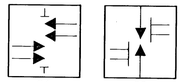
BILL OF MATERIALS (FOR INFORMATION ONLY)

ITEM	UNIT	QUANTITY
CROSSWALK SIGNAL:		
TRAFFIC SIGNAL POLE STEEL W/ MAST ARM	EACH	2
CONCRETE BASE – POLE	EACH	2
SERVICE BOX – 36 IN. DIA.	EACH	2
GROUND ROD & CLAMP	EACH	3
TRAFFIC SIGNAL LAMP 135 WATT	EACH	12
PEDESTRIAN SIGNAL LAMP 105 WATT	EACH	4
RED LENS L.E.D. UNIT	EACH	6
ENTRANCE HEAD	EACH	1
CIRCUIT BREAKER & BOX	EACH	1
TRAFFIC SIGNAL HEAD – 12" (TYPE A) W/MOUNTING BRACKET	EACH	6
PEDESTRIAN SIGNAL HEAD – 12" (TYPE K) W/MOUNTING BRACKET	EACH	2
PEDESTRIAN PUSHBUTTON W/SIGN	EACH	2
POLE MOUNTED CABINET & CONTROLLER SYSTEM–TYPE 170(SEE NOTE)	EACH	1
LEAD–IN WIRE NO. 6 AWG 1/c (TYPE THHN)	LIN. FT.	225
MULTI–CONDUCTOR CABLE NO. 14 AWG 5/c	LIN. FT.	415
CONDUIT 1"	LIN. FT.	90
CONDUIT 2"	LIN. FT.	95
STANDARD 1C #8 (THHN)(GROUND)	LIN. FT.	300
SCHOOL CROSSING SIGN (S2–1) W/MOUNTING HARDWARE	EACH	2

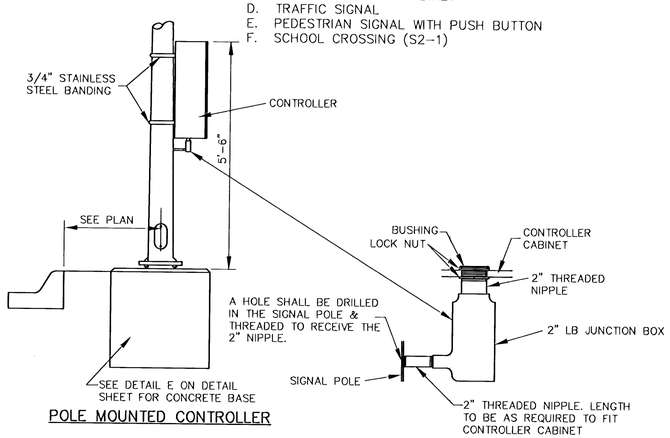
SIGNAL PHASING



CROSSWALK SIGNAL POLE SUMMARY

STATION	TYPE	ARM LENGTH	SIGNALS ON ARM	SIGNALS/EQUIP. ON POLE	SIGNS ON POLE
26+00.4, Lt.	B	26'	2–D	1–C, 1–D, 1–E	1–F
26+11.3, Rt.	B	26'	2–D	1–D, 1–E	1–F

A. STANDARD 10' POLE (ALUMINUM)
B. STANDARD STEEL POLE WITH MAST ARM
C. CONTROLLER WITH CABINET
D. TRAFFIC SIGNAL
E. PEDESTRIAN SIGNAL WITH PUSH BUTTON
F. SCHOOL CROSSING (S2–1)



POLE MOUNTED CONTROLLER

TYPE 170 TRAFFIC CONTROLLER SYSTEM TO INCLUDE:

ONE (1) MODEL 170E CONTROLLER UNIT COMPLETE WITH 412B2 SYSTEM MEMORY MODULE CAPABLE OF SUPPORTING WAPITI MICRO SYSTEM W4IKS (LATEST REVISION) TRAFFIC PROGRAM ON 27256 EPROM WITH 400 MODEM.

ONE (1) MODEL 336 CABINET COMPLETE WITH ALL ACCESSORIES INCLUDING FOUR (4) MODEL 430 TRANSFER RELAYS, TWO (2) MODEL 204 FLASHER UNITS AND ONE (1) MODEL 210PC CONFLICT MONITOR.

