STATE	PROJECT NO.	YEAR	SHEET NO	TOTAL SHEETS
KANSAS	87 N-0287-01	2003	56	107

DATE	BY	REFERENCES NOTED / REFERENCES CHECKED

BILL OF MATERIALS (FOR INFORMATION ONLY)

ITEM	UNIT	QUANTITY
TRAFFIC SIGNAL POLE STEEL W/MASTARM (6.0 m STANDARD POLE)	EACH	3
TRAFFIC SIGNAL POLE STEEL W/MASTARM (10.7 m JOINT USE)	EACH	1
CONCRETE CONTROLLER PAD	EACH	1
CONCRETE FOOTING – POLE	EACH	2
SERVICE BOX – 915 mm. DIA.	EACH	1
JUNCTION BOX – 610 mm. DIA. (INCLUDES INTERCONNECT)	EACH	38
GROUND ROD & CLAMP	EACH	2
CONDUIT CLAMP	EACH	AS REQUIRED
L.E.D. UNIT	EACH	28
PEDESTRIAN SIGNAL LAMP L.E.D. (300 mm COMBINATION UNIT)	EACH	4
ENTRANCE HEAD	EACH	–
CIRCUIT BREAKER & BOX	EACH	–
BACK PLATE FOR SIGNAL HEAD (TYPE A)	EACH	4
BACK PLATE FOR SIGNAL HEAD (TYPE I)	EACH	2
TRAFFIC SIGNAL HEAD – 300 mm (TYPE A) W/MOUNTING BRACKET	EACH	6
TRAFFIC SIGNAL HEAD – 300 mm (TYPE I) W/MOUNTING BRACKET	EACH	2
PEDESTRIAN SIGNAL – 300 mm (TYPE K) W/MOUNTING BRACKET	EACH	4
PEDESTRIAN PUSHBUTTON W/SIGN	EACH	4
PAD MOUNTED CABINET & CONTROLLER SYSTEM–TYPE 170(SEE NOTE)	EACH	1
LEAD-IN WIRE NO. 6 AWG 1/c (TYPE THHN)	m	–
MULTI-CONDUCTOR CABLE NO. 14 AWG 5/c	m	130
MULTI-CONDUCTOR CABLE NO. 14 AWG 7/c	m	272
STANDARD 1/c #8 (TYPE THHN)(GROUND)	m	144
6PR #19 COMMUNICATION CABLE	m	1604
CONDUIT 50 mm	m	1620
CONDUIT 75 mm	m	66
CAMERA HOUSING	EACH	4
VIDEO DETECTION CAMERA AND MOUNTING HARDWARE (RISER BRACKET)	EACH	4
VIDEO DETECTION PROCESSOR UNIT	EACH	4
VIDEO POWER CABLE NO. 16 AWG 3/C	m	279
VIDEO CABLE 75 OHM COAXIAL (BELDON #8281)	m	279
TV MONITER	EACH	1
CAMERA CHARGED COUPLING DEVICE	EACH	4
STREET NAME SIGNS	EACH	4
LEFT TURN YIELD ON GREEN W/MOUNTING HARDWARE (R10-12)	EACH	2

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 53A) 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 (ECL OR MS) CONFLICT MONITOR.

THREE (3) MODEL 242 TWO CHANNEL ISOLATORS.

TWELVE (12) 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.

