANGEABLE MESSAGE SIGN WITH COMM.

WORK ZONE TRAFFIC SIGNAL SYSTEM

TEMPORARY TRAFFIC BARRIER COMMISSION FURNISHED/RETAINED

COMMISSION FURNISHED/RETAINED

TEMPORARY RAISED PAVEMENT MARKER

TEMPORARY LONG-TERM RUMBLE STRIPS TEMPORARY TRAFFIC BARRIER CONTRACTOR FURNISHED/RETAINED TEMPORARY TRAFFIC BARRIER

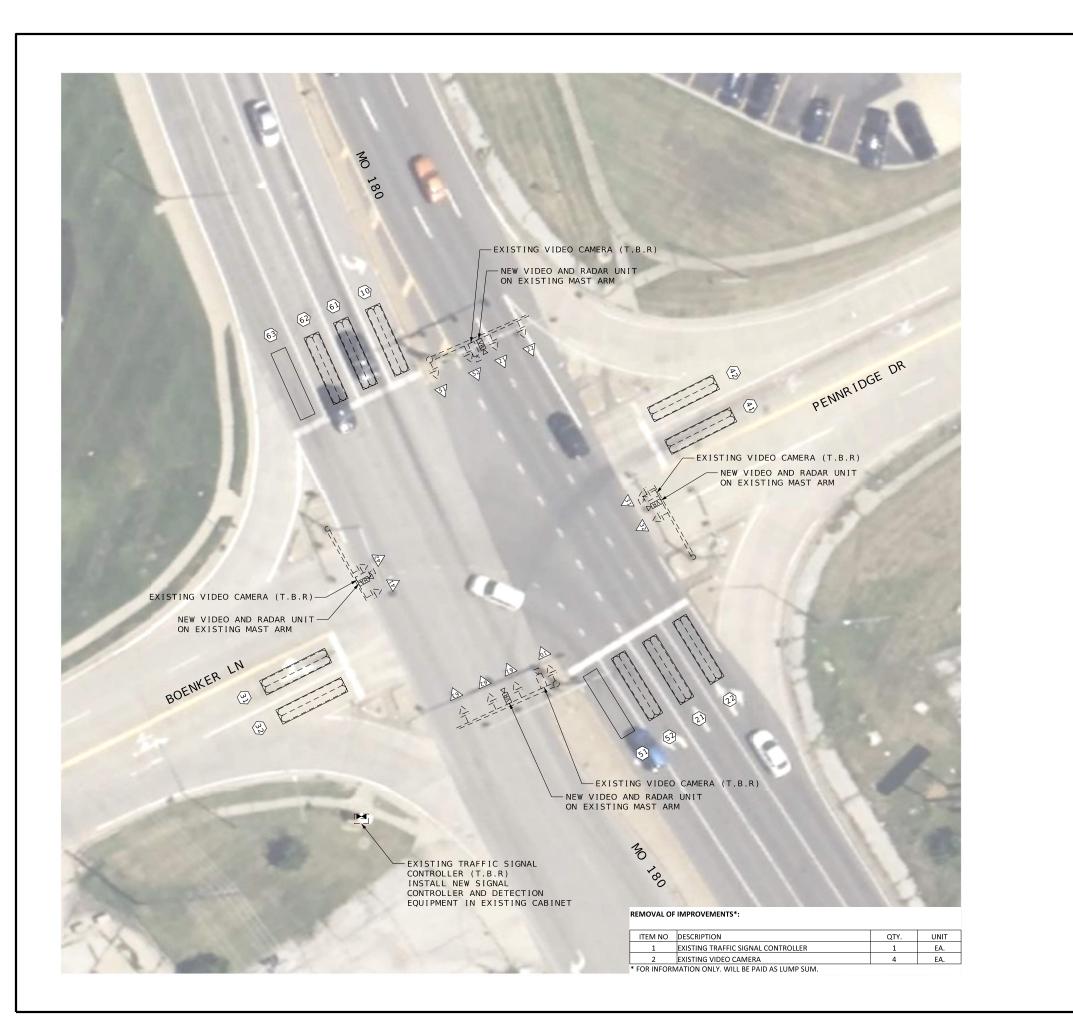
IMPACT ATTENUATOR (RELOCATION)

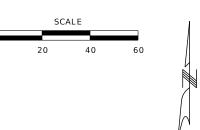
ADVANCED WARNING RAIL SYSTEM

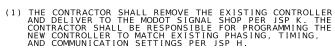
DISCLAIMER

THE PROFESSIONAL WHOSE SIGNATURE AND PERSONAL SEAL APPEAR HEREON ASSUMES RESPONSIBILITY ONLY FOR WHAT APPEARS ON THIS PAGE, AND DISCLAIMS (PURSUANT TO SECTION 327.411 RSMO) SPECIFICATION, ESTIMATES, REPORTS, OR OTHER DOCUMENTS OR INSTRUMENTS NOT SEALED BY THE UNDERSIGNED PROFESSIONAL RELATING TO OR INTENDED TO BE USED FOR ANY PART OR PARTS OF THE PROJECT TO WHICH THIS PAGE REFERS.

QUANTITY SHEET 2 OF 2







- (2) THE CONTRACTOR SHALL REMOVE THE EXISTING VIDEO DETECTION EQUIPMENT INCLUDING ANY UNUSED CAMERAS, CABINET HARDWARE, MOUNTING HARDWARE/BRACKETS AND CABLING, THE EXISTING VIDEO DETECTION EQUIPMENT SHALL BE DELIVERED TO THE MODOT SIGNAL SHOP PER JSP K. THE CONTRACTOR SHALL INSTALL A COMPLETE VIDEO DETECTION SYSTEM WITH ENCLOSURES, MOUNTING HARDWARE/BRACKETS, TERMINATION PANELS, POWER AND COMMUNICATION CABLES FOR STOP BAR DETECTION PER JSP I.
- (3) THE CONTRACTOR SHALL INSTALL RADAR DETECTION UNITS AND PROGRAM FOR ADVANCED DETECTION PER JSP J.

- NEW CONTROLLER IN EXISTING CABINET
- -||> EXISTING SIGNAL HEAD
- EXISTING VIDEO/RADAR DETECTION UNIT
- NEW VIDEO/RADAR COMBINATION DETECTION UNIT
- NEW VIDEO DETECTION UNIT
- NEW RADAR DETECTION UNIT
- 🖒 EXISTING GRIDSMART VIDEO DETECTION UNIT
- EXISTING ACCESS POINT
- □ EXISTING REPEATER
- EXISTING SENSYS DETECTOR PROBE
- 6 X 6 LOOP DETECTOR

 $\left\{\begin{array}{c} ---\\ --- \end{array}\right\}$ 6 X 15 LOOP DETECTOR

30 X 6 LOOP DETECTOR

EXISTING STOP BAR DETECTION ZONE

PROPOSED STOP BAR DETECTION ZONE

EXISTING TRUSS

TRAFFIC SIGNAL SHEET 1 OF 78

ST. LOUIS COUNTY
ROUTE 180 SIGNAL IMPROVEMENTS



THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED

06/21/2024

ROUTE STATE

180 MO

DISTRICT SHEET NO.

SL 4

ST. LOUIS

JOB NO.

JSL0179

PROJECT NO.

BRIDGE NO.

SPORTATION DATE
04/16/24
06/21/24

COMMISSION

LODOT

105 WEST CAPIT

JEFFERSON CITY, MO 651

■ IC. ADWAY SUITE 2800 MO 63102 (314) 206-4444



					Ρ	OW	ER SI	JPPL Y	•					
LOC	ATION		POWER ASSE	SUPPLY MBLY	CIR	CUII	T BREAKEI	R TRIP R	AT I NG ≭	LIGHTING	CONTROL *		SERVIC	E POLE
			DRAWING				OLLER	POWER DISCO		(ON POWER	R SUPPLY)	CUN	NTRACT	UTILITY
APPROACH	STATION	UFFSEI	DRAWING 902.15	DRAWING	AUX I L BRE A	I ARY KER	CONT & SIGNAL LAMPS	MAIN B		120 VOLT CONTROL CABINET	MAIN BREAKER		RNISH	COMPANY
++	T	ightharpoons	Туре	U.1.P.	15	Amps	· Amps	SIGNALS	L I GHT I NG Amps	CABINET	Amps	CI.	Ft.	U.I.P.
0 •	1 •	•	Туре		15	Amps	Amps	Amps	Amps		Amps	CI.	Ft.	

				CC	NTRO	LLER	ASS	EMBL'	Y AND) AUX	ILIAF	RY EQ	UIPM	ENT							
LOCATI	ON		SYS MAS	TEM	A C T L I	ATED	ON-OFF* SWITCH	(COORDINA	TION INT	ERFACE *	(NEM	A CABI	NET	170 CA		1 7	
APPROACH	STATION	OFFSET	(CLOSE	LOOP)	ACTO	AILU	T TYPE 120/70 HARDWIRE GLOSED LOOP					TIME * CLOCK		TYPE *		TYP	E *	SOFTW	ARE *		
AFFRUACH	STATION	UFFSEI	NEMA	170	NEMA	170	I I I	MASTER	LOCAL	BASE	NEMA	170	LIBER		E	ΕV	DOUBLE	332	336S	BITRAN	WAPITI
MO 180 & PENNRIDGE-BOENKER	U.I.P.	U.I.P.			1								1								

				NEM AS	IA DE SSIG	TEC NMEN	TOR NT		
				CAI	RD PO	OS I T I	ON		
		1	2	3	4	5	6	7	8
C H A N	1			T	D				
N E L	2		• U	1 •) 	•			

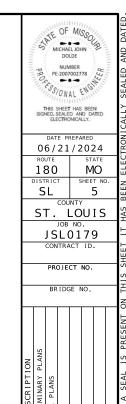
TOTAL	NUMBER	OF	DETECTOR	CARDS(2-CHANNEL)	=	(2)
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NEM	A LO	AD S	SWIT	CH A	ISSI	GNME	NTS
1	2	3	4	5	6	7	8
			. <u>]</u>	•	•		
9	10	11	12	13	14	15	16
		U	•]	•	•		

PHASE 1	PHASE 2	PHASE 3	PHASE 4
†	-	1	
PHASE 5	PHASE 6	PHASE 7	PHASE 8

F	DETECTOR SCHED		
		TY	PE
DETECTOR NUMBER	APPROACH	RADAR	VIDEO
10	EB (PHASE 1)		1
21	WB (PHASE 2)		1
22	WB (PHASE 2)		1
31	NB (PHASE 3)		1
32	NB (PHASE 3)		1
41	SB (PHASE 4)		1
42	SB (PHASE 4)		1
51	WB (PHASE 5)		1
52	WB (PHASE 5)		1
61	EB (PHASE 6)		1
62	EB (PHASE 6)		1
63	EB (PHASE 6)		1
23	WB ADVANCE (PHASE 2)	1	
24	WB ADVANCE (PHASE 2)	1	
33	NB ADVANCE (PHASE 3)	1	
34	NB ADVANCE (PHASE 3)	1	
43	SB ADVANCE (PHASE 4)	1	
64	EB ADVANCE (PHASE 6)	1	
65	EB ADVANCE (PHASE 6)	1	
66	EB ADVANCE (PHASE 6)	1	
	TOTAL	8	12

- * ITEMS FOR WHICH SEPARATE PAYMENT WILL NOT BE MADE.
- (1) CABLING FOR THE NEW VIDEO DETECTION AND RADAR DETECTION SHOULD BE ROUTED THROUGH EXISTING CONDUITS. CONDUITS THAT ARE DAMAGED. COLLAPSED. OR UNUSABLE SHALL BE MARKED ON THE AS-BUILT PLANS PER JSP S.
- (2) THE INSTALLATION OF ALL EQUIPMENT SHALL BE IN ACCORDANCE WITH THE LATEST EDITION MISSOURI DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, DRAWINGS, AND ENGINEERING POLICY GUIDE.
- (3) THE CONTRACTOR SHALL HAVE RESPONSIBILITY OF LOCATING ALL UNDERGROUND AND OVERHEAD FACILITIES, STRUCTURES, AND UTILITIES.
- (4) THE CONTRACTOR IS RESPONSIBLE FOR TRAFFIC CONTROL AND SHALL CONFORM TO THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND MISSOURI DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS.
- (5) ALL DRILLED OPENING FOR CABLE SHALL BE WEATHERPROOF.
 THERE WILL BE NO DIRECT PAYMENT FOR DRILLED OPENINGS.
 DISUSED OPENINGS SHALL BE PLUGGED BY THE CONTRACTOR.
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- (8) THE CONTRACTOR SHALL PULL ROPE THROUGH ANY USED CONDUITS PER JSP R.
- (9) MANUFACTURER'S REPRESENTATIVE SHALL BE PRESENT DURING PROGRAMMING OF DETECTION ZONES PER JSP I AND JSP J. MANUFACTURER'S REPRESENTATIVE SHALL PROVIDE GUIDANCE TO CONTRACTOR ON OPTIMAL PLACEMENT OF DETECTION EQUIPMENT AND PROGRAMMED DETECTION ZONES.



SSOURI HIGHWAYS AND TRANSPORTATION
COMMISSION

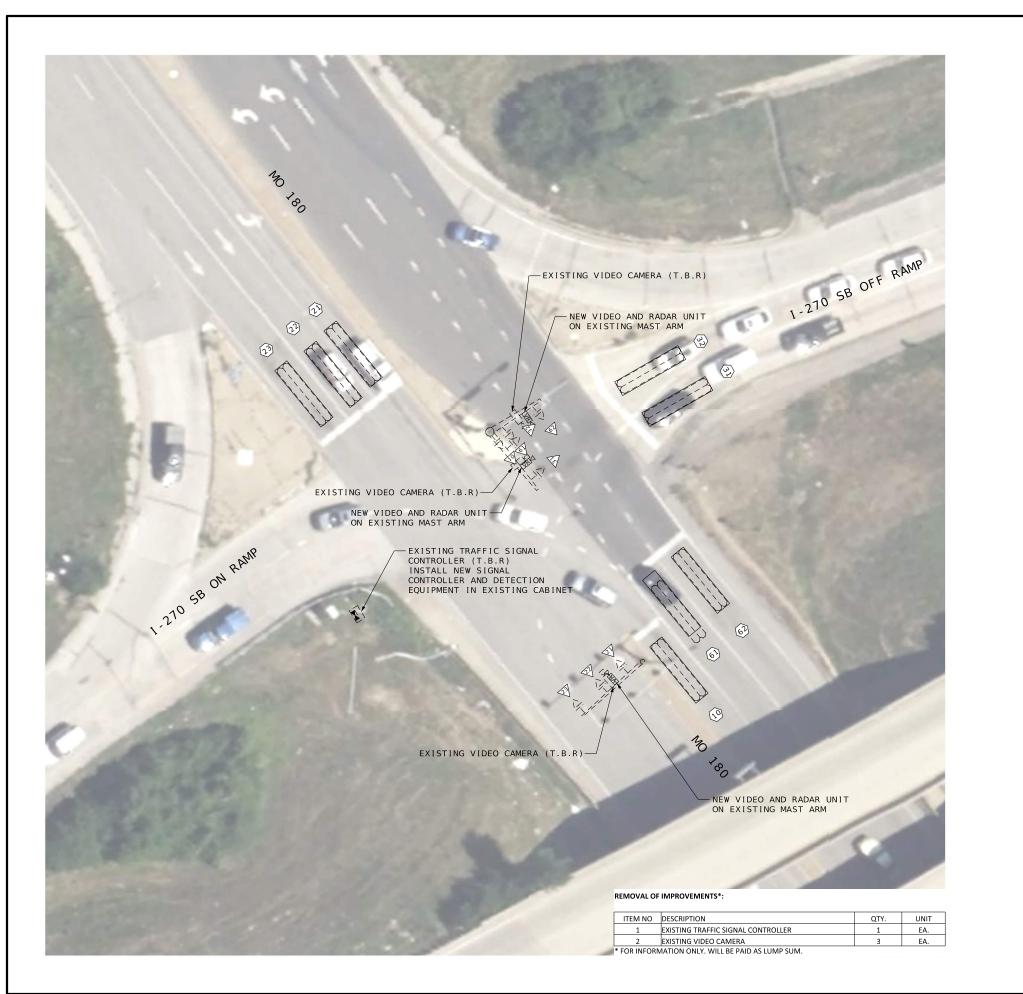
MACHINE
105 WEST CAPITOL
LOSS ACK MONORY OF THE RESERVENCE OF THE PERSON CITY, MO 65102

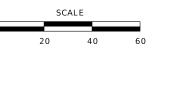
SA INC.
BROADWAY SUITE 2800
UIS, MO 63102 (314) 206-4444
IRI CERTIFICATE OF AUTHORITY - 001444

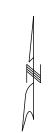
MO 180 & PENNRIDGE-BOENKER

INTERSECTION

TRAFFIC SIGNAL SHEET 2 OF 78







- (1) THE CONTRACTOR SHALL REMOVE THE EXISTING CONTROLLER AND DELIVER TO THE MODOT SIGNAL SHOP PER JSP K. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROGRAMMING THE NEW CONTROLLER TO MATCH EXISTING PHASING, TIMING, AND COMMUNICATION SETTINGS PER JSP H.
- (2) THE CONTRACTOR SHALL REMOVE THE EXISTING VIDEO DETECTION EQUIPMENT INCLUDING ANY UNUSED CAMERAS, CABINET HARDWARE, MOUNTING HARDWARE/BRACKETS AND CABLING. THE EXISTING VIDEO DETECTION EQUIPMENT SHALL BE DELIVERED TO THE MODOT SIGNAL SHOP PER JSP K. THE CONTRACTOR SHALL INSTALL A COMPLETE VIDEO DETECTION SYSTEM WITH ENCLOSURES, MOUNTING HARDWARE/BRACKETS, TERMINATION PANELS, POWER AND COMMUNICATION CABLES FOR STOP BAR DETECTION PER JSP I.
- (3) THE CONTRACTOR SHALL INSTALL RADAR DETECTION UNITS AND PROGRAM FOR ADVANCED DETECTION PER JSP J..

NEW CONTROLLER IN EXISTING CABINET -11> EXISTING SIGNAL HEAD EXISTING VIDEO/RADAR DETECTION UNIT NEW VIDEO/RADAR COMBINATION DETECTION UNIT NEW VIDEO DETECTION UNIT D R NEW RADAR DETECTION UNIT EXISTING GRIDSMART VIDEO DETECTION UNIT EXISTING ACCESS POINT **□**₩ EXISTING REPEATER EXISTING SENSYS DETECTOR PROBE ()6 X 6 LOOP DETECTOR $\left\{ --\right\}$ 6 X 15 LOOP DETECTOR → 30 X 6 LOOP DETECTOR EXISTING STOP BAR DETECTION ZONE

TRAFFIC SIGNAL SHEET 3 OF 78

PROPOSED STOP BAR DETECTION ZONE

ST. LOUIS COUNTY ROUTE 180 SIGNAL IMPROVEMENTS

-200700277 06/21/2024 180 MO SHEET NO SL 6 ST. LOUIS JSL0179 PROJECT NO. BRIDGE NO.

INC.
(OADWAY SUITE 2800
(OADWAY SUITE 2800
(OADWAY SUITE 2800

WSP USA INC.
211 N. BROADWAY SUITE
ST. LOUIS, MO 63102 (31

② _ Z Z Z Z S EXISTING TRUSS

	POWER SUPPLY														
LOC	ATION	SUPPLY MBLY	CIR	CUII	T BREAKEI	R TRIP R	AT I NG ≭	LIGHTING	CONTROL *	SERVICE POLE					
			DRAWING				OLLER	POWER DISCO		(ON POWER	R SUPPLY)	CUN	NTRACT	UTILITY	
APPROACH	STATION	UFFSEI	DRAWING 902.15	DRAWING	AUX I L BRE A	BREAKER SIGNAL		MAIN BREAKER		120 VOLT CONTROL CABINET	MAIN BREAKER	FURNISH		COMPANY	
++	T	ightharpoons	Туре	U.1.P.	15	Amps	· Amps	SIGNALS	L I GHT I NG Amps	CABINET	Amps	CI.	Ft.	U.I.P.	
0 •	1 •	•	Туре		15	Amps	Amps	Amps	Amps		Amps	CI.	Ft.		

	CONTROLLER ASSEMBLY AND AUXILIARY EQUIPMENT																				
														SWITCH COORDINATION INTERFACE * NEMA CABINET 17			CABINET 170				
APPROACH	STATION	OFFSET	(CLOSE	LOOP)	ACTO	AILU	TYPE 12C/7C HARDWIRE (1) TIME			TIME	CLOSED	L00P	FIBER	TIME *		TYPE *		TYPE *		SOFTWARE *	
AFFRUACH	STATION	UFFSEI	NEMA	170	NEMA	170	I I I	MASTER	LOCAL	BASE	NEMA	170	LIDEK		E	ΕV	DOUBLE	332	336S	BITRAN	WAPITI
MO 180 & I-270 SB RAMP	U.I.P.	U.I.P.		1 1																	

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			CARD POSITION												
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C H A N	1			T	D										
N E L	2		• U	1 •) 	•									

TOTAL	NUMBER	OF	DETECTOR	CARDS (2-CHANNEL)	=	(2)
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9	10	11	12	13	14	15	16
		U	•]	. [•		

PHASE 1	PHASE 2	PHASE 3
		•
PHASE 5	PHASE 6	PHASE 7

F	DETECTOR SCHEDOR INFORMATION		
		TY	PE
DETECTOR NUMBER	APPROACH	RADAR	VIDEO
10	WB (PHASE 1)		1
21	EB (PHASE 2)		1
22	EB (PHASE 2)		1
23	EB (PHASE 2)		1
31	SB (PHASE 3)		1
32	SB (PHASE 3)		1
61	WB (PHASE 6)		1
62	WB (PHASE 6)		1
24	EB ADVANCE (PHASE 2)	1	
25	EB ADVANCE (PHASE 2)	1	
33	SB ADVANCE (PHASE 3)	1	
34	SB ADVANCE (PHASE 3)	1	
63	WB ADVANCE (PHASE 6)	1	
64	WB ADVANCE (PHASE 6)	1	
	TOT !!		
	TOTAL	6	8

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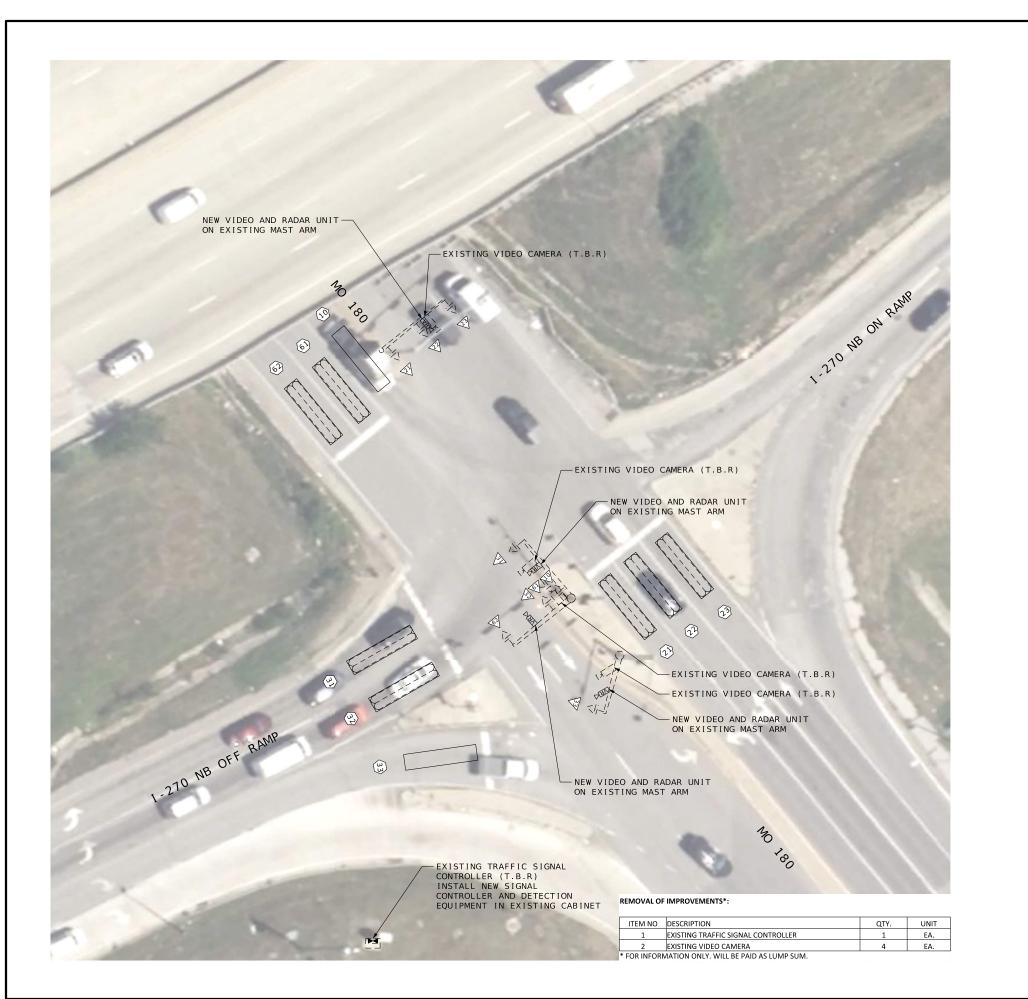
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	SIGNED, SEALED AND DATED RECTRONOCALLY. DATE PREPARED 06/21/2024 ROUTE STATE 180 MO DISTRICT SHEET NO. ST. LOUIS JOB NO. J SL 0 1 79 COUNTRACT ID. PROJECT NO. BRIDGE NO. BRIDGE NO.						
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		JS	L (01	7	9	
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	PRELIMINARY PLANS FINAL PLANS						
DESCRIPTION							
DATE	04/16/24	06/21/24					
AND TRANSPORTATION	NOISS			_	105 WEST CAPITOL	EFFERSON CITY, MO 65102	-MODOT (1-888-275-6636)

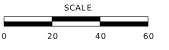
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MO 180 & I-270 SB RAMP

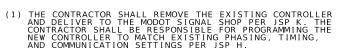
INTERSECTION

TRAFFIC SIGNAL SHEET 4 OF 78









- (2) THE CONTRACTOR SHALL REMOVE THE EXISTING VIDEO DETECTION EQUIPMENT INCLUDING ANY UNUSED CAMERAS, CABINET HARDWARE, MOUNTING HARDWARE/BRACKETS AND CABLING, THE EXISTING VIDEO DETECTION EQUIPMENT SHALL BE DELIVERED TO THE MODOT SIGNAL SHOP PER JSP K. THE CONTRACTOR SHALL INSTALL A COMPLETE VIDEO DETECTION SYSTEM WITH ENCLOSURES, MOUNTING HARDWARE/BRACKETS, TERMINATION PANELS, POWER AND COMMUNICATION CABLES FOR STOP BAR DETECTION PER JSP I.
- (3) THE CONTRACTOR SHALL INSTALL RADAR DETECTION UNITS AND PROGRAM FOR ADVANCED DETECTION PER JSP J.

- NEW CONTROLLER IN EXISTING CABINET
- EXISTING SIGNAL HEAD
- MI EXISTING VIDEO/RADAR DETECTION UNIT
- NEW VIDEO/RADAR COMBINATION DETECTION UNIT
 - NEW VIDEO DETECTION UNIT
- ▷ NEW RADAR DETECTION UNIT
- 🗎 EXISTING GRIDSMART VIDEO DETECTION UNIT
- EXISTING ACCESS POINT
- □ EXISTING REPEATER
- EXISTING SENSYS DETECTOR PROBE
- 6 X 6 LOOP DETECTOR

 $\left\{\begin{array}{c} -- \\ -- \end{array}\right\}$ 6 X 15 LOOP DETECTOR

30 X 6 LOOP DETECTOR

EXISTING STOP BAR DETECTION ZONE

PROPOSED STOP BAR DETECTION ZONE

© _____ EXISTING TRUSS

TRAFFIC SIGNAL SHEET 5 OF 78

ST. LOUIS COUNTY ROUTE 180 SIGNAL IMPROVEMENTS MICHAELOHN
DOLDE

NUMBER
PE-2007002778

THIS SHEET HAS BEEN
SIGNED, SEALED AND DATED
ELECTRONICALLY.

DATE PREPARED

06/21/2024

ROUTE STATE

180 MO

DISTRICT SHEET NO.

SL 8 ST. LOUIS

> JSL0179 CONTRACT ID.

PROJECT NO.

E DESCRIPTION
724 PRELIMINARY PLANS
724 FINAL PLANS
88
900 E

HIGHWAYS AND TRANSPORTATION
COMMISSION

105 WEST CAPITOL

5. DWAY SUITE 2800 IO 63102 (314) 206-4444

	POWER SUPPLY														
LOC	ATION	SUPPLY MBLY	CIR	CUII	T BREAKEI	R TRIP R	AT I NG ≭	LIGHTING	CONTROL *	SERVICE POLE					
			DRAWING				OLLER	POWER DISCO		(ON POWER	R SUPPLY)	CUN	NTRACT	UTILITY	
APPROACH	STATION	UFFSEI	DRAWING 902.15	DRAWING	AUX I L BRE A	BREAKER SIGNAL		MAIN BREAKER		120 VOLT CONTROL CABINET	MAIN BREAKER	FURNISH		COMPANY	
++	T	ightharpoons	Туре	U.1.P.	15	Amps	· Amps	SIGNALS	L I GHT I NG Amps	CABINET	Amps	CI.	Ft.	U.I.P.	
0 •	1 •	•	Туре		15	Amps	Amps	Amps	Amps		Amps	CI.	Ft.		

	CONTROLLER ASSEMBLY AND AUXILIARY EQUIPMENT																					
LOCATION SYSTEM ACTUATED ON-OFF* COORDINATION INTERFACE *															A CABI		170 CA			70		
APPROACH	STATION	OFFSET	(CLOSED		ACTO	AILU	TYPE 12C/7C HARDWIRE			TIME	CLOSED LOOP FIBER		TIME *	TYPE *		-	TYPE *		SOFTWARE *			
ALLINOACH	STATION	OI I SET	NEMA	170	NEMA	170	I	I I M.	MASTER	LOCAL	BASE	NEMA	170	LIBER		E	ΕV	DOUBLE	332	336S	BITRAN	WAPITI
MO 180 & I-270 NB RAMP	U.I.P.	MO 180 & I - 270 NB RAMP U-I.P. U-I.P. 1																				

		NEMA DETECTOR ASSIGNMENT									
			CAI	RD P	OS I T I	I ON					
	1	2	3	4	5	6	7	8			
С Н А		11	Т	D							
N N E L		U•	1		•						

TOTAL	NUMBER	OF	DETECTOR	CARDS(2-CHANNEL) =	(2

NEMA LOAD SWITCH ASSIGNMENTS												
1	2	3	4	5	6	7	8					
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9	10	11	12	13	14	15	16					
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PHASE 1	PHASE 2	PHASE 3
1	-	•
PHASE 5	PHASE 6	PHASE 7

F	DETECTOR SCHEDOR INFORMATION		
		TY	PE
DETECTOR NUMBER	APPROACH	RADAR	VIDEO
10	EB (PHASE 1)		1
21	WB (PHASE 2)		1
22	WB (PHASE 2)		1
23	WB (PHASE 2)		1
31	NB (PHASE 3)		1
32	NB (PHASE 3)		1
33	NB (PHASE 3)		1
61	EB (PHASE 6)		1
62	EB (PHASE 6)		1
24	WB ADVANCE (PHASE 2)	1	
25	WB ADVANCE (PHASE 2)	1	
34	NB ADVANCE (PHASE 3)	1	
35	NB ADVANCE (PHASE 3)	1	
63	EB ADVANCE (PHASE 6)	1	
64	EB ADVANCE (PHASE 6)	1	
	TOTAL	6	9

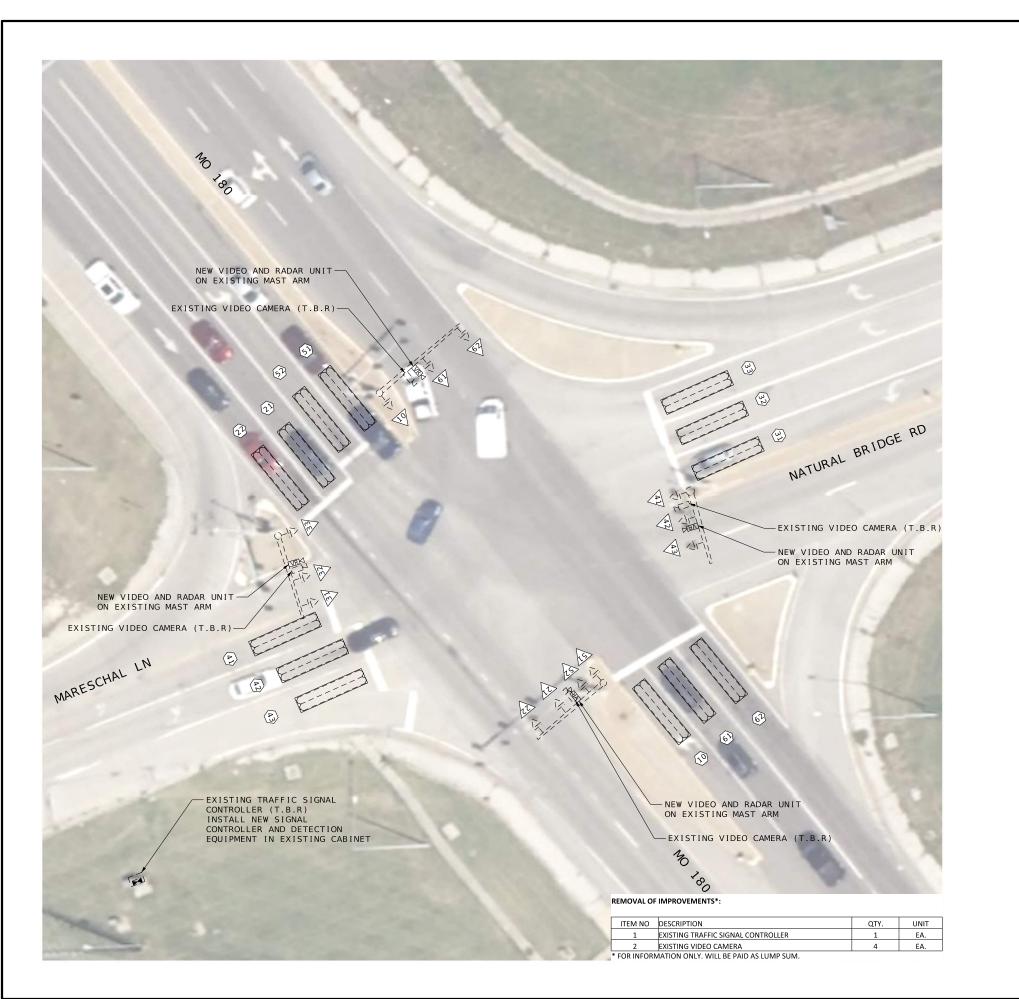
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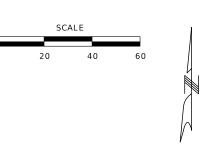
		Y SUITE 2800

MO 180 & I-270 NB RAMP

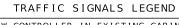
INTERSECTION

TRAFFIC SIGNAL SHEET 6 OF 78





- (1) THE CONTRACTOR SHALL REMOVE THE EXISTING CONTROLLER AND DELIVER TO THE MODOT SIGNAL SHOP PER JSP K. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROGRAMMING THE NEW CONTROLLER TO MATCH EXISTING PHASING, TIMING, AND COMMUNICATION SETTINGS PER JSP H.
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- (3) THE CONTRACTOR SHALL INSTALL RADAR DETECTION UNITS AND PROGRAM FOR ADVANCED DETECTION PER JSP J.



- NEW CONTROLLER IN EXISTING CABINET
- $-!_1>$ EXISTING SIGNAL HEAD
- MI EXISTING VIDEO/RADAR DETECTION UNIT
- NEW VIDEO/RADAR COMBINATION DETECTION UNIT
- NEW VIDEO DETECTION UNIT
- NEW RADAR DETECTION UNIT
- EXISTING GRIDSMART VIDEO DETECTION UNIT
- EXISTING ACCESS POINT
- □ EXISTING REPEATER
- EXISTING SENSYS DETECTOR PROBE
- 6 X 6 LOOP DETECTOR

6 X 15 LOOP DETECTOR

30 X 6 LOOP DETECTOR

EXISTING STOP BAR DETECTION ZONE

PROPOSED STOP BAR DETECTION ZONE

© _____ EXISTING TRUSS

TRAFFIC SIGNAL SHEET 7 OF 78

ST. LOUIS COUNTY ROUTE 180 SIGNAL IMPROVEMENTS MICHAELIOHN
DOLDE

NUMBER
PE-2007002778

THIS SHEET IMS BEEN
SIGNED, SEALED AND DATED
ELECTRONOCALLY.

DATE PREPARED

06/21/2024

DATE PREPARED
06/21/2024

ROUTE STATE
180 MO
DISTRICT SHEET NO.
SL 10

COUNTY

JSL0179

PROJECT NO.

DESCRIPTION
PRELIMINARY PLANS
FINAL PLANS
ON BODGINB

COMMISSION

105 WEST CAPITOL

105 WEST CAPITOL

105 WEST CAPITOL

TE 2800

WSP USA INC.
211 N. BROADWAY SUITI

	POWER SUPPLY													
LOC	ATION		POWER ASSE	SUPPLY MBLY	CIR	CUII	T BREAKEI	R TRIP R	AT I NG ≭	LIGHTING	CONTROL *		SERVIC	E POLE
			DRAWING				OLLER	POWER DISCO		(ON POWER SUPPLY)				UTILITY
APPROACH	STATION	UFFSEI	DRAWING 902.15	DRAWING	AUX I L BRE A	I ARY KER	CONT & SIGNAL LAMPS	MAIN B		120 VOLT CONTROL CABINET	MAIN BREAKER	FURNISH		COMPANY
++	T	ightharpoons	Туре	U.1.P.	15	Amps	· Amps	SIGNALS	L I GHT I NG Amps	CABINET	Amps	CI.	Ft.	U.I.P.
0 •	1 •	•	Туре		15	Amps	Amps	Amps	Amps		Amps	CI.	Ft.	

	CONTROLLER ASSEMBLY AND AUXILIARY EQUIPMENT																				
LOCATI	ON		SYS	TEM	A C T L I	IATED	ON-OFF* SWITCH	(COORDINA	TION INT	ERFACE *	€			NEM	A CABI	NET	170 CA		1 7	
APPROACH	STATION	OFFSET	(CLOSE	MASTER ACTUATED -			TYPE	12C/7C (HARDWIRE 1) TIME CLOSED LOOP			FIBER	TIME *		TYPE *		TYP	E *	SOF TW.	ARE *	
AFFRUACH	STATION	UFFSEI	NEMA	170	NEMA	170	I I I	MASTER	LOCAL	BASE	NEMA	170	FIDER		E	ΕV	DOUBLE	332	3365	BITRAN	WAPITI
MO 180 & RTE B- MARESHELL	U.1.P.	U.I.P.			1								1								

			NEMA DETECTOR ASSIGNMENT									
				CAI	RD PO	OS I T I	ON					
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C H A N	1			Ţ	D							
N E L	2		U •	1 •) 	•						

TOTAL	NUMBER	OF	DETECTOR	CARDS(2-CHANNEL)	=	(2)

NEM	A LO	AD S	SWIT	CH A	ASS I	GNME	NTS
1	2	3	4	5	6	7	8
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9	10	11	12	13	14	15	16
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PHASE 1	PHASE 2	PHASE 3	PHASE 4
			*
1	—	—	
OLB A	-		
PHASE 5	PHASE 6	PHASE 7	PHASE 8

DETECTOR SCHEDULE FOR INFORMATION ONLY										
		TY	PE							
DETECTOR NUMBER	APPROACH	RADAR	VIDEO							
10	WB (PHASE 1)		1							
21	EB (PHASE 2)		1							
22	EB (PHASE 2)		1							
31	SB (PHASE 3)		1							
32	SB (PHASE 3)		1							
33	SB (PHASE 3)		1							
41	NB (PHASE 4)		1							
42	NB (PHASE 4)		1							
43	NB (PHASE 4)		1							
51	EB (PHASE 5)		1							
52	EB (PHASE 5)		1							
61	WB (PHASE 6)		1							
62	WB (PHASE 6)		1							
0.7	50 40V4N05 (0V465 0)									
23	EB ADVANCE (PHASE 2)	1								
24	EB ADVANCE (PHASE 2)	1								
34 35	SB ADVANCE (PHASE 3)	1								
	SB ADVANCE (PHASE 3)	1								
44	NB ADVANCE (PHASE 4)	1								
63	WB ADVANCE (PHASE 6)	1								
64	WB ADVANCE (PHASE 6)	1								
	TOTAL	7	13							

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- (5) ALL DRILLED OPENING FOR CABLE SHALL BE WEATHERPROOF.
 THERE WILL BE NO DIRECT PAYMENT FOR DRILLED OPENINGS.
 DISUSED OPENINGS SHALL BE PLUGGED BY THE CONTRACTOR.
- (6) THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROGRAMMING DETECTION ZONES PER JSP I AND JSP J. PER JSP I AND JSP J. COUNT ZONES SHOULD BE PROGRAMMED FOR EACH LANE AT THE INTERSECTION EVEN IF NO VEHICLE DETECTION ZONE IS REQUIRED FOR THAT LANE.
- (7) THE CONTRACTOR SHALL REMOVE ALL DISUSED EXISTING DETECTION CAMERA CABLE AS PART OF THE DETECTION INSTALLATION.
- (8) THE CONTRACTOR SHALL PULL ROPE THROUGH ANY USED CONDUITS PER JSP R.
- (9) MANUFACTURER'S REPRESENTATIVE SHALL BE PRESENT DURING PROGRAMMING OF DETECTION ZONES PER JSP I AND JSP J. MANUFACTURER'S REPRESENTATIVE SHALL PROVIDE GUIDANCE TO CONTRACTOR ON OPTIMAL PLACEMENT OF DETECTION EQUIPMENT AND PROGRAMMED DETECTION ZONES.

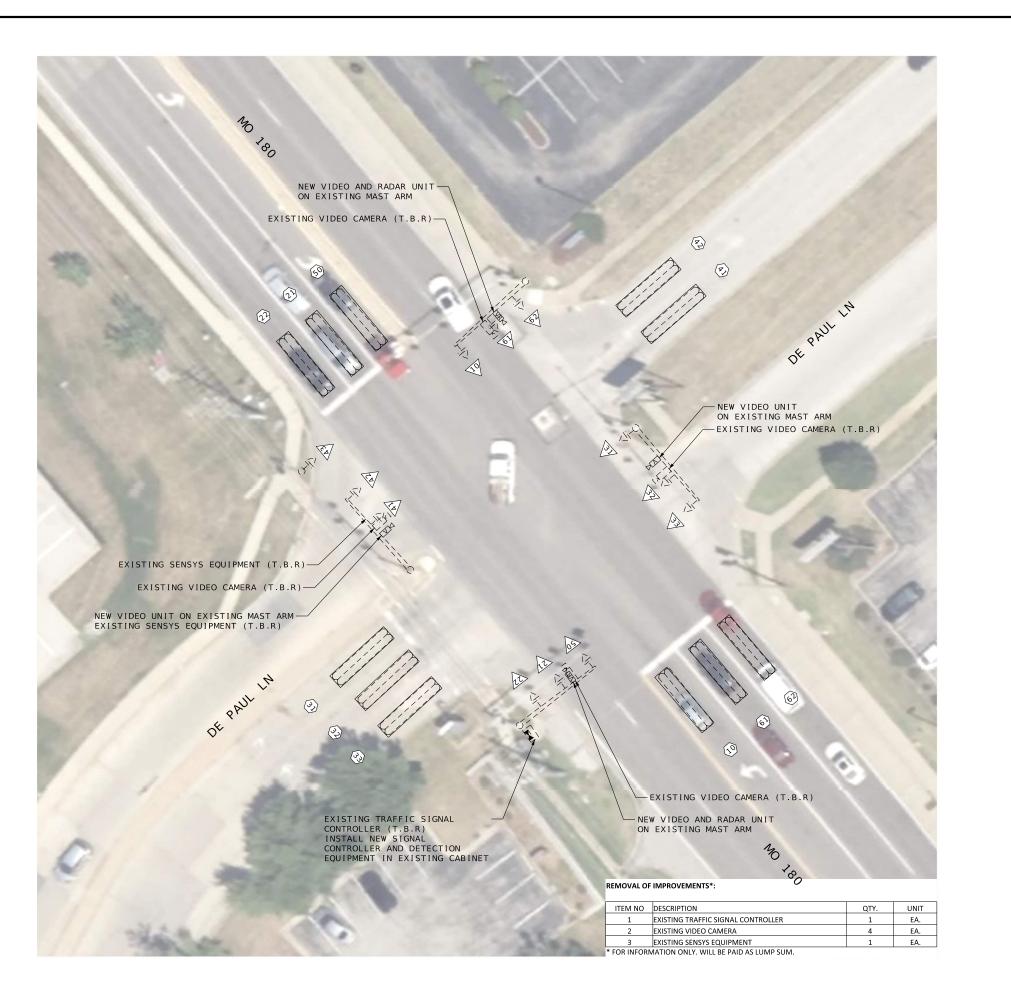
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DESCRIPTION	PRELIMINARY PLANS	FINAL PLANS					
DATE	04/16/24	06/21/24					
IGHWAYS AND TRANSPORTATION	COMMISSION		LOC		105 WEST CAPITOL	JEFFERSON CITY, MO 65102	1-888-ASK-MODOT (1-888-275-6636)

OCOC TELLO YAN

MO 180 & RTE B- MARESHELL

INTERSECTION

TRAFFIC SIGNAL SHEET 8 OF 78









- (1) THE CONTRACTOR SHALL REMOVE THE EXISTING CONTROLLER AND DELIVER TO THE MODOT SIGNAL SHOP PER JSP K. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROGRAMMING THE NEW CONTROLLER TO MATCH EXISTING PHASING, TIMING, AND COMMUNICATION SETTINGS PER JSP H.
- (2) THE CONTRACTOR SHALL REMOVE THE EXISTING VIDEO DETECTION EQUIPMENT INCLUDING ANY UNUSED CAMERAS, CABINET HARDWARE, MOUNTING HARDWARE/BRACKETS AND CABLING. THE EXISTING VIDEO DETECTION EQUIPMENT SHALL BE DELIVERED TO THE MODOT SIGNAL SHOP PER JSP K. THE CONTRACTOR SHALL INSTALL A COMPLETE VIDEO DETECTION SYSTEM WITH ENCLOSURES, MOUNTING HARDWARE/BRACKETS, TERMINATION PANELS, POWER AND COMMUNICATION CABLES FOR STOP BAR DETECTION PER JSP I.
- (3) THE CONTRACTOR SHALL INSTALL RADAR DETECTION UNITS AND PROGRAM FOR ADVANCED DETECTION PER JSP J.
- (4) THE CONTRACTOR SHALL REMOVE SENSYS EQUIPMENT (ACCESS POINTS, REPEATERS, AND EQUIPMENT IN THE CABINET) AS SPECIFIED IN JSP T. PAYMENT FOR REMOVAL WILL BE INCLUDED WITH REMOVAL OF IMPROVEMENTS (LS).

