

| F.A.P. RY. | SECTION     | COUNTY | TOTAL SHEETS | SHEET NO. |
|------------|-------------|--------|--------------|-----------|
| 330        | 2008-006 TS | COOK   | 104*         | 1         |

104+3=107

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

**PLANS FOR PROPOSED  
FEDERAL AID HIGHWAY**

DISTRICT 1

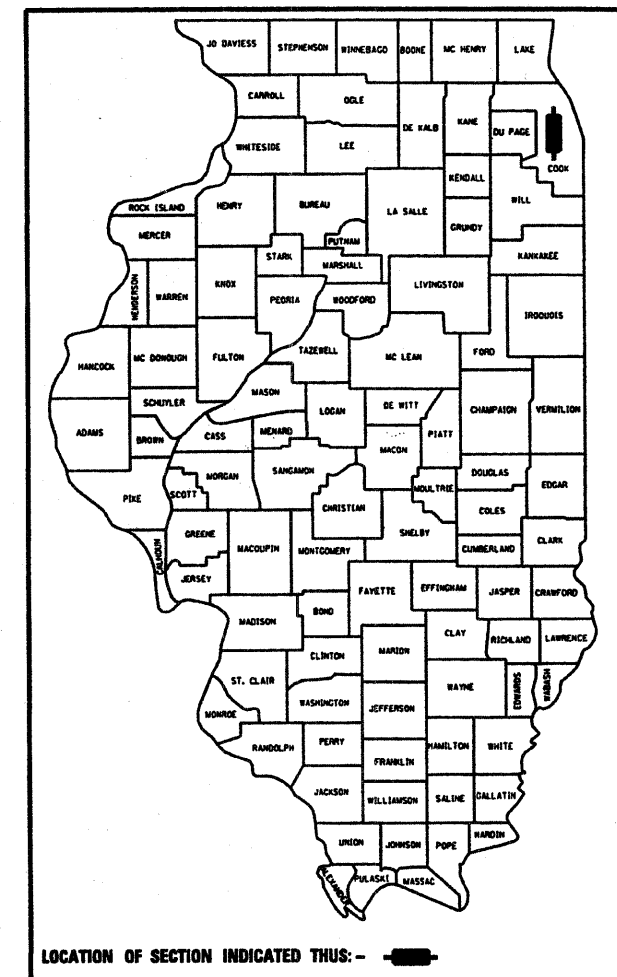
VARIOUS LOCATIONS - SAFETY PROJECTS  
TRAFFIC SIGNAL MODERNIZATION  
F.A.P. ROUTE 330

US ROUTE 12/45-12/20/45 (MANNHEIM AVENUE)  
FROM BELMONT AVENUE TO CERMAK ROAD

PROJECT: HSIP-0330(049)

SECTION 2008-006 TS  
COOK COUNTY  
D-91-356-08

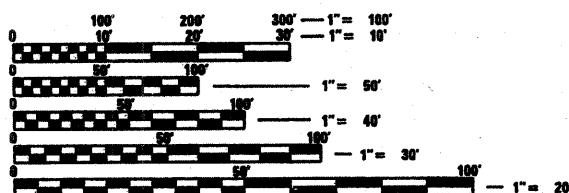
LEYDEN AND PROVISO TOWNSHIP



FOR INDEX OF SHEETS, SEE SHEET NUMBER 2

**STANDARDS**

- |                    |                    |
|--------------------|--------------------|
| STANDARD 424001-05 | STANDARD 814006-02 |
| STANDARD 606001-04 | STANDARD 857001-01 |
| STANDARD 701501-05 | STANDARD 857006-01 |
| STANDARD 701801-06 | STANDARD 862001-01 |
| STANDARD 701701-06 | STANDARD 873001-02 |
| STANDARD 701801-04 | STANDARD 877001-04 |
| STANDARD 720001-01 | STANDARD 878001-07 |
| STANDARD 720016-02 | STANDARD 880001-01 |
| STANDARD 780001-02 | STANDARD 880006-01 |
| STANDARD 805001-01 | STANDARD 886001-01 |
| STANDARD 814001-02 | 701901-01          |
|                    | 701421-02          |
|                    | 420101-04          |
|                    | 606301-04          |



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

BEFORE STARTING ANY EXCAVATION, THE CONTRACTOR SHALL CALL "J.U.I.E." AT (800) 892-0123 OR 311 FOR FIELD LOCATIONS OF BURIED ELECTRIC, TELEPHONE AND GAS UTILITIES. 48 HOUR NOTIFICATION IS REQUIRED.

SCALES { PLAN 1"=20'  
INTERCONNECT 1"=50'

PROJECT BEGINS

PROJECT ENDS



LOCATION MAP

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

SUBMITTED Oct. 17 2008  
Kevin M. O'Keefe  
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

January 30 2009  
Charles A. Janssolt  
ENGINEER OF DESIGN AND ENVIRONMENT

January 30 2009  
Christina M. Reed  
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

PRINTED BY THE AUTHORITY  
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|   |  |  |
|---|--|--|
| 1 . COVER SHEET   | 40 . TEMPORARY CABLE PLAN                                | 75 . EXISTING CABLE PLAN   |
| 2 . INDEX OF SHEETS   | 41 . PROPOSED TRAFFIC SIGNAL PLAN                        |  |
| 3 . SUMMARY OF QUANTITIES   | 42 . PROPOSED CABLE PLAN                                 | 76 . US 122045 (MANNHEIM ROAD) AT IL. RTE. 38 (ROOSEVELT ROAD)   |
| 4 . <del>DELETED</del>  | 43 . MAST ARM MOUNTED STREEN NAME SIGNS                  | - EXISTING AND REMOVAL PLAN  |
| 5-8 . STANDARD TRAFFIC DETAILS  |  | 77 . EXISTING CABLE PLAN   |
| 9 . US 122045 (MANNHEIM ROAD) AT BELMONT AVENUE   | 44 . US 122045 (MANNHEIM ROAD) AT HIRSCH (SOFFEL) AVENUE | 78 . PROPOSED TRAFFIC SIGNAL PLAN  |
| - TEMPORARY TRAFFIC SIGNAL AND REMOVAL PLAN   | - TEMPORARY TRAFFIC SIGNAL AND REMOVAL PLAN              | 79 . PROPOSED CABLE PLAN   |
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| 11 . PROPOSED TRAFFIC SIGNAL PLAN   | 46 . PROPOSED TRAFFIC SIGNAL PLAN                        | 80 . US 122045 (MANNHEIM ROAD) AT CANTERBURY STREET  |
| 12 . PROPOSED CABLE PLAN  | 47 . PROPOSED CABLE PLAN                                 | - EXISTING AND REMOVAL PLAN  |
| 13 . MAST ARM MOUNTED STREEN NAME SIGNS   | 48 . MAST ARM MOUNTED STREEN NAME SIGNS                  | 81 . EXISTING CABLE PLAN   |
|   |  | 82 . PROPOSED TRAFFIC SIGNAL PLAN  |
| 14 . US 122045 (MANNHEIM ROAD) AT GRAND AVENUE  | 49 . US 122045 (MANNHEIM ROAD) AT LAKE AVENUE            | 83 . PROPOSED CABLE PLAN   |
| - EXISTING AND REMOVAL PLAN   | - EXISTING AND REMOVAL PLAN                              |  |
| 15 . EXISTING CABLE PLAN  | 50 . EXISTING CABLE PLAN                                 | 84 . US 122045 (MANNHEIM ROAD) AT BALMORAL/DORCHESTER  |
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| 17 . PROPOSED CABLE PLAN  | 52 . PROPOSED CABLE PLAN                                 | 85 . EXISTING CABLE PLAN   |
|   |  | 86 . PROPOSED TRAFFIC SIGNAL PLAN  |
| 18 . US 122045 (MANNHEIM ROAD) AT WRIGHTWOOD AVENUE   | 53 . US 122045 (MANNHEIM ROAD) AT ST. CHARLES ROAD       | 87 . PROPOSED CABLE PLAN   |
| - EXISTING AND REMOVAL PLAN   | - EXISTING AND REMOVAL PLAN                              |  |
| 19 . EXISTING CABLE PLAN  | 54 . EXISTING CABLE PLAN                                 | 88 . US 122045 (MANNHEIM ROAD) AT CERMAK ROAD  |
| 20 . PROPOSED TRAFFIC SIGNAL PLAN   | 55 . PROPOSED TRAFFIC SIGNAL PLAN                        | - EXISTING AND REMOVAL PLAN  |
| 21 . PROPOSED CABLE PLAN  | 56 . PROPOSED CABLE PLAN                                 | 89 . EXISTING CABLE PLAN   |
|   |  | 90 . PROPOSED TRAFFIC SIGNAL PLAN  |
| 22 . US 122045 (MANNHEIM ROAD) AT FULLERTON AVENUE  | 57 . US 122045 (MANNHEIM ROAD) AT RANDOLPH STREET        | 91 . PROPOSED CABLE PLAN   |
| - TEMPORARY TRAFFIC SIGNAL AND REMOVAL PLAN   | - EXISTING AND REMOVAL PLAN                              |  |
| 23 . TEMPORARY CABLE PLAN   | 58 . EXISTING CABLE PLAN                                 | 92 . US 122045 (MANNHEIM ROAD) FROM LAKE STREET TO HIRSCH (SOFFEL) AVENUE  |
| 24 . PROPOSED TRAFFIC SIGNAL PLAN   | 59 . PROPOSED TRAFFIC SIGNAL PLAN                        | - INTERCONNECT PLAN (SHEET 1 OF 5)   |
| 25 . PROPOSED CABLE PLAN  | 60 . PROPOSED CABLE PLAN                                 | 93 . US 122045 (MANNHEIM ROAD) FROM LAYMON STREET TO MAJOR DRIVE   |
| 26 . MAST ARM MOUNTED STREEN NAME SIGNS   |  | - INTERCONNECT PLAN (SHEET 2 OF 5)   |
|   |  | 94 . US 122045 (MANNHEIM ROAD) FROM DICKENS AVENUE TO SCHUBERT AVENUE  |
| 27 . US 122045 (MANNHEIM ROAD) AT ARMITAGE AVENUE   | 61 . US 122045 (MANNHEIM ROAD) AT WASHINGTON BLVD.       | - INTERCONNECT PLAN (SHEET 3 OF 5)   |
| - TEMPORARY TRAFFIC SIGNAL AND REMOVAL PLAN   | - TEMPORARY TRAFFIC SIGNAL AND REMOVAL PLAN              | 95 . US 122045 (MANNHEIM ROAD) FROM DIVERSEY AVENUE TO BELMONT AVENUE  |
| 28 . TEMPORARY CABLE PLAN   | 62 . TEMPORARY CABLE PLAN                                | - INTERCONNECT PLAN (SHEET 4 OF 5)   |
| 29 . TEMPORARY SEQUENCE OF OPERATION, RAILROAD PREEMPTION SEQUENCE, AND EMERGENCY VEHICLE PREEMPTION SEQUENCE | 63 . PROPOSED TRAFFIC SIGNAL PLAN                        | 96 . US 122045 (MANNHEIM ROAD) FROM MADISON AVENUE TO ST. CHARLES ROAD   |
| 30 . PROPOSED TRAFFIC SIGNAL PLAN   | 64 . PROPOSED CABLE PLAN                                 | - INTERCONNECT PLAN (SHEET 5 OF 5)   |
| 31 . PROPOSED CABLE PLAN  | 65 . MAST ARM MOUNTED STREEN NAME SIGNS                  | 97 . US 122045 (MANNHEIM ROAD) @ CERMAK RD.  |
| 32 . SEQUENCE OF OPERATION, RAILROAD PREEMPTION SEQUENCE, AND EMERGENCY VEHICLE PREEMPTION SEQUENCE           | 66 . US 122045 (MANNHEIM ROAD) AT MADISON STREET         | - INTERCONNECT PLAN  |
| 33 . MAST ARM MOUNTED STREEN NAME SIGNS   | - EXISTING AND REMOVAL PLAN                              | 98 . US 122045 (MANNHEIM ROAD) @ CANTERBURY ST.  |
|   | 67 . EXISTING CABLE PLAN                                 | - INTERCONNECT PLAN  |
| 34 . US 122045 (MANNHEIM ROAD) AT NORTH RETAIL ENTRANCE   | 68 . PROPOSED TRAFFIC SIGNAL PLAN                        | 99 . US 122045 (MANNHEIM ROAD) @ ROOSEVELT RD.   |
| - TEMPORARY TRAFFIC SIGNAL AND REMOVAL PLAN   | 69 . PROPOSED CABLE PLAN                                 | - INTERCONNECT PLAN  |
| 35 . TEMPORARY CABLE PLAN   | 70 . US 122045 (MANNHEIM ROAD) AT GLADYS AVENUE          | 100 . US 122045 (MANNHEIM ROAD) @ CONGRESS ST.   |
| 36 . PROPOSED TRAFFIC SIGNAL PLAN   | - EXISTING ON SPANWIRE REMOVAL PLAN                      | - INTERCONNECT PLAN  |
| 37 . PROPOSED CABLE PLAN  | 71 . EXISTING TEMPORARY CABLE PLAN                       | 101 . INTERCONNECT SCHEMATIC (1 OF 2) - LAKE TO BELMONT  |
| 38 . MAST ARM MOUNTED STREEN NAME SIGNS   | 72 . PROPOSED TRAFFIC SIGNAL ON SPANWIRE PLAN            | 102 . INTERCONNECT SCHEMATIC (2 OF 2) CERMAK TO ST. CHARLES  |
|   | 73 . PROPOSED ON SPANWIRE CABLE PLAN                     | 103 . WIRELESS INTERCONNECT SCHEMATIC (1 OF 2) LAKE TO BELMONT   |
| 39 . US 122045 (MANNHEIM ROAD) AT SOUTH RETAIL ENTRANCE   | 74 . US 122045 (MANNHEIM ROAD) AT HARRISON STREET        | 104 . WIRELESS INTERCONNECT SCHEMATIC (2 OF 2) CERMAK TO ST. CHAS. 104A-104D. MEDIAN UNDER CHICAGO CENTRAL & PACIFIC R.R. BRIDGE |
| - TEMPORARY TRAFFIC SIGNAL AND REMOVAL PLAN   | - EXISTING AND REMOVAL PLAN                              |  |

| LOCATION OF WORK      |   | CONSTRUCTION CODE | U.S. RTE 12-45 (MANNHEIM RD.) AT  |   |                        |                                    |                      |  |  |  |                      |   |
|-----------------------|---|-------------------|-----------------------------------|---|------------------------|------------------------------------|----------------------|--|--|--|----------------------|---|
| SUMMARY OF QUANTITIES |   | GRAND TOTAL       | Y031-1F BELMONT AV. & GRAND AV. * | Y031-1F WRIGHTWOOD AV. & FULLERTON AV. ** | Y031-1F ARMITAGE AV. + | Y031-1F NORTH/SOUTH RETAIL ENTR. ◆ | Y031-1F HIRSCH AV. ★ | Y031-1F LAKE ST. & OTHERS (SEE NOTE) ◀ | Y031-1F ST. CHARLES RD. & RANDOLPH ST. ■ | Y031-1F WASHINGTON BLVD. & MADISON AV. ▲ | Y031-1F GLADYS AV. ▣ | Y031-1F CANTERBURY ST. & BALMORAL AV. ● |
| 42400200              | PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH                                    | SQ FT 5255        | 249                               | 1357                                      | 825                    | 1053                               | 1571                 |  |  |  |                      |   |
| 44000500              | COMBINATION CURB AND GUTTER REMOVAL   | FOOT 77           | 50                                | 27  |                        |                                    |                      |  |  |  |                      |   |
| 44000600              | SIDEWALK REMOVAL  | SQ FT 5255        | 249                               | 1357                                      | 825                    | 1053                               | 1571                 |  |  |  |                      |   |
| 60605000              | COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.24                           | FOOT 77           | 50                                | 27  |                        |                                    |                      |  |  |  |                      |   |
| 67000400              | ENGINEER'S FIELD OFFICE, TYPE A   | CAL MO 0.53       | 0.94                              | 0.94                                      | 0.47                   | 0.94                               | 0.47                 | 1.48                                   | 0.94                                     | 0.94                                     | 0.47                 | 0.94                                    |
| 67100100              | MOBILIZATION  | L SUM 1           | 0.1                               | 0.1                                       | 0.05                   | 0.1                                | 0.05                 | 0.25                                   | 0.1                                      | 0.1                                      | 0.05                 | 0.1                                     |
| 70102620              | TRAFFIC CONTROL AND PROTECTION, STANDARD 701501                             | L SUM 1           | 0.1                               | 0.1                                       | 0.05                   | 0.1                                | 0.05                 | 0.25                                   | 0.1                                      | 0.1                                      | 0.05                 | 0.1                                     |
| 70102635              | TRAFFIC CONTROL AND PROTECTION, STANDARD 701701                             | L SUM 1           | 0.1                               | 0.1                                       | 0.05                   | 0.1                                | 0.05                 | 0.25                                   | 0.1                                      | 0.1                                      | 0.05                 | 0.1                                     |
| 70102640              | TRAFFIC CONTROL AND PROTECTION, STANDARD 701801                             | L SUM 1           | 0.1                               | 0.1                                       | 0.05                   | 0.1                                | 0.05                 | 0.25                                   | 0.1                                      | 0.1                                      | 0.05                 | 0.1                                     |
| 72000100              | SIGN PANEL - TYPE 1   | SQ FT 1064        | 16.5                              | 18  | 58.5                   |                                    | 27                   |  |  |  |                      | 944                                     |
| 72000200              | SIGN PANEL - TYPE 2   | SQ FT 472.5       | 30                                | 30  | 30                     | 30                                 | 30                   |  |  | 57.5                                     |                      | 265                                     |
| 78000600              | THERMOPLASTIC PAVEMENT MARKING - LINE 12"                                   | FOOT 7658         | 808                               | 808                                       | 272                    | 456                                | 2265                 | 872                                    | 744                                      |  | 72                   | 1361                                    |
| 78000650              | THERMOPLASTIC PAVEMENT MARKING - LINE 24"                                   | FOOT 2380         | 340                               | 285                                       | 134                    | 211                                | 114                  | 798                                    | 255                                      | 226                                      | 17                   |   |
| 78300400              | THERMOPLASTIC PAVEMENT MARKING REMOVAL                                      | SQ FT 9166        | 1440                              | 1220                                      | 264                    | 422                                | 716                  | 3437                                   | 451                                      | 1091                                     | 125                  |   |
| 81000600              | CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL                                | FOOT 3708         | 406                               | 385                                       | 449                    | 1283                               | 465                  |  |  | 720                                      |                      |   |
| 81000700              | CONDUIT IN TRENCH, 2 1/2" DIA., GALVANIZED STEEL                            | FOOT 242          | 105                               | 7   | 39                     | 73                                 |                      |  |  | 18                                       |                      |   |
| 81000800              | CONDUIT IN TRENCH, 3" DIA., GALVANIZED STEEL                                | FOOT 75           |                                   |   |                        | 75                                 |                      |  |  |  |                      |   |
| 81001000              | CONDUIT IN TRENCH, 4" DIA., GALVANIZED STEEL                                | FOOT 19           | 9                                 |   | 10                     |                                    |                      |  |  |  |                      |   |
| 81001100              | CONDUIT IN TRENCH, 5" DIA., GALVANIZED STEEL                                | FOOT 56           | 10                                | 5   |                        | 10                                 |                      |  |  | 11                                       |                      |   |
| 81018500              | CONDUIT PUSHED, 2" DIA., GALVANIZED STEEL                                   | FOOT 1408         | 261                               | 292                                       | 191                    | 95                                 | 168                  |  |  | 401                                      |                      |   |
| 81018600              | CONDUIT PUSHED, 2 1/2" DIA., GALVANIZED STEEL                               | FOOT 308          |                                   | 67  | 38                     | 101                                | 25                   |  |  | 77                                       |                      |   |
| 81018700              | CONDUIT PUSHED, 3" DIA., GALVANIZED STEEL                                   | FOOT 166          |                                   | 17  |                        | 105                                | 44                   |  |  |  |                      |   |
| 81018900              | CONDUIT PUSHED, 4" DIA., GALVANIZED STEEL                                   | FOOT 1713         | 319                               | 220                                       | 342                    | 191                                | 256                  |  |  | 385                                      |                      |   |
| 81019000              | CONDUIT PUSHED, 5" DIA., GALVANIZED STEEL                                   | FOOT 218          |                                   | 86  |                        | 96                                 | 36                   |  |  |  |                      |   |
| 81306500              | REMOVE EXISTING JUNCTION BOX  | EACH 2            |                                   |   |                        | 2                                  |                      |  |  |  |                      |   |
| 81400100              | HANDHOLE  | EACH 39           | 5                                 | 4   | 8                      | 9                                  | 5                    |  |  | 8  |                      |   |
| 81400200              | HEAVY-DUTY HANDHOLE   | EACH 20           | 4                                 | 4   | 2                      | 4                                  | 2                    |  |  | 4  |                      |   |
| 81400300              | DOUBLE HANDHOLE   | EACH 10           | 2                                 | 2   | 1                      | 2                                  | 2                    |  |  | 1  |                      |   |
| 81900200              | TRENCH AND BACKFILL FOR ELECTRICAL WORK                                     | FOOT 4270         | 624                               | 397                                       | 493                    | 1545                               | 470                  |  |  | 741                                      |                      |   |
| 85000200              | MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION                         | EACH 11           | 1                                 | 1   |                        |                                    |                      |  |  | 1  |                      | 2                                       |
| 85700205              | FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL                       | EACH 16           | 2                                 | 2   | 1                      | 2                                  | 1                    | 1                                      | 2  | 2  | 1                    | 2                                       |
| 85700305              | FULL-ACTUATED CONTROLLER AND TYPE V CABINET, SPECIAL                        | EACH 2            |                                   |   |                        |                                    |                      | 2                                      |  |  |                      |   |
| 86000105              | MASTER CONTROLLER (SPECIAL)   | EACH 1            |                                   |   |                        |                                    |                      | 1                                      |  |  |                      |   |
| 86400100              | TRANSCEIVER - FIBER OPTIC   | EACH 12           | 2                                 | 2   | 1                      | 2                                  | 1                    | 1                                      | 1  | 2  |                      |   |
| 87301215              | ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C                                 | FOOT 5001         | 327                               | 1228                                      | 300                    | 553                                |                      |  |  | 2441                                     | 152                  |   |
| 87301225              | ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C                                 | FOOT 7669         | 1253                              | 1492                                      | 1461                   | 1177                               | 437                  |  |  | 1689                                     | 160                  |   |
| 87301245              | ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C                                 | FOOT 14015        | 1896                              | 2161                                      | 2092                   | 4660                               | 2076                 |  |  | 875                                      |                      | 255                                     |
| 87301255              | ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C                                 | FOOT 7654         | 1880                              | 1471                                      | 703                    | 846                                | 715                  | 444                                    |  | 1595                                     |                      |   |
| 87301305              | ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR                           | FOOT 15246        | 3243                              | 3438                                      | 2250                   | 2171                               | 1867                 |  |  | 2277                                     |                      |   |
| 87301805              | ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C                                | FOOT 802          | 141                               | 162                                       | 103                    | 143                                | 143                  |  |  | 110                                      |                      |   |
| X0322925              | ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1C                                | FOOT 15812        |                                   |   |                        |                                    |                      | 15812                                  |  |  |                      |   |
| X8710020              | FIBEROPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F SM12F                      | FOOT 15812        |                                   |   |                        |                                    |                      | 15812                                  |  |  |                      |   |
| X8730027              | ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C                              | FOOT 4166         | 552                               | 447                                       | 569                    | 805                                | 459                  |  |  | 1334                                     |                      |   |
| X8730250              | ELECTRIC CABLE IN CONDUIT, NO. 20 3C, TWISTED, SHIELDED                     | FOOT 1380         | 539                               | 277                                       | 244                    |                                    |                      |  |  | 320                                      |                      |   |
| XX002264              | ELECTRIC CABLE IN CONDUIT, RAILROAD, NO. 14 3C                              | FOOT 128          |                                   |   | 128                    |                                    |                      |  |  |  |                      |   |
| 87502480              | TRAFFIC SIGNAL POST, GALVANIZED STEEL 14 FT.                                | EACH 9            | 2                                 |   | 2                      | 4                                  | 1                    |  |  |  |                      |   |
| 87502500              | TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.                                | EACH 20           | 6                                 | 4   | 2                      | 2                                  |                      |  |  | 4  |                      |   |
| 87700140              | STEEL MAST ARM ASSEMBLY AND POLE, 20 FT.                                    | EACH 2            |                                   |   | 2                      |                                    |                      |  |  |  |                      |   |
| 87700170              | STEEL MAST ARM ASSEMBLY AND POLE, 26 FT.                                    | EACH 2            |                                   |   | 2                      |                                    |                      |  |  |  |                      |   |
| 87700180              | STEEL MAST ARM ASSEMBLY AND POLE, 28 FT.                                    | EACH 1            | 1                                 |   |                        |                                    |                      |  |  |  |                      |   |
| 87700210              | STEEL MAST ARM ASSEMBLY AND POLE, 34 FT.                                    | EACH 4            |                                   |   |                        | 4                                  |                      |  |  |  |                      |   |
| 87700220              | STEEL MAST ARM ASSEMBLY AND POLE, 36 FT.                                    | EACH 1            |                                   |   |                        |                                    |                      |  |  | 1  |                      |   |
| 87700230              | STEEL MAST ARM ASSEMBLY AND POLE, 38 FT.                                    | EACH 2            |                                   | 2   |                        |                                    |                      |  |  |  |                      |   |
| 87700240              | STEEL MAST ARM ASSEMBLY AND POLE, 40 FT.                                    | EACH 4            | 1                                 |   |                        |                                    |                      |  |  | 3  |                      |   |
| 87700250              | STEEL MAST ARM ASSEMBLY AND POLE, 42 FT.                                    | EACH 4            |                                   | 1   | 1                      | 1                                  | 1                    |  |  |  |                      |   |
| 87700260              | STEEL MAST ARM ASSEMBLY AND POLE, 44 FT.                                    | EACH 3            | 1                                 | 1   |                        | 1                                  |                      |  |  |  |                      |   |
| 87700270              | STEEL MAST ARM ASSEMBLY AND POLE, 46 FT.                                    | EACH 1            |                                   |   | 1                      |                                    |                      |  |  |  |                      |   |
| 87700290              | STEEL MAST ARM ASSEMBLY AND POLE, 50 FT.                                    | EACH 1            |                                   |   |                        |                                    | 1                    |  |  |  |                      |   |
| 87700300              | STEEL MAST ARM ASSEMBLY AND POLE, 52 FT.                                    | EACH 1            | 1                                 |   |                        |                                    |                      |  |  |  |                      |   |
| 87800100              | CONCRETE FOUNDATION, TYPE A   | FOOT 100          | 16                                | 16  | 16                     | 24                                 | 12                   |  |  | 16                                       |                      |   |
| 87800150              | CONCRETE FOUNDATION, TYPE C   | FOOT 28           | 4                                 | 4   | 4                      | 8                                  | 4                    |  |  | 4  |                      |   |
| 87800400              | CONCRETE FOUNDATION, TYPE E 30" DIAMETER                                    | FOOT 165          | 15                                | 30  | 30                     | 60                                 | 30                   |  |  |  |                      |   |
| 87800415              | CONCRETE FOUNDATION, TYPE E 36" DIAMETER                                    | FOOT 225          | 45                                | 30  | 30                     | 30                                 | 30                   |  |  | 60                                       |                      |   |
| 87900200              | DRILL EXISTING HANDHOLE   | EACH 4            |                                   |   |                        |                                    |                      | 2                                      |  |  |                      |   |
| 88200210              | TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM                                | FACH 175          | 27                                | 26  | 12                     | 18                                 | 12                   | 46                                     | 12                                       | 14                                       |                      | 8                                       |
| 88500100              | INDUCTIVE LOOP DETECTOR   | EACH 169          | 23                                | 20  | 10                     | 10                                 | 8                    | 42                                     | 14                                       | 20                                       | 6                    | 16                                      |
| 88600100              | DETECTOR LOOP, TYPE I   | FOOT 5260         | 1152                              | 1079                                      | 800                    | 1064                               | 500                  |  |  | 665                                      |                      |   |
| 88800100              | PEDESTRIAN PUSH-BUTTON  | EACH 73           | 7                                 | 8   | 3                      |                                    | 4                    | 15                                     | 8  | 11                                       | 2                    | 15                                      |
| 89000100              | TEMPORARY TRAFFIC SIGNAL INSTALLATION                                       | EACH 7            | 1                                 | 1   | 1                      | 2                                  | 1                    |  |  | 1  |                      |   |
| 89100400              | ILLUMINATED SIGN, L E D   | EACH 4            |                                   |   | 4                      |                                    |                      |  |  |  |                      |   |
| 89501400              | RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, DETECTOR UNIT          | EACH 8            | 2                                 | 2   | 2                      |                                    |                      |  |  | 2  |                      |   |
| 89501410              | RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, PHASING UNIT           | EACH 4            | 1                                 | 1   | 1                      |                                    |                      |  |  | 1  |                      |   |
| 89502300              | REMOVE ELECTRICAL CABLE FROM CONDUIT  | FOOT 18478        | 1328                              |   |                        |                                    |                      | 17150                                  |  |  |                      |   |
| 89502375              | REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT                                    | EACH 16           | 2                                 | 2   | 1                      | 2                                  | 1                    | 2                                      | 2  | 2  |                      | 2                                       |
| 89502380              | REMOVE EXISTING HANDHOLE  | EACH 60           | 10                                | 7   | 6                      | 12                                 | 9                    |  |  | 16                                       |                      |   |
| 89502385              | REMOVE EXISTING CONCRETE FOUNDATION   | EACH 72           | 9                                 | 9   | 9                      | 13                                 | 7                    |  |  | 25                                       |                      |   |
| 88030020              | SIGNAL HEAD, L E D, 1-FACE, 3-SECTION, MAST-ARM MOUNTED                     | EACH 132          | 21                                | 20  | 10                     | 16                                 | 10                   | 40                                     |  | 5  |                      | 4                                       |
| 88030050              | SIGNAL HEAD, L E D, 1-FACE, 3-SECTION, BRACKET MOUNTED                      | EACH 19           | 2                                 | 2   | 2                      | 6                                  | 2                    |  | 1  | 6  |                      | 4                                       |
| 88030030              | SIGNAL HEAD, L E D, 1-FACE, 3-SECTION, SPAN WIRE MOUNTED                    | EACH 14           |                                   |   |                        |                                    |                      |  |  |  | 14                   |   |
| 88030100              | SIGNAL HEAD, L E D, 1-FACE, 5-SECTION, BRACKET MOUNTED                      | EACH 28           | 4                                 | 6   | 2                      | 2                                  | 2                    | 3                                      |  | 8  |                      |   |
| 88030110              | SIGNAL HEAD, L E D, 1-FACE, 5-SECTION, MAST-ARM MOUNTED                     | EACH 43           | 6                                 | 6   | 2                      | 2                                  | 2                    | 6                                      |  | 8  |                      | 4                                       |
| 88030210              | SIGNAL HEAD, L E D, 2-FACE, 3-SECTION, BRACKET MOUNTED                      | EACH 7            |                                   |   |                        |                                    |                      |  |  | 3  |                      | 4                                       |
| 88030220              | SIGNAL HEAD, L E D, 2-FACE, 5-SECTION, BECKET MOUNTED                       | EACH 3            |                                   |   |                        |                                    |                      |  |  | 2  |                      |   |
| 88030240              | SIGNAL HEAD, L E D, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED       | EACH 13           | 2                                 |   |                        |                                    |                      |  |  | 7  |                      | 2                                       |
| 88102710              | PEDESTRIAN SIGNAL HEAD, L E D, 1-FACE, BRACKET MOUNTED                      | EACH 8            |                                   |   | 2                      |                                    |                      |  |  | 6  |                      |   |
| 88102717              | PEDESTRIAN SIGNAL HEAD, L E D, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER | EACH 40           | 2                                 | 6   |                        |                                    |                      | 6                                      |  | 10                                       | 2                    | 14                                      |
| 88102740              | PEDESTRIAN SIGNAL HEAD, L E D, 2-FACE, BRACKET MOUNTED                      | EACH 1            |                                   |   | 1                      |                                    |                      |  |  |  |                      |   |
| 88102747              | PEDESTRIAN SIGNAL HEAD, L E D, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER | EACH 19           | 4                                 | 2   |                        |                                    |                      | 4                                      | 4  |  |                      | 1                                       |
| X032626A              | PEDESTRIAN SIGNAL HEAD, L E D, 3-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER | EACH 2            |                                   |   |                        |                                    |                      | 2                                      |  |  |                      |   |
| X0325737              | TEMPORARY TRAFFIC SIGNAL TIMING   | EACH 7            | 1                                 | 1   | 1                      | 2                                  | 1                    |  |  | 1  |                      |   |
| X8050015              | SERVICE INSTALLATION - POLE MOUNTED   | EACH 6            | 1                                 | 1   | 1                      | 2                                  | 1                    |  |  |  |                      |   |
| X8620020              | UNINTERRUPTIBLE POWER SUPPLY  | EACH 18           | 2                                 | 2   | 1                      | 2                                  | 1                    | 3                                      | 2  | 2  | 1                    | 2                                       |
| Z0048665              | RAILROAD PROTECTIVE LIABILITY INSURANCE                                     | L SUM 1           |                                   |   | 1                      |                                    |                      |  |  |  |                      |   |
| Z0076600              | TRAINEES  | HOUR 1000         | 1000                              |   |                        |                                    |                      |  |  |  |                      |   |
| X0325890              | RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM LEVEL 1                                   | EACH 2            |                                   |   |                        |                                    |                      | 2                                      |  |  |                      |   |
| X0326270              | RAILROAD, FULL-ACTUATED CONTROLLER AND TYPE V CABINET (SPECIAL)             | EACH 1            |                                   |   |                        |                                    |                      |  |  |  |                      |   |

NOTE:  
\* 90% FED  
7.5% STATE  
2.5% FRANKLIN PK.  
\*\* 90% FED  
5% STATE  
5% LEYDEN  
+ 90% FED  
5% STATE  
3.75% MELROSE PK.  
1.25% NLAKE CITY  
◆ 90% FED  
10% MELROSE  
★ 90% FED  
5% STATE  
5% STONE PK.  
◀ 90% FED  
10% STATE  
ROOSEVELT RD.  
CERMAK RD. &  
INTERCONNECT  
■ 90% FED  
5% STATE  
5% BELLWOOD  
▲ 90% FED  
5% STATE  
2.5% HILLSIDE  
2.5% BELLWOOD  
▣ 90% FED  
5% STATE  
5% HILLSIDE  
● 90% FED  
5% STATE  
5% W. CHESTER

© 100% COST TO LOCAL AGENCY

SPECIALTY ITEMS  
01080

|   |           |                   |           |
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

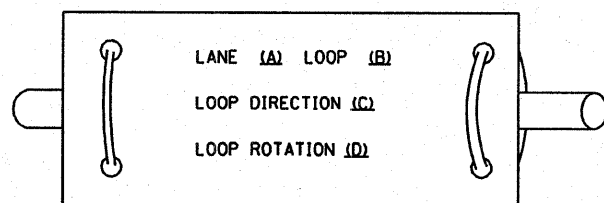
US 12/2045 (MANNHEIM ROAD)  
FROM BELMONT AVENUE TO ST. CHARLES ROAD  
SCALE: NTS SHEET NO. OF SHEETS STA. TO STA.

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| F.A.P. RTE.         | SECTION     | COUNTY                    | TOTAL SHEETS | SHEET NO. |
| 330                 | 2008-006 TS | COOK                      | 104          | 3         |
| CONTRACT NO. 60E31  |             |                           |              |           |
| FED. ROAD DIST. NO. |             | ILLINOIS FED. AID PROJECT |              |           |

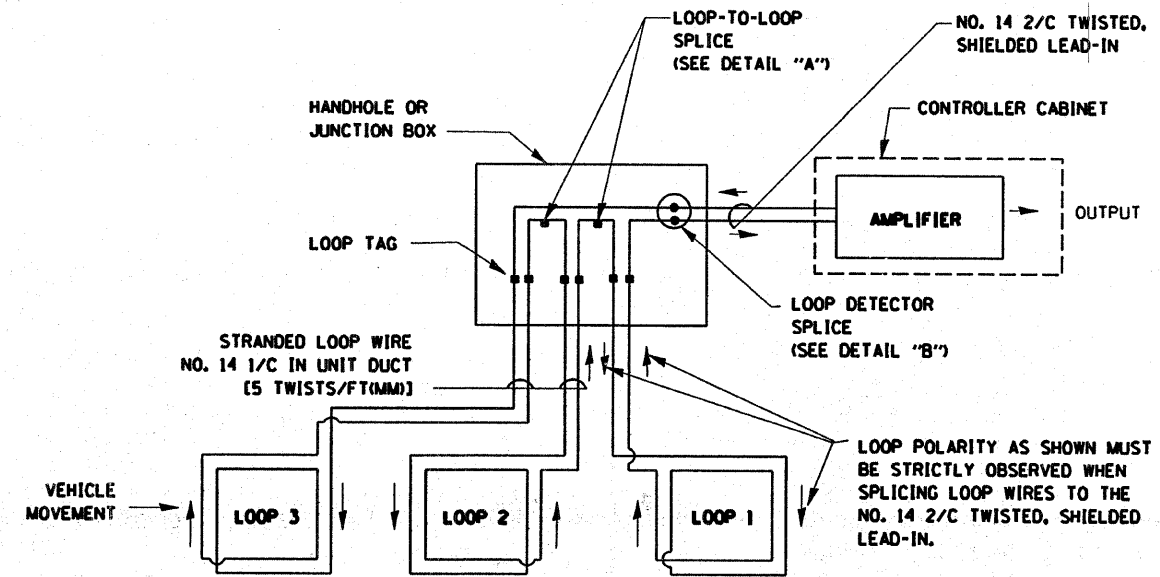
**LOOP DETECTOR NOTES**

1. EACH PAIR OF LOOP WIRES SHALL BE PLACED IN A SEPARATE UNIT DUCT FROM THE EDGE OF PAVEMENT TO THE HANDHOLE. SPACING BETWEEN THE HOLES DRILLED IN THE PAVEMENT SHALL NOT BE LESS THAN 6" (150 mm). UNIT DUCT SHALL BE INCLUDED IN THE COST OF THE LOOP WIRE.
2. THE NUMBER OF LOOP TURNS SHALL BE AS RECOMMENDED BY THE AMPLIFIER MANUFACTURER. ALL ADJACENT SIDES OF THE LOOPS SHALL BE INSTALLED IN SUCH A WAY THAT THE CURRENT FLOW IS IN THE SAME DIRECTION TO REINFORCE ITS MAGNETIC FIELDS FOR SMALL VEHICLE DETECTION.
3. EACH LOOP LEAD-IN SHALL BE IDENTIFIED AND PERMANENTLY TAGGED IN THE HANDHOLE. EACH LEAD-IN CABLE TAG SHALL INDICATE THE LOCATION OF THE LOOP, LOOP ROTATION (CLOCKWISE/COUNTERCLOCKWISE), LOOP LEAD-IN DIRECTION (IN OR OUT), LOOP CABLE NUMBER AND LOCATION IN CABINET, AND NUMBER OF TURNS IN THE DETECTOR LOOPS IN WATER PROOF INK AS INDICATED ON THE DISTRICT 1 STANDARD TRAFFIC SIGNAL DESIGN DETAIL. THE CONTRACTOR SHALL MARK LOOP LOCATIONS ON RECORD DRAWINGS AND PRESENT TO THE ENGINEER AFTER FINAL INSPECTION. LOOPS SHALL BE MARKED BY LANE AND LOOP NUMBER. SEE DETAIL BELOW.
4. ALL LOOP CABLE SHALL BE FASTENED WITH PLASTIC TIE WRAP TO THE HANDHOLE HOOKS.
5. IN ASPHALT PAVEMENT, LOOPS SHOULD BE PLACED IN THE BINDER AND DIVEHOLES MARKED AT THE CURB WITH A SAW-CUT. THE SAW-CUT SHALL BE CUT IN ACCORDANCE WITH LOCAL AND E.P.A. DUST CONTROL REQUIREMENTS. DETECTOR LOOP(S) SHALL NOT BE INSTALLED IN WET CONDITIONS AND THE SAW-CUTS MUST BE FREE OF DEBRIS AND RESIDUE SUCH AS DUST AND WATER WHICH IS TO BE ACHIEVED BY THE USE OF COMPRESSED AIR, WIRE BRUSHING AND HEAT DRYING ACCORDING TO SEALANT MANUFACTURER REQUIREMENTS. THE DETECTOR WIRE SHALL BE HELD IN PLACE BY THE USE OF FORM WEDGES. WEDGES SHALL BE SPACED NO MORE THAN 18" (450 mm) APART.
6. LOOP SPLICES SHALL BE SOLDERED USING A SOLDERING IRON. BLOW TORCHES OR OTHER DEVICES WHICH OXIDIZE COPPER CABLE SHALL NOT BE ALLOWED FOR SOLDERING OPERATIONS. SEE DETAIL BELOW RIGHT.
7. PREFORMED DETECTOR LOOPS SHALL BE USED, AS SHOWN ON THE PLANS, WHERE NEW CONCRETE PAVEMENT IS PROPOSED. THE INSTALLATION OF PREFORMED LOOPS SHALL BE IN ACCORDANCE WITH THE DISTRICT 1 SPECIFICATIONS OR AS DIRECTED BY THE ENGINEER.

**LOOP LEAD-IN CABLE TAG**

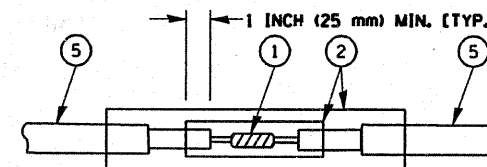


- A. LANE 1 IS THE LANE CLOSEST TO THE CENTERLINE OF THE ROADWAY
- B. LOOP "1" IS THE LOOP IN THE LANE CLOSEST TO THE INTERSECTION.
- C. LABEL LOOP CABLE "IN" OR LOOP CABLE "OUT".
- D. LABEL LOOP CABLE CLOCKWISE OR LOOP CABLE COUNTERCLOCKWISE.

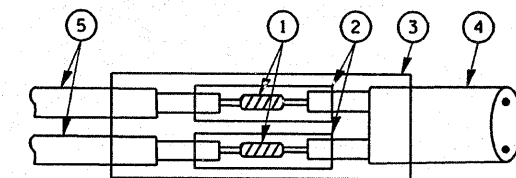


**DETECTOR LOOP WIRING SCHEMATIC**

- LOOPS SHALL BE SPLICED IN SERIES.
- SAW-CUTS SHALL BE A MINIMUM WIDTH OF 5/16" (8 mm).
- SAW-CUT DEPTHS SHALL BE 3" (75 mm). IF IN CONCRETE, THE SAW-CUT DEPTH SHALL BE TO THE TOP OF THE REINFORCEMENT.
- LOOP CORNERS SHALL BE DRILLED WITH A 2" (50 mm) DIAMETER CORE.



**DETAIL "A"  
LOOP-TO-LOOP SPLICE**



**DETAIL "B"  
LOOP-TO-CONTROLLER SPLICE**

**LOOP DETECTOR SPLICE**

- 1 WESTERN UNION SPLICE SOLDERED WITH ROSIN CORE FLUX. ALL EXPOSED SURFACES OF THE SOLDER SHALL BE SMOOTH.
- 2 WCSMW 30/100 HEAT SHRINK TUBE, MINIMUM LENGTH 3" (75 mm), UNDERWATER GRADE.
- 3 WCS 200/750 HEAT SHRINK TUBE, MINIMUM LENGTH 6" (150 mm), UNDERWATER GRADE.
- 4 NO. 14 2/C TWISTED, SHIELDED CABLE.
- 5 LOOP CONDUCTOR WITH FLEXIBLE PLASTIC TUBE.

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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**DISTRICT ONE  
STANDARD TRAFFIC SIGNAL DESIGN DETAILS**

SCALE: NTS SHEET NO. 1 OF 4 SHEETS STA. TO STA.

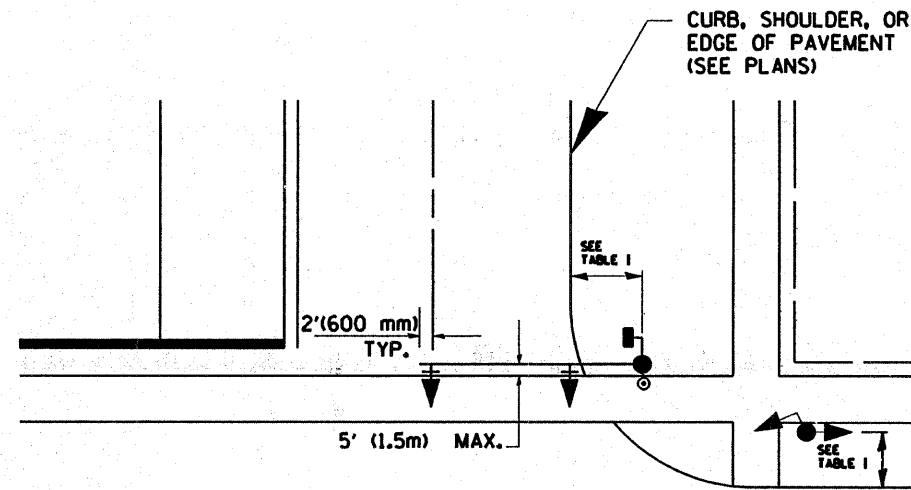
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| F.A.P. RTE.         | SECTION     | COUNTY | TOTAL SHEETS              | SHEET NO. |
| 330                 | 2008-006 TS | COOK   | 104                       | 5         |
| FED. ROAD DIST. NO. |             |        | ILLINOIS FED. AID PROJECT |           |
|                     |             |        | CONTRACT NO. 60E31        |           |

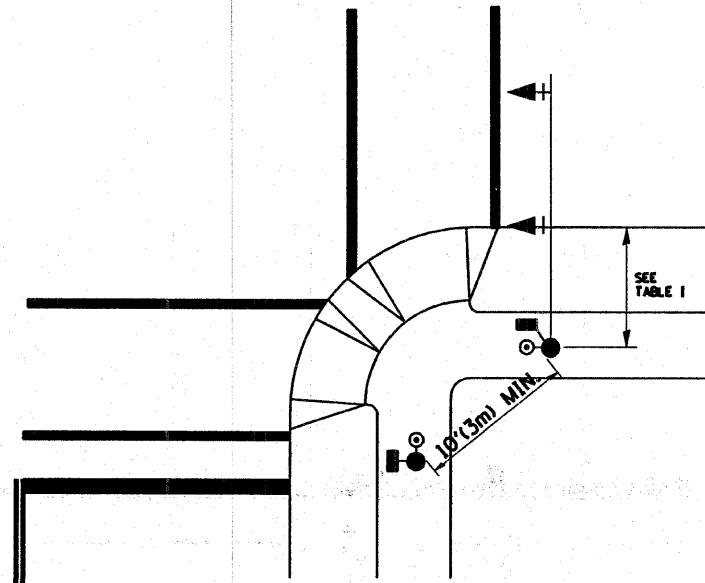


**TRAFFIC SIGNAL MAST ARM AND POST**

MAST ARM MOUNTED SIGNAL IN PROPOSED & FUTURE SIDEWALK AREA. INTERSECTION SHOWN WITH PEDESTRIAN SIGNAL AND PUSHBUTTON DETECTOR



**PEDESTRIAN SIGNAL PUSHBUTTON**



RECOMMENDED PUSHBUTTON LOCATIONS FOR ACCESSIBLE PEDESTRIAN SIGNALS SHALL BE IN ACCORDANCE WITH THE CURRENT MUTCD (SEE NOTE 1). TO MEET MUTCD REQUIREMENTS, PEDESTRIAN SIGNAL PUSHBUTTONS MAY HAVE TO BE MOUNTED ON A SEPARATE POST.

**NOTES:**

1. AT ACCESSIBLE PEDESTRIAN SIGNAL LOCATIONS WITH PEDESTRIAN ACTUATION, EACH PUSHBUTTON SHALL ACTIVATE BOTH THE WALK INTERVAL AND THE ACCESSIBLE PEDESTRIAN SIGNALS.

AT ACCESSIBLE PEDESTRIAN SIGNAL LOCATIONS, PUSHBUTTONS SHOULD CLEARLY INDICATE WHICH CROSSWALK SIGNAL IS ACTUATED BY EACH PUSHBUTTON. PUSHBUTTONS AND TACTILE ARROWS SHOULD HAVE HIGH VISUAL CONTRAST (SEE THE DEPARTMENT OF JUSTICE'S AMERICANS WITH DISABILITIES ACT STANDARDS FOR ACCESSIBLE DESIGN, 1991). TACTILE ARROWS SHOULD POINT IN THE SAME DIRECTION AS THE ASSOCIATED CROSSWALK. AT CORNERS OF SIGNALIZED LOCATIONS WITH ACCESSIBLE PEDESTRIAN SIGNALS WHERE PEDESTRIAN PUSHBUTTONS ARE PROVIDED, THE PUSHBUTTONS SHOULD BE SEPARATED BY THE DISTANCE OF AT LEAST 10 FT (3m). THIS ENABLES PEDESTRIANS WHO HAVE VISUAL DISABILITIES TO DISTINGUISH AND LOCATE THE APPROPRIATE PUSHBUTTON.

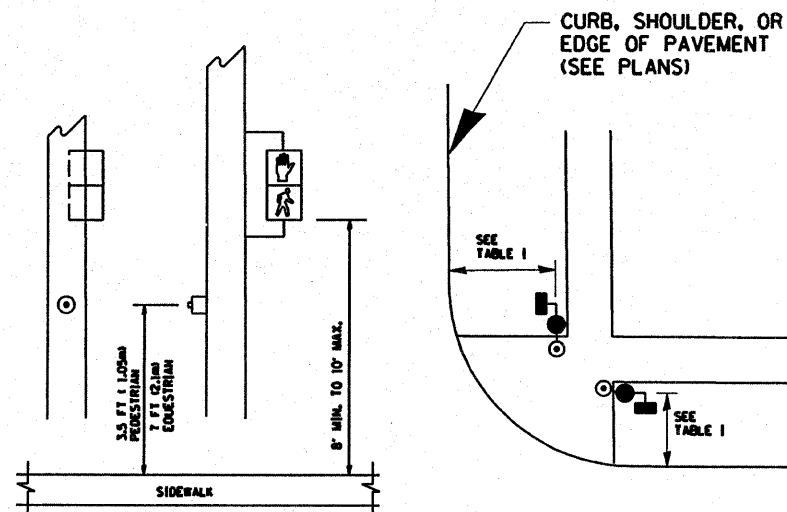
PUSHBUTTONS FOR ACCESSIBLE PEDESTRIAN SIGNALS SHOULD BE LOCATED AS FOLLOWS:

- A: ADJACENT TO A LEVEL ALL-WEATHER SURFACE TO PROVIDE ACCESS FROM A WHEELCHAIR, AND WHERE THERE IS AN ALL WEATHER SURFACE, WHEELCHAIR ACCESSIBLE ROUTE TO THE RAMP.
- B: WITHIN 5 FT (1.5m) OF THE CROSSWALK EXTENDED.
- C: WITHIN 10 FT (3m) OF THE EDGE OF CURB, SHOULDER, OR PAVEMENT.
- D: PARALLEL TO THE CROSSWALK TO BE USED (SEE MUTCD FIGURE 4E-2).
- E: NORMAL PEDESTRIAN PUSHBUTTON MOUNTING HEIGHT SHOULD BE 3.5 FT (1.05m) ABOVE ADJACENT SIDEWALK

2. PEDESTRIAN SIGNAL FACES SHALL BE MOUNTED WITH THE BOTTOM OF THE HOUSING NOT LESS THAN 8 FT (2.4m) NOR MORE THAN 10 FT (3.0m) ABOVE THE SIDEWALK LEVEL AND SO THERE IS A PEDESTRIAN INDICATION IN THE LINE OF PEDESTRIANS' VISION WHICH PERTAINS TO THE CROSSWALK BEING USED.
3. THE BOTTOM OF THE HOUSING OF A VEHICLE SIGNAL FACE, NOT MOUNTED OVER A ROADWAY, SHALL BE AT LEAST 10 FT (3.0m) BUT NOT MORE THAN 15 FT (4.5m) ABOVE THE SIDEWALK OR, ABOVE THE PAVEMENT GRADE AT THE CENTER OF THE HIGHWAY IF NO SIDEWALKS EXIST.
4. THE BOTTOM OF THE HOUSING OF A VEHICLE SIGNAL FACE, MOUNTED OVER A ROADWAY, SHALL BE ACCORDING TO CURRENT STATE STANDARDS 877001 AND 877006. (16 FT (5m) MIN., 18 FT (5.5m) MAX., FROM HIGHEST POINT OF PAVEMENT)

**PEDESTRIAN SIGNAL POST**

PEDESTRIAN SIGNAL HEAD AND PEDESTRIAN PUSHBUTTON DETECTOR LOCATION



**TYPICAL HIGH VISIBILITY CROSSWALK MARKING**

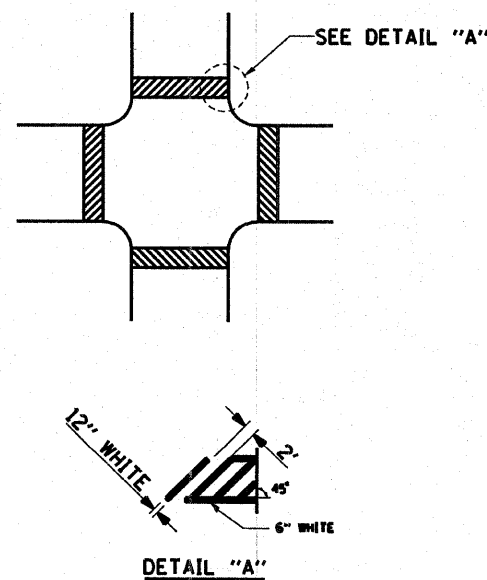


TABLE I

| TRAFFIC SIGNAL EQUIPMENT     | COMBINATION CONCRETE CURB AND GUTTER (MIN. DIST. FROM BACK OF CURB) | SHOULDER/NON-CURBED AREA (MIN. DIST. FROM EDGE OF PAVEMENT) |
|------------------------------|---|---|
| TRAFFIC SIGNAL MAST ARM POLE | 6 FT (1.8m)   | SHOULDER WIDTH + 2FT(0.6m), MINIMUM 10FT(3.0m)              |
| TRAFFIC SIGNAL POST          | 4 FT (1.2m)   | SHOULDER WIDTH + 2FT(0.6m), MINIMUM 10FT(3.0m)              |
| PEDESTRIAN SIGNAL POST       | 4 FT (1.2m)   | SHOULDER WIDTH + 2FT(0.6m), MINIMUM 10FT(3.0m)              |
| PEDESTRIAN PUSHBUTTON        | SEE NOTE 1  | SEE NOTE 1  |

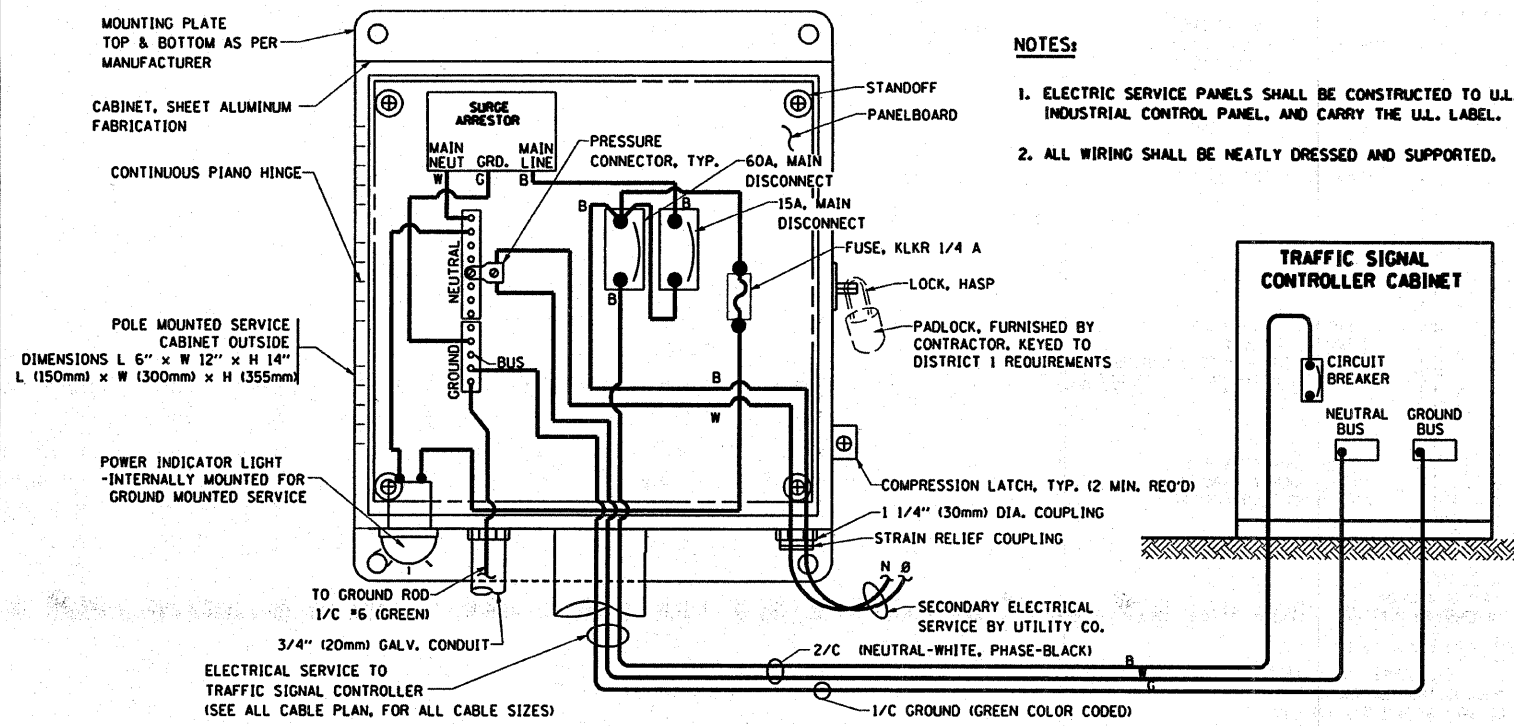
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

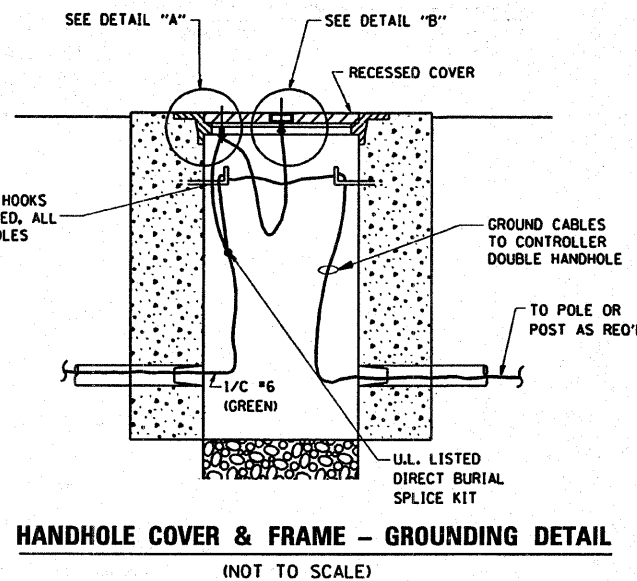
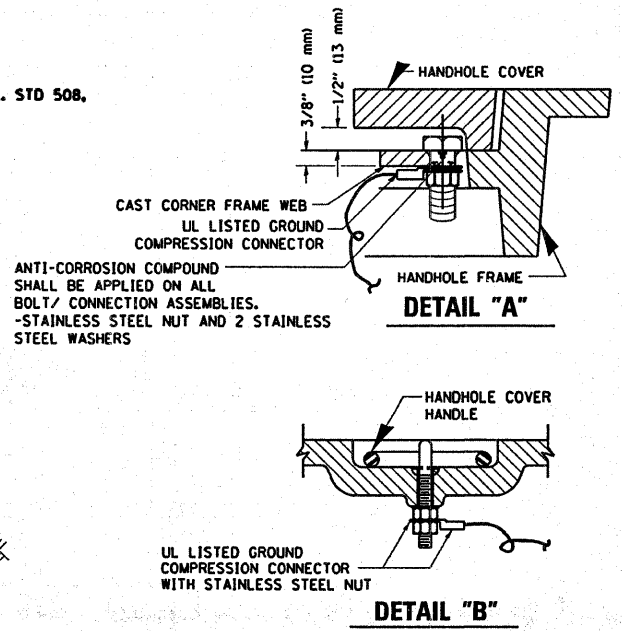
DISTRICT ONE  
STANDARD TRAFFIC SIGNAL DESIGN DETAILS

SCALE: NTS SHEET NO. 2 OF 4 SHEETS STA. TO STA.

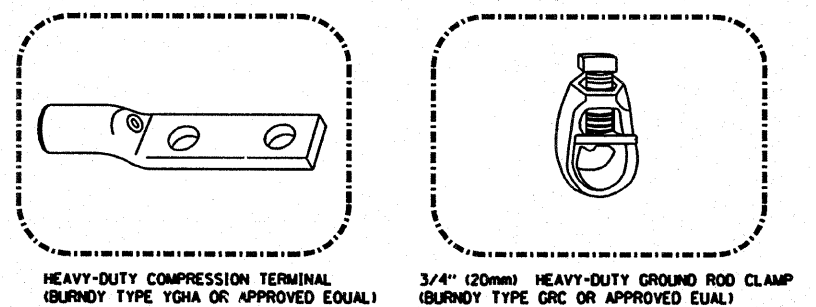
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| CONTRACT NO. 60E31                            |                        |                |                     |                |
| FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT |                        |                |                     |                |



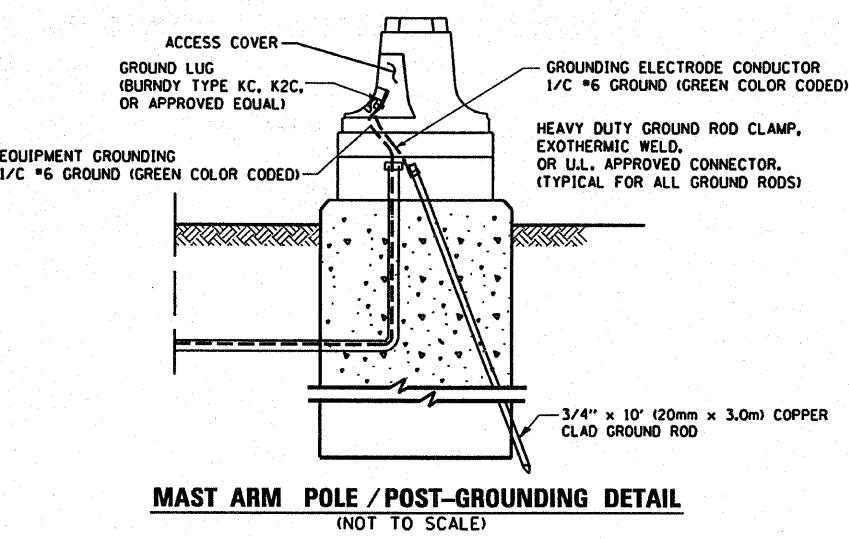
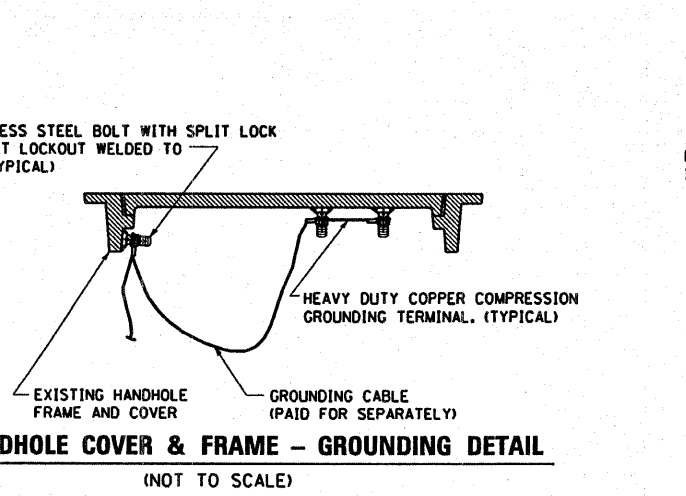
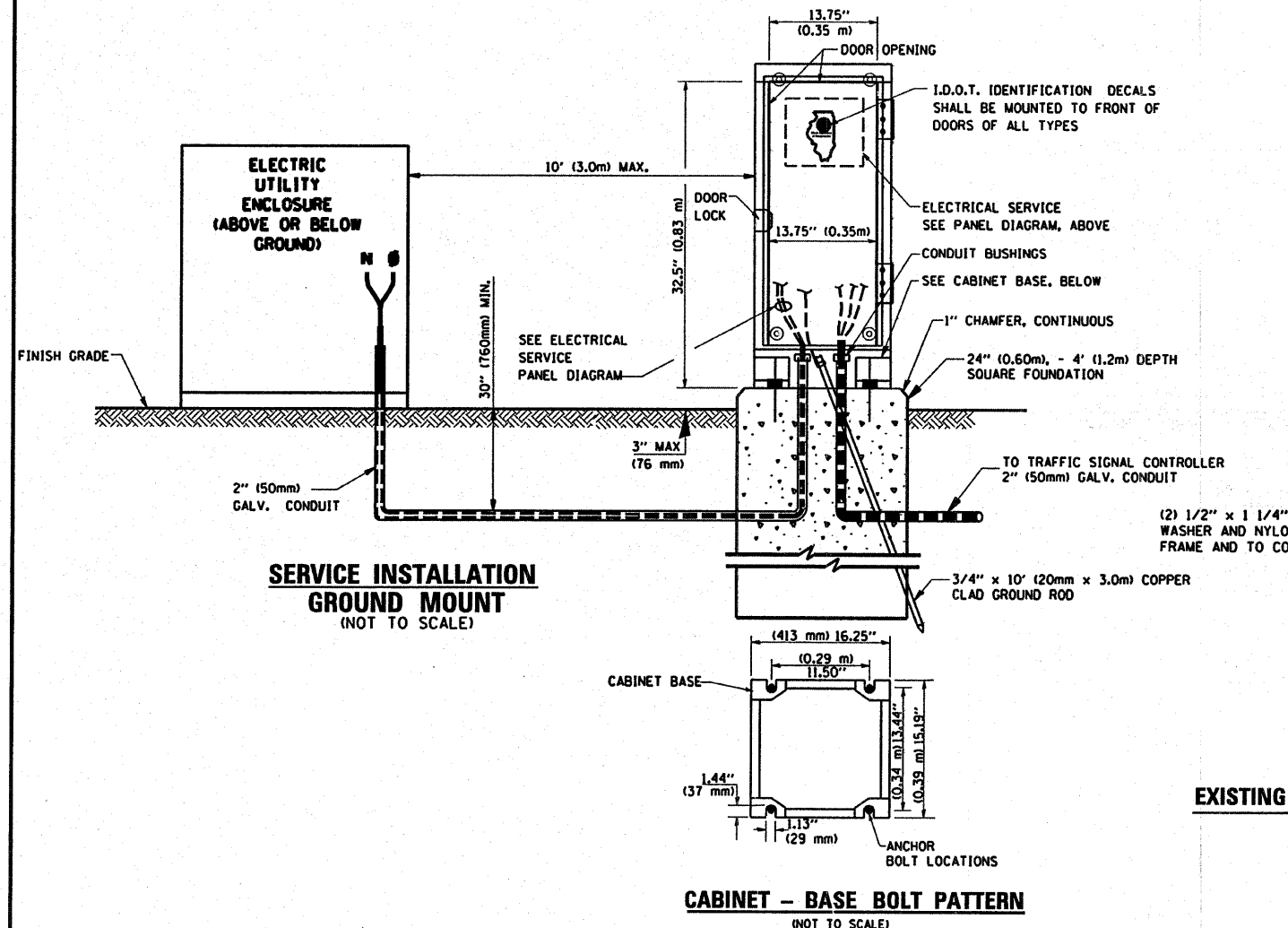
**ELECTRICAL SERVICE - PANEL DIAGRAM (TYPICAL FOR POLE AND GROUND MOUNTED SERVICE)**  
**SERVICE INSTALLATION POLE MOUNT (SHOWN)**  
 (NOT TO SCALE)



- NOTES:**
- GROUNDING SYSTEM**
1. THE GROUNDING SYSTEM SHALL CONSIST OF AN INSULATED CONDUCTOR TYPE XLP, NO. 6 A.W.G., STRANDED COPPER TO BE INSTALLED IN RACEWAYS. THE GROUNDING CABLE SHALL BE INSTALLED IN A CONTINUOUS MANNER AS SHOWN ON THE CABLE PLAN PROVIDED. ALL GROUNDING CONDUCTORS SHALL BE BONDED TO METAL ENCLOSURE (HANDHOLE, POST, MAST ARM, CONTROLLER, ETC.). GROUND ROD SHALL BE 3/4" DIA. x 10'-0" (20mm x 3.0m) LONG, COPPER CLAD. ONE GROUND ROD SHALL BE INSTALLED AT ALL POST FOUNDATIONS, POLE FOUNDATIONS, CONTROLLER CABINET FOUNDATION AND ELECTRICAL SERVICE INSTALLATION AS INDICATED ON THE CABLE PLAN. IF THERE ARE ANY SPECIAL CONDITIONS SUCH AS SUB-SURFACE CONDITIONS OR INSTALLATION PROBLEMS, THE RESIDENT ENGINEER SHALL BE NOTIFIED OR CONTACT THE BUREAU OF TRAFFIC, ILLINOIS DEPARTMENT OF TRANSPORTATION DISTRICT ONE AT (847) 705-4139.
  2. THE NEUTRAL CONDUCTOR AND THE GROUND CONDUCTOR SHALL BE CONNECTED IN THE SERVICE INSTALLATION. AT NO OTHER POINT IN THE TRAFFIC SIGNAL SYSTEM SHALL THE NEUTRAL AND GROUND CONDUCTORS BE CONNECTED.
  3. ALL EQUIPMENT GROUNDING CONDUCTORS SHALL TERMINATE AT THE GROUND BUS IN THE CONTROLLER CABINET.
  4. THE CONTRACTOR SHALL PROVIDE A GROUND CABLE WITH CONNECTORS BETWEEN THE HANDHOLE COVER AND HANDHOLE FRAME.



- NOTES:**
- ALL CLAMPS SHALL BE BRONZE OR COPPER, UL APPROVED.
  - GROUND CABLE SHALL BE LOOPED OVER HOOKS IN THE HANDHOLES 6.5' (2.0m) SLACK SHALL BE PROVIDED IN SINGLE HANDHOLES 13' (4.0m) OF SLACK SHALL BE PROVIDED IN DOUBLE HANDHOLES. 5' (1.4m) OF SLACK SHALL BE PROVIDED BETWEEN FRAME AND COVER.

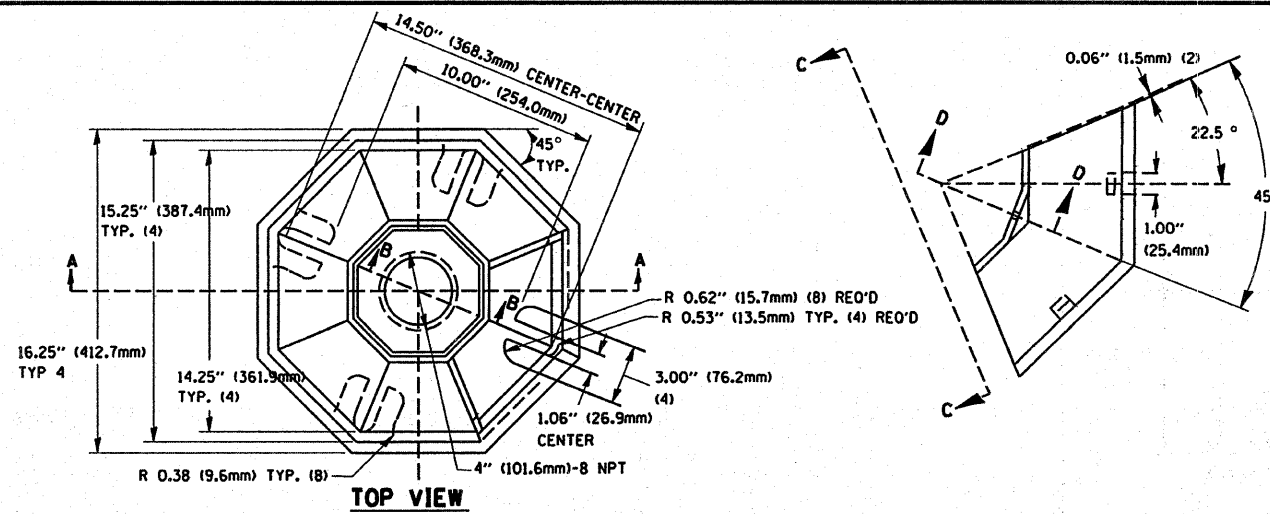


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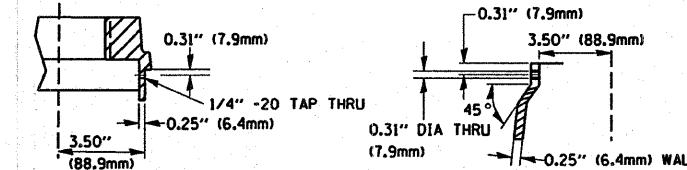
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

|   |                         |
|---|-------------------------|
| <b>DISTRICT ONE</b>                           |                         |
| <b>STANDARD TRAFFIC SIGNAL DESIGN DETAILS</b> |                         |
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| STA.  | TO STA.                 |

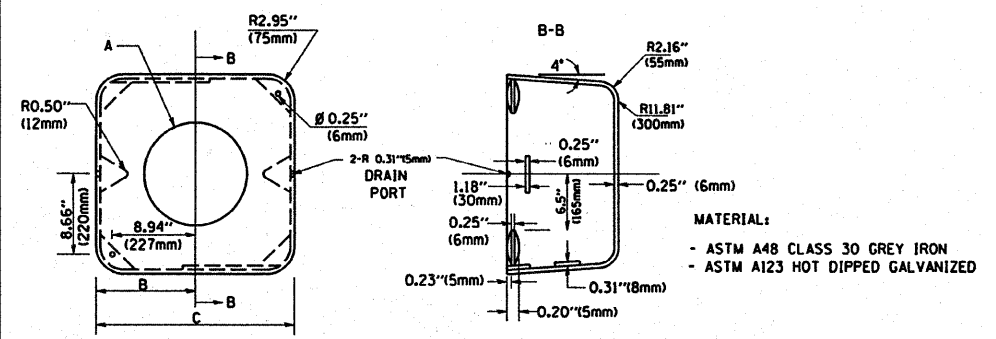
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| F.A.P. RTE.         | SECTION     | COUNTY           | TOTAL SHEETS | SHEET NO. |
| 330                 | 2008-006 TS | COOK             | 104          | 7         |
| CONTRACT NO. 60E31  |             |                  |              |           |
| FED. ROAD DIST. NO. | ILLINOIS    | FED. AID PROJECT |              |           |



SECTION B-B

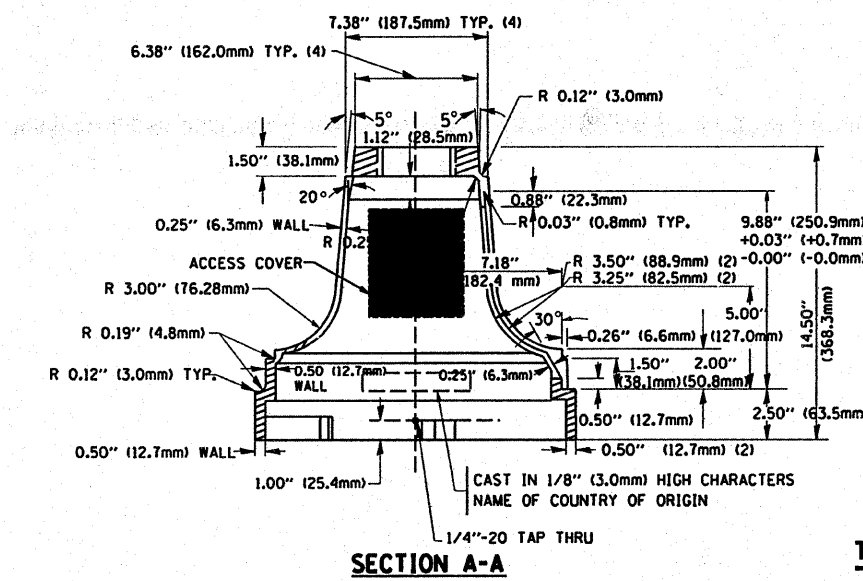


SECTION D-D

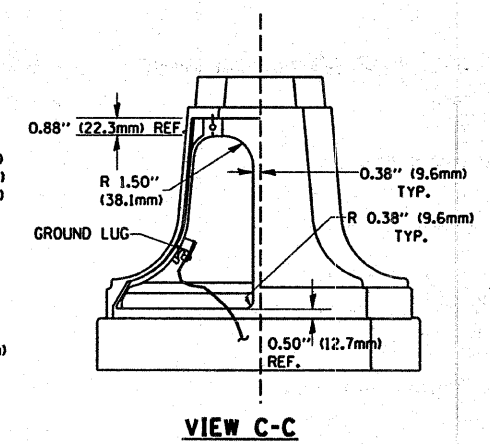


| TYPE | A                 | B              | C             | HEIGHT      | WEIGHT |
|------|-------------------|----------------|---------------|-------------|--------|
| I    | Ø 10.125\"(257mm) | 9.5\"(241mm)   | 19\"(483mm)   | 12\"(300mm) | 24kg   |
| II   | Ø 11.125\"(283mm) | 10.75\"(273mm) | 21.5\"(546mm) | 12\"(300mm) | 26kg   |

SHROUD DETAIL

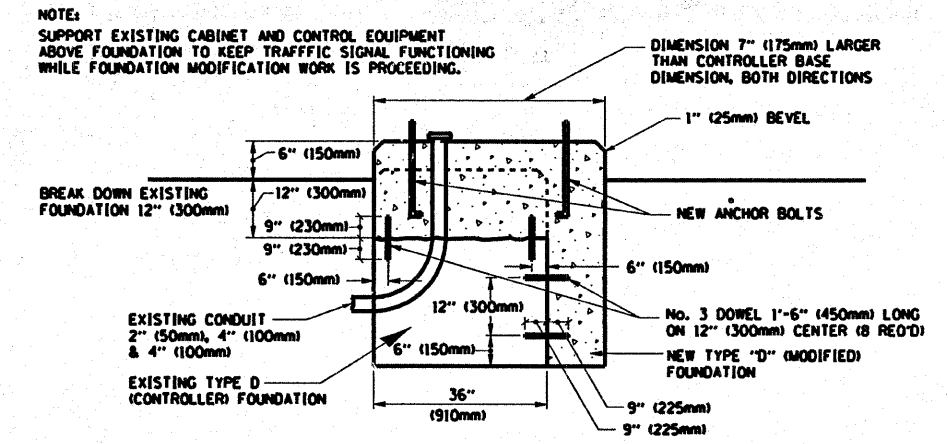


SECTION A-A

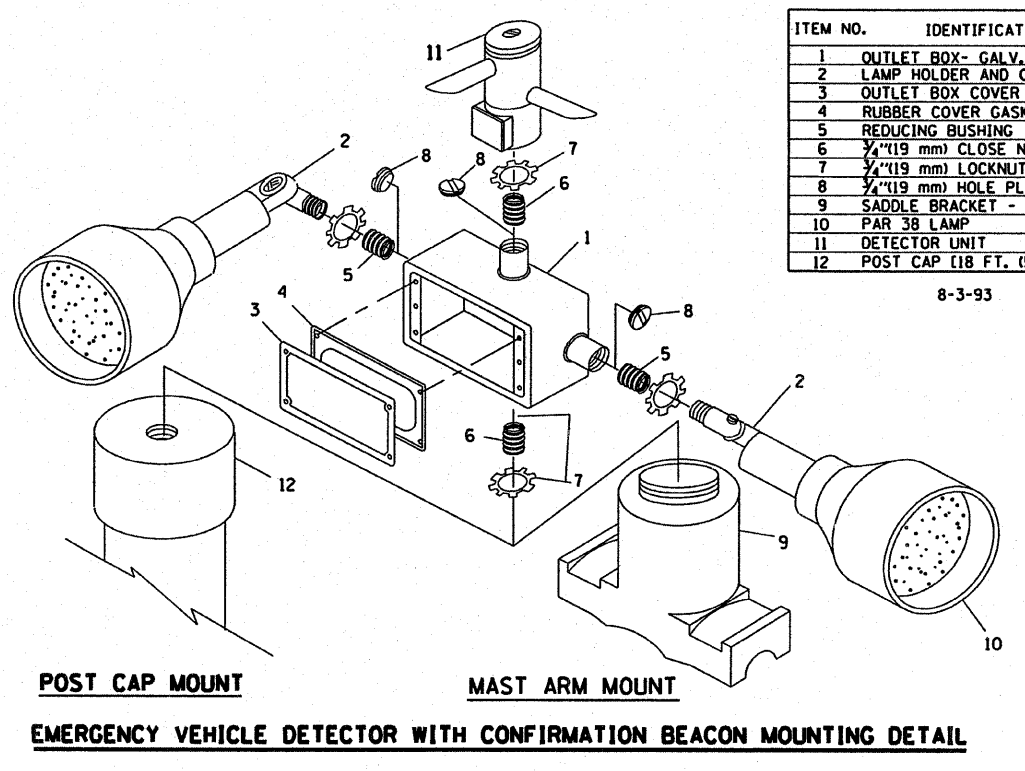


VIEW C-C

TRAFFIC SIGNAL POST - MOUNTING BASE - TYPE A



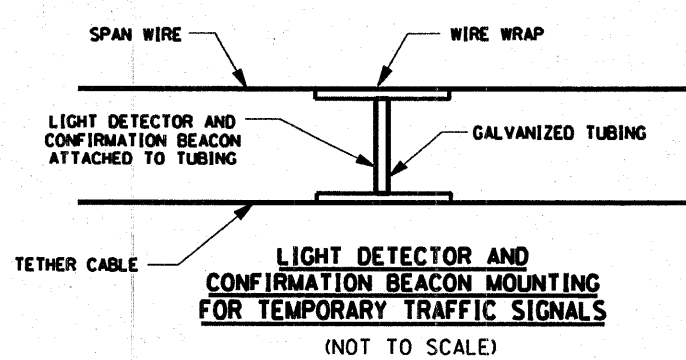
MODIFY EXISTING TYPE "D" FOUNDATION



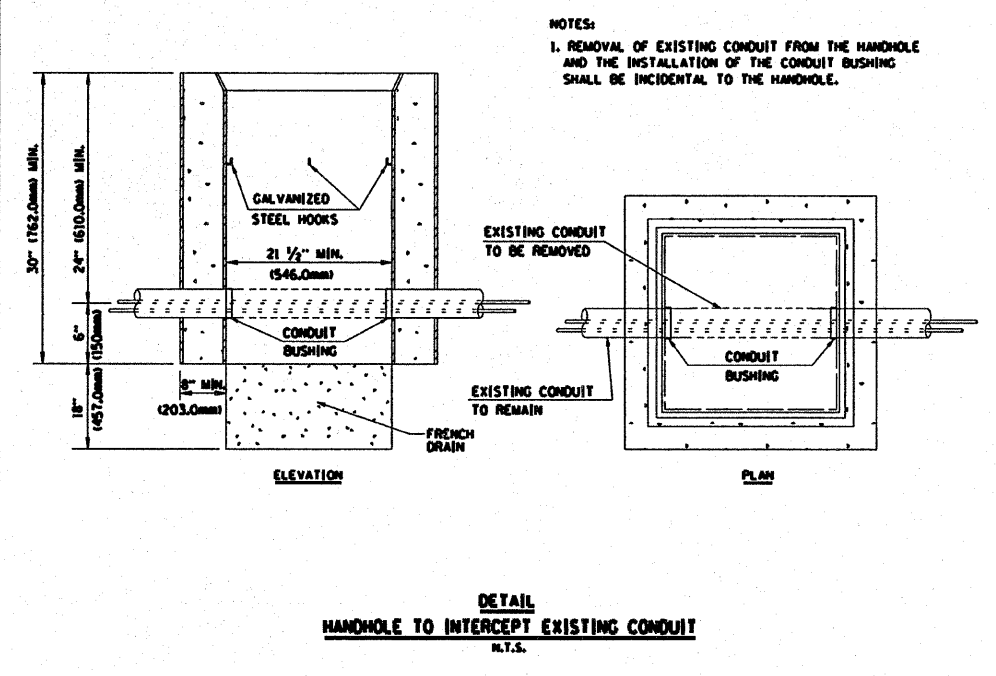
| ITEM NO. | IDENTIFICATION                              |
|----------|---|
| 1        | OUTLET BOX- GALV. 21 CU.IN. (0.000344 CU-M) |
| 2        | LAMP HOLDER AND COVER                       |
| 3        | OUTLET BOX COVER                            |
| 4        | RUBBER COVER GASKET                         |
| 5        | REDUCING BUSHING                            |
| 6        | 1/4\"(19 mm) CLOSE NIPPLE                   |
| 7        | 1/4\"(19 mm) LOCKNUT                        |
| 8        | 1/4\"(19 mm) HOLE PLUG                      |
| 9        | SADDLE BRACKET - GALV.                      |
| 10       | PAR 38 LAMP                                 |
| 11       | DETECTOR UNIT                               |
| 12       | POST CAP [18 FT. (5.4 m) POST MIN.]         |

NOTES:

- ALL ELECTRICAL ITEMS, EXCEPT ITEMS #2 AND #11 SHALL BE ALUMINUM OR GALVANIZED
- ITEM #1- OZ/GEDEY FSX-1-50 OR EQUIVALENT  
ITEM #2- MULBERRY CON-O-SHADE LAMP SHIELD OR EQUIVALENT  
ITEM #9- "BAND-IT" SADDLE BRACKET OR EQUIVALENT
- WHEN POST MOUNTING IS SPECIFIED, ITEM #9 SHALL NOT BE REQUIRED. THE DETECTION UNIT SHALL BE MOUNTED DIRECTLY ON TOP OF THE CAP BY DRILLING AND TAPPING A 3/4\"(19 mm) HOLE WITH PIPE THREADS. THE POST SHALL EITHER BE SCREWED TO THE TOP OF THE POST OR A MINIMUM OF 3 TIGHTENING SCREWS SHALL BE REQUIRED ON EACH CAP.



LIGHT DETECTOR AND CONFIRMATION BEACON MOUNTING FOR TEMPORARY TRAFFIC SIGNALS (NOT TO SCALE)



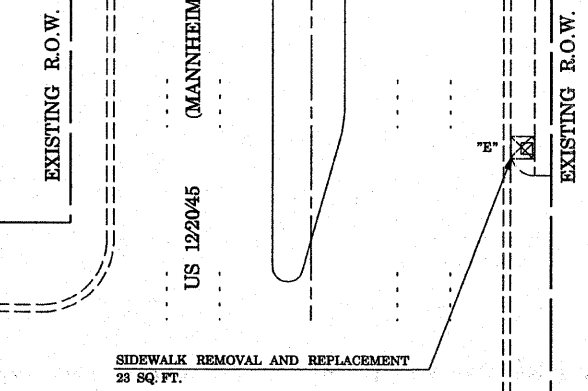
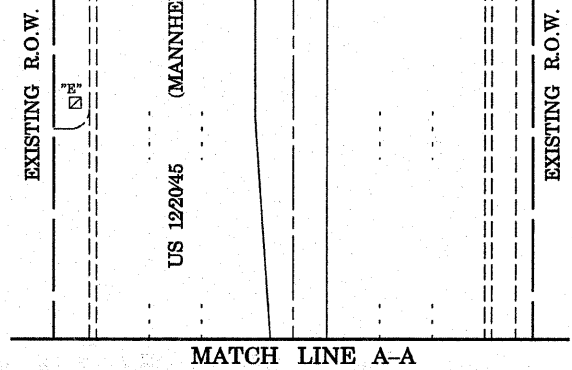
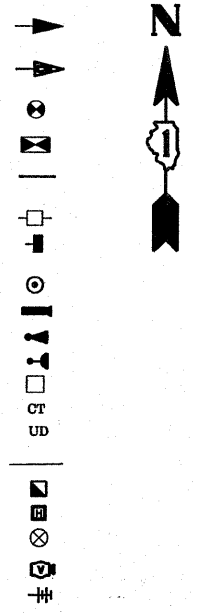
DETAIL HANDHOLE TO INTERCEPT EXISTING CONDUIT N.T.S.

MATCH LINE A-A

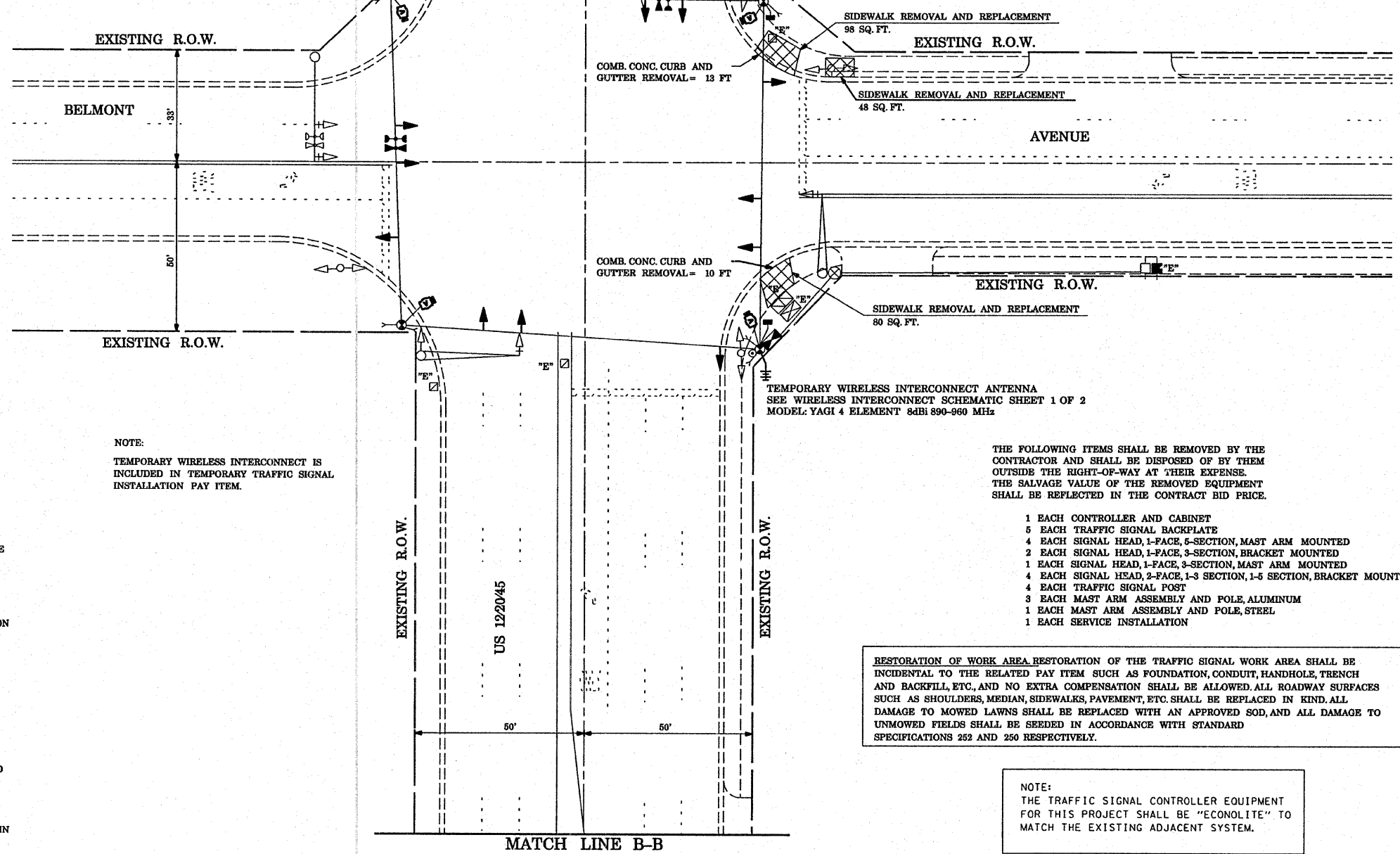
MATCH LINE B-B

TEMPORARY TRAFFIC SIGNAL LEGEND

- TEMPORARY TRAFFIC SIGNAL HEAD
- SPAN WIRE MOUNTED ORIGINAL LOCATION
- TEMPORARY TRAFFIC SIGNAL HEAD
- SPAN WIRE MOUNTED SECONDARY LOCATION
- TEMPORARY WOOD POLE (CLASS 5 OR BETTER) 45 FOOT MINIMUM
- TEMPORARY CONTROLLER CABINET
- TEMPORARY SPAN WIRE, TETHER WIRE, AND CABLE
- TEMPORARY SERVICE INSTALLATION
- TEMPORARY PEDESTRIAN SIGNAL HEAD, BRACKET MOUNTED
- TEMPORARY PEDESTRIAN PUSHBUTTON DETECTOR
- MICROWAVE VEHICLE SENSOR
- EMERGENCY VEHICLE LIGHT DETECTOR
- CONFIRMATION BEACON
- VEHICLE DETECTOR, INDUCTION LOOP
- COMMON TRENCH
- UNIT DUCT
- G.S. CONDUIT IN TRENCH OR PUSHED
- HANDHOLE
- HEAVY-DUTY HANDHOLE
- EXISTING WOOD POLE
- VIDEO DETECTOR
- WIRELESS INTERCONNECT (ANTENNA)



SIDEWALK REMOVAL AND REPLACEMENT 23 SQ. FT.



EXISTING EQUIPMENT TO BE REMOVED LEGEND

- EXISTING SIGNAL HEAD TO BE REMOVED
- EXISTING SERVICE INSTALLATION TO BE REMOVED
- EXISTING STREET LIGHT, FOUNDATION AND LUMINAIRE TO REMAIN
- EXISTING CONTROLLER TO BE REMOVED
- EXISTING HANDHOLE TO BE REMOVED
- EXISTING PEDESTRIAN SIGNAL HEAD TO BE REMOVED
- EXISTING PEDESTRIAN PUSH BUTTON TO BE REMOVED
- EMERGENCY VEHICLE LIGHT DETECTOR TO BE REMOVED
- CONFIRMATION BEACON TO BE REMOVED
- EXISTING HEAVY-DUTY HANDHOLE TO BE REMOVED
- EXISTING SIGNAL POST AND FOUNDATION TO BE REMOVED
- EXISTING ALUMINUM MAST ARM POLE AND FOUNDATION TO BE REMOVED
- EXISTING STEEL MAST ARM POLE AND FOUNDATION TO BE REMOVED

NOTES FOR TEMPORARY TRAFFIC SIGNALS

1. ALL CONTROL EQUIPMENT INCLUDING EMERGENCY PRE-EMPTION AND COMMUNICATION DEVICES FOR THE TEMPORARY TRAFFIC SIGNAL(S) SHALL BE FURNISHED BY THE CONTRACTOR.
2. ONLY CONTROLLERS SUPPLIED BY ONE OF THE DISTRICT APPROVED CLOSED LOOP EQUIPMENT MANUFACTURERS WILL BE APPROVED FOR USE AT TEMPORARY SIGNAL LOCATIONS. ALL CONTROLLERS USED FOR TEMPORARY TRAFFIC SIGNALS SHALL BE FULLY ACTUATED NEMA MICROPROCESSOR BASED WITH RS232 DATA ENTRY PORTS COMPATIBLE WITH EXISTING MONITORING SOFTWARE APPROVED BY IDOT DISTRICT 1, INSTALLED IN A NEMA TS1 OR TS2 CABINET. ONLY ONE BRAND OF CONTROLLER WILL BE ACCEPTED FOR ANY ONE CONTRACT.
3. ALL TRAFFIC SIGNAL SECTIONS AND PEDESTRIAN SIGNAL SECTIONS SHALL BE 12". HEADS SHALL BE PLACED AS INDICATED ON THE TEMPORARY TRAFFIC SIGNAL PLAN OR AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL FURNISH ENOUGH CABLE SLACK TO RELOCATE HEADS TO ANY POSITION ON THE SPAN WIRE OR AT LOCATIONS ILLUSTRATED ON THE PLANS FOR CONSTRUCTION STAGING. THE TEMPORARY TRAFFIC SIGNAL SHALL REMAIN IN OPERATION DURING ALL SIGNAL HEAD RELOCATIONS. EACH TEMPORARY TRAFFIC SIGNAL HEAD SHALL HAVE ITS OWN CABLE FROM THE CONTROLLER CABINET TO THE SIGNAL HEAD.
4. ALL EXISTING STREET NAME AND INTERSECTION REGULATORY SIGNS SHALL BE REMOVED FROM EXISTING POLES, RELOCATED AND SECURELY FASTENED TO THE SIGNAL SPAN WIRE OR WOOD POLE AS DIRECTED BY THE ENGINEER.
5. ANY TEMPORARY SIGNAL WITHIN AN EXISTING CLOSED LOOP TRAFFIC SIGNAL SYSTEM SHALL BE INTERCONNECTED TO THAT SYSTEM USING SIMILAR BRAND CONTROL EQUIPMENT.
6. THE TEMPORARY TRAFFIC SIGNAL SHALL HAVE THE SIGNAL HEAD DISPLAYS, SIGNAL HEAD PLACEMENTS AND CONTROLLER PHASING MATCH THE EXISTING TRAFFIC SIGNAL, AT THE TIME OF THE TURN ON, IF NO TRAFFIC STAGING IS IN PLACE OR WILL NOT BE STAGED ON THE DAY OF THE TURN ON.

NOTE:  
TEMPORARY WIRELESS INTERCONNECT IS INCLUDED IN TEMPORARY TRAFFIC SIGNAL INSTALLATION PAY ITEM.

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

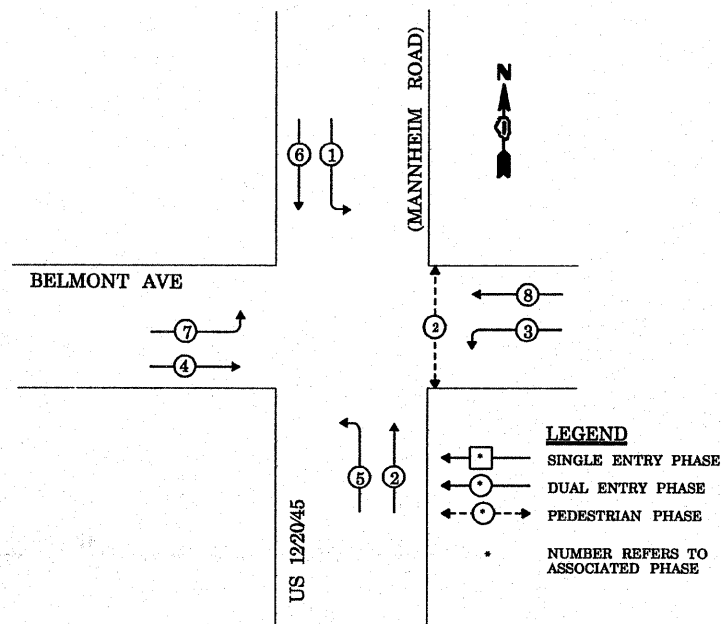
- 1 EACH CONTROLLER AND CABINET
- 5 EACH TRAFFIC SIGNAL BACKPLATE
- 4 EACH SIGNAL HEAD, 1-FACE, 5-SECTION, MAST ARM MOUNTED
- 2 EACH SIGNAL HEAD, 1-FACE, 3-SECTION, BRACKET MOUNTED
- 1 EACH SIGNAL HEAD, 1-FACE, 3-SECTION, MAST ARM MOUNTED
- 4 EACH SIGNAL HEAD, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED
- 4 EACH TRAFFIC SIGNAL POST
- 3 EACH MAST ARM ASSEMBLY AND POLE, ALUMINUM
- 1 EACH MAST ARM ASSEMBLY AND POLE, STEEL
- 1 EACH SERVICE INSTALLATION

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 SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

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

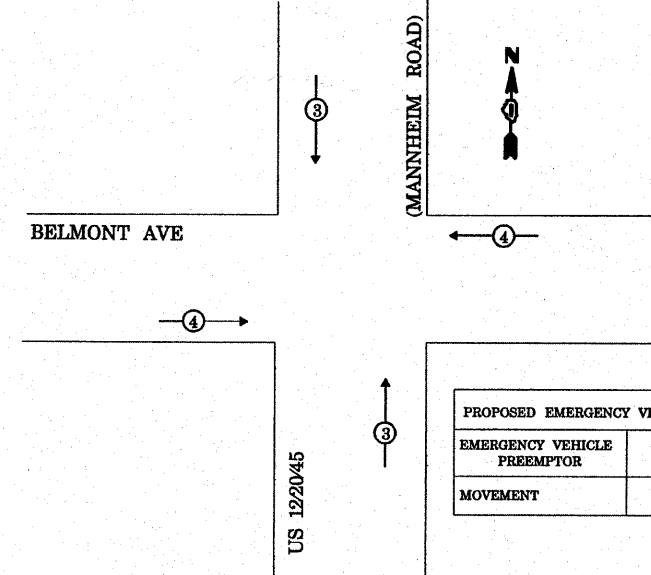
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| c:\projects\traffic\070027\us12_20_45.dgn | PLLOT SCALE = 48,0000 ' / IN. | DRAWN - N.B.      | REVISED - |   |   | 330   | 2008-006 TS | COOK   | 104          | 9         |  |
|   | PLLOT DATE = 10/10/2008       | CHECKED - D.B.    | REVISED - |   |   | CONTRACT NO. 60E31                            |             |        |              |           |  |
|   |                               | DATE - 09/04/2008 | REVISED - |   |   | FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT |             |        |              |           |  |

**CONTROLLER SEQUENCE**

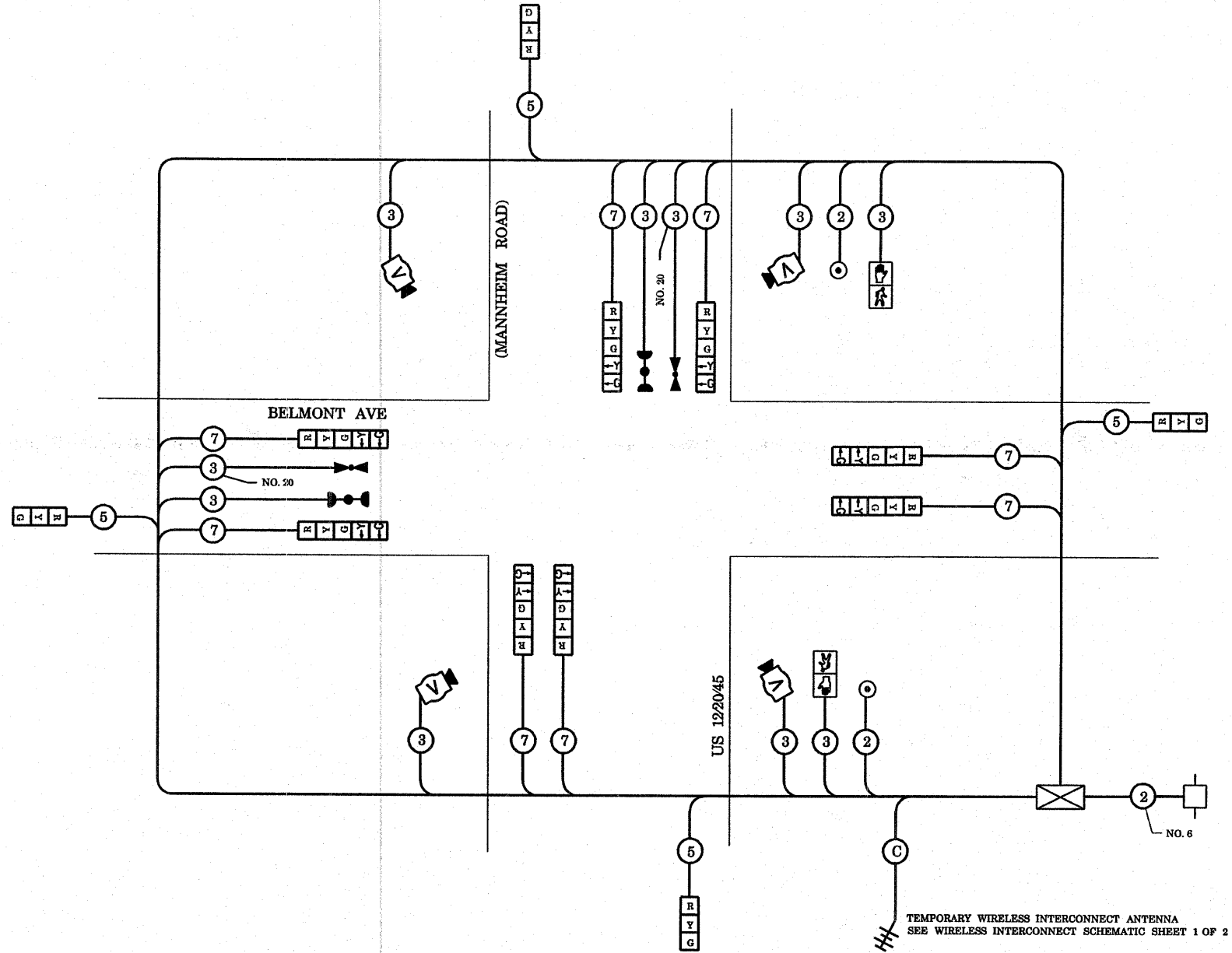


**TEMPORARY PHASE DESIGNATION DIAGRAM**

**TEMPORARY EMERGENCY VEHICLE PREEMPTION SEQUENCE**



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



**TEMPORARY CABLE PLAN**

**TEMPORARY CABLE DIAGRAM LEGEND**

- TEMPORARY TRAFFIC SIGNAL SECTION OR PEDESTRIAN SIGNAL SECTION, 12" (300 mm)
- TEMPORARY CONTROLLER CABINET
- TEMPORARY SERVICE INSTALLATION
- INDICATES NUMBER OF CONDUCTORS IN CABLE. ALL CONDUCTORS TO BE NUMBERED 14 AWG WIRE UNLESS OTHERWISE NOTED.
- EMERGENCY VEHICLE LIGHT DETECTOR
- CONFIRMATION BEACON
- PEDESTRIAN PUSHBUTTON DETECTOR
- VEHICLE DETECTOR, INDUCTION LOOP
- 12" (300 mm) PEDESTRIAN SIGNAL SECTION
- MICROWAVE VEHICLE SENSOR
- VIDEO DETECTOR
- WIRELESS INTERCONNECT (ANTENNA)

\* TEMPORARY WIRELESS INTERCONNECT IS INCLUDED IN TEMPORARY TRAFFIC SIGNAL INSTALLATION PAY ITEM

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

| I.D.O.T.<br>TRAFFIC SIGNAL INSTALLATION<br>ELECTRICAL SERVICE REQUIREMENTS |                     |         |     |             | TOTAL<br>WATTAGE |        |
|--|---------------------|---------|-----|-------------|------------------|--------|
| TYPE   | NO. LAMPS           | WATTAGE |     | % OPERATION |                  |        |
| SIGNAL (RED)   | 12                  | INCAND. | LED | 17          | 0.50             | 102.00 |
| (YELLOW)   | 12                  |         |     | 25          | 0.25             | 75.00  |
| (GREEN)  | 12                  |         |     | 15          | 0.25             | 45.00  |
| ARROW  | 16                  |         |     | 12          | 0.10             | 19.20  |
| PED. SIGNAL  | 2                   |         |     | 25          | 1.00             | 50.00  |
| CONTROLLER   | 1                   |         |     | 100         | 1.00             | 100.00 |
| ILLUM. SIGN  |                     |         |     |             | 0.05             | -      |
| FLASHER  |                     |         |     |             | 0.05             | -      |
| ENERGY COSTS TO:   |                     |         |     |             | TOTAL =          | 391.20 |
| VILLAGE OF FRANKLIN PARK<br>9500 BELMONT AVENUE<br>FRANKLIN PARK, IL 60131 |                     |         |     |             |                  |        |
| ENERGY SUPPLY CONTACT:   | LINDA KLOC          |         |     |             |                  |        |
| PHONE:   | (708)410-5313       |         |     |             |                  |        |
| COMPANY:   | COMMONWEALTH EDISON |         |     |             |                  |        |





- CONSTRUCTION NOTES:
- RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, DETECTOR UNIT AND CONFIRMATION BEACON TO NEW MAST ARM.
  - RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, PHASING UNIT TO NEW TRAFFIC SIGNAL CONTROLLER.
  - RE-STRIPE EXISTING THERMOPLASTIC PAVEMENT MARKING STOP LINE WITH HIGH VISIBILITY THERMOPLASTIC PAVEMENT MARKING STOP LINE 24" (TYP.)

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 SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

**TRAFFIC SIGNAL LEGEND**

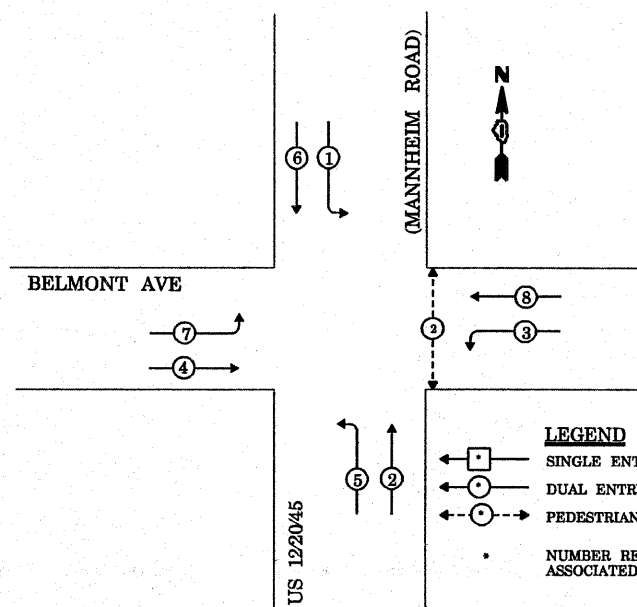
|  | PROPOSED | EXISTING |
|--|----------|----------|
| CONTROLLER   |          |          |
| RAILROAD CONTROL CABINET                             |          |          |
| SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNTED |          |          |
| SIGNAL HEAD  |          |          |
| SIGNAL HEAD WITH BACKPLATE                           |          |          |
| SIGNAL HEAD, PEDESTRIAN                              |          |          |
| SIGNAL POST  |          |          |
| MAST ARM ASSEMBLY AND POLE, STEEL                    |          |          |
| MAST ARM ASSEMBLY AND POLE, ALUMINIUM                |          |          |
| COMMON TRENCH  |          |          |
| UNIT DUCT  |          |          |
| HANDHOLE   |          |          |
| HEAVY DUTY HANDHOLE                                  |          |          |
| DOUBLE HANDHOLE                                      |          |          |
| G.S.CONDUIT IN TRENCH OR PUSHED                      |          |          |
| CAST IRON JUNCTION BOX                               |          |          |
| SIGNAL HEAD OPTICALLY PROGRAMMED                     |          |          |
| CONDUIT SPLICE                                       |          |          |
| WOOD POLE  |          |          |
| RACEWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II     |          |          |
| VEHICLE DETECTOR, NON COMPENSATED MAGNETIC TYPE      |          |          |
| RAILROAD CONTROL CABINET                             |          |          |
| ILLUMINATED SIGN, FIBER OPTIC "NO LEFT TURN"         |          |          |
| ILLUMINATED SIGN, FIBER OPTIC "NO RIGHT TURN"        |          |          |
| TELEPHONE CONNECTION                                 |          |          |
| PEDESTRIAN PUSHBUTTON DETECTOR                       |          |          |
| DETECTOR LOOP, TYPE I                                |          |          |
| PERFORMED DETECTOR LOOP                              |          |          |
| VIDEO DETECTOR                                       |          |          |
| CLOSED CIRCUIT TV                                    |          |          |
| EMERGENCY VEHICLE SYSTEM DETECTOR                    |          |          |
| CONFIRMATION BEACON                                  |          |          |
| UNINTERRUPTABLE POWER SUPPLY                         |          |          |
| PEDESTRIAN SIGNAL HEAD WITH COUNTDOWN TIMER          |          |          |

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

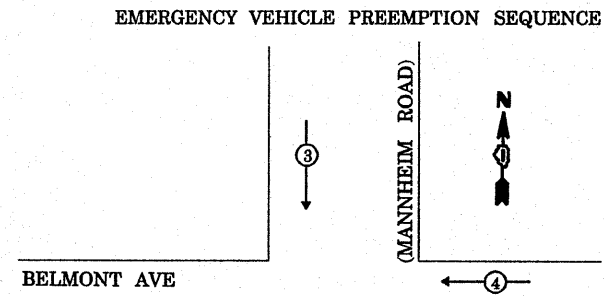
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| FILE NAME =                             | USER NAME = kanthphxaybc | DESIGNED - N.B.   | REVISED - | <b>STATE OF ILLINOIS<br/>DEPARTMENT OF TRANSPORTATION</b> | <b>PROPOSED TRAFFIC SIGNAL PLAN<br/>US 12/2045 (MANNHEIM ROAD) AT BELMONT AVENUE</b> |           |           | F.A.P. RTE. 330 | SECTION 2008-006 TS | COUNTY COOK         | TOTAL SHEETS 104          | SHEET NO. 11       |
| PROJECTS\traffic\1070027\us12.20.45.dgn |                          | DRAWN - N.B.      | REVISED - |   | SCALE: 1"=20'  | SHEET NO. | OF SHEETS | STA.            | TO STA.             | FED. ROAD DIST. NO. | ILLINOIS FED. AID PROJECT | CONTRACT NO. 60E31 |
|   |                          | CHECKED - D.B.    | REVISED - |   |  |           |           |                 |                     |                     |                           |                    |
|   |                          | DATE - 09/04/2008 | REVISED - |   |  |           |           |                 |                     |                     |                           |                    |

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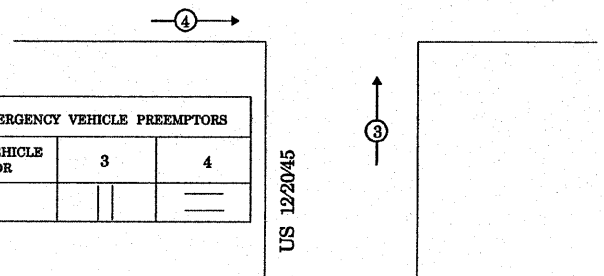
**CONTROLLER SEQUENCE**



**PHASE DESIGNATION DIAGRAM**

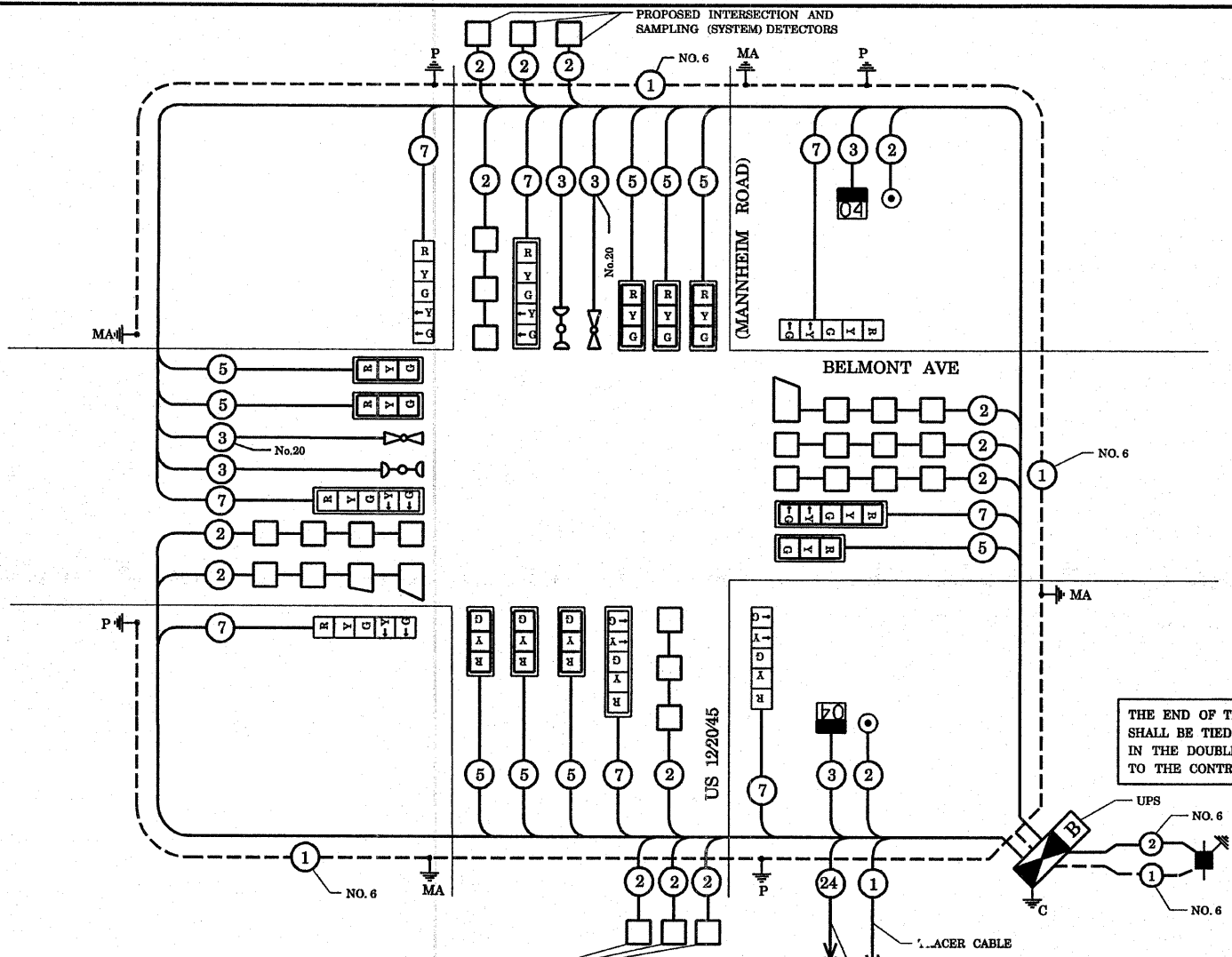


**EMERGENCY VEHICLE PREEMPTION SEQUENCE**



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

| TYPE  | NO. LAMPS | WATTAGE |     | % OPERATION | TOTAL WATTAGE  |
|---|-----------|---------|-----|-------------|----------------|
|   |           | INCAND. | LED |             |                |
| SIGNAL (RED)  | 17        |         | 17  | 0.50        | 144.50         |
| (YELLOW)  | 17        |         | 25  | 0.25        | 106.25         |
| (GREEN)   | 17        |         | 15  | 0.25        | 63.75          |
| ARROW   | 16        |         | 12  | 0.10        | 19.20          |
| PED. SIGNAL   | 2         |         | 25  | 1.00        | 50.00          |
| CONTROLLER  | 1         |         | 100 | 1.00        | 100.00         |
| ILLUM. SIGN   |           |         |     | 0.05        | -              |
| FLASHER   |           |         |     |             |                |
| ENERGY COSTS TO:  |           |         |     |             | TOTAL = 483.70 |
| VILLAGE OF FRANKLIN PARK<br>4500 BELMONT AVENUE<br>FRANKLIN PARK, IL 60131                |           |         |     |             |                |
| ENERGY SUPPLY CONTACT: LINDA KLOC<br>PHONE: (708)410-5313<br>COMPANY: COMMONWEALTH EDISON |           |         |     |             |                |



**SCHEDULE OF QUANTITIES**

| QUANTITY | UNIT  | ITEM  | QUANTITY | UNIT | ITEM   |
|----------|-------|---|----------|------|--|
| 249      | SQ FT | PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH               | 4        | EACH | TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.                                 |
| 23       | FOOT  | COMBINATION CURB AND GUTTER REMOVAL                     | 1        | EACH | STEEL MAST ARM ASSEMBLY AND POLE, 28 FT.                                     |
| 249      | SQ FT | SIDEWALK REMOVAL  | 1        | EACH | STEEL MAST ARM ASSEMBLY AND POLE, 40 FT.                                     |
| 23       | FOOT  | COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.24       | 1        | EACH | STEEL MAST ARM ASSEMBLY AND POLE, 44 FT.                                     |
| 0.1      | L SUM | TRAFFIC CONTROL AND PROTECTION, STANDARD 701501         | 1        | EACH | STEEL MAST ARM ASSEMBLY AND POLE, 52 FT.                                     |
| 0.1      | L SUM | TRAFFIC CONTROL AND PROTECTION, STANDARD 701701         | 16       | FOOT | CONCRETE FOUNDATION, TYPE A  |
| 0.1      | L SUM | TRAFFIC CONTROL AND PROTECTION, STANDARD 701801         | 4        | FOOT | CONCRETE FOUNDATION, TYPE C  |
| 16.5     | SQ FT | SIGN PANEL - TYPE 1                                     | 15       | FOOT | CONCRETE FOUNDATION, TYPE E 30" DIAMETER                                     |
| 30       | SQ FT | SIGN PANEL - TYPE 2                                     | 45       | FOOT | CONCRETE FOUNDATION, TYPE E 36" DIAMETER                                     |
| 104      | FOOT  | THERMOPLASTIC PAVEMENT MARKING - LINE 12"               | 13       | EACH | TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM                                 |
| 149      | FOOT  | THERMOPLASTIC PAVEMENT MARKING - LINE 24"               | 13       | EACH | INDUCTIVE LOOP DETECTOR  |
| 310      | SQ FT | THERMOPLASTIC PAVEMENT MARKING REMOVAL                  | 1152     | FOOT | DETECTOR LOOP, TYPE I  |
| 406      | FOOT  | CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL            | 2        | EACH | PEDESTRIAN PUSH-BUTTON   |
| 100      | FOOT  | CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL            | 1        | EACH | TEMPORARY TRAFFIC SIGNAL INSTALLATION  |
| 9        | FOOT  | CONDUIT IN TRENCH, 4" DIA., GALVANIZED STEEL            | 2*       | EACH | RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, DETECTOR UNIT           |
| 10       | FOOT  | CONDUIT IN TRENCH, 5" DIA., GALVANIZED STEEL            | 1*       | EACH | RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, PHASING UNIT            |
| 261      | FOOT  | CONDUIT PUSHED, 2" DIA., GALVANIZED STEEL               | 1        | EACH | REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT                                     |
| 319      | FOOT  | CONDUIT PUSHED, 4" DIA., GALVANIZED STEEL               | 9        | EACH | REMOVE EXISTING HANDHOLE   |
| 5        | EACH  | HANDHOLE  | 9        | EACH | REMOVE EXISTING CONCRETE FOUNDATION  |
| 4        | EACH  | HEAVY-DUTY HANDHOLE                                     | 9        | EACH | SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, MAST ARM MOUNTED                     |
| 2        | EACH  | DOUBLE HANDHOLE   | 4        | EACH | SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, BRACKET MOUNTED                      |
| 624      | FOOT  | TRENCH AND BACKFILL FOR ELECTRICAL WORK                 | 4        | EACH | SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, MAST ARM MOUNTED                     |
| 1        | EACH  | FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL   | 2        | EACH | PEDESTRIAN SIGNAL HEAD, L.E.D., 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER |
| 1        | EACH  | TRANSCEIVER - FIBER OPTIC                               | 1        | EACH | TEMPORARY TRAFFIC SIGNAL TIMINGS   |
| 170      | FOOT  | ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C             | 1        | EACH | SERVICE INSTALLATION, POLE MOUNT   |
| 727      | FOOT  | ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C             | 1        | EACH | UNINTERRUPTIBLE POWER SUPPLY   |
| 1896     | FOOT  | ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C             |          |      |  |
| 1501     | FOOT  | ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C             |          |      |  |
| 3243     | FOOT  | ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1-PAIR       |          |      |  |
| 141      | FOOT  | ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C            |          |      |  |
| 552      | FOOT  | ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C          |          |      |  |
| 539      | FOOT  | ELECTRIC CABLE IN CONDUIT, NO. 20 3C, TWISTED, SHIELDED |          |      |  |

**CABLE PLAN LEGEND**

- | PROPOSED | EXISTING |   |
|----------|----------|---|
| [Symbol] | [Symbol] | 8" (200mm) TRAFFIC SIGNAL SECTION   |
| [Symbol] | [Symbol] | 12" (300mm) TRAFFIC SIGNAL SECTION  |
| [Symbol] | [Symbol] | 12" (300mm) PEDESTRIAN SIGNAL SECTION   |
| [Symbol] | [Symbol] | 12" (300mm) PEDESTRIAN SIGNAL SECTION   |
| [Symbol] | [Symbol] | CONTROLLER CABINET  |
| [Symbol] | [Symbol] | SERVICE INSTALLATION  |
| [Symbol] | [Symbol] | TELEPHONE CONNECTION  |
| [Symbol] | [Symbol] | MAGNETIC DETECTOR   |
| [Symbol] | [Symbol] | PUSHBUTTON DETECTOR   |
| [Symbol] | [Symbol] | VEHICLE DETECTOR, INDUCTION LOOP  |
| [Symbol] | [Symbol] | 2 DENOTES NUMBER OF CONDUCTORS. ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOP DETECTOR CABLE TO BE SHIELDED. |
| [Symbol] | [Symbol] | SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD   |
| [Symbol] | [Symbol] | "E" RAILROAD CONTROL CABINET  |
| [Symbol] | [Symbol] | "E" ILLUMINATED SIGN, FIBER OPTIC "NO LEFT TURN"  |
| [Symbol] | [Symbol] | "E" ILLUMINATE SIGN, FIBER OPTIC "NO RIGHT TURN"  |
| [Symbol] | [Symbol] | HC GROUND ROD AT HANDHOLE, DOUBLE HANDHOLE, OR CONTROLLER   |
| [Symbol] | [Symbol] | P GROUND ROD AT POST OR MAST ARM POLE   |
| [Symbol] | [Symbol] | S GROUND ROD AT ELECTRIC SERVICE INSTALLATION   |
| [Symbol] | [Symbol] | 1 GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN)  |
| [Symbol] | [Symbol] | 24 FIBER OPTIC CABLE IN CONDUIT NO. 62.5/125 2-MM12F & SM12F  |
| [Symbol] | [Symbol] | 24 MICROWAVE VEHICLE SENSOR   |
| [Symbol] | [Symbol] | V VIDEO DETECTOR  |
| [Symbol] | [Symbol] | CT CLOSED CIRCUIT TV  |
| [Symbol] | [Symbol] | ▲ EMERGENCY VEHICLE LIGHT DETECTOR  |
| [Symbol] | [Symbol] | ○ CONFIRMATION BEACON   |
| [Symbol] | [Symbol] | B UNINTERRUPTIBLE POWER SUPPLY  |
| [Symbol] | [Symbol] | 04 PEDESTRIAN SIGNAL HEAD WITH COUNTDOWN TIMER  |

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

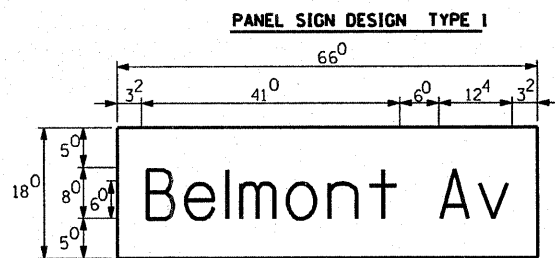
\* 100% COST TO VILLAGE OF FRANKLIN PARK

**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**

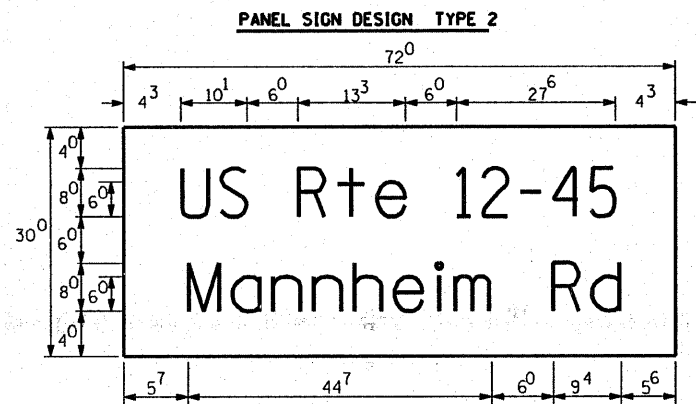
**PROPOSED CABLE PLAN**  
US 12/2045 (MANNHEIM ROAD) AT BELMONT AVENUE

| F.A.P. RTE.                                   | SECTION     | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|-------------|--------|--------------|-----------|
| 330   | 2008-006 TS | COOK   | 104          | 12        |
| CONTRACT NO. 60E31                            |             |        |              |           |
| FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT |             |        |              |           |

| FILE NAME                                  | USER NAME    | DESIGNED          | REVISED   |
|--|--------------|-------------------|-----------|
| ci:\projects\traffic\107027\us12_20_45.dgn | kanthaphaybo | - N.B.            | -         |
|  |              | DRAWN - N.B.      | REVISED - |
|  |              | CHECKED - D.B.    | REVISED - |
|  |              | DATE - 09/04/2008 | REVISED - |

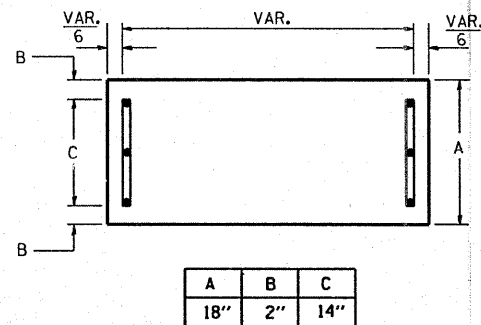


— Sq. M. each  
**8.25** Sq. Ft. each  
 — 2 Required  
 Design Series **D**



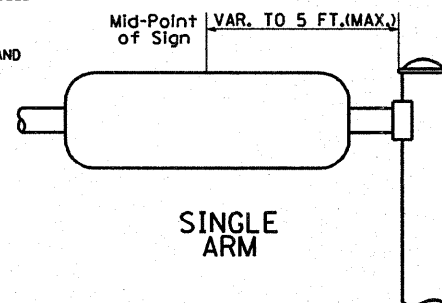
— Sq. M. each  
**15** Sq. Ft. each  
 — 2 Required  
 Design Series **C**

**SUPPORTING CHANNELS**

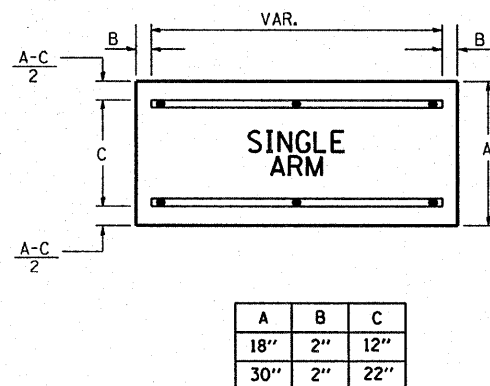


**GENERAL NOTES**

- WHERE MAST ARM MOUNTED STREET NAME SIGNS ARE SPECIFIED, THE MAST ARM ASSEMBLY AND POLES SHALL BE DESIGNED TO SUPPORT THE LOADINGS CALLED FOR ON STANDARDS 834001, 834006 AND 834011, AS APPLICABLE, PLUS TWO (2) SIGN PANELS 2'-6" x 6'-0" MOUNTED AS SHOWN. THE DESIGN SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CURRENT "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS" AS PUBLISHED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS FOR 80 M.P.H. WIND VELOCITY.
  - ALL SIGNS SHALL HAVE A WHITE REFLECTORIZED LEGEND AND BORDER ON A GREEN REFLECTORIZED BACKGROUND, TYPE A SHEETING.
  - THE SIGN LENGTH SHOULD BE INCREASED IN 6-INCH INCREMENTS, BUT THE OVERALL LENGTH SHOULD NOT EXCEED 6'-0".
  - ALL BORDERS SHALL BE 3/4" WIDE AND CORNER RADIUS SHALL BE 2-1/4".
  - SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM SHALL BE USED FOR ALL SIGNS ATTACHED TO SIGNAL POLES AND POSTS. LOCAL SUPPLIERS OF THE SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM ARE:
    - \* A.K.T. CORPORATION
    - \* AMERICAN FABRICATION CO.
    - \* SCHAMBURG, IL
    - \* CHICAGO HEIGHTS, IL
    - \* TUCKER COMPANY, INC.
    - \* WESTERN TRAFFIC CONTROL INC.
    - \* WAUWATOSA, WI
    - \* CICERO, IL
- PARTS LISTING:**  
 SIGN CHANNEL: PART #HPN053 (MED. CHANNEL)  
 SIGN SCREWS: 1/4" x 14 x 1" H.W.H. #3  
 BRACKETS: SELF TAPPING WITH NEOPRENE WASHER  
 CHANNEL CLAMPS WITH STAINLESS STEEL STRAPPING  
 PART #HPN034 (UNIVERSAL)  
 OTHER BRANDS OF MOUNTING HARDWARE ARE ACCEPTABLE, BASED UPON THE DEPARTMENT'S APPROVAL AND COMPATIBILITY WITH THE CHANNEL/BACKET OF THE ABOVE PRODUCT.