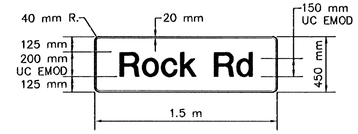
TRAFFIC SIGNAL POLE SUMMARY

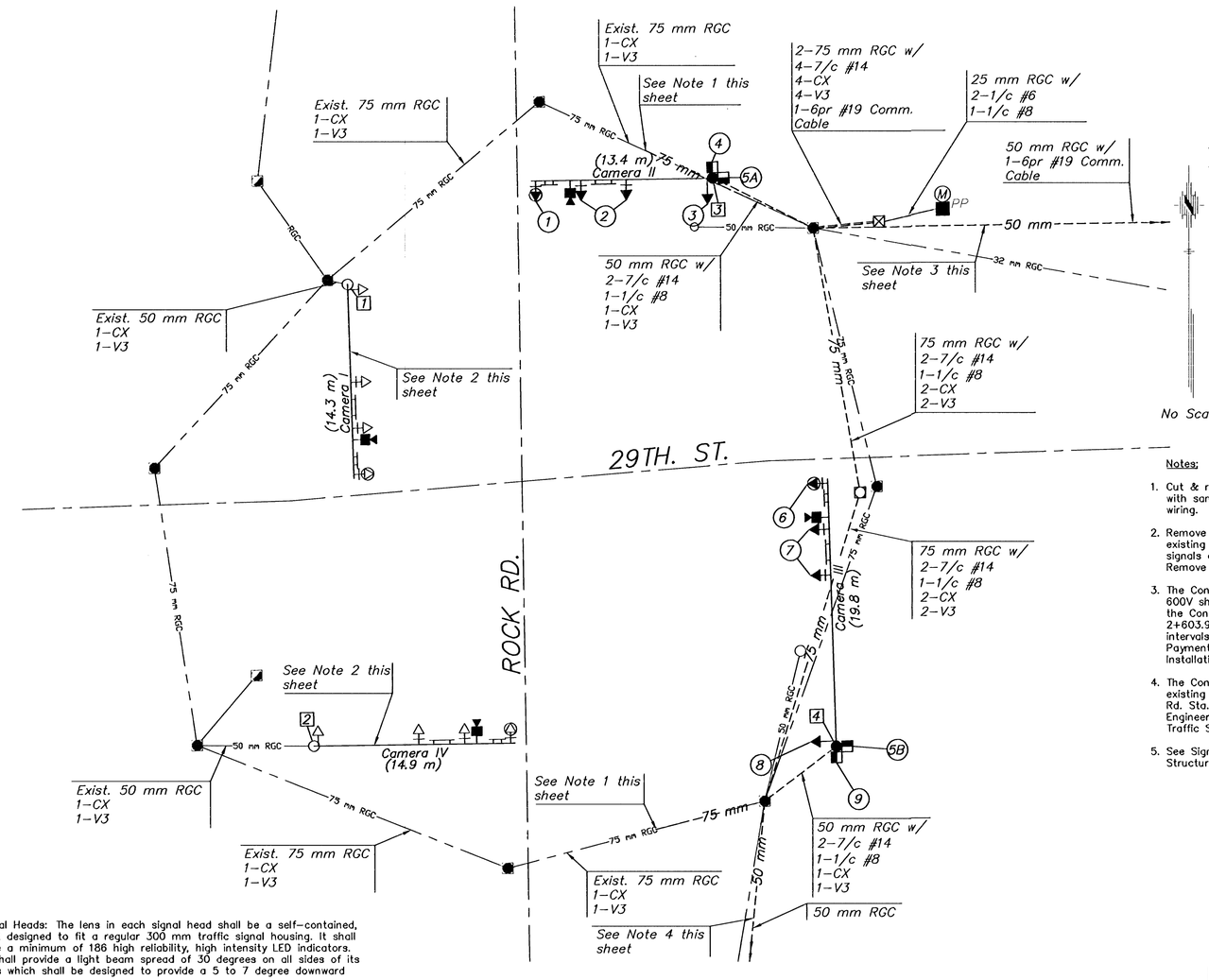
POLE NO.	STATION	TYPE	ARM LENGTH (m)	SIGNALS ON ARM	X_1	X_2	X_3	OTHER EQUIP. ON ARM	SIGNALS ON POLE
1	0+988.3, LT.	B	14.3	3–F	3.4	3.4	7.2	C, H, I	1–F, 2–J
2	0+983.0, RT.	A	14.9	3–F	3.4	3.4	7.8	C, H, I	1–F, 2–J
3	1+015.9, LT.	B	13.4	3–D	3.4	3.4	6.4	C, H, I	1–E, 2–G
4	1+022.6, RT.	B	20.0	3–D	3.4	3.4	12.9	C, H, I	1–E, 2–G

A JOINT USE POLE WITH MAST ARM (10.7 m)
B STANDARD STEEL POLE WITH MAST ARM (6.0 m)
C PROTECTED TURN SIGN
D TRAFFIC SIGNAL WITH BACK PLATE
E TRAFFIC SIGNAL
F EXISTING TRAFFIC SIGNAL
G PEDESTRIAN SIGNAL WITH PUSH BUTTON
H STREET NAME SIGN
I VIDEO DETECTION CAMERA
J EXISTING PEDESTRIAN SIGNAL WITH PUSH BUTTON

