

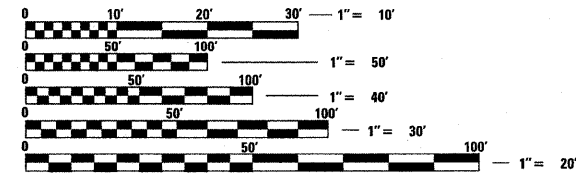
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HIGHWAY STANDARDS

- 424001-05 CURB RAMPS FOR SIDEWALKS
- 701501-05 URBAN LANE CLOSURE, 2L, 2W, UNDIVIDED
- 701502-03 URBAN LANE CLOSURE, 2L, 2W, WITH BIDIRECTIONAL LEFT TURN LANE
- 701606-06 URBAN LANE CLOSURE, MULTILANE, 2W WITH MOUNTABLE MEDIAN
- 701701-06 URBAN LANE CLOSURE, MULTILANE INTERSECTION
- 701801-04 LANE CLOSURE, MULTILANE 1W OR 2W CROSSWALK OR SIDEWALK CLOSURE
- 701901-01 TRAFFIC CONTROL DEVICES
- 814001-02 HANDHOLES
- 857001-01 STANDARD PHASE DESIGNATION DIAGRAMS AND PHASE SEQUENCES
- 862001-01 UNINTERRUPTIBLE POWER SUPPLY (UPS)
- 873001-02 TRAFFIC SIGNAL GROUNDING & BONDING
- 878001-07 CONCRETE FOUNDATION DETAILS
- 880006-01 TRAFFIC SIGNAL MOUNTING DETAILS
- 886001-01 DETECTOR LOOP INSTALLATIONS
- 000001-05 STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS

J.U.L.I.E.
 JOINT UTILITY LOCATING INFORMATION FOR EXCAVATION
 1-800-892-0123 (CALL 48 HOURS IN ADVANCE)



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.

CONTRACT NO: 63246

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS**

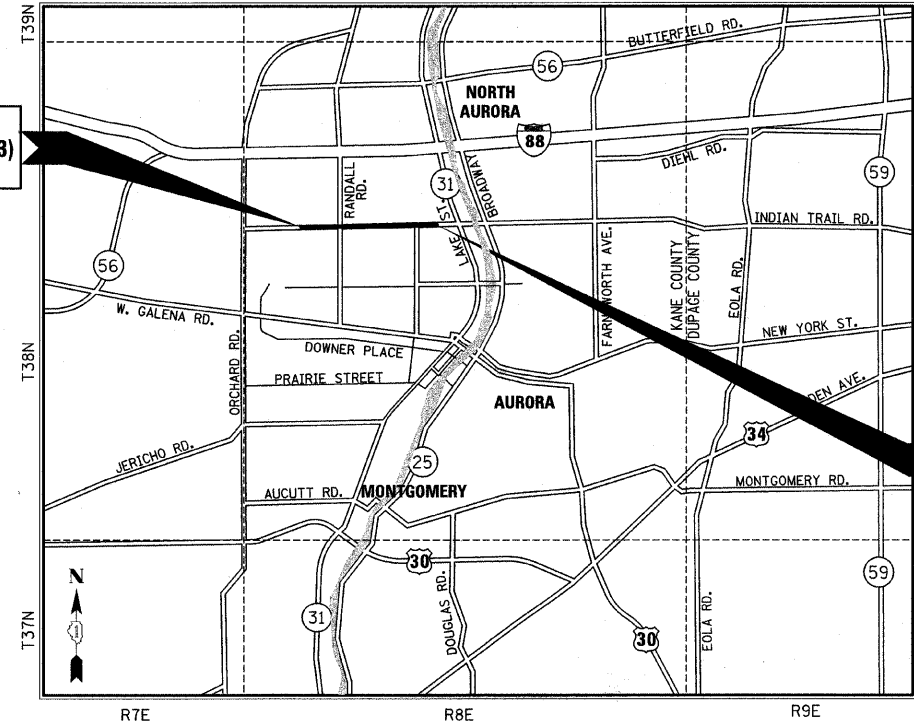
**PROPOSED
 PLANS FOR
 TRAFFIC SIGNAL INTERCONNECT**