**SUPPORTING CHANNELS**



**DUAL ARM**

**SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM**  
 Shall be used. See Note #5.

Upper Case To Lower Case  
 Spacing Chart 8-6 Inch Series "C & D"

EXAMPLE, 2<sup>3</sup> DENOTES 3/8"

| SERIES  | SECOND LETTER |    |       |    |     |    |    |    |     |    |     |    |    |    |    |    |
|---------|---------------|----|-------|----|-----|----|----|----|-----|----|-----|----|----|----|----|----|
|         | acde          |    | bhikl |    | f w |    | j  |    | s t |    | v y |    | x  |    | z  |    |
|         | C             | D  | C     | D  | C   | D  | C  | D  | C   | D  | C   | D  | C  | D  | C  | D  |
| A W X   | 12            | 14 | 14    | 15 | 12  | 14 | 06 | 10 | 11  | 14 | 06  | 10 | 11 | 12 | 12 | 14 |
| B       | 14            | 15 | 20    | 21 | 14  | 15 | 11 | 12 | 14  | 15 | 12  | 14 | 12 | 14 | 16 | 17 |
| C E G   | 14            | 15 | 20    | 21 | 12  | 14 | 06 | 10 | 12  | 14 | 12  | 14 | 14 | 15 | 14 | 15 |
| D O O R | 14            | 15 | 20    | 21 | 14  | 15 | 06 | 10 | 12  | 14 | 12  | 14 | 14 | 15 | 14 | 15 |
| F       | 05            | 06 | 14    | 15 | 06  | 10 | 05 | 06 | 06  | 10 | 06  | 10 | 06 | 10 | 11 | 12 |
| H I M N | 20            | 21 | 22    | 24 | 20  | 21 | 14 | 15 | 16  | 17 | 16  | 17 | 20 | 21 | 20 | 21 |
| J U     | 20            | 21 | 20    | 21 | 16  | 17 | 14 | 15 | 16  | 17 | 16  | 17 | 16 | 17 | 20 | 21 |
| K L     | 11            | 12 | 16    | 17 | 11  | 12 | 05 | 06 | 11  | 12 | 11  | 12 | 11 | 12 | 12 | 14 |
| P       | 12            | 14 | 14    | 15 | 12  | 14 | 05 | 06 | 11  | 12 | 11  | 12 | 12 | 14 | 12 | 14 |
| S       | 12            | 14 | 16    | 17 | 12  | 14 | 06 | 10 | 12  | 14 | 12  | 14 | 12 | 14 | 12 | 14 |
| T       | 11            | 12 | 16    | 17 | 06  | 10 | 06 | 10 | 11  | 12 | 11  | 12 | 11 | 12 | 12 | 14 |
| V       | 06            | 10 | 14    | 15 | 11  | 12 | 06 | 10 | 12  | 14 | 12  | 14 | 12 | 14 | 12 | 14 |
| Y       | 05            | 06 | 14    | 15 | 06  | 10 | 05 | 06 | 05  | 07 | 05  | 06 | 06 | 10 | 11 | 12 |
| Z       | 16            | 17 | 22    | 24 | 16  | 17 | 12 | 14 | 16  | 17 | 16  | 17 | 16 | 17 | 20 | 21 |

Lower Case To Lower Case  
 Spacing Chart 6 Inch Series "C & D"

| SERIES      | SECOND LETTER |    |       |    |     |    |    |    |     |    |     |    |    |    |    |    |
|-------------|---------------|----|-------|----|-----|----|----|----|-----|----|-----|----|----|----|----|----|
|             | acde          |    | bhikl |    | f w |    | j  |    | s t |    | v y |    | x  |    | z  |    |
|             | C             | D  | C     | D  | C   | D  | C  | D  | C   | D  | C   | D  | C  | D  | C  | D  |
| a d h g l j | 16            | 17 | 22    | 24 | 16  | 17 | 12 | 14 | 14  | 15 | 14  | 15 | 16 | 17 | 16 | 17 |
| b f k o p s | 12            | 14 | 16    | 17 | 11  | 12 | 05 | 06 | 11  | 12 | 11  | 12 | 12 | 14 | 12 | 14 |
| c e         | 12            | 14 | 16    | 17 | 12  | 14 | 06 | 10 | 12  | 14 | 12  | 14 | 12 | 14 | 12 | 14 |
| r           | 06            | 10 | 12    | 14 | 06  | 10 | 03 | 03 | 05  | 06 | 05  | 06 | 06 | 10 | 06 | 10 |
| t z         | 12            | 14 | 16    | 17 | 12  | 14 | 06 | 10 | 11  | 12 | 11  | 12 | 12 | 14 | 12 | 14 |
| v y         | 11            | 12 | 14    | 15 | 11  | 12 | 05 | 06 | 06  | 10 | 06  | 10 | 11 | 12 | 11 | 12 |
| w           | 11            | 12 | 14    | 15 | 11  | 12 | 05 | 06 | 11  | 12 | 11  | 12 | 11 | 12 | 12 | 14 |
| x           | 12            | 14 | 16    | 17 | 11  | 12 | 05 | 06 | 11  | 12 | 11  | 12 | 11 | 12 | 12 | 14 |

Number To Number  
 Spacing Chart 8 Inch Series "C & D"

| SERIES | SECOND NUMBER |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|--------|---------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|        | 0             |    | 1  |    | 2  |    | 3  |    | 4  |    | 5  |    | 6  |    | 7  |    | 8  |    | 9  |    |
|        | C             | D  | C  | D  | C  | D  | C  | D  | C  | D  | C  | D  | C  | D  | C  | D  | C  | D  | C  | D  |
| 0 9    | 16            | 17 | 16 | 17 | 14 | 15 | 12 | 14 | 14 | 15 | 14 | 15 | 16 | 17 | 12 | 14 | 16 | 17 | 16 | 17 |
| 1      | 20            | 21 | 20 | 21 | 20 | 21 | 16 | 17 | 14 | 15 | 20 | 21 | 20 | 21 | 14 | 15 | 20 | 21 | 20 | 21 |
| 2 3 4  | 14            | 15 | 14 | 15 | 14 | 15 | 12 | 14 | 12 | 14 | 14 | 15 | 14 | 15 | 11 | 12 | 16 | 17 | 14 | 15 |
| 5      | 14            | 15 | 14 | 15 | 14 | 15 | 11 | 12 | 11 | 12 | 14 | 15 | 14 | 15 | 11 | 12 | 14 | 15 | 14 | 15 |
| 6      | 16            | 17 | 14 | 15 | 14 | 15 | 12 | 15 | 12 | 14 | 14 | 15 | 14 | 15 | 11 | 12 | 14 | 15 | 14 | 15 |
| 7      | 12            | 14 | 12 | 14 | 14 | 15 | 12 | 15 | 05 | 06 | 12 | 14 | 14 | 15 | 11 | 12 | 14 | 15 | 12 | 14 |
| 8      | 16            | 17 | 16 | 17 | 14 | 15 | 12 | 15 | 12 | 14 | 14 | 15 | 16 | 17 | 12 | 14 | 16 | 17 | 14 | 15 |

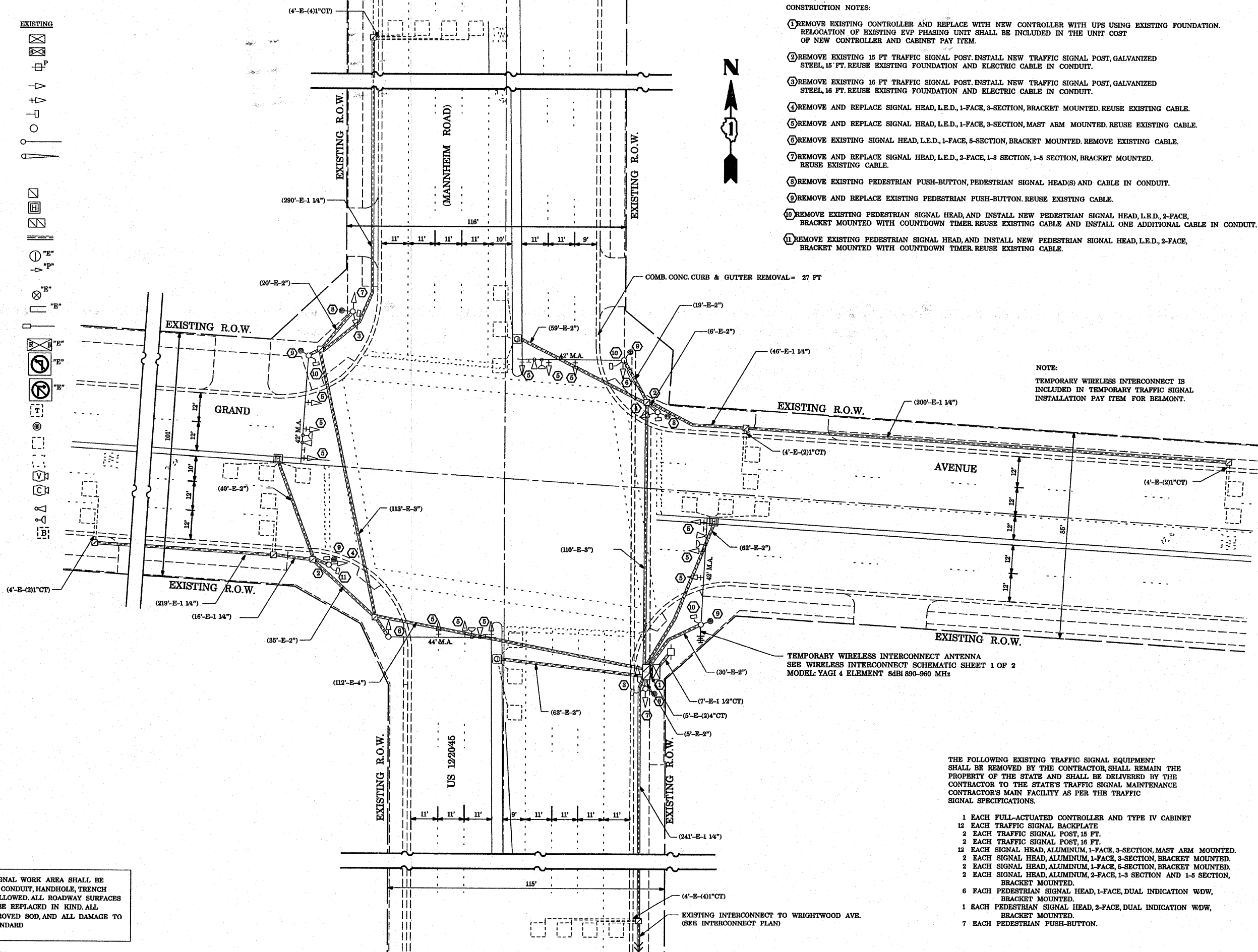
**UPPER AND LOWER CASE LETTER WIDTHS**

| LETTERS | 6 INCH UPPER CASE LETTERS |    | 8 INCH UPPER CASE LETTERS |    | LETTERS | 6 INCH LOWER CASE LETTERS |    |
|---------|---------------------------|----|---------------------------|----|---------|---------------------------|----|
|         | C                         | D  | C                         | D  |         | C                         | D  |
| A       | 36                        | 50 | 50                        | 65 | a       | 35                        | 42 |
| B       | 32                        | 40 | 43                        | 53 | b       | 35                        | 42 |
| C       | 32                        | 40 | 43                        | 53 | c       | 35                        | 41 |
| D       | 32                        | 40 | 43                        | 53 | d       | 35                        | 42 |
| E       | 30                        | 35 | 40                        | 47 | e       | 35                        | 42 |
| F       | 30                        | 35 | 40                        | 47 | f       | 23                        | 26 |
| G       | 32                        | 40 | 43                        | 53 | g       | 35                        | 42 |
| H       | 32                        | 40 | 43                        | 53 | h       | 35                        | 42 |
| I       | 07                        | 07 | 11                        | 12 | i       | 11                        | 11 |
| J       | 30                        | 36 | 40                        | 50 | j       | 20                        | 22 |
| K       | 32                        | 41 | 43                        | 54 | k       | 35                        | 42 |
| L       | 30                        | 35 | 40                        | 47 | l       | 11                        | 11 |
| M       | 37                        | 45 | 51                        | 61 | m       | 60                        | 70 |
| N       | 32                        | 40 | 43                        | 53 | n       | 35                        | 42 |
| O       | 34                        | 42 | 45                        | 55 | o       | 36                        | 43 |
| P       | 32                        | 40 | 43                        | 53 | p       | 35                        | 42 |
| Q       | 34                        | 42 | 45                        | 55 | q       | 35                        | 42 |
| R       | 32                        | 40 | 43                        | 53 | r       | 26                        | 32 |
| S       | 32                        | 40 | 43                        | 53 | s       | 36                        | 42 |
| T       | 30                        | 35 | 40                        | 47 | t       | 27                        | 32 |
| U       | 32                        | 40 | 43                        | 53 | u       | 35                        | 42 |
| V       | 35                        | 44 | 47                        | 60 | v       | 42                        | 47 |
| W       | 44                        | 52 | 60                        | 70 | w       | 55                        | 64 |
| X       | 34                        | 40 | 45                        | 53 | x       | 44                        | 51 |
| Y       | 36                        | 50 | 50                        | 66 | y       | 46                        | 53 |
| Z       | 32                        | 40 | 43                        | 53 | z       | 36                        | 43 |

| NUMBER | 6 INCH SERIES |    | 8 INCH SERIES |    |
|--------|---------------|----|---------------|----|
|        | C             | D  | C             | D  |
| 1      | 12            | 14 | 15            | 20 |
| 2      | 32            | 40 | 43            | 53 |
| 3      | 32            | 40 | 43            | 53 |
| 4      | 35            | 43 | 47            | 57 |
| 5      | 32            | 40 | 43            | 53 |
| 6      | 32            | 40 | 43            | 53 |
| 7      | 32            | 40 | 43            | 53 |
| 8      | 32            | 40 | 43            | 53 |
| 9      | 32            | 40 | 43            | 53 |
| 0      | 34            | 42 | 45            | 55 |

**TRAFFIC SIGNAL LEGEND**

|  | PROPOSED | EXISTING |
|--|----------|----------|
| CONTROLLER   | [Symbol] | [Symbol] |
| RAILROAD CONTROL CABINET                             | [Symbol] | [Symbol] |
| SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNTED | [Symbol] | [Symbol] |
| SIGNAL HEAD  | [Symbol] | [Symbol] |
| SIGNAL HEAD WITH BACKPLATE                           | [Symbol] | [Symbol] |
| SIGNAL HEAD, PEDESTRIAN                              | [Symbol] | [Symbol] |
| SIGNAL POST  | [Symbol] | [Symbol] |
| MAST ARM ASSEMBLY AND POLE, STEEL                    | [Symbol] | [Symbol] |
| MAST ARM ASSEMBLY AND POLE, ALUMINIUM                | [Symbol] | [Symbol] |
| COMMON TRENCH  | [Symbol] | [Symbol] |
| UNIT DUCT  | [Symbol] | [Symbol] |
| HANDHOLE   | [Symbol] | [Symbol] |
| HEAVY DUTY HANDHOLE                                  | [Symbol] | [Symbol] |
| DOUBLE HANDHOLE                                      | [Symbol] | [Symbol] |
| G.S.CONDUIT IN TRENCH OR PUSHED                      | [Symbol] | [Symbol] |
| CAST IRON JUNCTION BOX                               | [Symbol] | [Symbol] |
| SIGNAL HEAD OPTICALLY PROGRAMMED                     | [Symbol] | [Symbol] |
| CONDUIT SPLICE                                       | [Symbol] | [Symbol] |
| WOOD POLE  | [Symbol] | [Symbol] |
| RACEWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II     | [Symbol] | [Symbol] |
| VEHICLE DETECTOR, NON COMPENSATED MAGNETIC TYPE      | [Symbol] | [Symbol] |
| RAILROAD CONTROL CABINET                             | [Symbol] | [Symbol] |
| ILLUMINATED SIGN, FIBER OPTIC "NO LEFT TURN"         | [Symbol] | [Symbol] |
| ILLUMINATED SIGN, FIBER OPTIC "NO RIGHT TURN"        | [Symbol] | [Symbol] |
| TELEPHONE CONNECTION                                 | [Symbol] | [Symbol] |
| PEDESTRIAN PUSHBUTTON DETECTOR                       | [Symbol] | [Symbol] |
| DETECTOR LOOP, TYPE I                                | [Symbol] | [Symbol] |
| PREFORMED DETECTOR LOOP                              | [Symbol] | [Symbol] |
| VIDEO DETECTOR                                       | [Symbol] | [Symbol] |
| CLOSED CIRCUIT TV                                    | [Symbol] | [Symbol] |
| EMERGENCY VEHICLE SYSTEM DETECTOR                    | [Symbol] | [Symbol] |
| CONFIRMATION BEACON                                  | [Symbol] | [Symbol] |
| UNINTERRUPTIBLE POWER SUPPLY                         | [Symbol] | [Symbol] |
| WIRELESS INTERCONNECT (ANTENNA)                      | [Symbol] | [Symbol] |



**CONSTRUCTION NOTES:**

- 1 REMOVE EXISTING CONTROLLER AND REPLACE WITH NEW CONTROLLER WITH UPS USING EXISTING FOUNDATION. RELOCATION OF EXISTING EVP PHASING UNIT SHALL BE INCLUDED IN THE UNIT COST OF NEW CONTROLLER AND CABINET PAY ITEM.
- 2 REMOVE EXISTING 15 FT TRAFFIC SIGNAL POST. INSTALL NEW TRAFFIC SIGNAL POST, GALVANIZED STEEL, 15 FT. REUSE EXISTING FOUNDATION AND ELECTRIC CABLE IN CONDUIT.
- 3 REMOVE EXISTING 16 FT TRAFFIC SIGNAL POST. INSTALL NEW TRAFFIC SIGNAL POST, GALVANIZED STEEL, 16 FT. REUSE EXISTING FOUNDATION AND ELECTRIC CABLE IN CONDUIT.
- 4 REMOVE AND REPLACE SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, BRACKET MOUNTED. REUSE EXISTING CABLE.
- 5 REMOVE AND REPLACE SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, MAST ARM MOUNTED. REUSE EXISTING CABLE.
- 6 REMOVE EXISTING SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, BRACKET MOUNTED. REMOVE EXISTING CABLE.
- 7 REMOVE AND REPLACE SIGNAL HEAD, L.E.D., 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED. REUSE EXISTING CABLE.
- 8 REMOVE EXISTING PEDESTRIAN PUSH-BUTTON, PEDESTRIAN SIGNAL HEAD(S) AND CABLE IN CONDUIT.
- 9 REMOVE AND REPLACE EXISTING PEDESTRIAN PUSH-BUTTON. REUSE EXISTING CABLE.
- 10 REMOVE EXISTING PEDESTRIAN SIGNAL HEAD, AND INSTALL NEW PEDESTRIAN SIGNAL HEAD, L.E.D., 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER REUSE EXISTING CABLE AND INSTALL ONE ADDITIONAL CABLE IN CONDUIT.
- 11 REMOVE EXISTING PEDESTRIAN SIGNAL HEAD, AND INSTALL NEW PEDESTRIAN SIGNAL HEAD, L.E.D., 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER REUSE EXISTING CABLE.

**NOTE:**  
TEMPORARY WIRELESS INTERCONNECT IS INCLUDED IN TEMPORARY TRAFFIC SIGNAL INSTALLATION PAY ITEM FOR BELMONT.

TEMPORARY WIRELESS INTERCONNECT ANTENNA  
SEE WIRELESS INTERCONNECT SCHEMATIC SHEET 1 OF 2  
MODEL: YAGI 4 ELEMENT 8dBi 890-960 MHz

THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE REMOVED BY THE CONTRACTOR, SHALL REMAIN THE PROPERTY OF THE STATE AND SHALL BE DELIVERED BY THE CONTRACTOR TO THE STATE'S TRAFFIC SIGNAL MAINTENANCE CONTRACTOR'S MAIN FACILITY AS PER THE TRAFFIC SIGNAL SPECIFICATIONS.

- 1 EACH FULL-ACTUATED CONTROLLER AND TYPE IV CABINET
- 12 EACH TRAFFIC SIGNAL BACKPLATE
- 2 EACH TRAFFIC SIGNAL POST, 15 FT.
- 2 EACH TRAFFIC SIGNAL POST, 16 FT.
- 12 EACH SIGNAL HEAD, ALUMINUM, 1-FACE, 3-SECTION, MAST ARM MOUNTED.
- 2 EACH SIGNAL HEAD, ALUMINUM, 1-FACE, 3-SECTION, BRACKET MOUNTED.
- 2 EACH SIGNAL HEAD, ALUMINUM, 1-FACE, 5-SECTION, BRACKET MOUNTED.
- 2 EACH SIGNAL HEAD, ALUMINUM, 2-FACE, 1-3 SECTION AND 1-5 SECTION, BRACKET MOUNTED.
- 6 EACH PEDESTRIAN SIGNAL HEAD, 1-FACE, DUAL INDICATION WDW, BRACKET MOUNTED.
- 1 EACH PEDESTRIAN SIGNAL HEAD, 2-FACE, DUAL INDICATION WDW, BRACKET MOUNTED.
- 7 EACH PEDESTRIAN PUSH-BUTTON.

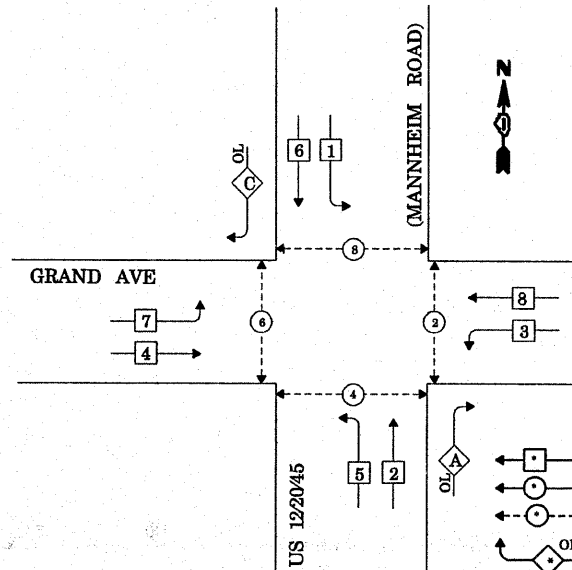
**NOTE:**  
THE TRAFFIC SIGNAL CONTROLLER EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM.

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 SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

|   |                          |                   |           |   |  |           |           |                 |                     |                     |                           |              |
|---|--------------------------|-------------------|-----------|---|--|-----------|-----------|-----------------|---------------------|---------------------|---------------------------|--------------|
| FILE NAME =                             | USER NAME = kanthaphaybc | DESIGNED - N.B.   | REVISED - | <b>STATE OF ILLINOIS<br/>DEPARTMENT OF TRANSPORTATION</b> | <b>EXISTING AND REMOVAL PLAN</b>           |           |           | F.A.P. RTE. 330 | SECTION 2008-006 T5 | COUNTY COOK         | TOTAL SHEETS 104          | SHEET NO. 14 |
| PROJECTS\traffic\1070027\us12_20_45.dgn |                          | DRAWN - N.B.      | REVISED - |   | US 12/2045 (MANNHEIM ROAD) AT GRAND AVENUE |           |           |                 |                     |                     | CONTRACT NO. 60E31        |              |
| PLOT SCALE = 40.0000 "/>                |                          | CHECKED - D.B.    | REVISED - |   | SCALE: 1"=20'                              | SHEET NO. | OF SHEETS | STA.            | TO STA.             | FED. ROAD DIST. NO. | ILLINOIS FED. AID PROJECT |              |
| PLOT DATE = 10/10/2008                  |                          | DATE = 09/04/2008 | REVISED - |   |  |           |           |                 |                     |                     |                           |              |



**CONTROLLER SEQUENCE**



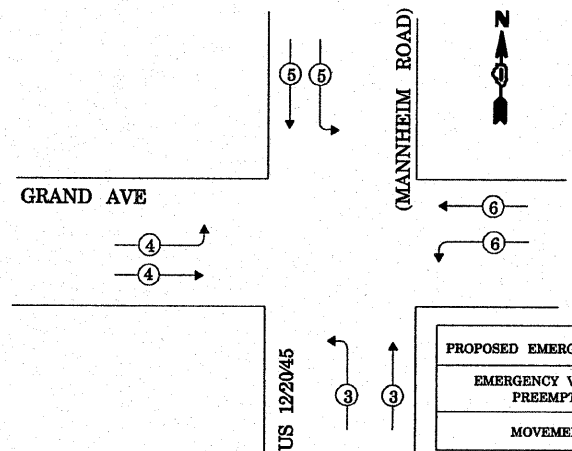
**LEGEND**  
 ○ SINGLE ENTRY PHASE  
 ⊙ DUAL ENTRY PHASE  
 ⊕ PEDESTRIAN PHASE  
 ⊖ OVERLAP  
 \* NUMBER REFERS TO ASSOCIATED PHASE

**PHASE DESIGNATION DIAGRAM**

**RIGHT TURN OVERLAP PHASE DESIGNATION**

| OVERLAP PHASE | PERMISSIVE PHASE | PROTECTED PHASE | DISPLAY |
|---------------|------------------|-----------------|---------|
| A =           | 2 +              | 3 -             | 2       |
| C =           | 6 +              | 7 -             | 6       |

**EMERGENCY VEHICLE PREEMPTION SEQUENCE**



| PROPOSED EMERGENCY VEHICLE PREEMPTORS |   |   |   |   |
|---------------------------------------|---|---|---|---|
| EMERGENCY VEHICLE PREEMPTOR           | 3 | 4 | 5 | 6 |
| MOVEMENT                              | ↔ | ↔ | ↔ | ↔ |

| 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   | 8         | 12              | 0.10        | 9.60        |               |
| PED. SIGNAL   | 8         | 25              | 1.00        | 200.00      |               |
| CONTROLLER  | 1         | 100             | 1.00        | 100.00      |               |
| ILLUM. SIGN   |           |                 |             |             |               |
| FLASHER   |           |                 |             |             |               |
| ENERGY COSTS TO: VILLAGE OF FRANKLIN PARK, 4500 BELMONT AVENUE, FRANKLIN PARK, IL 60131 |           |                 |             |             | TOTAL= 679.60 |
| ENERGY SUPPLY CONTACT: LINDA KLOC, (708)410-5313, COMMONWEALTH EDISON                   |           |                 |             |             |               |

FILE NAME = cr:\projects\traffic\1070027\us12\_20\_45.dgn  
 USER NAME = kanthaphikaybc  
 DESIGNED - N.B.  
 DRAWN - N.B.  
 CHECKED - D.B.  
 DATE - 09/04/2008  
 PLOT SCALE = 40.0000' / IN.  
 PLOT DATE = 12/19/2008

REVISOR -  
 REVISION -  
 REVISION -  
 REVISION -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

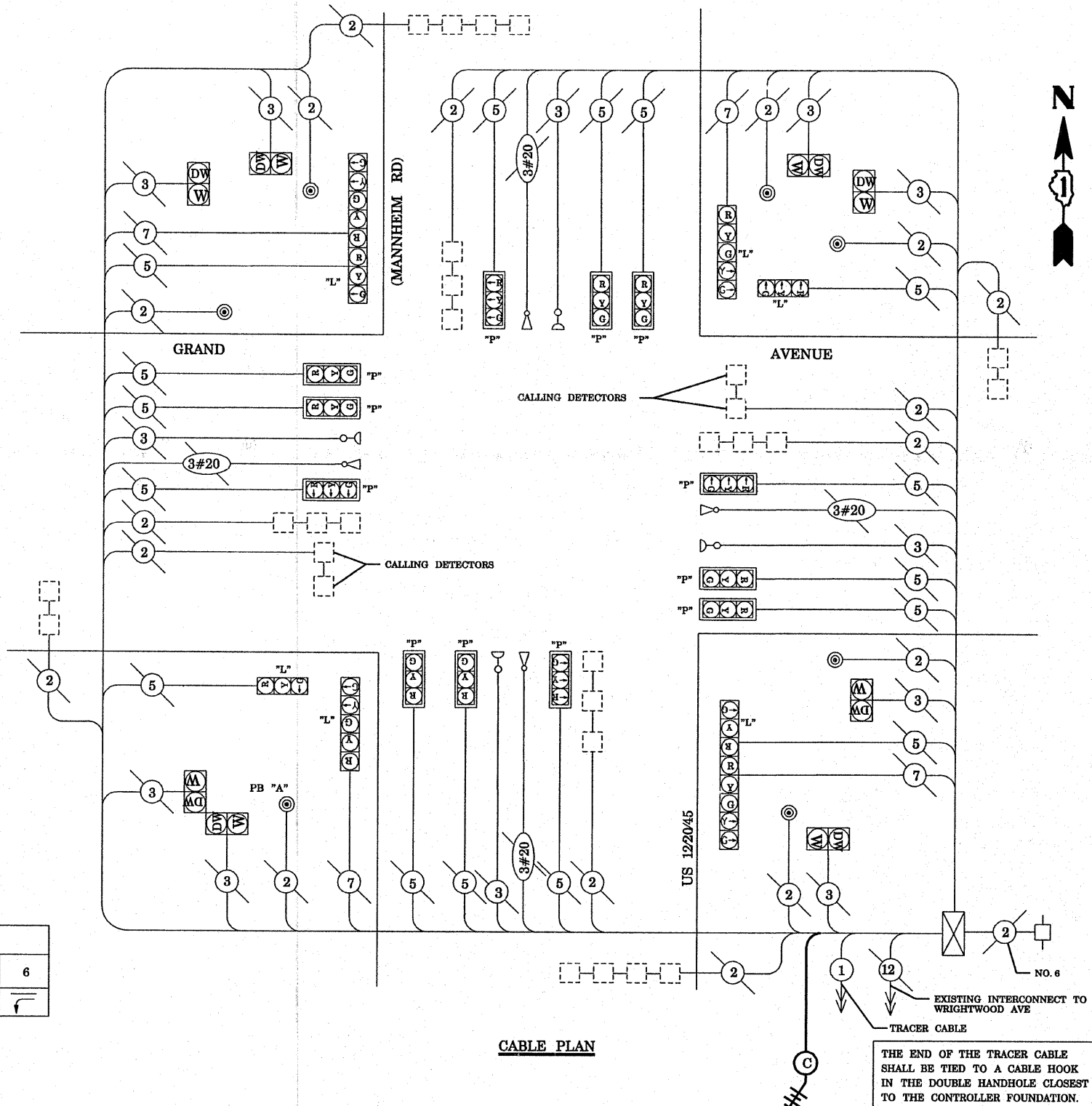
**EXISTING CABLE PLAN**  
 US 12/20/45 (MANNHEIM ROAD) AT GRAND AVENUE  
 SCALE: NTS SHEET NO. OF SHEETS STA. TO STA.

| F.A.P. RTE. | SECTION     | COUNTY | TOTAL SHEETS | SHEET NO. |
|-------------|-------------|--------|--------------|-----------|
| 330         | 2008-006 TS | COOK   | 104          | 15        |

CONTRACT NO. 60E31  
 FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT

**CABLE PLAN LEGEND**

- PROPOSED**
- EXISTING**
- 8" (200mm) TRAFFIC SIGNAL SECTION
- 12" (300mm) TRAFFIC SIGNAL SECTION
- 12" (300mm) PEDESTRIAN 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
- RAILROAD CONTROL CABINET
- ILLUMINATED SIGN, FIBER OPTIC "NO LEFT TURN"
- ILLUMINATED SIGN, FIBER OPTIC "NO RIGHT TURN"
- GROUND ROD AT HANDHOLE, DOUBLE HANDHOLE, OR CONTROLLER
- GROUND ROD AT POST OR MAST ARM POLE
- GROUND ROD AT ELECTRIC SERVICE INSTALLATION
- GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN)
- 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
- WIRELESS INTERCONNECT (ANTENNA)



**CABLE PLAN**

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

THE END OF THE TRACER CABLE SHALL BE TIED TO A CABLE HOOK IN THE DOUBLE HANDHOLE CLOSEST TO THE CONTROLLER FOUNDATION.  
 TEMPORARY WIRELESS INTERCONNECT ANTENNA SEE WIRELESS INTERCONNECT SCHEMATIC SHEET 1 OF 2

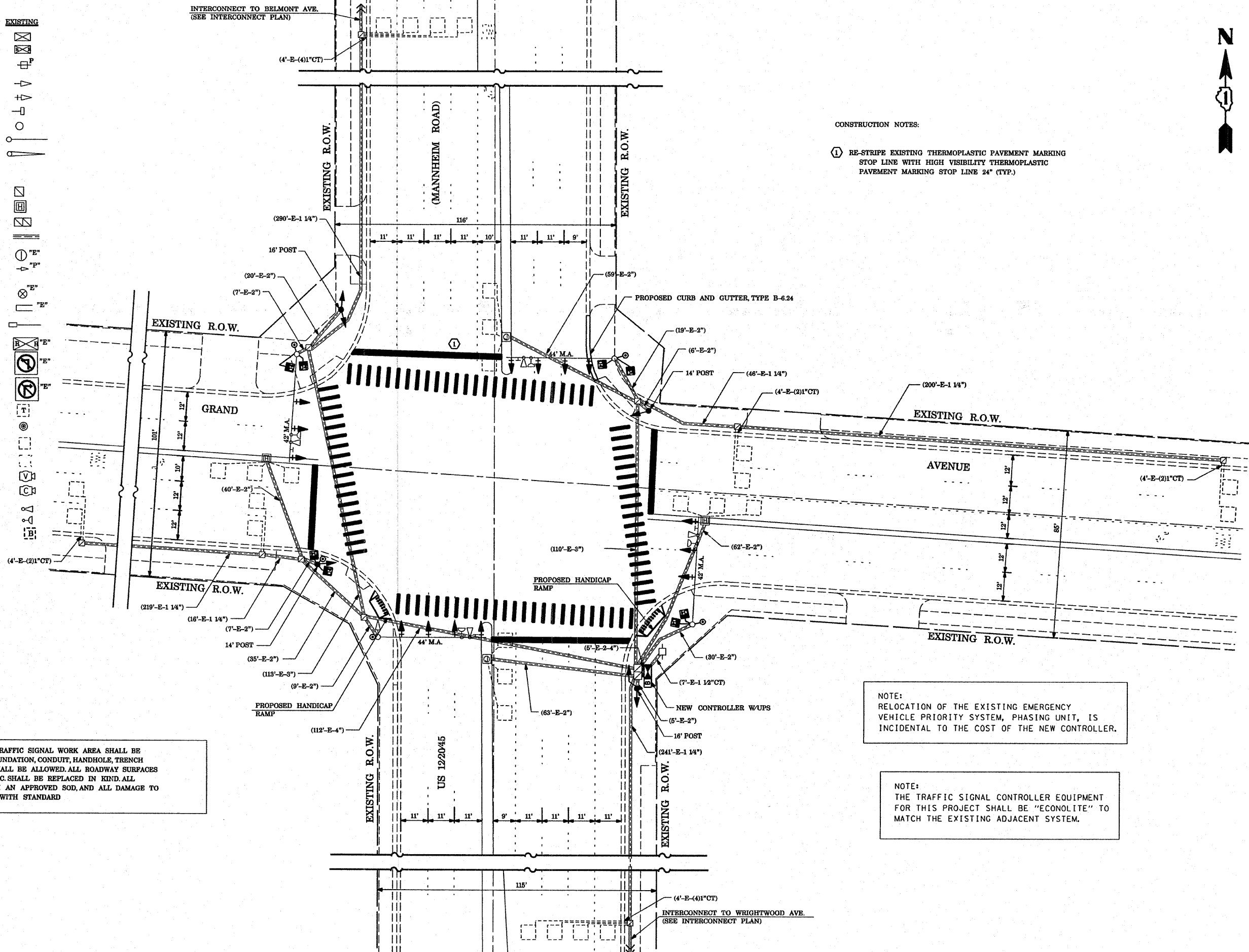
\* TEMPORARY WIRELESS INTERCONNECT IS INCLUDED IN TEMPORARY TRAFFIC SIGNAL INSTALLATION PAY ITEM FOR BELMONT AVENUE

NOTE:  
 PUSHBUTTON "A" SHALL PLACE A CALL IN PHASES 4 AND 6



**TRAFFIC SIGNAL LEGEND**

|  | PROPOSED | EXISTING |
|--|----------|----------|
| CONTROLLER   |          |          |
| RAILROAD CONTROL CABINET                             |          |          |
| SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNTED |          |          |
| SIGNAL HEAD  |          |          |
| SIGNAL HEAD WITH BACKPLATE                           |          |          |
| SIGNAL HEAD, PEDESTRIAN                              |          |          |
| SIGNAL POST  |          |          |
| MAST ARM ASSEMBLY AND POLE, STEEL                    |          |          |
| MAST ARM ASSEMBLY AND POLE, ALUMINIUM                |          |          |
| COMMON TRENCH  |          |          |
| UNIT DUCT  |          |          |
| HANDHOLE   |          |          |
| HEAVY DUTY HANDHOLE                                  |          |          |
| DOUBLE HANDHOLE                                      |          |          |
| G.S.CONDUIT IN TRENCH OR PUSHED                      |          |          |
| CAST IRON JUNCTION BOX                               |          |          |
| SIGNAL HEAD OPTICALLY PROGRAMMED                     |          |          |
| CONDUIT SPLICE                                       |          |          |
| WOOD POLE  |          |          |
| RACEWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II     |          |          |
| VEHICLE DETECTOR, NON COMPENSATED MAGNETIC TYPE      |          |          |
| RAILROAD CONTROL CABINET                             |          |          |
| ILLUMINATED SIGN, FIBER OPTIC "NO LEFT TURN"         |          |          |
| ILLUMINATED SIGN, FIBER OPTIC "NO RIGHT TURN"        |          |          |
| TELEPHONE CONNECTION                                 |          |          |
| PEDESTRIAN PUSHBUTTON DETECTOR                       |          |          |
| DETECTOR LOOP, TYPE I                                |          |          |
| PERFORMED DETECTOR LOOP                              |          |          |
| VIDEO DETECTOR                                       |          |          |
| CLOSED CIRCUIT TV                                    |          |          |
| EMERGENCY VEHICLE SYSTEM DETECTOR                    |          |          |
| CONFIRMATION BEACON                                  |          |          |
| UNINTERRUPTIBLE POWER SUPPLY                         |          |          |
| PEDESTRIAN SIGNAL HEAD WITH COUNTDOWN TIMER          |          |          |



CONSTRUCTION NOTES:  
 ① RE-STRIPE EXISTING THERMOPLASTIC PAVEMENT MARKING STOP LINE WITH HIGH VISIBILITY THERMOPLASTIC PAVEMENT MARKING STOP LINE 24" (TYP.)

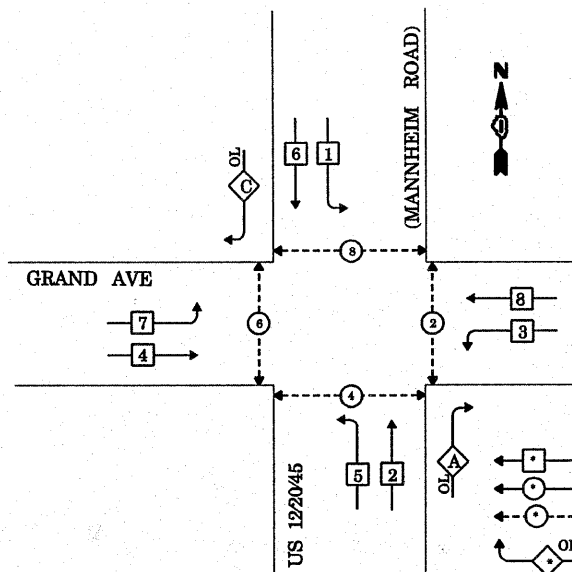
RESTORATION OF WORK AREA RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT, ETC. SHALL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

NOTE:  
 RELOCATION OF THE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, PHASING UNIT, IS INCIDENTAL TO THE COST OF THE NEW CONTROLLER.

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

|  |                              |                   |           |   |   |           |           |                    |                        |   |                     |                 |
|--|------------------------------|-------------------|-----------|---|---|-----------|-----------|--------------------|------------------------|---|---------------------|-----------------|
| FILE NAME =<br>c:\projects\traffic\070027\us12_20_45.dgn | USER NAME =<br>kanthapixeybc | DESIGNED - N.B.   | REVISED - | <b>STATE OF ILLINOIS<br/>DEPARTMENT OF TRANSPORTATION</b> | <b>PROPOSED TRAFFIC SIGNAL PLAN</b>         |           |           | F.A.P. RTE.<br>330 | SECTION<br>2008-006 TS | COUNTY<br>COOK                                | TOTAL SHEETS<br>104 | SHEET NO.<br>16 |
| PLOT SCALE = 40.0000' / IN.                              | CHECKED - D.B.               | DATE - 09/04/2008 | REVISED - |   | US 12/20/45 (MANNHEIM ROAD) AT GRAND AVENUE |           |           | CONTRACT NO. 60E31 |                        |   |                     |                 |
| PLOT DATE = 10/10/2008                                   | DATE - 09/04/2008            | REVISED -         | REVISED - |   | SCALE: 1" = 20'                             | SHEET NO. | OF SHEETS | STA.               | TO STA.                | FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT |                     |                 |
| US 12/20/45  |                              |                   |           |   |   |           |           |                    |                        |   |                     |                 |

**CONTROLLER SEQUENCE**



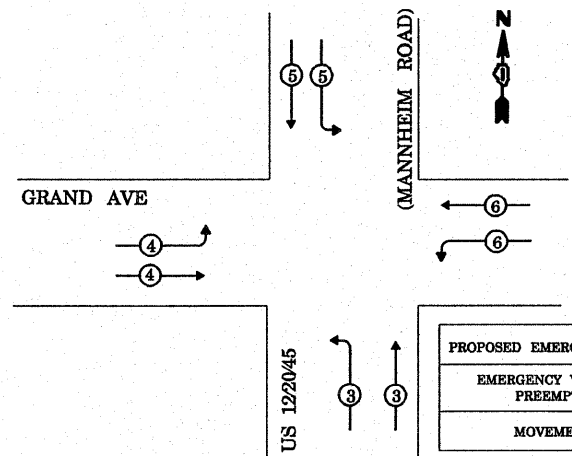
**LEGEND**  
 SINGLE ENTRY PHASE  
 DUAL ENTRY PHASE  
 PEDESTRIAN PHASE  
 OVERLAP  
 NUMBER REFERS TO ASSOCIATED PHASE

**PHASE DESIGNATION DIAGRAM**

**RIGHT TURN OVERLAP PHASE DESIGNATION**

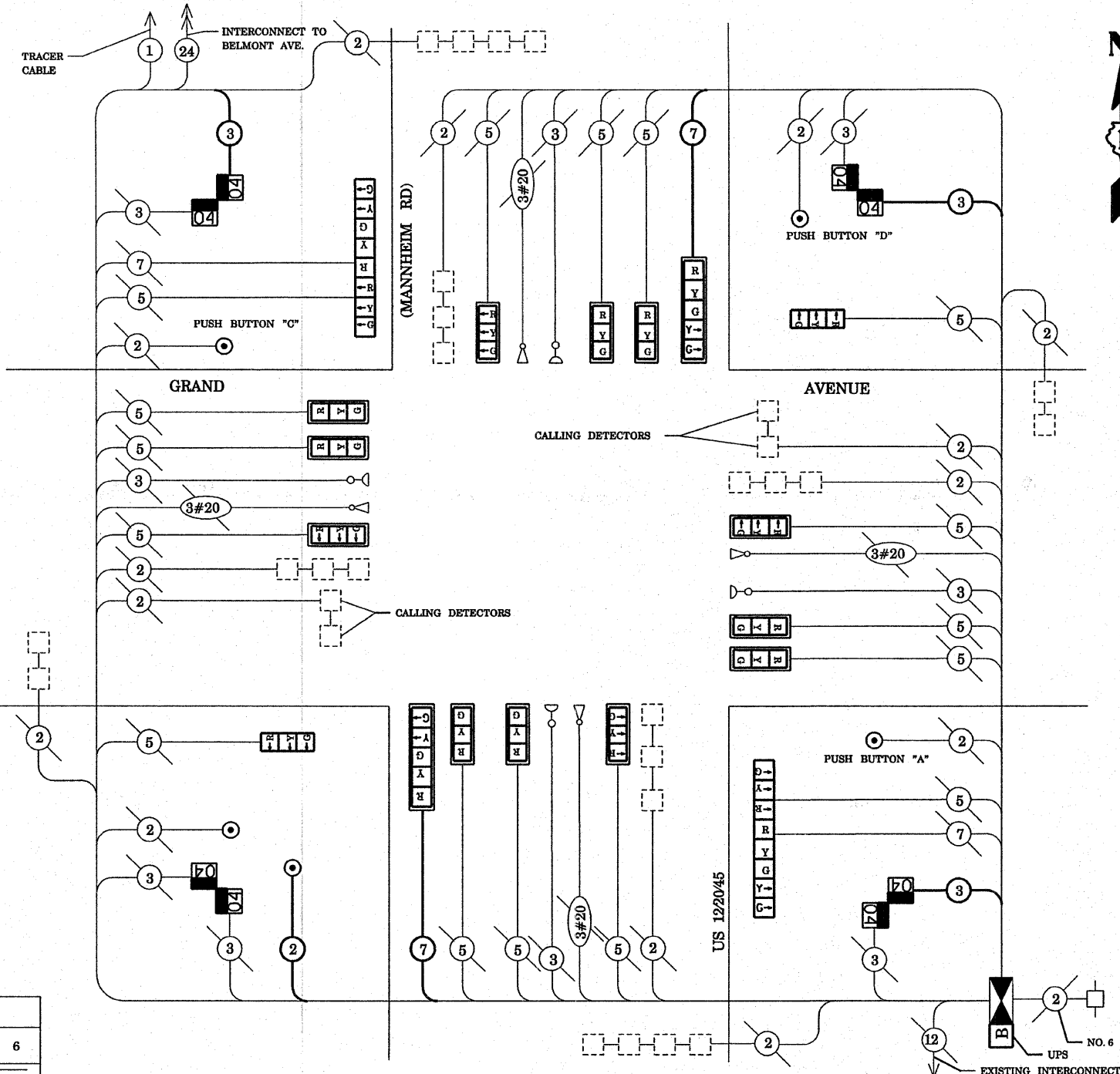
| OVERLAP PHASE | PERMISSIVE PHASE | PROTECTED PHASE | DISPLAY |
|---------------|------------------|-----------------|---------|
| A =           | 2 +              | 3 -             | 2       |
| C =           | 6 +              | 7 -             | 6       |

**EMERGENCY VEHICLE PREEMPTION SEQUENCE**



**PROPOSED EMERGENCY VEHICLE PREEMPTORS**

| EMERGENCY VEHICLE PREEMPTOR | 3 | 4 | 5 | 6 |
|-----------------------------|---|---|---|---|
| MOVEMENT                    | ↔ | ↔ | ↔ | ↔ |



**CABLE PLAN**

**CABLE PLAN LEGEND**

- | PROPOSED | EXISTING |   |
|----------|----------|---|
|          |          | 8" (200mm) TRAFFIC SIGNAL SECTION   |
|          |          | 12" (300mm) TRAFFIC SIGNAL SECTION  |
|          |          | 12" (300mm) PEDESTRIAN 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   |
|          |          | RAILROAD CONTROL CABINET  |
|          |          | ILLUMINATED SIGN, FIBER OPTIC "NO LEFT TURN"  |
|          |          | ILLUMINATED SIGN, FIBER OPTIC "NO RIGHT TURN"   |
|          |          | GROUND ROD AT HANDHOLE, DOUBLE HANDHOLE, OR CONTROLLER  |
|          |          | GROUND ROD AT POST OR MAST ARM POLE   |
|          |          | GROUND ROD AT ELECTRIC SERVICE INSTALLATION   |
|          |          | GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN)  |
|          |          | 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   |

**SCHEDULE OF QUANTITIES**

| QUANTITY | UNIT  | ITEM  |
|----------|-------|---|
| 27       | FOOT  | COMBINATION CURB AND GUTTER REMOVAL                   |
| 27       | FOOT  | COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.24     |
| 0.1      | L SUM | TRAFFIC CONTROL AND PROTECTION, STANDARD 701501       |
| 0.1      | L SUM | TRAFFIC CONTROL AND PROTECTION, STANDARD 701701       |
| 0.1      | L SUM | TRAFFIC CONTROL AND PROTECTION, STANDARD 701801       |
| 704      | FOOT  | THERMOPLASTIC PAVEMENT MARKING - LINE 12"             |
| 191      | FOOT  | THERMOPLASTIC PAVEMENT MARKING - LINE 24"             |
| 1130     | SQ FT | THERMOPLASTIC PAVEMENT MARKING REMOVAL                |
| 1        | EACH  | MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION   |
| 1        | EACH  | FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL |
| 1        | EACH  | TRANSCEIVER - FIBER OPTIC                             |
| 157      | FOOT  | ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C           |
| 526      | FOOT  | ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C           |
| 379      | FOOT  | ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C           |
| 2        | EACH  | TRAFFIC SIGNAL POST, GALVANIZED STEEL 14 FT.          |
| 2        | EACH  | TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.          |
| 14       | EACH  | TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM          |

| QUANTITY | UNIT | ITEM   |
|----------|------|--|
| 10       | EACH | INDUCTIVE LOOP DETECTOR  |
| 5        | EACH | PEDESTRIAN PUSH-BUTTON   |
| 1328     | FOOT | REMOVE ELECTRIC CABLE FROM CONDUIT   |
| 1        | EACH | REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT                                     |
| 1        | EACH | REMOVE EXISTING HANDHOLE   |
| 12       | EACH | SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, MAST ARM MOUNTED                     |
| 2        | EACH | SIGN/ HEAD, L.E.D., 1-FACE, 3-SECTION, BRACKET MOUNTED                       |
| 2        | EACH | SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, MAST ARM MOUNTED                     |
| 2        | EACH | SIGNAL HEAD, L.E.D., 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED       |
| 4        | EACH | PEDESTRIAN SIGNAL HEAD, L.E.D., 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER |
| 1        | EACH | 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.

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

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

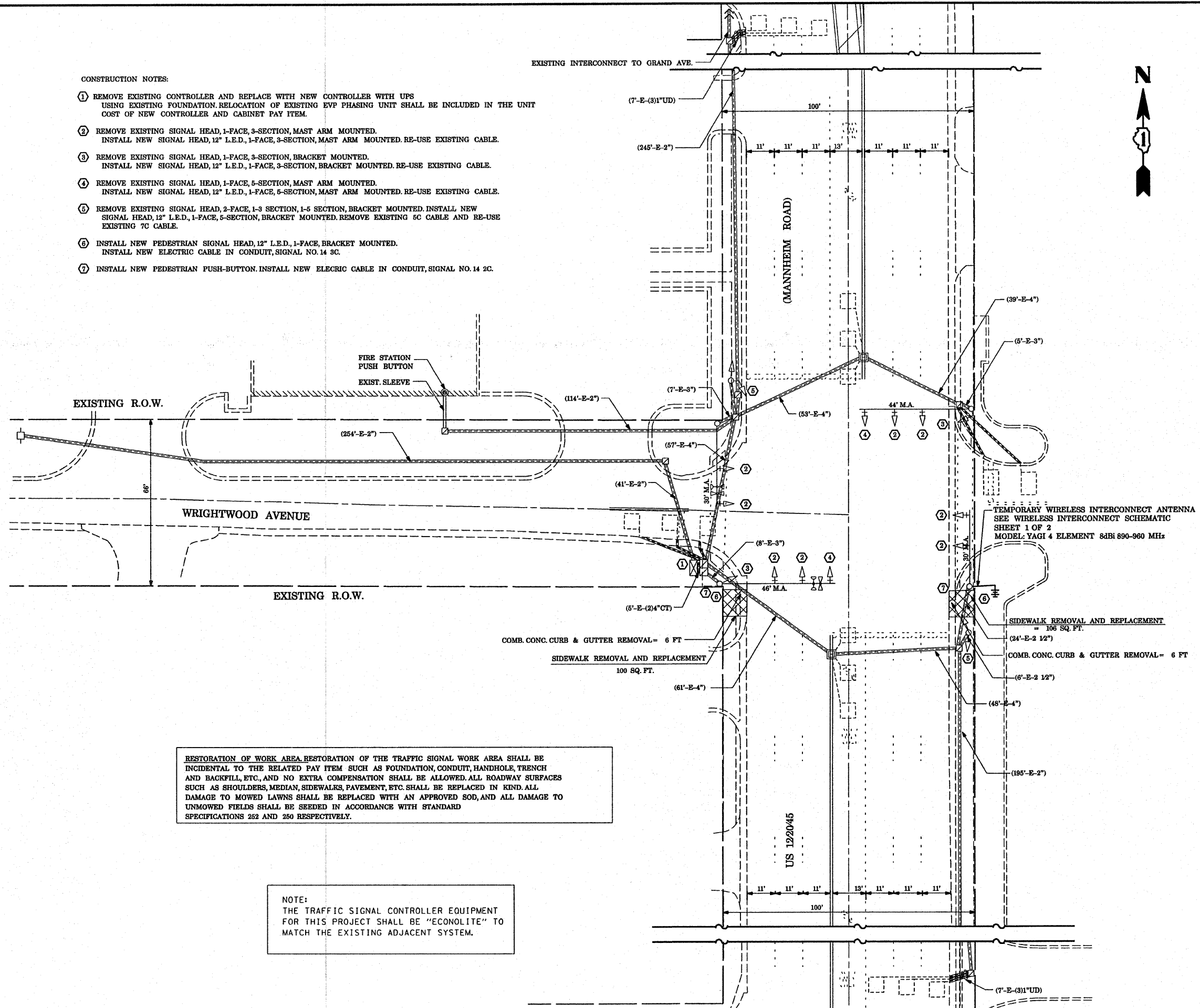
| TYPE  | NO. LAMPS | WATTAGE | % OPERATION | TOTAL WATTAGE  |
|---|-----------|---------|-------------|----------------|
| SIGNAL (RED)  | 20        | 17      | 0.50        | 170.00         |
| (YELLOW)  | 20        | 25      | 0.25        | 125.00         |
| (GREEN)   | 20        | 15      | 0.25        | 75.00          |
| ARROW   | 8         | 12      | 0.10        | 9.60           |
| PED. SIGNAL   | 8         | 25      | 1.00        | 200.00         |
| CONTROLLER  | 1         | 100     | 1.00        | 100.00         |
| ILLUM. SIGN   |           |         |             |                |
| FLASHER   |           |         |             |                |
| ENERGY COSTS TO:  |           |         |             | TOTAL = 679.60 |
| VILLAGE OF FRANKLIN PARK<br>4500 BELMONT AVENUE<br>FRANKLIN PARK, IL 60131                |           |         |             |                |
| ENERGY SUPPLY CONTACT: LINDA KLOC<br>PHONE: (708)410-5313<br>COMPANY: COMMONWEALTH EDISON |           |         |             |                |

**TRAFFIC SIGNAL LEGEND**

|  | PROPOSED | EXISTING |
|--|----------|----------|
| CONTROLLER   | [Symbol] | [Symbol] |
| RAILROAD CONTROL CABINET                             | [Symbol] | [Symbol] |
| SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNTED | [Symbol] | [Symbol] |
| SIGNAL HEAD  | [Symbol] | [Symbol] |
| SIGNAL HEAD WITH BACKPLATE                           | [Symbol] | [Symbol] |
| SIGNAL HEAD, PEDESTRIAN                              | [Symbol] | [Symbol] |
| SIGNAL POST  | [Symbol] | [Symbol] |
| MAST ARM ASSEMBLY AND POLE, STEEL                    | [Symbol] | [Symbol] |
| MAST ARM ASSEMBLY AND POLE, ALUMINIUM                | [Symbol] | [Symbol] |
| COMMON TRENCH  | [Symbol] | [Symbol] |
| UNIT DUCT  | [Symbol] | [Symbol] |
| HANDHOLE   | [Symbol] | [Symbol] |
| HEAVY DUTY HANDHOLE                                  | [Symbol] | [Symbol] |
| DOUBLE HANDHOLE                                      | [Symbol] | [Symbol] |
| G.S.CONDUIT IN TRENCH OR PUSHED                      | [Symbol] | [Symbol] |
| CAST IRON JUNCTION BOX                               | [Symbol] | [Symbol] |
| SIGNAL HEAD OPTICALLY PROGRAMMED                     | [Symbol] | [Symbol] |
| CONDUIT SPLICE                                       | [Symbol] | [Symbol] |
| WOOD POLE  | [Symbol] | [Symbol] |
| RACEWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II     | [Symbol] | [Symbol] |
| VEHICLE DETECTOR, NON COMPENSATED MAGNETIC TYPE      | [Symbol] | [Symbol] |
| RAILROAD CONTROL CABINET                             | [Symbol] | [Symbol] |
| ILLUMINATED SIGN, FIBER OPTIC "NO LEFT TURN"         | [Symbol] | [Symbol] |
| ILLUMINATED SIGN, FIBER OPTIC "NO RIGHT TURN"        | [Symbol] | [Symbol] |
| TELEPHONE CONNECTION                                 | [Symbol] | [Symbol] |
| PEDESTRIAN PUSHBUTTON DETECTOR                       | [Symbol] | [Symbol] |
| DETECTOR LOOP, TYPE I                                | [Symbol] | [Symbol] |
| PERFORMED DETECTOR LOOP                              | [Symbol] | [Symbol] |
| VIDEO DETECTOR                                       | [Symbol] | [Symbol] |
| CLOSED CIRCUIT TV                                    | [Symbol] | [Symbol] |
| EMERGENCY VEHICLE SYSTEM DETECTOR                    | [Symbol] | [Symbol] |
| CONFIRMATION BEACON                                  | [Symbol] | [Symbol] |
| UNINTERRUPTABLE POWER SUPPLY                         | [Symbol] | [Symbol] |
| WIRELESS INTERCONNECT (ANTENNA)                      | [Symbol] | [Symbol] |

**CONSTRUCTION NOTES:**

- REMOVE EXISTING CONTROLLER AND REPLACE WITH NEW CONTROLLER WITH UPS USING EXISTING FOUNDATION. RELOCATION OF EXISTING EVP PHASING UNIT SHALL BE INCLUDED IN THE UNIT COST OF NEW CONTROLLER AND CABINET PAY ITEM.
- REMOVE EXISTING SIGNAL HEAD, 1-FACE, 3-SECTION, MAST ARM MOUNTED. INSTALL NEW SIGNAL HEAD, 12" L.E.D., 1-FACE, 3-SECTION, MAST ARM MOUNTED. RE-USE EXISTING CABLE.
- REMOVE EXISTING SIGNAL HEAD, 1-FACE, 3-SECTION, BRACKET MOUNTED. INSTALL NEW SIGNAL HEAD, 12" L.E.D., 1-FACE, 3-SECTION, BRACKET MOUNTED. RE-USE EXISTING CABLE.
- REMOVE EXISTING SIGNAL HEAD, 1-FACE, 5-SECTION, MAST ARM MOUNTED. INSTALL NEW SIGNAL HEAD, 12" L.E.D., 1-FACE, 5-SECTION, MAST ARM MOUNTED. RE-USE EXISTING CABLE.
- REMOVE EXISTING SIGNAL HEAD, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED. INSTALL NEW SIGNAL HEAD, 12" L.E.D., 1-FACE, 5-SECTION, BRACKET MOUNTED. REMOVE EXISTING 6C CABLE AND RE-USE EXISTING 7C CABLE.
- INSTALL NEW PEDESTRIAN SIGNAL HEAD, 12" L.E.D., 1-FACE, BRACKET MOUNTED. INSTALL NEW ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C.
- INSTALL NEW PEDESTRIAN PUSH-BUTTON. INSTALL NEW ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C.



THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE REMOVED BY THE CONTRACTOR, SHALL REMAIN THE PROPERTY OF THE STATE AND SHALL BE DELIVERED BY THE CONTRACTOR TO THE STATE'S TRAFFIC SIGNAL MAINTENANCE CONTRACTOR'S MAIN FACILITY AS PER THE TRAFFIC SIGNAL SPECIFICATIONS.

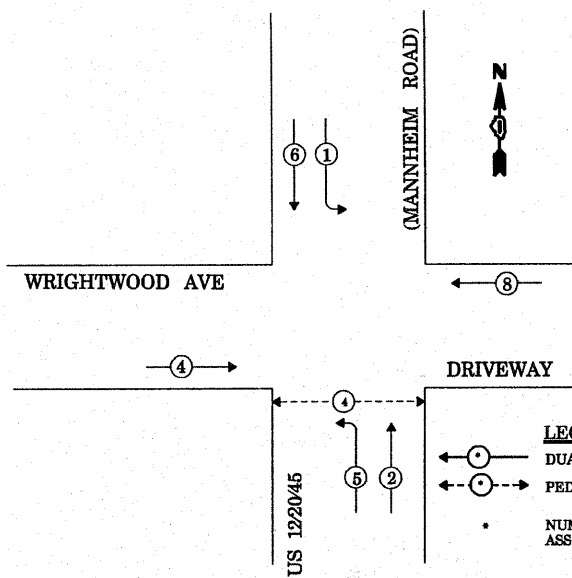
- 1 EACH FULL-ACTUATED CONTROLLER AND TYPE IV CABINET
- 10 EACH TRAFFIC SIGNAL BACKPLATE
- 8 EACH SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, MAST ARM MOUNTED.
- 2 EACH SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, BRACKET MOUNTED.
- 2 EACH SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, MAST ARM MOUNTED.
- 2 EACH SIGNAL HEAD, L.E.D., 2-FACE, 1-3 SECTION AND 1-5 SECTION, BRACKET MOUNTED.

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 SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDING IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

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

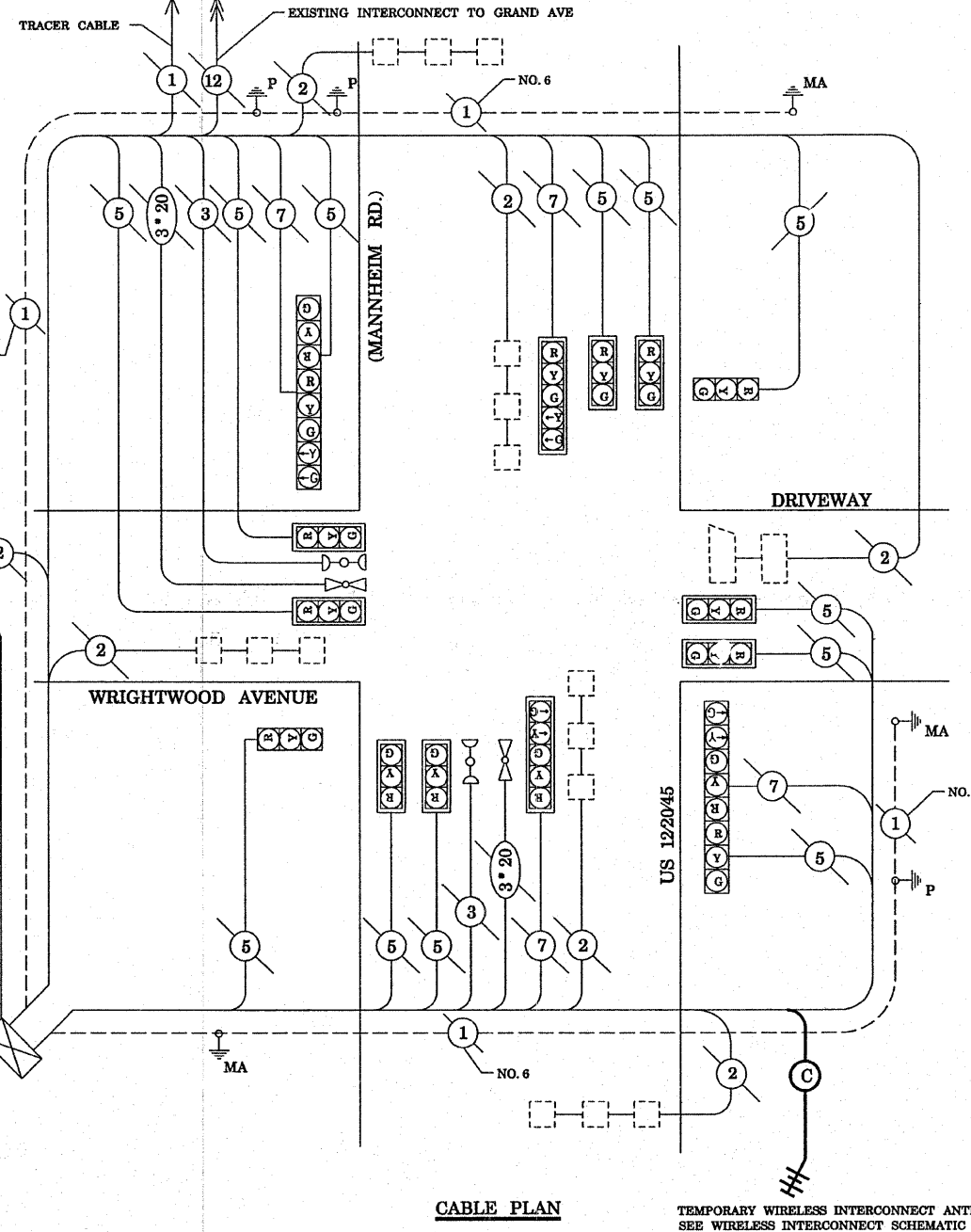
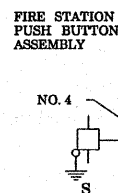
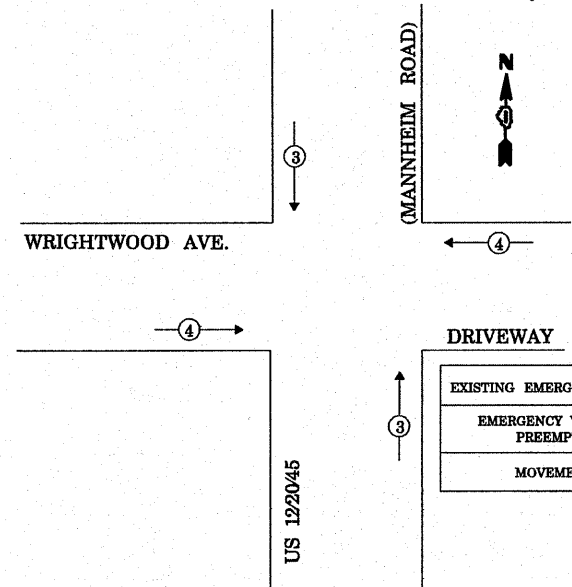
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|---|-------------------------|-----------------|-----------|---|---|-----------|-----------|-----------------|---------------------|---------------------|---------------------------|--------------------|
| FILE NAME = c:\projects\traffic\070027\us12_20_45.dgn | USER NAME = kenthphxjbc | DESIGNED - N.B. | REVISED - | <b>STATE OF ILLINOIS<br/>DEPARTMENT OF TRANSPORTATION</b> | <b>EXISTING AND REMOVAL PLAN<br/>US 12/2045 (MANNHEIM RD) AT WRIGHTWOOD AVE</b> |           |           | F.A.P. RTE. 330 | SECTION 2008-006 TS | COUNTY COOK         | TOTAL SHEETS 104          | SHEET NO. 18       |
| PLOT SCALE = 48,0000' / IN.                           | CHECKED - D.B.          | REVISED -       | REVISED - |   | SCALE: 1"=20'   | SHEET NO. | OF SHEETS | STA.            | TO STA.             | FED. ROAD DIST. NO. | ILLINOIS FED. AID PROJECT | CONTRACT NO. 60E31 |
| PLOT DATE = 10/10/2008                                | DATE - 09/04/2008       | REVISED -       | REVISED - |   |   |           |           |                 |                     |                     |                           |                    |
|   |                         |                 |           |   |   |           |           |                 |                     |                     |                           |                    |

**CONTROLLER SEQUENCE**



**PHASE DESIGNATION DIAGRAM**

**EMERGENCY VEHICLE PREEMPTION SEQUENCE**



**CABLE PLAN**

TEMPORARY WIRELESS INTERCONNECT ANTENNA  
SEE WIRELESS INTERCONNECT SCHEMATIC SHEET 1 OF 2

**CABLE PLAN LEGEND**

- | PROPOSED | EXISTING |   |
|----------|----------|---|
| [Symbol] | [Symbol] | 5" (300mm) TRAFFIC SIGNAL SECTION   |
| [Symbol] | [Symbol] | 12" (300mm) TRAFFIC SIGNAL SECTION  |
| [Symbol] | [Symbol] | 12" (300mm) PEDESTRIAN SIGNAL SECTION   |
| [Symbol] | [Symbol] | 12" (300mm) PEDESTRIAN SIGNAL SECTION   |
| [Symbol] | [Symbol] | CONTROLLER CABINET  |
| [Symbol] | [Symbol] | SERVICE INSTALLATION  |
| [Symbol] | [Symbol] | TELEPHONE CONNECTION  |
| [Symbol] | [Symbol] | MAGNETIC DETECTOR   |
| [Symbol] | [Symbol] | PUSHBUTTON DETECTOR   |
| [Symbol] | [Symbol] | VEHICLE DETECTOR, INDUCTION LOOP  |
| [Symbol] | [Symbol] | DENOTES NUMBER OF CONDUCTORS. ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOP DETECTOR CABLE TO BE SHIELDED. |
| [Symbol] | [Symbol] | SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD   |
| [Symbol] | [Symbol] | RAILROAD CONTROL CABINET  |
| [Symbol] | [Symbol] | ILLUMINATED SIGN, FIBER OPTIC "NO LEFT TURN"  |
| [Symbol] | [Symbol] | ILLUMINATE SIGN, FIBER OPTIC "NO RIGHT TURN"  |
| [Symbol] | [Symbol] | GROUND ROD AT HANDHOLE, DOUBLE HANDHOLE, OR CONTROLLER  |
| [Symbol] | [Symbol] | GROUND ROD AT POST OR MAST ARM POLE   |
| [Symbol] | [Symbol] | GROUND ROD AT ELECTRIC SERVICE INSTALLATION   |
| [Symbol] | [Symbol] | GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN)  |
| [Symbol] | [Symbol] | FIBER OPTIC CABLE IN CONDUIT NO. 62.5/125 2-MM12F & SM12F   |
| [Symbol] | [Symbol] | MICROWAVE VEHICLE SENSOR  |
| [Symbol] | [Symbol] | VIDEO DETECTOR  |
| [Symbol] | [Symbol] | CLOSED CIRCUIT TV   |
| [Symbol] | [Symbol] | EMERGENCY VEHICLE LIGHT DETECTOR  |
| [Symbol] | [Symbol] | CONFIRMATION BEACON   |
| [Symbol] | [Symbol] | UNINTERRUPTIBLE POWER SUPPLY  |
| [Symbol] | [Symbol] | WIRELESS INTERCONNECT (ANTENNA)   |

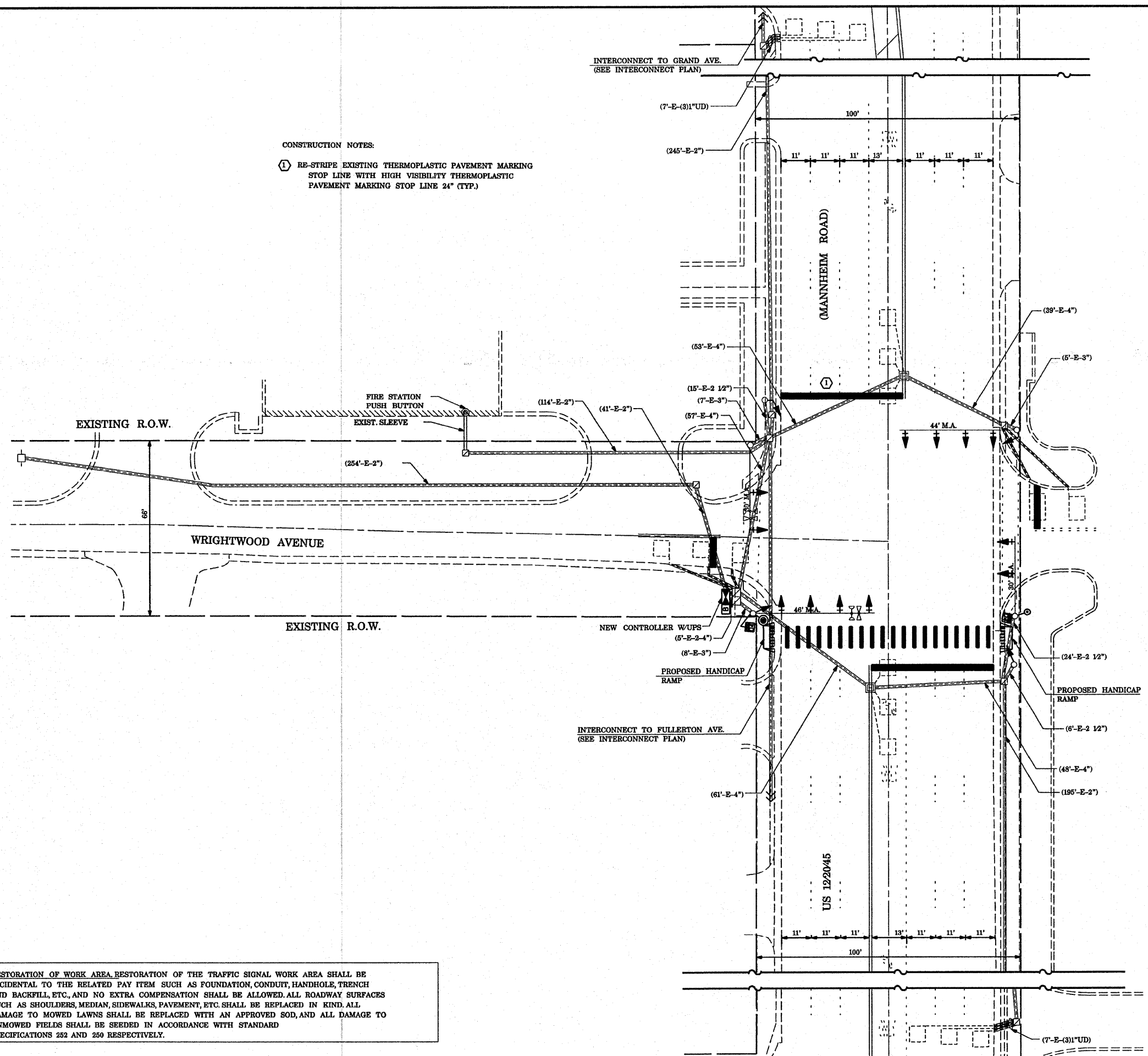
NOTE:  
THE TRAFFIC SIGNAL CONTROLLER EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM.

| TYPE  | NO. LAMPS | WATTAGE INCAND. | WATTAGE LED | % OPERATION | TOTAL WATTAGE |
|---|-----------|-----------------|-------------|-------------|---------------|
| SIGNAL (RED)  | 16        |                 | 17          | 0.50        | 136.00        |
| (YELLOW)  | 16        |                 | 25          | 0.25        | 100.00        |
| (GREEN)   | 16        |                 | 15          | 0.25        | 60.00         |
| ARROW   | 8         |                 | 12          | 0.10        | 9.60          |
| PED. SIGNAL   |           |                 | 25          | 1.00        | -             |
| CONTROLLER  | 1         |                 | 100         | 1.00        | 100.00        |
| ILLUM. SIGN   |           |                 |             | 0.05        | -             |
| FLASHER   |           |                 |             | 0.05        | -             |
| ENERGY COSTS TO: VILLAGE OF FRANKLIN PARK<br>9500 BELMONT AVENUE<br>FRANKLIN PARK, IL 60131 |           |                 |             |             | TOTAL= 405.60 |
| ENERGY SUPPLY CONTACT: LINDA KLOC<br>PHONE: (708)410-5313<br>COMPANY: COMMONWEALTH EDISON   |           |                 |             |             |               |

**TRAFFIC SIGNAL LEGEND**

|  | PROPOSED | EXISTING |
|--|----------|----------|
| CONTROLLER   |          |          |
| RAILROAD CONTROL CABINET                             |          |          |
| SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNTED |          |          |
| SIGNAL HEAD  |          |          |
| SIGNAL HEAD WITH BACKPLATE                           |          |          |
| SIGNAL HEAD, PEDESTRIAN                              |          |          |
| SIGNAL POST  |          |          |
| MAST ARM ASSEMBLY AND POLE, STEEL                    |          |          |
| MAST ARM ASSEMBLY AND POLE, ALUMINIUM                |          |          |
| COMMON TRENCH  |          |          |
| UNIT DUCT  |          |          |
| HANDHOLE   |          |          |
| HEAVY DUTY HANDHOLE                                  |          |          |
| DOUBLE HANDHOLE                                      |          |          |
| G.S.CONDUIT IN TRENCH OR PUSHED                      |          |          |
| CAST IRON JUNCTION BOX                               |          |          |
| SIGNAL HEAD OPTICALLY PROGRAMMED                     |          |          |
| CONDUIT SPLICE                                       |          |          |
| WOOD POLE  |          |          |
| RACEWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II     |          |          |
| VEHICLE DETECTOR, NON COMPENSATED MAGNETIC TYPE      |          |          |
| RAILROAD CONTROL CABINET                             |          |          |
| ILLUMINATED SIGN, FIBER OPTIC "NO LEFT TURN"         |          |          |
| ILLUMINATED SIGN, FIBER OPTIC "NO RIGHT TURN"        |          |          |
| TELEPHONE CONNECTION                                 |          |          |
| PEDESTRIAN PUSHBUTTON DETECTOR                       |          |          |
| DETECTOR LOOP, TYPE I                                |          |          |
| PREFORMED DETECTOR LOOP                              |          |          |
| VIDEO DETECTOR                                       |          |          |
| CLOSED CIRCUIT TV                                    |          |          |
| EMERGENCY VEHICLE SYSTEM DETECTOR                    |          |          |
| CONFIRMATION BEACON                                  |          |          |
| UNINTERRUPTABLE POWER SUPPLY                         |          |          |
| PEDESTRIAN SIGNAL HEAD WITH COUNTDOWN TIMER          |          |          |

**CONSTRUCTION NOTES:**  
 ① RE-STRIPE EXISTING THERMOPLASTIC PAVEMENT MARKING STOP LINE WITH HIGH VISIBILITY THERMOPLASTIC PAVEMENT MARKING STOP LINE 24" (TYP.)



NOTE:  
 RELOCATION OF THE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, PHASING UNIT, IS INCIDENTAL TO THE COST OF THE NEW CONTROLLER.

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

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 SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

|   |                          |                   |           |
|---|--------------------------|-------------------|-----------|
| FILE NAME =                                 | USER NAME = kentaphixjbc | DESIGNED - N.B.   | REVISED - |
| ct:\projects\traffic\1070027\us12_20_45.dgn |                          | DRAWN - N.B.      | REVISED - |
| PLOT SCALE = 48,0000' / IN.                 |                          | CHECKED - D.B.    | REVISED - |
| PLOT DATE = 10/10/2008                      |                          | DATE - 09/04/2008 | REVISED - |

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**PROPOSED TRAFFIC SIGNAL PLAN  
 US 12/20/45 (MANNHEIM ROAD) AT WRIGHTWOOD AVENUE**

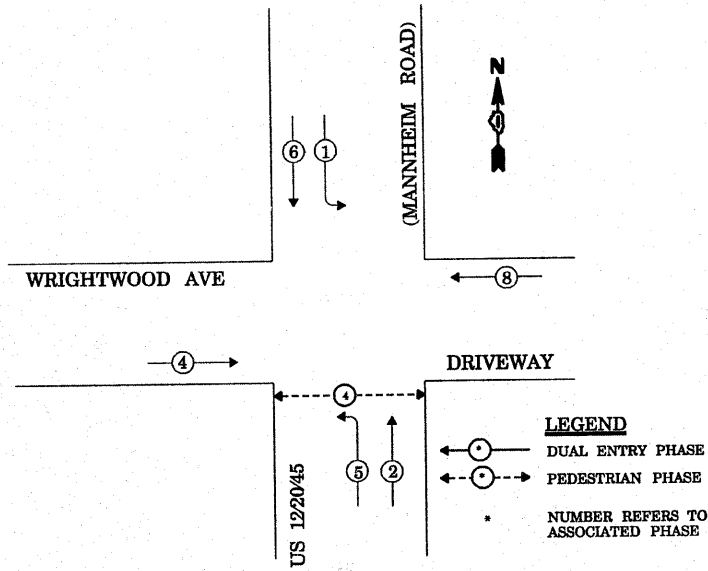
SCALE: 1" = 20' SHEET NO. OF SHEETS STA. TO STA.

|                     |                     |                           |                  |              |
|---------------------|---------------------|---------------------------|------------------|--------------|
| F.A.P. RTE. 330     | SECTION 2008-006 TS | COUNTY COOK               | TOTAL SHEETS 104 | SHEET NO. 20 |
| FED. ROAD DIST. NO. |                     | ILLINOIS FED. AID PROJECT |                  |              |

CONTRACT NO. 60E31

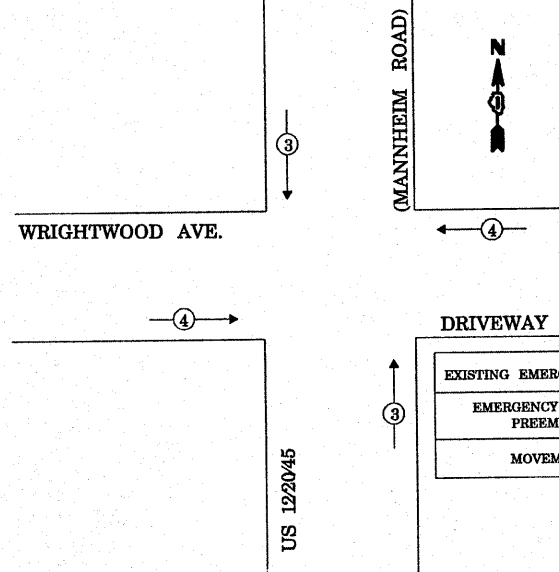


**CONTROLLER SEQUENCE**

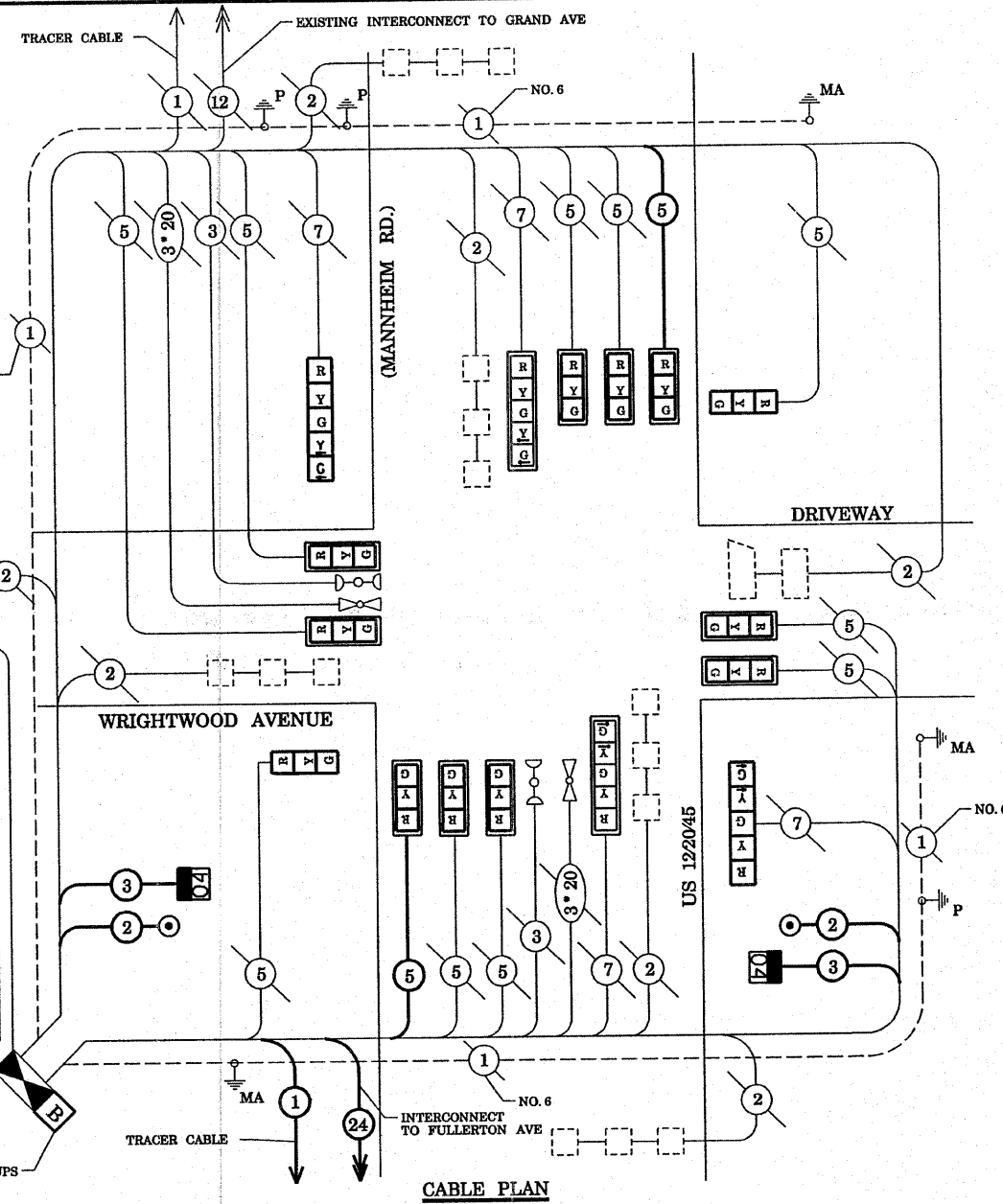


**PHASE DESIGNATION DIAGRAM**

**EMERGENCY VEHICLE PREEMPTION SEQUENCE**



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



**CABLE PLAN LEGEND**

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

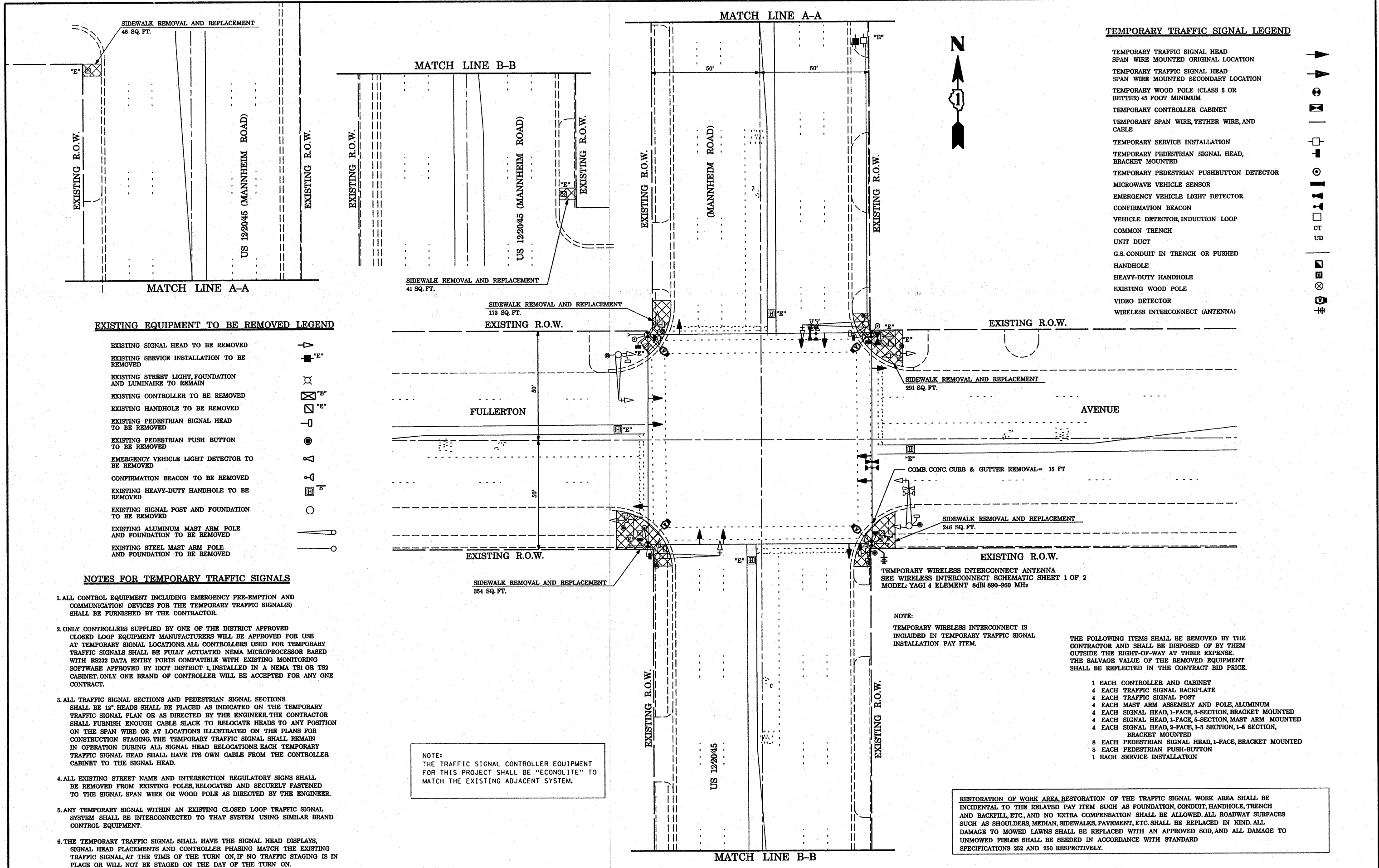
**SCHEDULE OF QUANTITIES**

| QUANTITIES | UNIT  | ITEM   | QUANTITIES | UNIT | ITEM   |
|------------|-------|--|------------|------|--|
| 206        | SQ FT | PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH                | 2          | EACH | SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, MAST ARM MOUNTED                     |
| 12         | FOOT  | COMBINATION CURB AND GUTTER REMOVAL                      | 2          | EACH | SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, BRACKET MOUNTED                      |
| 206        | SQ FT | SIDEWALK REMOVAL   | 2          | EACH | PEDESTRIAN SIGNAL HEAD, L.E.D., 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER |
| 12         | FOOT  | COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.24        | 1          | EACH | UNINTERRUPTIBLE POWER SUPPLY   |
| 0.1        | L SUM | TRAFFIC CONTROL AND PROTECTION, STANDARD 701501          |            |      |  |
| 0.1        | L SUM | TRAFFIC CONTROL AND PROTECTION, STANDARD 701701          |            |      |  |
| 0.1        | L SUM | TRAFFIC CONTROL AND PROTECTION, STANDARD 701801          |            |      |  |
| 160        | FOOT  | THERMOPLASTIC PAVEMENT MARKING - LINE 12"                |            |      |  |
| 120        | FOOT  | THERMOPLASTIC PAVEMENT MARKING - LINE 24"                |            |      |  |
| 238        | SQ FT | THERMOPLASTIC PAVEMENT MARKING REMOVAL                   |            |      |  |
| 1          | EACH  | FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL    |            |      |  |
| 1          | EACH  | TRANSCEIVER-FIBER OPTIC                                  |            |      |  |
| 214        | FOOT  | ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C              |            |      |  |
| 232        | FOOT  | ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C              |            |      |  |
| 290        | FOOT  | ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C              |            |      |  |
| 12         | EACH  | TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM             |            |      |  |
| 6          | EACH  | INDUCTIVE LOOP DETECTOR                                  |            |      |  |
| 2          | EACH  | PEDESTRIAN PUSH-BUTTON                                   |            |      |  |
| 1          | EACH  | REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT                 |            |      |  |
| 10         | EACH  | SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, MAST ARM MOUNTED |            |      |  |
| 2          | EACH  | SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, BRACKET MOUNTED  |            |      |  |

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

| TYPE  | NO. LAMPS | WATTAGE INCAND. | WATTAGE LED | % OPERATION | TOTAL WATTAGE  |
|---|-----------|-----------------|-------------|-------------|----------------|
| SIGNAL (RED)  | 16        | 17              | 17          | 0.50        | 136.00         |
| (YELLOW)  | 16        | 25              | 25          | 0.25        | 100.00         |
| (GREEN)   | 16        | 15              | 15          | 0.25        | 60.00          |
| ARROW   | 8         | 12              | 12          | 0.10        | 9.60           |
| PED. SIGNAL   | 2         | 25              | 25          | 1.00        | 50.00          |
| CONTROLLER  | 1         | 100             | 100         | 1.00        | 100.00         |
| ILLUM. SIGN   |           |                 |             | 0.05        | -              |
| FLASHER   |           |                 |             |             | -              |
| ENERGY COSTS TO: VILLAGE OF FRANKLIN PARK<br>9500 BELMONT AVENUE<br>FRANKLIN PARK, IL 60131 |           |                 |             |             | TOTAL = 455.60 |
| ENERGY SUPPLY CONTACT: LINDA KLOC<br>PHONE: (708)410-5313<br>COMPANY: COMMONWEALTH EDISON   |           |                 |             |             |                |

|  |                           |                   |           |  |  |  |  |   |             |        |              |           |
|--|---------------------------|-------------------|-----------|--|--|--|--|---|-------------|--------|--------------|-----------|
| FILE NAME =                                | USER NAME = kanthapixaybc | DESIGNED - N.B.   | REVISED - | <b>STATE OF ILLINOIS</b><br><b>DEPARTMENT OF TRANSPORTATION</b><br>PROPOSED CABLE PLAN<br>US 12/2045 (MANNHEIM ROAD) AT WRIGHTWOOD AVENUE<br>SCALE: NTS SHEET NO. OF SHEETS STA. TO STA. |  |  |  | F.A.P. RTE.                                   | SECTION     | COUNTY | TOTAL SHEETS | SHEET NO. |
| ci:\projects\traffic\070827\us12.20.45.dgn |                           | DRAWN - N.B.      | REVISED - |  |  |  |  | 330   | 2008-006 TS | COOK   | 104          | 21        |
| PLOT SCALE = 48.0000 / IN.                 |                           | CHECKED - D.B.    | REVISED - |  |  |  |  | CONTRACT NO. 60E31                            |             |        |              |           |
| PLOT DATE = 10/18/2008                     |                           | DATE - 09/04/2008 | REVISED - |  |  |  |  | FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT |             |        |              |           |



**TEMPORARY TRAFFIC SIGNAL LEGEND**

- TEMPORARY TRAFFIC SIGNAL HEAD
- SPAN WIRE MOUNTED ORIGINAL LOCATION
- TEMPORARY TRAFFIC SIGNAL HEAD
- SPAN WIRE MOUNTED SECONDARY LOCATION
- TEMPORARY WOOD POLE (CLASS 5 OR BETTER) 45 FOOT MINIMUM
- TEMPORARY CONTROLLER CABINET
- TEMPORARY SPAN WIRE, TETHER WIRE, AND CABLE
- TEMPORARY SERVICE INSTALLATION
- TEMPORARY PEDESTRIAN SIGNAL HEAD, BRACKET MOUNTED
- TEMPORARY PEDESTRIAN PUSHBUTTON DETECTOR
- MICROWAVE VEHICLE SENSOR
- EMERGENCY VEHICLE LIGHT DETECTOR
- CONFIRMATION BEACON
- VEHICLE DETECTOR, INDUCTION LOOP
- COMMON TRENCH
- UNIT DUCT
- G.S. CONDUIT IN TRENCH OR PUSHED HANDHOLE
- HEAVY-DUTY HANDHOLE
- EXISTING WOOD POLE
- VIDEO DETECTOR
- WIRELESS INTERCONNECT (ANTENNA)



**EXISTING EQUIPMENT TO BE REMOVED LEGEND**

- EXISTING SIGNAL HEAD TO BE REMOVED
- EXISTING SERVICE INSTALLATION TO BE REMOVED
- EXISTING STREET LIGHT, FOUNDATION AND LUMINAIRE TO REMAIN
- EXISTING CONTROLLER TO BE REMOVED
- EXISTING HANDHOLE TO BE REMOVED
- EXISTING PEDESTRIAN SIGNAL HEAD TO BE REMOVED
- EXISTING PEDESTRIAN PUSH BUTTON TO BE REMOVED
- EMERGENCY VEHICLE LIGHT DETECTOR TO BE REMOVED
- CONFIRMATION BEACON TO BE REMOVED
- EXISTING HEAVY-DUTY HANDHOLE TO BE REMOVED
- EXISTING SIGNAL POST AND FOUNDATION TO BE REMOVED
- EXISTING ALUMINUM MAST ARM POLE AND FOUNDATION TO BE REMOVED
- EXISTING STEEL MAST ARM POLE AND FOUNDATION TO BE REMOVED

**NOTES FOR TEMPORARY TRAFFIC SIGNALS**

1. ALL CONTROL EQUIPMENT INCLUDING EMERGENCY PRE-EMPTION AND COMMUNICATION DEVICES FOR THE TEMPORARY TRAFFIC SIGNAL(S) SHALL BE FURNISHED BY THE CONTRACTOR.
2. ONLY CONTROLLERS SUPPLIED BY ONE OF THE DISTRICT APPROVED CLOSED LOOP EQUIPMENT MANUFACTURERS WILL BE APPROVED FOR USE AT TEMPORARY SIGNAL LOCATIONS. ALL CONTROLLERS USED FOR TEMPORARY TRAFFIC SIGNALS SHALL BE FULLY ACTUATED NEMA MICROPROCESSOR BASED WITH RS232 DATA ENTRY PORTS COMPATIBLE WITH EXISTING MONITORING SOFTWARE APPROVED BY IDOT DISTRICT 1, INSTALLED IN A NEMA TS1 OR TS2 CABINET. ONLY ONE BRAND OF CONTROLLER WILL BE ACCEPTED FOR ANY ONE CONTRACT.
3. ALL TRAFFIC SIGNAL SECTIONS AND PEDESTRIAN SIGNAL SECTIONS SHALL BE 12". HEADS SHALL BE PLACED AS INDICATED ON THE TEMPORARY TRAFFIC SIGNAL PLAN OR AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL FURNISH ENOUGH CABLE SLACK TO RELOCATE HEADS TO ANY POSITION ON THE SPAN WIRE OR AT LOCATIONS ILLUSTRATED ON THE PLANS FOR CONSTRUCTION STAGING. THE TEMPORARY TRAFFIC SIGNAL SHALL REMAIN IN OPERATION DURING ALL SIGNAL HEAD RELOCATIONS. EACH TEMPORARY TRAFFIC SIGNAL HEAD SHALL HAVE ITS OWN CABLE FROM THE CONTROLLER CABINET TO THE SIGNAL HEAD.
4. ALL EXISTING STREET NAME AND INTERSECTION REGULATORY SIGNS SHALL BE REMOVED FROM EXISTING POLES, RELOCATED AND SECURELY FASTENED TO THE SIGNAL SPAN WIRE OR WOOD POLE AS DIRECTED BY THE ENGINEER.
5. ANY TEMPORARY SIGNAL WITHIN AN EXISTING CLOSED LOOP TRAFFIC SIGNAL SYSTEM SHALL BE INTERCONNECTED TO THAT SYSTEM USING SIMILAR BRAND CONTROL EQUIPMENT.
6. THE TEMPORARY TRAFFIC SIGNAL SHALL HAVE THE SIGNAL HEAD DISPLAYS, SIGNAL HEAD PLACEMENTS AND CONTROLLER PHASING MATCH THE EXISTING TRAFFIC SIGNAL, AT THE TIME OF THE TURN ON, IF NO TRAFFIC STAGING IS IN PLACE OR WILL NOT BE STAGED ON THE DAY OF THE TURN ON.

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

TEMPORARY WIRELESS INTERCONNECT ANTENNA  
SEE WIRELESS INTERCONNECT SCHEMATIC SHEET 1 OF 2  
MODEL: YAGI 4 ELEMENT 8dBi 890-960 MHz

NOTE:  
TEMPORARY WIRELESS INTERCONNECT IS INCLUDED IN TEMPORARY TRAFFIC SIGNAL INSTALLATION PAY ITEM.

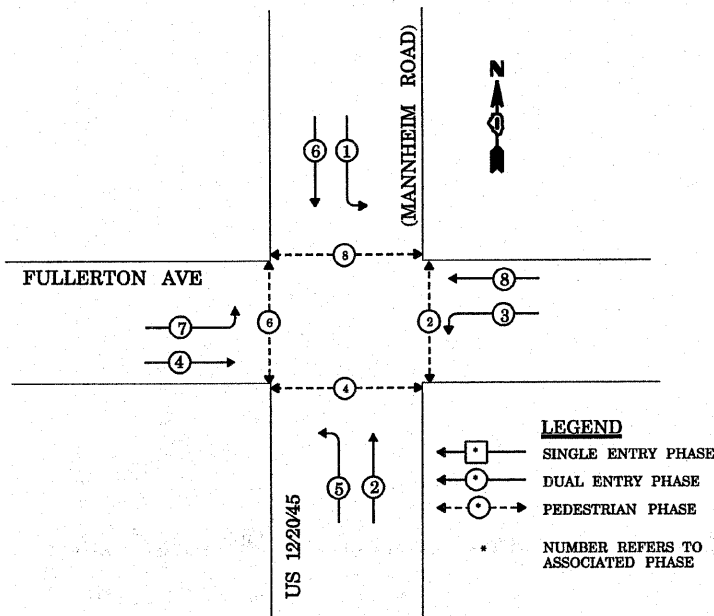
THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 1 EACH CONTROLLER AND CABINET
- 4 EACH TRAFFIC SIGNAL BACKPLATE
- 4 EACH TRAFFIC SIGNAL POST
- 4 EACH MAST ARM ASSEMBLY AND POLE, ALUMINUM
- 4 EACH SIGNAL HEAD, 1-FACE, 3-SECTION, BRACKET MOUNTED
- 4 EACH SIGNAL HEAD, 1-FACE, 5-SECTION, MAST ARM MOUNTED
- 4 EACH SIGNAL HEAD, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED
- 8 EACH PEDESTRIAN SIGNAL HEAD, 1-FACE, BRACKET MOUNTED
- 8 EACH PEDESTRIAN PUSH-BUTTON
- 1 EACH SERVICE INSTALLATION

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 SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

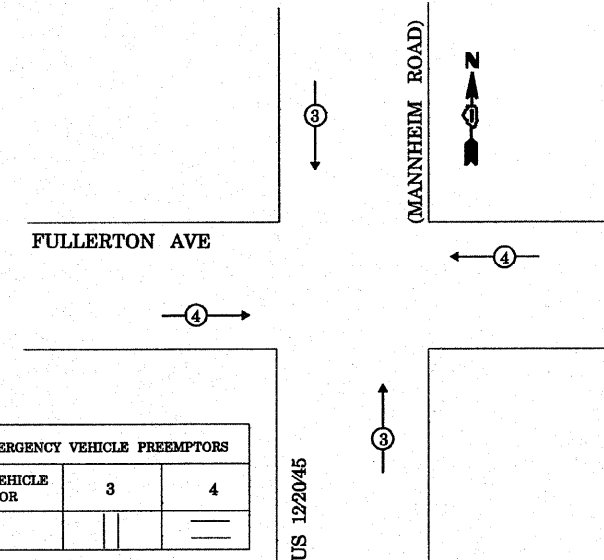
|  |                           |                   |           |   |   |  |  |                     |             |                  |              |                    |  |
|--|---------------------------|-------------------|-----------|---|---|--|--|---------------------|-------------|------------------|--------------|--------------------|--|
| FILE NAME =                                | USER NAME = kanthaphixybc | DESIGNED - N.B.   | REVISED - | <b>STATE OF ILLINOIS<br/>DEPARTMENT OF TRANSPORTATION</b> | <b>TEMPORARY TRAFFIC SIGNAL AND REMOVAL PLAN</b>  |  |  | F.A.P. RTE.         | SECTION     | COUNTY           | TOTAL SHEETS | SHEET NO.          |  |
| ct:\projects\traffic\072027\us12_20_45.dgn |                           | DRAWN - N.B.      | REVISED - |   | US 12/2045 (MANNHEIM ROAD) AT FULLERTON AVENUE  |  |  | 330                 | 2008-006 TS | COOK             | 104          | 22                 |  |
|  |                           | CHECKED - D.B.    | REVISED - |   | SCALE: 1"=20'   |  |  | SHEET NO.           | OF SHEETS   | STA.             | TO STA.      | CONTRACT NO. 60E31 |  |
|  |                           | DATE = 09/04/2008 | REVISED - |   | 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 SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY. |  |  | FED. ROAD DIST. NO. | ILLINOIS    | FED. AID PROJECT |              |                    |  |

**CONTROLLER SEQUENCE**

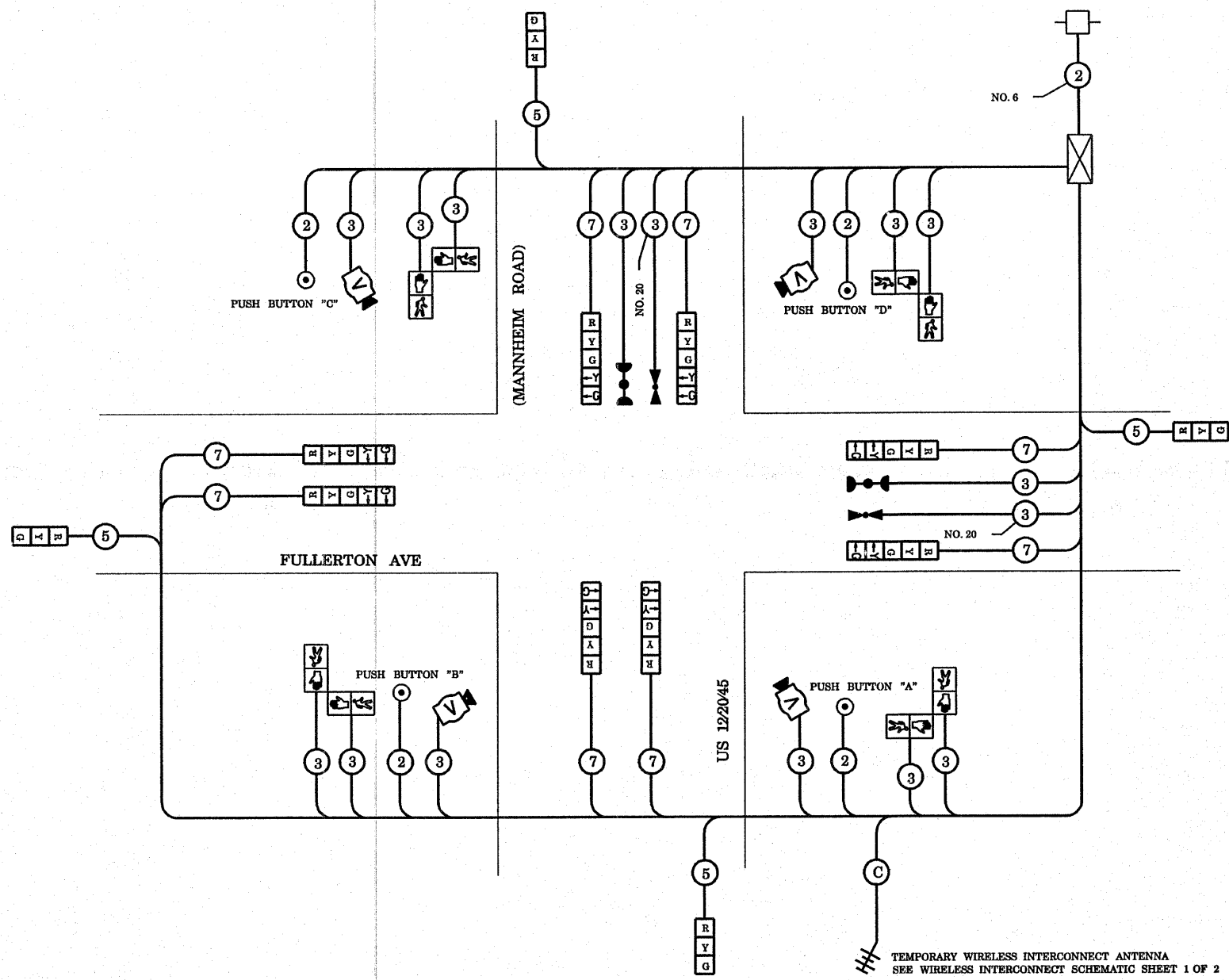


**TEMPORARY PHASE DESIGNATION DIAGRAM**

**EMERGENCY VEHICLE PREEMPTION SEQUENCE**



| I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS                      |           |         |     |             |                |
|---|-----------|---------|-----|-------------|----------------|
| TYPE  | NO. LAMPS | WATTAGE |     | % OPERATION | TOTAL WATTAGE  |
|   |           | INCAND. | LED |             |                |
| SIGNAL (RED)  | 12        |         | 17  | 0.50        | 102.00         |
| (YELLOW)  | 12        |         | 25  | 0.25        | 75.00          |
| (GREEN)   | 12        |         | 15  | 0.25        | 45.00          |
| ARROW   | 16        |         | 12  | 0.10        | 19.20          |
| 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 = 541.20 |
| VILLAGE OF FRANKLIN PARK<br>4500 BELMONT AVENUE<br>FRANKLIN PARK, IL 60131                |           |         |     |             |                |
| ENERGY SUPPLY CONTACT: LINDA KLOC<br>PHONE: (708)410-5313<br>COMPANY: COMMONWEALTH EDISON |           |         |     |             |                |



**TEMPORARY CABLE PLAN**

**TEMPORARY CABLE DIAGRAM LEGEND**

- TEMPORARY TRAFFIC SIGNAL SECTION OR PEDESTRIAN SIGNAL SECTION, 12" (300 mm)
- TEMPORARY CONTROLLER CABINET
- TEMPORARY SERVICE INSTALLATION
- INDICATES NUMBER OF CONDUCTORS IN CABLE. ALL CONDUCTORS TO BE NUMBERED 14 AWG WIRE UNLESS OTHERWISE NOTED.
- EMERGENCY VEHICLE LIGHT DETECTOR
- CONFIRMATION BEACON
- PEDESTRIAN PUSHBUTTON DETECTOR
- VEHICLE DETECTOR, INDUCTION LOOP
- 12" (300 mm) PEDESTRIAN SIGNAL SECTION
- MICROWAVE VEHICLE SENSOR
- VIDEO DETECTOR
- WIRELESS INTERCONNECT (ANTENNA)

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

\* TEMPORARY WIRELESS INTERCONNECT IS INCLUDED IN TEMPORARY TRAFFIC SIGNAL INSTALLATION PAY ITEM

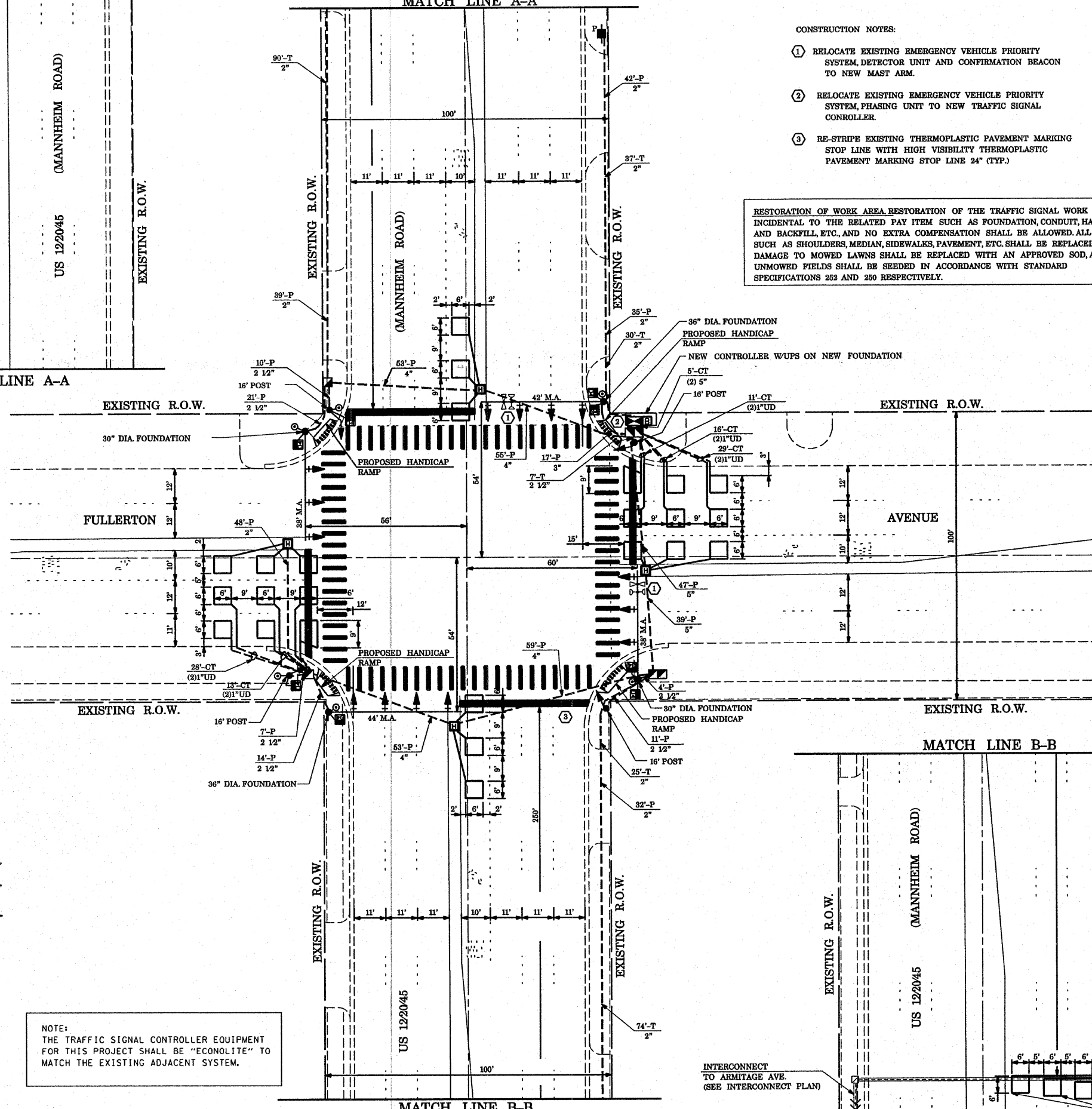
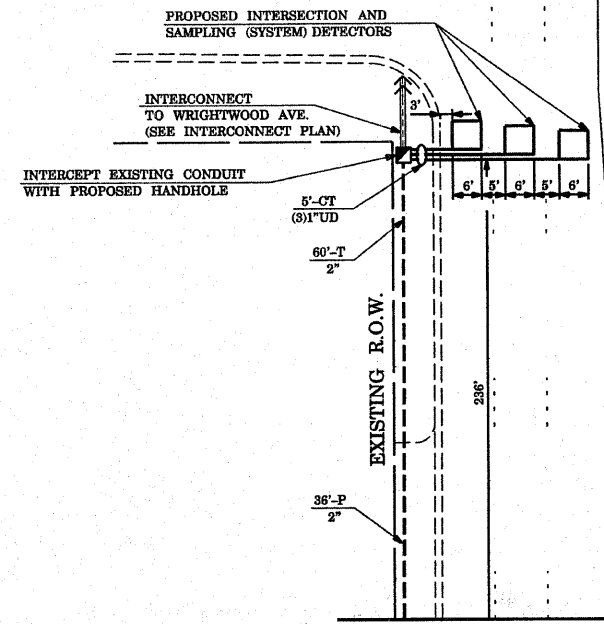
NOTE:  
PUSHBUTTON "A" SHALL PLACE A CALL IN PHASES 2 AND 4  
PUSHBUTTON "B" SHALL PLACE A CALL IN PHASES 4 AND 6  
PUSHBUTTON "C" SHALL PLACE A CALL IN PHASES 6 AND 8  
PUSHBUTTON "D" SHALL PLACE A CALL IN PHASES 2 AND 8



CONSTRUCTION NOTES:

- ① RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, DETECTOR UNIT AND CONFIRMATION BEACON TO NEW MAST ARM.
- ② RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, PHASING UNIT TO NEW TRAFFIC SIGNAL CONTROLLER.
- ③ RE-STRIPE EXISTING THERMOPLASTIC PAVEMENT MARKING STOP LINE WITH HIGH VISIBILITY THERMOPLASTIC PAVEMENT MARKING STOP LINE 24" (TYP).

