

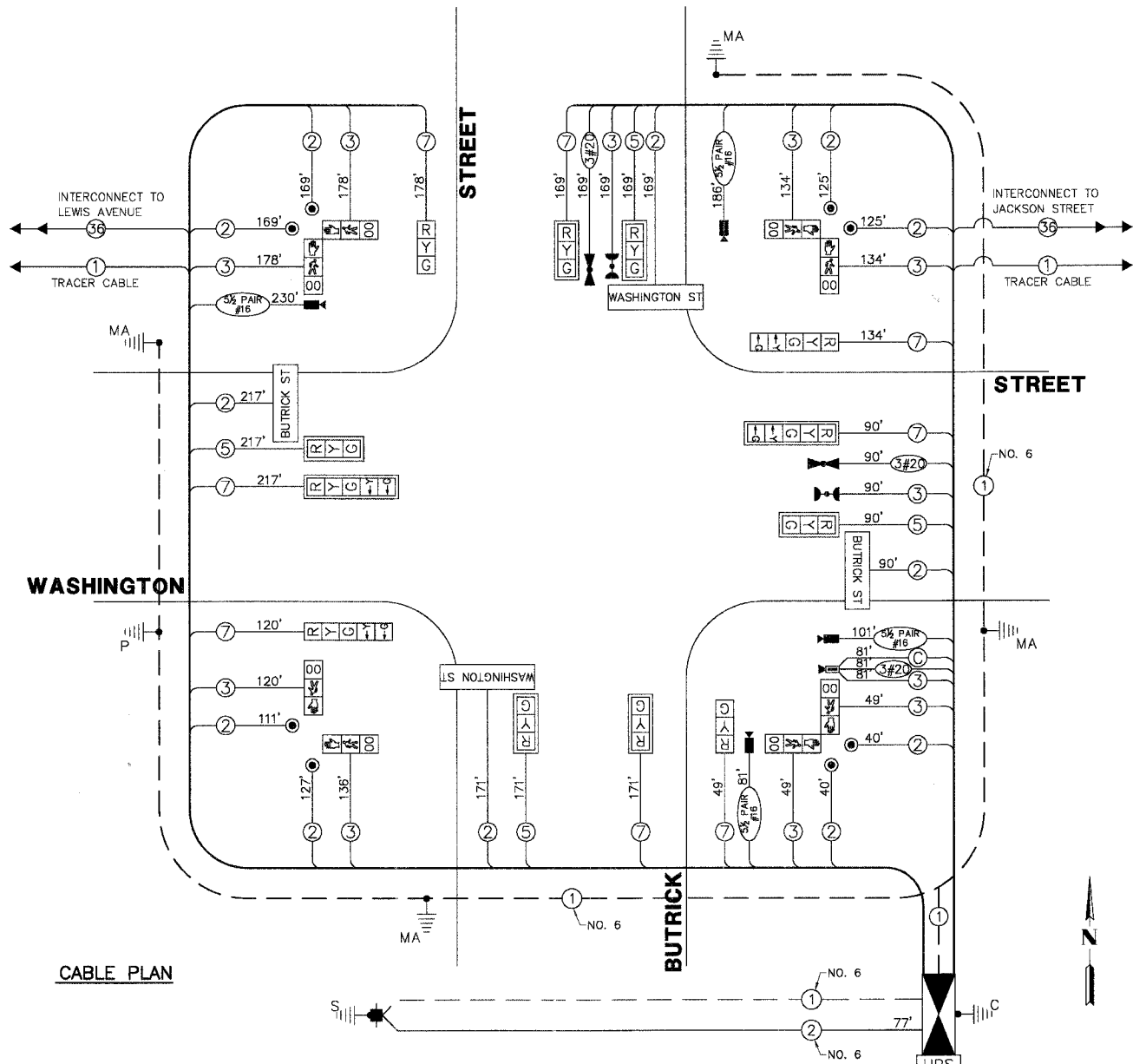
| F.A.U. R.T.E.                         | SECTION        | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------------------|----------------|--------|--------------|-----------|
| 1223                                  | 04-00272-00-TL | LAKE   | 72           | 27        |
| CABLE PLAN, PHASE DESIGNATION DIAGRAM |                |        |              |           |
| ILLINOIS                              |                |        |              |           |

