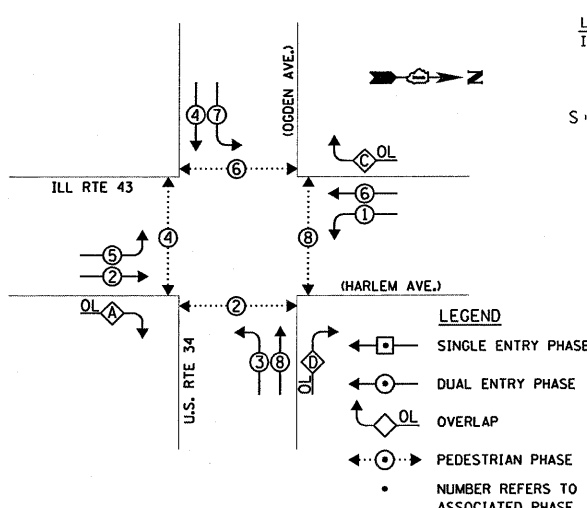


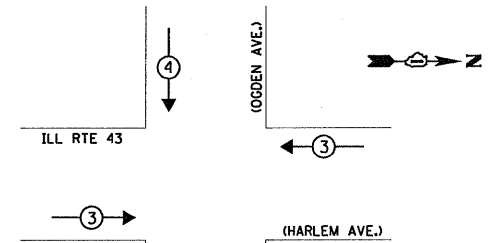
CONTROLLER SEQUENCE



PHASE DESIGNATION DIAGRAM

OVERLAP LETTER	PERMISSIVE PHASE	PROTECTED PHASE
A =	2	3
C =	6	7
D =	8	1

EMERGENCY VEHICLE PREEMPTION SEQUENCE

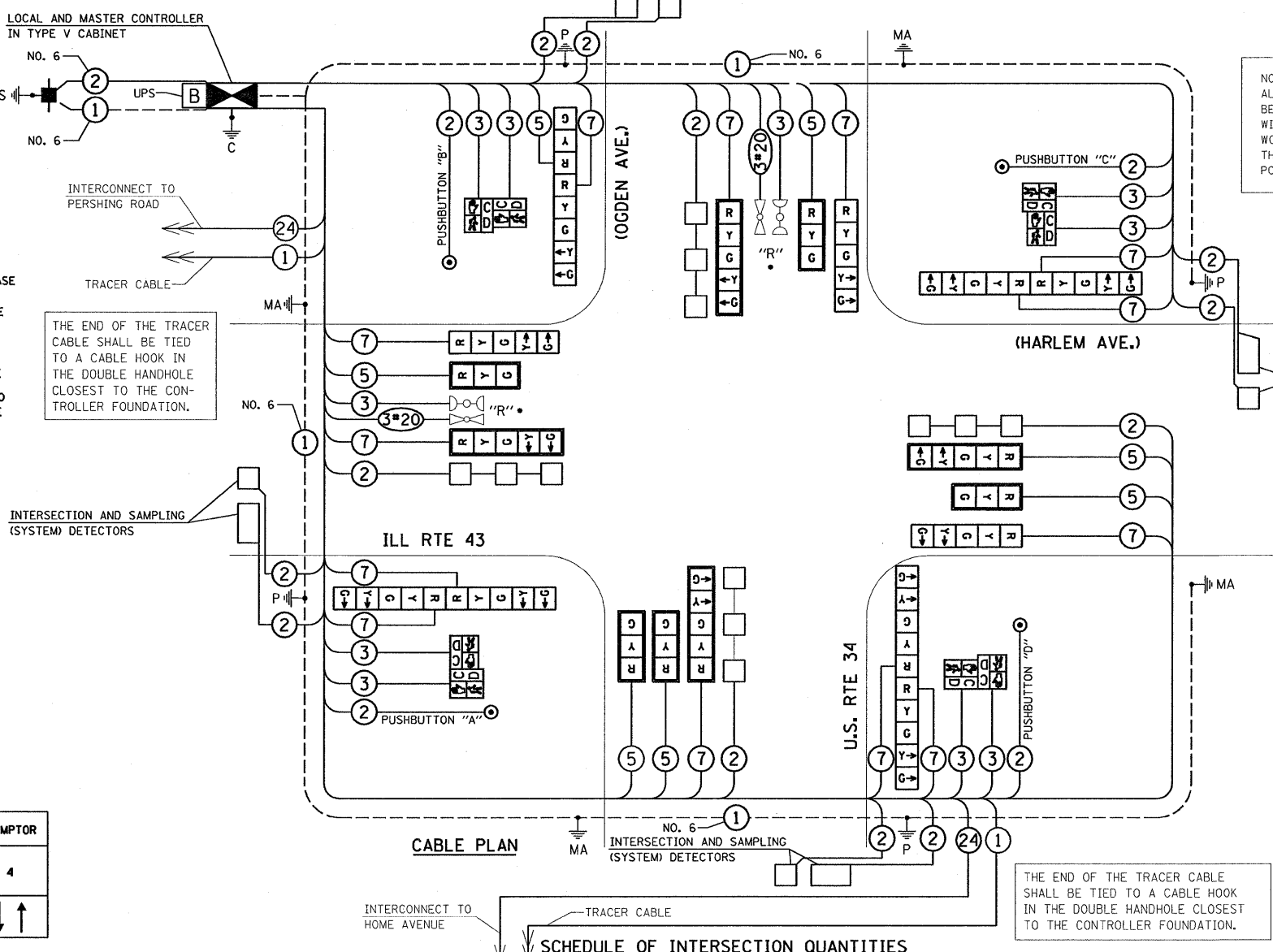


PROPOSED EMERGENCY VEHICLE PREEMPTOR		
EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	← →	↓ ↑

CABLE PLAN LEGEND

- | PROPOSED | EXISTING | |
|----------|----------|---|
| | | 8" (200mm) TRAFFIC SIGNAL SECTION |
| | | 12" (300mm) PEDESTRIAN SIGNAL SECTION |
| | | CONTROLLER CABINET |
| | | SERVICE INSTALLATION |
| | | TELEPHONE CONNECTION |
| | | MAGNETIC DETECTOR |
| | | PUSHBUTTON DETECTOR |
| | | VEHICLE DETECTOR, INDUCTION LOOP |
| | | DENOTES NUMBER OF CONDUCTORS. ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOP DETECTOR CABLE TO BE SHIELDED. |
| | | SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD |
| | | "E" RAILROAD CONTROL CABINET |
| | | "E" ILLUMINATED SIGN, FIBER OPTIC "NO LEFT TURN" |
