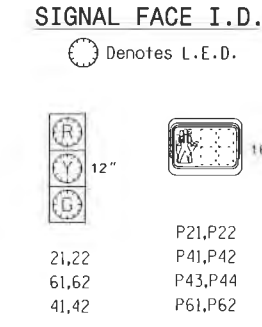


- 2 Phase
PreTimed
Raleigh City Signal System**
- NOTES**
- Refer to "Roadway Standard Drawings NCDOT" dated July 2006 and "Standard Specifications for Roads and Structures" dated July 2006.
 - Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
 - Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.
 - Program pedestrian heads to countdown the flashing "Don't Walk" time only.
 - Pavement markings are existing.
 - Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.

TABLE OF OPERATION

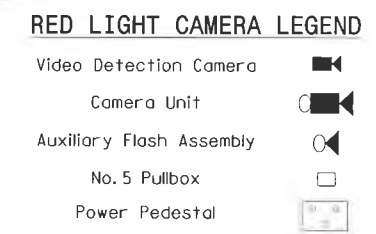
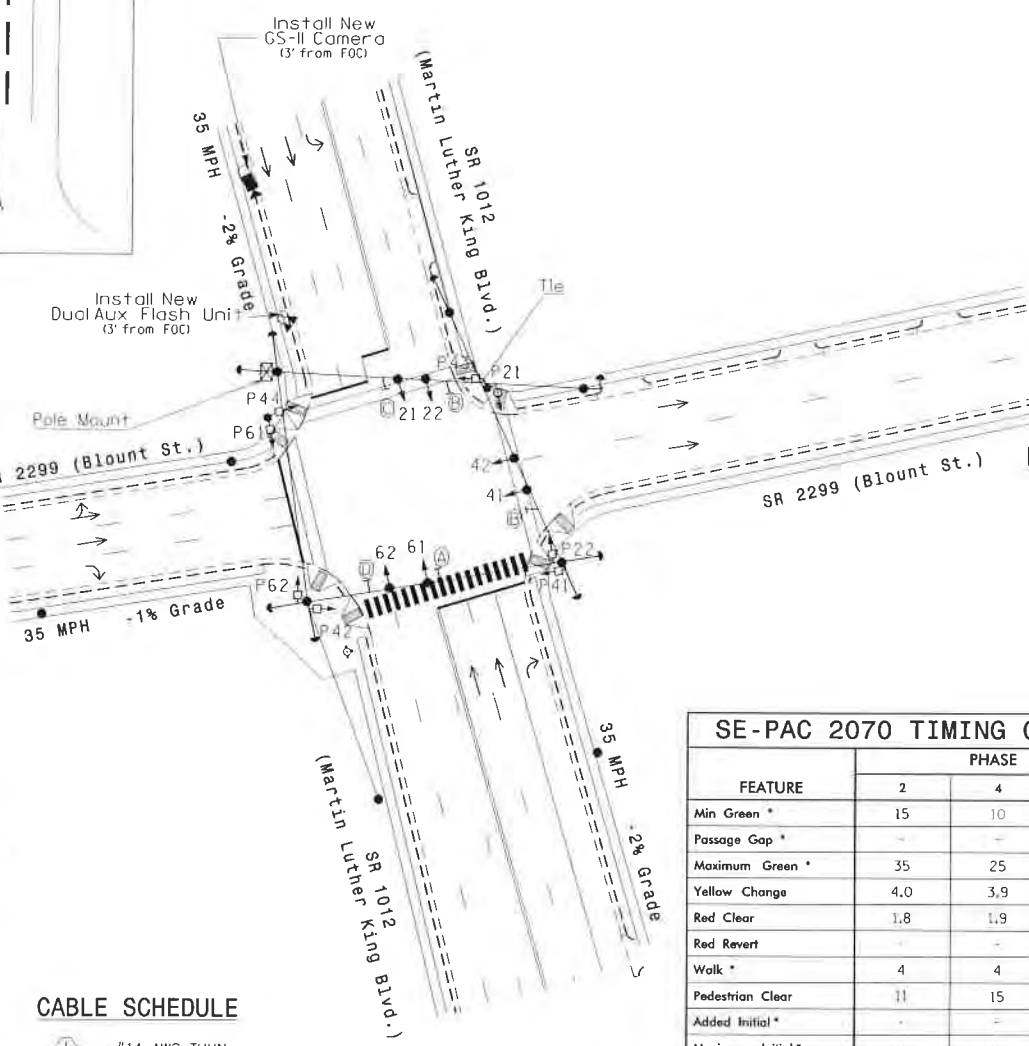
SIGNAL FACE	PHASE		
	0 2 + 6	0 4	FLASH
21,22	G	R	Y
41,42	R	G	R
61,62	G	R	Y
P21,P22	W	DW	DRK
P41,P42	DW	W	DRK
P43,P44	DW	W	DRK
P61,P62	W	DW	DRK

W - Walk
DW - Don't Walk
DRK - Dark



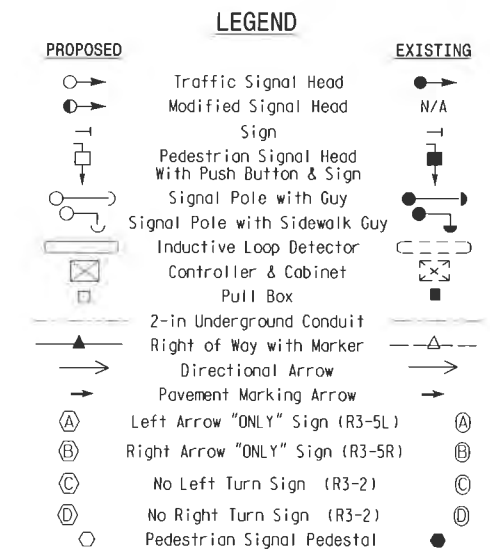
CONDUIT SCHEDULE

LETTER	CONDUIT SIZE	CONDUIT CONSTRUCTION	TYPE OF SERVICE	EQUIPMENT SERVED	CABLE QUANTITY	CABLE DETAILS
A	2"	PVC	COMMS	LOOPS 1, 2, 3, 4, 5, 7	6	5
A1	2"	PVC	COMMS	LOOPS 5, 2, 1	3	5
B	2"	PVC	COMMS	DUAL AUX FLASH UNIT	2	4
C	2"	PVC	POWER	DUAL AUX FLASH UNIT	6	1
D	2"	PVC	POWER	CAMERA UNIT POWER, RED/YELLOW PHASE CONTROL	3	3 9 1
D1	2"	PVC	POWER	CAMERA UNIT POWER, RED/YELLOW PHASE CONTROL	3	3 3 1
E	2"	PVC	POWER	GS-II UNIT	3	3 9 1
F	2"	PVC	COMMS	GS-II UNIT	2	4 6 5 1 4A
G	2"	PVC	COMMS	TO D-MARC LOCATION	1	4A



