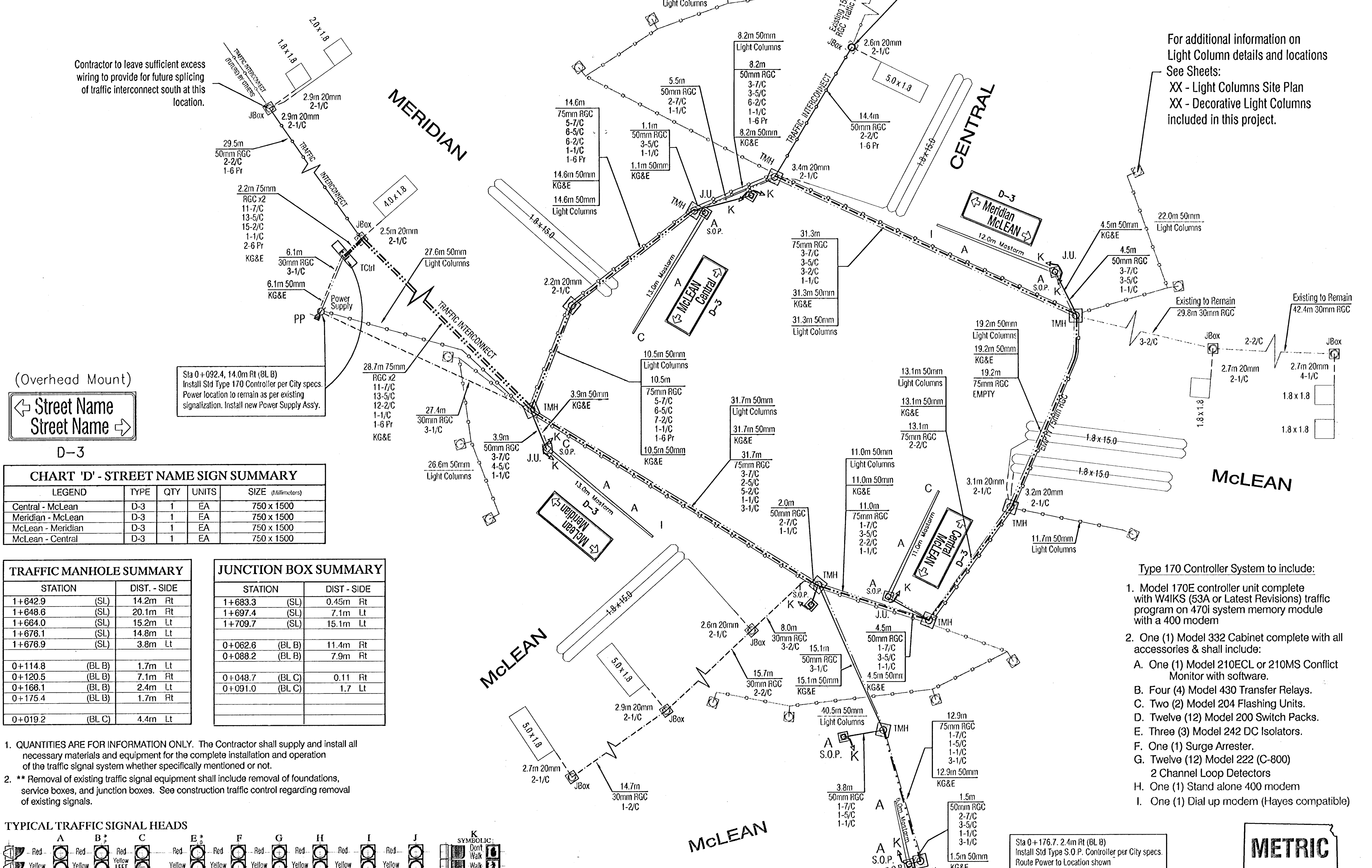


BILL OF MATERIALS		
ITEM	UNIT	QTY
POLE MOUNTED CONTROLLER & CABINET	EACH	1
PEDESTAL MOUNTED CONTROLLER & CABINET	EACH	—
PAD MOUNTED CONTROLLER & CABINET	EACH	1
TRAFFIC SIGNAL HEAD (SEE CHART A) W/ MOUNTING HARDWARE	EACH	27
TRAFFIC SIGNAL POLE (SEE CHART B) STEEL	EACH	8
TRAFFIC SIGNAL POLE (SEE CHART B) ALUMINUM	EACH	—
TRAFFIC SIGNAL PEDESTAL ALUMINUM 10'	EACH	—
CONCRETE CONTROLLER PAD	EACH	1
CONCRETE FOOTING - PEDESTAL	EACH	—
CONCRETE FOOTING - POLE	EACH	8
CONDUIT ELBOW 90°	EACH	As Req'd
CONDUIT ELBOW 90° 3"	EACH	As Req'd
BACK PLATE 5" - 3 SECTION	EACH	12
BACK PLATE 5" - 4 SECTION	EACH	—
BACK PLATE 5" - 5 SECTION	EACH	2
SERVICE BOX	EACH	10
JUNCTION BOX	EACH	7
GROUND ROD & CLAMP	EACH	9
CONDUIT CLAMP	EACH	As Req'd
TRAFFIC SIGNAL LAMP 135 WATT	EACH	80
TRAFFIC SIGNAL LAMP 60 WATT	EACH	—
CLASS 4 - WOOD POLE	EACH	—
ENTRANCE HEAD	EACH	—
CIRCUIT BREAKER & BOX	EACH	2
GUY WIRE GUARD	EACH	—
GUY WIRE CLAMP	EACH	—
THIMBLE EYE ANCHOR ROD	EACH	—
PEDESTRIAN PUSHBUTTON W/SIGN	EACH	10
DETECTOR LOOP WIRE No. 14 A.W.G. 1/C (TYPE THHN)	LIN. m	1081