STREET NAME SIGN SUMMARY

LEGEND	QUANTITY
Rock Rd.	2
29th St	2
TOTAL	4





No Scale

LEGEND

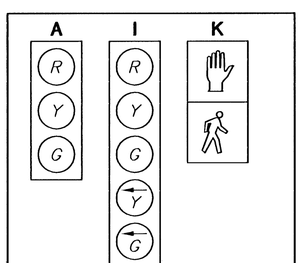
- Existing Signal Pole
- Steel Traffic Signal Pole
- Traffic Signal Indication (Type A)
- Traffic Signal Indication (Type A) w/Backplate
- Traffic Signal Indication (Type I) w/Backplate
- Mast Arm Suspended Traffic Signal w/Backplate
- Existing Traffic Signal Indication
- Video Dectection Camera
- PP Westar Energy Power Pole
- Existing Service Box
- Existing Junction Box
- Controller
- Pedestrian Indication
- Traffic Signal Pole Number
- Traffic Signal Head Number
- Rigid Galvanized Conduit (RGC)
- Existing Conduit
- Existing Meter Box and Power Disconnect
- Overhead Street Name Sign
- Overhead Sign R10-12 (Lt. Yield on Green)
- CX Video Coax Cable (75 OHM)
- V3 Video Power Cable (#16 AWG 3/c)

Notes:

1. Cut & remove existing conduit and wiring in area of construction. Replace with same new conduit and wiring. Connect and Replace with same new wiring.
2. Remove and Replace existing pole and mast arm. Remove and reset existing traffic signals on new mast arm. Remove existing wiring from signals on mast arm to terminal block and replace with same new wiring. Remove and Replace existing signs on new mast arm.
3. The Contractor shall install 50 mm RGC with 1–6pr #19 IMSA 20–2, 600V shielded communication cable along North side of 29th. Street from the Controller at Sta. 1+027.1, Lt. to the existing Service Box at Sta. 2+603.9, Lt. Install Junction Box per standard detail at 45 m maximum intervals. Alignment and location shall be approved by the Engineer. Payment for Communication System shall be Subsidiary to Traffic Signal Installation.
4. The Contractor shall install 50 mm RGC along East side of Rock Rd. from existing Service Box at Sta. 4+976.3, Rt. to the Junction Box at Rock Rd. Sta. 4+908.0, Rt. Alignment and location shall be approved by the Engineer. Payment for Communication System shall be Subsidiary to Traffic Signal Installation.
5. See Signal Pole Details, Sheet No. 57, for additional Traffic Signal Structures requirements.

TRAFFIC SIGNAL HEAD SUMMARY

SIGNAL NO.	TYPE	SIZE (mm)	MOUNTING BRACKET	QUANTITY
1	I	5–300	TYPE I	1
2	A	3–300	TYPE I	2
3	A	3–300	TYPE III	1
4	K	2–300	TYPE II	1
5A, 5B	K	2–300	TYPE II	2
6	I	5–300	TYPE I	1
7	A	3–300	TYPE I	2
8	A	3–300	TYPE III	1
9	K	2–300	TYPE II	1



SIGNAL FACE ARRANGEMENT

All lenses shall be L.E.D. unit per note. note.

L.E.D. Signal Heads: The lens in each signal head shall be a self–contained, sealed unit designed to fit a regular 300 mm 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, 300 mm 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.

RECAPITULATION OF TRAFFIC SIGNAL QUANTITIES

BID ITEM	QUANTITY	UNIT
TRAFFIC SIGNAL INSTALLATION (29TH. ST. & ROCK RD.)	1	LUMP SUM

NO.	DATE	REVISIONS	BY	APP'D
2				
1				

KANSAS DEPARTMENT OF TRANSPORTATION

29TH. STREET NORTH & ROCK ROAD SIGNAL PLAN WIRING PLAN

PROJ. NO. 87 N–0287–01 SEDGWICK CO.

MID–KANSAS ENGINEERING CONSULTANTS, INC.
WICHITA, KANSAS

DESIGNED BY: ASH	CHECKED BY: GJA	
DRAWN BY: WNJ	DATE: Jan. 2003	SHEET 56 OF 107

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