SE-PAC 2070 TIMING CHART

FEATURE	PHASE		
	2	4	6
Min Green *	15	10	15
Passage Gap *	-	-	-
Maximum Green *	35	25	35
Yellow Change	4.0	3.9	4.0
Red Clear	1.8	1.9	1.8
Red Revert	-	-	-
Walk *	4	4	4
Pedestrian Clear	11	15	10
Added Initial *	-	-	-
Maximum Initial *	-	-	-
Time Before Reduction *	-	-	-
Time To Reduce *	-	-	-
Minimum Gap	-	-	-
Recall Mode	MAX/PED RECALL	MAX/PED RECALL	MAX/PED RECALL
Vehicle Call Memory	-	-	-
Dual Entry	-	-	-
Simultaneous Gap	-	-	-



- NOTES**
- ACS TO PROVIDE CAMERA POLE AND CAMERA UNIT, SUBCONTRACTOR TO PROVIDE PELCO FOUNDATION. POLES SHALL BE FIELD LOCATED AND SHALL BE 36" MINIMUM FROM FACE OF CURB TO CENTER OF BASE. SEE DETAIL LOCATION OF EQUIPMENT SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.
 - INSTALL TO LOCAL AND NEC SPECIFICATIONS.
 - EACH POLE SHALL BE GROUNDED WITH #10 SOLID GROUND WIRE AND 10' GROUND ROD.
 - CONTRACTOR SHALL HAND DIG POLE FOUNDATION FOR ACS CAMERA OR FLASH UNIT POLES.
 - CONDUIT SHALL BE INSTALLED BY MEANS OF TRENCHING. TRENCHING SHALL BE IN ACCORDANCE TO CURRENT DOT STANDARD SPECIFICATIONS.
 - CONTRACTOR SHALL MODIFY EXISTING 120VAC SERVICE, A DUPLEX OUTLET SHALL BE INCLUDED FOR ACCESS BY DOT PERSONNEL.
 - INSTALL NEW PULL BOX - SEE GENERAL NOTES #10, SHEET SIG-1.
 - CONTRACTOR TO CLEAN UP DEBRIS AROUND WORK AREA AND RESTORE LANDSCAPE.
 - INSTALL IN-LINE FUSE HOLDERS RATED AT 20 AMPS FOR POWER.
 - INSTALL IN-LINE FUSE HOLDERS RATED AT 5 AMPS FOR PHASE CONDUCTORS.
 - INSTALL IN-LINE FUSE HOLDERS RATED AT 15 AMPS FOR EACH AUX FLASH POWER.
 - CONTRACTOR SHALL REPAIR AND REPLACE SIDEWALK IN KIND AS REQUIRED TO INSTALL EQUIPMENT AND CONDUITS.
 - CONTRACTOR SHALL INSTALL JET LINE IN NEW COMMS CONDUIT FOR PULLING OF FUTURE CABLE.

- CABLE SCHEDULE**
- #14 AWG THHN
 - #12 AWG THHN
 - #10 AWG THHN
 - IMSA 40-2, 3 PAIR 19AWG w/ POLYETHYLENE JACKET (COMMS CABLE)
 - CAT-5e (BELDEN 7919A OR EQUIVALENT)
 - IMSA 50-2, 12 AWG
 - IMSA 51-7, 14 AWG
 - 12 STRAND FIBER OPTIC CABLE
 - RG-59 VIDEO CABLE

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

Red Light Camera Installation - Site Plan

Prepared for:

SR 1012 (Martin Luther King)
at
SR 2299 (Blount Street)