LEAD-IN WIRE No. 4 A.W.G. 1/C (TYPE THHN)	LIN. m	180
STANDARD 1C #8 (GROUND)	LIN. m	163
MULTI-CONDUCTOR CABLE No. 14 A.W.G. 5/C	LIN. m	683
MULTI-CONDUCTOR CABLE No. 14 A.W.G. 7/C	LIN. m	488
MULTI-CONDUCTOR CABLE No. 14 A.W.G. 2/C	LIN. m	—
SHIELDED DETECTOR LEAD-IN No. 14 A.W.G. 2/C	LIN. m	1002
6 Pr #19 AWG COMM CABLE (Interconnect)	LIN. m	125
CONDUIT 20mm	LIN. m	40
CONDUIT 30mm	LIN. m	72
CONDUIT 50mm	LIN. m	94
CONDUIT 75mm	LIN. m	206
CONDUIT 50mm PVC - KG&E LIGHTING (J.U. Poles)	LIN. m	183
CONDUIT 50mm PVC - KG&E LIGHTING (Light Columns)	LIN. m	316
TETHER WIRE 1/4" ASTM A475 SIEMENS-MARTIN	LIN. m	—
GRADE MIN.	—	—
REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT **	L.S.	—
STREET NAME SIGNS	EACH	4
LEFT TURN YIELD ON GREEN W/MOUNTING	EACH	4
HARDWARE (R10-12)	EACH	2
HARDWARE (R10-10)	EACH	2
SPLICE KIT (TRAFFIC INTERCONNECT)	EACH	1

CHART 'A' - SIGNAL INVENTORY				
NO. WAYS	NO. SECTIONS (Per Face)	SIGNAL FACE ARRANGEMENT	MOUNTING TYPE	QTY
1	3	A	RIGID MAST ARM	7
1	3	C	RIGID MAST ARM	2
1	5	I	RIGID MAST ARM	2
1	3	A	VERTICAL BRACKET	4
1	3	C	VERTICAL BRACKET	1
1	5	I	VERTICAL BRACKET	1
1	2	K (SYM)	VERTICAL BRACKET	10

