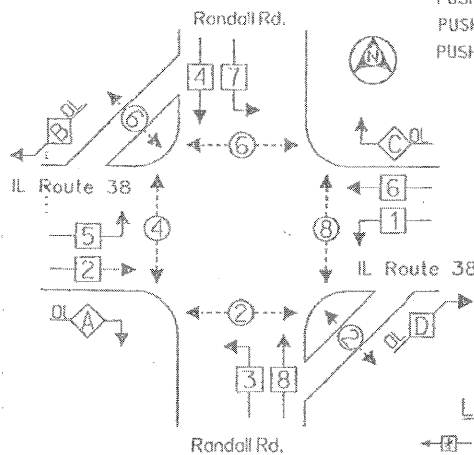


CONTROLLER SEQUENCE



PUSHBUTTON NOTE: "A" & "B" SHALL PLACE CALLS IN PHASES 4 & 6
 PUSHBUTTON NOTE: "C" & "D" SHALL PLACE CALLS IN PHASES 2 & 8
 PUSHBUTTON NOTE: "A" SHALL PLACE CALLS IN PHASES 6
 PUSHBUTTON NOTE: "C" SHALL PLACE CALLS IN PHASES 2

LEGEND

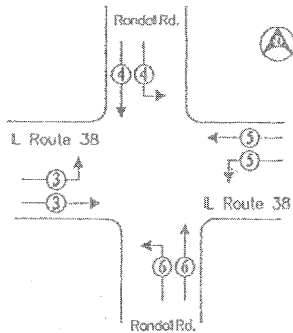
- ☐ SIGNAL ENTRY PHASE
- ◊ OVERLAP
- ◊ PEDESTRIAN PHASE
- * NUMBER REFERS TO ASSOCIATED PHASE.

PHASE DESIGNATION DIAGRAM

RIGHT TURN OVERLAP PHASE DESIGNATION

| OVERLAP LETTER | PERMISSIVE PHASE | PROTECTED PHASE |
|----------------|------------------|-----------------|
| A | 2 + 3 | 4 + 5 |
| B | 4 + 5 | 6 + 7 |
| C | 6 + 7 | 8 + 1 |
| D | 8 + 1 | |

EMERGENCY VEHICLE PREEMPTION SEQUENCE



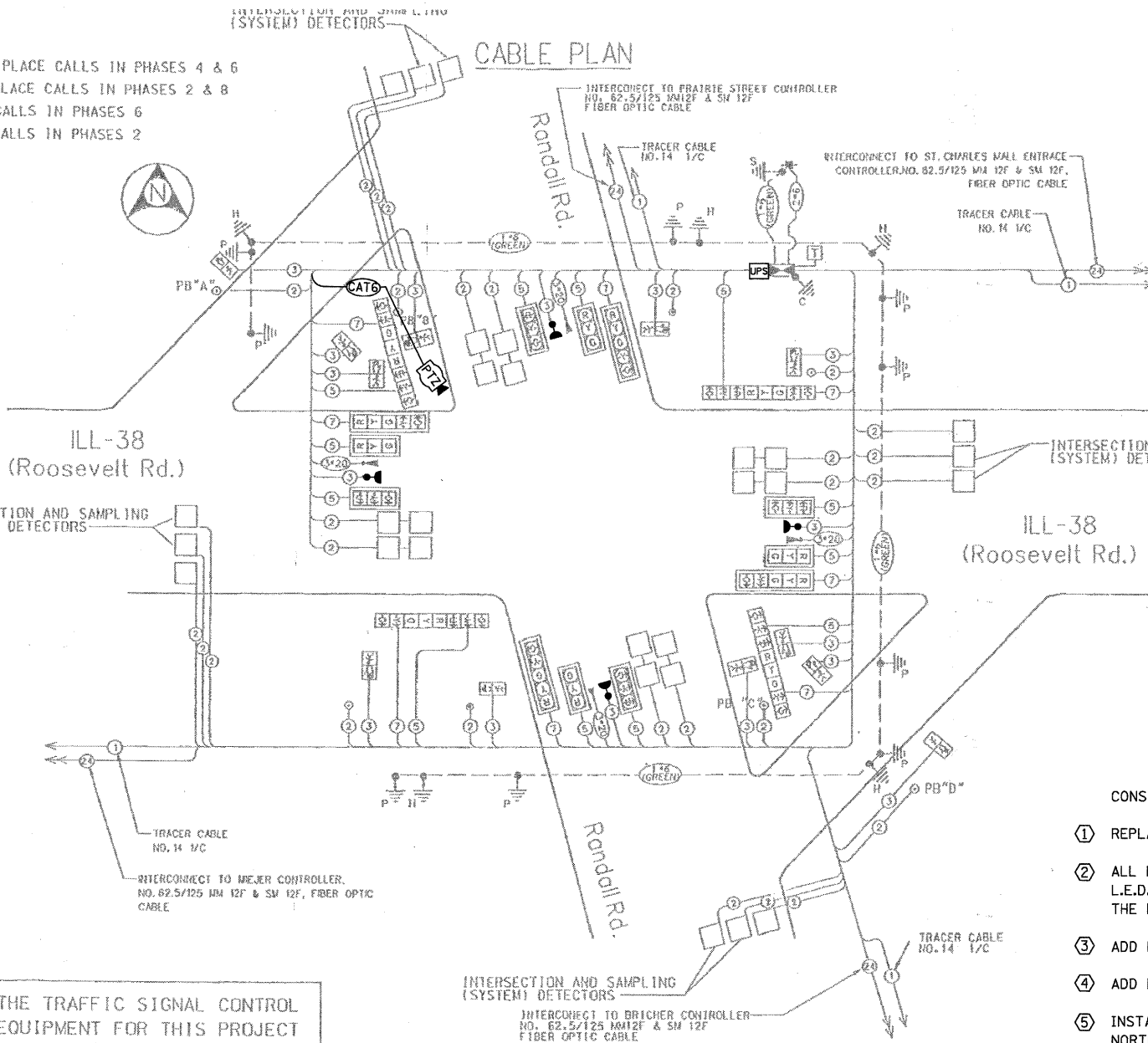
| EMERGENCY VEHICLE PREEMPTORS | | | | |
|------------------------------|---|---|---|---|
| EMERGENCY VEHICLE PREEMPTOR | 3 | 4 | 5 | 6 |
| MOVEMENT | → | ↕ | ← | ↕ |