- NEW CONTROLLER IN EXISTING CABINET
- -11> EXISTING SIGNAL HEAD
- EXISTING VIDEO/RADAR DETECTION UNIT יבא
- NEW VIDEO/RADAR COMBINATION DETECTION UNIT
- NEW VIDEO DETECTION UNIT
- DR. NEW RADAR DETECTION UNIT
- EXISTING GRIDSMART VIDEO DETECTION UNIT
- EXISTING ACCESS POINT
- **□**₩ EXISTING REPEATER
- EXISTING SENSYS DETECTOR PROBE
- \bigcirc 6 X 6 LOOP DETECTOR

--- 6 X 15 LOOP DETECTOR → 30 X 6 LOOP DETECTOR

EXISTING STOP BAR DETECTION ZONE

PROPOSED STOP BAR DETECTION ZONE

 \bigcirc ===== EXISTING MAST ARM ② _ Z Z Z Z S EXISTING TRUSS

TRAFFIC SIGNAL SHEET 9 OF 78

ST. LOUIS COUNTY ROUTE 180 SIGNAL IMPROVEMENTS -200700277

06/21/2024 180 MO SL 12

ST. LOUIS JSL0179

POWER SUPPLY														
LOC	CATION		POWER ASSE	SUPPLY MBLY	CIR	CUIT	T BREAKEI	R TRIP R	AT I NG*	LIGHTING	CONTROL *		SERVIC	E POLE
			DRAWING		_		OLLER CONT &	POWER DISCO	SUPPLY NNECT		R SUPPLY)	CON	NTRACT	UTILITY
APPROACH	APPROACH STATION (DRAWING DRAWING		RAWING AUXILIAR BREAKER		BREAKER SIGNAL LAMPS		REAKER	120 VOLT CONTROL	MAIN BREAKER			COMPANY
	T	\triangleright	Туре	U.1.P.	15	Amps	· Amps	SIGNALS Amps	LIGHTING Amps	CABINET	Amps	CI.	Ft.	U.I.P.
U •	1 •	•	Туре		15	Amps	Amps	Amps	Amps		Amps	CI.	Ft.	

	CONTROLLER ASSEMBLY AND AUXILIARY EQUIPMENT																				
LOCATI	ON		SYS MAS	TEM	A C T L I	ATED	ON-OFF* SWITCH	(COORDINA	TION INT	ERFACE *	(NEM	A CABI	NET	170 CA		1 7	
APPROACH STATION OFFSE			(CLOSE	LOOP)	ACTO	AILU	TYPE	12C/7C (HARDWIRE 1)	TIME	CLOSED	L00P	FIBER	TIME *		TYPE *		TYP	E *	SOFTW	ARE *
APPROACH STATION OFFSE			NEMA	170	NEMA	170	I I I	MASTER	LOCAL	BASE	NEMA	170	LIDEK		E	ΕV	DOUBLE	332	336S	BITRAN	WAPITI
MO 180 & DEPAUL CENTER	U.1.P.	U.I.P.			1								1								

			NEMA DETECTOR ASSIGNMENT									
			CARD POSITION									
		1	2	3	4	5	6	7	8			
C H A N	1			Ţ	D							
N E L	2		U •	1 •) 	•						

TOTAL NUMBER OF DETECTOR CARDS(2-CHANNEL) =

NEMA LOAD SWITCH ASSIGNMENTS											
1	2	3	4	5	6	7	8	9	10	11	12
				U.	Ι.	Ρ.	•				

OR INFORMATION	ONL Y	
	TY	PE
APPROACH	RADAR	VIDEO
WB (PHASE 1)		1
EB (PHASE 2)		1
EB (PHASE 2)		1
NB (PHASE 3)		1
NB (PHASE 3)		1
NB (PHASE 3)		1
SB (PHASE 4)		1
SB (PHASE 4)		1
		1
WB (PHASE 6)		1
WB (PHASE 6)		1
WB ADVANCE (PHASE 6)	1	
TOTAL	4	11
	APPROACH WB (PHASE 1) EB (PHASE 2) EB (PHASE 3) NB (PHASE 3) NB (PHASE 3) NB (PHASE 3) SB (PHASE 4) SB (PHASE 4) EB (PHASE 5)	RADAR WB (PHASE 1) EB (PHASE 2) EB (PHASE 2) NB (PHASE 3) NB (PHASE 3) NB (PHASE 3) SB (PHASE 4) SB (PHASE 4) EB (PHASE 5) WB (PHASE 6) WB (PHASE 6) EB ADVANCE (PHASE 2) EB ADVANCE (PHASE 2) WB ADVANCE (PHASE 6) WB ADVANCE (PHASE 6) WB ADVANCE (PHASE 6) 1

DETECTOR SCHEDULE

- * ITEMS FOR WHICH SEPARATE PAYMENT WILL NOT BE MADE.
- (1) CABLING FOR THE NEW VIDEO DETECTION AND RADAR DETECTION SHOULD BE ROUTED THROUGH EXISTING CONDUITS. CONDUITS THAT ARE DAMAGED, COLLAPSED, OR UNUSABLE SHALL BE MARKED ON THE AS-BUILT PLANS PER JSP S.
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PHASE 1	PHASE 2	PHASE 3	PHASE 4
		1	
+			**
	•		
PHASE 5	PHASE 6	PHASE 7	PHASE 8

MO 180 & DEPAUL CENTER

INTERSECTION

TRAFFIC SIGNAL SHEET 10 OF 78

ST. LOUIS COUNTY ROUTE 180 SIGNAL IMPROVEMENTS

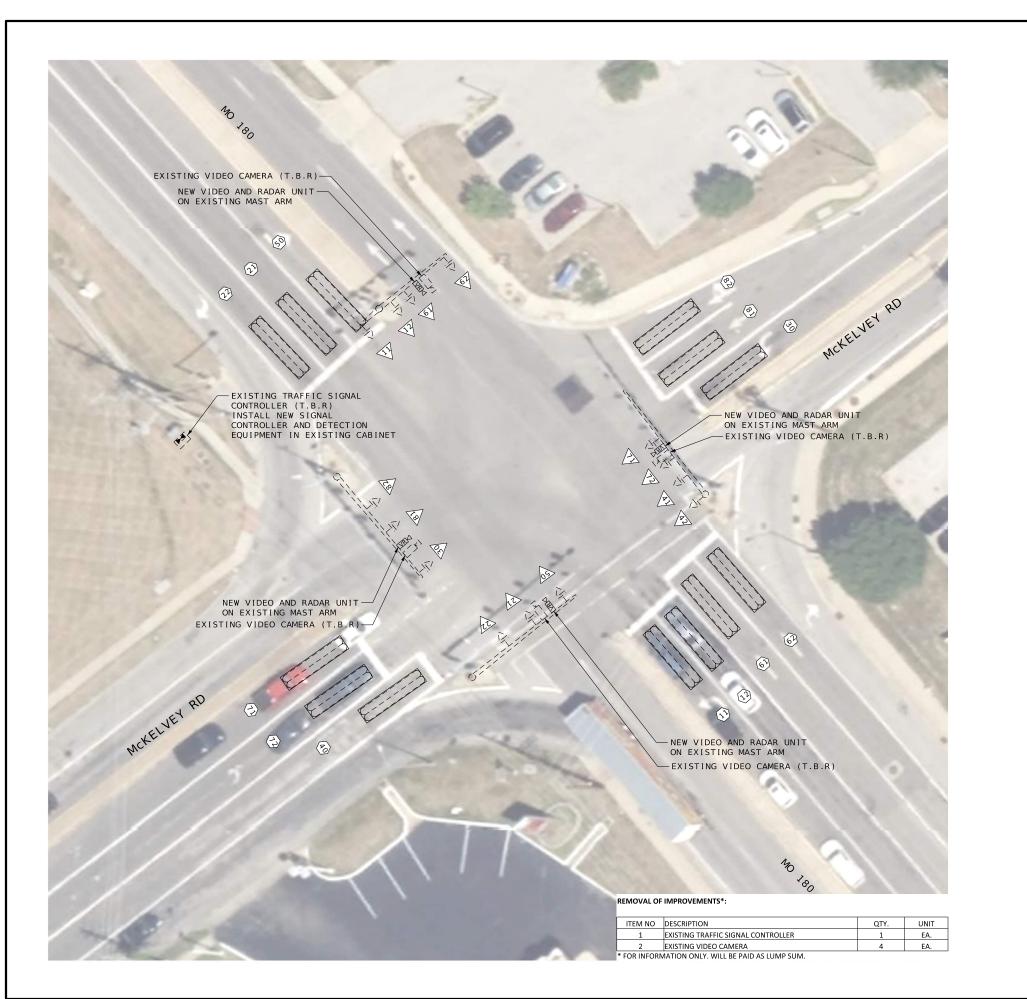
ATE OF MISSO	l
MICHAEL JOHN DOLDE	
NUMBER PE-2007002778	
SSIONAL ENGINEER	l
THIS SHEET HAS BEEN	I

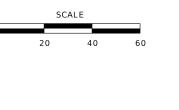
DATE PE	REPARED
06/21	/2024
ROUTE	STATE
180	МО
DISTRICT	SHEET NO
SL	13

ST. LOUIS JSL0179

13

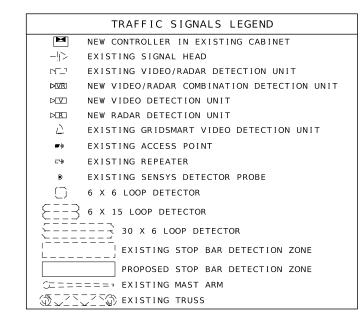
DATE DESCRIPTION //16/24 PRELIMINARY PLANS //21/24 FINAL PLANS					
DATE //16/24	DESCRIPTION				
004	DATE	04/16/24	06/21/24		







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TRAFFIC SIGNAL SHEET 11 OF 78

ST. LOUIS COUNTY ROUTE 180 SIGNAL IMPROVEMENTS -200700277

06/21/2024 180 MO SL 14

ST. LOUIS JSL0179

					Ρ	OW	ER SI	JPPL Y	•					
LOC	ATION		POWER ASSE	SUPPLY MBLY	CIR	CUII	T BREAKEI	R TRIP R	AT I NG ≭	LIGHTING	CONTROL *		SERVIC	E POLE
			DRAWING				OLLER	POWER DISCO		(ON POWER	R SUPPLY)	CUN	NTRACT	UTILITY
APPROACH	STATION	UFFSEI	DRAWING 902.15	DRAWING	AUX I L BRE A	I ARY KER	CONT & SIGNAL LAMPS	MAIN B		120 VOLT CONTROL CABINET	MAIN BREAKER		RNISH	COMPANY
++	T	ightharpoons	Туре	U.1.P.	15	Amps	· Amps	SIGNALS	L I GHT I NG Amps	CABINET	Amps	CI.	Ft.	U.I.P.
0 •	1 •	•	Туре		15	Amps	Amps	Amps	Amps		Amps	CI.	Ft.	

				CO	NTRO	LLER	ASS	EMBL'	Y AND) AUX	ILIAF	RY EC	UIPM	ENT							
LOCATI	ION		SYS MAS	TEM	A C T L I	ATED	ON-OFF* SWITCH	(COORDINA	TION INT	ERFACE *	(NEM	A CABI	NET	170 CA		1 7	
APPROACH	STATION	OFFSET	(CLOSE	LOOP)	ACTO	AILU	TYPE	12C/7C (HARDWIRE 1)	TIME	CLOSED	L00P	FIBER	TIME * CLOCK		TYPE *		TYP	E *	SOF TW.	ARE *
AFFRUACH	STATION	UFFSEI	NEMA	170	NEMA	170	I I I	MASTER	LOCAL	BASE	NEMA	170	LIDEK		E	ΕV	DOUBLE	332	336S	BITRAN	WAPITI
MO 180 & MCKELVEY	U.I.P.	U.I.P.			1								1								

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				CAI	RD PO	OS I T I	ON		
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TOTAL NUMBER OF DETECTOR CARDS(2-CHANNEL) = (2

NEM	A LO	AD S	SWIT	CH A	SSI	GNME	NTS
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9	10	11	12	13	14	15	16
		U	.]	•	•		

PHASE	1	PHAS	SE 2	PHAS	SE	3	РНА	SE 4
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1			—		→			
•		-	_	•				
							+	
PHASE	5	PHAS	E 6	PHAS	SE	7	РНА	SE 8

F	DETECTOR SCHEE		
		TYI	PE
DETECTOR NUMBER	APPROACH	RADAR	VIDEO
11 12 21 22 30 40 50 61 62 71 72 81	WB (PHASE 1) WB (PHASE 1) EB (PHASE 2) EB (PHASE 2) SB (PHASE 3) NB (PHASE 4) EB (PHASE 5) WB (PHASE 6) WB (PHASE 6) WB (PHASE 7) NB (PHASE 7) SB (PHASE 8) SB (PHASE 8)		1 1 1 1 1 1 1 1 1 1 1 1 1 1
23 24 41 63 64 83 84	EB ADVANCE (PHASE 2) EB ADVANCE (PHASE 2) NB ADVANCE (PHASE 4) WB ADVANCE (PHASE 6) WB ADVANCE (PHASE 6) SB ADVANCE (PHASE 8) SB ADVANCE (PHASE 8)	1 1 1 1 1 1 1 1	
	TOTAL	7	13

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DATE PREPARED

06/21/2024

ROUTE STATE

180 MO

DISTRICT SHEET NO.

SL 15

COUNTY

ST. LOUIS

JSL0179
CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE DESCRIPTION
116/24 PRELIMINARY PLANS
1/21/24 FINAL PLANS

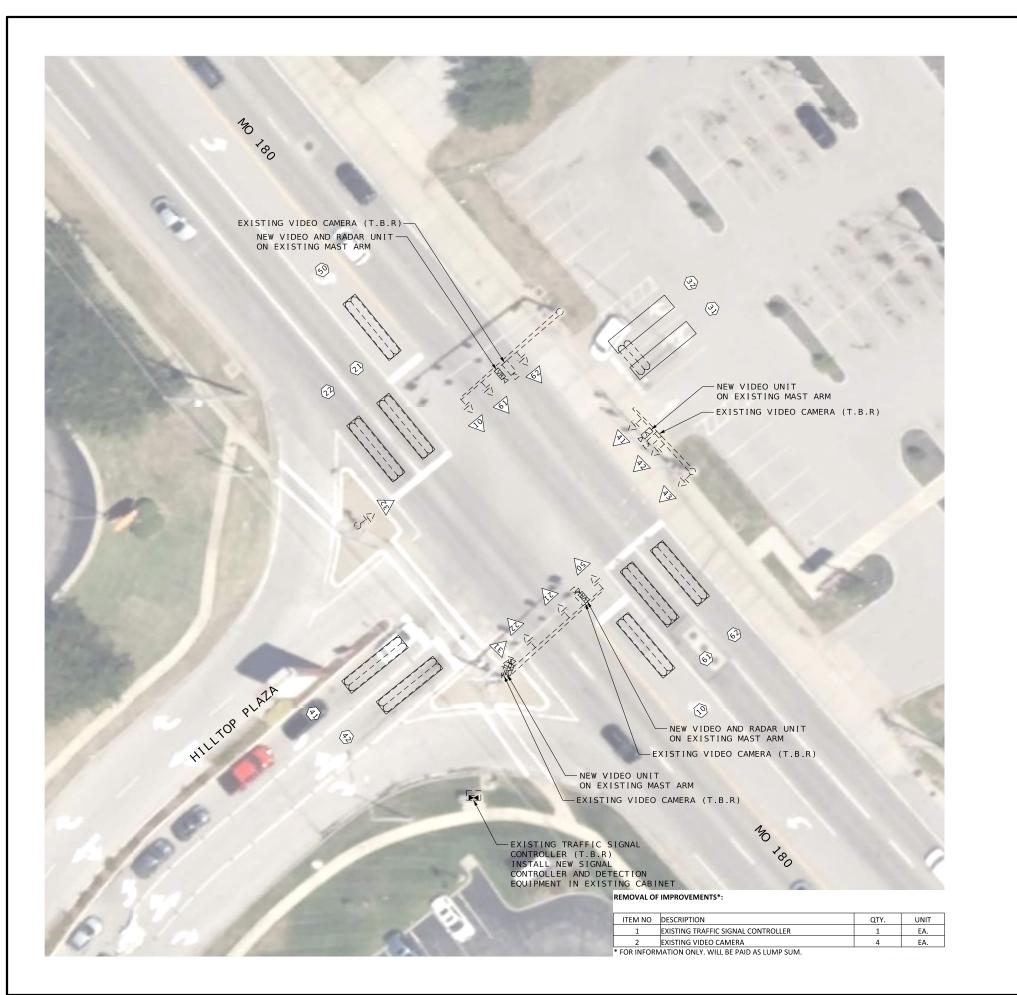
HIGHWAYS AND TRANSPORTATION
COMMISSION
105 WEST CAPITOL

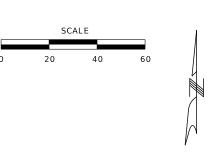
Y SUITE 2800 102 (314) 206-4444

MO 180 & MCKELVEY

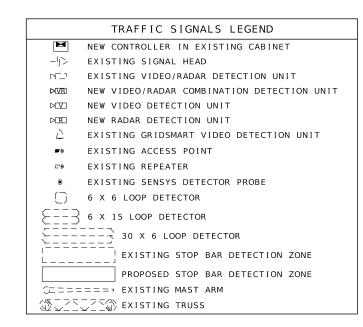
INTERSECTION

TRAFFIC SIGNAL SHEET 12 OF 78





- (1) THE CONTRACTOR SHALL REMOVE THE EXISTING CONTROLLER AND DELIVER TO THE MODOT SIGNAL SHOP PER JSP K. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROGRAMMING THE NEW CONTROLLER TO MATCH EXISTING PHASING, TIMING, AND COMMUNICATION SETTINGS PER JSP H.
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- (3) THE CONTRACTOR SHALL INSTALL RADAR DETECTION UNITS AND PROGRAM FOR ADVANCED DETECTION PER JSP J.



TRAFFIC SIGNAL SHEET 13 OF 78

ST. LOUIS COUNTY ROUTE 180 SIGNAL IMPROVEMENTS

DESCRIPTION DOLDE

MICHAELOHN

SOURI HIGHWAYS AND TRANSPORTAT
COMMISSION

MODOT

105 WEST CAPI
JEFFERSON CITY, MO 65

INC.
NODWAY SUITE 2800
S, MO GATO (34) 206-4444

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					Р	OW	ER SI	JPPL Y	•					
LOC	CATION		POWER ASSE	SUPPLY MBLY	CIR	CUIT	T BREAKEI	R TRIP R	AT I NG*	LIGHTING	CONTROL *		SERVIC	E POLE
			DRAWING		_		OLLER CONT &	POWER DISCO	SUPPLY NNECT		R SUPPLY)	CON	NTRACT	UTILITY
APPROACH	STATION	OFFSET	902.15	DRAWING	AUX I L BRE A	I ARY KER	SIGNAL		REAKER	120 VOLT CONTROL	MAIN BREAKER		RNISH	COMPANY
	T	\triangleright	Туре	U.1.P.	15	Amps	· Amps	SIGNALS Amps	LIGHTING Amps	CABINET	Amps	CI.	Ft.	U.I.P.
U •	1 •	•	Туре		15	Amps	Amps	Amps	Amps		Amps	CI.	Ft.	

				CO	NTRO	LLER	Α	SSEM	MBL Y	/ AN[) AUX	ILIAF	Y EC	UIPM	ENT							
LOCATI	ON		SYSI MAS	EM FR	ACTU		ON-0 SWI					ERFACE *	ŧ				A CABI		170 CA			70
APPROACH	STATION	OFFSET	(CLOSED		ACTO	AILU	ΤY	PE 120	C/7C H	IARDWIRE 1)	TIME	CLOSED	LOOP	FIBER	TIME *	•	TYPE *	-	TYP	*	SOFTW	ARE *
ALLINOACH	STATION	OI I SET	NEMA	170	NEMA	170	I	I I MA	ASTER	LOCAL	BASE	NEMA	170	LIBER		E	ΕV	DOUBLE	332	336S	BITRAN	WAPITI
MO 180 & HILLTOP PLAZA	U.I.P.	U.I.P.			1									1								

				NEM AS	IA DE SSIG	TEC NMEN	TOR NT		
				CAI	RD PO	OS I T I	I ON		
		1	2	3	4	5	6	7	8
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N N E L	2		U •	1 •		•			

TOTAL NUMBER OF DETECTOR CARDS(2-CHANNEL) =

		NEM	A LC	AD S	SWIT	CH A	ISSA	GNME	NTS		
1	2	3	4	5	6	7	8	9	10	11	12
				U.	Ι.	Ρ.	•				

F	DETECTOR SCHEDOR INFORMATION		
		TY	PE
DETECTOR NUMBER	APPROACH	RADAR	VIDEO
10	WB (PHASE 1)		1
21	EB (PHASE 2)		1
22	EB (PHASE 2)		1
31	SB (PHASE 3)		1
32	SB (PHASE 3)		1
41	NB (PHASE 4)		1
42	NB (PHASE 4)		1
50	EB (PHASE 5)		1
61	WB (PHASE 6)		1
62	WB (PHASE 6)		1
23	EB ADVANCE (PHASE 2)	1	
24	EB ADVANCE (PHASE 2)	1	
63	WB ADVANCE (PHASE 6)	1	
64	WB ADVANCE (PHASE 6)	1	
	TOTAL	4	10

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06/21/2024 180 MO SHEET NO SL 17 ST. LOUIS JSL0179 PROJECT NO. BRIDGE NO.

MICHAEL JOHN DOLDE

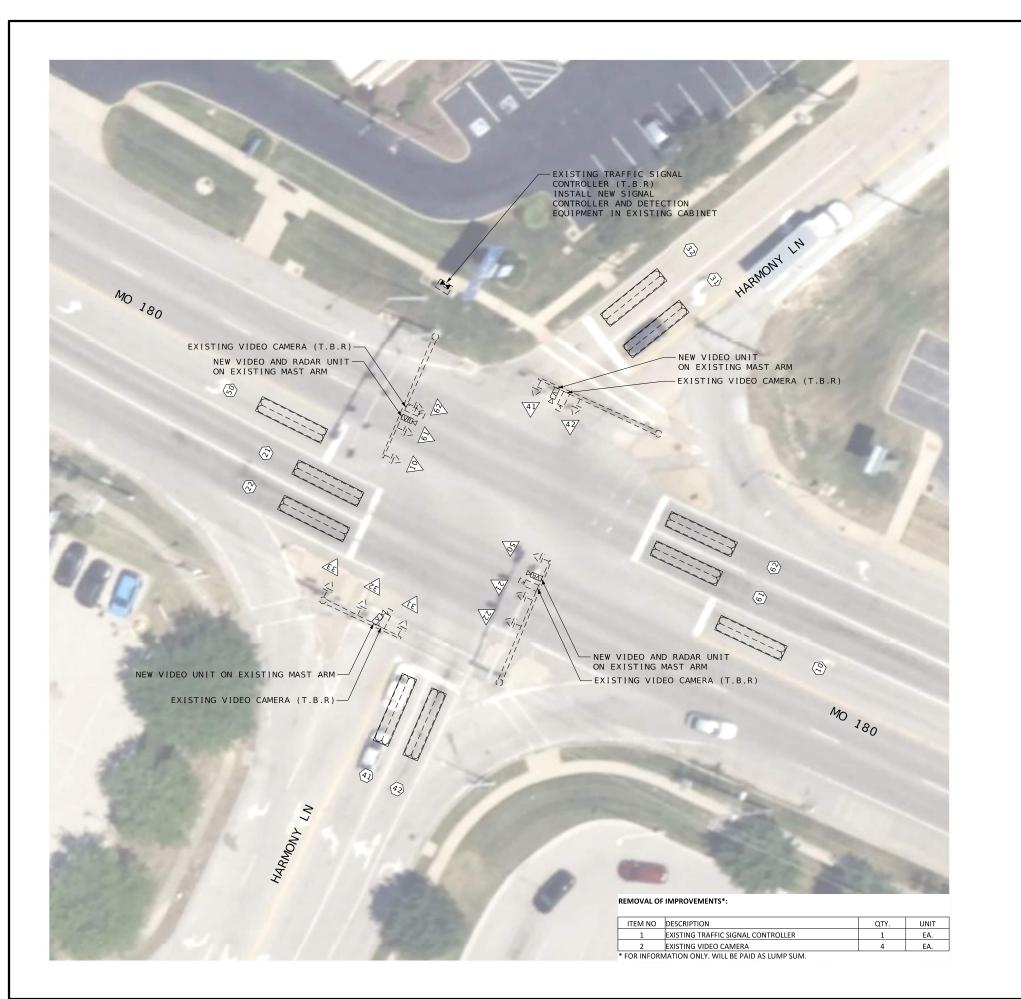
A INC.
ROADWAY SUITE 2800
IS, MO 63102 (314) 206-4444

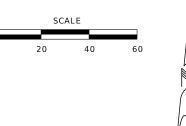
MO 180 & HILLTOP PLAZA

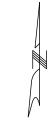
INTERSECTION

TRAFFIC SIGNAL SHEET 14 OF 78

PHASE 1	PHASE 2	PHASE 3	PHASE 4
			1
+			
 	-		
PHASE 5	PHASE 6	PHASE 7	PHASE 8







- (1) THE CONTRACTOR SHALL REMOVE THE EXISTING CONTROLLER AND DELIVER TO THE MODOT SIGNAL SHOP PER JSP K. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROGRAMMING THE NEW CONTROLLER TO MATCH EXISTING PHASING, TIMING, AND COMMUNICATION SETTINGS PER JSP H.
- (2) THE CONTRACTOR SHALL REMOVE THE EXISTING VIDEO DETECTION EQUIPMENT INCLUDING ANY UNUSED CAMERAS, CABINET HARDWARE, MOUNTING HARDWARE/BRACKETS AND CABLING, THE EXISTING VIDEO DETECTION EQUIPMENT SHALL BE DELIVERED TO THE MODOT SIGNAL SHOP PER JSP K. THE CONTRACTOR SHALL INSTALL A COMPLETE VIDEO DETECTION SYSTEM WITH ENCLOSURES, MOUNTING HARDWARE/BRACKETS, TERMINATION PANELS, POWER AND COMMUNICATION CABLES FOR STOP BAR DETECTION PER JSP I.
- (3) THE CONTRACTOR SHALL INSTALL RADAR DETECTION UNITS AND PROGRAM FOR ADVANCED DETECTION PER JSP J.

NEW CONTROLLER IN EXISTING CABINET -11> EXISTING SIGNAL HEAD EXISTING VIDEO/RADAR DETECTION UNIT Γ NEW VIDEO/RADAR COMBINATION DETECTION UNIT NEW VIDEO DETECTION UNIT D R NEW RADAR DETECTION UNIT EXISTING GRIDSMART VIDEO DETECTION UNIT EXISTING ACCESS POINT **□**₩ EXISTING REPEATER EXISTING SENSYS DETECTOR PROBE \bigcirc 6 X 6 LOOP DETECTOR 6 X 15 LOOP DETECTOR → 30 X 6 LOOP DETECTOR EXISTING STOP BAR DETECTION ZONE

TRAFFIC SIGNAL SHEET 15 OF 78

PROPOSED STOP BAR DETECTION ZONE

ST. LOUIS COUNTY ROUTE 180 SIGNAL IMPROVEMENTS

-200700277 06/21/2024 180 MO SL 18 ST. LOUIS JSL0179 PROJECT NO.

C====== EXISTING MAST ARM

② _ Z Z Z Z S EXISTING TRUSS

	POWER SUPPLY													
LOC	ATION		POWER ASSE		CIR	CUIT	T BREAKEI	R TRIP R	AT I NG*	LIGHTING	CONTROL *		SERVIC	E POLE
100001011	CT LT LON	055657	DRAWING	00.194110			OLLER CONT &	POWER DISCO		ON POWER	R SUPPLY)	CON	ITRACT	UTILITY
APPROACH	STATION T	UFFSEI	902.15	DRAWING	BRE A	I ARY KER	S I GNAL L AMPS	MAIN B		120 VOLT CONTROL CABINET	MA I N BRE AK ER		RNISH	COMPANY
		\vdash	Туре	U.1.P.	15	Amps	· Amps	Amps	Amps		Amps	CI.	Ft.	U.I.P.
0	1 •		Туре		15	Amps	Amps	Amps	Amps		Amps	CI.	Ft.	

	CONTROLLER ASSEMBLY AND AUXILIARY EQUIPMENT																				
LOCATI	ION		SYS MAS	TEM	A C T L I	ATED	ON-OFF* SWITCH		COORDINA	TION INT	ERFACE *	€				A CABI		170 CA		1 -	70
APPROACH	APPROACH STATION OFFS				ACTO	ATED	TYPE	12C/7C (HARDWIRE 1)	TIME	CLOSED	L00P	FIBER	TIME *		TYPE *	-	TYP	E *	SOFTW	ARE *
AFFRUACH	STATION	OFFSET	NEMA	170	NEMA	170	I II	MASTER	LOCAL	BASE	NEMA	170	LIDEK		E	ΕV	DOUBLE	332	336S	BITRAN	WAPITI
MO 180 & HARMONY	U.I.P.	U.I.P.			1								1								

		NEMA DETECTOR ASSIGNMENT												
		CARD POSITION												
		1	2	3	4	5	6	7	8					
C H A N	1		1 1	Ţ	D									
N N E L	2													

TOTAL NUMBER OF DETECTOR CARDS(2-CHANNEL) =

	NEMA LOAD SWITCH ASSIGNMENTS													
1	2	3	4	5	6	7	8	9	10	11	12			
				U.	Ι.	Р	•							

F	OR INFORMATION	ONLY	
		TY	PE
DETECTOR NUMBER	APPROACH	RADAR	VIDEO
10	WB (PHASE 1)		1
21	EB (PHASE 2)		1
22	EB (PHASE 2)		1
31	SB (PHASE 3)		1
32	SB (PHASE 3)		1
41	NB (PHASE 4)		1
42	NB (PHASE 4)		1
50	EB (PHASE 5)		1
61	WB (PHASE 6)		1
62	WB (PHASE 6)		1
23	EB ADVANCE (PHASE 2)	1	
24	EB ADVANCE (PHASE 2)	1	
63	WB ADVANCE (PHASE 6)	1	
64	WB ADVANCE (PHASE 6)	1	
	TOTAL	4	10

DETECTOR SCHEDULE

- * ITEMS FOR WHICH SEPARATE PAYMENT WILL NOT BE MADE.
- (1) CABLING FOR THE NEW VIDEO DETECTION AND RADAR DETECTION SHOULD BE ROUTED THROUGH EXISTING CONDUITS. CONDUITS THAT ARE DAMAGED. COLLAPSED. OR UNUSABLE SHALL BE MARKED ON THE AS-BUILT PLANS PER JSP S.
- (2) THE INSTALLATION OF ALL EQUIPMENT SHALL BE IN ACCORDANCE WITH THE LATEST EDITION MISSOURI DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, DRAWINGS, AND ENGINEERING POLICY GUIDE.
- (3) THE CONTRACTOR SHALL HAVE RESPONSIBILITY OF LOCATING ALL UNDERGROUND AND OVERHEAD FACILITIES, STRUCTURES, AND UTILITIES.
- (4) THE CONTRACTOR IS RESPONSIBLE FOR TRAFFIC CONTROL AND SHALL CONFORM TO THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND MISSOURI DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS.
- (5) ALL DRILLED OPENING FOR CABLE SHALL BE WEATHERPROOF.
 THERE WILL BE NO DIRECT PAYMENT FOR DRILLED OPENINGS.
 DISUSED OPENINGS SHALL BE PLUGGED BY THE CONTRACTOR.
- (6) THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROGRAMMING DETECTION ZONES PER JSP I AND JSP J. PER JSP I AND JSP J. COUNT ZONES SHOULD BE PROGRAMMED FOR EACH LANE AT THE INTERSECTION EVEN IF NO VEHICLE DETECTION ZONE IS REQUIRED FOR THAT LANE.
- (7) THE CONTRACTOR SHALL REMOVE ALL DISUSED EXISTING DETECTION CAMERA CABLE AS PART OF THE DETECTION INSTALLATION.
- (8) THE CONTRACTOR SHALL PULL ROPE THROUGH ANY USED CONDUITS PER JSP R.
- (9) MANUFACTURER'S REPRESENTATIVE SHALL BE PRESENT DURING PROGRAMMING OF DETECTION ZONES PER JSP I AND JSP J. MANUFACTURER'S REPRESENTATIVE SHALL PROVIDE GUIDANCE TO CONTRACTOR ON OPTIMAL PLACEMENT OF DETECTION EQUIPMENT AND PROGRAMMED DETECTION ZONES.

PHASE 1 PHASE 2 PHASE 3 PHASE 4

PHASE 5 PHASE 6 PHASE 7 PHASE 8

MO 180 & HARMONY

INTERSECTION

TRAFFIC SIGNAL SHEET 16 OF 78

ST. LOUIS COUNTY
ROUTE 180 SIGNAL IMPROVEMENTS

TATE OF MISSOL
MICHAEL JOHN DOLDE
NUMBER PE-2007002778
5810NAL ENGIN
THIS CHEET HAS BEEN

SIGNED, SEALED AND DA ELECTRONICALLY.	TED
DATE PREPARED	
06/21/202	24

ROUTE STATE

180 MO

DISTRICT SHEET NO.

SL 19

COUNTY

ST. LOUIS

JSL0179

PROJECT NO.

BRIDGE NO.

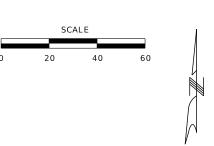
DESCRIPTION
PRELIMINARY PLANS
FINAL PLANS

IGHWAYS AND TRANSPORTATION
COMMISSION

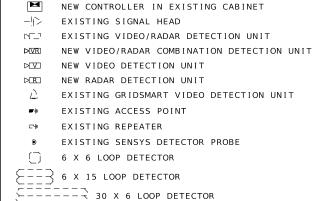
105 WEST CAPITOL
LEFERSON CITY AND ACTOR

NWAY SUITE 2800 5 03102 (314) 206-4444





- (1) THE CONTRACTOR SHALL REMOVE THE EXISTING CONTROLLER AND DELIVER TO THE MODOT SIGNAL SHOP PER JSP K. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROGRAMMING THE NEW CONTROLLER TO MATCH EXISTING PHASING, TIMING, AND COMMUNICATION SETTINGS PER JSP H.
- (2) THE CONTRACTOR SHALL REMOVE THE EXISTING VIDEO DETECTION EQUIPMENT INCLUDING ANY UNUSED CAMERAS, CABINET HARDWARE, MOUNTING HARDWARE/BRACKETS AND CABLING, THE EXISTING VIDEO DETECTION EQUIPMENT SHALL BE DELIVERED TO THE MODOT SIGNAL SHOP PER JSP K. THE CONTRACTOR SHALL INSTALL A COMPLETE VIDEO DETECTION SYSTEM WITH ENCLOSURES, MOUNTING HARDWARE/BRACKETS, TERMINATION PANELS, POWER AND COMMUNICATION CABLES FOR STOP BAR DETECTION PER JSP I.
- (3) THE CONTRACTOR SHALL INSTALL RADAR DETECTION UNITS AND PROGRAM FOR ADVANCED DETECTION PER JSP J.



TRAFFIC SIGNAL SHEET 17 OF 78

PROPOSED STOP BAR DETECTION ZONE

ST. LOUIS COUNTY ROUTE 180 SIGNAL IMPROVEMENTS

-200700277 06/21/2024 180 MO SL 20 ST. LOUIS JSL0179 PROJECT NO.

MISSOURI HIGHWAYS AND TRANSPC
COMMISSION
MADOT

105 WES
LEFFERSON CITY,

■ INC. DADWAY SUITE 2800 . MO 63102 (314) 206-4444

C====== EXISTING MAST ARM

② _ Z Z Z Z S EXISTING TRUSS

	POWER SUPPLY													
LOC	CATION		POWER ASSE	SUPPLY MBLY	CIR	CUIT	T BREAKEI	R TRIP R	AT I NG*	LIGHTING	CONTROL *		SERVIC	E POLE
			DRAWING		_		OLLER CONT &	POWER DISCO	SUPPLY NNECT		R SUPPLY)	CON	NTRACT	UTILITY
APPROACH	STATION	OFFSET	902.15	DRAWING	AUX I L BRE A	I ARY KER	SIGNAL		REAKER	120 VOLT CONTROL	MAIN BREAKER		RNISH	COMPANY
	T	\triangleright	Туре	U.1.P.	15	Amps	· Amps	SIGNALS Amps	LIGHTING Amps	CABINET	Amps	CI.	Ft.	U.I.P.
U •	1 •	•	Туре		15	Amps	Amps	Amps	Amps		Amps	CI.	Ft.	

	CONTROLLER ASSEMBLY AND AUXILIARY EQUIPMENT																				
LOCATI	ON		SYS MAS	TEM	A C T L I	ATED	ON-OFF* SWITCH	(COORDINA	TION INT	ERFACE *	(NEM	A CABI	NET	170 C		1 7	
APPROACH	APPROACH STATION OFFS			LOOP)	ACTO	AILU	TYPE	12C/7C (HARDWIRE 1)	TIME	CLOSE	L00P	FIBER	TIME * CLOCK		TYPE *		TYP	E *	SOFTW.	ARE *
AFFROACH	STATION	OFFSET	NEMA	170	NEMA	170	I I I	MASTER	LOCAL	BASE	NEMA	170	FIDER		E	ΕV	DOUBLE	332	3365	BITRAN	WAPITI
MO 180 & I-70 WB RAMP	U.I.P.	U.I.P.			1								1								

		NEMA DETECTOR ASSIGNMENT													
			CARD POSITION												
		1	2	3	4	5	6	7	8						
C H A N	1			T	D										
N E L	2														

TOTAL NUMBER OF DETECTOR CARDS(2-CHANNEL) = (2:

	NEMA LOAD SWITCH ASSIGNMENTS													
1	2	3	4	5	6	7	8	9	10	11	12			
				U.	Ι.	Ρ,	•							

F	OR INFORMATION		
		TY	PE
DETECTOR NUMBER	APPROACH	RADAR	VIDEO
21	EB (PHASE 2)		1
22	EB (PHASE 2)		1
30	SB (PHASE 3)		1
50	EB (PHASE 5)		1
61	WB (PHASE 6)		1
62	WB (PHASE 6)		1
23	EB ADVANCE (PHASE 2)	1	
24	EB ADVANCE (PHASE 2)	1	
31	SB ADVANCE (PHASE 3)	1	
63	WB ADVANCE (PHASE 6)	1	
64	WB ADVANCE (PHASE 6)	1	
	TOTAL	5	6

DETECTOR SCHEDULE

- * ITEMS FOR WHICH SEPARATE PAYMENT WILL NOT BE MADE.
- (1) CABLING FOR THE NEW VIDEO DETECTION AND RADAR DETECTION SHOULD BE ROUTED THROUGH EXISTING CONDUITS. CONDUITS THAT ARE DAMAGED. COLLAPSED. OR UNUSABLE SHALL BE MARKED ON THE AS-BUILT PLANS PER JSP S.
- (2) THE INSTALLATION OF ALL EQUIPMENT SHALL BE IN ACCORDANCE WITH THE LATEST EDITION MISSOURI DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, DRAWINGS, AND ENGINEERING POLICY GUIDE.
- (3) THE CONTRACTOR SHALL HAVE RESPONSIBILITY OF LOCATING ALL UNDERGROUND AND OVERHEAD FACILITIES, STRUCTURES, AND UTILITIES.
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- (5) ALL DRILLED OPENING FOR CABLE SHALL BE WEATHERPROOF.
 THERE WILL BE NO DIRECT PAYMENT FOR DRILLED OPENINGS.
 DISUSED OPENINGS SHALL BE PLUGGED BY THE CONTRACTOR.
- (6) THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROGRAMMING DETECTION ZONES PER JSP I AND JSP J. PER JSP I AND JSP J. COUNT ZONES SHOULD BE PROGRAMMED FOR EACH LANE AT THE INTERSECTION EVEN IF NO VEHICLE DETECTION ZONE IS REQUIRED FOR THAT LANE.
- (7) THE CONTRACTOR SHALL REMOVE ALL DISUSED EXISTING DETECTION CAMERA CABLE AS PART OF THE DETECTION INSTALLATION.
- (8) THE CONTRACTOR SHALL PULL ROPE THROUGH ANY USED CONDUITS PER JSP R.
- (9) MANUFACTURER'S REPRESENTATIVE SHALL BE PRESENT DURING PROGRAMMING OF DETECTION ZONES PER JSP I AND JSP J. MANUFACTURER'S REPRESENTATIVE SHALL PROVIDE GUIDANCE TO CONTRACTOR ON OPTIMAL PLACEMENT OF DETECTION EQUIPMENT AND PROGRAMMED DETECTION ZONES.

PHASE 1	PHASE 2	PHASE 3						
		•						
	-							
5,1465, 5	5,1165,6	50465 7						
PHASE 5	PHASE 6	PHASE 7						

MO 180 & I-70 WB RAMP

INTERSECTION

TRAFFIC SIGNAL SHEET 18 OF 78

ST. LOUIS COUNTY
ROUTE 180 SIGNAL IMPROVEMENTS

ATE OF MISSO
MICHAEL JOHN DOLDE
NUMBER PE-2007002778
SSIONAL ENGINEER
THIS SHEET HAS BEEN

SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED

06/21/2024

ROUTE STATE

180 MO

DISTRICT SHEET NO

SL 21

JSL0179 CONTRACT ID.

ST. LOUIS

PROJECT NO.

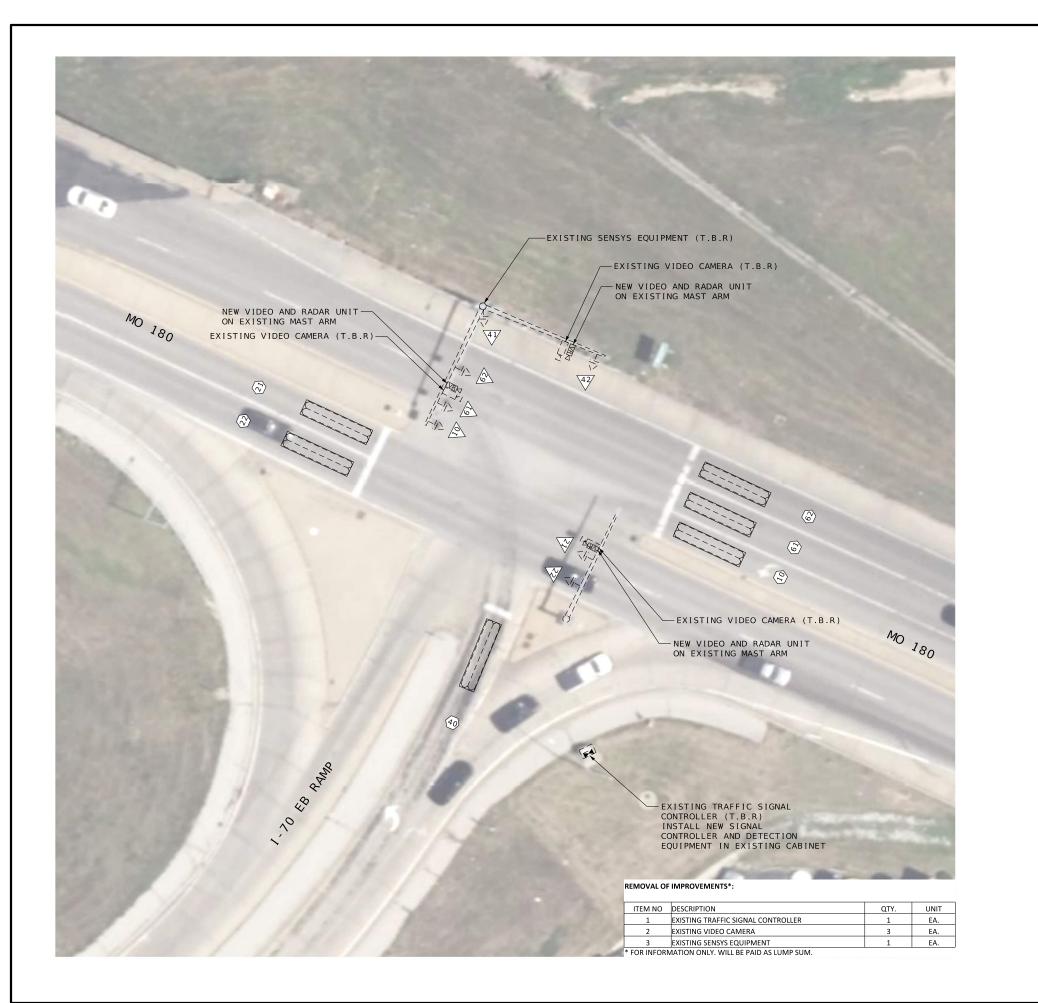
BRIDGE NO.

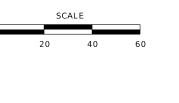
DESCRIPTION
PRELIMINARY PLANS
PETANAL PLANS

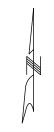
COMMISSION
COMMISSION

105 WEST CAPITOL

WAY SUITE 2800 63102 (314) 206-4444







- (1) THE CONTRACTOR SHALL REMOVE THE EXISTING CONTROLLER AND DELIVER TO THE MODOT SIGNAL SHOP PER JSP K. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROGRAMMING THE NEW CONTROLLER TO MATCH EXISTING PHASING, TIMING, AND COMMUNICATION SETTINGS PER JSP H.
- (2) THE CONTRACTOR SHALL REMOVE THE EXISTING VIDEO DETECTION EQUIPMENT INCLUDING ANY UNUSED CAMERAS, CABINET HARDWARE, MOUNTING HARDWARE/BRACKETS AND CABLING. THE EXISTING VIDEO DETECTION EQUIPMENT SHALL BE DELIVERED TO THE MODOT SIGNAL SHOP PER JSP K. THE CONTRACTOR SHALL INSTALL A COMPLETE VIDEO DETECTION SYSTEM WITH ENCLOSURES, MOUNTING HARDWARE/BRACKETS, TERMINATION PANELS, POWER AND COMMUNICATION CABLES FOR STOP BAR DETECTION PER JSP I.
- (3) THE CONTRACTOR SHALL INSTALL RADAR DETECTION UNITS AND PROGRAM FOR ADVANCED DETECTION PER JSP J.
- (4) THE CONTRACTOR SHALL REMOVE SENSYS EQUIPMENT (ACCESS POINTS, REPEATERS, AND EQUIPMENT IN THE CABINET) AS SPECIFIED IN JSP T. PAYMENT FOR REMOVAL WILL BE INCLUDED WITH REMOVAL OF IMPROVEMENTS (LS).