CHART 'B' - TRAFFIC SIGNAL POLES						
STATION	DIST.	SIDE	ARM LENGTH (Meters)	NO. OF SIGNALS ON ARM	SIGNAL SPACING (Meters)	TYPE
1+641.4 (SL)	13.8	LEFT	12.0m	3	6.2-3.4-3.4	JU
1+648.4 (SL)	19.0	RIGHT	13.0m	2	6.3-6.7	JU
1+675.5 (SL)	10.4	LEFT	11.0m	2	6.3-4.7	JU
0+124.3 (BL B)	8.0	RIGHT	13.0m	3	7.2-3.4-3.4	JU
0+176.7 (BL B)	2.4	RIGHT	6.0m	1	N/A	PED
1+645.3 (SL)	15.6	RIGHT	Pole	2	N/A	PED
1+678.1 (SL)	3.5	LEFT	Pole	1	N/A	PED
0+163.5 (BL B)	2.1	RIGHT	Pole	1	N/A	PED

CHART C		
CONDUIT SIZE (Millimeters)	TRENCHED (Meters)	PUSHED (Meters)
20mm RGC	39.5	-
30mm RGC	71.9	-
50mm RGC	94.0	-
75mm RGC	206.1	-
50mm PVC (KG&E Lighting)	189.2	-
50mm PVC (Light Columns)	315.5	-



- GENERAL NOTES**
- SIGNAL TIMING BY THE CITY OF WICHITA. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING AND INSTALLING THE CONTROLLER, CABINET, CONCRETE BASE, AND FOR ALL EQUIPMENT NECESSARY FOR THE COMPLETE AND SATISFACTORY OPERATION OF THE TRAFFIC SIGNAL, WHETHER SAID EQUIPMENT IS SPECIFICALLY MENTIONED OR NOT.
 - LENGTHS GIVEN ARE TO CENTERLINE OF POLE/BOX AND DO NOT INCLUDE LENGTHS FOR ELBOWS AND RISERS.
 - SIGNAL HEADS, PEDESTRIAN SIGNALS, TRAFFIC SIGNS & ETC. INCLUDE ALL BRACKETS, HARDWARE & OTHER INCIDENTALS NECESSARY FOR INSTALLATION.
 - SEE CITY OF WICHITA STANDARD SPECIFICATIONS FOR ADDITIONAL WIRING NOTES.

SPECIAL FINISH FOR TRAFFIC SIGNAL EQUIPMENT:

The traffic signal controller cabinet, brackets, sign blank backs, signal backs and other exposed surfaces shall be shop painted with an aerosol lacquer cellulose ester to match the traffic signal pole color. The contractor shall submit two copies of the proposed coating system to the City for approval to application.

TRAFFIC SIGNAL POLE & PEDESTAL EXTERIOR COATING:

In addition to being galvanized, all exterior surfaces shall be coated with a zinc rich epoxy powder to a minimum dry film thickness of 2.0 mils. The coating shall be electrostatically applied and partially cured in a gas fired convection oven by heating the steel substrate to a minimum of 250 degrees Fahrenheit.

The powder primed surface shall be coated with an intermediate coat of polyester powder to a minimum dry film thickness of 2.0 mils. The coating shall be electrostatically applied and cured by heating the substrate in a convection oven to a minimum of 350 degrees and a maximum of 400 degrees Fahrenheit.