Division 5 Wake County Raleigh

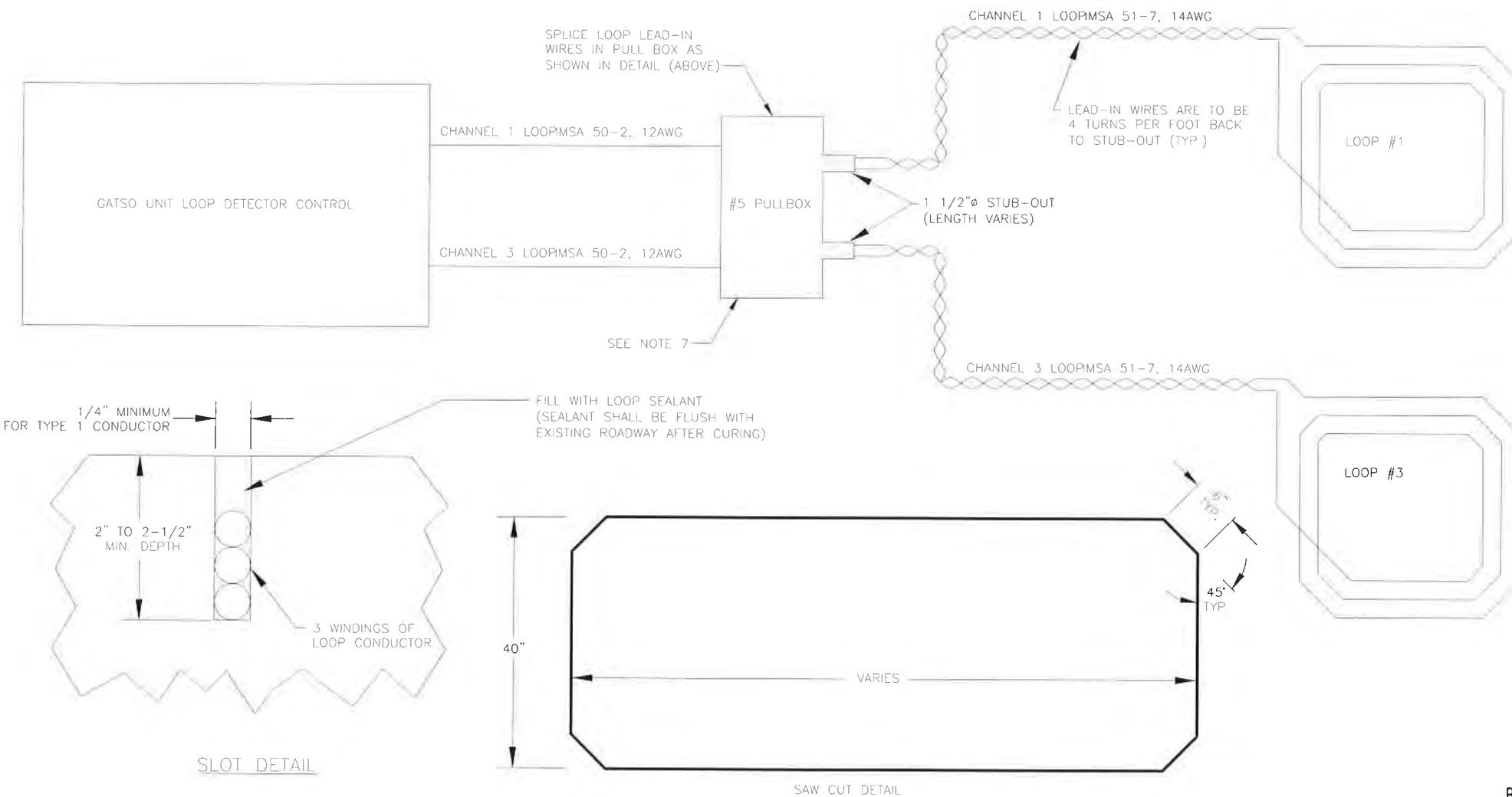
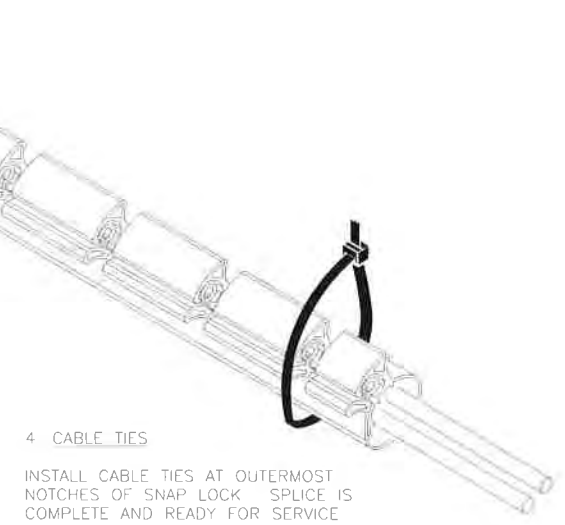
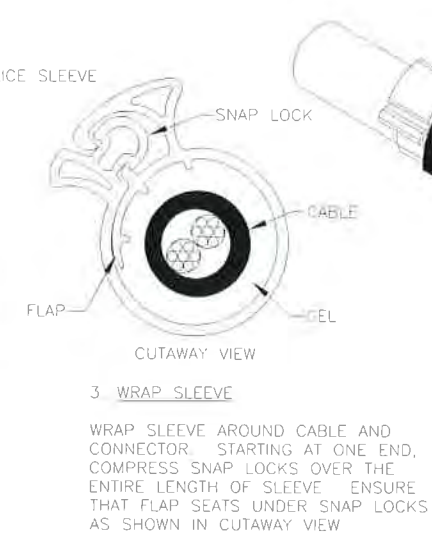
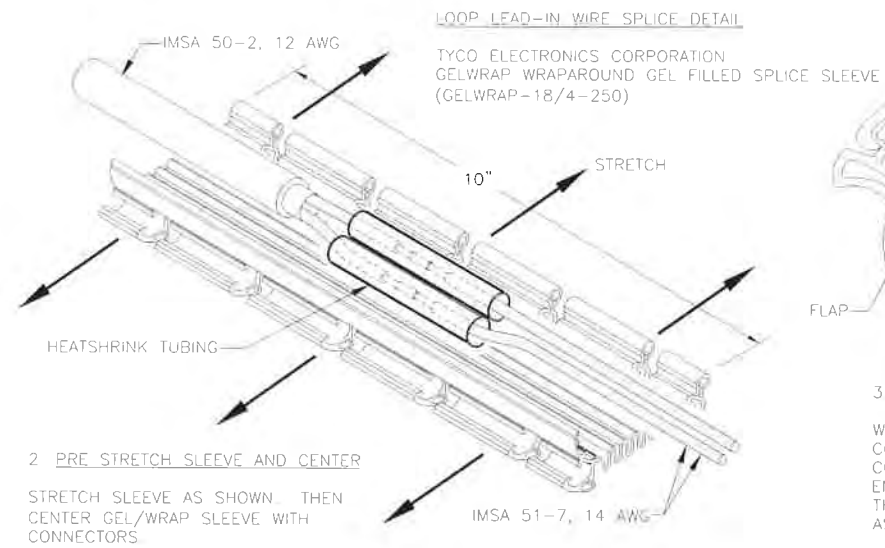
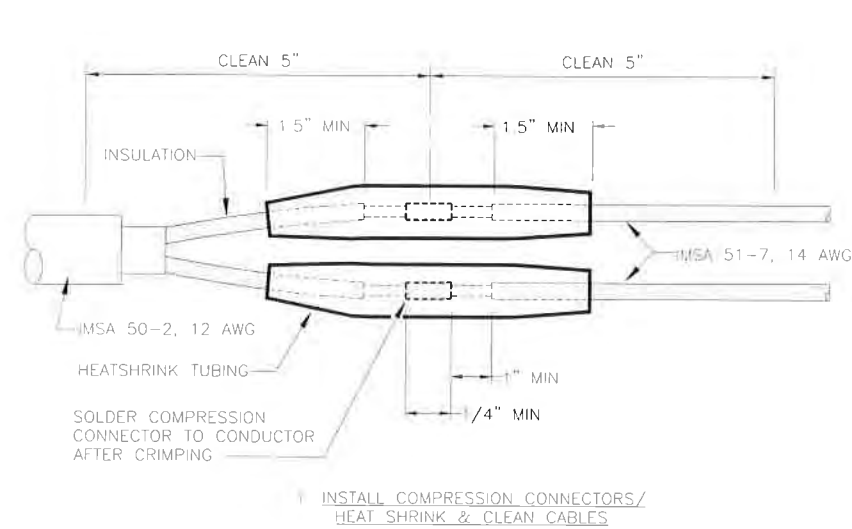
PLAN DATE: January 2012 REVIEWED BY:

PREPARED BY: RKA PROJ. NO: 11013 (040)

REVISIONS:

SCALE: 0 40
1"=40'

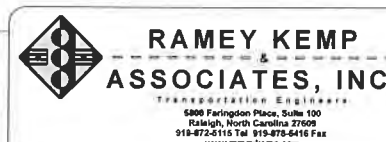
SIG. INVENTORY NO. 05-1346





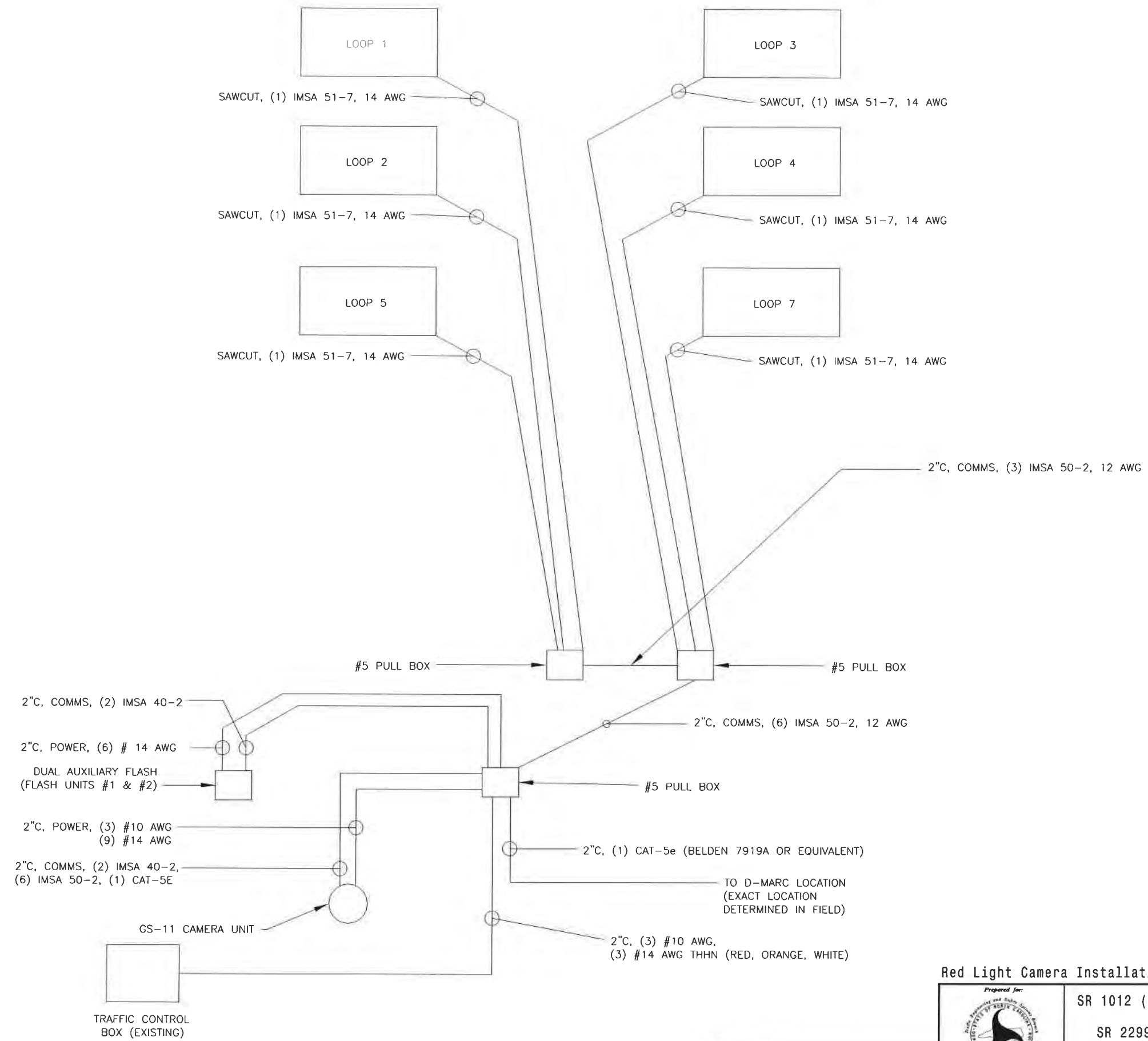
NOTES

1. SAW CUT LOOP LEAD-IN WIRE TRENCH WITH A UNIFORM 1/4" WIDE SLOT WITH A DEPTH BETWEEN 2" AND 2-1/2" (SEE DETAIL)
2. CUT 6" LENGTH x 1/4" WIDE SLOTS AT THE SAME DEPTH AS STRAIGHT SAW CUTS IN EACH CORNER AS SHOWN IN DRAWING AND REMOVE ALL DEBRIS FROM SAW CUT PRIOR TO INSTALLING LOOP WIRE
3. SPLICE IN LOOP WIRE ARE NOT PERMITTED THERE SHALL BE 3 TURNS AS SHOWN IN DETAIL, PER LOOP
4. FROM THE LEAD-IN SLOT TO THE POINT OF TERMINATION TO THE IMSA 51-7, 14 AWG, THE 2 LOOP WIRES SHALL BE TWISTED WITH A MINIMUM OF 4 TWISTS PER FOOT
5. EACH LOOP CONFIGURATION WILL BE INDIVIDUALLY CABLED TO THE RLC POLE THE DLC CABLES TO THE RLC WILL BE KEPT AS SHORT AS POSSIBLE AND THEY WILL GO IN A STRAIGHT RUN FROM THE PULL BOX TO THE RLC POLE THE BARE WIRED DRAIN WIRE WILL BE TERMINATED IN THE RLC POLE AT THE TERMINAL BLOCK GROUND CONNECTION