- NEW CONTROLLER IN EXISTING CABINET
- EXISTING SIGNAL HEAD
- MI EXISTING VIDEO/RADAR DETECTION UNIT
- NEW VIDEO/RADAR COMBINATION DETECTION UNIT
- NEW VIDEO DETECTION UNIT
- NEW RADAR DETECTION UNIT
- EXISTING GRIDSMART VIDEO DETECTION UNIT
- EXISTING ACCESS POINT
- □ EXISTING REPEATER
- EXISTING SENSYS DETECTOR PROBE
- 6 X 6 LOOP DETECTOR

6 X 15 LOOP DETECTOR

30 X 6 LOOP DETECTOR

EXISTING STOP BAR DETECTION ZONE

PROPOSED STOP BAR DETECTION ZONE

TRAFFIC SIGNAL SHEET 19 OF 78

ST. LOUIS COUNTY ROUTE 180 SIGNAL IMPROVEMENTS MICHAEL JOHN DOLDE

NUMBER NUMBER SIGNES STALE AND DATE PREPARED

DATE PREPARED

06/21/2024

ROUTE STATE

ROUTE STATE

180 MO
DISTRICT SHEET NO.
SL 22

COUNTY

ST. LOUIS

JOB NO.

JOB NO.
JSL0179
CONTRACT ID.

PROJECT NO.

DESCRIPTION
PRELIMINARY PLANS
FINAL PLANS

COMMISSION

OT

105 WEST CAPITOL

JEFFERSON CITY, MO 65102

E 2800

	POWER SUPPLY															
LOC	LOCATION POWER SUPPLY ASSEMBLY					CUII	T BREAKEI	R TRIP R	AT I NG ≭	LIGHTING	CONTROL *	SERVICE POLE				
100001011			DRAWING				OLLER	POWER DISCO		(ON POWER	R SUPPLY)	CUN	NTRACT	UTILITY		
APPROACH	STATION	UFFSEI	DRAWING 902.15	DRAWING	AUX I L BRE A	I ARY KER	CONT & SIGNAL LAMPS	MAIN B		120 VOLT CONTROL CABINET	MAIN BREAKER		RNISH	COMPANY		
++	T	ightharpoons	Туре	U.1.P.	15	Amps	· Amps	SIGNALS	L I GHT I NG Amps	CABINET	Amps	CI.	Ft.	U.I.P.		
0 •	1 •	•	Туре		15	Amps	Amps	Amps	Amps		Amps	CI.	Ft.			

	CONTROLLER ASSEMBLY AND AUXILIARY EQUIPMENT																					
LOCATI	A C T L I	ON-OFF* COORDINATION INTERFACE *										NEMA CABINET			170 CABINET		170					
APPROACH	APPROACH STATION OFFSE				MASTER ACTUATED (CLOSED LOOP)			TYPE 12C/7C HARDWIRE CLOSED LOOP						FIBER	TIME *		TYPE *	-	TYP	*	SOFTW	ARE *
AFFROACH	STATION	UFFSET	NEMA	170	NEMA	170	I	I I M	IASTER	LOCAL	BASE	NEMA	170			E	ΕV	DOUBLE	332	336S	BITRAN	WAPITI
MO 180 & I-70 EB RAMP	U.I.P.	U.I.P.			1									1								

			NEMA DETECTOR ASSIGNMENT												
			CARD POSITION												
		1	2	3	4	5	6	7	8						
C H A N	1			T	D										
N E L	2		U •	1 •) 	•									

TOTAL NUMBER OF DETECTOR CARDS(2-CHANNEL) = (2

	NEMA LOAD SWITCH ASSIGNMENTS														
1	2	3	4	5	6	7	8	9	10	11	12				
				U.	Ι.	Р	•								

F	OR INFORMATION	ONLY	
		TY	PE
DETECTOR NUMBER	APPROACH	RADAR	VIDEO
10	WB (PHASE 1)		1
21	EB (PHASE 2)		1
22	EB (PHASE 2)		1
40	NB (PHASE 4)		1
61	WB (PHASE 6)		1
62	WB (PHASE 6)		1
23	EB ADVANCE (PHASE 2)	1	
24	EB ADVANCE (PHASE 2)	1	
41	NB ADVANCE (PHASE 4)	1	
63	WB ADVANCE (PHASE 6)	1	
64	WB ADVANCE (PHASE 6)	1	
	+		
	TOTAL	5	6

DETECTOR SCHEDULE

- * ITEMS FOR WHICH SEPARATE PAYMENT WILL NOT BE MADE.
- (1) CABLING FOR THE NEW VIDEO DETECTION AND RADAR DETECTION SHOULD BE ROUTED THROUGH EXISTING CONDUITS. CONDUITS THAT ARE DAMAGED. COLLAPSED. OR UNUSABLE SHALL BE MARKED ON THE AS-BUILT PLANS PER JSP S.
- (2) THE INSTALLATION OF ALL EQUIPMENT SHALL BE IN ACCORDANCE WITH THE LATEST EDITION MISSOURI DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, DRAWINGS, AND ENGINEERING POLICY GUIDE.
- (3) THE CONTRACTOR SHALL HAVE RESPONSIBILITY OF LOCATING ALL UNDERGROUND AND OVERHEAD FACILITIES, STRUCTURES, AND UTILITIES.
- (4) THE CONTRACTOR IS RESPONSIBLE FOR TRAFFIC CONTROL AND SHALL CONFORM TO THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND MISSOURI DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS.
- (5) ALL DRILLED OPENING FOR CABLE SHALL BE WEATHERPROOF.
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 DISUSED OPENINGS SHALL BE PLUGGED BY THE CONTRACTOR.
- (6) THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROGRAMMING DETECTION ZONES PER JSP I AND JSP J. PER JSP I AND JSP J. COUNT ZONES SHOULD BE PROGRAMMED FOR EACH LANE AT THE INTERSECTION EVEN IF NO VEHICLE DETECTION ZONE IS REQUIRED FOR THAT LANE.
- (7) THE CONTRACTOR SHALL REMOVE ALL DISUSED EXISTING DETECTION CAMERA CABLE AS PART OF THE DETECTION INSTALLATION.
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- (9) MANUFACTURER'S REPRESENTATIVE SHALL BE PRESENT DURING PROGRAMMING OF DETECTION ZONES PER JSP I AND JSP J. MANUFACTURER'S REPRESENTATIVE SHALL PROVIDE GUIDANCE TO CONTRACTOR ON OPTIMAL PLACEMENT OF DETECTION EQUIPMENT AND PROGRAMMED DETECTION ZONES.

PHASE 1	PHASE 2	PHASE 4						
*								
	-							
PHASE 5	PHASE 6	PHASE 8						

MO 180 & I-70 EB RAMP

INTERSECTION

TRAFFIC SIGNAL SHEET 20 OF 78

ST. LOUIS COUNTY
ROUTE 180 SIGNAL IMPROVEMENTS

ATE OF MISSO	I
STANICHAEL JOHN DOLDE	l
NUMBER PE-2007002778	l
SSIONAL ENGINEER	l
THIS SHEET HAS BEEN	ı

SIGNED, SEALED AND DATE ELECTRONICALLY.

06/21/2024

ROUTE
180 MO
DISTRICT SHEET NO.
SL 23

JSL0179

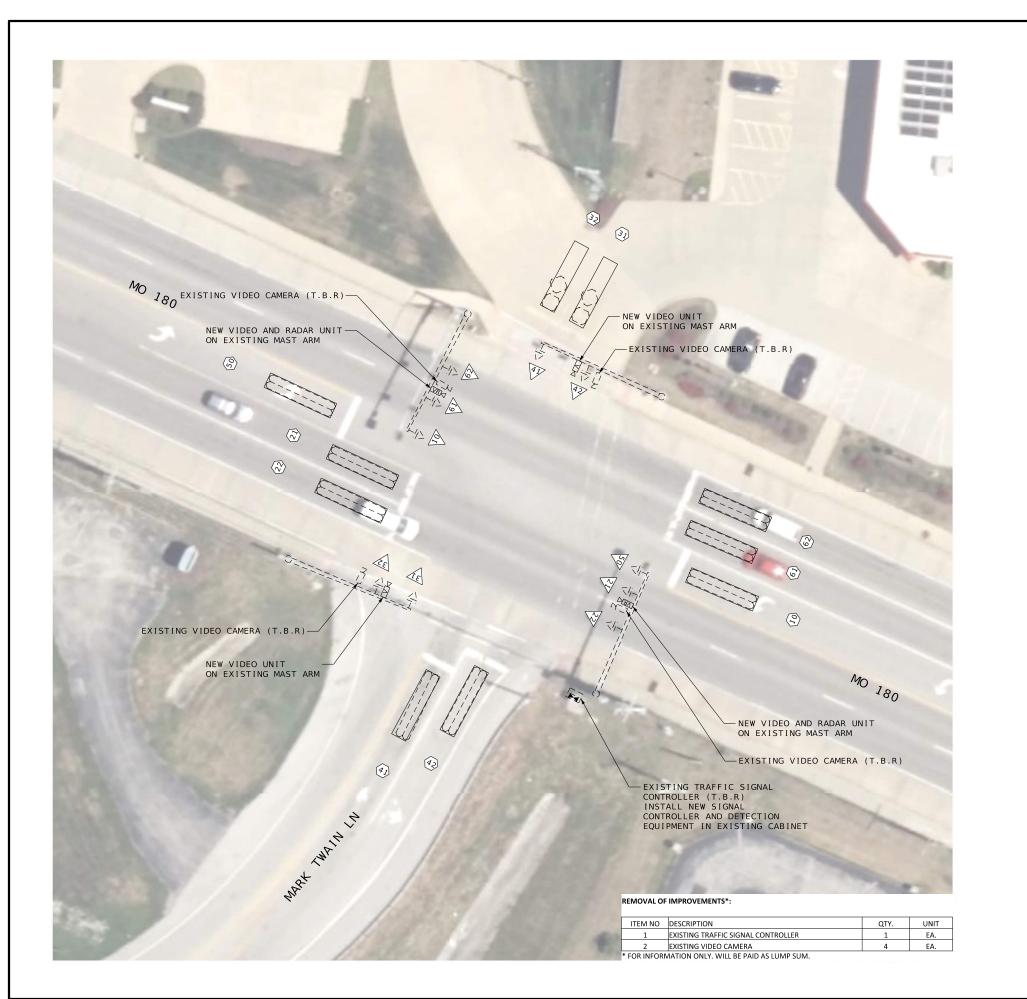
CONTRACT ID.

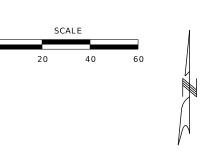
PROJECT NO.

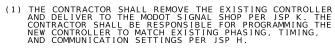
COMMISSION

105 WEST CAPITOL

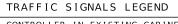
INC. DADWAY SUITE 2800 , MO 63102 (314) 206-4444







- (2) THE CONTRACTOR SHALL REMOVE THE EXISTING VIDEO DETECTION EQUIPMENT INCLUDING ANY UNUSED CAMERAS, CABINET HARDWARE, MOUNTING HARDWARE/BRACKETS AND CABLING, THE EXISTING VIDEO DETECTION EQUIPMENT SHALL BE DELIVERED TO THE MODOT SIGNAL SHOP PER JSP K. THE CONTRACTOR SHALL INSTALL A COMPLETE VIDEO DETECTION SYSTEM WITH ENCLOSURES, MOUNTING HARDWARE/BRACKETS, TERMINATION PANELS, POWER AND COMMUNICATION CABLES FOR STOP BAR DETECTION PER JSP I.
- (3) THE CONTRACTOR SHALL INSTALL RADAR DETECTION UNITS AND PROGRAM FOR ADVANCED DETECTION PER JSP J.



- NEW CONTROLLER IN EXISTING CABINET
- -11> EXISTING SIGNAL HEAD
- EXISTING VIDEO/RADAR DETECTION UNIT Γ
- NEW VIDEO/RADAR COMBINATION DETECTION UNIT
 - NEW VIDEO DETECTION UNIT
- DR. NEW RADAR DETECTION UNIT
- EXISTING GRIDSMART VIDEO DETECTION UNIT
- EXISTING ACCESS POINT
- EXISTING REPEATER **□**₩
- EXISTING SENSYS DETECTOR PROBE
- \bigcirc 6 X 6 LOOP DETECTOR

6 X 15 LOOP DETECTOR

→ 30 X 6 LOOP DETECTOR

EXISTING STOP BAR DETECTION ZONE

PROPOSED STOP BAR DETECTION ZONE

 \bigcirc ====== EXISTING MAST ARM

② _ Z Z Z Z S EXISTING TRUSS

TRAFFIC SIGNAL SHEET 21 OF 78

ST. LOUIS COUNTY ROUTE 180 SIGNAL IMPROVEMENTS PE-2007UL

06/21/2024 180 MO SL 24

ST. LOUIS JSL0179

	POWER SUPPLY														
LOC	LOCATION POWER SUPPLY ASSEMBLY					CUIT	T BREAKEI	R TRIP R	AT I NG*	LIGHTING	CONTROL *	SERVICE POLE			
			DRAWING	DRAWING			OLLER CONT &	POWER DISCO	SUPPLY NNECT		R SUPPLY)	CON	NTRACT	UTILITY	
APPROACH	STATION	OFFSET	902.15	DRAWING	AUX I L BRE A	I ARY KER	SIGNAL		REAKER	120 VOLT CONTROL	MAIN BREAKER		RNISH	COMPANY	
	T	\triangleright	Туре	U.1.P.	15	Amps	· Amps	SIGNALS Amps	LIGHTING Amps	CABINET	Amps	CI.	Ft.	U.I.P.	
U •	1 •	•	Туре		15	Amps	Amps	Amps	Amps		Amps	CI.	Ft.		

	CONTROLLER ASSEMBLY AND AUXILIARY EQUIPMENT																							
LOCATI	LOCATION SYSTE MASTE							ON-OFF* COORDINATION INTERFACE * NEMA CABINET 1								170 CABINET 170								
APPROACH	ADDDOAGU CTATION OFFICE				(CLOSED LOOP		LOOP)	ACTO	AILU	TYPE	12C/7C (HARDWIRE 1)	TIME	CLOSE	L00P	FIBER	TIME * CLOCK		TYPE *		TYP	E *	SOFTW	ARE *
AFFROACH	STATION	OFFSET	NEMA	170	NEMA	170	I I I	MASTER	LOCAL	BASE	NEMA	170	FIDER		E	ΕV	DOUBLE	332	336S	BITRAN	WAPITI			
MO 180 & MARK TWAIN	U.1.P.	U.I.P.			1								1											

		NEMA DETECTOR ASSIGNMENT								
				CAI	RD PO	DS I T I	ON			
		1	2	3	4	5	6	7	8	
C H A N	1			Ţ	D					
N N E L	2		U•	1 •		•				

TOTAL NUMBER OF DETECTOR CARDS(2-CHANNEL) =

	NEMA LOAD SWITCH ASSIGNMENTS										
1	2	3	4	5	6	7	8	9	10	11	12
				U.	Ι.	Ρ,	•				

		TY	PE
DETECTOR NUMBER	APPROACH	RADAR	VIDEO
10	WB (PHASE 1)		1
21	EB (PHASE 2)		1
22	EB (PHASE 2)		1
31	SB (PHASE 3)		1
32	SB (PHASE 3)		1
41	NB (PHASE 4)		1
42	NB (PHASE 4)		1
50	EB (PHASE 5)		1
61	WB (PHASE 6)		1
62	WB (PHASE 6)		1
23	EB ADVANCE (PHASE 2)	1	
24	EB ADVANCE (PHASE 2)	1	
63	WB ADVANCE (PHASE 6)	1	
64	WB ADVANCE (PHASE 6)	1	
	TOTAL	4	10

DETECTOR SCHEDULE

- * ITEMS FOR WHICH SEPARATE PAYMENT WILL NOT BE MADE.
- (1) CABLING FOR THE NEW VIDEO DETECTION AND RADAR DETECTION SHOULD BE ROUTED THROUGH EXISTING CONDUITS. CONDUITS THAT ARE DAMAGED, COLLAPSED, OR UNUSABLE SHALL BE MARKED ON THE AS-BUILT PLANS PER JSP S.
- (2) THE INSTALLATION OF ALL EQUIPMENT SHALL BE IN ACCORDANCE WITH THE LATEST EDITION MISSOURI DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, DRAWINGS, AND ENGINEERING POLICY GUIDE.
- (3) THE CONTRACTOR SHALL HAVE RESPONSIBILITY OF LOCATING ALL UNDERGROUND AND OVERHEAD FACILITIES, STRUCTURES, AND UTILITIES.
- (4) THE CONTRACTOR IS RESPONSIBLE FOR TRAFFIC CONTROL AND SHALL CONFORM TO THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND MISSOURI DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS.
- (5) ALL DRILLED OPENING FOR CABLE SHALL BE WEATHERPROOF.
 THERE WILL BE NO DIRECT PAYMENT FOR DRILLED OPENINGS.
 DISUSED OPENINGS SHALL BE PLUGGED BY THE CONTRACTOR.
- (6) THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROGRAMMING DETECTION ZONES PER JSP I AND JSP J. PER JSP I AND JSP J. COUNT ZONES SHOULD BE PROGRAMMED FOR EACH LANE AT THE INTERSECTION EVEN IF NO VEHICLE DETECTION ZONE IS REQUIRED FOR THAT LANE.
- (7) THE CONTRACTOR SHALL REMOVE ALL DISUSED EXISTING DETECTION CAMERA CABLE AS PART OF THE DETECTION INSTALLATION.
- (8) THE CONTRACTOR SHALL PULL ROPE THROUGH ANY USED CONDUITS PER JSP R.
- (9) MANUFACTURER'S REPRESENTATIVE SHALL BE PRESENT DURING PROGRAMMING OF DETECTION ZONES PER JSP I AND JSP J. MANUFACTURER'S REPRESENTATIVE SHALL PROVIDE GUIDANCE TO CONTRACTOR ON OPTIMAL PLACEMENT OF DETECTION EQUIPMENT AND PROGRAMMED DETECTION ZONES.

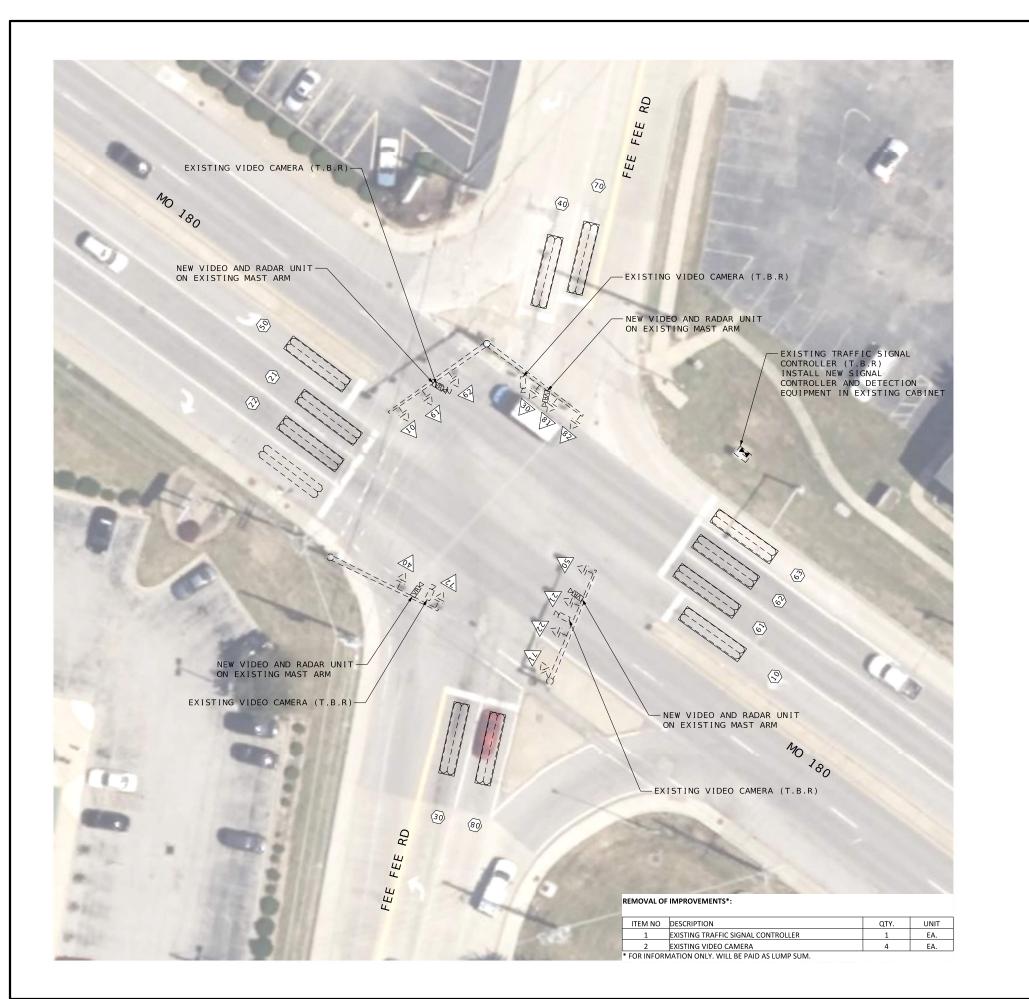
06/21/2024 180 MO SHEET NO SL 25 ST. LOUIS JSL0179 PROJECT NO. BRIDGE NO.

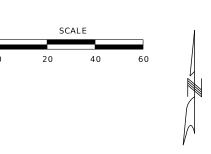
A INC.
SA INC.
SROADWAY SUITE 2800
IIS, MO 63102 (314) 206-4444

МО	180	&	MARK	TWA
	INT	EF	SECTI	ON

TRAFFIC SIGNAL SHEET 22 OF 78

PHASE 1	PHASE 2	PHASE 3	PHASE 4
			1
+	-	•	
<u></u>	•		
PHASE 5	PHASE 6	PHASE 7	PHASE 8





- (1) THE CONTRACTOR SHALL REMOVE THE EXISTING CONTROLLER AND DELIVER TO THE MODOT SIGNAL SHOP PER JSP K. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROGRAMMING THE NEW CONTROLLER TO MATCH EXISTING PHASING, TIMING, AND COMMUNICATION SETTINGS PER JSP H.
- (2) THE CONTRACTOR SHALL REMOVE THE EXISTING VIDEO DETECTION EQUIPMENT INCLUDING ANY UNUSED CAMERAS, CABINET HARDWARE, MOUNTING HARDWARE/BRACKETS AND CABLING. THE EXISTING VIDEO DETECTION EQUIPMENT SHALL BE DELIVERED TO THE MODOT SIGNAL SHOP PER JSP K. THE CONTRACTOR SHALL INSTALL A COMPLETE VIDEO DETECTION SYSTEM WITH ENCLOSURES, MOUNTING HARDWARE/BRACKETS, TERMINATION PANELS, POWER AND COMMUNICATION CABLES FOR STOP BAR DETECTION PER JSP I.
- (3) THE CONTRACTOR SHALL INSTALL RADAR DETECTION UNITS AND PROGRAM FOR ADVANCED DETECTION PER JSP J.

- NEW CONTROLLER IN EXISTING CABINET
- -11> EXISTING SIGNAL HEAD
- EXISTING VIDEO/RADAR DETECTION UNIT יבא
- NEW VIDEO/RADAR COMBINATION DETECTION UNIT
 - NEW VIDEO DETECTION UNIT
- D R NEW RADAR DETECTION UNIT
- EXISTING GRIDSMART VIDEO DETECTION UNIT
- EXISTING ACCESS POINT
- **□**₩ EXISTING REPEATER
- EXISTING SENSYS DETECTOR PROBE
- \bigcirc 6 X 6 LOOP DETECTOR

6 X 15 LOOP DETECTOR

→ 30 X 6 LOOP DETECTOR

EXISTING STOP BAR DETECTION ZONE

PROPOSED STOP BAR DETECTION ZONE

② _ Z Z Z Z S EXISTING TRUSS

TRAFFIC SIGNAL SHEET 23 OF 78

ST. LOUIS COUNTY ROUTE 180 SIGNAL IMPROVEMENTS

06/21/2024 180 MO SL 26

ST. LOUIS JSL0179

POWER SUPPLY														
LOC	LOCATION		POWER SUPPLY ASSEMBLY		CIRCUIT BREAKER TRIP RATING*		LIGHTING CONTROL *		SERVICE POLE		E POLE			
			DRAWING	,		CONTROLLER		POWER DISCO		(ON POWER SUPPLY)		CONTRACT UTILITY		IITII ITY
APPROACH	STATION	UFFSEI	DRAWING 902.15	DRAWING	AUX I L BRE A	I ARY KER	CONT & SIGNAL LAMPS	MAIN B		120 VOLT CONTROL CABINET	MAIN BREAKER		RNISH	COMPANY
++	T	ightharpoons	Туре	U.1.P.	15	Amps	· Amps	SIGNALS	L I GHT I NG Amps	CABINET	Amps	CI.	Ft.	U.I.P.
0 •	1 •	•	Туре		15	Amps	Amps	Amps	Amps		Amps	CI.	Ft.	

	CONTROLLER ASSEMBLY AND AUXILIARY EQUIPMENT																					
LOCATION			SYSTEM MASTER ACTUATED			ON-0 SWI				TION INT	ERFACE *	(NEMA CABINET			170 CABINET		170			
APPROACH	STATION	OFFSET	(CLOSED	LOOP)	ACTO	ATED	ΤY	'PE 12	2C/7C F	IARDWIRE 1)	TIME	CLOSED	LOOP	FIBER	TIME *		TYPE *	-	TYP	*	SOFTW	ARE *
AFFROACH	STATION	UFFSEI	NEMA	170	NEMA	170	I	I I M	MASTER	LOCAL	BASE	NEMA	170	FIBER		E	ΕV	DOUBLE	332	336S	BITRAN	WAPITI
MO 180 & FEE FEE	U.I.P.	U. I.P.			1									1								

			NEMA DETECTOR ASSIGNMENT								
				CAI	RD PO	OS I T I	ON				
		1	2	3	4	5	6	7	8		
C H A N	1			Ţ	D						
N N E L	2		U•	1 •		•					

TOTAL NUMBER OF DETECTOR C	ARDS(2-CHANNEL) = (2
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NEM	A LO	AD S	SWIT	CH A	SSI	GNME	NTS
1	2	3	4	5	6	7	8
		U	.]	. [•		
9	10	11	12	13	14	15	16
		U	.]		•		

PHASE 1	PHASE 2	PHASE 3	PHASE 4
+			+
•	-		<u> </u>
		•	
PHASE 5	PHASE 6	PHASE 7	PHASE 8

F	DETECTOR SCHEDOR INFORMATION		
		TY	PE
DETECTOR NUMBER	APPROACH	RADAR	VIDEO
10	WB (PHASE 1)		1
21	EB (PHASE 2)		1
22	EB (PHASE 2)		1
30	NB (PHASE 3)		1
40	SB (PHASE 4)		1
50	EB (PHASE 5)		1
61	WB (PHASE 6)		1
62	WB (PHASE 6)		1
63	WB (PHASE 6)		1
70	SB (PHASE 7)		1
80	NB (PHASE 8)		1
23	EB ADVANCE (PHASE 2)	1	
24	EB ADVANCE (PHASE 2)	1	
41	SB ADVANCE (PHASE 8)	1	
64	WB ADVANCE (PHASE 6)	1	
65	WB ADVANCE (PHASE 6)	1	
81	NB ADVANCE (PHASE 4)	1	
	TOTAL	6	1 1

- * ITEMS FOR WHICH SEPARATE PAYMENT WILL NOT BE MADE.
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- (3) THE CONTRACTOR SHALL HAVE RESPONSIBILITY OF LOCATING ALL UNDERGROUND AND OVERHEAD FACILITIES, STRUCTURES, AND UTILITIES.
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- (7) THE CONTRACTOR SHALL REMOVE ALL DISUSED EXISTING DETECTION CAMERA CABLE AS PART OF THE DETECTION INSTALLATION.
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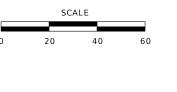
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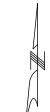
MO 180 & FEE FEE

INTERSECTION

TRAFFIC SIGNAL SHEET 24 OF 78







- (1) THE CONTRACTOR SHALL REMOVE THE EXISTING CONTROLLER AND DELIVER TO THE MODOT SIGNAL SHOP PER JSP K. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROGRAMMING THE NEW CONTROLLER TO MATCH EXISTING PHASING, TIMING, AND COMMUNICATION SETTINGS PER JSP H.
- (2) THE CONTRACTOR SHALL REMOVE THE EXISTING VIDEO DETECTION EQUIPMENT INCLUDING ANY UNUSED CAMERAS, CABINET HARDWARE, MOUNTING HARDWARE/BRACKETS AND CABLING, THE EXISTING VIDEO DETECTION EQUIPMENT SHALL BE DELIVERED TO THE MODOT SIGNAL SHOP PER JSP K. THE CONTRACTOR SHALL INSTALL A COMPLETE VIDEO DETECTION SYSTEM WITH ENCLOSURES, MOUNTING HARDWARE/BRACKETS, TERMINATION PANELS, POWER AND COMMUNICATION CABLES FOR STOP BAR DETECTION PER JSP I.
- (3) THE CONTRACTOR SHALL INSTALL RADAR DETECTION UNITS AND PROGRAM FOR ADVANCED DETECTION PER JSP J.

- NEW CONTROLLER IN EXISTING CABINET
- EXISTING SIGNAL HEAD
- MI EXISTING VIDEO/RADAR DETECTION UNIT
- NEW VIDEO/RADAR COMBINATION DETECTION UNIT
- ✓ NEW VIDEO DETECTION UNIT
- NEW RADAR DETECTION UNIT
- EXISTING GRIDSMART VIDEO DETECTION UNIT
- EXISTING ACCESS POINT
- □ EXISTING REPEATER
- EXISTING SENSYS DETECTOR PROBE
- 6 X 6 LOOP DETECTOR

 $\left\{\begin{array}{c} ---\\ --- \end{array}\right\}$ 6 X 15 LOOP DETECTOR

30 X 6 LOOP DETECTOR

EXISTING STOP BAR DETECTION ZONE

PROPOSED STOP BAR DETECTION ZONE

© ZZZZ EXISTING MAST ARM

TRAFFIC SIGNAL SHEET 25 OF 78

ST. LOUIS COUNTY ROUTE 180 SIGNAL IMPROVEMENTS MICHAELIOHN
DOLDE

NUMBER
PE-2007002778

THIS SHEET HAS BEEN
SIGNED, SSAED, AND DATE
ELECTRONICALLY.

DATE PREPARED

OF A PER PARED

DATE PREPARED

06/21/2024

ROUTE STATE

180 MO

DISTRICT SEET NO.

SL 28

JSL0179

PROJECT NO.

24 PRELIMINARY PLANS
24 FINAL PLANS
OOG

COMMISSION

DOT

105 WEST CAPITOL

JEFFERSON CITY, MO 65102

° OOW

USA INC.
N. BROADWAY SUITE 2800
OUIS, MO 63102 (314) 206-4444
SOURI CERTIFICATE OF AUTHORITY

					Р	OW	ER SI	JPPL Y	•					
LOC	CATION		POWER ASSE	SUPPLY MBLY	CIR	CUIT	T BREAKEI	R TRIP R	AT I NG*	LIGHTING	CONTROL *		SERVIC	E POLE
			DRAWING		_		OLLER CONT &	POWER DISCO	SUPPLY NNECT		R SUPPLY)	CON	NTRACT	UTILITY
APPROACH	STATION	OFFSET	902.15	DRAWING	AUX I L BRE A	I ARY KER	SIGNAL		REAKER	120 VOLT CONTROL	MAIN BREAKER		RNISH	COMPANY
	T	\triangleright	Туре	U.1.P.	15	Amps	· Amps	SIGNALS Amps	LIGHTING Amps	CABINET	Amps	CI.	Ft.	U.I.P.
U •	1 •	•	Туре		15	Amps	Amps	Amps	Amps		Amps	CI.	Ft.	

	CONTROLLER ASSEMBLY AND AUXILIARY EQUIPMENT																				
LOCATI	ON		SYS MAS	TEM	A C T L I	ATED	ON-OFF* SWITCH	(COORDINA	TION INT	ERFACE *	(NEM	A CABI	NET	170 CA		1 7	
APPROACH	STATION	OFFSET	(CLOSE	LOOP)	ACTO	ATED	TYPE	12C/7C (HARDWIRE 1)	TIME	CLOSED	LOOP	FIBER	TIME *		TYPE *		TYP	E *	SOF TW.	ARE *
AFFRUACH	STATION	UFFSEI	NEMA	170	NEMA	170	I I I	MASTER	LOCAL	BASE	NEMA	170	LIBEK		E	ΕV	DOUBLE	332	336S	BITRAN	WAPITI
MO 180 & HOME DEPOT	U.1.P.	U.I.P.			1								1								

				NEM AS	IA DE SSIG	TEC NMEN	TOR NT		
				CAI	RD PO	DS I T I	ON		
		1	2	3	4	5	6	7	8
C H A N	1			Ţ	D				
N E L	2		U •	1 •) 	•			

TOTAL NUMBER OF DETECTOR CARDS(2-CHANNEL) =

NEMA LOAD SWITCH ASSIGNMENTS												
1	2	3	4	5	6	7	8	9	10	11	12	
				U.	Ι.	Ρ.	•					

OR INFORMATION	ONLY	
	TY	PE
APPROACH	RADAR	VIDEO
WB (PHASE 1)		1
EB (PHASE 2)		1
		1
EB (PHASE 2)		1
SB (PHASE 3)		1
SB (PHASE 3)		1
		1
NB (PHASE 4)		1
		1
		1
WB (PHASE 6)		1
WB ADVANCE (PHASE 6)	1	
TOTAL	5	11
	WB (PHASE 1) EB (PHASE 2) EB (PHASE 2) EB (PHASE 2) SB (PHASE 3) SB (PHASE 3) SB (PHASE 3) NB (PHASE 4) NB (PHASE 4) EB (PHASE 5) WB (PHASE 6) WB (PHASE 6) WB (PHASE 6) WB (PHASE 6) EB ADVANCE (PHASE 2) EB ADVANCE (PHASE 2) WB ADVANCE (PHASE 6) WB ADVANCE (PHASE 6)	APPROACH WB (PHASE 1) EB (PHASE 2) EB (PHASE 2) EB (PHASE 2) EB (PHASE 3) SB (PHASE 3) NB (PHASE 3) NB (PHASE 4) EB (PHASE 4) EB (PHASE 5) WB (PHASE 6) WB (PHASE 6) EB ADVANCE (PHASE 2) EB ADVANCE (PHASE 2) EB ADVANCE (PHASE 2) EB ADVANCE (PHASE 6) WB ADVANCE (PHASE 6) WB ADVANCE (PHASE 6) WB ADVANCE (PHASE 6) The control of the

DETECTOR SCHEDULE

- * ITEMS FOR WHICH SEPARATE PAYMENT WILL NOT BE MADE.
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06/21/2024 180 MO SL 29 ST. LOUIS JSL0179 PROJECT NO. BRIDGE NO.

MICHAEL JOHN DOLDE

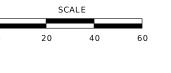
A INC.
SOADWAY SUITE 2800
S, MO 63102 (314) 206-4444
RI CERTIFICATE OF AUTHORITY - 00°

MO 180 & HOME DEPOT

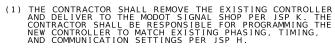
TRAFFIC SIGNAL SHEET 26 OF 78

PHASE 1	PHASE 2	PHASE 3	PHASE 4
•		+	•
•	-		
PHASE 5	PHASE 6	PHASE 7	PHASE 8









- (2) THE CONTRACTOR SHALL REMOVE THE EXISTING VIDEO DETECTION EQUIPMENT INCLUDING ANY UNUSED CAMERAS, CABINET HARDWARE, MOUNTING HARDWARE/BRACKETS AND CABLING. THE EXISTING VIDEO DETECTION EQUIPMENT SHALL BE DELIVERED TO THE MODOT SIGNAL SHOP PER JSP K. THE CONTRACTOR SHALL INSTALL A COMPLETE VIDEO DETECTION SYSTEM WITH ENCLOSURES, MOUNTING HARDWARE/BRACKETS, TERMINATION PANELS, POWER AND COMMUNICATION CABLES FOR STOP BAR DETECTION PER JSP I.
- (3) THE CONTRACTOR SHALL INSTALL RADAR DETECTION UNITS AND PROGRAM FOR ADVANCED DETECTION PER JSP J.

- NEW CONTROLLER IN EXISTING CABINET
- -11> EXISTING SIGNAL HEAD
- EXISTING VIDEO/RADAR DETECTION UNIT Γ
- NEW VIDEO/RADAR COMBINATION DETECTION UNIT
- NEW VIDEO DETECTION UNIT
- D R NEW RADAR DETECTION UNIT
- EXISTING GRIDSMART VIDEO DETECTION UNIT
- EXISTING ACCESS POINT
- **□**₩ EXISTING REPEATER
- EXISTING SENSYS DETECTOR PROBE
- \bigcirc 6 X 6 LOOP DETECTOR

6 X 15 LOOP DETECTOR

→ 30 X 6 LOOP DETECTOR EXISTING STOP BAR DETECTION ZONE

PROPOSED STOP BAR DETECTION ZONE

C====== EXISTING MAST ARM ② _ Z Z Z Z S EXISTING TRUSS

TRAFFIC SIGNAL SHEET 27 OF 78

ST. LOUIS COUNTY ROUTE 180 SIGNAL IMPROVEMENTS -200700277

06/21/2024 180 MO SL 30

ST. LOUIS JSL0179

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LOC	ATION		POWER ASSE	SUPPLY MBLY	CIR	CUII	T BREAKEI	R TRIP R	AT I NG ≭	LIGHTING	CONTROL *		SERVIC	E POLE
			DRAWING				OLLER	POWER DISCO		(ON POWER	R SUPPLY)	CUN	NTRACT	UTILITY
APPROACH	STATION	UFFSEI	DRAWING 902.15	DRAWING	AUX I L BRE A	I ARY KER	CONT & SIGNAL LAMPS	MAIN B		120 VOLT CONTROL CABINET	MAIN BREAKER		RNISH	COMPANY
++	T	ightharpoons	Туре	U.1.P.	15	Amps	· Amps	SIGNALS	L I GHT I NG Amps	CABINET	Amps	CI.	Ft.	U.I.P.
0 •	1 •	•	Туре		15	Amps	Amps	Amps	Amps		Amps	CI.	Ft.	

	CONTROLLER ASSEMBLY AND AUXILIARY EQUIPMENT																				
LOCATI	ON		SYS MAS	TEM	A C T L I	ATED	ON-OFF* SWITCH	(COORDINA	TION INT	ERFACE *	(NEM	A CABI	NET	170 CA		1 7	
APPROACH	STATION	OFFSET	(CLOSE	LOOP)	ACTO	AILU	TYPE	12C/7C	HARDWIRE 1)	TIME	CLOSED	L00P	FIBER	TIME * CLOCK		TYPE *		TYPI	*	SOF TW.	ARE *
AFFRUACH	STATION	UFFSEI	NEMA	170	NEMA	170	I I I	MASTER	LOCAL	BASE	NEMA	170	LIDEK		E	ΕV	DOUBLE	332	336S	BITRAN	WAPITI
MO 180 & 67-LINDBERGH SB RAMP	U.I.P.	U.I.P.			1								1								

				NEM AS	IA DE SSIG	TEC NMEN	TOR NT		
				CAI	RD PO	OS I T I	ON		
		1	2	3	4	5	6	7	8
C H A N	1			T	D				
N E L	2		• U	1 •) 	•			

TOTAL NUMBER OF DETECTOR CARDS(2-CHANNEL) =	= (2
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NEM	A LO	AD S	SWIT	CH A	122	GNME	NTS
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		U	.]	. [•		
9	10	11	12	13	14	15	16
			.]		•		

PHASE 1	PHASE 2	PHASE 3
	◆ OLD	
 		
PHASE 5	PHASE 6	PHASE 7

 $\ensuremath{ *}$ SINGLE CONTROLLER FOR BOTH NB AND SB RAMP

F	DETECTOR SCHEDOR INFORMATION		
		TY	PE
DETECTOR NUMBER	APPROACH	RADAR	VIDEO
23	WB (PHASE 2)		1
24	WB (PHASE 2)		1
31	SB (PHASE 3)		1
32	SB (PHASE 3)		1
50	WB (PHASE 5)		1
61	EB (PHASE 6)		1
62	EB (PHASE 6)		1
63	EB (PHASE 6)		1
25	WB ADVANCE (PHASE 2)	1	
26	WB ADVANCE (PHASE 2)	1	
33	SB ADVANCE (PHASE 3)	1	
34	SB ADVANCE (PHASE 3)	1	
64	EB ADVANCE (PHASE 6)	1	
65	EB ADVANCE (PHASE 6)	1	
66	EB ADVANCE (PHASE 6)	1	
-			
	TOTAL	7	8

- * ITEMS FOR WHICH SEPARATE PAYMENT WILL NOT BE MADE.
- (1) CABLING FOR THE NEW VIDEO DETECTION AND RADAR DETECTION SHOULD BE ROUTED THROUGH EXISTING CONDUITS. CONDUITS THAT ARE DAMAGED. COLLAPSED. OR UNUSABLE SHALL BE MARKED ON THE AS-BUILT PLANS PER JSP S.
- (2) THE INSTALLATION OF ALL EQUIPMENT SHALL BE IN ACCORDANCE WITH THE LATEST EDITION MISSOURI DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, DRAWINGS, AND ENGINEERING POLICY GUIDE.
- (3) THE CONTRACTOR SHALL HAVE RESPONSIBILITY OF LOCATING ALL UNDERGROUND AND OVERHEAD FACILITIES, STRUCTURES, AND UTILITIES.
- (4) THE CONTRACTOR IS RESPONSIBLE FOR TRAFFIC CONTROL AND SHALL CONFORM TO THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND MISSOURI DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS.
- (5) ALL DRILLED OPENING FOR CABLE SHALL BE WEATHERPROOF.
 THERE WILL BE NO DIRECT PAYMENT FOR DRILLED OPENINGS.
 DISUSED OPENINGS SHALL BE PLUGGED BY THE CONTRACTOR.
- (6) THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROGRAMMING DETECTION ZONES PER JSP I AND JSP J. PER JSP I AND JSP J. COUNT ZONES SHOULD BE PROGRAMMED FOR EACH LANE AT THE INTERSECTION EVEN IF NO VEHICLE DETECTION ZONE IS REQUIRED FOR THAT LANE.
- (7) THE CONTRACTOR SHALL REMOVE ALL DISUSED EXISTING DETECTION CAMERA CABLE AS PART OF THE DETECTION INSTALLATION.
- (8) THE CONTRACTOR SHALL PULL ROPE THROUGH ANY USED CONDUITS PER JSP R.
- (9) MANUFACTURER'S REPRESENTATIVE SHALL BE PRESENT DURING PROGRAMMING OF DETECTION ZONES PER JSP I AND JSP J. MANUFACTURER'S REPRESENTATIVE SHALL PROVIDE GUIDANCE TO CONTRACTOR ON OPTIMAL PLACEMENT OF DETECTION EQUIPMENT AND PROGRAMMED DETECTION ZONES.

MICHAEL JOHN
DOLDE

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MICHAEL JOHN
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MICHAEL JOHN
DOLDE

MICHAEL JOHN
MICHAEL J

MISSOURI HIGHWAYS AND TRANSPORCOMISSION

COMMISSION

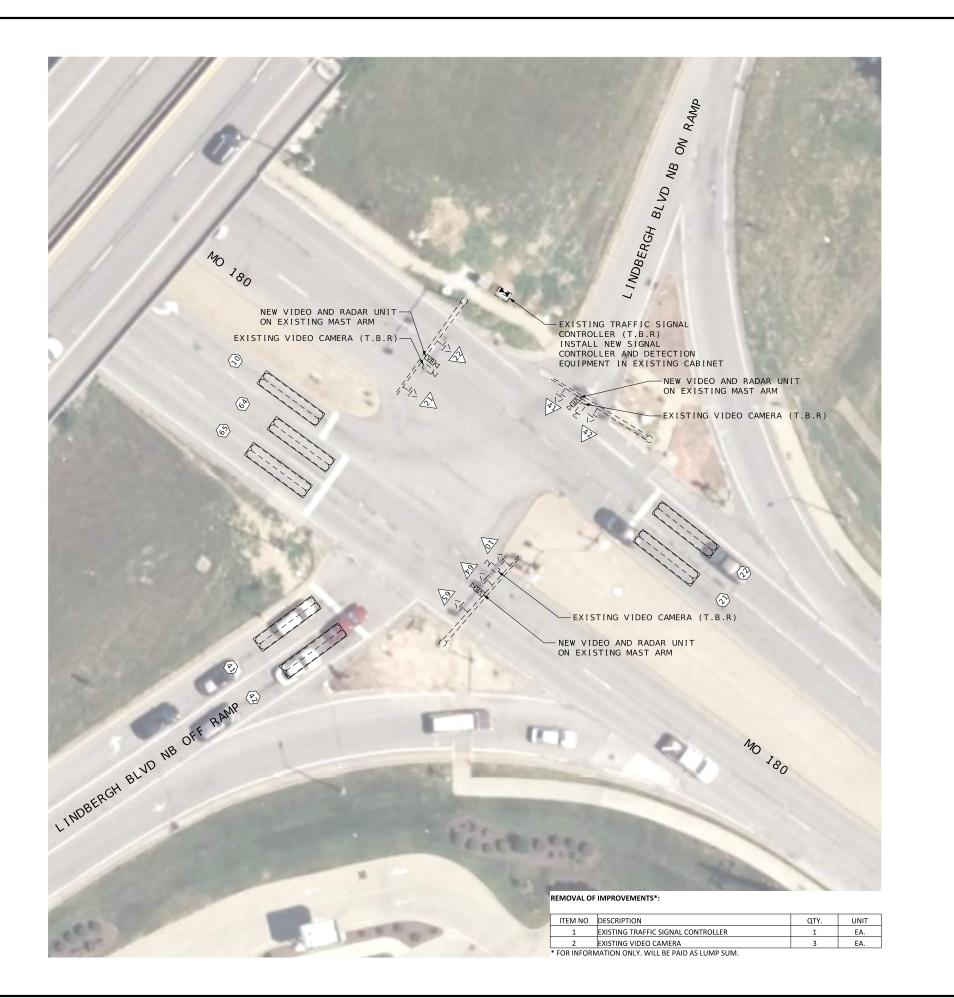
TO THE TRANSPORCE

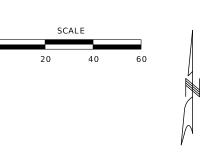
ISP USA INC. 11 N. BROADWAY SUITE 2800 T. LOUIS, MO 63102 (314) 206-4444

MO 180 & 67-LINDBERGH SB RAMP

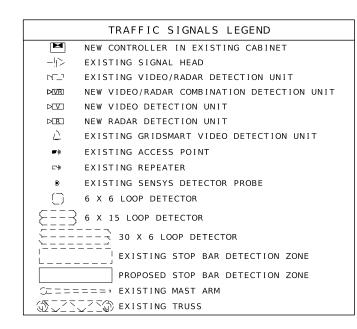
INTERSECTION

TRAFFIC SIGNAL SHEET 28 OF 78





- (1) THE CONTRACTOR SHALL REMOVE THE EXISTING CONTROLLER AND DELIVER TO THE MODOT SIGNAL SHOP PER JSP K. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROGRAMMING THE NEW CONTROLLER TO MATCH EXISTING PHASING, TIMING, AND COMMUNICATION SETTINGS PER JSP H.
- (2) THE CONTRACTOR SHALL REMOVE THE EXISTING VIDEO DETECTION EQUIPMENT INCLUDING ANY UNUSED CAMERAS, CABINET HARDWARE, MOUNTING HARDWARE/BRACKETS AND CABLING. THE EXISTING VIDEO DETECTION EQUIPMENT SHALL BE DELIVERED TO THE MODOT SIGNAL SHOP PER JSP K. THE CONTRACTOR SHALL INSTALL A COMPLETE VIDEO DETECTION SYSTEM WITH ENCLOSURES, MOUNTING HARDWARE/BRACKETS, TERMINATION PANELS, POWER AND COMMUNICATION CABLES FOR STOP BAR DETECTION PER JSP I.
- (3) THE CONTRACTOR SHALL INSTALL RADAR DETECTION UNITS AND PROGRAM FOR ADVANCED DETECTION PER JSP J.