**SCHEDULE OF QUANTITIES**

| QUANT.                             | UNIT         | ITEM   |
|------------------------------------|--------------|--|
| <b>ROADWAY IMPROVEMENTS</b>        |              |  |
| 1.                                 | 30 CU.YD.    | EARTH EXCAVATION   |
| 2.                                 | 100 SQ.YD.   | AGGREGATE BASE COURSE, TYPE A, 4"  |
| 3.                                 | 100 SQ.YD.   | PORTLAND CEMENT CONCRETE BASE COURSE, 8"                                     |
| 4.                                 | 5 GAL.       | BITUMINOUS MATERIALS (PRIME COAT)  |
| 5.                                 | 5 TON        | HOT-MIX ASPHALT SURFACE COURSE, MIX "D" N70                                  |
| 6.                                 | 1,815 SQ.FT. | PORTLAND CEMENT CONCRETE SIDEWALK, 5"  |
| 7.                                 | 96 SQ.FT.    | DETECTABLE WARNING   |
| 8.                                 | 100 SQ.YD.   | PAVEMENT REMOVAL   |
| 9.                                 | 200 FOOT     | COMBINATION CURB & GUTTER REMOVAL  |
| 10.                                | 1,315 SQ.FT. | SIDEWALK REMOVAL   |
| 11.                                | 10 FOOT      | STORM SEWER, CLASS B, TYPE 1 12"   |
| 12.                                | 3 EACH       | FRAME AND LIDS, TYPE 1, OPEN LID   |
| 13.                                | 1 EACH       | INLET, TYPE A, TYPE 1 FRAME, OPEN LID (30" DEPTH)                            |
| 14.                                | 250 FOOT     | COMBINATION CURB & GUTTER, TYPE B6.12  |
| 15.                                | 218.4 SQ.FT. | THERMOPLASTIC PAVEMENT MARKING-LETTERS AND SYMBOLS                           |
| 16.                                | 2,180 FOOT   | THERMOPLASTIC PAVEMENT MARKING-LINE 4"                                       |
| 17.                                | 530 FOOT     | THERMOPLASTIC PAVEMENT MARKING-LINE 6"                                       |
| 18.                                | 739 FOOT     | THERMOPLASTIC PAVEMENT MARKING-LINE 12"                                      |
| 19.                                | 105 FOOT     | THERMOPLASTIC PAVEMENT MARKING-LINE 24"                                      |
| 20.                                | 1,180 SQ.FT. | PAVEMENT MARKING REMOVAL   |
| <b>TRAFFIC SIGNAL IMPROVEMENTS</b> |              |  |
| 21.                                | 5 FOOT       | CONDUIT IN TRENCH, 2 1/2" DIA., GALVANIZED STEEL                             |
| 22.                                | 47 FOOT      | CONDUIT IN TRENCH, 3" DIA., GALVANIZED STEEL                                 |
| 23.                                | 10 FOOT      | CONDUIT IN TRENCH, 4" DIA., GALVANIZED STEEL                                 |
| 24.                                | 59 FOOT      | CONDUIT PUSHED, 2" DIA., GALVANIZED STEEL                                    |
| 25.                                | 198 FOOT     | CONDUIT PUSHED, 4" DIA., GALVANIZED STEEL                                    |
| 26.                                | 2 EACH       | HANDHOLE   |
| 27.                                | 2 EACH       | DOUBLE HANDHOLE  |
| 28.                                | 57 FOOT      | TRENCH AND BACKFILL FOR ELECTRICAL WORK                                      |
| 29.                                | 1 EACH       | FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, (SPECIAL)                      |
| 30.                                | 1 EACH       | TRANSCEIVER - FIBER OPTIC  |
| 31.                                | 1,553 FOOT   | ELECTRIC CABLE IN CONDUIT, SIGNAL NO.14 2C                                   |
| 32.                                | 1,318 FOOT   | ELECTRIC CABLE IN CONDUIT, SIGNAL NO.14 3C                                   |
| 33.                                | 478 FOOT     | ELECTRIC CABLE IN CONDUIT, SIGNAL NO.14 5C                                   |
| 34.                                | 1,128 FOOT   | ELECTRIC CABLE IN CONDUIT, SIGNAL NO.14 7C                                   |
| 35.                                | 77 FOOT      | ELECTRIC CABLE IN CONDUIT, SERVICE, NO.6 2C                                  |
| 36.                                | 1 EACH       | STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 28 FT. (SPECIAL)                |
| 37.                                | 1 EACH       | STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 32 FT. (SPECIAL)                |
| 38.                                | 1 EACH       | STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 34 FT. (SPECIAL)                |
| 39.                                | 1 EACH       | STEEL MAST ARM ASSEMBLY AND POLE 28 FT. (SPECIAL)                            |
| 40.                                | 4 FOOT       | CONCRETE FOUNDATION, TYPE A  |
| 41.                                | 4 FOOT       | CONCRETE FOUNDATION, TYPE C  |
| 42.                                | 15 FOOT      | CONCRETE FOUNDATION, TYPE E 30-INCH DIAMETER                                 |
| 43.                                | 45 FOOT      | CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER                                 |
| 44.                                | 8 EACH       | TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINIUM                                |
| 45.                                | 2 EACH       | LIGHT DETECTOR   |
| 46.                                | 1 EACH       | LIGHT DETECTOR AMPLIFIER   |
| 47.                                | 8 EACH       | PEDESTRIAN PUSH-BUTTON   |
| 48.                                | 1 EACH       | TEMPORARY TRAFFIC SIGNAL INSTALLATION  |
| 49.                                | 1 EACH       | REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT                                     |
| 50.                                | 9 EACH       | REMOVE EXISTING HANDHOLE   |
| 51.                                | 8 EACH       | REMOVE EXISTING CONCRETE FOUNDATION  |
| 52.                                | 2 EACH       | PEDESTRIAN SIGNAL HEAD, L.E.D., 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER |
| 53.                                | 3 EACH       | PEDESTRIAN SIGNAL HEAD, L.E.D., 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER |
| 54.                                | 4 EACH       | L.E.D. INTERNALLY ILLUMINATED STREET NAME SIGN                               |
| 55.                                | 1 EACH       | VIDEO DETECTION SYSTEM, (COMPLETE INTERSECTION)                              |
| 56.                                | 1 EACH       | REMOTE-CONTROLLED VIDEO SYSTEM   |
| 57.                                | 598 FOOT     | ELECTRIC CABLE IN CONDUIT, COMMUNICATION NO. 16, 5 1/2 PAIR                  |
| 58.                                | 1 EACH       | TRAFFIC SIGNAL POST, 16 FT. (SPECIAL)  |
| 59.                                | 1 EACH       | LAYER II (DATA LINK) SWITCH  |
| 60.                                | 1 EACH       | UNINTERRUPTABLE POWER SUPPLY   |
| 61.                                | 350 FOOT     | ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C                               |
| 62.                                | 340 FOOT     | ELECTRIC CABLE IN CONDUIT, NO. 20 3C, TWISTED, SHIELDED                      |
| 63.                                | 2 EACH       | SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, BRACKET MOUNTED                      |
| 64.                                | 6 EACH       | SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, MAST ARM MOUNTED                     |
| 65.                                | 2 EACH       | SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, BRACKET MOUNTED                      |
| 66.                                | 2 EACH       | SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, MAST ARM MOUNTED                     |
| 67.                                | 81 FOOT      | ELECTRIC CABLE IN CONDUIT, COAXIAL   |
| 68.                                | 1 EACH       | SERVICE INSTALLATION, POLE MOUNT   |

