

BILL OF MATERIALS (FOR INFORMATION ONLY)		
ITEM	UNIT	QUANTITY
TRAFFIC SIGNAL POLE STEEL W/MASTARM (JOINT USE)	EACH	4
CONCRETE CONTROLLER PAD	EACH	1
CONCRETE FOOTING - POLE	EACH	4
SERVICE BOX - 36 IN. DIA.	EACH	4
JUNCTION BOX - 24 IN. DIA. (INCLUDES INTERCONNECT)	EACH	15
GROUND ROD & CLAMP	EACH	6
CONDUIT CLAMP	EACH	AS REQUIRED
TRAFFIC SIGNAL LAMP 135 WATT	EACH	40
PEDESTRIAN SIGNAL LAMP 105 WATT	EACH	16
RED LENS L.E.D. UNIT	EACH	16
ENTRANCE HEAD	EACH	1
CIRCUIT BREAKER & BOX	EACH	1
BACK PLATE FOR SIGNAL HEAD (TYPE A)	EACH	8
BACK PLATE FOR SIGNAL HEAD (TYPE I)	EACH	4
TRAFFIC SIGNAL HEAD - 12" (TYPE A) W/MOUNTING BRACKET	EACH	12
TRAFFIC SIGNAL HEAD - 12" (TYPE I) W/MOUNTING BRACKET	EACH	4
PEDESTRIAN SIGNAL - 12" (TYPE K) W/MOUNTING BRACKET	EACH	8
PEDESTRIAN PUSHBUTTON W/SIGN	EACH	8
PAD MOUNTED CABINET & CONTROLLER SYSTEM-TYPE 170(SEE NOTE)	EACH	1
LEAD-IN WIRE NO. 6 AWG 1/c (TYPE THHN)	LIN. FT.	235
DETECTOR LOOP WIRE NO. 14, AWG 1/c (TYPE THHN)	LIN. FT.	3,530
MULTI-CONDUCTOR CABLE NO. 14 AWG 5/c	LIN. FT.	495
MULTI-CONDUCTOR CABLE NO. 14 AWG 7/c	LIN. FT.	2,030
SHIELDED DETECTOR LEAD-IN NO. 14 AWG 2/C	LIN. FT.	5,060
6 PR. #19 COMMUNICATION CABLE (DOUGLAS TO 2ND. ST.)(CROSSWALK TO DOUGLAS)	LIN. FT.	2,365
CONDUIT 3/4"	LIN. FT.	545
CONDUIT 1"	LIN. FT.	120
CONDUIT 1-1/4"	LIN. FT.	295
CONDUIT 2" (INCLUDES INTERCONNECT)	LIN. FT.	1,945
CONDUIT 3"	LIN. FT.	600
STANDARD 1/c #8 (TYPE THHN)(GROUND)	LIN. FT.	845
STREET NAME SIGNS	EACH	4
LEFT TURN YIELD ON GREEN W/MOUNTING HARDWARE (R10-12)	EACH	4

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 332 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.

THREE (3) MODEL 242 TWO CHANNEL ISOLATORS.

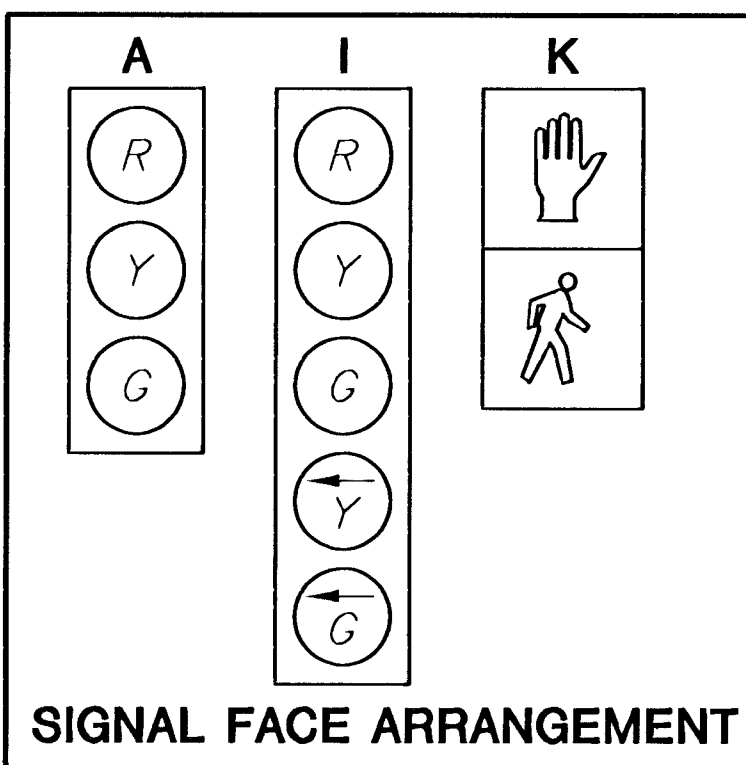
TWELVE (12) MODEL 222 TWO CHANNEL LOOP DETECTOR SENSOR UNITS (800).