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 SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.



TRAFFIC SIGNAL LEGEND

|  | PROPOSED | EXISTING |
|--|----------|----------|
| CONTROLLER   |          |          |
| RAILROAD CONTROL CABINET                             |          |          |
| SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNTED |          |          |
| SIGNAL HEAD  |          |          |
| SIGNAL HEAD WITH BACKPLATE                           |          |          |
| SIGNAL HEAD, PEDESTRIAN                              |          |          |
| SIGNAL POST  |          |          |
| MAST ARM ASSEMBLY AND POLE, STEEL                    |          |          |
| MAST ARM ASSEMBLY AND POLE, ALUMINIUM                |          |          |
| COMMON TRENCH  |          |          |
| UNIT DUCT  |          |          |
| HANDHOLE   |          |          |
| HEAVY DUTY HANDHOLE                                  |          |          |
| DOUBLE HANDHOLE                                      |          |          |
| G.S. CONDUIT IN TRENCH OR PUSHED                     |          |          |
| CAST IRON JUNCTION BOX                               |          |          |
| SIGNAL HEAD OPTICALLY PROGRAMMED                     |          |          |
| CONDUIT SPLICE                                       |          |          |
| WOOD POLE  |          |          |
| RACEWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II     |          |          |
| VEHICLE DETECTOR, NON COMPENSATED MAGNETIC TYPE      |          |          |
| RAILROAD CONTROL CABINET                             |          |          |
| ILLUMINATED SIGN, FIBER OPTIC "NO LEFT TURN"         |          |          |
| ILLUMINATED SIGN, FIBER OPTIC "NO RIGHT TURN"        |          |          |
| TELEPHONE CONNECTION                                 |          |          |
| PEDESTRIAN PUSHBUTTON DETECTOR                       |          |          |
| DETECTOR LOOP, TYPE I                                |          |          |
| PREFORMED DETECTOR LOOP                              |          |          |
| VIDEO DETECTOR                                       |          |          |
| CLOSED CIRCUIT TV                                    |          |          |
| EMERGENCY VEHICLE SYSTEM DETECTOR                    |          |          |
| CONFIRMATION BEACON                                  |          |          |
| UNINTERRUPTABLE POWER SUPPLY                         |          |          |
| PEDESTRIAN SIGNAL HEAD WITH COUNTDOWN TIMER          |          |          |

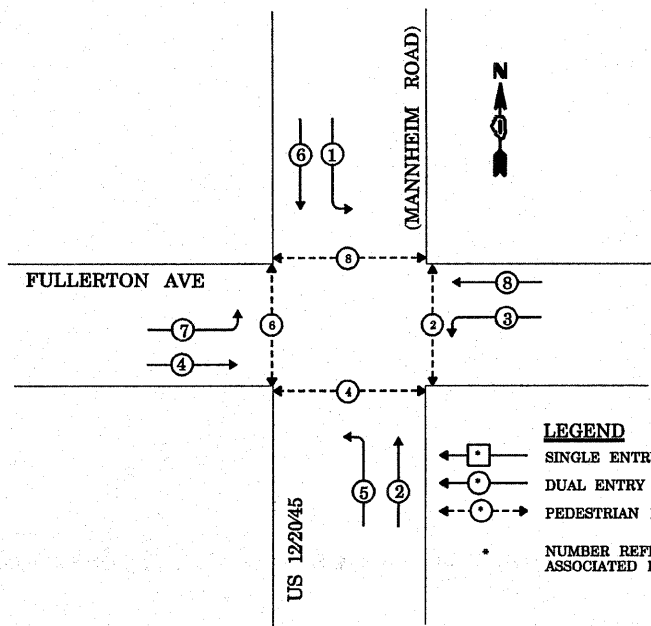
NOTE:  
THE TRAFFIC SIGNAL CONTROLLER EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM.

INTERCONNECT TO ARMITAGE AVE. (SEE INTERCONNECT PLAN)

INTERCEPT EXISTING CONDUIT WITH PROPOSED HANDHOLE

|  |                           |                   |           |   |  |           |           |                     |                           |                    |              |           |
|--|---------------------------|-------------------|-----------|---|--|-----------|-----------|---------------------|---------------------------|--------------------|--------------|-----------|
| FILE NAME =                              | USER NAME = kanthephixjbc | DESIGNED - N.B.   | REVISED - | <b>STATE OF ILLINOIS<br/>DEPARTMENT OF TRANSPORTATION</b> | <b>PROPOSED TRAFFIC SIGNAL PLAN</b>            |           |           | F.A.P. RTE.         | SECTION                   | COUNTY             | TOTAL SHEETS | SHEET NO. |
| ci\projects\traffic\07027\us12_20_45.dgn |                           | DRAWN - N.B.      | REVISED - |   | US 12/2045 (MANNHEIM ROAD) AT FULLERTON AVENUE |           |           | 330                 | 2008-006 TS               | COOK               | 104          | 24        |
| PLOT SCALE = 40,0000 / IN.               |                           | CHECKED - D.B.    | REVISED - |   | SCALE: 1"=20'                                  | SHEET NO. | OF SHEETS | STA.                | TO STA.                   | CONTRACT NO. 60E31 |              |           |
| PLOT DATE = 10/10/2008                   |                           | DATE - 09/04/2008 | REVISED - |   |  |           |           | FED. ROAD DIST. NO. | ILLINOIS FED. AID PROJECT |                    |              |           |

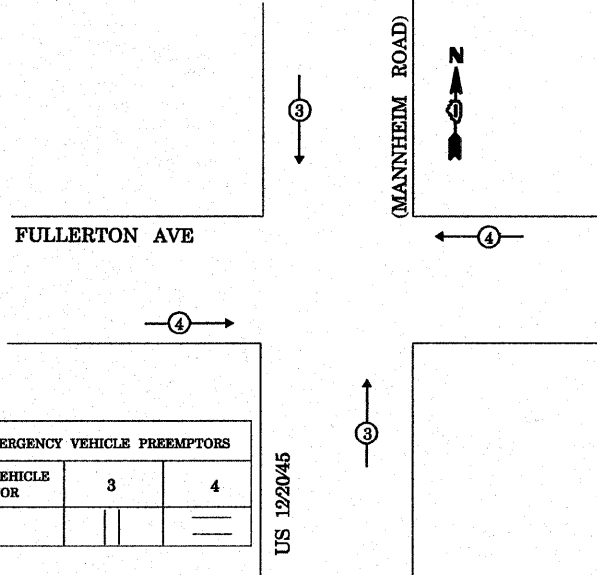
**CONTROLLER SEQUENCE**



**LEGEND**  
 □ SINGLE ENTRY PHASE  
 ○ DUAL ENTRY PHASE  
 ○ PEDESTRIAN PHASE  
 • NUMBER REFERS TO ASSOCIATED PHASE

**PHASE DESIGNATION DIAGRAM**

**EMERGENCY VEHICLE PREEMPTION SEQUENCE**



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

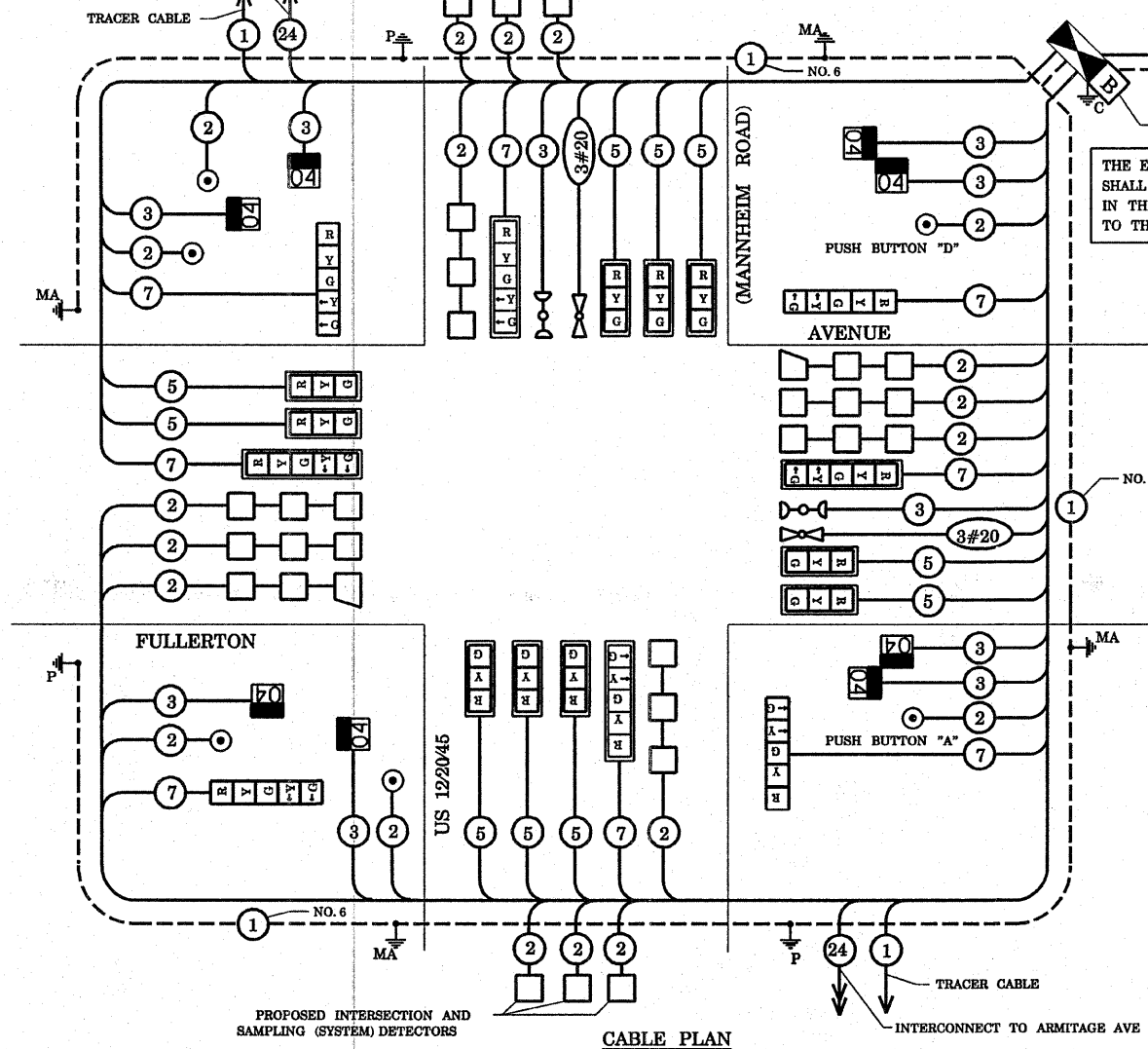
| TYPE         | NO. LAMPS | WATTAGE INCAND. | LED  | % OPERATION | TOTAL WATTAGE |
|--------------|-----------|-----------------|------|-------------|---------------|
| SIGNAL (RED) | 18        | 17              | 0.50 |             | 153.00        |
| (YELLOW)     | 18        | 25              | 0.25 |             | 112.50        |
| (GREEN)      | 18        | 15              | 0.25 |             | 67.50         |
| ARROW        | 16        | 12              | 0.10 |             | 19.20         |
| PED. SIGNAL  | 8         | 25              | 1.00 |             | 200.00        |
| CONTROLLER   | 1         | 100             | 1.00 |             | 100.00        |
| ILLUM. SIGN  |           |                 | 0.05 |             | -             |

ENERGY COSTS TO: **VILLAGE OF FRANKLIN PARK** TOTAL= 652.20

ENERGY SUPPLY CONTACT: **LINDA KLOC**  
 PHONE: (708)410-5313  
 COMPANY: COMMONWEALTH EDISON

INTERCONNECT TO WRIGHTWOOD AVE

PROPOSED INTERSECTION AND SAMPLING (SYSTEM) DETECTORS



**SCHEDULE OF QUANTITIES**

| QUANTITY | UNIT  | ITEM  |
|----------|-------|---|
| 1151     | SQ FT | PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH             |
| 15       | FOOT  | COMBINATION CURB AND GUTTER REMOVAL                   |
| 1151     | SQ FT | SIDEWALK REMOVAL                                      |
| 15       | FOOT  | COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.24     |
| 0.1      | L SUM | TRAFFIC CONTROL AND PROTECTION, STANDARD 701501       |
| 0.1      | L SUM | TRAFFIC CONTROL AND PROTECTION, STANDARD 701701       |
| 0.1      | L SUM | TRAFFIC CONTROL AND PROTECTION, STANDARD 701801       |
| 18       | SQ FT | SIGN PANEL - TYPE 1                                   |
| 30       | SQ FT | SIGN PANEL - TYPE 2                                   |
| 648      | FOOT  | THERMOPLASTIC PAVEMENT MARKING - LINE 12"             |
| 165      | FOOT  | THERMOPLASTIC PAVEMENT MARKING - LINE 24"             |
| 982      | SQ FT | THERMOPLASTIC PAVEMENT MARKING REMOVAL                |
| 385      | FOOT  | CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL          |
| 7        | FOOT  | CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL          |
| 5        | FOOT  | CONDUIT IN TRENCH, 5" DIA., GALVANIZED STEEL          |
| 292      | FOOT  | CONDUIT PUSHED, 2" DIA., GALVANIZED STEEL             |
| 67       | FOOT  | CONDUIT PUSHED, 2" DIA., GALVANIZED STEEL             |
| 17       | FOOT  | CONDUIT PUSHED, 3" DIA., GALVANIZED STEEL             |
| 220      | FOOT  | CONDUIT PUSHED, 4" DIA., GALVANIZED STEEL             |
| 86       | FOOT  | CONDUIT PUSHED, 5" DIA., GALVANIZED STEEL             |
| 4        | EACH  | HANDHOLE  |
| 4        | EACH  | HEAVY-DUTY HANDHOLE                                   |
| 2        | EACH  | DOUBLE HANDHOLE                                       |
| 397      | FOOT  | TRENCH AND BACKFILL FOR ELECTRICAL WORK               |
| 1        | EACH  | FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL |
| 1        | EACH  | TRANSCIVER - FIBER OPTIC                              |
| 1014     | FOOT  | ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C           |
| 1260     | FOOT  | ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C           |
| 1871     | FOOT  | ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C           |
| 1471     | FOOT  | ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C           |
| 3498     | FOOT  | ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1-PAIR     |
| 162      | FOOT  | ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C          |
| 447      | FOOT  | ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C        |

| QUANTITY | UNIT | ITEM   |
|----------|------|--|
| 277      | FOOT | ELECTRIC CABLE IN CONDUIT, NO. 20 3C, TWISTED, SHIELDED                      |
| 4        | EACH | TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.                                 |
| 2        | EACH | STEEL MAST ARM ASSEMBLY AND POLE, 38 FT.                                     |
| 1        | EACH | STEEL MAST ARM ASSEMBLY AND POLE, 42 FT.                                     |
| 1        | EACH | STEEL MAST ARM ASSEMBLY AND POLE, 44 FT.                                     |
| 16       | FOOT | CONCRETE FOUNDATION, TYPE A  |
| 4        | FOOT | CONCRETE FOUNDATION, TYPE C  |
| 30       | FOOT | CONCRETE FOUNDATION, TYPE E 30" DIAMETER                                     |
| 30       | FOOT | CONCRETE FOUNDATION, TYPE E 36" DIAMETER                                     |
| 14       | EACH | TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM                                 |
| 14       | EACH | INDUCTIVE LOOP DETECTOR  |
| 1079     | FOOT | DETECTOR LOOP, TYPE I  |
| 6        | EACH | PEDESTRIAN PUSH-BUTTON   |
| 1        | EACH | TEMPORARY TRAFFIC SIGNAL INSTALLATION  |
| 2*       | EACH | RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, DETECTOR UNIT           |
| 1*       | EACH | RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, PHASING UNIT            |
| 1        | EACH | REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT                                     |
| 7        | EACH | REMOVE EXISTING HANDHOLE   |
| 9        | EACH | REMOVE EXISTING CONCRETE FOUNDATION  |
| 10       | EACH | SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, MAST ARM MOUNTED                     |
| 4        | EACH | SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, BRACKET MOUNTED                      |
| 4        | EACH | SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, MAST ARM MOUNTED                     |
| 4        | EACH | PEDESTRIAN SIGNAL HEAD, L.E.D., 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER |
| 2        | EACH | PEDESTRIAN SIGNAL HEAD, L.E.D., 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER |
| 1        | EACH | TEMPORARY TRAFFIC SIGNAL TIMINGS   |
| 1        | EACH | SERVICE INSTALLATION, POLE MOUNT   |
| 1        | EACH | UNINTERRUPTIBLE POWER SUPPLY   |

NOTE:  
 PUSHBUTTON "A" SHALL PLACE A CALL IN PHASES 2 AND 4  
 PUSHBUTTON "D" SHALL PLACE A CALL IN PHASES 2 AND 8

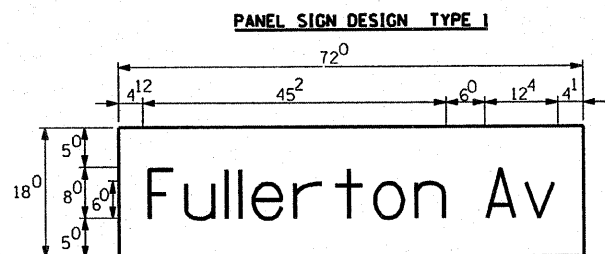
**CABLE PLAN LEGEND**

- | PROPOSED | EXISTING |   |
|----------|----------|---|
| G        | G        | 8" (300mm) TRAFFIC SIGNAL SECTION   |
| R        | R        | 12" (300mm) TRAFFIC SIGNAL SECTION  |
| W        | W        | 12" (300mm) PEDESTRIAN SIGNAL SECTION   |
| ⊕        | ⊕        | 12" (300mm) PEDESTRIAN SIGNAL SECTION   |
| ⊕        | ⊕        | CONTROLLER CABINET  |
| ⊕        | ⊕        | SERVICE INSTALLATION  |
| ⊕        | ⊕        | TELEPHONE CONNECTION  |
| ⊕        | ⊕        | MAGNETIC DETECTOR   |
| ⊕        | ⊕        | PUSHBUTTON DETECTOR   |
| ⊕        | ⊕        | VEHICLE DETECTOR, INDUCTION LOOP  |
| ⊕        | ⊕        | 2 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   |
| ⊕        | ⊕        | "P"   |
| ⊕        | ⊕        | "E"   |
| ⊕        | ⊕        | "E"   |
| ⊕        | ⊕        | "E"   |
| ⊕        | ⊕        | GROUND ROD AT HANDHOLE, DOUBLE HANDHOLE, OR CONTROLLER  |
| ⊕        | ⊕        | GROUND ROD AT POST OR MAST ARM POLE   |
| ⊕        | ⊕        | GROUND ROD AT ELECTRIC SERVICE INSTALLATION   |
| ⊕        | ⊕        | GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN)  |
| ⊕        | ⊕        | 24 FIBER OPTIC CABLE IN CONDUIT NO. 62.5/25 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:  
 THE TRAFFIC SIGNAL CONTROLLER EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM.

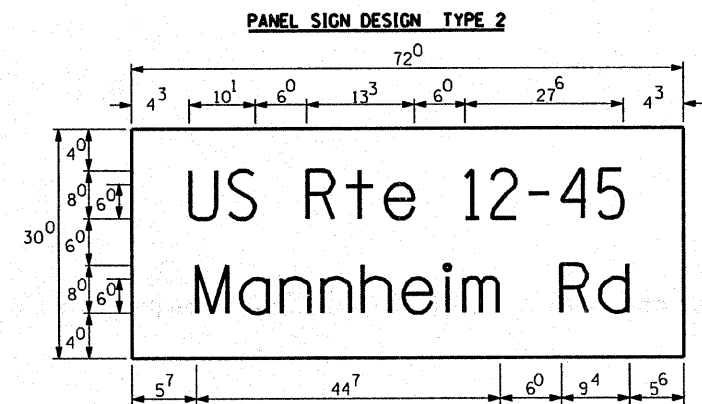
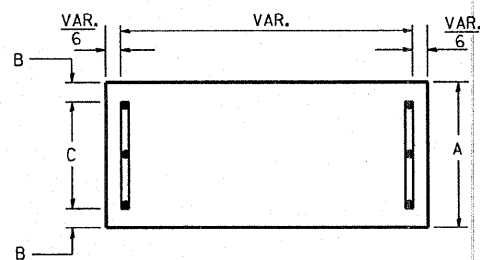
\* 100% COST TO VILLAGE OF FRANKLIN PARK





— Sq. M. each  
 9.00 Sq. Ft. each  
 2 Required  
 Design Series D

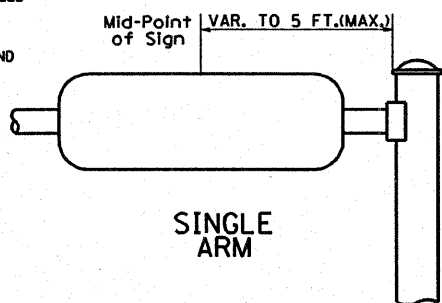
SUPPORTING CHANNELS



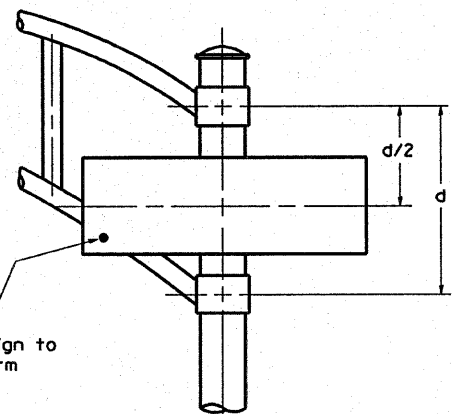
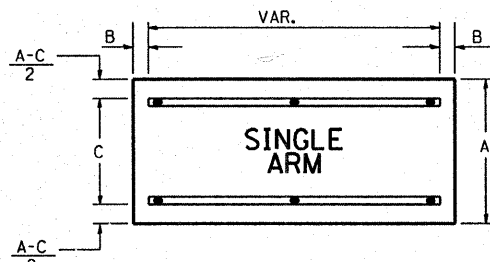
— Sq. M. each  
 15 Sq. Ft. each  
 2 Required  
 Design Series C

GENERAL NOTES

- WHERE MAST ARM MOUNTED STREET NAME SIGNS ARE SPECIFIED, THE MAST ARM ASSEMBLY AND POLES SHALL BE DESIGNED TO SUPPORT THE LOADINGS CALLED FOR ON STANDARDS 834001, 834006 AND 834011, AS APPLICABLE, PLUS TWO (2) SIGN PANELS 2'-6" x 6'-0" MOUNTED AS SHOWN. THE DESIGN SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CURRENT "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS" AS PUBLISHED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS FOR 80 M.P.H. WIND VELOCITY.
  - ALL SIGNS SHALL HAVE A WHITE REFLECTORIZED LEGEND AND BORDER ON A GREEN REFLECTORIZED BACKGROUND, TYPE A SHEETING.
  - THE SIGN LENGTH SHOULD BE INCREASED IN 6-INCH INCREMENTS, BUT THE OVERALL LENGTH SHOULD NOT EXCEED 6'-0".
  - ALL BORDERS SHALL BE 3/4" WIDE AND CORNER RADIUS SHALL BE 2-1/4".
  - SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM SHALL BE USED FOR ALL SIGNS ATTACHED TO SIGNAL POLES AND POSTS. LOCAL SUPPLIERS OF THE SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM ARE:
    - \* A.K.T. CORPORATION
    - \* AMERICAN FABRICATION CO.
    - \* SCHALMBURG, IL
    - \* CHICAGO HEIGHTS, IL
    - \* TUCKER COMPANY, INC.
    - \* WESTERN TRAFFIC CONTROL INC.
    - \* WAUWATOSA, WI
    - \* CICERO, IL
- PARTS LISTING:  
 SIGN CHANNEL PART #HPN053 (MED. CHANNEL)  
 SIGN SCREWS 1/4" x 14 x 1" H.W.H. #3  
 BRACKETS SELF TAPPING WITH NEOPRENE WASHER  
 PART #HPN034 (UNIVERSAL)  
 CHANNEL CLAMPS WITH STAINLESS STEEL STRAPPING
- OTHER BRANDS OF MOUNTING HARDWARE ARE ACCEPTABLE, BASED UPON THE DEPARTMENT'S APPROVAL AND COMPATIBILITY WITH THE CHANNEL/BRACKET OF THE ABOVE PRODUCT.



SUPPORTING CHANNELS



DUAL ARM

SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM  
 Shall be used. See Note #5.

Upper Case To Lower Case  
 Spacing Chart 8-6 Inch Series "C & D"

EXAMPLE, 2<sup>3</sup> DENOTES 3/8"

| SERIES  | SECOND LETTER  |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |
|---------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|         | a c d e        |                | b h i k l      |                | f w            |                | j              |                | s t            |                | v y            |                | x              |                | z              |                |
|         | g o q          | m n p r u      |                |                |                |                |                |                |                |                |                |                |                |                |                |                |
| A W X   | 1 <sup>2</sup> | 1 <sup>4</sup> | 1 <sup>4</sup> | 1 <sup>5</sup> | 1 <sup>2</sup> | 1 <sup>4</sup> | 0 <sup>6</sup> | 1 <sup>0</sup> | 1 <sup>1</sup> | 1 <sup>4</sup> | 0 <sup>6</sup> | 1 <sup>0</sup> | 1 <sup>1</sup> | 1 <sup>2</sup> | 1 <sup>2</sup> | 1 <sup>4</sup> |
| B       | 1 <sup>4</sup> | 1 <sup>5</sup> | 2 <sup>0</sup> | 2 <sup>1</sup> | 1 <sup>4</sup> | 1 <sup>5</sup> | 1 <sup>1</sup> | 1 <sup>2</sup> | 1 <sup>4</sup> | 1 <sup>5</sup> | 1 <sup>2</sup> | 1 <sup>4</sup> | 1 <sup>2</sup> | 1 <sup>4</sup> | 1 <sup>6</sup> | 1 <sup>7</sup> |
| C E G   | 1 <sup>4</sup> | 1 <sup>5</sup> | 2 <sup>0</sup> | 2 <sup>1</sup> | 1 <sup>2</sup> | 1 <sup>4</sup> | 0 <sup>6</sup> | 1 <sup>0</sup> | 1 <sup>2</sup> | 1 <sup>4</sup> | 1 <sup>2</sup> | 1 <sup>4</sup> | 1 <sup>4</sup> | 1 <sup>5</sup> | 1 <sup>4</sup> | 1 <sup>5</sup> |
| D O O R | 1 <sup>4</sup> | 1 <sup>5</sup> | 2 <sup>0</sup> | 2 <sup>1</sup> | 1 <sup>4</sup> | 1 <sup>5</sup> | 0 <sup>6</sup> | 1 <sup>0</sup> | 1 <sup>2</sup> | 1 <sup>4</sup> | 1 <sup>2</sup> | 1 <sup>4</sup> | 1 <sup>4</sup> | 1 <sup>5</sup> | 1 <sup>4</sup> | 1 <sup>5</sup> |
| F       | 0 <sup>5</sup> | 0 <sup>6</sup> | 1 <sup>4</sup> | 1 <sup>5</sup> | 0 <sup>6</sup> | 1 <sup>0</sup> | 0 <sup>5</sup> | 0 <sup>6</sup> | 0 <sup>6</sup> | 1 <sup>0</sup> | 0 <sup>6</sup> | 1 <sup>0</sup> | 0 <sup>6</sup> | 1 <sup>0</sup> | 1 <sup>1</sup> | 1 <sup>2</sup> |
| H I M N | 2 <sup>0</sup> | 2 <sup>1</sup> | 2 <sup>2</sup> | 2 <sup>4</sup> | 2 <sup>0</sup> | 2 <sup>1</sup> | 1 <sup>4</sup> | 1 <sup>5</sup> | 1 <sup>6</sup> | 1 <sup>7</sup> | 1 <sup>6</sup> | 1 <sup>7</sup> | 2 <sup>0</sup> | 2 <sup>1</sup> | 2 <sup>0</sup> | 2 <sup>1</sup> |
| J U     | 2 <sup>0</sup> | 2 <sup>1</sup> | 2 <sup>0</sup> | 2 <sup>1</sup> | 1 <sup>6</sup> | 1 <sup>7</sup> | 1 <sup>4</sup> | 1 <sup>5</sup> | 1 <sup>6</sup> | 1 <sup>7</sup> | 1 <sup>6</sup> | 1 <sup>7</sup> | 1 <sup>6</sup> | 1 <sup>7</sup> | 2 <sup>0</sup> | 2 <sup>1</sup> |
| K L     | 1 <sup>1</sup> | 1 <sup>2</sup> | 1 <sup>6</sup> | 1 <sup>7</sup> | 1 <sup>1</sup> | 1 <sup>2</sup> | 0 <sup>5</sup> | 0 <sup>6</sup> | 1 <sup>1</sup> | 1 <sup>2</sup> | 1 <sup>1</sup> | 1 <sup>2</sup> | 1 <sup>1</sup> | 1 <sup>2</sup> | 1 <sup>2</sup> | 1 <sup>4</sup> |
| P       | 1 <sup>2</sup> | 1 <sup>4</sup> | 1 <sup>4</sup> | 1 <sup>5</sup> | 1 <sup>2</sup> | 1 <sup>4</sup> | 0 <sup>5</sup> | 0 <sup>6</sup> | 1 <sup>1</sup> | 1 <sup>2</sup> | 1 <sup>1</sup> | 1 <sup>2</sup> | 1 <sup>2</sup> | 1 <sup>4</sup> | 1 <sup>2</sup> | 1 <sup>4</sup> |
| S       | 1 <sup>2</sup> | 1 <sup>4</sup> | 1 <sup>6</sup> | 1 <sup>7</sup> | 1 <sup>2</sup> | 1 <sup>4</sup> | 0 <sup>6</sup> | 1 <sup>0</sup> | 1 <sup>2</sup> | 1 <sup>4</sup> | 1 <sup>2</sup> | 1 <sup>4</sup> | 1 <sup>2</sup> | 1 <sup>4</sup> | 1 <sup>2</sup> | 1 <sup>4</sup> |
| T       | 1 <sup>1</sup> | 1 <sup>2</sup> | 1 <sup>6</sup> | 1 <sup>7</sup> | 0 <sup>6</sup> | 1 <sup>0</sup> | 0 <sup>6</sup> | 1 <sup>0</sup> | 1 <sup>1</sup> | 1 <sup>2</sup> | 1 <sup>1</sup> | 1 <sup>2</sup> | 1 <sup>1</sup> | 1 <sup>2</sup> | 1 <sup>2</sup> | 1 <sup>4</sup> |
| V       | 0 <sup>6</sup> | 1 <sup>0</sup> | 1 <sup>4</sup> | 1 <sup>5</sup> | 1 <sup>1</sup> | 1 <sup>2</sup> | 0 <sup>6</sup> | 1 <sup>0</sup> | 1 <sup>2</sup> | 1 <sup>4</sup> | 1 <sup>2</sup> | 1 <sup>4</sup> | 1 <sup>2</sup> | 1 <sup>4</sup> | 1 <sup>2</sup> | 1 <sup>4</sup> |
| Y       | 0 <sup>5</sup> | 0 <sup>6</sup> | 1 <sup>4</sup> | 1 <sup>5</sup> | 0 <sup>6</sup> | 1 <sup>0</sup> | 0 <sup>5</sup> | 0 <sup>6</sup> | 0 <sup>5</sup> | 0 <sup>7</sup> | 0 <sup>5</sup> | 0 <sup>6</sup> | 0 <sup>6</sup> | 1 <sup>0</sup> | 1 <sup>1</sup> | 1 <sup>2</sup> |
| Z       | 1 <sup>6</sup> | 1 <sup>7</sup> | 2 <sup>2</sup> | 2 <sup>4</sup> | 1 <sup>6</sup> | 1 <sup>7</sup> | 1 <sup>2</sup> | 1 <sup>4</sup> | 1 <sup>6</sup> | 1 <sup>7</sup> | 1 <sup>6</sup> | 1 <sup>7</sup> | 1 <sup>6</sup> | 1 <sup>7</sup> | 2 <sup>0</sup> | 2 <sup>1</sup> |

Lower Case To Lower Case  
 Spacing Chart 6 Inch Series "C & D"

| SERIES      | SECOND LETTER  |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |
|-------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|             | a c d e        |                | b h i k l      |                | f w            |                | j              |                | s t            |                | v y            |                | x              |                | z              |                |
|             | g o q          | m n p r u      |                |                |                |                |                |                |                |                |                |                |                |                |                |                |
| a d h g l j | 1 <sup>6</sup> | 1 <sup>7</sup> | 2 <sup>2</sup> | 2 <sup>4</sup> | 1 <sup>6</sup> | 1 <sup>7</sup> | 1 <sup>2</sup> | 1 <sup>4</sup> | 1 <sup>4</sup> | 1 <sup>5</sup> | 1 <sup>4</sup> | 1 <sup>5</sup> | 1 <sup>6</sup> | 1 <sup>7</sup> | 1 <sup>6</sup> | 1 <sup>7</sup> |
| i m n q u   |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |
| b f k o p s | 1 <sup>2</sup> | 1 <sup>4</sup> | 1 <sup>6</sup> | 1 <sup>7</sup> | 1 <sup>1</sup> | 1 <sup>2</sup> | 0 <sup>5</sup> | 0 <sup>6</sup> | 1 <sup>1</sup> | 1 <sup>2</sup> | 1 <sup>1</sup> | 1 <sup>2</sup> | 1 <sup>2</sup> | 1 <sup>4</sup> | 1 <sup>2</sup> | 1 <sup>4</sup> |
| c e         | 1 <sup>2</sup> | 1 <sup>4</sup> | 1 <sup>6</sup> | 1 <sup>7</sup> | 1 <sup>2</sup> | 1 <sup>4</sup> | 0 <sup>6</sup> | 1 <sup>0</sup> | 1 <sup>2</sup> | 1 <sup>4</sup> | 1 <sup>2</sup> | 1 <sup>4</sup> | 1 <sup>2</sup> | 1 <sup>4</sup> | 1 <sup>2</sup> | 1 <sup>4</sup> |
| r           | 0 <sup>6</sup> | 1 <sup>0</sup> | 1 <sup>2</sup> | 1 <sup>4</sup> | 0 <sup>6</sup> | 1 <sup>0</sup> | 0 <sup>3</sup> | 0 <sup>3</sup> | 0 <sup>5</sup> | 0 <sup>6</sup> | 0 <sup>5</sup> | 0 <sup>6</sup> | 0 <sup>6</sup> | 1 <sup>0</sup> | 0 <sup>6</sup> | 1 <sup>0</sup> |
| t z         | 1 <sup>2</sup> | 1 <sup>4</sup> | 1 <sup>6</sup> | 1 <sup>7</sup> | 1 <sup>2</sup> | 1 <sup>4</sup> | 0 <sup>6</sup> | 1 <sup>0</sup> | 1 <sup>1</sup> | 1 <sup>2</sup> | 1 <sup>1</sup> | 1 <sup>2</sup> | 1 <sup>2</sup> | 1 <sup>4</sup> | 1 <sup>2</sup> | 1 <sup>4</sup> |
| v y         | 1 <sup>1</sup> | 1 <sup>2</sup> | 1 <sup>4</sup> | 1 <sup>5</sup> | 1 <sup>1</sup> | 1 <sup>2</sup> | 0 <sup>5</sup> | 0 <sup>6</sup> | 0 <sup>6</sup> | 1 <sup>0</sup> | 0 <sup>6</sup> | 1 <sup>0</sup> | 1 <sup>1</sup> | 1 <sup>2</sup> | 1 <sup>1</sup> | 1 <sup>2</sup> |
| w           | 1 <sup>1</sup> | 1 <sup>2</sup> | 1 <sup>4</sup> | 1 <sup>5</sup> | 1 <sup>1</sup> | 1 <sup>2</sup> | 0 <sup>5</sup> | 0 <sup>6</sup> | 1 <sup>1</sup> | 1 <sup>2</sup> | 1 <sup>1</sup> | 1 <sup>2</sup> | 1 <sup>1</sup> | 1 <sup>2</sup> | 1 <sup>2</sup> | 1 <sup>4</sup> |
| x           | 1 <sup>2</sup> | 1 <sup>4</sup> | 1 <sup>6</sup> | 1 <sup>7</sup> | 1 <sup>1</sup> | 1 <sup>2</sup> | 0 <sup>5</sup> | 0 <sup>6</sup> | 1 <sup>1</sup> | 1 <sup>2</sup> | 1 <sup>1</sup> | 1 <sup>2</sup> | 1 <sup>1</sup> | 1 <sup>2</sup> | 1 <sup>2</sup> | 1 <sup>4</sup> |

Number To Number  
 Spacing Chart 8 Inch Series "C & D"

| SERIES | SECOND NUMBER  |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |                |
|--------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|        | 0              |                | 1              |                | 2              |                | 3              |                | 4              |                | 5              |                | 6              |                | 7              |                | 8              |                | 9              |                |
|        | C              | D              | C              | D              | C              | D              | C              | D              | C              | D              | C              | D              | C              | D              | C              | D              | C              | D              | C              | D              |
| 0 9    | 1 <sup>6</sup> | 1 <sup>7</sup> | 1 <sup>6</sup> | 1 <sup>7</sup> | 1 <sup>4</sup> | 1 <sup>5</sup> | 1 <sup>2</sup> | 1 <sup>4</sup> | 1 <sup>4</sup> | 1 <sup>5</sup> | 1 <sup>4</sup> | 1 <sup>5</sup> | 1 <sup>6</sup> | 1 <sup>7</sup> | 1 <sup>2</sup> | 1 <sup>4</sup> | 1 <sup>6</sup> | 1 <sup>7</sup> | 1 <sup>6</sup> | 1 <sup>7</sup> |
| 1      | 2 <sup>0</sup> | 2 <sup>1</sup> | 2 <sup>0</sup> | 2 <sup>1</sup> | 2 <sup>0</sup> | 2 <sup>1</sup> | 1 <sup>6</sup> | 1 <sup>7</sup> | 1 <sup>4</sup> | 1 <sup>5</sup> | 2 <sup>0</sup> | 2 <sup>1</sup> | 2 <sup>0</sup> | 2 <sup>1</sup> | 1 <sup>4</sup> | 1 <sup>5</sup> | 2 <sup>0</sup> | 2 <sup>1</sup> | 2 <sup>0</sup> | 2 <sup>1</sup> |
| 2 3 4  | 1 <sup>4</sup> | 1 <sup>5</sup> | 1 <sup>4</sup> | 1 <sup>5</sup> | 1 <sup>4</sup> | 1 <sup>5</sup> | 1 <sup>2</sup> | 1 <sup>4</sup> | 1 <sup>2</sup> | 1 <sup>4</sup> | 1 <sup>4</sup> | 1 <sup>5</sup> | 1 <sup>4</sup> | 1 <sup>5</sup> | 1 <sup>1</sup> | 1 <sup>2</sup> | 1 <sup>6</sup> | 1 <sup>7</sup> | 1 <sup>4</sup> | 1 <sup>5</sup> |
| 5      | 1 <sup>4</sup> | 1 <sup>5</sup> | 1 <sup>4</sup> | 1 <sup>5</sup> | 1 <sup>4</sup> | 1 <sup>5</sup> | 1 <sup>1</sup> | 1 <sup>2</sup> | 1 <sup>1</sup> | 1 <sup>2</sup> | 1 <sup>4</sup> | 1 <sup>5</sup> | 1 <sup>4</sup> | 1 <sup>5</sup> | 1 <sup>1</sup> | 1 <sup>2</sup> | 1 <sup>4</sup> | 1 <sup>5</sup> | 1 <sup>4</sup> | 1 <sup>5</sup> |
| 6      | 1 <sup>6</sup> | 1 <sup>7</sup> | 1 <sup>4</sup> | 1 <sup>5</sup> | 1 <sup>4</sup> | 1 <sup>5</sup> | 1 <sup>2</sup> | 1 <sup>5</sup> | 1 <sup>2</sup> | 1 <sup>4</sup> | 1 <sup>4</sup> | 1 <sup>5</sup> | 1 <sup>4</sup> | 1 <sup>5</sup> | 1 <sup>1</sup> | 1 <sup>2</sup> | 1 <sup>4</sup> | 1 <sup>5</sup> | 1 <sup>4</sup> | 1 <sup>5</sup> |
| 7      | 1 <sup>2</sup> | 1 <sup>4</sup> | 1 <sup>2</sup> | 1 <sup>4</sup> | 1 <sup>4</sup> | 1 <sup>5</sup> | 1 <sup>2</sup> | 1 <sup>5</sup> | 0 <sup>5</sup> | 0 <sup>6</sup> | 1 <sup>2</sup> | 1 <sup>4</sup> | 1 <sup>4</sup> | 1 <sup>5</sup> | 1 <sup>1</sup> | 1 <sup>2</sup> | 1 <sup>4</sup> | 1 <sup>5</sup> | 1 <sup>2</sup> | 1 <sup>4</sup> |
| 8      | 1 <sup>6</sup> | 1 <sup>7</sup> | 1 <sup>6</sup> | 1 <sup>7</sup> | 1 <sup>4</sup> | 1 <sup>5</sup> | 1 <sup>2</sup> | 1 <sup>5</sup> | 1 <sup>2</sup> | 1 <sup>4</sup> | 1 <sup>4</sup> | 1 <sup>5</sup> | 1 <sup>6</sup> | 1 <sup>7</sup> | 1 <sup>2</sup> | 1 <sup>4</sup> | 1 <sup>6</sup> | 1 <sup>7</sup> | 1 <sup>4</sup> | 1 <sup>5</sup> |

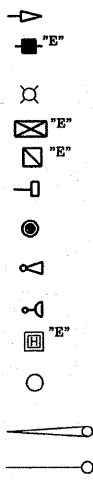
UPPER AND LOWER CASE LETTER WIDTHS

| LETTERS | 6 INCH UPPER CASE LETTERS |                |                |                | 8 INCH UPPER CASE LETTERS |                |                |   | LETTERS | 6 INCH LOWER CASE LETTERS |   |
|---------|---------------------------|----------------|----------------|----------------|---------------------------|----------------|----------------|---|---------|---------------------------|---|
|         | SERIES                    |                | SERIES         |                | SERIES                    |                | SERIES         |   |         | SERIES                    |   |
|         | C                         | D              | C              | D              | C                         | D              | C              | D |         | C                         | D |
| A       | 3 <sup>6</sup>            | 5 <sup>0</sup> | 5 <sup>0</sup> | 6 <sup>5</sup> | a                         | 3 <sup>5</sup> | 4 <sup>2</sup> |   |         |                           |   |
| B       | 3 <sup>2</sup>            | 4 <sup>0</sup> | 4 <sup>3</sup> | 5 <sup>3</sup> | b                         | 3 <sup>5</sup> | 4 <sup>2</sup> |   |         |                           |   |
| C       | 3 <sup>2</sup>            | 4 <sup>0</sup> | 4 <sup>3</sup> | 5 <sup>3</sup> | c                         | 3 <sup>5</sup> | 4 <sup>1</sup> |   |         |                           |   |
| D       | 3 <sup>2</sup>            | 4 <sup>0</sup> | 4 <sup>3</sup> | 5 <sup>3</sup> | d                         | 3 <sup>5</sup> | 4 <sup>2</sup> |   |         |                           |   |
| E       | 3 <sup>0</sup>            | 3 <sup>5</sup> | 4 <sup>0</sup> | 4 <sup>7</sup> | e                         | 3 <sup>5</sup> | 4 <sup>2</sup> |   |         |                           |   |
| F       | 3 <sup>0</sup>            | 3 <sup>5</sup> | 4 <sup>0</sup> | 4 <sup>7</sup> | f                         | 2 <sup>3</sup> | 2 <sup>6</sup> |   |         |                           |   |
| G       | 3 <sup>2</sup>            | 4 <sup>0</sup> | 4 <sup>3</sup> | 5 <sup>3</sup> | g                         | 3 <sup>5</sup> | 4 <sup>2</sup> |   |         |                           |   |
| H       | 3 <sup>2</sup>            | 4 <sup>0</sup> | 4 <sup>3</sup> | 5 <sup>3</sup> | h                         | 3 <sup>5</sup> | 4 <sup>2</sup> |   |         |                           |   |
| I       | 0 <sup>7</sup>            | 0 <sup>7</sup> | 1 <sup>1</sup> | 1 <sup>2</sup> | i                         | 1 <sup>1</sup> | 1 <sup>1</sup> |   |         |                           |   |
| J       | 3 <sup>0</sup>            | 3 <sup>6</sup> | 4 <sup>0</sup> | 5 <sup>0</sup> | j                         | 2 <sup>0</sup> | 2 <sup>2</sup> |   |         |                           |   |
| K       | 3 <sup>2</sup>            | 4 <sup>1</sup> | 4 <sup>3</sup> | 5 <sup>4</sup> | k                         | 3 <sup>5</sup> | 4 <sup>2</sup> |   |         |                           |   |
| L       | 3 <sup>0</sup>            | 3 <sup>5</sup> | 4 <sup>0</sup> | 4 <sup>7</sup> | l                         | 1 <sup>1</sup> | 1 <sup>1</sup> |   |         |                           |   |
| M       | 3 <sup>7</sup>            | 4 <sup>5</sup> | 5 <sup>1</sup> | 6 <sup>1</sup> | m                         | 6 <sup>0</sup> | 7 <sup>0</sup> |   |         |                           |   |
| N       | 3 <sup>2</sup>            | 4 <sup>0</sup> | 4 <sup>3</sup> | 5 <sup>3</sup> | n                         | 3 <sup>5</sup> | 4 <sup>2</sup> |   |         |                           |   |
| O       | 3 <sup>4</sup>            | 4 <sup>2</sup> | 4 <sup>5</sup> | 5 <sup>5</sup> | o                         | 3 <sup>6</sup> | 4 <sup>3</sup> |   |         |                           |   |
| P       | 3 <sup>2</sup>            | 4 <sup>0</sup> | 4 <sup>3</sup> | 5 <sup>3</sup> | p                         | 3 <sup>5</sup> | 4 <sup>2</sup> |   |         |                           |   |
| Q       | 3 <sup>4</sup>            | 4 <sup>2</sup> | 4 <sup>5</sup> | 5 <sup>5</sup> | q                         | 3 <sup>5</sup> | 4 <sup>2</sup> |   |         |                           |   |
| R       | 3 <sup>2</sup>            | 4 <sup>0</sup> | 4 <sup>3</sup> | 5 <sup>3</sup> | r                         | 2 <sup>6</sup> | 3 <sup>2</sup> |   |         |                           |   |
| S       | 3 <sup>2</sup>            | 4 <sup>0</sup> | 4 <sup>3</sup> | 5 <sup>3</sup> | s                         | 3 <sup>6</sup> | 4 <sup>2</sup> |   |         |                           |   |
| T       | 3 <sup>0</sup>            | 3 <sup>5</sup> | 4 <sup>0</sup> | 4 <sup>7</sup> | t                         | 2 <sup>7</sup> | 3 <sup>2</sup> |   |         |                           |   |
| U       | 3 <sup>2</sup>            | 4 <sup>0</sup> | 4 <sup>3</sup> | 5 <sup>3</sup> | u                         | 3 <sup>5</sup> | 4 <sup>2</sup> |   |         |                           |   |
| V       | 3 <sup>5</sup>            | 4 <sup>4</sup> | 4 <sup>7</sup> | 6 <sup>0</sup> | v                         | 4 <sup>2</sup> | 4 <sup>7</sup> |   |         |                           |   |
| W       | 4 <sup>4</sup>            | 5 <sup>2</sup> | 6 <sup>0</sup> | 7 <sup>0</sup> | w                         | 5 <sup>5</sup> | 6 <sup>4</sup> |   |         |                           |   |
| X       | 3 <sup>4</sup>            | 4 <sup>0</sup> | 4 <sup>5</sup> | 5 <sup>3</sup> | x                         | 4 <sup>4</sup> | 5 <sup>1</sup> |   |         |                           |   |
| Y       | 3 <sup>6</sup>            | 5 <sup>0</sup> | 5 <sup>0</sup> | 6 <sup>6</sup> | y                         | 4 <sup>6</sup> | 5 <sup>3</sup> |   |         |                           |   |
| Z       | 3 <sup>2</sup>            | 4 <sup>0</sup> | 4 <sup>3</sup> | 5 <sup>3</sup> | z                         | 3 <sup>6</sup> | 4 <sup>3</sup> |   |         |                           |   |

| NUMBER | 6 INCH SERIES  |                | 8 INCH SERIES  |                |
|--------|----------------|----------------|----------------|----------------|
|        | C              | D              | C              | D              |
| 1      | 1 <sup>2</sup> | 1 <sup>4</sup> | 1 <sup>5</sup> | 2 <sup>0</sup> |
| 2      | 3 <sup>2</sup> | 4 <sup>0</sup> | 4 <sup>3</sup> | 5 <sup>3</sup> |
| 3      | 3 <sup>2</sup> | 4 <sup>0</sup> | 4 <sup>3</sup> | 5 <sup>3</sup> |
| 4      | 3 <sup>5</sup> | 4 <sup>3</sup> | 4 <sup>7</sup> | 5 <sup>7</sup> |
| 5      | 3 <sup>2</sup> | 4 <sup>0</sup> | 4 <sup>3</sup> | 5 <sup>3</sup> |
| 6      | 3 <sup>2</sup> | 4 <sup>0</sup> |                |                |

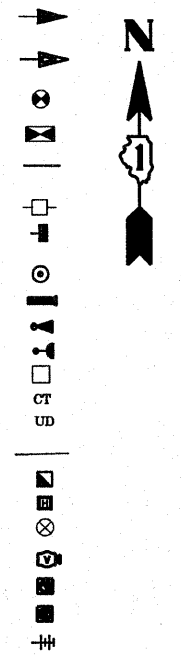
**EXISTING EQUIPMENT TO BE REMOVED LEGEND**

- EXISTING SIGNAL HEAD TO BE REMOVED
- EXISTING SERVICE INSTALLATION TO BE REMOVED
- EXISTING STREET LIGHT, FOUNDATION AND LUMINAIRE TO REMAIN
- EXISTING CONTROLLER TO BE REMOVED
- EXISTING HANDHOLE TO BE REMOVED
- EXISTING PEDESTRIAN SIGNAL HEAD TO BE REMOVED
- EXISTING PEDESTRIAN PUSH BUTTON TO BE REMOVED
- EMERGENCY VEHICLE LIGHT DETECTOR TO BE REMOVED
- CONFIRMATION BEACON TO BE REMOVED
- EXISTING HEAVY-DUTY HANDHOLE TO BE REMOVED
- EXISTING SIGNAL POST AND FOUNDATION TO BE REMOVED
- EXISTING ALUMINUM MAST ARM POLE AND FOUNDATION TO BE REMOVED
- EXISTING STEEL MAST ARM POLE AND FOUNDATION TO BE REMOVED



**TEMPORARY TRAFFIC SIGNAL LEGEND**

- TEMPORARY TRAFFIC SIGNAL HEAD
- SPAN WIRE MOUNTED ORIGINAL LOCATION
- TEMPORARY TRAFFIC SIGNAL HEAD
- SPAN WIRE MOUNTED SECONDARY LOCATION
- TEMPORARY WOOD POLE (CLASS 5 OR BETTER) 45 FOOT MINIMUM
- TEMPORARY CONTROLLER CABINET
- TEMPORARY SPAN WIRE, TETHER WIRE, AND CABLE
- TEMPORARY SERVICE INSTALLATION
- TEMPORARY PEDESTRIAN SIGNAL HEAD, BRACKET MOUNTED
- TEMPORARY PEDESTRIAN PUSHBUTTON DETECTOR
- MICROWAVE VEHICLE SENSOR
- EMERGENCY VEHICLE LIGHT DETECTOR
- CONFIRMATION BEACON
- VEHICLE DETECTOR, INDUCTION LOOP
- COMMON TRENCH
- UNIT DUCT
- G.S. CONDUIT IN TRENCH OR PUSHED
- HANDHOLE
- HEAVY-DUTY HANDHOLE
- EXISTING WOOD POLE
- VIDEO DETECTOR
- ILLUMINATED SIGN "NO LEFT TURN"
- ILLUMINATED SIGN "NO RIGHT TURN"
- WIRELESS INTERCONNECT (ANTENNA)



**CAUTION**  
WALK TIME SHORTENED WHEN TRAIN APPROACHES  
18" x 18"  
2 REQUIRED

**STOP HERE ON RED**  
R10-6  
24" x 36"  
1 REQUIRED

**STOP ON RED**  
R10-6  
24" x 36"  
1 REQUIRED

**DO NOT STOP ON TRACKS**  
R8-8  
24" x 36"  
3 REQUIRED

**NO TURN ON RED**  
R10-11  
24" x 36"  
1 REQUIRED

**CONSTRUCTION NOTES:**

- 1 CONDUIT SHALL BE PLACED MINIMUM OF 4" UNDER THE TRACKS

**NOTES FOR TEMPORARY TRAFFIC SIGNALS**

1. ALL CONTROL EQUIPMENT INCLUDING EMERGENCY PRE-EMPTION AND COMMUNICATION DEVICES FOR THE TEMPORARY TRAFFIC SIGNAL(S) SHALL BE FURNISHED BY THE CONTRACTOR.
2. ONLY CONTROLLERS SUPPLIED BY ONE OF THE DISTRICT APPROVED CLOSED LOOP EQUIPMENT MANUFACTURERS WILL BE APPROVED FOR USE AT TEMPORARY SIGNAL LOCATIONS. ALL CONTROLLERS USED FOR TEMPORARY TRAFFIC SIGNALS SHALL BE FULLY ACTUATED NEMA MICROPROCESSOR BASED WITH RS232 DATA ENTRY PORTS COMPATIBLE WITH EXISTING MONITORING SOFTWARE APPROVED BY IDOT DISTRICT 1, INSTALLED IN A NEMA TS1 OR TS2 CABINET. ONLY ONE BRAND OF CONTROLLER WILL BE ACCEPTED FOR ANY ONE CONTRACT.
3. ALL TRAFFIC SIGNAL SECTIONS AND PEDESTRIAN SIGNAL SECTIONS SHALL BE 12". HEADS SHALL BE PLACED AS INDICATED ON THE TEMPORARY TRAFFIC SIGNAL PLAN OR AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL FURNISH ENOUGH CABLE SLACK TO RELOCATE HEADS TO ANY POSITION ON THE SPAN WIRE OR AT LOCATIONS ILLUSTRATED ON THE PLANS FOR CONSTRUCTION STAGING. THE TEMPORARY TRAFFIC SIGNAL SHALL REMAIN IN OPERATION DURING ALL SIGNAL HEAD RELOCATIONS. EACH TEMPORARY TRAFFIC SIGNAL HEAD SHALL HAVE ITS OWN CABLE FROM THE CONTROLLER CABINET TO THE SIGNAL HEAD.
4. ALL EXISTING STREET NAME AND INTERSECTION REGULATORY SIGNS SHALL BE REMOVED FROM EXISTING POLES, RELOCATED AND SECURELY FASTENED TO THE SIGNAL SPAN WIRE OR WOOD POLE AS DIRECTED BY THE ENGINEER.
5. ANY TEMPORARY SIGNAL WITHIN AN EXISTING CLOSED LOOP TRAFFIC SIGNAL SYSTEM SHALL BE INTERCONNECTED TO THAT SYSTEM USING SIMILAR BRAND CONTROL EQUIPMENT.
6. THE TEMPORARY TRAFFIC SIGNAL SHALL HAVE THE SIGNAL HEAD DISPLAYS, SIGNAL HEAD PLACEMENTS AND CONTROLLER PHASING MATCH THE EXISTING TRAFFIC SIGNAL, AT THE TIME OF THE TURN ON, IF NO TRAFFIC STAGING IS IN PLACE OR WILL NOT BE STAGED ON THE DAY OF THE TURN ON.

TEMPORARY WIRELESS INTERCONNECT ANTENNA  
SEE WIRELESS INTERCONNECT SCHEMATIC SHEET 1 OF 2  
MODEL: YAGI 4 ELEMENT 8dBi 890-960 MHz

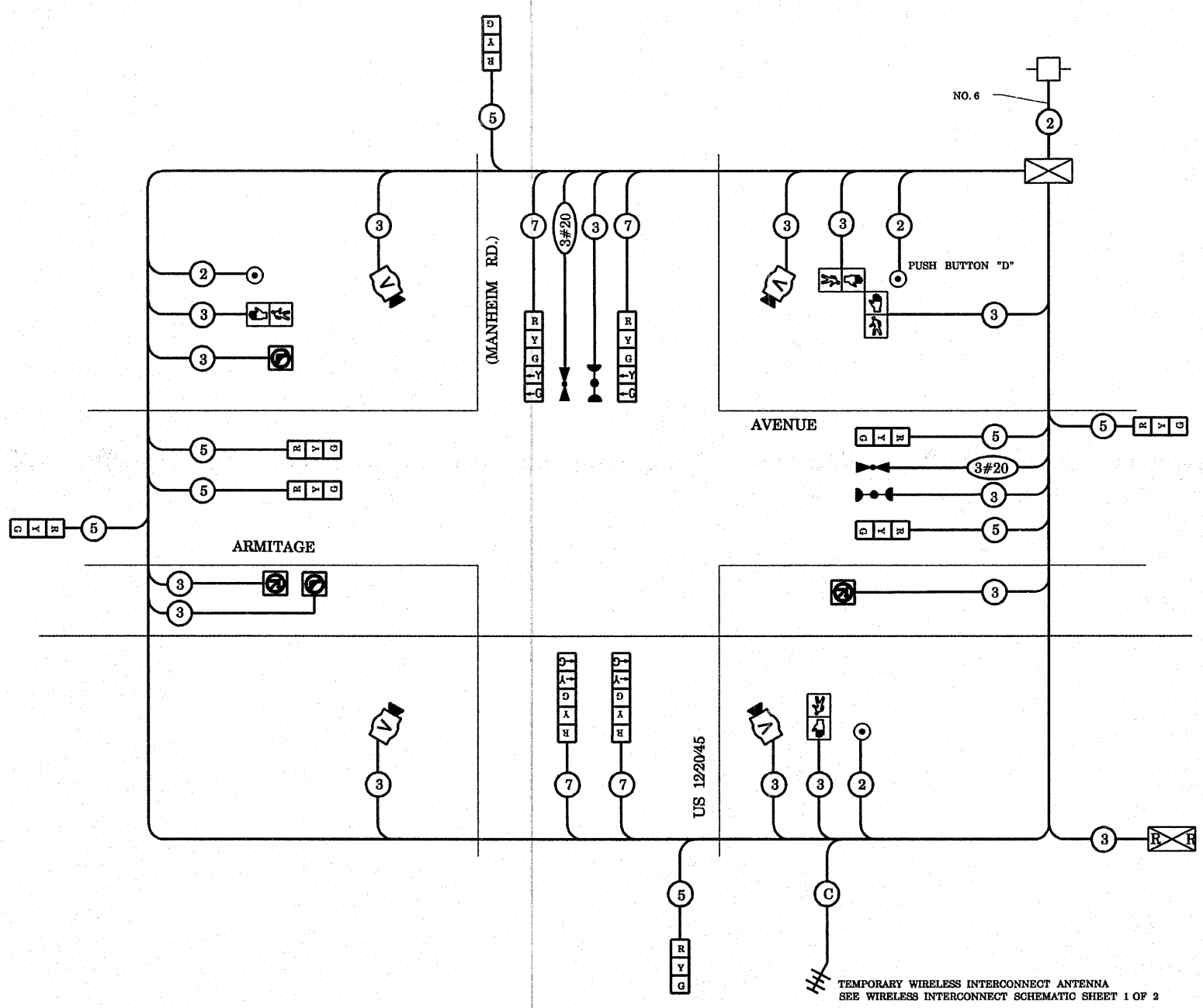
**NOTE:**  
TEMPORARY WIRELESS INTERCONNECT IS INCLUDED IN TEMPORARY TRAFFIC SIGNAL INSTALLATION PAY ITEM.

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 1 EACH CONTROLLER AND TYPE IV CABINET
- 4 EACH TRAFFIC SIGNAL BACKPLATE
- 4 EACH SIGNAL HEAD, 1-FACE, 3-SECTION
- 2 EACH SIGNAL HEAD, 1-FACE, 5-SECTION
- 2 EACH SIGNAL HEAD, 2-FACE, 3-SECTION
- 1 EACH SIGNAL HEAD, 2-FACE, 1-3 SECTION
- 4 EACH TRAFFIC SIGNAL POST
- 4 EACH MAST ARM, ALUMINUM
- 4 EACH PEDESTRIAN PUSH-BUTTON
- 4 EACH ILLUMINATED SIGN, FIBER OPTIC
- 4 EACH PEDESTRIAN SIGNAL HEAD
- 1 EACH SERVICE INSTALLATION

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 SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 262 AND 260 RESPECTIVELY.

|   |                           |                   |           |   |   |                           |                           |        |              |           |  |
|---|---------------------------|-------------------|-----------|---|---|---------------------------|---------------------------|--------|--------------|-----------|--|
| FILE NAME -                             | USER NAME - kenthaphxeybc | DESIGNED - N.B.   | REVISED - | <b>STATE OF ILLINOIS<br/>DEPARTMENT OF TRANSPORTATION</b> | <b>TEMPORARY TRAFFIC SIGNAL AND REMOVAL PLAN<br/>US 122045 (MANNHEIM ROAD) AT ARMITAGE AVENUE</b> | F.A.P. RTE.               | SECTION                   | COUNTY | TOTAL SHEETS | SHEET NO. |  |
| PROJECTS\traffic\1070027\us12_20_45.dgn |                           | DRAWN - N.B.      | REVISED - |   |   | 330                       | 2008-006 TS               | COOK   | 104          | 27        |  |
| PLOT SCALE = 48.0000' / IN.             |                           | CHECKED - D.B.    | REVISED - |   |   | <b>CONTRACT NO. 60E31</b> |                           |        |              |           |  |
| PLOT DATE = 10/10/2008                  |                           | DATE - 09/04/2008 | REVISED - |   |   | FED. ROAD DIST. NO.       | ILLINOIS FED. AID PROJECT |        |              |           |  |



- TEMPORARY CABLE DIAGRAM LEGEND**
- TEMPORARY TRAFFIC SIGNAL SECTION OR PEDESTRIAN SIGNAL SECTION, 12" (300 mm)
  - TEMPORARY CONTROLLER CABINET
  - TEMPORARY SERVICE INSTALLATION
  - INDICATES NUMBER OF CONDUCTORS IN CABLE. ALL CONDUCTORS TO BE NUMBERED 14 AWG WIRE UNLESS OTHERWISE NOTED.
  - EMERGENCY VEHICLE LIGHT DETECTOR
  - CONFIRMATION BEACON
  - PEDESTRIAN PUSHBUTTON DETECTOR
  - VEHICLE DETECTOR, INDUCTION LOOP
  - 12" (300 mm) PEDESTRIAN SIGNAL SECTION
  - MICROWAVE VEHICLE SENSOR
  - VIDEO DETECTOR
  - WIRELESS INTERCONNECT (ANTENNA)

\* TEMPORARY WIRELESS INTERCONNECT IS INCLUDED IN TEMPORARY TRAFFIC SIGNAL INSTALLATION PAY ITEM

TEMPORARY WIRELESS INTERCONNECT ANTENNA  
SEE WIRELESS INTERCONNECT SCHEMATIC SHEET 1 OF 2

**TEMPORARY CABLE PLAN**

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

NOTE:  
PUSHBUTTON "D" SHALL PLACE A CALL IN PHASES 2 AND 8

| LD.O.T.<br>TRAFFIC SIGNAL INSTALLATION<br>ELECTRICAL SERVICE REQUIREMENTS |           |         |     |             | TOTAL<br>WATTAGE |
|---|-----------|---------|-----|-------------|------------------|
| TYPE  | NO. LAMPS | WATTAGE |     | % OPERATION |                  |
|   |           | INCAND. | LED |             |                  |
| SIGNAL (RED)  | 12        |         | 17  | 0.50        | 102.00           |
| (YELLOW)  | 12        |         | 25  | 0.25        | 75.00            |
| (GREEN)   | 12        |         | 15  | 0.25        | 45.00            |
| ARROW   |           |         | 12  | 0.10        |                  |
| PED. SIGNAL   | 4         |         | 25  | 1.00        | 100.00           |
| CONTROLLER  | 1         |         | 100 | 1.00        | 100.00           |
| ILLUM. SIGN   | 3         |         |     | 0.05        | 0.15             |
| FLASHER   |           |         |     | 0.05        |                  |
| ENERGY COSTS TO:  |           |         |     |             | TOTAL = 422.15   |
| VILLAGE OF MELROSE PARK<br>1000 N. 29TH AVENUE<br>MELROSE PARK, IL 60160  |           |         |     |             |                  |
| ENERGY SUPPLY CONTACT: MR. MIKE BELL                                      |           |         |     |             |                  |
| PHONE: (708) 410-5314   |           |         |     |             |                  |
| COMPANY: COMED  |           |         |     |             |                  |

FILE NAME =  
ci:\projects\traffic\1070027\us12\_20\_45.dgn  
USER NAME = kenthaphixaybc  
PLOT SCALE = 48.0000 / IN.  
PLOT DATE = 10/10/2008

DESIGNED - N.B.  
DRAWN - N.B.  
CHECKED - D.B.  
DATE - 09/04/2008  
REVISED -  
REVISED -  
REVISED -  
REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TEMPORARY CABLE PLAN**  
US 122045 (MANNHEIM ROAD) AT ARMITAGE AVENUE  
SCALE: NTS SHEET NO. OF SHEETS STA. TO STA.

| F.A.P. RTE.                                   | SECTION     | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|-------------|--------|--------------|-----------|
| 330   | 2008-006 TS | COOK   | 104          | 28        |
| CONTRACT NO. 60E31                            |             |        |              |           |
| FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT |             |        |              |           |

**SEQUENCE OF OPERATION**

| MOVEMENT   | 1     |     | 6 1   |     | 5 2   |     | 6 2   |    | 4 8   |    | F  |     |     |    |    |     |     |     |     |
|--|-------|-----|-------|-----|-------|-----|-------|----|-------|----|----|-----|-----|----|----|-----|-----|-----|-----|
| PHASE  | 1 + 5 |     | 1 + 6 |     | 2 + 5 |     | 2 + 6 |    | 4 + 8 |    | L  |     |     |    |    |     |     |     |     |
| INTERVAL   | 1     | 2   | 3     | 4   | 5     | 6   | 7     | 8  | 9     | 10 | 11 | 12A | 12B | 13 | 14 | 15A | 15B |     |     |
| CHANGE TO  |       | 1+6 | 2+5   | 2+6 |       | 2+6 | φ     | φ  | 2+6   |    |    |     |     |    |    | 1+5 | 1+6 | 2+5 | 2+6 |
| U.S. RTE 12-45 (MANNHEIM RD.) NEAR RIGHT AND FAR RIGHT SPAN WIRE SIGNALS                 | N/B   | R   | R     | R   | R     | R   | R     | G  | G     | G  | G  | Y   | R   | R  | R  | R   | R   | R   |     |
| U.S. RTE 12-45 (MANNHEIM RD.) FAR LEFT SPAN WIRE SIGNALS                                 | N/B   | R   | R     | R   | R     | R   | R     | G  | G     | G  | G  | Y   | R   | R  | R  | R   | R   | R   |     |
| U.S. RTE 12-45 (MANNHEIM RD.) NEAR RIGHT AND FAR RIGHT SPAN WIRE SIGNALS                 | S/B   | R   | R     | R   | R     | G   | G     | R  | R     | R  | G  | G   | Y   | R  | R  | R   | R   | R   |     |
| U.S. RTE 12-45 (MANNHEIM RD.) FAR LEFT SPAN WIRE SIGNALS                                 | S/B   | R   | R     | R   | R     | G   | G     | R  | R     | R  | G  | G   | Y   | R  | R  | R   | R   | R   |     |
| ARMITAGE AVENUE ALL SIGNALS  | E/B   | R   | R     | R   | R     | R   | R     | R  | R     | R  | R  | R   | R   | R  | G  | G   | Y   | R   | R   |
| ARMITAGE AVENUE ALL SIGNALS  | W/B   | R   | R     | R   | R     | R   | R     | R  | R     | R  | R  | R   | R   | R  | G  | G   | Y   | R   | R   |
| PEDESTRIAN SIGNALS CROSSING U.S. RTE 12-45 (MANNHEIM RD.) ON NORTH SIDE OF ARMITAGE AVE. | H     | H   | H     | H   | H     | H   | H     | H  | H     | H  | H  | H   | H   | H  | *P | *FH | H   | H   | D   |
| PEDESTRIAN SIGNALS CROSSING ARMITAGE AVE. ON EAST SIDE OF U.S. RTE 12-45 (MANNHEIM RD.)  | H     | H   | H     | H   | H     | H   | H     | *P | *FH   | H  | *P | *FH | H   | H  | H  | H   | H   | H   | R   |

\* TO APPEAR ONLY UPON PUSHBUTTON ACTUATION

\*\* FLASHING "P" IS TO TERMINATE AT THE COMPLETION OF THE PEDESTRIAN INTERVAL CLEARANCE.

φ THIS "G" OR FLASHING "P" INTERVAL MAY FINISH TIMING IN THE BIDIRECTIONAL STRAIGHT THROUGH MOVEMENT IF THE LEFT ARROW TIME IS NOT SUFFICIENT TO COMPLETE "G" OR FLASHING "P" INTERVALS.

P = ILLUMINATED PERSON = WALK  
 FH = ILLUMINATED FLASHING HAND = FLASHING DON'T WALK  
 H = ILLUMINATED SOLID HAND = DON'T WALK

PHASE 2+6 SHALL BE PLACED ON RECALL.

**RAILROAD PREEMPTION SEQUENCE OF OPERATION**

| CHANGE FROM NORMAL SEQUENCE OF OPERATION INTERVAL NUMBER                                 | 1   | 5   | 7   | 10  | 13  | PREEMPTOR NUMBER 3 | PREEMPTOR NUMBER 4 | PREEMPTOR NUMBER 2 |     |     |     |     |     |     |     |     |                          |   |
|--|-----|-----|-----|-----|-----|--------------------|--------------------|--------------------|-----|-----|-----|-----|-----|-----|-----|-----|--------------------------|---|
| CHANGE FROM EMERGENCY VEHICLE PREEMPTION SEQUENCE OF OPERATION INTERVAL NUMBER           |     |     |     |     |     | 2                  | 3                  |                    |     |     |     |     |     |     |     |     |                          |   |
| RAILROAD PREEMPTION SEQUENCE OF OPERATION INTERVAL NUMBER                                | 1A  | 1B  | 1C  | 1D  | 1E  | 1F                 | 1G                 | 1H                 | 1J  | 1K  | 1L  | 1M  | 2   | 3   | 4   | 5   | CLEAR TO NORMAL SEQUENCE |   |
| CHANGE TO RAILROAD PREEMPTION SEQUENCE OF OPERATION INTERVAL NUMBER                      | 2   | 1C  | 2   | 2   | 1F  | 2                  | 1H                 | 2                  | 1K  | 2   | 1M  | 2   | 3   | 4   | 5   |     |                          |   |
| U.S. RTE 12-45 (MANNHEIM RD.) NEAR RIGHT AND FAR RIGHT SPAN WIRE SIGNALS                 | N/B | R   | R   | R   | G   | G                  | G                  | R                  | R   | G   | G   | R   | R   | G   | Y   | R   | R                        | Δ |
| U.S. RTE 12-45 (MANNHEIM RD.) FAR LEFT SPAN WIRE SIGNALS                                 | N/B | R   | R   | R   | G   | G                  | G                  | R                  | R   | G   | G   | R   | R   | G   | Y   | R   | R                        | Δ |
| U.S. RTE 12-45 (MANNHEIM RD.) NEAR RIGHT AND FAR RIGHT SPAN WIRE SIGNALS                 | S/B | R   | Y   | R   | R   | Y                  | R                  | R                  | R   | Y   | R   | R   | R   | R   | R   | R   | R                        | Δ |
| U.S. RTE 12-45 (MANNHEIM RD.) FAR LEFT SPAN WIRE SIGNALS                                 | S/B | R   | Y   | R   | R   | Y                  | R                  | R                  | R   | Y   | R   | R   | R   | R   | R   | R   | R                        | Δ |
| ARMITAGE AVENUE ALL SIGNALS  | E/B | R   | R   | R   | R   | R                  | Y                  | R                  | R   | R   | Y   | R   | R   | R   | R   | R   | G                        | Δ |
| ARMITAGE AVENUE ALL SIGNALS  | W/B | R   | R   | R   | R   | R                  | Y                  | R                  | R   | R   | Y   | R   | R   | R   | R   | R   | G                        | Δ |
| PEDESTRIAN SIGNALS CROSSING U.S. RTE 12-45 (MANNHEIM RD.) ON NORTH SIDE OF ARMITAGE AVE. | H   | H   | H   | H   | H   | H                  | FH                 | H                  | H   | H   | H   | H   | H   | H   | H   | H   | H                        | Δ |
| PEDESTRIAN SIGNALS CROSSING ARMITAGE AVE. ON EAST SIDE OF U.S. RTE 12-45 (MANNHEIM RD.)  | H   | H   | H   | H   | FH  | FH                 | H                  | H                  | H   | H   | H   | H   | H   | H   | H   | H   | H                        | Δ |
| INTERNALLY ILLUMINATED NRT SIGNS   | NRT | NRT | NRT | NRT | NRT | NRT                | NRT                | NRT                | NRT | NRT | NRT | NRT | NRT | NRT | NRT | NRT | NRT                      | Δ |
| INTERNALLY ILLUMINATED NLT SIGNS   | NLT | NLT | NLT | NLT | NLT | NLT                | NLT                | NLT                | NLT | NLT | NLT | NLT | NLT | NLT | NLT | NLT | NLT                      | Δ |

Δ RAILROAD PREEMPTION SEQUENCE SHALL PROVIDE THE PROPER CLEARANCE INTERVAL TO RESUME THE NORMAL SEQUENCE OF OPERATION OR PROPER CLEARANCE INTERVAL TO DISPLAY AN EMERGENCY VEHICLE INTERVAL (IF APPLICABLE) AFTER RAILROAD PREEMPTION INTERVAL 5 IS TERMINATED.

**EMERGENCY VEHICLE PREEMPTION SEQUENCE OF OPERATION**

| CHANGE FROM NORMAL SEQUENCE OF OPERATION INTERVAL NUMBER                                 | 1   | 5  | 5  | 7  | 7  | 10 | 10 | 13 | 13 | PREEMPTOR NUMBER 3 | PREEMPTOR NUMBER 4 | CLEAR TO NORMAL SEQUENCE |    |    |    |    |    |    |   |   |   |
|--|-----|----|----|----|----|----|----|----|----|--------------------|--------------------|--------------------------|----|----|----|----|----|----|---|---|---|
| EMERGENCY VEHICLE PREEMPTION SEQUENCE OF OPERATION INTERVAL NUMBER                       | 1A  | 1B | 1C | 1D | 1E | 1F | 1G | 1H | 1J | 1K                 | 1L                 | 1M                       | 1N | 1P | 1Q | 1R | 1S | 2  | 3 |   |   |
| CHANGE TO EMERGENCY VEHICLE PREEMPTION SEQUENCE OF OPERATION INTERVAL NUMBER             | 2   | 2  | 1D | 3  | 1F | 2  | 1H | 1J | 3  | 2                  | 1M                 | 1N                       | 3  | 1Q | 1R | 2  | 3  |    |   | ◇ |   |
| U.S. RTE 12-45 (MANNHEIM RD.) NEAR RIGHT AND FAR RIGHT SPAN WIRE SIGNALS                 | N/B | R  | R  | R  | R  | G  | G  | G  | Y  | R                  | G                  | G                        | Y  | R  | R  | R  | R  | R  | G | R | ◇ |
| U.S. RTE 12-45 (MANNHEIM RD.) FAR LEFT SPAN WIRE SIGNALS                                 | N/B | R  | R  | R  | R  | G  | G  | G  | Y  | R                  | G                  | G                        | Y  | R  | R  | R  | R  | R  | G | R | ◇ |
| U.S. RTE 12-45 (MANNHEIM RD.) NEAR RIGHT AND FAR RIGHT SPAN WIRE SIGNALS                 | S/B | R  | G  | Y  | R  | R  | R  | R  | R  | G                  | G                  | Y                        | R  | R  | R  | R  | R  | R  | G | R | ◇ |
| U.S. RTE 12-45 (MANNHEIM RD.) FAR LEFT SPAN WIRE SIGNALS                                 | S/B | R  | G  | Y  | R  | R  | R  | R  | R  | G                  | G                  | Y                        | R  | R  | R  | R  | R  | R  | G | R | ◇ |
| ARMITAGE AVENUE ALL SIGNALS  | E/B | R  | R  | R  | R  | R  | R  | R  | R  | R                  | R                  | R                        | R  | R  | G  | Y  | R  | G  | R | G | ◇ |
| ARMITAGE AVENUE ALL SIGNALS  | W/B | R  | R  | R  | R  | R  | R  | R  | R  | R                  | R                  | R                        | R  | R  | G  | Y  | R  | G  | R | G | ◇ |
| PEDESTRIAN SIGNALS CROSSING U.S. RTE 12-45 (MANNHEIM RD.) ON NORTH SIDE OF ARMITAGE AVE. | H   | H  | H  | H  | H  | H  | H  | H  | H  | H                  | H                  | H                        | H  | H  | FH | H  | H  | FH | H | H | ◇ |
| PEDESTRIAN SIGNALS CROSSING ARMITAGE AVE. ON EAST SIDE OF U.S. RTE 12-45 (MANNHEIM RD.)  | H   | H  | H  | H  | FH | FH | H  | H  | FH | FH                 | H                  | H                        | H  | H  | H  | H  | H  | H  | H | H | ◇ |

◇ EMERGENCY VEHICLE SEQUENCE SHALL PROVIDE THE PROPER CLEARANCE INTERVAL TO RESUME THE NORMAL SEQUENCE OF OPERATION OR PROPER CLEARANCE INTERVAL TO DISPLAY A DIFFERENT EMERGENCY VEHICLE INTERVAL AFTER EMERGENCY VEHICLE INTERVAL 2 OR 3 IS TERMINATED.

|   |                            |                 |           |
|---|----------------------------|-----------------|-----------|
| FILE NAME =                               | USER NAME = kanthaphixaybo | DESIGNED - N.B. | REVISED - |
| ca\projects\traffic\070027\us12_20_45.dgn |                            | DRAWN - N.B.    | REVISED - |
| PLOT SCALE = 40.0000 ' / IN.              | CHECKED - D.B.             |                 | REVISED - |
| PLOT DATE = 10/10/2008                    | DATE = 09/04/2008          |                 | REVISED - |

**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**

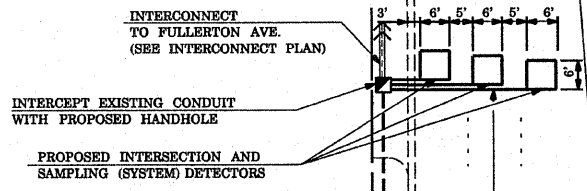
|  |                     |              |  |
|--|---------------------|--------------|--|
| TEMPORARY SEQUENCE OF OPERATION, RAILROAD PREEMPTION SEQUENCE, AND EMERGENCY VEHICLE PREEMPTION SEQUENCE |                     |              |  |
| US 12/20/45 (MANNHEIM RD.) AT ARMITAGE AVENUE  |                     |              |  |
| SCALE: N.T.S.  | SHEET NO. OF SHEETS | STA. TO STA. |  |

|   |                     |             |                    |              |
|---|---------------------|-------------|--------------------|--------------|
| F.A.P. RTE. 330                               | SECTION 2008-006 TS | COUNTY COOK | TOTAL SHEETS 104   | SHEET NO. 29 |
| FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT |                     |             | CONTRACT NO. 60E31 |              |

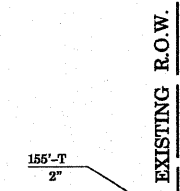
MATCH LINE A-A

|                                  |                                  |                                 |                                   |   |
|----------------------------------|----------------------------------|---------------------------------|-----------------------------------|---|
|                                  |                                  |                                 |                                   |   |
| R10-6<br>24" x 36"<br>1 REQUIRED | R10-6<br>24" x 36"<br>1 REQUIRED | R8-8<br>24" x 36"<br>3 REQUIRED | R10-11<br>24" x 36"<br>1 REQUIRED | CAUTION<br>WALK TIME SHORTENED WHEN TRAIN APPROACHES<br>18" x 18"<br>2 REQUIRED |

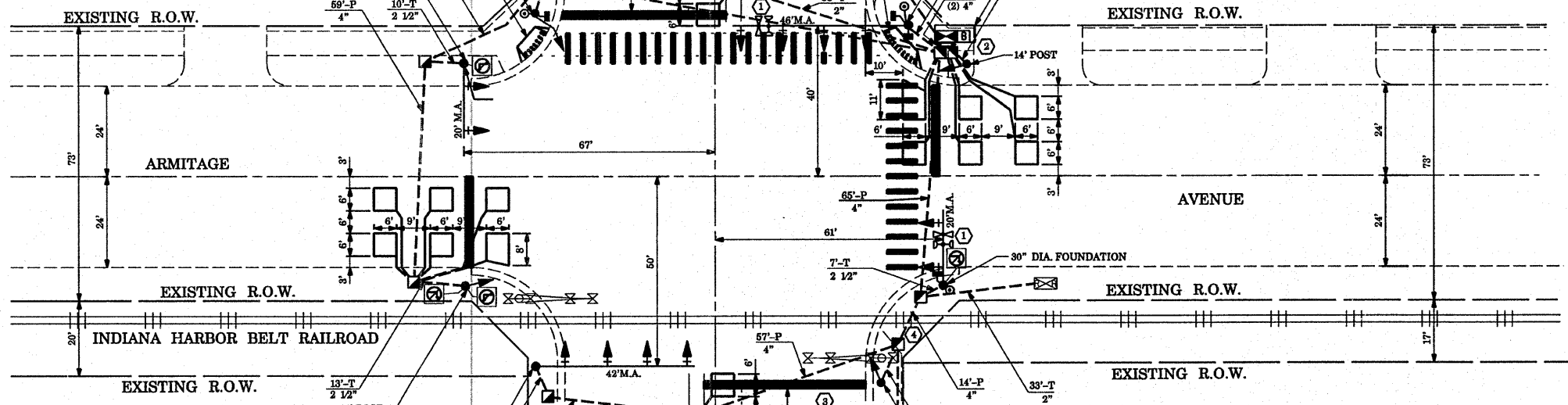
RESTORATION OF WORK AREA RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT, ETC. SHALL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



US 12/20/45 (MANNHEIM ROAD)  
EXISTING R.O.W.



MATCH LINE A-A



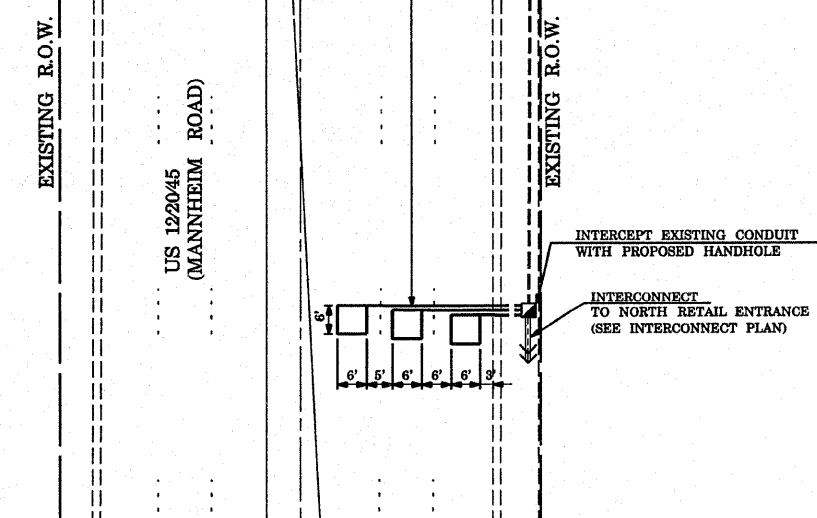
**TRAFFIC SIGNAL LEGEND**

|  | PROPOSED | EXISTING |
|--|----------|----------|
| CONTROLLER   |          |          |
| RAILROAD CONTROL CABINET                             |          |          |
| SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNTED |          |          |
| SIGNAL HEAD  |          |          |
| SIGNAL HEAD WITH BACKPLATE                           |          |          |
| SIGNAL HEAD, PEDESTRIAN                              |          |          |
| SIGNAL POST  |          |          |
| MAST ARM ASSEMBLY AND POLE, STEEL                    |          |          |
| MAST ARM ASSEMBLY AND POLE, ALUMINIUM                |          |          |
| COMMON TRENCH  |          |          |
| UNIT DUCT  |          |          |
| HANDHOLE   |          |          |
| HEAVY DUTY HANDHOLE                                  |          |          |
| DOUBLE HANDHOLE                                      |          |          |
| G.S.CONDUIT IN TRENCH OR PUSHED                      |          |          |
| CAST IRON JUNCTION BOX                               |          |          |
| SIGNAL HEAD OPTICALLY PROGRAMMED                     |          |          |
| CONDUIT SPLICE                                       |          |          |
| WOOD POLE  |          |          |
| RACEWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II     |          |          |
| VEHICLE DETECTOR, NON COMPENSATED MAGNETIC TYPE      |          |          |
| RAILROAD CONTROL CABINET                             |          |          |
| ILLUMINATED SIGN, FIBER OPTIC "NO LEFT TURN"         |          |          |
| ILLUMINATED SIGN, FIBER OPTIC "NO RIGHT TURN"        |          |          |
| TELEPHONE CONNECTION                                 |          |          |
| PEDESTRIAN PUSHBUTTON DETECTOR                       |          |          |
| DETECTOR LOOP, TYPE I                                |          |          |
| PREFORMED DETECTOR LOOP                              |          |          |
| VIDEO DETECTOR                                       |          |          |
| CLOSED CIRCUIT TV                                    |          |          |
| EMERGENCY VEHICLE SYSTEM DETECTOR                    |          |          |
| CONFIRMATION BEACON                                  |          |          |
| UNINTERRUPTIBLE POWER SUPPLY                         |          |          |

- CONSTRUCTION NOTES:**
- RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, DETECTOR UNIT AND CONFIRMATION BEACON TO NEW MAST ARM.
  - RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, PHASING UNIT TO NEW TRAFFIC SIGNAL CONTROLLER.
  - RE-STRIPE EXISTING THERMOPLASTIC PAVEMENT MARKING STOP LINE WITH HIGH VISIBILITY THERMOPLASTIC PAVEMENT MARKING STOP LINE 24" (TYP.)
  - CONDUIT SHALL BE PLACED MINIMUM OF 4" UNDER THE TRACKS

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

MATCH LINE B-B



MATCH LINE B-B





**SEQUENCE OF OPERATION**

| MOVEMENT   | 1     |     | 6 1   |     | 5 2   |     | 6 2   |     | 4 8   |     | F   |     |     |     |     |     |     |
|--|-------|-----|-------|-----|-------|-----|-------|-----|-------|-----|-----|-----|-----|-----|-----|-----|-----|
| PHASE  | 1 + 5 |     | 1 + 6 |     | 2 + 5 |     | 2 + 6 |     | 4 + 8 |     | L   |     |     |     |     |     |     |
| INTERVAL   | 1     | 2   | 3     | 4   | 5     | 6   | 7     | 8   | 9     | 10  | 11  | 12A | 12B | 13  | 14  | 15A | 15B |
| CHANGE TO  |       | 1+6 | 2+5   | 2+6 | 2+6   | 2+6 | 2+6   | 2+6 | 2+6   | 4+8 | 4+8 | 1+5 | 1+6 | 2+5 | 2+6 |     |     |
| U.S. RTE 12-45 (MANNHEIM RD.) FAR RIGHT AND RIGHT MAST ARM SIGNALS                       | N/B   | R   | R     | R   | R     | R   | G     | G   | G     | G   | G   | Y   | R   | R   | R   | R   | R   |
| U.S. RTE 12-45 (MANNHEIM RD.) FAR LEFT AND END MAST ARM SIGNALS                          | N/B   | R   | R     | R   | R     | R   | G     | G   | G     | G   | G   | Y   | R   | R   | R   | R   | R   |
| U.S. RTE 12-45 (MANNHEIM RD.) FAR RIGHT AND RIGHT MAST ARM SIGNALS                       | S/B   | R   | R     | R   | R     | G   | G     | R   | R     | R   | G   | G   | Y   | R   | R   | R   | R   |
| U.S. RTE 12-45 (MANNHEIM RD.) FAR LEFT AND END MAST ARM SIGNALS                          | S/B   | R   | R     | R   | R     | G   | G     | R   | R     | R   | G   | G   | Y   | R   | R   | R   | R   |
| ARMITAGE AVENUE ALL SIGNALS  | E/B   | R   | R     | R   | R     | R   | R     | R   | R     | R   | R   | R   | R   | R   | G   | G   | Y   |
| ARMITAGE AVENUE ALL SIGNALS  | W/B   | R   | R     | R   | R     | R   | R     | R   | R     | R   | R   | R   | R   | R   | G   | G   | Y   |
| PEDESTRIAN SIGNALS CROSSING U.S. RTE 12-45 (MANNHEIM RD.) ON NORTH SIDE OF ARMITAGE AVE. |       | H   | H     | H   | H     | H   | H     | H   | H     | H   | H   | H   | H   | *P  | *FH | H   | H   |
| PEDESTRIAN SIGNALS CROSSING ARMITAGE AVE. ON EAST SIDE OF U.S. RTE 12-45 (MANNHEIM RD.)  |       | H   | H     | H   | H     | H   | H     | *P  | *FH   | H   | *P  | *FH | H   | H   | H   | H   | H   |

\* TO APPEAR ONLY UPON PUSHBUTTON ACTUATION

\*\* FLASHING "FH" IS TO TERMINATE AT THE COMPLETION OF THE PEDESTRIAN INTERVAL CLEARANCE.

⊕ THIS "FH" OR FLASHING "FH" INTERVAL MAY FINISH TIMING IN THE BIDIRECTIONAL STRAIGHT THROUGH MOVEMENT IF THE LEFT ARROW TIME IS NOT SUFFICIENT TO COMPLETE "FH" OR FLASHING "FH" INTERVALS.

P = ILLUMINATED PERSON = WALK  
 FH = ILLUMINATED FLASHING HAND = FLASHING DON'T WALK  
 H = ILLUMINATED SOLID HAND = DON'T WALK

PHASE 2+6 SHALL BE PLACED ON RECALL.

**RAILROAD PREEMPTION SEQUENCE OF OPERATION**

| CHANGE FROM NORMAL SEQUENCE OF OPERATION INTERVAL NUMBER                                 | 1   | 5   | 7   | 10  | 13  | PREEMPTOR NUMBER 3 | PREEMPTOR NUMBER 4 | PREEMPTOR NUMBER 2 |     |     |     |     |     |     |     |     |                          |
|--|-----|-----|-----|-----|-----|--------------------|--------------------|--------------------|-----|-----|-----|-----|-----|-----|-----|-----|--------------------------|
| CHANGE FROM EMERGENCY VEHICLE PREEMPTION SEQUENCE OF OPERATION INTERVAL NUMBER           |     |     |     |     |     | 2                  | 3                  |                    |     |     |     |     |     |     |     |     |                          |
| RAILROAD PREEMPTION SEQUENCE OF OPERATION INTERVAL NUMBER                                | 1A  | 1B  | 1C  | 1D  | 1E  | 1F                 | 1G                 | 1H                 | 1J  | 1K  | 1L  | 1M  | 2   | 3   | 4   | 5   | CLEAR TO NORMAL SEQUENCE |
| CHANGE TO RAILROAD PREEMPTION SEQUENCE OF OPERATION INTERVAL NUMBER                      | 2   | 1C  | 2   | 2   | 1F  | 2                  | 1H                 | 2                  | 1K  | 2   | 1M  | 2   | 3   | 4   | 5   |     |                          |
| U.S. RTE 12-45 (MANNHEIM RD.) FAR RIGHT AND RIGHT MAST ARM SIGNALS                       | N/B | R   | R   | R   | G   | G                  | G                  | R                  | R   | G   | G   | R   | R   | G   | Y   | R   | R                        |
| U.S. RTE 12-45 (MANNHEIM RD.) FAR LEFT AND END MAST ARM SIGNALS                          | N/B | R   | R   | R   | G   | G                  | G                  | R                  | R   | G   | G   | R   | R   | G   | Y   | R   | R                        |
| U.S. RTE 12-45 (MANNHEIM RD.) FAR RIGHT AND RIGHT MAST ARM SIGNALS                       | S/B | R   | Y   | R   | R   | Y                  | R                  | R                  | R   | Y   | R   | R   | R   | R   | R   | R   | R                        |
| U.S. RTE 12-45 (MANNHEIM RD.) FAR LEFT AND END MAST ARM SIGNALS                          | S/B | R   | Y   | R   | R   | Y                  | R                  | R                  | R   | Y   | R   | R   | R   | R   | R   | R   | R                        |
| ARMITAGE AVENUE ALL SIGNALS  | E/B | R   | R   | R   | R   | R                  | Y                  | R                  | R   | R   | Y   | R   | R   | R   | R   | R   | G                        |
| ARMITAGE AVENUE ALL SIGNALS  | W/B | R   | R   | R   | R   | R                  | Y                  | R                  | R   | R   | Y   | R   | R   | R   | R   | R   | G                        |
| PEDESTRIAN SIGNALS CROSSING U.S. RTE 12-45 (MANNHEIM RD.) ON NORTH SIDE OF ARMITAGE AVE. |     | H   | H   | H   | H   | H                  | FH                 | H                  | H   | H   | H   | H   | H   | H   | H   | H   | H                        |
| PEDESTRIAN SIGNALS CROSSING ARMITAGE AVE. ON EAST SIDE OF U.S. RTE 12-45 (MANNHEIM RD.)  |     | H   | H   | H   | FH  | FH                 | H                  | H                  | H   | H   | H   | H   | H   | H   | H   | H   | H                        |
| INTERNALLY ILLUMINATED NRT SIGNS   | NRT | NRT | NRT | NRT | NRT | NRT                | NRT                | NRT                | NRT | NRT | NRT | NRT | NRT | NRT | NRT | NRT | NRT                      |
| INTERNALLY ILLUMINATED NLT SIGNS   | NLT | NLT | NLT | NLT | NLT | NLT                | NLT                | NLT                | NLT | NLT | NLT | NLT | NLT | NLT | NLT | NLT | NLT                      |

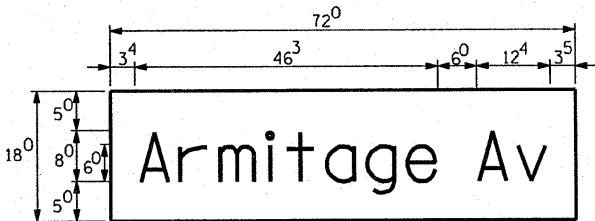
△ RAILROAD PREEMPTION SEQUENCE SHALL PROVIDE THE PROPER CLEARANCE INTERVAL TO RESUME THE NORMAL SEQUENCE OF OPERATION OR PROPER CLEARANCE INTERVAL TO DISPLAY AN EMERGENCY VEHICLE INTERVAL (IF APPLICABLE) AFTER RAILROAD PREEMPTION INTERVAL 5 IS TERMINATED.

**EMERGENCY VEHICLE PREEMPTION SEQUENCE OF OPERATION**

| CHANGE FROM NORMAL SEQUENCE OF OPERATION INTERVAL NUMBER                                 | 1   | 5  | 5  | 7  | 7  | 10 | 10 | 13 | 13 | PREEMPTOR NUMBER 3 | PREEMPTOR NUMBER 4 | CLEAR TO NORMAL SEQUENCE |    |    |    |    |    |   |   |
|--|-----|----|----|----|----|----|----|----|----|--------------------|--------------------|--------------------------|----|----|----|----|----|---|---|
| EMERGENCY VEHICLE PREEMPTION SEQUENCE OF OPERATION INTERVAL NUMBER                       | 1A  | 1B | 1C | 1D | 1E | 1F | 1G | 1H | 1J | 1K                 | 1L                 | 1M                       | 1N | 1P | 1Q | 1R | 1S | 2 | 3 |
| CHANGE TO EMERGENCY VEHICLE PREEMPTION SEQUENCE OF OPERATION INTERVAL NUMBER             | 2   | 2  | 1D | 3  | 1F | 2  | 1H | 1J | 3  | 2                  | 1M                 | 1N                       | 3  | 1Q | 1R | 2  | 3  |   |   |
| U.S. RTE 12-45 (MANNHEIM RD.) FAR RIGHT AND RIGHT MAST ARM SIGNALS                       | N/B | R  | R  | R  | R  | G  | G  | G  | Y  | R                  | G                  | G                        | Y  | R  | R  | R  | R  | G | R |
| U.S. RTE 12-45 (MANNHEIM RD.) FAR LEFT AND END MAST ARM SIGNALS                          | N/B | R  | R  | R  | R  | G  | G  | G  | Y  | R                  | G                  | G                        | Y  | R  | R  | R  | R  | G | R |
| U.S. RTE 12-45 (MANNHEIM RD.) FAR RIGHT AND RIGHT MAST ARM SIGNALS                       | S/B | R  | G  | Y  | R  | R  | R  | R  | R  | R                  | G                  | G                        | Y  | R  | R  | R  | R  | G | R |
| U.S. RTE 12-45 (MANNHEIM RD.) FAR LEFT AND END MAST ARM SIGNALS                          | S/B | R  | G  | Y  | R  | R  | R  | R  | R  | R                  | G                  | G                        | Y  | R  | R  | R  | R  | G | R |
| ARMITAGE AVENUE ALL SIGNALS  | E/B | R  | R  | R  | R  | R  | R  | R  | R  | R                  | R                  | R                        | R  | R  | G  | Y  | R  | G | R |
| ARMITAGE AVENUE ALL SIGNALS  | W/B | R  | R  | R  | R  | R  | R  | R  | R  | R                  | R                  | R                        | R  | R  | G  | Y  | R  | G | R |
| PEDESTRIAN SIGNALS CROSSING U.S. RTE 12-45 (MANNHEIM RD.) ON NORTH SIDE OF ARMITAGE AVE. |     | H  | H  | H  | H  | H  | H  | H  | H  | H                  | H                  | H                        | H  | FH | H  | H  | FH | H | H |
| PEDESTRIAN SIGNALS CROSSING ARMITAGE AVE. ON EAST SIDE OF U.S. RTE 12-45 (MANNHEIM RD.)  |     | H  | H  | H  | H  | FH | FH | H  | H  | FH                 | FH                 | H                        | H  | H  | H  | H  | H  | H | H |

◇ EMERGENCY VEHICLE SEQUENCE SHALL PROVIDE THE PROPER CLEARANCE INTERVAL TO RESUME THE NORMAL SEQUENCE OF OPERATION OR PROPER CLEARANCE INTERVAL TO DISPLAY A DIFFERENT EMERGENCY INTERVAL AFTER EMERGENCY VEHICLE INTERVAL 2 OR 3 IS TERMINATED.

PANEL SIGN DESIGN TYPE 1



Sq. Ft. each  
2.00 Sq. Ft. each  
2 Required  
Design Series D

SUPPORTING CHANNELS

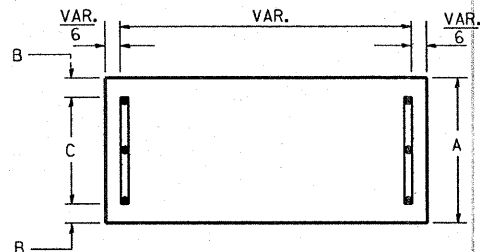
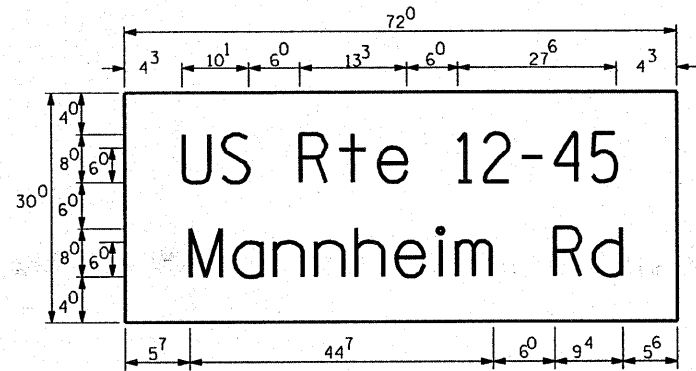


Table with columns A, B, C and values 18, 2, 14

PANEL SIGN DESIGN TYPE 2

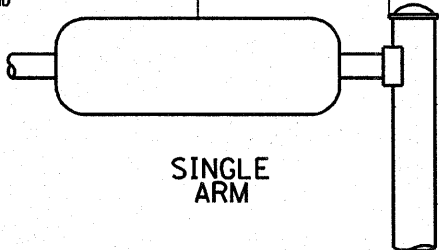


Sq. Ft. each  
15 Sq. Ft. each  
2 Required  
Design Series C

GENERAL NOTES

- 1. WHERE MAST ARM MOUNTED STREET NAME SIGNS ARE SPECIFIED... 2. ALL SIGNS SHALL HAVE A WHITE REFLECTORIZED LEGEND AND BORDER... 3. THE SIGN LENGTH SHOULD BE INCREASED IN 6-INCH INCREMENTS... 4. ALL BORDERS SHALL BE 3/4" WIDE AND CORNER RADIUS SHALL BE 2-1/4". 5. SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM SHALL BE USED FOR ALL SIGNS ATTACHED TO SIGNAL POLES AND POSTS...

Mid-Point of Sign VAR. TO 5 FT.(MAX.)



SINGLE ARM

SUPPORTING CHANNELS

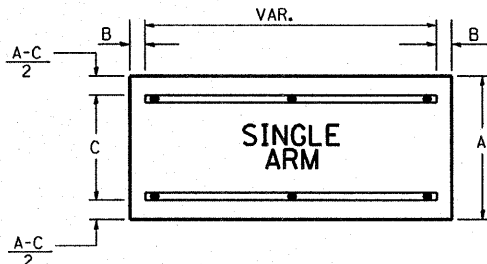
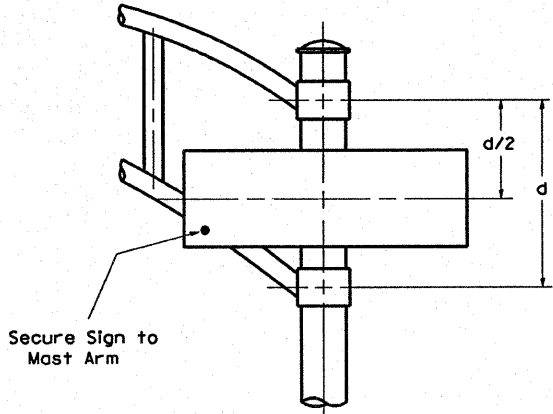


Table with columns A, B, C and values 18, 2, 12 and 30, 2, 22



DUAL ARM

SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM  
Shall be used. See Note #5.

Upper Case To Lower Case  
Spacing Chart 8-6 Inch Series "C & D"

EXAMPLE, 2(3) DENOTES 3/8"

Spacing Chart 8-6 Inch Series "C & D" table showing letter widths for second and first letters.

Lower Case To Lower Case  
Spacing Chart 6 Inch Series "C & D"

Spacing Chart 6 Inch Series "C & D" table showing letter widths for second and first letters.

Number To Number  
Spacing Chart 8 Inch Series "C & D"

Number To Number Spacing Chart 8 Inch Series "C & D" table showing digit widths.

UPPER AND LOWER CASE  
LETTER WIDTHS

Table showing letter widths for 6 inch upper case letters, 8 inch upper case letters, and 6 inch lower case letters.

Table showing letter widths for 6 inch series and 8 inch series.

**EXISTING EQUIPMENT TO BE REMOVED LEGEND**

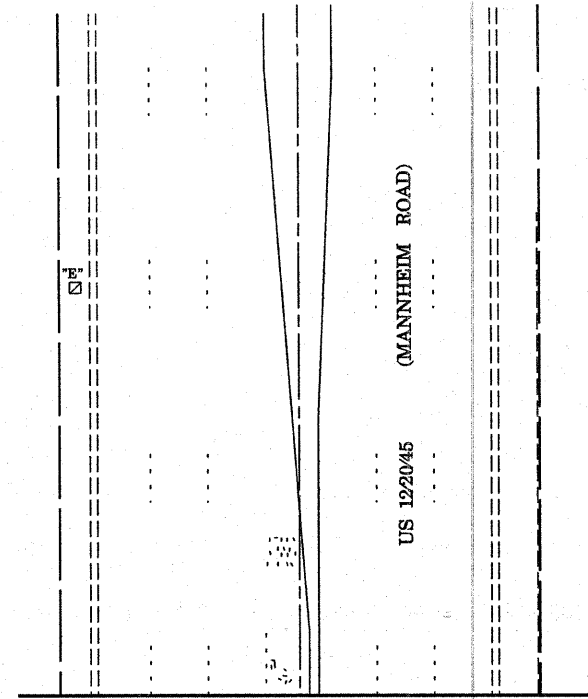
- EXISTING SIGNAL HEAD TO BE REMOVED
- EXISTING SERVICE INSTALLATION TO BE REMOVED
- EXISTING STREET LIGHT, FOUNDATION AND LUMINAIRE TO REMAIN
- EXISTING CONTROLLER TO BE REMOVED
- EXISTING HANDHOLE TO BE REMOVED
- EXISTING PEDESTRIAN SIGNAL HEAD TO BE REMOVED
- EXISTING PEDESTRIAN PUSH BUTTON TO BE REMOVED
- EMERGENCY VEHICLE LIGHT DETECTOR TO BE REMOVED
- CONFIRMATION BEACON TO BE REMOVED
- EXISTING HEAVY-DUTY HANDHOLE TO BE REMOVED
- EXISTING SIGNAL POST AND FOUNDATION TO BE REMOVED
- EXISTING ALUMINUM MAST ARM POLE AND FOUNDATION TO BE REMOVED
- EXISTING STEEL MAST ARM POLE AND FOUNDATION TO BE REMOVED

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

**NOTES FOR TEMPORARY TRAFFIC SIGNALS**

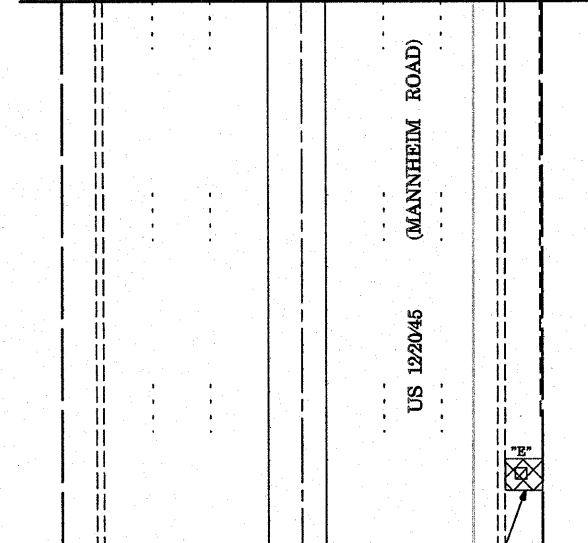
1. ALL CONTROL EQUIPMENT INCLUDING EMERGENCY PRE-EMPTION AND COMMUNICATION DEVICES FOR THE TEMPORARY TRAFFIC SIGNAL(S) SHALL BE FURNISHED BY THE CONTRACTOR.
2. ONLY CONTROLLERS SUPPLIED BY ONE OF THE DISTRICT APPROVED CLOSED LOOP EQUIPMENT MANUFACTURERS WILL BE APPROVED FOR USE AT TEMPORARY SIGNAL LOCATIONS. ALL CONTROLLERS USED FOR TEMPORARY TRAFFIC SIGNALS SHALL BE FULLY ACTUATED NEMA MICROPROCESSOR BASED WITH RS232 DATA ENTRY PORTS COMPATIBLE WITH EXISTING MONITORING SOFTWARE APPROVED BY IDOT DISTRICT 1, INSTALLED IN A NEMA TSI OR TSE CABINET. ONLY ONE BRAND OF CONTROLLER WILL BE ACCEPTED FOR ANY ONE CONTRACT.
3. ALL TRAFFIC SIGNAL SECTIONS AND PEDESTRIAN SIGNAL SECTIONS SHALL BE 12" HEADS SHALL BE PLACED AS INDICATED ON THE TEMPORARY TRAFFIC SIGNAL PLAN OR AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL FURNISH ENOUGH CABLE SLACK TO RELOCATE HEADS TO ANY POSITION ON THE SPAN WIRE OR AT LOCATIONS ILLUSTRATED ON THE PLANS FOR CONSTRUCTION STAGING. THE TEMPORARY TRAFFIC SIGNAL SHALL REMAIN IN OPERATION DURING ALL SIGNAL HEAD RELOCATIONS. EACH TEMPORARY TRAFFIC SIGNAL HEAD SHALL HAVE ITS OWN CABLE FROM THE CONTROLLER CABINET TO THE SIGNAL HEAD.
4. ALL EXISTING STREET NAME AND INTERSECTION REGULATORY SIGNS SHALL BE REMOVED FROM EXISTING POLES, RELOCATED AND SECURELY FASTENED TO THE SIGNAL SPAN WIRE OR WOOD POLE AS DIRECTED BY THE ENGINEER.
5. ANY TEMPORARY SIGNAL WITHIN AN EXISTING CLOSED LOOP TRAFFIC SIGNAL SYSTEM SHALL BE INTERCONNECTED TO THAT SYSTEM USING SIMILAR BRAND CONTROL EQUIPMENT.
6. THE TEMPORARY TRAFFIC SIGNAL SHALL HAVE THE SIGNAL HEAD DISPLAYS, SIGNAL HEAD PLACEMENTS AND CONTROLLER PHASING MATCH THE EXISTING TRAFFIC SIGNAL, AT THE TIME OF THE TURN ON, IF NO TRAFFIC STAGING IS IN PLACE OR WILL NOT BE STAGED ON THE DAY OF THE TURN ON.

MATCH LINE A-A



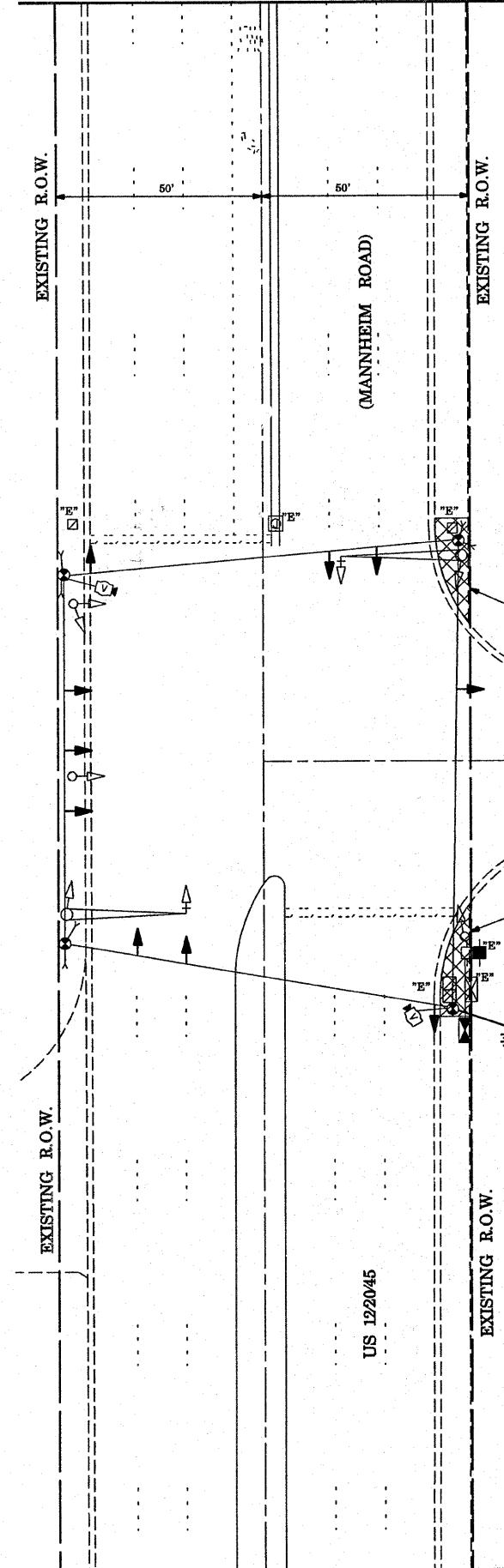
MATCH LINE A-A

MATCH LINE B-B



SIDEWALK REMOVAL AND REPLACEMENT  
50 SQ. FT.

MATCH LINE B-B



**TEMPORARY TRAFFIC SIGNAL LEGEND**

- TEMPORARY TRAFFIC SIGNAL HEAD SPAN WIRE MOUNTED ORIGINAL LOCATION
- TEMPORARY TRAFFIC SIGNAL HEAD SPAN WIRE MOUNTED SECONDARY LOCATION
- TEMPORARY WOOD POLE (CLASS 5 OR BETTER) 45 FOOT MINIMUM
- TEMPORARY CONTROLLER CABINET
- TEMPORARY SPAN WIRE, TETHER WIRE, AND CABLE
- TEMPORARY SERVICE INSTALLATION
- TEMPORARY PEDESTRIAN SIGNAL HEAD, BRACKET MOUNTED
- TEMPORARY PEDESTRIAN PUSHBUTTON DETECTOR
- MICROWAVE VEHICLE SENSOR
- EMERGENCY VEHICLE LIGHT DETECTOR
- CONFIRMATION BEACON
- VEHICLE DETECTOR, INDUCTION LOOP
- COMMON TRENCH
- UNIT DUCT
- G.S. CONDUIT IN TRENCH OR PUSHED
- HANDHOLE
- HEAVY-DUTY HANDHOLE
- EXISTING WOOD POLE
- VIDEO DETECTOR
- WIRELESS INTERCONNECT (ANTENNA)

NOTE:  
TEMPORARY WIRELESS INTERCONNECT IS INCLUDED IN TEMPORARY TRAFFIC SIGNAL INSTALLATION PAY ITEM.

