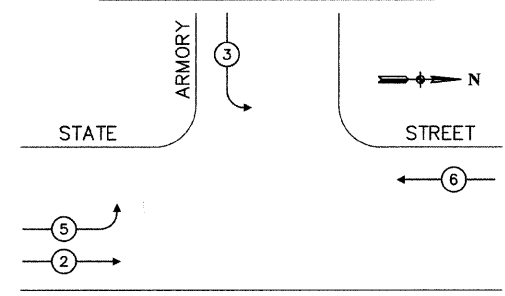


CONTRACT #63061

CONTROLLER SEQUENCE



LEGEND

- ← (1) → DUAL ENTRY PHASE
- ← (1) → PEDESTRIAN MOVEMENT
- * NUMBER REFERS TO ASSOCIATED PHASE

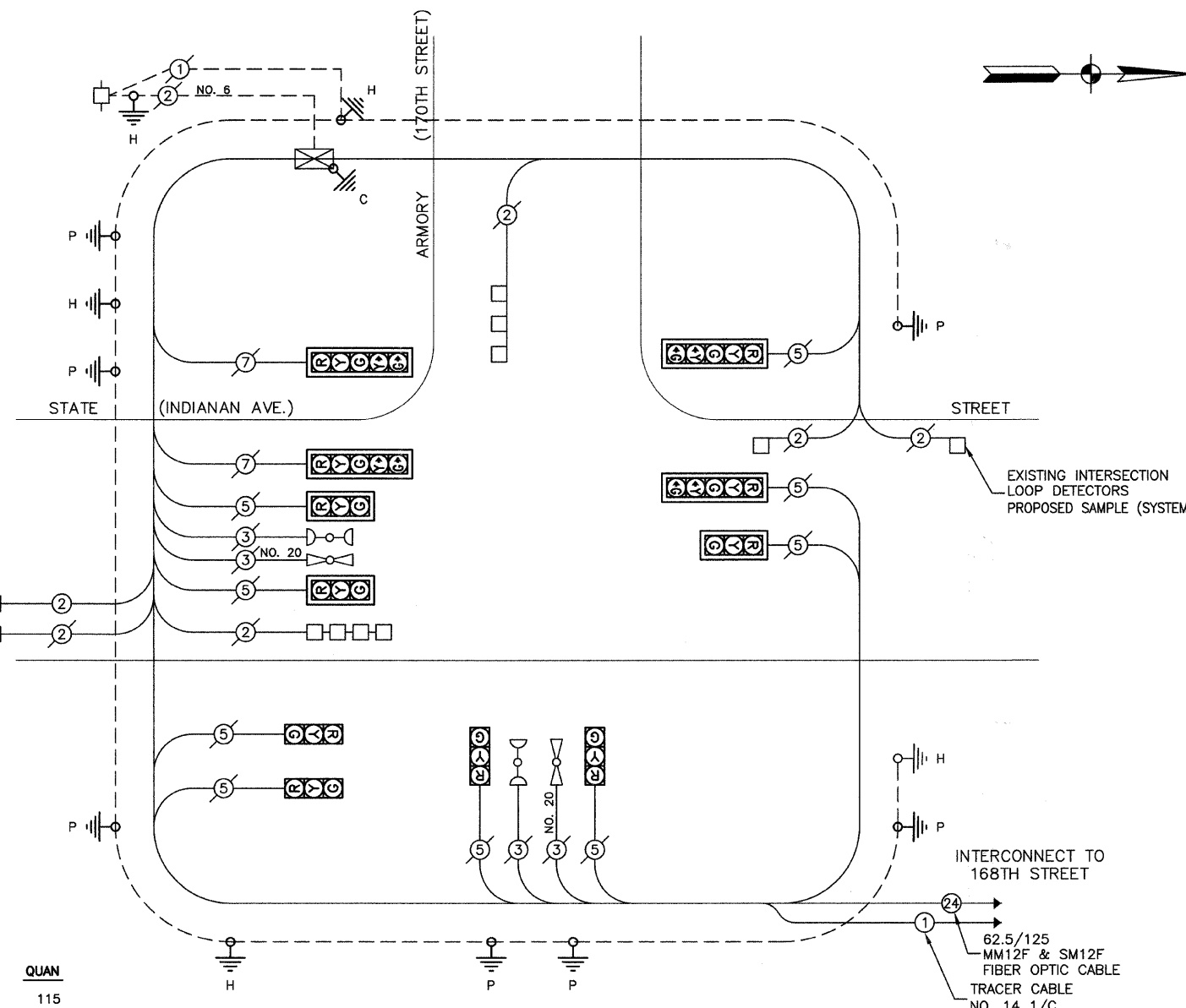
CABLE PLAN LEGEND

- | EXISTING | PROPOSED | |
|----------|----------|---|
| | | 8" TRAFFIC SIGNAL SECTION |
| | | 12" TRAFFIC SIGNAL SECTION |
| | | 12" PEDESTRIAN SIGNAL SECTION |
| | | 12" PEDESTRIAN SIGNAL SECTION |
| | | CONTROLLER CABINET |
| | | SERVICE INSTALLATION |
| | | UNINTERRUPTIBLE POWER SUPPLY |
| | | TELEPHONE CONNECTION |
| | | MAGNETIC DETECTOR |
| | | EMERGENCY VEHICLE LIGHT DETECTOR |
| | | CONFIRMATION BEACON |
| | | 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" |
| | | C GROUND ROD AT CONTROLLER |
| | | P GROUND ROD AT POST |
| | | MA GROUND ROD AT MAST ARM POLE |
| | | S GROUND ROD AT ELECTRIC SERVICE INSTALLATION |
| | | H/C GROUND ROD |
| | | 1 GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN) |
| | | 24 FIBER OPTIC CABLE IN CONDUIT NO. 62.5/125 2-MM12F & SM12F |

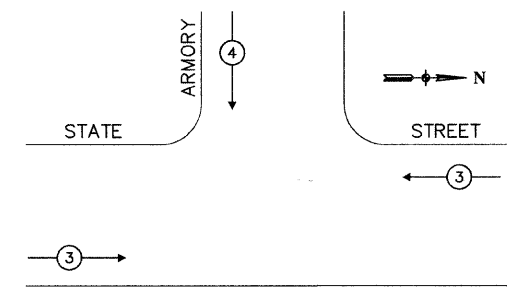
SCHEDULE OF QUANTITIES

| ITEM | UNIT | QUAN |
|---|------|------|
| CONDUIT PUSHED, 2" DIA., GALVANIZED STEEL | FOOT | 115 |
| HANDHOLE | EACH | 1 |
| MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION | EACH | 1 |
| TRANSCEIVER - FIBER OPTIC | EACH | 1 |
| ELECTRIC CABLE IN TRENCH, LEAD-IN, NO. 14 1 PAIR | FOOT | 429 |
| DRILL EXISTING HANDHOLE | EACH | 1 |
| INDUCTIVE LOOP DETECTOR | EACH | 1 |
| MODIFY EXISTING CONTROLLER CABINET | EACH | 1 |
| REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT | EACH | 1 |

PROPOSED CABLE PLAN



EMERGENCY VEHICLE PREEMPTION SEQUENCE



