

CONSULTANTS:

WEST STREET IMPROVEMENTS FROM PAWNEE TO HARRY

REVISIONS:	DESCRIPTION	MARK	DATE

PROJ NO: 87 N-0720-01  
 SCALE: 1"=20'  
 DATE: 9/25/2023  
 DESIGNED BY: SSP  
 DRAWN BY: KVG  
 CHECKED BY: MDB

SHEET TITLE:  
**WIRING DIAGRAM WEST STREET & PAWNEE AVENUE**

SHEET NO.  
**304**  
 SHEET 304 OF 517

**DETECTOR SUMMARY**

DETECTOR NUMBER	DETECTION ZONE SIZE	STOP BAR DETECTION	ADVANCED DETECTION	TIMINGS (SEC)		MODE		DISTANCE FROM STOP BAR
				TOTAL STRETCH + EXTENSION	DELAY	PRESENCE	PULSE	
11,12	6'x55'	X		2.0		X	1	-5
13,14	6'x6'		X	2.0		X	1	92
15,16	6'x6'		X	2.0		X	1	210
21,22	6'x55'	X		2.0		X	2	-5
23	6'x55'	X		10.0		X	2	-5
24,25	6'x6'		X	2.0		X	2	92
26	6'x6'		X	10.0		X	2	92
27,28	6'x6'		X	2.0		X	2	210
29	6'x6'		X	10.0		X	2	210
31,32	6'x55'	X		2.0		X	3	-5
33,34	6'x6'		X	2.0		X	3	92
35,36	6'x6'		X	2.0		X	3	210
41,42	6'x55'	X		2.0		X	4	-5
43	6'x55'	X		10.0		X	4	-5
44,45	6'x6'	X	X	2.0		X	4	92
46	6'x6'		X	10.0		X	4	92
47,48	6'x6'		X	2.0		X	4	210
49	6'x6'		X	10.0		X	4	210
51,52	6'x55'	X		2.0		X	5	-5
53,54	6'x6'		X	2.0		X	5	92
55,56	6'x6'		X	2.0		X	5	210
61,62	6'x55'	X		2.0		X	6	-5
63,64	6'x6'		X	2.0		X	6	92
65,66	6'x6'		X	2.0		X	6	210
71,72	6'x55'	X		2.0		X	7	-5
73,74	6'x6'		X	2.0		X	7	92
75,76	6'x6'		X	2.0		X	7	210
81,82	6'x55'	X		2.0		X	8	-5
83	6'x55'	X		10.0		X	8	-5
84,85	6'x6'		X	2.0		X	8	92
86	6'x6'		X	10.0		X	8	92
87,88	6'x6'		X	2.0		X	8	210
89	6'x6'		X	10.0		X	8	210

**LEGEND**

- COND. GALVANIZED RIGID STEEL CONDUIT
- SIG. SIGNAL CABLE
- PED. PEDESTRIAN SIGNAL CABLE
- DET. DETECTOR LEAD-IN CABLE
- ST. LT. STREET LIGHTING CABLE
- GRND. WIRE FOR POLE GROUND
- COAX. COAXIAL CABLE
- FUT. FUTURE CABLE
- B.O. BLANK OUT SIGN CABLE
- PREEMPT. PREEMPTION CABLE
- RADAR. RADAR DETECTION CABLE
- TRC. TRACER WIRE

\*4-C FROM PEDESTRIAN SIGNAL HEAD (K) TO ADA PUSHBUTTON PROVIDED BY SUPPLIER

† TIMINGS SHOWN IN DETECTOR SUMMARY CHART INCLUDE THE TOTAL STRETCH + EXTENSION. DETECTOR TIMINGS SHALL BE PROGRAMMED INTO THE TRAFFIC SIGNAL CONTROLLER. SEE TRAFFIC SIGNAL GENERAL NOTES FOR ADVANCED DETECTION DISTANCE AND TIMING.

**SUGGESTED TIMINGS (SEC.)**

PHASE	MINIMUM INITIAL	*MAXIMUM GREEN SPLIT	**PEDESTRIAN			***CLEARANCE	
			WALK	FDW	SDW	YELLOW	ALL RED
1	10	20	-	-	-	4.0	6.0
2	10	40	7	28	-	4.5	2.5
3	10	20	-	-	-	4.0	6.0
4	10	40	7	38	-	4.5	2.5
5	10	20	-	-	-	4.0	6.0
6	10	40	7	28	-	4.5	2.5
7	10	20	-	-	-	4.0	6.0
8	10	40	7	41	-	4.5	2.5

CLEARANCE DESIGN SPEEDS:  
 WEST STREET = 40 MPH  
 SW BLVD / PAWNEE = 40 MPH

\*\*\*SIGNAL CLEARANCE TIMINGS ARE CALCULATED BASED ON RECOMMENDATIONS FROM NCHRP REPORT 731.

\*MAXIMUM GREEN SPLIT IS FOR NON-PEDESTRIAN CALLS ONLY. TIMING INCORPORATES YELLOW & ALL RED CLEARANCE TIMES.

\*\*PEDESTRIAN PHASING SHALL EXTEND PHASE WHEN CALLED IF APPROPRIATE. PEDESTRIAN CLEARANCE TIMES SHALL FOLLOW MUTCD GUIDELINES FOR PHASES.

**NOTES:**

- ALL MULTI-CONDUCTOR SIGNAL CABLE (IMSA 19-1) SHALL BE AWG #14 SOLID UNLESS SPECIFIED OTHERWISE. LABEL EACH WIRE AS SHOWN IN PART 700 SPECIFICATIONS.
- ALL GROUND WIRE SHALL BE #6 AWG COPPER WIRE IN ACCORDANCE WITH ATM B-3. SOLID BARE COPPER WIRE SHALL BE USED FOR ALL EXTERIOR INSTALLATIONS INCLUDING SERVICE AND GROUND ROD BONDING. OTHERWISE, GREEN INSULATED STRANDED WIRE TYPE "THHN/THWN" SHALL BE USED.
- GROUND WIRE SHALL BE BONDED TO EACH GROUND ROD AT EVERY POLE, PEDESTAL, SERVICE BOX, AND CONTROLLER TO FORM ONE CONTINUOUS GROUND CIRCUIT.
- DETECTOR CABLES SHOULD RUN CONTINUOUS. SPLICES, IF REQUIRED, SHALL ONLY OCCUR IN THE POLE BASE AND MUST BE APPROVED BY THE CITY OF WICHITA TRAFFIC ENGINEER.
- IN NO CASE SHALL MORE THAN 60% OF ANY CONDUIT BE FILLED BY AREA.
- STREET LIGHTING CABLE SHALL BE SPLICED IN SERVICE BOXES. THE SPLICE SHALL BE MADE WATERPROOF.
- SPLICES AT POLE BASE SHALL BE LINEMAN SPLICES PER SECTION 702.21.11. TERMINAL BLOCKS WILL NOT BE USED.
- ALL CONDUIT SHALL BE HOT DIPPED GALVANIZED RIGID STEEL CONDUIT (G.R.C.) AS SHOWN IN THE PROJECT SPECIFICATIONS.
- DURING EMERGENCY FLASH OPERATIONS, ALL SIGNAL PHASES SHALL BE RED INDICATIONS. PEDESTRIAN PHASE SHALL BE DARK.