6. WHEN CONFIGURING THE LOOP INDUCTANCE SETTINGS, THE IDEAL INDUCTANCE LEVEL IS BETWEEN 90-110uH THE USABLE RANGE CAN BE BETWEEN 80-130uH INDUCTANCE SHALL BE MEASURED AT THE DETECTOR END (AT THE LOOP CONNECTOR THAT PLUGS INTO THE UNIT)
7. PULL BOX LOCATION WHERE LOOP LEAD-IN WIRES ARE TO BE SPICED IS TO BE DEDICATED FOR "LOOPS ONLY" ANY ADDITIONAL WIRING THAT PERTAINS TO THE SYSTEM SHOULD NOT BE ROUTED THROUGH THIS PULL BOX

Red Light Camera Installation - Loop Installation Details



 750 Greenfield Place, Garner, NC 27529	Prepared for: SR 1012 (Martin Luther King) at SR 2299 (Blount Street)		SEAL
	Division 5 Wake County Raleigh		
	PLAN DATE: January 2012	REVIEWED BY: [Signature]	
	PREPARED BY: [Signature]	RKA PROJ. NO.: 12013 (040)	
SCALE	REVISIONS	INIT.	DATE
NONE			
SIC INVENTORY NO. 05-1346			



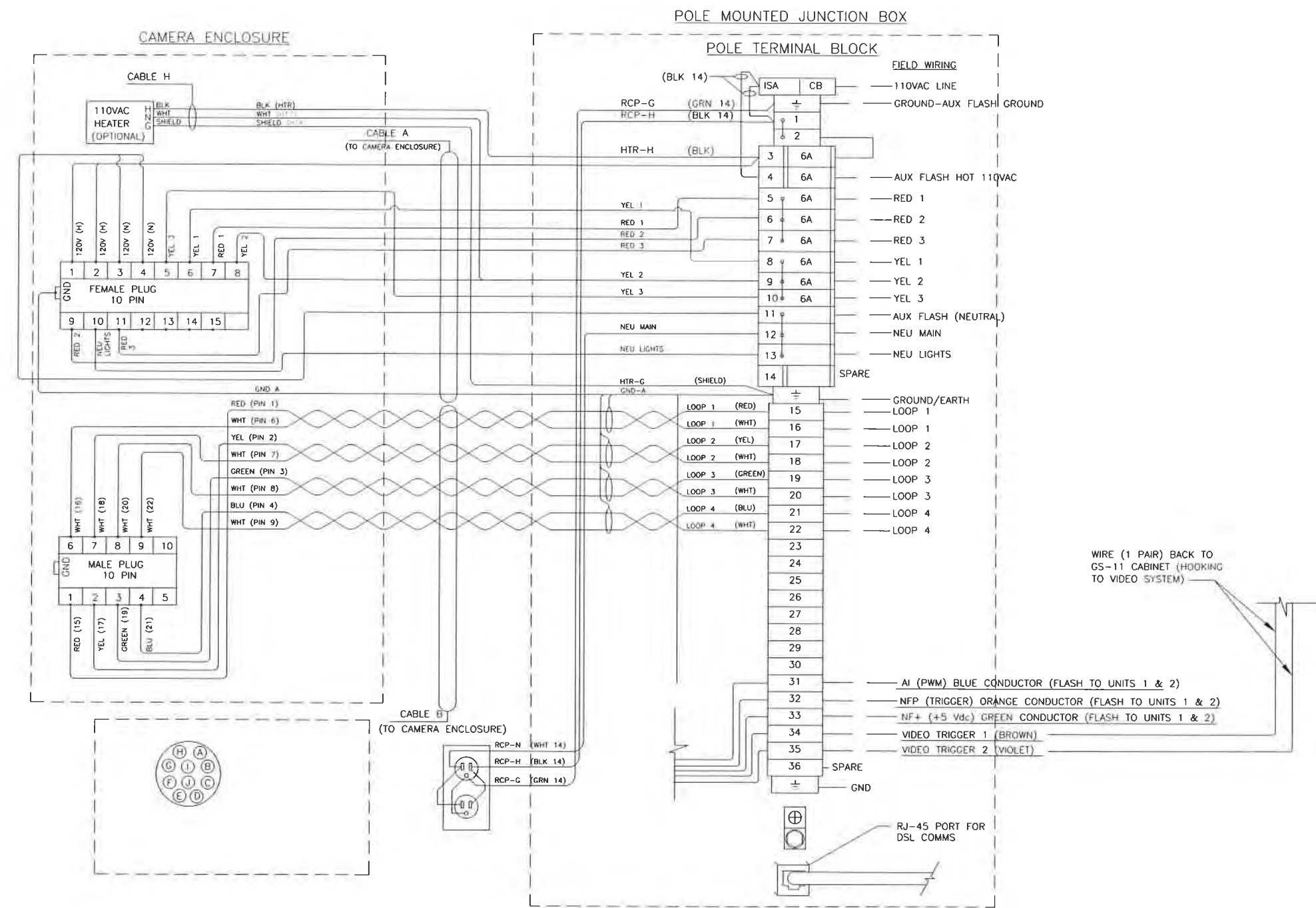
Red Light Camera Installation - Single Line Diagram