**CONGESTION MITIGATION AIR QUALITY
 FAU ROUTE 1503: INDIAN TRAIL
 FROM EDGELAWN DRIVE TO LAKE STREET
 SECTION 08-00271-00-TL
 PROJECT NO. CMM-9003 (044)
 KANE COUNTY
 JOB NO.: C-91-438-08**

THIS IMPROVEMENT IS LOCATED
 IN THE CITY OF AURORA

BEGIN PROJECT
 INDIAN TRAIL (FAU 1503)
 STA. 6000 + 00

END PROJECT
 INDIAN TRAIL (FAU 1503)
 STA. 6088 + 00



**LOCATION MAP
 SCALE : N.T.S**

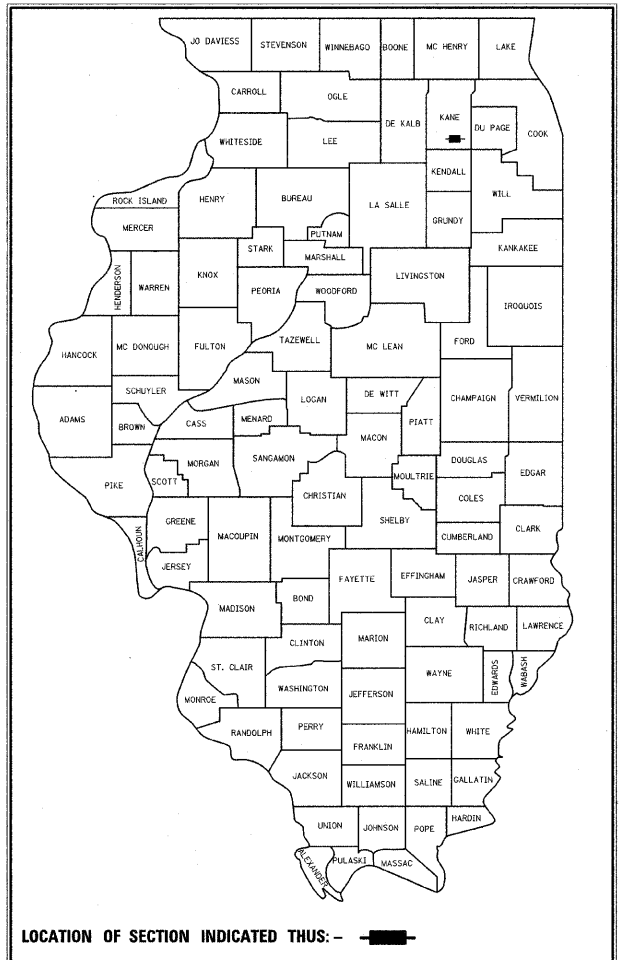
EXISTING ADT (2006) = 12,300.
 POSTED SPEED = 35 M.P.H.
 PROJECT GROSS LENGTH = 8,800.00 FEET = 1.67 MILES
 PROJECT NET LENGTH = 8,800.00 FEET = 1.67 MILES



Anthony P. Simmons 7/20/2009
 ANTHONY P. SIMMONS, P.E.
 NO. 002-058414
 EXPIRES: 11/30/09
 SMITH ENGINEERING CONSULTANTS, INC.

| F.A.U. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|-------------|----------------|--------|--------------|-----------|
| 1503 | 08-00271-00-TL | KANE | 30 | 1 |

