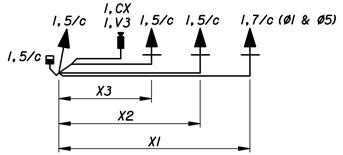
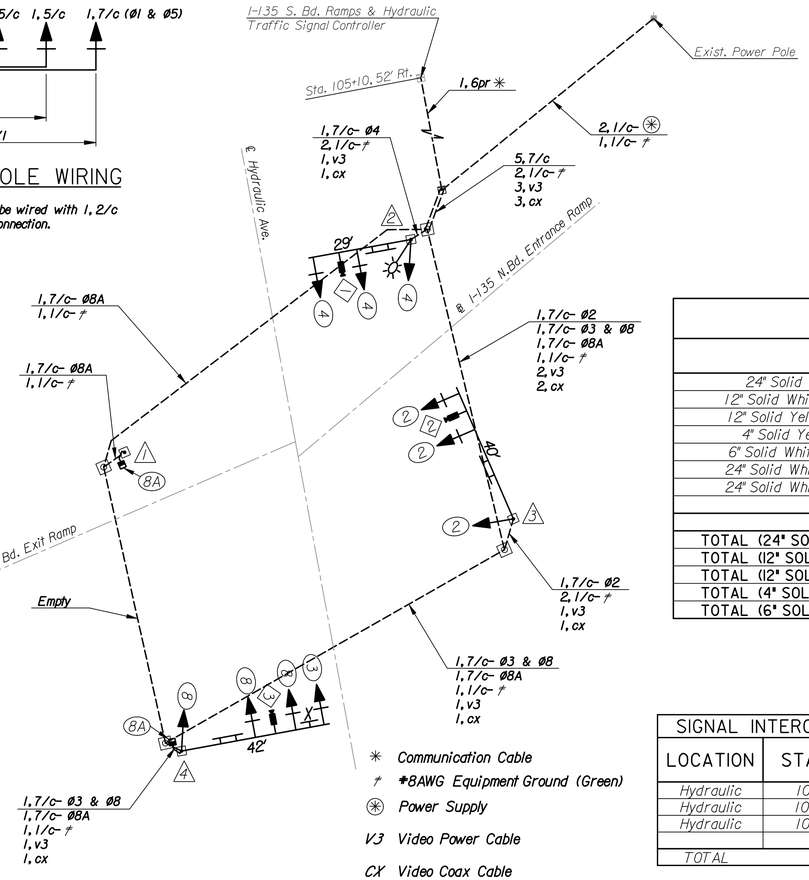


TYPICAL POLE WIRING

Note: Pushbutton to be wired with 1, 2/c to pole base connection.



✳ Communication Cable

\# #8AWG Equipment Ground (Green)

⊛ Power Supply

V3 Video Power Cable

CX Video Coax Cable

⚠ Signal Pole Reference Number

All splices to be in pole base, no splices permitted within servce box.

WIRING DIAGRAM

SERVICE BOX SUMMARY	
STATION	DIST.-SIDE
99+28	51' Lt.
99+64	52' Rt.
100+07	54' Lt.
100+56	47' Rt.

SUMMARY OF TRAFFIC SIGNAL HEADS			
NUMBER	TYPE	SIZE	QUANTITY
2, 4, 8	A	12"	9
3	I	12"	1
8A	K	16" x 18"	2
TOTAL			12

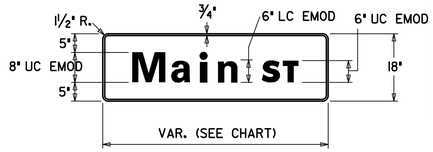
SUMMARY OF PAVEMENT MARKINGS

ITEM DESCRIPTION	QUANTITY	STATION	DIST.-SIDE
24" Solid White Stop Line- NB Exit	46 L.F.	99+45 to 99+90	51' LT
12" Solid White Crosswalk Lines- NB Exit	141 L.F.	99+21 to 100+02	39', 45' LT
12" Solid Yellow Diagonal Line- Hydraulic	24 L.F.	101+40 to 101+75	6' RT
4" Solid Yellow Lane Line- Hydraulic	40 L.F.	101+40 to 101+75	3', 9' RT
6" Solid White Lane Line - SB Hydraulic	44 L.F.	101+32	8' LT
24" Solid White Stop Line - SB Hydraulic	35 L.F.	101+32, 101+44	LT
24" Solid White Stop Line - NB Hydraulic	31 L.F.	99+78	RT