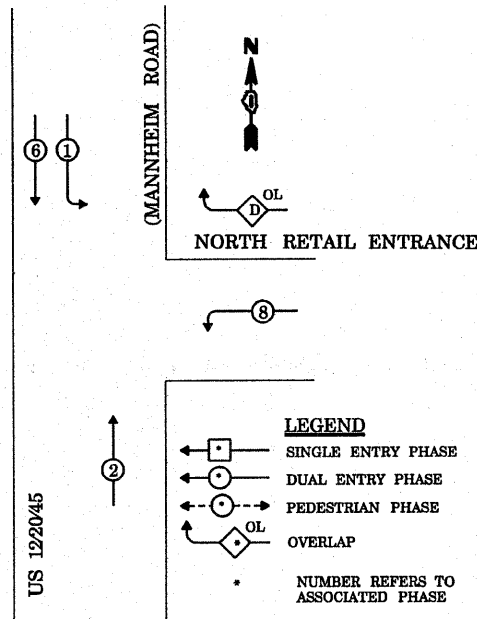
THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 1 EACH CONTROLLER AND CABINET
- 2 EACH TRAFFIC SIGNAL BACKPLATE
- 4 EACH TRAFFIC SIGNAL POST
- 2 EACH MAST ARM ASSEMBLY AND POLE, ALUMINUM
- 3 EACH SIGNAL HEAD, 1-FACE, 3-SECTION, BRACKET MOUNTED
- 1 EACH SIGNAL HEAD, 1-FACE, 3-SECTION, MAST ARM MOUNTED
- 2 EACH SIGNAL HEAD, 1-FACE, 5-SECTION, BRACKET MOUNTED
- 1 EACH SIGNAL HEAD, 1-FACE, 5-SECTION, MAST ARM MOUNTED
- 1 EACH SIGNAL HEAD, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED
- 1 EACH SERVICE INSTALLATION

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 SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

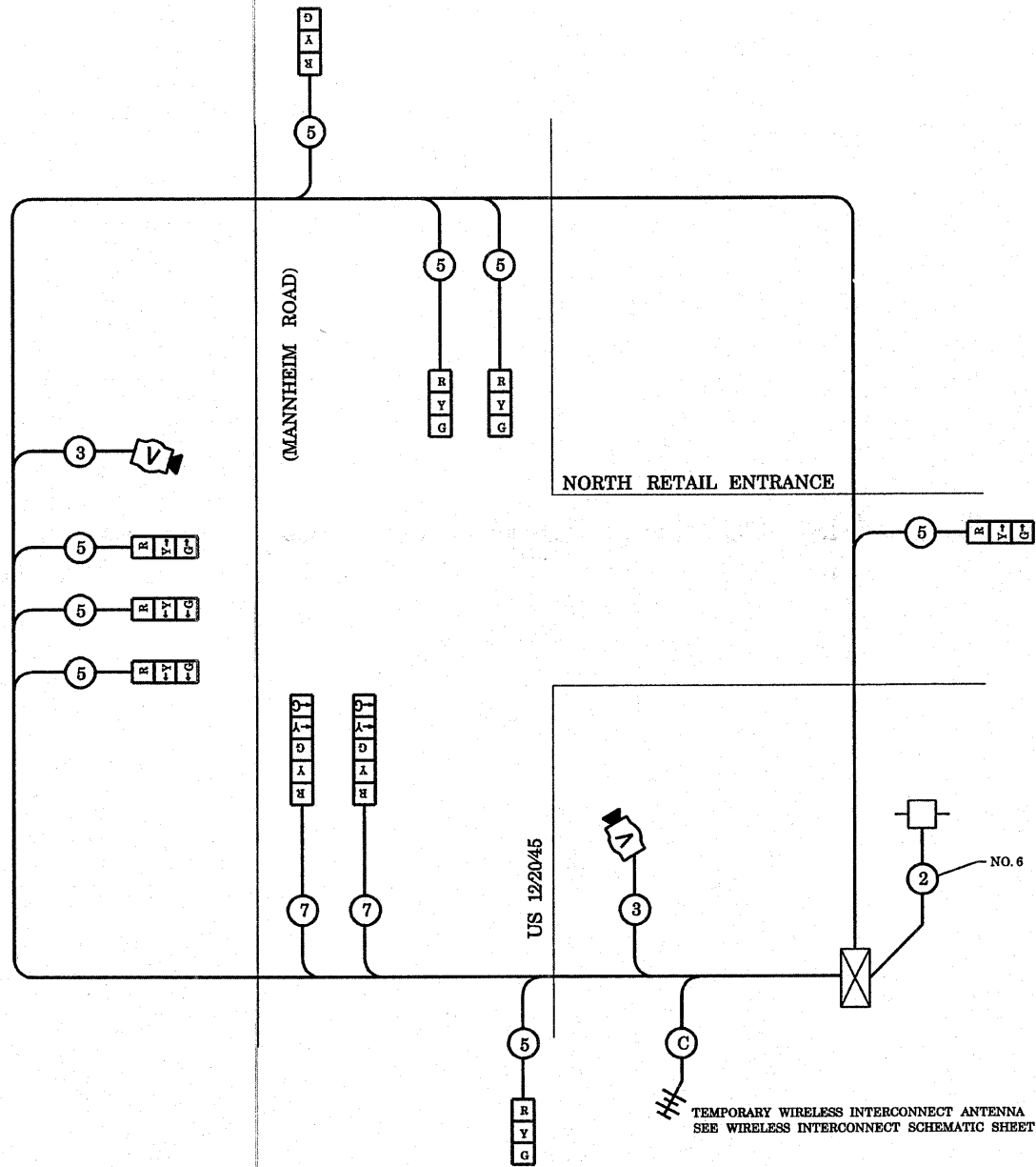
|  |                              |                   |           |   |  |           |           |                    |                        |                           |                     |                 |
|--|------------------------------|-------------------|-----------|---|--|-----------|-----------|--------------------|------------------------|---------------------------|---------------------|-----------------|
| FILE NAME =<br>c:\projects\traffic\070027\us12_20_45.dgn | USER NAME =<br>kanthapixaybc | DESIGNED - N.B.   | REVISED - | <b>STATE OF ILLINOIS<br/>DEPARTMENT OF TRANSPORTATION</b> | <b>TEMPORARY TRAFFIC SIGNAL AND REMOVAL PLAN<br/>US 12/20/45(MANNHEIM ROAD) AT NORTH RETAIL ENTRANCE</b> |           |           | F.A.P. RTE.<br>330 | SECTION<br>2008-006 TS | COUNTY<br>COOK            | TOTAL SHEETS<br>104 | SHEET NO.<br>84 |
|  | PLOT SCALE = 40.0000' / IN.  | DRAWN - N.B.      | REVISED - |   | SCALE: 1" = 20'  | SHEET NO. | OF SHEETS | STA.               | TO STA.                | CONTRACT NO. 60E31        |                     |                 |
|  | PLOT DATE = 10/18/2008       | CHECKED - D.B.    | REVISED - |   |  |           |           |                    |                        | ILLINOIS FED. AID PROJECT |                     |                 |
|  |                              | DATE = 09/04/2008 | REVISED - |   |  |           |           |                    |                        |                           |                     |                 |

**CONTROLLER SEQUENCE**



**TEMPORARY PHASE DESIGNATION DIAGRAM**

| OVERLAP LETTER | PERMISSIVE PHASE | PROTECTED PHASE |
|----------------|------------------|-----------------|
| D              | = 8              | + 1             |



**TEMPORARY CABLE DIAGRAM LEGEND**

- TEMPORARY TRAFFIC SIGNAL SECTION OR PEDESTRIAN SIGNAL SECTION, 12" (300 mm)
- TEMPORARY CONTROLLER CABINET
- TEMPORARY SERVICE INSTALLATION
- INDICATES NUMBER OF CONDUCTORS IN CABLE. ALL CONDUCTORS TO BE NUMBERED 14 AWG WIRE UNLESS OTHERWISE NOTED.
- EMERGENCY VEHICLE LIGHT DETECTOR
- CONFIRMATION BEACON
- PEDESTRIAN PUSHBUTTON DETECTOR
- VEHICLE DETECTOR, INDUCTION LOOP
- 12" (300 mm) PEDESTRIAN SIGNAL SECTION
- MICROWAVE VEHICLE SENSOR
- VIDEO DETECTOR
- WIRELESS INTERCONNECT (ANTENNA)

\* TEMPORARY WIRELESS INTERCONNECT IS INCLUDED IN TEMPORARY TRAFFIC SIGNAL INSTALLATION PAY ITEM

**TEMPORARY CABLE PLAN**

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

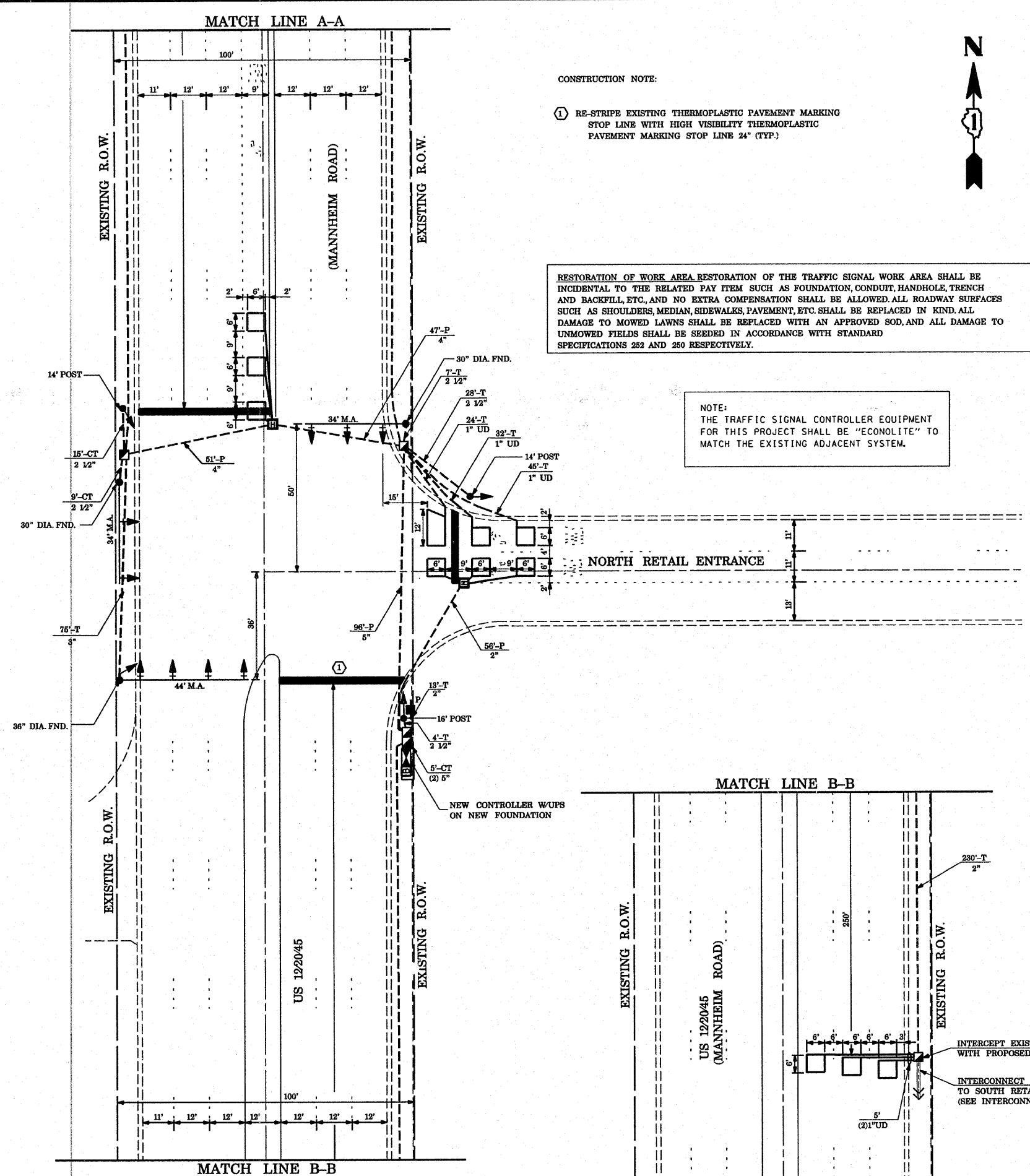
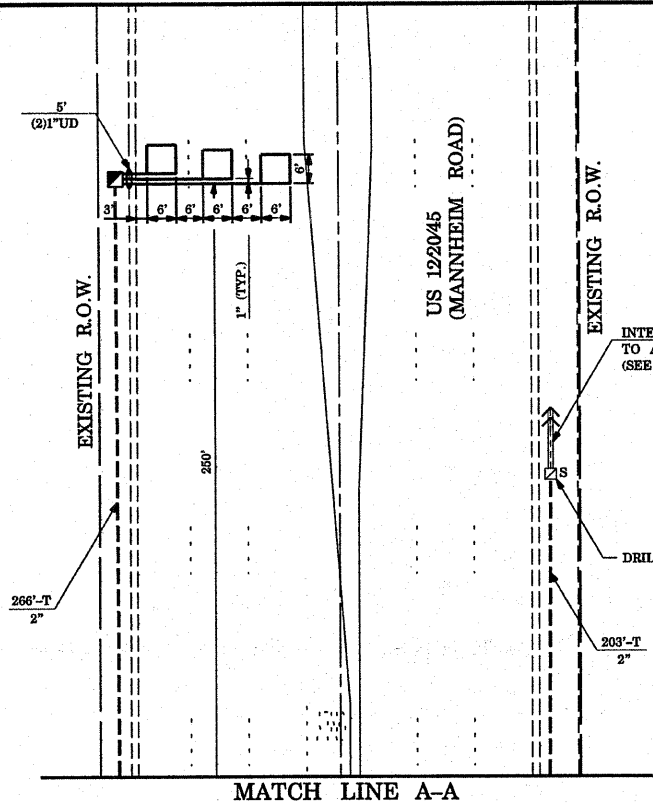
**SCHEDULE OF QUANTITIES**

| QUANTITIES | UNIT | ITEM                                     |
|------------|------|--|
| 1          | EACH | TEMPORARY TRAFFIC SIGNAL INSTALLATION    |
| 1          | EACH | REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT |
| 3          | EACH | REMOVE EXISTING HANDHOLE                 |
| 6          | EACH | REMOVE EXISTING CONCRETE FOUNDATION      |

| I.D.O.T.<br>TRAFFIC SIGNAL INSTALLATION<br>ELECTRICAL SERVICE REQUIREMENTS |           |         |     |             | TOTAL<br>WATTAGE |
|--|-----------|---------|-----|-------------|------------------|
| TYPE   | NO. LAMPS | WATTAGE |     | % OPERATION |                  |
|  |           | INCAND. | LED |             |                  |
| SIGNAL (RED)   | 10        |         | 17  | 0.50        | 85.00            |
| (YELLOW)   | 10        |         | 25  | 0.25        | 62.50            |
| (GREEN)  | 10        |         | 15  | 0.25        | 37.50            |
| ARROW  | 4         |         | 12  | 0.10        | 4.80             |
| PED. SIGNAL  |           |         | 25  | 1.00        | -                |
| CONTROLLER   | 1         |         | 100 | 1.00        | 100.00           |
| ILLUM. SIGN  |           |         |     | 0.05        | -                |
| FLASHER  |           |         |     |             | -                |
| ENERGY COSTS TO:   |           |         |     |             | TOTAL=           |
| VILLAGE OF MELROSE PARK  |           |         |     |             | 289.80           |
| ENERGY SUPPLY CONTACT: MR. MIKE BELL                                       |           |         |     |             |                  |
| PHONE: (708)410-5314   |           |         |     |             |                  |
| COMPANY: COMMONWEALTH EDISON   |           |         |     |             |                  |

...traffic\070027\us12\_20\_45.dgn 10/10/2008 2:17:46 PM User=kanthaphixaybc





CONSTRUCTION NOTE:  
 (1) RE-STRIPES EXISTING THERMOPLASTIC PAVEMENT MARKING STOP LINE WITH HIGH VISIBILITY THERMOPLASTIC PAVEMENT MARKING STOP LINE 24" (TYP.)

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 SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

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

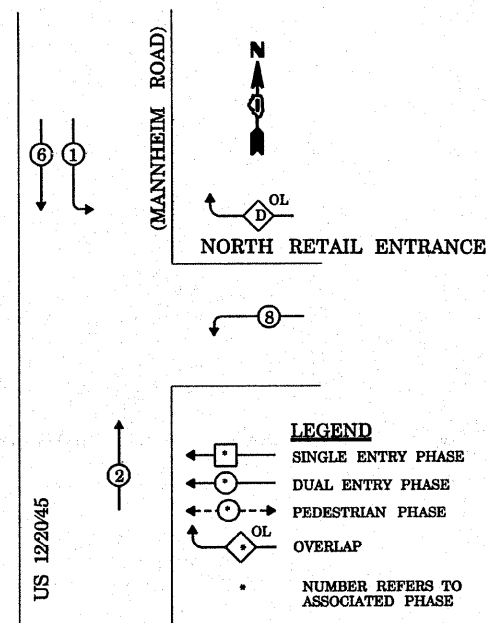
**TRAFFIC SIGNAL LEGEND**

|  | PROPOSED | EXISTING |
|--|----------|----------|
| CONTROLLER   | [Symbol] | [Symbol] |
| RAILROAD CONTROL CABINET                             | [Symbol] | [Symbol] |
| SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNTED | [Symbol] | [Symbol] |
| SIGNAL HEAD  | [Symbol] | [Symbol] |
| SIGNAL HEAD WITH BACKPLATE                           | [Symbol] | [Symbol] |
| SIGNAL HEAD, PEDESTRIAN                              | [Symbol] | [Symbol] |
| SIGNAL POST  | [Symbol] | [Symbol] |
| MAST ARM ASSEMBLY AND POLE, STEEL                    | [Symbol] | [Symbol] |
| MAST ARM ASSEMBLY AND POLE, ALUMINIUM                | [Symbol] | [Symbol] |
| COMMON TRENCH  | [Symbol] | [Symbol] |
| UNIT DUCT  | [Symbol] | [Symbol] |
| HANDHOLE   | [Symbol] | [Symbol] |
| HEAVY DUTY HANDHOLE                                  | [Symbol] | [Symbol] |
| DOUBLE HANDHOLE                                      | [Symbol] | [Symbol] |
| G.S.CONDUIT IN TRENCH OR PUSHED                      | [Symbol] | [Symbol] |
| CAST IRON JUNCTION BOX                               | [Symbol] | [Symbol] |
| SIGNAL HEAD OPTICALLY PROGRAMMED                     | [Symbol] | [Symbol] |
| CONDUIT SPLICE                                       | [Symbol] | [Symbol] |
| WOOD POLE  | [Symbol] | [Symbol] |
| RACEWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II     | [Symbol] | [Symbol] |
| VEHICLE DETECTOR, NON COMPENSATED MAGNETIC TYPE      | [Symbol] | [Symbol] |
| RAILROAD CONTROL CABINET                             | [Symbol] | [Symbol] |
| ILLUMINATED SIGN, FIBER OPTIC "NO LEFT TURN"         | [Symbol] | [Symbol] |
| ILLUMINATED SIGN, FIBER OPTIC "NO RIGHT TURN"        | [Symbol] | [Symbol] |
| TELEPHONE CONNECTION                                 | [Symbol] | [Symbol] |
| PEDESTRIAN PUSHBUTTON DETECTOR                       | [Symbol] | [Symbol] |
| DETECTOR LOOP, TYPE I                                | [Symbol] | [Symbol] |
| PERFORMED DETECTOR LOOP                              | [Symbol] | [Symbol] |
| VIDEO DETECTOR                                       | [Symbol] | [Symbol] |
| CLOSED CIRCUIT TV                                    | [Symbol] | [Symbol] |
| EMERGENCY VEHICLE SYSTEM DETECTOR                    | [Symbol] | [Symbol] |
| CONFIRMATION BEACON                                  | [Symbol] | [Symbol] |
| UNINTERRUPTABLE POWER SUPPLY                         | [Symbol] | [Symbol] |

|  |                          |                 |   |   |   |             |         |        |              |           |
|--|--------------------------|-----------------|---|---|---|-------------|---------|--------|--------------|-----------|
| FILE NAME =                                | USER NAME = kentaphixjbc | DESIGNED - N.B. | REVISED -                                     | STATE OF ILLINOIS<br>DEPARTMENT OF TRANSPORTATION | PROPOSED TRAFFIC SIGNAL PLAN<br>US 12/20/45(MANNHEIM ROAD) AT NORTH RETAIL ENTRANCE | F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| ci:\projects\traffic\070027\us12_20_45.dgn | DRAWN - N.B.             | REVISED -       | 330   |   |   | 2008-006 TS | COOK    | 104    | 36           |           |
| PLOT SCALE = 48.0000' / IN.                | CHECKED - D.B.           | REVISED -       | CONTRACT NO. 60E31                            |   |   |             |         |        |              |           |
| PLOT DATE = 10/10/2008                     | DATE - 09/04/2008        | REVISED -       | FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT |   |   |             |         |        |              |           |

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**CONTROLLER SEQUENCE**

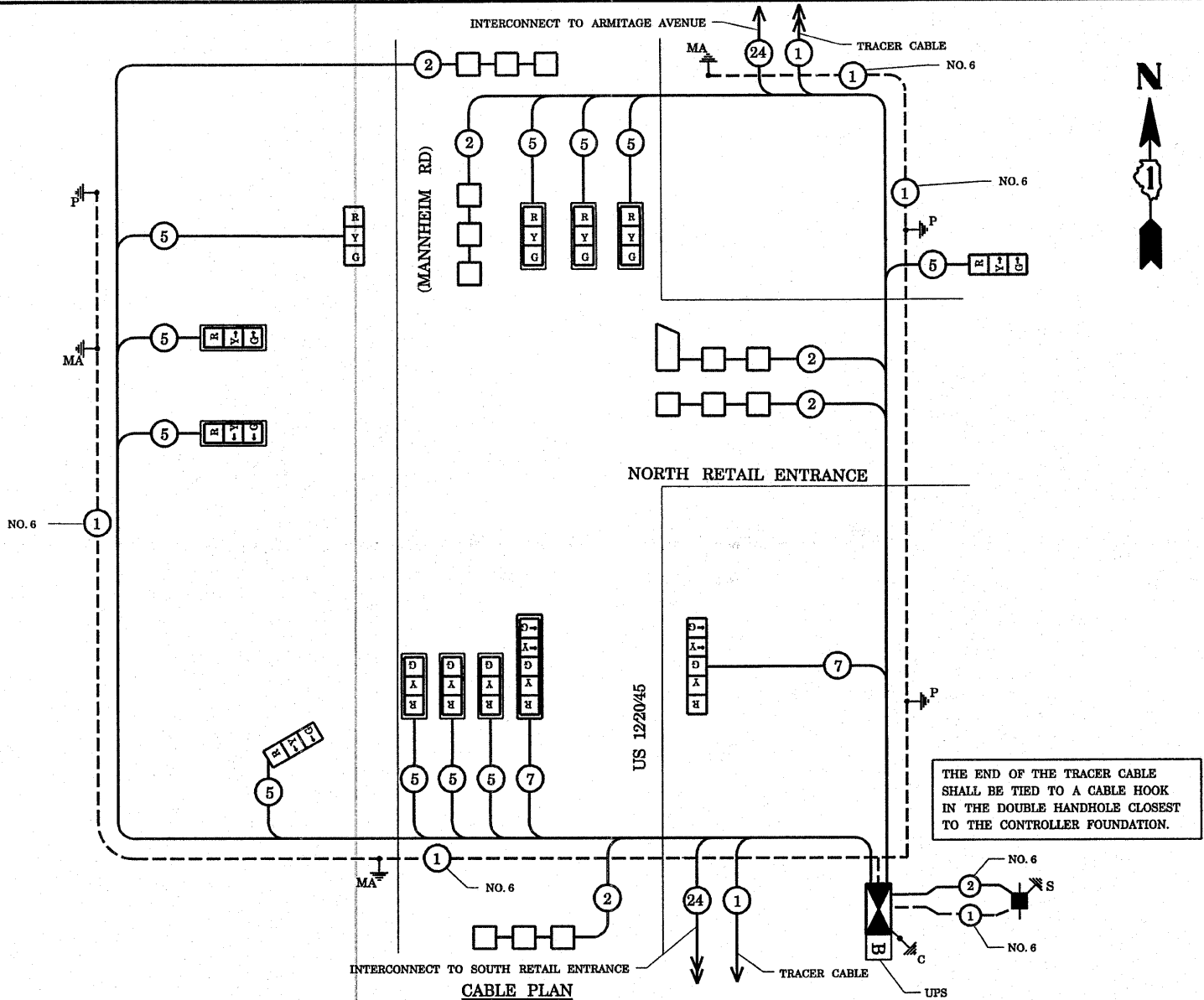
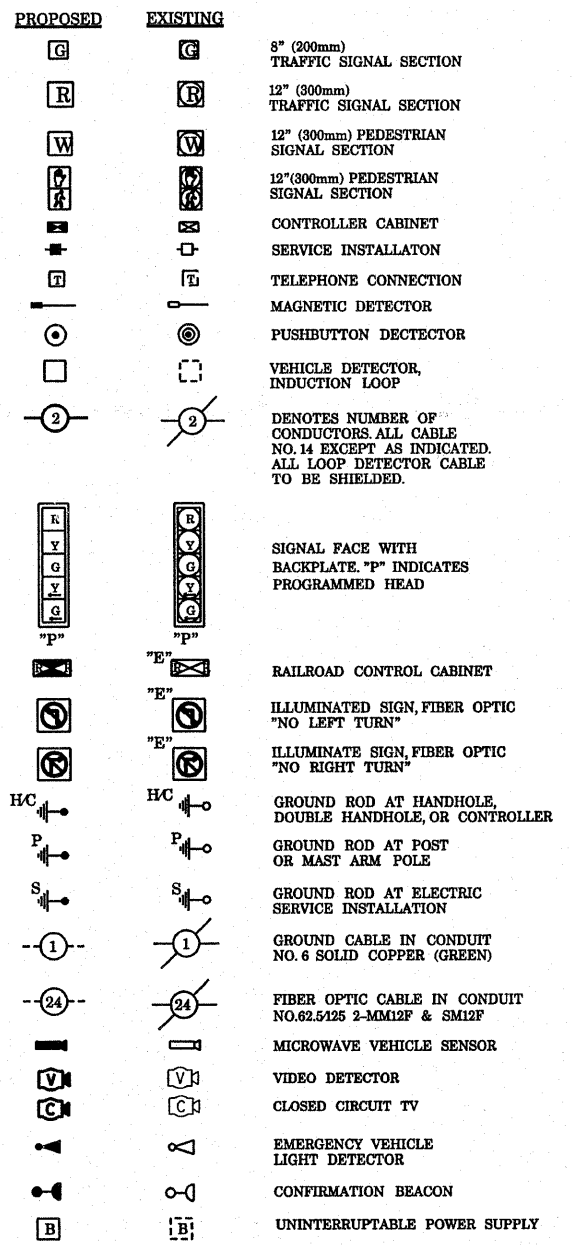


**PHASE DESIGNATION DIAGRAM**

| OVERLAP LETTER | PERMISSIVE PHASE | PROTECTED PHASE |
|----------------|------------------|-----------------|
| D              | 8                | + 1             |

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

**CABLE PLAN LEGEND**



**CABLE PLAN SUMMARY OF QUANTITIES**

| QUANTITY | UNIT  | ITEM  | QUANTITY | UNIT | ITEM   |
|----------|-------|---|----------|------|--|
| 356      | SQ FT | PORTLAND CEMENT CONCRETE SIDEWALK, 6 INCH             | 1        | EACH | TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.             |
| 356      | SQ FT | SIDEWALK REMOVAL                                      | 2        | EACH | STEEL MAST ARM ASSEMBLY AND POLE, 34 FT.                 |
| 0.1      | L SUM | TRAFFIC CONTROL AND PROTECTION, STANDARD 701501       | 1        | EACH | STEEL MAST ARM ASSEMBLY AND POLE, 44 FT.                 |
| 0.1      | L SUM | TRAFFIC CONTROL AND PROTECTION, STANDARD 701701       | 12       | FOOT | CONCRETE FOUNDATION, TYPE A                              |
| 0.1      | L SUM | TRAFFIC CONTROL AND PROTECTION, STANDARD 701801       | 4        | FOOT | CONCRETE FOUNDATION, TYPE C                              |
| 15       | SQ FT | SIGN PANEL - TYPE 2                                   | 30       | FOOT | CONCRETE FOUNDATION, TYPE E 30" DIAMETER                 |
| 110      | FOOT  | THERMOPLASTIC PAVEMENT MARKING - LINE 24"             | 15       | FOOT | CONCRETE FOUNDATION, TYPE E 36" DIAMETER                 |
| 220      | SQ FT | THERMOPLASTIC PAVEMENT MARKING REMOVAL                | 1        | EACH | DRILL EXISTING HANDHOLE                                  |
| 712      | FOOT  | CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL          | 9        | EACH | TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM             |
| 63       | FOOT  | CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL          | 5        | EACH | INDUCTIVE LOOP DETECTOR                                  |
| 75       | FOOT  | CONDUIT IN TRENCH, 3" DIA., GALVANIZED STEEL          | 548      | FOOT | DETECTOR LOOP, TYPE 1                                    |
| 10       | FOOT  | CONDUIT IN TRENCH, 5" DIA., GALVANIZED STEEL          | 1        | EACH | TEMPORARY TRAFFIC SIGNAL INSTALLATION                    |
| 56       | FOOT  | CONDUIT PUSHED, 2" DIA., GALVANIZED STEEL             | 1        | EACH | REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT                 |
| 98       | FOOT  | CONDUIT PUSHED, 4" DIA., GALVANIZED STEEL             | 6        | EACH | REMOVE EXISTING HANDHOLE                                 |
| 96       | FOOT  | CONDUIT PUSHED, 5" DIA., GALVANIZED STEEL             | 7        | EACH | REMOVE EXISTING CONCRETE FOUNDATION                      |
| 1        | EACH  | REMOVE EXISTING JUNCTION BOX                          | 8        | EACH | SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, MAST ARM MOUNTED |
| 4        | EACH  | HANDHOLE  | 3        | EACH | SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, BRACKET MOUNTED  |
| 2        | EACH  | HEAVY-DUTY HANDHOLE                                   | 1        | EACH | SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, BRACKET MOUNTED  |
| 1        | EACH  | DOUBLE HANDHOLE                                       | 1        | EACH | SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, MAST ARM MOUNTED |
| 910      | FOOT  | TRENCH AND BACKFILL FOR ELECTRICAL WORK               | 1        | EACH | TEMPORARY TRAFFIC SIGNAL TIMINGS                         |
| 1        | EACH  | FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL | 1        | EACH | SERVICE INSTALLATION, POLE MOUNT                         |
| 1        | EACH  | TRANSCIEVER - FIBER OPTIC                             | 1        | EACH | UNINTERRUPTIBLE POWER SUPPLY                             |
| 2920     | FOOT  | ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 6C           |          |      |  |
| 418      | FOOT  | ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C           |          |      |  |
| 1151     | FOOT  | ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1-PAIR     |          |      |  |
| 30       | FOOT  | ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C          |          |      |  |
| 375      | FOOT  | ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C        |          |      |  |
| 2        | EACH  | TRAFFIC SIGNAL POST, GALVANIZED STEEL 14 FT.          |          |      |  |

| TYPE                                     | NO. LAMPS | WATTAGE INCAND. | LED | % OPERATION | TOTAL WATTAGE |
|--|-----------|-----------------|-----|-------------|---------------|
| SIGNAL (RED)                             | 13        |                 | 17  | 0.50        | 110.50        |
| (YELLOW)                                 | 13        |                 | 25  | 0.25        | 81.25         |
| (GREEN)                                  | 13        |                 | 15  | 0.25        | 48.75         |
| ARROW                                    | 4         |                 | 12  | 0.10        | 4.80          |
| PED. SIGNAL                              |           |                 | 25  | 1.00        | -             |
| CONTROLLER                               | 1         |                 | 100 | 1.00        | 100.00        |
| ILLUM. SIGN                              |           |                 |     | 0.05        | -             |
| FLASHER                                  |           |                 |     |             | -             |
| ENERGY COSTS TO: VILLAGE OF MELROSE PARK |           |                 |     |             | TOTAL= 345.30 |
| ENERGY SUPPLY CONTACT: MR. MIKE BELL     |           |                 |     |             |               |
| PHONE: (708)410-5314                     |           |                 |     |             |               |
| COMPANY: COMMONWEALTH EDISON             |           |                 |     |             |               |



**EXISTING EQUIPMENT TO BE REMOVED LEGEND**

- EXISTING SIGNAL HEAD TO BE REMOVED
- EXISTING SERVICE INSTALLATION TO BE REMOVED
- EXISTING STREET LIGHT, FOUNDATION AND LUMINAIRE TO REMAIN
- EXISTING CONTROLLER TO BE REMOVED
- EXISTING HANDHOLE TO BE REMOVED
- EXISTING PEDESTRIAN SIGNAL HEAD TO BE REMOVED
- EXISTING PEDESTRIAN PUSH BUTTON TO BE REMOVED
- EMERGENCY VEHICLE LIGHT DETECTOR TO BE REMOVED
- CONFIRMATION BEACON TO BE REMOVED
- EXISTING HEAVY-DUTY HANDHOLE TO BE REMOVED
- EXISTING SIGNAL POST AND FOUNDATION TO BE REMOVED
- EXISTING ALUMINUM MAST ARM POLE AND FOUNDATION TO BE REMOVED
- EXISTING STEEL MAST ARM POLE AND FOUNDATION TO BE REMOVED

**TEMPORARY TRAFFIC SIGNAL LEGEND**

- TEMPORARY TRAFFIC SIGNAL HEAD
- SPAN WIRE MOUNTED ORIGINAL LOCATION
- TEMPORARY TRAFFIC SIGNAL HEAD
- SPAN WIRE MOUNTED SECONDARY LOCATION
- TEMPORARY WOOD POLE (CLASS 5 OR BETTER) 45 FOOT MINIMUM
- TEMPORARY CONTROLLER CABINET
- TEMPORARY SPAN WIRE, TETHER WIRE, AND CABLE
- TEMPORARY SERVICE INSTALLATION
- TEMPORARY PEDESTRIAN SIGNAL HEAD, BRACKET MOUNTED
- TEMPORARY PEDESTRIAN PUSHBUTTON DETECTOR
- MICROWAVE VEHICLE SENSOR
- EMERGENCY VEHICLE LIGHT DETECTOR
- CONFIRMATION BEACON
- VEHICLE DETECTOR, INDUCTION LOOP
- COMMON TRENCH
- UNIT DUCT
- G.S. CONDUIT IN TRENCH OR PUSHED HANDHOLE
- HEAVY-DUTY HANDHOLE
- EXISTING WOOD POLE
- VIDEO DETECTOR
- WIRELESS INTERCONNECT (ANTENNA)

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

**NOTES FOR TEMPORARY TRAFFIC SIGNALS**

1. ALL CONTROL EQUIPMENT INCLUDING EMERGENCY PRE-EMPTION AND COMMUNICATION DEVICES FOR THE TEMPORARY TRAFFIC SIGNAL(S) SHALL BE FURNISHED BY THE CONTRACTOR.
2. ONLY CONTROLLERS SUPPLIED BY ONE OF THE DISTRICT APPROVED CLOSED LOOP EQUIPMENT MANUFACTURERS WILL BE APPROVED FOR USE AT TEMPORARY SIGNAL LOCATIONS. ALL CONTROLLERS USED FOR TEMPORARY TRAFFIC SIGNALS SHALL BE FULLY ACTUATED NEMA MICROPROCESSOR BASED WITH RS232 DATA ENTRY PORTS COMPATIBLE WITH EXISTING MONITORING SOFTWARE APPROVED BY IDOT DISTRICT 1, INSTALLED IN A NEMA TS1 OR TS2 CABINET. ONLY ONE BRAND OF CONTROLLER WILL BE ACCEPTED FOR ANY ONE CONTRACT.
3. ALL TRAFFIC SIGNAL SECTIONS AND PEDESTRIAN SIGNAL SECTIONS SHALL BE 12" HEADS SHALL BE PLACED AS INDICATED ON THE TEMPORARY TRAFFIC SIGNAL PLAN OR AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL FURNISH ENOUGH CABLE SLACK TO RELOCATE HEADS TO ANY POSITION ON THE SPAN WIRE OR AT LOCATIONS ILLUSTRATED ON THE PLANS FOR CONSTRUCTION STAGING. THE TEMPORARY TRAFFIC SIGNAL SHALL REMAIN IN OPERATION DURING ALL SIGNAL HEAD RELOCATIONS. EACH TEMPORARY TRAFFIC SIGNAL HEAD SHALL HAVE ITS OWN CABLE FROM THE CONTROLLER CABINET TO THE SIGNAL HEAD.
4. ALL EXISTING STREET NAME AND INTERSECTION REGULATORY SIGNS SHALL BE REMOVED FROM EXISTING POLES, RELOCATED AND SECURELY FASTENED TO THE SIGNAL SPAN WIRE OR WOOD POLE AS DIRECTED BY THE ENGINEER.
5. ANY TEMPORARY SIGNAL WITHIN AN EXISTING CLOSED LOOP TRAFFIC SIGNAL SYSTEM SHALL BE INTERCONNECTED TO THAT SYSTEM USING SIMILAR BRAND CONTROL EQUIPMENT.
6. THE TEMPORARY TRAFFIC SIGNAL SHALL HAVE THE SIGNAL HEAD DISPLAYS, SIGNAL HEAD PLACEMENTS AND CONTROLLER PHASING MATCH THE EXISTING TRAFFIC SIGNAL, AT THE TIME OF THE TURN ON, IF NO TRAFFIC STAGING IS IN PLACE OR WILL NOT BE STAGED ON THE DAY OF THE TURN ON.

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

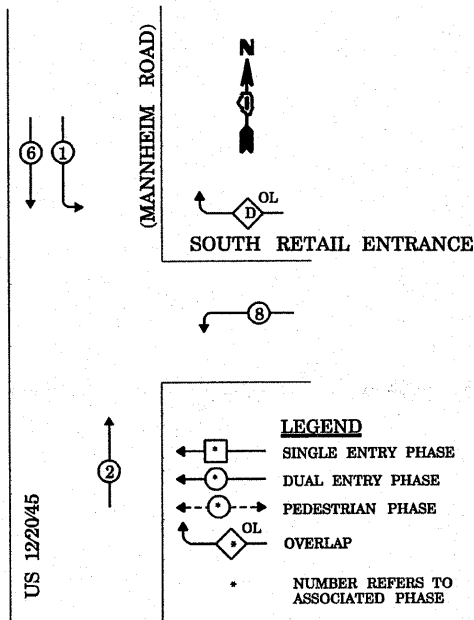
- 1 EACH CONTROLLER AND CABINET
- 2 EACH TRAFFIC SIGNAL BACKPLATE
- 3 EACH TRAFFIC SIGNAL POST
- 1 EACH MAST ARM ASSEMBLY AND POLE, ALUMINUM
- 1 EACH STEEL MAST ARM ASSEMBLY AND POLE
- 3 EACH SIGNAL HEAD, 1-FACE, 3-SECTION, BRACKET MOUNTED
- 1 EACH SIGNAL HEAD, 1-FACE, 3-SECTION, MAST ARM MOUNTED
- 1 EACH SIGNAL HEAD, 1-FACE, 5-SECTION, MAST ARM MOUNTED
- 1 EACH SIGNAL HEAD, 2-FACE, 3-SECTION, BRACKET MOUNTED
- 1 EACH SIGNAL HEAD, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED
- 1 EACH SERVICE INSTALLATION

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 SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

|                             |                           |                   |           |   |   |  |  |                     |             |                           |              |                    |  |
|-----------------------------|---------------------------|-------------------|-----------|---|---|--|--|---------------------|-------------|---------------------------|--------------|--------------------|--|
| FILE NAME =                 | USER NAME = kanthaphixybc | DESIGNED - N.B.   | REVISED - | <b>STATE OF ILLINOIS<br/>DEPARTMENT OF TRANSPORTATION</b> | <b>TEMPORARY TRAFFIC SIGNAL AND REMOVAL PLAN</b>  |  |  | F.A.P. RTE.         | SECTION     | COUNTY                    | TOTAL SHEETS | SHEET NO.          |  |
| PROJECT =                   |                           | DRAWN - N.B.      | REVISED - |   | US 122045(MANNHEIM ROAD) AT SOUTH RETAIL ENTRANCE |  |  | 330                 | 2008-006 TS | COOK                      | 104          | 39                 |  |
| PLOT SCALE = 40.0000' / IN. |                           | CHECKED - D.B.    | REVISED - |   | SCALE: 1" = 20'                                   |  |  | SHEET NO.           | OF SHEETS   | STA.                      | TO STA.      | CONTRACT NO. 60E31 |  |
| PLOT DATE = 10/10/2008      |                           | DATE = 09/04/2008 | REVISED - |   | SCALE: 1" = 20'                                   |  |  | FED. ROAD DIST. NO. |             | ILLINOIS FED. AID PROJECT |              |                    |  |

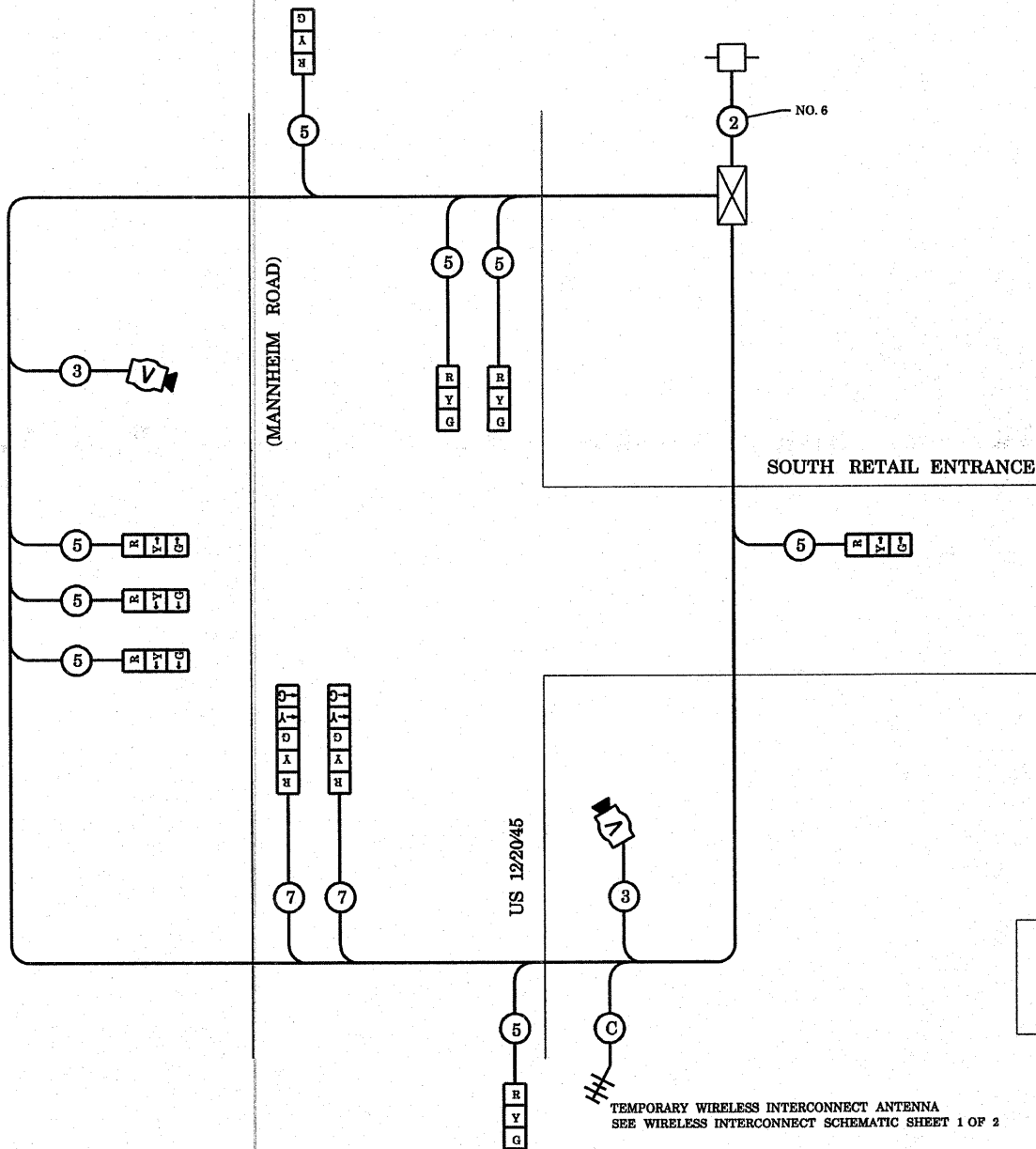


**CONTROLLER SEQUENCE**



**TEMPORARY PHASE DESIGNATION DIAGRAM**

| OVERLAP LETTER | PERMISSIVE PHASE | PROTECTED PHASE |
|----------------|------------------|-----------------|
| D              | = 8              | + 1             |



**TEMPORARY CABLE DIAGRAM LEGEND**

- TEMPORARY TRAFFIC SIGNAL SECTION OR PEDESTRIAN SIGNAL SECTION, 12" (300 mm)
- TEMPORARY CONTROLLER CABINET
- TEMPORARY SERVICE INSTALLATION
- INDICATES NUMBER OF CONDUCTORS IN CABLE. ALL CONDUCTORS TO BE NUMBERED 14 AWG WIRE UNLESS OTHERWISE NOTED.
- EMERGENCY VEHICLE LIGHT DETECTOR
- CONFIRMATION BEACON
- PEDESTRIAN PUSHBUTTON DETECTOR
- VEHICLE DETECTOR, INDUCTION LOOP
- 12" (300 mm) PEDESTRIAN SIGNAL SECTION
- MICROWAVE VEHICLE SENSOR
- VIDEO DETECTOR
- WIRELESS INTERCONNECT (ANTENNA)

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

TEMPORARY WIRELESS INTERCONNECT ANTENNA  
SEE WIRELESS INTERCONNECT SCHEMATIC SHEET 1 OF 2

**TEMPORARY CABLE PLAN**

\* TEMPORARY WIRELESS INTERCONNECT IS INCLUDED IN TEMPORARY TRAFFIC SIGNAL INSTALLATION PAY ITEM

**SCHEDULE OF QUANTITIES**

| QUANTITIES | UNIT | ITEM                                     |
|------------|------|--|
| 1          | EACH | TEMPORARY TRAFFIC SIGNAL INSTALLATION    |
| 1          | EACH | REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT |
| 3          | EACH | REMOVE EXISTING HANDHOLE                 |
| 6          | EACH | REMOVE EXISTING CONCRETE FOUNDATION      |

| I.D.O.T.<br>TRAFFIC SIGNAL INSTALLATION<br>ELECTRICAL SERVICE REQUIREMENTS |           |         |      |             | TOTAL<br>WATTAGE |
|--|-----------|---------|------|-------------|------------------|
| TYPE   | NO. LAMPS | WATTAGE |      | % OPERATION |                  |
| SIGNAL (RED)   | 10        | 17      | 0.50 | 85.00       |                  |
| (YELLOW)   | 6         | 25      | 0.25 | 37.50       |                  |
| (GREEN)  | 6         | 15      | 0.25 | 22.50       |                  |
| ARROW  | 12        | 12      | 0.10 | 14.40       |                  |
| FED. SIGNAL  |           | 25      | 1.00 | -           |                  |
| CONTROLLER   | 1         | 100     | 1.00 | 100.00      |                  |
| ILLUM. SIGN  |           |         | 0.05 | -           |                  |
| FLASHER  |           |         | 0.05 | -           |                  |
| ENERGY COSTS TO: VILLAGE OF MELROSE PARK                                   |           |         |      | TOTAL =     | 259.40           |
| ENERGY SUPPLY CONTACT: MR. MIKE BELL                                       |           |         |      |             |                  |
| PHONE: (708)410-5314   |           |         |      |             |                  |
| COMPANY: COMMONWEALTH EDISON   |           |         |      |             |                  |

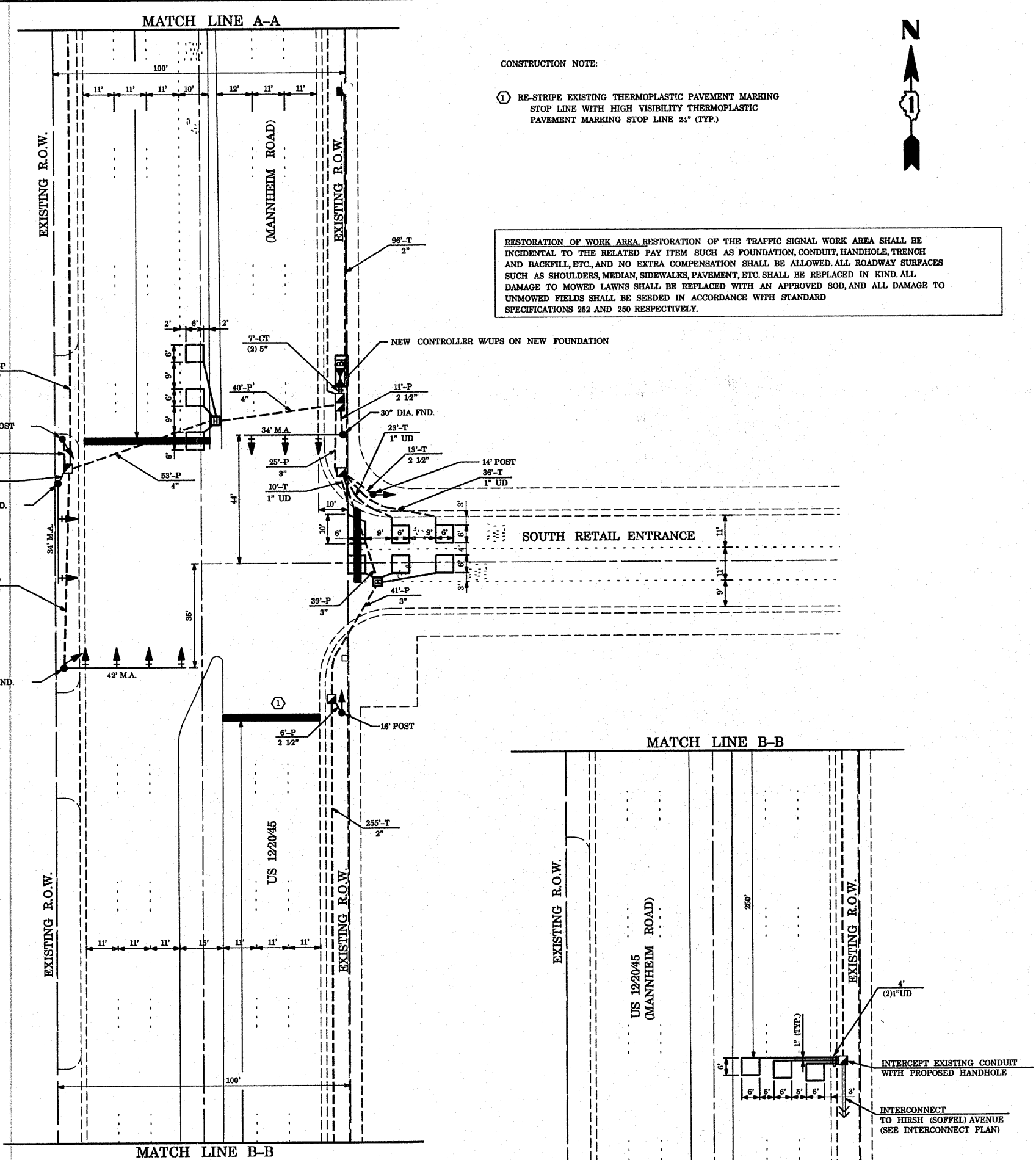
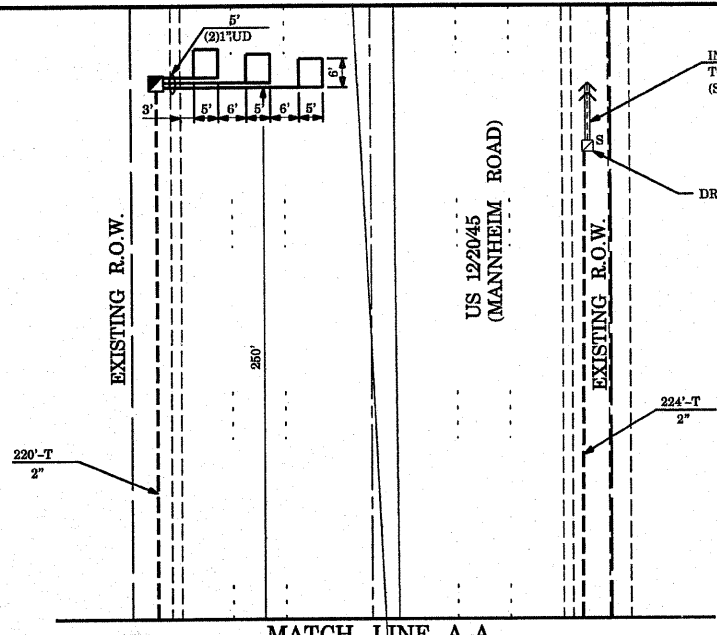
|  |                           |                   |           |
|--|---------------------------|-------------------|-----------|
| FILE NAME =                            | USER NAME = kanthapixaybc | DESIGNED - N.B.   | REVISED - |
| PROJECTS\traffic\070027\us12_20_45.dgn |                           | DRAWN - N.B.      | REVISED - |
| PLOT SCALE = 40.0000' / IN.            |                           | CHECKED - D.B.    | REVISED - |
| PLOT DATE = 10/10/2008                 |                           | DATE - 09/04/2008 | REVISED - |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TEMPORARY CABLE PLAN  
US 12/2045(MANNHEIM RD) AT SOUTH RETAIL ENTRANCE  
SCALE: NTS SHEET NO. OF SHEETS STA. TO STA.

|   |             |        |              |           |
|---|-------------|--------|--------------|-----------|
| F.A.P. RTE.                                   | SECTION     | COUNTY | TOTAL SHEETS | SHEET NO. |
| 330   | 2008-006 TS | COOK   | 104          | 40        |
| CONTRACT NO. 60E31                            |             |        |              |           |
| FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT |             |        |              |           |





CONSTRUCTION NOTE:

① RE-STRIPE EXISTING THERMOPLASTIC PAVEMENT MARKING STOP LINE WITH HIGH VISIBILITY THERMOPLASTIC PAVEMENT MARKING STOP LINE 21' (TYP.)

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 SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.



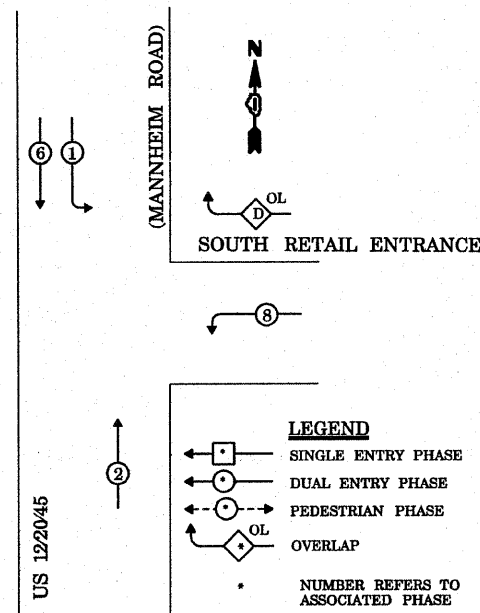
**TRAFFIC SIGNAL LEGEND**

|  | PROPOSED | EXISTING |
|--|----------|----------|
| CONTROLLER   |          |          |
| RAILROAD CONTROL CABINET                             |          |          |
| SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNTED |          |          |
| SIGNAL HEAD  |          |          |
| SIGNAL HEAD WITH BACKPLATE                           |          |          |
| SIGNAL HEAD, PEDESTRIAN                              |          |          |
| SIGNAL POST  |          |          |
| MAST ARM ASSEMBLY AND POLE, STEEL                    |          |          |
| MAST ARM ASSEMBLY AND POLE, ALUMINIUM                |          |          |
| COMMON TRENCH  |          |          |
| UNIT DUCT  |          |          |
| HANDHOLE   |          |          |
| HEAVY DUTY HANDHOLE                                  |          |          |
| DOUBLE HANDHOLE                                      |          |          |
| G.S.CONDUIT IN TRENCH OR PUSHED                      |          |          |
| CAST IRON JUNCTION BOX                               |          |          |
| SIGNAL HEAD OPTICALLY PROGRAMMED                     |          |          |
| CONDUIT SPLICE                                       |          |          |
| WOOD POLE  |          |          |
| RACEWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II     |          |          |
| VEHICLE DETECTOR, NON COMPENSATED MAGNETIC TYPE      |          |          |
| RAILROAD CONTROL CABINET                             |          |          |
| ILLUMINATED SIGN, FIBER OPTIC "NO LEFT TURN"         |          |          |
| ILLUMINATED SIGN, FIBER OPTIC "NO RIGHT TURN"        |          |          |
| TELEPHONE CONNECTION                                 |          |          |
| PEDESTRIAN PUSHBUTTON DETECTOR                       |          |          |
| DETECTOR LOOP, TYPE I                                |          |          |
| PREFORMED DETECTOR LOOP                              |          |          |
| VIDEO DETECTOR                                       |          |          |
| CLOSED CIRCUIT TV                                    |          |          |
| EMERGENCY VEHICLE SYSTEM DETECTOR                    |          |          |
| CONFIRMATION BEACON                                  |          |          |
| UNINTERRUPTIBLE POWER SUPPLY                         |          |          |

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

|                   |                           |                 |           |   |  |  |  |   |                     |                    |                  |              |
|-------------------|---------------------------|-----------------|-----------|---|--|--|--|---|---------------------|--------------------|------------------|--------------|
| FILE NAME =       | USER NAME = kanthaphixybc | DESIGNED - N.B. | REVISED - | <b>STATE OF ILLINOIS<br/>DEPARTMENT OF TRANSPORTATION</b> | <b>PROPOSED TRAFFIC SIGNAL PLAN<br/>US 12/2045(MANNHEIM ROAD) AT SOUTH RETAIL ENTRANCE</b> |  |  | F.A.P. RTE. 330                               | SECTION 2008-006 TS | COUNTY COOK        | TOTAL SHEETS 104 | SHEET NO. 41 |
| DRAWN - N.B.      |                           |                 |           |   | SCALE: 1"=20'  |  |  | SHEET NO. OF SHEETS                           | STA. TO STA.        | CONTRACT NO. 60E31 |                  |              |
| CHECKED - D.P.    |                           |                 |           |   | PLOT SCALE = 48.0000' / IN.  |  |  |   |                     |                    |                  |              |
| DATE - 09/04/2008 |                           |                 |           |   | PLOT DATE = 10/10/2008   |  |  | FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT |                     |                    |                  |              |

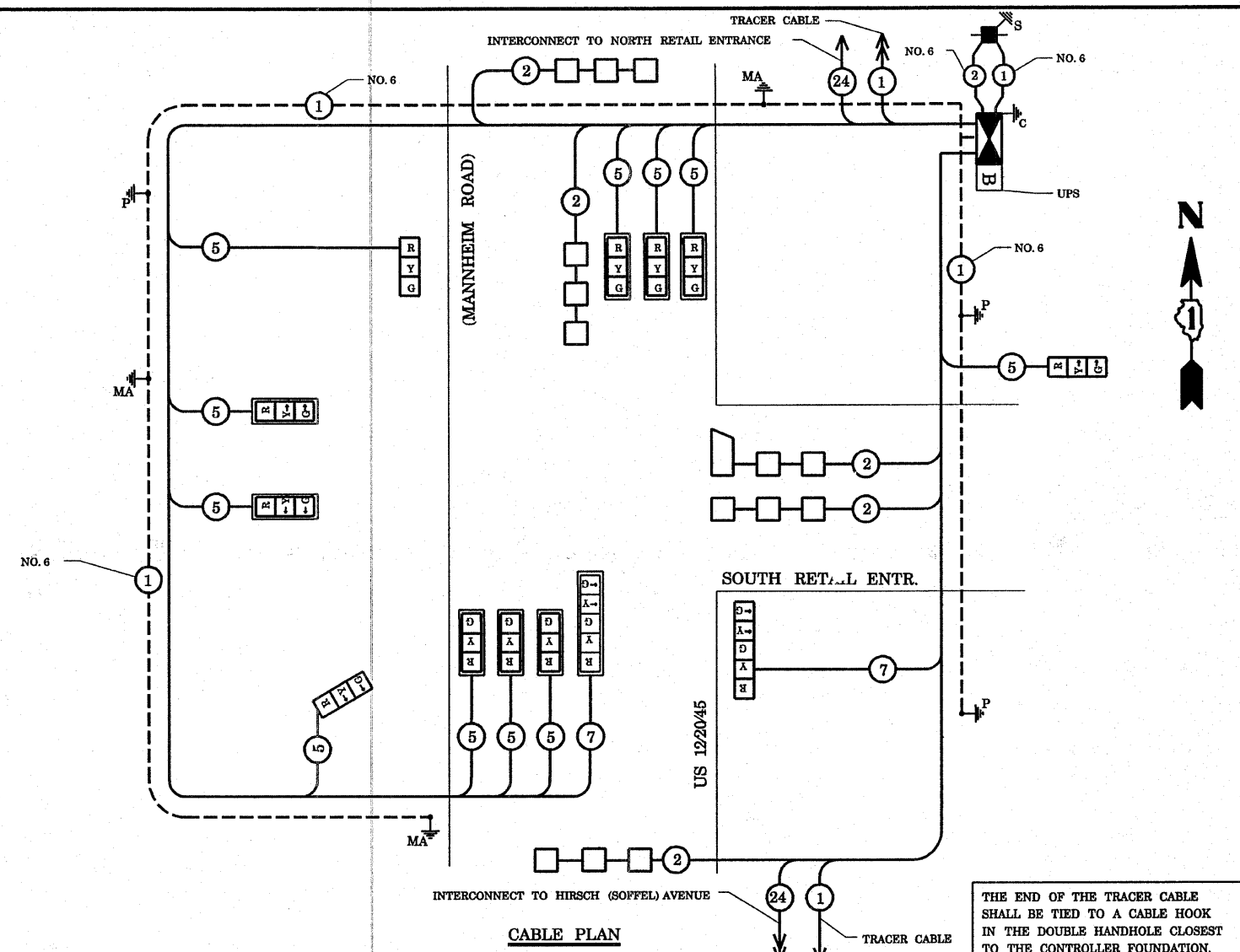
**CONTROLLER SEQUENCE**



**PHASE DESIGNATION DIAGRAM**

| OVERLAP LETTER | PERMISSIVE PHASE | PROTECTED PHASE |
|----------------|------------------|-----------------|
| D              | = 8              | + 1             |

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



**CABLE PLAN**

**SUMMARY OF QUANTITIES**

| QUANTITY | UNIT  | ITEM  | QUANTITY | UNIT | ITEM   |
|----------|-------|---|----------|------|--|
| 697      | SQ FT | PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH             | 2        | EACH | STEEL MAST ARM ASSEMBLY AND POLE, 34 FT.                 |
| 697      | SQ FT | SIDEWALK REMOVAL                                      | 1        | EACH | STEEL MAST ARM ASSEMBLY AND POLE, 42 FT.                 |
| 0.1      | L SUM | TRAFFIC CONTROL AND PROTECTION, STANDARD 701501       | 12       | FOOT | CONCRETE FOUNDATION, TYPE A                              |
| 0.1      | L SUM | TRAFFIC CONTROL AND PROTECTION, STANDARD 701701       | 4        | FOOT | CONCRETE FOUNDATION, TYPE C                              |
| 0.1      | L SUM | TRAFFIC CONTROL AND PROTECTION, STANDARD 701801       | 30       | FOOT | CONCRETE FOUNDATION, TYPE E 30" DIAMETER                 |
| 15       | SQ FT | SIGN PANEL - TYPE 2                                   | 15       | FOOT | CONCRETE FOUNDATION, TYPE E 36" DIAMETER                 |
| 101      | FOOT  | THERMOPLASTIC PAVEMENT MARKING - LINE 24"             | 1        | EACH | DRILL EXISTING HANDHOLE                                  |
| 202      | SQ FT | THERMOPLASTIC PAVEMENT MARKING REMOVAL                | 9        | EACH | TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM             |
| 571      | FOOT  | CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL          | 5        | EACH | INDUCTIVE LOOP DETECTOR                                  |
| 13       | FOOT  | CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL          | 516      | FOOT | DETECTOR LOOP, TYPE I                                    |
| 10       | FOOT  | CONDUIT IN TRENCH, 5" DIA., GALVANIZED STEEL          | 1        | EACH | TEMPORARY TRAFFIC SIGNAL INSTALLATION                    |
| 39       | FOOT  | CONDUIT PUSHED, 2" DIA., GALVANIZED STEEL             | 1        | EACH | REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT                 |
| 101      | FOOT  | CONDUIT PUSHED, 2" DIA., GALVANIZED STEEL             | 6        | EACH | REMOVE EXISTING HANDHOLE                                 |
| 100      | FOOT  | CONDUIT PUSHED, 3" DIA., GALVANIZED STEEL             | 6        | EACH | REMOVE EXISTING CONCRETE FOUNDATION                      |
| 98       | FOOT  | CONDUIT PUSHED, 4" DIA., GALVANIZED STEEL             | 8        | EACH | SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, MAST ARM MOUNTED |
| 1        | EACH  | REMOVE EXISTING JUNCTION BOX                          | 3        | EACH | SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, BRACKET MOUNTED  |
| 5        | EACH  | HANDHOLE  | 1        | EACH | SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, BRACKET MOUNTED  |
| 2        | EACH  | HEAVY-DUTY HANDHOLE                                   | 1        | EACH | SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, MAST ARM MOUNTED |
| 1        | EACH  | DOUBLE HANDHOLE                                       | 1        | EACH | TEMPORARY TRAFFIC SIGNAL TIMINGS                         |
| 685      | FOOT  | TRENCH AND BACKFILL FOR ELECTRICAL WORK               | 1        | EACH | SERVICE INSTALLATION, POLE MOUNT                         |
| 1        | EACH  | FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL | 1        | EACH | UNINTERRUPTIBLE POWER SUPPLY                             |
| 1        | EACH  | TRANSCEIVER - FIBER OPTIC                             |          |      |  |
| 1740     | FOOT  | ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C           |          |      |  |
| 428      | FOOT  | ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C           |          |      |  |
| 1020     | FOOT  | ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1-PAIR     |          |      |  |
| 113      | FOOT  | ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C          |          |      |  |
| 430      | FOOT  | ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C        |          |      |  |
| 2        | EACH  | TRAFFIC SIGNAL POST, GALVANIZED STEEL 14 FT.          |          |      |  |
| 1        | EACH  | TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.          |          |      |  |

**CABLE PLAN LEGEND**

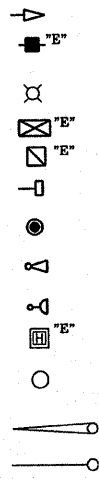
| PROPOSED | EXISTING | DESCRIPTION   |
|----------|----------|---|
| [Symbol] | [Symbol] | 8" (300mm) TRAFFIC SIGNAL SECTION   |
| [Symbol] | [Symbol] | 12" (300mm) TRAFFIC SIGNAL SECTION  |
| [Symbol] | [Symbol] | 12" (300mm) PEDESTRIAN SIGNAL SECTION   |
| [Symbol] | [Symbol] | 12" (300mm) PEDESTRIAN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

| TYPE   | NO. LAMPS | WATTAGE INCAND. | LED  | % OPERATION | TOTAL WATTAGE |
|--|-----------|-----------------|------|-------------|---------------|
| SIGNAL (RED)   | 13        | 17              | 0.50 |             | 110.50        |
| (YELLOW)   | 13        | 25              | 0.25 |             | 81.25         |
| (GREEN)  | 13        | 15              | 0.25 |             | 48.75         |
| ARROW  | 4         | 12              | 0.10 |             | 4.80          |
| PED. SIGNAL  |           | 25              | 1.00 |             | -             |
| CONTROLLER   | 1         | 100             | 1.00 |             | 100.00        |
| ILLUM. SIGN  |           |                 | 0.05 |             | -             |
| FLASHER  |           |                 |      | 0.05        | -             |
| ENERGY COSTS TO: VILLAGE OF MELROSE PARK   |           |                 |      |             | TOTAL= 345.30 |
| ENERGY SUPPLY CONTACT: MR. MIKE BELL<br>PHONE: (708)410-5314<br>COMPANY: COMMONWEALTH EDISON |           |                 |      |             |               |



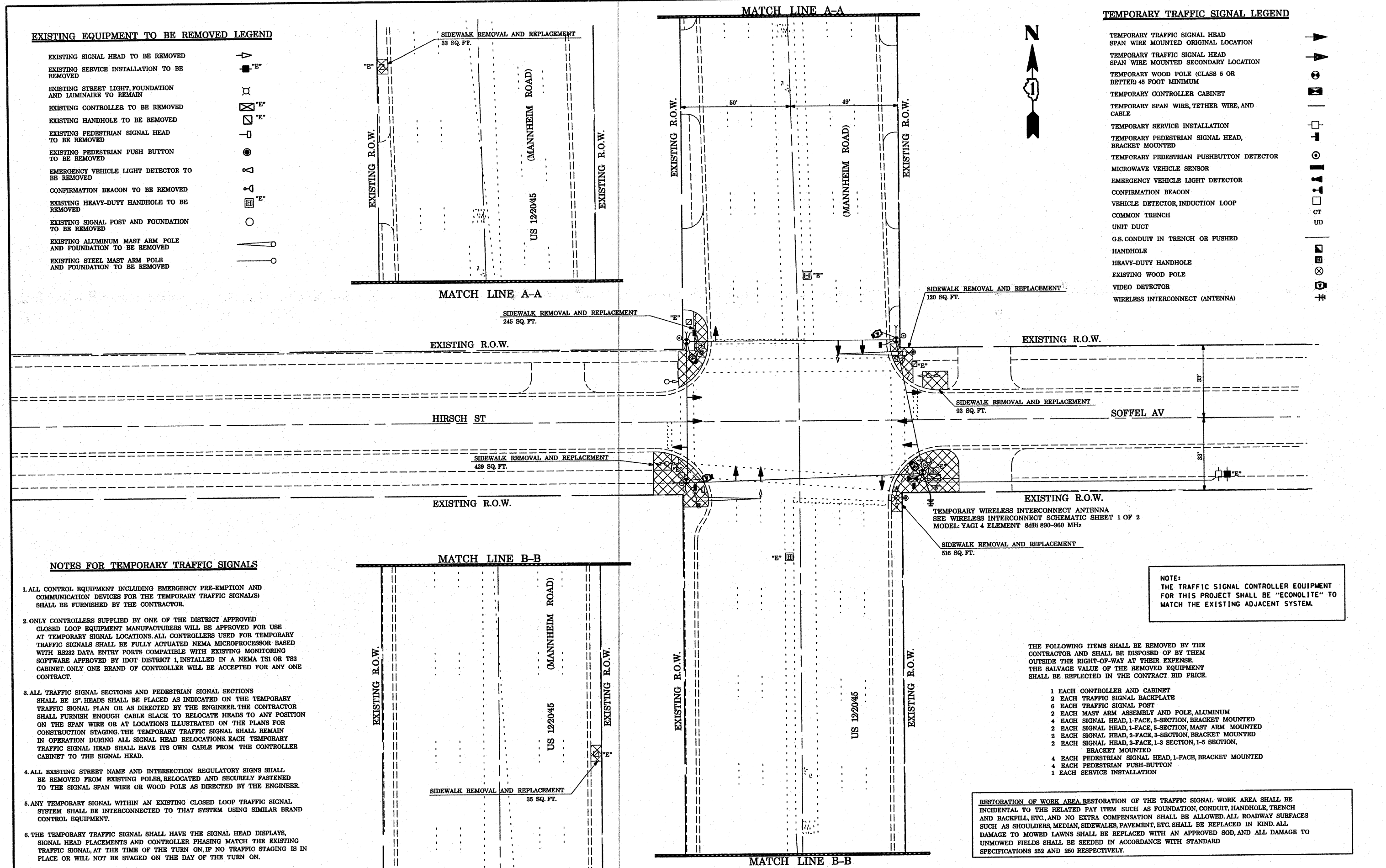
**EXISTING EQUIPMENT TO BE REMOVED LEGEND**

- EXISTING SIGNAL HEAD TO BE REMOVED
- EXISTING SERVICE INSTALLATION TO BE REMOVED
- EXISTING STREET LIGHT, FOUNDATION AND LUMINAIRE TO REMAIN
- EXISTING CONTROLLER TO BE REMOVED
- EXISTING HANDHOLE TO BE REMOVED
- EXISTING PEDESTRIAN SIGNAL HEAD TO BE REMOVED
- EXISTING PEDESTRIAN PUSH BUTTON TO BE REMOVED
- EMERGENCY VEHICLE LIGHT DETECTOR TO BE REMOVED
- CONFIRMATION BEACON TO BE REMOVED
- EXISTING HEAVY-DUTY HANDHOLE TO BE REMOVED
- EXISTING SIGNAL POST AND FOUNDATION TO BE REMOVED
- EXISTING ALUMINUM MAST ARM POLE AND FOUNDATION TO BE REMOVED
- EXISTING STEEL MAST ARM POLE AND FOUNDATION TO BE REMOVED



**TEMPORARY TRAFFIC SIGNAL LEGEND**

- TEMPORARY TRAFFIC SIGNAL HEAD
- SPAN WIRE MOUNTED ORIGINAL LOCATION
- TEMPORARY TRAFFIC SIGNAL HEAD
- SPAN WIRE MOUNTED SECONDARY LOCATION
- TEMPORARY WOOD POLE (CLASS 5 OR BETTER) 45 FOOT MINIMUM
- TEMPORARY CONTROLLER CABINET
- TEMPORARY SPAN WIRE, TETHER WIRE, AND CABLE
- TEMPORARY SERVICE INSTALLATION
- TEMPORARY PEDESTRIAN SIGNAL HEAD, BRACKET MOUNTED
- TEMPORARY PEDESTRIAN PUSHBUTTON DETECTOR
- MICROWAVE VEHICLE SENSOR
- EMERGENCY VEHICLE LIGHT DETECTOR
- CONFIRMATION BEACON
- VEHICLE DETECTOR, INDUCTION LOOP
- COMMON TRENCH
- UNIT DUCT
- G.S. CONDUIT IN TRENCH OR PUSHED
- HANDHOLE
- HEAVY-DUTY HANDHOLE
- EXISTING WOOD POLE
- VIDEO DETECTOR
- WIRELESS INTERCONNECT (ANTENNA)



**NOTES FOR TEMPORARY TRAFFIC SIGNALS**

1. ALL CONTROL EQUIPMENT INCLUDING EMERGENCY PRE-EMPTION AND COMMUNICATION DEVICES FOR THE TEMPORARY TRAFFIC SIGNAL(S) SHALL BE FURNISHED BY THE CONTRACTOR.
2. ONLY CONTROLLERS SUPPLIED BY ONE OF THE DISTRICT APPROVED CLOSED LOOP EQUIPMENT MANUFACTURERS WILL BE APPROVED FOR USE AT TEMPORARY SIGNAL LOCATIONS. ALL CONTROLLERS USED FOR TEMPORARY TRAFFIC SIGNALS SHALL BE FULLY ACTUATED NEMA MICROPROCESSOR BASED WITH RS232 DATA ENTRY PORTS COMPATIBLE WITH EXISTING MONITORING SOFTWARE APPROVED BY IDOT DISTRICT 1, INSTALLED IN A NEMA TS1 OR TS2 CABINET. ONLY ONE BRAND OF CONTROLLER WILL BE ACCEPTED FOR ANY ONE CONTRACT.
3. ALL TRAFFIC SIGNAL SECTIONS AND PEDESTRIAN SIGNAL SECTIONS SHALL BE 12" HEADS SHALL BE PLACED AS INDICATED ON THE TEMPORARY TRAFFIC SIGNAL PLAN OR AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL FURNISH ENOUGH CABLE SLACK TO RELOCATE HEADS TO ANY POSITION ON THE SPAN WIRE OR AT LOCATIONS ILLUSTRATED ON THE PLANS FOR CONSTRUCTION STAGING. THE TEMPORARY TRAFFIC SIGNAL SHALL REMAIN IN OPERATION DURING ALL SIGNAL HEAD RELOCATIONS. EACH TEMPORARY TRAFFIC SIGNAL HEAD SHALL HAVE ITS OWN CABLE FROM THE CONTROLLER CABINET TO THE SIGNAL HEAD.
4. ALL EXISTING STREET NAME AND INTERSECTION REGULATORY SIGNS SHALL BE REMOVED FROM EXISTING POLES, RELOCATED AND SECURELY FASTENED TO THE SIGNAL SPAN WIRE OR WOOD POLE AS DIRECTED BY THE ENGINEER.
5. ANY TEMPORARY SIGNAL WITHIN AN EXISTING CLOSED LOOP TRAFFIC SIGNAL SYSTEM SHALL BE INTERCONNECTED TO THAT SYSTEM USING SIMILAR BRAND CONTROL EQUIPMENT.
6. THE TEMPORARY TRAFFIC SIGNAL SHALL HAVE THE SIGNAL HEAD DISPLAYS, SIGNAL HEAD PLACEMENTS AND CONTROLLER PHASING MATCH THE EXISTING TRAFFIC SIGNAL, AT THE TIME OF THE TURN ON, IF NO TRAFFIC STAGING IS IN PLACE OR WILL NOT BE STAGED ON THE DAY OF THE TURN ON.

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

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

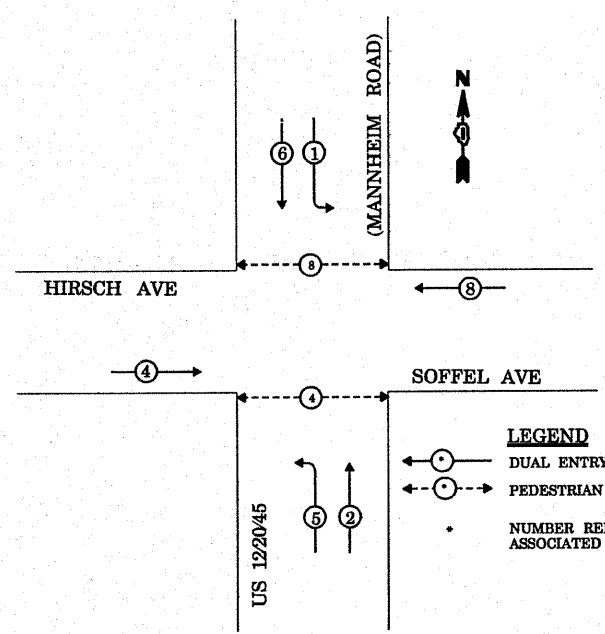
- 1 EACH CONTROLLER AND CABINET
- 2 EACH TRAFFIC SIGNAL BACKPLATE
- 6 EACH TRAFFIC SIGNAL POST
- 2 EACH MAST ARM ASSEMBLY AND POLE, ALUMINUM
- 4 EACH SIGNAL HEAD, 1-FACE, 3-SECTION, BRACKET MOUNTED
- 2 EACH SIGNAL HEAD, 1-FACE, 3-SECTION, MAST ARM MOUNTED
- 2 EACH SIGNAL HEAD, 2-FACE, 3-SECTION, BRACKET MOUNTED
- 2 EACH SIGNAL HEAD, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED
- 4 EACH PEDESTRIAN SIGNAL HEAD, 1-FACE, BRACKET MOUNTED
- 4 EACH PEDESTRIAN PUSH-BUTTON
- 1 EACH SERVICE INSTALLATION

**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 SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDING IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

|   |                           |                   |           |   |  |  |  |                     |                     |   |                  |              |
|---|---------------------------|-------------------|-----------|---|--|--|--|---------------------|---------------------|---|------------------|--------------|
| FILE NAME =                               | USER NAME = kanthapixaybo | DESIGNED - N.B.   | REVISED - | <b>STATE OF ILLINOIS<br/>DEPARTMENT OF TRANSPORTATION</b> | <b>TEMPORARY TRAFFIC SIGNAL AND REMOVAL PLAN</b>   |  |  | F.A.P. R.T.E. 330   | SECTION 2008-006 TS | COUNTY COOK                                   | TOTAL SHEETS 104 | SHEET NO. 44 |
| al\projects\traffic\187027\us12_28_45.dgn |                           | DRAWN - N.B.      | REVISED - |   | US 12/20/45 (MANNHEIM RD) AT HIRSCH ST (SOFFEL AV) |  |  |                     |                     |   |                  |              |
|   |                           | CHECKED - D.B.    | REVISED - |   | SCALE: 1"=20'                                      |  |  | SHEET NO. OF SHEETS | STA. TO STA.        | FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT |                  |              |
|   |                           | DATE - 09/04/2008 | REVISED - |   | CONTRACT NO. 60E31                                 |  |  |                     |                     |   |                  |              |



**CONTROLLER SEQUENCE**

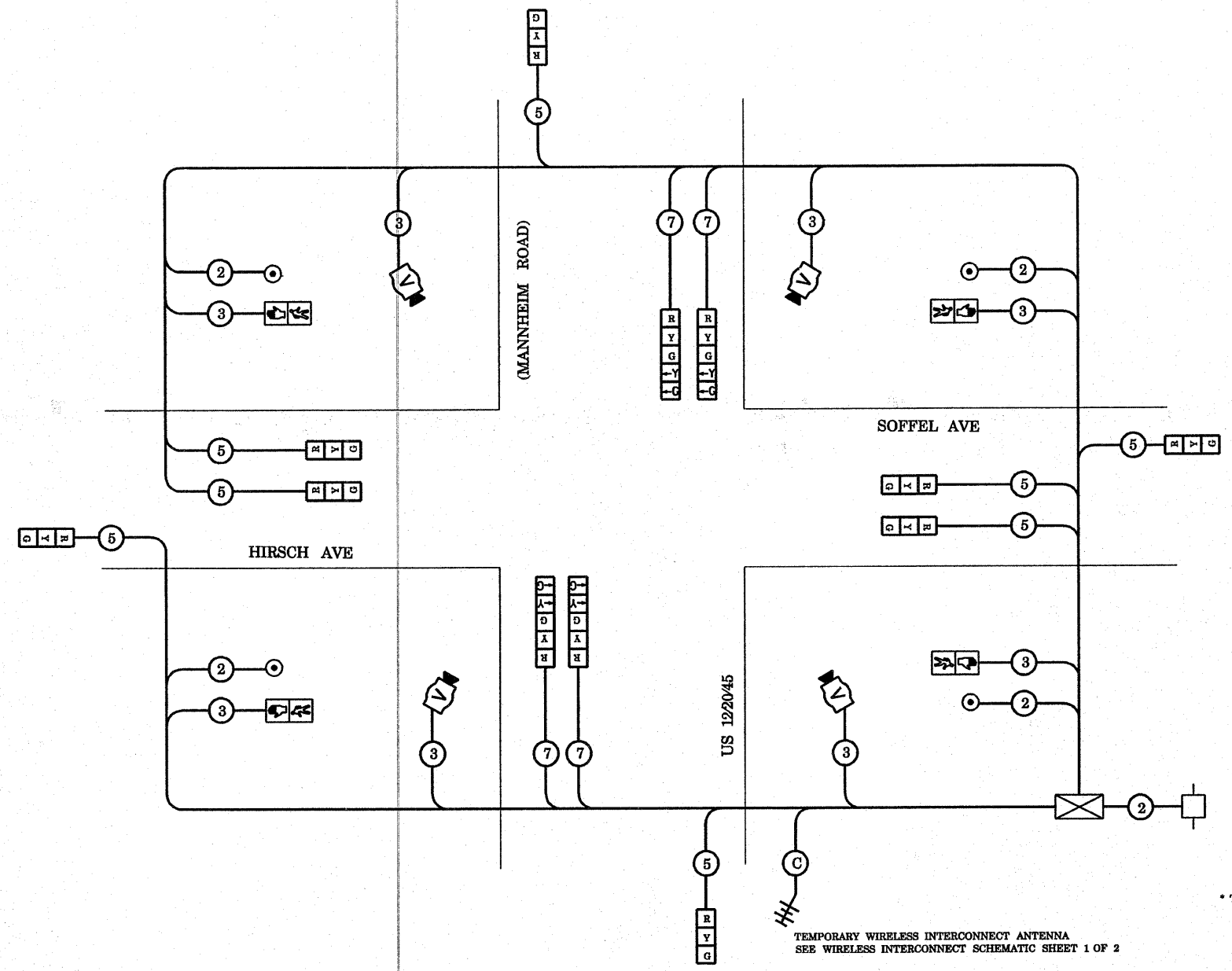


**LEGEND**  
 ○ DUAL ENTRY PHASE  
 ○ PEDESTRIAN PHASE  
 \* NUMBER REFERS TO ASSOCIATED PHASE

**TEMPORARY PHASE DESIGNATION DIAGRAM**

**TEMPORARY CABLE DIAGRAM LEGEND**

- TEMPORARY TRAFFIC SIGNAL SECTION OR PEDESTRIAN SIGNAL SECTION, 12" (300 mm)
- TEMPORARY CONTROLLER CABINET
- TEMPORARY SERVICE INSTALLATION
- INDICATES NUMBER OF CONDUCTORS IN CABLE. ALL CONDUCTORS TO BE NUMBERED 14 AWG WIRE UNLESS OTHERWISE NOTED.
- EMERGENCY VEHICLE LIGHT DETECTOR
- CONFIRMATION BEACON
- PEDESTRIAN PUSHBUTTON DETECTOR
- VEHICLE DETECTOR, INDUCTION LOOP
- 12" (300 mm) PEDESTRIAN SIGNAL SECTION
- MICROWAVE VEHICLE SENSOR
- VIDEO DETECTOR
- WIRELESS INTERCONNECT (ANTENNA)



**TEMPORARY CABLE PLAN**

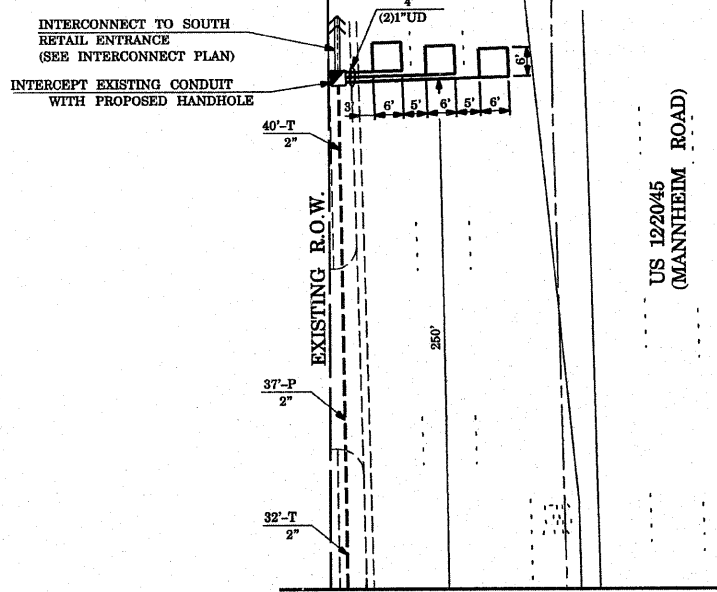
\* TEMPORARY WIRELESS INTERCONNECT IS INCLUDED IN TEMPORARY TRAFFIC SIGNAL INSTALLATION PAY ITEM

TEMPORARY WIRELESS INTERCONNECT ANTENNA  
 SEE WIRELESS INTERCONNECT SCHEMATIC SHEET 1 OF 2

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

| TYPE                                     | NO. LAMPS | WATTAGE |     | % OPERATION | TOTAL WATTAGE  |
|--|-----------|---------|-----|-------------|----------------|
|  |           | INCAND. | LED |             |                |
| SIGNAL (RED)                             | 12        |         | 17  | 0.50        | 102.00         |
| (YELLOW)                                 | 12        |         | 25  | 0.25        | 75.00          |
| (GREEN)                                  | 12        |         | 15  | 0.25        | 45.00          |
| ARROW                                    | 8         |         | 12  | 0.10        | 9.60           |
| PED. SIGNAL                              | 4         |         | 25  | 1.00        | 100.00         |
| CONTROLLER                               | 1         |         | 100 | 1.00        | 100.00         |
| ILLUM. SIGN                              |           |         |     | 0.05        | -              |
| FLASHER                                  |           |         |     | 0.05        | -              |
| ENERGY COSTS TO: VILLAGE OF MELROSE PARK |           |         |     |             | TOTAL = 431.60 |
| ENERGY SUPPLY CONTACT: MR. MIKE BELL     |           |         |     |             |                |
| PHONE: (708)410-5314                     |           |         |     |             |                |
| COMPANY: COMMONWEALTH EDISON             |           |         |     |             |                |

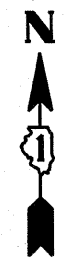




MATCH LINE A-A

US 12/20/45  
(MANNHEIM ROAD)

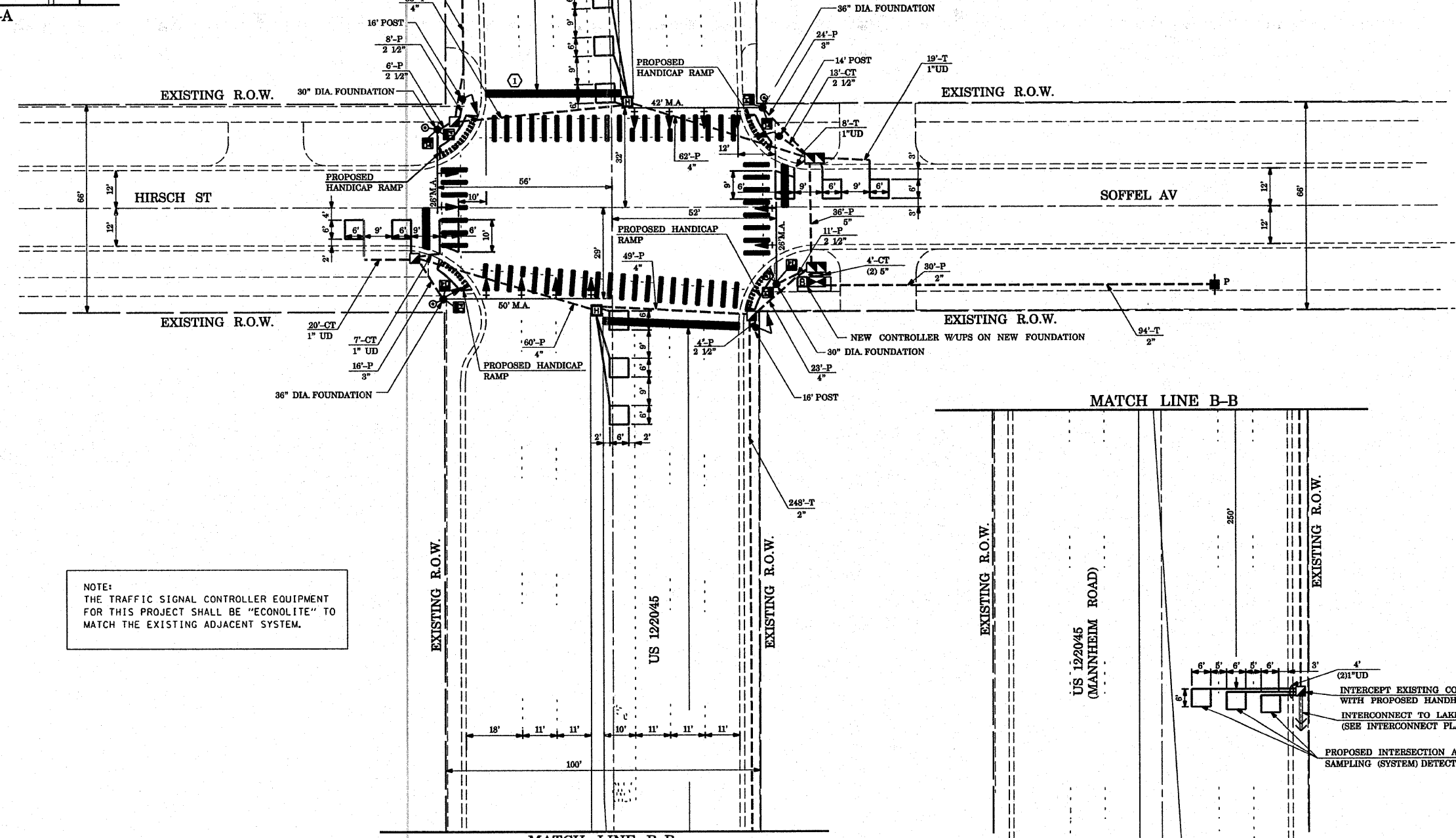
CONSTRUCTION NOTES:  
 ① RE-STRIPE EXISTING THERMOPLASTIC PAVEMENT MARKING STOP LINE WITH HIGH VISIBILITY THERMOPLASTIC PAVEMENT MARKING STOP LINE 24" (TYP.)



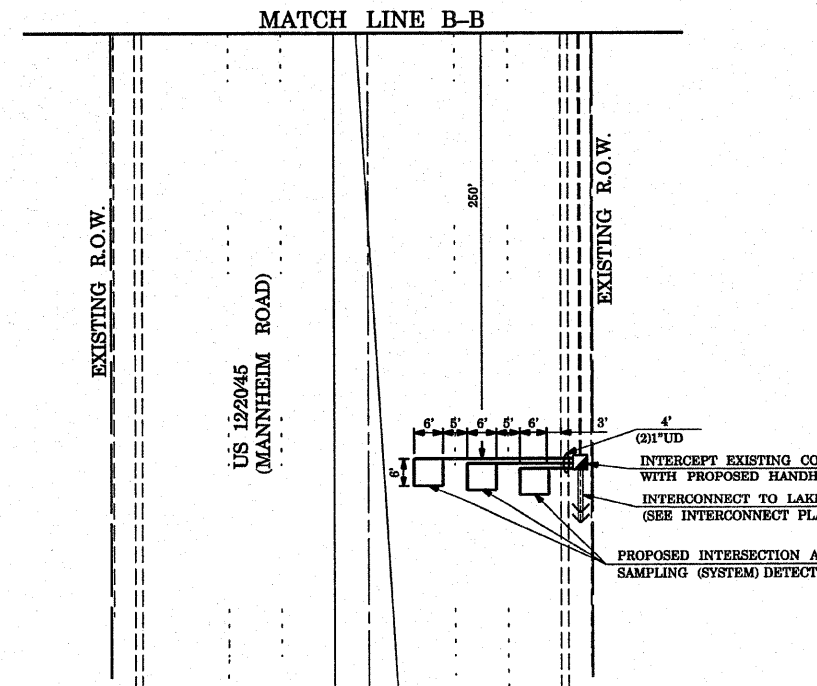
RESTORATION OF WORK AREA RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT, ETC. SHALL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

**TRAFFIC SIGNAL LEGEND**

- |  |                 |
|--|-----------------|
| <b>PROPOSED</b>                                      | <b>EXISTING</b> |
| CONTROLLER   |                 |
| RAILROAD CONTROL CABINET                             |                 |
| SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNTED |                 |
| SIGNAL HEAD  |                 |
| SIGNAL HEAD WITH BACKPLATE                           |                 |
| SIGNAL HEAD, PEDESTRIAN                              |                 |
| SIGNAL POST  |                 |
| MAST ARM ASSEMBLY AND POLE, STEEL                    |                 |
| MAST ARM ASSEMBLY AND POLE, ALUMINIUM                |                 |
| COMMON TRENCH  |                 |
| UNIT DUCT  |                 |
| HANDHOLE   |                 |
| HEAVY DUTY HANDHOLE                                  |                 |
| DOUBLE HANDHOLE                                      |                 |
| G.S.CONDUIT IN TRENCH OR PUSHED                      |                 |
| CAST IRON JUNCTION BOX                               |                 |
| SIGNAL HEAD OPTICALLY PROGRAMMED                     |                 |
| CONDUIT SPLICE                                       |                 |
| WOOD POLE  |                 |
| RACEWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II     |                 |
| VEHICLE DETECTOR, NON COMPENSATED MAGNETIC TYPE      |                 |
| RAILROAD CONTROL CABINET                             |                 |
| ILLUMINATED SIGN, FIBER OPTIC "NO LEFT TURN"         |                 |
| ILLUMINATED SIGN, FIBER OPTIC "NO RIGHT TURN"        |                 |
| TELEPHONE CONNECTION                                 |                 |
| PEDESTRIAN PUSHBUTTON DETECTOR                       |                 |
| DETECTOR LOOP, TYPE I                                |                 |
| PREFORMED DETECTOR LOOP                              |                 |
| VIDEO DETECTOR                                       |                 |
| CLOSED CIRCUIT TV                                    |                 |
| EMERGENCY VEHICLE SYSTEM DETECTOR                    |                 |
| CONFIRMATION BEACON                                  |                 |
| UNINTERRUPTABLE POWER SUPPLY                         |                 |
| PEDESTRIAN SIGNAL HEAD WITH COUNTDOWN TIMER          |                 |

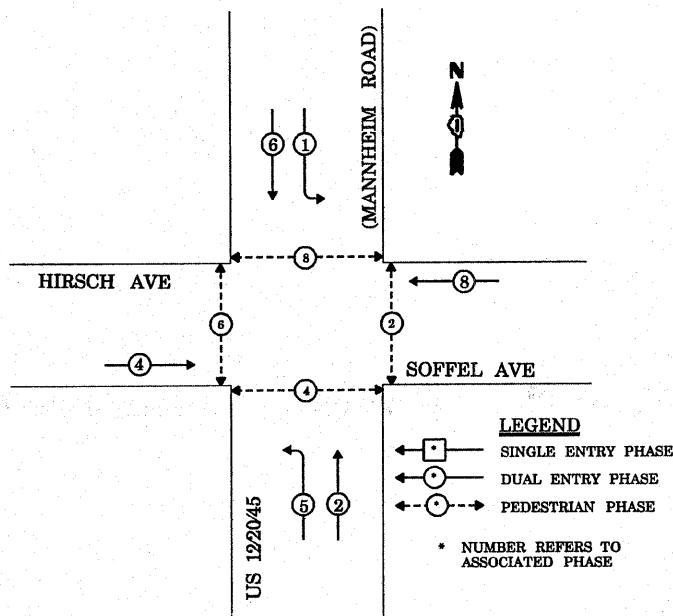


NOTE:  
 THE TRAFFIC SIGNAL CONTROLLER EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM.



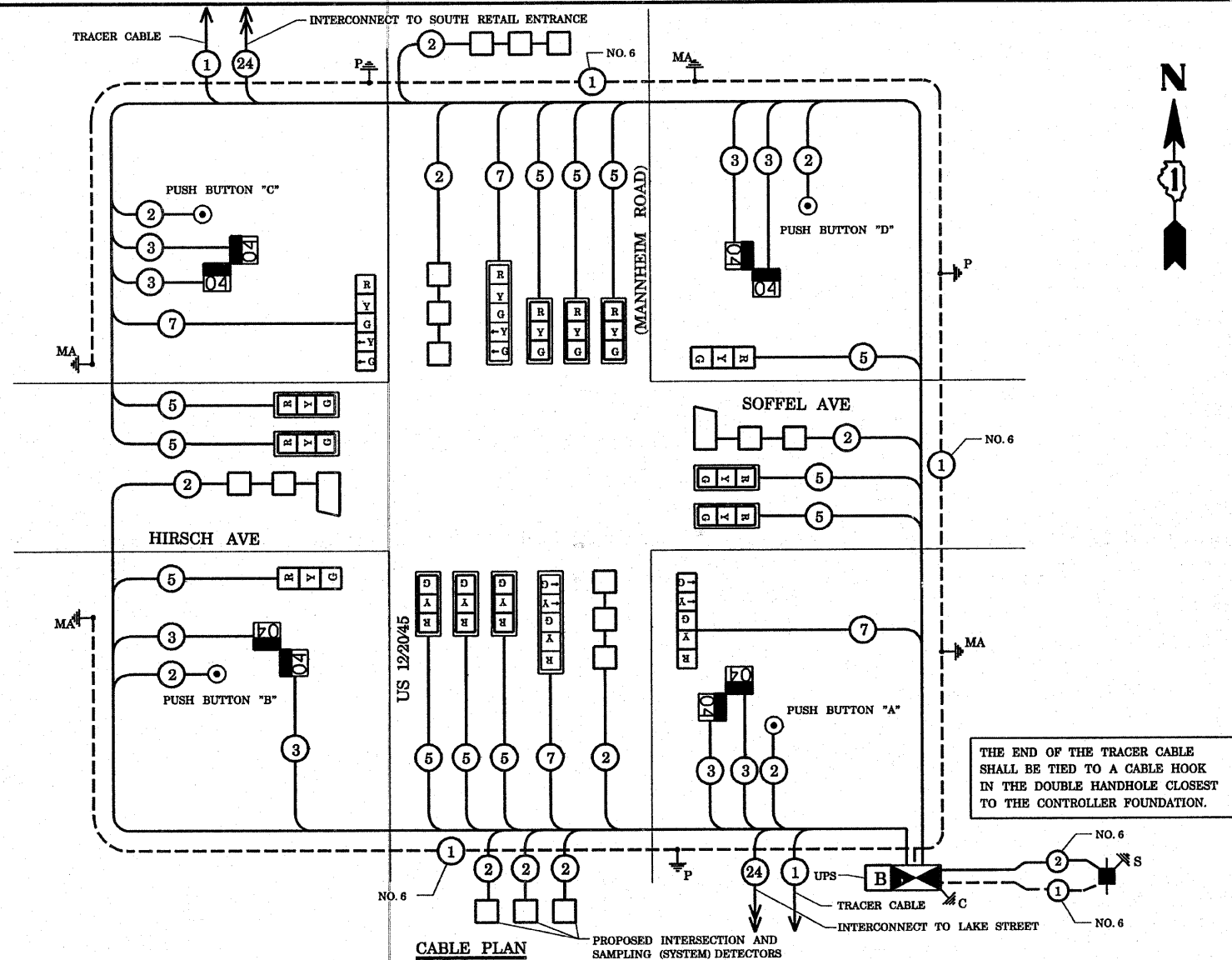
|                        |                             |                 |           |   |  |                 |                     |              |                     |                           |                    |
|------------------------|-----------------------------|-----------------|-----------|---|--|-----------------|---------------------|--------------|---------------------|---------------------------|--------------------|
| FILE NAME =            | USER NAME = kanthaphixaybc  | DESIGNED - N.B. | REVISED - | <b>STATE OF ILLINOIS<br/>DEPARTMENT OF TRANSPORTATION</b> | <b>PROPOSED TRAFFIC SIGNAL PLAN<br/>US 12/20/45 (MANNHEIM RD) AT HIRSCH ST (SOFFEL AV)</b> | F.A.P. RTE. 330 | SECTION 2008-006 T5 | COUNTY COOK  | TOTAL SHEETS 104    | SHEET NO. 48              |                    |
| PROJECT NO. = 070027   | PLOT SCALE = 40,0000' / IN. | CHECKED - D.B.  | REVISED - |   |  | SCALE: 1" = 20' | SHEET NO. OF SHEETS | STA. TO STA. | FED. ROAD DIST. NO. | ILLINOIS FED. AID PROJECT | CONTRACT NO. 60E31 |
| PLOT DATE = 10/10/2008 | DATE = 09/04/2008           | REVISED -       | REVISED - |   |  |                 |                     |              |                     |                           |                    |
|                        |                             |                 |           |   |  |                 |                     |              |                     |                           |                    |

**CONTROLLER SEQUENCE**



**PHASE DESIGNATION DIAGRAM**

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



**CABLE PLAN**  
**SUMMARY OF QUANTITIES**

| QUANTITY | UNIT  | ITEM  |
|----------|-------|---|
| 1571     | SQ FT | PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH             |
| 1571     | SQ FT | SIDEWALK REMOVAL                                      |
| 0.1      | L SUM | TRAFFIC CONTROL AND PROTECTION, STANDARD 701501       |
| 0.1      | L SUM | TRAFFIC CONTROL AND PROTECTION, STANDARD 701701       |
| 0.1      | L SUM | TRAFFIC CONTROL AND PROTECTION, STANDARD 701801       |
| 27       | SQ FT | SIGN PANEL - TYPE 1                                   |
| 30       | SQ FT | SIGN PANEL - TYPE 2                                   |
| 456      | FOOT  | THERMOPLASTIC PAVEMENT MARKING - LINE 12"             |
| 114      | FOOT  | THERMOPLASTIC PAVEMENT MARKING - LINE 24"             |
| 716      | SQ FT | THERMOPLASTIC PAVEMENT MARKING REMOVAL                |
| 465      | FOOT  | CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL          |
| 10       | FOOT  | CONDUIT IN TRENCH, 5" DIA., GALVANIZED STEEL          |
| 168      | FOOT  | CONDUIT PUSHED, 2" DIA., GALVANIZED STEEL             |
| 25       | FOOT  | CONDUIT PUSHED, 2" DIA., GALVANIZED STEEL             |
| 44       | FOOT  | CONDUIT PUSHED, 3" DIA., GALVANIZED STEEL             |
| 256      | FOOT  | CONDUIT PUSHED, 4" DIA., GALVANIZED STEEL             |
| 36       | FOOT  | CONDUIT PUSHED, 5" DIA., GALVANIZED STEEL             |
| 5        | EACH  | HANDHOLE  |
| 2        | EACH  | HEAVY-DUTY HANDHOLE                                   |
| 2        | EACH  | DOUBLE HANDHOLE                                       |
| 470      | FOOT  | TRENCH AND BACKFILL FOR ELECTRICAL WORK               |
| 1        | EACH  | FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL |
| 1        | EACH  | TRANSCIVER - FIBER OPTIC                              |
| 553      | FOOT  | ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C           |
| 1177     | FOOT  | ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C           |
| 2076     | FOOT  | ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C           |
| 715      | FOOT  | ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C           |
| 1867     | FOOT  | ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1-PAIR     |

| QUANTITY | UNIT | ITEM   |
|----------|------|--|
| 143      | FOOT | ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C                                 |
| 459      | FOOT | ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C                               |
| 1        | EACH | TRAFFIC SIGNAL POST, GALVANIZED STEEL 14 FT.                                 |
| 2        | EACH | TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.                                 |
| 2        | EACH | STEEL MAST ARM ASSEMBLY AND POLE, 26 FT.                                     |
| 1        | EACH | STEEL MAST ARM ASSEMBLY AND POLE, 42 FT.                                     |
| 1        | EACH | STEEL MAST ARM ASSEMBLY AND POLE, 50 FT.                                     |
| 12       | FOOT | CONCRETE FOUNDATION, TYPE A  |
| 4        | FOOT | CONCRETE FOUNDATION, TYPE C  |
| 30       | FOOT | CONCRETE FOUNDATION, TYPE E 30" DIAMETER                                     |
| 30       | FOOT | CONCRETE FOUNDATION, TYPE E 36" DIAMETER                                     |
| 12       | EACH | TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM                                 |
| 8        | EACH | INDUCTIVE LOOP DETECTOR  |
| 500      | FOOT | DETECTOR LOOP, TYPE I  |
| 4        | EACH | PEDESTRIAN PUSH-BUTTON   |
| 1        | EACH | TEMPORARY TRAFFIC SIGNAL INSTALLATION  |
| 1        | EACH | REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT                                     |
| 9        | EACH | REMOVE EXISTING HANDHOLE   |
| 7        | EACH | REMOVE EXISTING CONCRETE FOUNDATION  |
| 10       | EACH | SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, MAST ARM MOUNTED                     |
| 2        | EACH | SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, BRACKET MOUNTED                      |
| 2        | EACH | SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, BRACKET MOUNTED                      |
| 2        | EACH | SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, MAST ARM MOUNTED                     |
| 4        | EACH | PEDESTRIAN SIGNAL HEAD, L.E.D., 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER |
| 1        | EACH | TEMPORARY TRAFFIC SIGNAL TIMINGS   |
| 1        | EACH | SERVICE INSTALLATION, POLE MOUNT   |
| 1        | EACH | UNINTERRUPTIBLE POWER SUPPLY   |

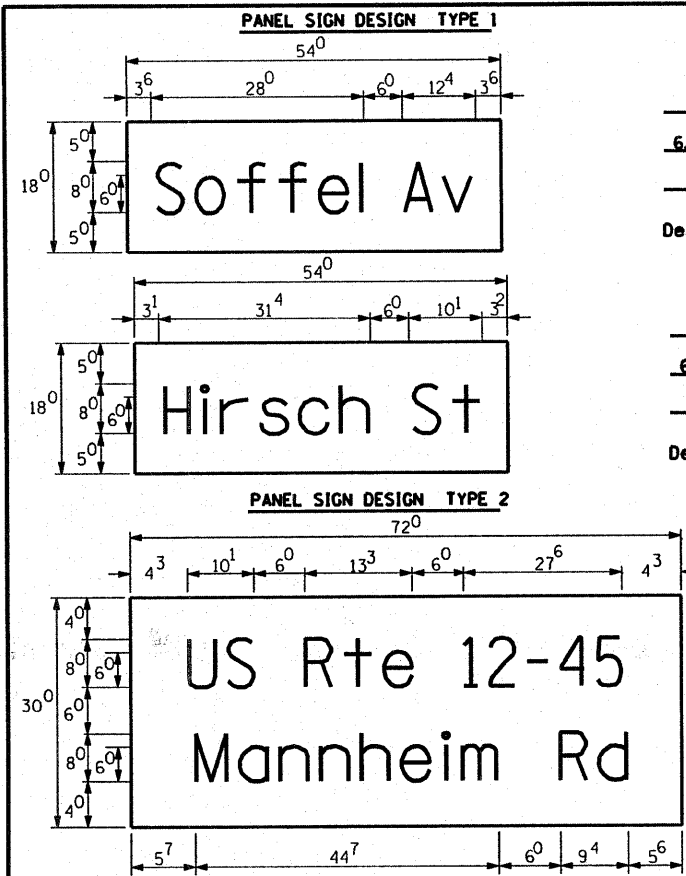
**CABLE PLAN LEGEND**

- | PROPOSED | EXISTING |   |
|----------|----------|---|
| [Symbol] | [Symbol] | 8" (200mm) TRAFFIC SIGNAL SECTION   |
| [Symbol] | [Symbol] | 12" (300mm) TRAFFIC SIGNAL SECTION  |
| [Symbol] | [Symbol] | 12" (300mm) PEDESTRIAN SIGNAL SECTION   |
| [Symbol] | [Symbol] | 12" (300mm) PEDESTRIAN SIGNAL SECTION   |
| [Symbol] | [Symbol] | CONTROLLER CABINET  |
| [Symbol] | [Symbol] | SERVICE INSTALLATION  |
| [Symbol] | [Symbol] | TELEPHONE CONNECTION  |
| [Symbol] | [Symbol] | MAGNETIC DETECTOR   |
| [Symbol] | [Symbol] | PUSHBUTTON DETECTOR   |
| [Symbol] | [Symbol] | VEHICLE DETECTOR, INDUCTION LOOP  |
| [Symbol] | [Symbol] | 2 DENOTES NUMBER OF CONDUCTORS. ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOP DETECTOR CABLE TO BE SHIELDED. |
| [Symbol] | [Symbol] | SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD   |
| [Symbol] | [Symbol] | "P" RAILROAD CONTROL CABINET  |
| [Symbol] | [Symbol] | "E" ILLUMINATED SIGN, FIBER OPTIC "NO LEFT TURN"  |
| [Symbol] | [Symbol] | "E" ILLUMINATED SIGN, FIBER OPTIC "NO RIGHT TURN"   |
| [Symbol] | [Symbol] | HC GROUND ROD AT HANDHOLE, DOUBLE HANDHOLE, OR CONTROLLER   |
| [Symbol] | [Symbol] | P GROUND ROD AT POST OR MAST ARM POLE   |
| [Symbol] | [Symbol] | S GROUND ROD AT ELECTRIC SERVICE INSTALLATION   |
| [Symbol] | [Symbol] | 1 GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN)  |
| [Symbol] | [Symbol] | 24 FIBER OPTIC CABLE IN CONDUIT NO. 62.5x25 2-MM12F & SM12F   |
| [Symbol] | [Symbol] | MICROWAVE VEHICLE SENSOR  |
| [Symbol] | [Symbol] | VIDEO DETECTOR  |
| [Symbol] | [Symbol] | CLOSED CIRCUIT TV   |
| [Symbol] | [Symbol] | EMERGENCY VEHICLE LIGHT DETECTOR  |
| [Symbol] | [Symbol] | CONFIRMATION BEACON   |
| [Symbol] | [Symbol] | UNINTERRUPTIBLE POWER SUPPLY  |
| [Symbol] | [Symbol] | PEDESTRIAN SIGNAL HEAD WITH COUNTDOWN TIMER   |

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

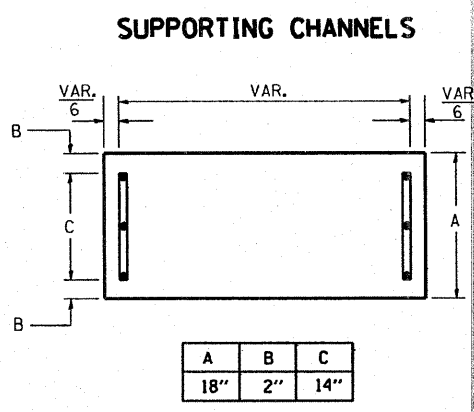
| TYPE                                     | NO. LAMPS | WATTAGE INCAND. | WATTAGE LED | % OPERATION | TOTAL WATTAGE  |
|--|-----------|-----------------|-------------|-------------|----------------|
| SIGNAL (RED)                             | 16        |                 | 17          | 0.50        | 136.00         |
| (YELLOW)                                 | 16        |                 | 25          | 0.25        | 100.00         |
| (GREEN)                                  | 16        |                 | 15          | 0.25        | 60.00          |
| ARROW                                    | 8         |                 | 12          | 0.10        | 9.00           |
| 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: VILLAGE OF MELROSE PARK |           |                 |             |             | TOTAL = 605.60 |
| ENERGY SUPPLY CONTACT: MR. MIKE BELL     |           |                 |             |             |                |
| PHONE: (708)410-5314                     |           |                 |             |             |                |
| COMPANY: COMMONWEALTH EDISON             |           |                 |             |             |                |

|              |                           |                 |                   |   |                     |   |                     |                 |                     |                    |                  |              |
|--------------|---------------------------|-----------------|-------------------|---|---------------------|---|---------------------|-----------------|---------------------|--------------------|------------------|--------------|
| FILE NAME =  | USER NAME = kanthaphixjbc | DESIGNED - N.B. | REVISED -         | STATE OF ILLINOIS<br>DEPARTMENT OF TRANSPORTATION |                     | PROPOSED CABLE PLAN<br>US 12/2045 (MANNHEIM RD) AT HIRSCH(SOFFEL) AVE |                     | F.A.P. RTE. 330 | SECTION 2008-006 TS | COUNTY COOK        | TOTAL SHEETS 104 | SHEET NO. 47 |
| DRAWN - N.B. |                           | CHECKED - D.B.  | DATE - 09/04/2008 | SCALE: NTS  | SHEET NO. OF SHEETS | STA. TO STA.  | FED. ROAD DIST. NO. | ILLINOIS        | FED. AID PROJECT    | CONTRACT NO. 60E31 |                  |              |



Sq. M. each  
 6.75 Sq. Ft. each  
 2 Required  
 Design Series D

Sq. M. each  
 6.75 Sq. Ft. each  
 2 Required  
 Design Series D



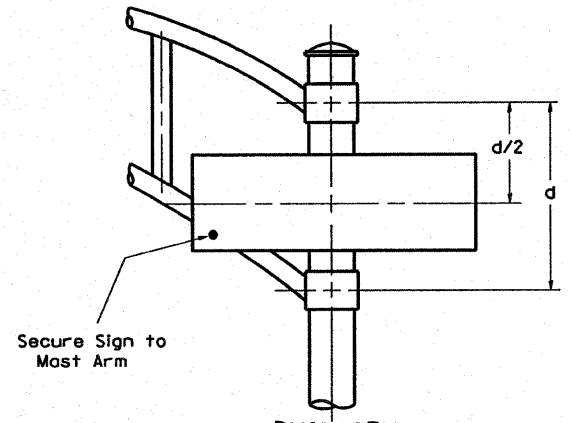
Sq. M. each  
 15 Sq. Ft. each  
 2 Required  
 Design Series C

**GENERAL NOTES**

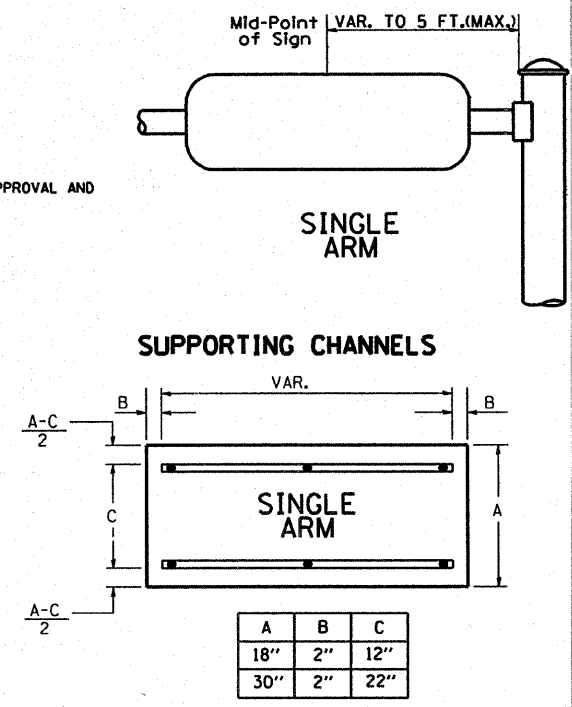
- WHERE MAST ARM MOUNTED STREET NAME SIGNS ARE SPECIFIED, THE MAST ARM ASSEMBLY AND POLES SHALL BE DESIGNED TO SUPPORT THE LOADINGS CALLED FOR ON STANDARDS 834001, 834006 AND 834011, AS APPLICABLE, PLUS TWO (2) SIGN PANELS 2'-6" x 6'-0" MOUNTED AS SHOWN. THE DESIGN SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CURRENT "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS" AS PUBLISHED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS FOR 80 M.P.H. WIND VELOCITY.
- ALL SIGNS SHALL HAVE A WHITE REFLECTORIZED LEGEND AND BORDER ON A GREEN REFLECTORIZED BACKGROUND, TYPE A SHEETING.
- THE SIGN LENGTH SHOULD BE INCREASED IN 6-INCH INCREMENTS, BUT THE OVERALL LENGTH SHOULD NOT EXCEED 6'-0".
- ALL BORDERS SHALL BE 3/4" WIDE AND CORNER RADIUS SHALL BE 2-1/4".
- SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM SHALL BE USED FOR ALL SIGNS ATTACHED TO SIGNAL POLES AND POSTS. LOCAL SUPPLIERS OF THE SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM ARE:
  - \* A.K.T. CORPORATION
  - \* AMERICAN FABRICATION CO.
  - \* SCHAUMBURG, IL
  - \* CHICAGO HEIGHTS, IL
  - \* TUCKER COMPANY, INC.
  - \* WESTERN TRAFFIC CONTROL INC.
  - \* WAUWATOSA, WI
  - \* CICERO, IL

- PARTS LISTING:**
- SIGN CHANNEL: PART #HPN053 (MED. CHANNEL)  
 SIGN SCREWS: 1/4" x 14 x 1" H.W.H. #3  
 BRACKETS: SELF TAPPING WITH NEOPRENE WASHER  
 PART #HPN034 (UNIVERSAL)  
 CHANNEL CLAMPS WITH STAINLESS STEEL STRAPPING

OTHER BRANDS OF MOUNTING HARDWARE ARE ACCEPTABLE, BASED UPON THE DEPARTMENT'S APPROVAL AND COMPATIBILITY WITH THE CHANNEL/BRACKET OF THE ABOVE PRODUCT.



