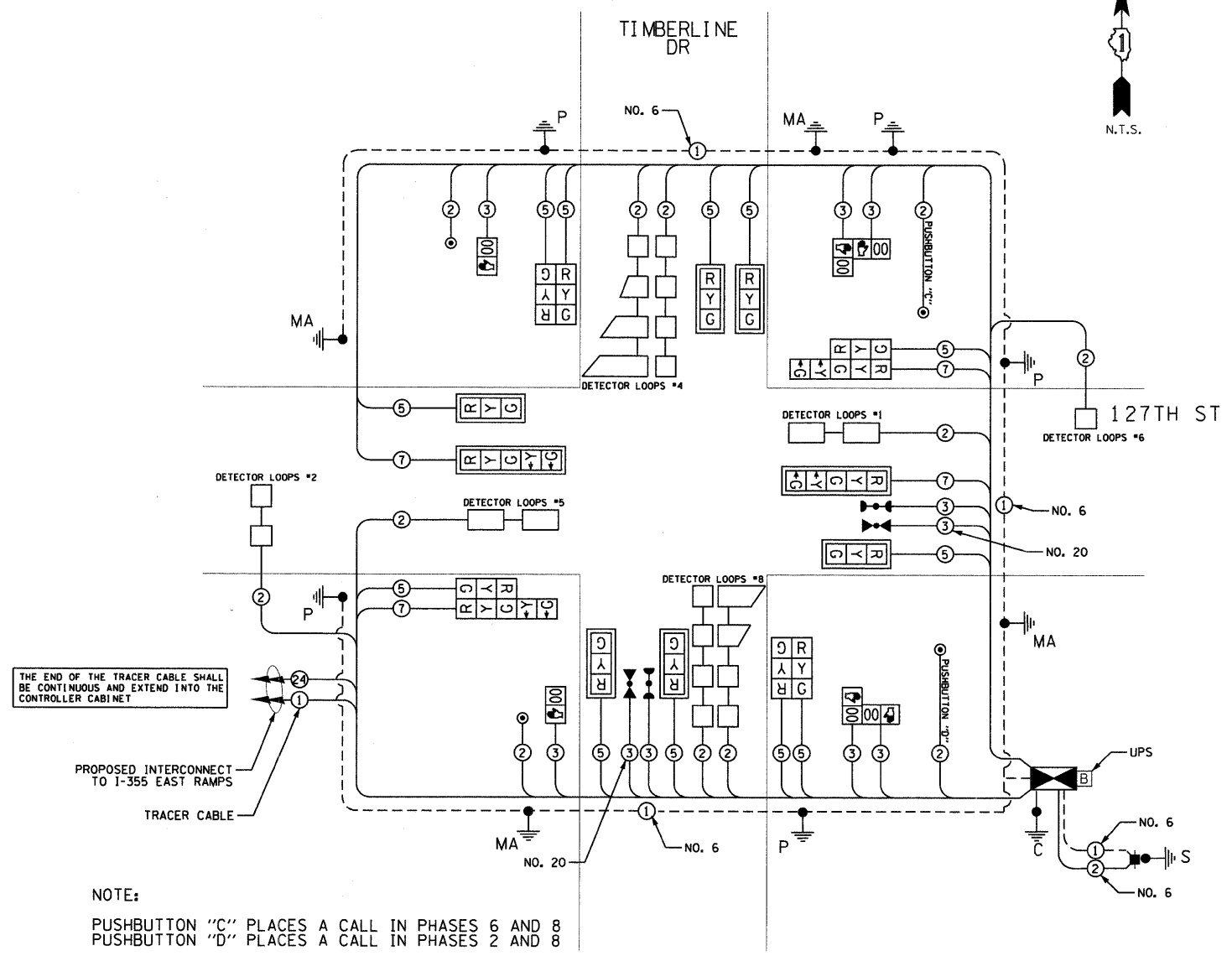


CABLE PLAN LEGEND

- EXISTING PROPOSED
- 8" (200mm) TRAFFIC SIGNAL SECTION
 - 12" (300mm) TRAFFIC SIGNAL SECTION
 - 12" (300mm) PEDESTRIAN SIGNAL SECTION
 - 12" (300mm) PEDESTRIAN SIGNAL SECTION WITH COUNTDOWN TIMER 16" (406mm) x 18" (457mm)
 - CONTROLLER CABINET
 - UNINTERRUPTIBLE POWER SUPPLY (UPS)
 - SERVICE INSTALLATION
 - TELEPHONE CONNECTION
 - VEHICLE DETECTOR, INDUCTION LOOP
 - MAGNETIC DETECTOR
 - EMERGENCY VEHICLE LIGHT DETECTOR
 - CONFIRMATION BEACON
 - PUSHBUTTON DETECTOR
 - DENOTES NUMBER OF CONDUCTORS. ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOP DETECTOR CABLE TO BE SHIELDED.
 - GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN)
 - FIBER OPTIC CABLE IN CONDUIT NO. 62.5/125 MM12F SMI2F
 - SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD.
 - RAILROAD CONTROL CABINET
 - ILLUMINATED SIGN "NO LEFT TURN"
 - ILLUMINATED SIGN "NO RIGHT TURN"
 - GROUND ROD AT HANDHOLE (H), DOUBLE HANDHOLE (H), OR CONTROLLER (C)
 - GROUND ROD AT POST (P) OR MAST ARM POLE (MA)
 - GROUND ROD AT ELECTRIC SERVICE INSTALLATION
 - VIDEO VEHICLE SENSOR

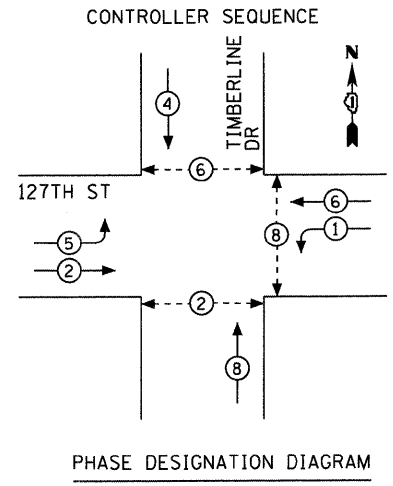
PROPOSED CABLE PLAN



THE END OF THE TRACER CABLE SHALL BE CONTINUOUS AND EXTEND INTO THE CONTROLLER CABINET

NOTE: PUSHBUTTON "C" PLACES A CALL IN PHASES 6 AND 8
PUSHBUTTON "D" PLACES A CALL IN PHASES 2 AND 8

NOTE: THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM.