A C S
Germantown, MD
12410 MILESTONE CENTER DRIVE
4TH FLOOR
GERMANTOWN, MD 20876
PHONE: (301) 357-9403

RAMEY KEMP & ASSOCIATES, INC.
TRANSPORTATION ENGINEERS
8808 FORTGORDON PLACE, SUITE 100
RALEIGH, NORTH CAROLINA 27609
919-872-9115 Tel. 919-879-8416 Fax
www.rameykemp.com

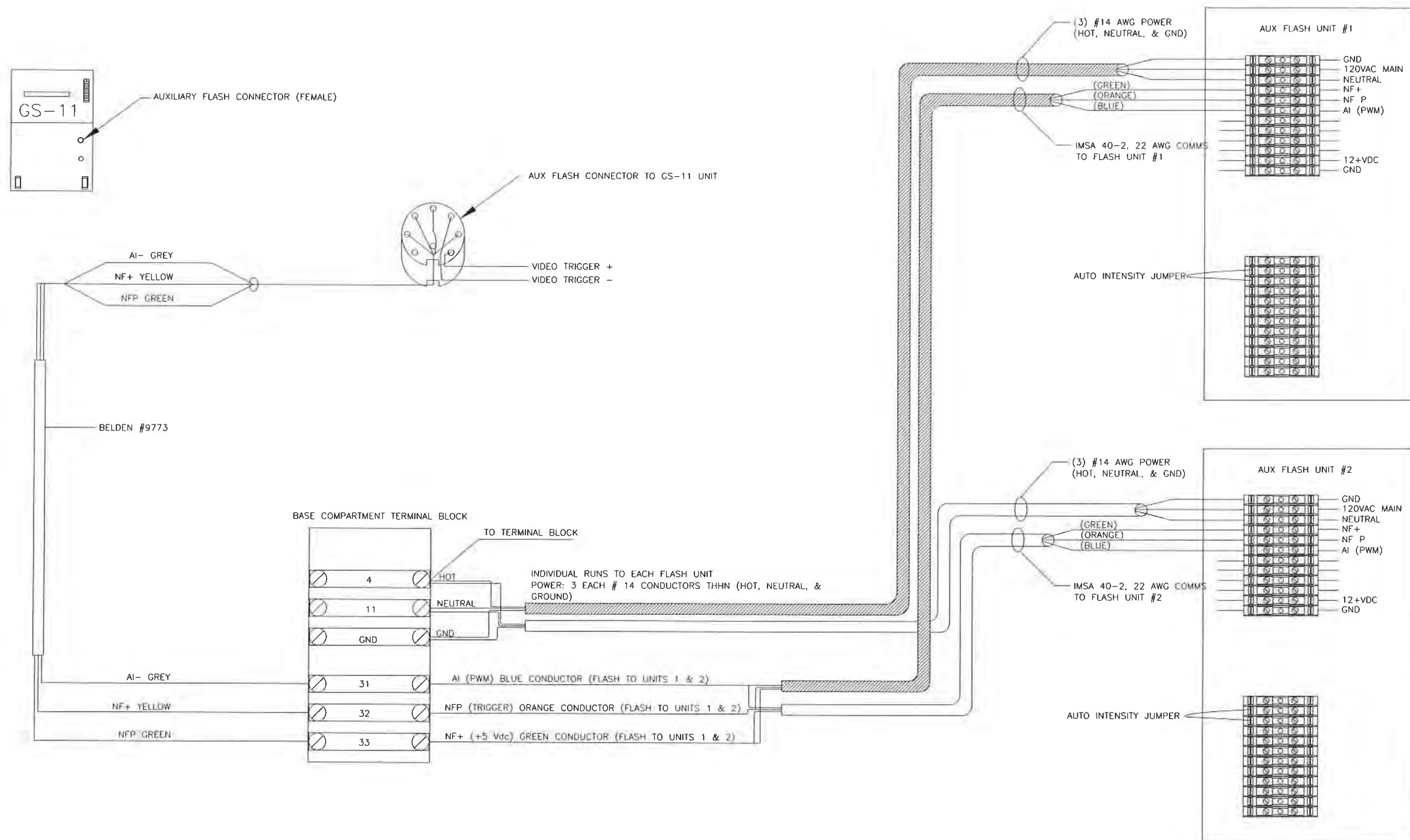
	SR 1012 (Martin Luther King) at SR 2299 (Blount Street)		SEAL
	Division 5	Wake County	Raleigh
	PLAN DATE: January 2012	REVIEWED BY: [Signature]	
	PREPARED BY: [Signature]	RKA PROJ. NO.: 12013 (040)	
SCALE	REVISIONS	INIT.	DATE
NONE			

SIG. INVENTORY NO. 05-1346

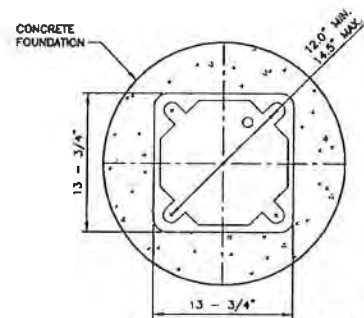


GS-11: WIRING DIAGRAM

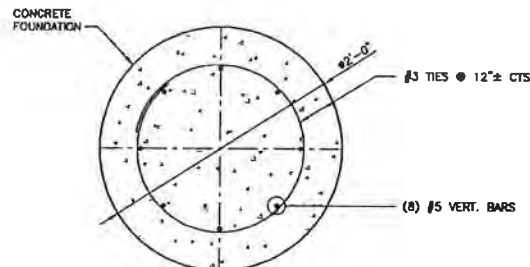
Red Light Camera Installation - Camera Unit Terminal Strip Wiring Details