| | | "E" ILLUMINATED SIGN, FIBER OPTIC "NO RIGHT TURN" |
| | | H/C GROUND ROD AT HANDHOLE, DOUBLE HANDHOLE, OR CONTROLLER |
| | | P GROUND ROD AT POST OR MAST ARM POLE |
| | | S GROUND ROD AT ELECTRICAL SERVICE INSTALLATION |
| | | -1- GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN) |
| | | -24- FIBER OPTIC CABLE IN CONDUIT NO. 62.5/125 2-MM12F & SM12F |
| | | MICROWAVE VEHICLE SENSOR |
| | | VIDEO DETECTOR |
| | | CLOSED CIRCUIT TV |
| | | EMERGENCY VEHICLE LIGHT DETECTOR |
| | | CONFIRMATION BEACON |
| | | UNINTERRUPTIBLE POWER SUPPLY |
| | | PEDESTRIAN SIGNAL HEAD WITH COUNTDOWN TIMER |

NOTE: ALL EXISTING CONFIRMATION BEACONS SHALL BE RETROFITTED WITH LED INDICATIONS. THIS WORK SHALL BE INCIDENTAL TO THE PAY ITEM: UNINTERRUPTIBLE POWER SUPPLY



THE END OF THE TRACER CABLE SHALL BE TIED TO A CABLE HOOK IN THE DOUBLE HANDHOLE CLOSEST TO THE CONTROLLER FOUNDATION.

THE END OF THE TRACER CABLE SHALL BE TIED TO A CABLE HOOK IN THE DOUBLE HANDHOLE CLOSEST TO THE CONTROLLER FOUNDATION.