TWO (2) MODEL 242 TWO CHANNEL ISOLATORS.

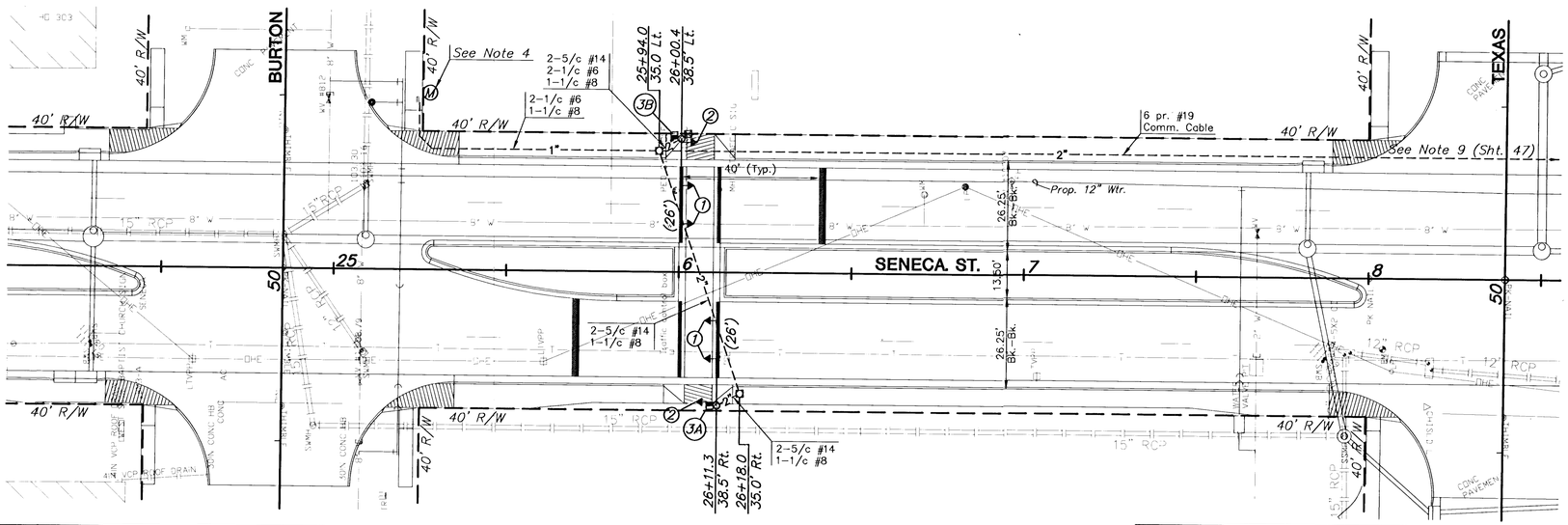
TWO (2) MODEL 200 SWITCH PACKS.

NOTE: THE CONTRACTOR SHALL SUPPLY AND INSTALL ALL NECESSARY MATERIAL AND EQUIPMENT FOR THE COMPLETE INSTALLATION AND OPERATION OF THE TRAFFIC SIGNAL WHETHER SPECIFICALLY MENTIONED OR NOT.

CROSSWALK SIGNAL HEAD SUMMARY

SIGNAL NO.	TYPE	SIZE	MOUNTING BRACKET	QUANTITY
1	A	3–12"	TYPE I	4
2	A	3–12"	TYPE IV *	2
3	K	2–12"	TYPE IV *	2

* ONE TYPE IV BRACKET WILL SUPPORT 1 TYPE A AND 1 TYPE K HEADS.



GENERAL NOTES

1. Conduit shall be jacked or bored if not installed before placing of new pavement.
2. Placement of Service/Junction Boxes, conduit runs and Controller are typical and may be adjusted as directed by the Engineer to facilitate installation.
3. The Contractor shall contact all utility companies which may be affected by the installation of Traffic Signalization prior to any construction.
4. KGE Power Pole Baseline, Sta. 25+24 Left, install meter and power disconnect. See Power Pole details.
5. Contractor to provide school crosswalk signal for school children crossing protection.
6. Existing signal appurtenances, except as otherwise noted on the plans, shall be removed by Contractor and taken to the City Yard at 1801 S. McLean Blvd. Remove all Junction Boxes, Cabinet Bases, Pole Bases, Power Risers, Meter Bases, etc. not being re–used. Notify City of Wichita Traffic Maintenance 14 days prior to start of construction.
7. Red L.E.D. Signal Heads: The red lens in each signal head shall be a self–contained, sealed unit designed to fit a regular 12–inch traffic signal housing. It shall incorporate a minimum of 186 high reliability, high intensity LED indicators. The lens shall provide a light beam spread of 30 degrees on all sides of its center axis which shall be designed to provide a 5 to 7 degree downward angle.