**DUAL ARM**  
 SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM  
 Shall be used. See Note #5.



Upper Case To Lower Case  
 Spacing Chart 8-6 Inch Series "C & D"

| SERIES  | SECOND LETTER |    |       |    |     |    |    |    |     |    |     |    |    |    |    |    |
|---------|---------------|----|-------|----|-----|----|----|----|-----|----|-----|----|----|----|----|----|
|         | acde          |    | bhikl |    | f w |    | j  |    | s t |    | v y |    | x  |    | z  |    |
|         | g             | o  | q     | m  | n   | p  | r  | u  |     |    |     |    |    |    |    |    |
| A W X   | 12            | 14 | 14    | 15 | 12  | 14 | 06 | 10 | 11  | 14 | 06  | 10 | 11 | 12 | 12 | 14 |
| B       | 14            | 15 | 20    | 21 | 14  | 15 | 11 | 12 | 14  | 15 | 12  | 14 | 12 | 14 | 16 | 17 |
| C E G   | 14            | 15 | 20    | 21 | 12  | 14 | 06 | 10 | 12  | 14 | 12  | 14 | 14 | 15 | 14 | 15 |
| D O O R | 14            | 15 | 20    | 21 | 14  | 15 | 06 | 10 | 12  | 14 | 12  | 14 | 14 | 15 | 14 | 15 |
| F       | 05            | 06 | 14    | 15 | 06  | 10 | 05 | 06 | 06  | 10 | 06  | 10 | 06 | 10 | 11 | 12 |
| H I M N | 20            | 21 | 22    | 24 | 20  | 21 | 14 | 15 | 16  | 17 | 16  | 17 | 20 | 21 | 20 | 21 |
| J U     | 20            | 21 | 20    | 21 | 16  | 17 | 14 | 15 | 16  | 17 | 16  | 17 | 16 | 17 | 20 | 21 |
| K L     | 11            | 12 | 16    | 17 | 11  | 12 | 05 | 06 | 11  | 12 | 11  | 12 | 11 | 12 | 12 | 14 |
| P       | 12            | 14 | 14    | 15 | 12  | 14 | 05 | 06 | 11  | 12 | 11  | 12 | 12 | 14 | 12 | 14 |
| S       | 12            | 14 | 16    | 17 | 12  | 14 | 06 | 10 | 12  | 14 | 12  | 14 | 12 | 14 | 12 | 14 |
| T       | 11            | 12 | 16    | 17 | 06  | 10 | 06 | 10 | 11  | 12 | 11  | 12 | 11 | 12 | 12 | 14 |
| V       | 06            | 10 | 14    | 15 | 11  | 12 | 06 | 10 | 12  | 14 | 12  | 14 | 12 | 14 | 12 | 14 |
| Y       | 05            | 06 | 14    | 15 | 06  | 10 | 05 | 06 | 05  | 07 | 05  | 06 | 06 | 10 | 11 | 12 |
| Z       | 16            | 17 | 22    | 24 | 16  | 17 | 12 | 14 | 16  | 17 | 16  | 17 | 16 | 17 | 20 | 21 |

Lower Case To Lower Case  
 Spacing Chart 6 Inch Series "C & D"

| SERIES      | SECOND LETTER |    |       |    |     |    |    |    |     |    |     |    |    |    |    |    |
|-------------|---------------|----|-------|----|-----|----|----|----|-----|----|-----|----|----|----|----|----|
|             | acde          |    | bhikl |    | f w |    | j  |    | s t |    | v y |    | x  |    | z  |    |
|             | g             | o  | q     | m  | n   | p  | r  | u  |     |    |     |    |    |    |    |    |
| ad h g i j  | 16            | 17 | 22    | 24 | 16  | 17 | 12 | 14 | 14  | 15 | 14  | 15 | 16 | 17 | 16 | 17 |
| l m n q u   |               |    |       |    |     |    |    |    |     |    |     |    |    |    |    |    |
| b f k o p s | 12            | 14 | 16    | 17 | 11  | 12 | 05 | 06 | 11  | 12 | 11  | 12 | 12 | 14 | 12 | 14 |
| c e         | 12            | 14 | 16    | 17 | 12  | 14 | 06 | 10 | 12  | 14 | 12  | 14 | 12 | 14 | 12 | 14 |
| r           | 06            | 10 | 12    | 14 | 06  | 10 | 03 | 03 | 05  | 06 | 05  | 06 | 06 | 10 | 06 | 10 |
| t z         | 12            | 14 | 16    | 17 | 12  | 14 | 06 | 10 | 11  | 12 | 11  | 12 | 12 | 14 | 12 | 14 |
| v y         | 11            | 12 | 14    | 15 | 11  | 12 | 05 | 06 | 06  | 10 | 06  | 10 | 11 | 12 | 11 | 12 |
| w           | 11            | 12 | 14    | 15 | 11  | 12 | 05 | 06 | 11  | 12 | 11  | 12 | 11 | 12 | 12 | 14 |
| x           | 12            | 14 | 16    | 17 | 11  | 12 | 05 | 06 | 11  | 12 | 11  | 12 | 11 | 12 | 12 | 14 |

Number To Number  
 Spacing Chart 8 Inch Series "C & D"

| SERIES | SECOND NUMBER |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|--------|---------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|        | 0             |    | 1  |    | 2  |    | 3  |    | 4  |    | 5  |    | 6  |    | 7  |    | 8  |    | 9  |    |
|        | C             | D  | C  | D  | C  | D  | C  | D  | C  | D  | C  | D  | C  | D  | C  | D  | C  | D  | C  | D  |
| 0 9    | 16            | 17 | 16 | 17 | 14 | 15 | 12 | 14 | 14 | 15 | 14 | 15 | 16 | 17 | 12 | 14 | 16 | 17 | 16 | 17 |
| 1      | 20            | 21 | 20 | 21 | 20 | 21 | 16 | 17 | 14 | 15 | 20 | 21 | 20 | 21 | 14 | 15 | 20 | 21 | 20 | 21 |
| 2 3 4  | 14            | 15 | 14 | 15 | 14 | 15 | 12 | 14 | 12 | 14 | 14 | 15 | 14 | 15 | 11 | 12 | 14 | 15 | 14 | 15 |
| 5      | 14            | 15 | 14 | 15 | 14 | 15 | 11 | 12 | 11 | 12 | 14 | 15 | 14 | 15 | 11 | 12 | 14 | 15 | 14 | 15 |
| 6      | 16            | 17 | 14 | 15 | 14 | 15 | 12 | 14 | 14 | 15 | 14 | 15 | 11 | 12 | 14 | 15 | 14 | 15 | 14 | 15 |
| 7      | 12            | 14 | 12 | 14 | 14 | 15 | 12 | 15 | 05 | 06 | 12 | 14 | 14 | 15 | 11 | 12 | 14 | 15 | 12 | 14 |
| 8      | 16            | 17 | 16 | 17 | 14 | 15 | 12 | 15 | 12 | 14 | 14 | 15 | 16 | 17 | 12 | 14 | 16 | 17 | 14 | 15 |

EXAMPLE, 2<sup>3</sup> DENOTES 3/8"

UPPER AND LOWER CASE LETTER WIDTHS

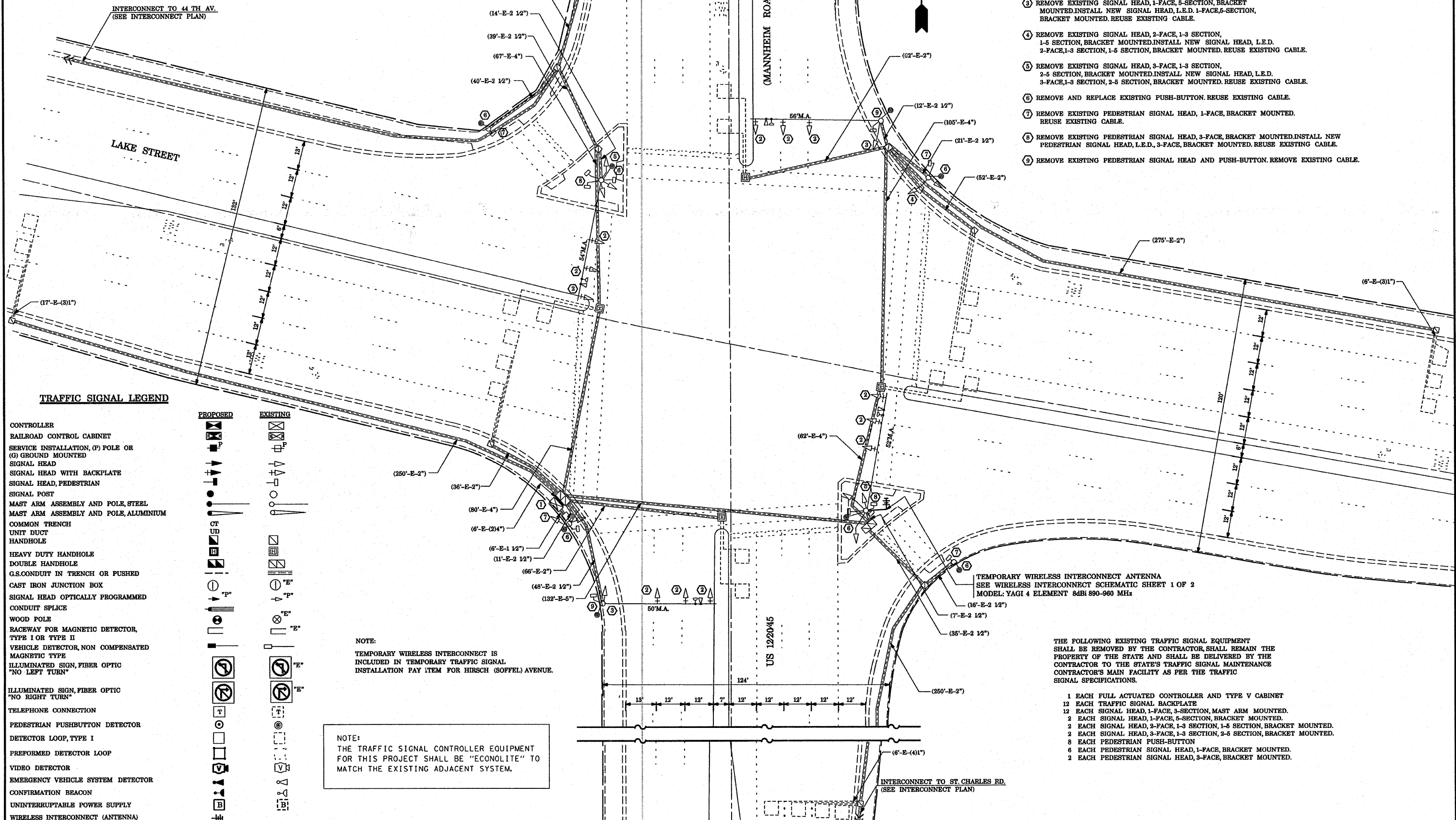
| LETTERS | 6 INCH UPPER CASE LETTERS |    |        |    | LETTERS | 6 INCH LOWER CASE LETTERS |    |
|---------|---------------------------|----|--------|----|---------|---------------------------|----|
|         | SERIES                    |    | SERIES |    |         | SERIES                    |    |
|         | C                         | D  | C      | D  |         | C                         | D  |
| A       | 36                        | 50 | 50     | 65 | a       | 35                        | 42 |
| B       | 32                        | 40 | 43     | 53 | b       | 35                        | 42 |
| C       | 32                        | 40 | 43     | 53 | c       | 35                        | 41 |
| D       | 32                        | 40 | 43     | 53 | d       | 35                        | 42 |
| E       | 30                        | 35 | 40     | 47 | e       | 35                        | 42 |
| F       | 30                        | 35 | 40     | 47 | f       | 23                        | 26 |
| G       | 32                        | 40 | 43     | 53 | g       | 35                        | 42 |
| H       | 32                        | 40 | 43     | 53 | h       | 35                        | 42 |
| I       | 07                        | 07 | 11     | 12 | i       | 11                        | 11 |
| J       | 30                        | 36 | 40     | 50 | j       | 20                        | 22 |
| K       | 32                        | 41 | 43     | 54 | k       | 35                        | 42 |
| L       | 30                        | 35 | 40     | 47 | l       | 11                        | 11 |
| M       | 37                        | 45 | 51     | 61 | m       | 60                        | 70 |
| N       | 32                        | 40 | 43     | 53 | n       | 35                        | 42 |
| O       | 34                        | 42 | 45     | 55 | o       | 36                        | 43 |
| P       | 32                        | 40 | 43     | 53 | p       | 35                        | 42 |
| Q       | 34                        | 42 | 45     | 55 | q       | 35                        | 42 |
| R       | 32                        | 40 | 43     | 53 | r       | 26                        | 32 |
| S       | 32                        | 40 | 43     | 53 | s       | 36                        | 42 |
| T       | 30                        | 35 | 40     | 47 | t       | 27                        | 32 |
| U       | 32                        | 40 | 43     | 53 | u       | 35                        | 42 |
| V       | 35                        | 44 | 47     | 60 | v       | 42                        | 47 |
| W       | 44                        | 52 | 60     | 70 | w       | 55                        | 64 |
| X       | 34                        | 40 | 45     | 53 | x       | 44                        | 51 |
| Y       | 36                        | 50 | 50     | 66 | y       | 46                        | 53 |
| Z       | 32                        | 40 | 43     | 53 | z       | 36                        | 43 |

NUMBER TO NUMBER

| NUMBER | 6 INCH SERIES |    | 8 INCH SERIES |    |
|--------|---------------|----|---------------|----|
|        | C             | D  | C             | D  |
| 1      | 12            | 14 | 15            | 20 |
| 2      | 32            | 40 | 43            | 53 |
| 3      | 32            | 40 | 43            | 53 |
| 4      | 35            | 43 | 47            | 57 |
| 5      | 32            | 40 | 43            | 53 |
| 6      | 32            | 40 | 43            | 53 |
| 7      | 32            | 40 | 43            | 53 |
| 8      | 32            | 40 | 43            | 53 |
| 9      | 32            | 40 | 43            | 53 |
| 0      | 34            | 42 | 45            | 55 |

...:\traffic\070027\us12\_20\_45.dgn 10/10/2008 2:19:29 PM User:kantaphixaybc

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 SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOB, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.



- CONSTRUCTION NOTES:
- ① REMOVE EXISTING CONTROLLER AND REPLACE WITH NEW CONTROLLER WITH UPS USING EXISTING FOUNDATION. RELOCATION OF EXISTING EVP PHASING UNIT SHALL BE INCLUDED IN THE UNIT COST OF NEW CONTROLLER AND CABINET PAY ITEM.
  - ② REMOVE EXISTING SIGNAL HEAD, 1-FACE, 3-SECTION, MAST ARM MOUNTED. INSTALL NEW SIGNAL HEAD, L.E.D. 1-FACE, 3-SECTION, MAST ARM MOUNTED. REUSE EXISTING CABLE.
  - ③ REMOVE EXISTING SIGNAL HEAD, 1-FACE, 5-SECTION, BRACKET MOUNTED. INSTALL NEW SIGNAL HEAD, L.E.D. 1-FACE, 5-SECTION, BRACKET MOUNTED. REUSE EXISTING CABLE.
  - ④ REMOVE EXISTING SIGNAL HEAD, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED. INSTALL NEW SIGNAL HEAD, L.E.D. 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED. REUSE EXISTING CABLE.
  - ⑤ REMOVE EXISTING SIGNAL HEAD, 3-FACE, 1-3 SECTION, 2-5 SECTION, BRACKET MOUNTED. INSTALL NEW SIGNAL HEAD, L.E.D. 3-FACE, 1-3 SECTION, 2-5 SECTION, BRACKET MOUNTED. REUSE EXISTING CABLE.
  - ⑥ REMOVE AND REPLACE EXISTING PUSH-BUTTON. REUSE EXISTING CABLE.
  - ⑦ REMOVE EXISTING PEDESTRIAN SIGNAL HEAD, 1-FACE, BRACKET MOUNTED. REUSE EXISTING CABLE.
  - ⑧ REMOVE EXISTING PEDESTRIAN SIGNAL HEAD, 3-FACE, BRACKET MOUNTED. INSTALL NEW PEDESTRIAN SIGNAL HEAD, L.E.D., 3-FACE, BRACKET MOUNTED. REUSE EXISTING CABLE.
  - ⑨ REMOVE EXISTING PEDESTRIAN SIGNAL HEAD AND PUSH-BUTTON. REMOVE EXISTING CABLE.

**TRAFFIC SIGNAL LEGEND**

- |  |                 |
|--|-----------------|
| <b>PROPOSED</b>                                      | <b>EXISTING</b> |
| CONTROLLER   |                 |
| RAILROAD CONTROL CABINET                             |                 |
| SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNTED |                 |
| SIGNAL HEAD  |                 |
| SIGNAL HEAD WITH BACKPLATE                           |                 |
| SIGNAL HEAD, PEDESTRIAN                              |                 |
| SIGNAL POST  |                 |
| MAST ARM ASSEMBLY AND POLE, STEEL                    |                 |
| MAST ARM ASSEMBLY AND POLE, ALUMINIUM                |                 |
| COMMON TRENCH  |                 |
| UNIT DUCT  |                 |
| HANDHOLE   |                 |
| HEAVY DUTY HANDHOLE                                  |                 |
| DOUBLE HANDHOLE                                      |                 |
| G.S. CONDUIT IN TRENCH OR PUSHED                     |                 |
| CAST IRON JUNCTION BOX                               |                 |
| SIGNAL HEAD OPTICALLY PROGRAMMED                     |                 |
| CONDUIT SPLICE                                       |                 |
| WOOD POLE  |                 |
| RACEWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II     |                 |
| VEHICLE DETECTOR, NON COMPENSATED MAGNETIC TYPE      |                 |
| ILLUMINATED SIGN, FIBER OPTIC "NO LEFT TURN"         |                 |
| ILLUMINATED SIGN, FIBER OPTIC "NO RIGHT TURN"        |                 |
| TELEPHONE CONNECTION                                 |                 |
| PEDESTRIAN PUSHBUTTON DETECTOR                       |                 |
| DETECTOR LOOP, TYPE I                                |                 |
| PREFORMED DETECTOR LOOP                              |                 |
| VIDEO DETECTOR                                       |                 |
| EMERGENCY VEHICLE SYSTEM DETECTOR                    |                 |
| CONFIRMATION BEACON                                  |                 |
| UNINTERRUPTIBLE POWER SUPPLY                         |                 |
| WIRELESS INTERCONNECT (ANTENNA)                      |                 |

NOTE:  
TEMPORARY WIRELESS INTERCONNECT IS INCLUDED IN TEMPORARY TRAFFIC SIGNAL INSTALLATION PAY ITEM FOR HIRSCH (SOFFEL) AVENUE.

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

TEMPORARY WIRELESS INTERCONNECT ANTENNA  
SEE WIRELESS INTERCONNECT SCHEMATIC SHEET 1 OF 2  
MODEL YAGI 4 ELEMENT 8dBi 890-960 MHz

THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE REMOVED BY THE CONTRACTOR, SHALL REMAIN THE PROPERTY OF THE STATE AND SHALL BE DELIVERED BY THE CONTRACTOR TO THE STATE'S TRAFFIC SIGNAL MAINTENANCE CONTRACTOR'S MAIN FACILITY AS PER THE TRAFFIC SIGNAL SPECIFICATIONS.

- 1 EACH FULL ACTUATED CONTROLLER AND TYPE V CABINET
- 12 EACH TRAFFIC SIGNAL BACKPLATE
- 12 EACH SIGNAL HEAD, 1-FACE, 3-SECTION, MAST ARM MOUNTED.
- 2 EACH SIGNAL HEAD, 1-FACE, 5-SECTION, BRACKET MOUNTED.
- 2 EACH SIGNAL HEAD, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED.
- 2 EACH SIGNAL HEAD, 3-FACE, 1-3 SECTION, 2-5 SECTION, BRACKET MOUNTED.
- 8 EACH PEDESTRIAN PUSH-BUTTON
- 6 EACH PEDESTRIAN SIGNAL HEAD, 1-FACE, BRACKET MOUNTED.
- 2 EACH PEDESTRIAN SIGNAL HEAD, 3-FACE, BRACKET MOUNTED.

|  |                              |                   |           |   |   |  |             |                           |              |           |  |
|--|------------------------------|-------------------|-----------|---|---|--|-------------|---------------------------|--------------|-----------|--|
| FILE NAME =                            | USER NAME = kanthaphaybc     | DESIGNED - N.B.   | REVISED - | <b>STATE OF ILLINOIS<br/>DEPARTMENT OF TRANSPORTATION</b> | <b>EXISTING AND REMOVAL PLAN<br/>US 12/20/45 (MANNHEIM ROAD) AT LAKE AVENUE</b> | F.A.P. RTE.                                    | SECTION     | COUNTY                    | TOTAL SHEETS | SHEET NO. |  |
| PROJECTS\traffic\070202\us12.20.45.dgn | PLLOT SCALE = 48.0000' / IN. | DRAWN - N.B.      | REVISED - |   |   | 330  | 2008-006 TS | COOK                      | 104          | 49        |  |
| PLLOT DATE = 18/10/2008                | DATE = 09/04/2008            | CHECKED - D.B.    | REVISED - |   |   | CONTRACT NO. 60E31                             |             |                           |              |           |  |
|  |                              | DATE = 09/04/2008 | REVISED - |   |   | SCALE: 1"=20' SHEET NO. OF SHEETS STA. TO STA. |             |                           |              |           |  |
|  |                              |                   |           |   |   | FED. ROAD DIST. NO.                            |             | ILLINOIS FED. AID PROJECT |              |           |  |







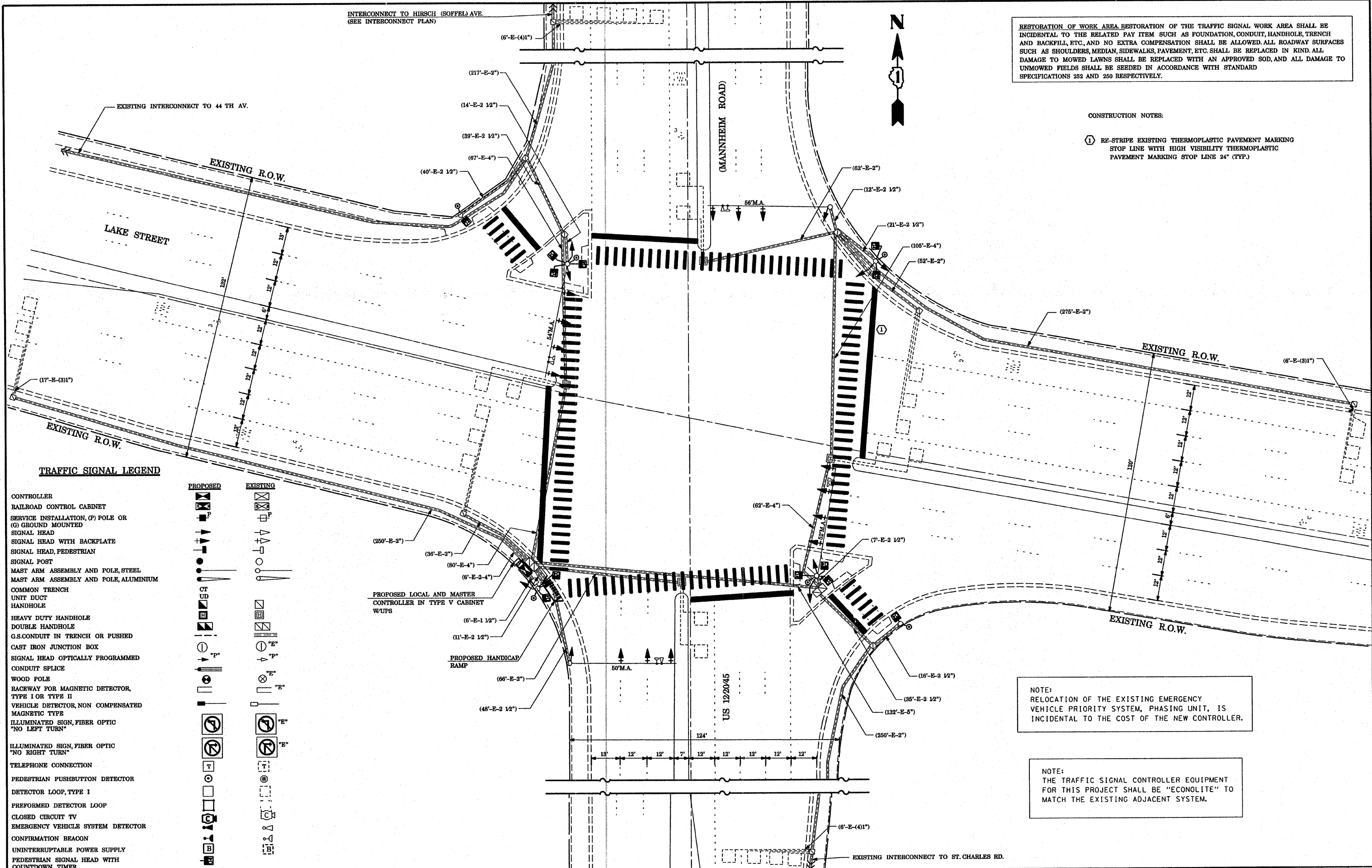
INTERCONNECT TO HIRSCH (SOFFEL) AVE.  
(SEE INTERCONNECT PLAN)



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 SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

CONSTRUCTION NOTES:

- ① RE-STRIPE EXISTING THERMOPLASTIC PAVEMENT MARKING STOP LINE WITH HIGH VISIBILITY THERMOPLASTIC PAVEMENT MARKING STOP LINE 24" (TYP.)



TRAFFIC SIGNAL LEGEND

- |  |                 |
|--|-----------------|
| <b>PROPOSED</b>                                      | <b>EXISTING</b> |
| CONTROLLER   |                 |
| RAILROAD CONTROL CABINET                             |                 |
| SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNTED |                 |
| SIGNAL HEAD  |                 |
| SIGNAL HEAD WITH BACKPLATE                           |                 |
| SIGNAL HEAD, PEDESTRIAN                              |                 |
| SIGNAL POST  |                 |
| MAST ARM ASSEMBLY AND POLE, STEEL                    |                 |
| MAST ARM ASSEMBLY AND POLE, ALUMINIUM                |                 |
| COMMON TRENCH  |                 |
| UNIT DUCT  |                 |
| HANDHOLE   |                 |
| HEAVY DUTY HANDHOLE                                  |                 |
| DOUBLE HANDHOLE                                      |                 |
| G.S.CONDUIT IN TRENCH OR PUSHED                      |                 |
| CAST IRON JUNCTION BOX                               |                 |
| SIGNAL HEAD OPTICALLY PROGRAMMED                     |                 |
| CONDUIT SLICE  |                 |
| WOOD POLE  |                 |
| RACEWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II     |                 |
| VEHICLE DETECTOR, NON COMPENSATED MAGNETIC TYPE      |                 |
| ILLUMINATED SIGN, FIBER OPTIC "NO LEFT TURN"         |                 |
| ILLUMINATED SIGN, FIBER OPTIC "NO RIGHT TURN"        |                 |
| TELEPHONE CONNECTION                                 |                 |
| PEDESTRIAN PUSHBUTTON DETECTOR                       |                 |
| DETECTOR LOOP, TYPE I                                |                 |
| PERFORMED DETECTOR LOOP                              |                 |
| CLOSED CIRCUIT TV                                    |                 |
| EMERGENCY VEHICLE SYSTEM DETECTOR                    |                 |
| CONFIRMATION BEACON                                  |                 |
| UNINTERRUPTABLE POWER SUPPLY                         |                 |
| PEDESTRIAN SIGNAL HEAD WITH COUNTDOWN TIMER          |                 |

NOTE:  
RELOCATION OF THE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, PHASING UNIT, IS INCIDENTAL TO THE COST OF THE NEW CONTROLLER.

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

|  |                           |                   |           |
|--|---------------------------|-------------------|-----------|
| FILE NAME =                                | USER NAME = kanthphixeybc | DESIGNED - N.B.   | REVISED - |
| ei:\projects\traffic\070027\us12_20_45.dgn |                           | DRAWN - N.B.      | REVISED - |
| PLOT SCALE = 40.0000' / IN.                |                           | CHECKED - D.B.    | REVISED - |
| PLOT DATE = 10/10/2008                     |                           | DATE - 09/04/2008 | REVISED - |

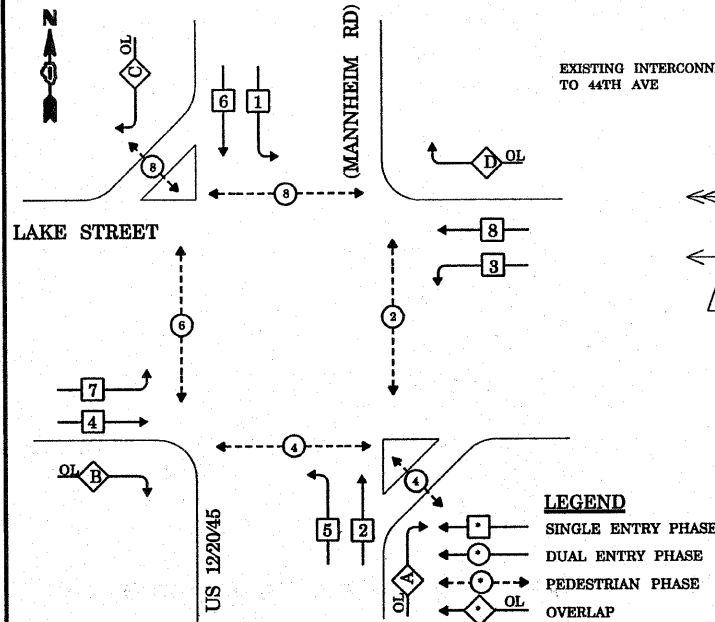
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PROPOSED TRAFFIC SIGNAL PLAN  
US 12/20/45 (MANNHEIM ROAD) AT LAKE AVENUE**

SCALE: 1" = 20'    SHEET NO.    OF    SHEETS    STA.    TO STA.

|                     |                           |        |              |           |
|---------------------|---------------------------|--------|--------------|-----------|
| F.A.P. RTE.         | SECTION                   | COUNTY | TOTAL SHEETS | SHEET NO. |
| 330                 | 2008-006 TS               | COOK   | 104          | 51        |
| CONTRACT NO. 60E31  |                           |        |              |           |
| FED. ROAD DIST. NO. | ILLINOIS FED. AID PROJECT |        |              |           |

**CONTROLLER SEQUENCE**



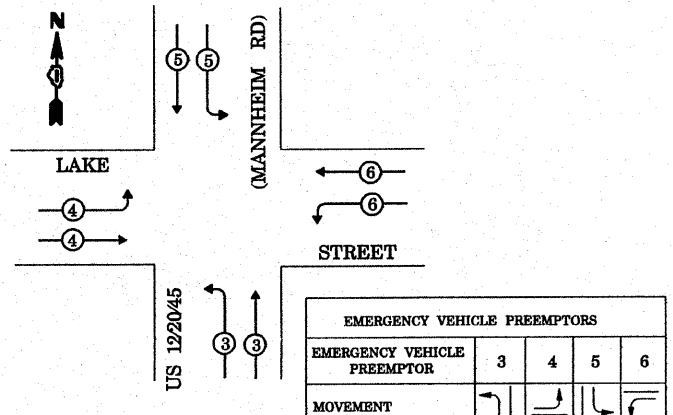
**LEGEND**  
 SINGLE ENTRY PHASE  
 DUAL ENTRY PHASE  
 PEDESTRIAN PHASE  
 OVERLAP  
 NUMBER REFERS TO ASSOCIATED PHASE

**PHASE DESIGNATION DIAGRAM**

**RIGHT TURN OVERLAP PHASE DESIGNATION**

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

**EMERGENCY VEHICLE PREEMPTION SEQUENCE**

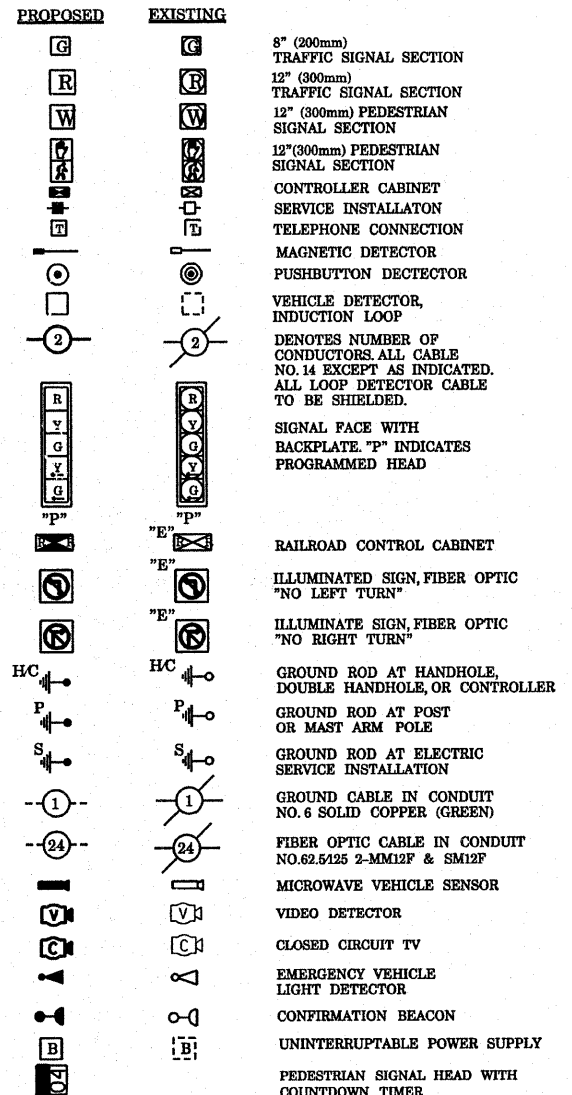


| TYPE   | NO. LAMPS | WATTAGE INCAND. | WATTAGE LED | % OPERATION | TOTAL WATTAGE |
|--|-----------|-----------------|-------------|-------------|---------------|
| SIGNAL (RED)                                     | 24        | 17              | 0.50        | 204.00      |               |
| (YELLOW)   | 24        | 25              | 0.25        | 150.00      |               |
| (GREEN)  | 24        | 15              | 0.25        | 90.00       |               |
| ARROW  | 16        | 12              | 0.10        | 19.20       |               |
| PED. SIGNAL                                      | 12        | 25              | 1.00        | 300.00      |               |
| CONTROLLER                                       | 1         | 100             | 1.00        | 100.00      |               |
| ILLUM. SIGN                                      |           |                 | 0.05        | -           |               |
| FLASHER  |           |                 | 0.05        | -           |               |
| ENERGY COSTS TO: VILLAGE OF MELROSE PARK TOTAL = |           |                 |             |             | 863.20        |

ENERGY SUPPLY CONTACT: MR. MIKE BELL  
 PHONE: (708)410-5314  
 COMPANY: COMMONWEALTH EDISON

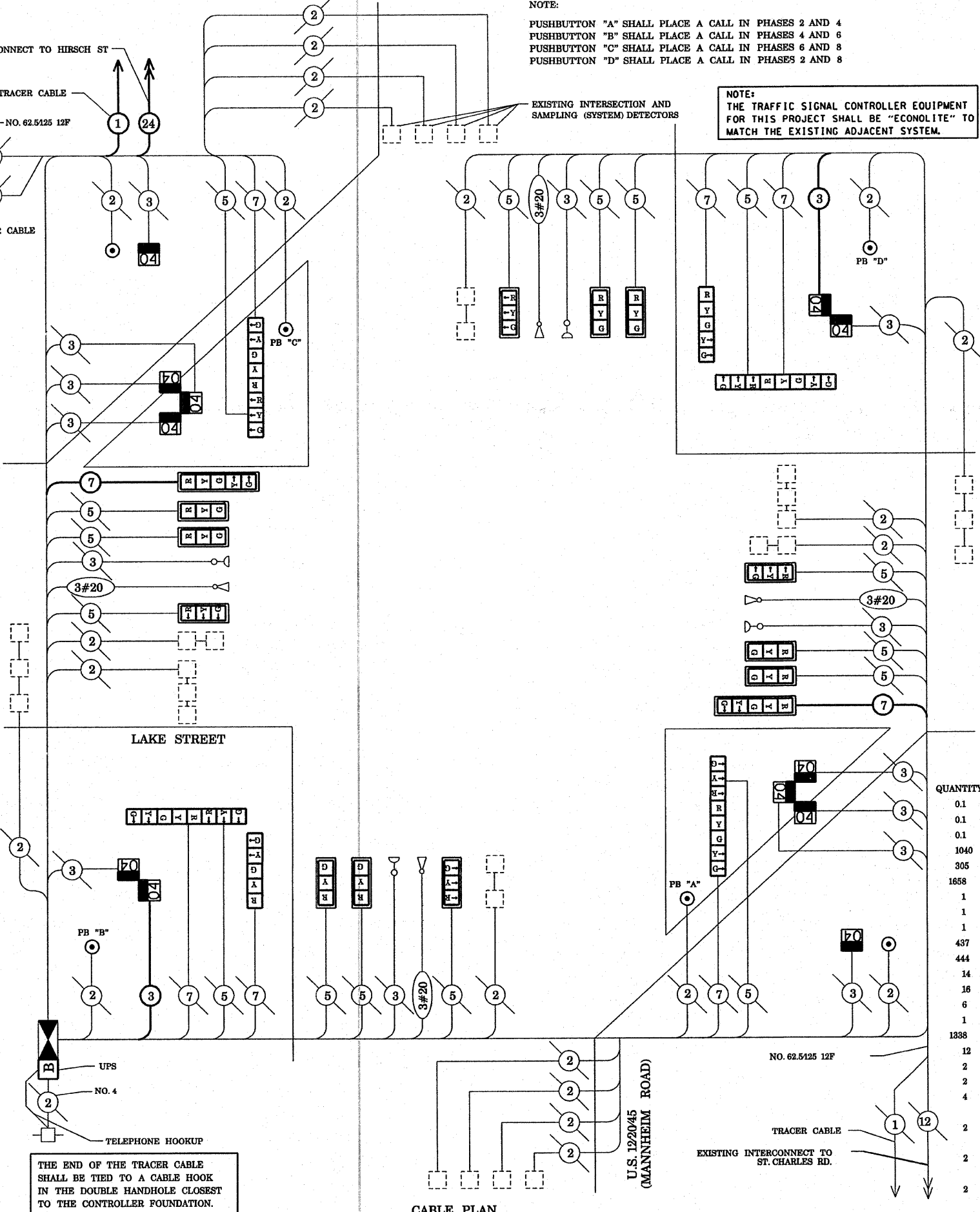
**NOTE:**  
 PUSHBUTTON "A" SHALL PLACE A CALL IN PHASES 2 AND 4  
 PUSHBUTTON "B" SHALL PLACE A CALL IN PHASES 4 AND 6  
 PUSHBUTTON "C" SHALL PLACE A CALL IN PHASES 6 AND 8  
 PUSHBUTTON "D" SHALL PLACE A CALL IN PHASES 2 AND 8

**CABLE PLAN LEGEND**



**SCHEDULE OF QUANTITIES**

| QUANTITY | UNIT  | ITEM   |
|----------|-------|--|
| 0.1      | L SUM | TRAFFIC CONTROL AND PROTECTION, STANDARD 701501                              |
| 0.1      | L SUM | TRAFFIC CONTROL AND PROTECTION, STANDARD 701701                              |
| 0.1      | L SUM | TRAFFIC CONTROL AND PROTECTION, STANDARD 701801                              |
| 1040     | FOOT  | THERMOPLASTIC PAVEMENT MARKING - LINE 12"                                    |
| 305      | FOOT  | THERMOPLASTIC PAVEMENT MARKING - LINE 24"                                    |
| 1658     | SQ FT | THERMOPLASTIC PAVEMENT MARKING REMOVAL                                       |
| 1        | EACH  | MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION                          |
| 1        | EACH  | FULL-ACTUATED CONTROLLER AND TYPE V CABINET, SPECIAL                         |
| 1        | EACH  | MASTER CONTROLLER, SPECIAL   |
| 437      | FOOT  | ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C                                  |
| 444      | FOOT  | ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C                                  |
| 14       | EACH  | TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM                                 |
| 16       | EACH  | INDUCTIVE LOOP DETECTOR  |
| 6        | EACH  | PEDESTRIAN PUSH-BUTTON   |
| 1        | EACH  | REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT                                     |
| 1388     | FOOT  | REMOVE ELECTRIC CABLE FROM CONDUIT   |
| 12       | EACH  | SIGNAL HEAD, L.E.D., 1-FACE, 3-SECTION, MAST ARM MOUNTED                     |
| 2        | EACH  | SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, BRACKET MOUNTED                      |
| 2        | EACH  | SIGNAL HEAD, L.E.D., 1-FACE, 5-SECTION, MAST ARM MOUNTED                     |
| 4        | EACH  | SIGNAL HEAD, L.E.D., 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED       |
| 2        | EACH  | PEDESTRIAN SIGNAL HEAD, L.E.D., 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER |
| 2        | EACH  | PEDESTRIAN SIGNAL HEAD, L.E.D., 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER |
| 2        | EACH  | PEDESTRIAN SIGNAL HEAD, L.E.D., 3-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER |
| 1        | EACH  | 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.

**CABLE PLAN**

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

PROPOSED CABLE PLAN  
 US 12/2045 (MANNHEIM ROAD) AT LAKE STREET

| F.A.P. RTE. | SECTION     | COUNTY | TOTAL SHEETS | SHEET NO. |
|-------------|-------------|--------|--------------|-----------|
| 330         | 2008-006 TS | COOK   | 104          | 62        |

CONTRACT NO. 60E31

| FILE NAME                                  | DESIGNED          | REVISIONS |
|--|-------------------|-----------|
| ci:\projects\traffic\070027\us12_20_45.dgn | - N.B.            | -         |
|  | DRAWN - N.B.      | REVISIONS |
|  | CHECKED - D.B.    | REVISIONS |
|  | DATE - 09/04/2008 | REVISIONS |

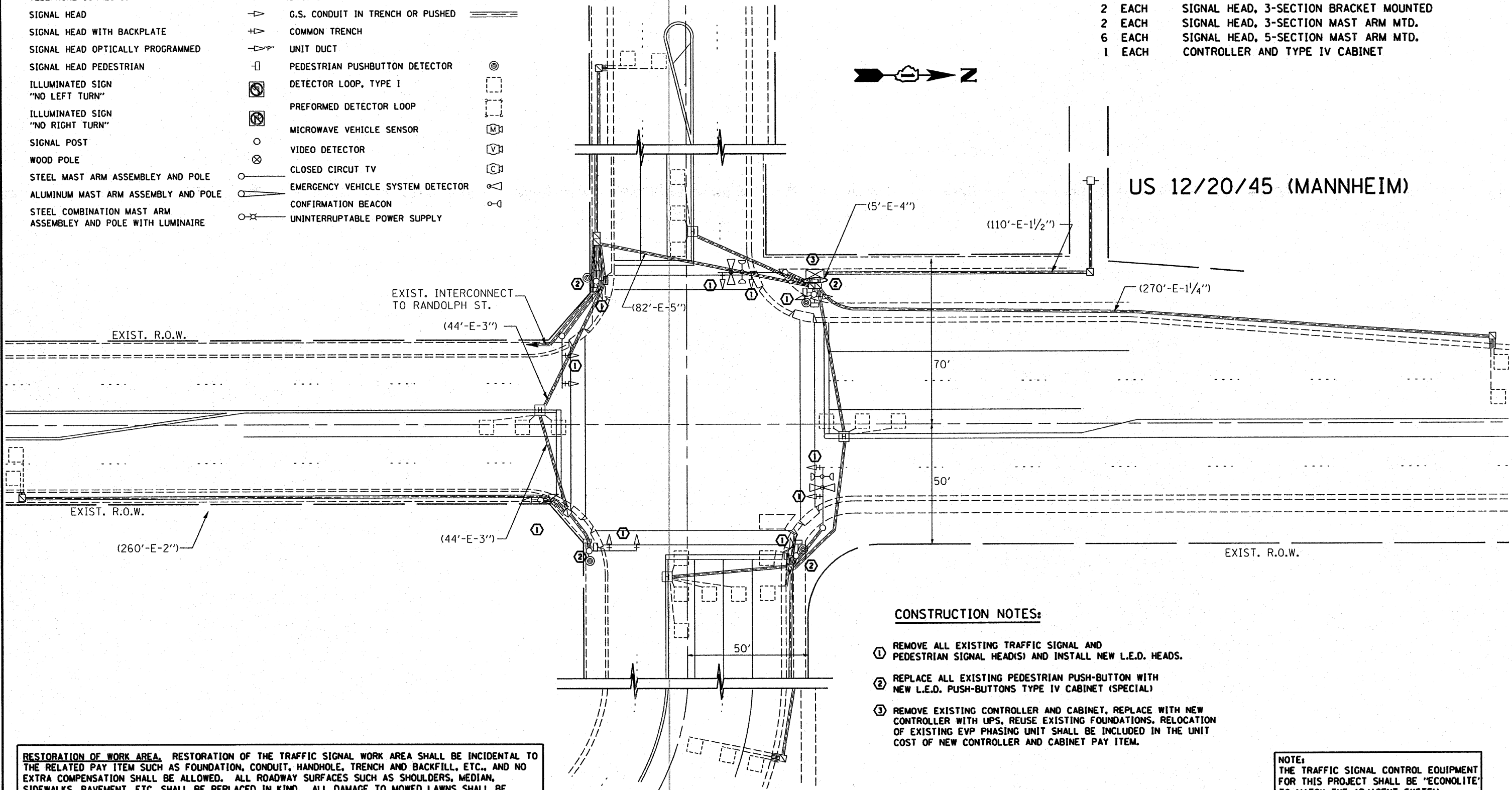
**EXISTING TRAFFIC SIGNAL AND REMOVAL LEGEND**

|   |  |          |                                   |  |          |
|---|--|----------|-----------------------------------|--|----------|
| CONTROLLER CABINET  |  | EXISTING | JUNCTION BOX                      |  | EXISTING |
| RAILROAD CONTROL CABINET                                    |  |          | HANDHOLE                          |  |          |
| SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT          |  |          | HEAVY DUTY HANDHOLE               |  |          |
| TELEPHONE CONNECTION  |  |          | DOUBLE HANDHOLE                   |  |          |
| SIGNAL HEAD   |  |          | G.S. CONDUIT IN TRENCH OR PUSHED  |  |          |
| SIGNAL HEAD WITH BACKPLATE                                  |  |          | COMMON TRENCH                     |  |          |
| SIGNAL HEAD OPTICALLY PROGRAMMED                            |  |          | UNIT DUCT                         |  |          |
| SIGNAL HEAD PEDESTRIAN                                      |  |          | PEDESTRIAN PUSHBUTTON DETECTOR    |  |          |
| ILLUMINATED SIGN "NO LEFT TURN"                             |  |          | DETECTOR LOOP, TYPE I             |  |          |
| ILLUMINATED SIGN "NO RIGHT TURN"                            |  |          | PERFORMED DETECTOR LOOP           |  |          |
| SIGNAL POST   |  |          | MICROWAVE VEHICLE SENSOR          |  |          |
| WOOD POLE   |  |          | VIDEO DETECTOR                    |  |          |
| STEEL MAST ARM ASSEMBLY AND POLE                            |  |          | CLOSED CIRCUIT TV                 |  |          |
| ALUMINUM MAST ARM ASSEMBLY AND POLE                         |  |          | EMERGENCY VEHICLE SYSTEM DETECTOR |  |          |
| STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE |  |          | CONFIRMATION BEACON               |  |          |
|   |  |          | UNINTERRUPTIBLE POWER SUPPLY      |  |          |

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 6 EACH SIGNAL HEAD, 5-SECTION BRACKET MOUNTED
- 2 EACH SIGNAL HEAD, 3-SECTION BRACKET MOUNTED
- 2 EACH SIGNAL HEAD, 3-SECTION MAST ARM MTD.
- 6 EACH SIGNAL HEAD, 5-SECTION MAST ARM MTD.
- 1 EACH CONTROLLER AND TYPE IV CABINET

**ST. CHARLES RD.**



**CONSTRUCTION NOTES:**

- ① REMOVE ALL EXISTING TRAFFIC SIGNAL AND PEDESTRIAN SIGNAL HEAD(S) AND INSTALL NEW L.E.D. HEADS.
- ② REPLACE ALL EXISTING PEDESTRIAN PUSH-BUTTON WITH NEW L.E.D. PUSH-BUTTONS TYPE IV CABINET (SPECIAL)
- ③ REMOVE EXISTING CONTROLLER AND CABINET, REPLACE WITH NEW CONTROLLER WITH UPS. REUSE EXISTING FOUNDATIONS. RELOCATION OF EXISTING EVP PHASING UNIT SHALL BE INCLUDED IN THE UNIT COST OF NEW CONTROLLER AND CABINET PAY ITEM.

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 SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

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

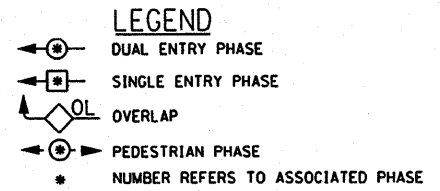
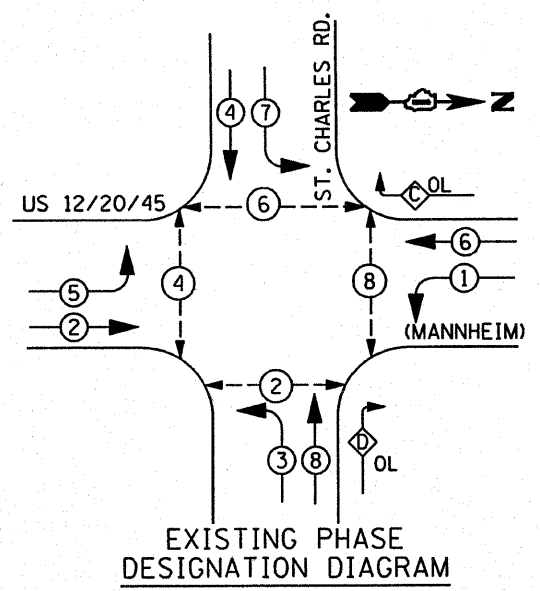
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| ci:\projects\traffic\1070027\us12_20_45.dgn |                             | DRAWN - BCK    | REVISED - |
|   | PLOT SCALE = 40.0000" / IN. | CHECKED - DAD  | REVISED - |
|   | PLOT DATE = 10/10/2008      | DATE -         | REVISED - |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EXISTING TRAFFIC SIGNAL AND REMOVAL PLAN  
US 12/20/45 (MANNHEIM) @ ST. CHARLES RD.

SCALE: 1"=20' SHEET NO. OF SHEETS STA. TO STA.

| F.A.P. RTE.                                   | SECTION     | COUNTY | TOTAL SHEETS | SHEET NO.          |
|---|-------------|--------|--------------|--------------------|
| 330   | 2008-006 TS | COOK   | 100          | 53                 |
|   |             |        |              | CONTRACT NO. 60E31 |
| FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT |             |        |              |                    |



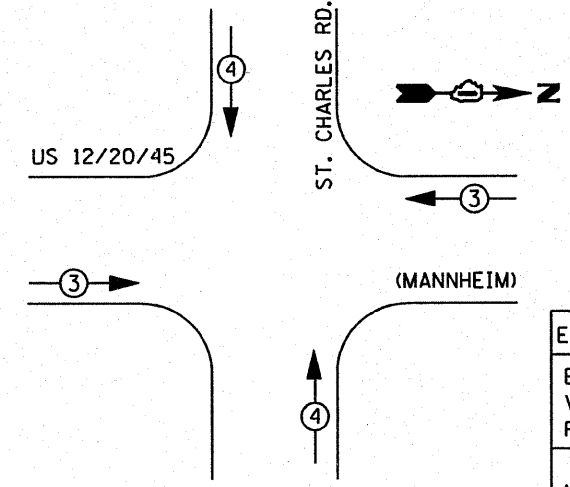
**NOTE:**  
THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE ADJACENT SYSTEM.

PUSHBUTTON "A" SHALL PLACE CALLS IN PHASES 2 AND 4  
 PUSHBUTTON "B" SHALL PLACE CALLS IN PHASES 4 AND 6  
 PUSHBUTTON "C" SHALL PLACE CALLS IN PHASES 6 AND 8  
 PUSHBUTTON "D" SHALL PLACE CALLS IN PHASES 2 AND 8

**RIGHT TURN OVERLAP PHASE DESIGNATION**

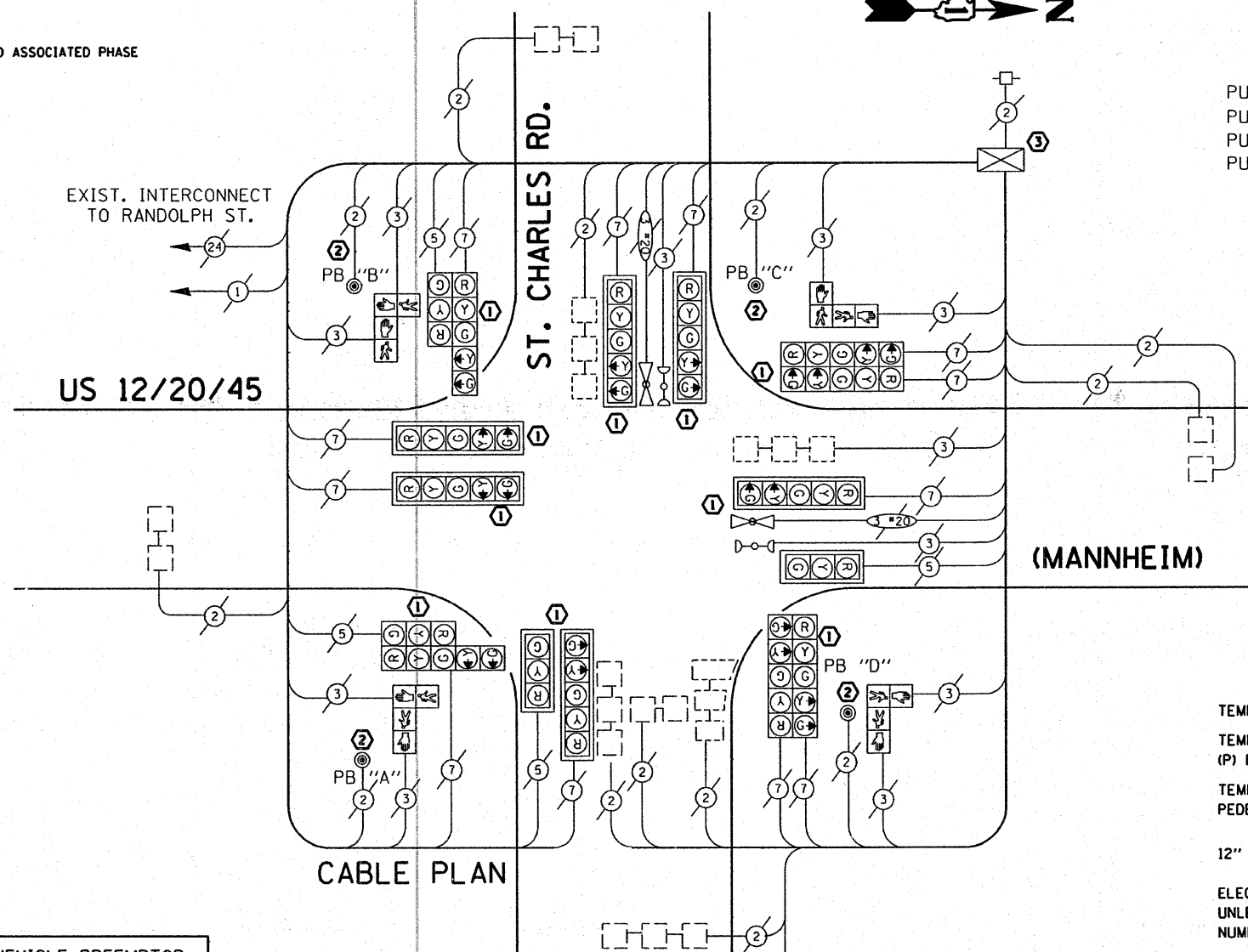
| OVERLAP LETTER | PERMISSIVE PHASE | PROTECTED PHASE | DISPLAY |
|----------------|------------------|-----------------|---------|
| C              | = 6 +            | 7 -             | 6       |
| D              | = 8 +            | 1 -             | 8       |

**EXISTING SIGNAL INSTALLATION EMERGENCY VEHICLE PREEMPTION SEQUENCE**



**EXISTING EMERGENCY VEHICLE PREEMPTOR**

|                             |   |   |
|-----------------------------|---|---|
| EMERGENCY VEHICLE PREEMPTOR | 3 | 4 |
| MOVEMENT                    |   |   |



**EXISTING CABLE DIAGRAM LEGEND**

|  | PROPOSED | EXISTING |
|--|----------|----------|
| TEMPORARY CONTROLLER CABINET   |          |          |
| TEMPORARY SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT                             |          |          |
| TEMPORARY TRAFFIC SIGNAL SECTION OR PEDESTRIAN SIGNAL SECTION, 12" (300 mm)              |          |          |
| 12" (300 MM) PEDESTRIAN SIGNAL SECTION   |          |          |
| ELECTRIC CABLE IN CONDUIT, NO. 14, UNLESS OTHERWISE NOTED. NUMBER OF CONDUCTORS AS NOTED |          |          |
| GROUND ROD AT (C) CONTROLLER, (H) HANDHOLE, (P) POST, (M) MAST ARM, OR (S) SERVICE       |          |          |
| PEDESTRIAN PUSHBUTTON DETECTOR   |          |          |
| VEHICLE DETECTOR, INDUCTION LOOP   |          |          |
| CCTV DOME DRIVE UNIT   |          |          |
| MICROWAVE VEHICLE SENSOR   |          |          |
| VIDEO DETECTOR   |          |          |
| CLOSED CIRCUIT TV  |          |          |
| EMERGENCY VEHICLE SYSTEM DETECTOR  |          |          |
| CONFIRMATION BEACON  |          |          |

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

| TYPE                    | NO. LAMPS | WATTAGE (INCAN.) | WATTAGE (LED) | % OPERATION    | TOTAL WATTAGE |
|-------------------------|-----------|------------------|---------------|----------------|---------------|
| SIGNAL (RED)            | 16        | 135              | 17            | 0.50           |               |
| (YELLOW)                | 16        | 135              | 25            | 0.25           |               |
| (GREEN)                 | 16        | 135              | 15            | 0.25           |               |
| ARROW                   | 24        | 135              | 12            | 0.10           |               |
| PED. SIGNAL             | 8         | 90               | 25            | 1.00           |               |
| CONTROLLER              | 1         | 100              | 100           | 1.00           |               |
| ILLUM. SIGN             |           | 84               |               | 0.05           |               |
| FLASHER                 |           |                  |               | 0.50           |               |
| <b>ENERGY COSTS TO:</b> |           |                  |               | <b>TOTAL =</b> |               |

| 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 (0.6)   |                       | 16m ± 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)  | PEDESTRIAN PUSHBUTTON | 4 (1.2)      |
| 36" (900mm)        | 15 (4.6) | ELECTRIC SERVICE | 1 (0.5)   | ELECTRIC SERVICE      | 13.5 (4.1)   |
|                    |          | GROUND CABLE     | 1 (0.5)   | SERVICE TO GROUND     | 13.5 (4.1)   |
|                    |          |                  |           | POST MOUNTED          | 6 (1.8)      |

**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 SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

ENERGY SUPPLY CONTACT:  
 PHONE: 708-410-5069  
 COMPANY: COM. EDISON

FILE NAME = USER NAME = kanthaphixybc  
 DESIGNED - BCK  
 DRAWN - BCK  
 CHECKED - DAD  
 DATE -  
 PLOT SCALE = 40.0000' / IN.  
 PLOT DATE = 10/10/2008

DESIGNED - BCK  
 DRAWN - BCK  
 CHECKED - DAD  
 DATE -  
 REVISED -  
 REVISED -  
 REVISED -  
 REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**EXISTING TRAFFIC SIGNAL CABLE & REMOVAL PLAN  
 US 12/20/45 (MANNHEIM) @ ST. CHARLES RD.**

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

| F.A.P. RTE.                                   | SECTION     | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|-------------|--------|--------------|-----------|
| 330   | 2008-006 TS | COOK   | 100          | 54        |
| CONTRACT NO. 60E31                            |             |        |              |           |
| FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT |             |        |              |           |

**TRAFFIC SIGNAL LEGEND**

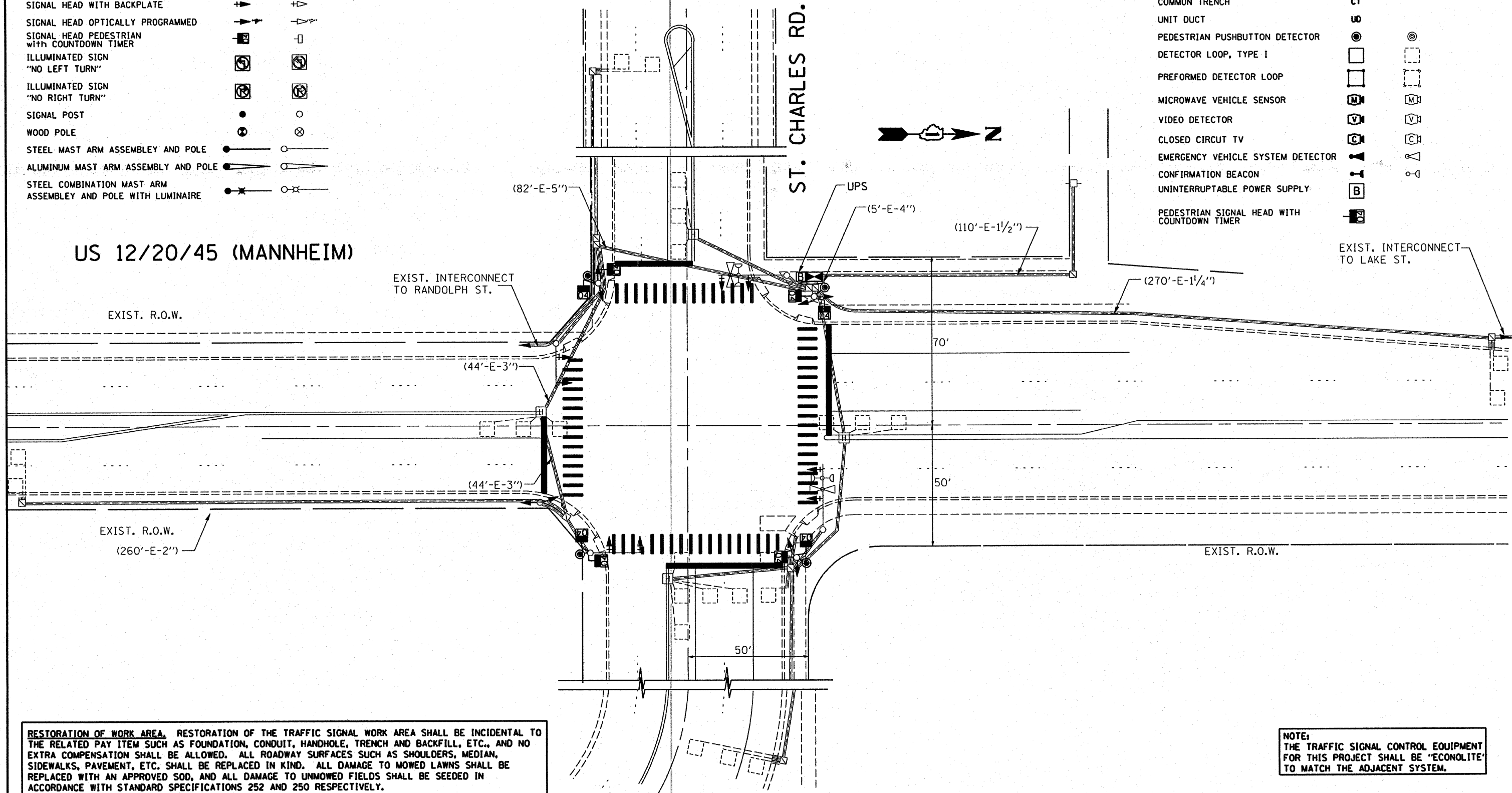
|   | PROPOSED | EXISTING |
|---|----------|----------|
| CONTROLLER CABINET  |          |          |
| RAILROAD CONTROL CABINET                                    |          |          |
| SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT          |          |          |
| TELEPHONE CONNECTION  |          |          |
| SIGNAL HEAD   |          |          |
| SIGNAL HEAD WITH BACKPLATE                                  |          |          |
| SIGNAL HEAD OPTICALLY PROGRAMMED                            |          |          |
| SIGNAL HEAD PEDESTRIAN with COUNTDOWN TIMER                 |          |          |
| ILLUMINATED SIGN "NO LEFT TURN"                             |          |          |
| ILLUMINATED SIGN "NO RIGHT TURN"                            |          |          |
| SIGNAL POST   |          |          |
| WOOD POLE   |          |          |
| STEEL MAST ARM ASSEMBLY AND POLE                            |          |          |
| ALUMINUM MAST ARM ASSEMBLY AND POLE                         |          |          |
| STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE |          |          |

**TRAFFIC SIGNAL LEGEND**

|   | PROPOSED | EXISTING |
|---|----------|----------|
| JUNCTION BOX                                |          |          |
| HANDHOLE                                    |          |          |
| HEAVY DUTY HANDHOLE                         |          |          |
| DOUBLE HANDHOLE                             |          |          |
| G.S. CONDUIT IN TRENCH OR PUSHED            |          |          |
| COMMON TRENCH                               | CT       |          |
| UNIT DUCT                                   | UD       |          |
| PEDESTRIAN PUSHBUTTON DETECTOR              |          |          |
| DETECTOR LOOP, TYPE I                       |          |          |
| PREFORMED DETECTOR LOOP                     |          |          |
| MICROWAVE VEHICLE SENSOR                    |          |          |
| VIDEO DETECTOR                              |          |          |
| CLOSED CIRCUIT TV                           |          |          |
| EMERGENCY VEHICLE SYSTEM DETECTOR           |          |          |
| CONFIRMATION BEACON                         |          |          |
| UNINTERRUPTABLE POWER SUPPLY                | B        |          |
| PEDESTRIAN SIGNAL HEAD WITH COUNTDOWN TIMER |          |          |

US 12/20/45 (MANNHEIM)

ST. CHARLES RD.



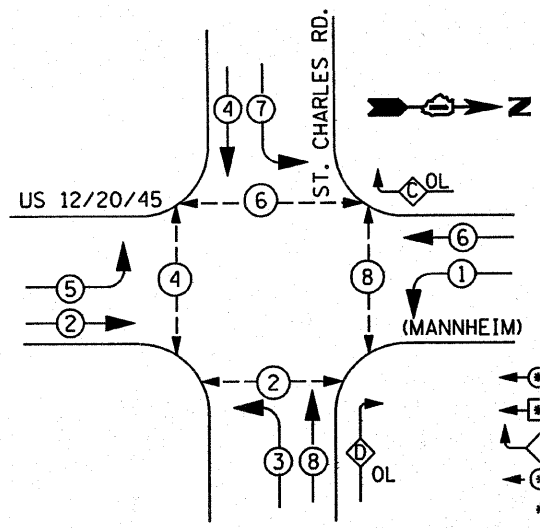
**RESTORATION OF WORK AREA.** RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT, ETC.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

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

|                             |                            |                |           |   |  |           |    |        |                 |                     |             |                    |              |
|-----------------------------|----------------------------|----------------|-----------|---|--|-----------|----|--------|-----------------|---------------------|-------------|--------------------|--------------|
| FILE NAME =                 | USER NAME = kanthaphixaybc | DESIGNED - BCK | REVISED - | <b>STATE OF ILLINOIS<br/>DEPARTMENT OF TRANSPORTATION</b> | <b>PROPOSED TRAFFIC SIGNAL PLAN<br/>US 12/20/45 (MANNHEIM) @ ST. CHARLES RD.</b> |           |    |        | F.A.P. RTE. 330 | SECTION 2008-006 TS | COUNTY COOK | TOTAL SHEETS 100   | SHEET NO. 55 |
| PLOT SCALE = 40.0000' / IN. |                            | CHECKED - DAD  | REVISED - |   | SCALE: 1"=20'  | SHEET NO. | OF | SHEETS | STA.            | TO                  | STA.        | CONTRACT NO. 60E31 |              |
| PLOT DATE = 10/10/2008      |                            | DATE -         | REVISED - |   | FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT                                    |           |    |        |                 |                     |             |                    |              |
|                             |                            |                |           |   |  |           |    |        |                 |                     |             |                    |              |



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



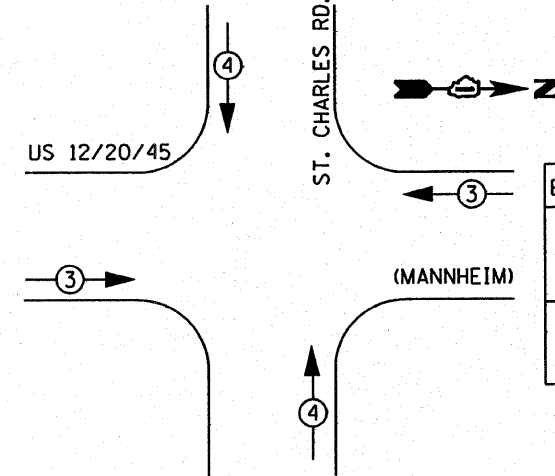
**LEGEND**

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

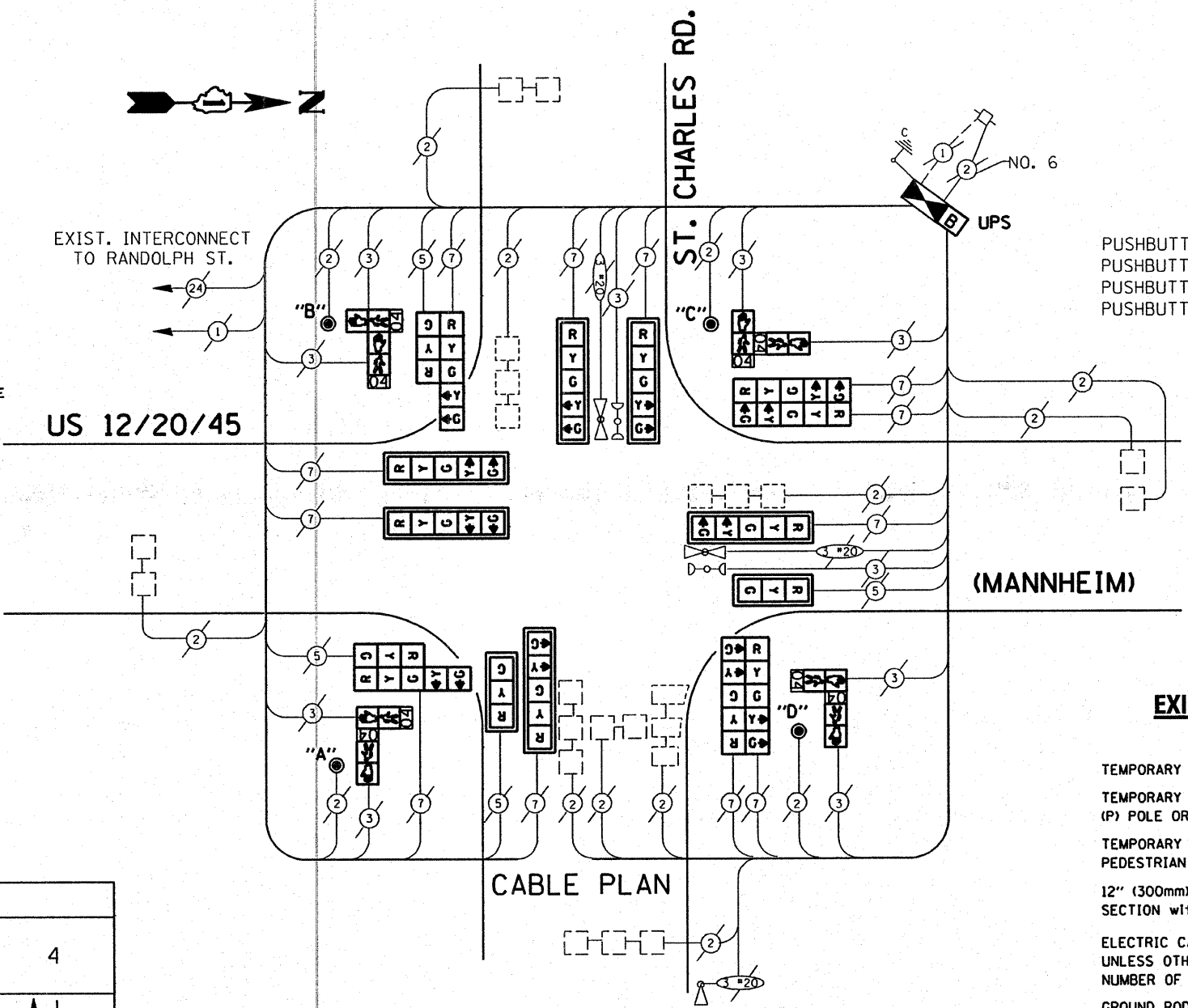
**RIGHT TURN OVERLAP PHASE DESIGNATION**

| OVERLAP LETTER | PERMISSIVE PHASE | PROTECTED PHASE | DISPLAY |
|----------------|------------------|-----------------|---------|
| C              | = 6 +            | 7 -             | 6       |
| D              | = 8 +            | 1 -             | 8       |

**SIGNAL INSTALLATION EMERGENCY VEHICLE PREEMPTION SEQUENCE**



| EMERGENCY VEHICLE PREEMPTOR |         |
|-----------------------------|---------|
| EMERGENCY VEHICLE PREEMPTOR | 3 4     |
| MOVEMENT                    | → ← ↑ ↓ |



PUSHBUTTON "A" SHALL PLACE CALLS IN PHASES 2 AND 4  
 PUSHBUTTON "B" SHALL PLACE CALLS IN PHASES 4 AND 6  
 PUSHBUTTON "C" SHALL PLACE CALLS IN PHASES 6 AND 8  
 PUSHBUTTON "D" SHALL PLACE CALLS IN PHASES 2 AND 8

**EXISTING CABLE DIAGRAM LEGEND**

|  | PROPOSED        | EXISTING        |
|--|-----------------|-----------------|
| TEMPORARY CONTROLLER CABINET   | ◻               | ◻               |
| TEMPORARY SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT                             | ◻ <sup>P</sup>  | ◻ <sup>P</sup>  |
| TEMPORARY TRAFFIC SIGNAL SECTION OR PEDESTRIAN SIGNAL SECTION, 12" (300 mm)              | R               | R               |
| 12" (300mm) PEDESTRIAN SIGNAL SECTION WITH COUNTDOWN TIMER                               | R <sub>04</sub> | R <sub>04</sub> |
| ELECTRIC CABLE IN CONDUIT, NO. 14, UNLESS OTHERWISE NOTED. NUMBER OF CONDUCTORS AS NOTED | 2               | 2               |
| GROUND ROD AT (C) CONTROLLER, (H) HANDHOLE, (P) POST, (M) MAST ARM, OR (S) SERVICE       | ⚡               | ⚡               |
| PEDESTRIAN PUSHBUTTON DETECTOR   | ⊙               | ⊙               |
| VEHICLE DETECTOR, INDUCTION LOOP   | ◻               | ◻               |
| CCTV DOME DRIVE UNIT   | ◻               | ◻               |
| MICROWAVE VEHICLE SENSOR   | M               | M               |
| VIDEO DETECTOR   | V               | V               |
| CLOSED CIRCUIT TV  | C               | C               |
| EMERGENCY VEHICLE SYSTEM DETECTOR  | ⚡               | ⚡               |
| CONFIRMATION BEACON  | ⚡               | ⚡               |

**SCHEDULE OF QUANTITIES**

| ITEM   | UNIT | QUANTITY |
|--|------|----------|
| FULL-ACTUATED CONTROLLER AND TYPE IV CABINET (SPECIAL)                 | EACH | 1        |
| INDUCTIVE LOOP DETECTOR  | EACH | 10       |
| SIGNAL HEAD, L.E.D. 1-FACE, 3 SECTION, MAST ARM MNTD.                  | EACH | 2        |
| SIGNAL HEAD, L.E.D. 1-FACE, 5 SECTION, MAST ARM MNTD.                  | EACH | 6        |
| SIGNAL HEAD, L.E.D. 2-FACE, 1-3, 1-5 SECT., BRKT. MNTD.                | EACH | 2        |
| SIGNAL HEAD, L.E.D. 2-FACE, 5 SECTION, BRKT. MNTD.                     | EACH | 2        |
| PEDESTRIAN SIGNAL HEAD WITH COUNTDOWN TIMER L.E.D., 2-FACE, BRKT. MTD. | EACH | 4        |
| PEDESTRIAN PUSH-BUTTON   | EACH | 4        |
| TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM                           | EACH | 8        |
| THERMOPLASTIC PAVEMENT MARKING LINE 12"                                | FOOT | 552      |
| THERMOPLASTIC PAVEMENT MARKING LINE 24"                                | FOOT | 165      |
| THERMOPLASTIC PAVEMENT MARKING REMOVAL                                 | FOOT | 756      |
| REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT                               | EACH | 1        |
| UNINTERRUPTIBLE POWER SUPPLY EQUIPMENT                                 | EACH | 1        |
| MAINTENANCE OF EXISTING TRAFFIC SIGNAL EQUIPMENT                       | EACH | 1        |

**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 SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDING IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

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

| TYPE         | NO. LAMPS | WATTAGE (INCAND.) | WATTAGE (LED) | % OPERATION | TOTAL WATTAGE |
|--------------|-----------|-------------------|---------------|-------------|---------------|
| SIGNAL (RED) | 16        | 135               | 17            | 0.50        | 136.00        |
| (YELLOW)     | 16        | 135               | 25            | 0.25        | 100.00        |
| (GREEN)      | 16        | 135               | 15            | 0.25        | 60.00         |
| ARROW        | 24        | 135               | 12            | 0.10        | 28.80         |
| PED. SIGNAL  | 8         | 90                | 25            | 1.00        | 200.00        |
| CONTROLLER   | 1         | 100               | 100           | 1.00        | 100.00        |
| ILLUM. SIGN  |           | 84                |               | 0.05        |               |

**ENERGY COSTS TO:** TOTAL = 624.80

| 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' H-2"   |
| E - M. ARM POLE    |          | SIGNAL POST      | 2 (1.0)   | 16m+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) |
|                    |          | GROUND CABLE     | 1 (0.5)   | SERVICE TO GROUND | 13.5 (4.1) |
|                    |          |                  |           | POST MOUNTED      | 6 (1.8)    |

ENERGY SUPPLY CONTACT:  
 PHONE: 708-410-5069  
 COMPANY: COM. EDISON

DESIGNED - BCK  
 DRAWN - BCK  
 CHECKED - DAD  
 DATE -

REVISOR -  
 REVISION -  
 REVISION -  
 REVISION -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

PROPOSED CABLE PLAN  
 US 12/20/45 (MANNHEIM) @ ST. CHARLES RD.  
 SCALE: SHEET NO. OF SHEETS STA. TO STA.

| F.A.P. RTE.                                     | SECTION     | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|-------------|--------|--------------|-----------|
| 330   | 2008-006 TS | COOK   | 100          | 56        |
| CONTRACT NO. 60E31                              |             |        |              |           |
| FED. ROAD DIST. NO. [ILLINOIS] FED. AID PROJECT |             |        |              |           |

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

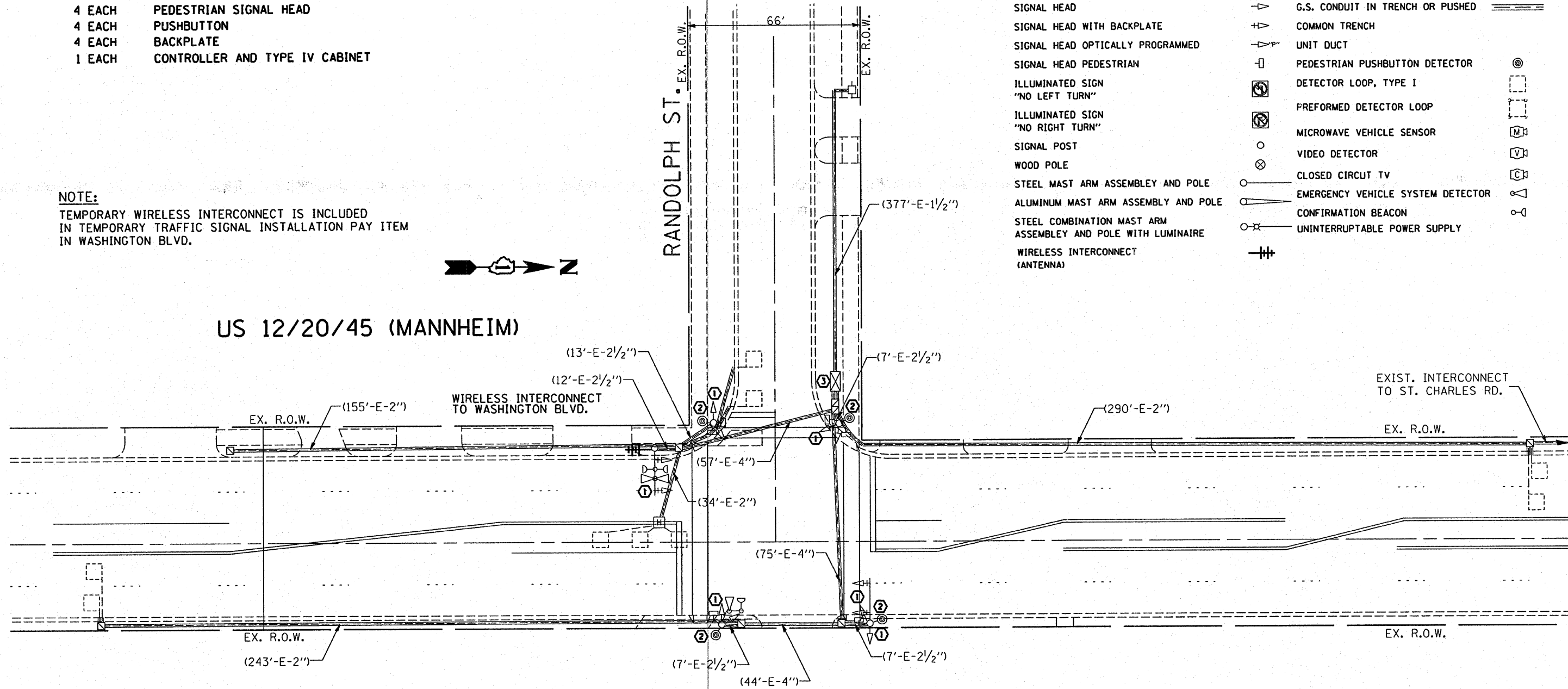
- 7 EACH SIGNAL HEAD, 3-SECTION
- 2 EACH SIGNAL HEAD, 3-SECTION BKT. MNTD.
- 1 EACH SIGNAL HEAD, 5-SECTION
- 2 EACH SIGNAL HEAD, 5-SECTION BKT. MNTD.
- 4 EACH PEDESTRIAN SIGNAL HEAD
- 4 EACH PUSHBUTTON
- 4 EACH BACKPLATE
- 1 EACH CONTROLLER AND TYPE IV CABINET

**NOTE:**

TEMPORARY WIRELESS INTERCONNECT IS INCLUDED IN TEMPORARY TRAFFIC SIGNAL INSTALLATION PAY ITEM IN WASHINGTON BLVD.



**US 12/20/45 (MANNHEIM)**



**EXISTING TRAFFIC SIGNAL AND REMOVAL LEGEND**

|   |  |          |                                   |  |          |
|---|--|----------|-----------------------------------|--|----------|
| CONTROLLER CABINET  |  | EXISTING | JUNCTION BOX                      |  | EXISTING |
| RAILROAD CONTROL CABINET                                    |  |          | HANDHOLE                          |  |          |
| SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT          |  |          | HEAVY DUTY HANDHOLE               |  |          |
| TELEPHONE CONNECTION  |  |          | DOUBLE HANDHOLE                   |  |          |
| SIGNAL HEAD   |  |          | G.S. CONDUIT IN TRENCH OR PUSHED  |  |          |
| SIGNAL HEAD WITH BACKPLATE                                  |  |          | COMMON TRENCH                     |  |          |
| SIGNAL HEAD OPTICALLY PROGRAMMED                            |  |          | UNIT DUCT                         |  |          |
| SIGNAL HEAD PEDESTRIAN                                      |  |          | PEDESTRIAN PUSHBUTTON DETECTOR    |  |          |
| ILLUMINATED SIGN "NO LEFT TURN"                             |  |          | DETECTOR LOOP, TYPE I             |  |          |
| ILLUMINATED SIGN "NO RIGHT TURN"                            |  |          | PERFORMED DETECTOR LOOP           |  |          |
| SIGNAL POST   |  |          | MICROWAVE VEHICLE SENSOR          |  |          |
| WOOD POLE   |  |          | VIDEO DETECTOR                    |  |          |
| STEEL MAST ARM ASSEMBLY AND POLE                            |  |          | CLOSED CIRCUIT TV                 |  |          |
| ALUMINUM MAST ARM ASSEMBLY AND POLE                         |  |          | EMERGENCY VEHICLE SYSTEM DETECTOR |  |          |
| STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE |  |          | CONFIRMATION BEACON               |  |          |
| WIRELESS INTERCONNECT (ANTENNA)                             |  |          | UNINTERRUPTIBLE POWER SUPPLY      |  |          |

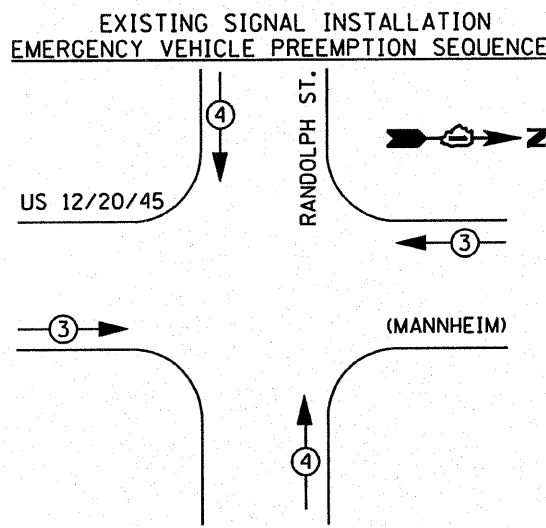
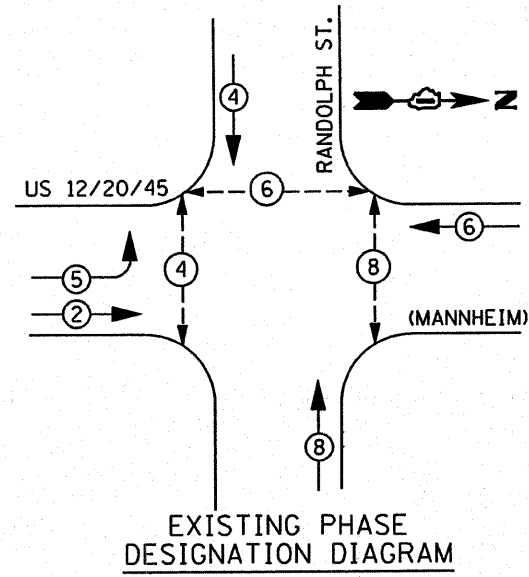
**CONSTRUCTION NOTES:**

- ① REMOVE ALL EXISTING TRAFFIC SIGNAL AND PEDESTRIAN SIGNAL HEAD(S) AND INSTALL NEW L.E.D. HEADS.
- ② REPLACE ALL EXISTING PEDESTRIAN PUSH-BUTTON WITH NEW L.E.D. PUSH-BUTTONS TYPE IV CABINET (SPECIAL)
- ③ REMOVE EXISTING CONTROLLER AND CABINET, REPLACE WITH NEW CONTROLLER WITH UPS. REUSE EXISTING FOUNDATIONS. RELOCATION OF EXISTING EVP PHASING UNIT SHALL BE INCLUDED IN THE UNIT COST OF NEW CONTROLLER AND CABINET PAY ITEM.

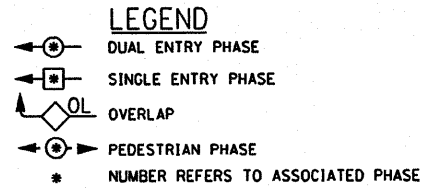
**RESTORATION OF WORK AREA.** RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT, ETC.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

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

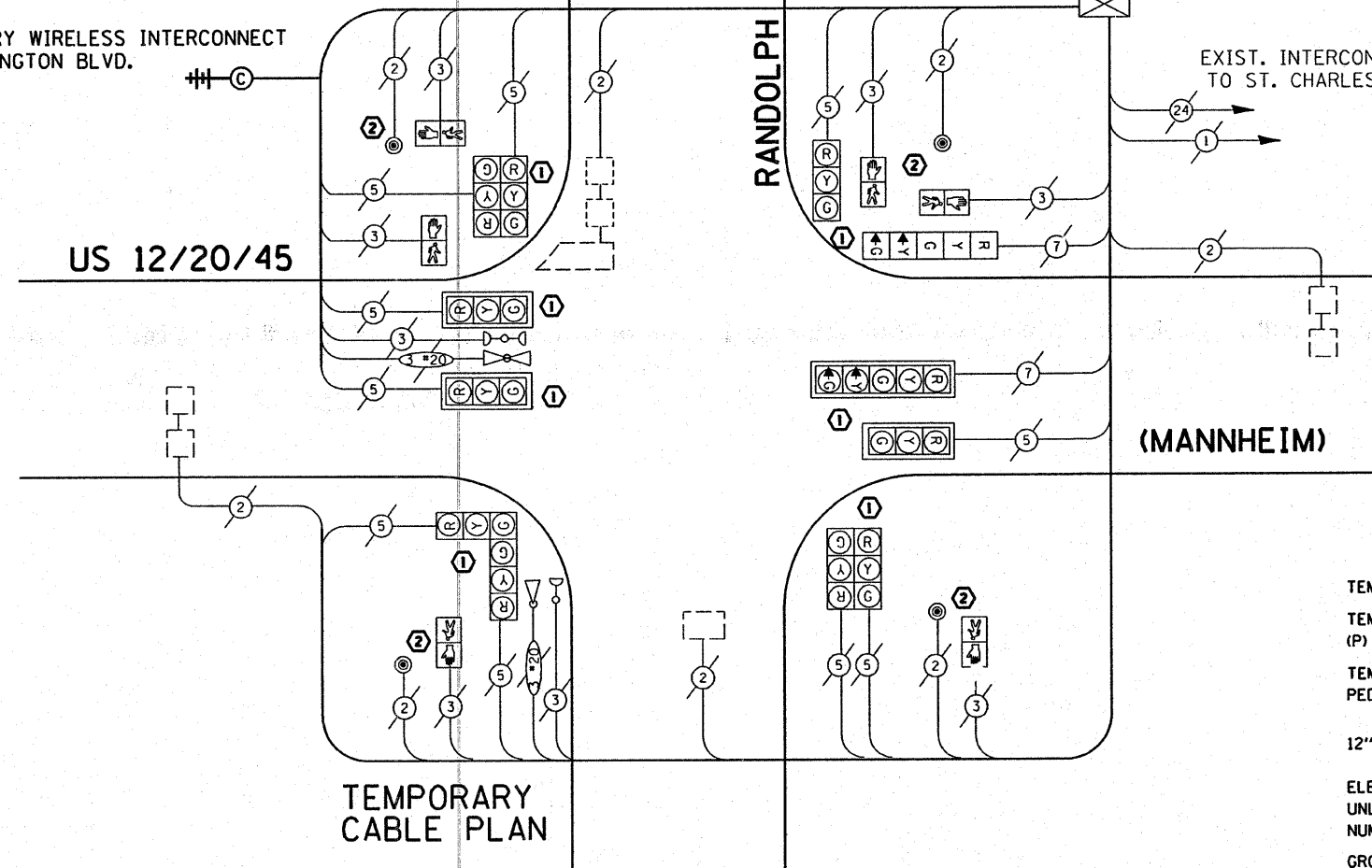
|  |                            |                |           |   |  |   |             |        |              |           |  |
|--|----------------------------|----------------|-----------|---|--|---|-------------|--------|--------------|-----------|--|
| FILE NAME =                                | USER NAME = kenthaphixaybc | DESIGNED - BCK | REVISED - | <b>STATE OF ILLINOIS<br/>DEPARTMENT OF TRANSPORTATION</b> | <b>EXISTING AND REMOVAL PLAN<br/>US 12/20/45 (MANNHEIM) @ RANDOLPH ST.</b> | F.A.P. RTE.                                   | SECTION     | COUNTY | TOTAL SHEETS | SHEET NO. |  |
| ci:\projects\traffic\070027\us12_20_45.dgn |                            | DRAWN - BCK    | REVISED - |   |  | 330   | 2008-006 TS | COOK   | 100          | 57        |  |
| PLOT SCALE = 40.0000' / IN.                |                            | CHECKED - DAD  | REVISED - |   |  | CONTRACT NO. 60E31                            |             |        |              |           |  |
| PLOT DATE = 10/10/2008                     |                            | DATE -         | REVISED - |   |  | FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT |             |        |              |           |  |



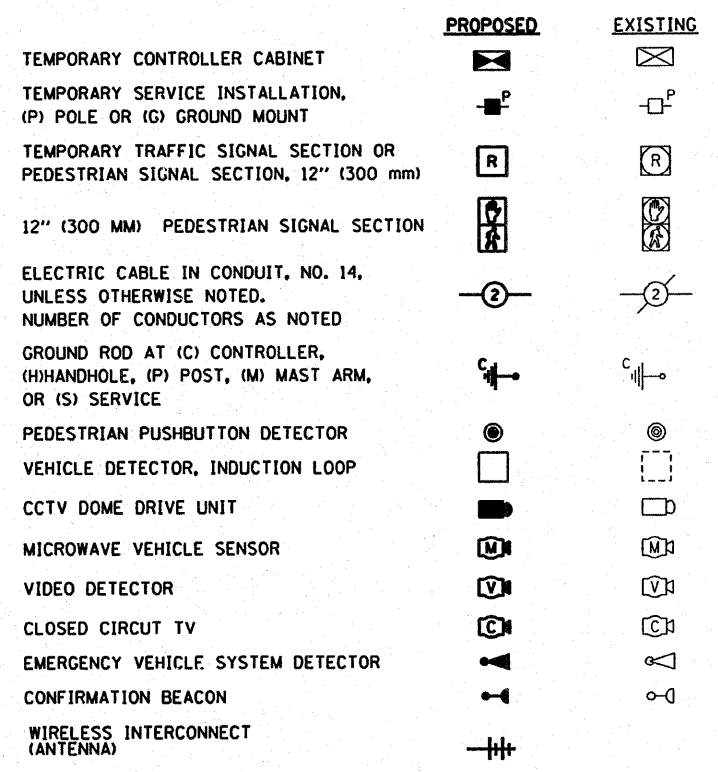
| TEMPORARY EMERGENCY VEHICLE PREEMPTOR |     |     |
|---------------------------------------|-----|-----|
| EMERGENCY VEHICLE PREEMPTOR           | 3   | 4   |
| MOVEMENT                              | → ← | ↑ ↓ |



TEMPORARY WIRELESS INTERCONNECT TO WASHINGTON BLVD.



**EXISTING CABLE DIAGRAM LEGEND**



**NOTE:**  
TEMPORARY WIRELESS INTERCONNECT IS INCLUDED IN TEMPORARY TRAFFIC SIGNAL INSTALLATION PAY ITEM IN WASHINGTON BLVD.

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

**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 SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

| I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS |           |                  |     |             | TOTAL WATTAGE |
|--|-----------|------------------|-----|-------------|---------------|
| TYPE   | NO. LAMPS | WATTAGE (INCAN.) | LED | % OPERATION |               |
| SIGNAL (RED)   | 12        | 135              | 17  | 0.50        |               |
| (YELLOW)   | 12        | 135              | 25  | 0.25        |               |
| (GREEN)  | 12        | 135              | 15  | 0.25        |               |
| ARROW  | 4         | 135              | 12  | 0.10        |               |
| PED. SIGNAL  | 6         | 90               | 25  | 1.00        |               |
| CONTROLLER   | 1         | 100              | 100 | 1.00        |               |
| ILLUM. SIGN  |           | 84               |     | 0.05        |               |
| TOTAL =  |           |                  |     |             |               |

| 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'± (6m±L-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)             |
| 36" (900mm)        | 15 (4.6) | ELECTRIC SERVICE | 1 (0.5)   | SERVICE TO GROUND | 13.5 (4.1)             |
|                    |          | GROUND CABLE     | 1 (0.5)   | POST MOUNTED      | 6 (1.8)                |

ENERGY COSTS TO: ILLINOIS DEPARTMENT OF TRANSPORTATION

ENERGY SUPPLY CONTACT: 708-410-5069, COM. EDISON

FILE NAME: c:\projects\traffic\1070027\us12\_20\_45.dgn  
 USER NAME: kanthaphixaybc  
 PLOT SCALE: 48.0000 / IN.  
 DATE: 10/10/2008

DESIGNED - BCK  
 DRAWN - BCK  
 CHECKED - DAD  
 DATE -

REVISED -  
 REVISED -  
 REVISED -  
 REVISED -

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

EXISTING CABLE PLAN  
 US 12/20/45 (MANNHEIM) @ RANDOLPH ST.

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

| F.A.P. RTE. | SECTION     | COUNTY | TOTAL SHEETS | SHEET NO.          |
|-------------|-------------|--------|--------------|--------------------|
| 330         | 2008-006 TS | COOK   | 100          | 58                 |
|             |             |        |              | CONTRACT NO. 60E31 |

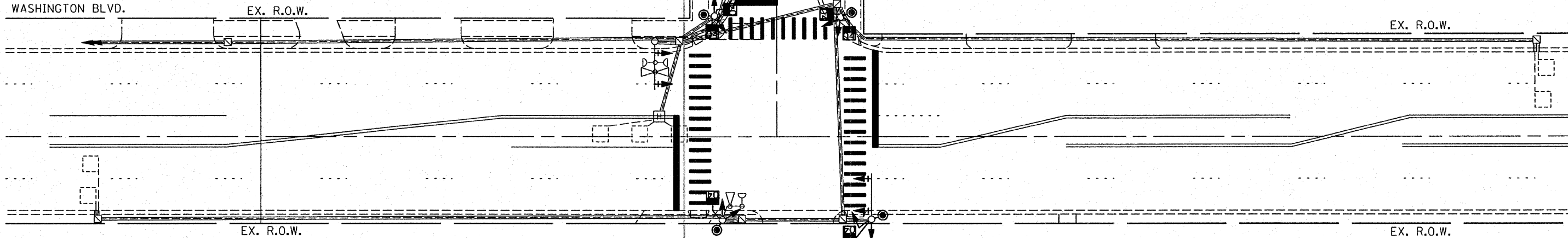
**TRAFFIC SIGNAL LEGEND**

|   | PROPOSED | EXISTING |   | PROPOSED | EXISTING |
|---|----------|----------|---|----------|----------|
| CONTROLLER CABINET  |          |          | JUNCTION BOX                                |          |          |
| RAILROAD CONTROL CABINET                                    |          |          | HANDHOLE                                    |          |          |
| SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT          |          |          | HEAVY DUTY HANDHOLE                         |          |          |
| TELEPHONE CONNECTION  |          |          | DOUBLE HANDHOLE                             |          |          |
| SIGNAL HEAD   |          |          | G.S. CONDUIT IN TRENCH OR PUSHED            |          |          |
| SIGNAL HEAD WITH BACKPLATE                                  |          |          | COMMON TRENCH                               | CT       |          |
| SIGNAL HEAD OPTICALLY PROGRAMMED                            |          |          | UNIT DUCT                                   | UD       |          |
| SIGNAL HEAD PEDESTRIAN with COUNTDOWN TIMER                 |          |          | PEDESTRIAN PUSHBUTTON DETECTOR              |          |          |
| ILLUMINATED SIGN "NO LEFT TURN"                             |          |          | DETECTOR LOOP, TYPE I                       |          |          |
| ILLUMINATED SIGN "NO RIGHT TURN"                            |          |          | PERFORMED DETECTOR LOOP                     |          |          |
| SIGNAL POST   |          |          | MICROWAVE VEHICLE SENSOR                    |          |          |
| WOOD POLE   |          |          | VIDEO DETECTOR                              |          |          |
| STEEL MAST ARM ASSEMBLY AND POLE                            |          |          | CLOSED CIRCUIT TV                           |          |          |
| ALUMINUM MAST ARM ASSEMBLY AND POLE                         |          |          | EMERGENCY VEHICLE SYSTEM DETECTOR           |          |          |
| STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE |          |          | CONFIRMATION BEACON                         |          |          |
|   |          |          | UNINTERRUPTABLE POWER SUPPLY                |          |          |
|   |          |          | PEDESTRIAN SIGNAL HEAD WITH COUNTDOWN TIMER |          |          |



**US 12/20/45 (MANNHEIM)**

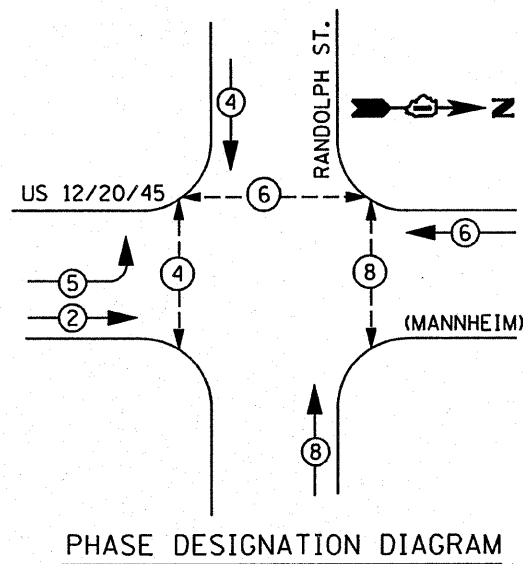
INTERCONNECT TO WASHINGTON BLVD.



**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 SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

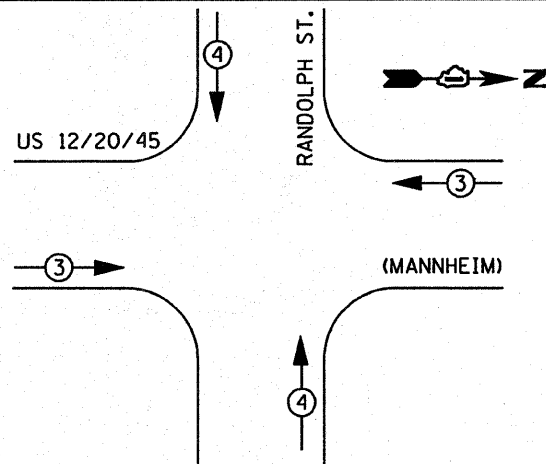
**NOTE:** THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE ADJACENT SYSTEM.

|   |                              |                   |   |   |   |                     |                        |                    |                     |                 |  |
|---|------------------------------|-------------------|---|---|---|---------------------|------------------------|--------------------|---------------------|-----------------|--|
| FILE NAME =<br>c:\projects\traffic\1070027\us12_20_45.dgn | USER NAME =<br>kanthaphixgbc | DESIGNED -<br>BCK | REVISED -                                     | <b>STATE OF ILLINOIS<br/>DEPARTMENT OF TRANSPORTATION</b> | <b>PROPOSED TRAFFIC SIGNAL PLAN<br/>US 12/20/45 (MANNHEIM) @ RANDOLPH ST.</b> | F.A.P. RTE.<br>330  | SECTION<br>2008-006 TS | COUNTY<br>COOK     | TOTAL SHEETS<br>100 | SHEET NO.<br>59 |  |
| PLOT SCALE =<br>40.0000' / IN.                            | CHECKED -<br>DAD             | REVISED -         | SCALE: 1"=20'                                 |   |   | SHEET NO. OF SHEETS | STA. TO STA.           | CONTRACT NO. 60E31 |                     |                 |  |
| PLOT DATE =<br>10/10/2008                                 | DATE -                       | REVISED -         | FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT |   |   |                     |                        |                    |                     |                 |  |
|   |                              |                   |   |   |   |                     |                        |                    |                     |                 |  |



- LEGEND**
- ⊕ DUAL ENTRY PHASE
  - ⊖ SINGLE ENTRY PHASE
  - OL OVERLAP
  - ⊙ PEDESTRIAN PHASE
  - \* NUMBER REFERS TO ASSOCIATED PHASE

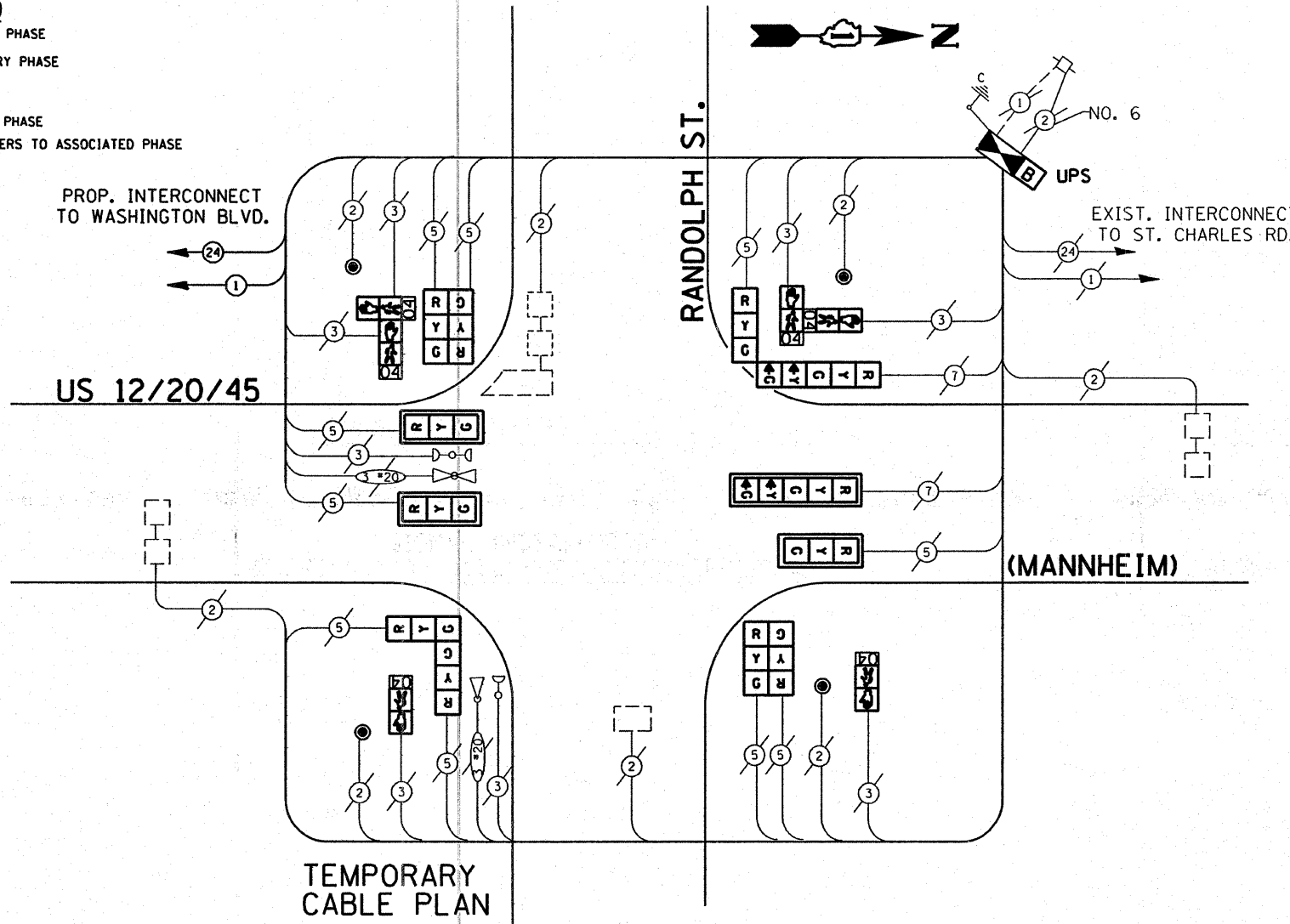
**SIGNAL INSTALLATION EMERGENCY VEHICLE PREEMPTION SEQUENCE**



| EMERGENCY VEHICLE PREEMPTOR |   |   |
|-----------------------------|---|---|
| EMERGENCY VEHICLE PREEMPTOR | 3 | 4 |
| MOVEMENT                    | → | ↑ |

| I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS |           |                   |     |             | TOTAL WATTAGE  |
|--|-----------|-------------------|-----|-------------|----------------|
| TYPE   | NO. LAMPS | WATTAGE (INCAND.) | LED | % OPERATION |                |
| SIGNAL (RED)   | 12        | 135               | 17  | 0.50        | 102.00         |
| (YELLOW)   | 12        | 135               | 25  | 0.25        | 75.00          |
| (GREEN)  | 12        | 135               | 15  | 0.25        | 45.00          |
| ARROW  | 4         | 135               | 12  | 0.10        | 4.80           |
| PED. SIGNAL  | 6         | 90                | 25  | 1.00        | 150.00         |
| CONTROLLER   | 1         | 100               | 100 | 1.00        | 100.00         |
| ILLUM. SIGN  |           | 84                |     | 0.05        |                |
| FLASHER  |           |                   |     | 0.50        |                |
| ENERGY COSTS TO:   |           |                   |     |             | TOTAL = 476.80 |

| 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    | 4 (1.2)  | SIGNAL POST      | 2 (0.5)   | (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) |
|                    |          | GROUND CABLE     | 1 (0.5)   | SERVICE TO GROUND | 13.5 (4.1) |
|                    |          |                  |           | POST MOUNTED      | 6 (1.8)    |



**SCHEDULE OF QUANTITIES**

| ITEM  | UNIT | QUANTITY |
|---|------|----------|
| FULL-ACTUATED CONTROLLER AND TYPE IV CABINET (SPECIAL)                  | EACH | 1        |
| TRANSCEIVER-FIBER OPTIC   | EACH | 1        |
| INDUCTIVE LOOP DETECTOR   | EACH | 4        |
| SIGNAL HEAD, L.E.D. 1-FACE, 3 SECTION, MAST ARM MNTD.                   | EACH | 3        |
| SIGNAL HEAD, L.E.D. 1-FACE, 5 SECTION, MAST ARM MNTD.                   | EACH | 1        |
| SIGNAL HEAD, L.E.D. 2-FACE, 1-3, 1-5 SECTION, BRKT. MNTD.               | EACH | 1        |
| SIGNAL HEAD, L.E.D. 2-FACE, 3 SECTION, BRKT. MNTD.                      | EACH | 3        |
| PEDESTRIAN SIGNAL HEAD, L.E.D., 1-FACE, BRKT. MTD. with COUNTDOWN TIMER | EACH | 2        |
| PEDESTRIAN SIGNAL HEAD, L.E.D., 2-FACE, BRKT. MTD. with COUNTDOWN TIMER | EACH | 2        |
| PEDESTRIAN PUSH-BUTTON  | EACH | 4        |
| TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM                            | EACH | 4        |
| REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT                                | EACH | 1        |
| UNINTERRUPTIBLE POWER SUPPLY  | EACH | 1        |
| THERMOPLASTIC PAVEMENT MARKING LINE 12"                                 | FOOT | 320      |
| THERMOPLASTIC PAVEMENT MARKING LINE 24"                                 | FOOT | 90       |
| THERMOPLASTIC PAVEMENT MARKING REMOVAL                                  | FOOT | 451      |
| MAINTENANCE OF EXISTING TRAFFIC SIGNAL EQUIPMENT                        | EACH | 1        |

**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 SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDING IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

**CABLE PLAN LEGEND**

- |  | PROPOSED | EXISTING |
|--|----------|----------|
| CONTROLLER CABINET   | [Symbol] | [Symbol] |
| RAILROAD CONTROL CABINET   | [Symbol] | [Symbol] |
| SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT                                       | [Symbol] | [Symbol] |
| TELEPHONE CONNECTION   | [Symbol] | [Symbol] |
| GROUND ROD AT (C) CONTROLLER, (H) HANDHOLE, (P) POST, (M) MAST ARM, OR (S) SERVICE       | [Symbol] | [Symbol] |
| FIBER OPTIC CABLE IN CONDUIT, NUMBER OF FIBERS AS NOTED                                  | [Symbol] | [Symbol] |
| ELECTRIC CABLE IN CONDUIT, NO. 14, UNLESS OTHERWISE NOTED, NUMBER OF CONDUCTORS AS NOTED | [Symbol] | [Symbol] |
| GROUND CABLE IN CONDUIT NO. 6 COPPER (GREEN)   | [Symbol] | [Symbol] |
| SIGNAL FACE WITH BACKPLATE, "P" INDICATES PROGRAMMED HEAD                                | [Symbol] | [Symbol] |
| 12" (300mm) RED WITH 8" (200mm) YELLOW AND GREEN TRAFFIC SIGNAL FACE                     | [Symbol] | [Symbol] |
| 12" (300mm) TRAFFIC SIGNAL SECTION   | [Symbol] | [Symbol] |
| 12" (300mm) PEDESTRIAN SIGNAL SECTION with COUNTDOWN TIMER                               | [Symbol] | [Symbol] |
| ILLUMINATED SIGN "NO LEFT TURN"  | [Symbol] | [Symbol] |
| ILLUMINATED SIGN "NO RIGHT TURN"   | [Symbol] | [Symbol] |
| PUSHBUTTON DETECTOR  | [Symbol] | [Symbol] |
| DETECTOR LOOP  | [Symbol] | [Symbol] |
| PERFORMED DETECTOR LOOP  | [Symbol] | [Symbol] |
| MICROWAVE VEHICLE SENSOR   | [Symbol] | [Symbol] |
| VIDEO DETECTOR   | [Symbol] | [Symbol] |
| CLOSED CIRCUIT TV  | [Symbol] | [Symbol] |
| EMERGENCY VEHICLE SYSTEM DETECTOR  | [Symbol] | [Symbol] |
| CONFIRMATION BEACON  | [Symbol] | [Symbol] |
| UNINTERRUPTIBLE POWER SUPPLY   | [Symbol] | [Symbol] |

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

FILE NAME = USER NAME = kenthaphixaybc  
 DESIGNED - BCK  
 DRAWN - BCK  
 CHECKED - DAD  
 DATE -  
 PLOT SCALE = 40.0000' / IN.  
 PLOT DATE = 18/18/2008

REVISIONS:  
 REVISIONS -  
 REVISIONS -  
 REVISIONS -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

PROPOSED CABLE INSTALLATION PLAN  
 US 12/20/45 (MANNHEIM) @ RANDOLPH ST.  
 SCALE: SHEET NO. OF SHEETS STA. TO STA.

|   |             |        |              |           |
|---|-------------|--------|--------------|-----------|
| F.A.P. RTE.                                     | SECTION     | COUNTY | TOTAL SHEETS | SHEET NO. |
| 330   | 2008-006 TS | COOK   | 100          | 60        |
| CONTRACT NO. 60E31                              |             |        |              |           |
| FED. ROAD DIST. NO. [ILLINOIS] FED. AID PROJECT |             |        |              |           |



WASHINGTON BLVD.  
MATCH LINE A

TEMPORARY TRAFFIC SIGNAL AND REMOVAL LEGEND

|  | PROPOSED | EXISTING |   | PROPOSED | EXISTING |
|--|----------|----------|---|----------|----------|
| TEMPORARY CONTROLLER CABINET                                       |          |          | HEAVY-DUTY HANDHOLE                         |          |          |
| TEMPORARY SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT       |          |          | G.S. CONDUIT IN TRENCH OR PUSHED            |          |          |
| TEMPORARY TRAFFIC SIGNAL HEAD SPAN WIRE MOUNTED ORIGINAL LOCATION  |          |          | TEMPORARY SPAN WIRE, TETHER WIRE, AND CABLE |          |          |
| TEMPORARY TRAFFIC SIGNAL HEAD SPAN WIRE MOUNTED SECONDARY LOCATION |          |          | COMMON TRENCH                               | CT       |          |
| TEMPORARY PEDESTRIAN SIGNAL HEAD, BRACKET MOUNTED                  |          |          | UNIT DUCT                                   | UD       |          |
| TEMPORARY WOOD POLE (CLASS 5 OR BETTER) 45 FOOT (13.7m) MINIMUM    |          |          | TEMPORARY PEDESTRIAN PUSHBUTTON DETECTOR    |          |          |
| EXISTING SIGNAL POST AND FOUNDATION TO BE REMOVED                  |          |          | DETECTOR LOOP, TYPE I                       |          |          |
| STEEL MAST ARM ASSEMBLY AND POLE                                   |          |          | PREFORMED DETECTOR LOOP                     |          |          |
| ALUMINUM MAST ARM ASSEMBLY AND POLE                                |          |          | MICROWAVE VEHICLE SENSOR                    |          |          |
| COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL WITH LUMINAIRE       |          |          | VIDEO DETECTOR                              |          |          |
| EXISTING STREET LIGHT, FOUNDATION AND LUMINAIRE TO REMAIN          |          |          | CLOSED CIRCUIT TV                           |          |          |
| HANDHOLE   |          |          | EMERGENCY VEHICLE SYSTEM DETECTOR           |          |          |
|  |          |          | CONFIRMATION BEACON                         |          |          |
|  |          |          | WIRELESS INTERCONNECT (ANTENNA)             |          |          |

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 SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 8 EACH SIGNAL HEAD, 3-SECTION BKT. MNTD.
- 8 EACH SIGNAL HEAD, 1-FACE, 5-SECTION BKT. MNTD.
- 8 EACH PEDESTRIAN SIGNAL HEAD, 1-FACE
- 4 EACH SIGNAL POST
- 4 EACH MAST ARM ASSEMBLY AND POLE
- 8 EACH PEDESTRIAN PUSHBUTTON
- 4 EACH TRAFFIC SIGNAL BACKPLATE
- 1 EACH SERVICE INSTALLATION, POLE MOUNTED
- 1 EACH CONTROLLER AND TYPE IV CABINET

SIDEWALK REMOVAL AND REPLACEMENT  
P.C.C. SIDEWALK 5' = 55 SQ.FT.

SIDEWALK REMOVAL AND REPLACEMENT  
P.C.C. SIDEWALK 5' = 46 SQ.FT.

SIDEWALK REMOVAL AND REPLACEMENT  
P.C.C. SIDEWALK 5' = 99 SQ.FT.

US 12/20/45 (MANNHEIM)

NOTES FOR TEMPORARY TRAFFIC SIGNALS

- ALL CONTROL EQUIPMENT INCLUDING EMERGENCY PRE-EMPTION AND COMMUNICATION DEVICES FOR THE TEMPORARY TRAFFIC SIGNAL (S) SHALL BE FURNISH BY THE CONTRACTOR.
- ONLY CONTROLLERS SUPPLIED BY ONE OF THE DISTRICT APPROVED CLOSED LOOP EQUIPMENT MANUFACTURERS WILL BE APPROVED FOR USE AT TEMPORARY SIGNAL LOCATIONS. ALL CONTROLLERS USED FOR TEMPORARY TRAFFIC SIGNALS SHALL BE FULLY ACTUATED NEMA MICROPROCESSOR BASED WITH RS232 DATA ENTRY PORTS COMPATIBLE WITH EXISTING MONITORING SOFTWARE APPROVED BY IDOT DISTRICT 1, INSTALLED IN A NEMA TS1 OR TS2 CABINET. ONLY ONE BRAND OF CONTROLLER WILL BE ACCEPTED FOR ANY ONE CONTRACT.
- ALL CONTROLLERS USED FOR TEMPORARY SIGNALS SHALL MEET OR EXCEED THE REQUIREMENTS OF SECTION T632 OF THE "STANDARD SPECIFICATIONS FOR TRAFFIC CONTROL ITEMS" WITH REGARDS TO INTERNAL TIME BASE COORDINATION AND PREMPTION.
- ALL TRAFFIC SIGNAL SECTIONS AND PEDESTRIAN SIGNAL SECTIONS SHALL BE 12". HEADS SHALL BE PLACED AS INDICATED ON THE TEMPORARY TRAFFIC SIGNAL PLAN OR AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL FURNISH ENOUGH CABLE SLACK TO RELOCATE HEADS TO ANY POSITION ON THE SPAN WIRE OR AT LOCATIONS ILLUSTRATED ON THE PLANS FOR CONSTRUCTION STAGING. THE TEMPORARY TRAFFIC SIGNAL SHALL REMAIN IN OPERATION DURING ALL SIGNAL HEAD RELOCATIONS. EACH TEMPORARY TRAFFIC SIGNAL HEAD SHALL HAVE ITS OWN CABLE FROM THE CONTROLLER CABINET TO THE SIGNAL HEAD.
- ALL EXISTING STREET NAME AND INTERSECTION REGULATORY SIGNS SHALL BE REMOVED FROM EXISTING POLES, RELOCATED AND SECURELY FASTENED TO THE SIGNAL SPAN WIRE OR WOOD POLE AS DIRECTED BY THE ENGINEER.
- ANY TEMPORARY SIGNAL WITHIN AN EXISTING CLOSED LOOP TRAFFIC SIGNAL SYSTEM SHALL BE INTERCONNECTED TO THAT SYSTEM USING SIMILAR BRAND CONTROL EQUIPMENT.

TEMPORARY WIRELESS INTERCONNECT ANTENNA  
SEE WIRELESS INTERCONNECT SCHEMATIC SHEET 1 OF 2  
MODEL: YAGI 4 ELEMENT 8dBI 890-690 MHZ

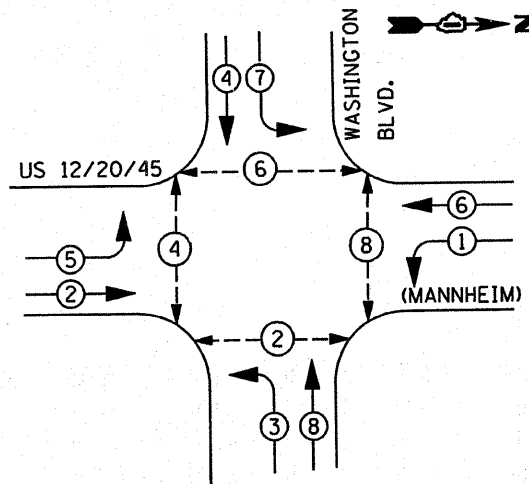
NOTE:  
TEMPORARY WIRELESS INTERCONNECT IS INCLUDED  
IN TEMPORARY TRAFFIC SIGNAL INSTALLATION PAY ITEM.