CONTRACT NO. 63246



| AGENCY RESPONSIBLE FOR LETTING | |
|---|---|
| APPROVED | July 20 2009 |
| | <i>Eric J. Diller</i> CITY OF AURORA, CITY TRAFFIC ENGINEER |
| PASSED | July 22, 2009 20 |
| | <i>Cheryl A. Helt</i> DISTRICT 1 ENGINEER OF LOCAL ROADS & STREETS |
| RELEASING FOR BID BASED ON LIMITED REVIEW | July 22 2009 |
| | <i>Diane M. O'Keefe</i> DEPUTY DIRECTOR OF HIGHWAYS, REGION 1 ENGINEER |

Illinois Professional Design Firm # 184-000108

SEC Group, Inc.
 Engineering
 Surveying
 Planning
 Landscape Architecture

McHenry • Yorkville • New Lenox • Chicago
 www.secgroupinc.com

DISTRICT 1 - LOCAL ROADS ENGINEER: MARILYN D. SOLOMON (847) 705-4407

SUMMARY OF QUANTITIES

| CODE NUMBER | PAY ITEM DESCRIPTION | UNIT | TOTAL QUANTITY | Y031-F | | | | | |
|-------------|---|--------|----------------|----------------|--------------|---------------|----------------|-----------------|--------------|
| | | | | EDGELAWN DRIVE | RANDALL ROAD | ELMWOOD DRIVE | NANTUCKET ROAD | HIGHLAND AVENUE | INTERCONNECT |
| 67000500 | ENGINEER'S FIELD OFFICE, TYPE B | CAL MO | 1 | | | | | | |
| 67100100 | MOBILIZATION | L SUM | 1 | | | | | | |
| 70101800 | TRAFFIC CONTROL AND PROTECTION, (SPECIAL) | L SUM | 1 | | | | | | |
| 81000700 | CONDUIT IN TRENCH, 2 1/2" DIA., GALVANIZED STEEL | FOOT | 133 | 79 | 47 | | 7 | | |
| 81018500 | CONDUIT PUSHED, 2" DIA., GALVANIZED STEEL | FOOT | 70 | | | | | | 70 |
| 81018600 | CONDUIT PUSHED, 2 1/2" DIA., GALVANIZED STEEL | FOOT | 71 | 37 | 10 | | | 24 | |
| 81900200 | TRENCH AND BACKFILL FOR ELECTRICAL WORK | FOOT | 151 | 79 | 65 | | 7 | | |
| 85000200 | MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION | EACH | 5 | 1 | 1 | 1 | 1 | 1 | |
| 85700500 | FULL-ACTUATED CONTROLLER IN EXISTING CABINET | EACH | 1 | | | | | 1 | |
| 86400100 | TRANSCEIVER - FIBER OPTIC | EACH | 5 | | | | | | 5 |
| 87301215 | ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C | FOOT | 2887 | 697 | 734 | 613 | 410 | 433 | |
| 87301225 | ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C | FOOT | 5913 | 1450 | 1524 | 1282 | 577.5 | 1079.5 | |
| 87301245 | ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C | FOOT | 1870.5 | 351 | 1090.5 | | | 429 | |
| 87301255 | ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C | FOOT | 1727 | 725 | 694 | | 146.5 | 161.5 | |
| 87301305 | ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR | FOOT | 4613 | 854 | 1137 | 815.5 | 1077 | 729.5 | |