TRAFFIC SIGNAL SHEET 29 OF 78

ST. LOUIS COUNTY ROUTE 180 SIGNAL IMPROVEMENTS -200700277

06/21/2024 180 MO SL 32 ST. LOUIS

JSL0179

	POWER SUPPLY													
LOC	ATION		POWER ASSE	SUPPLY MBLY	CIR	CUII	T BREAKEI	R TRIP R	AT I NG ≭	LIGHTING	CONTROL *		SERVIC	E POLE
			DRAWING				OLLER	POWER DISCO		(ON POWER	R SUPPLY)	CUN	NTRACT	UTILITY
APPROACH	STATION	UFFSEI	DRAWING 902.15	DRAWING	AUX I L BRE A	I ARY KER	CONT & SIGNAL LAMPS	MAIN B		120 VOLT CONTROL CABINET	MAIN BREAKER		RNISH	COMPANY
++	T	ightharpoons	Туре	U.1.P.	15	Amps	· Amps	SIGNALS	L I GHT I NG Amps	CABINET	Amps	CI.	Ft.	U.I.P.
0 •	1 •	•	Туре		15	Amps	Amps	Amps	Amps		Amps	CI.	Ft.	

	CONTROLLER ASSEMBLY AND AUXILIARY EQUIPMENT																				
LOCATION SYSTEM MASTER ACTUATED ON-OFF* SWITCH COORDINATION INTERFACE * NEMA CABINET 170 CABINET																					
APPROACH	ADDDOACH CTATION OFF				ACTOATED		TYPE 12C/7C HARDWIRE (1) TIME			TIME	CLOSED	LOOP	FIBER	TIME *	TYPE *			TYPE *		SOFTWARE *	
AFFRUACH	STATION	OFFSET	NEMA	170	NEMA	170	I I I	MASTER	LOCAL	BASE	NEMA	170	LIBEK		E	ΕV	DOUBLE	332	336S	BITRAN	WAPITI
MO 180 & 67-LINDBERGH NB RAMP	U.I.P.	U.I.P.			1								1								

			NEMA DETECTOR ASSIGNMENT											
			CARD POSITION											
		1	2	3	4	5	6	7	8					
C H A N	1			Ţ	D									
N E L	2		U •	1 •) 	•								

TOTAL NUMBER OF DETECTOR CARDS(2-CHANNEL) = (2)
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NEM	A LO	AD S	SWIT	CH A	ISSI	GNME	NTS
1	2	3	4	5	6	7	8
			.]	. [•		
9	10	11	12	13	14	15	16
			.]	• F	•		

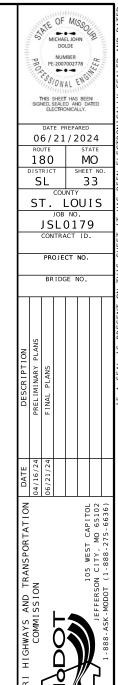
PHASE 1	PHASE 2	PHASE 4					
	OLB DLB						
PHASE 5	PHASE 6	PHASE 8					

 $\ensuremath{ *}$ SINGLE CONTROLLER FOR BOTH NB AND SB RAMP

F	OR INFORMATION	ONLY	
		TY	PE
DETECTOR NUMBER	APPROACH	RADAR	VIDEO
10	EB (PHASE 1)		1
21	WB (PHASE 2)		1
22	WB (PHASE 2)		1
41	NB (PHASE 4)		1
42	NB (PHASE 4)		1
64	EB (PHASE 6)		1
65	EB (PHASE 6)		1
23	WB ADVANCE (PHASE 2)	1	
24	WB ADVANCE (PHASE 2)	1	
43	NB ADVANCE (PHASE 4)	1	
44	NB ADVANCE (PHASE 4)	1	
66	EB ADVANCE (PHASE 6)	1	
67	EB ADVANCE (PHASE 6)	1	
	TOTAL	6	7

DETECTOR SCHEDULE

- * ITEMS FOR WHICH SEPARATE PAYMENT WILL NOT BE MADE.
- (1) CABLING FOR THE NEW VIDEO DETECTION AND RADAR DETECTION SHOULD BE ROUTED THROUGH EXISTING CONDUITS. CONDUITS THAT ARE DAMAGED. COLLAPSED. OR UNUSABLE SHALL BE MARKED ON THE AS-BUILT PLANS PER JSP S.
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- (7) THE CONTRACTOR SHALL REMOVE ALL DISUSED EXISTING DETECTION CAMERA CABLE AS PART OF THE DETECTION INSTALLATION.
- (8) THE CONTRACTOR SHALL PULL ROPE THROUGH ANY USED CONDUITS PER JSP R.
- (9) MANUFACTURER'S REPRESENTATIVE SHALL BE PRESENT DURING PROGRAMMING OF DETECTION ZONES PER JSP I AND JSP J. MANUFACTURER'S REPRESENTATIVE SHALL PROVIDE GUIDANCE TO CONTRACTOR ON OPTIMAL PLACEMENT OF DETECTION EQUIPMENT AND PROGRAMMED DETECTION ZONES.

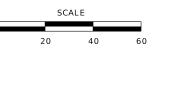


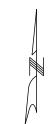
MO 180 & 67-LINDBERGH NB RAMP

INTERSECTION

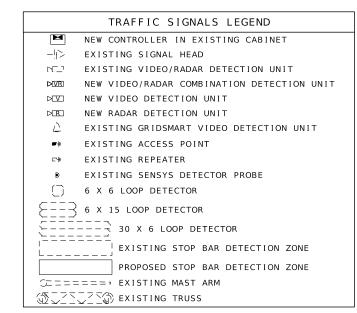
TRAFFIC SIGNAL SHEET 30 OF 78







- (1) THE CONTRACTOR SHALL REMOVE THE EXISTING CONTROLLER AND DELIVER TO THE MODOT SIGNAL SHOP PER JSP K. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROGRAMMING THE NEW CONTROLLER TO MATCH EXISTING PHASING, TIMING, AND COMMUNICATION SETTINGS PER JSP H.
- (2) THE CONTRACTOR SHALL REMOVE THE EXISTING VIDEO DETECTION EQUIPMENT INCLUDING ANY UNUSED CAMERAS, CABINET HARDWARE, MOUNTING HARDWARE/BRACKETS AND CABLING, THE EXISTING VIDEO DETECTION EQUIPMENT SHALL BE DELIVERED TO THE MODOT SIGNAL SHOP PER JSP K. THE CONTRACTOR SHALL INSTALL A COMPLETE VIDEO DETECTION SYSTEM WITH ENCLOSURES, MOUNTING HARDWARE/BRACKETS, TERMINATION PANELS, POWER AND COMMUNICATION CABLES FOR STOP BAR DETECTION PER JSP I.
- (3) THE CONTRACTOR SHALL INSTALL RADAR DETECTION UNITS AND PROGRAM FOR ADVANCED DETECTION PER JSP J.



TRAFFIC SIGNAL SHEET 31 OF 78

ST. LOUIS COUNTY ROUTE 180 SIGNAL IMPROVEMENTS MICHAELIOHN
DOLDE
NUMBER
PE-2007002778
THIS SHEET HAS BEEN
RIGHED, BEALED AND DATED
ELECTRONICALLY.

DATE PREPARED
06/21/2024
ROUTE
180 MO
DISTRICT SHEET NO.
SL 34

COUNTY
ST. LOUIS
JOB NO.
JSL0179
CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION
16/24 PRELIMINARY PLANS
21/24 FINAL PLANS

COMMISSION

105 WEST CAPITOL

MISSOURI HIGHWAYS AND TRA
COMMISSION
MADOT

SA INC.
BROADWAY SUITE 2800
UIS, MO 63102 (314) 206-4444

	POWER SUPPLY													
LOC	ATION		POWER ASSE	SUPPLY MBLY	CIR	CUII	T BREAKEI	R TRIP R	AT I NG ≭	LIGHTING	CONTROL *		SERVIC	E POLE
			DRAWING				OLLER	POWER DISCO		(ON POWER	R SUPPLY)	CUN	NTRACT	UTILITY
APPROACH	STATION	UFFSEI	DRAWING 902.15	DRAWING	AUX I L BRE A	I ARY KER	CONT & SIGNAL LAMPS	MAIN B		120 VOLT CONTROL CABINET	MAIN BREAKER		RNISH	COMPANY
++	T	ightharpoons	Туре	U.1.P.	15	Amps	· Amps	SIGNALS	L I GHT I NG Amps	CABINET	Amps	CI.	Ft.	U.I.P.
0 •	1 •	•	Туре		15	Amps	Amps	Amps	Amps		Amps	CI.	Ft.	

				CC	NTRO	LLER	ASS	EMBL'	Y AND) AUX	ILIAF	RY EQ	UIPM	ENT							
LOCATION SYSTEM MASTER ACTUATED ON-OFF* SWITCH COORDINATION INTERFACE * NEMA CABINET 170 CABINET														70							
APPROACH	APPROACH STATION OFFS				ACTOATED		TYPE 12C/7C HARDWIRE		TIME	TIME CLOSED LOOP FIBER			TIME *	TYPE *			TYPE *		SOFTWARE *		
AFFRUACH	STATION	OFFSET	NEMA	170	NEMA	170	I II	MASTER	LOCAL	BASE	NEMA	170	LIDEK		E	ΕV	DOUBLE	332	336S	BITRAN	WAPITI
MO 180 & NORTHWEST PLAZA	U.I.P.	U.I.P.			1								1								

				NEM AS	IA DE SSIG	TEC NMEN	TOR IT								
			CARD POSITION												
		1	1 2 3 4 5 6 7 8												
C H A N	1			Ţ	D										
N E L	2		U •	1 •) 	•									

TOTAL NUMBER OF DETECTOR CARDS(2-CHANNEL) =

NEMA LOAD SWITCH ASSIGNMENTS											
1	2	3	4	5	6	7	8	9	10	11	12
				U.	Ι.	Р	•				

ŀ	OR INFORMATION	UNL Y		
		TYPE		
DETECTOR NUMBER	APPROACH	RADAR	VIDEO	
1 1	WB (PHASE 1)		1	
12	WB (PHASE 1)		1	
21	EB (PHASE 2)		1	
22	EB (PHASE 2)		1	
31	NB (PHASE 3)		1	
32	NB (PHASE 3)		1	
61 62	WB (PHASE 6)		1	
62	WB (PHASE 6)		1	
23	EB ADVANCE (PHASE 2)	1		
24	EB ADVANCE (PHASE 2)	1		
63	WB ADVANCE (PHASE 6)	1		
64	WB ADVANCE (PHASE 6)	1		
	TOTAL	4	8	

DETECTOR SCHEDULE

- * ITEMS FOR WHICH SEPARATE PAYMENT WILL NOT BE MADE.
- (1) CABLING FOR THE NEW VIDEO DETECTION AND RADAR DETECTION SHOULD BE ROUTED THROUGH EXISTING CONDUITS. CONDUITS THAT ARE DAMAGED. COLLAPSED. OR UNUSABLE SHALL BE MARKED ON THE AS-BUILT PLANS PER JSP S.
- (2) THE INSTALLATION OF ALL EQUIPMENT SHALL BE IN ACCORDANCE WITH THE LATEST EDITION MISSOURI DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, DRAWINGS, AND ENGINEERING POLICY GUIDE.
- (3) THE CONTRACTOR SHALL HAVE RESPONSIBILITY OF LOCATING ALL UNDERGROUND AND OVERHEAD FACILITIES, STRUCTURES, AND UTILITIES.
- (4) THE CONTRACTOR IS RESPONSIBLE FOR TRAFFIC CONTROL AND SHALL CONFORM TO THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND MISSOURI DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS.
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 DISUSED OPENINGS SHALL BE PLUGGED BY THE CONTRACTOR.
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- (7) THE CONTRACTOR SHALL REMOVE ALL DISUSED EXISTING DETECTION CAMERA CABLE AS PART OF THE DETECTION INSTALLATION.
- (8) THE CONTRACTOR SHALL PULL ROPE THROUGH ANY USED CONDUITS PER JSP R.
- (9) MANUFACTURER'S REPRESENTATIVE SHALL BE PRESENT DURING PROGRAMMING OF DETECTION ZONES PER JSP I AND JSP J. MANUFACTURER'S REPRESENTATIVE SHALL PROVIDE GUIDANCE TO CONTRACTOR ON OPTIMAL PLACEMENT OF DETECTION EQUIPMENT AND PROGRAMMED DETECTION ZONES.

06/21/2024 180 MO SHEET NO SL 35 ST. LOUIS JSL0179 PROJECT NO. BRIDGE NO.

	0000 31113 747	63102 (314) 206-4444

MO 180 & NORTHWEST PLAZA

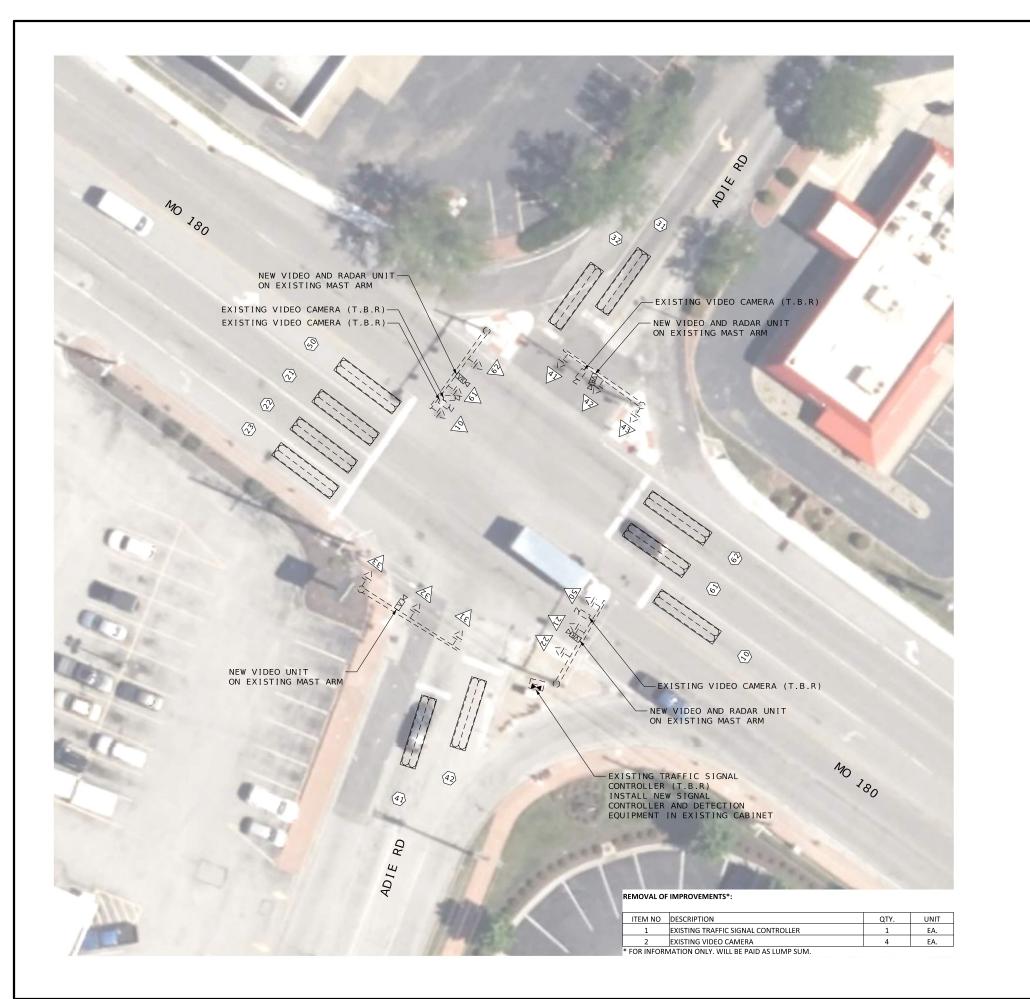
INTERSECTION

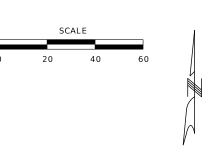
TRAFFIC SIGNAL SHEET 32 OF 78

ST. LOUIS COUNTY
ROUTE 180 SIGNAL IMPROVEMENTS

PHASE 1	PHASE 2	PHASE 3		
4	-			
	•			
PHASE 5	PHASE 6	PHASE 7		

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- (1) THE CONTRACTOR SHALL REMOVE THE EXISTING CONTROLLER AND DELIVER TO THE MODOT SIGNAL SHOP PER JSP K. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROGRAMMING THE NEW CONTROLLER TO MATCH EXISTING PHASING, TIMING, AND COMMUNICATION SETTINGS PER JSP H.
- (2) THE CONTRACTOR SHALL REMOVE THE EXISTING VIDEO DETECTION EQUIPMENT INCLUDING ANY UNUSED CAMERAS, CABINET HARDWARE, MOUNTING HARDWARE/BRACKETS AND CABLING, THE EXISTING VIDEO DETECTION EQUIPMENT SHALL BE DELIVERED TO THE MODOT SIGNAL SHOP PER JSP K. THE CONTRACTOR SHALL INSTALL A COMPLETE VIDEO DETECTION SYSTEM WITH ENCLOSURES, MOUNTING HARDWARE/BRACKETS, TERMINATION PANELS, POWER AND COMMUNICATION CABLES FOR STOP BAR DETECTION PER JSP I.
- (3) THE CONTRACTOR SHALL INSTALL RADAR DETECTION UNITS AND PROGRAM FOR ADVANCED DETECTION PER JSP J.

- NEW CONTROLLER IN EXISTING CABINET
- -||> EXISTING SIGNAL HEAD
- MI EXISTING VIDEO/RADAR DETECTION UNIT
- NEW VIDEO/RADAR COMBINATION DETECTION UNIT
- NEW VIDEO DETECTION UNIT
- ▶■ NEW RADAR DETECTION UNIT
- EXISTING GRIDSMART VIDEO DETECTION UNIT
- r⊫ EXISTING ACCESS POINT
- □ EXISTING REPEATER
- EXISTING SENSYS DETECTOR PROBE
- 6 X 6 LOOP DETECTOR

 $\left\{\begin{array}{c} ---\\ --- \end{array}\right\}$ 6 X 15 LOOP DETECTOR

30 X 6 LOOP DETECTOR

EXISTING STOP BAR DETECTION ZONE

PROPOSED STOP BAR DETECTION ZONE

© ===== EXISTING MAST ARM

© ZZZZZ EXISTING TRUSS

TRAFFIC SIGNAL SHEET 33 OF 78

ST. LOUIS COUNTY
ROUTE 180 SIGNAL IMPROVEMENTS

MICHAEL CHIN
DOLDE
NUMBER
PREZOROZOTR
SONAL ENGINEER
SINSEN SHEET HAS BEEN
SINSEN SHEET HAS BEEN
SINSEN SHEET HAS BEEN

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED

06/21/2024

ROUTE STATE
180 MO

DISTRICT SHEET NO.
SL 36

ST. LOUIS

JOB NO.
JSL0179

PROJECT NO.

BRIDGE NO.

| DATE | DESCRIPTION | 04/16/24 | PRELIMINARY PLA | 06/21/24 | FINAL PLANS | |

COMMISSION

105 WEST CAPITOL

105 WEST CAPITOL

MISSOURI HIGHWAYS AND COMMISSION

INC. (OADWAY SUITE 2800 5, MO 63102 (314) 206-4444

					Р	OW	ER SI	JPPL Y	•					
LOC	CATION		POWER ASSE	SUPPLY MBLY	CIR	CUIT	T BREAKEI	R TRIP R	AT I NG*	LIGHTING	CONTROL *		SERVIC	E POLE
			DRAWING		_		OLLER CONT &	POWER DISCO	SUPPLY NNECT		R SUPPLY)	CON	NTRACT	UTILITY
APPROACH	STATION	OFFSET	902.15	DRAWING	AUX I L BRE A	I ARY KER	SIGNAL		REAKER	120 VOLT CONTROL	MAIN BREAKER		RNISH	COMPANY
	T	\triangleright	Туре	U.1.P.	15	Amps	· Amps	SIGNALS Amps	LIGHTING Amps	CABINET	Amps	CI.	Ft.	U.I.P.
U •	1 •	•	Туре		15	Amps	Amps	Amps	Amps		Amps	CI.	Ft.	

				CC	NTRO	LLER	ASS	EMBL'	Y AND	XUA (ILIAF	RY EQ	UIPM	ENT							
LOCAT	ION		SYS MAS	TEM	A C T L I	ATED	ON-OFF* SWITCH		COORDINA	TION INT	ERFACE *	(A CABI		170 CA		1 7	70
APPROACH	STATION	OFFSET	(CLOSE	LOOP)	ACTO	ATED	TYPE	12C/7C (HARDWIRE 1)	TIME	CLOSED	L00P	FIBER	TIME *		TYPE *		TYP	E *	SOFTW	ARE *
AFFRUACH	STATION	UFFSEI	NEMA	170	NEMA	170	I II	MASTER	LOCAL	BASE	NEMA	170	LIDEK		E	ΕV	DOUBLE	332	336S	BITRAN	WAPITI
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				U.	Ι.	Ρ.	•				

F	OR INFORMATION	ONLY	
		TY	PE
DETECTOR NUMBER	APPROACH	RADAR	VIDEO
10	WB (PHASE 1)		1
21	EB (PHASE 2)		1
22	EB (PHASE 2)		1
23	EB (PHASE 2)		1
31	SB (PHASE 3)		1
32	SB (PHASE 3)		1
41	NB (PHASE 4)		11
42	NB (PHASE 4)		11
50	EB (PHASE 5)		1
61 62	WB (PHASE 6) WB (PHASE 6)		1 1
62	WB (PHASE 6)		l
24	EB ADVANCE (PHASE 2)	1	
25	EB ADVANCE (PHASE 2)	1	
43	NB ADVANCE (PHASE 4)	1	
63	WB ADVANCE (PHASE 6)	1	
64	WB ADVANCE (PHASE 6)	1	
	TOTAL	5	11

DETECTOR SCHEDULE

- * ITEMS FOR WHICH SEPARATE PAYMENT WILL NOT BE MADE.
- (1) CABLING FOR THE NEW VIDEO DETECTION AND RADAR DETECTION SHOULD BE ROUTED THROUGH EXISTING CONDUITS. CONDUITS THAT ARE DAMAGED, COLLAPSED, OR UNUSABLE SHALL BE MARKED ON THE AS-BUILT PLANS PER JSP S.
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PHASE 1	PHASE 2	PHASE 3	PHASE 4
			1
4	-	+	
	-		
PHASE 5	PHASE 6	PHASE 7	PHASE 8

MO 180 & ADIE

INTERSECTION

TRAFFIC SIGNAL SHEET 34 OF 78

ST. LOUIS COUNTY
ROUTE 180 SIGNAL IMPROVEMENTS

TATE OF MISSOL	H
MICHAEL JOHN DOLDE	4
NUMBER PE-2007002778	4
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THIS SHEET HAS BEEN	Þ

SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
06/21/2024
ROUTE STATE
180 MO
DISTRICT SHEET NO.
SL 37

ST. LOUIS

PROJECT NO.

JSL0179 CONTRACT ID

BRIDGE NO.

DESCRIPTION
24 PRELIMINARY PLANS
24 FINAL PLANS

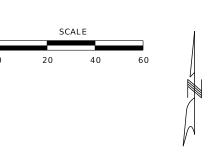
COMMISSION

COMMISSION

105 WEST CAPITOL

INC.
OADWAY SUITE 2800
. MO 63102 (314) 206-444





- (1) THE CONTRACTOR SHALL REMOVE THE EXISTING CONTROLLER AND DELIVER TO THE MODOT SIGNAL SHOP PER JSP K. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROGRAMMING THE NEW CONTROLLER TO MATCH EXISTING PHASING, TIMING, AND COMMUNICATION SETTINGS PER JSP H.
- (2) THE CONTRACTOR SHALL REMOVE THE EXISTING VIDEO DETECTION EQUIPMENT INCLUDING ANY UNUSED CAMERAS, CABINET HARDWARE, MOUNTING HARDWARE/BRACKETS AND CABLING. THE EXISTING VIDEO DETECTION EQUIPMENT SHALL BE DELIVERED TO THE MODOT SIGNAL SHOP PER JSP K. THE CONTRACTOR SHALL INSTALL A COMPLETE VIDEO DETECTION SYSTEM WITH ENCLOSURES, MOUNTING HARDWARE/BRACKETS, TERMINATION PANELS, POWER AND COMMUNICATION CABLES FOR STOP BAR DETECTION PER JSP I.
- (3) THE CONTRACTOR SHALL INSTALL RADAR DETECTION UNITS AND PROGRAM FOR ADVANCED DETECTION PER JSP J.

TRAFFIC SIGNALS LEGEND

- NEW CONTROLLER IN EXISTING CABINET
- -||> EXISTING SIGNAL HEAD
- MI EXISTING VIDEO/RADAR DETECTION UNIT
- NEW VIDEO/RADAR COMBINATION DETECTION UNIT
 - NEW VIDEO DETECTION UNIT
- NEW RADAR DETECTION UNIT
- EXISTING GRIDSMART VIDEO DETECTION UNIT
- EXISTING ACCESS POINT
- □ EXISTING REPEATER
- EXISTING SENSYS DETECTOR PROBE
- 6 X 6 LOOP DETECTOR

 $\left\{\begin{array}{c} - \\ - \\ \end{array}\right\}$ 6 X 15 LOOP DETECTOR

₹ 30 X 6 LOOP DETECTOR

EXISTING STOP BAR DETECTION ZONE

PROPOSED STOP BAR DETECTION ZONE

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© _____ EXISTING TRUSS

ST. LOUIS COUNTY ROUTE 180 SIGNAL IMPROVEMENTS

TRAFFIC SIGNAL SHEET 35 OF 78

MICHAELIONN
DOLDE

NIMBER
PE-2007002778

THIS SHEET HAS BEEN
SIGNED, SEALED AND DATED
ELECTRONOCALLY.

| DATE | PREPARED | | O 6 / 2 1 / 2 0 2 4 | | ROUTE | | STATE | 180 | MO | DISTRICT | SHEET NO. | SL | 38 |

JSL0179

PROJECT NO.

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| DATE | DESCR | 04/16/24 | PRELIMI | 06/21/24 | FINAL PI

COUNT HIGHWAYS AND TRANSPORT,
COMMISSION

105 WEST C

). DWAY SUITE 2800 O 63102 (314) 206-4444

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LOC	ATION		POWER ASSE		CIR	CUIT	BREAKE	R TRIP R	AT I NG*	LIGHTING	CONTROL *		SERVIC	E POLE
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DETECTOR NUMBER	APPROACH	RADAR	VIDEO
10	EB (PHASE 1)		1
21	WB (PHASE 2)		1
22	WB (PHASE 2)		1
31	NB (PHASE 3)		1
32	NB (PHASE 3)		1
41	SB (PHASE 4)		1
42	SB (PHASE 4)		1
50 61	WB (PHASE 5) EB (PHASE 6)		1
62	EB (PHASE 6)		1
02	EB (THASE 07		
23	WB ADVANCE (PHASE 2)	1	
24	WB ADVANCE (PHASE 2)	1	
43	SB ADVANCE (PHASE 4)	1	
63	EB ADVANCE (PHASE 6)	1	
64	EB ADVANCE (PHASE 6)	1	
	TOTAL	5	10

DETECTOR SCHEDULE

- * ITEMS FOR WHICH SEPARATE PAYMENT WILL NOT BE MADE.
- (1) CABLING FOR THE NEW VIDEO DETECTION AND RADAR DETECTION SHOULD BE ROUTED THROUGH EXISTING CONDUITS. CONDUITS THAT ARE DAMAGED, COLLAPSED, OR UNUSABLE SHALL BE MARKED ON THE AS-BUILT PLANS PER JSP S.
- (2) THE INSTALLATION OF ALL EQUIPMENT SHALL BE IN ACCORDANCE WITH THE LATEST EDITION MISSOURI DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, DRAWINGS, AND ENGINEERING POLICY GUIDE.
- (3) THE CONTRACTOR SHALL HAVE RESPONSIBILITY OF LOCATING ALL UNDERGROUND AND OVERHEAD FACILITIES, STRUCTURES, AND UTILITIES.
- (4) THE CONTRACTOR IS RESPONSIBLE FOR TRAFFIC CONTROL AND SHALL CONFORM TO THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND MISSOURI DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS.
- (5) ALL DRILLED OPENING FOR CABLE SHALL BE WEATHERPROOF.
 THERE WILL BE NO DIRECT PAYMENT FOR DRILLED OPENINGS.
 DISUSED OPENINGS SHALL BE PLUGGED BY THE CONTRACTOR.
- (6) THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROGRAMMING DETECTION ZONES PER JSP I AND JSP J. PER JSP I AND JSP J. COUNT ZONES SHOULD BE PROGRAMMED FOR EACH LANE AT THE INTERSECTION EVEN IF NO VEHICLE DETECTION ZONE IS REQUIRED FOR THAT LANE.
- (7) THE CONTRACTOR SHALL REMOVE ALL DISUSED EXISTING DETECTION CAMERA CABLE AS PART OF THE DETECTION INSTALLATION.
- (8) THE CONTRACTOR SHALL PULL ROPE THROUGH ANY USED CONDUITS PER JSP R.
- (9) MANUFACTURER'S REPRESENTATIVE SHALL BE PRESENT DURING PROGRAMMING OF DETECTION ZONES PER JSP I AND JSP J. MANUFACTURER'S REPRESENTATIVE SHALL PROVIDE GUIDANCE TO CONTRACTOR ON OPTIMAL PLACEMENT OF DETECTION EQUIPMENT AND PROGRAMMED DETECTION ZONES.

06/21/2024 180 MO SHEET NO SL 39 ST. LOUIS JSL0179 PROJECT NO. BRIDGE NO.

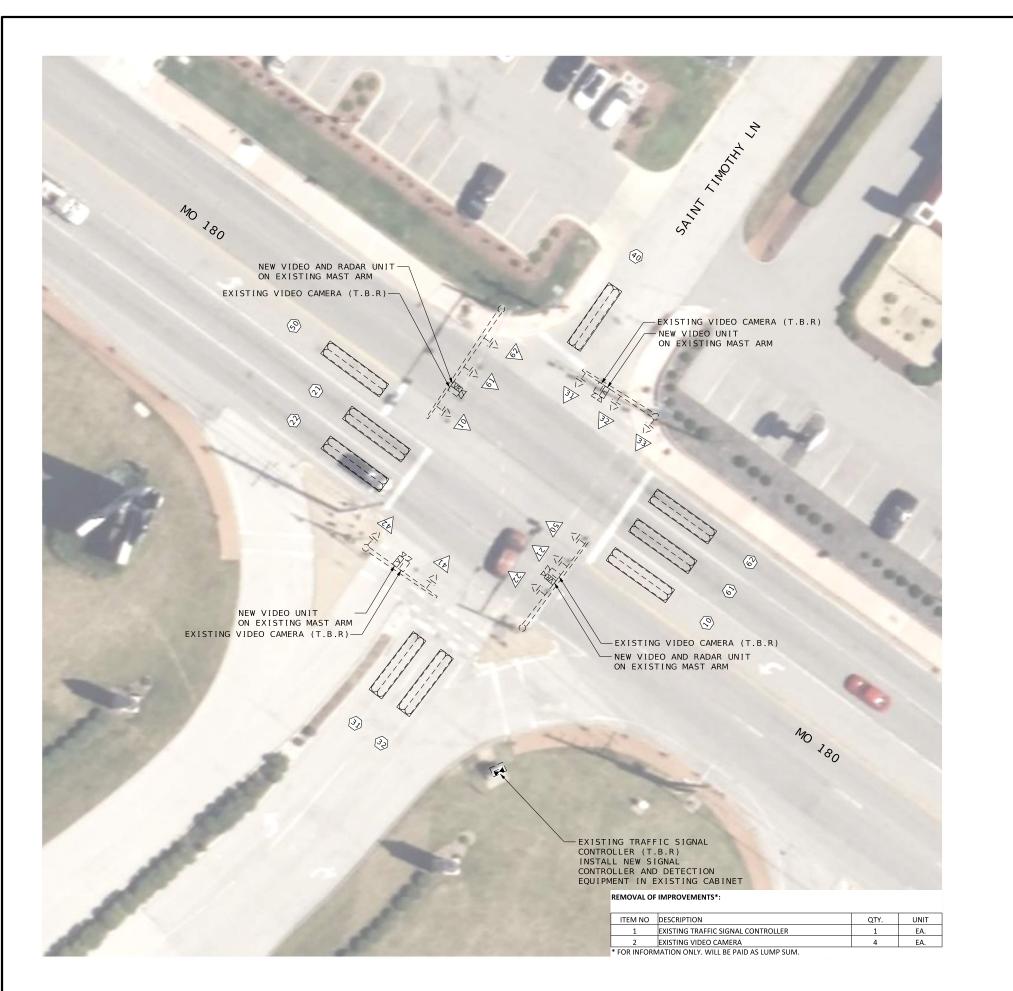
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PHASE 5	PHASE 6	PHASE 7	PHASE 8

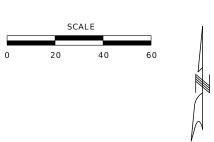
PHASE 1 PHASE 2 PHASE 3 PHASE 4

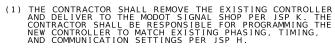
MO 180 & CYPRESS

INTERSECTION

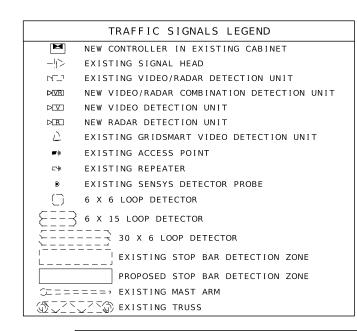
TRAFFIC SIGNAL SHEET 36 OF 78







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TRAFFIC SIGNAL SHEET 37 OF 78

ST. LOUIS COUNTY ROUTE 180 SIGNAL IMPROVEMENTS OF MISSON MICHAELOHN DOLDE

NUMBER
PE-2007002778

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
06/21/2024
ROUTE STATE
180 MO
DISTRICT SHEET NO.
5L 40

ST. LOUIS

JOB NO.

JSL0179

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DATE DESCRIPTION
04/16/24 PRELIMINARY PLANS
06/21/24 FINAL PLANS

COMMISSION

OT

105 WEST CAPITOL

JEFFERSON CITY, MO 65102

MISSOURI HIGHWAYS AND COMMISSION

SA INC.
BROADWAY SUITE 2800
JIS, MO 63102 (314) 206-4444

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LOC	CATION		POWER ASSE	SUPPLY MBLY	CIR	CUIT	T BREAKEI	R TRIP R	AT I NG*	LIGHTING	CONTROL *		SERVIC	E POLE
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F	OR INFORMATION		
		TY	PE
DETECTOR NUMBER	APPROACH	RADAR	VIDEO
10	WB (PHASE 1)		1
21	EB (PHASE 2)		1
22	EB (PHASE 2)		1
31	NB (PHASE 3)		1
32	NB (PHASE 3)		1
40	SB (PHASE 4)		1
50	EB (PHASE 5)		1
61	WB (PHASE 6)		1
62	WB (PHASE 6)		1
23	EB ADVANCE (PHASE 2)	1	
24	EB ADVANCE (PHASE 2)	1	
63	WB ADVANCE (PHASE 6)	1	
64	WB ADVANCE (PHASE 6)	1	
	TOTAL	4	
	TOTAL	4	9

DETECTOR SCHEDULE

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06/21/2024 180 MO SL 41 ST. LOUIS JSL0179 PROJECT NO. BRIDGE NO.

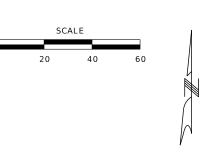
■
SA INC.
BROADWAY SUITE 2800
JIS, MO 63102 (314) 206-4444
RICERTIFICATE OF AUTHORITY - 0014

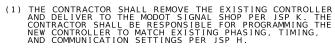
MO 180 & ST. TIMOTHY
INTERSECTION

TRAFFIC SIGNAL SHEET 38 OF 78

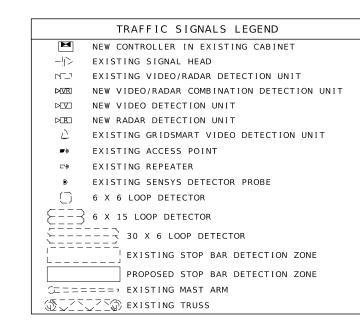
PHASE 1	PHASE 2	PHASE 3	PHASE 4
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 			+
	4		
PHASE 5	PHASE 6	PHASE 7	PHASE 8







- (2) THE CONTRACTOR SHALL REMOVE THE EXISTING VIDEO DETECTION EQUIPMENT INCLUDING ANY UNUSED CAMERAS, CABINET HARDWARE, MOUNTING HARDWARE/BRACKETS AND CABLING. THE EXISTING VIDEO DETECTION EQUIPMENT SHALL BE DELIVERED TO THE MODOT SIGNAL SHOP PER JSP K. THE CONTRACTOR SHALL INSTALL A COMPLETE VIDEO DETECTION SYSTEM WITH ENCLOSURES, MOUNTING HARDWARE/BRACKETS, TERMINATION PANELS, POWER AND COMMUNICATION CABLES FOR STOP BAR DETECTION PER JSP I.
- (3) THE CONTRACTOR SHALL INSTALL RADAR DETECTION UNITS AND PROGRAM FOR ADVANCED DETECTION PER JSP J.



TRAFFIC SIGNAL SHEET 39 OF 78

ST. LOUIS COUNTY ROUTE 180 SIGNAL IMPROVEMENTS MICHAELON DOUDE

MICHAELON DOUDE

NUMBER

PE-2007002778

THIS SHEET HAS BEEN
SIONED SHALED AND DATED
ELECTRONORALY.

DATE PREPARED

06/21/2024

ROUTE STATE

180 MO

DISTRICT SHEET NO.

SL 42

ST. LOUIS

JOB NO.

JSL0179

PROJECT NO.

BRIDGE NO.

DATE DESCRIPTION
04/16/24 PRELIMINARY PLANS
06/21/24 FINAL PLANS

TIGHWAYS AND TRANSPORTATION
COMMISSION

105 WEST CAPITOL

MISSOURI HIGHWAYS AND TR
COMMISSION

INC. OADWAY SUITE 2800 ., MO 63102 (314) 206-4444

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LOC	CATION		POWER ASSE	SUPPLY MBLY	CIR	CUIT	T BREAKEI	R TRIP R	AT I NG*	LIGHTING	CONTROL *		SERVIC	E POLE
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APPROACH	STATION	OFFSET	(CLOSED		ACTO	AILU	TYPE	12C/7C (HARDWIRE 1)	TIME	CLOSE	L00P	FIBER	TIME *		TYPE *	-	TYP	E *	SOFTW	ARE *
AFFRUACH	STATION	UFFSEI	NEMA	170	NEMA	170	I II	MASTER	LOCAL	BASE	NEMA	170	LIDEK		E	ΕV	DOUBLE	332	336S	BITRAN	WAPITI
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F	OR INFORMATION	ONLY	
		TY	PE
DETECTOR NUMBER	APPROACH	RADAR	VIDEO
10	WB (PHASE 1)		1
21	EB (PHASE 2)		1
22	EB (PHASE 2)		1
23	EB (PHASE 2)		1
30	SB (PHASE 3)		1
40	NB (PHASE 4)		1
50	EB (PHASE 5)		1
61	WB (PHASE 6)		1
62	WB (PHASE 6)		1
63	WB (PHASE 6)		1
71	NB (PHASE 7)		1
72	NB (PHASE 7)		1
80	SB (PHASE 8)		1
24	EB ADVANCE (PHASE 2)	1	
25	EB ADVANCE (PHASE 2)	1	
41	NB ADVANCE (PHASE 4)	1	
64	WB ADVANCE (PHASE 6)	1	
65	WB ADVANCE (PHASE 6)	11	
	TOTAL	5	13

DETECTOR SCHEDULE

- * ITEMS FOR WHICH SEPARATE PAYMENT WILL NOT BE MADE.
- (1) CABLING FOR THE NEW VIDEO DETECTION AND RADAR DETECTION SHOULD BE ROUTED THROUGH EXISTING CONDUITS. CONDUITS THAT ARE DAMAGED. COLLAPSED. OR UNUSABLE SHALL BE MARKED ON THE AS-BUILT PLANS PER JSP S.
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PHASE 1	PHASE 2	PHASE 3	PHASE 4
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PHASE 5	PHASE 6	PHASE 7	PHASE 8

MO 180 & ASHBY

INTERSECTION

TRAFFIC SIGNAL SHEET 40 OF 78

ST. LOUIS COUNTY
ROUTE 180 SIGNAL IMPROVEMENTS

TATE OF MISSOL
MICHAEL JOHN DOLDE
NUMBER PE-2007002778
SSIONAL ENGIN
THIS SHEET HAS BEEN

DATE PE	REPARED					
06/21	/2024					
ROUTE	STATE					
180	MO					
DISTRICT	SHEET NO					
SL	43					
COU	NTY					

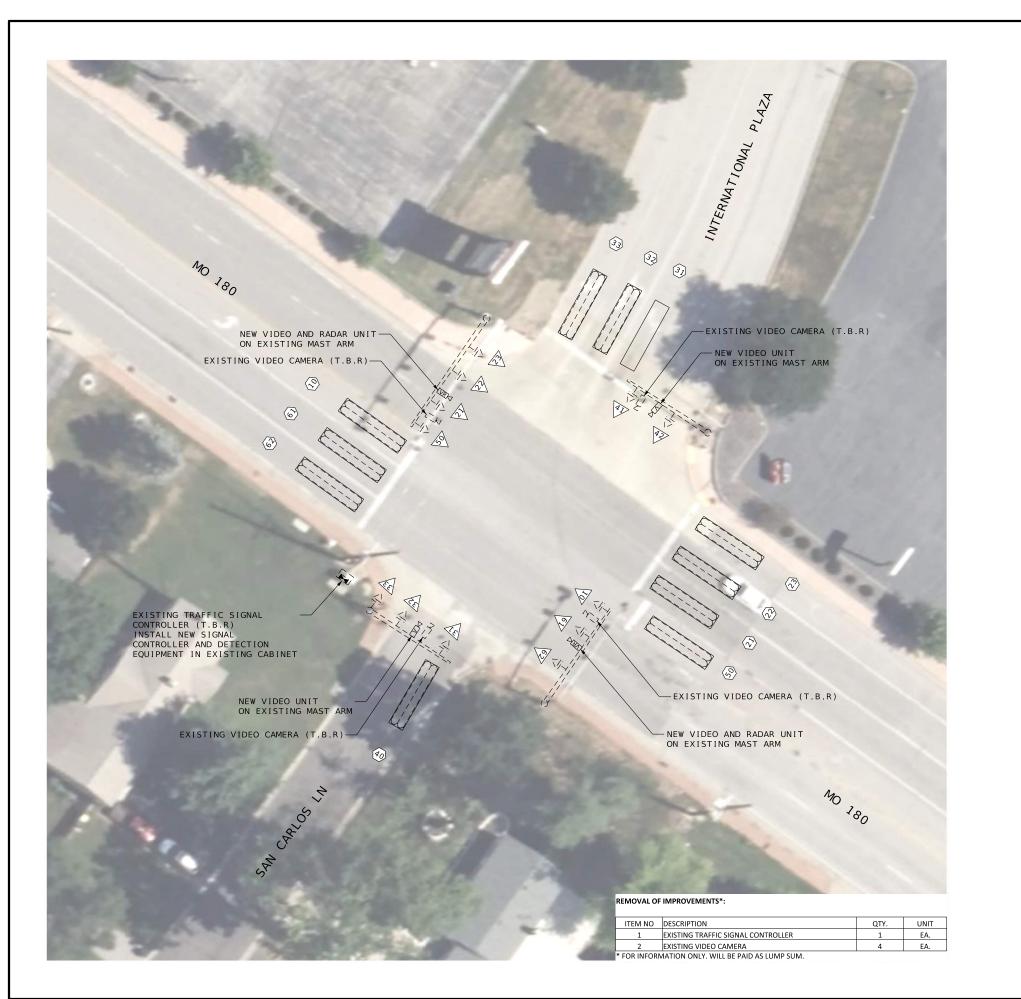
JOB NO.
JSL0179
CONTRACT ID.