TOTAL (24" SOLID WHITE STOP LINE)	112 L.F.
TOTAL (12" SOLID WHITE CROSSWALK LINE)	141 L.F.
TOTAL (12" SOLID YELLOW DIAGONAL LINE)	24 L.F.
TOTAL (4" SOLID YELLOW LANE LINE)	40 L.F.
TOTAL (6" SOLID WHITE LANE LINE)	44 L.F.

SIGNAL INTERCONNECT SERVICE BOXES			
LOCATION	STATION	OFFSET	QUANTITY (EACH)
Hydraulic	101+25	41' Rt.	1
Hydraulic	102+60	36' Rt.	0 (exist.)
Hydraulic	104+48	39' Rt.	0 (exist.)
TOTAL			1

OVERHEAD STREET NAME SIGNS		
LEGEND	LENGTH	QUANTITY
Hydraulic	5'-6"	1
I 135 NB →	7'-0"	1
← I 135 NB	7'-0"	1



BILL OF MATERIALS		
ITEM	UNIT	QUANTITY
PAD MOUNTED CONTROLLER & CABINET	EACH	1
TRAFFIC SIGNAL HEAD W/MOUNTING HARDWARE	EACH	12
TRAFFIC SIGNAL POLE (JOINT USE) STEEL (35')	EACH	1
TRAFFIC SIGNAL POLE STEEL (20')	EACH	2
TRAFFIC SIGNAL PEDESTAL	EACH	1
CONCRETE CONTROLLER PAD	EACH	1
CONCRETE FOOTING - PEDESTAL	EACH	1
CONCRETE FOOTING - POLE	EACH	3
CONDUIT ELBOW 90°2"	EACH	AS REQ'D
CONDUIT ELBOW 90°3"	EACH	AS REQ'D
BACK PLATE 5" 3 SECTION	EACH	6
BACK PLATE 5" 5 SECTION	EACH	1
TERMINAL BLOCK	EACH	-
SERVICE BOX	EACH	4
JUNCTION BOX (PRE-FAB)	EACH	-
GROUND ROD & CLAMP	EACH	5
PED. INDICATIONS LED (16"x18" COMBINATION w/ COUNTDOWN)	EACH	2
LED TRAFFIC SIGNAL LENS	EACH	32
ENTRANCE HEAD	EACH	1
CIRCUIT BREAKER & BOX 50 AMP.	EACH	1
SURGE ARRESTOR - A.C.SERVICE	EACH	1
SURGE ARRESTOR - DETECTOR	EACH	-
PEDESTRIAN PUSHBUTTON W/SIGN	EACH	2
6 PR. COMMUNICATION CABLE	LIN.FT.	520
DETECTOR LOOP WIRE NO.14 AWG 1/c	LIN.FT.	-
LEAD-IN WIRE NO.6 AWG 1/c	LIN.FT.	AS REQ'D
MULTI-CONDUCTOR CABLE NO.14 AWG 7/c	LIN.FT.	1220
MULTI-CONDUCTOR CABLE NO.14 AWG 5/c	LIN.FT.	400
MULTI-CONDUCTOR CABLE NO.14 AWG 3/c	LIN.FT.	-
SHEILDED DETECTOR LEAD-IN NO.14 AWG 2/c	LIN.FT.	-
CONDUIT 1"(RGC)	LIN.FT.	AS REQ'D
CONDUIT 1 1/2"(RGC)	LIN.FT.	-
CONDUIT 2"(PVC)	LIN.FT.	-
CONDUIT 2"(RGC)	LIN.FT.	30
CONDUIT 3"(RGC)	LIN.FT.	470
CONDUIT 2"(HDPE)	LIN.FT.	520
#8 AWG GROUND (GREEN)	LIN.FT.	1300
STREET NAME SIGN	EACH	3
LEFT-TURN YIELD ON GREEN (R10-12) SIGN	EACH	1
VIDEO DETECTION CAMERA, MOUNTING HARDWARE AND SUNSHIELD	EACH	3
VIDEO DETECTION UNIT	EACH	1 Ø
VIDEO POWER CABLE #16 A.W.G. 3/C	LIN.FT.	750
VIDEO CABLE 75 OHM COAXIAL (BELDON #8281 OR APPROVED EQUAL)	LIN.FT.	750
TV MONITOR	EACH	1
MAST ARM CAMERA RISER BRACKETS	EACH	3