| 87502500 | TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT. | EACH | 9 | 4 | 4 | | | 1 | |
| 87502520 | TRAFFIC SIGNAL POST, GALVANIZED STEEL 18 FT. | EACH | 1 | | | | 1 | | |
| 87800100 | CONCRETE FOUNDATION, TYPE A | FOOT | 40 | 16 | 16 | | 4 | 4 | |
| 87900200 | DRILL EXISTING HANDHOLE | EACH | 16 | 4 | 10 | | 1 | 1 | |
| 88030020 | SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED | EACH | 3 | | 2 | | | 1 | |
| 88030100 | SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED | EACH | 3 | 2 | | | 1 | | |
| 88030240 | SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED | EACH | 7 | 2 | 4 | | | 1 | |
| 88102717 | PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER | EACH | 4 | | | | 2 | 2 | |
| 88102747 | PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER | EACH | 14 | 4 | 4 | 4 | 1 | 1 | |
| 88200110 | TRAFFIC SIGNAL BACKPLATE, LOUVERED | EACH | 3 | | 2 | | | 1 | |
| 88500100 | INDUCTIVE LOOP DETECTOR | EACH | 12 | 2 | 4 | 2 | 2 | 2 | |
| 88600100 | DETECTOR LOOP, TYPE 1 | FOOT | 256 | | 256 | | | | |
| 88700200 | LIGHT DETECTOR | EACH | 2 | | | | | 2 | |
| 88700300 | LIGHT DETECTOR AMPLIFIER | EACH | 1 | | | | | 1 | |
| 88800100 | PEDESTRIAN PUSH-BUTTON | EACH | 18 | 4 | 4 | 4 | 3 | 3 | |
| 89502205 | MODIFY EXISTING CONTROLLER (SPECIAL) | EACH | 4 | 1 | 1 | 1 | 1 | | |
| 89502300 | REMOVE ELECTRIC CABLE FROM CONDUIT | FOOT | 22176 | 3788 | 4342 | 2508 | 1118 | 1361.5 | 9058.5 |
| 89502375 | REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT | EACH | 5 | 1 | 1 | 1 | 1 | 1 | |
| 89502385 | REMOVE EXISTING CONCRETE FOUNDATION | EACH | 10 | 4 | 4 | | 1 | 1 | |
| X0322925 | ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1C | FOOT | 9141.5 | | | | | | 9141.5 |
| X0324007 | OPTIMIZE TRAFFIC SIGNAL SYSTEM | EACH | 1 | | | | | | 1 |
| X0324256 | FIBER OPTIC CABLE SPLICE | EACH | 1 | | | | | | 1 |
| X8510300 | PAINT TRAFFIC SIGNAL POST | EACH | 10 | 4 | 4 | | 1 | 1 | |
| X8620020 | UNINTERRUPTABLE POWER SUPPLY | EACH | 5 | 1 | 1 | 1 | 1 | 1 | |
| X8710020 | FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F SM12F | FOOT | 9141.5 | | | | | | 9141.5 |
| X8730027 | ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C | FOOT | 3572 | 1156.5 | 671.5 | 779 | 457 | 508 | |
| X8950115 | RELOCATE LIGHT DETECTOR | EACH | 1 | | | | 1 | | |
| X8130250 | ELECTRIC CABLE IN CONDUIT, NO. 20 3/C TWISTED SHIELDED | FOOT | 464 | | | | | 464 | |
| XX006923 | GROUND EXISTING HANDHOLE FRAME AND COVER | EACH | 35 | 10 | 7 | 7 | 5 | 6 | |