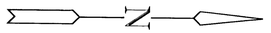
   The lens shall be made of UV stabilized plastic. The rear cover shall be of non–flammable material and the entire unit shall be totally sealed to preclude the entrance of water, dust or other contaminants.

   The self–contained, regulated power supply shall allow the unit to operate over an input voltage range between 89 and 135 volts A.C. and shall be configured in at least 3 parallel circuits for reliability. Light output shall be comparable to that provided by a standard, 12 inch traffic signal lens illuminated by a 150 watt incandescent lamp. The red wave length shall be 630 to 660 nm.

   The manufacturer shall warrant the unit against defects in workmanship and materials for a period of at least five years after date of shipment. This warranty shall be assigned to the maintenance agency.
8. See Street Lighting Plans for additional conduit requirements.
9. See Signal Pole Details for additional Traffic Signal Structures requirements.

LEGEND

- Crosswalk Signal Pole, Mast Arm and Sign S2–1
- Traffic Signal Indication (Type A)
- Service Box
- Controller
- Pedestrian Indication
- Rigid Galvanized Conduit (RGC)
- Meter Box and Power Disconnect



SCALE: 1"=20'

20 10 0 20

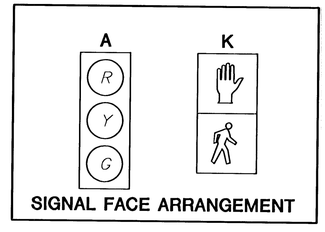
TYPE 170 CONTROLLER SETTINGS

"WAPITI PROGRAM" PHASE

INTERVAL		1 WBLT	2 EB	3 SBLT	4 NB	5 –	6 WB	7 NBLT	8 SB
MAX	0		30		30				
MAX 2	1		30		30				
WALK	2		8						
FL. DW.	3		20						
MAX INIT.	4		28		30				
MIN GREEN	5		28		30				
TBR	6				10				
TTR	7				10				
	8								
PASSAGE	9								
MIN GAP	a								
ADD ACT	b								
YELLOW	c		4.0		3.0				
RED CLR.	d		1.5						
RED REV.	e								
WALK II	f								

NORMAL DISPLAY

TIME CLOCK		FEATURES	1	2	3	4	5	6	7	8
0	YEAR	VEH RECALL				X				
1	MONTH	PED RECALL								
2	DAY/MONTH	RED LOCK								
3	DAY/WEEK	YEL LOCK	X		X					
4	HOUR	ø PERMIT	X		X					
5	MINUTE	PED PHASES			X					
6	SECOND	LEAD PHASES	X	X	X	X				
7		DBL ENTRY								
8		SEQUENTIAL								
9		START UP YEL								
a		OVERLAP A								
b		OVERLAP B								
c		OVERLAP C								
d		OVERLAP D								
e		EXCLUSIVE								
f		SIM GAP								



SIGNAL FACE ARRANGEMENT

Red lens in each head shall be L.E.D. unit per Note 7.

RECAPITULATION OF CROSSWALK SIGNAL QUANTITIES

BID ITEM	QUANTITY	UNIT
TRAFFIC SIGNAL INSTALLATION (PEDESTRIAN CROSSING)	1	LUMP SUM

MID-KANSAS ENGINEERING CONSULTANTS, INC.
411 N. WEBB ROAD
WICHITA, KS. 67206
316-684-9600

SENECA STREET
PROJECT NAME

CROSSWALK SIGNALIZATION
SHEET TITLE

DCH	WNJ	DCH
DESIGN BY:	DRAWN BY:	CHECKED BY:
OCT. 2001	98092SG3	51 / 87
DATE	JOB NO.	SHEET/OF

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C:\DWG98092\SIGNAL\98092SG3.DWG