FHWA REGION NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
7	KANSAS	87N-0503-01	2009	69	101

FEDERAL Project No. ARRA-N050(301)

TRAFFIC SIGNAL QUANTITIES

ITEM	UNIT	EST. QUANTITIES (*)
Model 2070 Controller (See Inclusive List Below)	Each	1
Controller Cabinet	Each	1
Concrete Base for Controller	Each	1
Traffic Signal w/ Mast Arm (See Chart Below)	Each	4
Concrete Base for Signal Poles	Each	4
Traffic Signal Head (Type A) w/ Backplate & Brkt	Each	9
Traffic Signal Head (Type I) w/ Backplate & Brkt	Each	4
Traffic Signal Head (Type D) w/ Backplate	Each	2
Traffic Signal Head (Type K) w/ Backplate	Each	8
R10-12 (Left Turn On Green) w/ Mtg. Brackets	Each	4
D3 Assy. (Street Name Size) w. Mtg. Brackets	Each	4
Pedestrian Pushbutton w/ Sign	Each	8
Ground Rod & Clamp	Each	4
Service Box	Each	4
TRAFFIC SIGNAL LAMP RED LED KIT	Each	15
TRAFFIC SIGNAL LAMP YELLOW LED KIT	Each	13
TRAFFIC SIGNAL LAMP YELLOW ARROW LED KIT	Each	6
TRAFFIC SIGNAL LAMP GREEN LED KIT	Each	13
TRAFFIC SIGNAL LAMP GREEN ARROW LED KIT	Each	6
PEDESTRIAN LED W/COUNTDOWN	Each	8
3" RGC Conduit	L.F.	419.46
2" RGC Conduit	L.F.	36.75
1.5" RGC Conduit	L.F.	As Required
Video Detection Camera and Mounting Hardware	Each	4
Video Detection Processor	Each	1
Camera Housing	Each	4
Video Power Cable No. 16 AWG 3/C (V3)	L.F.	480.46
Video Cable 75 OHM Coaxial (Belden 8281)(CX)	L.F.	480.46
TV Monitor	Each	1
Camera Charged Coupling Device	Each	4
Multi-Conductor Cable 7C #14 AWG	L.F.	804.18
Ground Wire 1C (THHN #8 AWG)	L.F.	336.30
Power Supply Wire (THHN #6 AWG)	L.F.	As Required

(*) For Information Only

CHART 'A' - SIGNAL INVENTORY

NO. WAYS	NO. SECTIONS (Per Face)	SIGNAL FACE ARRANGEMENT	MOUNTING TYPE	QTY
1	3	A	TYPE I	6
1	3	I	TYPE I	4
1	3	A	TYPE III	3
1	2	K (SYMB)	TYPE II	8
1	3	D	TYPE I	1
1	2	D	TYPE II	1

CHART 'B' - TRAFFIC SIGNAL POLES

℄ Sta STATION		DIST.	SIDE	ARM LENGTH	NO. OF SIGNALS ON ARM	SIGNAL SPACING	TYPE*
Sta. 9+40.07	Hydraulic	44.0'	Lt.	46.0'	2	32.00'-12.00'	J.U.
Sta. 9+41.36	Hydraulic	51.5'	Rt.	56.0'	3	30.00'-12.00'-12.00'	J.U.
Sta. 10+52.83	Hydraulic	46.5'	Rt.	48.0'	3	23.00'-11.00'-12.00'	J.U.
Sta. 10+59.20	Hydraulic	44.0'	Lt	57.0'	3	31.00'-12.00'-12.00'	J.U.