| | | |
|-----------|--------------------|------|
| PLAN | SURVEYED | DATE |
| NOTE BOOK | ALIGNED | |
| NO. | RT. OF WAY CHECKED | |
| | ADD FILE NAME | |

| | | |
|-----------|-------------------------|------|
| PROFILE | SURVEYED | DATE |
| NOTE BOOK | GRADES CHECKED | |
| NO. | (B.M. NOTED) | |
| | STRUCTURE NOTATION OK'D | |

FILE NAME = ...\\trans\sheeta\690_6_sun01.dgn

USER NAME = _USER_
 PLOT SCALE = #SCALE#
 PLOT DATE = 7/20/2009

DESIGNED -
 DRAWN BAH
 CHECKED APS
 DATE -

REVISED -
 REVISED -
 REVISED -
 REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**SUMMARY OF QUANTITIES
 (SHEET 1 OF 2)**

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

| | | | | |
|---|----------------|--------|--------------|-----------|
| F.A.U. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 1503 | 08-00271-00-TL | KANE | 30 | 2 |
| FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT | | | | |
| CONTRACT NO. 63246 | | | | |

SUMMARY OF QUANTITIES

| CODE NUMBER | PAY ITEM DESCRIPTION | UNIT | TOTAL QUANTITY | Y031-F | | | | | |
|-------------|---|-------|----------------|----------------|--------------|---------------|----------------|-----------------|--------------|
| | | | | EDGELAWN DRIVE | RANDALL ROAD | ELMWOOD DRIVE | NANTUCKET ROAD | HIGHLAND AVENUE | INTERCONNECT |
| Z0048665 | RAILROAD PROTECTIVE LIABILITY INSURANCE | L SUM | 1 | | | | | 1 | |
| XX007988 | SIGNAL HEAD, LED, 3-SECTION, MAST ARM MOUNTED, RETROFIT | EACH | 6 | | 1 | | 2 | 3 | |
| XX007987 | SIGNAL HEAD, LED, 3-SECTION, BRACKET MOUNTED, RETROFIT | EACH | 2 | | | | 2 | | |
| XX007990 | SIGNAL HEAD, LED, 5-SECTION, MAST ARM MOUNTED, RETROFIT | EACH | 6 | | 1 | | 1 | 4 | |
| XX007989 | SIGNAL HEAD, LED, 5-SECTION, BRACKET MOUNTED, RETROFIT | EACH | 3 | | | | | 3 | |
| XX007952 | TERMINAL SERVER | EACH | 1 | | | | | | 1 |
| XX007992 | ETHERNET SWITCH | EACH | 1 | | | | | | 1 |
| XX007993 | CENTRALIZED SYSTEM FIELD INTEGRATION / SETUP | L SUM | 1 | | | | | | 1 |

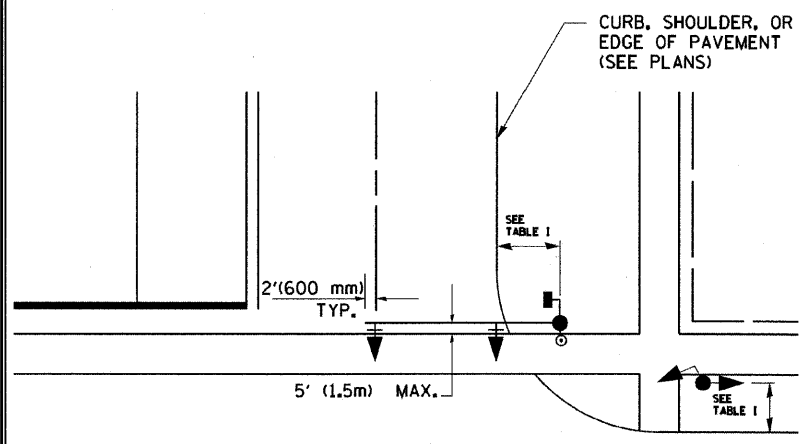
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| PLAN | SERVICES | DATE |
| NOTE BOOK NO. | PLOTTED BY | |
| | CHECKED BY | |
| | DATE | |
| | CAD FILE NAME | |

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|---------------|--------------------------|------|
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| NOTE BOOK NO. | PLOTTED BY | |
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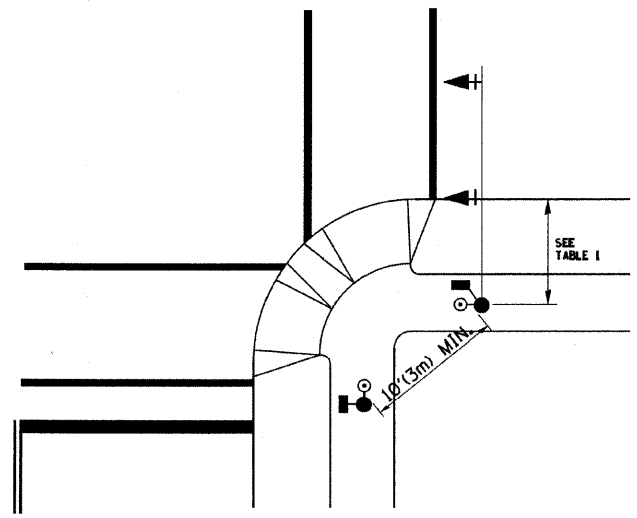
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| F.A. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| | | | | |
| STA. | | TO STA. | | |
| FED. ROAD DIST. NO. | ILLINOIS | FED. AID PROJECT | | |