The intermediate coat shall be top coated with one coat of high-build acrylic polyurethane enamel to a minimum dry film thickness of 2.0 mils. The coating shall be electrostatically applied and cured by heating the substrate in a convection oven to a minimum of 225 degrees Fahrenheit. The final top coating color shall be BLACK



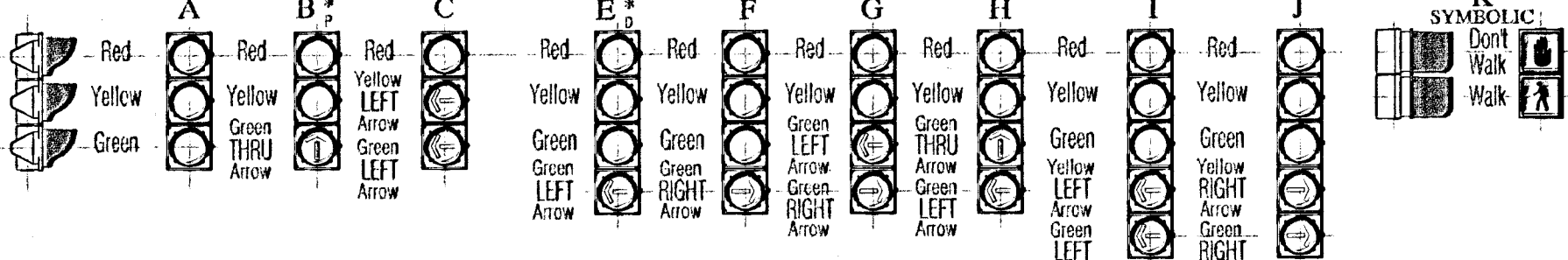
CHART 'D' - STREET NAME SIGN SUMMARY					
LEGEND	TYPE	QTY	UNITS	SIZE (Millimeters)	
Central - McLean	D-3	1	EA	750 x 1500	
Meridian - McLean	D-3	1	EA	750 x 1500	
McLean - Meridian	D-3	1	EA	750 x 1500	
McLean - Central	D-3	1	EA	750 x 1500	

TRAFFIC MANHOLE SUMMARY		
STATION	DIST. - SIDE	
1+642.9 (SL)	14.2m Rt	
1+648.6 (SL)	20.1m Rt	
1+664.0 (SL)	15.2m Lt	
1+676.1 (SL)	14.8m Lt	
1+676.9 (SL)	3.8m Lt	
0+114.8 (BL B)	1.7m Lt	
0+120.5 (BL B)	7.1m Rt	
0+166.1 (BL B)	2.4m Lt	
0+175.4 (BL B)	1.7m Rt	
0+019.2 (BL C)	4.4m Lt	

JUNCTION BOX SUMMARY		
STATION	DIST. - SIDE	
1+683.3 (SL)	0.45m Rt	
1+697.4 (SL)	7.1m Lt	
1+709.7 (SL)	15.1m Lt	
0+062.6 (BL B)	11.4m Rt	
0+088.2 (BL B)	7.9m Rt	
0+048.7 (BL C)	0.11 Rt	
0+091.0 (BL C)	1.7 Lt	

- QUANTITIES ARE FOR INFORMATION ONLY. The Contractor shall supply and install all necessary materials and equipment for the complete installation and operation of the traffic signal system whether specifically mentioned or not.
- ** Removal of existing traffic signal equipment shall include removal of foundations, service boxes, and junction boxes. See construction traffic control regarding removal of existing signals.

TYPICAL TRAFFIC SIGNAL HEADS



- Type 170 Controller System to include:
- Model 170E controller unit complete with W4IKS (53A or Latest Revisions) traffic program on 470i system memory module with a 400 modern
 - One (1) Model 332 Cabinet complete with all accessories & shall include:
 - One (1) Model 210ECL or 210MS Conflict Monitor with software.
 - Four (4) Model 430 Transfer Relays.
 - Two (2) Model 204 Flashing Units.
 - Twelve (12) Model 200 Switch Packs.
 - Three (3) Model 242 DC Isolators.
 - One (1) Surge Arrester.
 - Twelve (12) Model 222 (C-800) 2 Channel Loop Detectors
 - One (1) Stand alone 400 modern
 - One (1) Dial up modem (Hayes compatible)