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

MATCH LINE B

MATCH LINE B

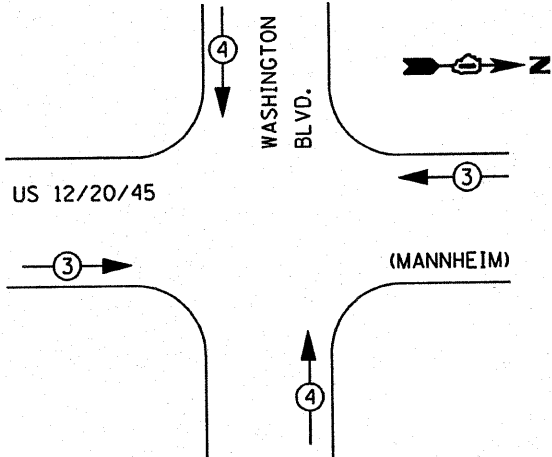
|  |                           |                |               |   |  |                     |                     |                     |                           |                    |  |
|--|---------------------------|----------------|---------------|---|--|---------------------|---------------------|---------------------|---------------------------|--------------------|--|
| FILE NAME =<br>c:\projects\traffic\070027\us12_20_45.dgn | USER NAME = kenthaphixybc | DESIGNED - BCK | REVISED -     | STATE OF ILLINOIS<br>DEPARTMENT OF TRANSPORTATION | TEMPORARY TRAFFIC SIGNAL PLAN<br>US 12/20/45 (MANNHEIM) @ WASHINGTON BLVD. | F.A.P. RTE. 330     | SECTION 2008-006 TS | COUNTY COOK         | TOTAL SHEETS 100          | SHEET NO. 61       |  |
| PLDT SCALE = 48.0000' / IN.                              | CHECKED - DAD             | REVISED -      | SCALE: 1"=20' |   |  | SHEET NO. OF SHEETS | STA. TO STA.        | FED. ROAD DIST. NO. | ILLINOIS FED. AID PROJECT | CONTRACT NO. 60E31 |  |
| PLDT DATE = 10/18/2008                                   | DATE                      | REVISED -      |               |   |  |                     |                     |                     |                           |                    |  |
|  |                           |                |               |   |  |                     |                     |                     |                           |                    |  |



PHASE DESIGNATION DIAGRAM

DUAL ENTRY - ALL LEGS  
PERMITTED LEFT TURN PHASING

TEMPORARY SIGNAL INSTALLATION  
EMERGENCY VEHICLE PREEMPTION SEQUENCE

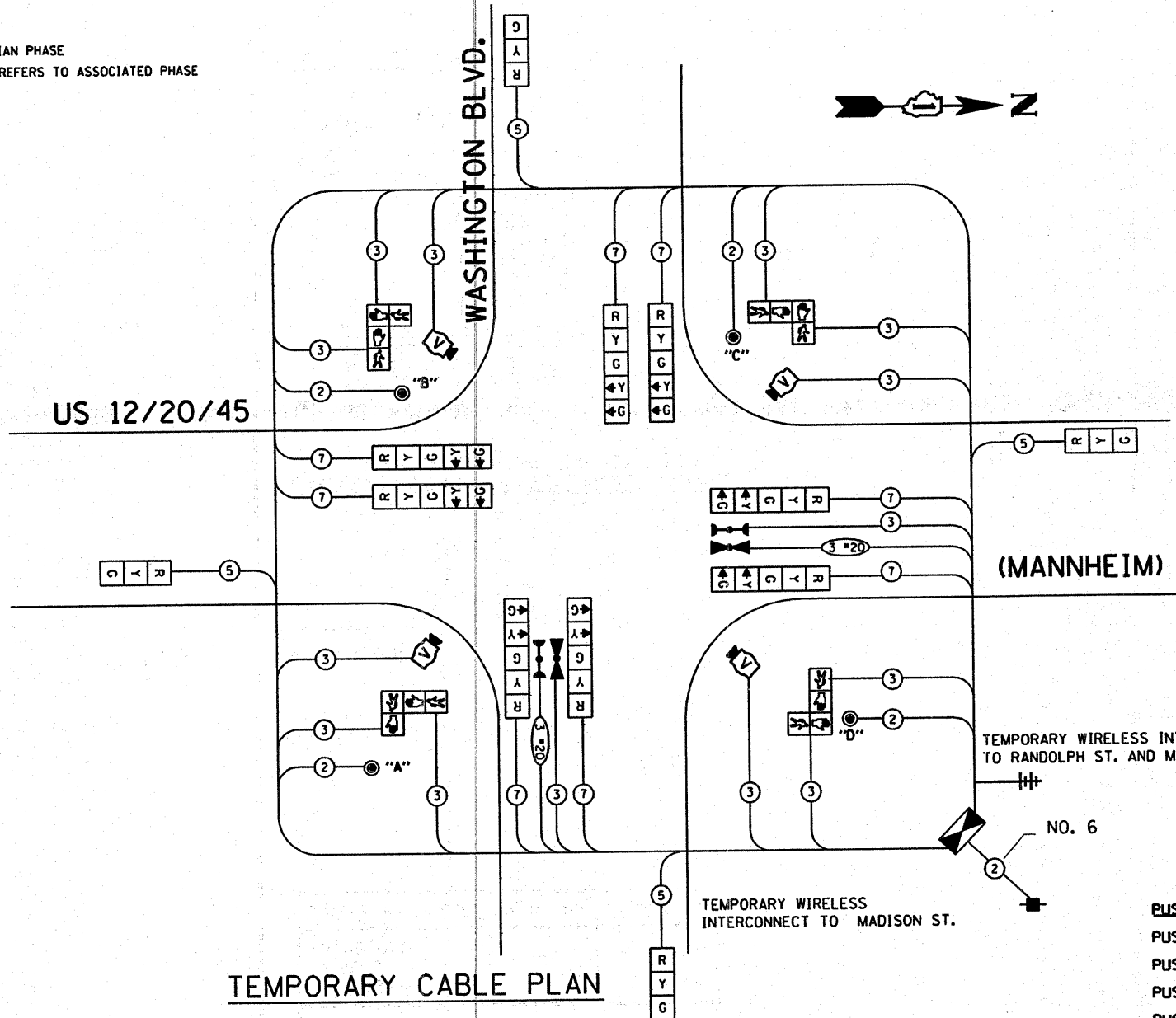


| TEMPORARY EMERGENCY VEHICLE PREEMPTOR |     |     |
|---------------------------------------|-----|-----|
| EMERGENCY VEHICLE PREEMPTOR           | 3   | 4   |
| MOVEMENT                              | → ← | ↑ ↓ |

- LEGEND**
- ⊕ DUAL ENTRY PHASE
  - ⊙ SINGLE ENTRY PHASE
  - OL OVERLAP
  - ⊕ PEDESTRIAN PHASE
  - \* NUMBER REFERS TO ASSOCIATED PHASE

**TEMPORARY CABLE DIAGRAM LEGEND**

- |  | PROPOSED       | EXISTING       |
|--|----------------|----------------|
| TEMPORARY CONTROLLER CABINET   | ⊕              | ⊕              |
| TEMPORARY SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT                             | ⊕ <sup>P</sup> | ⊕ <sup>P</sup> |
| TEMPORARY TRAFFIC SIGNAL SECTION OR PEDESTRIAN SIGNAL SECTION, 12" (300 mm)              | R              | R              |
| 12" (300 MM) PEDESTRIAN SIGNAL SECTION   | ⊕              | ⊕              |
| ELECTRIC CABLE IN CONDUIT, NO. 14, UNLESS OTHERWISE NOTED, NUMBER OF CONDUCTORS AS NOTED | 2              | 2              |
| PEDESTRIAN PUSHBUTTON DETECTOR   | ⊙              | ⊙              |
| VEHICLE DETECTOR, INDUCTION LOOP   | □              | □              |
| MICROWAVE VEHICLE SENSOR   | M              | M              |
| VIDEO DETECTOR   | V              | V              |
| CLOSED CIRCUIT TV  | C              | C              |
| EMERGENCY VEHICLE SYSTEM DETECTOR  | E              | E              |
| CONFIRMATION BEACON  | I              | I              |
| WIRELESS INTERCONNECT (ANTENNA)  | ⊕              | ⊕              |



TEMPORARY CABLE PLAN

- PUSH-BUTTON NOTES:**
- PUSH-BUTTON "A" SHALL PLACE A CALL IN PHASES 2 AND 4
  - PUSH-BUTTON "B" SHALL PLACE A CALL IN PHASES 4 AND 6
  - PUSH-BUTTON "C" SHALL PLACE A CALL IN PHASES 6 AND 8
  - PUSH-BUTTON "D" SHALL PLACE A CALL IN PHASES 2 AND 8

**NOTE:**  
PROPOSED TEMPORARY WIRELESS INTERCONNECT IS INCLUDED IN TEMPORARY TRAFFIC SIGNAL INSTALLATION PAY ITEM.

**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 SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

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

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

| TYPE         | NO. LAMPS | WATTAGE (INCAN.) | LED | % OPERATION | TOTAL WATTAGE |
|--------------|-----------|------------------|-----|-------------|---------------|
| SIGNAL (RED) | 12        | 135              | 17  | 0.50        | 102.00        |
| (YELLOW)     | 12        | 135              | 25  | 0.25        | 75.00         |
| (GREEN)      | 12        | 135              | 15  | 0.25        | 45.00         |
| ARROW        | 16        | 135              | 12  | 0.10        | 19.20         |
| PED. SIGNAL  | 8         | 90               | 25  | 1.00        | 200.00        |
| CONTROLLER   | 1         | 100              | 100 | 1.00        | 100.00        |
| ILLUM. SIGN  |           | 84               |     | 0.05        |               |
| FLASHER      |           |                  |     | 0.50        |               |
| <b>TOTAL</b> |           |                  |     |             | <b>541.20</b> |

ENERGY COSTS TO: ILLINOIS DEPARTMENT OF TRANSPORTATION

ENERGY SUPPLY CONTACT: 708-410-5069  
PHONE: COM. EDISON  
COMPANY:

| 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'-11" (6m+L-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)          |
| 36" (900mm)        | 15 (4.6) | ELECTRIC SERVICE | 1 (0.5)   | SERVICE TO GROUND | 13.5 (4.1)          |
|                    |          | GROUND CABLE     | 1 (0.5)   | POST MOUNTED      | 6 (1.8)             |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TEMPORARY CABLE PLAN  
US 12/20/45 (MANNHEIM) @ WASHINGTON BLVD.

| F.A.P. RTE.                                   | SECTION     | COUNTY | TOTAL SHEETS       | SHEET NO. |
|---|-------------|--------|--------------------|-----------|
| 330   | 2008-006 TS | COOK   | 100                | 62        |
| FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT |             |        | CONTRACT NO. 60E31 |           |

# WASHINGTON BLVD.

MATCH LINE A

## TRAFFIC SIGNAL LEGEND

| PROPOSED |   | EXISTING |   | PROPOSED |                                   | EXISTING |          |
|----------|---|----------|---|----------|-----------------------------------|----------|----------|
| [Symbol] | CONTROLLER CABINET  | [Symbol] | RAILROAD CONTROL CABINET                                    | [Symbol] | JUNCTION BOX                      | [Symbol] | [Symbol] |
| [Symbol] | SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT          | [Symbol] | TELEPHONE CONNECTION  | [Symbol] | HANDHOLE                          | [Symbol] | [Symbol] |
| [Symbol] | SIGNAL HEAD   | [Symbol] | SIGNAL HEAD WITH BACKPLATE                                  | [Symbol] | HEAVY DUTY HANDHOLE               | [Symbol] | [Symbol] |
| [Symbol] | SIGNAL HEAD OPTICALLY PROGRAMMED                            | [Symbol] | SIGNAL HEAD PEDESTRIAN WITH COUNTDOWN TIMER                 | [Symbol] | DOUBLE HANDHOLE                   | [Symbol] | [Symbol] |
| [Symbol] | ILLUMINATED SIGN "NO LEFT TURN"                             | [Symbol] | ILLUMINATED SIGN "NO RIGHT TURN"                            | [Symbol] | G.S. CONDUIT IN TRENCH OR PUSHED  | [Symbol] | [Symbol] |
| [Symbol] | SIGNAL POST   | [Symbol] | WOOD POLE   | [Symbol] | COMMON TRENCH                     | [Symbol] | [Symbol] |
| [Symbol] | STEEL MAST ARM ASSEMBLY AND POLE                            | [Symbol] | ALUMINUM MAST ARM ASSEMBLY AND POLE                         | [Symbol] | UNIT DUCT                         | [Symbol] | [Symbol] |
| [Symbol] | STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE | [Symbol] | CONTRACTOR CONNECTION                                       | [Symbol] | PEDESTRIAN PUSHBUTTON DETECTOR    | [Symbol] | [Symbol] |
| [Symbol] |   | [Symbol] | ILLUMINATED SIGN "NO LEFT TURN"                             | [Symbol] | DETECTOR LOOP, TYPE I             | [Symbol] | [Symbol] |
| [Symbol] |   | [Symbol] | ILLUMINATED SIGN "NO RIGHT TURN"                            | [Symbol] | PREFORMED DETECTOR LOOP           | [Symbol] | [Symbol] |
| [Symbol] |   | [Symbol] | SIGNAL POST   | [Symbol] | MICROWAVE VEHICLE SENSOR          | [Symbol] | [Symbol] |
| [Symbol] |   | [Symbol] | WOOD POLE   | [Symbol] | VIDEO DETECTOR                    | [Symbol] | [Symbol] |
| [Symbol] |   | [Symbol] | STEEL MAST ARM ASSEMBLY AND POLE                            | [Symbol] | CLOSED CIRCUIT TV                 | [Symbol] | [Symbol] |
| [Symbol] |   | [Symbol] | ALUMINUM MAST ARM ASSEMBLY AND POLE                         | [Symbol] | EMERGENCY VEHICLE SYSTEM DETECTOR | [Symbol] | [Symbol] |
| [Symbol] |   | [Symbol] | STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE | [Symbol] | CONFIRMATION BEACON               | [Symbol] | [Symbol] |
| [Symbol] |   | [Symbol] |   | [Symbol] | UNINTERRUPTIBLE POWER SUPPLY      | [Symbol] | [Symbol] |

PROPOSED INTERSECTION AND SAMPLING (SYSTEM) DET.

MATCH LINE A

US 12/20/45 (MANNHEIM)



EXISTING INTERCONNECT TO RANDOLPH ST.

EXISTING INTERCONNECT TO MADISON ST.

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

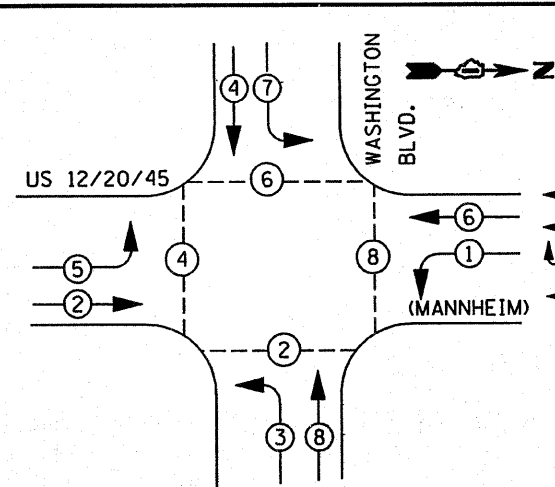
**RESTORATION OF WORK AREA.** RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT, ETC.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

MATCH LINE B

MATCH LINE B

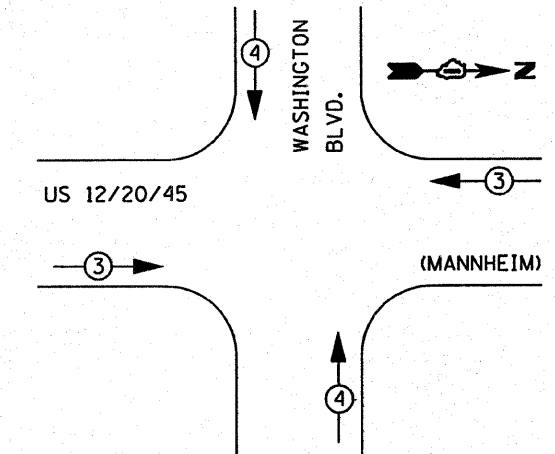
PROPOSED INTERSECTION AND SAMPLING(SYSTEM) DETECTORS

|                                |                           |                |               |   |   |                     |                     |                     |                           |                    |  |  |
|--------------------------------|---------------------------|----------------|---------------|---|---|---------------------|---------------------|---------------------|---------------------------|--------------------|--|--|
| FILE NAME =                    | USER NAME = kanthapixaybc | DESIGNED - BCK | REVISED -     | STATE OF ILLINOIS<br>DEPARTMENT OF TRANSPORTATION | PROPOSED TRAFFIC SIGNAL PLAN<br>US 12/20/45 (MANNHEIM) @ WASHINGTON BLVD. | F.A.P. RTE. 330     | SECTION 2008-006 TS | COUNTY COOK         | TOTAL SHEETS 100          | SHEET NO. 63       |  |  |
| PROJECT SCALE = 48,0000' / IN. | CHECKED - DAD             | REVISOR -      | SCALE: 1"=20' |   |   | SHEET NO. OF SHEETS | STA. TO STA.        | FED. ROAD DIST. NO. | ILLINOIS FED. AID PROJECT | CONTRACT NO. 60E31 |  |  |
| PLOT DATE = 10/10/2008         | DATE -                    | REVISOR -      |               |   |   |                     |                     |                     |                           |                    |  |  |
|                                |                           |                |               |   |   |                     |                     |                     |                           |                    |  |  |

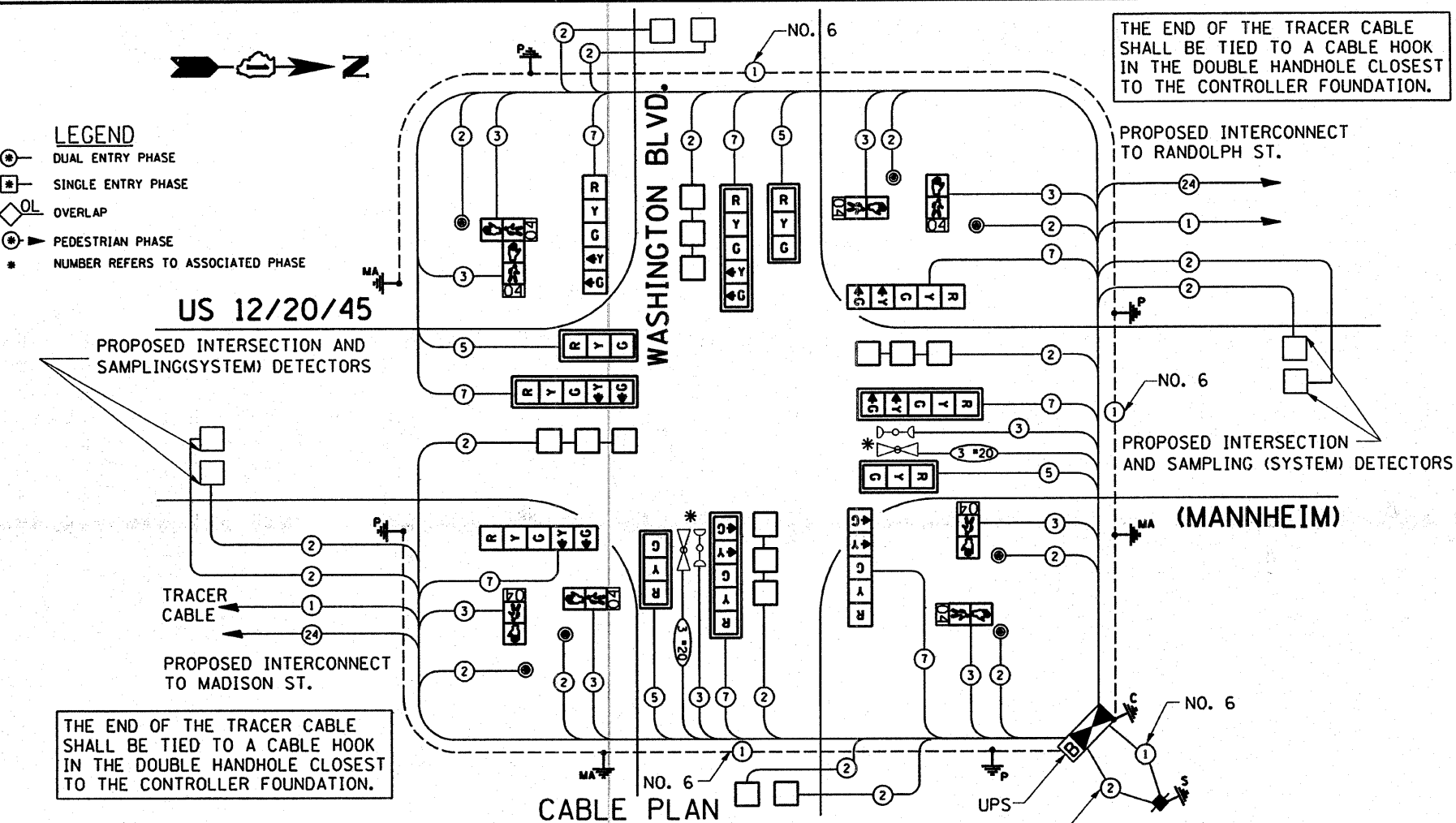


PHASE DESIGNATION DIAGRAM

PROPOSED SIGNAL INSTALLATION EMERGENCY VEHICLE PREEMPTION SEQUENCE



| PROPOSED EMERGENCY VEHICLE PREEMPTOR |   |   |   |
|--------------------------------------|---|---|---|
| EMERGENCY VEHICLE PREEMPTOR          | 3 | 4 |   |
| MOVEMENT                             | → | ↑ | ↓ |



CABLE PLAN SCHEDULE OF QUANTITIES

| ITEM  | UNIT                     | QUANTITY                              | ITEM   | UNIT  | QUANTITY |
|---|--------------------------|---------------------------------------|--|-------|----------|
| PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH                                      | SO. FT                   | 200                                   | HANDHOLE   | EACH  | 8        |
| SIGN PANEL-TYPE II  | SO. FT                   | 57.50                                 | SIDEWALK REMOVAL   | SO FT | 200      |
| TRAFFIC CONTROL AND PROTECTION, STANDARD 701501                               | L SUM                    | 0.1                                   | HEAVY-DUTY HANDHOLE  | EACH  | 4        |
| TRAFFIC CONTROL AND PROTECTION, STANDARD 701701                               | L SUM                    | 0.1                                   | DOUBLE HANDHOLE  | EACH  | 1        |
| TRAFFIC CONTROL AND PROTECTION, STANDARD 701801                               | L SUM                    | 0.1                                   | TRAFFIC SIGNAL POST, GALVANIZED STEEL 16FT.                              | EACH  | 4        |
| CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL                                  | FOOT                     | 720                                   | CONCRETE FOUNDATION, TYPE A  | FOOT  | 16       |
| CONDUIT IN PUSH, 2" DIA., GALVANIZED STEEL                                    | FOOT                     | 401                                   | CONCRETE FOUNDATION, TYPE C  | FOOT  | 4        |
| CONDUIT IN PUSH, 2 1/2" DIA., GALVANIZED STEEL                                | FOOT                     | 77                                    | CONCRETE FOUNDATION, TYPE E 36-INCH DIA.                                 | FOOT  | 60       |
| CONDUIT IN TRENCH, 2 1/2" DIA., GALVANIZED STEEL                              | FOOT                     | 18                                    | UNINTERRUPTIBLE POWER SUPPLY   | EACH  | 1        |
| CONDUIT IN PUSH, 4" DIA., GALVANIZED STEEL                                    | FOOT                     | 385                                   | SIGNAL HEAD, L.E.D. 1-FACE, 3 SECTION, MAST ARM MNTD.                    | EACH  | 4        |
| CONDUIT IN TRENCH, 5" DIA., GALVANIZED STEEL                                  | FOOT                     | 11                                    | SIGNAL HEAD, L.E.D. 1-FACE, 5 SECTION, MAST ARM MNTD.                    | EACH  | 4        |
| TRENCH AND BACKFILL FOR ELECTRICAL WORK                                       | FOOT                     | 741                                   | SIGNAL HEAD, L.E.D. 1-FACE, 1-5 SECT BRKT MNTD.                          | EACH  | 4        |
| FULL-ACTUATED CONTROLLER AND TYPE IV CABINET(SPECIAL) TRANSCEIVER-FIBER OPTIC | EACH                     | 1                                     | PEDESTRIAN PUSH-BUTTON   | EACH  | 7        |
| ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C                                   | FOOT                     | 1984                                  | PEDESTRIAN SIGNAL HEAD, L.E.D., 1-FACE, BRKT. MNTD. with COUNTDOWN TIMER | EACH  | 6        |
| ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C                                   | FOOT                     | 1214                                  | PEDESTRIAN SIGNAL HEAD, L.E.D., 2-FACE, BRKT. MNTD. with COUNTDOWN TIMER | EACH  | 1        |
| ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C                                   | FOOT                     | 875                                   | INDUCTIVE LOOP DETECTOR  | EACH  | 12       |
| ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C                                   | FOOT                     | 1595                                  | DETECTOR LOOP TYPE I   | FOOT  | 665      |
| ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR                             | FOOT                     | 2277                                  | TRAFFIC SIGNAL BACKPLATE, ALUMINUM                                       | EACH  | 8        |
| ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C                                  | FOOT                     | 110                                   | TEMPORARY TRAFFIC SIGNAL INSTALLATION                                    | EACH  | 1        |
| ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C                                | FOOT                     | 1334                                  | REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT                                 | EACH  | 1        |
| *ELECTRIC CABLE IN CONDUIT, NO. 20 3C, TWISTED, SHIELDED                      | FOOT                     | 320                                   | REMOVE EXISTING CONCRETE FOUNDATION                                      | EACH  | 25       |
| STEEL MAST ARM ASSEMBLY AND POLE, 36 FT.                                      | EACH                     | 1                                     | REMOVE EXISTING HANDHOLE   | EACH  | 16       |
| STEEL MAST ARM ASSEMBLY AND POLE, 40 FT.                                      | EACH                     | 3                                     | THERMOPLASTIC PAVEMENT MARKING LINE 12"                                  | FOOT  | 528      |
| FOUNDATION (DEPTH) FT. (m)  | FT. (m)                  | FT. (m)                               | THERMOPLASTIC PAVEMENT MARKING LINE 24"                                  | FOOT  | 151      |
| TYPE A - POST 4 (1.2)   | HANDHOLE 6.5 (2.0)       | ALL FOUNDATIONS 3.5 (1.0)             | THERMOPLASTIC PAVEMENT MARKING REMOVAL                                   | FOOT  | 781      |
| D - CONTROLLER 4 (1.2)  | DOUBLE HANDHOLE 13 (4.0) | MAST ARM (L) POLE 20'H-2' 16m+L-0.6m= | RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, DETECTOR UNIT       | EACH  | 2        |
| E - M. ARM POLE 2 (1.0)   | SIGNAL POST 2 (1.0)      | BRACKET MOUNTED 13 (4.0)              | RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, PHASING             | EACH  | 1        |
| 24" (600mm) 10 (3.0)  | CONTROLLER CAB. 1 (0.5)  | PED. PUSHBUTTON 4 (1.2)               | TEMPORARY TRAFFIC SIGNAL TIMINGS   | EACH  | 1        |
| 30" (750mm) 15 (4.6)  | FIBER OPTIC 13 (4.0)     | ELECTRIC SERVICE 13.5 (4.1)           |  |       |          |
| 36" (900mm) 15 (4.6)  | ELECTRIC SERVICE 1 (0.5) | SERVICE TO GROUND 13.5 (4.1)          |  |       |          |
|   | GROUND CABLE 1 (0.5)     | POST MOUNTED 6 (1.8)                  |  |       |          |

CABLE PLAN LEGEND

|  | PROPOSED | EXISTING |
|--|----------|----------|
| CONTROLLER CABINET   | [Symbol] | [Symbol] |
| RAILROAD CONTROL CABINET   | [Symbol] | [Symbol] |
| SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT                                       | [Symbol] | [Symbol] |
| TELEPHONE CONNECTION   | [Symbol] | [Symbol] |
| GROUND ROD AT (C) CONTROLLER, (H)HANDHOLE, (P) POST, (M) MAST ARM, OR (S) SERVICE        | [Symbol] | [Symbol] |
| FIBER OPTIC CABLE IN CONDUIT, NUMBER OF FIBERS AS NOTED                                  | [Symbol] | [Symbol] |
| ELECTRIC CABLE IN CONDUIT, NO. 14, UNLESS OTHERWISE NOTED, NUMBER OF CONDUCTORS AS NOTED | [Symbol] | [Symbol] |
| GROUND CABLE IN CONDUIT NO. 6 COPPER (GREEN)   | [Symbol] | [Symbol] |
| SIGNAL FACE WITH BACKPLATE, "P" INDICATES PROGRAMMED HEAD                                | [Symbol] | [Symbol] |
| 12" (300mm) RED WITH 8" (200mm) YELLOW AND GREEN TRAFFIC SIGNAL FACE                     | [Symbol] | [Symbol] |
| 12" (300mm) TRAFFIC SIGNAL SECTION   | [Symbol] | [Symbol] |
| 12" (300mm) PEDESTRIAN SIGNAL SECTION with COUNTDOWN TIMER                               | [Symbol] | [Symbol] |
| ILLUMINATED SIGN "NO LEFT TURN"  | [Symbol] | [Symbol] |
| ILLUMINATED SIGN "NO RIGHT TURN"   | [Symbol] | [Symbol] |
| PUSHBUTTON DETECTOR  | [Symbol] | [Symbol] |
| DETECTOR LOOP  | [Symbol] | [Symbol] |
| PERFORMED DETECTOR LOOP  | [Symbol] | [Symbol] |
| MICROWAVE VEHICLE SENSOR   | [Symbol] | [Symbol] |
| VIDEO DETECTOR   | [Symbol] | [Symbol] |
| CLOSED CIRCUIT TV  | [Symbol] | [Symbol] |
| EMERGENCY VEHICLE SYSTEM DETECTOR  | [Symbol] | [Symbol] |
| CONFIRMATION BEACON  | [Symbol] | [Symbol] |
| UNINTERRUPTIBLE POWER SUPPLY   | [Symbol] | [Symbol] |

\* 100% COST TO VILLAGE OF BELLWOOD

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

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 SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

| I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS |           |                  |     |            | TOTAL WATTAGE |
|--|-----------|------------------|-----|------------|---------------|
| TYPE   | NO. LAMPS | WATTAGE (INCAND) | LED | %OPERATION |               |
| SIGNAL (RED)   | 16        | 135              | 17  | 0.50       | 136.00        |
| (YELLOW)   | 16        | 135              | 25  | 0.25       | 100.00        |
| (GREEN)  | 16        | 135              | 15  | 0.25       | 60.00         |
| ARROW  | 16        | 135              | 12  | 0.10       | 19.20         |
| PED. SIGNAL  | 8         | 90               | 25  | 1.00       | 200.00        |
| CONTROLLER   | 1         | 100              | 100 | 1.00       | 100.00        |
| ILLUM. SIGN  |           | 84               |     | 0.05       |               |
| TOTAL =  |           |                  |     |            | 689.20        |

ENERGY COSTS TO: TOTAL = 689.20

ENERGY SUPPLY CONTACT: PHONE: 708-410-5069 COMPANY: COM. EDISON

FILE NAME: USER NAME: DESIGNED - BCK DRAWN - BCK CHECKED - DAD DATE -

DESIGNED - BCK  
DRAWN - BCK  
CHECKED - DAD  
DATE -

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

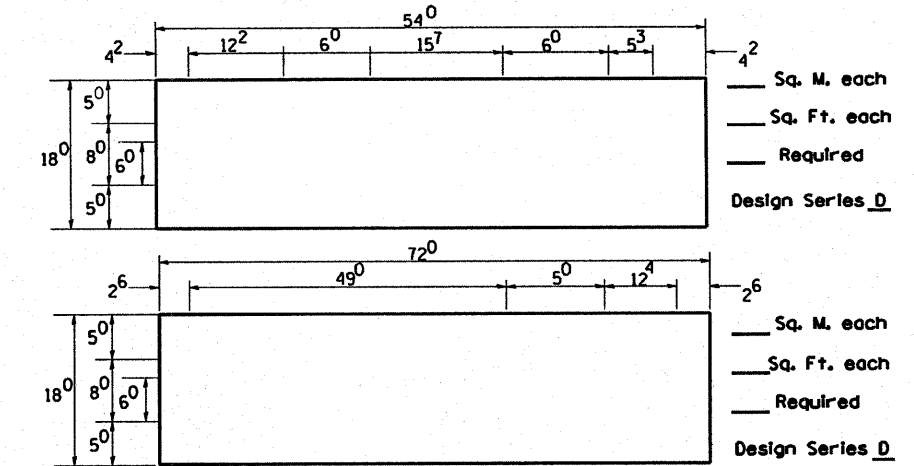
PROPOSED CABLE PLAN US 12/20/45 (MANNHEIM) @ WASHINGTON BLVD.

| F.A.P. RTE.        | SECTION     | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------|-------------|--------|--------------|-----------|
| 330                | 2008-006 TS | COOK   | 100          | 64        |
| CONTRACT NO. 60E31 |             |        |              |           |



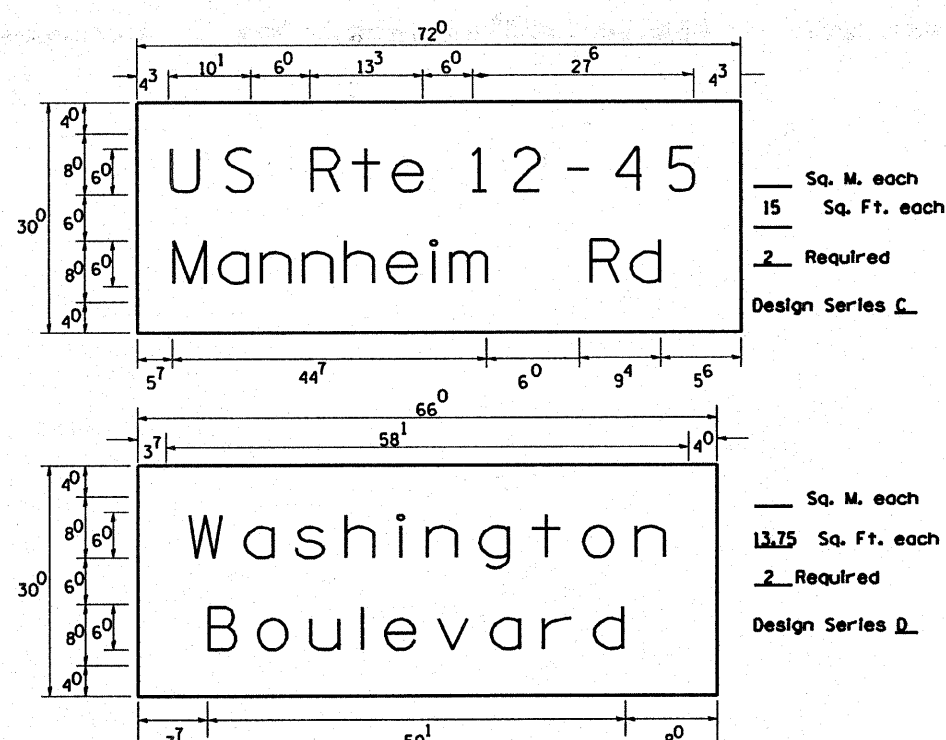
EXAMPLE, 2 <sup>3</sup> DENOTES  $\frac{3}{8}$ "

**PANEL SIGN DESIGN TYPE 1**



NOTE: SIGN DIMENSIONS ARE IN ENGLISH UNITS

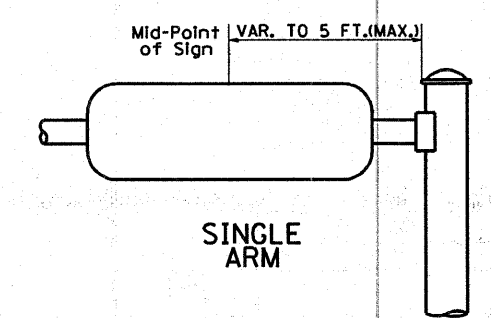
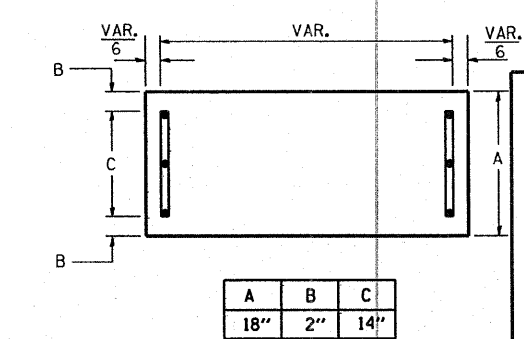
**PANEL SIGN DESIGN TYPE 2**



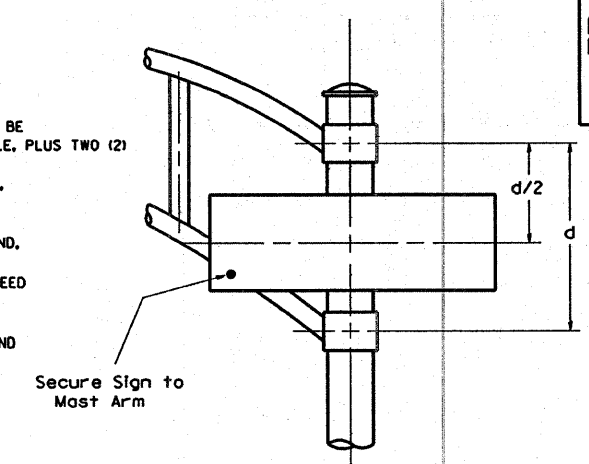
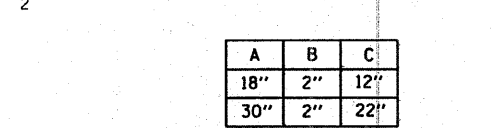
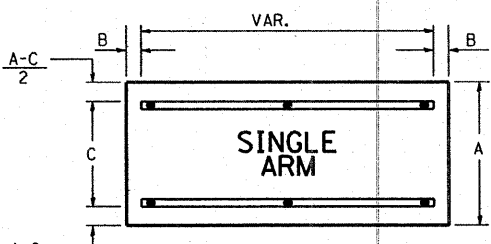
**GENERAL NOTES**

- WHERE MAST ARM MOUNTED STREET NAME SIGNS ARE SPECIFIED, THE MAST ARM ASSEMBLY AND POLES SHALL BE DESIGNED TO SUPPORT THE LOADINGS CALLED FOR ON STANDARDS 834001, 834006 AND 834011, AS APPLICABLE, PLUS TWO (2) SIGN PANELS 2'-6" x 6'-0" MOUNTED AS SHOWN. THE DESIGN SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CURRENT "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS" AS PUBLISHED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS FOR 80 M.P.H. WIND VELOCITY.
  - ALL SIGNS SHALL HAVE A WHITE REFLECTORIZED LEGEND AND BORDER ON A GREEN REFLECTORIZED BACKGROUND, TYPE A SHEETING.
  - THE SIGN LENGTH SHOULD BE INCREASED IN 6-INCH INCREMENTS, BUT THE OVERALL LENGTH SHOULD NOT EXCEED 6'-0".
  - ALL BORDERS SHALL BE 3/4" WIDE AND CORNER RADIUS SHALL BE 2-1/4".
  - SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM SHALL BE USED FOR ALL SIGNS ATTACHED TO SIGNAL POLES AND POSTS. LOCAL SUPPLIERS OF THE SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM ARE:
    - A.K.T. CORPORATION, SCHAUMBURG, IL
    - TUCKER COMPANY, INC., WAUWATOSA, WI
    - AMERICAN FABRICATION CO., CHICAGO HEIGHTS, IL
    - WESTERN TRAFFIC CONTROL INC., CICERO, IL
- PARTS LISTING:**  
 SIGN CHANNEL: PART \*HPN053 (MED. CHANNEL)  
 SIGN SCREWS: 1/4" x 14 x 1" H.W.H. #3  
 SELF TAPPING WITH NEOPRENE WASHER  
 BRACKETS: PART \*HPN034 (UNIVERSAL)  
 CHANNEL CLAMPS WITH STAINLESS STEEL STRAPPING
- OTHER BRANDS OF MOUNTING HARDWARE ARE ACCEPTABLE, BASED UPON THE DEPARTMENT'S APPROVAL AND COMPATIBILITY WITH THE CHANNEL/BACKET OF THE ABOVE PRODUCT.

**SUPPORTING CHANNELS**



**SUPPORTING CHANNELS**



SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM Shall be used. See Note #5.

**Upper Case To Lower Case Spacing Chart 8-6 Inch Series "C & D"**

| SERIES  | SECOND LETTER |    |       |    |     |    |    |    |     |    |     |    |    |    |    |    |
|---------|---------------|----|-------|----|-----|----|----|----|-----|----|-----|----|----|----|----|----|
|         | acde          |    | bhikl |    | f w |    | j  |    | s t |    | v y |    | x  |    | z  |    |
|         | g             | o  | q     | m  | n   | p  | r  | u  |     |    |     |    |    |    |    |    |
| A W X   | 12            | 14 | 14    | 15 | 12  | 14 | 06 | 10 | 11  | 14 | 06  | 10 | 11 | 12 | 12 | 14 |
| B       | 14            | 15 | 20    | 21 | 14  | 15 | 11 | 12 | 14  | 15 | 12  | 14 | 12 | 14 | 16 | 17 |
| C E G   | 14            | 15 | 20    | 21 | 12  | 14 | 06 | 10 | 12  | 14 | 12  | 14 | 14 | 15 | 14 | 15 |
| D O O R | 14            | 15 | 20    | 21 | 14  | 15 | 06 | 10 | 12  | 14 | 12  | 14 | 14 | 15 | 14 | 15 |
| F       | 05            | 06 | 14    | 15 | 06  | 10 | 05 | 06 | 06  | 10 | 06  | 10 | 06 | 10 | 11 | 12 |
| H I M N | 20            | 21 | 22    | 24 | 20  | 21 | 14 | 15 | 16  | 17 | 16  | 17 | 20 | 21 | 20 | 21 |
| J U     | 20            | 21 | 20    | 21 | 16  | 17 | 14 | 15 | 16  | 17 | 16  | 17 | 16 | 17 | 20 | 21 |
| K L     | 11            | 12 | 16    | 17 | 11  | 12 | 05 | 06 | 11  | 12 | 11  | 12 | 11 | 12 | 12 | 14 |
| P       | 12            | 14 | 14    | 15 | 12  | 14 | 05 | 06 | 11  | 12 | 11  | 12 | 12 | 14 | 12 | 14 |
| S       | 12            | 14 | 16    | 17 | 12  | 14 | 06 | 10 | 12  | 14 | 12  | 14 | 12 | 14 | 12 | 14 |
| T       | 11            | 12 | 16    | 17 | 06  | 10 | 06 | 10 | 11  | 12 | 11  | 12 | 11 | 12 | 12 | 14 |
| V       | 06            | 10 | 14    | 15 | 11  | 12 | 06 | 10 | 12  | 14 | 12  | 14 | 12 | 14 | 12 | 14 |
| Y       | 05            | 06 | 14    | 15 | 06  | 10 | 05 | 06 | 05  | 07 | 05  | 06 | 06 | 10 | 11 | 12 |
| Z       | 16            | 17 | 22    | 24 | 16  | 17 | 12 | 14 | 16  | 17 | 16  | 17 | 16 | 17 | 20 | 21 |

**Lower Case To Lower Case Spacing Chart 6 Inch Series "C & D"**

| SERIES | SECOND LETTER |    |       |    |     |    |    |    |     |    |     |    |    |    |    |    |
|--------|---------------|----|-------|----|-----|----|----|----|-----|----|-----|----|----|----|----|----|
|        | acde          |    | bhikl |    | f w |    | j  |    | s t |    | v y |    | x  |    | z  |    |
|        | g             | o  | q     | m  | n   | p  | r  | u  |     |    |     |    |    |    |    |    |
| adhgij | 16            | 17 | 22    | 24 | 16  | 17 | 12 | 14 | 14  | 15 | 14  | 15 | 16 | 17 | 16 | 17 |
| lmnqu  |               |    |       |    |     |    |    |    |     |    |     |    |    |    |    |    |
| bfkops | 12            | 14 | 16    | 17 | 11  | 12 | 05 | 06 | 11  | 12 | 11  | 12 | 12 | 14 | 12 | 14 |
| c e    | 12            | 14 | 16    | 17 | 12  | 14 | 06 | 10 | 12  | 14 | 12  | 14 | 12 | 14 | 12 | 14 |
| r      | 06            | 10 | 12    | 14 | 06  | 10 | 03 | 03 | 05  | 06 | 05  | 06 | 06 | 10 | 06 | 10 |
| t z    | 12            | 14 | 16    | 17 | 12  | 14 | 06 | 10 | 11  | 12 | 11  | 12 | 12 | 14 | 12 | 14 |
| v y    | 11            | 12 | 14    | 15 | 11  | 12 | 05 | 06 | 06  | 10 | 06  | 10 | 11 | 12 | 11 | 12 |
| w      | 11            | 12 | 14    | 15 | 11  | 12 | 05 | 06 | 11  | 12 | 11  | 12 | 11 | 12 | 12 | 14 |
| x      | 12            | 14 | 16    | 17 | 11  | 12 | 05 | 06 | 11  | 12 | 11  | 12 | 11 | 12 | 12 | 14 |

**Number To Number Spacing Chart 8 Inch Series "C & D"**

| SERIES | SECOND NUMBER |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|--------|---------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|        | 0             |    | 1  |    | 2  |    | 3  |    | 4  |    | 5  |    | 6  |    | 7  |    | 8  |    | 9  |    |    |
|        |               |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 0 9    | 16            | 17 | 16 | 17 | 14 | 15 | 12 | 14 | 14 | 15 | 14 | 15 | 16 | 17 | 12 | 14 | 16 | 17 | 16 | 17 |    |
| 1      | 20            | 21 | 20 | 21 | 20 | 21 | 16 | 17 | 14 | 15 | 20 | 21 | 20 | 21 | 14 | 15 | 20 | 21 | 20 | 21 |    |
| 2 3 4  | 14            | 15 | 14 | 15 | 14 | 15 | 12 | 14 | 12 | 14 | 14 | 15 | 14 | 15 | 11 | 12 | 16 | 17 | 14 | 15 |    |
| 5      | 14            | 15 | 14 | 15 | 14 | 15 | 11 | 12 | 11 | 12 | 14 | 15 | 14 | 15 | 11 | 12 | 14 | 15 | 14 | 15 |    |
| 6      | 16            | 17 | 14 | 15 | 14 | 15 | 12 | 14 | 14 | 15 | 14 | 15 | 11 | 12 | 14 | 15 | 14 | 15 | 14 | 15 |    |
| 7      | 12            | 14 | 12 | 14 | 14 | 15 | 12 | 14 | 15 | 05 | 06 | 12 | 14 | 14 | 15 | 11 | 12 | 14 | 15 | 12 | 14 |
| 8      | 16            | 17 | 16 | 17 | 14 | 15 | 12 | 14 | 14 | 15 | 16 | 17 | 12 | 14 | 16 | 17 | 14 | 15 | 14 | 15 |    |

**UPPER AND LOWER CASE LETTER WIDTHS**

| LETTERS | 6 INCH UPPER CASE LETTERS |    |        |    | 8 INCH UPPER CASE LETTERS |    |        |   | LETTERS | 6 INCH LOWER CASE LETTERS |   |
|---------|---------------------------|----|--------|----|---------------------------|----|--------|---|---------|---------------------------|---|
|         | SERIES                    |    | SERIES |    | SERIES                    |    | SERIES |   |         | SERIES                    |   |
|         | C                         | D  | C      | D  | C                         | D  | C      | D |         | C                         | D |
| A       | 36                        | 50 | 50     | 65 | a                         | 35 | 42     |   |         |                           |   |
| B       | 32                        | 40 | 43     | 53 | b                         | 35 | 42     |   |         |                           |   |
| C       | 32                        | 40 | 43     | 53 | c                         | 35 | 41     |   |         |                           |   |
| D       | 32                        | 40 | 43     | 53 | d                         | 35 | 42     |   |         |                           |   |
| E       | 30                        | 35 | 40     | 47 | e                         | 35 | 42     |   |         |                           |   |
| F       | 30                        | 35 | 40     | 47 | f                         | 23 | 26     |   |         |                           |   |
| G       | 32                        | 40 | 43     | 53 | g                         | 35 | 42     |   |         |                           |   |
| H       | 32                        | 40 | 43     | 53 | h                         | 35 | 42     |   |         |                           |   |
| I       | 07                        | 07 | 11     | 12 | i                         | 11 | 11     |   |         |                           |   |
| J       | 30                        | 36 | 40     | 50 | j                         | 20 | 22     |   |         |                           |   |
| K       | 32                        | 41 | 43     | 54 | k                         | 35 | 42     |   |         |                           |   |
| L       | 30                        | 35 | 40     | 47 | l                         | 11 | 11     |   |         |                           |   |
| M       | 37                        | 45 | 51     | 61 | m                         | 60 | 70     |   |         |                           |   |
| N       | 32                        | 40 | 43     | 53 | n                         | 35 | 42     |   |         |                           |   |
| O       | 34                        | 42 | 45     | 55 | o                         | 36 | 43     |   |         |                           |   |
| P       | 32                        | 40 | 43     | 53 | p                         | 35 | 42     |   |         |                           |   |
| Q       | 34                        | 42 | 45     | 55 | q                         | 35 | 42     |   |         |                           |   |
| R       | 32                        | 40 | 43     | 53 | r                         | 26 | 32     |   |         |                           |   |
| S       | 32                        | 40 | 43     | 53 | s                         | 36 | 42     |   |         |                           |   |
| T       | 30                        | 35 | 40     | 47 | t                         | 27 | 32     |   |         |                           |   |
| U       | 32                        | 40 | 43     | 53 | u                         | 35 | 42     |   |         |                           |   |
| V       | 35                        | 44 | 47     | 60 | v                         | 42 | 47     |   |         |                           |   |
| W       | 44                        | 52 | 60     | 70 | w                         | 55 | 64     |   |         |                           |   |
| X       | 34                        | 40 | 45     | 53 | x                         | 44 | 51     |   |         |                           |   |
| Y       | 36                        | 50 | 50     | 66 | y                         | 46 | 53     |   |         |                           |   |
| Z       | 32                        | 40 | 43     | 53 | z                         | 36 | 43     |   |         |                           |   |

| NUMBER | 6 INCH SERIES |    | 8 INCH SERIES |    |
|--------|---------------|----|---------------|----|
|        | C             | D  | C             | D  |
| 1      | 12            | 14 | 15            | 20 |
| 2      | 32            | 40 | 43            | 53 |
| 3      | 32            | 40 | 43            | 53 |
| 4      | 35            | 43 | 47            | 57 |
| 5      | 32            | 40 | 43            | 53 |
| 6      | 32            | 40 | 43            | 53 |
| 7      | 32            | 40 | 43            | 53 |
| 8      | 32            | 40 | 43            | 53 |
| 9      | 32            | 40 | 43            | 53 |
| 0      | 34            | 42 | 45            | 55 |



**EXISTING TRAFFIC SIGNAL AND REMOVAL LEGEND**

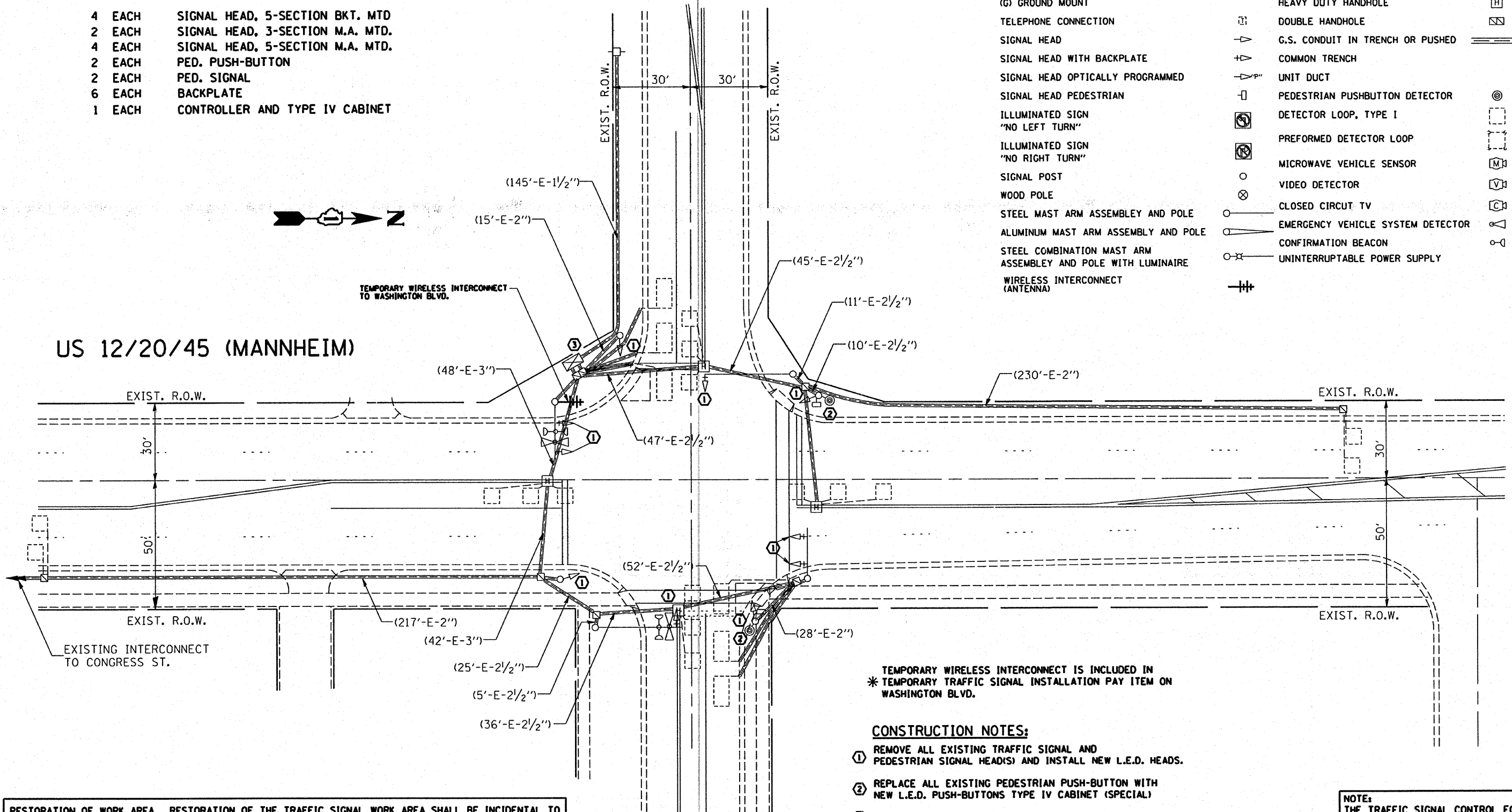
THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 4 EACH SIGNAL HEAD, 5-SECTION BKT. MTD
- 2 EACH SIGNAL HEAD, 3-SECTION M.A. MTD.
- 4 EACH SIGNAL HEAD, 5-SECTION M.A. MTD.
- 2 EACH PED. PUSH-BUTTON
- 2 EACH PED. SIGNAL
- 6 EACH BACKPLATE
- 1 EACH CONTROLLER AND TYPE IV CABINET

|   | EXISTING | EXISTING |
|---|----------|----------|
| CONTROLLER CABINET  |          |          |
| RAILROAD CONTROL CABINET                                    |          |          |
| SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT          |          |          |
| TELEPHONE CONNECTION  |          |          |
| SIGNAL HEAD   |          |          |
| SIGNAL HEAD WITH BACKPLATE                                  |          |          |
| SIGNAL HEAD OPTICALLY PROGRAMMED                            |          |          |
| SIGNAL HEAD PEDESTRIAN                                      |          |          |
| ILLUMINATED SIGN "NO LEFT TURN"                             |          |          |
| ILLUMINATED SIGN "NO RIGHT TURN"                            |          |          |
| SIGNAL POST   |          |          |
| WOOD POLE   |          |          |
| STEEL MAST ARM ASSEMBLY AND POLE                            |          |          |
| ALUMINUM MAST ARM ASSEMBLY AND POLE                         |          |          |
| STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE |          |          |
| WIRELESS INTERCONNECT (ANTENNA)                             |          |          |
| JUNCTION BOX  |          |          |
| HANDHOLE  |          |          |
| HEAVY DUTY HANDHOLE   |          |          |
| DOUBLE HANDHOLE   |          |          |
| G.S. CONDUIT IN TRENCH OR PUSHED                            |          |          |
| COMMON TRENCH   |          |          |
| UNIT DUCT   |          |          |
| PEDESTRIAN PUSHBUTTON DETECTOR                              |          |          |
| DETECTOR LOOP, TYPE I                                       |          |          |
| PREFORMED DETECTOR LOOP                                     |          |          |
| MICROWAVE VEHICLE SENSOR                                    |          |          |
| VIDEO DETECTOR  |          |          |
| CLOSED CIRCUIT TV   |          |          |
| EMERGENCY VEHICLE SYSTEM DETECTOR                           |          |          |
| CONFIRMATION BEACON   |          |          |
| UNINTERRUPTIBLE POWER SUPPLY                                |          |          |

**MADISON STREET**

**US 12/20/45 (MANNHEIM)**



TEMPORARY WIRELESS INTERCONNECT IS INCLUDED IN \* TEMPORARY TRAFFIC SIGNAL INSTALLATION PAY ITEM ON WASHINGTON BLVD.

**CONSTRUCTION NOTES:**

- ① REMOVE ALL EXISTING TRAFFIC SIGNAL AND PEDESTRIAN SIGNAL HEAD(S) AND INSTALL NEW L.E.D. HEADS.
- ② REPLACE ALL EXISTING PEDESTRIAN PUSH-BUTTON WITH NEW L.E.D. PUSH-BUTTONS TYPE IV CABINET (SPECIAL)
- ③ REMOVE EXISTING CONTROLLER AND CABINET, REPLACE WITH NEW CONTROLLER WITH UPS, REUSE EXISTING FOUNDATIONS, RELOCATION OF EXISTING EVP PHASING UNIT SHALL BE INCLUDED IN THE UNIT COST OF NEW CONTROLLER AND CABINET PAY ITEM.

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

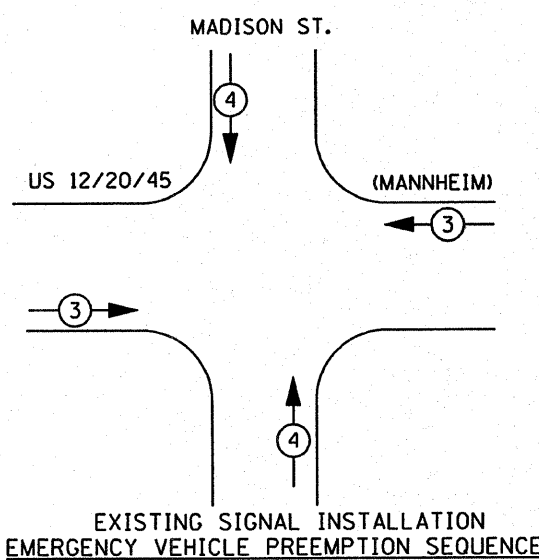
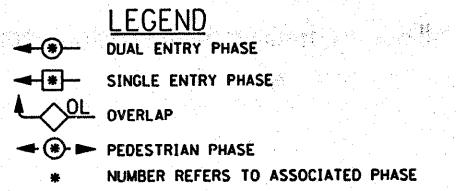
**RESTORATION OF WORK AREA.** RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT, ETC.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

|  |                            |                |           |   |   |   |             |        |              |           |
|--|----------------------------|----------------|-----------|---|---|---|-------------|--------|--------------|-----------|
| FILE NAME =                                | USER NAME = kanthaphixaybo | DESIGNED - BCK | REVISED - | <b>STATE OF ILLINOIS<br/>DEPARTMENT OF TRANSPORTATION</b> | <b>EXISTING AND REMOVAL PLAN<br/>US 12/20/45 (MANNHEIM) @ MADISON ST.</b> | F.A.P. RTE.                                   | SECTION     | COUNTY | TOTAL SHEETS | SHEET NO. |
| ci:\projects\traffic\070027\us12_20_45.dwg |                            | DRAWN - BCK    | REVISED - |   |   | 330   | 2008-006 TS | COOK   | 100          | 66        |
| PLOT SCALE = 40.0000' / IN.                |                            | CHECKED - DAD  | REVISED - |   |   | CONTRACT NO. 60E31                            |             |        |              |           |
| PLOT DATE = 10/10/2008                     |                            | DATE -         | REVISED - |   |   | FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT |             |        |              |           |

**EXISTING CABLE DIAGRAM LEGEND**

|  | PROPOSED | EXISTING |
|--|----------|----------|
| TEMPORARY CONTROLLER CABINET   |          |          |
| TEMPORARY SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT                             |          |          |
| TEMPORARY TRAFFIC SIGNAL SECTION OR PEDESTRIAN SIGNAL SECTION, 12" (300 mm)              |          |          |
| 12" (300 MM) PEDESTRIAN SIGNAL SECTION   |          |          |
| ELECTRIC CABLE IN CONDUIT, NO. 14, UNLESS OTHERWISE NOTED, NUMBER OF CONDUCTORS AS NOTED |          |          |
| PEDESTRIAN PUSHBUTTON DETECTOR   |          |          |
| VEHICLE DETECTOR, INDUCTION LOOP   |          |          |
| MICROWAVE VEHICLE SENSOR   |          |          |
| VIDEO DETECTOR   |          |          |
| CLOSED CIRCUIT TV  |          |          |
| EMERGENCY VEHICLE SYSTEM DETECTOR  |          |          |
| CONFIRMATION BEACON  |          |          |
| WIRELESS INTERCONNECT (ANTENNA)  |          |          |

**PHASE DESIGNATION DIAGRAM**



**PROPOSED EMERGENCY VEHICLE PREEMPTOR**

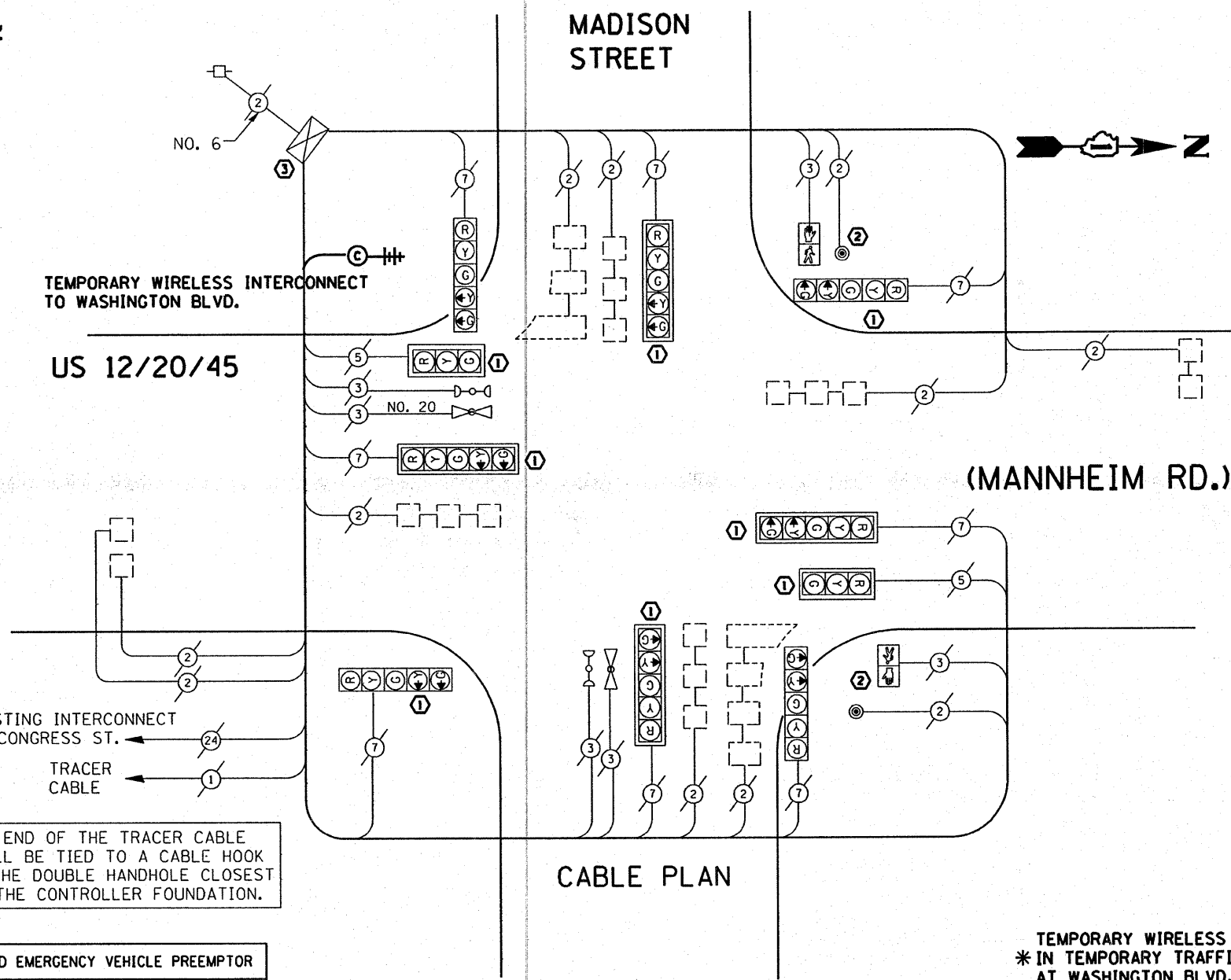
| EMERGENCY VEHICLE PREEMPTOR | 3 | 4 |
|-----------------------------|---|---|
| MOVEMENT                    |   |   |

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

TEMPORARY WIRELESS INTERCONNECT TO WASHINGTON BLVD.

EXISTING INTERCONNECT TO CONGRESS ST.  
TRACER CABLE

**CABLE PLAN**



TEMPORARY WIRELESS INTERCONNECT IS INCLUDED \* IN TEMPORARY TRAFFIC SIGNAL INSTALLATION PAY ITEM AT WASHINGTON BLVD.

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

| TYPE                    | NO. LAMPS | WATTAGE (INCANDESCENT) | WATTAGE (LED) | % OPERATION    | TOTAL WATTAGE |
|-------------------------|-----------|------------------------|---------------|----------------|---------------|
| SIGNAL (RED)            | 10        | 135                    | 17            | 0.50           |               |
| (YELLOW)                | 10        | 135                    | 25            | 0.25           |               |
| (GREEN)                 | 10        | 135                    | 15            | 0.25           |               |
| ARROW                   | 16        | 135                    | 12            | 0.10           |               |
| PED. SIGNAL             | 2         | 90                     | 25            | 1.00           |               |
| CONTROLLER              | 1         | 100                    | 100           | 1.00           |               |
| ILLUM. SIGN             |           | 84                     |               | 0.05           |               |
| FLASHER                 |           |                        |               | 0.50           |               |
| <b>ENERGY COSTS TO:</b> |           |                        |               | <b>TOTAL =</b> |               |

| 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) |
|                    |          | GROUND CABLE     | 1 (0.5)   | SERVICE TO GROUND | 13.5 (4.1) |
|                    |          |                  |           | POST MOUNTED      | 6 (1.8)    |

**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 SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

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

FILE NAME =  
USER NAME = kanthaphixaybc  
DESIGNED - BCK  
DRAWN - BCK  
PLOT SCALE = 48.0000' / IN.  
CHECKED - DAD  
PLOT DATE = 10/10/2008  
DATE -

DESIGNED - BCK  
DRAWN - BCK  
CHECKED - DAD  
DATE -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EXISTING CABLE PLAN  
US 12/20/45 (MANNHEIM) @ MADISON ST.  
SCALE: SHEET NO. OF SHEETS STA. TO STA.

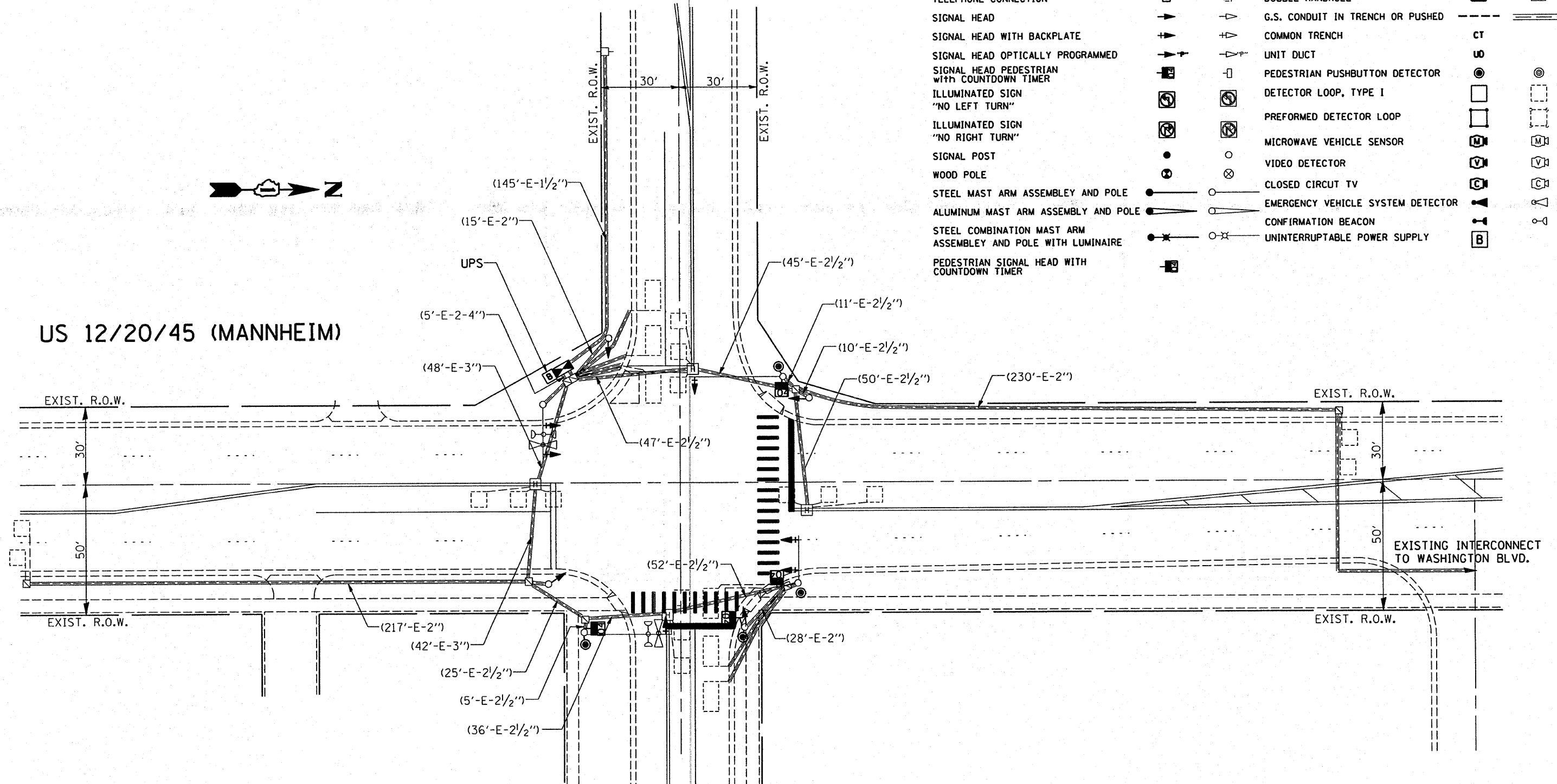
| F.A.P. RTE.                                   | SECTION     | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|-------------|--------|--------------|-----------|
| 330   | 2008-006 TS | COOK   | 100          | 67        |
| CONTRACT NO. 60E31                            |             |        |              |           |
| FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT |             |        |              |           |

**TRAFFIC SIGNAL LEGEND**

|   | PROPOSED | EXISTING |                                   | PROPOSED | EXISTING |
|---|----------|----------|-----------------------------------|----------|----------|
| CONTROLLER CABINET  |          |          | JUNCTION BOX                      |          |          |
| RAILROAD CONTROL CABINET                                    |          |          | HANDHOLE                          |          |          |
| SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT          |          |          | HEAVY DUTY HANDHOLE               |          |          |
| TELEPHONE CONNECTION  |          |          | DOUBLE HANDHOLE                   |          |          |
| SIGNAL HEAD   |          |          | G.S. CONDUIT IN TRENCH OR PUSHED  |          |          |
| SIGNAL HEAD WITH BACKPLATE                                  |          |          | COMMON TRENCH                     | CT       |          |
| SIGNAL HEAD OPTICALLY PROGRAMMED                            |          |          | UNIT DUCT                         | U        |          |
| SIGNAL HEAD PEDESTRIAN WITH COUNTDOWN TIMER                 |          |          | PEDESTRIAN PUSHBUTTON DETECTOR    |          |          |
| ILLUMINATED SIGN "NO LEFT TURN"                             |          |          | DETECTOR LOOP, TYPE I             |          |          |
| ILLUMINATED SIGN "NO RIGHT TURN"                            |          |          | PERFORMED DETECTOR LOOP           |          |          |
| SIGNAL POST   |          |          | MICROWAVE VEHICLE SENSOR          |          |          |
| WOOD POLE   |          |          | VIDEO DETECTOR                    |          |          |
| STEEL MAST ARM ASSEMBLY AND POLE                            |          |          | CLOSED CIRCUIT TV                 |          |          |
| ALUMINUM MAST ARM ASSEMBLY AND POLE                         |          |          | EMERGENCY VEHICLE SYSTEM DETECTOR |          |          |
| STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE |          |          | CONFIRMATION BEACON               |          |          |
| PEDESTRIAN SIGNAL HEAD WITH COUNTDOWN TIMER                 |          |          | UNINTERRUPTIBLE POWER SUPPLY      |          |          |

**MADISON STREET**

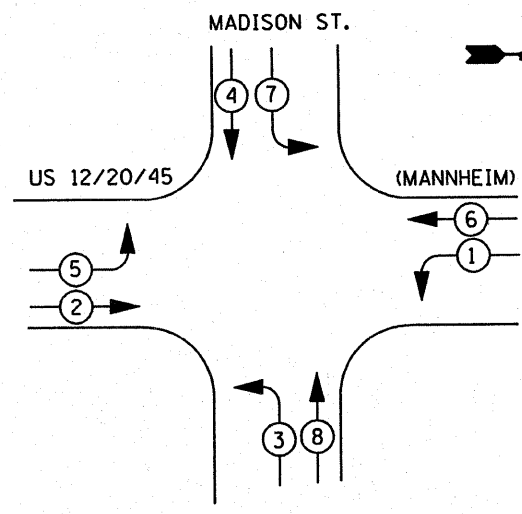
**US 12/20/45 (MANNHEIM)**



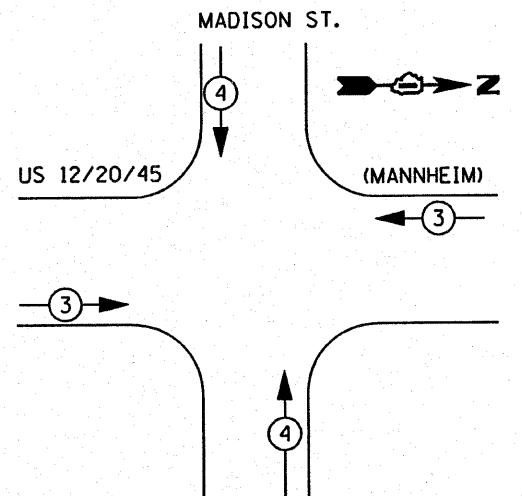
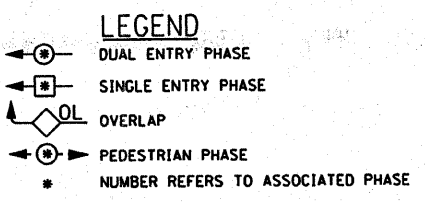
**RESTORATION OF WORK AREA.** RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT, ETC.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

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

|   |                            |                |           |   |  |   |                                  |             |                  |              |
|---|----------------------------|----------------|-----------|---|--|---|----------------------------------|-------------|------------------|--------------|
| FILE NAME =                                 | USER NAME = konthaphaybc   | DESIGNED - BCK | REVISED - | <b>STATE OF ILLINOIS<br/>DEPARTMENT OF TRANSPORTATION</b> | <b>PROPOSED TRAFFIC SIGNAL PLAN<br/>US 12/20/45 (MANNHEIM) @ MADSION ST.</b> | F.A.P. RTE. 330                                 | SECTION 2008-006 TS              | COUNTY COOK | TOTAL SHEETS 100 | SHEET NO. 68 |
| ci:\projects\traffic\1070027\us12.20.45.dgn | PLOT SCALE = 1/8" = 1' IN. | DRAWN - BCK    | REVISED - |   |  | CONTRACT NO. 60E31                              |                                  |             |                  |              |
|   | PLOT DATE = 10/10/2008     | CHECKED - DAD  | REVISED - |   |  | FED. ROAD DIST. NO. [ILLINOIS] FED. AID PROJECT |                                  |             |                  |              |
|   |                            | DATE -         | REVISED - |   |  | SCALE: 1"=20'                                   | SHEET NO. OF SHEETS STA. TO STA. |             |                  |              |



PHASE DESIGNATION DIAGRAM



SIGNAL INSTALLATION EMERGENCY VEHICLE PREEMPTION SEQUENCE

| I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS |           |                 |             |             | TOTAL WATTAGE |
|--|-----------|-----------------|-------------|-------------|---------------|
| TYPE   | NO. LAMPS | WATTAGE INCAND. | WATTAGE LED | % OPERATION |               |
| SIGNAL (RED)   | 10        | 135             | 17          | 0.50        | 85.00         |
| (YELLOW)   | 10        | 135             | 25          | 0.25        | 67.50         |
| (GREEN)  | 10        | 135             | 15          | 0.25        | 37.50         |
| ARROW  | 16        | 135             | 12          | 0.10        | 19.20         |
| PED. SIGNAL  | 2         | 90              | 25          | 1.00        | 50.00         |
| CONTROLLER   | 1         | 100             | 100         | 1.00        | 100.00        |
| ILLUM. SIGN  |           | 84              |             | 0.05        |               |
| TOTAL =  |           |                 |             |             | 359.20        |

| PROPOSED EMERGENCY VEHICLE PREEMPTOR |   |     |
|--------------------------------------|---|-----|
| EMERGENCY VEHICLE PREEMPTOR          | 3 | 4   |
| MOVEMENT                             | → | ↑ ↓ |

| 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'-H.-2'- |
| E - M. ARM POLE    |          | SIGNAL POST      | 2 (0.6)   | 16m+L-0.6m±       |            |
| 24" (600mm)        | 10 (3.0) | CONTROLLER CAB.  | 1 (0.3)   | 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 (0.3)   | ELECTRIC SERVICE  | 13.5 (4.1) |
|                    |          | GROUND CABLE     | 1 (0.3)   | SERVICE TO GROUND | 13.5 (4.1) |
|                    |          |                  |           | POST MOUNTED      | 6 (1.8)    |

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

EXISTING INTERCONNECT TO GLADYS AVE.

EXISTING INTERCONNECT TO WASHINGTON BLVD.

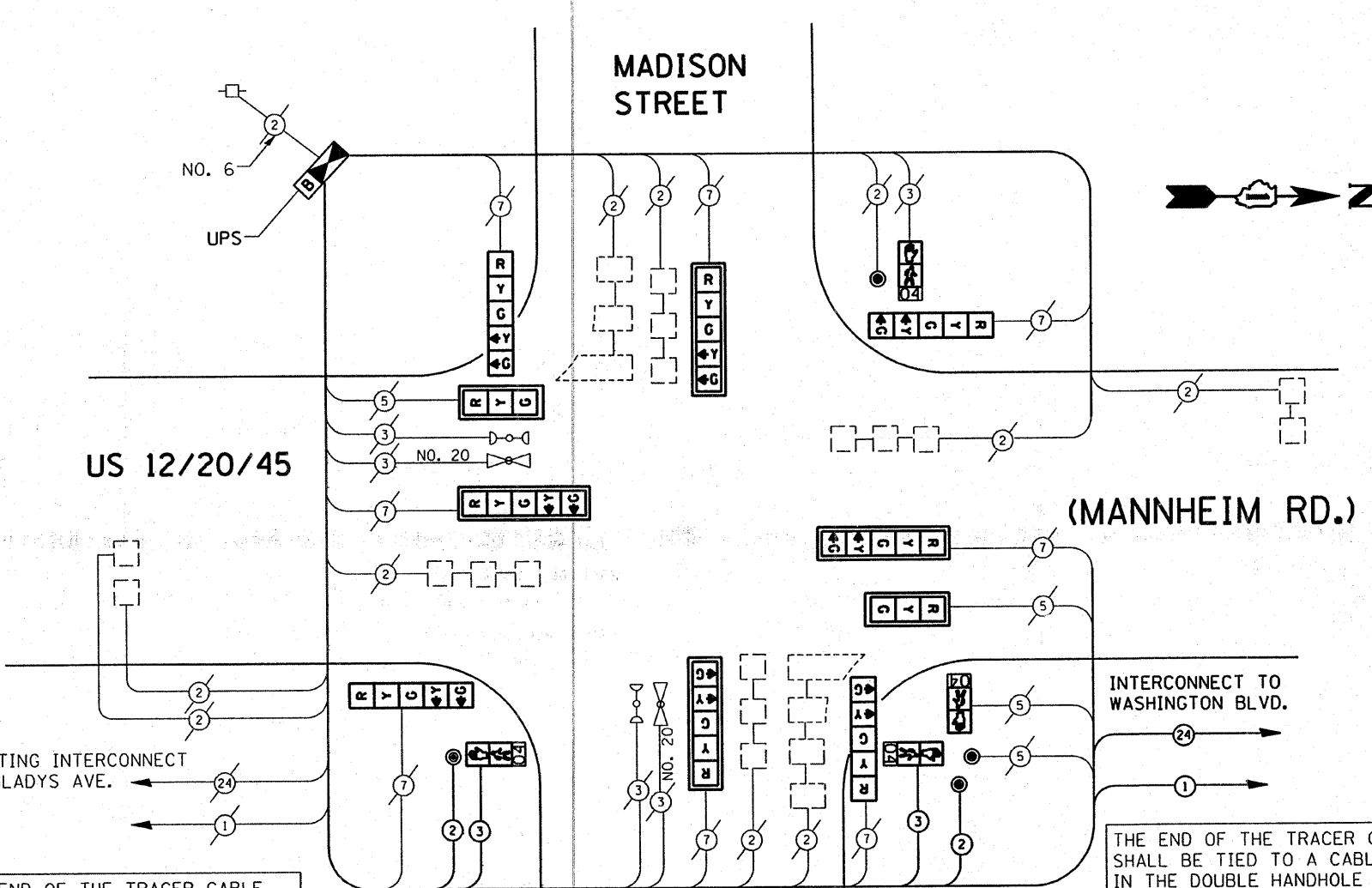
EXISTING INTERCONNECT TO MADISON ST.

EXISTING INTERCONNECT TO US 12/20/45

EXISTING INTERCONNECT TO MADISON ST.

EXISTING INTERCONNECT TO MADISON ST.

EXISTING INTERCONNECT TO MADISON ST.



CABLE PLAN

SCHEDULE OF QUANTITIES

- ITEM**
- TRANSCEIVER-FIBER OPTIC
  - INDUCTIVE LOOP DETECTOR
  - THERMOPLASTIC PAVEMENT MARKING LINE 12"
  - THERMOPLASTIC PAVEMENT MARKING LINE 24"
  - THERMOPLASTIC PAVEMENT MARKING REMOVAL
  - MAINTENANCE OF EXISTING TRAFFIC SIGNAL EQUIPMENT
  - FULL-ACTUATED CONTROLLER AND TYPE IV CABINET (SPECIAL)
  - ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C
  - ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C
  - TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM
  - PEDESTRIAN PUSH-BUTTON
  - REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
  - SIGNAL HEAD, L.E.D., 1-FACE, 3 SECTION, MAST ARM MNTD.
  - SIGNAL HEAD, L.E.D., 1-FACE, 5 SECTION, MAST ARM MNTD.
  - SIGNAL HEAD, L.E.D., 1-FACE, 5 SECTION, BRKT. MNTD.
  - PEDESTRIAN SIGNAL HEAD, L.E.D., 1-FACE, BRKT. MTD. with COUNTDOWN TIMER
  - UNINTERRUPTIBLE POWER SUPPLY

| UNIT | QUANTITY |
|------|----------|
| EACH | 1        |
| EACH | 9        |
| FOOT | 216      |
| FOOT | 75       |
| FOOT | 310      |
| EACH | 1        |
| EACH | 1        |
| FOOT | 457      |
| FOOT | 475      |
| EACH | 6        |
| EACH | 4        |
| EACH | 1        |
| EACH | 1        |
| EACH | 2        |
| EACH | 4        |
| EACH | 4        |
| EACH | 4        |
| EACH | 1        |

**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 SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

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

CABLE PLAN LEGEND

|  | PROPOSED | EXISTING |
|--|----------|----------|
| CONTROLLER CABINET   | [Symbol] | [Symbol] |
| RAILROAD CONTROL CABINET   | [Symbol] | [Symbol] |
| SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT                                       | [Symbol] | [Symbol] |
| TELEPHONE CONNECTION   | [Symbol] | [Symbol] |
| GROUND ROD AT (C) CONTROLLER, (H) HANDHOLE, (P) POST, (M) MAST ARM, OR (S) SERVICE       | [Symbol] | [Symbol] |
| FIBER OPTIC CABLE IN CONDUIT, NUMBER OF FIBERS AS NOTED                                  | [Symbol] | [Symbol] |
| ELECTRIC CABLE IN CONDUIT, NO. 14, UNLESS OTHERWISE NOTED, NUMBER OF CONDUCTORS AS NOTED | [Symbol] | [Symbol] |
| GROUND CABLE IN CONDUIT NO. 6 COPPER (GREEN)   | [Symbol] | [Symbol] |
| SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD                                | [Symbol] | [Symbol] |
| 12" (300mm) RED WITH 8" (200mm) YELLOW AND GREEN TRAFFIC SIGNAL FACE                     | [Symbol] | [Symbol] |
| 12" (300mm) TRAFFIC SIGNAL SECTION   | [Symbol] | [Symbol] |
| 12" (300mm) PEDESTRIAN SIGNAL SECTION with COUNTDOWN TIMER                               | [Symbol] | [Symbol] |
| ILLUMINATED SIGN "NO LEFT TURN"  | [Symbol] | [Symbol] |
| ILLUMINATED SIGN "NO RIGHT TURN"   | [Symbol] | [Symbol] |
| PUSHBUTTON DETECTOR  | [Symbol] | [Symbol] |
| DETECTOR LOOP  | [Symbol] | [Symbol] |
| PERFORMED DETECTOR LOOP  | [Symbol] | [Symbol] |
| MICROWAVE VEHICLE SENSOR   | [Symbol] | [Symbol] |
| VIDEO DETECTOR   | [Symbol] | [Symbol] |
| CLOSED CIRCUIT TV  | [Symbol] | [Symbol] |
| EMERGENCY VEHICLE SYSTEM DETECTOR  | [Symbol] | [Symbol] |
| CONFIRMATION BEACON  | [Symbol] | [Symbol] |
| UNINTERRUPTIBLE POWER SUPPLY   | [Symbol] | [Symbol] |

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

16 EACH SIGNAL HEAD, 1-FACE, 3-SECTION ON SPAN WIRE  
 1 EACH CONTROLLER AND TYPE IV CABINET

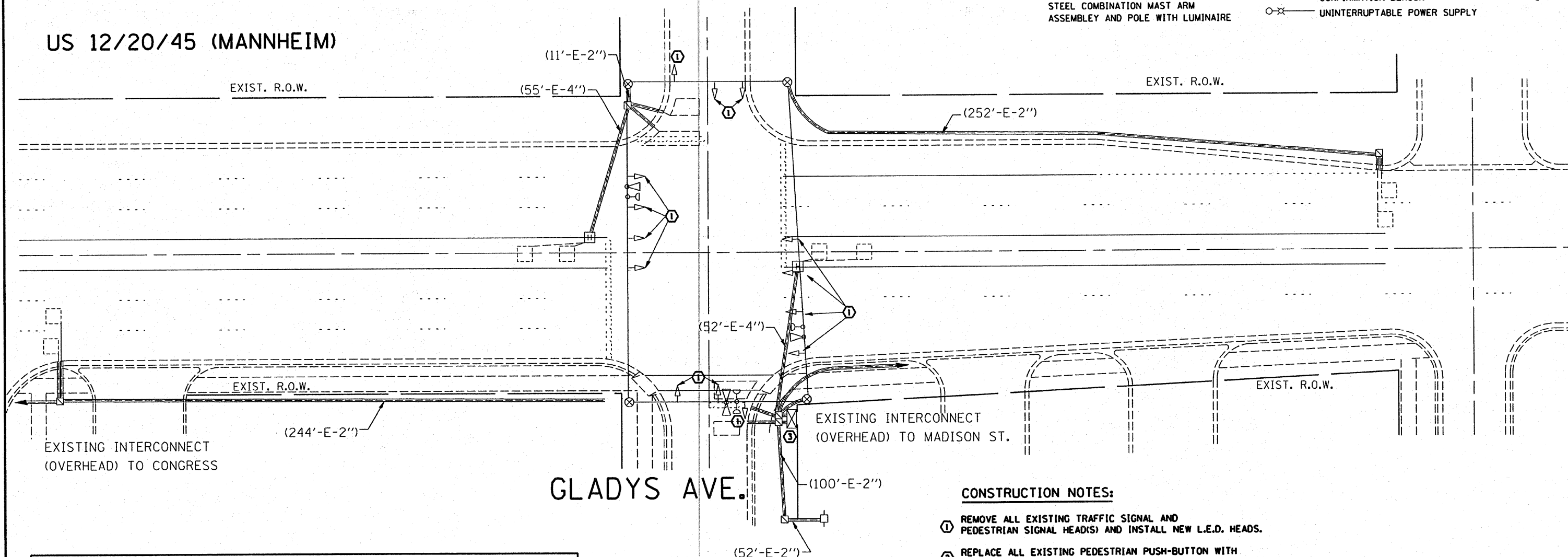


US 12/20/45 (MANNHEIM)

LANDFILL ACCESS

**EXISTING TRAFFIC SIGNAL AND REMOVAL LEGEND**

| EXISTING  |  | EXISTING                          |  |
|---|--|-----------------------------------|--|
| CONTROLLER CABINET  |  | JUNCTION BOX                      |  |
| RAILROAD CONTROL CABINET                                    |  | HANDHOLE                          |  |
| SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT          |  | HEAVY DUTY HANDHOLE               |  |
| TELEPHONE CONNECTION  |  | DOUBLE HANDHOLE                   |  |
| SIGNAL HEAD   |  | G.S. CONDUIT IN TRENCH OR PUSHED  |  |
| SIGNAL HEAD WITH BACKPLATE                                  |  | COMMON TRENCH                     |  |
| SIGNAL HEAD OPTICALLY PROGRAMMED                            |  | UNIT DUCT                         |  |
| SIGNAL HEAD PEDESTRIAN with COUNTDOWN TIME                  |  | PEDESTRIAN PUSHBUTTON DETECTOR    |  |
| ILLUMINATED SIGN "NO LEFT TURN"                             |  | DETECTOR LOOP, TYPE I             |  |
| ILLUMINATED SIGN "NO RIGHT TURN"                            |  | PREFORMED DETECTOR LOOP           |  |
| SIGNAL POST   |  | MICROWAVE VEHICLE SENSOR          |  |
| WOOD POLE   |  | VIDEO DETECTOR                    |  |
| STEEL MAST ARM ASSEMBLY AND POLE                            |  | CLOSED CIRCUIT TV                 |  |
| ALUMINUM MAST ARM ASSEMBLY AND POLE                         |  | EMERGENCY VEHICLE SYSTEM DETECTOR |  |
| STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE |  | CONFIRMATION BEACON               |  |
|   |  | UNINTERRUPTIBLE POWER SUPPLY      |  |



**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 SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

- CONSTRUCTION NOTES:**
- ① REMOVE ALL EXISTING TRAFFIC SIGNAL AND PEDESTRIAN SIGNAL HEAD(S) AND INSTALL NEW L.E.D. HEADS.
  - ② REPLACE ALL EXISTING PEDESTRIAN PUSH-BUTTON WITH NEW L.E.D. PUSH-BUTTONS TYPE IV CABINET (SPECIAL)
  - ③ REMOVE EXISTING CONTROLLER AND CABINET, REPLACE WITH NEW CONTROLLER WITH UPS, REUSE EXISTING FOUNDATIONS. RELOCATION OF EXISTING EVP PHASING UNIT SHALL BE INCLUDED IN THE UNIT COST OF NEW CONTROLLER AND CABINET PAY ITEM.

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

|  |                            |                |                           |   |   |             |         |        |              |           |
|--|----------------------------|----------------|---------------------------|---|---|-------------|---------|--------|--------------|-----------|
| FILE NAME =  | USER NAME = kenthaphixajbc | DESIGNED - BCK | REVISED -                 | <b>STATE OF ILLINOIS<br/>DEPARTMENT OF TRANSPORTATION</b> | <b>EXISTING ON SPANWIRE REMOVAL PLAN<br/>US 12/20/45 (MANNHEIM) @ GLADYS AVE.</b> | F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| ci:\projects\traffic\070027\us12.20.45.dgn   | DRAWN - BCK                | REVISED -      | 330                       |   |   | 2008-006 TS | COOK    | 100    | 70           |           |
| PLOT SCALE = 40.0000 "/td> <td>CHECKED - DAD</td> <td>REVISED -</td> <td colspan="3" style="text-align: center;">CONTRACT NO. 60E31</td> | CHECKED - DAD              | REVISED -      | CONTRACT NO. 60E31        |   |   |             |         |        |              |           |
| PLOT DATE = 10/10/2008   | DATE -                     | REVISED -      | ILLINOIS FED. AID PROJECT |   |   |             |         |        |              |           |



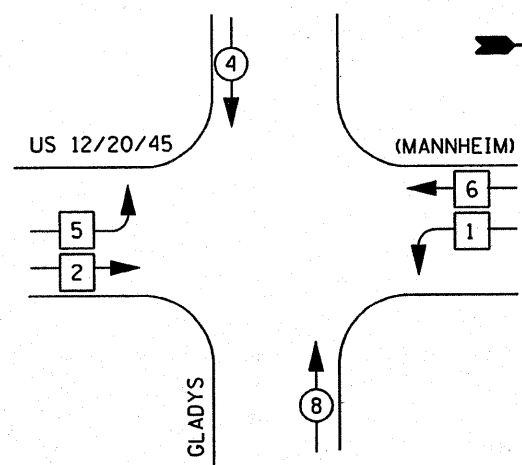
**EXISTING CABLE DIAGRAM LEGEND**

|  | PROPOSED | EXISTING |
|--|----------|----------|
| TEMPORARY CONTROLLER CABINET   |          |          |
| TEMPORARY SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT                             |          |          |
| TEMPORARY TRAFFIC SIGNAL SECTION OR PEDESTRIAN SIGNAL SECTION, 12" (300 mm)              |          |          |
| 12" (300 MM) PEDESTRIAN SIGNAL SECTION   |          |          |
| ELECTRIC CABLE IN CONDUIT, NO. 14, UNLESS OTHERWISE NOTED, NUMBER OF CONDUCTORS AS NOTED |          |          |
| PEDESTRIAN PUSHBUTTON DETECTOR   |          |          |
| VEHICLE DETECTOR, INDUCTION LOOP   |          |          |
| MICROWAVE VEHICLE SENSOR   |          |          |
| VIDEO DETECTOR   |          |          |
| CLOSED CIRCUIT TV  |          |          |
| EMERGENCY VEHICLE SYSTEM DETECTOR  |          |          |
| CONFIRMATION BEACON  |          |          |

**LANDFILL ACCESS**

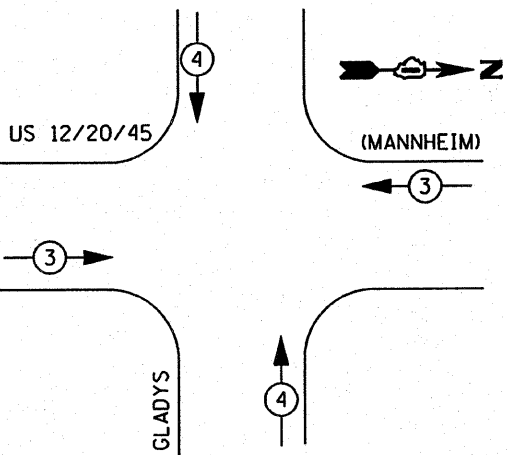
**(MANNHEIM RD.)**

**CABLE PLAN  
GLADYS AVE.**



**PHASE DESIGNATION DIAGRAM**

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



**EXISTING EMERGENCY VEHICLE  
PREEMPTION SEQUENCE**

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.

**PROPOSED EMERGENCY VEHICLE PREEMPTOR**

|                             |   |   |
|-----------------------------|---|---|
| EMERGENCY VEHICLE PREEMPTOR | 3 | 4 |
| MOVEMENT                    |   |   |

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

| TYPE                    | NO. LAMPS | WATTAGE (INCAND.) | LED | % OPERATION    | TOTAL WATTAGE |
|-------------------------|-----------|-------------------|-----|----------------|---------------|
| SIGNAL (RED)            | 16        | 135               | 17  | 0.50           |               |
| (YELLOW)                | 16        | 135               | 25  | 0.25           |               |
| (GREEN)                 | 16        | 135               | 15  | 0.25           |               |
| ARROW                   | 12        | 135               | 12  | 0.10           |               |
| PED. SIGNAL             |           | 90                | 25  | 1.00           |               |
| CONTROLLER              | 1         | 100               | 100 | 1.00           |               |
| ILLUM. SIGN             |           | 84                |     | 0.05           |               |
| FLASHER                 |           |                   |     | 0.50           |               |
| <b>ENERGY COSTS TO:</b> |           |                   |     | <b>TOTAL =</b> |               |

| 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)   | 16m±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) |
|                    |          | GROUND CABLE     | 1 (0.5)   | SERVICE TO GROUND | 13.5 (4.1) |
|                    |          |                  |           | POST MOUNTED      | 6 (1.8)    |

**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 SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

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

FILE NAME =  
 USER NAME = kanthaphaybo  
 PLOT SCALE = 40.0000' / IN.  
 PLOT DATE = 10/10/2008

DESIGNED - BCK  
 DRAWN - BCK  
 CHECKED - DAD  
 DATE -

REVISED -  
 REVISED -  
 REVISED -  
 REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**EXISTING TEMP. CABLE PLAN  
US 12/20/45 (MANNHEIM) @ GLADYS AVE.**

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

| F.A.P. RTE.                                   | SECTION     | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|-------------|--------|--------------|-----------|
| 330   | 2008-006 TS | COOK   | 100          | 71        |
| CONTRACT NO. 60E31                            |             |        |              |           |
| FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT |             |        |              |           |

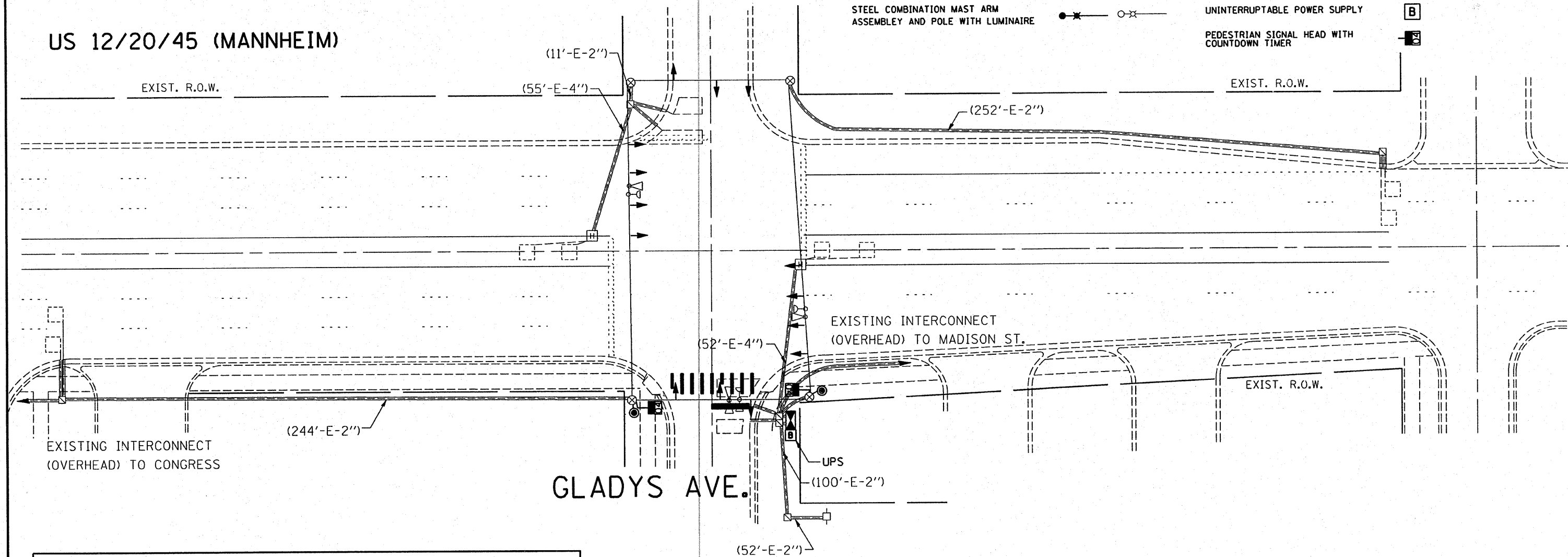
**TRAFFIC SIGNAL LEGEND**

|   | PROPOSED | EXISTING |   | PROPOSED | EXISTING |
|---|----------|----------|---|----------|----------|
| CONTROLLER CABINET  |          |          | JUNCTION BOX                                |          |          |
| RAILROAD CONTROL CABINET                                    |          |          | HANDHOLE                                    |          |          |
| SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT          |          |          | HEAVY DUTY HANDHOLE                         |          |          |
| TELEPHONE CONNECTION  |          |          | DOUBLE HANDHOLE                             |          |          |
| SIGNAL HEAD   |          |          | G.S. CONDUIT IN TRENCH OR PUSHED            |          |          |
| SIGNAL HEAD WITH BACKPLATE                                  |          |          | COMMON TRENCH                               | CT       |          |
| SIGNAL HEAD OPTICALLY PROGRAMMED                            |          |          | UNIT DUCT                                   | US       |          |
| SIGNAL HEAD PEDESTRIAN WITH COUNTDOWN TIMER                 |          |          | PEDESTRIAN PUSHBUTTON DETECTOR              |          |          |
| ILLUMINATED SIGN "NO LEFT TURN"                             |          |          | DETECTOR LOOP, TYPE I                       |          |          |
| ILLUMINATED SIGN "NO RIGHT TURN"                            |          |          | PREFORMED DETECTOR LOOP                     |          |          |
| SIGNAL POST   |          |          | MICROWAVE VEHICLE SENSOR                    |          |          |
| WOOD POLE   |          |          | VIDEO DETECTOR                              |          |          |
| STEEL MAST ARM ASSEMBLY AND POLE                            |          |          | CLOSED CIRCUIT TV                           |          |          |
| ALUMINUM MAST ARM ASSEMBLY AND POLE                         |          |          | EMERGENCY VEHICLE SYSTEM DETECTOR           |          |          |
| STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE |          |          | CONFIRMATION BEACON                         |          |          |
|   |          |          | UNINTERRUPTABLE POWER SUPPLY                | B        |          |
|   |          |          | PEDESTRIAN SIGNAL HEAD WITH COUNTDOWN TIMER |          |          |



**LANDFILL ACCESS**

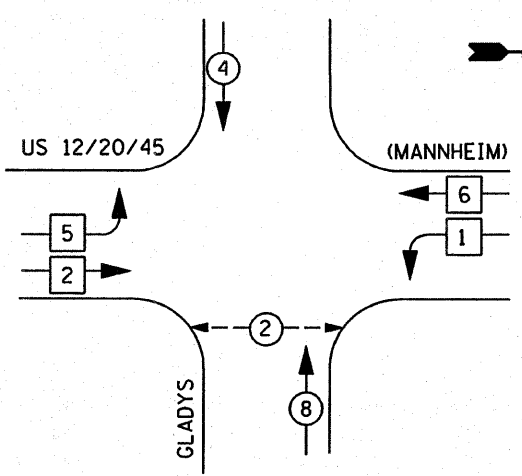
**US 12/20/45 (MANNHEIM)**



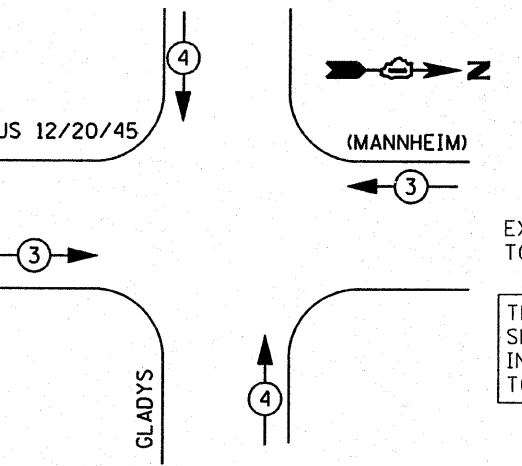
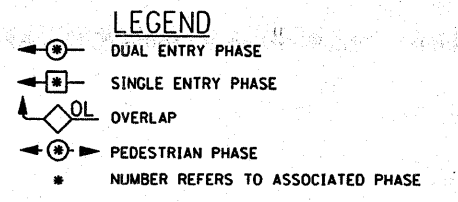
RESTORATION OF WORK AREA, RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT, ETC. SHALL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

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

|   |                             |                |           |   |  |                 |                     |              |                     |                           |                    |
|---|-----------------------------|----------------|-----------|---|--|-----------------|---------------------|--------------|---------------------|---------------------------|--------------------|
| FILE NAME =                                 | USER NAME = kanthaphixgbc   | DESIGNED - BCK | REVISED - | <b>STATE OF ILLINOIS<br/>DEPARTMENT OF TRANSPORTATION</b> | <b>PROPOSED TRAFFIC SIGNAL ON SPANWIRE PLAN<br/>US 12/20/45 (MANNHEIM) @ GLADYS AVE.</b> | F.A.P. RTE. 330 | SECTION 2008-006 TS | COUNTY COOK  | TOTAL SHEETS 100    | SHEET NO. 72              |                    |
| ei:\projects\traffic\1070027\us12_20_45.dgn | PLOT SCALE = 48.0000 "/ IN. | DRAWN - BCK    | REVISED - |   |  | SCALE: 1"=20'   | SHEET NO. OF SHEETS | STA. TO STA. | FED. ROAD DIST. NO. | ILLINOIS FED. AID PROJECT | CONTRACT NO. 60E31 |
|   | PLOT DATE = 10/10/2008      | CHECKED - DAD  | REVISED - |   |  |                 |                     |              |                     |                           |                    |
|   |                             | DATE -         | REVISED - |   |  |                 |                     |              |                     |                           |                    |



PHASE DESIGNATION DIAGRAM



SIGNAL INSTALLATION EMERGENCY VEHICLE PREEMPTION SEQUENCE

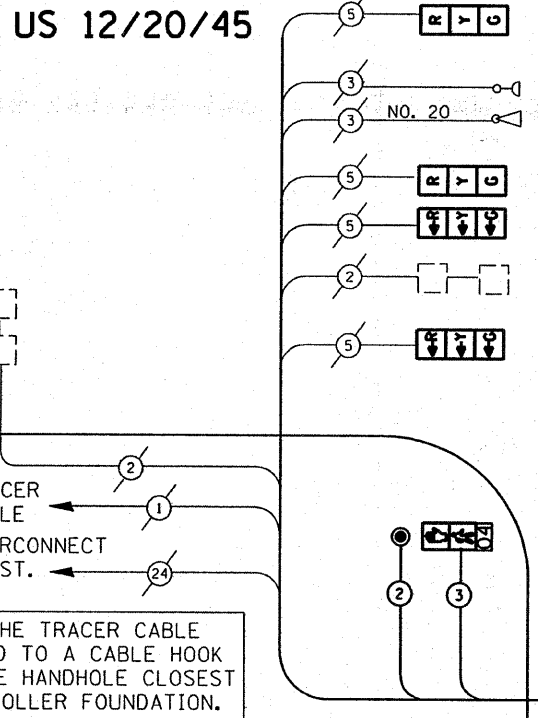
| PROPOSED EMERGENCY VEHICLE PREEMPTOR |   |   |   |
|--------------------------------------|---|---|---|
| EMERGENCY VEHICLE PREEMPTOR          | 3 | 4 |   |
| MOVEMENT                             | → | ↑ | ↓ |

| I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS |           |                 |     |             |                |
|--|-----------|-----------------|-----|-------------|----------------|
| TYPE   | NO. LAMPS | WATTAGE INCAND. | LED | % OPERATION | TOTAL WATTAGE  |
| SIGNAL (RED)   | 16        | 135             | 17  | 0.50        | 136.00         |
| (YELLOW)   | 16        | 135             | 25  | 0.25        | 100.00         |
| (GREEN)  | 16        | 135             | 15  | 0.25        | 60.00          |
| ARROW  | 12        | 135             | 12  | 0.10        | 14.40          |
| PED. SIGNAL  | 2         | 90              | 25  | 1.00        | 50.00          |
| CONTROLLER   | 1         | 100             | 100 | 1.00        | 100.00         |
| ILLUM. SIGN  |           | 84              |     | 0.05        |                |
| FLASHER  |           |                 |     | 0.50        |                |
| ENERGY COSTS TO:   |           |                 |     |             | TOTAL = 460.40 |

| 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)   |                   | 16m±L-0.6m± |
|                    | 24" (600mm) | CONTROLLER CAB.  | 1 (0.5)   | BRACKET MOUNTED   | 13 (4.0)    |
|                    | 30" (750mm) | FIBER OPTIC      | 13 (4.0)  | PED. PUSHBUTTON   | 4 (1.2)     |
|                    | 36" (900mm) | ELECTRIC SERVICE | 1 (0.5)   | ELECTRIC SERVICE  | 13.5 (4.1)  |
|                    |             | GROUND CABLE     | 1 (0.5)   | SERVICE TO GROUND | 13.5 (4.1)  |
|                    |             |                  |           | POST MOUNTED      | 6 (1.8)     |

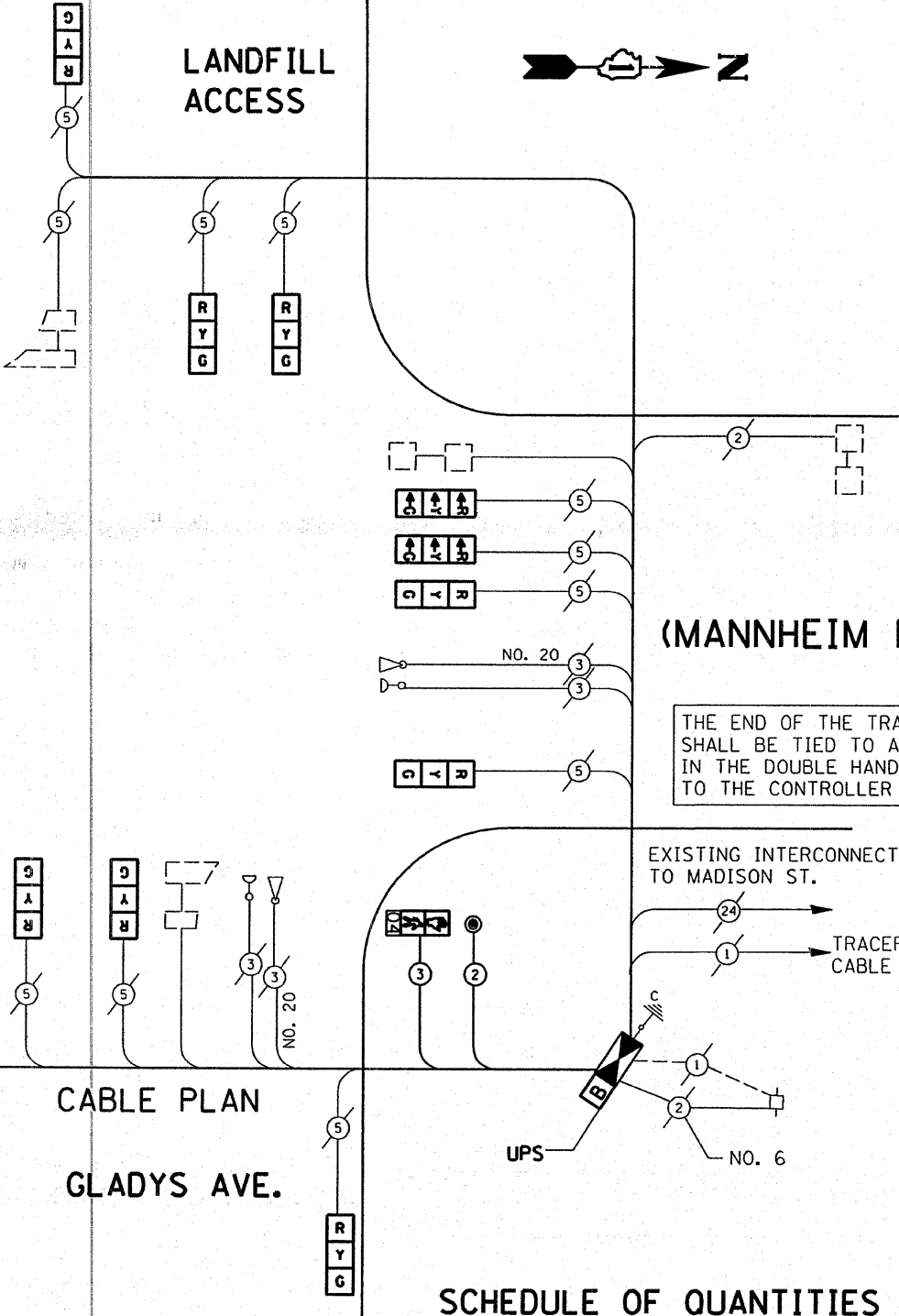
ENERGY SUPPLY CONTACT: 708-410-5069  
 PHONE: COM. EDISON  
 COMPANY:

FILE NAME: c:\projects\traffic\1070027\us12\_20\_45.dgn  
 USER NAME: kanthapixaybc  
 DESIGNED: BCK  
 DRAWN: BCK  
 PLOT SCALE: 48,0000" / IN.  
 CHECKED: DAD  
 PLOT DATE: 10/10/2008  
 DATE:



CABLE PLAN GLADYS AVE.

LANDFILL ACCESS



(MANNHEIM RD.)

SCHEDULE OF QUANTITIES

| ITEM   | UNIT | QUANTITY |
|--|------|----------|
| INDUCTIVE LOOP DETECTOR                                | EACH | 6        |
| THERMOPLASTIC PAVEMENT MARKING LINE 12"                | FOOT | 72       |
| THERMOPLASTIC PAVEMENT MARKING LINE 24"                | FOOT | 17       |
| THERMOPLASTIC PAVEMENT MARKING REMOVAL                 | FOOT | 125      |
| MAINTENANCE OF EXISTING TRAFFIC SIGNAL EQUIPMENT       | EACH | 1        |
| FULL-ACTUATED CONTROLLER AND TYPE IV CABINET (SPECIAL) | EACH | 1        |
| ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C            | FOOT | 152      |
| ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C            | FOOT | 160      |
| PEDESTRIAN PUSH-BUTTON                                 | EACH | 2        |
| SIGNAL HEAD, L.E.D. 1-FACE, 3 SECTION, SPAN WIRE MNTD. | EACH | 14       |
| PEDESTRIAN SIGNAL HEAD with COUNTDOWN TIMER            | EACH | 2        |
| L.E.D., 1-FACE, BRKT. MTD.                             | EACH | 2        |
| UNINTERRUPTIBLE POWER SUPPLY                           | EACH | 1        |

CABLE PLAN LEGEND

|  | PROPOSED | EXISTING |
|--|----------|----------|
| CONTROLLER CABINET   | [Symbol] | [Symbol] |
| RAILROAD CONTROL CABINET   | [Symbol] | [Symbol] |
| SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT                                       | [Symbol] | [Symbol] |
| TELEPHONE CONNECTION   | [Symbol] | [Symbol] |
| GROUND ROD AT (C) CONTROLLER, (H) HANDHOLE, (P) POST, (M) MAST ARM, OR (S) SERVICE       | [Symbol] | [Symbol] |
| FIBER OPTIC CABLE IN CONDUIT, NUMBER OF FIBERS AS NOTED                                  | [Symbol] | [Symbol] |
| ELECTRIC CABLE IN CONDUIT, NO. 14, UNLESS OTHERWISE NOTED. NUMBER OF CONDUCTORS AS NOTED | [Symbol] | [Symbol] |
| GROUND CABLE IN CONDUIT NO. 6 COPPER (GREEN)   | [Symbol] | [Symbol] |
| SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD                                | [Symbol] | [Symbol] |
| 12" (300mm) RED WITH 8" (200mm) YELLOW AND GREEN TRAFFIC SIGNAL FACE                     | [Symbol] | [Symbol] |
| 12" (300mm) TRAFFIC SIGNAL SECTION   | [Symbol] | [Symbol] |
| 12" (300mm) PEDESTRIAN SIGNAL SECTION with COUNTDOWN TIMER                               | [Symbol] | [Symbol] |
| ILLUMINATED SIGN "NO LEFT TURN"  | [Symbol] | [Symbol] |
| ILLUMINATED SIGN "NO RIGHT TURN"   | [Symbol] | [Symbol] |
| PUSHBUTTON DETECTOR  | [Symbol] | [Symbol] |
| DETECTOR LOOP  | [Symbol] | [Symbol] |
| PREFORMED DETECTOR LOOP  | [Symbol] | [Symbol] |
| MICROWAVE VEHICLE SENSOR   | [Symbol] | [Symbol] |
| VIDEO DETECTOR   | [Symbol] | [Symbol] |
| CLOSED CIRCUIT TV  | [Symbol] | [Symbol] |
| EMERGENCY VEHICLE SYSTEM DETECTOR  | [Symbol] | [Symbol] |
| CONFIRMATION BEACON  | [Symbol] | [Symbol] |
| UNINTERRUPTIBLE POWER SUPPLY   | [Symbol] | [Symbol] |

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

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

PROPOSED ON SPANWIRE CABLE PLAN US 12/20/45 (MANNHEIM) @ GLADYS AVE.

| F.A.P. RTE. | SECTION     | COUNTY | TOTAL SHEETS | SHEET NO. |
|-------------|-------------|--------|--------------|-----------|
| 330         | 2008-006 TS | COOK   | 100          | 73        |

CONTRACT NO. 60E31

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

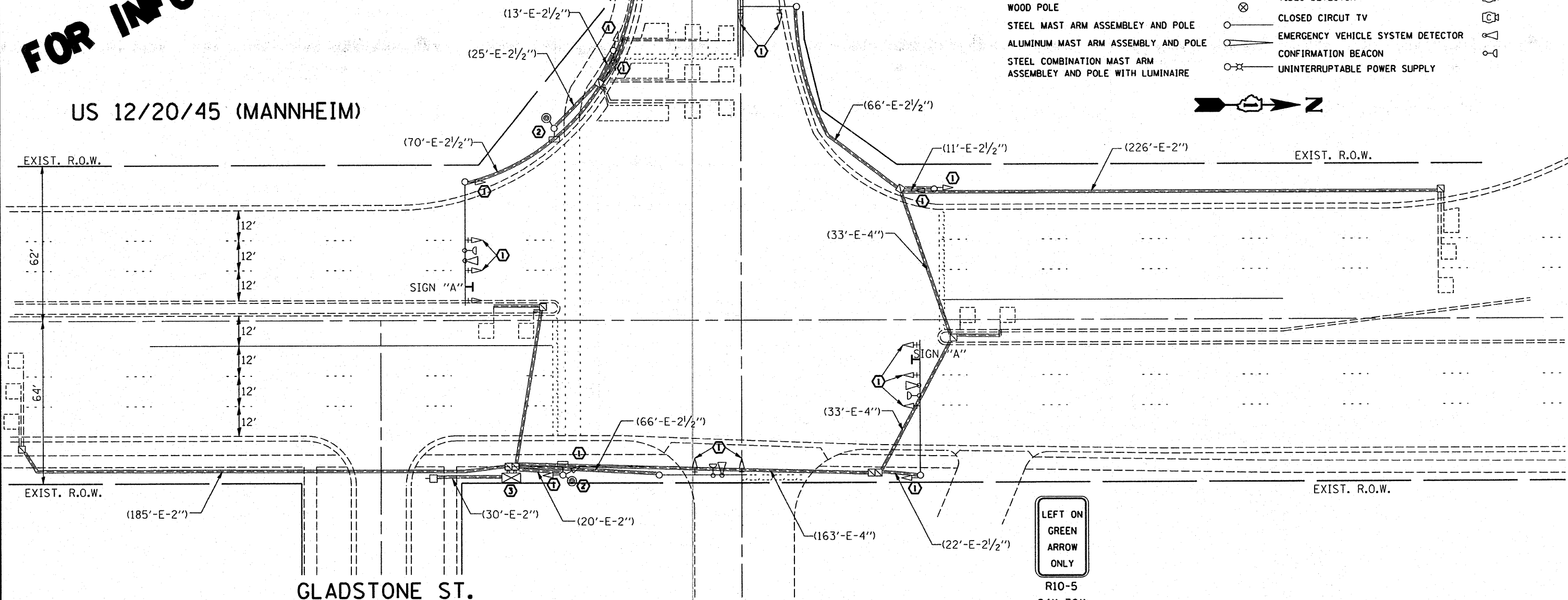
**FOR INFORMATIONAL USE ONLY.**

HARRISON ST.