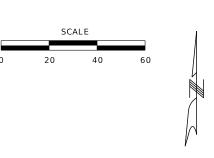
PROJECT NO.

DESCRIPTION	PRELIMINARY PLANS	FINAL PLANS		
DATE	04/16/24	06/21/24		

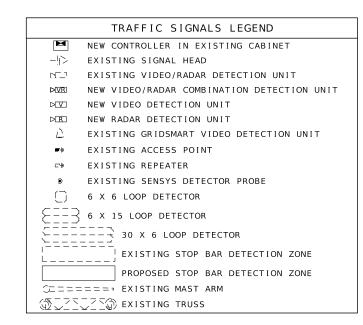
OURI HIGHWAYS AND TRANSPORTATION
COMMISSION
105 WEST CAPITOL

SA INC.
BROADWAY SUITE 2800
JIS, 063102 (314) 206-4444
IR CERTIFICATE OF ALITHORITY - 001444





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TRAFFIC SIGNAL SHEET 41 OF 78

ST. LOUIS COUNTY ROUTE 180 SIGNAL IMPROVEMENTS MICHAELON MICHAE

06/21/2024

ROUTE STATE
180 MO
DISTRICT SHEET NO.
SL 44

COUNTY

ST. LOUIS

JOB NO.
JSL0179
CONTRACT ID.

PROJECT NO.

DESCRIPTION
PRELIMIMARY PLANS
FINAL PLANS

COMMISSION

105 WEST CAPITOL

MISSOURI HIGHWAYS AND TE
COMMISSION

■ INC. OADWAY SUITE 2800 , MO 63102(314) 206-4444

WSP USA INC.
211 N. BROADWAY SU

					POWER SUPPLY														
LOC	ATION		POWER ASSE		CIR	CUIT	BREAKE	R TRIP R	AT I NG*	LIGHTING	CONTROL *	SERVICE POLE							
							POWER DISCO	SUPPLY	(ON POWER										
APPROACH	STATION	TATION OFFSET	DRAWING 902.15	DRAWING	AUXILIARY BREAKER	I ARY	CONT & SIGNAL	MAIN B		120 VOLT CONTROL	MAIN		NTRACT RNISH	UTILITY COMPANY					
	т				BREAKER LAMPS		SIGNALS	LIGHTING	CABINET	BREAKER									
		\vdash	Type	U.I.P.	15	Amps	· Amps	Amps	Amps		Amps	CI.	Ft.	U.I.P.					
0	T •		Туре		15	Amps	Amps	Amps	Amps		Amps	CI.	Ft.						

				CC	CONTROLLER ASSEMBLY AND AUXILIARY EQUIPMENT																
LOCATION SYSTEM ACTUATED ON-OFF* SWITCH SWITCH SWITCH SWITCH														NEM	A CABI	NET	170 C#		1 7		
APPROACH	APPROACH STATION OFF				ACTO	AILU	TYPE	12C/7C (HARDWIRE 1)	TIME	CLOSED	L00P	FIBER	TIME *		TYPE *	_	TYPI	*	SOFTW	ARE *
AFFROACH	STATION	OFFSET	NEMA	170	NEMA	170	DACE.					170	FIDER		E	ΕV	DOUBLE	332	336S	BITRAN	WAPITI
MO 180 & SAN CARLOS	U.1.P.	U.I.P.			1								1								

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		CARD POSITION											
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PHASE 1	PHASE 2	PHASE 3	PHASE 4
	-		
		**	
·			
PHASE 5	PHASE 6	PHASE 7	PHASE 8

F	DETECTOR SCHEDOR INFORMATION		
		TY	PE
DETECTOR NUMBER	APPROACH	RADAR	VIDEO
10	EB (PHASE 1)		1
21	WB (PHASE 2)		1
22	WB (PHASE 2)		1
23	WB (PHASE 2)		1
31	SB (PHASE 3)		1
32	SB (PHASE 3)		1
33	SB (PHASE 3)		1
40	NB (PHASE 4)		1
50	WB (PHASE 5)		1
61	EB (PHASE 6)		1
62	EB (PHASE 6)		1
24	WB ADVANCE (PHASE 2)	1	
25	WB ADVANCE (PHASE 2)	i	
63	EB ADVANCE (PHASE 6)	1	
64	EB ADVANCE (PHASE 6)	1	
	TOTAL	4	1 1

- * ITEMS FOR WHICH SEPARATE PAYMENT WILL NOT BE MADE.
- (1) CABLING FOR THE NEW VIDEO DETECTION AND RADAR DETECTION SHOULD BE ROUTED THROUGH EXISTING CONDUITS. CONDUITS THAT ARE DAMAGED, COLLAPSED, OR UNUSABLE SHALL BE MARKED ON THE AS-BUILT PLANS PER JSP S.
- (2) THE INSTALLATION OF ALL EQUIPMENT SHALL BE IN ACCORDANCE WITH THE LATEST EDITION MISSOURI DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, DRAWINGS, AND ENGINEERING POLICY GUIDE.
- (3) THE CONTRACTOR SHALL HAVE RESPONSIBILITY OF LOCATING ALL UNDERGROUND AND OVERHEAD FACILITIES, STRUCTURES, AND UTILITIES.
- (4) THE CONTRACTOR IS RESPONSIBLE FOR TRAFFIC CONTROL AND SHALL CONFORM TO THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND MISSOURI DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS.
- (5) ALL DRILLED OPENING FOR CABLE SHALL BE WEATHERPROOF.
 THERE WILL BE NO DIRECT PAYMENT FOR DRILLED OPENINGS.
 DISUSED OPENINGS SHALL BE PLUGGED BY THE CONTRACTOR.
- (6) THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROGRAMMING DETECTION ZONES PER JSP I AND JSP J. PER JSP I AND JSP J. COUNT ZONES SHOULD BE PROGRAMMED FOR EACH LANE AT THE INTERSECTION EVEN IF NO VEHICLE DETECTION ZONE IS REQUIRED FOR THAT LANE.
- (7) THE CONTRACTOR SHALL REMOVE ALL DISUSED EXISTING DETECTION CAMERA CABLE AS PART OF THE DETECTION INSTALLATION.
- (8) THE CONTRACTOR SHALL PULL ROPE THROUGH ANY USED CONDUITS PER JSP R.
- (9) MANUFACTURER'S REPRESENTATIVE SHALL BE PRESENT DURING PROGRAMMING OF DETECTION ZONES PER JSP I AND JSP J. MANUFACTURER'S REPRESENTATIVE SHALL PROVIDE GUIDANCE TO CONTRACTOR ON OPTIMAL PLACEMENT OF DETECTION EQUIPMENT AND PROGRAMMED DETECTION ZONES.

MICHAEL DHN DOLDE NUMBER PE-2007002778

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONOCALLY.

JOB NO.
JSL0179
CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION
16.24 PRELIMINARY PLANS
121/24 FINAL PLANS

COMMISSION
COMMISSION
COMMISSION

MODOT

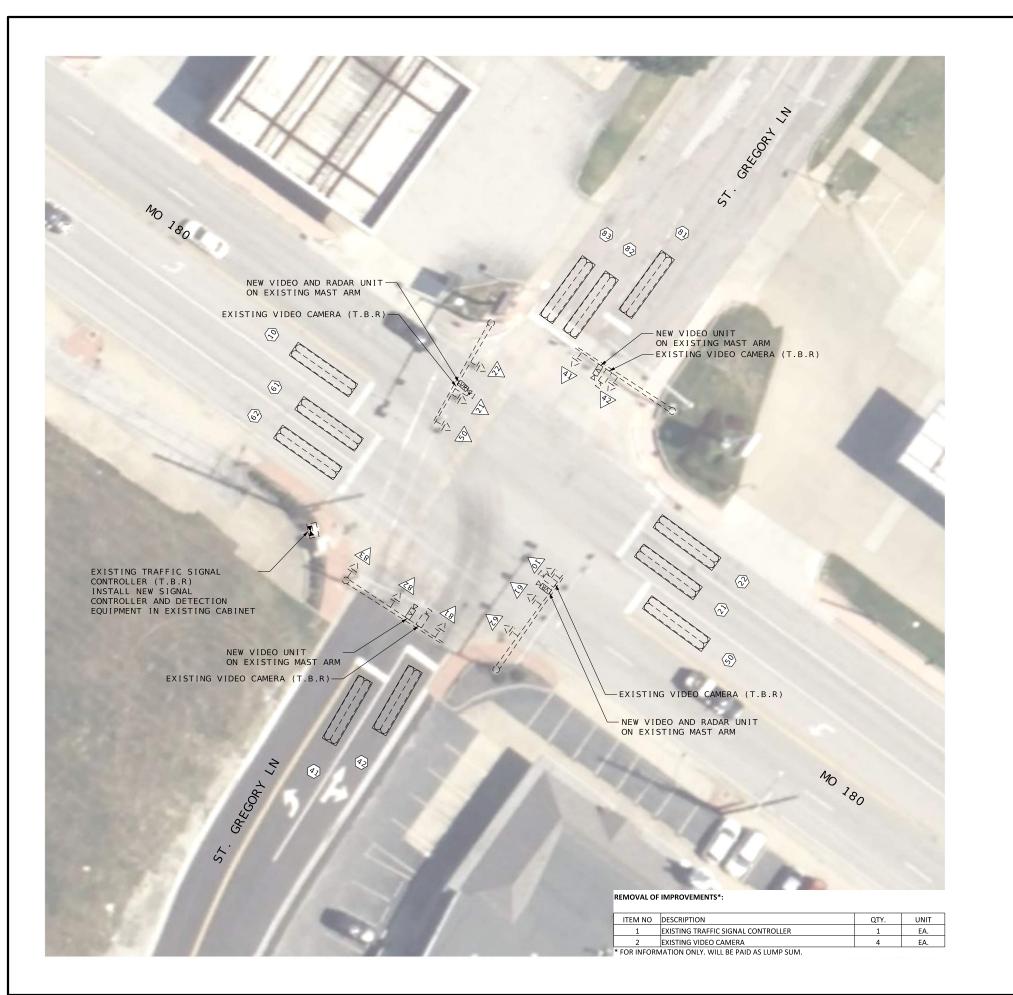
105 WEST CAPITO
JEFFERSON CITY, MO 6510

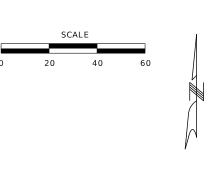
NC. NDWAY SUITE 2800 MO 63102 (314) 206-4444

MO 180 & SAN CARLOS

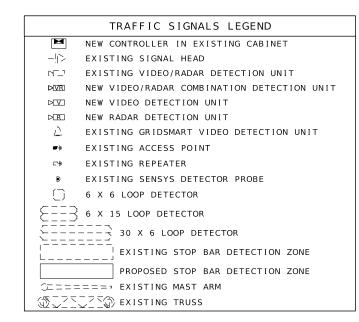
INTERSECTION

TRAFFIC SIGNAL SHEET 42 OF 78





- (1) THE CONTRACTOR SHALL REMOVE THE EXISTING CONTROLLER AND DELIVER TO THE MODOT SIGNAL SHOP PER JSP K. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROGRAMMING THE NEW CONTROLLER TO MATCH EXISTING PHASING, TIMING, AND COMMUNICATION SETTINGS PER JSP H.
- (2) THE CONTRACTOR SHALL REMOVE THE EXISTING VIDEO DETECTION EQUIPMENT INCLUDING ANY UNUSED CAMERAS, CABINET HARDWARE, MOUNTING HARDWARE/BRACKETS AND CABLING. THE EXISTING VIDEO DETECTION EQUIPMENT SHALL BE DELIVERED TO THE MODOT SIGNAL SHOP PER JSP K. THE CONTRACTOR SHALL INSTALL A COMPLETE VIDEO DETECTION SYSTEM WITH ENCLOSURES, MOUNTING HARDWARE/BRACKETS, TERMINATION PANELS, POWER AND COMMUNICATION CABLES FOR STOP BAR DETECTION PER JSP I.
- (3) THE CONTRACTOR SHALL INSTALL RADAR DETECTION UNITS AND PROGRAM FOR ADVANCED DETECTION PER JSP J.



TRAFFIC SIGNAL SHEET 43 OF 78

ST. LOUIS COUNTY ROUTE 180 SIGNAL IMPROVEMENTS MICHAELOHN
DOLDE

NUMBER
PE-2007002778

THIS SHEET HAS BEEN
SIGNED, ESCALED AND DATED
ELECTRONICALLY.

DATE PREPARED

06/21/2024

ROUTE
180 MO
DISTRICT SHEET NO.

SL 46

COUNTY

ST LOUIS
JOB NO.
JSL0179
CONTRACT ID.

PROJECT NO.

BRIDGE NO.

SSOURT HIGHWAYS AND TRANSPORT
COMMISSION
MODOT

105 WEST C

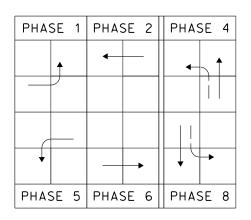
A INC.
SOADWAY SUITE 2800
S. MO 631004 (3444)

	POWER SUPPLY															
LOC	CATION			SUPPLY MBLY	CIRCUIT BREAKER TRIP RATING*					LIGHTING	CONTROL *	SERVICE POLE				
*DDD0*011			DR/		DRAWING	DDAWING			OLLER CONT &	POWER DISCO	SUPPLY NNECT	(ON POWER	R SUPPLY)	CON	NTRACT	UTILITY
APPROACH	STATION	UFF SET	902.15	DRAWING	BRE A	I ARY KER	SIGNAL MAIN BREAKER LAMPS SIGNALS LIGHTING		120 VOLT CONTROL CABINET	MAIN BREAKER		RNISH	COMPANY			
	H	\triangleright	Туре	U.I.P.	15	Amps	· Amps	Amps	Amps	CABINET	Amps	CI.	Ft.	U.I.P.		
) •	1 •	•	Туре		15	Amps	Amps	Amps	Amps		Amps	CI.	Ft.			

				CO	NTRO	LLER	: A	SSE	MBL	Y AND) AUX	ILIAF	Y EQ	UIPM	ENT							
LOCATI	LOCATION SYSTEM ACTUATED ON-OFF* COORDINATION INTERFACE *													NEMA CADINE! 1/0				170 CA	CABINET		170	
APPROACH	APPROACH STATION OFFSE			LOOP)	ACTO	AILU	ΤY	YPE 12	2C/7C H	HARDWIRE 1)	TIME	CLOSED	LOOP	FIBER	TIME *		TYPE *	-	TYP	*	SOFTW	ARE *
ALLITOACH	STATION	OI F SE I	NEMA	170	NEMA	170	I	II	MASTER	LOCAL	BASE	NEMA	170	1 105K		E	ΕV	DOUBLE	332	336S	BITRAN	WAPITI
MO 180 & ST. GREGORY	U.1.P.	U.I.P.			1									1								

		NEMA DETECTOR ASSIGNMENT									
		CARD POSITION									
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NEMA LOAD SWITCH ASSIGNMENTS											
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F	DETECTOR SCHEDOR INFORMATION		
		TY	PE
DETECTOR NUMBER	APPROACH	RADAR	VIDEO
10	EB (PHASE 1)		1
21	WB (PHASE 2)		1
22	WB (PHASE 2)		1
41	NB (PHASE 4)		1
42	NB (PHASE 4)		1
50	WB (PHASE 5)		1
61	EB (PHASE 6)		1
62	EB (PHASE 6)		1
81	SB (PHASE 8)		1
82	SB (PHASE 8)		1
83	SB (PHASE 8)		1
23	WB ADVANCE (PHASE 2)	1	
24	WB ADVANCE (PHASE 2)	1	
63	EB ADVANCE (PHASE 6)	1	
64	EB ADVANCE (PHASE 6)	1	
	TOTAL	4	11

- * ITEMS FOR WHICH SEPARATE PAYMENT WILL NOT BE MADE.
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- (8) THE CONTRACTOR SHALL PULL ROPE THROUGH ANY USED CONDUITS PER JSP R.
- (9) MANUFACTURER'S REPRESENTATIVE SHALL BE PRESENT DURING PROGRAMMING OF DETECTION ZONES PER JSP I AND JSP J. MANUFACTURER'S REPRESENTATIVE SHALL PROVIDE GUIDANCE TO CONTRACTOR ON OPTIMAL PLACEMENT OF DETECTION EQUIPMENT AND PROGRAMMED DETECTION ZONES.

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DESCRIPTION	PRELIMINARY PLANS	FINAL PLANS					
DATE	04/16/24	06/21/24					
JRI HIGHWAYS AND TRANSPORTATION	COMMISSION		19DOT		105 WEST CAPITOL	JEFFERSON CITY, MO 65102	1-888-ASK-MODOT (1-888-275-6636)

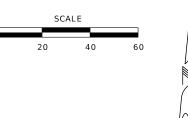
OF MISS

MO 180 & ST. GREGORY

INTERSECTION

TRAFFIC SIGNAL SHEET 44 OF 78





(1) THE CONTRACTOR SHALL REMOVE THE EXISTING CONTROLLER AND DELIVER TO THE MODOT SIGNAL SHOP PER JSP K. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROGRAMMING THE NEW CONTROLLER TO MATCH EXISTING PHASING, TIMING, AND COMMUNICATION SETTINGS PER JSP H.

TRAFFIC SIGNALS LEGEND

	NEW CONTROLLER IN EXISTING CABINET
-!1>	EXISTING SIGNAL HEAD
יב־א	EXISTING VIDEO/RADAR DETECTION UNIT
Þ₩	NEW VIDEO/RADAR COMBINATION DETECTION UNIT
XX	NEW VIDEO DETECTION UNIT
Þ.R.	NEW RADAR DETECTION UNIT
7	EXISTING GRIDSMART VIDEO DETECTION UNIT
- +	EXISTING ACCESS POINT
C*)	EXISTING REPEATER
•	EXISTING SENSYS DETECTOR PROBE
	6 X 6 LOOP DETECTOR
E==3	6 X 15 LOOP DETECTOR
53333	30 X 6 LOOP DETECTOR
=====	EXISTING STOP BAR DETECTION ZONE
	PROPOSED STOP BAR DETECTION ZONE

TRAFFIC SIGNAL SHEET 45 OF 78

ST. LOUIS COUNTY ROUTE 180 SIGNAL IMPROVEMENTS MICHAELONN
MICHAELONN
DOLDE
NUMBER
PEZOOTOOZ778
THIS SHEET HIS BEEN
SIONED, SEALED AND DATED
ELECTRONICALLY.

DATE PREPARED

DATE PREPARED

06/21/2024

ROUTE

180

MO

DISTRICT

SL

COUNTY

JOB NO.
JSL0179

PROJECT NO.

BRIDGE NO.

| ON DATE DESCR | O4/16/24 | PRELIMIN | O6/21/24 | FINAL PL

COMMISSION

DOT

105 WEST CAPITOL

JEFFERSON CITY, MO 6510:

MISSOURI HIGHWAYS AND TR
COMMISSION

■ VC. ADWAY SUITE 2800 MO 63102 (314) 206-4444

EXISTING MAST ARM

	POWER SUPPLY													
LOC	LOCATION POWER SUPPLY ASSEMBLY				CIR	CIRCUIT BREAKER TRIP RATING*			LIGHTING CONTROL *		SERVICE POLE		E POLE	
			DRAWING		l nico		POWER DISCO		(ON POWER	R SUPPLY)	CONTRACT		UTILITY	
APPROACH	STATION	ION OFFSET 0RAW 902.	DRAWING 902.15	DRAWING	G AUXILIARY BREAKER		CONT & SIGNAL LAMPS	MAIN B		120 VOLT CONTROL CABINET	MAIN BREAKER		RNISH	COMPANY
++	T	ightharpoons	Туре	U.1.P.	15	Amps	· Amps	SIGNALS	L I GHT I NG Amps	CABINET	Amps	CI.	Ft.	U.I.P.
0 •	1 •	•	Туре		15	Amps	Amps	Amps	Amps		Amps	CI.	Ft.	

	CONTROLLER ASSEMBLY AND AUXILIARY EQUIPMENT																					
LOCATION SYSTEM MASTER				ACTU	A TED	ON-OF SWIT	FF * ΓCΗ	CO	ORDINA	TION INT	ERFACE *	(NEM.	A CABI	NET	170 C.		1 7		
APPROACH	STATION	OFFSET	(CLOSE) LOOP)	ACTO				12C/7C H <i>A</i> (1	C/7C HARDWIRE CLOSED LOOP		FIBER	TIME *	TYPE *		-	TYPE * SO		SOFTW	SOFTWARE *		
APPROACH	STATION	UFFSEI	NEMA	170	NEMA	170	I	ΙΙ	MASTER	LOCAL	BASE	NEMA	170	FIBER		E	ΕV	DOUBLE	332	336S	BITRAN	WAPITI
MO 180 & GERALDINE-FIRE STATION	U.I.P.	U.I.P.			1									1								

		NEMA DETECTOR ASSIGNMENT										
			CARD POSITION									
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NEMA LOAD SWITCH ASSIGNMENTS											
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PHASE 1	PHASE 2	PHASE 3	PHASE 4
-			
PHASE 5	PHASE 6	PHASE 7	PHASE 8

F	DETECTOR SCHED OR INFORMATION					
		TYPE				
DETECTOR NUMBER	APPROACH	RADAR	VIDEO			
	TOTAL					

- * ITEMS FOR WHICH SEPARATE PAYMENT WILL NOT BE MADE.
- (1) CABLING FOR THE NEW VIDEO DETECTION AND RADAR DETECTION SHOULD BE ROUTED THROUGH EXISTING CONDUITS. CONDUITS THAT ARE DAMAGED, COLLAPSED, OR UNUSABLE SHALL BE MARKED ON THE AS-BUILT PLANS PER JSP S.
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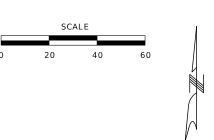
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		PR	OJE	СТ	NO.		
		BR	IDC	E 1	١Ο.		
DESCRIPTION	4 PRELIMINARY PLANS	4 FINAL PLANS					
DATE	04/16/24	06/21/24					
IIGHWAYS AND TRANSPORTATION			100 100		105 WEST CAPITOL	JEFFERSON CITY, MO 65102	1-888-ASK-MODOT (1-888-275-6636)

MO 180 & GERALDINE-FIRE STATION

INTERSECTION

TRAFFIC SIGNAL SHEET 46 OF 78





- (1) THE CONTRACTOR SHALL REMOVE THE EXISTING CONTROLLER AND DELIVER TO THE MODOT SIGNAL SHOP PER JSP K. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROGRAMMING THE NEW CONTROLLER TO MATCH EXISTING PHASING, TIMING, AND COMMUNICATION SETTINGS PER JSP H.
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- (3) THE CONTRACTOR SHALL INSTALL RADAR DETECTION UNITS AND PROGRAM FOR ADVANCED DETECTION PER JSP J.



- NEW CONTROLLER IN EXISTING CABINET
- -11> EXISTING SIGNAL HEAD
- EXISTING VIDEO/RADAR DETECTION UNIT Γ
- NEW VIDEO/RADAR COMBINATION DETECTION UNIT
- NEW VIDEO DETECTION UNIT
- D R NEW RADAR DETECTION UNIT
- EXISTING GRIDSMART VIDEO DETECTION UNIT
- EXISTING ACCESS POINT
- **□**₩ EXISTING REPEATER
- EXISTING SENSYS DETECTOR PROBE
- \bigcirc 6 X 6 LOOP DETECTOR

6 X 15 LOOP DETECTOR

→ 30 X 6 LOOP DETECTOR

EXISTING STOP BAR DETECTION ZONE

PROPOSED STOP BAR DETECTION ZONE

② _ Z Z Z Z S EXISTING TRUSS

TRAFFIC SIGNAL SHEET 47 OF 78

ST. LOUIS COUNTY ROUTE 180 SIGNAL IMPROVEMENTS -200700277

06/21/2024 180 MO SL 50

ST. LOUIS JSL0179

PROJECT NO.

					Р	OW	ER SI	JPPL Y	•					
LOC	CATION		POWER ASSE	SUPPLY MBLY	CIR	CUIT	T BREAKEI	R TRIP R	AT I NG*	LIGHTING	CONTROL *		SERVIC	E POLE
			DRAWING		_		OLLER CONT &	POWER DISCO	SUPPLY NNECT		R SUPPLY)	CON	NTRACT	UTILITY
APPROACH	STATION	OFFSET	902.15	DRAWING	AUX I L BRE A	I ARY KER	SIGNAL		REAKER	120 VOLT CONTROL	MAIN BREAKER		RNISH	COMPANY
	T	\triangleright	Туре	U.1.P.	15	Amps	· Amps	SIGNALS Amps	LIGHTING Amps	CABINET	Amps	CI.	Ft.	U.I.P.
U •	1 •	•	Туре		15	Amps	Amps	Amps	Amps		Amps	CI.	Ft.	

	CONTROLLER ASSEMBLY AND AUXILIARY EQUIPMENT																					
LOCATION SYSTEM MASTER ACTUATED								OFF * [TCH			TION INT	ERFACE *	(A CABI		170 C		1 7	
APPROACH	STATION	OFFSET	(CLOSED	LOOP)	ACTO	AILU	ΤY	TYPE 12C/7C HARDWIRE CLOSED LOOP FIBER TIME					TIME *		TYPE *	-	TYP	*	SOF TW.	ARE *		
AFFROACH	STATION	UFFSET	NEMA	170	NEMA	170	I	II N	MASTER	LOCAL	BASE	NEMA	170	FIBER		E	ΕV	DOUBLE	332	336S	BITRAN	WAPITI
MO 180 & WISMER	U.I.P.	U.I.P.			1									1								

			NEMA DETECTOR ASSIGNMENT											
			CARD POSITION											
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N E L	2													

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DETECTOR NUMBER	APPROACH	RADAR	VIDEO
10	EB (PHASE 1)		1
21	WB (PHASE 2)		1
22	WB (PHASE 2)		1
41	NB (PHASE 4)		1
42	NB (PHASE 4)		1
50	WB (PHASE 5)		1
61	EB (PHASE 6)		1
62	EB (PHASE 6)		1
81	SB (PHASE 8)		1
82	SB (PHASE 8)		1
23	WB ADVANCE (PHASE 2)	1	
24	WB ADVANCE (PHASE 2)	1	
63	EB ADVANCE (PHASE 6)	1	
64	EB ADVANCE (PHASE 6)	1	
	TOTAL	4	10

DETECTOR SCHEDULE

- * ITEMS FOR WHICH SEPARATE PAYMENT WILL NOT BE MADE.
- (1) CABLING FOR THE NEW VIDEO DETECTION AND RADAR DETECTION SHOULD BE ROUTED THROUGH EXISTING CONDUITS. CONDUITS THAT ARE DAMAGED. COLLAPSED. OR UNUSABLE SHALL BE MARKED ON THE AS-BUILT PLANS PER JSP S.
- (2) THE INSTALLATION OF ALL EQUIPMENT SHALL BE IN ACCORDANCE WITH THE LATEST EDITION MISSOURI DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, DRAWINGS, AND ENGINEERING POLICY GUIDE.
- (3) THE CONTRACTOR SHALL HAVE RESPONSIBILITY OF LOCATING ALL UNDERGROUND AND OVERHEAD FACILITIES, STRUCTURES, AND UTILITIES.
- (4) THE CONTRACTOR IS RESPONSIBLE FOR TRAFFIC CONTROL AND SHALL CONFORM TO THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND MISSOURI DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS.
- (5) ALL DRILLED OPENING FOR CABLE SHALL BE WEATHERPROOF.
 THERE WILL BE NO DIRECT PAYMENT FOR DRILLED OPENINGS.
 DISUSED OPENINGS SHALL BE PLUGGED BY THE CONTRACTOR.
- (6) THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROGRAMMING DETECTION ZONES PER JSP I AND JSP J. PER JSP I AND JSP J. COUNT ZONES SHOULD BE PROGRAMMED FOR EACH LANE AT THE INTERSECTION EVEN IF NO VEHICLE DETECTION ZONE IS REQUIRED FOR THAT LANE.
- (7) THE CONTRACTOR SHALL REMOVE ALL DISUSED EXISTING DETECTION CAMERA CABLE AS PART OF THE DETECTION INSTALLATION.
- (8) THE CONTRACTOR SHALL PULL ROPE THROUGH ANY USED CONDUITS PER JSP R.
- (9) MANUFACTURER'S REPRESENTATIVE SHALL BE PRESENT DURING PROGRAMMING OF DETECTION ZONES PER JSP I AND JSP J. MANUFACTURER'S REPRESENTATIVE SHALL PROVIDE GUIDANCE TO CONTRACTOR ON OPTIMAL PLACEMENT OF DETECTION EQUIPMENT AND PROGRAMMED DETECTION ZONES.

PHASE 1	PHASE 2	PHASE 4
	-	•
PHASE 5	PHASE 6	PHASE 8

MO 180 & WISMER

INTERSECTION

TRAFFIC SIGNAL SHEET 48 OF 78

ST. LOUIS COUNTY
ROUTE 180 SIGNAL IMPROVEMENTS

MICHAELIOHN
DOLDE

NUMBER
PE-2007002778

THIS SHEET HAS BEEN

DATE PE	REPARED
06/21	/2024
ROUTE	STATE
180	MO
DISTRICT	SHEET NO
SL	51
COL	NTY

JOB NO.
JSL0179
CONTRACT ID.

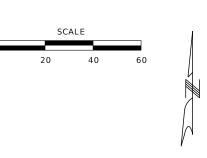
PROJECT NO.

DESCRIPTION	PRELIMINARY PLANS	FINAL PLANS		
DATE	04/16/24	06/21/24		

JURI HIGHWAYS AND TRANSPORTATION
COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102

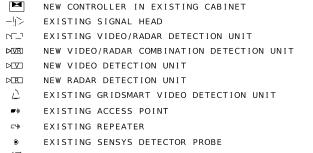
INC. OADWAY SUITE 2800 S. MO 63102 (314) 206-4444





- (1) THE CONTRACTOR SHALL REMOVE THE EXISTING CONTROLLER AND DELIVER TO THE MODOT SIGNAL SHOP PER JSP K. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROGRAMMING THE NEW CONTROLLER TO MATCH EXISTING PHASING, TIMING, AND COMMUNICATION SETTINGS PER JSP H.
- (2) THE CONTRACTOR SHALL REMOVE THE EXISTING VIDEO DETECTION EQUIPMENT INCLUDING ANY UNUSED CAMERAS, CABINET HARDWARE, MOUNTING HARDWARE/BRACKETS AND CABLING, THE EXISTING VIDEO DETECTION EQUIPMENT SHALL BE DELIVERED TO THE MODOT SIGNAL SHOP PER JSP K. THE CONTRACTOR SHALL INSTALL A COMPLETE VIDEO DETECTION SYSTEM WITH ENCLOSURES, MOUNTING HARDWARE/BRACKETS, TERMINATION PANELS, POWER AND COMMUNICATION CABLES FOR STOP BAR DETECTION PER JSP I.
- (3) THE CONTRACTOR SHALL INSTALL RADAR DETECTION UNITS AND PROGRAM FOR ADVANCED DETECTION PER JSP J.

TRAFFIC SIGNALS LEGEND



6 X 6 LOOP DETECTOR

30 X 6 LOOP DETECTOR

EXISTING STOP BAR DETECTION ZONE

PROPOSED STOP BAR DETECTION ZONE

EXISTING MAST ARM

TRAFFIC SIGNAL SHEET 49 OF 78

ST. LOUIS COUNTY ROUTE 180 SIGNAL IMPROVEMENTS MICHAELJOHN
MICHAELJOHN
MICHAELJOHN
PE-2007002778

THIS SHEET MAS BEEN
SIGNED, SEALED AND DATED

THIS SHEET HAS BEEN SIGNED, SEALED AND DATE BLECTRONICALLY.

06/21/2024

ROUTE STATE

180 MO

DISTRICT SHEET NO.

SL 52

ST LOUIS

JOB NO.
JSL0179

PROJECT NO.

BRIDGE NO.

BRIDGE NO.

WAYS

ANS

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ANS

BRIDGE NO.

| 10N | DATE | DESCRIPTI | 04/16/24 | PRELIMINARY | 06/21/24 | FINAL PLANS | 17.01 | P. 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02 | | 1.02

COMMISSION

OT

105 WEST CAPITOL

HEFFERSON CITY, MO 65102

MISSOURI HIGHWAYS AND T

■ A INC. ROADWAY SUITE 2800 S, MO 63102 (314) 206-4444

					Р	OW	ER SI	JPPL Y	•					
LOC	CATION		POWER ASSE	SUPPLY MBLY	CIR	CUIT	T BREAKEI	R TRIP R	AT I NG*	LIGHTING	CONTROL *		SERVIC	E POLE
			DRAWING		_		OLLER CONT &	POWER DISCO	SUPPLY NNECT		R SUPPLY)	CON	NTRACT	UTILITY
APPROACH	STATION	OFFSET	902.15	DRAWING	AUX I L BRE A	I ARY KER	SIGNAL		REAKER	120 VOLT CONTROL	MAIN BREAKER		RNISH	COMPANY
	T	\triangleright	Туре	U.1.P.	15	Amps	· Amps	SIGNALS Amps	LIGHTING Amps	CABINET	Amps	CI.	Ft.	U.I.P.
U •	1 •	•	Туре		15	Amps	Amps	Amps	Amps		Amps	CI.	Ft.	

	CONTROLLER ASSEMBLY AND AUXILIARY EQUIPMENT																				
LOCATI	ION		SYS MAS	TEM	A C T L I	IATED	ON-OFF* SWITCH		COORDINA	TION INT	ERFACE *	(A CABI		170 CA		1 7	70
APPROACH	STATION	OFFSET	(CLOSE		ACTO	TYPE 12C/7C HARDWIRE THE CLOSED LOOP TIME * TYPE *						-	TYP	E *	SOFTW	ARE *					
APPROACH	STATION	UFFSEI	NEMA	170	NEMA	170	I II	MASTER	LOCAL	BASE	NEMA	170	FIBER		E	ΕV	DOUBLE	332	3365	BITRAN	WAPITI
MO 180 & LYNNTOWN	U.I.P.	U.I.P.			1								1								

			NEMA DETECTOR ASSIGNMENT											
			CARD POSITION											
		1	2	3	4	5	6	7	8					
C H A N	1			Ţ	D									
N E L	2		U •	1 •) 	•								

	NEMA LOAD SWITCH ASSIGNMENTS														
1	2	3	4	5	6	7	8	9	10	11	12				
				U.	Ι.	Р	•								

ſ	OR INFORMATION	ONLY	
		TY	PE
DETECTOR NUMBER	APPROACH	RADAR	VIDEO
10	EB (PHASE 1)		1
21	WB (PHASE 2)		1
22	WB (PHASE 2)		1
40	NB (PHASE 4)		1
50	WB (PHASE 5)		1
61	EB (PHASE 6)		1
62	EB (PHASE 6)		1
81	SB (PHASE 8)		1
82	SB (PHASE 8)		1
23	WB ADVANCE (PHASE 2)	1	
24	WB ADVANCE (PHASE 2)	1	
63	EB ADVANCE (PHASE 6)	1	
64	EB ADVANCE (PHASE 6)	1	
	TOTAL	4	9

DETECTOR SCHEDULE

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MICHAEL JOHN DOLDE 06/21/2024 180 MO SL 53 ST. LOUIS JSL0179 PROJECT NO. BRIDGE NO.

WAY SUITE 2800	63102 (314) 206-4444

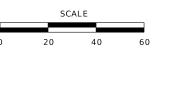
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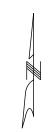
INTERSECTION

TRAFFIC SIGNAL SHEET 50 OF 78

		T			
PHASE 1	PHASE 2	PHASE 4			
•	-	•			
		—			
PHASE 5	PHASE 6	PHASE 8			







- (1) THE CONTRACTOR SHALL REMOVE THE EXISTING CONTROLLER AND DELIVER TO THE MODOT SIGNAL SHOP PER JSP K. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROGRAMMING THE NEW CONTROLLER TO MATCH EXISTING PHASING, TIMING, AND COMMUNICATION SETTINGS PER JSP H.
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- (3) THE CONTRACTOR SHALL INSTALL RADAR DETECTION UNITS AND PROGRAM FOR ADVANCED DETECTION PER JSP J.

TRAFFIC SIGNALS LEGEND

- NEW CONTROLLER IN EXISTING CABINET
- -||> EXISTING SIGNAL HEAD
- MI EXISTING VIDEO/RADAR DETECTION UNIT
- NEW VIDEO/RADAR COMBINATION DETECTION UNIT
- NEW VIDEO DETECTION UNIT
- ▶■ NEW RADAR DETECTION UNIT
- EXISTING ACCESS POINT
- EXISTING REPEATER
- EXISTING SENSYS DETECTOR PROBE
- 6 X 6 LOOP DETECTOR

6 X 15 LOOP DETECTOR

30 X 6 LOOP DETECTOR

EXISTING STOP BAR DETECTION ZONE

PROPOSED STOP BAR DETECTION ZONE

TRAFFIC SIGNAL SHEET 51 OF 78

ST. LOUIS COUNTY ROUTE 180 SIGNAL IMPROVEMENTS MICHAELIOHN DOLDE

MUCHAELIOHN DOLDE

NUMBER PE-2007002778

THIS SETTING BEEN SIGNED, SENET, AND DATED ELECTRONICALLY.

DATE PEARED

DATE PREPARED

06/21/2024

ROUTE

180

MO

DISTRICT

SHEET NO.

51

COUNTY

JSL0179

PROJECT NO.

DESCRIPTION
PRELIMINARY PLANS
FINAL PLANS
OOU

COMMISSION

105 WEST CAPITOL

MISSOURI HIGHWAYS AND COMMISSIO

	POWER SUPPLY													
LOCATION POWER SUPPLY CIRCUIT BREAKER TRIP RATING* LIGHTING CONTROL * SERVICE POL											E POLE			
			DRAWING		_	CONTROLLER CONT &		POWER DISCO	SUPPLY NNECT		R SUPPLY)	CONTRACT		UTILITY
APPROACH	APPROACH STATION OFF		902.15	DRAWING	AUXILIARY BREAKER		ARY SIGNAL LAMPS		REAKER	120 VOLT CONTROL	MAIN BREAKER		RNISH	COMPANY
	T	\triangleright	Туре	U.1.P.	15	Amps	· Amps	SIGNALS Amps	LIGHTING Amps	CABINET	Amps	CI.	Ft.	U.I.P.
U •	1 •	•	Туре		15	Amps	Amps	Amps	Amps		Amps	CI.	Ft.	

	CONTROLLER ASSEMBLY AND AUXILIARY EQUIPMENT																					
LOCATION SYSTEM ACTUATED ON-OFF* COORDINATION INTERFACE *											NEM	A CABI	NET	170 CA			70					
ADDDOACH	STATION	OFFSET	(CLOSED	LOOP)	ACTO	ATED	ΤY	PE 12C/	/7C H (′	ARDWIRE 1)	TIME	CLOSED	L00P	FIBER	TIME *		TYPE *	-	TYP	*	SOFTW	ARE *
APPROACH STATI		UFFSEI	NEMA 170	170	NEMA	170	I	II MAS	STER	LOCAL	BASE	NEMA	170	LIBER		E	ΕV	DOUBLE	332	336S	BITRAN	WAPITI
MO 180 & EDMUNDSON	U.I.P.	U.I.P.			1									1								

				NEM AS	IA DE SSIG	TEC NMEN	TOR NT							
			CARD POSITION											
		1	2	3	4	5	6	7	8					
C H A N	1			T	D									
N N E L	2		U•	1 •	I	•								

	NEMA LOAD SWITCH ASSIGNMENTS														
1	2	3	4	5	6	7	8	9	10	11	12				
				U.	Ι.	Ρ.	•								

F	DETECTOR SCHEDULE FOR INFORMATION ONLY													
		TY	PE											
DETECTOR NUMBER	APPROACH	RADAR	VIDEO											
10	EB (PHASE 1)		1											
21	WB (PHASE 2)		1											
22	WB (PHASE 2)		1											
30	SB (PHASE 3)		1											
61	EB (PHASE 6)		1											
62	EB (PHASE 6)		1											
23	WB ADVANCE (PHASE 2)	1												
24	WB ADVANCE (PHASE 2)	i												
63	EB ADVANCE (PHASE 6)	1												
64	EB ADVANCE (PHASE 6)	1												
	TOTAL	5	6											

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MICHAEL JOHN DOLDE 06/21/2024 180 MO SL 55 ST. LOUIS JSL0179 PROJECT NO. BRIDGE NO.

■
INC.
IROADWAY SUITE 2800
IS, MO 63102 (314) 206-4444
IRI CERTIFICATE OF AUTHORITY - 001.

MO 180 & EDMUNDSON

INTERSECTION

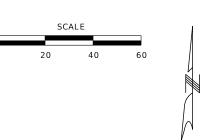
TRAFFIC SIGNAL SHEET 52 OF 78

ST. LOUIS COUNTY ROUTE 180 SIGNAL IMPROVEMENTS

					ı			
				-				
HAS	SE	5	PHAS	SE 6		PHAS	SE	7

PHASE 1 PHASE 2 PHASE 3





- (1) THE CONTRACTOR SHALL REMOVE THE EXISTING CONTROLLER AND DELIVER TO THE MODOT SIGNAL SHOP PER JSP K. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROGRAMMING THE NEW CONTROLLER TO MATCH EXISTING PHASING, TIMING, AND COMMUNICATION SETTINGS PER JSP H.
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- (3) THE CONTRACTOR SHALL INSTALL RADAR DETECTION UNITS AND PROGRAM FOR ADVANCED DETECTION PER JSP J.

TRAFFIC SIGNALS LEGEND

► NEW CONTROLLER IN EXISTING CABINET

- EXISTING SIGNAL HEAD

MI EXISTING VIDEO/RADAR DETECTION UNIT

NEW VIDEO/RADAR COMBINATION DETECTION UNIT

NEW VIDEO DETECTION UNIT

NEW RADAR DETECTION UNIT

EXISTING GRIDSMART VIDEO DETECTION UNIT

r⊫ EXISTING ACCESS POINT

□ EXISTING REPEATER

EXISTING SENSYS DETECTOR PROBE

6 X 6 LOOP DETECTOR

6 X 15 LOOP DETECTOR

30 X 6 LOOP DETECTOR

EXISTING STOP BAR DETECTION ZONE

PROPOSED STOP BAR DETECTION ZONE

EXISTING MAST ARM

TRAFFIC SIGNAL SHEET 53 OF 78

ST. LOUIS COUNTY ROUTE 180 SIGNAL IMPROVEMENTS OF MISSON MICHAELIOHN

MICHAELIOHN

NUMBER

PE-2007002778

THIS SHEET HAS BEEN

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED
06/21/2024

ROUTE STATE
180 MO
DISTRICT SHEET NO.
5L 56

ST. LOUIS

JOB NO.
JSL0179

PROJECT NO.

BRIDGE NO

DATE DESCRIPTION
116/24 PRELIMINARY PLANS
121/24 FINAL PLANS

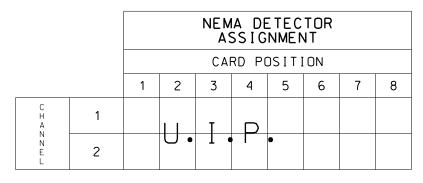
OMMISSION 004

MISSOURI HIGHWAYS AND TRAN
COMMISSION
COMMISSION
105

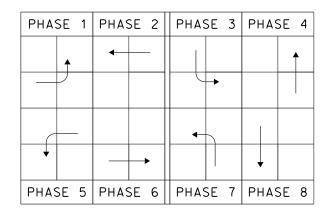
■ NC. ADWAY SUITE 2800 MO 63102 (314) 206-4444

POWER SUPPLY														
LOCATION POWER SUPPLY ASSEMBLY						CIRCUIT BREAKER TRIP RATING*				LIGHTING CONTROL *		SERVICE POLE		
			DRAWING				OLLER	POWER DISCO		(ON POWER	R SUPPLY)	CUN	CONTRACT UTIL	
APPROACH	PROACH STATION OFFSE		DRAWING 902.15	DRAWING	AUXILIARY BREAKER		CONT & SIGNAL LAMPS	MAIN B		120 VOLT CONTROL CABINET	MAIN BREAKER		RNISH	COMPANY
++	T	ightharpoons	Туре	U.1.P.	15	Amps	· Amps	SIGNALS	L I GHT I NG Amps	CABINET	Amps	CI.	Ft.	U.I.P.
0 •	1 •	•	Туре		15	Amps	Amps	Amps	Amps		Amps	CI.	Ft.	