Ø 4 Modules required

① A-15' Pedestal (Alum.)
B-20' Steel with Mast Arm(s)
C-35' Steel (Joint Use) with Mast Arm(s)
D-40' Steel with Mast Arm

TRAFFIC SIGNAL POLE SUMMARY												
POLE NO.	TYPE①	ARM LENGTH	NO. OF SIGNALS ON ARM	BRACKET TYPE	XI	X2	X3	X4	NO. OF SIGNALS ON POLE	BRACKET TYPE	NO.OF PUSH BUTTONS ON POLE	REMARKS
1	A	-	-	-	-	-	-	-	1	III	1	
2	C	29'	2	I	-	28'	15'	-	1	III	-	
3	B	40'	2	I	-	39'	28'	-	1	III	-	
4	B	42'	3	I	40'	32'	21'	-	2	III	1	

RECAPITULATION OF TRAFFIC SIGNAL QUANTITIES		
ITEM	UNIT	QUANTITY
TRAFFIC SIGNAL INSTALLATION	LUMP SUM	1
PAVEMENT MARKING	LUMP SUM	1
SIGNAL INTERCONNECT	LUMP SUM	1

SIGNAL INTERCONNECT CONDUIT			
LOCATION	STATION TO STATION		2" HDPE CONDUIT (L.F.)
Hydraulic	100+66	101+25	59
Hydraulic	101+25	102+60	135
Hydraulic	102+60	104+48	188
Hydraulic	104+48	105+10	62
TOTAL			444

POLE AND EQUIPMENT FINISH:

Surface preparation

The exterior steel surface shall be blasted clean in accordance with the requirements outlined in the Steel Structures Painting Council Surface Preparation Specification No. 6, (SSPCSP60) utilizing a dry abrasive, closed cycle, recirculating system with centrifugal wheels and abrasive. The abrasive used shall be steel shot conforming to the Society of Automotive Engineers (SAE) Recommended Practice No. J827 with particle size meeting SAE Shot No. S280.

Zinc Coating

The pole assembly shall be hot-dip galvanized to the requirements of either ASTM A123 (Fabricated items) or ASTM A153 (Hardware items) by immersion in a molten bath of prime western grade zinc maintained between 810°F and 850°F. Maximum aluminum content of the bath shall not exceed 0.01%.

Top Coat

No Top Coat shall be applied to the traffic signal poles at this intersection.

-QUANTITIES FOR INFORMATION ONLY-

NOTE: The traffic signal system shall be complete and the contractor shall furnish and install all equipment and materials necessary for the satisfactory operation of electrical apparatus and for the complete operation of the traffic signal system whether specifically mentioned or not.

No.	Revision	By	Date

HYDRAULIC AVENUE & S. I-135 RAMPS

TRAFFIC SIGNAL WIRING & QUANTITIES

JAMES L. ARMOUR, P.E.-CITY ENGINEER
CITY OF WICHITA PROJECT NO. 472-84424 PHASE IV

Professional Engineering Consultants, P.A.
303 S. TOPEKA • WICHITA, KANSAS 67202
316-262-2691 • FAX 316-262-3003

Designed by	DRM	Job No.	08521-002	Sht. 3 of 7
Drawn by	DRP	Date	Dec. 2008	

DSNR: DRM OPER: DRP SCALE:
I:/2008/08521-002/PLAN/08521-2-HydSig0ty.dgn LAST REV: 9-12-2008 BY: drp