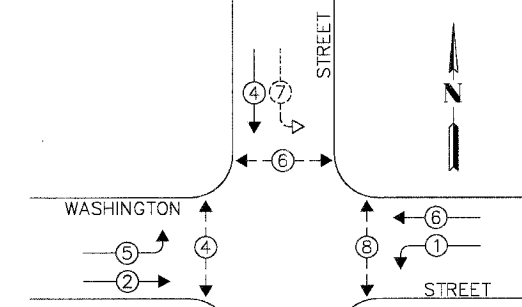
**CABLE PLAN LEGEND**

| EXISTING | PROPOSED | DESCRIPTION   |
|----------|----------|---|
| [Symbol] | [Symbol] | 12" TRAFFIC SIGNAL SECTION  |
| [Symbol] | [Symbol] | 12" PEDESTRIAN SIGNAL SECTION   |
| [Symbol] | [Symbol] | CONTROLLER CABINET  |
| [Symbol] | [Symbol] | SERVICE INSTALLATION  |
| [Symbol] | [Symbol] | TELEPHONE INSTALLATION  |
| [Symbol] | [Symbol] | VEHICLE DETECTOR, INDUCTION LOOP  |
| [Symbol] | [Symbol] | EMERGENCY VEHICLE LIGHT DETECTOR  |
| [Symbol] | [Symbol] | CONFIRMATION BEACON   |
| [Symbol] | [Symbol] | PUSHBUTTON DETECTOR   |
| [Symbol] | [Symbol] | DENOTES NUMBER OF CONDUCTORS. ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOP DETECTOR CABLE TO BE SHIELDED. |
| [Symbol] | [Symbol] | GROUND CABLE IN CONDUIT, NO.6 SOLID COPPER (GREEN)  |
| [Symbol] | [Symbol] | FIBER OPTIC CABLE IN CONDUIT NO. 62.5/125 MM12F SM24F   |
| [Symbol] | [Symbol] | SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD   |
| [Symbol] | [Symbol] | RAILROAD CONTROL CABINET  |
| [Symbol] | [Symbol] | ILLUMINATED SIGN "NO LEFT TURN"   |
| [Symbol] | [Symbol] | ILLUMINATED SIGN "NO RIGHT TURN"  |
| [Symbol] | [Symbol] | GROUND ROD AT HANDHOLE (H), DOUBLE HANDHOLE (H) OR CONTROLLER (C)   |
| [Symbol] | [Symbol] | GROUND ROD AT POST (P) OR MAST ARM POLE (MA)  |
| [Symbol] | [Symbol] | GROUND ROD AT ELECTRIC SERVICE INSTALLATION   |
| [Symbol] | [Symbol] | BELDEN 8281 COAXIAL CABLE   |
| [Symbol] | [Symbol] | ISDN LINE   |
| [Symbol] | [Symbol] | LUMINAIRE   |
| [Symbol] | [Symbol] | VIDEO DETECTION CAMERA  |
| [Symbol] | [Symbol] | PTZ CAMERA  |
| [Symbol] | [Symbol] | VIDEO COMMUNICATIONS CABINET  |
| [Symbol] | [Symbol] | L.E.D. STREET NAME SIGN   |
| [Symbol] | [Symbol] | UNINTERRUPTIBLE POWER SUPPLY  |