TWELVE (12) MODEL 200 SWITCH PACKS.

ONE (1) STAND ALONE HAYES COMPATIBLE MODEM.

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.

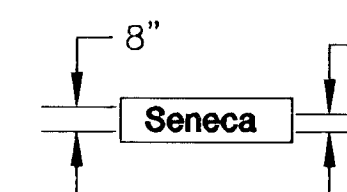
TRAFFIC SIGNAL HEAD SUMMARY				
SIGNAL NO.	TYPE	SIZE	MOUNTING BRACKET	QUANTITY
1	I	5-12"	TYPE I	1
2	A	3-12"	TYPE I	2
2A	A	3-12"	TYPE III	1
3	K	2-12"	TYPE II	2
4	I	5-12"	TYPE I	1
5	A	3-12"	TYPE I	2
5A	A	3-12"	TYPE III	1
6	K	2-12"	TYPE II	2
7	I	5-12"	TYPE I	1
8	A	3-12"	TYPE I	2
8A	A	3-12"	TYPE III	1
9	K	2-12"	TYPE II	2
10	I	5-12"	TYPE I	1
11	A	3-12"	TYPE I	2
11A	A	3-12"	TYPE III	1
12	K	2-12"	TYPE II	2



TRAFFIC SIGNAL POLE SUMMARY						
STATION	TYPE	ARM LENGTH	SIGNALS ON ARM	X1	X2	OTHER EQUIP. ON ARM
31+61, Lt.	A	37'	3-D	8	11	C, F, 3-G
31+67, Rt.	A	35'	3-D	8	11	C, F, 3-G
32+41, Lt.	A	35'	3-D	8	11	C, F, 3-G
32+51, Rt.	A	37'	3-D	8	11	C, F, 3-G

- A JOINT USE STEEL POLE WITH MAST ARM
- B STANDARD STEEL POLE WITH MAST ARM
- C PROTECTED TURN SIGN
- D TRAFFIC SIGNAL
- E PEDESTRIAN SIGNAL WITH PUSH BUTTON
- F STREET NAME SIGN
- G BACK PLATE FOR SIGNAL HEAD