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:

- 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.
- 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.
- 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.
- 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)

| | |
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| DATE | BY |
| | |
| REVISIONS | |
| DESIGNED | |
| CHECKED | |
| IN CHARGE | |
| DATE | BY |
| | |
| PLAN | |
| NOTE BOOK | |
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PEDESTRIAN SIGNAL POST

PEDESTRIAN SIGNAL HEAD AND PEDESTRIAN PUSHBUTTON DETECTOR LOCATION

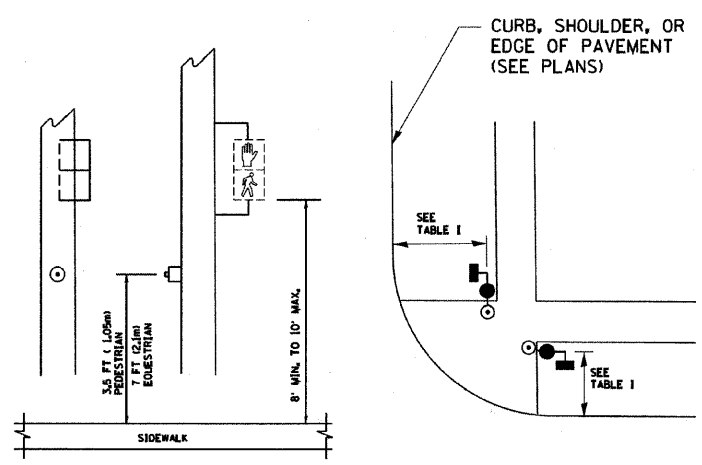


TABLE I

| 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 |

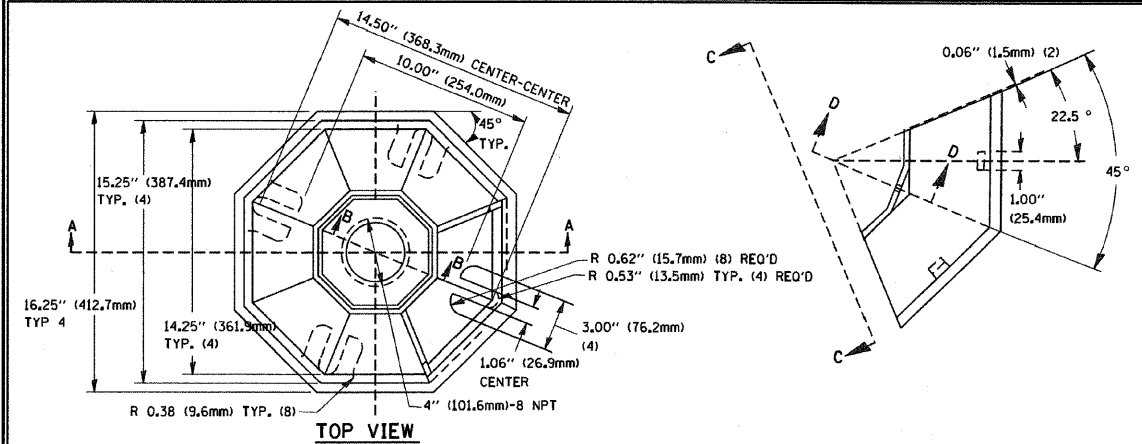
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| DATE | BY |
| | |
| PROFILE | |
| GRADES CHECKED | |
| STRUCTURE | |
| NOTATIONS | |
| NO. | |