SCHEDULE OF INTERSECTION QUANTITIES

QUANTITY	UNIT	ITEM	QUANTITY	UNIT	ITEM
360	SO FT	PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH	48	FOOT	ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C
360	SO FT	SIDEWALK REMOVAL	539	FOOT	ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C
162	SO FT	DETECTABLE WARNINGS	301	FOOT	ELECTRIC CABLE IN CONDUIT, NO. 20 3C, TWISTED, SHIELDED
43	FOOT	COMBINATION CURB AND GUTTER REMOVAL	4	EACH	TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.
43	FOOT	COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.24	2	EACH	STEEL MAST ARM ASSEMBLY AND POLE, 36 FT.
50	SO FT	SIGN PANEL - TYPE 2	1	EACH	STEEL MAST ARM ASSEMBLY AND POLE, 42 FT.
36.4	SO FT	THERMOPLASTIC PAVEMENT MARKING - LETTERS AND SYMBOLS	1	EACH	STEEL MAST ARM ASSEMBLY AND POLE, 44 FT.
700	FOOT	THERMOPLASTIC PAVEMENT MARKING - LINE 6"	16	FOOT	CONCRETE FOUNDATION, TYPE A
182	FOOT	THERMOPLASTIC PAVEMENT MARKING - LINE 24"	4	FOOT	CONCRETE FOUNDATION, TYPE C
746	FOOT	CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL	27	FOOT	CONCRETE FOUNDATION, TYPE E 30" DIAMETER
69	FOOT	CONDUIT IN TRENCH, 1 1/2" DIA., GALVANIZED STEEL	26	FOOT	CONCRETE FOUNDATION, TYPE E 36" DIAMETER
10	FOOT	CONDUIT IN TRENCH, 4" DIA., GALVANIZED STEEL	1	EACH	DRILL EXISTING HANDHOLE
411	FOOT	CONDUIT PUSHED, 2" DIA., GALVANIZED STEEL	6	EACH	SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, MAST ARM MOUNTED
71	FOOT	CONDUIT PUSHED, 2 1/2" DIA., GALVANIZED STEEL	6	EACH	SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, MAST ARM MOUNTED
213	FOOT	CONDUIT PUSHED, 4" DIA., GALVANIZED STEEL	3	EACH	SIGNAL HEAD, L.E.D., 2-FACE, 5-SECTION, BRACKET MOUNTED
133	FOOT	CONDUIT PUSHED, 5" DIA., GALVANIZED STEEL	1	EACH	SIGNAL HEAD, L.E.D., 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED
6	EACH	HANDHOLE	4	EACH	PEDESTRIAN SIGNAL HEAD, L.E.D., 2-FACE, BRACKET MOUNTED W/ COUNTDOWN TIMER
4	EACH	HEAVY-DUTY HANDHOLE	12	EACH	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM
2	EACH	DOUBLE HANDHOLE	12	EACH	INDUCTIVE LOOP DETECTOR
820	FOOT	TRENCH AND BACKFILL FOR ELECTRICAL WORK	691	FOOT	DETECTOR LOOP, TYPE I
1	EACH	FULL-ACTUATED CONTROLLER AND TYPE V CABINET, SPECIAL	4	EACH	PEDESTRIAN PUSH-BUTTON
1	EACH	UNINTERRUPTIBLE POWER SUPPLY	1	EACH	TEMPORARY TRAFFIC SIGNAL INSTALLATION
1	EACH	TRANSCEIVER - FIBER OPTIC	1	EACH	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
699	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C	14	EACH	REMOVE EXISTING HANDHOLE
1036	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	11	EACH	REMOVE EXISTING CONCRETE FOUNDATION
984	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	1	EACH	TEMPORARY TRAFFIC SIGNAL TIMINGS
2281	FOOT	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C	1	EACH	SERVICE INSTALLATION, POLE MOUNT
3931	FOOT	ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	2	EACH	RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, DETECTOR UNIT
			1	EACH	RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, PHASING UNIT
			3	EACH	FRAME AND GRATE TO BE REMOVED AND REPLACE WITH TYPE 1 FRAME

NOTE: PUSHBUTTON "A" SHALL PLACE A CALL IN PHASES 2 AND 4. PUSHBUTTON "B" SHALL PLACE A CALL IN PHASES 4 AND 6. PUSHBUTTON "C" SHALL PLACE A CALL IN PHASES 6 AND 8. PUSHBUTTON "D" SHALL PLACE A CALL IN PHASES 2 AND 8.

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

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

TYPE	NO. LAMPS	WATTAGE INCAND.	WATTAGE LED	% OPERATION	TOTAL WATTAGE
SIGNAL (RED)	20		17	0.50	170.00
(YELLOW)	20		25	0.25	125.00
(GREEN)	20		15	0.25	75.00
ARROW	26		12	0.10	31.20
PED. SIGNAL	8		25	1.00	200.00
CONTROLLER	1		100	1.00	100.00
ILLUM. SIGN				0.05	-
FLASHER				0.05	-
ENERGY COSTS TO:					TOTAL= 701.20
CITY OF BERWYN 6700 26TH STREET BERWYN, IL 60402					
ENERGY SUPPLY CONTACT: JUANITA VEIGELT PHONE: (815) 724-5657 COMPANY: COMMONWEALTH EDISON					

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)=
		CONTROLLER CAB.	1 (0.5)		
		FIBER OPTIC	13 (4.0)		
		ELECTRIC SERVICE	1 (0.5)		
		GROUND CABLE	1 (0.5)		
			6 (1.8)		

DESIGNED - TCM/BPR	REVISED - 09/08/2009 PER IDOT
DRAWN - TCM/BPR	REVISED -
CHECKED - TCM	REVISED -
DATE - 07/02/2009	REVISED -

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

SCHEDULE OF QUANTITIES, CABLE PLAN, PHASE DESIGNATION DIAGRAM AND EMERGENCY VEHICLE PREEMPTION SEQUENCE

ILL RTE 43 (HARLEM AVE.) AT U.S. RTE 34 (OGDEN AVE.)

SCALE: NTS SHEET NO. OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
348	2009 078 TS	COOK	33	19
CONTRACT NO. 60115				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				