				CC	NTRO	LLER	ASS	EMBL'	Y AND) AUX	ILIAF	RY EQ	UIPM	ENT							
LOCATI	ION		SYS MAS	TEM	A C T L I	ATED	ON-OFF* SWITCH	(COORDINA	TION INT	ERFACE *	(NEM	A CABI	NET	170 C		1 7	
APPROACH	STATION	OFFSET	(CLOSE	LOOP)	ACTO	ATED	TYPE	12C/7C (HARDWIRE 1)	TIME	CLOSE	L00P	FIBER	TIME *		TYPE *		TYP	E *	SOFTW	ARE *
AFFRUACH	STATION	UFFSEI	NEMA	170	NEMA	170	I I I	MASTER	LOCAL	BASE	NEMA	170	LIDEK		E	ΕV	DOUBLE	332	336S	BITRAN	WAPITI
MO 180 & WOODSON	U.I.P.	U.I.P.			1								1								



		NEM	A LC	AD S	SWIT	CH A	ISSI	GNME	NTS		
1	2	3	4	5	6	7	8	9	10	11	12
				U.	Ι.	Ρ.	•				



F	DETECTOR SCHELL OR INFORMATION		
<u>-</u>		TY	PE
DETECTOR NUMBER	APPROACH	RADAR	VIDEO
10	EB (PHASE 1)		1
21	WB (PHASE 2)		1
22	WB (PHASE 2)		1
23	WB (PHASE 2)		1
30	SB (PHASE 3)		1
41	NB (PHASE 4)		1
42	NB (PHASE 4)		1
50	WB (PHASE 5)		1
61	EB (PHASE 6)		1
62	EB (PHASE 6)		1
63	EB (PHASE 6)		1
70	NB (PHASE 7) SB (PHASE 8)		1
81 82	SB (PHASE 8)		1
82	3B (FRASE 67		'
24	WB ADVANCE (PHASE 2)	1	
25	WB ADVANCE (PHASE 2)	1	
43	NB ADVANCE (PHASE 4)	1	
44	NB ADVANCE (PHASE 4)	1	
64	EB ADVANCE (PHASE 6)	1	
65	EB ADVANCE (PHASE 6)	1	
83	SB ADVANCE (PHASE 8)	1	
84	SB ADVANCE (PHASE 8)	1	
	TOTAL	8	14

- * ITEMS FOR WHICH SEPARATE PAYMENT WILL NOT BE MADE.
- (1) CABLING FOR THE NEW VIDEO DETECTION AND RADAR DETECTION SHOULD BE ROUTED THROUGH EXISTING CONDUITS. CONDUITS THAT ARE DAMAGED. COLLAPSED. OR UNUSABLE SHALL BE MARKED ON THE AS-BUILT PLANS PER JSP S.
- (2) THE INSTALLATION OF ALL EQUIPMENT SHALL BE IN ACCORDANCE WITH THE LATEST EDITION MISSOURI DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, DRAWINGS, AND ENGINEERING POLICY GUIDE.
- (3) THE CONTRACTOR SHALL HAVE RESPONSIBILITY OF LOCATING ALL UNDERGROUND AND OVERHEAD FACILITIES, STRUCTURES, AND UTILITIES.
- (4) THE CONTRACTOR IS RESPONSIBLE FOR TRAFFIC CONTROL AND SHALL CONFORM TO THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND MISSOURI DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS.
- (5) ALL DRILLED OPENING FOR CABLE SHALL BE WEATHERPROOF.
 THERE WILL BE NO DIRECT PAYMENT FOR DRILLED OPENINGS.
 DISUSED OPENINGS SHALL BE PLUGGED BY THE CONTRACTOR.
- (6) THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROGRAMMING DETECTION ZONES PER JSP I AND JSP J. PER JSP I AND JSP J. COUNT ZONES SHOULD BE PROGRAMMED FOR EACH LANE AT THE INTERSECTION EVEN IF NO VEHICLE DETECTION ZONE IS REQUIRED FOR THAT LANE.
- (7) THE CONTRACTOR SHALL REMOVE ALL DISUSED EXISTING DETECTION CAMERA CABLE AS PART OF THE DETECTION INSTALLATION.
- (8) THE CONTRACTOR SHALL PULL ROPE THROUGH ANY USED CONDUITS PER JSP R.
- (9) MANUFACTURER'S REPRESENTATIVE SHALL BE PRESENT DURING PROGRAMMING OF DETECTION ZONES PER JSP I AND JSP J. MANUFACTURER'S REPRESENTATIVE SHALL PROVIDE GUIDANCE TO CONTRACTOR ON OPTIMAL PLACEMENT OF DETECTION EQUIPMENT AND PROGRAMMED DETECTION ZONES.

MICHAEL CHINN DOLDE

NUMBER PREPARED

O6/21/2024

ROUTE STATE

180 MO

DISTRICT SHEET NO.

SL 57

COUNTY

ST. LOUIS

JOB NO.

JSL 0179

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

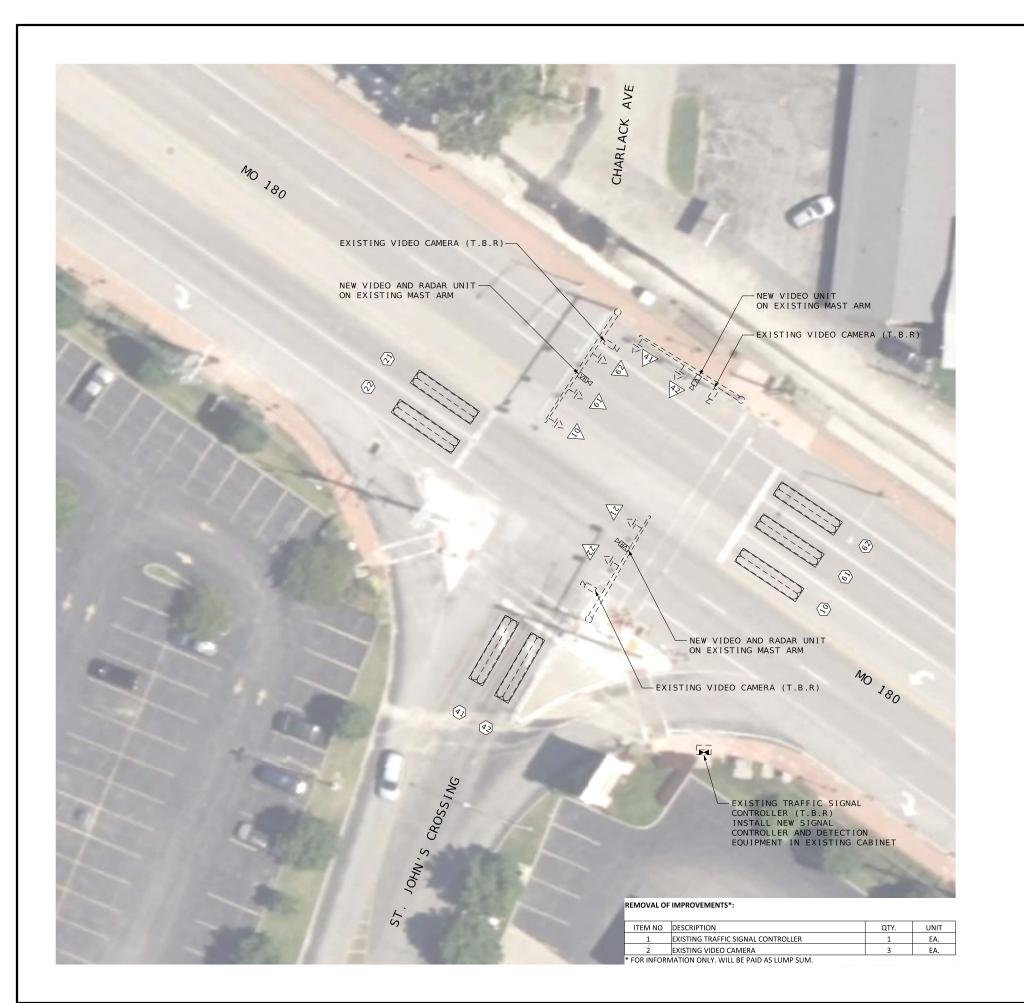
MISSOURI HIGHWAYS AND TRANSP COMMISSION 105 WE 1-888 ASK. MODOT (1-888

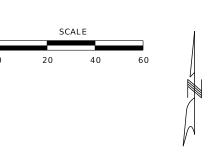
SA INC.
BROADWAY SUITE 2800
UIS, MO 63102 (314) 206-4444
URI CERTIFICATE OF AUTHORITY - 001

MO 180 & WOODSON

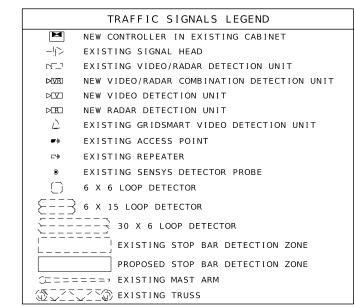
INTERSECTION

TRAFFIC SIGNAL SHEET 54 OF 78





- (1) THE CONTRACTOR SHALL REMOVE THE EXISTING CONTROLLER AND DELIVER TO THE MODOT SIGNAL SHOP PER JSP K. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROGRAMMING THE NEW CONTROLLER TO MATCH EXISTING PHASING, TIMING, AND COMMUNICATION SETTINGS PER JSP H.
- (2) THE CONTRACTOR SHALL REMOVE THE EXISTING VIDEO DETECTION EQUIPMENT INCLUDING ANY UNUSED CAMERAS, CABINET HARDWARE, MOUNTING HARDWARE/BRACKETS AND CABLING. THE EXISTING VIDEO DETECTION EQUIPMENT SHALL BE DELIVERED TO THE MODOT SIGNAL SHOP PER JSP K. THE CONTRACTOR SHALL INSTALL A COMPLETE VIDEO DETECTION SYSTEM WITH ENCLOSURES, MOUNTING HARDWARE/BRACKETS, TERMINATION PANELS, POWER AND COMMUNICATION CABLES FOR STOP BAR DETECTION PER JSP I.
- (3) THE CONTRACTOR SHALL INSTALL RADAR DETECTION UNITS AND PROGRAM FOR ADVANCED DETECTION PER JSP J.



TRAFFIC SIGNAL SHEET 55 OF 78

ST. LOUIS COUNTY ROUTE 180 SIGNAL IMPROVEMENTS MICHAELIONN DOLDE

NUMBER
PE-2007002778

THIS SHEET HAS BEEN SIGNED SKALED AND DATED ELECTRONICALLY.

DATE PREPARED
06/21/2024
ROUTE STATE
180 MO
DISTRICT SHEET NO.
SL 58

ST. LOUIS

JOB NO.

JSL0179

PROJECT NO.

BRIDGE NO.

6/24 PRELIMINARY PLANS
11/24 FINAL PLANS

OMMISSION

105 WEST CAPITOL

MISSOURI HIGHWAYS AND TRANS
COMMISSION
TO DOT

■ INC. OADWAY SUITE 2800 3, MO 63102 (314) 206-4444

	POWER SUPPLY													
LOC	ATION		POWER ASSE	SUPPLY MBLY	CIR	CUII	T BREAKEI	R TRIP R	AT I NG ≭	LIGHTING	CONTROL *		SERVIC	E POLE
			DRAWING				OLLER	POWER DISCO		(ON POWER	R SUPPLY)	CUN	NTRACT	UTILITY
APPROACH	STATION	UFFSEI	DRAWING 902.15	DRAWING	AUX I L BRE A	I ARY KER	CONT & SIGNAL LAMPS	MAIN B		120 VOLT CONTROL CABINET	MAIN BREAKER		RNISH	COMPANY
++	T	ightharpoons	Туре	U.1.P.	15	Amps	· Amps	SIGNALS	L I GHT I NG Amps	CABINET	Amps	CI.	Ft.	U.I.P.
0 •	1 •	•	Туре		15	Amps	Amps	Amps	Amps		Amps	CI.	Ft.	

				CC	NTRO	LLER	ASS	EMBL'	Y AND) AUX	ILIAF	Y EQ	UIPM	ENT							
LOCATI	ON		SYS MAS	TEM	A C T L I	ATED	ON-OFF* SWITCH	(COORDINA	TION INT	ERFACE *	(NEM	A CABI	NET	170 CA		1 7	
APPROACH	STATION	OFFSET	(CLOSE	LOOP)	ACTO	AILU	TYPE	12C/7C (HARDWIRE 1)	TIME	CLOSED	LOOP	FIBER	TIME *		TYPE *		TYPI	*	SOF TW.	ARE *
AFFRUACH	STATION	UFFSEI	NEMA	170	NEMA	170	I I I	MASTER	LOCAL	BASE	NEMA	170	LIBEK		E	ΕV	DOUBLE	332	336S	BITRAN	WAPITI
MO 180 & ST. JOHN'S CROSSING	U.1.P.	U.I.P.			1								1								

				NEM AS	IA DE SSIG	TEC NMEN	TOR NT							
			CARD POSITION											
		1	2	3	4	5	6	7	8					
C H A N	1			T	D									
N E L	2													

TOTAL	NUMBER	OF	DETECTOR	CARDS(2-CHANNEL)	=	(2)
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NEM	A LO	AD S	SWIT	CH A	ISS	GNME	NTS
1	2	3	4	5	6	7	8
			.]	. [•		
9	10	11	12	13	14	15	16
			.]	• F	•		

PHASE 1	PHASE 2	PHASE 4
		↑
+		
PHASE 5	PHASE 6	PHASE 8

F	OR INFORMATION		
		TY	PE
DETECTOR NUMBER	APPROACH	RADAR	VIDEO
10	WB (PHASE 1)		1
21	EB (PHASE 2)		1
22	EB (PHASE 2)		1
41	NB (PHASE 4)		1
42	NB (PHASE 4)		1
61	WB (PHASE 6)		1
62	WB (PHASE 6)		1
27	ED ADVANCE (DUACE 2)	1	
23 24	EB ADVANCE (PHASE 2) EB ADVANCE (PHASE 2)	1	
63	WB ADVANCE (PHASE 2)	1	
64	WB ADVANCE (PHASE 6)	1	
0 1	WE ASTAITE THASE OF		
	TOTAL	4	7

DETECTOR SCHEDULE

- * ITEMS FOR WHICH SEPARATE PAYMENT WILL NOT BE MADE.
- (1) CABLING FOR THE NEW VIDEO DETECTION AND RADAR DETECTION SHOULD BE ROUTED THROUGH EXISTING CONDUITS. CONDUITS THAT ARE DAMAGED, COLLAPSED, OR UNUSABLE SHALL BE MARKED ON THE AS-BUILT PLANS PER JSP S.
- (2) THE INSTALLATION OF ALL EQUIPMENT SHALL BE IN ACCORDANCE WITH THE LATEST EDITION MISSOURI DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, DRAWINGS, AND ENGINEERING POLICY GUIDE.
- (3) THE CONTRACTOR SHALL HAVE RESPONSIBILITY OF LOCATING ALL UNDERGROUND AND OVERHEAD FACILITIES, STRUCTURES, AND UTILITIES.
- (4) THE CONTRACTOR IS RESPONSIBLE FOR TRAFFIC CONTROL AND SHALL CONFORM TO THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND MISSOURI DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS.
- (5) ALL DRILLED OPENING FOR CABLE SHALL BE WEATHERPROOF.
 THERE WILL BE NO DIRECT PAYMENT FOR DRILLED OPENINGS.
 DISUSED OPENINGS SHALL BE PLUGGED BY THE CONTRACTOR.
- (6) THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROGRAMMING DETECTION ZONES PER JSP I AND JSP J. PER JSP I AND JSP J. COUNT ZONES SHOULD BE PROGRAMMED FOR EACH LANE AT THE INTERSECTION EVEN IF NO VEHICLE DETECTION ZONE IS REQUIRED FOR THAT LANE.
- (7) THE CONTRACTOR SHALL REMOVE ALL DISUSED EXISTING DETECTION CAMERA CABLE AS PART OF THE DETECTION INSTALLATION.
- (8) THE CONTRACTOR SHALL PULL ROPE THROUGH ANY USED CONDUITS PER JSP R.
- (9) MANUFACTURER'S REPRESENTATIVE SHALL BE PRESENT DURING PROGRAMMING OF DETECTION ZONES PER JSP I AND JSP J. MANUFACTURER'S REPRESENTATIVE SHALL PROVIDE GUIDANCE TO CONTRACTOR ON OPTIMAL PLACEMENT OF DETECTION EQUIPMENT AND PROGRAMMED DETECTION ZONES.



JOB NO.

JSL0179

CONTRACT ID.

PROJECT NO.

BRIDGE NO.

DESCRIPTION	PRELIMINARY PLANS	FINAL PLANS			
DATE	04/16/24	06/21/24			

COMMISSION

COMMISSION

COMMISSION

105 WEST CAPITOL

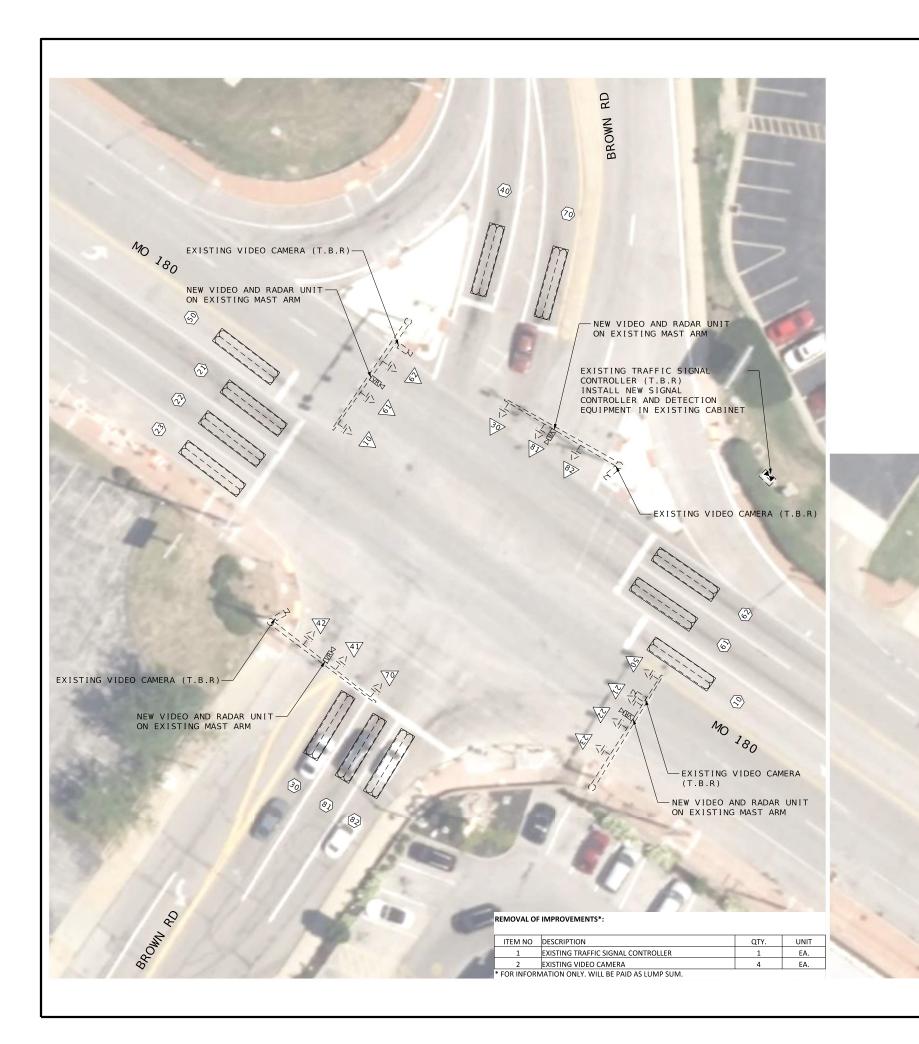
IFFEERSON CITY MO 65103

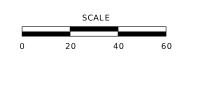
AAY SUITE 2800 63102 (314) 206-4444

MO 180 & ST. JOHN'S CROSSING

INTERSECTION

TRAFFIC SIGNAL SHEET 56 OF 78







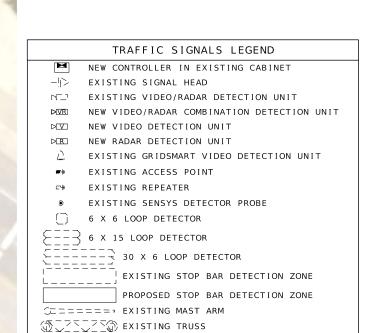
(2) THE CONTRACTOR SHALL REMOVE THE EXISTING VIDEO DETECTION EQUIPMENT INCLUDING ANY UNUSED CAMERAS, CABINET HARDWARE, MOUNTING HARDWARE/BRACKETS AND CABLING, THE EXISTING VIDEO DETECTION EQUIPMENT SHALL BE DELIVERED TO THE MODOT SIGNAL SHOP PER JSP K. THE CONTRACTOR SHALL INSTALL A COMPLETE VIDEO DETECTION SYSTEM WITH ENCLOSURES, MOUNTING HARDWARE/BRACKETS, TERMINATION PANELS, POWER AND COMMUNICATION CABLES FOR STOP BAR DETECTION PER JSP I.

STATION

FIRE

13

(3) THE CONTRACTOR SHALL INSTALL RADAR DETECTION UNITS AND PROGRAM FOR ADVANCED DETECTION PER JSP J.



TRAFFIC SIGNAL SHEET 57 OF 78

ST. LOUIS COUNTY ROUTE 180 SIGNAL IMPROVEMENTS MICHAELON DOLDE

NIMBER

PE-2007002778

THIS SHEET IMS BEEN
SIGNED, SEALED AND DATED
ELECTRONOCALLY.

DATE PREPARED

06/21/2024

ROUTE STATE

180 MO

DISTRICT SHEET NO.

5L 60

JOB NO.
JSL0179
CONTRACT ID.

PROJECT NO.

DESCRIPTION
PRELIMINARY PLANS
FINAL PLANS

ANSPORTATION 04/16/24 06/21/24 06/21/24 06/21/24 06/21/24 06/21/24 06/21/24

COMMISSION

COMMISSION

105 WEST CAP

JEFFERSON CITY, MO 6

MoM

■ > USA INC. N. BROADWAY SUITE 2800 LOUIS, MO 63102 (314) 206-4444

					Р	OW	ER SI	JPPL Y	•					
LOC	CATION		POWER ASSE	SUPPLY MBLY	CIR	CUIT	T BREAKEI	R TRIP R	AT I NG*	LIGHTING	CONTROL *		SERVIC	E POLE
			DRAWING		_		OLLER CONT &	POWER DISCO	SUPPLY NNECT		R SUPPLY)	CON	NTRACT	UTILITY
APPROACH	STATION	OFFSET	902.15	DRAWING	AUX I L BRE A	I ARY KER	SIGNAL		REAKER	120 VOLT CONTROL	MAIN BREAKER		RNISH	COMPANY
	T	\triangleright	Туре	U.1.P.	15	Amps	· Amps	SIGNALS Amps	LIGHTING Amps	CABINET	Amps	CI.	Ft.	U.I.P.
U •	1 •	•	Туре		15	Amps	Amps	Amps	Amps		Amps	CI.	Ft.	

	CONTROLLER ASSEMBLY AND AUXILIARY EQUIPMENT																				
LOCAT	ION		SYS	TEM TER	A C T L I	ATED	ON-OFF* SWITCH	. (COORDINA	TION INT	ERFACE *	K			NEM	A CABI	NET	170 C#		1 7	
APPROACH	ADDROLOU STATION OFFICE				ACTO	AILU	TYPE	12C/7C (HARDWIRE 1)	TIME	CLOSE) LOOP	FIBER	TIME *		TYPE *	_	TYPI	*	SOFTW	ARE *
AFFRUACH	STATION	OFFSET	NEMA	170	NEMA	170	I I I	MASTER	LOCAL	BASE	NEMA	170	FIDER		E	ΕV	DOUBLE	332	336S	BITRAN	WAPITI
MO 180 & BROWN	U.1.P.	U.I.P.			1								1								

		NEMA DETECTOR ASSIGNMENT											
		CARD POSITION											
	1	2	3	4	5	6	7	8					
C H A		11	Ţ	D									
N N E L		U•	1 •		•								

TOTAL	NUMBER	OF	DETECTOR	CARDS(2-CHANNEL) =	(2)
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NEM	A LO	AD S	SWIT	CH A	ISS	GNME	NTS
1	2	3	4	5	6	7	8
		U	.]	. F	•		
9	10	11	12	13	14	15	16
		U	.]		•		

F	OR INFORMATION	ONLY	
		TY	PE
DETECTOR NUMBER	APPROACH	RADAR	VIDEO
10	WB (PHASE 1)		1
21	EB (PHASE 2)		1
22	EB (PHASE 2)		1
23	EB (PHASE 2)		1
30	NB (PHASE 3)		1
40	SB (PHASE 4)		1
50	EB (PHASE 5)		1
61	WB (PHASE 6)		1
62	WB (PHASE 6)		1
70	SB (PHASE 7)		1
81	NB (PHASE 8)		1
82	NB (PHASE 8)		1
24	EB ADVANCE (PHASE 2)	1	
25	EB ADVANCE (PHASE 2)	1	
41	SB ADVANCE (PHASE 4)	1	
63	WB ADVANCE (PHASE 6)	1	
64	WB ADVANCE (PHASE 6)	1	
83	NB ADVANCE (PHASE 8)	1	
84	NB ADVANCE (PHASE 8)	l	
	TOTAL	7	12

DETECTOR SCHEDULE

PHASE 1	PHASE 2	PHASE 3	PHASE 4	PHASE 11	PHASE 12
4			+		+
†	-		†		
PHASE 5	PHASE 6	PHASE 7	PHASE 8	PHASE 13	PHASE 14

- * ITEMS FOR WHICH SEPARATE PAYMENT WILL NOT BE MADE.
- (1) CABLING FOR THE NEW VIDEO DETECTION AND RADAR DETECTION SHOULD BE ROUTED THROUGH EXISTING CONDUITS. CONDUITS THAT ARE DAMAGED. COLLAPSED. OR UNUSABLE SHALL BE MARKED ON THE AS-BUILT PLANS PER JSP S.
- (2) THE INSTALLATION OF ALL EQUIPMENT SHALL BE IN ACCORDANCE WITH THE LATEST EDITION MISSOURI DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, DRAWINGS, AND ENGINEERING POLICY GUIDE.
- (3) THE CONTRACTOR SHALL HAVE RESPONSIBILITY OF LOCATING ALL UNDERGROUND AND OVERHEAD FACILITIES, STRUCTURES, AND UTILITIES.
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- (5) ALL DRILLED OPENING FOR CABLE SHALL BE WEATHERPROOF.
 THERE WILL BE NO DIRECT PAYMENT FOR DRILLED OPENINGS.
 DISUSED OPENINGS SHALL BE PLUGGED BY THE CONTRACTOR.
- (6) THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROGRAMMING DETECTION ZONES PER JSP I AND JSP J. PER JSP I AND JSP J. COUNT ZONES SHOULD BE PROGRAMMED FOR EACH LANE AT THE INTERSECTION EVEN IF NO VEHICLE DETECTION ZONE IS REQUIRED FOR THAT LANE.
- (7) THE CONTRACTOR SHALL REMOVE ALL DISUSED EXISTING DETECTION CAMERA CABLE AS PART OF THE DETECTION INSTALLATION.
- (8) THE CONTRACTOR SHALL PULL ROPE THROUGH ANY USED CONDUITS PER JSP R.
- (9) MANUFACTURER'S REPRESENTATIVE SHALL BE PRESENT DURING PROGRAMMING OF DETECTION ZONES PER JSP I AND JSP J. MANUFACTURER'S REPRESENTATIVE SHALL PROVIDE GUIDANCE TO CONTRACTOR ON OPTIMAL PLACEMENT OF DETECTION EQUIPMENT AND PROGRAMMED DETECTION ZONES.



DATE PE	REPARED
06/21	/2024
ROUTE	STATE
180	MO
DISTRICT	SHEET NO.
SL	61
COU	NTY

ST. LOUIS

JOB NO.

JSL0179

CONTRACT ID.

PROJECT NO.

DATE DESCRIPTION 04/16/24 PRELIMIMARY PLANS 06/21/24 FINAL PLANS						
DATE 04/16/2 ² 06/21/2 ⁴	DESCRIPTION					
	DATE	04/16/24	06/21/24			

COMMISSION

COMMISSION

105 WEST CAPITOL

IFFEERSON CITY MO 65102

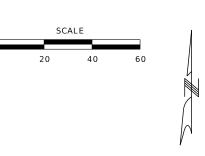
.INC. OADWAY SUITE 2800 5, MO 63102 (314) 206-4444

MO 180 & BROWN

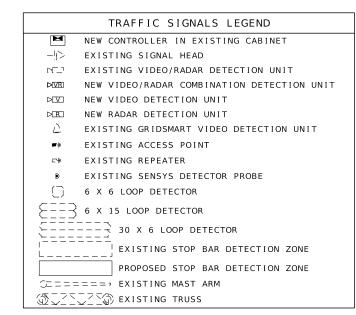
INTERSECTION

TRAFFIC SIGNAL SHEET 58 OF 78





- (1) THE CONTRACTOR SHALL REMOVE THE EXISTING CONTROLLER AND DELIVER TO THE MODOT SIGNAL SHOP PER JSP K. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROGRAMMING THE NEW CONTROLLER TO MATCH EXISTING PHASING, TIMING, AND COMMUNICATION SETTINGS PER JSP H.
- (2) THE CONTRACTOR SHALL REMOVE THE EXISTING VIDEO DETECTION EQUIPMENT INCLUDING ANY UNUSED CAMERAS, CABINET HARDWARE, MOUNTING HARDWARE/BRACKETS AND CABLING, THE EXISTING VIDEO DETECTION EQUIPMENT SHALL BE DELIVERED TO THE MODOT SIGNAL SHOP PER JSP K. THE CONTRACTOR SHALL INSTALL A COMPLETE VIDEO DETECTION SYSTEM WITH ENCLOSURES, MOUNTING HARDWARE/BRACKETS, TERMINATION PANELS, POWER AND COMMUNICATION CABLES FOR STOP BAR DETECTION PER JSP I.
- (3) THE CONTRACTOR SHALL INSTALL RADAR DETECTION UNITS AND PROGRAM FOR ADVANCED DETECTION PER JSP J.



TRAFFIC SIGNAL SHEET 59 OF 78

ST. LOUIS COUNTY ROUTE 180 SIGNAL IMPROVEMENTS DESCRIPTION

MICHAELDIN DOUBLE

MICHAELDIN INVALLE

DATE PREPARED

O6/21/2024

ROUTE

180

MO

DISTRICT SHEET NO

SL

62

COUNTY

ST

CONTRACT ID.

BRIDGE NO.

BRIDGE NO.

BRIDGE NO.

BRIDGE NO.

ONE SEALED AND OATED

CONTRACT ID.

BRIDGE NO.

BRIDGE NO.

H. SEALED AND OATED

CONTRACT ID.

BRIDGE NO.

H. SEALED AND OATED

CONTRACT ID.

BRIDGE NO.

BRIDGE NO.

H. SEALED AND OATED

CONTRACT ID.

BRIDGE NO.

BRIDGE NO.

H. SEALED AND OATED

CONTRACT ID.

BRIDGE NO.

BRIDGE NO.

H. SEALED AND OATED

CONTRACT ID.

CONTR

SOURT HIGHWAYS AND TRANSPORTA
COMMISSION

MODOT

1-888-ASK-WOODT (1-888-75K-WOODT (1-888-75

C. C. DWAY SUITE 2800 AMO 63102 (314) 206444

WSP USA INC.
211 N. BROADWAY SUIT
ST. LOUIS. MO 63102 (3

	POWER SUPPLY													
ASSEMBLY LIGHTING CONTROL *										SERVIC	E POLE			
					_	_	OLLER	POWER DISCO	SUPPLY	(ON POWER				
APPROACH	STATION	OFFSET	902.15	DRAWING	AUX IL BRE A	I ARY	CONT & SIGNAL	MAIN B		120 VOLT CONTROL	MAIN		NTRACT RNISH	UTILITY COMPANY
	т				0		LAMPS	SIGNALS	LIGHTING	CABINET	BREAKER			
		\vdash	Type	U.I.P.	15	Amps	· Amps	Amps	Amps		Amps	CI.	Ft.	U.I.P.
0	T •		Туре		15	Amps	Amps	Amps	Amps		Amps	CI.	Ft.	

	CONTROLLER ASSEMBLY AND AUXILIARY EQUIPMENT																				
LOCATI	ION		SYS MAS	TEM	A C T L I	ATED	ON-OFF* SWITCH	(COORDINA	TION INT	ERFACE *	(NEM	A CABI	NET	170 CA		1 7	
APPROACH	1000010H 071170H 07505				ACTUATED		TYPE 12C/7C HARDWIRE (1) TIME		CLOSE	L00P	FIBER	TIME *		TYPE *		TYPE *		SOFTWARE *			
AFFRUACH	STATION	OFFSET	NEMA	170	NEMA	170	I I I	MASTER	LOCAL	BASE	NEMA	170	LIDEK		E	ΕV	DOUBLE	332	336S	BITRAN	WAPITI
MO 180 & MCKIBBON	U.I.P.	U.I.P.			1								1								

				NEM AS	IA DE SSIG	TEC NMEN	TOR NT						
			CARD POSITION										
		1	2	3	4	5	6	7	8				
C H A N	1			T	D								
N E L	2		•	1 •		•							

ΤΠΤΔΙ	NUMBER	ΩF	DETECTOR	CARDS(2-CHANNEL)	=	(2)
TOTAL	MOMPEN	UI	DETECTOR	CANDOTE CHANNEL	_	(2 /

		NEM	A LC	AD S	SWIT	CH A	ASSI	GNME	NTS		
1	2	3	4	5	6	7	8	9	10	11	12
				U.	Ι.	Ρ.	•				

		TY	PE
DETECTOR NUMBER	APPROACH	RADAR	VIDEO
10	EB (PHASE 1)		1
21	WB (PHASE 2)		1
22	WB (PHASE 2)		1
23	WB (PHASE 2)		1
40	NB (PHASE 4)		1
50	WB (PHASE 5)		1
61	EB (PHASE 6)		1
62 63	EB (PHASE 6)		1
	EB (PHASE 6)		1
81	SB (PHASE 8)		1
82	SB (PHASE 8)		1
24	WB ADVANCE (PHASE 2)	1	
25	WB ADVANCE (PHASE 2)	1	
64	EB ADVANCE (PHASE 6)	1	
65	EB ADVANCE (PHASE 6)	1	
	TOTAL	4	11

DETECTOR SCHEDULE

- * ITEMS FOR WHICH SEPARATE PAYMENT WILL NOT BE MADE.
- (1) CABLING FOR THE NEW VIDEO DETECTION AND RADAR DETECTION SHOULD BE ROUTED THROUGH EXISTING CONDUITS. CONDUITS THAT ARE DAMAGED. COLLAPSED. OR UNUSABLE SHALL BE MARKED ON THE AS-BUILT PLANS PER JSP S.
- (2) THE INSTALLATION OF ALL EQUIPMENT SHALL BE IN ACCORDANCE WITH THE LATEST EDITION MISSOURI DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, DRAWINGS, AND ENGINEERING POLICY GUIDE.
- (3) THE CONTRACTOR SHALL HAVE RESPONSIBILITY OF LOCATING ALL UNDERGROUND AND OVERHEAD FACILITIES, STRUCTURES, AND UTILITIES.
- (4) THE CONTRACTOR IS RESPONSIBLE FOR TRAFFIC CONTROL AND SHALL CONFORM TO THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND MISSOURI DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS.
- (5) ALL DRILLED OPENING FOR CABLE SHALL BE WEATHERPROOF.
 THERE WILL BE NO DIRECT PAYMENT FOR DRILLED OPENINGS.
 DISUSED OPENINGS SHALL BE PLUGGED BY THE CONTRACTOR.
- (6) THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROGRAMMING DETECTION ZONES PER JSP I AND JSP J. PER JSP I AND JSP J. COUNT ZONES SHOULD BE PROGRAMMED FOR EACH LANE AT THE INTERSECTION EVEN IF NO VEHICLE DETECTION ZONE IS REQUIRED FOR THAT LANE.
- (7) THE CONTRACTOR SHALL REMOVE ALL DISUSED EXISTING DETECTION CAMERA CABLE AS PART OF THE DETECTION INSTALLATION.
- (8) THE CONTRACTOR SHALL PULL ROPE THROUGH ANY USED CONDUITS PER JSP R.
- (9) MANUFACTURER'S REPRESENTATIVE SHALL BE PRESENT DURING PROGRAMMING OF DETECTION ZONES PER JSP I AND JSP J. MANUFACTURER'S REPRESENTATIVE SHALL PROVIDE GUIDANCE TO CONTRACTOR ON OPTIMAL PLACEMENT OF DETECTION EQUIPMENT AND PROGRAMMED DETECTION ZONES.

PHASE 1	PHASE 2	PHASE 4
		1
+		—
PHASE 5	PHASE 6	PHASE 8

MO 180 & MCKIBBON

INTERSECTION

TRAFFIC SIGNAL SHEET 60 OF 78

ST. LOUIS COUNTY
ROUTE 180 SIGNAL IMPROVEMENTS

TATE OF MISSOL	H
MICHAEL JOHN DOLDE	4
NUMBER PE-2007002778	4
SSIONAL ENGINE	L
THIS SHEET HAS BEEN	Þ

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

DATE PREPARED

06/21/2024

ROUTE STATE

180 MO

DISTRICT SHEET NO.

SL 63

JOB NO.
JSL0179
CONTRACT ID.

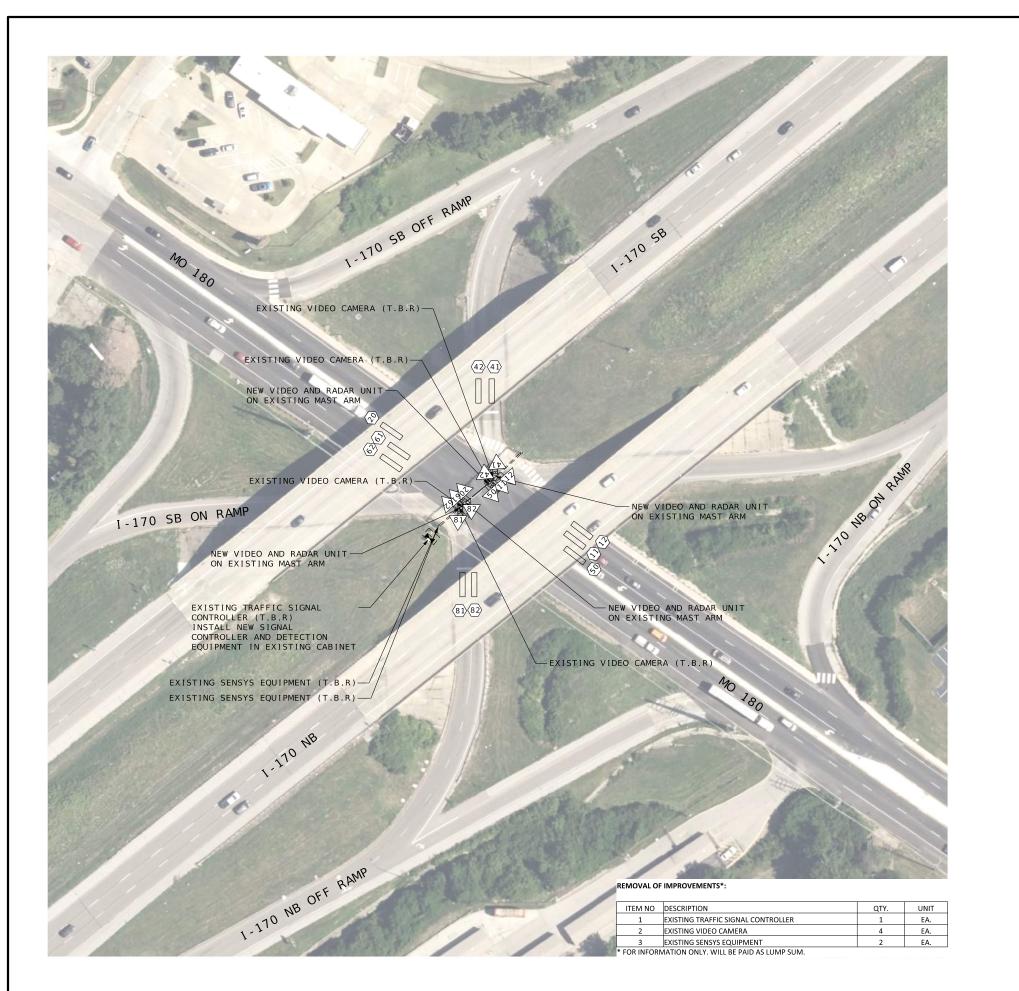
PROJECT NO.

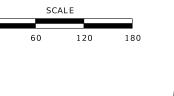
BRIDGE NO.

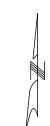
DESCRIPTION
PRELIMINARY PLANS
FINAL PLANS

COMMISSION
COMMISSION
COMMISSION
105 WEST CAPITOL
105 WEST CAPITOL
105 WEST CAPITOL

NC. ADWAY SUITE 2800 MO 63102 (314) 206-4444







- (1) THE CONTRACTOR SHALL REMOVE THE EXISTING CONTROLLER AND DELIVER TO THE MODOT SIGNAL SHOP PER JSP K. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROGRAMMING THE NEW CONTROLLER TO MATCH EXISTING PHASING, TIMING, AND COMMUNICATION SETTINGS PER JSP H.
- (2) THE CONTRACTOR SHALL REMOVE THE EXISTING VIDEO DETECTION EQUIPMENT INCLUDING ANY UNUSED CAMERAS, CABINET HARDWARE, MOUNTING HARDWARE/BRACKETS AND CABLING. THE EXISTING VIDEO DETECTION EQUIPMENT SHALL BE DELIVERED TO THE MODOT SIGNAL SHOP PER JSP K. THE CONTRACTOR SHALL INSTALL A COMPLETE VIDEO DETECTION SYSTEM WITH ENCLOSURES, MOUNTING HARDWARE/BRACKETS, TERMINATION PANELS, POWER AND COMMUNICATION CABLES FOR STOP BAR DETECTION PER JSP I.
- (3) THE CONTRACTOR SHALL INSTALL RADAR DETECTION UNITS AND PROGRAM FOR ADVANCED DETECTION PER JSP J.
- (4) THE CONTRACTOR SHALL REMOVE SENSYS EQUIPMENT (ACCESS POINTS, REPEATERS, AND EQUIPMENT IN THE CABINET) AS SPECIFIED IN JSP T. PAYMENT FOR REMOVAL WILL BE INCLUDED WITH REMOVAL OF IMPROVEMENTS (LS).

	TRAFFIC SIGNALS LEGEND
	NEW CONTROLLER IN EXISTING CABINET
-!1>	EXISTING SIGNAL HEAD
77	EXISTING VIDEO/RADAR DETECTION UNIT
ÞVR	NEW VIDEO/RADAR COMBINATION DETECTION UNIT
D V	NEW VIDEO DETECTION UNIT
ÞÆ.	NEW RADAR DETECTION UNIT
7	EXISTING GRIDSMART VIDEO DETECTION UNIT
= +	EXISTING ACCESS POINT
□	EXISTING REPEATER
•	EXISTING SENSYS DETECTOR PROBE
	6 X 6 LOOP DETECTOR
E==3	6 X 15 LOOP DETECTOR
=====	30 X 6 LOOP DETECTOR
	EXISTING STOP BAR DETECTION ZONE
	PROPOSED STOP BAR DETECTION ZONE
Œ===	=== EXISTING MAST ARM

TRAFFIC SIGNAL SHEET 61 OF 78

ST. LOUIS COUNTY ROUTE 180 SIGNAL IMPROVEMENTS MICHAELIOHN
DOLDE
NUMBER
PEZOOTOOZ778
THIS SHEET HAS BEEN
SIGNED, SEALED AND DATED
ELECTRONICALLY.

DATE PREPARED
06/21/2024
ROUTE STATE
180 MO
DISTRICT SHEET NO.
SL
COUNTY

JSL0179

PROJECT NO.

BRIDGE NO.

ATION DATE DESCRIPTIO
04/16/24 PRELIMINARY PL
06/21/24 FINAL PLANS

HIGHWAYS AND TRANSPORTAT
COMMISSION

DOT

105 WEST CAPI

MISSOURI HIGHWAYS AND
COMMISS
COMMISS

■ A INC. ROADWAY SUITE 2800 IS, MO 63102 (314) 206-4444

WSP USA INC 211 N BROADWA ST LOUIS MO 63

EXISTING TRUSS

	POWER SUPPLY													
LOC	LOCATION				CIRCUIT BREAKER			R TRIP RATING*		LIGHTING CONTROL *		SERVICE POLE		E POLE
			DRAWING		_		OLLER CONT &	POWER DISCO	SUPPLY NNECT	(ON POWER SUPPLY) 120 VOLT MAIN CONTROL		CON	NTRACT	UTILITY
APPROACH	STATION	OFFSET	902.15	DRAWING	AUX I L BRE A	I ARY KER	SIGNAL		REAKER			FURNISH		COMPANY
	l T	\triangleright	Туре	U.1.P.	15	Amps	· Amps	SIGNALS Amps	LIGHTING Amps	CABINET	Amps	CI.	Ft.	U.I.P.
U •	1 •	•	Туре		15	Amps	Amps	Amps	Amps		Amps	CI.	Ft.	

	CONTROLLER ASSEMBLY AND AUXILIARY EQUIPMENT																				
LOCATION				SYSTEM MASTER ACTUATED			ON-OFF* SWITCH		COORDINA	TION INT	ERFACE *	(NEMA CABINET			170 CABINET		170		
APPROACH	155551011 055557			LOOP)	ACTO	AILU	TYPE	12C/7C (HARDWIRE 1)	TIME	CLOSED	L00P	FIBER	TIME *		TYPE *	-	TYP	E *	SOFTW	ARE *
AFFRUACH	STATION	OFFSET	NEMA	170	NEMA	170	I II	MASTER	LOCAL	BASE	NEMA	170	LIDEK		E	ΕV	DOUBLE	332	336S	BITRAN	WAPITI
MO 180 & I-170	U.I.P.	U.I.P.			1								1								

			NEMA DETECTOR ASSIGNMENT								
				CAI	RD PO	DS I T I	ON				
		1	2	3	4	5	6	7	8		
C H A	1			Ţ	D						
N N E L	2		U •	1 •	I	•					

(2)

TOTAL	NUMBER	OF	DETECTOR	CARDS(2-CHANNEL) =

	NEMA LOAD SWITCH ASSIGNMENTS										
1	2	3	4	5	6	7	8	9	10	11	12
				U.	Ι.	Ρ.	•				

F	OR INFORMATION	ONLY				
		TYPE				
DETECTOR NUMBER	APPROACH	RADAR	VIDEO			
11	WB (PHASE 1)		1			
12	WB (PHASE 1)		1			
20	EB (PHASE 2)		1			
41	SB (PHASE 4)		1			
42	SB (PHASE 4)		1			
50	WB (PHASE 5)		1			
61	EB (PHASE 6)		1			
62	EB (PHASE 6)		1			
81	NB (PHASE 8)		1			
82	NB (PHASE 8)		1			
13	WB ADVANCE (PHASE 1)	1				
14	WB ADVANCE (PHASE 1)	1				
43	SB ADVANCE (PHASE 1)	1				
44	SB ADVANCE (PHASE 4)	1				
63	EB ADVANCE (PHASE 6)	1				
64	EB ADVANCE (PHASE 6)	1				
83	NB ADVANCE (PHASE 8)	1				
84	NB ADVANCE (PHASE 8)	1				
-						
	TOTAL		10			
	TOTAL	8	10			

DETECTOR SCHEDULE

- * ITEMS FOR WHICH SEPARATE PAYMENT WILL NOT BE MADE.
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06/21/2024 180 MO SHEET NO SL 65 ST. LOUIS JSL0179 PROJECT NO. BRIDGE NO.