| REVISIONS | |
|-------------------|---------|
| NAME | DATE |
| BUREAU OF TRAFFIC | 1/01/02 |
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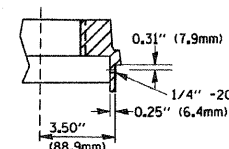
ILLINOIS DEPARTMENT OF TRANSPORTATION
 DISTRICT 1
 STANDARD TRAFFIC SIGNAL
 DESIGN DETAILS
 SCALE: NONE
 DATE: 1/17/2007
 DRAWN BY: RWP
 DESIGNED BY: DAD
 CHECKED BY: DAZ
 SHEET 2 OF 4

| | |
|----------|--|
| DATE | |
| BY | |
| REVIEWED | |
| PLANNED | |
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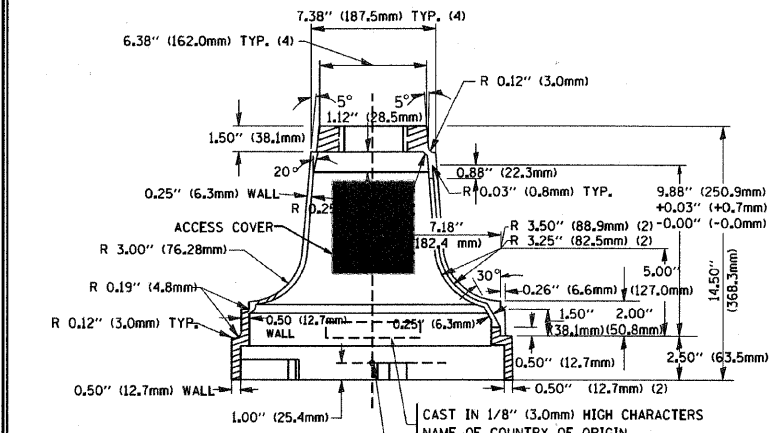
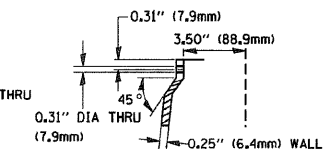
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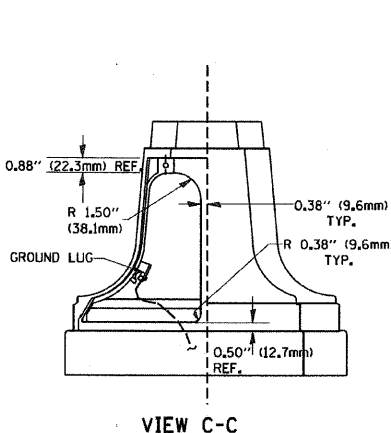
SECTION B-B