* The Contractor Shall Verify Signal Pole Types w/ Westar PRIOR to Ordering

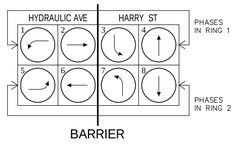
CHART 'C' - CONDUIT

CONDUIT SIZE	TRENCHED	PUSHED
1.5" RGC	As Reqd.	-
2" RGC	36.29'	-
3" RGC	543.74	-
		-

TRAFFIC MANHOLE SUMMARY

STATION		DISTANCE	SIDE
Sta. 9+41.78	Hydraulic	47.4'	Rt
Sta. 9+43.28	Hydraulic	35.1'	Lt
Sta. 10+55.90	Hydraulic	34.9'	Lt
Sta. 10+56.19	Hydraulic	39.8'	Rt

PHASE DIAGRAM



GENERAL NOTES

1. The Contractor shall be responsible for furnishing and installing the controller, cabinet, concrete base, and all other equipment necessary for the complete and satisfactory operation of the traffic signal, whether said equipment is specifically mentioned or not.
2. Lengths given are to the centerline of poles/boxes and do not include lengths for elbows and risers.
3. Signal heads, pedestrian signals, traffic signals, & etc. shall INCLUDE all brackets, hardware, & other incidentals necessary for installation.
4. 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 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° 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 steel substrate in a convection oven to a minimum of 350° Fahrenheit and a maximum of 400° Fahrenheit.

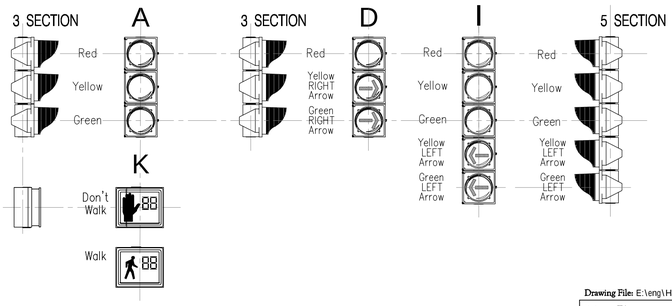
The intermediate coat shall be top coated with one coat of high-build acrylic polyurethane enamel to a minimum dry film thickness of 2.0 mils. The coating shall be electrostatically applied and cured by heating the the steel substrate in a convection oven to a minimum of 225° Fahrenheit. The final top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