US 12/20/45 (MANNHEIM)

**EXISTING TRAFFIC SIGNAL AND REMOVAL LEGEND**

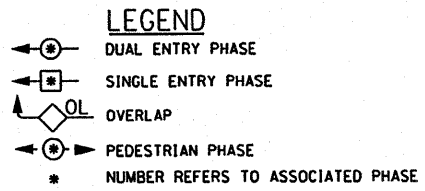
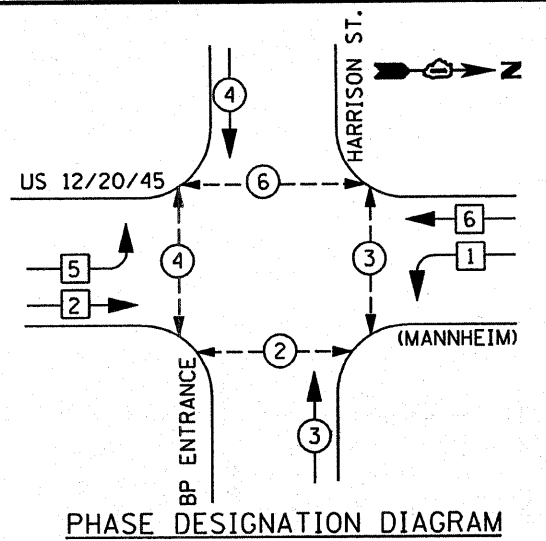
|   | EXISTING | EXISTING                          |
|---|----------|-----------------------------------|
| CONTROLLER CABINET  |          | JUNCTION BOX                      |
| RAILROAD CONTROL CABINET                                    |          | HANDHOLE                          |
| SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT          |          | HEAVY DUTY HANDHOLE               |
| TELEPHONE CONNECTION  |          | DOUBLE HANDHOLE                   |
| SIGNAL HEAD   |          | G.S. CONDUIT IN TRENCH OR PUSHED  |
| SIGNAL HEAD WITH BACKPLATE                                  |          | COMMON TRENCH                     |
| SIGNAL HEAD OPTICALLY PROGRAMMED                            |          | UNIT DUCT                         |
| SIGNAL HEAD PEDESTRIAN with COUNTDOWN TIME                  |          | PEDESTRIAN PUSHBUTTON DETECTOR    |
| ILLUMINATED SIGN "NO LEFT TURN"                             |          | DETECTOR LOOP, TYPE I             |
| ILLUMINATED SIGN "NO RIGHT TURN"                            |          | PERFORMED DETECTOR LOOP           |
| SIGNAL POST   |          | MICROWAVE VEHICLE SENSOR          |
| WOOD POLE   |          | VIDEO DETECTOR                    |
| STEEL MAST ARM ASSEMBLY AND POLE                            |          | CLOSED CIRCUIT TV                 |
| ALUMINUM MAST ARM ASSEMBLY AND POLE                         |          | EMERGENCY VEHICLE SYSTEM DETECTOR |
| STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE |          | CONFIRMATION BEACON               |
|   |          | UNINTERRUPTIBLE POWER SUPPLY      |



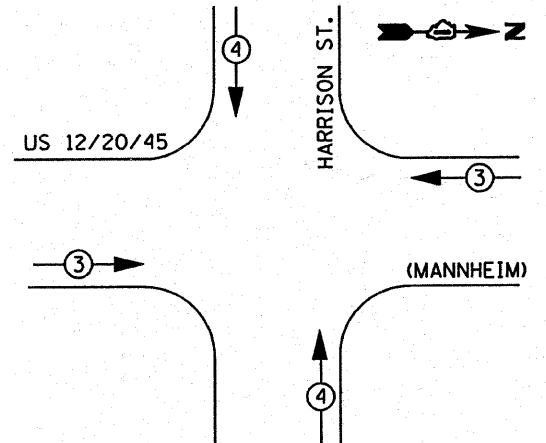
**RESTORATION OF WORK AREA.** RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT, ETC.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

SIGN "A" DETAIL

|                                |                            |                |               |   |  |                     |                     |                     |                           |                    |  |
|--------------------------------|----------------------------|----------------|---------------|---|--|---------------------|---------------------|---------------------|---------------------------|--------------------|--|
| FILE NAME =                    | USER NAME = kenthaphixaybc | DESIGNED - BCK | REVISED -     | <b>STATE OF ILLINOIS<br/>DEPARTMENT OF TRANSPORTATION</b> | <b>EXISTING AND REMOVAL PLAN<br/>US 12/20/45 (MANNHEIM) @ HARRISON ST.</b> | F.A.P. RTE. 330     | SECTION 2008-006 TS | COUNTY COOK         | TOTAL SHEETS 100          | SHEET NO. 74       |  |
| PROJECT SCALE = 40.0000' / IN. | CHECKED - DAD              | REVISED -      | SCALE: 1"=20' |   |  | SHEET NO. OF SHEETS | STA. TO STA.        | FED. ROAD DIST. NO. | ILLINOIS FED. AID PROJECT | CONTRACT NO. 60E31 |  |
| PLOT DATE = 10/10/2008         | DATE -                     | REVISED -      |               |   |  |                     |                     |                     |                           |                    |  |
|                                |                            |                |               |   |  |                     |                     |                     |                           |                    |  |



EXISTING SIGNAL INSTALLATION  
EMERGENCY VEHICLE PREEMPTION SEQUENCE



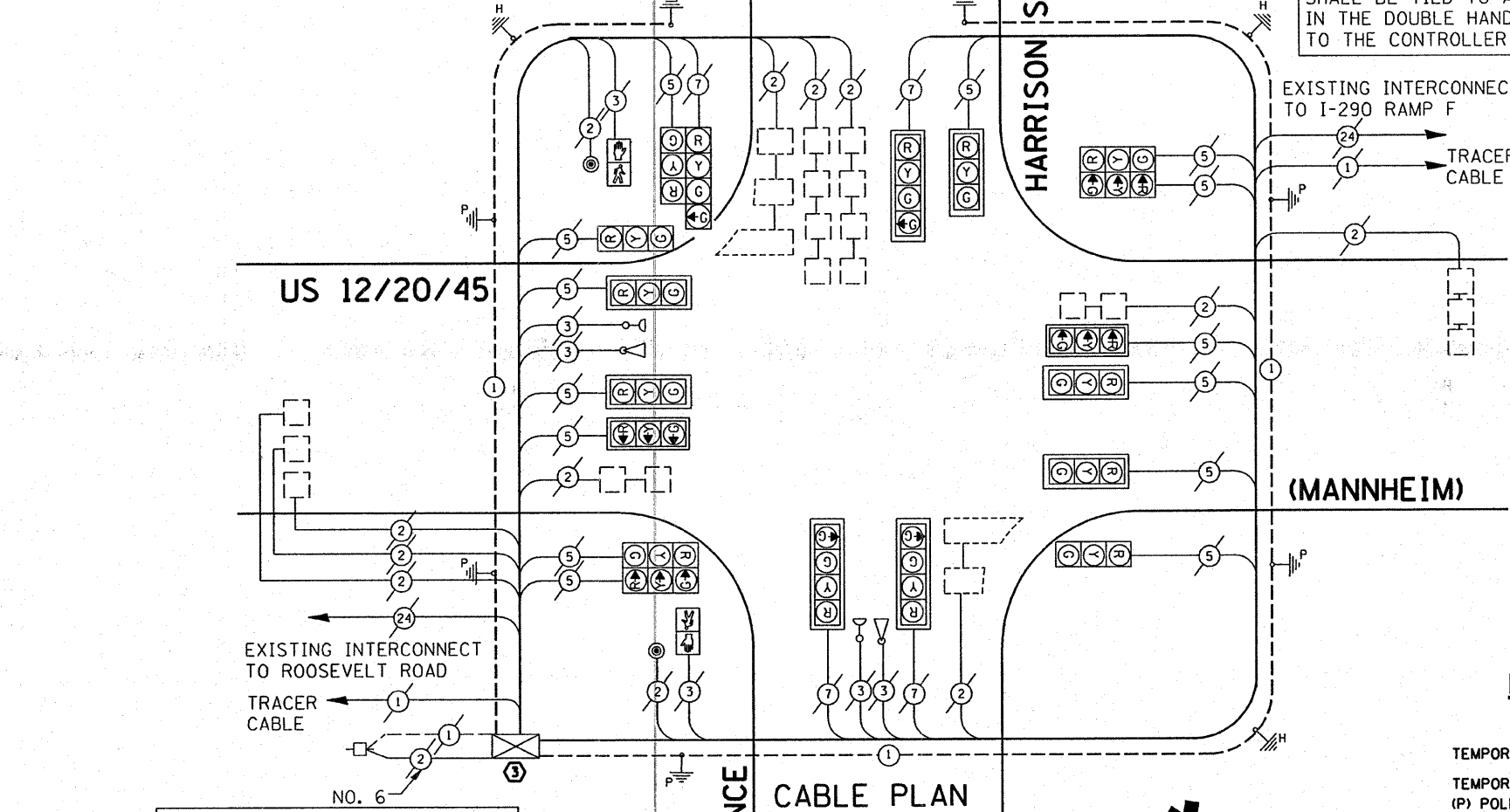
| EXISTING EMERGENCY VEHICLE PREEMPTOR |   |    |
|--------------------------------------|---|----|
| EMERGENCY VEHICLE PREEMPTOR          | 3 | 4  |
| MOVEMENT                             | → | ↑↓ |

| I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS |           |                   |     |             | TOTAL WATTAGE |
|--|-----------|-------------------|-----|-------------|---------------|
| TYPE   | NO. LAMPS | WATTAGE (INCAND.) | LED | % OPERATION |               |
| SIGNAL (RED)   | 18        | 135               | 17  | 0.50        |               |
| (YELLOW)   | 18        | 135               | 25  | 0.25        |               |
| (GREEN)  | 18        | 135               | 15  | 0.25        |               |
| ARROW  | 13        | 135               | 12  | 0.10        |               |
| PED. SIGNAL  | 2         | 90                | 25  | 1.00        |               |
| CONTROLLER   | 1         | 100               | 100 | 1.00        |               |
| ILLUM. SIGN  |           | 84                |     | 0.05        |               |
| FLASHER  |           |                   |     | 0.50        |               |
| ENERGY COSTS TO:   |           |                   |     |             | TOTAL =       |

| 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)   | BRACKET MOUNTED   | 16m±L-0.6m± |
| 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)  |
| 36" (900mm)        | 15 (4.6) | ELECTRIC SERVICE | 1 (0.5)   | SERVICE TO GROUND | 13.5 (4.1)  |
|                    |          | GROUND CABLE     | 1 (0.5)   | POST MOUNTED      | 6 (1.8)     |

ENERGY SUPPLY CONTACT: DAVE LISKA  
PHONE: (773) 509-3417  
COMPANY: COM. EDISON

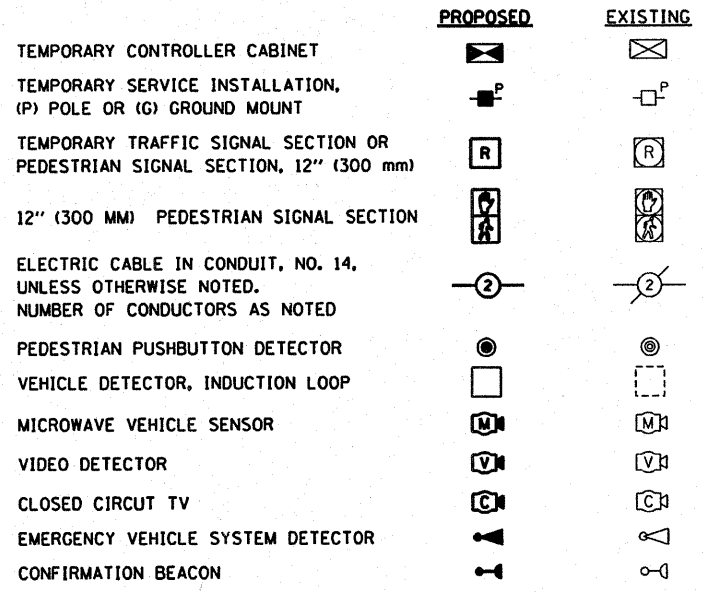
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USER NAME = kanthephixybc  
DESIGNED - BCK  
DRAWN - BCK  
PLOT SCALE = 48,0000 "/ IN.  
CHECKED - DAD  
PLOT DATE = 10/10/2008  
DATE -



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.

EXISTING CABLE DIAGRAM LEGEND



**FOR INFORMATIONAL USE ONLY.**

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 SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EXISTING CABLE PLAN  
US 12/20/45 (MANNHEIM) @ HARRISON ST.

| F.A.P. RTE.        | SECTION     | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------|-------------|--------|--------------|-----------|
| 330                | 2008-006 TS | COOK   | 100          | 75        |
| CONTRACT NO. 60E31 |             |        |              |           |

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

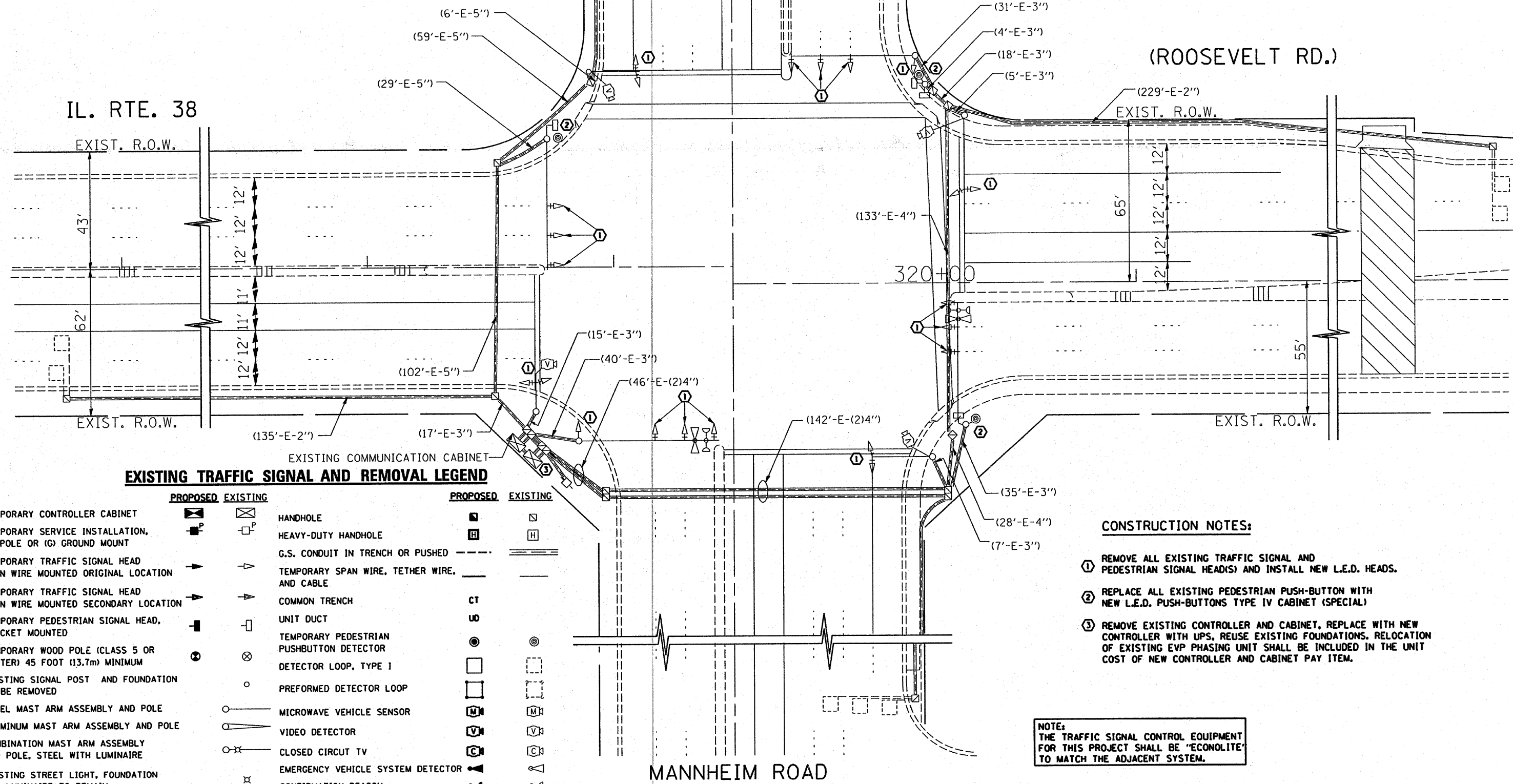
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT



**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 SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 2 EACH SIGNAL HEAD, 3-SECTION BKT. MNTD.
- 20 EACH SIGNAL HEAD, 3-SECTION M.A. MNTD.
- 4 EACH PEDESTRIAN SIGNAL HEAD, 1-FACE
- 4 EACH PEDESTRIAN PUSHBUTTON
- 20 EACH TRAFFIC SIGNAL BACKPLATE
- 1 EACH CONTROLLER AND TYPE IV CABINET



**EXISTING TRAFFIC SIGNAL AND REMOVAL LEGEND**

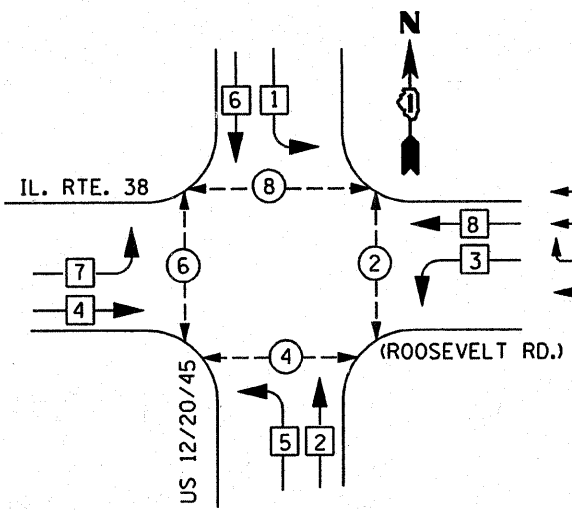
| PROPOSED   |  | EXISTING                                    |    |
|--|--|---|----|
| TEMPORARY CONTROLLER CABINET                                       |  | HANDHOLE                                    |    |
| TEMPORARY SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT       |  | HEAVY-DUTY HANDHOLE                         |    |
| TEMPORARY TRAFFIC SIGNAL HEAD SPAN WIRE MOUNTED ORIGINAL LOCATION  |  | G.S. CONDUIT IN TRENCH OR PUSHED            |    |
| TEMPORARY TRAFFIC SIGNAL HEAD SPAN WIRE MOUNTED SECONDARY LOCATION |  | TEMPORARY SPAN WIRE, TETHER WIRE, AND CABLE |    |
| TEMPORARY PEDESTRIAN SIGNAL HEAD, BRACKET MOUNTED                  |  | COMMON TRENCH                               | CT |
| TEMPORARY WOOD POLE (CLASS 5 OR BETTER) 45 FOOT (13.7m) MINIMUM    |  | UNIT DUCT                                   | UD |
| EXISTING SIGNAL POST AND FOUNDATION TO BE REMOVED                  |  | TEMPORARY PEDESTRIAN PUSHBUTTON DETECTOR    |    |
| STEEL MAST ARM ASSEMBLY AND POLE                                   |  | DETECTOR LOOP, TYPE I                       |    |
| ALUMINUM MAST ARM ASSEMBLY AND POLE                                |  | PREFORMED DETECTOR LOOP                     |    |
| COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL WITH LUMINAIRE       |  | MICROWAVE VEHICLE SENSOR                    |    |
| EXISTING STREET LIGHT, FOUNDATION AND LUMINAIRE TO REMAIN          |  | VIDEO DETECTOR                              |    |
|  |  | CLOSED CIRCUIT TV                           |    |
|  |  | EMERGENCY VEHICLE SYSTEM DETECTOR           |    |
|  |  | CONFIRMATION BEACON                         |    |

**CONSTRUCTION NOTES:**

- ① REMOVE ALL EXISTING TRAFFIC SIGNAL AND PEDESTRIAN SIGNAL HEAD(S) AND INSTALL NEW L.E.D. HEADS.
- ② REPLACE ALL EXISTING PEDESTRIAN PUSH-BUTTON WITH NEW L.E.D. PUSH-BUTTONS TYPE IV CABINET (SPECIAL)
- ③ REMOVE EXISTING CONTROLLER AND CABINET, REPLACE WITH NEW CONTROLLER WITH UPS, REUSE EXISTING FOUNDATIONS. RELOCATION OF EXISTING EVP PHASING UNIT SHALL BE INCLUDED IN THE UNIT COST OF NEW CONTROLLER AND CABINET PAY ITEM.

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

...traffic\1070027\us12\_20\_45.dgn 10/10/2008 2:22:52 PM User=kanthaphaybc



**PHASE DESIGNATION DIAGRAM**

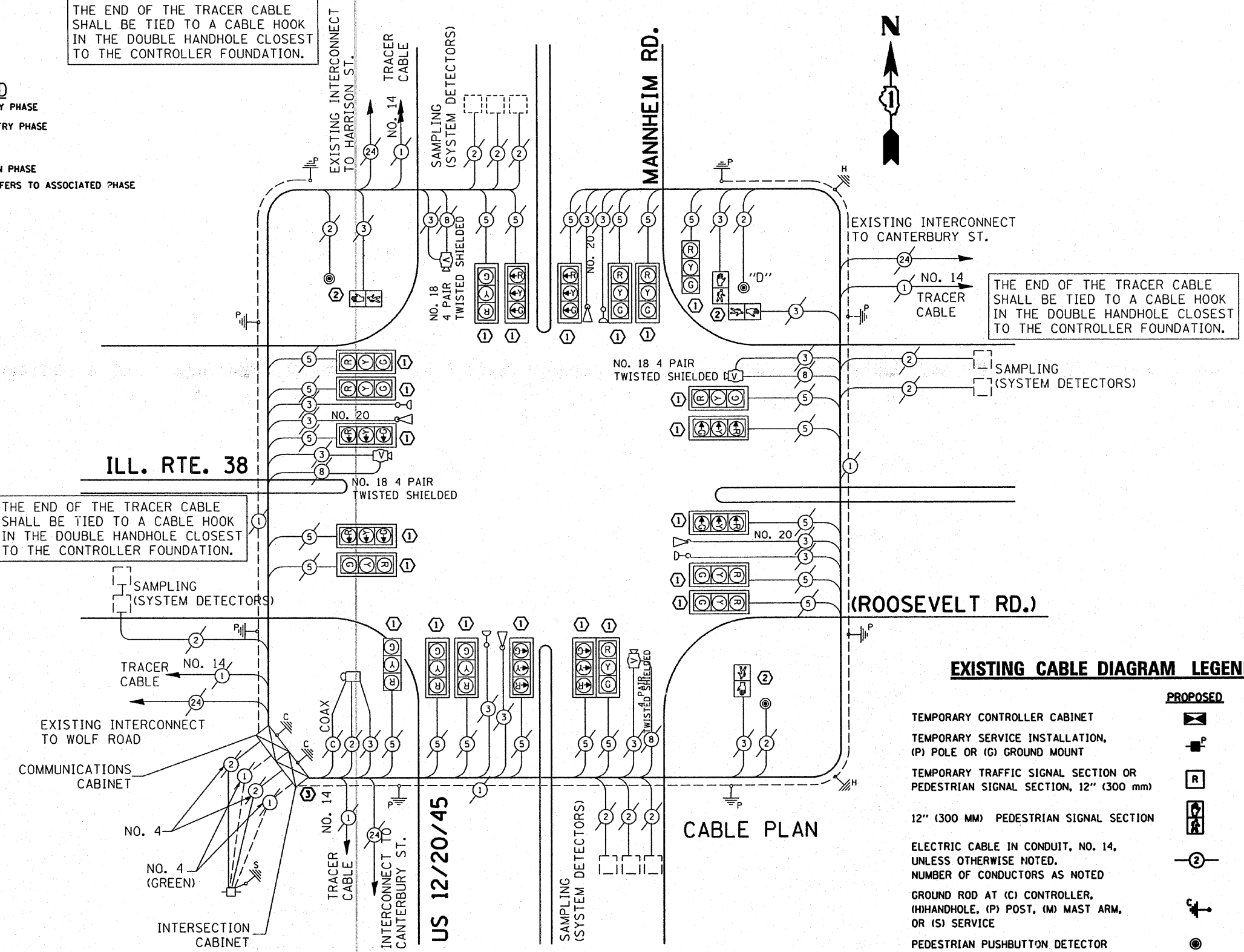
PUSH BUTTON "D" SHALL PLACE A CALL IN PHASES 2 AND 8.

- LEGEND**
- ⊕ DUAL ENTRY PHASE
  - ⊖ SINGLE ENTRY PHASE
  - OL OVERLAP
  - ⊙ PEDESTRIAN PHASE
  - \* NUMBER REFERS TO ASSOCIATED PHASE

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.

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



**EXISTING CABLE DIAGRAM LEGEND**

- |  | PROPOSED | EXISTING |
|--|----------|----------|
| TEMPORARY CONTROLLER CABINET   | ⊠        | ⊠        |
| TEMPORARY SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT                             | ⊖        | ⊖        |
| TEMPORARY TRAFFIC SIGNAL SECTION OR PEDESTRIAN SIGNAL SECTION, 12" (300 mm)              | R        | R        |
| 12" (300 MM) PEDESTRIAN SIGNAL SECTION   | ⊙        | ⊙        |
| ELECTRIC CABLE IN CONDUIT, NO. 14, UNLESS OTHERWISE NOTED. NUMBER OF CONDUCTORS AS NOTED | ②        | ②        |
| GROUND ROD AT (C) CONTROLLER, (H) HANDHOLE, (P) POST, (M) MAST ARM, OR (S) SERVICE       | ⊥        | ⊥        |
| PEDESTRIAN PUSHBUTTON DETECTOR   | ⊙        | ⊙        |
| VEHICLE DETECTOR, INDUCTION LOOP   | □        | □        |
| CCTV DOME DRIVE UNIT   | ⊖        | ⊖        |
| MICROWAVE VEHICLE SENSOR   | M        | M        |
| VIDEO DETECTOR   | V        | V        |
| CLOSED CIRCUIT TV  | C        | C        |
| EMERGENCY VEHICLE SYSTEM DETECTOR  | E        | E        |
| CONFIRMATION BEACON  | ⊥        | ⊥        |

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

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

| TYPE                    | NO. LAMPS | WATTAGE (INCAN.) | WATTAGE (LED) | % OPERATION    | TOTAL WATTAGE |
|-------------------------|-----------|------------------|---------------|----------------|---------------|
| SIGNAL (RED)            | 22        | 135              | 17            | 0.50           |               |
| (YELLOW)                | 22        | 135              | 25            | 0.25           |               |
| (GREEN)                 | 22        | 135              | 15            | 0.25           |               |
| ARROW                   | 24        | 135              | 12            | 0.10           |               |
| PED. SIGNAL             | 3         | 90               | 25            | 1.00           |               |
| CONTROLLER              | 1         | 100              | 100           | 1.00           |               |
| ILLUM. SIGN             |           | 84               |               | 0.05           |               |
| FLASHER                 |           |                  |               | 0.50           |               |
| <b>ENERGY COSTS TO:</b> |           |                  |               | <b>TOTAL =</b> |               |

| 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'-H-2-   |
| E - M. ARM POLE    |          | SIGNAL POST      | 2 (1.0)   | 16m+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) |
|                    |          | GROUND CABLE     | 1 (0.5)   | SERVICE TO GROUND | 13.5 (4.1) |
|                    |          |                  |           | POST MOUNTED      | 6 (1.8)    |

ENERGY SUPPLY CONTACT: **DAVE LISKA**  
PHONE: (773) 509-3417  
COMPANY: **COM. EDISON**

FILE NAME =  
USER NAME = kenthphixybc  
DESIGNED - BCK  
DRAWN - BCK  
PLOT SCALE = 48,0000" / IN.  
CHECKED - DAD  
PLOT DATE = 10/18/2008  
DATE -

REVISOR -  
REVISED -  
REVISOR -  
REVISED -  
REVISOR -  
REVISED -

**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**

**EXISTING CABLE PLAN**  
**US 12/2045 (MANNHEIM) @ IL. RTE. 38 (ROOSEVELT RD.)**  
SCALE: SHEET NO. OF SHEETS STA. TO STA.

| F.A.P. RTE.                                   | SECTION     | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|-------------|--------|--------------|-----------|
| 330   | 2008-006 1S | COOK   | 100          | 77        |
| CONTRACT NO. 60E31                            |             |        |              |           |
| FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT |             |        |              |           |

**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 SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

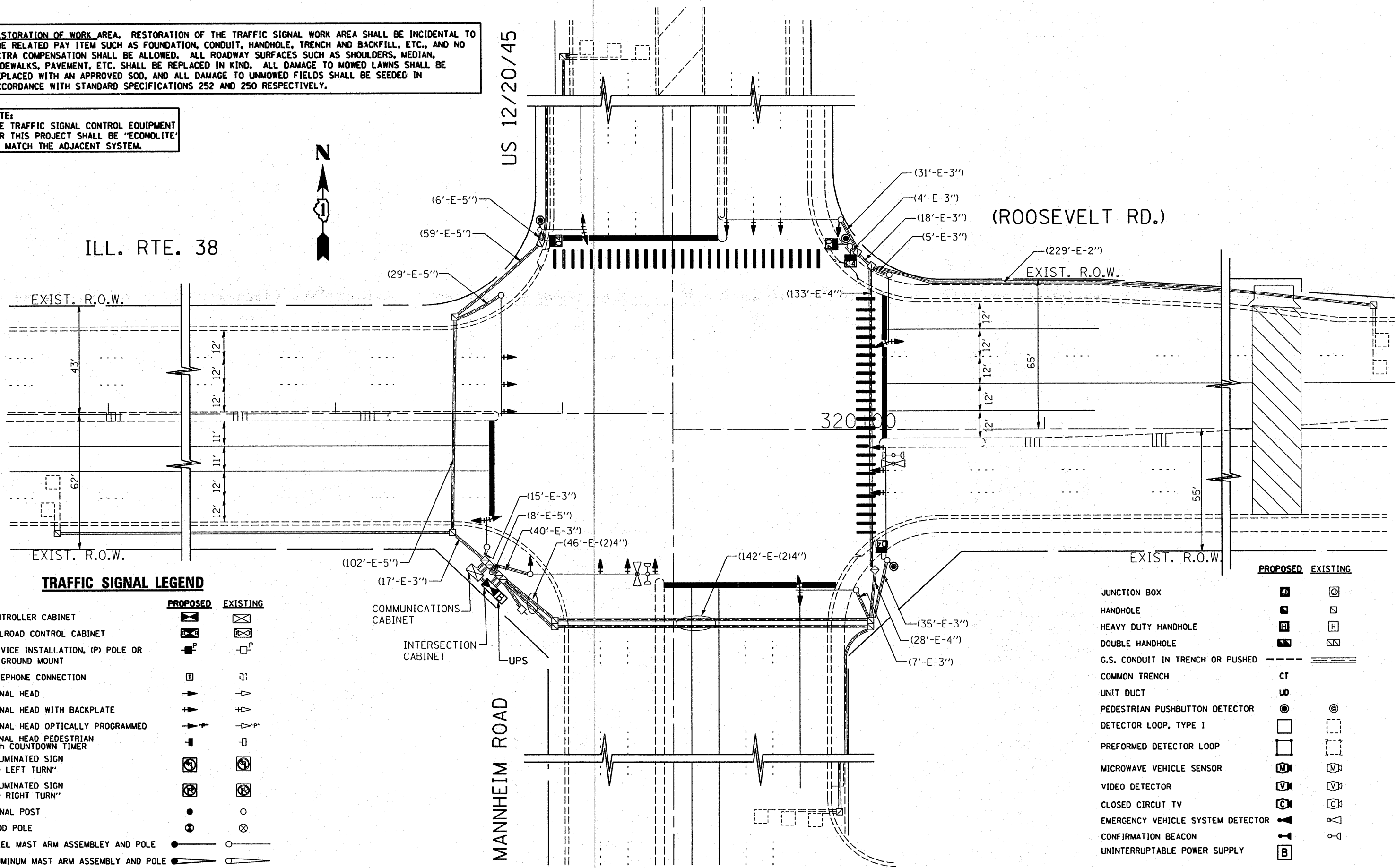
**NOTE:**  
THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE 'ECONOLITE' TO MATCH THE ADJACENT SYSTEM.



ILL. RTE. 38

US 12/20/45

(ROOSEVELT RD.)



**TRAFFIC SIGNAL LEGEND**

|   | PROPOSED | EXISTING |
|---|----------|----------|
| CONTROLLER CABINET  | [Symbol] | [Symbol] |
| RAILROAD CONTROL CABINET                                    | [Symbol] | [Symbol] |
| SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT          | [Symbol] | [Symbol] |
| TELEPHONE CONNECTION  | [Symbol] | [Symbol] |
| SIGNAL HEAD   | [Symbol] | [Symbol] |
| SIGNAL HEAD WITH BACKPLATE                                  | [Symbol] | [Symbol] |
| SIGNAL HEAD OPTICALLY PROGRAMMED                            | [Symbol] | [Symbol] |
| SIGNAL HEAD PEDESTRIAN WITH COUNTDOWN TIMER                 | [Symbol] | [Symbol] |
| ILLUMINATED SIGN "NO LEFT TURN"                             | [Symbol] | [Symbol] |
| ILLUMINATED SIGN "NO RIGHT TURN"                            | [Symbol] | [Symbol] |
| SIGNAL POST   | [Symbol] | [Symbol] |
| WOOD POLE   | [Symbol] | [Symbol] |
| STEEL MAST ARM ASSEMBLY AND POLE                            | [Symbol] | [Symbol] |
| ALUMINUM MAST ARM ASSEMBLY AND POLE                         | [Symbol] | [Symbol] |
| STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE | [Symbol] | [Symbol] |

COMMUNICATIONS CABINET  
INTERSECTION CABINET  
UPS

**PROPOSED EXISTING**

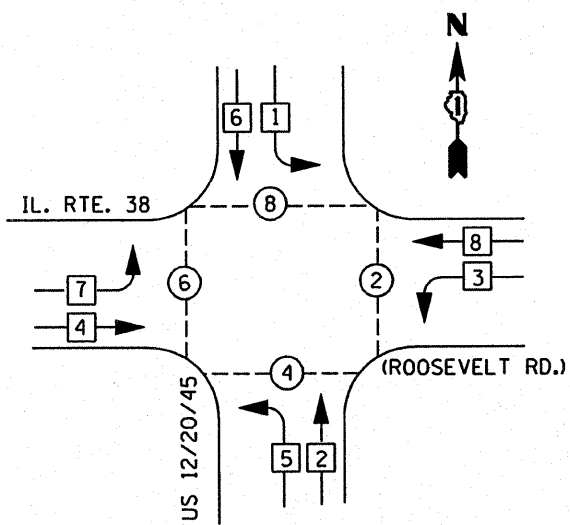
|   |          |          |
|---|----------|----------|
| JUNCTION BOX                                | [Symbol] | [Symbol] |
| HANDHOLE                                    | [Symbol] | [Symbol] |
| HEAVY DUTY HANDHOLE                         | [Symbol] | [Symbol] |
| DOUBLE HANDHOLE                             | [Symbol] | [Symbol] |
| G.S. CONDUIT IN TRENCH OR PUSHED            | [Symbol] | [Symbol] |
| COMMON TRENCH                               | CT       | [Symbol] |
| UNIT DUCT                                   | UD       | [Symbol] |
| PEDESTRIAN PUSHBUTTON DETECTOR              | [Symbol] | [Symbol] |
| DETECTOR LOOP, TYPE 1                       | [Symbol] | [Symbol] |
| PERFORMED DETECTOR LOOP                     | [Symbol] | [Symbol] |
| MICROWAVE VEHICLE SENSOR                    | [Symbol] | [Symbol] |
| VIDEO DETECTOR                              | [Symbol] | [Symbol] |
| CLOSED CIRCUIT TV                           | [Symbol] | [Symbol] |
| EMERGENCY VEHICLE SYSTEM DETECTOR           | [Symbol] | [Symbol] |
| CONFIRMATION BEACON                         | [Symbol] | [Symbol] |
| UNINTERRUPTIBLE POWER SUPPLY                | [Symbol] | [Symbol] |
| PEDESTRIAN SIGNAL HEAD WITH COUNTDOWN TIMER | [Symbol] | [Symbol] |

|   |                            |                |           |
|---|----------------------------|----------------|-----------|
| FILE NAME =                                 | USER NAME = kanthaphixaybo | DESIGNED - BCK | REVISED - |
| ct:\projects\traffic\1070027\us12_20_45.dgn |                            | DRAWN - BCK    | REVISED - |
|   |                            | CHECKED - DAD  | REVISED - |
|   |                            | DATE -         | REVISED - |
|   |                            |                |           |

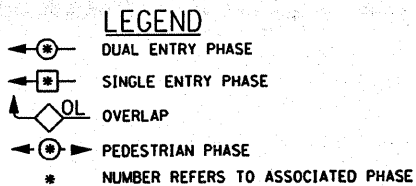
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

**PROPOSED TRAFFIC SIGNAL PLAN**  
**US 12/20/45 (MANNHEIM) @ IL. RTE. 38 (ROOSEVELT RD.)**  
SCALE: 1"=20' SHEET NO. OF SHEETS STA. TO STA.

|                     |             |        |                           |           |
|---------------------|-------------|--------|---------------------------|-----------|
| F.A.P. RTE.         | SECTION     | COUNTY | TOTAL SHEETS              | SHEET NO. |
| 330                 | 2008-006 TS | COOK   | 100                       | 78        |
| FED. ROAD DIST. NO. |             |        | ILLINOIS FED. AID PROJECT |           |
|                     |             |        | CONTRACT NO. 60E31        |           |



PHASE DESIGNATION DIAGRAM



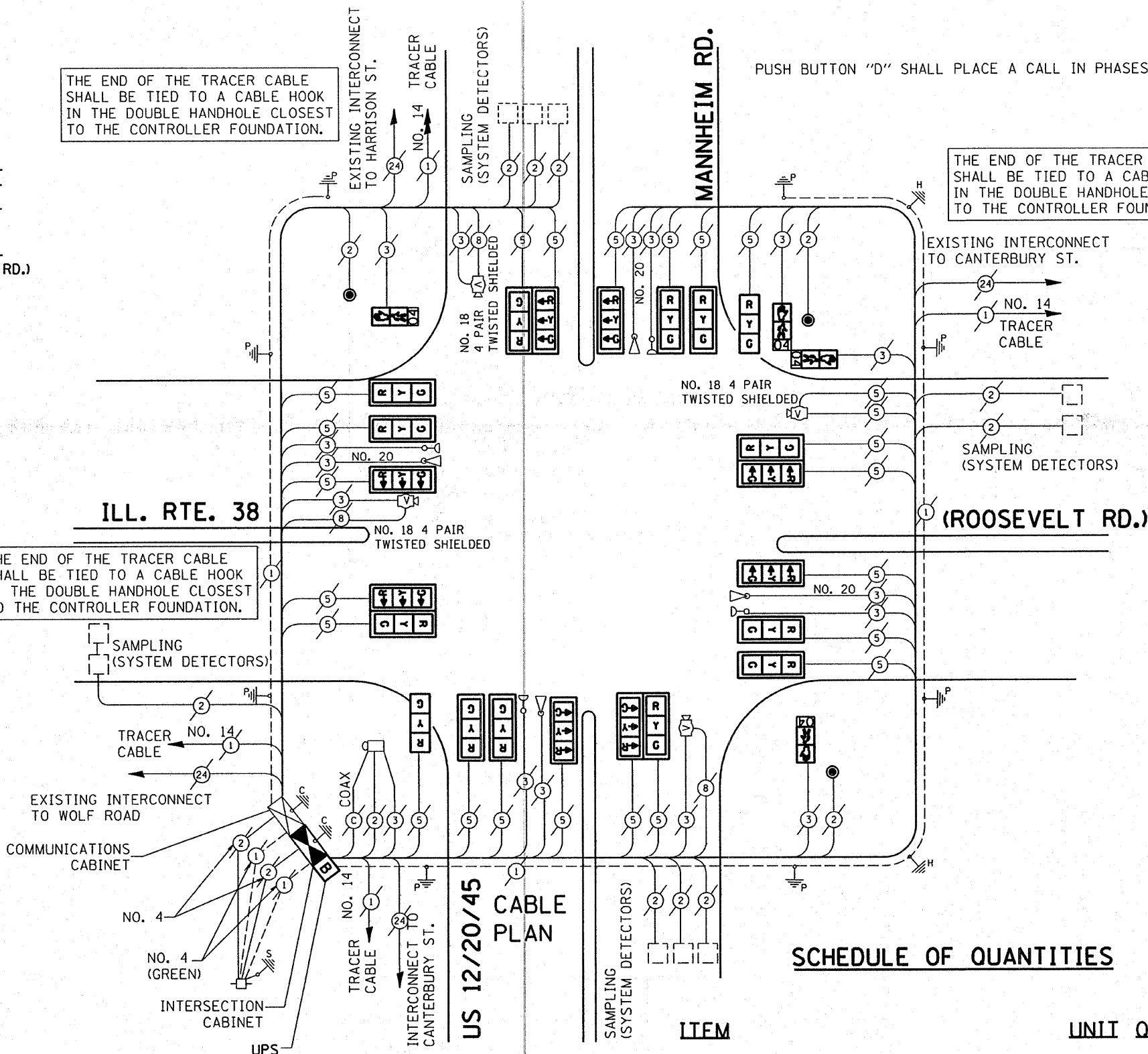
NOTE: THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE 'ECONOLITE' TO MATCH THE ADJACENT SYSTEM.

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.

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.



PUSH BUTTON "D" SHALL PLACE A CALL IN PHASES 2 AND 8.



CABLE PLAN LEGEND

|  | PROPOSED | EXISTING |
|--|----------|----------|
| CONTROLLER CABINET   |          |          |
| RAILROAD CONTROL CABINET   |          |          |
| SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT                                       |          |          |
| TELEPHONE CONNECTION   |          |          |
| GROUND ROD AT (C) CONTROLLER, (H) HANDHOLE, (P) POST, (M) MAST ARM, OR (S) SERVICE       |          |          |
| FIBER OPTIC CABLE IN CONDUIT, NUMBER OF FIBERS AS NOTED                                  |          |          |
| ELECTRIC CABLE IN CONDUIT, NO. 14, UNLESS OTHERWISE NOTED. NUMBER OF CONDUCTORS AS NOTED |          |          |
| GROUND CABLE IN CONDUIT NO. 6 COPPER (GREEN)   |          |          |
| SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD                                |          |          |
| 12" (300mm) RED WITH 8" (200mm) YELLOW AND GREEN TRAFFIC SIGNAL FACE                     |          |          |
| 12" (300mm) TRAFFIC SIGNAL SECTION   |          |          |
| 12" (300mm) PEDESTRIAN SIGNAL SECTION with COUNTDOWN TIMER                               |          |          |
| ILLUMINATED SIGN "NO LEFT TURN"  |          |          |
| ILLUMINATED SIGN "NO RIGHT TURN"   |          |          |
| PUSHBUTTON DETECTOR  |          |          |
| DETECTOR LOOP  |          |          |
| PREFORMED DETECTOR LOOP  |          |          |
| MICROWAVE VEHICLE SENSOR   |          |          |
| VIDEO DETECTOR   |          |          |
| CLOSED CIRCUIT TV  |          |          |
| EMERGENCY VEHICLE SYSTEM DETECTOR  |          |          |
| CONFIRMATION BEACON  |          |          |
| UNINTERRUPTIBLE POWER SUPPLY   |          |          |

SCHEDULE OF QUANTITIES

| ITEM  | UNIT | QUANTITY |
|---|------|----------|
| INDUCTIVE LOOP DETECTOR   | EACH | 9        |
| THERMOPLASTIC PAVEMENT MARKING LINE 12"                                 | FOOT | 440      |
| THERMOPLASTIC PAVEMENT MARKING LINE 24"                                 | FOOT | 258      |
| THERMOPLASTIC PAVEMENT MARKING REMOVAL                                  | FOOT | 654      |
| MAINTENANCE OF EXISTING TRAFFIC SIGNAL EQUIPMENT                        | EACH | 1        |
| FULL-ACTUATED CONTROLLER AND TYPE IV CABINET (SPECIAL)                  | EACH | 1        |
| TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM                            | EACH | 20       |
| PEDESTRIAN PUSH-BUTTON  | EACH | 3        |
| SIGNAL HEAD, L.E.D. 1-FACE, 3 SECTION, MAST ARM MNTD.                   | EACH | 20       |
| SIGNAL HEAD, L.E.D. 1-FACE, 3 SECTION, BRKT. MNTD.                      | EACH | 2        |
| PEDESTRIAN SIGNAL HEAD, L.E.D., 1-FACE, BRKT. MTD. with COUNTDOWN TIMER | EACH | 4        |
| UNINTERRUPTIBLE POWER SUPPLY  | EACH | 1        |

| I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS |           |                   |     |             | TOTAL WATTAGE |
|--|-----------|-------------------|-----|-------------|---------------|
| TYPE   | NO. LAMPS | WATTAGE (INCAND.) | LED | % OPERATION |               |
| SIGNAL (RED)   | 22        | 135               | 17  | 0.50        | 810.00        |
| (YELLOW)   | 22        | 135               | 25  | 0.25        | 405.00        |
| (GREEN)  | 22        | 135               | 15  | 0.25        | 405.00        |
| ARROW  | 24        | 135               | 12  | 0.10        | 108.00        |
| PED. SIGNAL  | 3         | 90                | 25  | 1.00        | 720.00        |
| CONTROLLER   | 1         | 100               | 100 | 1.00        | 100.00        |
| ILLUM. SIGN  |           | 84                |     | 0.05        |               |
| TOTAL =  |           |                   |     |             | 610.80        |

| 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'-H-2'-  |
| E - M. ARM POLE    |         | SIGNAL POST     | 2 (0.6)   | (6m+L-0.6m)=      |            |
|                    |         | 24" (600mm)     | 10 (3.0)  | BRACKET MOUNTED   | 13 (4.0)   |
|                    |         | 30" (750mm)     | 15 (4.6)  | PED. PUSHBUTTON   | 4 (1.2)    |
|                    |         | 36" (900mm)     | 15 (4.6)  | ELECTRIC SERVICE  | 13.5 (4.1) |
|                    |         |                 |           | FIBER OPTIC       | 1 (0.5)    |
|                    |         |                 |           | ELECTRIC SERVICE  | 13.5 (4.1) |
|                    |         |                 |           | GROUND CABLE      | 1 (0.5)    |
|                    |         |                 |           | SERVICE TO GROUND | 13.5 (4.1) |
|                    |         |                 |           | POST MOUNTED      | 6 (1.8)    |

ENERGY COSTS TO: TOTAL = 610.80

ENERGY SUPPLY CONTACT: DAVE LISKA  
 PHONE: (773) 509-3417  
 COMPANY: COM. EDISON

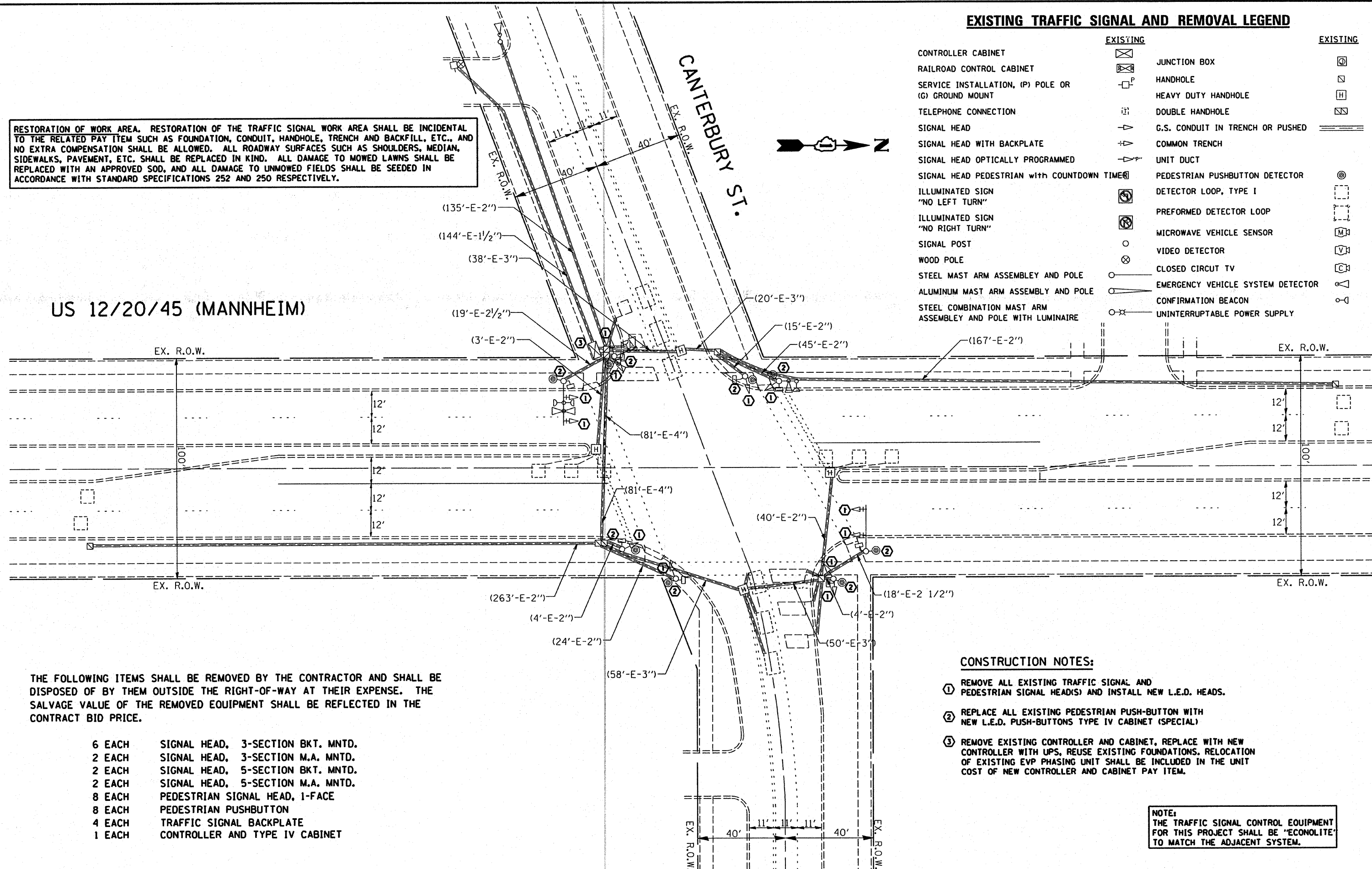
**EXISTING TRAFFIC SIGNAL AND REMOVAL LEGEND**

| EXISTING  |  | EXISTING                          |
|---|--|-----------------------------------|
| CONTROLLER CABINET  |  | JUNCTION BOX                      |
| RAILROAD CONTROL CABINET                                    |  | HANDHOLE                          |
| SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT          |  | HEAVY DUTY HANDHOLE               |
| TELEPHONE CONNECTION  |  | DOUBLE HANDHOLE                   |
| SIGNAL HEAD   |  | G.S. CONDUIT IN TRENCH OR PUSHED  |
| SIGNAL HEAD WITH BACKPLATE                                  |  | COMMON TRENCH                     |
| SIGNAL HEAD OPTICALLY PROGRAMMED                            |  | UNIT DUCT                         |
| SIGNAL HEAD PEDESTRIAN with COUNTDOWN TIME                  |  | PEDESTRIAN PUSHBUTTON DETECTOR    |
| ILLUMINATED SIGN "NO LEFT TURN"                             |  | DETECTOR LOOP, TYPE I             |
| ILLUMINATED SIGN "NO RIGHT TURN"                            |  | PERFORMED DETECTOR LOOP           |
| SIGNAL POST   |  | MICROWAVE VEHICLE SENSOR          |
| WOOD POLE   |  | VIDEO DETECTOR                    |
| STEEL MAST ARM ASSEMBLY AND POLE                            |  | CLOSED CIRCUIT TV                 |
| ALUMINUM MAST ARM ASSEMBLY AND POLE                         |  | EMERGENCY VEHICLE SYSTEM DETECTOR |
| STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE |  | CONFIRMATION BEACON               |
|   |  | UNINTERRUPTIBLE POWER SUPPLY      |

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 SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDING IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

**US 12/20/45 (MANNHEIM)**

**CANTERBURY ST.**



THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 6 EACH SIGNAL HEAD, 3-SECTION BKT. MNTD.
- 2 EACH SIGNAL HEAD, 3-SECTION M.A. MNTD.
- 2 EACH SIGNAL HEAD, 5-SECTION BKT. MNTD.
- 2 EACH SIGNAL HEAD, 5-SECTION M.A. MNTD.
- 8 EACH PEDESTRIAN SIGNAL HEAD, 1-FACE
- 8 EACH PEDESTRIAN PUSHBUTTON
- 4 EACH TRAFFIC SIGNAL BACKPLATE
- 1 EACH CONTROLLER AND TYPE IV CABINET

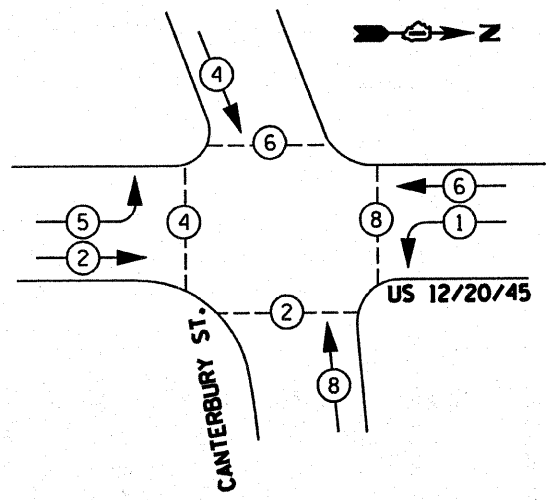
**CONSTRUCTION NOTES:**

- 1 REMOVE ALL EXISTING TRAFFIC SIGNAL AND PEDESTRIAN SIGNAL HEAD(S) AND INSTALL NEW L.E.D. HEADS.
- 2 REPLACE ALL EXISTING PEDESTRIAN PUSH-BUTTON WITH NEW L.E.D. PUSH-BUTTONS TYPE IV CABINET (SPECIAL)
- 3 REMOVE EXISTING CONTROLLER AND CABINET, REPLACE WITH NEW CONTROLLER WITH UPS, REUSE EXISTING FOUNDATIONS. RELOCATION OF EXISTING EVP PHASING UNIT SHALL BE INCLUDED IN THE UNIT COST OF NEW CONTROLLER AND CABINET PAY ITEM.

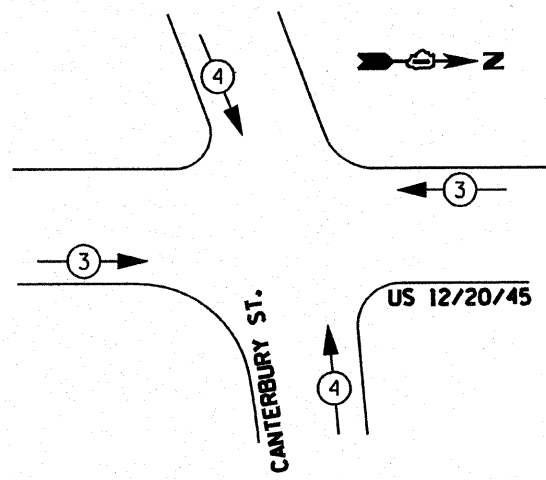
NOTE:  
THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE ADJACENT SYSTEM.

|   |                           |                |           |   |  |   |             |              |              |           |  |
|---|---------------------------|----------------|-----------|---|--|---|-------------|--------------|--------------|-----------|--|
| FILE NAME =                                 | USER NAME = kanthaphixybc | DESIGNED - BCK | REVISED - | <b>STATE OF ILLINOIS<br/>DEPARTMENT OF TRANSPORTATION</b> | <b>EXISTING AND REMOVAL PLAN<br/>US 12/20/45 (MANNHEIM) @ CANTERBURY ST.</b> | F.A.P. RTE.                                     | SECTION     | COUNTY       | TOTAL SHEETS | SHEET NO. |  |
| ct:\projects\traffic\1070027\us12_20_45.dgn |                           | DRAWN - BCK    | REVISED - |   |  | 330   | 2008-006 TS | COOK         | 100          | 80        |  |
| PLOT SCALE = 40.0000' / IN.                 |                           | CHECKED - DAD  | REVISED - |   |  | CONTRACT NO. 60E31                              |             |              |              |           |  |
| PLOT DATE = 10/10/2008                      |                           | DATE -         | REVISED - |   |  | FED. ROAD DIST. NO. [ILLINOIS] FED. AID PROJECT |             |              |              |           |  |
|   |                           |                |           | SCALE: 1"=20'   |  | SHEET NO. OF SHEETS                             |             | STA. TO STA. |              |           |  |





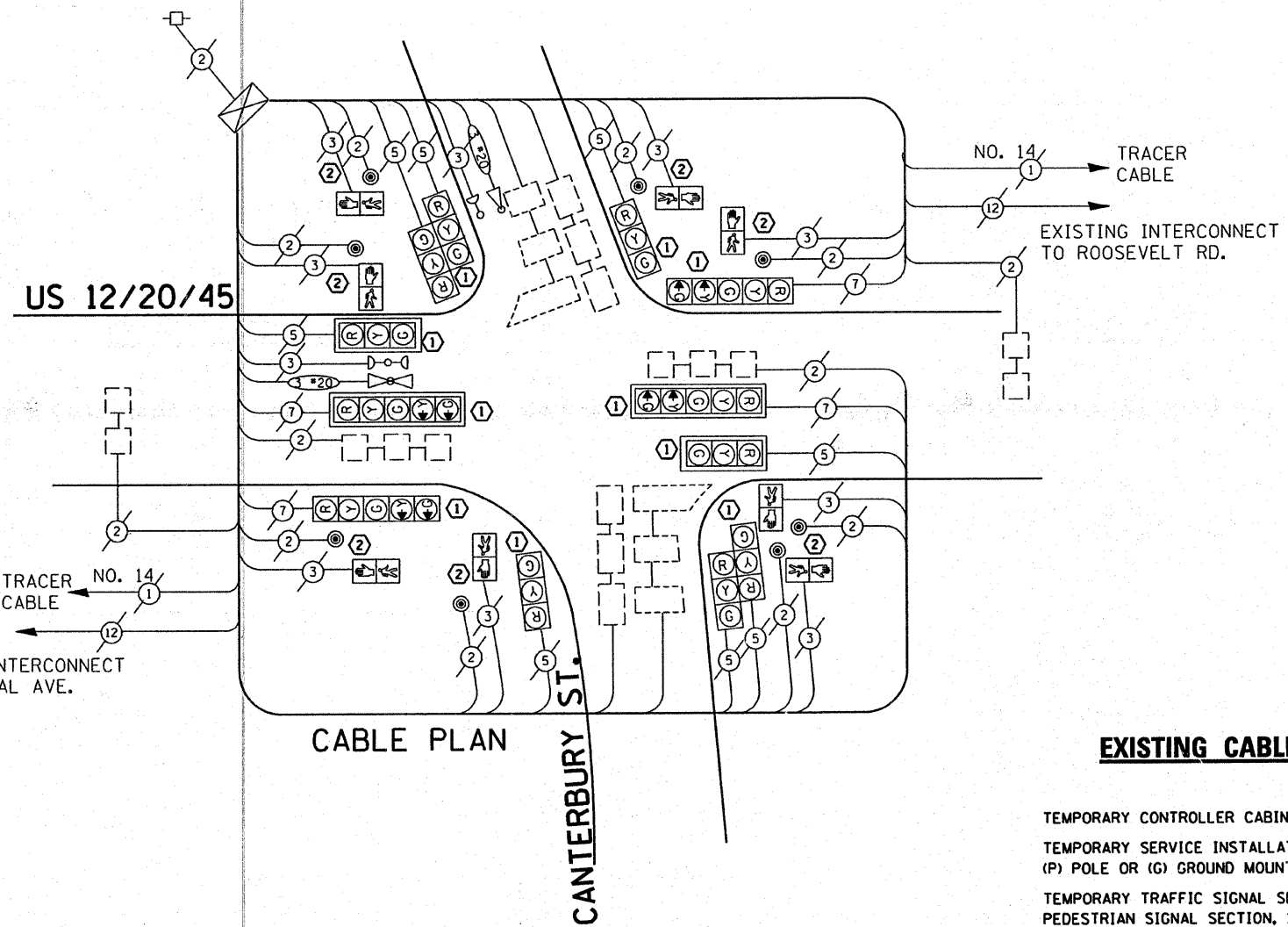
PHASE DESIGNATION DIAGRAM



EXISTING EMERGENCY VEHICLE PREEMPTION SEQUENCE

**LEGEND**

- ⊕ DUAL ENTRY PHASE
- ⊙ SINGLE ENTRY PHASE
- OL OVERLAP
- ⊙ PEDESTRIAN PHASE
- \* NUMBER REFERS TO ASSOCIATED PHASE



CABLE PLAN

**PROPOSED EMERGENCY VEHICLE PREEMPTOR**

|                             |   |     |
|-----------------------------|---|-----|
| EMERGENCY VEHICLE PREEMPTOR | 3 | 4   |
| MOVEMENT                    | → | ↙ ↘ |

**EXISTING CABLE DIAGRAM LEGEND**

|  | PROPOSED | EXISTING |
|--|----------|----------|
| TEMPORARY CONTROLLER CABINET   | ⊕        | ⊕        |
| TEMPORARY SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT                             | ⊙        | ⊙        |
| TEMPORARY TRAFFIC SIGNAL SECTION OR PEDESTRIAN SIGNAL SECTION, 12" (300 mm)              | R        | R        |
| 12" (300 MM) PEDESTRIAN SIGNAL SECTION   | ⊙        | ⊙        |
| ELECTRIC CABLE IN CONDUIT, NO. 14, UNLESS OTHERWISE NOTED. NUMBER OF CONDUCTORS AS NOTED | ②        | ②        |
| PEDESTRIAN PUSHBUTTON DETECTOR   | ⊙        | ⊙        |
| VEHICLE DETECTOR, INDUCTION LOOP   | □        | □        |
| MICROWAVE VEHICLE SENSOR   | M        | M        |
| VIDEO DETECTOR   | V        | V        |
| CLOSED CIRCUIT TV  | C        | C        |
| EMERGENCY VEHICLE SYSTEM DETECTOR  | ⊙        | ⊙        |
| CONFIRMATION BEACON  | ⊙        | ⊙        |

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

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

| TYPE           | NO. LAMPS | WATTAGE (INCAND.) | LED | % OPERATION | TOTAL WATTAGE |
|----------------|-----------|-------------------|-----|-------------|---------------|
| SIGNAL (RED)   | 12        | 135               | 17  | 0.50        |               |
| (YELLOW)       | 12        | 135               | 25  | 0.25        |               |
| (GREEN)        | 12        | 135               | 15  | 0.25        |               |
| ARROW          | 8         | 135               | 12  | 0.10        |               |
| PED. SIGNAL    | 8         | 90                | 25  | 1.00        |               |
| CONTROLLER     | 1         | 100               | 100 | 1.00        |               |
| ILLUM. SIGN    |           | 84                |     | 0.05        |               |
| FLASHER        |           |                   |     | 0.50        |               |
| <b>TOTAL =</b> |           |                   |     |             |               |

| 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'-H-2" (6m+L-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)           |
| 36" (900mm)        | 15 (4.6) | ELECTRIC SERVICE | 1 (0.5)   | SERVICE TO GROUND | 13.5 (4.1)           |
|                    |          | GROUND CABLE     | 1 (0.5)   | POST MOUNTED      | 6 (1.8)              |

ENERGY COSTS TO: TOTAL =

ENERGY SUPPLY CONTACT: **DAVE LISKA**  
 PHONE: (773) 509-3417  
 COMPANY: COM. EDISON

FILE NAME =  
 USER NAME = kanthaphaybo  
 DESIGNED - BCK  
 DRAWN - BCK  
 CHECKED - DAD  
 DATE -

REVISIONS:  
 REVISED -  
 REVISED -  
 REVISED -  
 REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**EXISTING CABLE PLAN  
 US 12/20/45 (MANNHEIM) @ CANTERBURY ST.**

| F.A.P. RTE.                                   | SECTION     | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|-------------|--------|--------------|-----------|
| 330   | 2008-006 TS | COOK   | 100          | 81        |
| CONTRACT NO. 60E31                            |             |        |              |           |
| FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT |             |        |              |           |

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

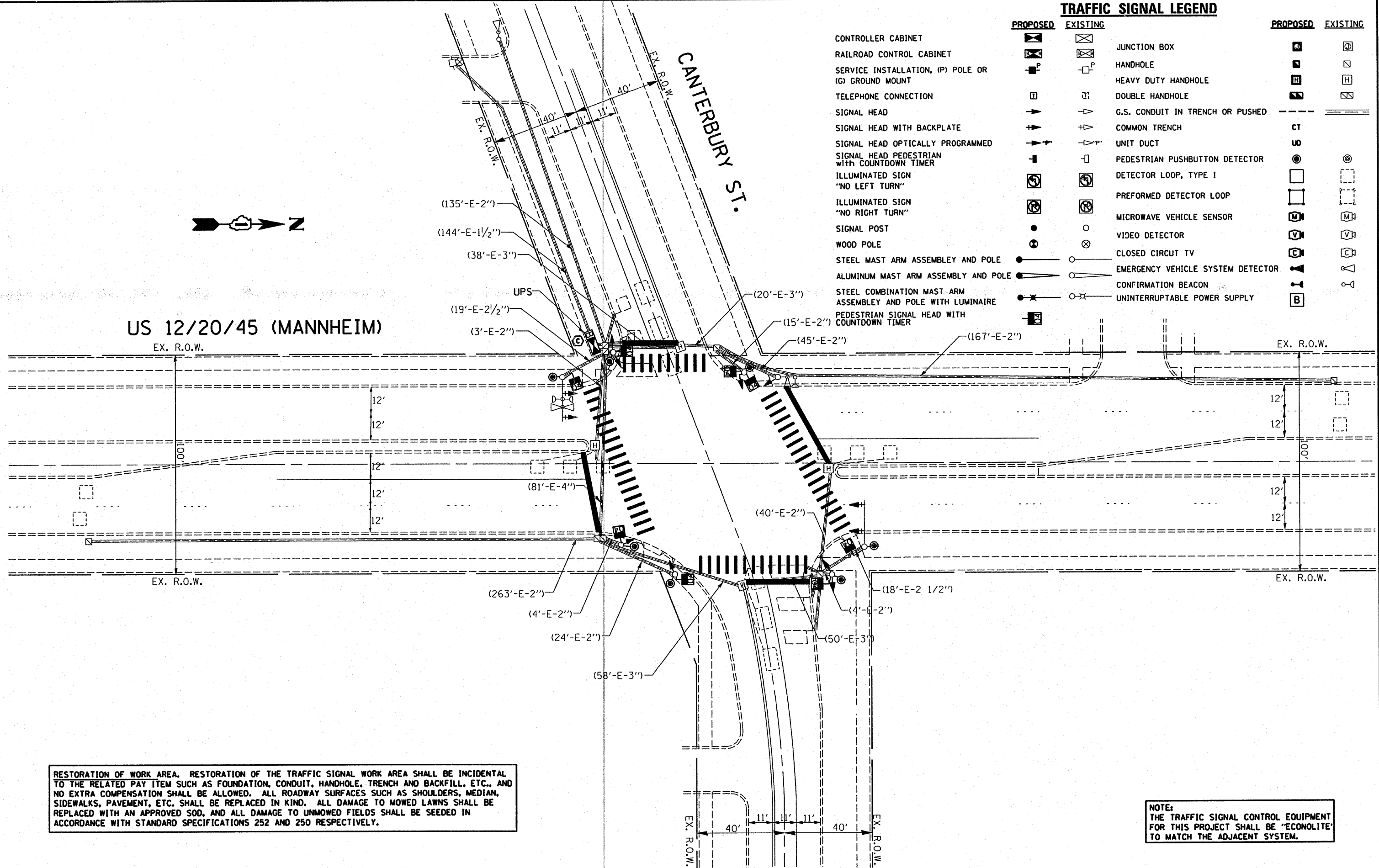
**TRAFFIC SIGNAL LEGEND**

|   | PROPOSED | EXISTING |                                   | PROPOSED | EXISTING |
|---|----------|----------|-----------------------------------|----------|----------|
| CONTROLLER CABINET  |          |          | JUNCTION BOX                      |          |          |
| RAILROAD CONTROL CABINET                                    |          |          | HANDHOLE                          |          |          |
| SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT          |          |          | HEAVY DUTY HANDHOLE               |          |          |
| TELEPHONE CONNECTION  |          |          | DOUBLE HANDHOLE                   |          |          |
| SIGNAL HEAD   |          |          | G.S. CONDUIT IN TRENCH OR PUSHED  |          |          |
| SIGNAL HEAD WITH BACKPLATE                                  |          |          | COMMON TRENCH                     | CT       |          |
| SIGNAL HEAD OPTICALLY PROGRAMMED                            |          |          | UNIT DUCT                         | UD       |          |
| SIGNAL HEAD PEDESTRIAN with COUNTDOWN TIMER                 |          |          | PEDESTRIAN PUSHBUTTON DETECTOR    |          |          |
| ILLUMINATED SIGN "NO LEFT TURN"                             |          |          | DETECTOR LOOP, TYPE I             |          |          |
| ILLUMINATED SIGN "NO RIGHT TURN"                            |          |          | PERFORMED DETECTOR LOOP           |          |          |
| SIGNAL POST   |          |          | MICROWAVE VEHICLE SENSOR          |          |          |
| WOOD POLE   |          |          | VIDEO DETECTOR                    |          |          |
| STEEL MAST ARM ASSEMBLY AND POLE                            |          |          | CLOSED CIRCUIT TV                 |          |          |
| ALUMINUM MAST ARM ASSEMBLY AND POLE                         |          |          | EMERGENCY VEHICLE SYSTEM DETECTOR |          |          |
| STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE |          |          | CONFIRMATION BEACON               |          |          |
| PEDESTRIAN SIGNAL HEAD WITH COUNTDOWN TIMER                 |          |          | UNINTERRUPTIBLE POWER SUPPLY      |          |          |



**US 12/20/45 (MANNHEIM)**

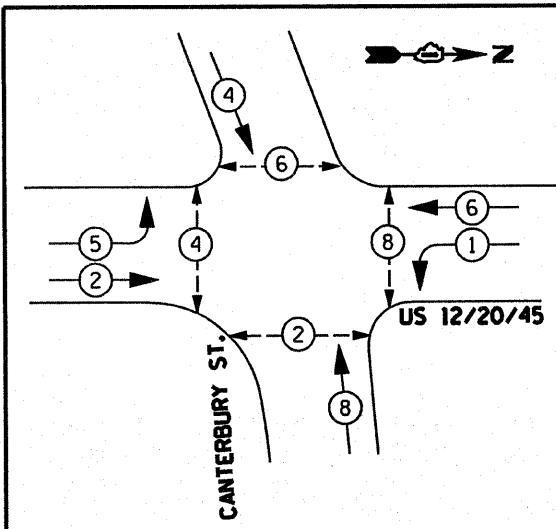
**CANTERBURY ST.**



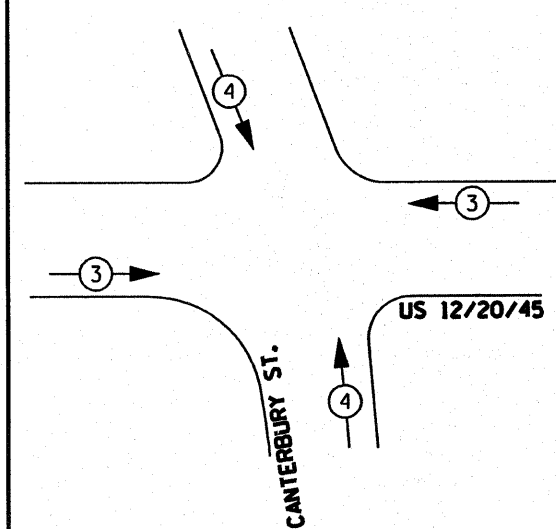
RESTORATION OF WORK AREA. RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT, ETC. SHALL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

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

|   |                           |                |           |   |   |                     |              |                     |                           |                     |             |                  |              |
|---|---------------------------|----------------|-----------|---|---|---------------------|--------------|---------------------|---------------------------|---------------------|-------------|------------------|--------------|
| FILE NAME = c:\projects\traffic\070027\us12_20_45.dgn | USER NAME = kenthaphixjbc | DESIGNED - BCK | REVISED - | <b>STATE OF ILLINOIS<br/>DEPARTMENT OF TRANSPORTATION</b> | <b>PROPOSED TRAFFIC SIGNAL PLAN<br/>US 12/20/45 (MANNHEIM) @ CANTERBURY ST.</b> |                     |              |                     | F.A.P. RTE. 330           | SECTION 2008-006 TS | COUNTY COOK | TOTAL SHEETS 100 | SHEET NO. 82 |
| PLOT SCALE = 1/8" = 1'-0"                             | CHECKED - DAD             | DATE -         | REVISED - |   | SCALE: 1"=20'   | SHEET NO. OF SHEETS | STA. TO STA. | FED. ROAD DIST. NO. | ILLINOIS FED. AID PROJECT | CONTRACT NO. 60E31  |             |                  |              |
| PLOT DATE = 10/10/2008                                | DATE -                    | REVISED -      | REVISED - |   |   |                     |              |                     |                           |                     |             |                  |              |
|   |                           |                |           |   |   |                     |              |                     |                           |                     |             |                  |              |



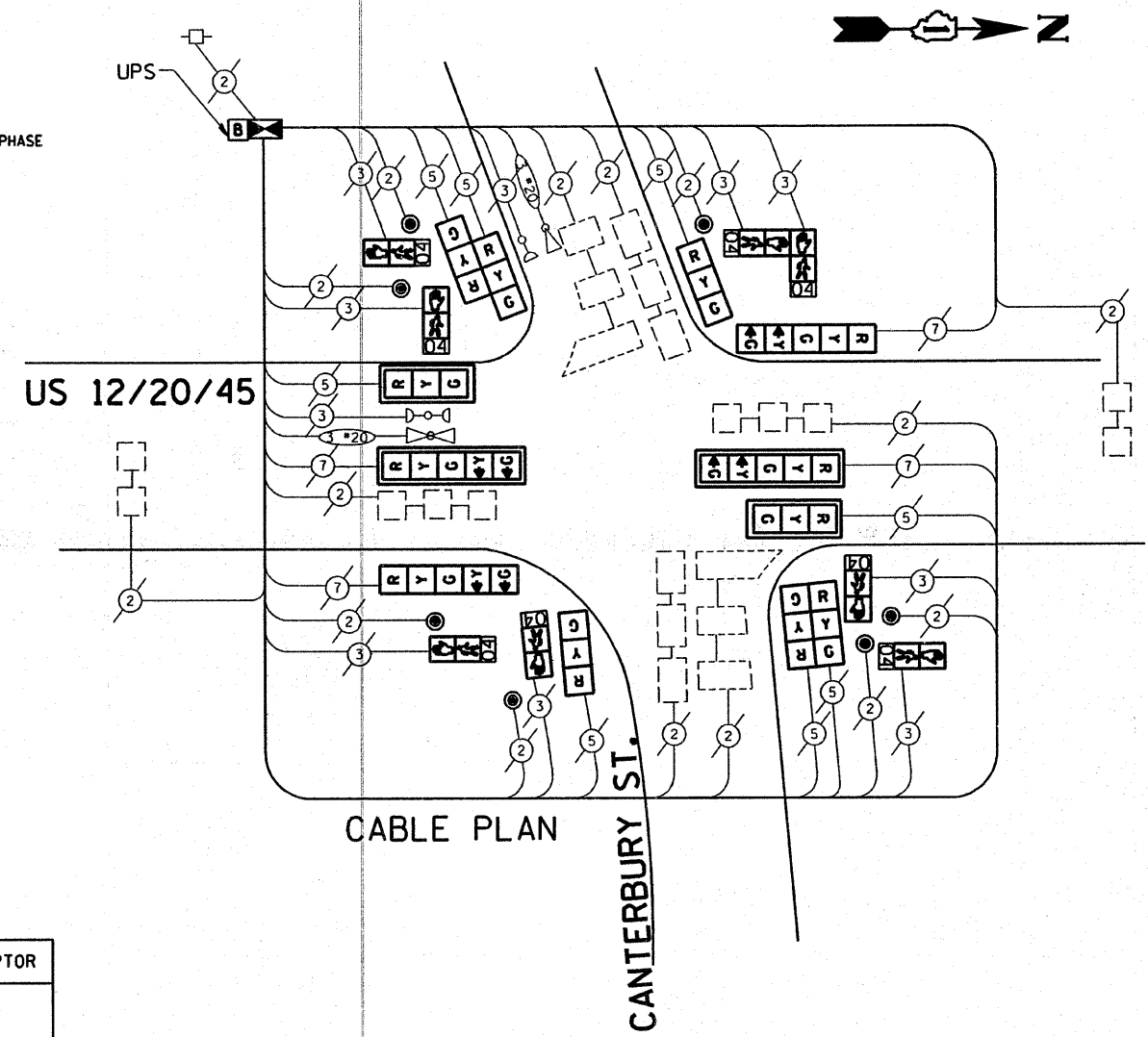
PHASE DESIGNATION DIAGRAM



EXISTING EMERGENCY VEHICLE PREEMPTION SEQUENCE

**LEGEND**

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



CABLE PLAN

**PROPOSED EMERGENCY VEHICLE PREEMPTOR**

|                             |   |   |
|-----------------------------|---|---|
| EMERGENCY VEHICLE PREEMPTOR | 3 | 4 |
| MOVEMENT                    |   |   |

SCHEDULE OF QUANTITIES

| ITEM  | UNIT | QUANTITY |
|---|------|----------|
| INDUCTIVE LOOP DETECTOR   | EACH | 8        |
| THERMOPLASTIC PAVEMENT MARKING LINE 12"                                 | FOOT | 464      |
| THERMOPLASTIC PAVEMENT MARKING LINE 24"                                 | FOOT | 130      |
| THERMOPLASTIC PAVEMENT MARKING REMOVAL                                  | FOOT | 696      |
| MAINTENANCE OF EXISTING TRAFFIC SIGNAL EQUIPMENT                        | EACH | 1        |
| FULL-ACTUATED CONTROLLER AND TYPE IV CABINET (SPECIAL)                  | EACH | 1        |
| TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM                            | EACH | 4        |
| PEDESTRIAN PUSH-BUTTON  | EACH | 7        |
| REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT                                | EACH | 1        |
| SIGNAL HEAD, L.E.D. 1-FACE, 3 SECTION, MAST ARM MNTD.                   | EACH | 2        |
| SIGNAL HEAD, L.E.D. 1-FACE, 5 SECTION, MAST ARM MNTD.                   | EACH | 2        |
| SIGNAL HEAD, L.E.D. 1-FACE, 5 SECTION, BRKT. MNTD.                      | EACH | 2        |
| SIGNAL HEAD, L.E.D. 1-FACE, 3 SECTION, BRKT. MNTD.                      | EACH | 2        |
| SIGNAL HEAD, L.E.D. 2-FACE, 3 SECTION, BRKT. MNTD.                      | EACH | 2        |
| PEDESTRIAN SIGNAL HEAD, L.E.D., 1-FACE, BRKT. MTD. with COUNTDOWN TIMER | EACH | 6        |
| PEDESTRIAN SIGNAL HEAD, L.E.D., 2-FACE, BRKT. MTD. with COUNTDOWN TIMER | EACH | 1        |
| UNINTERRUPTIBLE POWER SUPPLY  | EACH | 1        |

**CABLE PLAN LEGEND**

|  | PROPOSED | EXISTING |
|--|----------|----------|
| CONTROLLER CABINET   |          |          |
| RAILROAD CONTROL CABINET   |          |          |
| SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT                                       |          |          |
| TELEPHONE CONNECTION   |          |          |
| GROUND ROD AT (C) CONTROLLER, (H) HANDHOLE, (P) POST, (M) MAST ARM, OR (S) SERVICE       |          |          |
| FIBER OPTIC CABLE IN CONDUIT, NUMBER OF FIBERS AS NOTED                                  |          |          |
| ELECTRIC CABLE IN CONDUIT, NO. 14, UNLESS OTHERWISE NOTED, NUMBER OF CONDUCTORS AS NOTED |          |          |
| GROUND CABLE IN CONDUIT NO. 6 COPPER (GREEN)   |          |          |
| SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD                                |          |          |
| 12" (300mm) RED WITH 8" (200mm) YELLOW AND GREEN TRAFFIC SIGNAL FACE                     |          |          |
| 12" (300mm) TRAFFIC SIGNAL SECTION   |          |          |
| 12" (300mm) PEDESTRIAN SIGNAL SECTION with COUNTDOWN TIMER                               |          |          |
| ILLUMINATED SIGN "NO LEFT TURN"  |          |          |
| ILLUMINATED SIGN "NO RIGHT TURN"   |          |          |
| PUSHBUTTON DETECTOR  |          |          |
| DETECTOR LOOP  |          |          |
| PERFORMED DETECTOR LOOP  |          |          |
| MICROWAVE VEHICLE SENSOR   |          |          |
| VIDEO DETECTOR   |          |          |
| CLOSED CIRCUIT TV  |          |          |
| EMERGENCY VEHICLE SYSTEM DETECTOR  |          |          |
| CONFIRMATION BEACON  |          |          |
| UNINTERRUPTIBLE POWER SUPPLY   |          |          |

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

| TYPE           | NO. LAMPS | WATTAGE (INCAND.) | LED | % OPERATION | TOTAL WATTAGE |
|----------------|-----------|-------------------|-----|-------------|---------------|
| SIGNAL (RED)   | 12        | 135               | 17  | 0.50        | 102.00        |
| (YELLOW)       | 12        | 135               | 25  | 0.25        | 75.00         |
| (GREEN)        | 12        | 135               | 15  | 0.25        | 45.00         |
| ARROW          | 8         | 135               | 12  | 0.10        | 9.60          |
| PED. SIGNAL    | 8         | 90                | 25  | 1.00        | 200.00        |
| CONTROLLER     | 1         | 100               | 100 | 1.00        | 100.00        |
| ILLUM. SIGN    |           | 84                |     | 0.05        |               |
| FLASHER        |           |                   |     | 0.50        |               |
| <b>TOTAL =</b> |           |                   |     |             | <b>531.60</b> |

ENERGY COSTS TO: TOTAL = 531.60

ENERGY SUPPLY CONTACT: DAVE LISKA  
PHONE: (773) 509-3417  
COMPANY: COM. 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'-4"-2"  |
| 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) |
| 36" (900mm)        | 15 (4.6) | ELECTRIC SERVICE | 1 (0.5)   | SERVICE TO GROUND | 13.5 (4.1) |
|                    |          | GROUND CABLE     | 1 (0.5)   | POST MOUNTED      | 6 (1.8)    |

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 SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDING IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

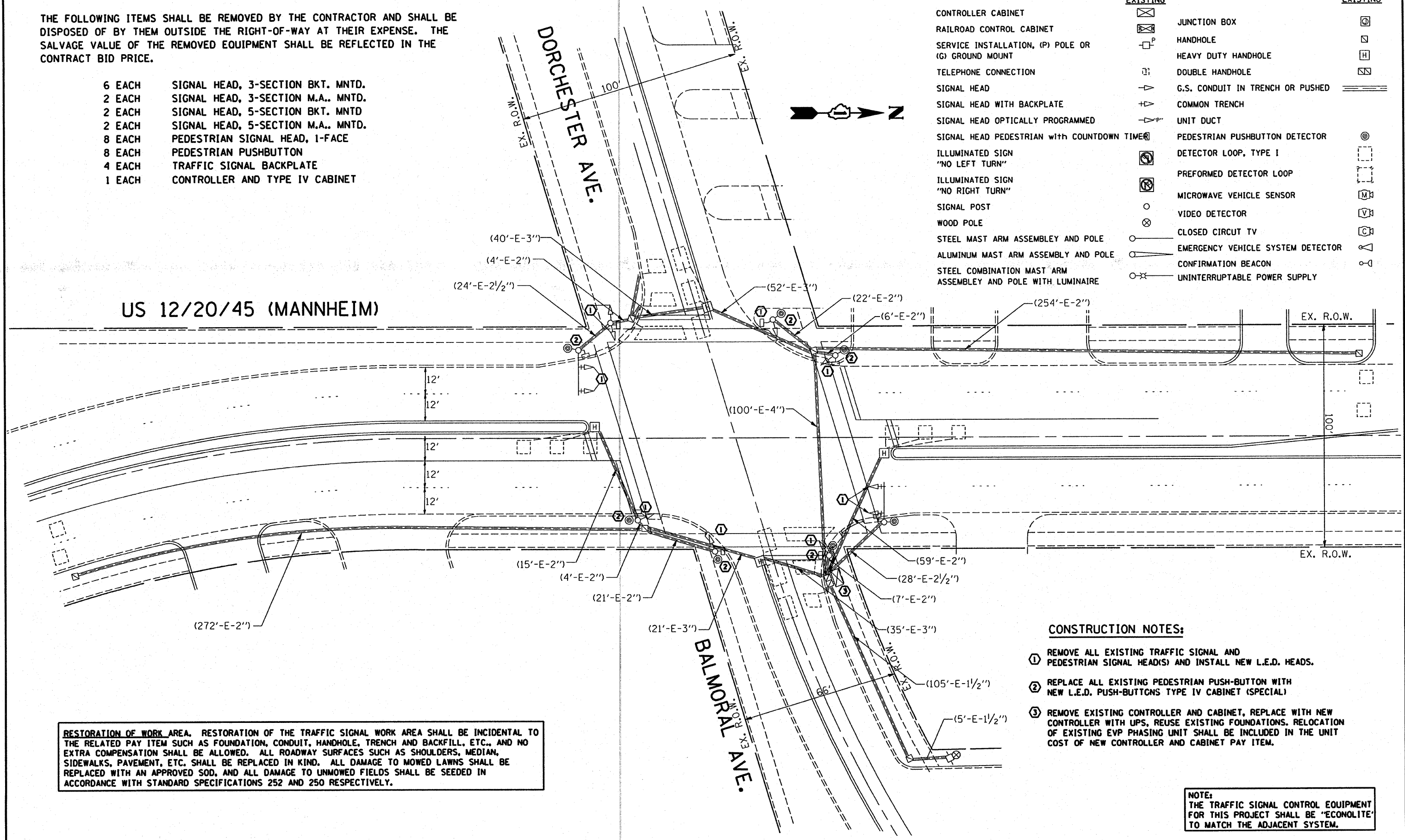
NOTE: THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE ADJACENT SYSTEM.

**EXISTING TRAFFIC SIGNAL AND REMOVAL LEGEND**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 6 EACH SIGNAL HEAD, 3-SECTION BKT. MNTD.
- 2 EACH SIGNAL HEAD, 3-SECTION M.A.. MNTD.
- 2 EACH SIGNAL HEAD, 5-SECTION BKT. MNTD
- 2 EACH SIGNAL HEAD, 5-SECTION M.A.. MNTD.
- 8 EACH PEDESTRIAN SIGNAL HEAD, 1-FACE
- 8 EACH PEDESTRIAN PUSHBUTTON
- 4 EACH TRAFFIC SIGNAL BACKPLATE
- 1 EACH CONTROLLER AND TYPE IV CABINET

|   | EXISTING | EXISTING                          |  |
|---|----------|-----------------------------------|--|
| CONTROLLER CABINET  |          | JUNCTION BOX                      |  |
| RAILROAD CONTROL CABINET                                    |          | HANDHOLE                          |  |
| SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT          |          | HEAVY DUTY HANDHOLE               |  |
| TELEPHONE CONNECTION  |          | DOUBLE HANDHOLE                   |  |
| SIGNAL HEAD   |          | G.S. CONDUIT IN TRENCH OR PUSHED  |  |
| SIGNAL HEAD WITH BACKPLATE                                  |          | COMMON TRENCH                     |  |
| SIGNAL HEAD OPTICALLY PROGRAMMED                            |          | UNIT DUCT                         |  |
| SIGNAL HEAD PEDESTRIAN with COUNTDOWN TIME                  |          | PEDESTRIAN PUSHBUTTON DETECTOR    |  |
| ILLUMINATED SIGN "NO LEFT TURN"                             |          | DETECTOR LOOP, TYPE I             |  |
| ILLUMINATED SIGN "NO RIGHT TURN"                            |          | PREFORMED DETECTOR LOOP           |  |
| SIGNAL POST   |          | MICROWAVE VEHICLE SENSOR          |  |
| WOOD POLE   |          | VIDEO DETECTOR                    |  |
| STEEL MAST ARM ASSEMBLY AND POLE                            |          | CLOSED CIRCUIT TV                 |  |
| ALUMINUM MAST ARM ASSEMBLY AND POLE                         |          | EMERGENCY VEHICLE SYSTEM DETECTOR |  |
| STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE |          | CONFIRMATION BEACON               |  |
|   |          | UNINTERRUPTIBLE POWER SUPPLY      |  |



**CONSTRUCTION NOTES:**

- 1 REMOVE ALL EXISTING TRAFFIC SIGNAL AND PEDESTRIAN SIGNAL HEAD(S) AND INSTALL NEW L.E.D. HEADS.
- 2 REPLACE ALL EXISTING PEDESTRIAN PUSH-BUTTON WITH NEW L.E.D. PUSH-BUTTONS TYPE IV CABINET (SPECIAL)
- 3 REMOVE EXISTING CONTROLLER AND CABINET, REPLACE WITH NEW CONTROLLER WITH UPS, REUSE EXISTING FOUNDATIONS. RELOCATION OF EXISTING EVP PHASING UNIT SHALL BE INCLUDED IN THE UNIT COST OF NEW CONTROLLER AND CABINET PAY ITEM.

**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 SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

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

|   |                             |                |           |
|---|-----------------------------|----------------|-----------|
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|   | PLOT SCALE = 40.0000' / IN. | CHECKED - DAD  | REVISED - |
|   | PLOT DATE = 10/10/2008      | DATE -         | REVISED - |

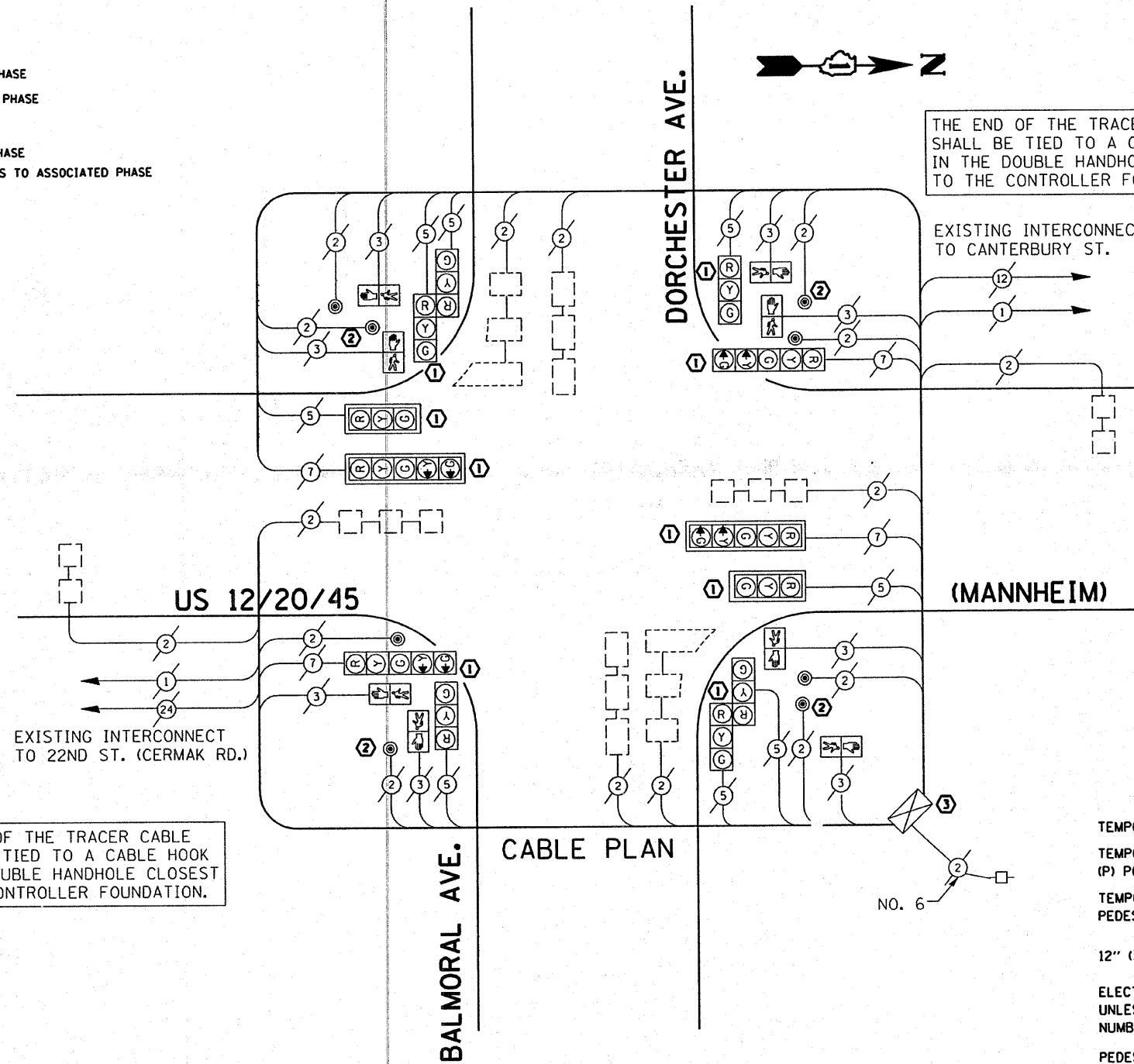
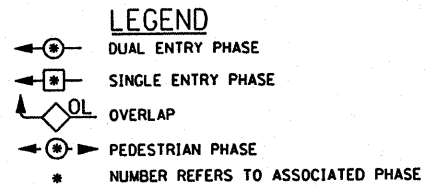
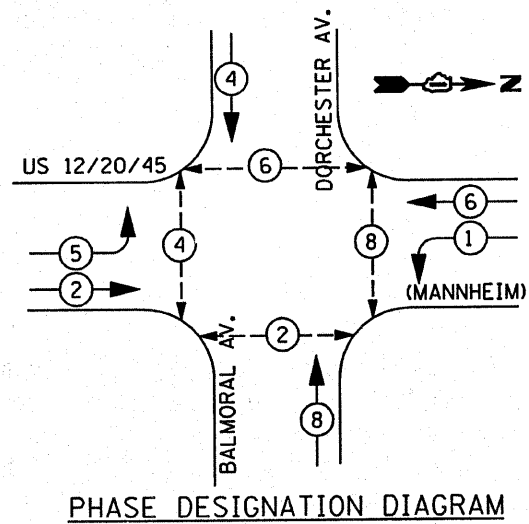
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EXISTING TRAFFIC SIGNAL REMOVAL PLAN  
US 12/20/45 (MANNHEIM) @ BALMORAL/DORCHESTER

SCALE: 1"=20' SHEET NO. OF SHEETS STA. TO STA.

| F.A.P. RTE.                                   | SECTION     | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|-------------|--------|--------------|-----------|
| 330   | 2008-006 TS | COOK   | 100          | 84        |
| CONTRACT NO. 60E31                            |             |        |              |           |
| FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT |             |        |              |           |

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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.

**EXISTING CABLE DIAGRAM LEGEND**

|  | PROPOSED | EXISTING |
|--|----------|----------|
| TEMPORARY CONTROLLER CABINET   |          |          |
| TEMPORARY SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT                             |          |          |
| TEMPORARY TRAFFIC SIGNAL SECTION OR PEDESTRIAN SIGNAL SECTION, 12" (300 mm)              |          |          |
| 12" (300 MM) PEDESTRIAN SIGNAL SECTION   |          |          |
| ELECTRIC CABLE IN CONDUIT, NO. 14, UNLESS OTHERWISE NOTED, NUMBER OF CONDUCTORS AS NOTED |          |          |
| PEDESTRIAN PUSHBUTTON DETECTOR   |          |          |
| VEHICLE DETECTOR, INDUCTION LOOP   |          |          |
| MICROWAVE VEHICLE SENSOR   |          |          |
| VIDEO DETECTOR   |          |          |
| CLOSED CIRCUIT TV  |          |          |
| EMERGENCY VEHICLE SYSTEM DETECTOR  |          |          |
| CONFIRMATION BEACON  |          |          |

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

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

| 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) |
|                    |          | GROUND CABLE     | 1 (0.5)   | SERVICE TO GROUND | 13.5 (4.1) |
|                    |          |                  |           | POST MOUNTED      | 6 (1.8)    |

ENERGY SUPPLY CONTACT: DAVE LISKA  
PHONE: (773) 509-3417  
COMPANY: COM. EDISON

FILE NAME = ci\projects\traffic\1070027\us12\_20\_45.dgn  
USER NAME = kanthaphixybc  
DESIGNED - BCK  
DRAWN - BCK  
CHECKED - DAD  
DATE - 10/10/2008  
PLOT SCALE = 40.0000' / IN.  
PLOT DATE = 10/10/2008

REVISIONS:  
REVISION -             
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REVISION -             
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**EXISTING CABLE PLAN  
US 12/20/45 (MANNHEIM) @ BALMORAL/DORCHESTER**

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

| F.A.P RTE.         | SECTION     | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------|-------------|--------|--------------|-----------|
| 330                | 2008-006 TS | COOK   | 100          | 85        |
| CONTRACT NO. 60E31 |             |        |              |           |

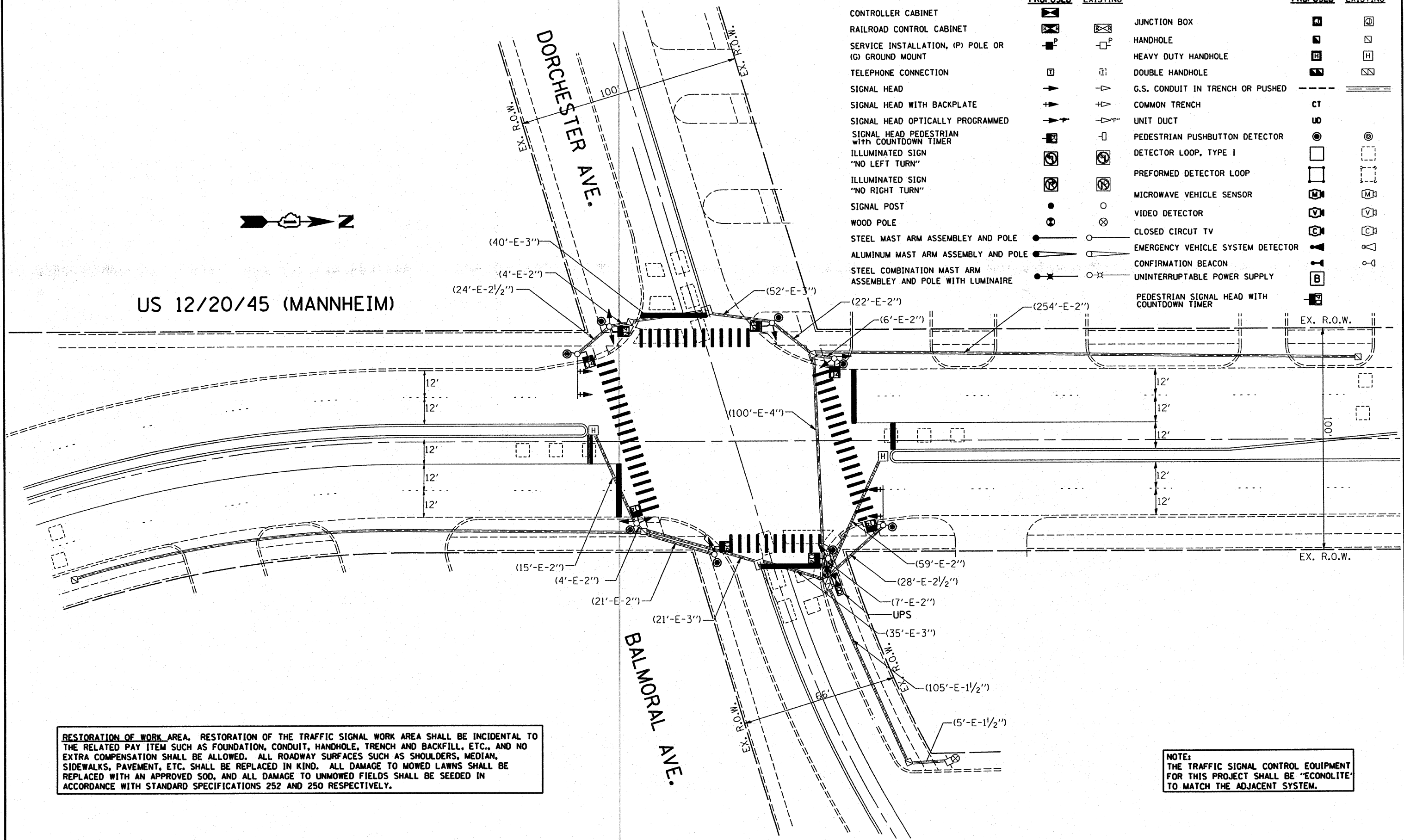


**TRAFFIC SIGNAL LEGEND**

|   | PROPOSED | EXISTING |   | PROPOSED | EXISTING |
|---|----------|----------|---|----------|----------|
| CONTROLLER CABINET  |          |          | JUNCTION BOX                                |          |          |
| RAILROAD CONTROL CABINET                                    |          |          | HANDHOLE                                    |          |          |
| SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT          |          |          | HEAVY DUTY HANDHOLE                         |          |          |
| TELEPHONE CONNECTION  |          |          | DOUBLE HANDHOLE                             |          |          |
| SIGNAL HEAD   |          |          | G.S. CONDUIT IN TRENCH OR PUSHED            |          |          |
| SIGNAL HEAD WITH BACKPLATE                                  |          |          | COMMON TRENCH                               | CT       |          |
| SIGNAL HEAD OPTICALLY PROGRAMMED                            |          |          | UNIT DUCT                                   | UD       |          |
| SIGNAL HEAD PEDESTRIAN WITH COUNTDOWN TIMER                 |          |          | PEDESTRIAN PUSHBUTTON DETECTOR              |          |          |
| ILLUMINATED SIGN "NO LEFT TURN"                             |          |          | DETECTOR LOOP, TYPE I                       |          |          |
| ILLUMINATED SIGN "NO RIGHT TURN"                            |          |          | PERFORMED DETECTOR LOOP                     |          |          |
| SIGNAL POST   |          |          | MICROWAVE VEHICLE SENSOR                    |          |          |
| WOOD POLE   |          |          | VIDEO DETECTOR                              |          |          |
| STEEL MAST ARM ASSEMBLY AND POLE                            |          |          | CLOSED CIRCUIT TV                           |          |          |
| ALUMINUM MAST ARM ASSEMBLY AND POLE                         |          |          | EMERGENCY VEHICLE SYSTEM DETECTOR           |          |          |
| STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE |          |          | CONFIRMATION BEACON                         |          |          |
|   |          |          | UNINTERRUPTIBLE POWER SUPPLY                |          |          |
|   |          |          | PEDESTRIAN SIGNAL HEAD WITH COUNTDOWN TIMER |          |          |



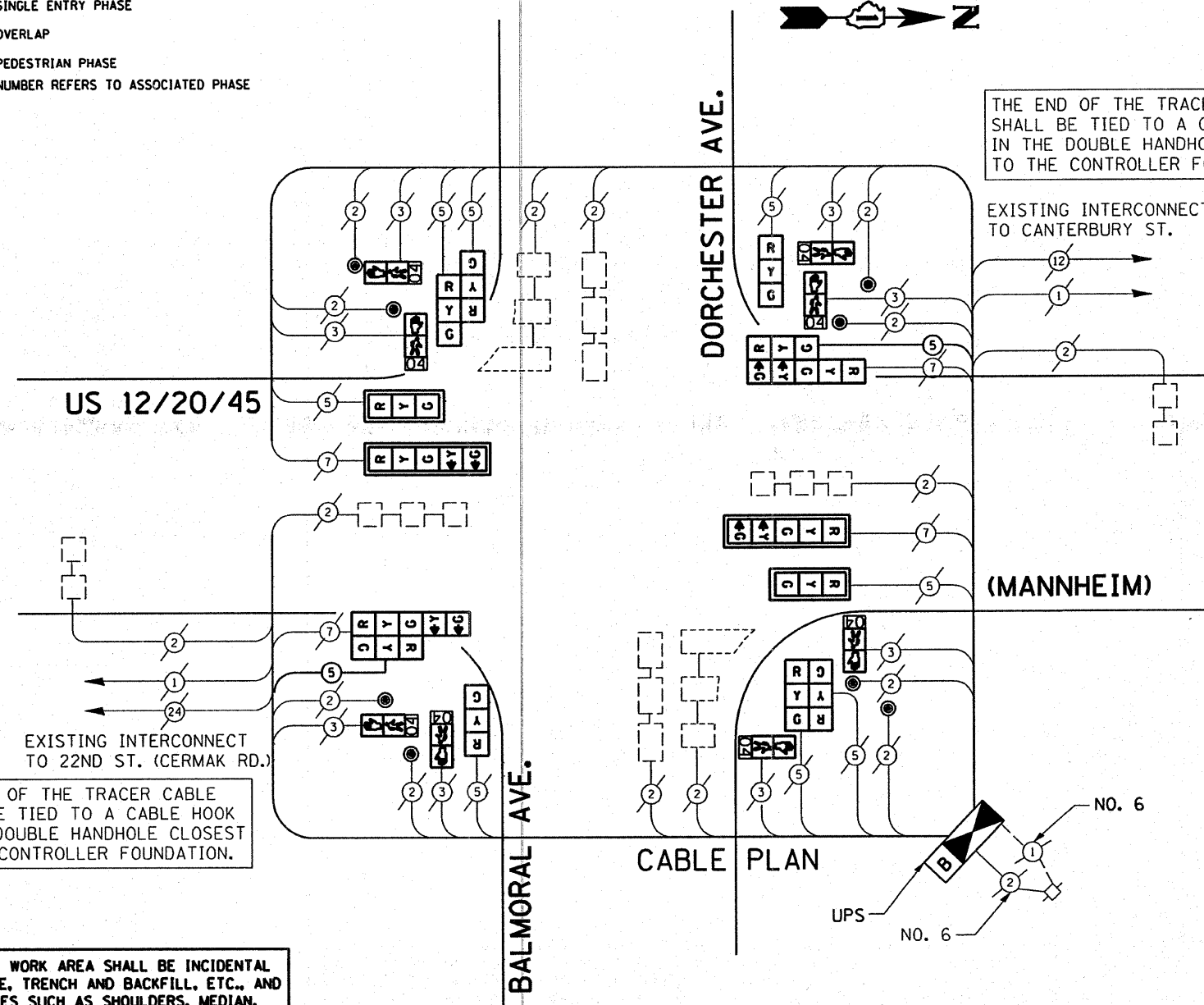
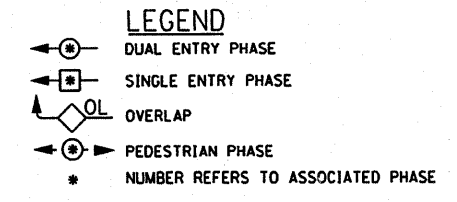
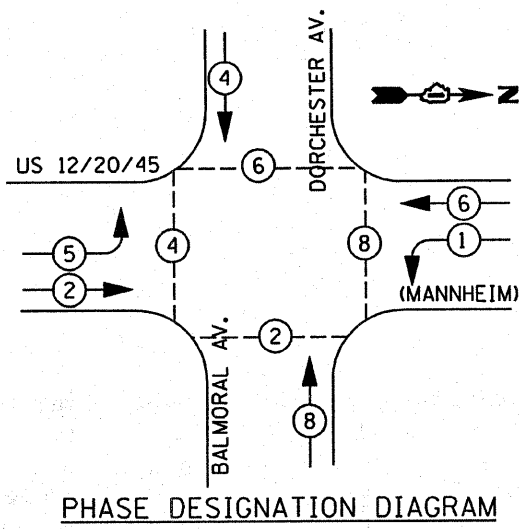
US 12/20/45 (MANNHEIM)



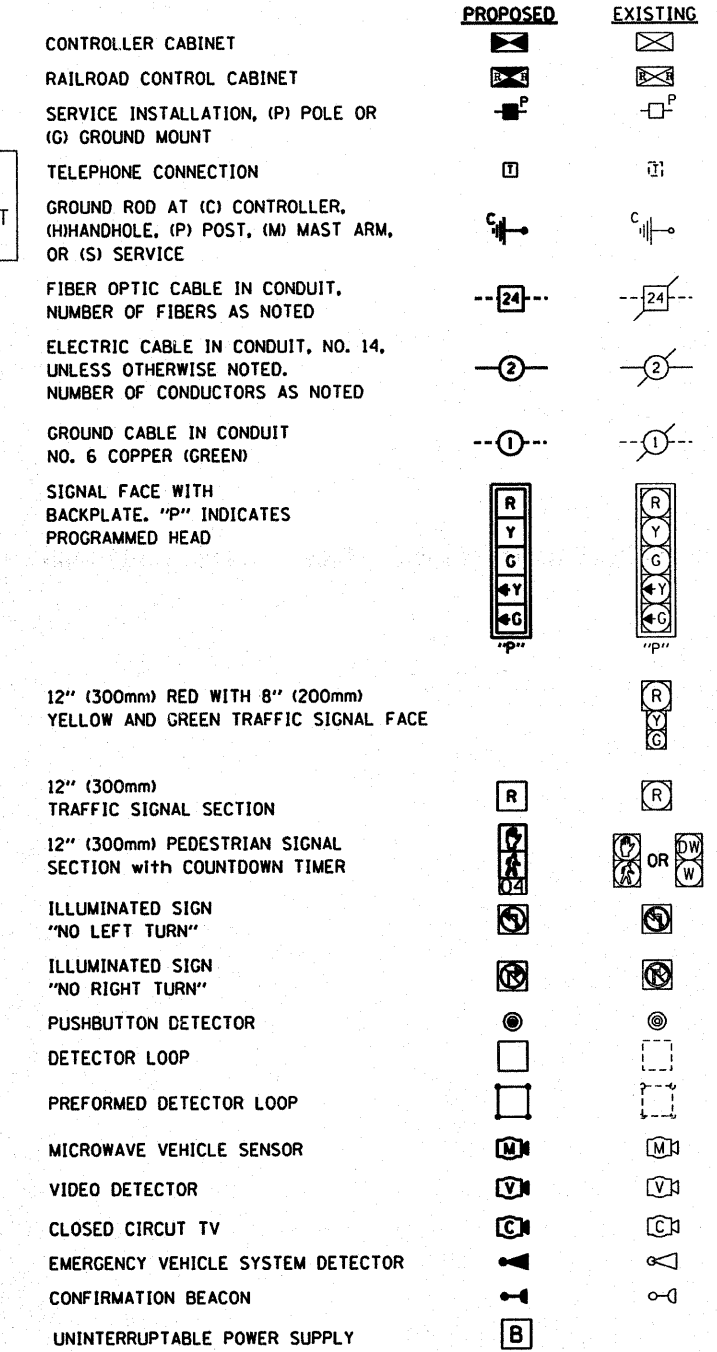
**RESTORATION OF WORK AREA.** RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT, ETC.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

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

|  |                            |                |           |   |  |                     |              |                     |                           |                    |                  |              |
|--|----------------------------|----------------|-----------|---|--|---------------------|--------------|---------------------|---------------------------|--------------------|------------------|--------------|
| FILE NAME =                                | USER NAME = kenthaphixaybc | DESIGNED - BCK | REVISED - | <b>STATE OF ILLINOIS<br/>DEPARTMENT OF TRANSPORTATION</b> | <b>PROPOSED TRAFFIC SIGNAL PLAN<br/>US 12/20/45 (MANNHEIM) @ BALMORAL/DORCHESTER</b> |                     |              | F.A.P. RTE. 330     | SECTION 2008-006 TS       | COUNTY COOK        | TOTAL SHEETS 100 | SHEET NO. 86 |
| ci:\projects\traffic\070027\us12_20_45.dgn |                            | DRAWN - BCK    | REVISED - |   | SCALE: 1"=20'  | SHEET NO. OF SHEETS | STA. TO STA. | FED. ROAD DIST. NO. | ILLINOIS FED. AID PROJECT | CONTRACT NO. 60E31 |                  |              |
|  |                            | CHECKED - DAD  | REVISED - |   |  |                     |              |                     |                           |                    |                  |              |
|  |                            | DATE -         | REVISED - |   |  |                     |              |                     |                           |                    |                  |              |



**CABLE PLAN LEGEND**



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 SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

**SCHEDULE OF QUANTITIES**

| ITEM  | UNIT | QUANTITY |
|---|------|----------|
| INDUCTIVE LOOP DETECTOR   | EACH | 8        |
| THERMOPLASTIC PAVEMENT MARKING LINE 12"                                 | FOOT | 480      |
| THERMOPLASTIC PAVEMENT MARKING LINE 24"                                 | FOOT | 135      |
| THERMOPLASTIC PAVEMENT MARKING REMOVAL                                  | FOOT | 665      |
| MAINTENANCE OF EXISTING TRAFFIC SIGNAL EQUIPMENT                        | EACH | 1        |
| FULL-ACTUATED CONTROLLER AND TYPE IV CABINET (SPECIAL)                  | EACH | 1        |
| ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C                             | FOOT | 255      |
| TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM                            | EACH | 4        |
| PEDESTRIAN PUSH-BUTTON  | EACH | 8        |
| REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT                                | EACH | 1        |
| SIGNAL HEAD, L.E.D. 1-FACE, 3 SECTION, MAST ARM MNTD.                   | EACH | 2        |
| SIGNAL HEAD, L.E.D. 1-FACE, 5 SECTION, MAST ARM MNTD.                   | EACH | 2        |
| SIGNAL HEAD, L.E.D. 1-FACE, 3 SECTION, BRKT. MNTD.                      | EACH | 2        |
| SIGNAL HEAD, L.E.D. 2-FACE, 1-3 SECT., 1-5 SECT., BRKT. MNTD.           | EACH | 2        |
| SIGNAL HEAD, L.E.D. 2-FACE, 3 SECTION, BRKT. MNTD.                      | EACH | 2        |
| PEDESTRIAN SIGNAL HEAD, L.E.D., 1-FACE, BRKT. MTD. with COUNTDOWN TIMER | EACH | 8        |
| UNINTERRUPTIBLE POWER SUPPLY  | EACH | 1        |

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

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

| TYPE         | NO. LAMPS | WATTAGE (INCANDE) | LED | % OPERATION | TOTAL WATTAGE |
|--------------|-----------|-------------------|-----|-------------|---------------|
| SIGNAL (RED) | 14        | 135               | 17  | 0.50        | 102.00        |
| (YELLOW)     | 14        | 135               | 25  | 0.25        | 75.00         |
| (GREEN)      | 14        | 135               | 15  | 0.25        | 45.00         |
| ARROW        | 8         | 135               | 12  | 0.10        | 9.60          |
| PED. SIGNAL  | 8         | 90                | 25  | 1.00        | 200.00        |
| CONTROLLER   | 1         | 100               | 100 | 1.00        | 100.00        |
| ILLUM. SIGN  |           | 84                |     | 0.05        |               |

| 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) |
|                    |          | GROUND CABLE     | 1 (0.5)   | SERVICE TO GROUND | 13.5 (4.1) |
|                    |          |                  |           | POST MOUNTED      | 6 (1.8)    |

ENERGY COSTS TO: TOTAL = 568.60

ENERGY SUPPLY CONTACT: DAVE LISKA  
PHONE: (773) 509-3417  
COMPANY: COM. EDISON

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 8 EACH SIGNAL HEAD, 3-SECTION MAST ARM MTD
- 4 EACH SIGNAL HEAD, 3-SECTION BKT. MNTD.
- 4 EACH SIGNAL HEAD, 5-SECTION MAST ARM MTD
- 6 EACH SIGNAL HEAD, 5-SECTION BKT. MNTD.
- 8 EACH PEDESTRIAN SIGNAL HEAD
- 4 EACH PEDESTRIAN PUSHBUTTON
- 12 EACH TRAFFIC SIGNAL BACKPLATE
- 1 EACH CONTROLLER AND TYPE IV CABINET

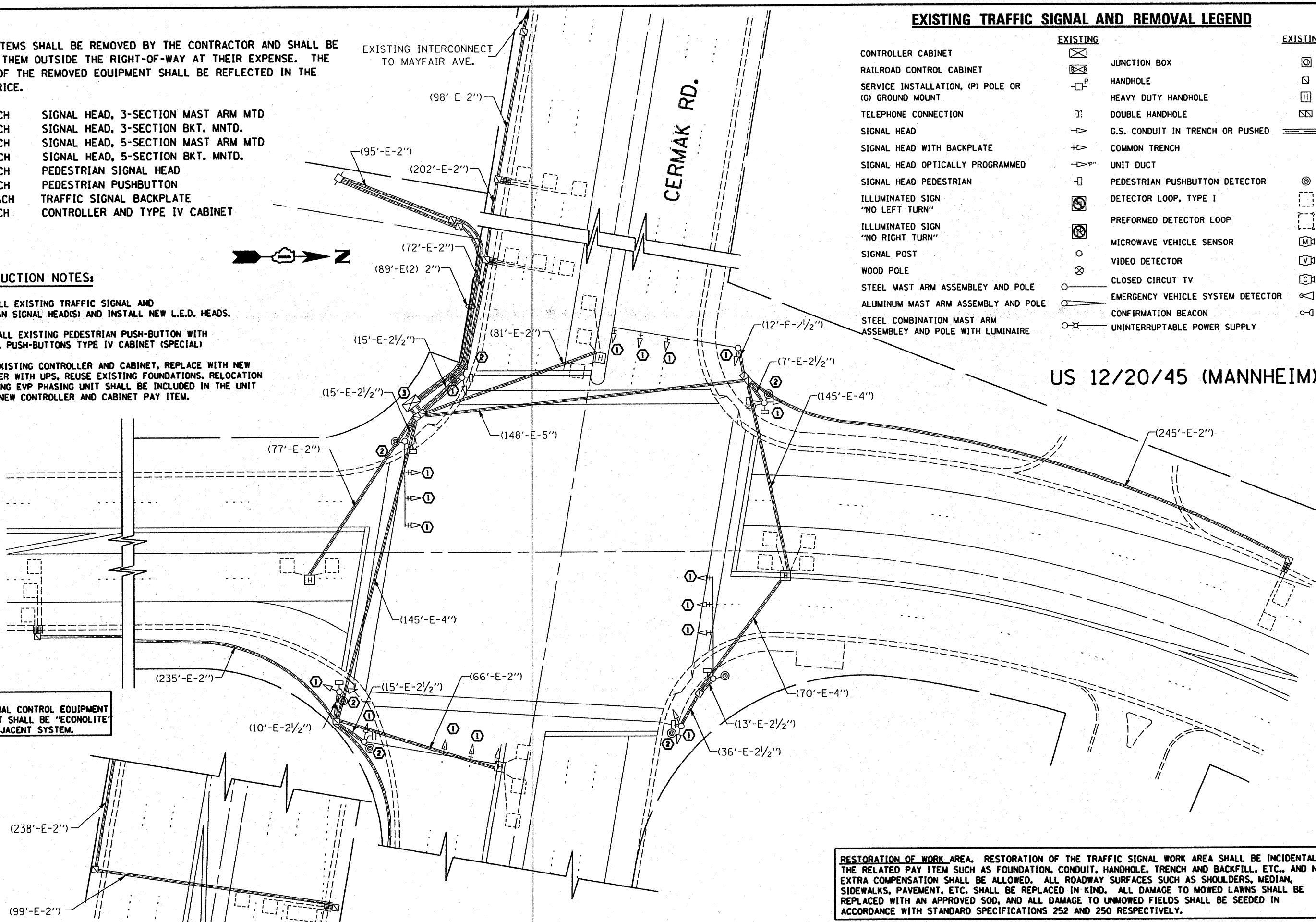
**CONSTRUCTION NOTES:**

- 1 REMOVE ALL EXISTING TRAFFIC SIGNAL AND PEDESTRIAN SIGNAL HEAD(S) AND INSTALL NEW L.E.D. HEADS.
- 2 REPLACE ALL EXISTING PEDESTRIAN PUSH-BUTTON WITH NEW L.E.D. PUSH-BUTTONS TYPE IV CABINET (SPECIAL)
- 3 REMOVE EXISTING CONTROLLER AND CABINET, REPLACE WITH NEW CONTROLLER WITH UPS, REUSE EXISTING FOUNDATIONS. RELOCATION OF EXISTING EVP PHASING UNIT SHALL BE INCLUDED IN THE UNIT COST OF NEW CONTROLLER AND CABINET PAY ITEM.