A INC.
SA INC.
SA ON SUITE 2800
IIS, MO 63102 (314) 206-4444
INI. CERTIFICATE OF AUTHORITY - 0014

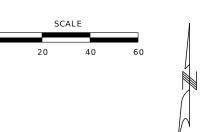
MO 180 & I-170

INTERSECTION

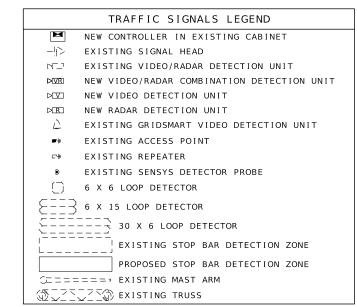
TRAFFIC SIGNAL SHEET 62 OF 78

PHA:	SE 1	PHAS	SE 2	PHAS	SE 4
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				,	
					†
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PHAS	L SE 5	PHAS	SE 6	PHA:	SE 8





- (1) THE CONTRACTOR SHALL REMOVE THE EXISTING CONTROLLER AND DELIVER TO THE MODOT SIGNAL SHOP PER JSP K. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROGRAMMING THE NEW CONTROLLER TO MATCH EXISTING PHASING, TIMING, AND COMMUNICATION SETTINGS PER JSP H.
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- (3) THE CONTRACTOR SHALL INSTALL RADAR DETECTION UNITS AND PROGRAM FOR ADVANCED DETECTION PER JSP J.



TRAFFIC SIGNAL SHEET 63 OF 78

ST. LOUIS COUNTY
ROUTE 180 SIGNAL IMPROVEMENTS

MICHAELOHN
DOLDE

NUMBER
PE-2007002778

THIS SHEET HAS BEEN
SIGNED, SEALED AND DATED
ELECTRONICALLY.

DATE PREPARED
06/21/2024
ROUTE STATE
180 MO
DISTRICT SHEET NO.
SL 66
COUNTY

ST. LOUIS

JOB NO.

JSL0179

PROJECT NO.

BRIDGE NO

DESCRIPTION
116/24 PRELIMINARY PLANS
121/24 FINAL PLANS

MISSOURI HIGHWAYS AND IKANI
COMMISSION
MADOT
105

■ A INC. ROADWAY SUITE 2800 S, MO 63102 (314) 206-4444

					Р	OW	ER SI	JPPL Y	•					
LOC	CATION		POWER ASSE	SUPPLY MBLY	CIR	CUIT	T BREAKEI	R TRIP R	AT I NG*	LIGHTING	CONTROL *		SERVIC	E POLE
			DRAWING		_		OLLER CONT &	POWER DISCO	SUPPLY NNECT		R SUPPLY)	CON	NTRACT	UTILITY
APPROACH	STATION	OFFSET	902.15	DRAWING	AUX I L BRE A	I ARY KER	SIGNAL		REAKER	120 VOLT CONTROL	MAIN BREAKER		RNISH	COMPANY
	l T	\triangleright	Туре	U.1.P.	15	Amps	· Amps	SIGNALS Amps	LIGHTING Amps	CABINET	Amps	CI.	Ft.	U.I.P.
U •	1 •	•	Туре		15	Amps	Amps	Amps	Amps		Amps	CI.	Ft.	

	CONTROLLER ASSEMBLY AND AUXILIARY EQUIPMENT																				
LOCATI	ION		SYS MAS	TEM	A C T L I	ATED	ON-OFF* SWITCH	(COORDINA	TION INT	ERFACE *	(NEM	A CABI	NET	170 CA		1 -	
APPROACH	STATION	OFFSET	(CLOSE	LOOP)	ACTO	AILU	TYPE	12C/7C (HARDWIRE 1)	TIME	CLOSED	L00P	FIBER	TIME *		TYPE *		TYP	E *	SOFTW	ARE *
AFFROACH	STATION	UFFSEI	NEMA	170	NEMA	170	I I I	MASTER	LOCAL	BASE	NEMA	170	FIDER		E	ΕV	DOUBLE	332	336S	BITRAN	WAPITI
MO 180 & LACKLAND	U.I.P.	U.I.P.			1								1								

			NEMA DETECTOR ASSIGNMENT									
				CAI	RD PO	DS I T I	ON					
		1	2	3	4	5	6	7	8			
C H A N	1			Ţ	D							
N E L	2		U •	1 •) 	•						

NEMA LOAD SWITCH ASSIGNMENTS											
1	2	3	4	5	6	7	8	9	10	11	12
				U.	Ι.	Ρ.	•				

F	DETECTOR SCHED OR INFORMATION		
		TY	PE
DETECTOR NUMBER	APPROACH	RADAR	VIDEO
10	WB (PHASE 1)		1
21	EB (PHASE 2)		1
22	EB (PHASE 2)		1
40	NB (PHASE 4)		1
50	EB (PHASE 5)		1
61	WB (PHASE 6)		1
62	WB (PHASE 6)		1
80	SB (PHASE 8)		1
23	EB ADVANCE (PHASE 2)	1	
24	EB ADVANCE (PHASE 2)	1	
41	NB ADVANCE (PHASE 4)	1	
63	WB ADVANCE (PHASE 6)	1	
64	WB ADVANCE (PHASE 6)	1	
81	SB ADVANCE (PHASE 8)	1	
	TOTAL	6	8

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06/21/2024 180 MO SL 67 ST. LOUIS JSL0179 PROJECT NO. BRIDGE NO.

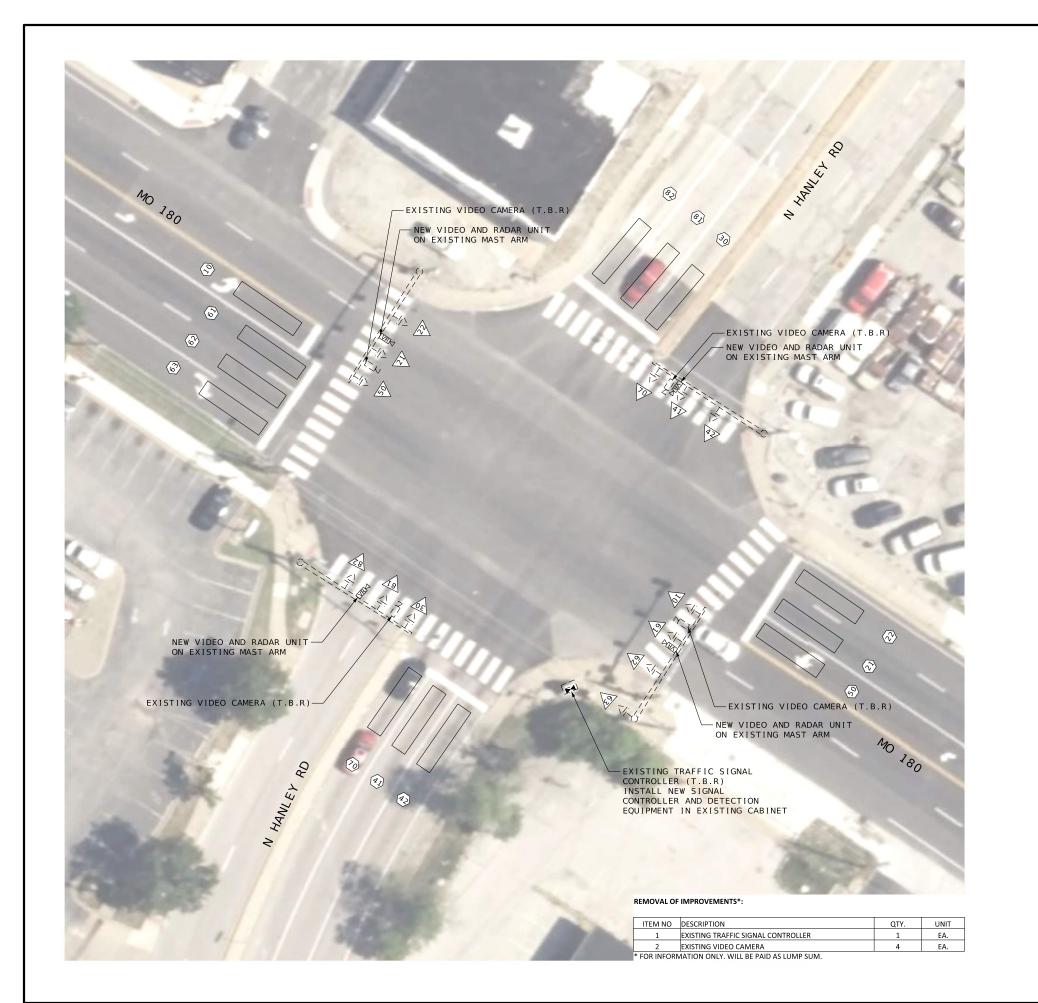
MICHAEL JOHN DOLDE

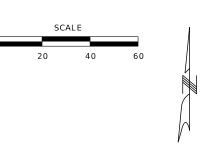
A INC.
ROADWAY SUITE 2800
IS, MO 63102 (314) 206-4444
RI CERTIFICATE OF AUTHORITY - 001

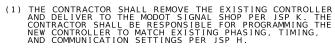
MO 180 & LACKLAND

TRAFFIC SIGNAL SHEET 64 OF 78

PHASE 1	PHASE 2	PHASE 4
		•
	-	
PHASE 5	PHASE 6	PHASE 8







- (2) THE CONTRACTOR SHALL REMOVE THE EXISTING VIDEO DETECTION EQUIPMENT INCLUDING ANY UNUSED CAMERAS, CABINET HARDWARE, MOUNTING HARDWARE/BRACKETS AND CABLING. THE EXISTING VIDEO DETECTION EQUIPMENT SHALL BE DELIVERED TO THE MODOT SIGNAL SHOP PER JSP K. THE CONTRACTOR SHALL INSTALL A COMPLETE VIDEO DETECTION SYSTEM WITH ENCLOSURES, MOUNTING HARDWARE/BRACKETS, TERMINATION PANELS, POWER AND COMMUNICATION CABLES FOR STOP BAR DETECTION PER JSP I.
- (3) THE CONTRACTOR SHALL INSTALL RADAR DETECTION UNITS AND PROGRAM FOR ADVANCED DETECTION PER JSP J.

NEW CONTROLLER IN EXISTING CABINET EXISTING SIGNAL HEAD EXISTING VIDEO/RADAR DETECTION UNIT NEW VIDEO/RADAR COMBINATION DETECTION UNIT NEW VIDEO DETECTION UNIT EXISTING GRIDSMART VIDEO DETECTION UNIT EXISTING ACCESS POINT

TRAFFIC SIGNALS LEGEND

□ EXISTING REPEATER

• EXISTING SENSYS DETECTOR PROBE

6 X 6 LOOP DETECTOR

6 X 15 LOOP DETECTOR

30 X 6 LOOP DETECTOR

EXISTING STOP BAR DETECTION ZONE

PROPOSED STOP BAR DETECTION ZONE

EXISTING TRUSS

TRAFFIC SIGNAL SHEET 65 OF 78

ST. LOUIS COUNTY ROUTE 180 SIGNAL IMPROVEMENTS

-200700277 06/21/2024 180 MO SL 68 ST. LOUIS JSL0179 PROJECT NO.

> 00 :06-444

WSP USA INC. 211 N. BROADWAY SUITE 28. ST. LOUIS, MO 63102 (314) 2

					Р	OW	ER SI	JPPL Y	•					
LOC	CATION		POWER ASSE	SUPPLY MBLY	CIR	CUIT	T BREAKEI	R TRIP R	AT I NG*	LIGHTING	CONTROL *		SERVIC	E POLE
			DRAWING		_		OLLER CONT &	POWER DISCO	SUPPLY NNECT		R SUPPLY)	CON	NTRACT	UTILITY
APPROACH	STATION	OFFSET	902.15	DRAWING	AUX I L BRE A	I ARY KER	SIGNAL		REAKER	120 VOLT CONTROL	MAIN BREAKER		RNISH	COMPANY
	l T	\triangleright	Туре	U.1.P.	15	Amps	· Amps	SIGNALS Amps	LIGHTING Amps	CABINET	Amps	CI.	Ft.	U.I.P.
U •	1 •	•	Туре		15	Amps	Amps	Amps	Amps		Amps	CI.	Ft.	

	CONTROLLER ASSEMBLY AND AUXILIARY EQUIPMENT																				
LOCAT	ION		SYS MAS	TEM	A C T L I	IATED	ON-OFF* SWITCH		COORDINA	TION INT	ERFACE *	(A CABI		170 C		1 7	70
APPROACH	STATION	OFFSET	(CLOSED		ACTO	IATED	TYPE	12C/7C (HARDWIRE 1)	TIME	CLOSE	L00P	FIBER	TIME * CLOCK		TYPE *	-	TYP	E *	SOFTW	ARE *
APPROACH	STATION	UFFSEI	NEMA	170	NEMA	170	I II	MASTER	LOCAL	BASE	NEMA	170	FIBER		E	ΕV	DOUBLE	332	336S	BITRAN	WAPITI
MO 180 & HANLEY	U.I.P.	U.I.P.			1								1								

				NEM AS	IA DE SSIG	TEC NME	TOR NT		
				CAI	RD PO	OS I T I	I ON		
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N E L	2		U •	1 •) 	•			

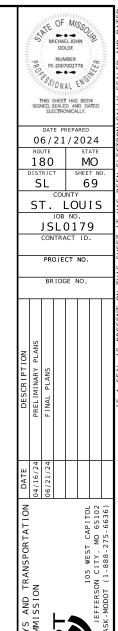
TOTAL NUMBER OF DETECTOR CARDS(2-CHANNEL) =	(2
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NEM	A LO	AD S	SWIT	CH A	ISSI	GNME	NTS
1	2	3	4	5	6	7	8
			.]	. [•		
9	10	11	12	13	14	15	16
			•]	•	•		

PHASE 1	PHASE 2	PHASE 3	PHASE 4
			↑
		•	
	—	+	+
PHASE 5	PHASE 6	PHASE 7	PHASE 8

DETECTOR SCHEDULE FOR INFORMATION ONLY										
		TY	PE							
DETECTOR NUMBER	APPROACH	RADAR	VIDEO							
10	EB (PHASE 1)		1							
21	WB (PHASE 2)		1							
22	WB (PHASE 2)		1							
30	SB (PHASE 3)		1							
41	NB (PHASE 4)		1							
42	NB (PHASE 4)		1							
50	WB (PHASE 5)		1							
61	EB (PHASE 6)		1							
62	EB (PHASE 6)		1							
63	EB (PHASE 6)		1							
70	NB (PHASE 7)		1							
81	SB (PHASE 8)		1							
82	SB (PHASE 8)		1							
23	WB ADVANCE (PHASE 2)	1								
24	WB ADVANCE (PHASE 2)	1								
43	NB ADVANCE (PHASE 4)	1								
44	NB ADVANCE (PHASE 4)	1								
64	EB ADVANCE (PHASE 6)	1								
65	EB ADVANCE (PHASE 6)	1								
83	SB ADVANCE (PHASE 8)	1								
84	SB ADVANCE (PHASE 8)	1								
	TOTAL	8	13							

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 THERE WILL BE NO DIRECT PAYMENT FOR DRILLED OPENINGS.
 DISUSED OPENINGS SHALL BE PLUGGED BY THE CONTRACTOR.
- (6) THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROGRAMMING DETECTION ZONES PER JSP I AND JSP J. PER JSP I AND JSP J. COUNT ZONES SHOULD BE PROGRAMMED FOR EACH LANE AT THE INTERSECTION EVEN IF NO VEHICLE DETECTION ZONE IS REQUIRED FOR THAT LANE.
- (7) THE CONTRACTOR SHALL REMOVE ALL DISUSED EXISTING DETECTION CAMERA CABLE AS PART OF THE DETECTION INSTALLATION.
- (8) THE CONTRACTOR SHALL PULL ROPE THROUGH ANY USED CONDUITS PER JSP R.
- (9) MANUFACTURER'S REPRESENTATIVE SHALL BE PRESENT DURING PROGRAMMING OF DETECTION ZONES PER JSP I AND JSP J. MANUFACTURER'S REPRESENTATIVE SHALL PROVIDE GUIDANCE TO CONTRACTOR ON OPTIMAL PLACEMENT OF DETECTION EQUIPMENT AND PROGRAMMED DETECTION ZONES.

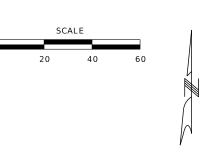


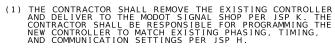
MO 180 & HANLEY

INTERSECTION

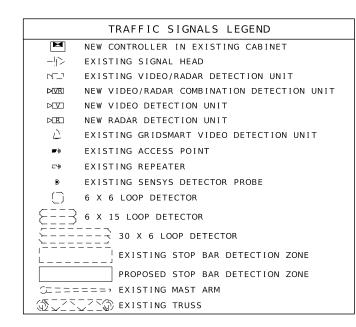
TRAFFIC SIGNAL SHEET 66 OF 78







- (2) THE CONTRACTOR SHALL REMOVE THE EXISTING VIDEO DETECTION EQUIPMENT INCLUDING ANY UNUSED CAMERAS, CABINET HARDWARE, MOUNTING HARDWARE/BRACKETS AND CABLING. THE EXISTING VIDEO DETECTION EQUIPMENT SHALL BE DELIVERED TO THE MODOT SIGNAL SHOP PER JSP K. THE CONTRACTOR SHALL INSTALL A COMPLETE VIDEO DETECTION SYSTEM WITH ENCLOSURES, MOUNTING HARDWARE/BRACKETS, TERMINATION PANELS, POWER AND COMMUNICATION CABLES FOR STOP BAR DETECTION PER JSP I.
- (3) THE CONTRACTOR SHALL INSTALL RADAR DETECTION UNITS AND PROGRAM FOR ADVANCED DETECTION PER JSP J.



TRAFFIC SIGNAL SHEET 67 OF 78

ST. LOUIS COUNTY ROUTE 180 SIGNAL IMPROVEMENTS MICHAELOHN
DOLDE

NUMBER
PE-2007002778

THIS SHEET HAS BEEN
SIONED, SEALED AND DATED
ELECTRONOCALLY.

DATE PREPARED
06/21/2024

ROUTE STATE
180 MO
DISTRICT SHEET NO.
SL 70

COUNTY
ST. LOUIS
JOB NO.
LSI 0179

SL 70
COUNTY
ST. LOUIS
JOB NO.
JSL 0179
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DATE DESCRIPTION
04/16/24 PRELIMINARY PLANS
06/21/24 FINAL PLANS

COMMISSION

DOT

105 WEST CAPITOL

JEFFERSON CITY, MO 65102

MISSOURI HIGHWAYS AND COMMISSIO

■ A INC.
ROADWAY SUITE 2800
S, MO 63102 (314) 206-4444

POWER SUPPLY														
LOC	LOCATION POWER SUPPLY ASSEMBLY		CIRCUIT BREAKER TRIP RATING*				LIGHTING CONTROL *		SERVICE POLE		E POLE			
			DRAWING 902.15	DRAWING	CONTR			POWER DISCO	SUPPLY NNECT	(ON POWER SUPPLY)		CONTRACT		UTILITY
APPROACH	STATION	TATION OFFSET			AUXILIARY BREAKER	SIGNAL		REAKER	120 VOLT CONTROL	MAIN BREAKER		RNISH	COMPANY	
11	I	\triangleright	Туре	U.1.P.	15	Amps	· Amps	SIGNALS Amps	L I GHT I NG Amps	CABINET	Amps	CI.	Ft.	U. I. P.
0 •	1 •	•	Туре		15	Amps	Amps	Amps	Amps		Amps	CI.	Ft.	

CONTROLLER ASSEMBLY AND AUXILIARY EQUIPMENT																						
LOCATI		SYSTEM MASTER ACTUATED			ON-OFF* SWITCH COORDINATION INTERFACE *							NEMA CABINET			170 CABINET		170					
ADDROACH CTATION OFFICE		OFFSET	(CLOSED	LOOP)	ACTO	ATED	ΤY	rpe 12	2C/7C F (HARDWIRE 1)	TIME	CLOSED	LOOP	FIBER	TIME *		TYPE *	-	TYP	*	SOF TW.	ARE *
APPROACH	STATION	UFFSEI	NEMA 170	NEMA	170	I	II N	MASTER	LOCAL	BASE	NEMA	170	FIBER		E	ΕV	DOUBLE	332	336S	BITRAN	WAPITI	
MO 180 & NORMANDY	U.I.P.	U. I.P.			1									1								

		NEMA DETECTOR ASSIGNMENT										
		CARD POSITION										
		1	2	3	4	5	6	7	8			
C H A N	1			Ţ	D							
N E L	2		U •	1 •) 	•						

TOTAL	NUMBER	OF	DETECTOR	CARDS(2-CHANNEL)	=	(2)
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NEMA LOAD SWITCH ASSIGNMENTS										
1	2	3	4	5	6	7	8			
			.]	•	•					
9	10	11	12	13	14	15	16			
		U	.]	. [•					

PHASE 1	PHASE 2	PHASE 4			
		•			
	─				
PHASE 5	PHASE 6	PHASE 8			

DETECTOR SCHEDULE FOR INFORMATION ONLY										
		TYPE								
DETECTOR NUMBER	APPROACH	RADAR	VIDEO							
10	EB (PHASE 1)		1							
21	WB (PHASE 2)		1							
22	WB (PHASE 2)		1							
40	SB (PHASE 4)		1							
60	EB (PHASE 6)		1							
23	WB ADVANCE (PHASE 2)	1								
61	EB ADVANCE (PHASE 2)	1								
01	EB ADVANCE (THASE 67	'								
	TOTAL	2	5							

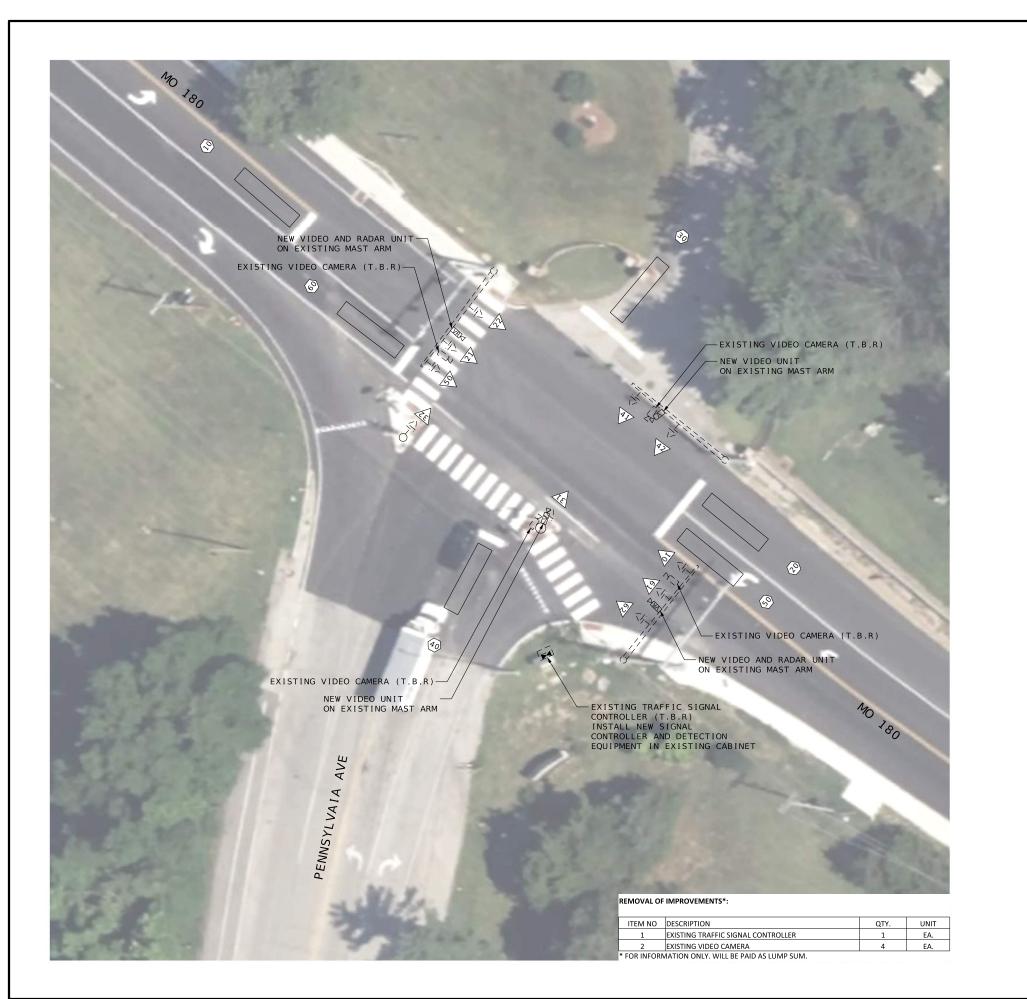
- * ITEMS FOR WHICH SEPARATE PAYMENT WILL NOT BE MADE.
- (1) CABLING FOR THE NEW VIDEO DETECTION AND RADAR DETECTION SHOULD BE ROUTED THROUGH EXISTING CONDUITS. CONDUITS THAT ARE DAMAGED, COLLAPSED, OR UNUSABLE SHALL BE MARKED ON THE AS-BUILT PLANS PER JSP S.
- (2) THE INSTALLATION OF ALL EQUIPMENT SHALL BE IN ACCORDANCE WITH THE LATEST EDITION MISSOURI DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, DRAWINGS, AND ENGINEERING POLICY GUIDE.
- (3) THE CONTRACTOR SHALL HAVE RESPONSIBILITY OF LOCATING ALL UNDERGROUND AND OVERHEAD FACILITIES. STRUCTURES. AND
- (4) THE CONTRACTOR IS RESPONSIBLE FOR TRAFFIC CONTROL AND SHALL CONFORM TO THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND MISSOURI DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS.
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 MANUFACTURER'S REPRESENTATIVE SHALL PROVIDE GUIDANCE TO CONTRACTOR ON OPTIMAL PLACEMENT OF DETECTION EQUIPMENT AND PROGRAMMED DETECTION ZONES.

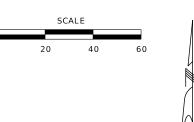
. AMITHIN.	PRO SIGI	PE P	DO	MBER 70027	SSOO HN 78 BEE	REER	THE CONTRACTOR OF THE PARTY.			
DATE PREPARED 06/21/2024 ROUTE STATE										
	18	B O	T	5	НЕЕ	O T NO).			
	S	L		NTY		1				
ST LOUIS										
JSL0179 CONTRACT ID.										
PROJECT NO.										
BRIDGE NO.										
DESCRIPTION	PRELIMINARY PLANS	FINAL PLANS								
DATE	04/16/24	06/21/24								
HIGHWAYS AND TRANSPORTATION	COMMISSION		100 <u>0</u>		105 WEST CAPITOL	JEFFERSON CITY, MO 65102	1-888-ASK-MODOT (1-888-275-6636)			

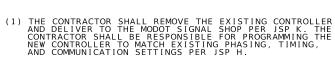
MO 180 & NORMANDY

INTERSECTION

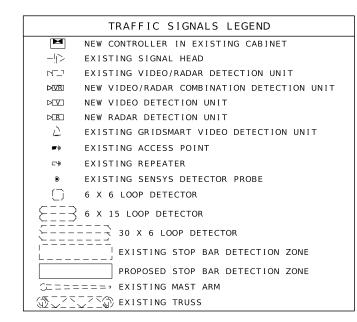
TRAFFIC SIGNAL SHEET 68 OF 78







- (2) THE CONTRACTOR SHALL REMOVE THE EXISTING VIDEO DETECTION EQUIPMENT INCLUDING ANY UNUSED CAMERAS, CABINET HARDWARE, MOUNTING HARDWARE/BRACKETS AND CABLING, THE EXISTING VIDEO DETECTION EQUIPMENT SHALL BE DELIVERED TO THE MODOT SIGNAL SHOP PER JSP K. THE CONTRACTOR SHALL INSTALL A COMPLETE VIDEO DETECTION SYSTEM WITH ENCLOSURES, MOUNTING HARDWARE/BRACKETS, TERMINATION PANELS, POWER AND COMMUNICATION CABLES FOR STOP BAR DETECTION PER JSP I.
- (3) THE CONTRACTOR SHALL INSTALL RADAR DETECTION UNITS AND PROGRAM FOR ADVANCED DETECTION PER JSP J.



TRAFFIC SIGNAL SHEET 69 OF 78

ST. LOUIS COUNTY ROUTE 180 SIGNAL IMPROVEMENTS MICHAELOHIN DOLDE

NUMBER

PE-2007002778

SYONAL ENSINEE HAS BEEN BIONED, SEALED AND DATE

DATE PREPARED

06/21/2024

ROUTE STATE
180 MO
DISTRICT SHEET NO
SL 72

ST LOUIS

JOB NO.
JSL0179

PROJECT NO.

BRIDGE NO.

N DATE DESCRIPTION
04/16/24 PRELIMINARY PLANS
06/21/24 FINAL PLANS

COMMISSION

105 WEST CAPITOL

JEFFERSON CITY, MO 6510:

MISSOURI HIGHWAYS AND T

■ NINC. SODITE 2800 S. MO 63102 (314) 206-4444

WSP USA INC. 211 N. BROADWA

					Ρ	OW	ER SI	JPPL Y	•					
LOC	ATION		POWER ASSE	SUPPLY MBLY	CIR	CUII	T BREAKEI	R TRIP R	AT I NG ≭	LIGHTING	CONTROL *		SERVIC	E POLE
			DRAWING				OLLER	POWER DISCO		(ON POWER	R SUPPLY)	CUN	NTRACT	UTILITY
APPROACH	STATION	UFFSEI	DRAWING 902.15	DRAWING	AUX I L BRE A	I ARY KER	CONT & SIGNAL LAMPS	MAIN B		120 VOLT CONTROL CABINET	MAIN BREAKER		RNISH	COMPANY
++	T	ightharpoons	Туре	U.1.P.	15	Amps	· Amps	SIGNALS	L I GHT I NG Amps	CABINET	Amps	CI.	Ft.	U.I.P.
0 •	1 •	•	Туре		15	Amps	Amps	Amps	Amps		Amps	CI.	Ft.	

	CONTROLLER ASSEMBLY AND AUXILIARY EQUIPMENT																				
LOCATI	ON		SYS	TEM TER	A C T L I	ATED	ON-OFF* SWITCH		COORDINA	TION INT	ERFACE *	k			NEM	A CABI	NET	170 C#		1 7	
APPROACH	STATION	OFFSET	(CLOSE	LOOP)	ACTO	AILU	TYPE	12C/7C (HARDWIRE 1)	TIME	CLOSE) LOOP	FIBER	TIME *		TYPE *	-	TYPI	*	SOFTW	ARE *
AFFROACH	STATION	UFFSEI	NEMA	170	NEMA	170	I I I	MASTER	LOCAL	BASE	NEMA	170	FIDER		E	ΕV	DOUBLE	332	336S	BITRAN	WAPITI
MO 180 & SPUR-PENNSYLVANIA	U.1.P.	U.I.P.			1								1								

		NEMA DETECTOR ASSIGNMENT										
			CAI	RD P	OS I T I	ION						
	1	2	3	4	5	6	7	8				
C H A			Ţ									
N N E L		U •	1 •		•							

TOTAL	NUMBER	OF	DETECTOR	CARDS(2-CHANNEL)	=	(2)
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NEM	A LO	AD S	SWIT	CH A	ISSI	GNME	NTS
1	2	3	4	5	6	7	8
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9	10	11	12	13	14	15	16
		U	.]	•	•		

PHASE 1	PHASE 2	PHASE 3	PHASE 4
	-	+	•
+			
PHASE 5	PHASE 6	PHASE 7	PHASE 8

F	DETECTOR SCHEDOR INFORMATION		
		TY	PE
DETECTOR NUMBER	APPROACH	RADAR	VIDEO
10	EB (PHASE 1)		1
20	WB (PHASE 2)		1
30	SB (PHASE 3)		1
40	NB (PHASE 4)		1
50	WB (PHASE 5)		1
60	EB (PHASE 6)		1
21	WB ADVANCE (PHASE 2)	1	
61	EB ADVANCE (PHASE 6)	1	
	TOTAL	2	6

- * ITEMS FOR WHICH SEPARATE PAYMENT WILL NOT BE MADE.
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DATE PE	REPARED
06/21	/2024
ROUTE	STATE
180	MO
DISTRICT	SHEET NO.
SL	73
COU	NTY

JOB NO.
JSL0179
CONTRACT ID.

PROJECT NO.

DESCRIPTION	PRELIMINARY PLANS	FINAL PLANS		
DATE	04/16/24	06/21/24		

OURI HIGHWAYS AND TRANSPORTATION
COMMISSION
105 WEST CAPITOL

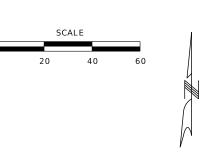
A INC.
ROADWAY SUITE 2800
IS, MO 63102 (314) 206-4444
PI CEPTIFICATE OF A ITHORITY - 001444

MO 180 & SPUR-PENNSYLVANIA

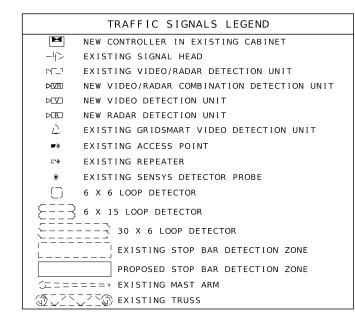
INTERSECTION

TRAFFIC SIGNAL SHEET 70 OF 78





- (1) THE CONTRACTOR SHALL REMOVE THE EXISTING CONTROLLER AND DELIVER TO THE MODOT SIGNAL SHOP PER JSP K. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROGRAMMING THE NEW CONTROLLER TO MATCH EXISTING PHASING, TIMING, AND COMMUNICATION SETTINGS PER JSP H.
- (2) THE CONTRACTOR SHALL REMOVE THE EXISTING VIDEO DETECTION EQUIPMENT INCLUDING ANY UNUSED CAMERAS, CABINET HARDWARE, MOUNTING HARDWARE/BRACKETS AND CABLING, THE EXISTING VIDEO DETECTION EQUIPMENT SHALL BE DELIVERED TO THE MODOT SIGNAL SHOP PER JSP K. THE CONTRACTOR SHALL INSTALL A COMPLETE VIDEO DETECTION SYSTEM WITH ENCLOSURES, MOUNTING HARDWARE/BRACKETS, TERMINATION PANELS, POWER AND COMMUNICATION CABLES FOR STOP BAR DETECTION PER JSP I.
- (3) THE CONTRACTOR SHALL INSTALL RADAR DETECTION UNITS AND PROGRAM FOR ADVANCED DETECTION PER JSP J.



TRAFFIC SIGNAL SHEET 71 OF 78

ST. LOUIS COUNTY ROUTE 180 SIGNAL IMPROVEMENTS

-200700277 06/21/2024 180 MO SL 74 ST. LOUIS JSL0179 PROJECT NO.

> 800 206-4444

■
SP USA INC.
1 N. BROADWAY SUITE 2800
Γ. LOUIS, MO 63102 (314) 206-

	POWER SUPPLY													
LOC	CATION		POWER ASSE	SUPPLY MBLY	CIR	CUIT	T BREAKEI	R TRIP R	AT I NG*	LIGHTING	CONTROL *		SERVIC	E POLE
			DRAWING		_		OLLER CONT &	POWER DISCO	SUPPLY NNECT		R SUPPLY)	CON	NTRACT	UTILITY
APPROACH	STATION	OFFSET	902.15	DRAWING	AUX I L BRE A	I ARY KER	SIGNAL		REAKER	120 VOLT CONTROL	MAIN BREAKER		RNISH	COMPANY
	T	\triangleright	Туре	U.1.P.	15	Amps	· Amps	SIGNALS Amps	LIGHTING Amps	CABINET	Amps	CI.	Ft.	U.I.P.
U •	1 •	•	Туре		15	Amps	Amps	Amps	Amps		Amps	CI.	Ft.	

	CONTROLLER ASSEMBLY AND AUXILIARY EQUIPMENT																				
LOCATI	ION		SYS MAS	TEM	A C T L I	ATED	ON-OFF* SWITCH		COORDINA	TION INT	ERFACE *	(A CABI		170 CA		1 7	70
APPROACH	STATION	OFFSET	(CLOSE		ACTO	ATED	TYPE	12C/7C (HARDWIRE 1)	TIME	CLOSED	L00P	FIBER	TIME *		TYPE *	-	TYP	E *	SOFTW	ARE *
AFFRUACH	STATION	UFFSEI	NEMA	170	NEMA	170	I II	MASTER	LOCAL	BASE	NEMA	170	LIBER		E	ΕV	DOUBLE	332	336S	BITRAN	WAPITI
MO 180 & FERGUSON	U.I.P.	U.I.P.			1								1								

			NEMA DETECTOR ASSIGNMENT											
			CARD POSITION											
		1	2	3	4	5	6	7	8					
C H A N	1			Ţ	D									
N E L	2		U •	1 •) 	•								

TOTAL NUMBER OF DETECTOR CARDS(2-CHANNEL) =

NEMA LOAD SWITCH ASSIGNMENTS												
1	2	3	4	5	6	7	8	9	10	11	12	
				U.	Ι.	Р	•					

		TY	PE
DETECTOR NUMBER	APPROACH	RADAR	PE VIDEO 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
20	WB (PHASE 2)		
31	NB (PHASE 3)		
32	NB (PHASE 3)		'
40	SB (PHASE 4)		
50	WB (PHASE 5)		
61	EB (PHASE 6)		
62	EB (PHASE 6)		ı
21	WB ADVANCE (PHASE 2)	1	
63	EB ADVANCE (PHASE 6)	1	
64	EB ADVANCE (PHASE 6)	1	
	TOTAL	3	-

DETECTOR SCHEDULE

- * ITEMS FOR WHICH SEPARATE PAYMENT WILL NOT BE MADE.
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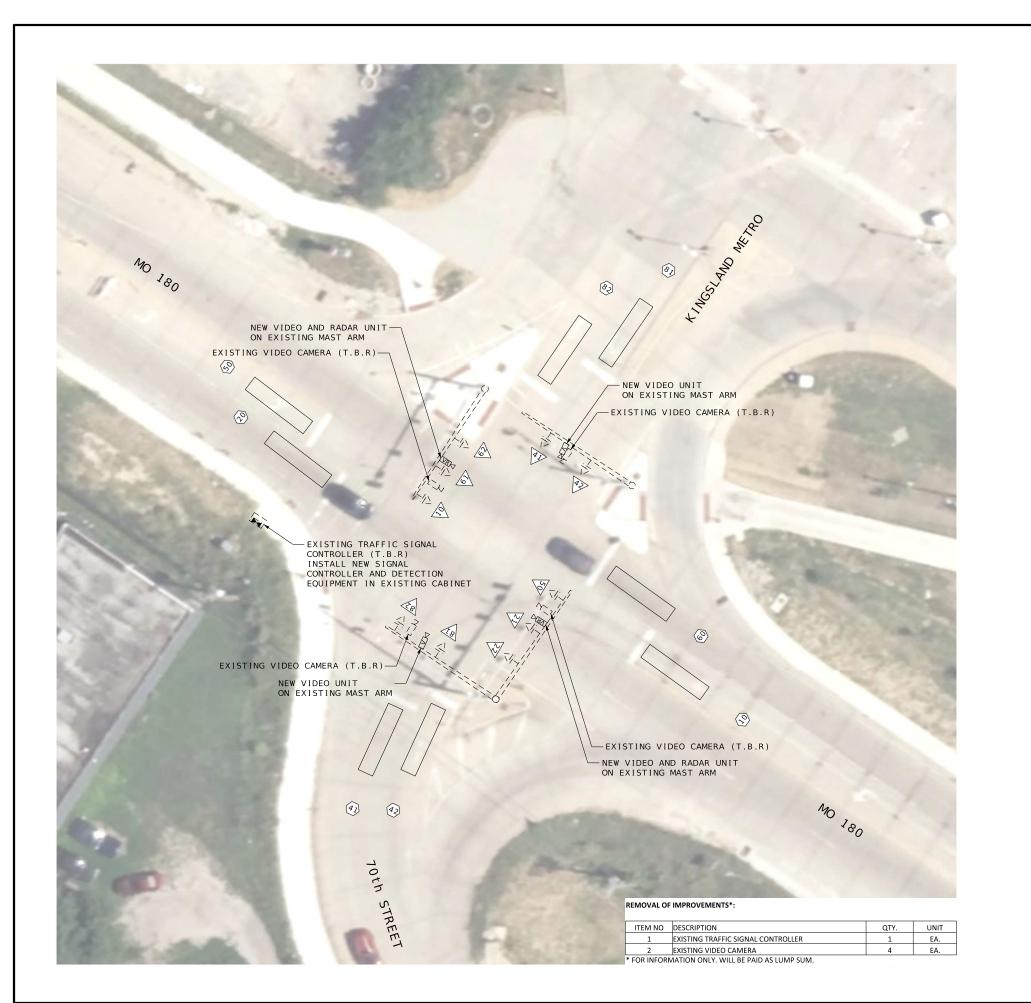
06/21/2024 180 MO SHEET NO SL 75 ST. LOUIS JSL0179 PROJECT NO. BRIDGE NO.

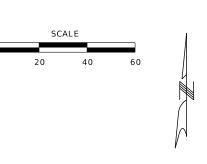
PHAS	SE 1	PHASE 2		PHAS	SE 3	PHAS	SE 4
		•	_	•	1		-
PHAS	SE 5	PHASE 6		PHAS	SE 7	PHAS	SE 8

MO 180 & FERGUSON

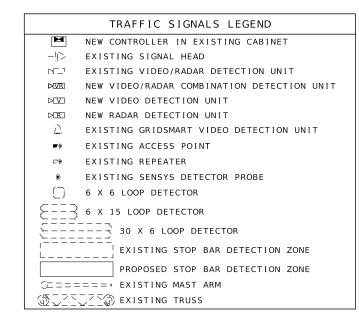
INTERSECTION

TRAFFIC SIGNAL SHEET 72 OF 78





- (1) THE CONTRACTOR SHALL REMOVE THE EXISTING CONTROLLER AND DELIVER TO THE MODOT SIGNAL SHOP PER JSP K. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROGRAMMING THE NEW CONTROLLER TO MATCH EXISTING PHASING, TIMING, AND COMMUNICATION SETTINGS PER JSP H.
- (2) THE CONTRACTOR SHALL REMOVE THE EXISTING VIDEO DETECTION EQUIPMENT INCLUDING ANY UNUSED CAMERAS, CABINET HARDWARE, MOUNTING HARDWARE/BRACKETS AND CABLING, THE EXISTING VIDEO DETECTION EQUIPMENT SHALL BE DELIVERED TO THE MODOT SIGNAL SHOP PER JSP K. THE CONTRACTOR SHALL INSTALL A COMPLETE VIDEO DETECTION SYSTEM WITH ENCLOSURES, MOUNTING HARDWARE/BRACKETS, TERMINATION PANELS, POWER AND COMMUNICATION CABLES FOR STOP BAR DETECTION PER JSP I.
- (3) THE CONTRACTOR SHALL INSTALL RADAR DETECTION UNITS AND PROGRAM FOR ADVANCED DETECTION PER JSP J.



TRAFFIC SIGNAL SHEET 73 OF 78

ST. LOUIS COUNTY ROUTE 180 SIGNAL IMPROVEMENTS -200700277

06/21/2024 180 MO SL 76

ST. LOUIS JSL0179

PROJECT NO.

	POWER SUPPLY													
LOC	LOCATION POWER SUPPLY ASSEMBLY				CIRCUIT BREAKER TRIP RATING*			AT I NG*	LIGHTING CONTROL *		SERVICE POLE		E POLE	
100001011	STATION OFFSET		DRAWING	00.194110	CONTROLLER			POWER DISCO		ON POWER	R SUPPLY)	CON	CONTRACT UTILITY	
APPROACH	T	UFFSEI	902.15	DRAWING	BREAKER		S I GNAL L AMPS	MAIN B		120 VOLT MAIN CONTROL BREAKER		FURNISH		COMPANY
		\vdash	Туре	U.1.P.	15	Amps	· Amps	Amps	Amps		Amps	CI.	Ft.	U.I.P.
0	1 •		Туре		15	Amps	Amps	Amps	Amps		Amps	CI.	Ft.	

	CONTROLLER ASSEMBLY AND AUXILIARY EQUIPMENT																					
LOCATION			SYST	SYSTEM MASTER ACTUATED ON-OFF* SWITCH COORDINATION INTERFACE *			NEMA CABINET			170 CABINET 170												
ADDDOACH		CTATION OFFCET	STATION OFFSET	(CLOSED	LOOP)	ACTO	AILU	ΤY	PE 12C/70	HARDWIR (1)	TIME	CLOSE) LOOP	FIBER	TIME *		TYPE *	-	TYP	*	SOFTW	ARE *
APPROACH	STATION OFF	UFFSEI		170	NEMA	170	I	II MASTE	R LOCAL	BASE	NEMA	170			E	ΕV	DOUBLE	332	336S	BITRAN	WAPITI	
MO 180 & KINGSLAND-METRO	U.I.P.	U.I.P.			1								1									

			NEMA DETECTOR ASSIGNMENT									
			CARD POSITION									
		1	2	3	4	5	6	7	8			
C H A	1		1 1	ī	D							
N N E L	2		U •	1 •		•			-			

TOTAL NUMBER OF DETECTOR CARDS(2-CHANNEL) =	(2
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NEM	A LO	AD S	SWIT	CH A	ISSI	GNME	NTS
1	2	3	4	5	6	7	8
		U	•]	. [•		
9	10	11	12	13	14	15	16
			•]	• [•		

PHASE 1	PHASE 2	PHASE 4
		
4		
	-	
		—
PHASE 5	PHASE 6	PHASE 8

F	DETECTOR SCHEDOR INFORMATION				
		TYPE			
DETECTOR NUMBER	APPROACH	RADAR	VIDEO		
10	WB (PHASE 1)		1		
20	EB (PHASE 2)		1		
41	NB (PHASE 4)		1		
42	NB (PHASE 4)		1		
50	EB (PHASE 5)		1		
60 81	WB (PHASE 6) SB (PHASE 8)		1		
82	SB (PHASE 8)		1		
02	SB (THASE 07		'		
21	EB ADVANCE (PHASE 2)	1			
61	WB ADVANCE (PHASE 6)	1			
	TOTAL	2	8		

- * ITEMS FOR WHICH SEPARATE PAYMENT WILL NOT BE MADE.
- (1) CABLING FOR THE NEW VIDEO DETECTION AND RADAR DETECTION SHOULD BE ROUTED THROUGH EXISTING CONDUITS. CONDUITS THAT ARE DAMAGED. COLLAPSED. OR UNUSABLE SHALL BE MARKED ON THE AS-BUILT PLANS PER JSP S.
- (2) THE INSTALLATION OF ALL EQUIPMENT SHALL BE IN ACCORDANCE WITH THE LATEST EDITION MISSOURI DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, DRAWINGS, AND ENGINEERING POLICY GUIDE.
- (3) THE CONTRACTOR SHALL HAVE RESPONSIBILITY OF LOCATING ALL UNDERGROUND AND OVERHEAD FACILITIES. STRUCTURES. AND UTILITIES.
- (4) THE CONTRACTOR IS RESPONSIBLE FOR TRAFFIC CONTROL AND SHALL CONFORM TO THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND MISSOURI DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS.
- (5) ALL DRILLED OPENING FOR CABLE SHALL BE WEATHERPROOF.
 THERE WILL BE NO DIRECT PAYMENT FOR DRILLED OPENINGS.
 DISUSED OPENINGS SHALL BE PLUGGED BY THE CONTRACTOR.
- (6) THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROGRAMMING DETECTION ZONES PER JSP I AND JSP J. PER JSP I AND JSP J. COUNT ZONES SHOULD BE PROGRAMMED FOR EACH LANE AT THE INTERSECTION EVEN IF NO VEHICLE DETECTION ZONE IS REQUIRED FOR THAT LANE.
- (7) THE CONTRACTOR SHALL REMOVE ALL DISUSED EXISTING DETECTION CAMERA CABLE AS PART OF THE DETECTION INSTALLATION.
- (8) THE CONTRACTOR SHALL PULL ROPE THROUGH ANY USED CONDUITS PER JSP R.
- (9) MANUFACTURER'S REPRESENTATIVE SHALL BE PRESENT DURING PROGRAMMING OF DETECTION ZONES PER JSP I AND JSP J. MANUFACTURER'S REPRESENTATIVE SHALL PROVIDE GUIDANCE TO CONTRACTOR ON OPTIMAL PLACEMENT OF DETECTION EQUIPMENT AND PROGRAMMED DETECTION ZONES.