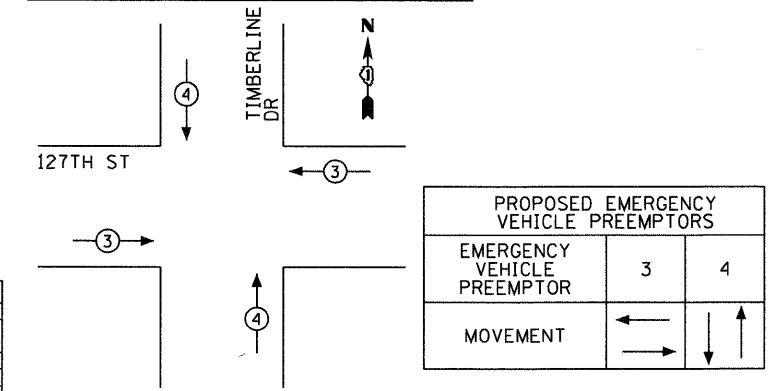


- LEGEND**
- DUAL ENTRY PHASE
 - SINGLE ENTRY PHASE
 - OVERLAP
 - PEDESTRIAN PHASE
 - NUMBER REFERS TO ASSOCIATED PHASE

SCHEDULE OF QUANTITIES

QTY	UNIT	ITEM DESCRIPTION
5	SQ FT	DETECTABLE WARNINGS
1	L SUM	MOBILIZATION
1	L SUM	TRAFFIC CONTROL AND PROTECTION
30	SQ FT	SIGN PANEL - TYPE 1
1	EACH	SERVICE INSTALLATION - POLE MOUNTED
515	FOOT	CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL
121	FOOT	CONDUIT IN TRENCH, 2 1/2" DIA., GALVANIZED STEEL
10	FOOT	CONDUIT IN TRENCH, 4" DIA., GALVANIZED STEEL
88	FOOT	CONDUIT PUSHED, 2" DIA., GALVANIZED STEEL
242	FOOT	CONDUIT PUSHED, 4" DIA., GALVANIZED STEEL
5	EACH	HANDHOLE
2	EACH	HEAVY-DUTY HANDHOLE
1	EACH	DOUBLE HANDHOLE
641	FOOT	TRENCH AND BACKFILL FOR ELECTRICAL WORK
1	EACH	FULL-ACTUATED CONTROLLER AND TYPE V CABINET, SPECIAL
1	EACH	UNINTERRUPTIBLE POWER SUPPLY
1	EACH	TRANSCIVER - FIBER OPTIC
438	FOOT	ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C
508	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C
703	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C
1844	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C
643	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C
1425	FOOT	ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR
263	FOOT	ELECTRIC CABLE IN CONDUIT, NO. 20 3/C, TWISTED, SHIELDED
40	FOOT	ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C
1	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 10 FT.
2	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 14 FT.
2	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.
1	EACH	STEEL MAST ARM ASSEMBLY AND POLE, 22 FT.
1	EACH	STEEL MAST ARM ASSEMBLY AND POLE, 26 FT.
1	EACH	STEEL MAST ARM ASSEMBLY AND POLE, 36 FT.
1	EACH	STEEL MAST ARM ASSEMBLY AND POLE, 40 FT.
20	FOOT	CONCRETE FOUNDATION, TYPE A
4	FOOT	CONCRETE FOUNDATION, TYPE C
45	FOOT	CONCRETE FOUNDATION, TYPE E
15	FOOT	CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER
6	EACH	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED
2	EACH	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED
2	EACH	SIGNAL HEAD, LED, 2-FACE, 3-SECTION, BRACKET MOUNTED
2	EACH	SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
2	EACH	PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER
8	EACH	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM
8	EACH	INDUCTIVE LOOP DETECTOR
853	FOOT	DETECTOR LOOP, TYPE I
2	EACH	LIGHT DETECTOR
1	EACH	LIGHT DETECTOR AMPLIFIER
4	EACH	PEDESTRIAN PUSH-BUTTON
30	SQ FT	REMOVE SIGN PANEL - TYPE 1
1	EACH	REMOVE GROUND-MOUNTED SIGN SUPPORT
2	CAL MO	CHANGEABLE MESSAGE SIGN

EMERGENCY VEHICLE PREEMPTION SEQUENCE



I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS

TYPE	NO. LAMPS	WATTAGE (INCAND.)	WATTAGE LED	%OPERATION	TOTAL WATTAGE
SIGNAL (RED)	16	17	0.50	136.0	
(YELLOW)	16	25	0.25	100.0	
(GREEN)	16	15	0.25	60.0	
ARROW	8	12	0.10	9.6	
PED. SIGNAL	6	25	1.00	150.0	
CONTROLLER	1	100	1.00	100.0	
ILLUM. SIGN			0.05		
FLASHER			0.50		
TOTAL =				555.6	

FOUNDATION (DEPTH)	FT. (m)	CABLE SLACK	FT. (m)	VERTICAL	FT. (m)
TYPE A - POST	4 (1.2)	HANDHOLE	6.5 (2.0)	ALL FOUNDATIONS	3.5 (1.0)
D - CONTROLLER	4 (1.2)	DOUBLE HANDHOLE	13 (4.0)	MAST ARM (L) POLE	20'+L-2=
E - M. ARM POLE		SIGNAL POST	2 (1.0)		(6m+L-0.6m)=
24" (600mm)	10 (3.0)	CONTROLLER CAB.	1 (0.5)	BRACKET MOUNTED	13 (4.0)
30" (750mm)	15 (4.6)	FIBER OPTIC	13 (4.0)	PED. PUSHBUTTON	4 (1.2)
36" (900mm)	15 (4.6)	ELECTRIC SERVICE	1 (0.5)	ELECTRIC SERVICE	13.5 (4.1)
42" (1060mm)	21 (6.4)	GROUND CABLE	1 (0.5)	SERVICE TO GROUND	13.5 (4.1)
				POST MOUNTED	6 (1.8)

KLOA Kenig, Lindgren, O'Hara, Aboona, Inc.

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P: (847) 518-9990 F: (847) 518-9987

PROJECT: **OLD QUARRY SCHOOL LEMONT, ILLINOIS**

DESIGNED - GJG
DRAWN - GJG
CHECKED - DMS
DATE - 8/13/2009

REV DATE 9/8/2009
CHECKED DMS
REVISION REV PER COOK COUNTY 8/24/09 COMMENTS

CABLE PLAN, PHASE DESIGNATION DIAGRAM, EVP SEQUENCE & SCHEDULE OF QUANTITIES
127TH STREET AT TIMBERLINE DRIVE

SCALE: NONE FILE NAME: ...signal\04-cable.dgn

F.A.U. R.T.E. 1591 SECTION 09-00046-00-TL COUNTY COOK TOTAL SHEETS 17 SHEET NO. 4

CONTRACT NO. 63273
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT ARA-9003377