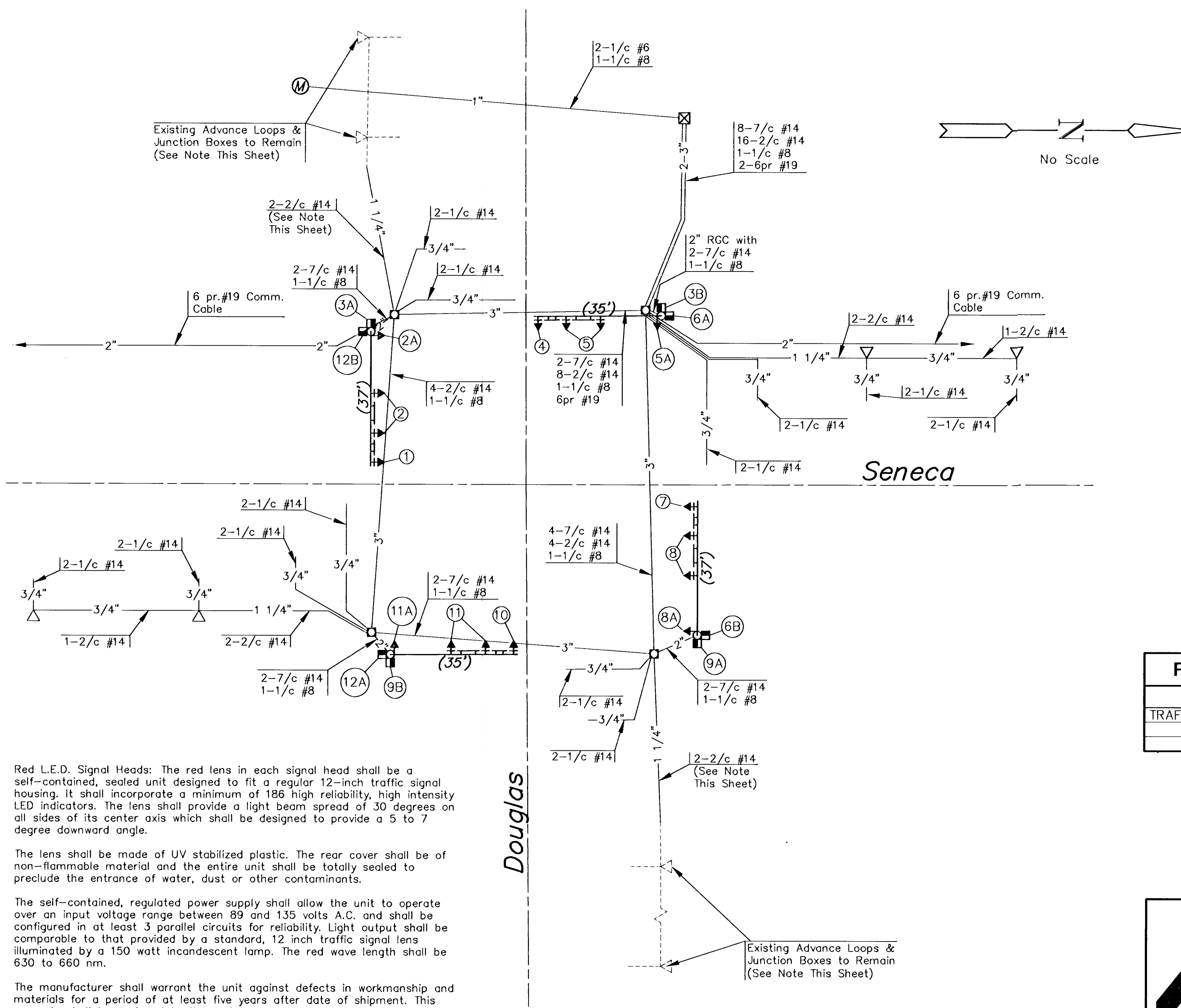
STREET NAME SIGN SUMMARY	
LEGEND	QUANTITY
Seneca	2
Douglas	2
TOTAL	4



Letters shall be series "E Modified".

LEGEND

- Steel Traffic Signal Pole (Joint use)
- Steel Traffic Signal Pole (Std. Pole)
- ▶ Traffic Signal Indication
- ▶+ Traffic Signal Indication with Back Plate
- ▼ Mast Arm Suspended Traffic Signal
- Service Box
- ⊠ Controller
- Pedestrian Indication
- ◁ Junction Box
- Rigid Galvanized Conduit (RGC)
- Ⓜ Meter Box and Power Disconnect
- TT Overhead Street Name Sign
- TT Overhead Sign R10-12 (Lt. Yield on Green)



RECAPITULATION OF TRAFFIC SIGNAL QUANTITIES		
BID ITEM	QUANTITY	UNIT
TRAFFIC SIGNAL INSTALLATION (SENECA & DOUGLAS)	1	LUMP SUM

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.

Note:  
Remove existing 2/c #14 between each Junction Box and Controller. Cut and remove existing conduit in area of construction. Replace with same new conduit. Connect and install new 2/c #14 from each Junction Box to new Controller.

**SOUTH SENECA STREET**  
PROJECT NAME  
**SENECA/DOUGLAS**  
**TRAFFIC SIGNAL SUMMARY**  
SHEET TITLE

DCH  
DESIGN BY:

OCT. 2001  
DATE

WNJ  
DRAWN BY:

98092WR1  
JOB NO.

DCH  
CHECKED BY:

48 / 87  
SHEET OF

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