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

**EXISTING TRAFFIC SIGNAL AND REMOVAL LEGEND**

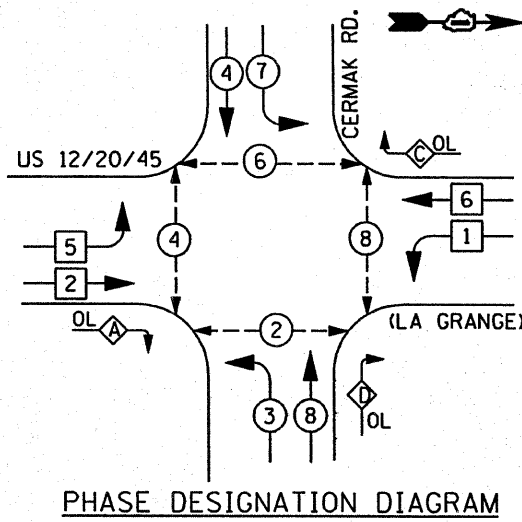
|   | EXISTING | EXISTING |
|---|----------|----------|
| CONTROLLER CABINET  |          |          |
| RAILROAD CONTROL CABINET                                    |          |          |
| SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT          |          |          |
| TELEPHONE CONNECTION  |          |          |
| SIGNAL HEAD   |          |          |
| SIGNAL HEAD WITH BACKPLATE                                  |          |          |
| SIGNAL HEAD OPTICALLY PROGRAMMED                            |          |          |
| SIGNAL HEAD PEDESTRIAN                                      |          |          |
| ILLUMINATED SIGN "NO LEFT TURN"                             |          |          |
| ILLUMINATED SIGN "NO RIGHT TURN"                            |          |          |
| SIGNAL POST   |          |          |
| WOOD POLE   |          |          |
| STEEL MAST ARM ASSEMBLY AND POLE                            |          |          |
| ALUMINUM MAST ARM ASSEMBLY AND POLE                         |          |          |
| STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE |          |          |
| JUNCTION BOX  |          |          |
| HANDHOLE  |          |          |
| HEAVY DUTY HANDHOLE   |          |          |
| DOUBLE HANDHOLE   |          |          |
| G.S. CONDUIT IN TRENCH OR PUSHED                            |          |          |
| COMMON TRENCH   |          |          |
| UNIT DUCT   |          |          |
| PEDESTRIAN PUSHBUTTON DETECTOR                              |          |          |
| DETECTOR LOOP, TYPE I                                       |          |          |
| PREFORMED DETECTOR LOOP                                     |          |          |
| MICROWAVE VEHICLE SENSOR                                    |          |          |
| VIDEO DETECTOR  |          |          |
| CLOSED CIRCUIT TV   |          |          |
| EMERGENCY VEHICLE SYSTEM DETECTOR                           |          |          |
| CONFIRMATION BEACON   |          |          |
| UNINTERRUPTIBLE POWER SUPPLY                                |          |          |



US 12/20/45 (MANNHEIM)

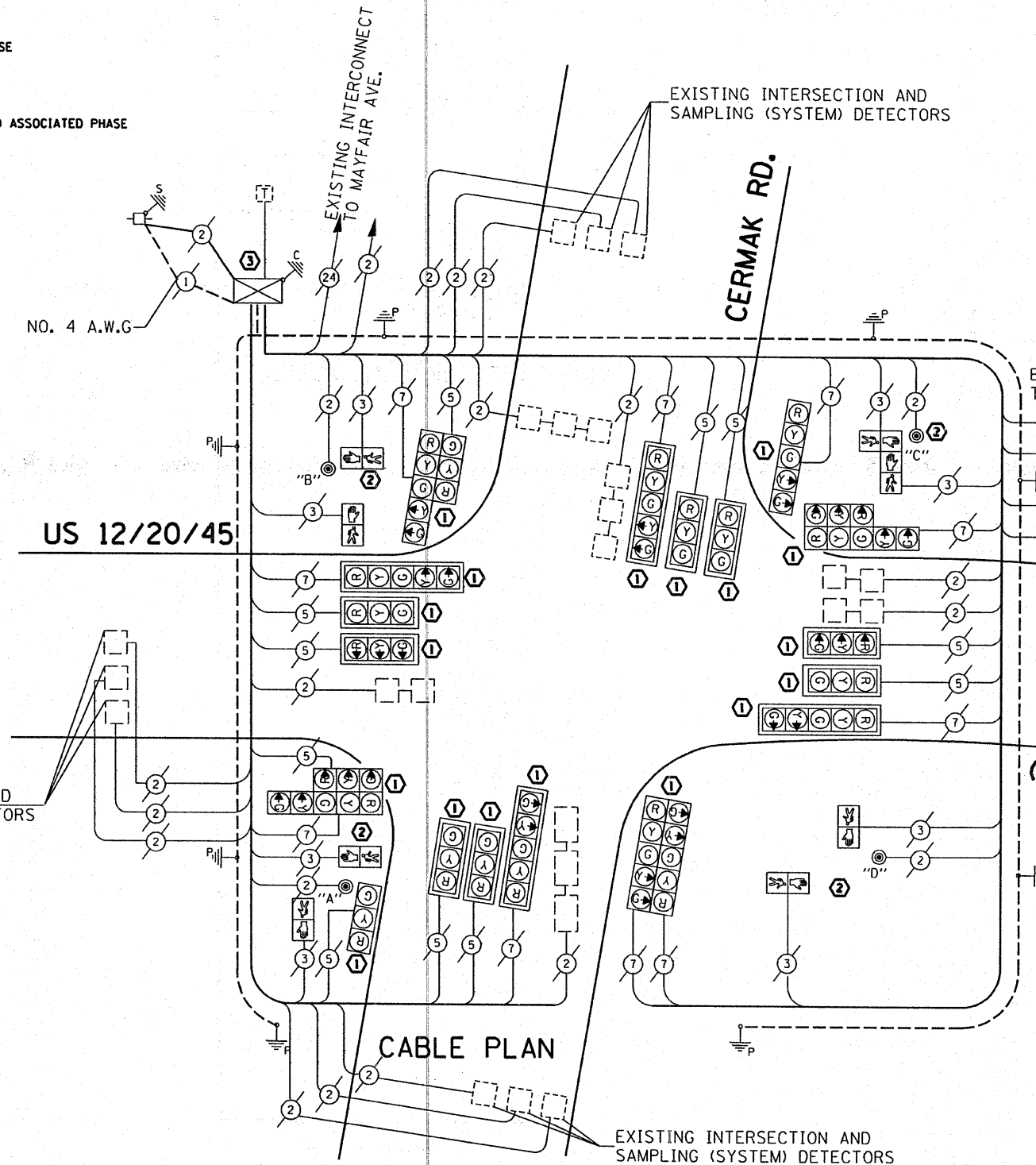
RESTORATION OF WORK AREA. RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCIDENTAL TO THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT, ETC. SHALL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

|   |                             |                |           |   |  |                     |                     |                                  |                  |                    |  |
|---|-----------------------------|----------------|-----------|---|--|---------------------|---------------------|----------------------------------|------------------|--------------------|--|
| FILE NAME =                                   | USER NAME = kanthaphaybc    | DESIGNED - BCK | REVISED - | <b>STATE OF ILLINOIS<br/>DEPARTMENT OF TRANSPORTATION</b> | <b>EXISTING AND REMOVAL PLAN<br/>US 12/20/45 (MANNHEIM) @ CERMAK RD.</b> | F.A.P. RTE. 330     | SECTION 2008-006 TS | COUNTY COOK                      | TOTAL SHEETS 100 | SHEET NO. 88       |  |
| PROJECTS \ traffic \ 1070227 \ us12.20.45.dgn | PLOT SCALE = 48.0000' / IN. | DRAWN - BCK    | REVISED - |   |  | SCALE: 1"=20'       |                     | SHEET NO. OF SHEETS STA. TO STA. |                  | CONTRACT NO. 60E31 |  |
|   | PLOT DATE = 10/10/2009      | CHECKED - DAD  | REVISED - |   |  | FED. ROAD DIST. NO. |                     | ILLINOIS FED. AID PROJECT        |                  |                    |  |
|   |                             | DATE -         | REVISED - |   |  |                     |                     |                                  |                  |                    |  |



PHASE DESIGNATION DIAGRAM

- LEGEND**
- ⊕ DUAL ENTRY PHASE
  - ⊖ SINGLE ENTRY PHASE
  - ⊙ OVERLAP
  - ⊙ PEDESTRIAN PHASE
  - \* NUMBER REFERS TO ASSOCIATED PHASE



CABLE PLAN

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

**EXISTING CABLE DIAGRAM LEGEND**

- |  | PROPOSED | EXISTING |
|--|----------|----------|
| TEMPORARY CONTROLLER CABINET   | ⊕        | ⊕        |
| TEMPORARY SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT                             | ⊖        | ⊖        |
| TEMPORARY TRAFFIC SIGNAL SECTION OR PEDESTRIAN SIGNAL SECTION, 12" (300 mm)              | R        | R        |
| 12" (300 MM) PEDESTRIAN SIGNAL SECTION   | ⊙        | ⊙        |
| ELECTRIC CABLE IN CONDUIT, NO. 14, UNLESS OTHERWISE NOTED. NUMBER OF CONDUCTORS AS NOTED | ②        | ②        |
| PEDESTRIAN PUSHBUTTON DETECTOR   | ⊙        | ⊙        |
| VEHICLE DETECTOR, INDUCTION LOOP   | ⊖        | ⊖        |
| MICROWAVE VEHICLE SENSOR   | M        | M        |
| VIDEO DETECTOR   | V        | V        |
| CLOSED CIRCUIT TV  | C        | C        |
| EMERGENCY VEHICLE SYSTEM DETECTOR  | ⊙        | ⊙        |
| CONFIRMATION BEACON  | ⊙        | ⊙        |
| TELEPHONE CONNECTION   | T        | T        |

**PUSH-BUTTON NOTE:**

PUSH-BUTTON "A" SHALL PLACE A CALL IN PHASES 2 AND 4  
 PUSH-BUTTON "B" SHALL PLACE A CALL IN PHASES 4 AND 6  
 PUSH-BUTTON "C" SHALL PLACE A CALL IN PHASES 6 AND 8  
 PUSH-BUTTON "C" SHALL PLACE A CALL IN PHASES 8 AND 2

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

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

| TYPE             | NO. LAMPS | WATTAGE INCAND. | LED | % OPERATION | TOTAL WATTAGE |
|------------------|-----------|-----------------|-----|-------------|---------------|
| SIGNAL (RED)     | 22        | 135             | 17  | 0.50        |               |
| (YELLOW)         | 22        | 135             | 25  | 0.25        |               |
| (GREEN)          | 22        | 135             | 15  | 0.25        |               |
| ARROW            | 32        | 135             | 12  | 0.10        |               |
| PED. SIGNAL      | 8         | 90              | 25  | 1.00        |               |
| CONTROLLER       | 1         | 100             | 100 | 1.00        |               |
| ILLUM. SIGN      |           | 84              |     | 0.05        |               |
| FLASHER          |           |                 |     | 0.50        |               |
| ENERGY COSTS TO: |           |                 |     | TOTAL =     |               |

| 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)   | BRACKET MOUNTED   | 16m±L-0.6m± |
| 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)  |
| 36" (900mm)        | 15 (4.6) | ELECTRIC SERVICE | 1 (0.5)   | SERVICE TO GROUND | 13.5 (4.1)  |
|                    |          | GROUND CABLE     | 1 (0.5)   | POST MOUNTED      | 6 (1.8)     |

ENERGY SUPPLY CONTACT: DENNIS HREBY  
 PHONE: (815) 334-3313  
 COMPANY: COM. EDISON

FILE NAME: c:\projects\traffic\070027\us12\_20\_45.dgn  
 USER NAME: kanthapixajbc  
 PLOT SCALE: 1/8" = 1'-0"  
 PLOT DATE: 10/18/2008

DESIGNED - BCK  
 DRAWN - BCK  
 CHECKED - DAD  
 DATE -

REVISED -  
 REVISED -  
 REVISED -  
 REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

EXISTING CABLE PLAN  
 US 12/20/45 (MANNHEIM) @ CERMAK RD.

| F.A.P. RTE. | SECTION     | COUNTY | TOTAL SHEETS | SHEET NO. |
|-------------|-------------|--------|--------------|-----------|
| 330         | 2008-006 TS | COOK   | 100          | 89        |

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

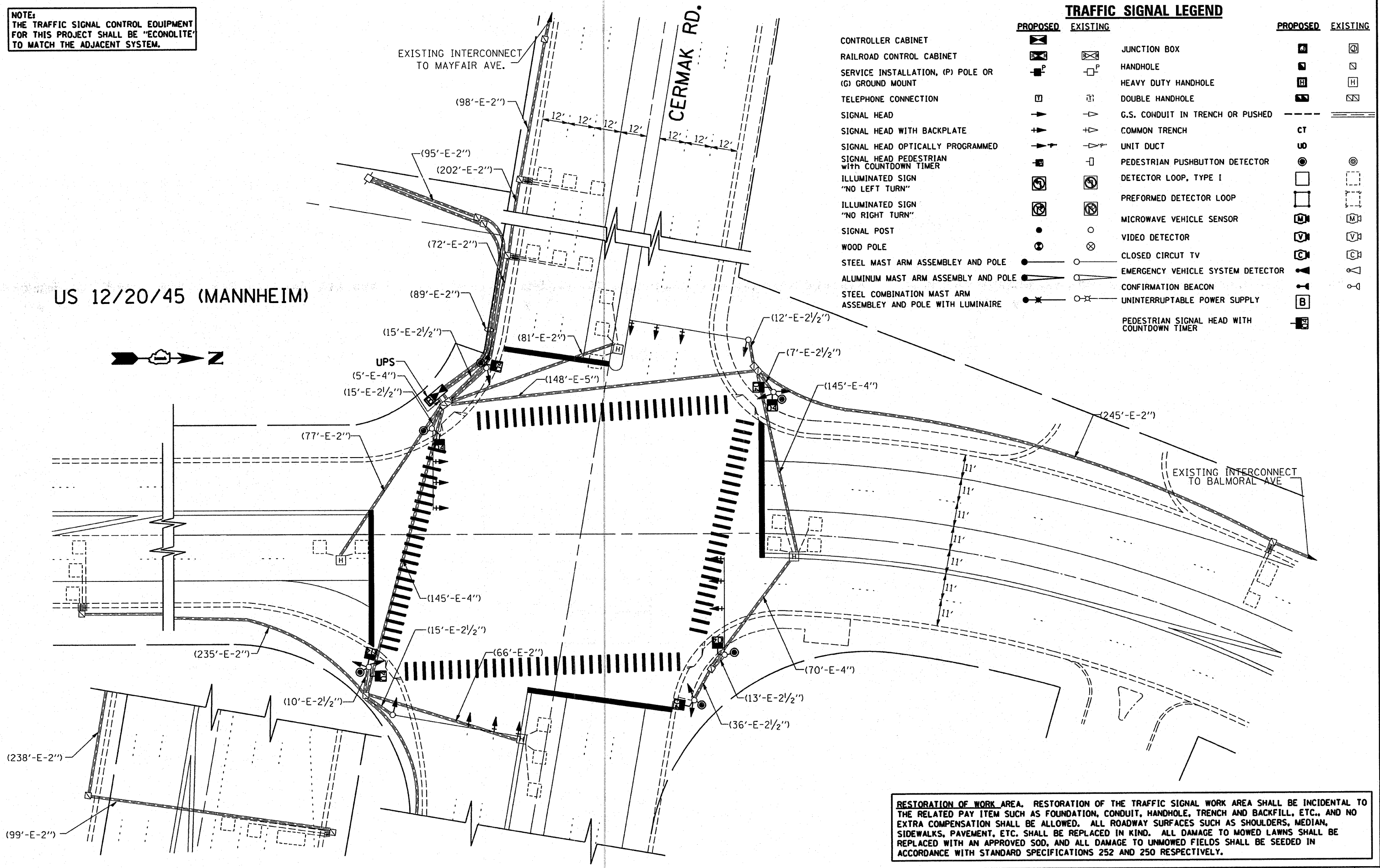
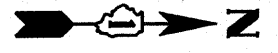
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT CONTRACT NO. 60E31

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

**TRAFFIC SIGNAL LEGEND**

|   | PROPOSED | EXISTING |   | PROPOSED | EXISTING |
|---|----------|----------|---|----------|----------|
| CONTROLLER CABINET  |          |          | JUNCTION BOX                                |          |          |
| RAILROAD CONTROL CABINET                                    |          |          | HANDHOLE                                    |          |          |
| SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT          |          |          | HEAVY DUTY HANDHOLE                         |          |          |
| TELEPHONE CONNECTION  |          |          | DOUBLE HANDHOLE                             |          |          |
| SIGNAL HEAD   |          |          | G.S. CONDUIT IN TRENCH OR PUSHED            |          |          |
| SIGNAL HEAD WITH BACKPLATE                                  |          |          | COMMON TRENCH                               | CT       |          |
| SIGNAL HEAD OPTICALLY PROGRAMMED                            |          |          | UNIT DUCT                                   | U        |          |
| SIGNAL HEAD PEDESTRIAN WITH COUNTDOWN TIMER                 |          |          | PEDESTRIAN PUSHBUTTON DETECTOR              |          |          |
| ILLUMINATED SIGN "NO LEFT TURN"                             |          |          | DETECTOR LOOP, TYPE I                       |          |          |
| ILLUMINATED SIGN "NO RIGHT TURN"                            |          |          | PERFORMED DETECTOR LOOP                     |          |          |
| SIGNAL POST   |          |          | MICROWAVE VEHICLE SENSOR                    |          |          |
| WOOD POLE   |          |          | VIDEO DETECTOR                              |          |          |
| STEEL MAST ARM ASSEMBLY AND POLE                            |          |          | CLOSED CIRCUIT TV                           |          |          |
| ALUMINUM MAST ARM ASSEMBLY AND POLE                         |          |          | EMERGENCY VEHICLE SYSTEM DETECTOR           |          |          |
| STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE |          |          | CONFIRMATION BEACON                         |          |          |
|   |          |          | UNINTERRUPTIBLE POWER SUPPLY                |          |          |
|   |          |          | PEDESTRIAN SIGNAL HEAD WITH COUNTDOWN TIMER |          |          |

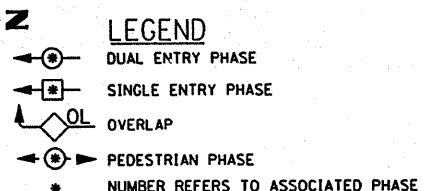
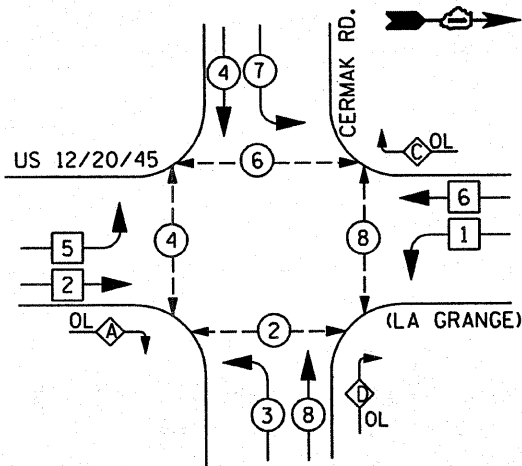
US 12/20/45 (MANNHEIM)



**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 SHOULDERS, MEDIAN, SIDEWALKS, PAVEMENT, ETC. SHALL BE REPLACED IN KIND. ALL DAMAGE TO MOWED LAWNS SHALL BE REPLACED WITH AN APPROVED SOD, AND ALL DAMAGE TO UNMOWED FIELDS SHALL BE SEEDED IN ACCORDANCE WITH STANDARD SPECIFICATIONS 252 AND 250 RESPECTIVELY.

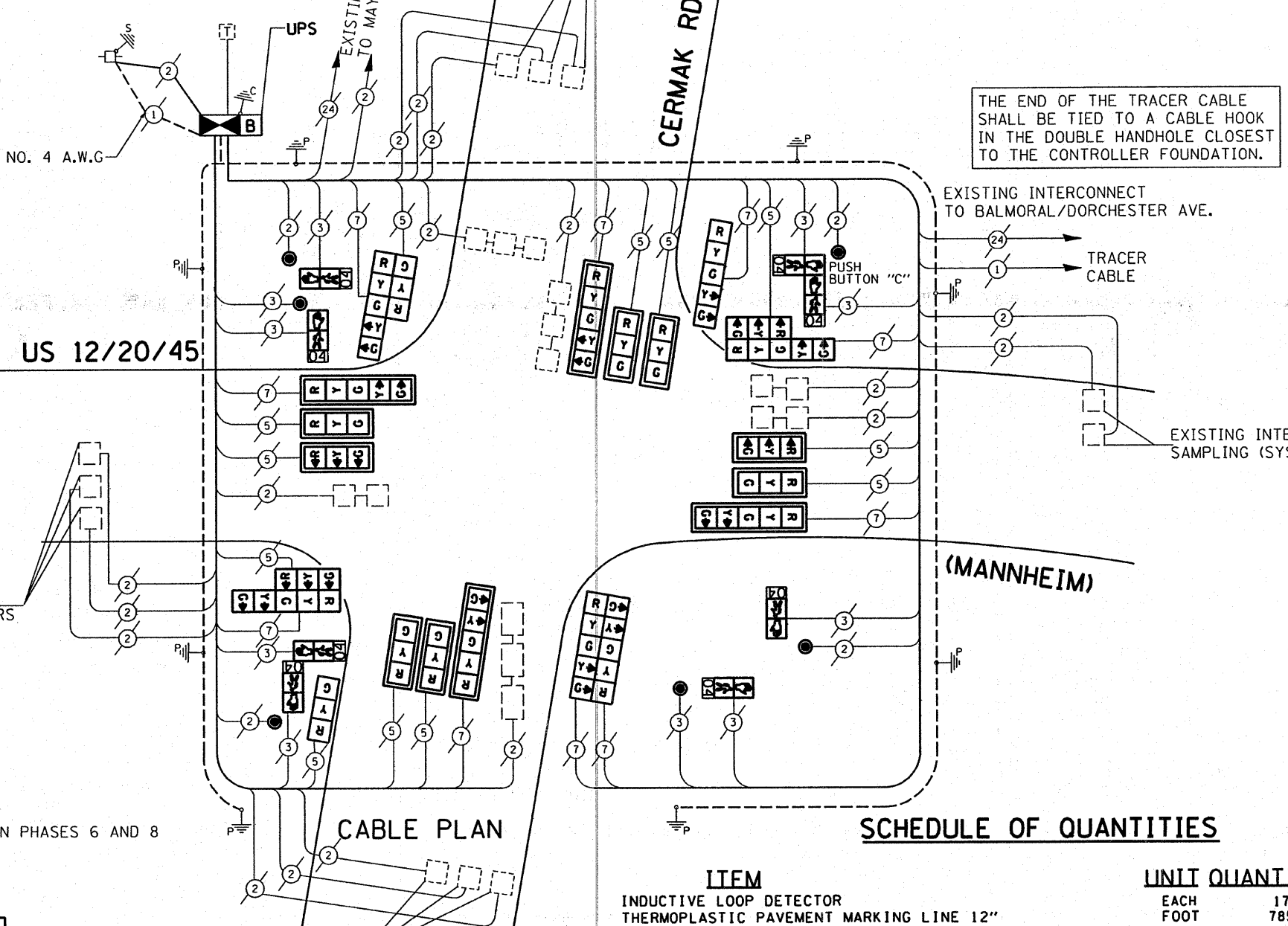
|   |                              |                   |           |   |   |           |           |                       |                        |                    |                     |                 |
|---|------------------------------|-------------------|-----------|---|---|-----------|-----------|-----------------------|------------------------|--------------------|---------------------|-----------------|
| FILE NAME =<br>c:\projects\traffic\1070027\us12_20_45.dgn | USER NAME =<br>kanthaphixybc | DESIGNED -<br>BCK | REVISED - | <b>STATE OF ILLINOIS<br/>DEPARTMENT OF TRANSPORTATION</b> | <b>PROPOSED TRAFFIC SIGNAL PLAN<br/>US 12/20/45 (MANNHEIM) @ CERMAK RD.</b> |           |           | F.A.P.<br>RTE.<br>330 | SECTION<br>2008-006 TS | COUNTY<br>COOK     | TOTAL SHEETS<br>100 | SHEET NO.<br>90 |
| PLOT SCALE =<br>1/8" = 1' IN.                             | CHECKED -<br>DAD             | DATE              | REVISED - |   | SCALE: 1"=20'   | SHEET NO. | OF SHEETS | STA.                  | TO STA.                | CONTRACT NO. 60E31 |                     |                 |
| PLOT DATE =<br>10/18/2008                                 | DATE                         | REVISED -         |           |   | FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT                               |           |           |                       |                        |                    |                     |                 |
|   |                              |                   |           |   |   |           |           |                       |                        |                    |                     |                 |





**PHASE DESIGNATION DIAGRAM**

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



**CABLE PLAN LEGEND**

|  | PROPOSED | EXISTING |
|--|----------|----------|
| CONTROLLER CABINET   | [Symbol] | [Symbol] |
| RAILROAD CONTROL CABINET   | [Symbol] | [Symbol] |
| SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT                                       | [Symbol] | [Symbol] |
| TELEPHONE CONNECTION   | [Symbol] | [Symbol] |
| GROUND ROD AT (C) CONTROLLER, (H) HANDHOLE, (P) POST, (M) MAST ARM, OR (S) SERVICE       | [Symbol] | [Symbol] |
| FIBER OPTIC CABLE IN CONDUIT, NUMBER OF FIBERS AS NOTED                                  | [Symbol] | [Symbol] |
| ELECTRIC CABLE IN CONDUIT, NO. 14, UNLESS OTHERWISE NOTED, NUMBER OF CONDUCTORS AS NOTED | [Symbol] | [Symbol] |
| GROUND CABLE IN CONDUIT NO. 6 COPPER (GREEN)   | [Symbol] | [Symbol] |
| SIGNAL FACE WITH BACKPLATE, "P" INDICATES PROGRAMMED HEAD                                | [Symbol] | [Symbol] |
| 12" (300mm) RED WITH 8" (200mm) YELLOW AND GREEN TRAFFIC SIGNAL FACE                     | [Symbol] | [Symbol] |
| 12" (300mm) TRAFFIC SIGNAL SECTION   | [Symbol] | [Symbol] |
| 12" (300mm) PEDESTRIAN SIGNAL SECTION WITH COUNTDOWN TIMER                               | [Symbol] | [Symbol] |
| ILLUMINATED SIGN "NO LEFT TURN"  | [Symbol] | [Symbol] |
| ILLUMINATED SIGN "NO RIGHT TURN"   | [Symbol] | [Symbol] |
| PUSHBUTTON DETECTOR  | [Symbol] | [Symbol] |
| DETECTOR LOOP  | [Symbol] | [Symbol] |
| PERFORMED DETECTOR LOOP  | [Symbol] | [Symbol] |
| MICROWAVE VEHICLE SENSOR   | [Symbol] | [Symbol] |
| VIDEO DETECTOR   | [Symbol] | [Symbol] |
| CLOSED CIRCUIT TV  | [Symbol] | [Symbol] |
| EMERGENCY VEHICLE SYSTEM DETECTOR  | [Symbol] | [Symbol] |
| CONFIRMATION BEACON  | [Symbol] | [Symbol] |
| UNINTERRUPTIBLE POWER SUPPLY   | [Symbol] | [Symbol] |

PUSH-BUTTON NOTE:  
PUSH-BUTTON "C" SHALL PLACE A CALL IN PHASES 6 AND 8

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

| TYPE                    | NO. LAMPS | WATTAGE INCAND. | WATTAGE LED | % OPERATION    | TOTAL WATTAGE |
|-------------------------|-----------|-----------------|-------------|----------------|---------------|
| SIGNAL (RED)            | 20        | 135             | 17          | 0.50           | 170.00        |
| (YELLOW)                | 20        | 135             | 25          | 0.25           | 125.00        |
| (GREEN)                 | 20        | 135             | 15          | 0.25           | 75.50         |
| ARROW                   | 8         | 135             | 12          | 0.10           | 38.40         |
| PED. SIGNAL             | 8         | 90              | 25          | 1.00           | 200.00        |
| CONTROLLER              | 1         | 100             | 100         | 1.00           | 100.00        |
| ILLUM. SIGN             |           | 84              |             | 0.05           |               |
| FLASHER                 |           |                 |             | 0.50           |               |
| <b>ENERGY COSTS TO:</b> |           |                 |             | <b>TOTAL =</b> | <b>708.40</b> |

| 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'H-2'    |
| E - M. ARM POLE    |          | SIGNAL POST      | 2 (1.0)   |                                | 16m+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) |
|                    |          | GROUND CABLE     | 1 (0.5)   | SERVICE TO GROUND POST MOUNTED | 6 (1.8)    |

**SCHEDULE OF QUANTITIES**

| ITEM  | UNIT | QUANTITY |
|---|------|----------|
| INDUCTIVE LOOP DETECTOR   | EACH | 17       |
| THERMOPLASTIC PAVEMENT MARKING LINE 12"                                 | FOOT | 785      |
| THERMOPLASTIC PAVEMENT MARKING LINE 24"                                 | FOOT | 235      |
| THERMOPLASTIC PAVEMENT MARKING REMOVAL                                  | FOOT | 1125     |
| MAINTENANCE OF EXISTING TRAFFIC SIGNAL EQUIPMENT                        | EACH | 1        |
| FULL-ACTUATED CONTROLLER AND TYPE V CABINET (SPECIAL)                   | EACH | 1        |
| MASTER CONTROLLER (SPECIAL)   | EACH | 1        |
| TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM                            | EACH | 12       |
| PEDESTRIAN PUSH-BUTTON  | EACH | 6        |
| REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT                                | EACH | 1        |
| SIGNAL HEAD, L.E.D. 1-FACE, 3 SECTION, MAST ARM MNTD.                   | EACH | 8        |
| SIGNAL HEAD, L.E.D. 1-FACE, 5 SECTION, MAST ARM MNTD.                   | EACH | 4        |
| SIGNAL HEAD, L.E.D. 1-FACE, 5 SECTION, BRKT. MNTD.                      | EACH | 1        |
| SIGNAL HEAD, L.E.D. 1-FACE, 3 SECTION, BRKT. MNTD.                      | EACH | 1        |
| SIGNAL HEAD, L.E.D. 2-FACE, 5 SECTION, BRKT. MNTD.                      | EACH | 1        |
| SIGNAL HEAD, L.E.D. 2-FACE, 1-3, 1-5 SECTION, BRKT. MNTD.               | EACH | 3        |
| PEDESTRIAN SIGNAL HEAD, L.E.D., 1-FACE, BRKT. MTD. WITH COUNTDOWN TIMER | EACH | 4        |
| PEDESTRIAN SIGNAL HEAD, L.E.D., 2-FACE, BRKT. MTD. WITH COUNTDOWN TIMER | EACH | 2        |
| UNINTERRUPTIBLE POWER SUPPLY  | EACH | 1        |

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

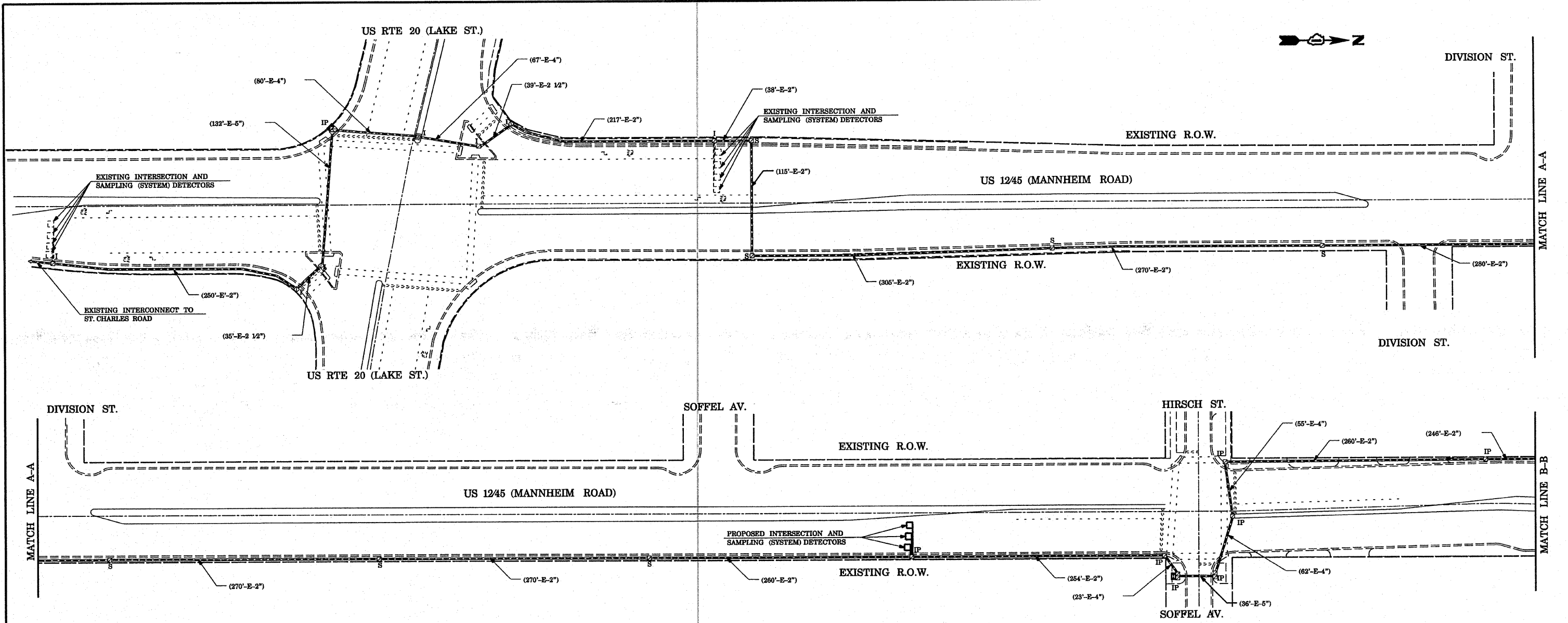
ENERGY SUPPLY CONTACT: DENNIS HREBY  
PHONE: (815) 334-3313  
COMPANY: COM. EDISON

DESIGNED - BCK  
DRAWN - BCK  
CHECKED - DAD  
DATE -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PROPOSED CABLE PLAN  
US 12/20/45 (MANNHEIM) @ CERMAK RD.

| F.A.P. RTE.        | SECTION     | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------|-------------|--------|--------------|-----------|
| 330                | 2008-006 TS | COOK   | 100          | 91        |
| CONTRACT NO. 60E31 |             |        |              |           |



**INTERCONNECT PLAN LEGEND**

|  | PROPOSED | EXISTING |
|--|----------|----------|
| CONTROLLER CABINET                                 |          |          |
| SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT |          |          |
| TELEPHONE CONNECTION                               |          |          |
| HANDHOLE   |          |          |
| HEAVY DUTY HANDHOLE                                |          |          |
| DOUBLE HANDHOLE                                    |          |          |
| G.S. CONDUIT IN TRENCH OR PUSHED                   |          |          |
| SYSTEM   | S        |          |
| INTERSECTION                                       | IP       | I        |
| UNIT DUCT  | UD       |          |
| COMMON TRENCH                                      | CT       |          |
| DETECTOR LOOP, TYPE 1                              |          |          |
| PREFORMED DETECTOR LOOP                            |          |          |

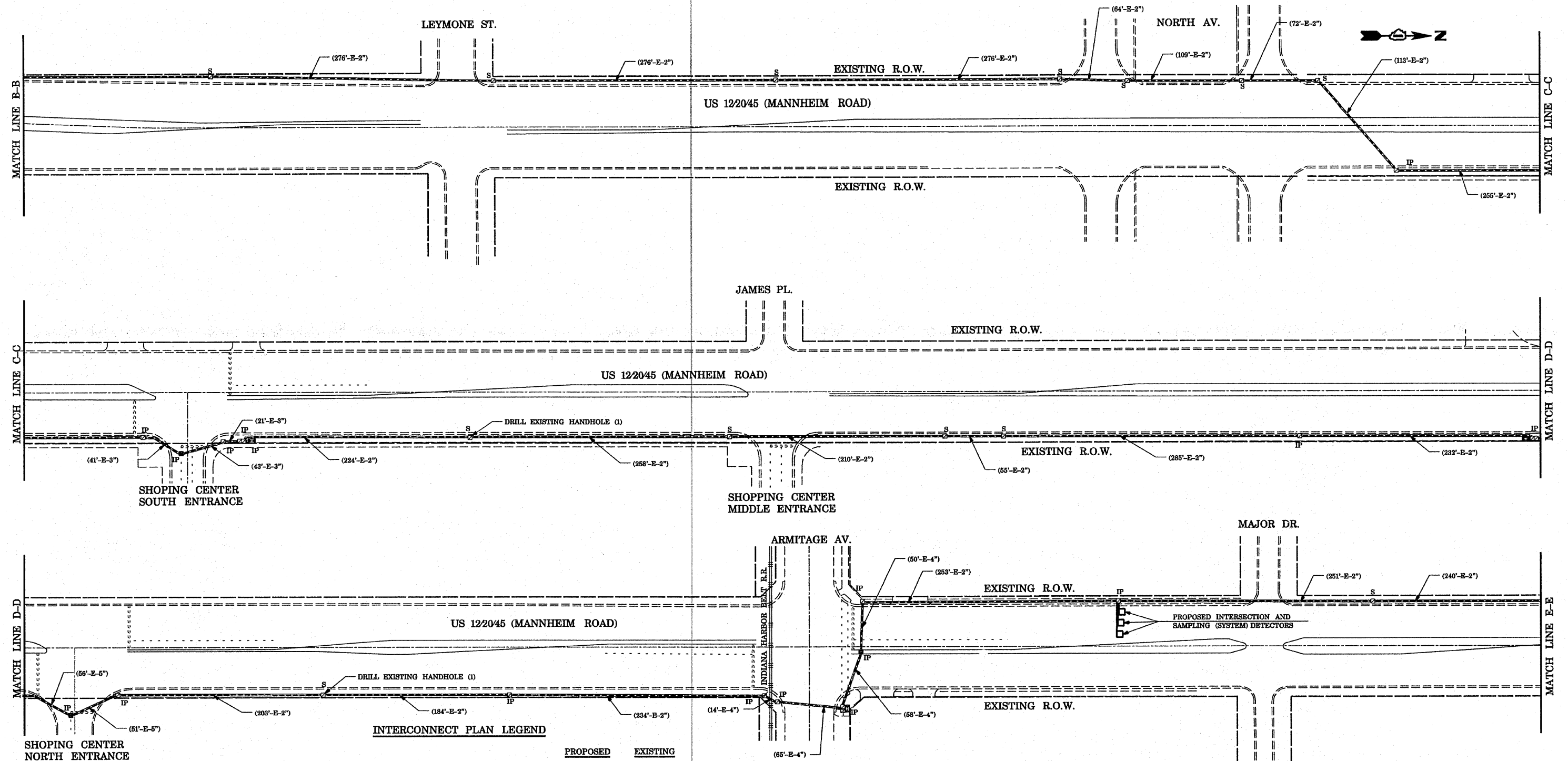
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|  | PLOT SCALE = 100.0000' / IN. | CHECKED - D.B.    | REVISED - |
|  | PLOT DATE = 10/10/2008       | DATE - 09/04/2008 | REVISED - |

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

|  |           |           |              |
|--|-----------|-----------|--------------|
| INTERCONNECT PLAN (SHEET 1 OF 5)           |           |           |              |
| US 12/2045 (MANNHEIM RD)                   |           |           |              |
| FROM LAKE STREET TO HIRSCH (SOFFEL) AVENUE |           |           |              |
| SCALE: 1" = 50'                            | SHEET NO. | OF SHEETS | STA. TO STA. |

|   |             |        |                    |           |
|---|-------------|--------|--------------------|-----------|
| F.A.P. RTE.                                   | SECTION     | COUNTY | TOTAL SHEETS       | SHEET NO. |
| 330   | 2008-006 TS | COOK   | 104                | 92        |
| FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT |             |        | CONTRACT NO. 60E31 |           |

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**INTERCONNECT PLAN LEGEND**

|  | PROPOSED | EXISTING |
|--|----------|----------|
| CONTROLLER CABINET                                 |          |          |
| SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT |          |          |
| TELEPHONE CONNECTION                               |          |          |
| HANDHOLE   |          |          |
| HEAVY DUTY HANDHOLE                                |          |          |
| DOUBLE HANDHOLE                                    |          |          |
| G.S. CONDUIT IN TRENCH OR PUSHED                   |          |          |
| SYSTEM   | S        | I        |
| INTERSECTION                                       | IP       | I        |
| UNIT DUCT  | UD       |          |
| COMMON TRENCH                                      | CT       |          |
| DETECTOR LOOP, TYPE 1                              |          |          |
| PERFORMED DETECTOR LOOP                            |          |          |

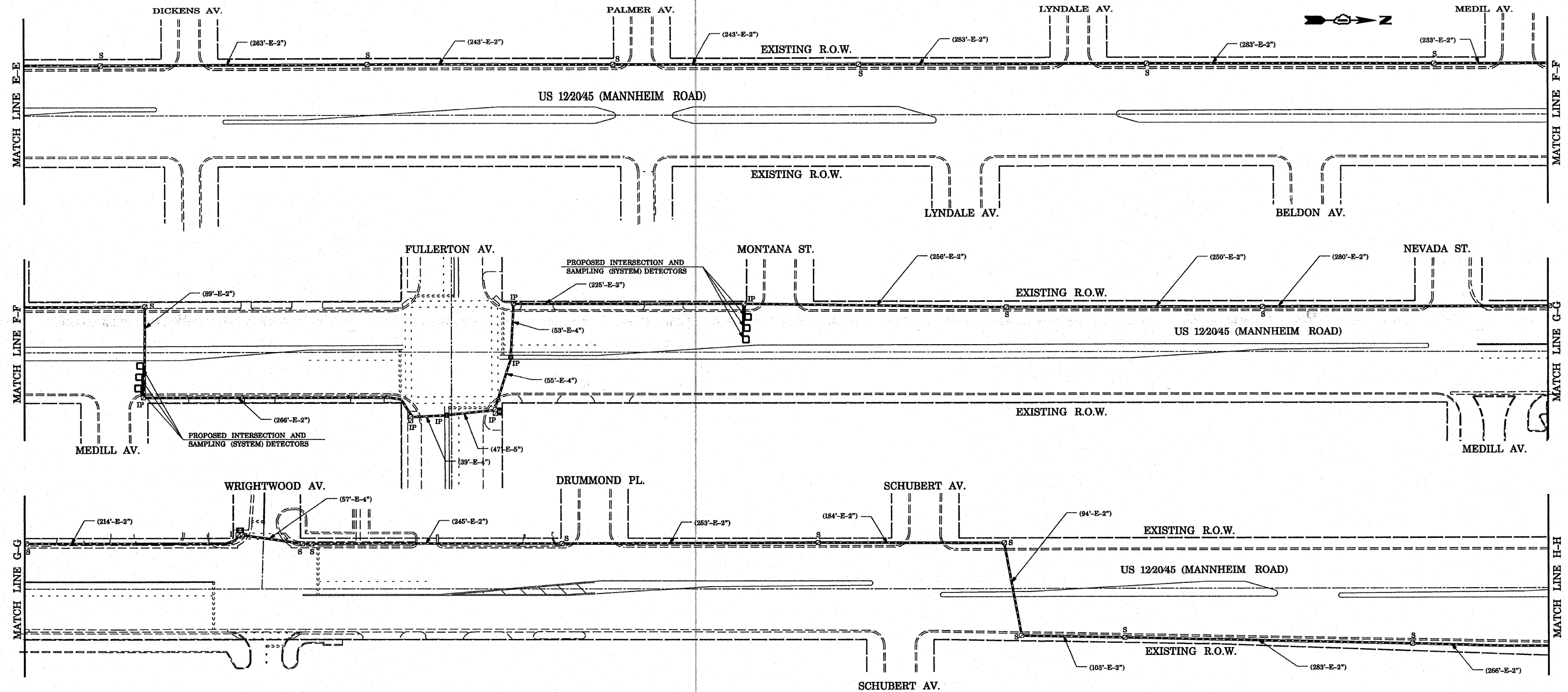
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|  |                            | CHECKED - D.B.    | REVISED - |
|  |                            | DATE - 09/04/2008 | REVISED - |

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

INTERCONNECT PLAN (SHEET 2 OF 5)  
US 122045 (MANNHEIM RD)  
FROM LAYMONE STREET TO MAJOR DRIVE  
SCALE: 1"=60'  
SHEET NO. OF SHEETS STA. TO STA.

|                    |                     |             |                           |              |
|--------------------|---------------------|-------------|---------------------------|--------------|
| F.A.P. RTE. 330    | SECTION 2008-006 TS | COUNTY COOK | TOTAL SHEETS 104          | SHEET NO. 93 |
| CONTRACT NO. 60E31 |                     |             | ILLINOIS FED. AID PROJECT |              |

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**INTERCONNECT PLAN LEGEND**

|  | PROPOSED | EXISTING |
|--|----------|----------|
| CONTROLLER CABINET                                 |          |          |
| SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT |          |          |
| TELEPHONE CONNECTION                               |          |          |
| HANDHOLE   |          |          |
| HEAVY DUTY HANDHOLE                                |          |          |
| DOUBLE HANDHOLE                                    |          |          |
| G.S. CONDUIT IN TRENCH OR PUSHED                   |          |          |
| SYSTEM   | S        |          |
| INTERSECTION                                       | IP       | I        |
| UNIT DUCT  | UD       |          |
| COMMON TRENCH                                      | CT       |          |
| DETECTOR LOOP, TYPE 1                              |          |          |
| PERFORMED DETECTOR LOOP                            |          |          |

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USER NAME = kanthaphixybc

DESIGNED - N.B.  
DRAWN - N.B.

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PLOT SCALE = 100.0000' / IN.  
PLOT DATE = 10/10/2008

CHECKED - D.B.  
DATE - 09/04/2008

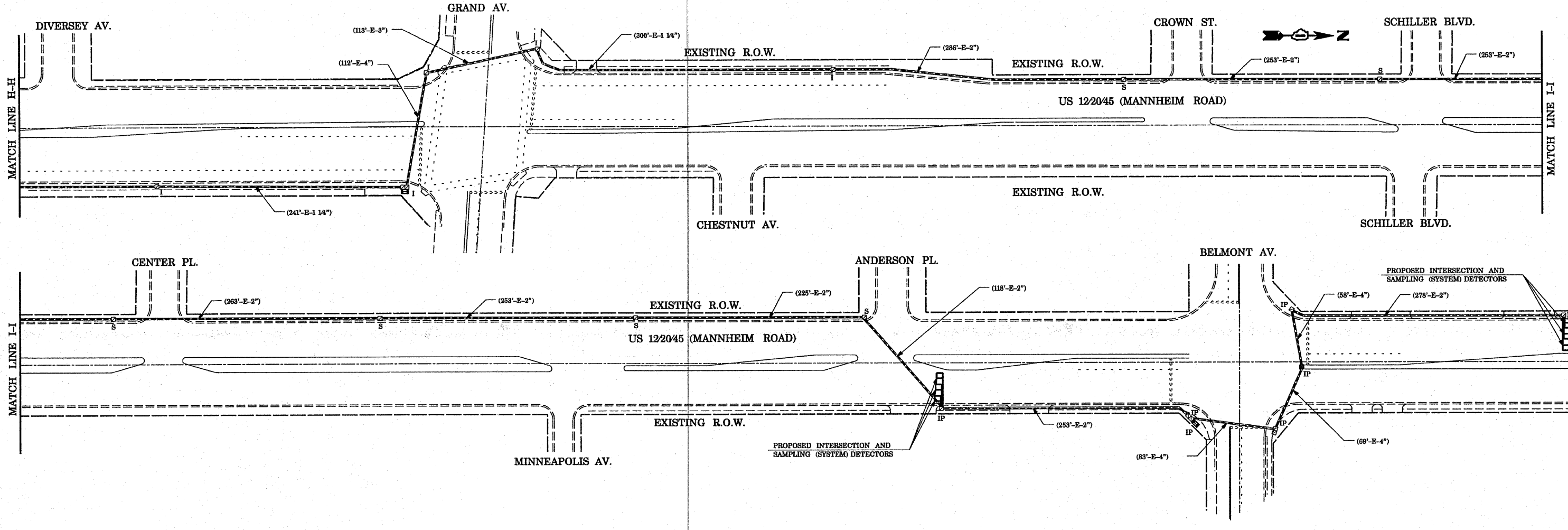
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

INTERCONNECT PLAN (SHEET 3 OF 5)  
US 122045 (MANNHEIM RD)  
FROM DICKENS AVENUE TO SCHUBERT AVENUE

SCALE: 1" = 50' SHEET NO. OF SHEETS STA. TO STA.

| F.A.P. RTE.                                   | SECTION     | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|-------------|--------|--------------|-----------|
| 330   | 2008-006 TS | COOK   | 104          | 94        |
| CONTRACT NO. 60E31                            |             |        |              |           |
| FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT |             |        |              |           |



**INTERCONNECT PLAN LEGEND**

|  | <u>PROPOSED</u> | <u>EXISTING</u> |
|--|-----------------|-----------------|
| CONTROLLER CABINET                                 |                 |                 |
| SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT |                 |                 |
| TELEPHONE CONNECTION                               |                 |                 |
| HANDHOLE   |                 |                 |
| HEAVY DUTY HANDHOLE                                |                 |                 |
| DOUBLE HANDHOLE                                    |                 |                 |
| G.S. CONDUIT IN TRENCH OR PUSHED                   |                 |                 |
| SYSTEM   | S               |                 |
| INTERSECTION                                       | IP              | I               |
| UNIT DUCT  | UD              |                 |
| COMMON TRENCH                                      | CT              |                 |
| DETECTOR LOOP, TYPE 1                              |                 |                 |
| PREFORMED DETECTOR LOOP                            |                 |                 |

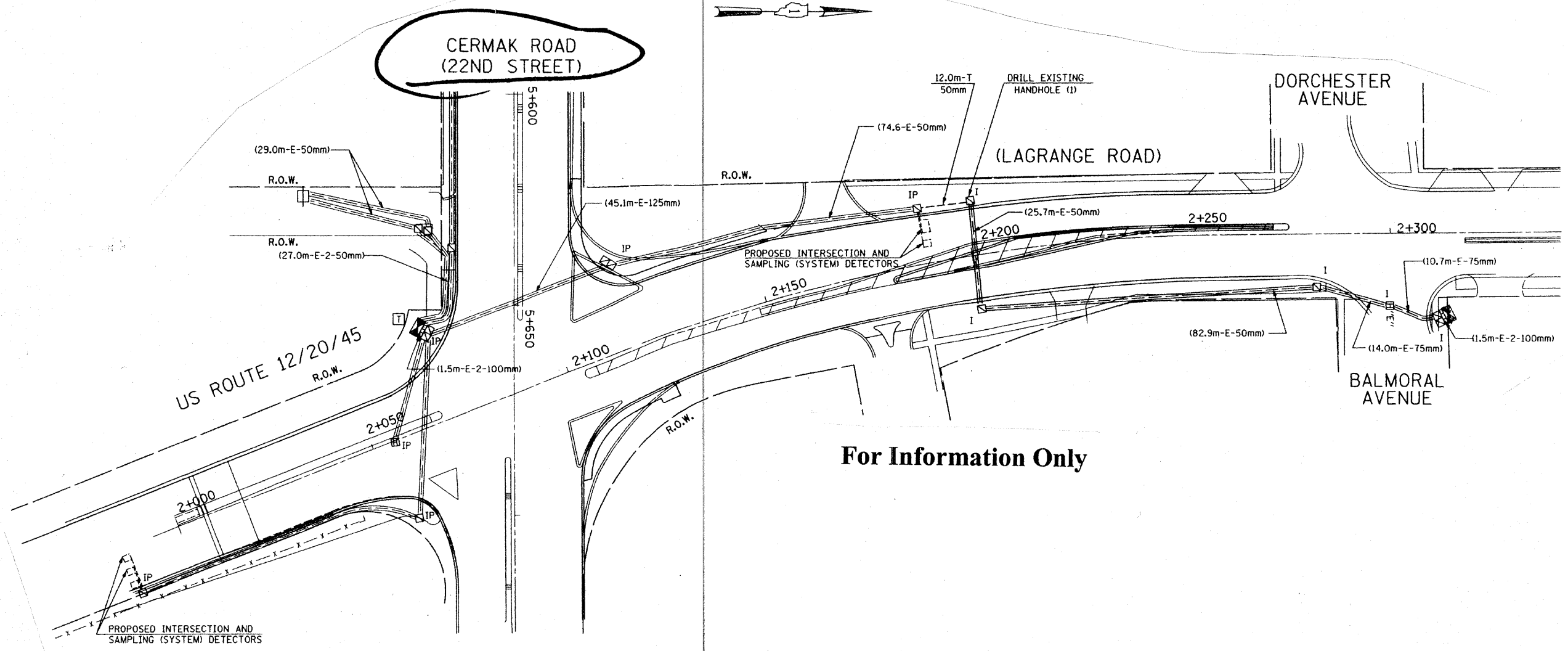
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|  |                               | CHECKED - D.B.    | REVISED - |
|  |                               | DATE - 09/04/2008 | REVISED - |

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

|   |           |           |              |
|---|-----------|-----------|--------------|
| INTERCONNECT PLAN (SHEET 4 OF 5)<br>US 122045 (MANNHEIM RD)<br>FROM DIVERSEY AVENUE TO BELMONT AVENUE |           |           |              |
| SCALE: 1"=50'   | SHEET NO. | OF SHEETS | STA. TO STA. |

|   |                        |                |                     |                 |
|---|------------------------|----------------|---------------------|-----------------|
| F.A.P. RTE.<br>330                              | SECTION<br>2008-006 TS | COUNTY<br>COOK | TOTAL SHEETS<br>104 | SHEET NO.<br>95 |
| FED. ROAD DIST. NO. [ILLINOIS] FED. AID PROJECT |                        |                | CONTRACT NO. 60E31  |                 |





For Information Only

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

**INTERCONNECT PLAN LEGEND**

- CONTROLLER
- HANDHOLE
- HEAVY DUTY HANDHOLE
- DOUBLE HANDHOLE
- GALVANIZED STEEL CONDUIT IN TRENCH OR PUSHED
- DETECTOR LOOP
- COMMON TRENCH
- UNIT DUCT
- SYSTEM
- INTERSECTION
- TELEPHONE CONNECTION
- SERVICE INSTALLATION

- | PROPOSED | EXISTING |
|----------|----------|
|          |          |
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|  |                              | CHECKED -<br>DAD    | REVISED - |
|  |                              | DATE -<br>4/16/2008 | REVISED - |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

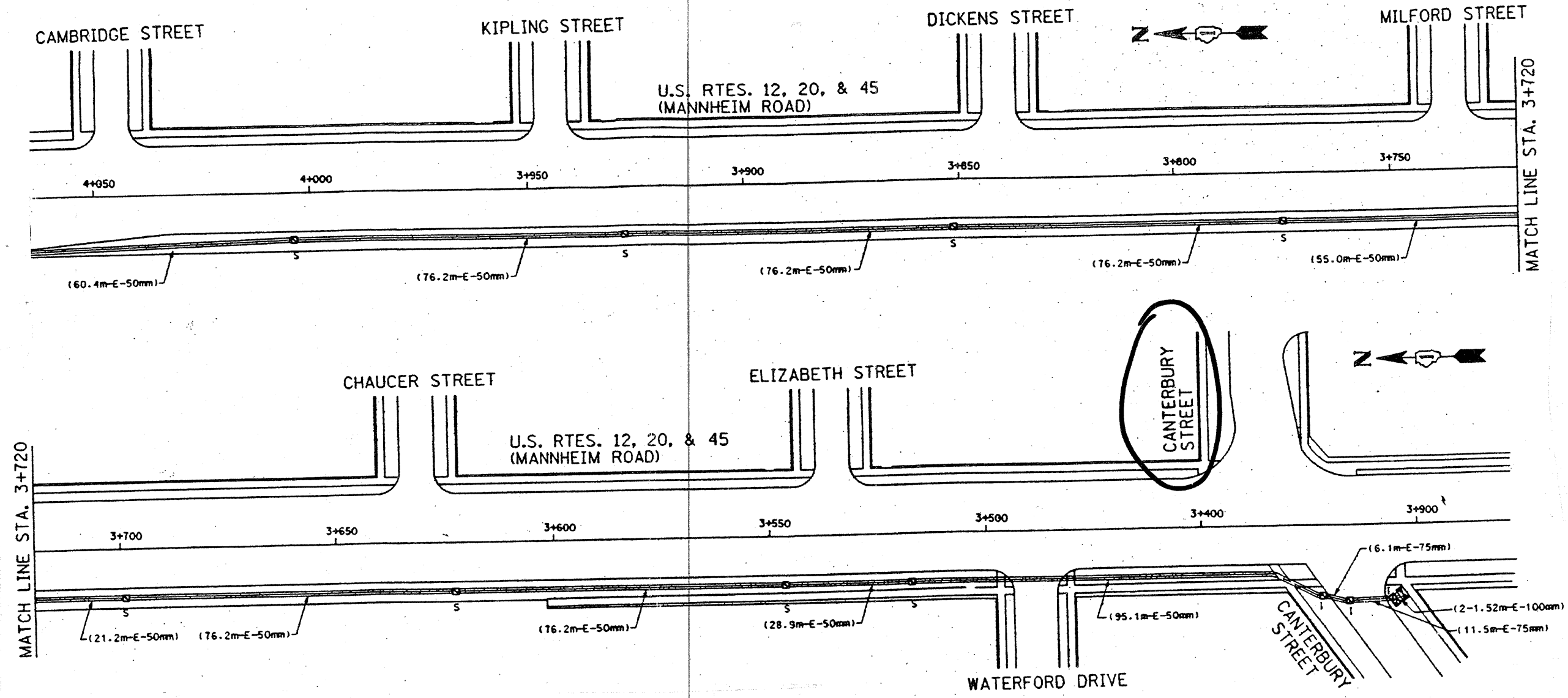
**INTERCONNECT PLAN  
US 12/20/45 (MANNHEIM)  
CERMAK RD.**

SCALE: 1"=20' SHEET NO. OF SHEETS STA. TO STA.

| F.A.P. RTE.         | SECTION     | COUNTY | TOTAL SHEETS | SHEET NO.                 |
|---------------------|-------------|--------|--------------|---------------------------|
| 330                 | 2008-006 TS | COOK   | 104          | 96                        |
| FED. ROAD DIST. NO. |             |        |              | ILLINOIS FED. AID PROJECT |
| CONTRACT NO. 60E31  |             |        |              |                           |

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For Information Only



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

INTERCONNECT PLAN LEGEND

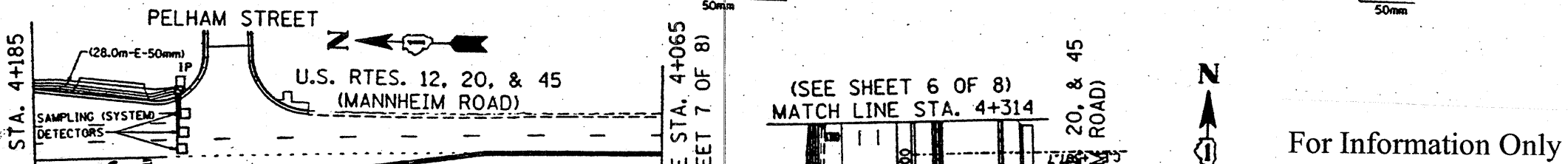
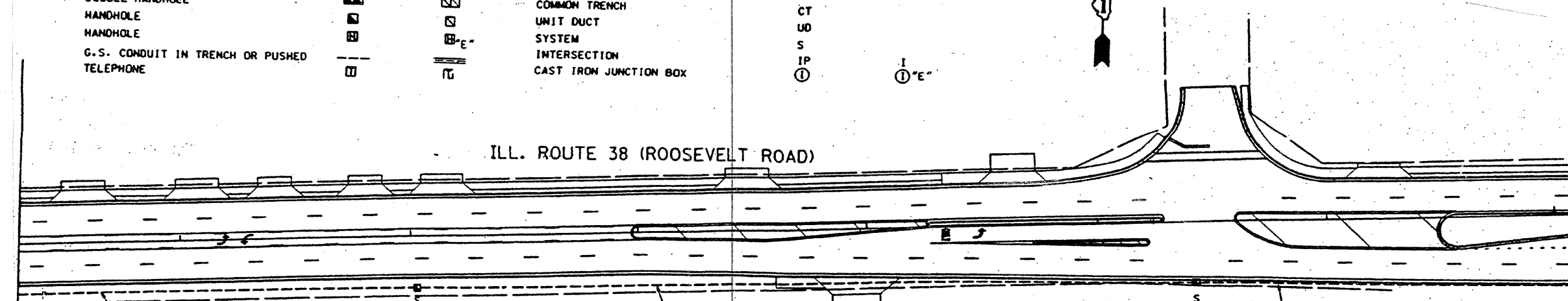
|  | PROPOSED | EXISTING |   | PROPOSED | EXISTING |
|--|----------|----------|---|----------|----------|
| CONTROLLER                                 |          |          | INTERSECTION AND SAMPLING (SYSTEM) DETECTOR LOOPS |          |          |
| MASTER CONTROLLER                          |          |          | COMMON TRENCH                                     | CT       |          |
| DOUBLE HANDBOLE                            |          |          | UNIT DUCT   | UD       |          |
| HANDBOLE                                   |          |          | SYSTEM  | S        |          |
| HANDBOLE                                   |          |          | INTERSECTION                                      | IP       |          |
| G.S. CONDUIT IN TRENCH OR PUSHED TELEPHONE |          |          | CAST IRON JUNCTION BOX                            |          |          |

|  |                           |                |                           |   |   |             |         |        |              |           |
|--|---------------------------|----------------|---------------------------|---|---|-------------|---------|--------|--------------|-----------|
| FILE NAME =  | USER NAME = kenthephixjbc | DESIGNED - BCK | REVISED -                 | STATE OF ILLINOIS<br>DEPARTMENT OF TRANSPORTATION | INTERCONNECT PLAN<br>US 12/20/45 (MANNHEIM)<br>CANTERBURY ST. | F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| ct:\projects\traffic\1070027\us12_20_45.dgn  | DRAWN - BCK               | REVISED -      | 330                       |   |   | 2008-006 TS | COOK    | 104    | 97           |           |
| PLOT SCALE = 40.0000 "/td> <td>CHECKED - DAD</td> <td>REVISED -</td> <td colspan="3">CONTRACT NO. 60E31</td> | CHECKED - DAD             | REVISED -      | CONTRACT NO. 60E31        |   |   |             |         |        |              |           |
| PLOT DATE = 4/16/2008  | DATE -                    | REVISED -      | ILLINOIS FED. AID PROJECT |   |   |             |         |        |              |           |

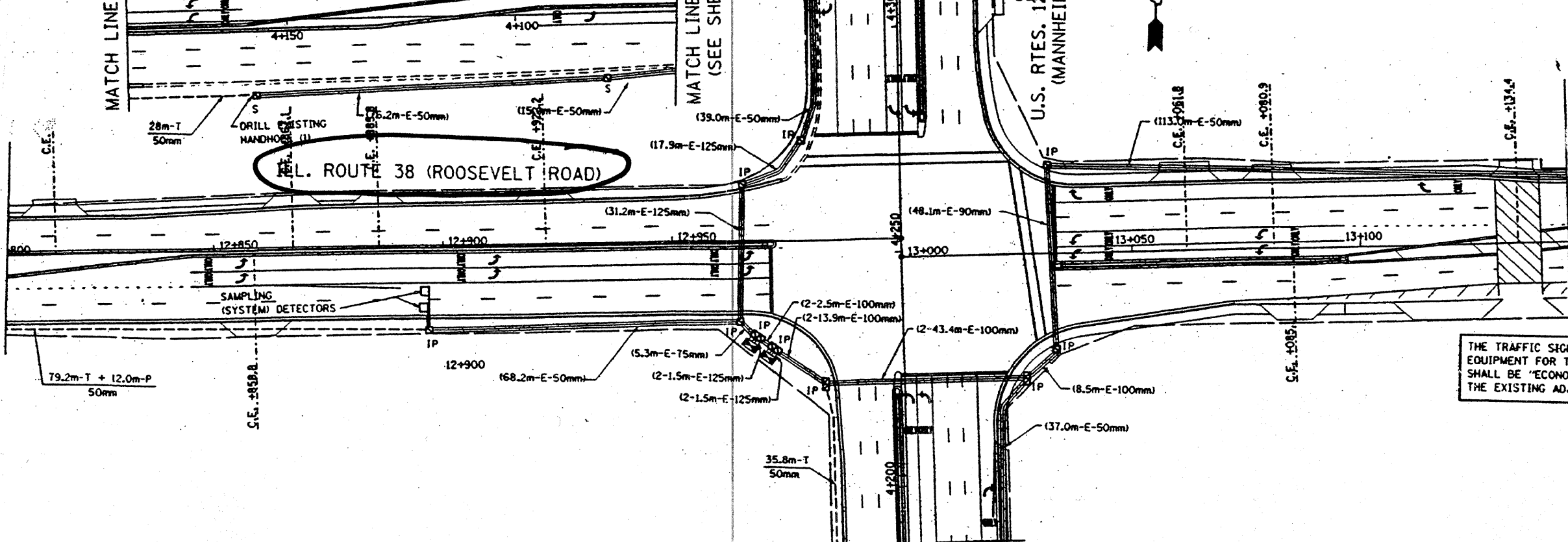
**INTERCONNECT PLAN LEGEND**

|                                  | PROPOSED | EXISTING |   |
|----------------------------------|----------|----------|---|
| CONTROLLER                       | [Symbol] | [Symbol] | INTERSECTION AND SAMPLING (SYSTEM) DETECTOR LOOPS |
| MASTER CONTROLLER                | [Symbol] | [Symbol] | COMMON TRENCH                                     |
| DOUBLE HANDHOLE                  | [Symbol] | [Symbol] | UNIT DUCT   |
| HANDHOLE                         | [Symbol] | [Symbol] | SYSTEM  |
| HANDHOLE                         | [Symbol] | [Symbol] | INTERSECTION                                      |
| G.S. CONDUIT IN TRENCH OR PUSHED | [Symbol] | [Symbol] | CAST IRON JUNCTION BOX                            |
| TELEPHONE                        | [Symbol] | [Symbol] |   |

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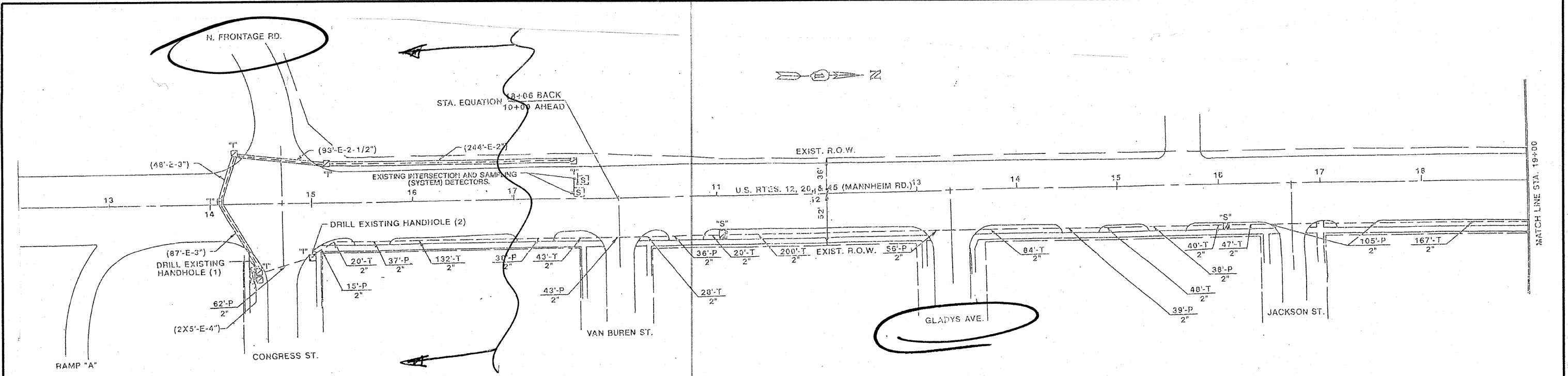
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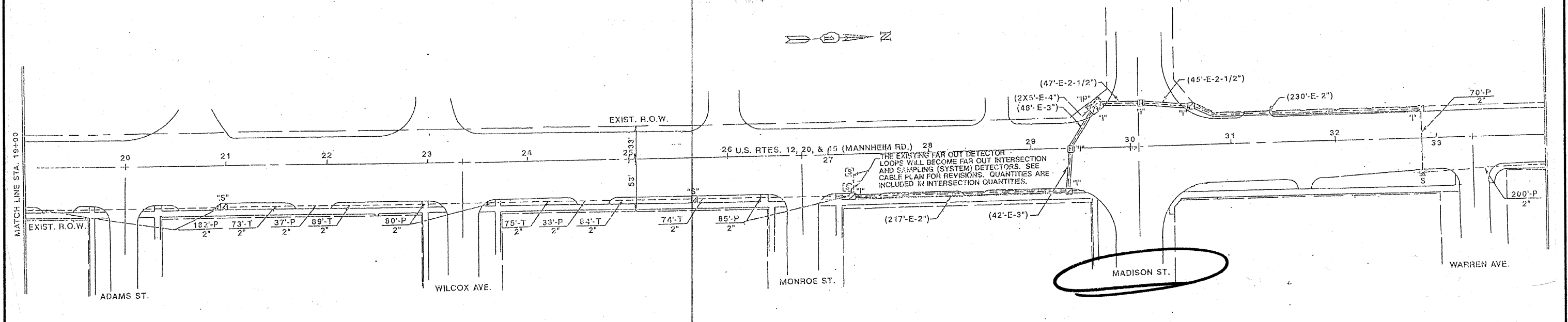
THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM.

|   |                             |                |           |   |   |                 |                     |              |                     |                           |                    |
|---|-----------------------------|----------------|-----------|---|---|-----------------|---------------------|--------------|---------------------|---------------------------|--------------------|
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| PROJECTS\traffic\1070027\us12_20_45.dgn | PLOT SCALE = 40.0000' / IN. | DRAWN - BCK    | REVISED - |   |   | SCALE: 1"=20'   | SHEET NO. OF SHEETS | STA. TO STA. | FED. ROAD DIST. NO. | ILLINOIS FED. AID PROJECT | CONTRACT NO. 60E31 |
|   | PLOT DATE = 4/16/2008       | CHECKED - DAD  | REVISED - |   |   |                 |                     |              |                     |                           |                    |
|   |                             | DATE -         | REVISED - |   |   |                 |                     |              |                     |                           |                    |

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For Information Only



INTERCONNECT PLAN LEGEND

|                                  | PROPOSED | EXISTING |
|----------------------------------|----------|----------|
| CONTROLLER                       |          |          |
| HANDHOLE                         |          |          |
| DOUBLE HANDHOLE                  |          |          |
| G.S. CONDUIT IN TRENCH OR PUSHED |          |          |
| DETECTOR LOOP                    |          |          |
| COMMON TRENCH                    | CT       |          |
| UNIT DUCT                        | UD       |          |
| SYSTEM                           | S        |          |
| INTERSECTION                     | IP       | I        |
| HEAVY DUTY HANDHOLE              |          |          |
| PUSH-PIT                         |          |          |

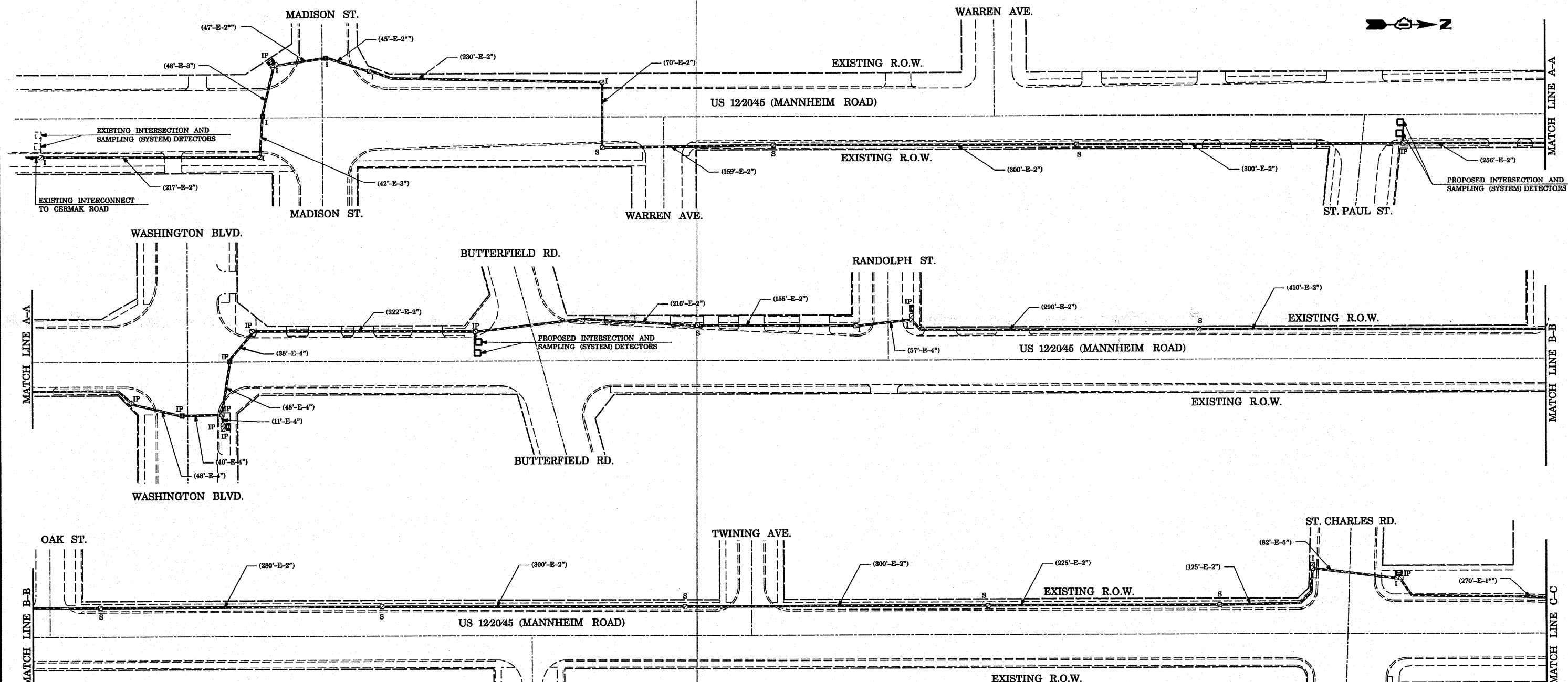
THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM.

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|  |                           | DATE           | REVISED - |
|  |                           |                |           |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

|                       |           |           |              |
|-----------------------|-----------|-----------|--------------|
| INTERCONNECT PLAN     |           |           |              |
| US 12/2045 (MANNHEIM) |           |           |              |
| CONGRESS STREET       |           |           |              |
| SCALE: 1"=20'         | SHEET NO. | OF SHEETS | STA. TO STA. |

|                     |             |        |                           |           |
|---------------------|-------------|--------|---------------------------|-----------|
| F.A.P. RTE.         | SECTION     | COUNTY | TOTAL SHEETS              | SHEET NO. |
| 330                 | 2008-006 TS | COOK   | 104                       | 99        |
| FED. ROAD DIST. NO. |             |        | ILLINOIS FED. AID PROJECT |           |
|                     |             |        | CONTRACT NO. 60E31        |           |



**INTERCONNECT PLAN LEGEND**

|  | PROPOSED | EXISTING |
|--|----------|----------|
| CONTROLLER CABINET                                 |          |          |
| SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT |          |          |
| TELEPHONE CONNECTION                               |          |          |
| HANDHOLE   |          |          |
| HEAVY DUTY HANDHOLE                                |          |          |
| DOUBLE HANDHOLE                                    |          |          |
| G.S. CONDUIT IN TRENCH OR PUSHED SYSTEM            |          |          |
| INTERSECTION                                       | IP       | I        |
| UNIT DUCT  | UD       |          |
| COMMON TRENCH                                      | CT       |          |
| DETECTOR LOOP, TYPE 1                              |          |          |
| PERFORMED DETECTOR LOOP                            |          |          |

|  |                              |                   |           |
|--|------------------------------|-------------------|-----------|
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|  | PLOT SCALE = 100.0000' / IN. | CHECKED - D.B.    | REVISED - |
|  | PLOT DATE = 10/10/2008       | DATE - 09/04/2008 | REVISED - |

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**INTERCONNECT PLAN (SHEET 5 OF 5)  
US 12/2045 (MANNHEIM RD)  
FROM MADISON AVENUE TO ST. CHARLES ROAD**

SCALE: 1" = 60'      SHEET NO.    OF    SHEETS    STA.    TO STA.

|                     |                           |        |              |           |
|---------------------|---------------------------|--------|--------------|-----------|
| F.A.P. RTE.         | SECTION                   | COUNTY | TOTAL SHEETS | SHEET NO. |
| 330                 | 2008-006 TS               | COOK   | 104          | 100       |
| CONTRACT NO. 60E31  |                           |        |              |           |
| FED. ROAD DIST. NO. | ILLINOIS FED. AID PROJECT |        |              |           |























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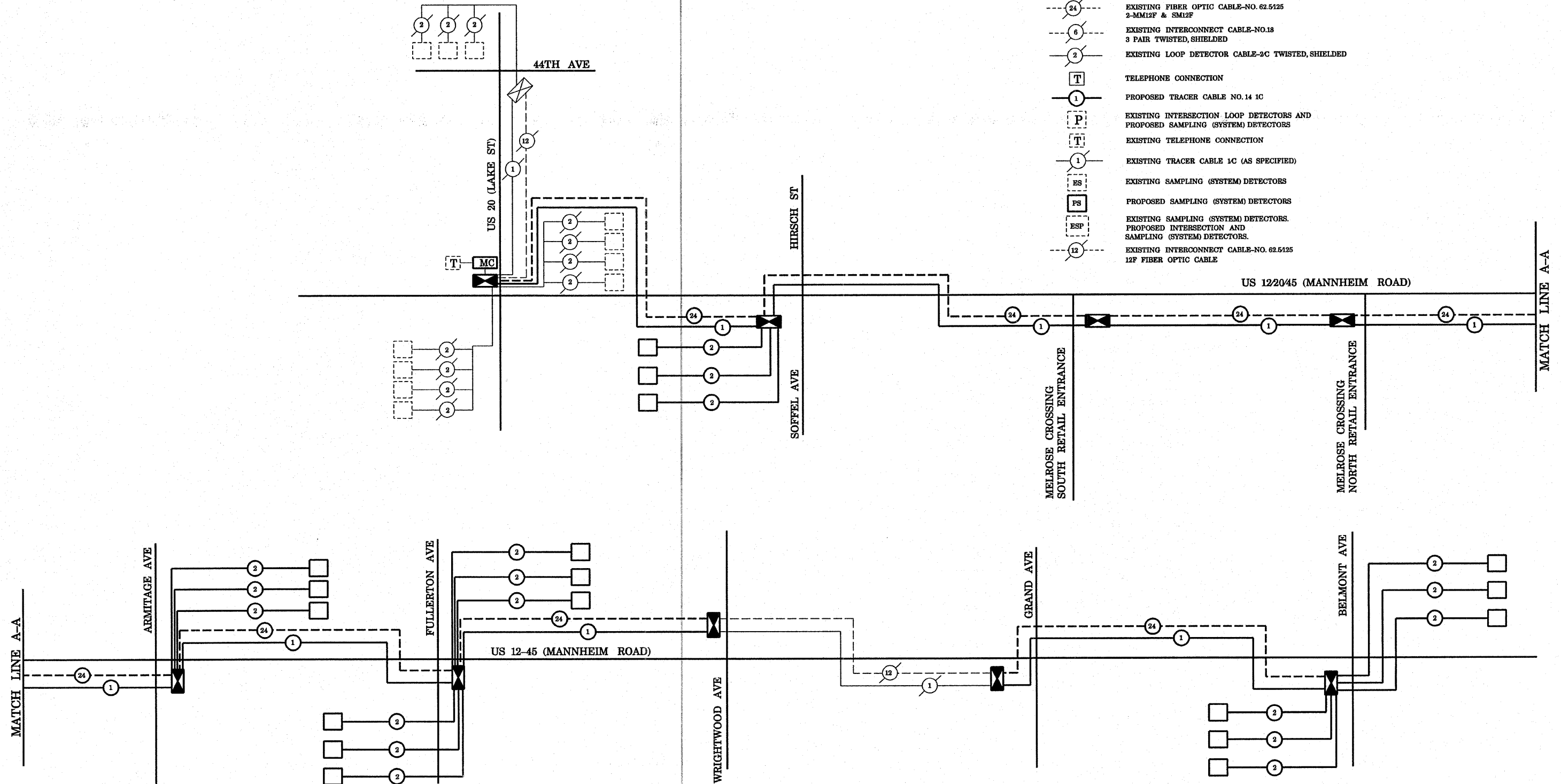


**INTERCONNECT SCHEDULE OF QUANTITIES**

| QUANTITY | UNIT | ITEM  |
|----------|------|---|
| 13445    | FOOT | ELECTRIC CABLE IN CONDUIT, TRACER NO. 14 1C               |
| 13445    | FOOT | FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F & SM12F |
| 2        | EACH | DRILL EXISTING HANDHOLE                                   |
| 13445    | FOOT | REMOVE ELECTRIC CABLE FROM CONDUIT                        |
| 2        | EACH | RE-OPTIMIZE TRAFFIC SIGNAL SYS. - LEVEL 1                 |

**INTERCONNECT SCHEMATIC LEGEND**

-  INTERSECTION CONTROLLER
-  EXISTING INTERSECTION CONTROLLER
-  MASTER CONTROLLER
-  EXISTING MASTER CONTROLLER
-  MASTER MASTER CONTROLLER
-  PROPOSED INTERSECTION & SAMPLING (SYSTEM) DETECTORS
-  EXISTING INTERSECTION & SAMPLING (SYSTEM) DETECTORS
-  PROPOSED FIBER OPTIC CABLE- NO.62.5/125  
2-MM12F & SM12F
-  INTERCONNECT CABLE-NO.18  
3 PAIR TWISTED, SHIELDED
-  LOOP DETECTOR CABLE-2C TWISTED, SHIELDED
-  EXISTING FIBER OPTIC CABLE-NO. 62.5/125  
2-MM12F & SM12F
-  EXISTING INTERCONNECT CABLE-NO.18  
3 PAIR TWISTED, SHIELDED
-  EXISTING LOOP DETECTOR CABLE-2C TWISTED, SHIELDED
-  TELEPHONE CONNECTION
-  PROPOSED TRACER CABLE NO. 14 1C
-  EXISTING INTERSECTION LOOP DETECTORS AND  
PROPOSED SAMPLING (SYSTEM) DETECTORS
-  EXISTING TELEPHONE CONNECTION
-  EXISTING TRACER CABLE 1C (AS SPECIFIED)
-  EXISTING SAMPLING (SYSTEM) DETECTORS
-  PROPOSED SAMPLING (SYSTEM) DETECTORS
-  EXISTING SAMPLING (SYSTEM) DETECTORS,  
PROPOSED INTERSECTION AND  
SAMPLING (SYSTEM) DETECTORS.
-  EXISTING INTERCONNECT CABLE-NO. 62.5/125  
12F FIBER OPTIC CABLE



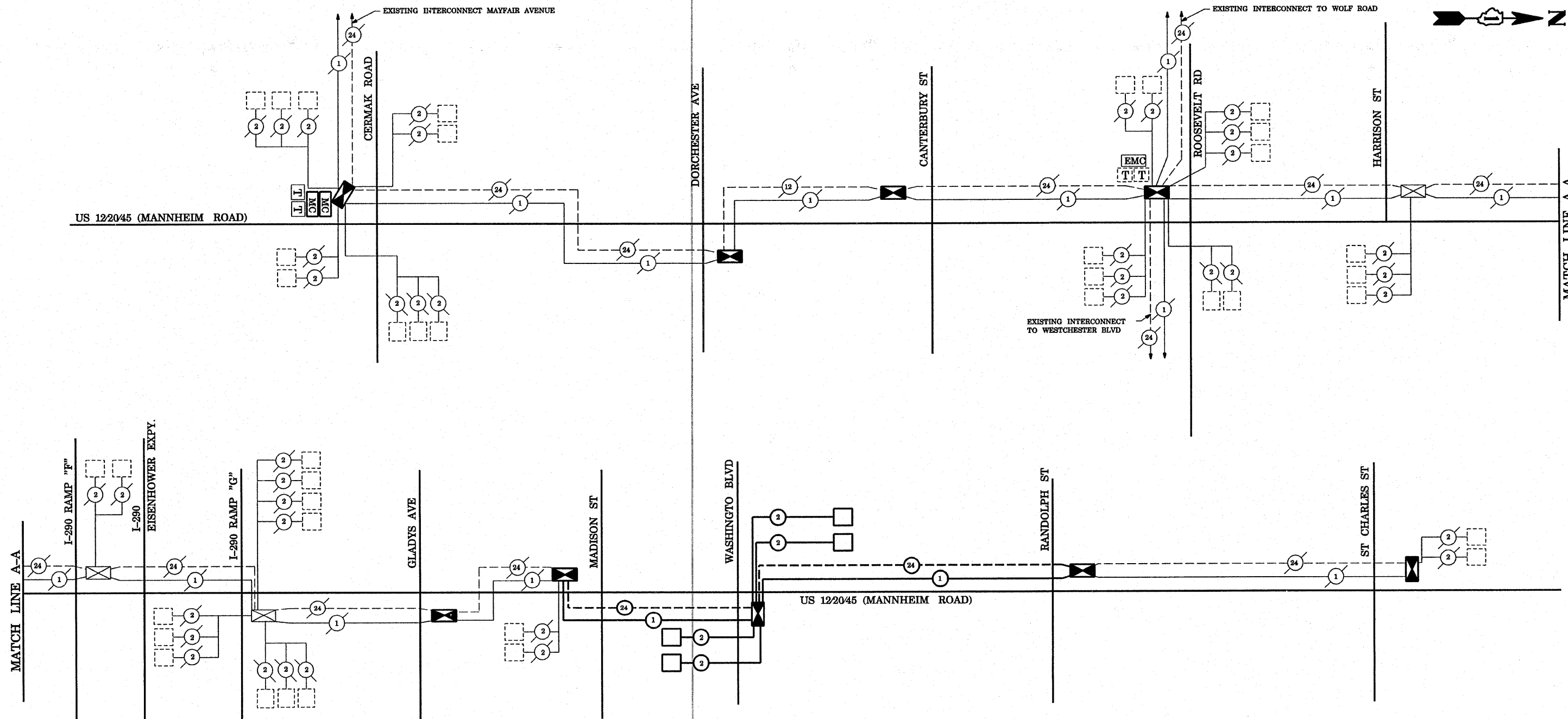
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|---|---------------------------|-------------------|-----------|---|---|-----------|-----------|-------------|---------|--------|---------------------|---------------------------|-----|-----|
| FILE NAME =                                 | USER NAME = kanthaphixybc | DESIGNED - N.B.   | REVISED - | <b>STATE OF ILLINOIS<br/>DEPARTMENT OF TRANSPORTATION</b> | INTERCONNECT SCHEMATIC (SHEET 1 OF 2)<br>US 12/2045 (MANNHEIM RD)<br>FROM LAKE STREET TO BELMONT AVENUE |           |           | F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS        | SHEET NO.                 |     |     |
| ct:\projects\traffic\1070027\us12_20_45.dgn |                           | DRAWN - N.B.      | REVISED - |   | SCALE: 1"=20'   | SHEET NO. | OF SHEETS | STA.        | TO STA. | 330    | 2008-006 TS         | COOK                      | 104 | 101 |
| PLOT SCALE = 40.0000' / IN.                 |                           | CHECKED - D.B.    | REVISED - |   |   |           |           |             |         |        |                     | CONTRACT NO. 60E31        |     |     |
| PLOT DATE = 10/10/2008                      |                           | DATE - 09/04/2008 | REVISED - |   |   |           |           |             |         |        | FED. ROAD DIST. NO. | ILLINOIS FED. AID PROJECT |     |     |

**INTERCONNECT SCHEDULE OF QUANTITIES**

| QUANTITY | UNIT | ITEM   |
|----------|------|--|
| 2367     | FOOT | ELECTRIC CABLE IN CONDUIT, TRACER NO. 14 1C              |
| 2367     | FOOT | FIBER OPTIC CABLE IN CONDUIT, NO. 62.5125, MM12F & SM12F |
| 2367     | FOOT | REMOVE ELECTRIC CABLE FROM CONDUIT                       |

**INTERCONNECT SCHEMATIC LEGEND**

|  |  |  |  |
|--|--|--|--|
|  | INTERSECTION CONTROLLER                                    |  | EXISTING LOOP DETECTOR CABLE-2C TWISTED, SHIELDED  |
|  | EXISTING INTERSECTION CONTROLLER                           |  | TELEPHONE CONNECTION   |
|  | MASTER CONTROLLER  |  | PROPOSED TRACER CABLE NO. 14 1C  |
|  | EXISTING MASTER CONTROLLER                                 |  | EXISTING INTERSECTION LOOP DETECTORS AND PROPOSED SAMPLING (SYSTEM) DETECTORS                |
|  | MASTER MASTER CONTROLLER                                   |  | EXISTING TELEPHONE CONNECTION  |
|  | PROPOSED INTERSECTION & SAMPLING (SYSTEM) DETECTORS        |  | EXISTING TRACER CABLE 1C (AS SPECIFIED)  |
|  | EXISTING INTERSECTION & SAMPLING (SYSTEM) DETECTORS        |  | EXISTING SAMPLING (SYSTEM) DETECTORS   |
|  | PROPOSED FIBER OPTIC CABLE- NO.62.5125 2-MM12F & SM12F     |  | PROPOSED SAMPLING (SYSTEM) DETECTORS   |
|  | INTERCONNECT CABLE-NO.18 3 PAIR TWISTED, SHIELDED          |  | EXISTING SAMPLING (SYSTEM) DETECTORS, PROPOSED INTERSECTION AND SAMPLING (SYSTEM) DETECTORS. |
|  | LOOP DETECTOR CABLE-2C TWISTED, SHIELDED                   |  | EXISTING INTERCONNECT CABLE-NO. 62.5125 12F FIBER OPTIC CABLE                                |
|  | EXISTING FIBER OPTIC CABLE-NO. 62.5125 2-MM12F & SM12F     |  |  |
|  | EXISTING INTERCONNECT CABLE-NO.18 3 PAIR TWISTED, SHIELDED |  |  |



|   |                           |                   |           |
|---|---------------------------|-------------------|-----------|
| FILE NAME =                                 | USER NAME = kanthapixaybo | DESIGNED - N.B.   | REVISED - |
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| PLOT SCALE = 40.0000' / IN.                 |                           | CHECKED - D.B.    | REVISED - |
| PLOT DATE = 10/10/2008                      |                           | DATE - 09/04/2008 | REVISED - |






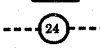
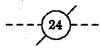

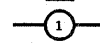

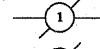
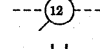

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**INTERCONNECT SCHEMATIC (SHEET 2 OF 2)  
US 12/20/45 (MANNHEIM RD)  
FROM CERMAK ROAD TO ST. CHARLES ROAD**

SCALE: 1" = 20' SHEET NO. OF SHEETS STA. TO STA.

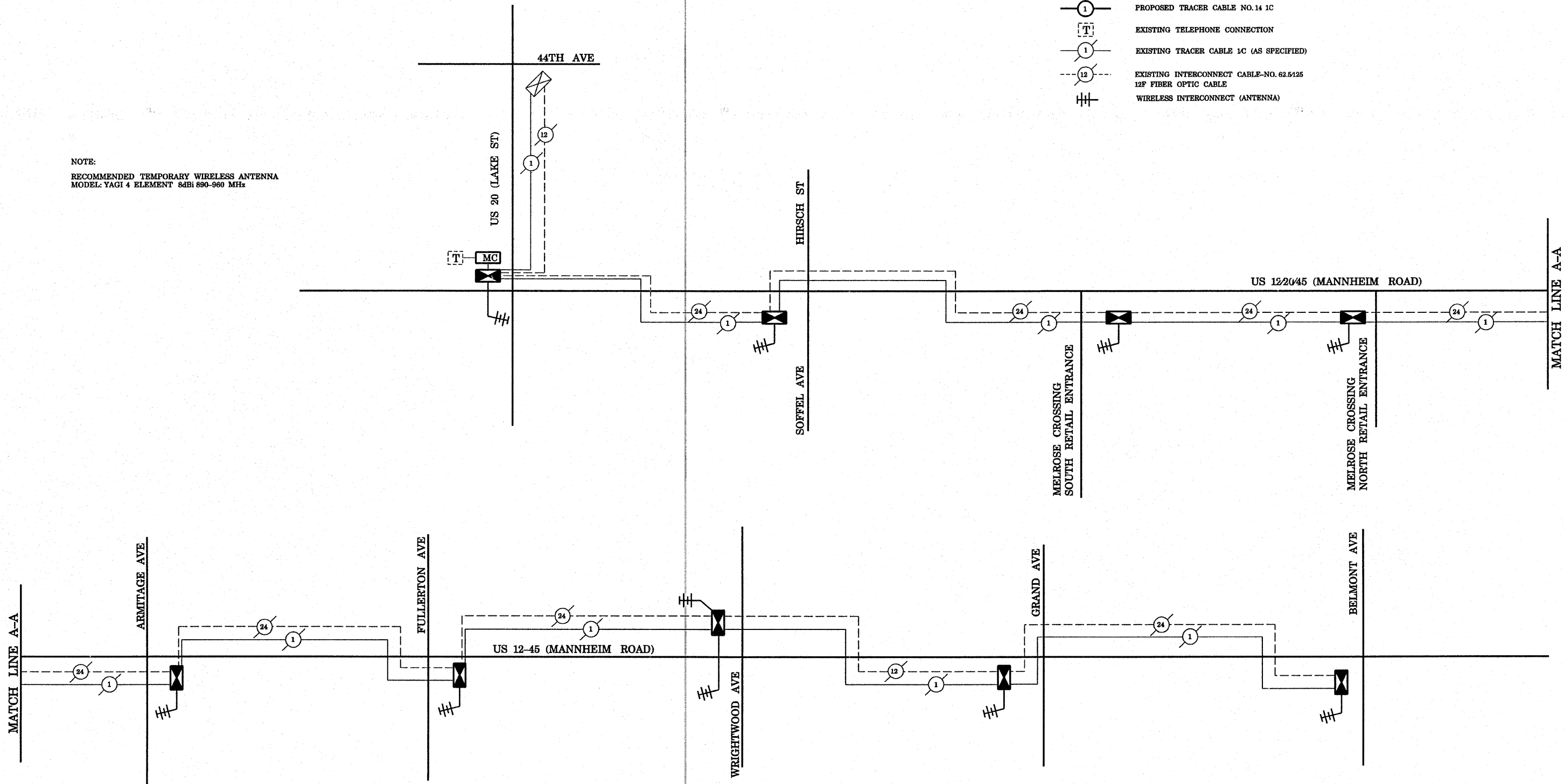
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|---|-------------|--------|--------------|-----------|
| F.A.P. RTE.                                   | SECTION     | COUNTY | TOTAL SHEETS | SHEET NO. |
| 330   | 2008-006 TS | COOK   | 104          | 102       |
| CONTRACT NO. 60E31                            |             |        |              |           |
| FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT |             |        |              |           |

**TEMPORARY WIRELESS INTERCONNECT SCHEMATIC LEGEND**

-  INTERSECTION CONTROLLER
-  EXISTING INTERSECTION CONTROLLER
-  MASTER CONTROLLER
-  EXISTING MASTER CONTROLLER
-  MASTER MASTER CONTROLLER
-  PROPOSED FIBER OPTIC CABLE- NO.62.5/125  
2-MM12F & SM12F
-  EXISTING FIBER OPTIC CABLE-NO. 62.5/125  
2-MM12F & SM12F
-  TELEPHONE CONNECTION
-  PROPOSED TRACER CABLE NO.14 1C
-  EXISTING TELEPHONE CONNECTION
-  EXISTING TRACER CABLE 1C (AS SPECIFIED)
-  EXISTING INTERCONNECT CABLE-NO.62.5/125  
12F FIBER OPTIC CABLE
-  WIRELESS INTERCONNECT (ANTENNA)












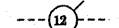



NOTE:  
RECOMMENDED TEMPORARY WIRELESS ANTENNA  
MODEL: YAGI 4 ELEMENT 8dBi 890-960 MHz

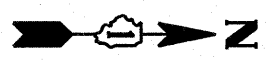
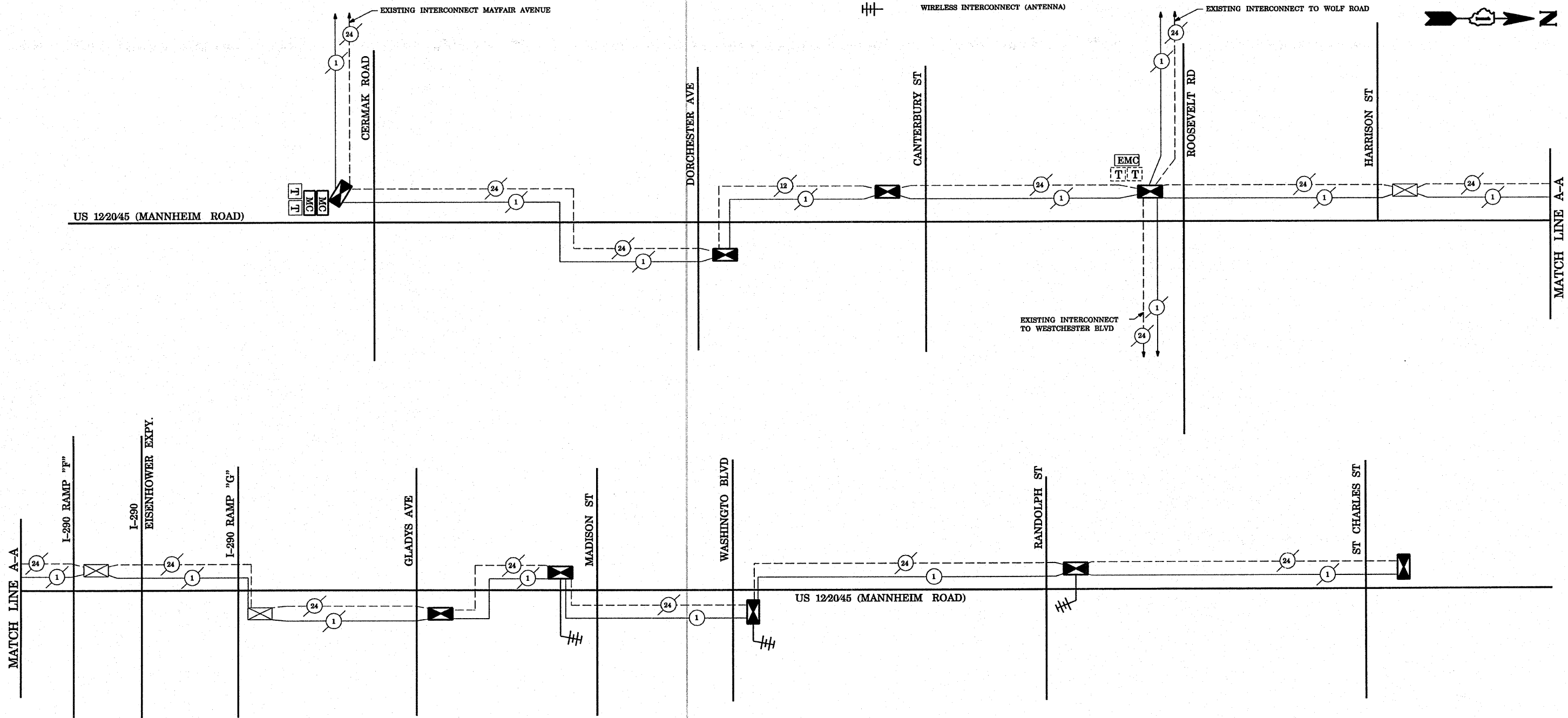


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| FILE NAME -<br>c:\projects\traffic\1070027\us12_20_45.dgn                            | USER NAME = kanthphixybc    | DESIGNED - N.B.   | REVISED - | <b>STATE OF ILLINOIS<br/>DEPARTMENT OF TRANSPORTATION</b> | WIRELESS INTERCONNECT SCHEMATIC (SHEET 1 OF 2)<br>US 12/20/45 (MANNHEIM RD)<br>FROM US RTE 20 (LAKE STREET) TO BELMONT AVENUE | F.A.P.<br>RTE.<br>330            | SECTION<br>2008-006 TS | COUNTY<br>COOK | TOTAL<br>SHEETS<br>104 | SHEET<br>NO.<br>103 |  |
|  | PLOT SCALE = 40,0000' / IN. | CHECKED - D.B.    | REVISED - |   | SCALE: 1"=20'   | SHEET NO. OF SHEETS STA. TO STA. | CONTRACT NO. 60E31     |                |                        |                     |  |
|  | PLOT DATE = 10/10/2008      | DATE - 09/04/2008 | REVISED - |   | FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT   |                                  |                        |                |                        |                     |  |
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**TEMPORARY WIRELESS INTERCONNECT SCHEMATIC LEGEND**

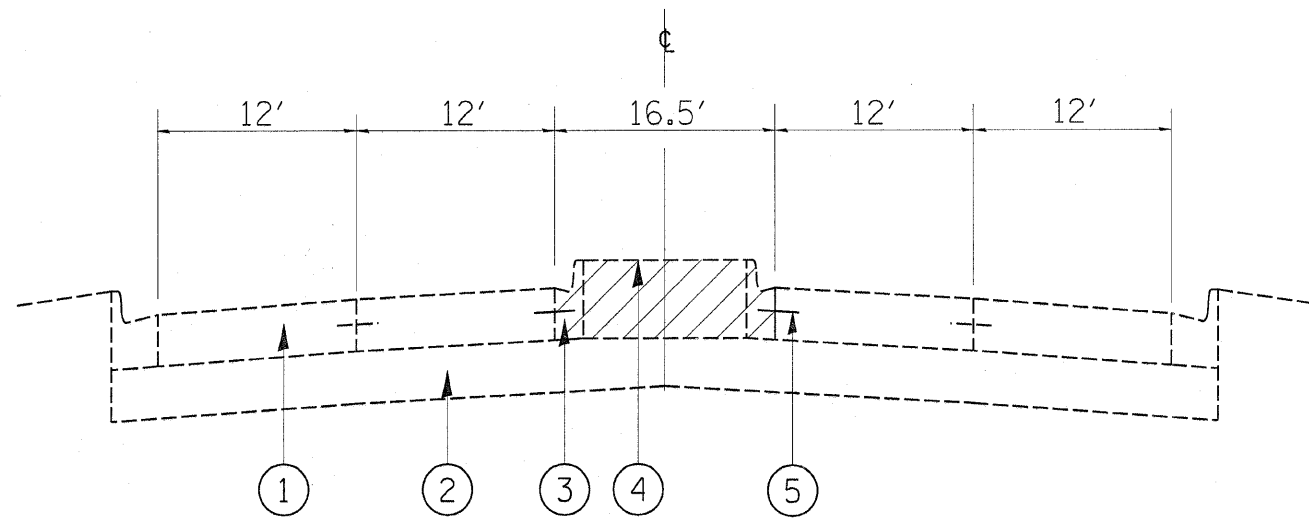
-  INTERSECTION CONTROLLER
-  EXISTING INTERSECTION CONTROLLER
-  MASTER CONTROLLER
-  EXISTING MASTER CONTROLLER
-  MASTER MASTER CONTROLLER
-  PROPOSED FIBER OPTIC CABLE- NO.62.5/125  
2-MM12F & SM12F
-  EXISTING FIBER OPTIC CABLE-NO.62.5/125  
2-MM12F & SM12F
-  TELEPHONE CONNECTION
-  PROPOSED TRACER CABLE NO.14 1C
-  EXISTING TELEPHONE CONNECTION
-  EXISTING TRACER CABLE 1C (AS SPECIFIED)
-  EXISTING INTERCONNECT CABLE-NO.62.5/125  
12F FIBER OPTIC CABLE
-  WIRELESS INTERCONNECT (ANTENNA)

NOTE:  
RECOMMENDED TEMPORARY WIRELESS ANTENNA  
MODEL: YAGI 4 ELEMENT 8dBi 890-960 MHz



|   |                              |                   |           |   |   |  |  |  |                                  |                        |                    |                     |                  |
|---|------------------------------|-------------------|-----------|---|---|--|--|--|----------------------------------|------------------------|--------------------|---------------------|------------------|
| FILE NAME =<br>c:\projects\traffic\1070027\us12_20_45.dgn | USER NAME =<br>kanthaphixjbc | DESIGNED - N.B.   | REVISED - | <b>STATE OF ILLINOIS<br/>DEPARTMENT OF TRANSPORTATION</b> | WIRELESS INTERCONNECT SCHEMATIC (SHEET 2 OF 2)<br>US 12/20/45 (MANNHEIM RD)<br>FROM CERMAK ROAD TO ST. CHARLES ROAD |  |  |  | F.A.P.<br>RTE.<br>330            | SECTION<br>2008-006 TS | COUNTY<br>COOK     | TOTAL SHEETS<br>104 | SHEET NO.<br>104 |
| PLOT SCALE = 48,0000' / IN.                               |                              | CHECKED - D.B.    | REVISED - |   | SCALE: 1"=20'   |  |  |  | SHEET NO. OF SHEETS STA. TO STA. |                        | CONTRACT NO. 60E31 |                     |                  |
| PLOT DATE = 10/10/2008                                    |                              | DATE - 09/04/2008 | REVISED - |   | FED. ROAD DIST. NO.   |  |  |  | ILLINOIS FED. AID PROJECT        |                        |                    |                     |                  |
| CONTRACT NO. 60E31  |                              |                   |           |   |   |  |  |  |                                  |                        |                    |                     |                  |

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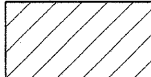
GRASS MEDIAN PORTION  
EXISTING TYPICAL CROSS SECTION

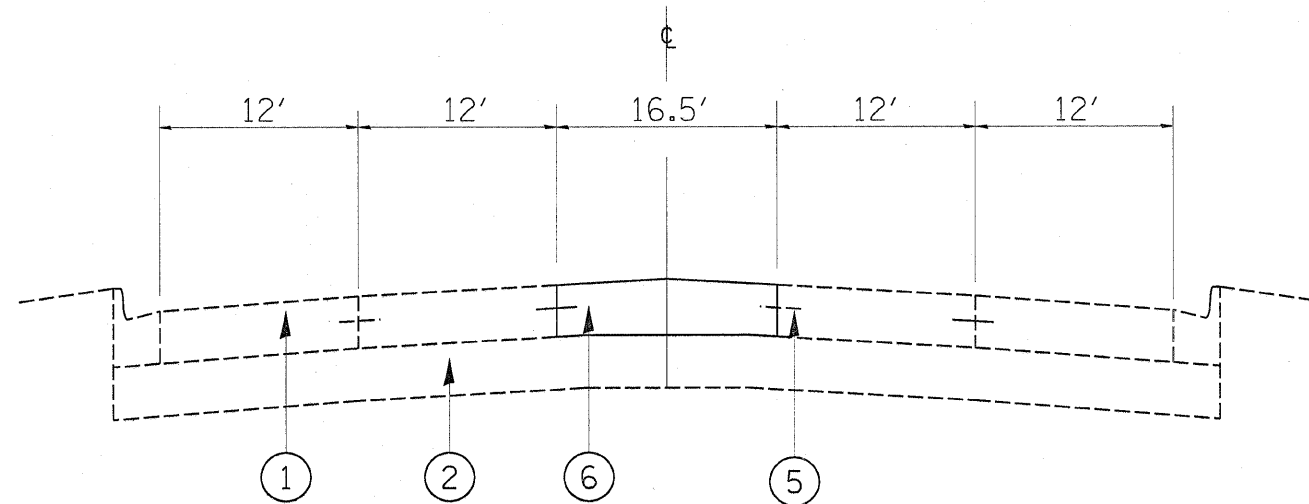
LEGENDS

- ① EXISTING PCC PAVEMENT (JOINTED), 10"
- ② EXISTING AGGREGATE SUBGRADE, 12"
- ③ EXISTING COMB. CONC. CURB & GUTTER, B.6-18
- ④ EXISTING SODDING & TOP SOIL

⑤ EXISTING NO. 20 EPOXY-COATED DEFORMED TIE BARS  
24" C-C AND 24" LONG, DRILLED & GROUTED (COST INCL.  
IN PROPOSED PCC PAVT. 10" (JOINTED))

- ⑥ PROPOSED PC CONCRETE PAVEMENT, 10"

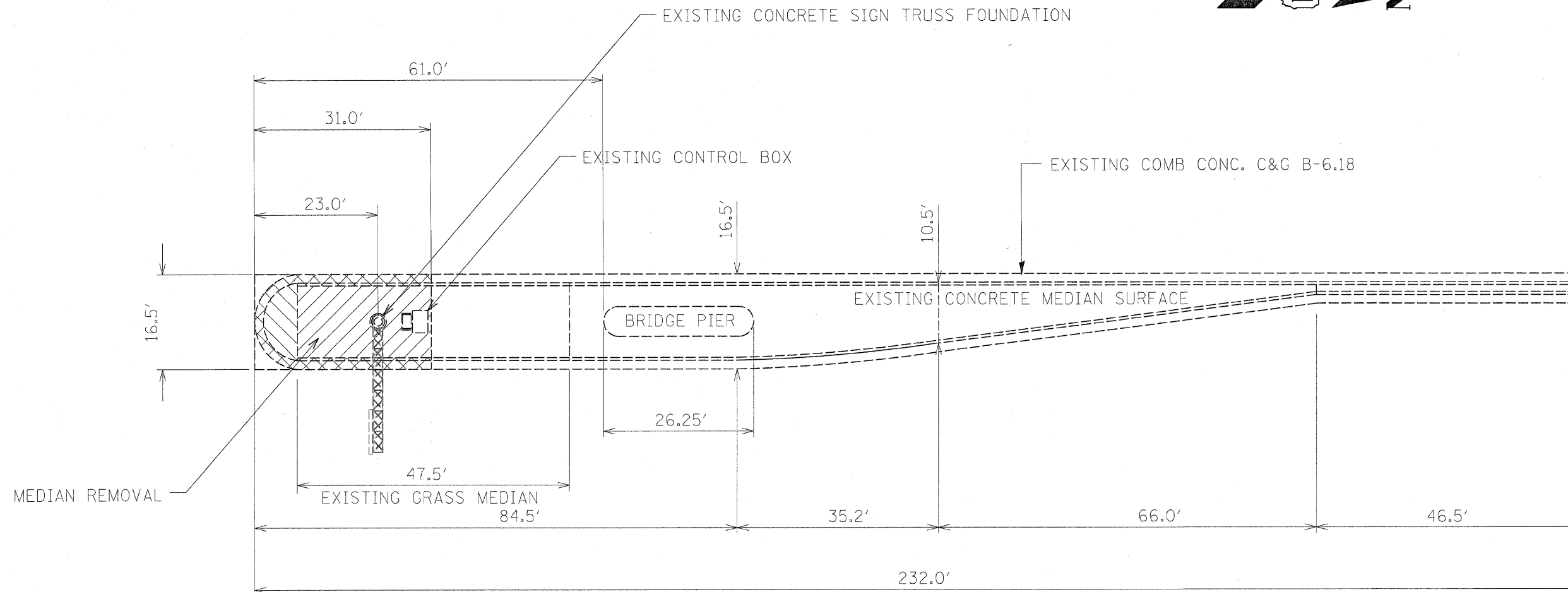
 PROPOSED MEDIAN REMOVAL



GRASS MEDIAN PORTION  
PROPOSED TYPICAL CROSS SECTION

|   |                             |            |           |   |   |           |           |             |             |                    |              |           |
|---|-----------------------------|------------|-----------|---|---|-----------|-----------|-------------|-------------|--------------------|--------------|-----------|
| FILE NAME =                               | USER NAME = byunsh          | DESIGNED - | REVISED - | <b>STATE OF ILLINOIS<br/>DEPARTMENT OF TRANSPORTATION</b> | <b>TYPICAL SECTIONS</b>   |           |           | F.A.P. RTE. | SECTION     | COUNTY             | TOTAL SHEETS | SHEET NO. |
| cr:\pw\work\FWIDOT\BYUNSH\20101576\design | .dgn                        | DRAWN -    | REVISED - |   | <b>MANNHEIM AVENUE NORTH OF ROOSEVELT ROAD<br/>MEDIAN UNDER CHICAGO CENTRAL &amp; PACIFIC RAILROAD BRIDGE</b> |           |           | 330         | 2008-006 TS | COOK               | 104          | 104A      |
|   | PLOT SCALE = 20.0000' / IN. | CHECKED -  | REVISED - |   | SCALE: 1"=10'   | SHEET NO. | OF SHEETS | STA.        | TO STA.     | CONTRACT NO. 60E31 |              |           |
|   | PLOT DATE = 11/20/2008      | DATE -     | REVISED - |   | FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT   |           |           |             |             |                    |              |           |

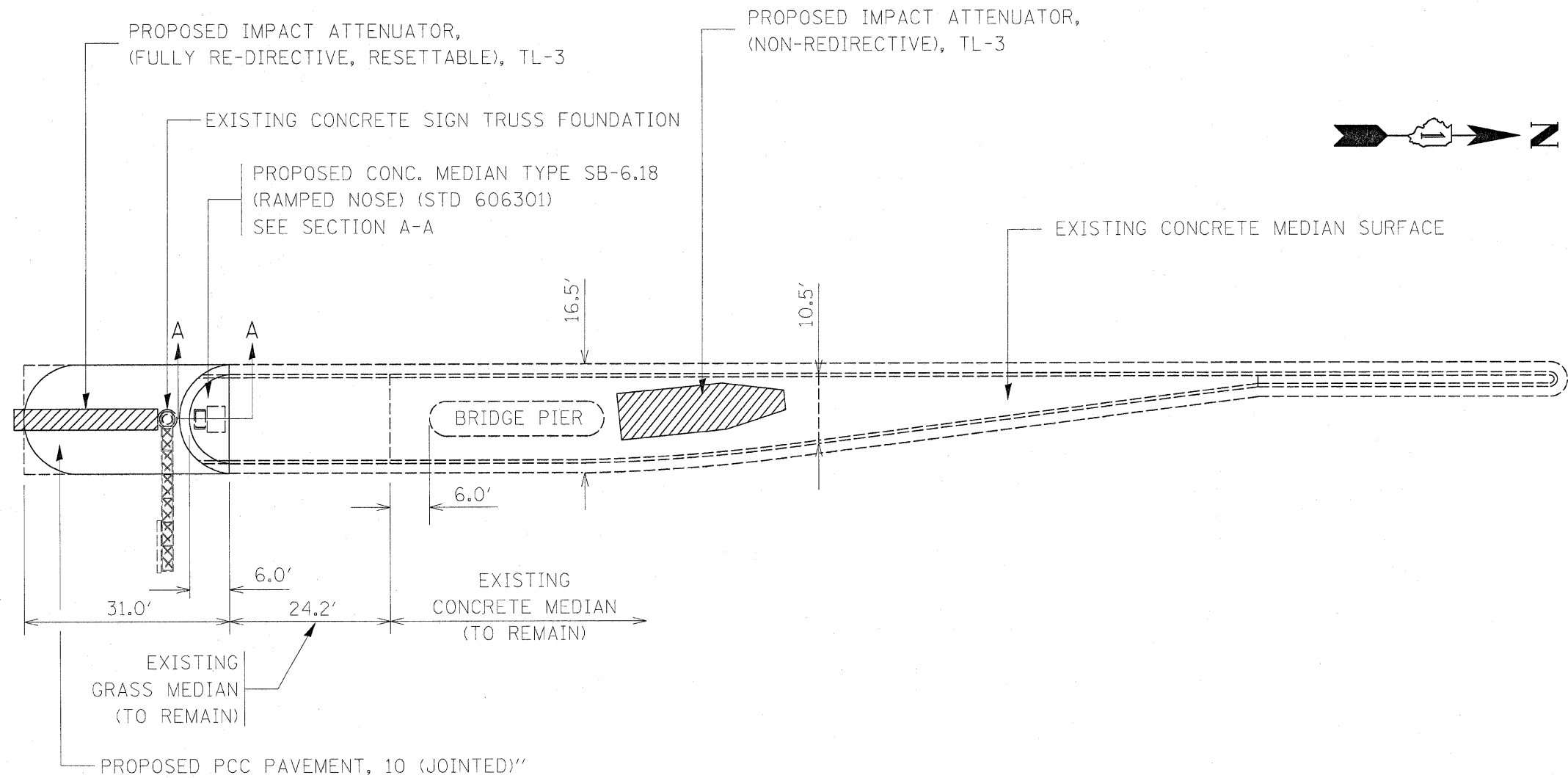




NOTE: THE REMOVAL OF EXISTING COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.18, CONCRETE MEDIAN NOSE, SOD AND TOPSOIL AS SHOWN ON THE PLANS SHALL BE PAID FOR AT THE UNIT PRICE PER SQUARE FOOT FOR "MEDIAN REMOVAL."

SHEET 2 OF 4

|   |                               |                       |                        |   |   |                     |                           |        |                 |              |
|---|-------------------------------|-----------------------|------------------------|---|---|---------------------|---------------------------|--------|-----------------|--------------|
| FILE NAME =<br>c:\pwork\pwork\1001\BYUNSH\d0101576\design | USER NAME = byunsh<br>.ee.dgn | DESIGNED -<br>DRAWN - | REVISED -<br>REVISED - | <b>STATE OF ILLINOIS<br/>DEPARTMENT OF TRANSPORTATION</b> | <b>MANNHEIM AVENUE NORTH OF ROOSEVELT ROAD<br/>MEDIAN UNDER CHICAGO CENTRAL &amp; PACIFIC RAILROAD BRIDGE</b> | F.A.P.<br>RTE.      | SECTION                   | COUNTY | TOTAL<br>SHEETS | SHEET<br>NO. |
| PLOT SCALE = 20.0000' / IN.                               | CHECKED -                     | REVISED -             | 330                    |   |   | 2008-006 TS         | COOK                      | 104    | 104B            |              |
| PLOT DATE = 11/20/2008                                    | DATE -                        | REVISED -             | CONTRACT NO. 60E31     |   |   | FED. ROAD DIST. NO. | ILLINOIS FED. AID PROJECT |        |                 |              |
|   |                               |                       |                        |   | SCALE: 1"=10'   | SHEET NO.           | OF                        | SHEETS | STA.            | TO STA.      |

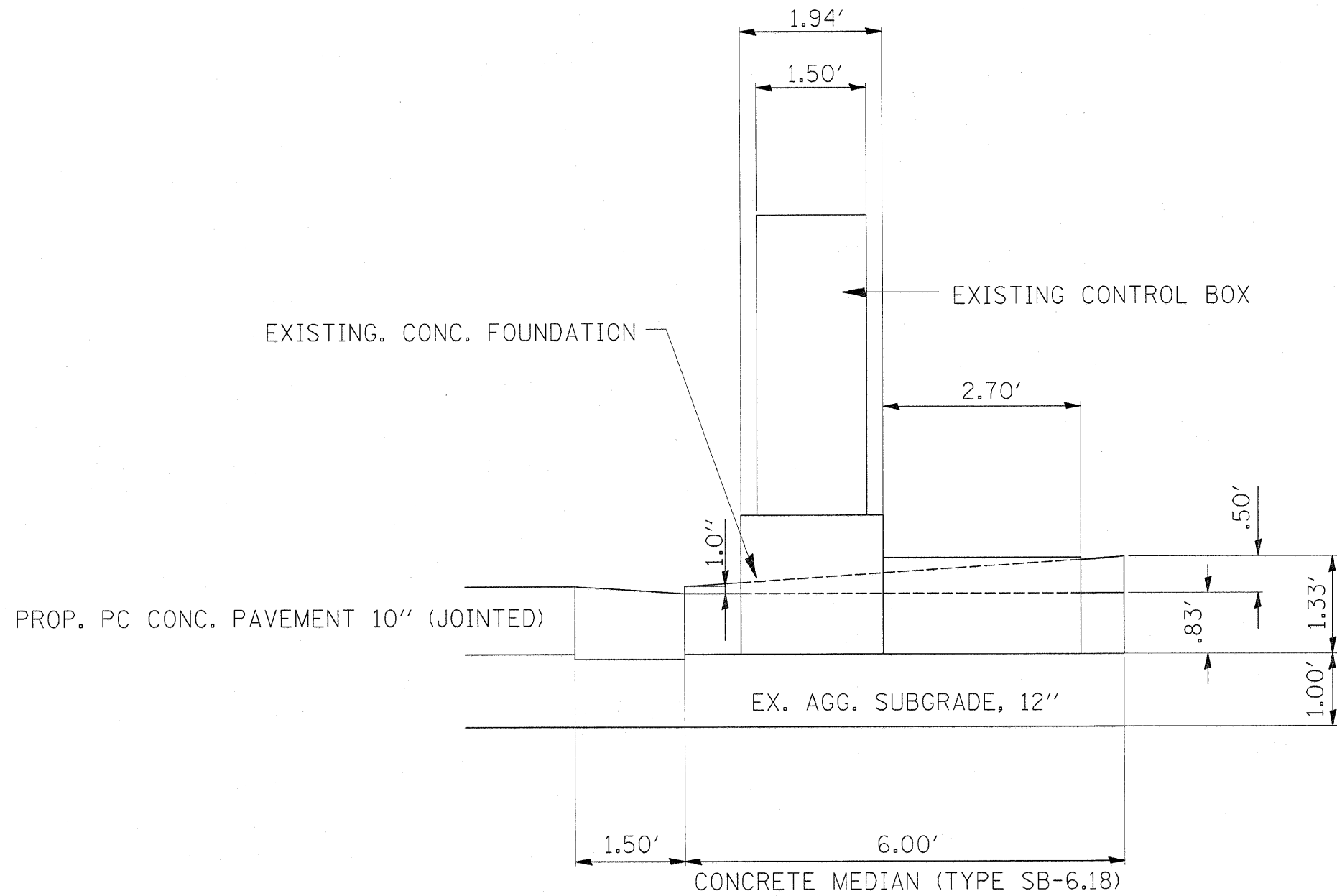


SCHEDULE OF QUANTITIES

| DESCRIPTION   | PAY ITEM CODE | UNIT    | QUANTITY |
|---|---------------|---------|----------|
| IMPACT ATTENUATOR, (FULLY RE-DIRECTIVE, RESETTABLE), TL-3 | X0325847      | EACH    | 1        |
| IMPACT ATTENUATOR, (NON-REDIRECTIVE), TL-3                | Z0030105      | EACH    | 1        |
| MEDIAN REMOVAL  | 44003100      | SQ. FT. | 625      |
| CONCRETE MEDIAN, TYPE SB-6.18                             | 60619910      | SQ. FT. | 110      |
| PCC PAVEMENT 10" (JOINTED)                                | 42000501      | SQ. YD. | 57       |

SHEET 3 OF 4

|  |                    |            |           |   |   |                     |             |                                  |              |                    |
|--|--------------------|------------|-----------|---|---|---------------------|-------------|----------------------------------|--------------|--------------------|
| FILE NAME =                                  | USER NAME = byunsh | DESIGNED - | REVISED - | <b>STATE OF ILLINOIS<br/>DEPARTMENT OF TRANSPORTATION</b> | <b>MANNHEIM AVENUE NORTH OF ROOSEVELT ROAD<br/>MEDIAN UNDER CHICAGO CENTRAL &amp; PACIFIC RAILROAD BRIDGE</b> | F.A.P. RTE.         | SECTION     | COUNTY                           | TOTAL SHEETS | SHEET NO.          |
| c:\pwork\pwork\PIDOT\BYUNSH\08101576\design\ | ..eodgn            | DRAWN -    | REVISED - |   |   | 330                 | 2008-006 TS | COOK                             | 104          | 104C               |
| PLOT SCALE = 20.0000' / IN.                  |                    | CHECKED -  | REVISED - |   |   | SCALE: 1"=10'       |             | SHEET NO. OF SHEETS STA. TO STA. |              | CONTRACT NO. 60E31 |
| PLOT DATE = 11/20/2008                       |                    | DATE -     | REVISED - |   |   | FED. ROAD DIST. NO. |             | ILLINOIS FED. AID PROJECT        |              |                    |



|   |                    |            |           |   |   |  |  |   |             |                    |              |           |
|---|--------------------|------------|-----------|---|---|--|--|---|-------------|--------------------|--------------|-----------|
| FILE NAME =                                       | USER NAME = byunsh | DESIGNED - | REVISED - | <b>STATE OF ILLINOIS<br/>DEPARTMENT OF TRANSPORTATION</b> | <b>MANNHEIM AVENUE NORTH OF ROOSEVELT ROAD<br/>MEDIAN UNDER CHICAGO CENTRAL &amp; PACIFIC RAILROAD BRIDGE</b> |  |  | F.A.P. RTE.                                   | SECTION     | COUNTY             | TOTAL SHEETS | SHEET NO. |
| ca:\pwork\pwork\DOT\BYUNSH\08101576\design\aa.dgn |                    | DRAWN -    | REVISED - |   |   |  |  | 330   | 2008-006 TS | COOK               | 104          | 1042      |
|   |                    | CHECKED -  | REVISED - |   | SCALE: 1"=10'   |  |  | SHEET NO. OF SHEETS STA. TO STA.              |             | CONTRACT NO. 60E31 |              |           |
|   |                    | DATE -     | REVISED - |   |   |  |  | FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT |             |                    |              |           |