MICHAEL JOHN DOLDE NUMBER PEDOTOCOTTS THIS SHEET MAS BEEN SIGNED SALED AND DATED ELECTHONICALLY. DATE PREPARED											
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DESCRIPTION	PRELIMINARY PLANS	FINAL PLANS									
DATE	04/16/24	06/21/24									
S AND TRANSPORTATION	MISSION			_	105 WEST CAPITOL	JEFFERSON CITY, MO 65102	SK-MODOT (1-888-275-6636)				

OF MISC

	MISSOURI HIGHWAYS AND TRANSPO	COMMISSION		105 WES	JEFFERSON CITY,	HOUGH 200
ı						

A INC.

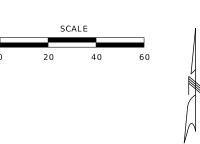
ROADWAY SUITE 2800
IS, MO 63102 (314) 206-4444
RI CERTIFICATE OF AUTHORITY - 00144

MO 180 & KINGSLAND-METRO

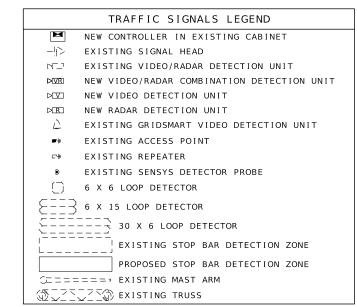
INTERSECTION

TRAFFIC SIGNAL SHEET 74 OF 78





- (1) THE CONTRACTOR SHALL REMOVE THE EXISTING CONTROLLER AND DELIVER TO THE MODOT SIGNAL SHOP PER JSP K. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROGRAMMING THE NEW CONTROLLER TO MATCH EXISTING PHASING, TIMING, AND COMMUNICATION SETTINGS PER JSP H.
- (2) THE CONTRACTOR SHALL REMOVE THE EXISTING VIDEO DETECTION EQUIPMENT INCLUDING ANY UNUSED CAMERAS, CABINET HARDWARE, MOUNTING HARDWARE/BRACKETS AND CABLING, THE EXISTING VIDEO DETECTION EQUIPMENT SHALL BE DELIVERED TO THE MODOT SIGNAL SHOP PER JSP K. THE CONTRACTOR SHALL INSTALL A COMPLETE VIDEO DETECTION SYSTEM WITH ENCLOSURES, MOUNTING HARDWARE/BRACKETS, TERMINATION PANELS, POWER AND COMMUNICATION CABLES FOR STOP BAR DETECTION PER JSP I.
- (3) THE CONTRACTOR SHALL INSTALL RADAR DETECTION UNITS AND PROGRAM FOR ADVANCED DETECTION PER JSP J.



TRAFFIC SIGNAL SHEET 75 OF 78

ST. LOUIS COUNTY ROUTE 180 SIGNAL IMPROVEMENTS MICHAELOHIN

MICHA

JSL0179

PROJECT NO.

BRIDGE NO.

DATE DESCRIPTION
7.16/24 PRELIMINARY PLANS
7.21/24 FINAL PLANS

COMMISSION
COMMISSION
105 WEST CAPITOL

WAY SUITE 2800) 63102 (314) 206-4444

WSP USA INC. 211 N. BROADWAY SUITE 2 ST. LOUIS, MO 63102 (314)

					Р	OW	ER SI	JPPL Y	•					
LOC	CATION		POWER ASSE	SUPPLY MBLY	CIR	CUIT	T BREAKEI	R TRIP R	AT I NG*	LIGHTING	CONTROL *		SERVIC	E POLE
			DRAWING		_		OLLER CONT &	POWER DISCO	SUPPLY NNECT		R SUPPLY)	CON	NTRACT	UTILITY
APPROACH	STATION	OFFSET	902.15	DRAWING	AUX I L BRE A	I ARY KER	SIGNAL		REAKER	120 VOLT CONTROL	MAIN BREAKER		RNISH	COMPANY
	l T	\triangleright	Туре	U.1.P.	15	Amps	· Amps	SIGNALS Amps	LIGHTING Amps	CABINET	Amps	CI.	Ft.	U.I.P.
U •	1 •	•	Туре		15	Amps	Amps	Amps	Amps		Amps	CI.	Ft.	

				CC	NTRO	LLER	ASS	EMBL`	Y AND) AUX	ILIAF	RY EQ	UIPM	ENT							
LOCATI	ON		SYS MAS	TEM	A C T L I	ATED	ON-OFF* SWITCH	. (COORDINA	TION INT	ERFACE *	(A CABI		170 CA		1 7	70
APPROACH	STATION	OFFSET	(CLOSE		ACTO	ATED	TYPE	12C/7C	HARDWIRE 1)	TIME	CLOSED	LOOP	FIBER	TIME * CLOCK		TYPE *		TYPI	*	SOFTW.	ARE *
AFFRUACH	STATION	UFFSEI	NEMA	170	NEMA	170	I II	MASTER	LOCAL	BASE	NEMA	170	LIBEK		E	ΕV	DOUBLE	332	336S	BITRAN	WAPITI
MO 180 & LUCAS & HUNT	U.1.P.	U.I.P.			1								1								

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				CAI	RD PO	OS I T I	ON		
		1	2	3	4	5	6	7	8
C H A	1			T	D				
N N E L	2		U•	1 •		•			

TOTAL NUMBER OF DETECTOR CARDS(2-CHANNEL) =

		NEM.	A LC	DAD S	SWIT	CH A	ISSI	GNME	NTS		
1	2	3	4	5	6	7	8	9	10	11	12
				U.	Ι.	Р	•				

OR INFORMATION	ONLY	
	TY	PE
APPROACH	RADAR	VIDEO
FR (PHASE 1)		1
		1
WB (PHASE 2)		1
SB (PHASE 3)		1
EB (PHASE 6)		1
ED ADVANCE (FRASE 6)		
TOTAL	3	5
	EB (PHASE 1) WB (PHASE 2) WB (PHASE 2) SB (PHASE 3) EB (PHASE 6) WB ADVANCE (PHASE 2) SB ADVANCE (PHASE 6)	APPROACH EB (PHASE 1) WB (PHASE 2) WB (PHASE 2) SB (PHASE 3) EB (PHASE 6) WB ADVANCE (PHASE 2) SB ADVANCE (PHASE 6) EB ADVANCE (PHASE 6) 1

- * ITEMS FOR WHICH SEPARATE PAYMENT WILL NOT BE MADE.
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- (2) THE INSTALLATION OF ALL EQUIPMENT SHALL BE IN ACCORDANCE WITH THE LATEST EDITION MISSOURI DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, DRAWINGS, AND ENGINEERING POLICY GUIDE.
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- (7) THE CONTRACTOR SHALL REMOVE ALL DISUSED EXISTING DETECTION CAMERA CABLE AS PART OF THE DETECTION INSTALLATION.
- (8) THE CONTRACTOR SHALL PULL ROPE THROUGH ANY USED CONDUITS PER JSP R.
- (9) MANUFACTURER'S REPRESENTATIVE SHALL BE PRESENT DURING PROGRAMMING OF DETECTION ZONES PER JSP I AND JSP J. MANUFACTURER'S REPRESENTATIVE SHALL PROVIDE GUIDANCE TO CONTRACTOR ON OPTIMAL PLACEMENT OF DETECTION EQUIPMENT AND PROGRAMMED DETECTION ZONES.

MICHAEL JOHN DOLDE 06/21/2024 180 MO SL 79 ST. LOUIS JSL0179 PROJECT NO. BRIDGE NO.

A INC.

ROADWAY SUITE 2800
IS, MO 63102 (314) 206-4444
RI CERTIFICATE OF AUTHORITY - 001

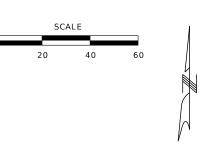
MO 180 & LUCAS & HUNT

INTERSECTION

TRAFFIC SIGNAL SHEET 76 OF 78

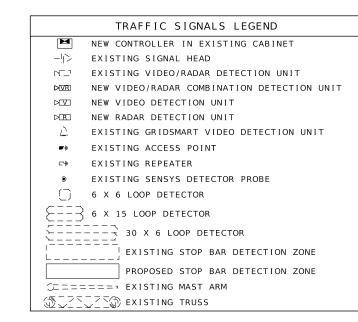
PHA:	SE 1	PHAS	SE 2	PHAS	SE 3
	•	-			
					→
					
PHAS	SE 5	PHAS	SE 6	PHAS	SE 7







- (2) THE CONTRACTOR SHALL REMOVE THE EXISTING VIDEO DETECTION EQUIPMENT INCLUDING ANY UNUSED CAMERAS, CABINET HARDWARE, MOUNTING HARDWARE/BRACKETS AND CABLING. THE EXISTING VIDEO DETECTION EQUIPMENT SHALL BE DELIVERED TO THE MODOT SIGNAL SHOP PER JSP K. THE CONTRACTOR SHALL INSTALL A COMPLETE VIDEO DETECTION SYSTEM WITH ENCLOSURES, MOUNTING HARDWARE/BRACKETS, TERMINATION PANELS, POWER AND COMMUNICATION CABLES FOR STOP BAR DETECTION PER JSP I.
- (3) THE CONTRACTOR SHALL INSTALL RADAR DETECTION UNITS AND PROGRAM FOR ADVANCED DETECTION PER JSP J.



TRAFFIC SIGNAL SHEET 77 OF 78

ST. LOUIS COUNTY ROUTE 180 SIGNAL IMPROVEMENTS PE-2007UL 06/21/2024 180 MO SL 80 ST. LOUIS JSL0179 PROJECT NO.

					Ρ	OW	ER SI	JPPL Y	,					
LOC	ATION		POWER ASSE		CIR	CUIT	BREAKE	R TRIP R	AT I NG*	LIGHTING	CONTROL *		SERVIC	E POLE
					_	_	OLLER	POWER DISCO	SUPPLY	(ON POWER				
APPROACH	STATION	OFFSET	902.15	DRAWING	AUX IL BRE A	I ARY	CONT & SIGNAL	MAIN B		120 VOLT CONTROL	MAIN		NTRACT RNISH	UTILITY COMPANY
	т				0		LAMPS	SIGNALS	LIGHTING	CABINET	BREAKER			
		\vdash	Type	U.I.P.	15	Amps	· Amps	Amps	Amps		Amps	CI.	Ft.	U.I.P.
0	T •		Туре		15	Amps	Amps	Amps	Amps		Amps	CI.	Ft.	

				CO	NTRO	LLER	Α	SSE	MBL	/ AN[) AUX	ILIAF	RY EC	UIPM	ENT							
LOCATI	ON		SYST - MAST	EM.	ACTU		ON-0 SWI					ERFACE *	(A CABI		170 CA			70
APPROACH	STATION	OFFSET	(CLOSED	LOOP)	ACTO	ATEU	ΤY	/PE 12	2C/7C F (HARDWIRE 1)	TIME	CLOSED	LOOP	FIBER	TIME *		TYPE *	-	TYP	*	SOFTW	ARE *
AFFROACH	STATION	UFFSET	NEMA	170	NEMA	170	I	I I N	MASTER	LOCAL	BASE	NEMA	170	FIBER		E	ΕV	DOUBLE	332	336S	BITRAN	WAPITI
MO 180 & OGDEN	U.I.P.	U.I.P.			1									1								

				NEM AS	IA DE SSIG	TEC NMEN	TOR NT		
				CAI	RD PO	OSITI	ON		
		1	2	3	4	5	6	7	8
C H A N	1			T	Ω				
N E L	2		•	1 •		•			

TOTAL NUMBER OF DETECTOR CARDS(2-CHANNEL) =

		NEM	A LC	DAD S	SWIT	CH A	ISSI	GNME	NTS		
1	2	3	4	5	6	7	8	9	10	11	12
				U.	Ι.	Ρ.	•				

F	DETECTOR SCHEDOR INFORMATION		
		TY	PE
DETECTOR NUMBER	APPROACH	RADAR	VIDEO
10	WB (PHASE 1)		1
20	EB (PHASE 2)		1
30	NB (PHASE 3)		1
40	SB (PHASE 4)		1
50 60	EB (PHASE 5) WB (PHASE 6)		1
60	WD (PHASE 6)		ı
21	EB ADVANCE (PHASE 2)	1	
61	WB ADVANCE (PHASE 6)	1	
	TOTAL	2	6
	TUTAL	2	0

- * ITEMS FOR WHICH SEPARATE PAYMENT WILL NOT BE MADE.
- (1) CABLING FOR THE NEW VIDEO DETECTION AND RADAR DETECTION SHOULD BE ROUTED THROUGH EXISTING CONDUITS. CONDUITS THAT ARE DAMAGED, COLLAPSED, OR UNUSABLE SHALL BE MARKED ON THE AS-BUILT PLANS PER JSP S.
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 MANUFACTURER'S REPRESENTATIVE SHALL PROVIDE GUIDANCE TO CONTRACTOR ON OPTIMAL PLACEMENT OF DETECTION EQUIPMENT AND PROGRAMMED DETECTION ZONES.

06/21/2024 180 MO SHEET NO SL 81 ST. LOUIS JSL0179 PROJECT NO. BRIDGE NO.

•	٠	ADWAY SUITE 2800	MO 63102 (314) 206-4444	CERTIFICATE OF AUTHORITY - 001444
	Š	ADW	MO	CERT

MO 180 & OGDEN

INTERSECTION TRAFFIC SIGNAL SHEET 78 OF 78

ST. LOUIS COUNTY

PHASE 1	PHASE 2	PHASE 3	PHASE 4	
•		1	—	
•	-			
PHASE 5	PHASE 6	PHASE 7	PHASE 8	

616.8.3S STATIONARY SHOULDER WORK

SPEED	SIGN SPACING (FT.)	TAPER LENG	TH (FT.)	OPTIONAL	CHANNEL I ZER	SPACING (FT.)			
PERMANENT POSTED (MPH)	UNDIVIDED (S)	SHOULDER (1)	LANE (2) (T2)	BUFFER LENGTH (FT.) (B)	TAPERS	BUFFER/ WORK AREAS			
0-35	200	70	_	250	35	40			
40-45	500	150	ı	360	40	80			
50-55	1000	185	ı	495	50	80			
60-70 SA - 1000 SB - 1500 235 - 730 60 120									
	1. SHOULDER TAPER LENGTH BASED ON 10 FT (STANDARD SHOULDER WIDTH) OFFSET. 2. LANE TAPER LENGTH BASED ON 12 FT (STANDARD LANE WIDTH OFFSET.								

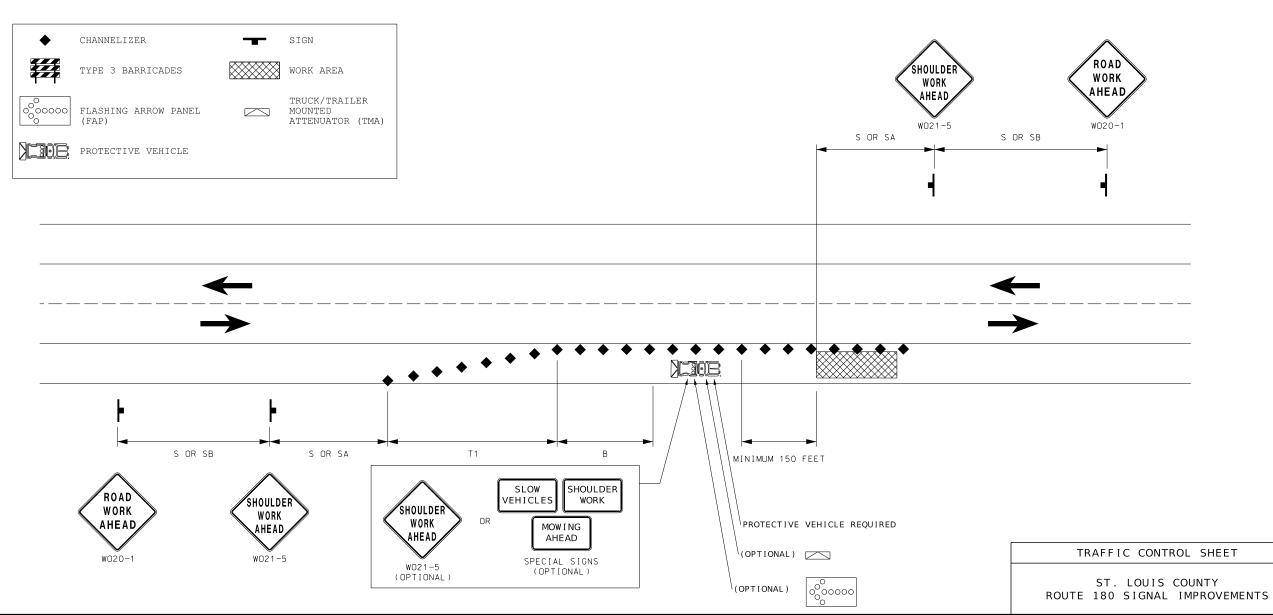
	SIGN			MAXIMUM		
TYPE OF ROADWAY	HE I GHT				WORKZONE	
		(MINIMUM)	LEN	GTH (L)		
URBAN	1 ′	PORTABLE, 7	POST	1	MILE	
RURAL DIVIDED	1 ′	PORTABLE, 7	POST	2	MILE	

VEHICLE

48 INCHES RECOMMENDED

NOTES:

- 1. PROVIDE SIGNS ON LEFT AND RIGHT SIDES OF DIVIDED HIGHWAYS.
- 2. ROAD WORK AHEAD SIGN NOT NEEDED IF SHOULDER WORK IS LOCATED WITHIN THE LIMITS OF AN ACTIVITY AREA WHERE ANOTHER ROAD WORK AHEAD SIGN IS ALREADY USED.
- 3. SEE EPG 616.12 WORK ZONE SPEED LIMITS FOR SPEED LIMIT GUIDELINES.
- 4. VEHICLE HAZARD WARNING SIGNALS SHALL NOT BE USED INSTEAD OF THE VEHICLE'S ROTATING LIGHTS OR STROBE LIGHTS.
- 5. WHEN PAVED SHOULDERS HAVING A WIDTH OF 8 FEET OR MORE ARE CLOSED, AT LEAST ONE ADVANCE WARNING SIGN SHALL BE USED. IN ADDITION, CHANNELIZING DEVICES SHALL BE USED TO CLOSE THE SHOULDER IN ADVANCE TO DELINEATE THE BEGINNING OF THE WORK SPACE AND DIRECT VEHICULAR TRAFFIC TO REMAIN WITHIN THE TRAVELED WAY.

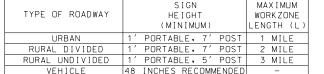


MICHAEL JOHN DOLDE PE-2007UL. 06/21/2024 180 MO SL 82 ST. LOUIS JSL0179 PROJECT NO.

616.8.21S STATIONARY CENTER LANE CLOSURE AT AN INTERSECTION

SPEED	SIGN SPA	CING (FT.)	TAPER LENG	TAPER LENGTH (FT.) OPTION		CHANNELIZER	SPACING (FT.)			
PERMANENT POSTED (MPH)	UNDIVIDED (S)	DIVIDED (S)	SHOULDER (1)	LANE (2) (T2)	BUFFER LENGTH (FT.) (B)	TAPERS	BUFFER/ WORK AREAS			
0-35	200	200	-	245	250	35	40			
40-45	350	500	-	540	360	40	80			
50-55	500	1000	-	660	495	50	80			
60-70	1000	SA - 1000 SB - 1500 SC - 2640	_	840	730	60	120			
	1. SHOULDER TAPER LENGTH BASED ON 10 FT (STANDARD SHOULDER WIDTH) OFFSET.									

			SIGN	MAXIMUM		
	TYPE OF ROADWAY		HE I GHT	WORKZONE		
			(MINIMUM)		LENG	GTH (L)
	URBAN	1 ′	PORTABLE, 7'	POST	1	MILE
	RURAL DIVIDED	1 ′	PORTABLE, 7'	POST	2	MILE
	RURAL UNDIVIDED	1 ′	PORTABLE, 5'	POST	3	MILE
	VEHICLE	48	INCHES RECOMM	(FNDFD		_

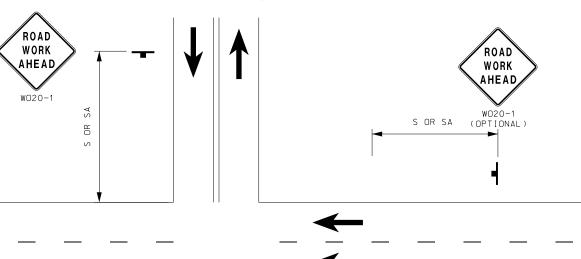


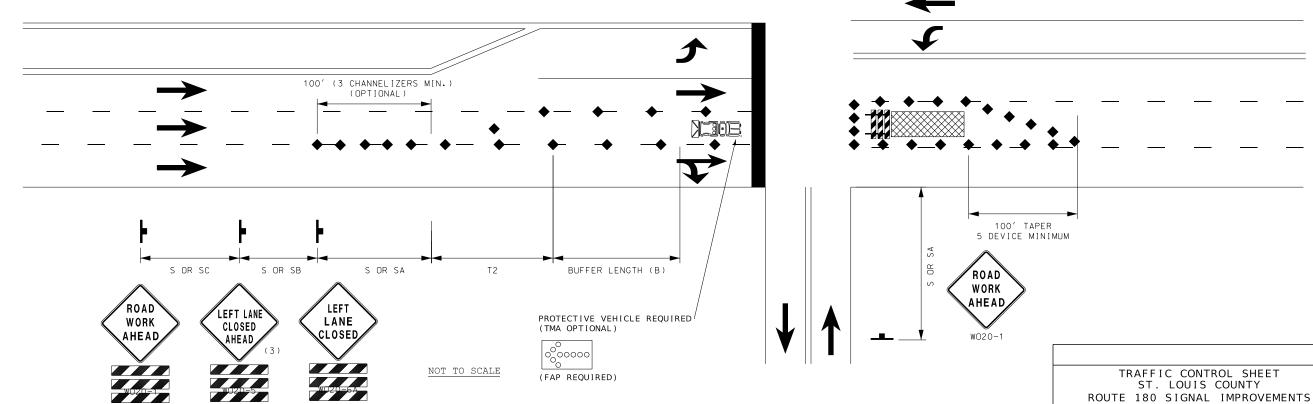




NOTES:

- 1. SEE EPG 616.12 WORK ZONE SPEED LIMITS FOR SPEED LIMIT GUIDELINES.
- 2. USE EPG 616.33SD (TA-33SD) SHORT DURATION LANE CLOSURE ON A MULTI-LANE HIGHWAY FOR SETTING ADVANCE WARNING SIGNS.
- 3. FOR SIGNALIZED INTERSECTIONS, ADJUSTMENTS MAY NEED TO BE MADE TO SIGNAL PHASING, TIMING, INDICATIONS OR DETECTOR SETTINGS.
- 4. REMOVE AND/OR MODIFY EXISTING PAVEMENT MARKINGS AS NEEDED.
- 5. PAVEMENT MARKING AND BARRICADES OPTIONAL FOR SHORT TERM OPERATIONS.
- 6. TEMPORARY PAVEMENT MARKING REQUIRED WITH LONG TERM LANE CLOSURES.
- 7. FOR SHORT TERM OPERATIONS, WHERE IT IS NOT FEASIBLE TO MODIFY PAVEMENT MARKINGS, A 10-FOOT DEVICE SPACING IS USED WHERE TRAFFIC IS GUIDED ACROSS DOUBLE YELLOW LINES OR OTHER CONFLICTING PAVEMENT MARKINGS. ALL OTHER SPACING IS ONE-HALF OF THE SPACING.
- 8. IF RUMBLE STRIPS ARE USED, REVIEW 616.6.87 RUMBLE STRIPS.
- 9. FOR LONG-TERM OPERATIONS, REFER TO EPG 616.6.2.2 FLAGS AND ADVANCE WARNING RAIL SYSTEM.







616.8.22S STATIONARY RIGHT LANE CLOSURE AT AN INTERSECTION

(1) RIGHT LANE CLOSED AHEAD SIGN MAY BE OMITTED IN LOW SPEED URBAN AREAS

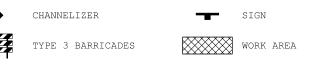
FOR THE FULL SIGN SERIES.

WHERE THERE IS NOT SUFFICIENT SPACE

SPEED	SIGN SPA	CING (FT.)	TAPER LENG	TH (FT.)	RECOMMENDED		CHANNELIZER SPACING	
NORMAL POSTED (MPH)	UNDIVIDED (S)	DIVIDED (S)	SHOULDER (1)	LANE (2) (T2)	BUFFER LENGTH (FT.) (B)	TRANSITION (X)	TAPERS	BUFFER/ WORK AREAS
0-35	-	200	70	245	250	120	35	40
40-45	1	500	150	540	360	270	40	80
50-55	-	1000	185	660	495	330	50	80
60-70	-	SA - 1000 SB - 1500 SC - 2640	235	840	730	420	60	120

1. SHOULDER TAPER LENGTH BASED ON 10 FT (STANDARD SHOULDER WIDTH) OFFSET. 2. LANE TAPER LENGTH BASED ON 12 FT (STANDARD LANE WIDTH OFFSET.

TYPE OF ROADWAY		SIGN HEIGH (MINIMU	MAXIMUM WORKZONE LENGTH (L)			
URBAN	1 ′	PORTABLE,	7′	POST	1	MILE
RURAL DIVIDED	1 ′	PORTABLE,	7′	POST	2	MILE
RURAL UNDIVIDED	1 ′	PORTABLE,	5′	POST	3	MILE
VEHICLE		INCHES REC	OMN	IENDED		_



FLASHING ARROW PANEL (FAP)

TRUCK/TRAILER MOUNTED ATTENUATOR (TMA)

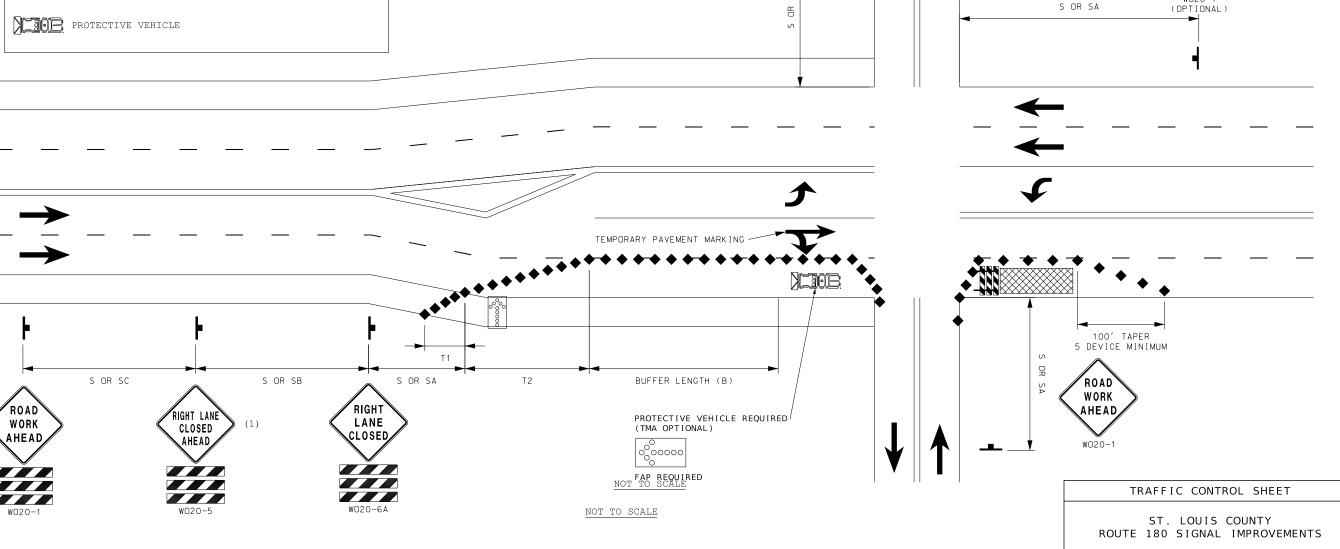
ROAD

WORK

AHEAD

WO20-1

- 1. SEE EPG 616.12 WORK ZONE SPEED LIMITS FOR SPEED LIMIT GUIDELINES.
- 2. USE EPG 616.33SD (TA-33SD) SHORT DURATION LANE CLOSURE ON A MULTI-LANE HIGHWAY FOR SETTING ADVANCE WARNING SIGNS.
- 3. FOR SIGNALIZED INTERSECTIONS, ADJUSTMENTS MAY NEED TO BE MADE TO SIGNAL PHASING, TIMING, INDICATIONS OR DETECTOR SETTINGS.
- 4. REMOVE AND/OR MODIFY EXISTING PAVEMENT MARKINGS AS NEEDED.
- 5. PAVEMENT MARKING AND BARRICADES OPTIONAL FOR SHORT TERM OPERATIONS.
- 6. TEMPORARY PAVEMENT MARKING REQUIRED WITH LONG TERM LANE CLOSURES.
- 7. FOR SHORT TERM OPERATIONS, WHERE IT IS NOT FEASIBLE TO MODIFY PAVEMENT MARKINGS, A 10-FOOT DEVICE SPACING IS USED WHERE TRAFFIC IS GUIDED ACROSS DOUBLE YELLOW LINES OR OTHER CONFLICTING PAVEMENT MARKINGS. ALL OTHER SPACING IS ONE-HALF OF THE SPACING.
- 8. IF RUMBLE STRIPS ARE USED, REVIEW 616.6.87 RUMBLE STRIPS.
- 9. FOR FLAGS AND ADVANCE WARNING RAIL SYSTEM, REFER TO EPG 616.6.2.2 FLAGS AND ADVANCE WARNING RAIL SYSTEM.



ROAD

WORK AHEAD

WD20-1

616.8.23S STATIONARY LEFT LANE CLOSURE AT AN INTERSECTION

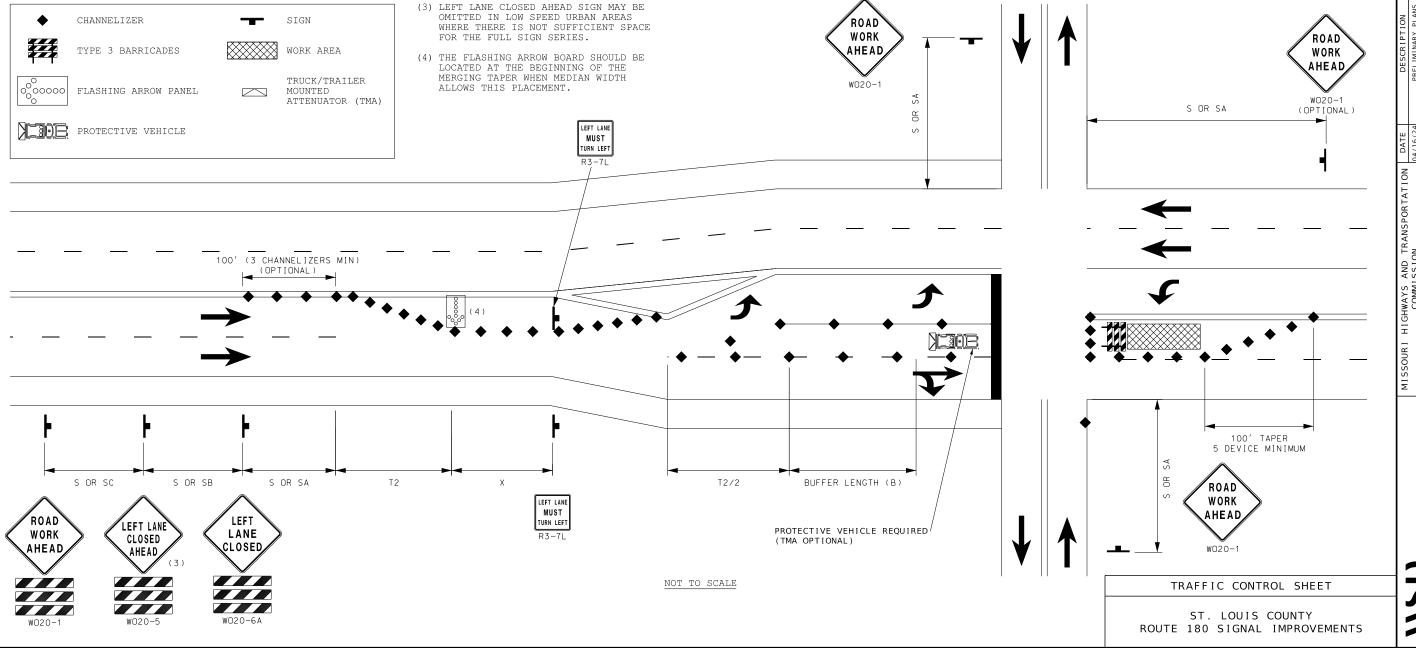
SPEED	SIGN SPA	CING (FT.)	TAPER LENGTH (FT.)		OPTIONAL	CHANNEL IZER S	SPACING (FT.)		
PERMANENT POSTED (MPH)	UNDIVIDED (S)	DIVIDED (S)	SHOULDER (1)	LANE (2) (T2)	BUFFER LENGTH (FT.) (B)	TAPERS	BUFFER/ WORK AREAS		
0-35	200	200	-	245	250	35	40		
40-45	350	500	-	540	360	40	80		
50-55	500	1000	-	660	495	50	80		
60-70	1000	SA - 1000 SB - 1500 SC - 2640	_	840	730	60	120		
1. 00020	1. SHOULDER TAPER LENGTH BASED ON 10 FT (STANDARD SHOULDER WIDTH) OFFSET. 2. LANE TAPER LENGTH BASED ON 12 FT (STANDARD LANE WIDTH OFFSET.								

	SIGN	MAXIMUM			
TYPE OF ROADWAY	ADWAY HEIGHT				
	(MINIMUM)	LENGTH (L)			
URBAN	1' PORTABLE, 7' POST	1 MILE			

RURAL DIVIDED 1' PORTABLE, 7' POST 2 MILE RURAL UNDIVIDED 1' PORTABLE, 5' POST 3 MILE 48 INCHES RECOMMENDED

NOTES:

- 1. SEE EPG 616.12 WORK ZONE SPEED LIMITS FOR SPEED LIMIT GUIDELINES.
- 2. USE EPG 616.33SD (TA-33SD) SHORT DURATION LANE CLOSURE ON A MULTI-LANE HIGHWAY FOR SETTING ADVANCE WARNING SIGNS.
- 3. FOR SIGNALIZED INTERSECTIONS, ADJUSTMENTS MAY NEED TO BE MADE TO SIGNAL PHASING, TIMING, INDICATIONS OR DETECTOR SETTINGS.
- 4. REMOVE AND/OR MODIFY EXISTING PAVEMENT MARKINGS AS NEEDED.
- 5. PAVEMENT MARKING AND BARRICADES OPTIONAL FOR SHORT TERM OPERATIONS.
- 6. TEMPORARY PAVEMENT MARKING REQUIRED WITH LONG TERM LANE CLOSURES.
- 7. FOR SHORT TERM OPERATIONS, WHERE IT IS NOT FEASIBLE TO MODIFY PAVEMENT MARKINGS, A 10-FOOT DEVICE SPACING IS USED WHERE TRAFFIC IS GUIDED ACROSS DOUBLE YELLOW LINES OR OTHER CONFLICTING PAVEMENT MARKINGS. ALL OTHER SPACING IS ONE-HALF OF THE SPACING.
- 8. IF RUMBLE STRIPS ARE USED, REVIEW 616.6.87 RUMBLE STRIPS.
- 9. FOR LONG-TERM OPERATIONS, REFER TO EPG 616.6.2.2 FLAGS AND ADVANCE WARNING RAIL SYSTEM.



06/21/2024 180 MO SL 85

ST. LOUIS JSL0179

PROJECT NO

616.8.30STWLTL STATIONARY LANE CLOSURE WITH A TWO-WAY LEFT TURN LANE

SPEED	SIGN SPACING (FT.)	TAPER LENG	TH (FT.)	OPTIONAL	CHANNEL I ZER	SPACING (FT.)			
PERMANENT POSTED (MPH)	UNDIVIDED (S)	SHOULDER (1)	LANE (2) (T2)	BUFFER LENGTH (FT.) (B)	TAPERS	BUFFER/ WORK AREAS			
0-35	200	-	-	250	-	40			
40-45	350	-	_	360	-	80			
50-55	500	-	_	495	-	80			
60-70	1000	_	_	730	-	120			
1. SHOULDER	1. SHOULDER TAPER LENGTH BASED ON 10 FT (STANDARD SHOULDER WIDTH) OFFSET.								

2. LANE TAPER LENGTH BASED ON 12 FT (STANDARD LANE WIDTH OFFSET.

TYPE 3 BARRICADES

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CHANNELIZER

TRUCK/TRAILER

SIGN

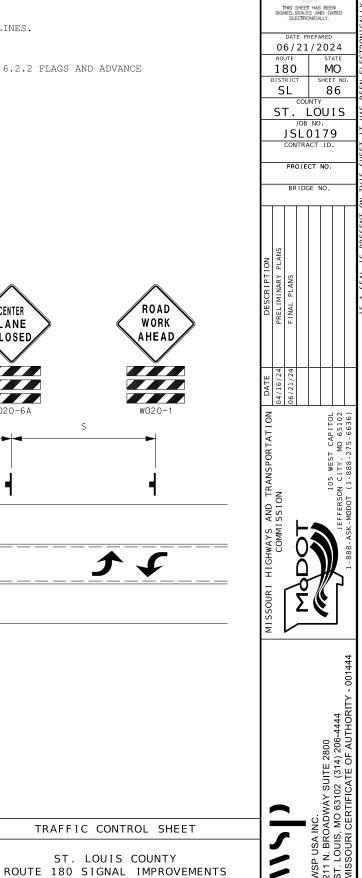
WORK AREA

FLASHING ARROW PANEL MOUNTED ATTENUATOR (TMA)

PROTECTIVE VEHICLE

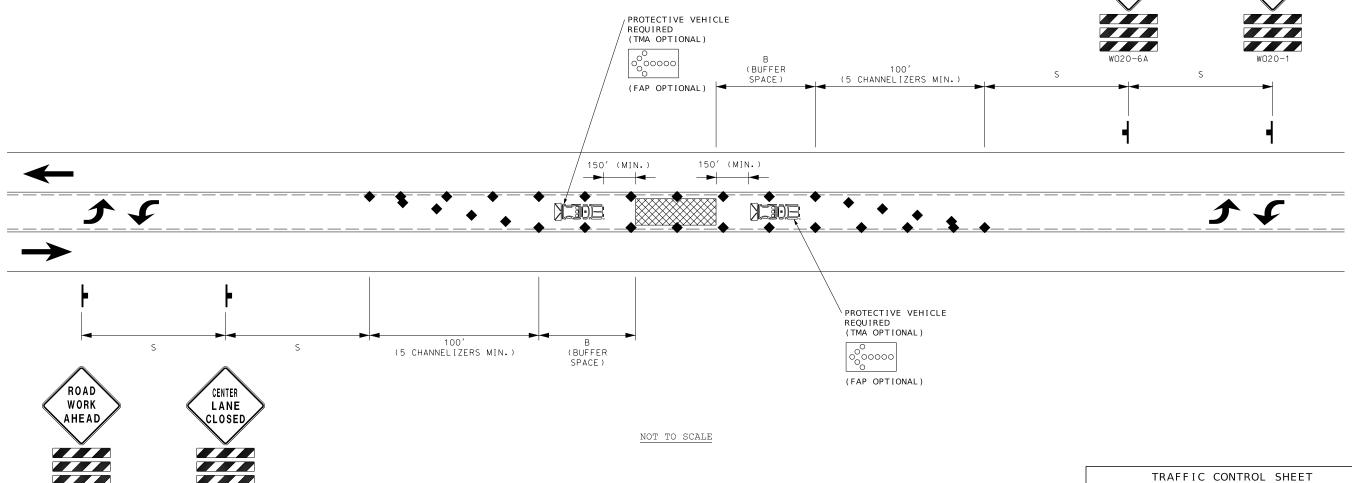
NOTES:

- 1. SEE EPG 616.12 WORK ZONE SPEED LIMITS FOR SPEED LIMIT GUIDELINES.
- 2. IF RUMBLE STRIPS ARE USED, REVIEW 616.6.87 RUMBLE STRIPS.
- 3. FOR FLAGS AND ADVANCE WARNING RAIL SYSTEM, REGER TO EPG 616.6.2.2 FLAGS AND ADVANCE WARNING RAIL SYSTEM.



ROAD WORK

AHEAD



ST. LOUIS COUNTY

LANE

CLOSED

616.8.42S STATIONARY WORK IN THE VICINITY OF EXIT RAMP

SIGN SPACING (FT.)

500

SB - 1500

350

PERMANENT

POSTED

(MPH)

40-45

TAPER LENGTH (FT.)

540

660

150

1. SHOULDER TAPER LENGTH BASED ON 10 FT (STANDARD SHOULDER WIDTH) OFFSET.
2. LANE TAPER LENGTH BASED ON 12 FT (STANDARD LANE WIDTH OFFSET.

OPTIONAL

BUFFFR

LENGTH (FT.

(B)

360

495

CHANNELIZER SPACING (FT.)

WORK AREAS

80

80

120

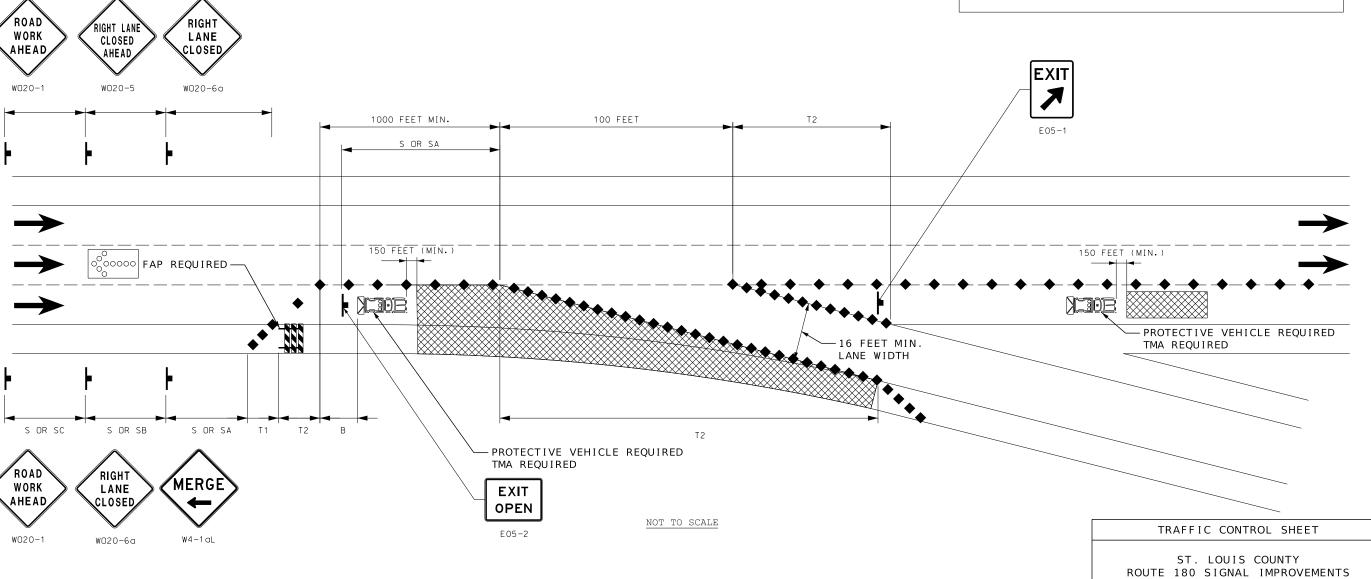
TAPERS

40

NOTES:

- 1. SEE EPG 616.12 WORK ZONE SPEED LIMITS FOR SPEED LIMIT GUIDELINES.
- 2. IF RUMBLE STRIPS ARE USED, REVIEW 616.6.87 RUMBLE STRIPS.
- 3. FOR FLAGS AND ADVANCE WARNING RAIL SYSTEM, REGER TO EPG 616.6.2.2 FLAGS AND ADVANCE WARNING RAIL SYSTEM.





06/21/2024

ST. LOUIS

JSL0179

PROJECT NO.

MO

87

180

SL

616.8.44S STATIONARY WORK IN THE VICINITY OF AN ENTRANCE RAMP

SPEED

PERMANENT

POSTED

(MPH)

0-35

40-45

50-55

350

SIGN SPACING (FT.) TAPER LENGTH (FT.)

500

1000

SB - 1500

SC - 2640

SHOULDER (1

150

540

OPTIONAL

BUFFFR

(B)

360

495

LENGTH (FT.

CHANNELIZER SPACING (FT.)

40

WORK AREAS

80

80

120

NOTES:

- 1. SEE EPG 616.12 WORK ZONE SPEED LIMITS FOR SPEED LIMIT GUIDELINES.
- 2. IF RUMBLE STRIPS ARE USED, REVIEW 616.6.87 RUMBLE STRIPS.
- 3. FOR FLAGS AND ADVANCE WARNING RAIL SYSTEM, REGER TO EPG 616.6.2.2 FLAGS AND ADVANCE WARNING RAIL SYSTEM.