| PROPOSED EMERGENCY VEHICLE PREEMPTORS | |
|---------------------------------------|-----|
| EMERGENCY VEHICLE PREEMPTORS | 3 4 |
| MOVEMENT | — ↓ |

| REVISIONS | |
|-----------|------|
| NAME | DATE |
| | |
| | |
| | |

| I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS | | | | | TOTAL WATTAGE |
|--|-----------|---------|-------------|---------|---------------|
| TYPE | NO. LAMPS | WATTAGE | % OPERATION | | |
| SIGNAL (RED) | 11 | 135 | 17 | 0.50 | 742.5 |
| SIGNAL (YELLOW) | 11 | 135 | 25 | 0.25 | 371.25 |
| SIGNAL (GREEN) | 11 | 135 | 15 | 0.25 | 371.25 |
| ARROW | 8 | 135 | 12 | 0.10 | 108 |
| PED. SIGNAL | 0 | 90 | 25 | 1.00 | 0 |
| CONTROLLER | 1 | 100 | 100 | 1.00 | 100 |
| ILLUM. SIGN | 0 | 84 | | 0.05 | 0 |
| FLASHER | | | | 0.50 | |
| ENERGY COSTS TO: VILLAGE OF SOUTH HOLLAND | | | | TOTAL = | 1693 |

| FOUNDATION (DEPTH) | FT. (m) | CABLE SLACK | FT. (m) | VERTICLE | 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" (6m ± 0.6m) |
| E - M. ARM POLE | | SIGNAL POST | 2 (1.0) | BRACKET MOUNTED | 13 (4.0) |
| 24" (600mm) | 10 (3.0) | CONTROLLER CAB. | 1 (0.5) | PED. PUSHBUTTON | 4 (1.2) |
| 30" (750mm) | 15 (4.6) | FIBER OPTIC | 13 (4.0) | ELECTRIC SERVICE | 13.5 (4.1) |
| | | ELECTRIC SERVICE | 1 (0.5) | SERVICE TO GROUND | 13.5 (4.1) |
| | | GROUND CABLE | 1 (0.5) | POST MOUNTED | 6 (1.8) |

ILLINOIS DEPARTMENT OF TRANSPORTATION

STATE STREET @ ARMORY DRIVE (170TH STREET) INTERSECTION IMPROVEMENT TRAFFIC SIGNAL CABLE PLAN

SCALE: VERT. NA
 HORIZ. NA
 DATE 7/22/08

DRAWN BY RG
 CHECKED BY MRS

ROBINSON ENGINEERING, LTD.
 1700 SOUTH PARK AVENUE, SOUTH HOLLAND, ILLINOIS 60473
 (708) 391-8700 FAX (708) 391-8828
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