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT MUST BE "EAGLE" TO MATCH THE EXISTING ADJACENT SYSTEM. NO SUBSTITUTIONS WILL BE ALLOWED

RESTORATION OF WORK AREA. RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH, AND BACKFILL, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SUBBASES, MEDIAN, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO UNCOVERED LAWS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNCOVERED FIELDS SHALL BE RESEED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

| FOUNDATION (DEPTH) | (FT.) | CABLE SLACK | (FT.) | VERTICAL | (FT.) |
|--------------------|-------|------------------|-------|-------------------|---------|
| TYPE A - POST | 4 | HANDHOLE | 6.5 | ALL FOUNDATIONS | 3.5 |
| D - CONTROLLER | 4 | DOUBLE HANDHOLE | 13 | MAST ARM (1) POLE | 20'±1.2 |
| E - M ARM POLE | 24 | SIGNAL POST | 2 | BRACKET MOUNTED | 13 |
| | 30 | CONTROLLER CAB. | 1 | PEB. PUSHBUTTON | 4 |
| | | FIBER OPTIC | 13 | ELECTRIC SERVICE | 13.5 |
| | | ELECTRIC SERVICE | 1 | SERVICE TO GROUND | 13.5 |
| | | GROUND CABLE | 1 | POST MOUNTED | 6 |

CABLE PLAN



CABLE PLAN LEGEND

- EXISTING PROPOSED
- ☐ 8" (203MM) TRAFFIC SIGNAL SECTION
- ☐ 12" (305MM) TRAFFIC SIGNAL SECTION
- ☐ 12" (305MM) PEDESTRIAN SIGNAL SECTION
- ☐ 12" (305MM) PEDESTRIAN SIGNAL SECTION
- ☐ CONTROLLER CABINET
- ☐ SERVICE INSTALLATION
- ☐ 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.
- ☐ SIGNAL FACE WITH BACKPLATE
- ☐ "P" INDICATES PROGRAMMED HEAD
- ☐ "E" INDICATES EXISTING SIGNAL HEAD OR EXISTING PEDESTRIAN SIGNAL HEAD
- H/C ☐ GROUND ROD AT HANDHOLE OR CONTROLLER
- P ☐ GROUND ROD AT POST OR MAST ARM POLE
- S ☐ GROUND ROD AT ELECTRIC SERVICE INSTALLATION
- E ☐ GROUND ROD EXISTING TO BE REUSED
- ☐ GROUND CABLE IN CONDUIT, NO. 6 SOLID COPPER (GREEN)
- ☐ NO. 62.5/125 MM 12F & SM 12F, FIBER OPTIC CABLE
- ☐ NO. 14 1/C TRACER CABLE

NOTE: ALL NEW GROUND RODS SHALL BE 3/4" X 10'-0" LONG COPPER CLAD. THE COST SHALL BE INCIDENTAL TO THE COST OF INSTALLATION.