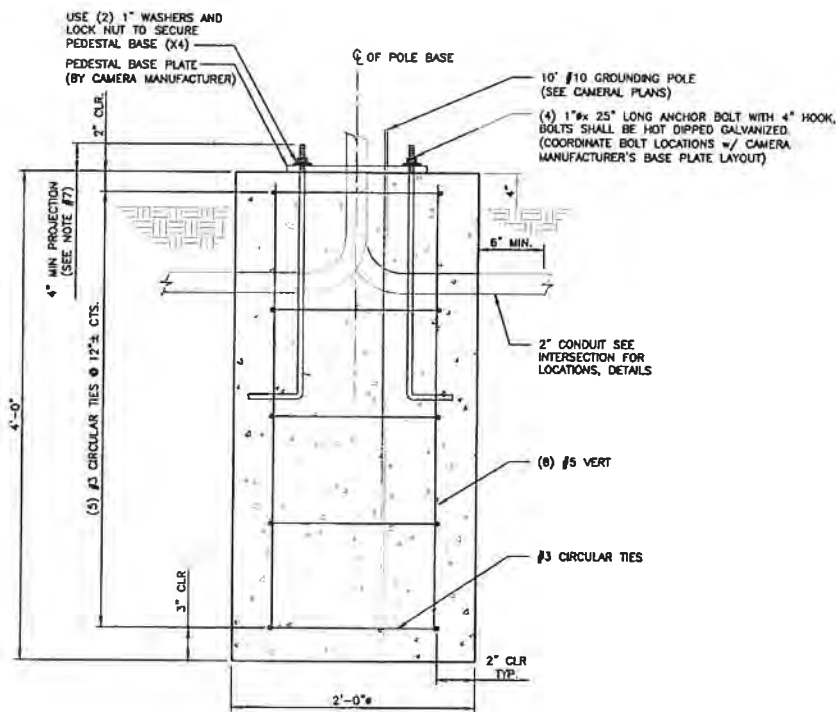
Red Light Camera Installation - Flash Unit to Camera Pole
Wiring Details



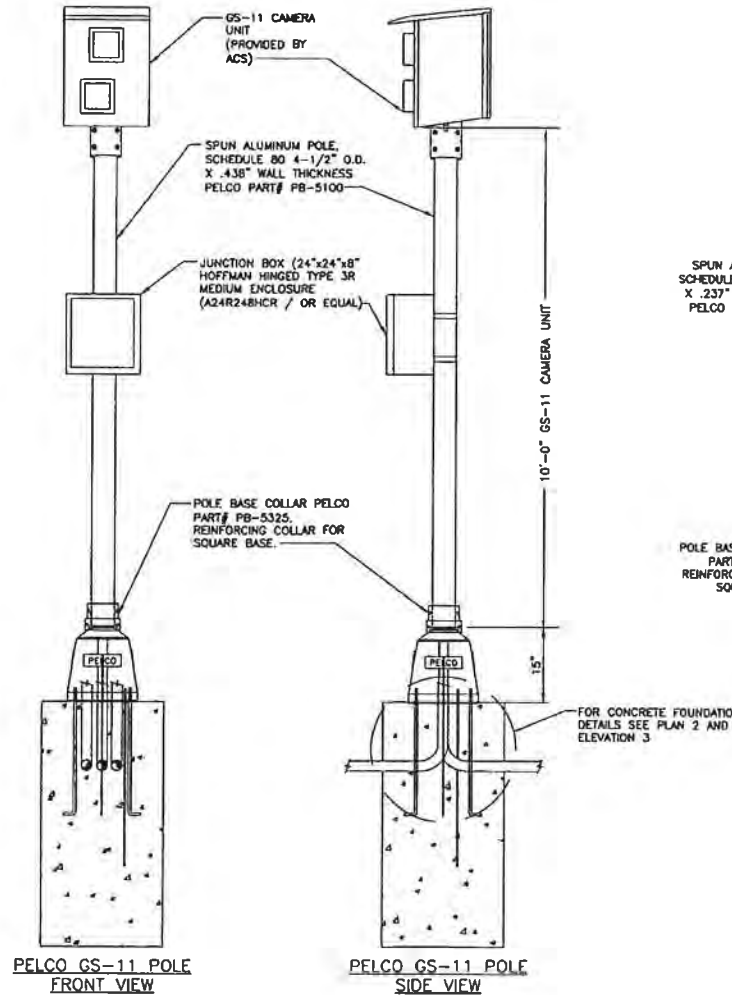
1 - PLAN - BASE PLATE
1 1/2"=1'-0"



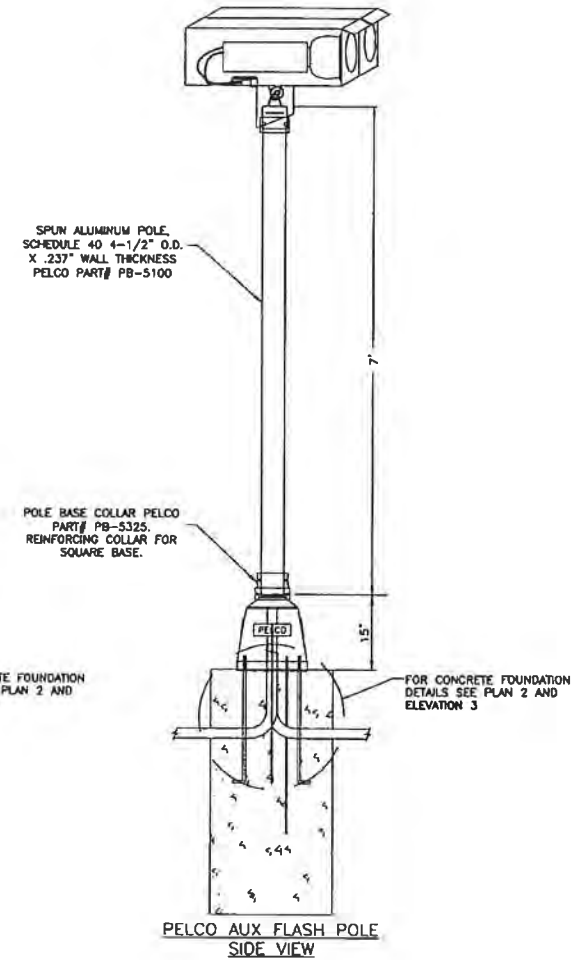
2 - PLAN - FOUNDATION
1 1/2"=1'-0"