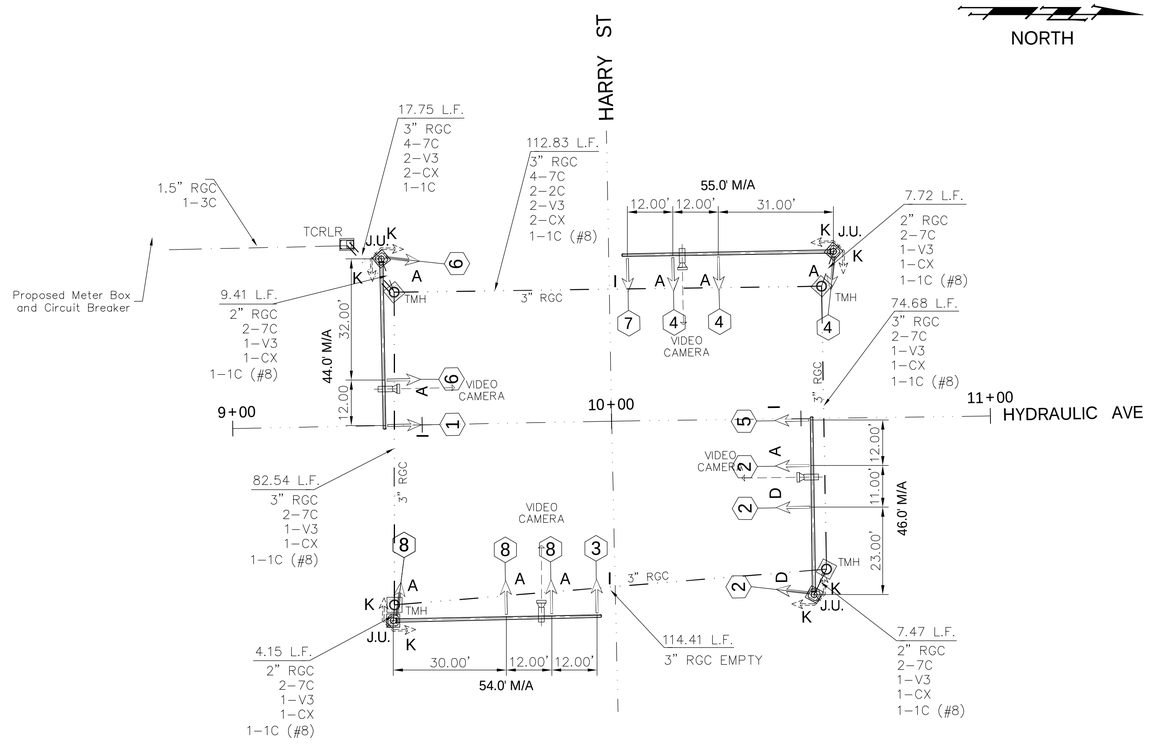
TYPE 2070 CONTROLLER SPECIFICATIONS

A. Controller Unit: The 2070L controllers supplied shall meet the requirements outlined in CalTrans TEES 2002 (letest revision), and the following requirements:

1. The 2070L controllers shall have a 19' EIA rack mountable chasis (mated to the 107 cabinet).
2. 2070-1B CPU module with RJ-45 Ethernet port.
3. 2070-2A C1 field I\O module for compatibility with CalTrans style C1 connector.
4. 2070-3B 8X40 front panel with LCD display.
5. 2070-4A 10 amp power supply.
6. 2070-7A asynchronous serial communications module (RS-232).
7. Any unused slot position shall have a cover plate.

B. Conflict Monitors supplied shall be 2010 ECL conflict monitors with Ethernet Capabilities.
C. 1-Loop-back cable for 2070-2A Field I\O (Type 170,104 pin and 37 pin connector).
D. 1- Loop-back cable for 2070-7A Port.





TYPE 2070 CONTROLLER SETTINGS

Interval		1 WBLT	2 EB	3 SBLT	4 NB	5 EBLT	6 WB	7 NBLT	8 SB
Max.	0	30	60	30	60	30	60	30	60
Max. 2	1	30	60	30	60	30	60	30	60
Walk	2		8		8		8		8
Fl. Dw.	3		15		20		15		20
Max. Init.	4	6	10	6	10	6	10	6	10
Min. Green	5	5	8	5	8	5	8	5	8
TBR	6	1		1		1		1	
TTR	7	1		1		1		1	
Obs. Gap	8								
Passage	9								
Min. Gap	a								
Add Act	b								
Yellow	c	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clr	d	1	1	1	1	1	1	1	1
Red Rev	e								
Walk II	f								

Time Clock		Features	Phase 1	2	3	4	5	6	7	8
0	Year	Veh Recall		X				X		
1	Month	Ped Recall								
2	Day/Month	Red Lock								
3	Day/Week	Yel Lock								
4	Hour	0 Permit	X	X	X	X	X	X	X	X
5	Minute	Ped Phases		X		X		X		X
6	Second	Lead Phases	X		X		X		X	
7		Dbl Entry								
8		Sequential								
9		Start Up Ye								
a		Overlap A								
b		Overlap B								
c		Overlap C								
d		Overlap D								
e		Exclusive								
f		Sim Gap								

Nominal Display: WAPITI PROGRAM

Drawing File: E:\eng\Hydraulic Kellogg to Harry Pave\Land\dwg\ACAD-Base (Marking & SIgnal).dwg — September 2009

Design: TA
Drawn: STAFF
Approved: JFB
Scale: NOTED

Project No. 07-10-E-968 CAPITAL IMPROVEMENT PROJECT

SIGNALIZATION WIRING PLAN
HARRY ST. @ HYDRAULIC AVE.
HYDRAULIC PAVING IMPROVEMENTS - HARRY to KELLOGG

Baughman Company, P.A.
315 Ellis St. Wichita, KS 67211 P 316-262-7271 F 316-262-0149
ENGINEERING | SURVEYING | PLANNING | LANDSCAPE ARCHITECTURE

SHEET 69 OF 101