CONSTRUCTION NOTES:

- 1 REPLACE EXISTING CONTROLLER AND MALFUNCTION MANAGEMENT UNIT.
- 2 ALL EXISTING CONFIRMATION BEACONS SHALL BE RETROFITTED WITH L.E.D. INDICATIONS. THIS WORK SHALL BE INCLUDED IN THE COST FOR THE PAY ITEM: UNINTERRUPTIBLE POWER SUPPLY.
- 3 ADD NEW FIBER OPTIC INTERCONNECT CENTER.
- 4 ADD NEW UNINTERRUPTIBLE POWER SUPPLY.
- 5 INSTALL PTZ CAMERA ON THE COMBINATION MAST ARM AND POLE IN THE NORTHWEST CORNER.
- 6 INSTALL NEW 50"X67" PAD FOR UNINTERRUPTIBLE POWER SUPPLY.

SCHEDULE OF QUANTITIES

| ITEM | UNIT | TOTAL |
|---|-------|-------|
| PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH | SQ FT | 24 |
| MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION | EACH | 1 |
| FULL-ACTUATED CONTROLLER IN EXISTING CABINET, SPECIAL | EACH | 1 |
| MODIFY EXISTING CONTROLLER CABINET | EACH | 1 |
| REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT | EACH | 1 |
| UNINTERRUPTIBLE POWER SUPPLY | EACH | 1 |
| TERMINATE FIBER IN CABINET | EACH | 12 |
| FIBER OPTIC INTERCONNECT CENTER | EACH | 1 |
| SPlice FIBER IN CABINET | EACH | 12 |
| OUTDOOR RATED NETWORK CABLE | FOOT | 245 |
| UPS BATTERY BACK-UP CABINET | EACH | 1 |
| VIDEO TRAFFIC MONITORING SYSTEM WITH PTZ CAMERA | EACH | 1 |
| MALFUNCTION MANAGEMENT UNIT | EACH | 1 |
| ETHERNET MANAGED SWITCH, TYPE 2 | EACH | 1 |

| I.O.O.F. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS | | | | TOTAL WATTAGE |
|--|-----------|---------|--------------|---------------|
| TYPE | NO. LAMPS | WATTAGE | % OPERATIONS | |
| SIGNAL (RED) | 20 | 17 | 0.50 | 170 |
| (YELLOW) | 20 | 25 | 0.25 | 125 |
| (GREEN) | 20 | 12 | 0.25 | 75 |
| BROW | 16 | 12 | 0.10 | 19 |
| ED. SIGNAL | 12 | 25 | 1.00 | 300 |
| CONTROLLER | 1 | 100 | | 100 |
| LUH. SIGN | | | 0.05 | |
| ASHER LED | | | 0.50 | |
| TOTAL | | | | 789 |

ENERGY COSTS - BILLED TO: _____ (ADDRESS)
 ENERGY SUPPLY - CONTACT: Tom Lesiewicz
 PHONE: (630) 377-4407
 COMPANY: City of St. Charles

METRO TRANSPORTATION GROUP, INC.
 TRANSPORTATION PLANNING, ENGINEERING AND DESIGN

| REVISIONS | | |
|-----------|------|-------------|
| NO. | DATE | DESCRIPTION |
| | | |

CABLE PLAN, PHASE DESIGNATION DIAGRAM and SCHEDULE OF QUANTITIES
 Illinois Route 38 @ Randall Road

FILE NAME: r'an_cp.dgn
 DATE: MARCH 6, 2000
 PROJECT NO.:
 SHEET NO.: 14

| FILE NAME | USER NAME | DESIGNED | REVISIONS | F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|-----------|------------------------|-----------|-------------|----------------|--------|--------------|-----------|
| N:\kane\county\080673\Traffic\017_CAB_Randall | 38.dgn | ABR | REVISIONS | 336 | 09-00237-02-TL | KANE | 100 | 17 |
| | | DRAWN - FCP | REVISIONS | | | | | |
| | | CHECKED - MJT | REVISIONS | | | | | |
| | | DATE - AUGUST 31, 2010 | REVISIONS | | | | | |

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

SCHEDULE OF QUANTITIES, CABLE PLAN, PHASE DESIGNATION DIAGRAM AND EMERGENCY VEHICLE PREEMPTION SEQUENCE RANDALL ROAD AND IL ROUTE 38

| SCALE: | SHEET NO. OF SHEETS | STA. -- TO STA. -- | ILLINOIS FED. AID PROJECT |
|--------|---------------------|--------------------|---------------------------|
| | | | |

DATE: _____
 BY: _____
 SURVEYED: _____
 GRADES CHECKED: _____
 PLAN: _____
 NOTE BOOK: _____
 NO.: _____
 SURVEYED: _____
 GRADES CHECKED: _____
 PROFILE: _____
 NOTE BOOK: _____
 NO.: _____

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 (847) 823-0500