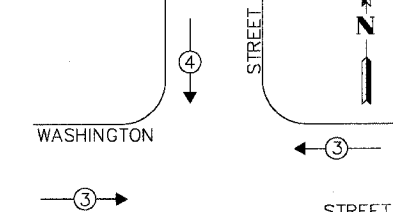


**CABLE PLAN**

**CONTROLLER SEQUENCE**



**EMERGENCY VEHICLE PREEMPTION SEQUENCE**



**LEGEND:**

|          |                                   |
|----------|-----------------------------------|
| [Symbol] | DUAL ENTRY PHASE                  |
| [Symbol] | PEDESTRIAN PHASE                  |
| [Symbol] | NUMBER REFERS TO ASSOCIATED PHASE |
| [Symbol] | OVERLAP                           |
| [Symbol] | FUTURE PHASE                      |

**PHASE DESIGNATION DIAGRAM**

| L.C.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS |          |                        |             |      | TOTAL WATTAGE |
|--|----------|------------------------|-------------|------|---------------|
| TYPE   | NO LAMPS | WATTAGE INCAND. L.E.D. | % OPERATION |      |               |
| SIGNAL (RED)   | 12       | 135                    | 10          | 0.50 | 60.0          |
| SIGNAL (YELLOW)  | 12       | 135                    | 19          | 0.10 | 22.8          |
| SIGNAL (GREEN)   | 12       | 135                    | 11          | 0.40 | 52.8          |
| ARROW  | 8        | 135                    | 9           | 0.10 | 7.2           |
| PED. SIGNAL  | 8        | 90                     | 9           | 1.00 | 72.0          |
| CONTROLLER   | 1        | -                      | 100         | 1.00 | 100.0         |
| LUMINAIRE  | 4        | -                      | 250         | 0.50 | 500.0         |
| L.E.D. ST. NAME SIGN   | 4        | -                      | 64          | 0.50 | 128.0         |
| VIDEO SYSTEM   | 1        | -                      | 150         | 1.00 | 150.0         |
| BATTERY BACKUP   | 1        | -                      | 25          | 1.00 | 25.0          |
| TOTAL =  |          |                        |             |      | 1117.8        |

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "NTCIP" COMPLIANT.

| FOUNDATION (DEPTH) (FT.) | CABLE SLACK (FT.)  | VERTICAL (FT.)                                |
|--------------------------|--------------------|---|
| TYPE A - POST 4          | HANDHOLE 6.5       | ALL FOUNDATIONS 3.5                           |
| TYPE D - CONTROLLER 4    | DOUBLE HANDHOLE 13 | MAST ARM (L) POLE BRACKET MOUNTED 20'+1-2= 13 |
| TYPE E - M.ARM POLE 15   | SIGNAL POST 2      | BRACKET MOUNTED 13                            |
|                          | CONTROLLER CAB. 1  | PED. PUSHBUTTON 4                             |
|                          | FIBER OPTIC 13     | ELECTRIC SERVICE 13.5                         |
|                          | ELECTRIC SERVICE 1 | SERVICE TO GROUND 13.5                        |
|                          | GROUND CABLE 1     | POST MOUNTED 6                                |

PLANS PREPARED BY:  
**GEWALT HAMILTON ASSOCIATES, INC.**  
Consulting Engineers & Surveyors  
550 Forest Edge Drive  
Vernon Hills, IL 60061  
(847) 478-9700  
(847) 478-9700 Fax

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

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

LAKE COUNTY DIVISION OF TRANSPORTATION  
**CABLE PLAN, PHASE DESIGNATION DIAGRAM AND SCHEDULE OF QUANTITIES**  
**WASHINGTON STREET AND BUTTRICK STREET**  
SCALE: NONE  
DATE: MAY 1, 2007  
DRAWN BY: ZCW  
DESIGNED BY: JRD  
CHECKED BY: BLS