3 - ELEVATION
1 1/2"=1'-0"

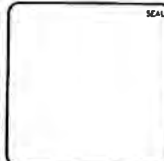


4 - ELEVATIONS
N.T.S.
FOR REFERENCE



- NOTES:
1. ALL CONCRETE SHALL BE 28 DAY COMPRESSIVE STRENGTH $f_c = 4000$ PSI.
 2. ALL REINFORCING STEEL SHALL BE ASTM 615, GRADE 60.
 3. THE PLACEMENT OF CONCRETE AND RE-BAR SHALL CONFORM TO THE REQUIREMENTS OF ACI 318 (LATEST EDITION).
 4. ALL ANCHOR BOLTS SHALL BE A-307 OR A-36 GRADE STEEL.
 5. CONTRACTOR SHALL PROTECT EXCAVATIONS FROM INCLEMENT WEATHER UNTIL CONCRETE HAS BEEN POURED.
 6. FOUNDATION MAY BE USED FOR PELCO GS-11 CAMERA OR AUXILIARY FLASH UNIT.
 7. CONTRACTOR TO VERIFY BOLT PROJECTION IN FIELD BEFORE INSTALLATION OF SHAFT.
 8. CONTRACTOR MAY SHIFT LOCATION OF TIES AS NECESSARY TO AVOID CONFLICT WITH CONDUIT.
 9. CAMERA FOUNDATION SHALL BEAR IN SOIL SUITABLE FOR 2,000 PSF BEARING CAPACITY. SHOULD UNSTABLE MATERIAL BE ENCOUNTERED AT THE BOTTOM OF THE EXCAVATION, THE FOUNDATION DEPTH MAY BE EXTENDED TO FIRM MATERIAL.

REV	DESCRIPTION	DATE



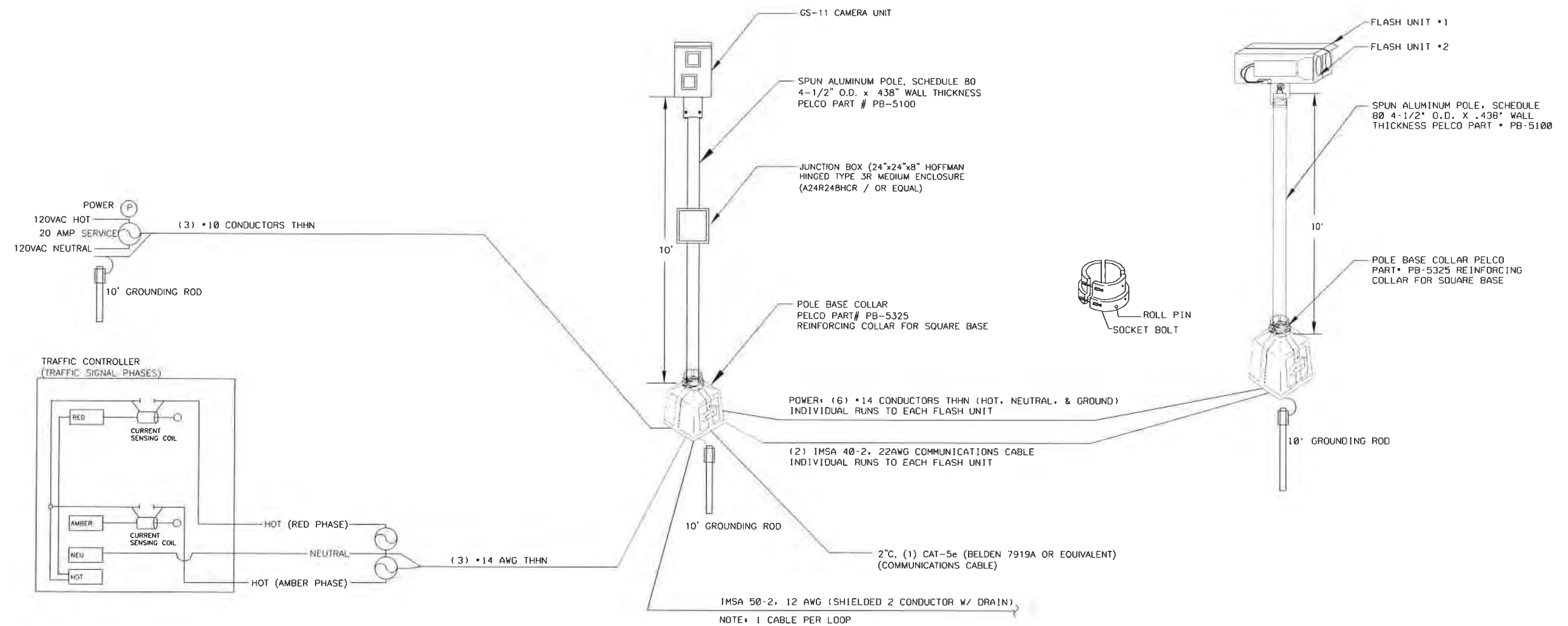
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Raleigh, North Carolina 27606
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6800 Forrester Place, Suite 100
Raleigh, North Carolina 27609
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www.rameykemp.com

PELCO GS-11 REDLIGHT CAMERA FLASH POLE INSTALLATION REINFORCED CONCRETE BASE
SR 1012 (MARTIN LUTHER KING BLVD.)
@ SR 2299 (BLOUNT STREET)

DATE: JANUARY 2012	SCALE:	ASB FILE NUMBER:
WCE PROJ # 1093-0037	HORIZONTAL: AS NOTED	Sig-7
DRAWN:	VERTICAL: NA	
CHECKED:		
PROJ. MGR.		
STATUS: ISSUED FOR REVIEW		



Red Light Camera Installation - Camera Unit/Dual Flash Configuration