SECTION D-D

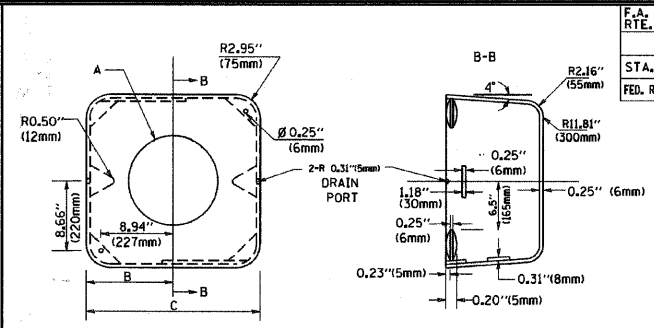


SECTION A-A



VIEW C-C

TRAFFIC SIGNAL POST - MOUNTING BASE - TYPE A

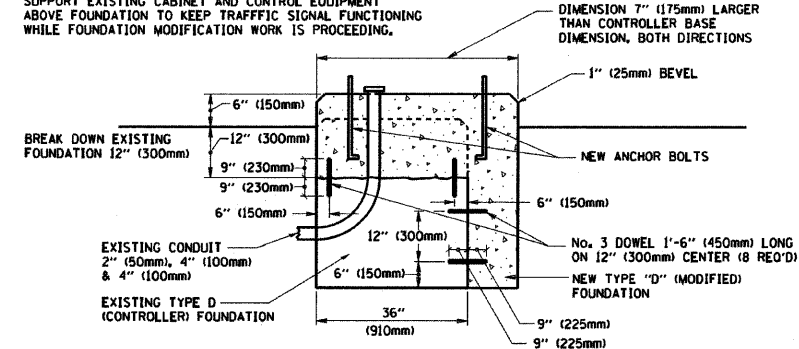


SHROUD DETAIL

| 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 |

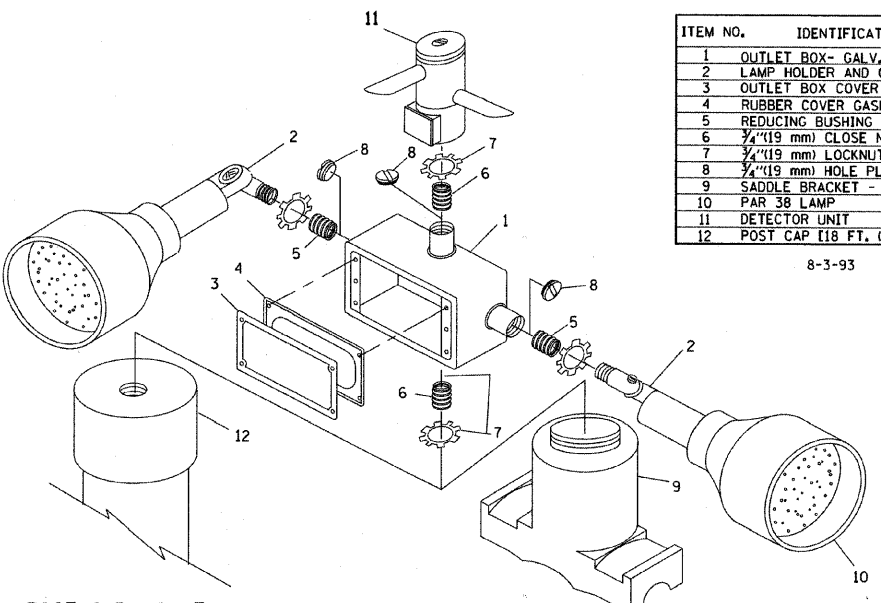
MATERIAL:
 - ASTM A48 CLASS 30 GREY IRON
 - ASTM A123 HOT DIPPED GALVANIZED

NOTE:
 SUPPORT EXISTING CABINET AND CONTROL EQUIPMENT ABOVE FOUNDATION TO KEEP TRAFFIC SIGNAL FUNCTIONING WHILE FOUNDATION MODIFICATION WORK IS PROCEEDING.



MODIFY EXISTING TYPE "D" FOUNDATION

(NOT TO SCALE)



POST CAP MOUNT

MAST ARM MOUNT

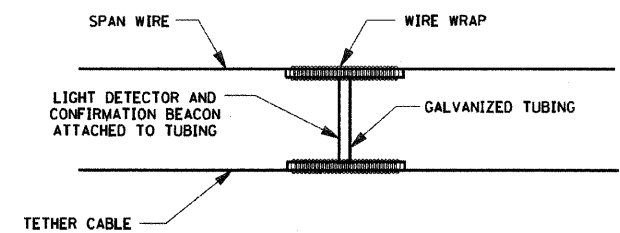
EMERGENCY VEHICLE DETECTOR WITH CONFIRMATION BEACON MOUNTING DETAIL

| 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 | 3/4\"(19 mm) CLOSE NIPPLE |
| 7 | 3/4\"(19 mm) LOCKNUT |
| 8 | 3/4\"(19 mm) HOLE PLUG |
| 10 | PAR 38 LAMP |
| 11 | DETECTOR UNIT |
| 12 | POST CAP [18 FT. (5.4 m) POST MIN.] |

8-3-93

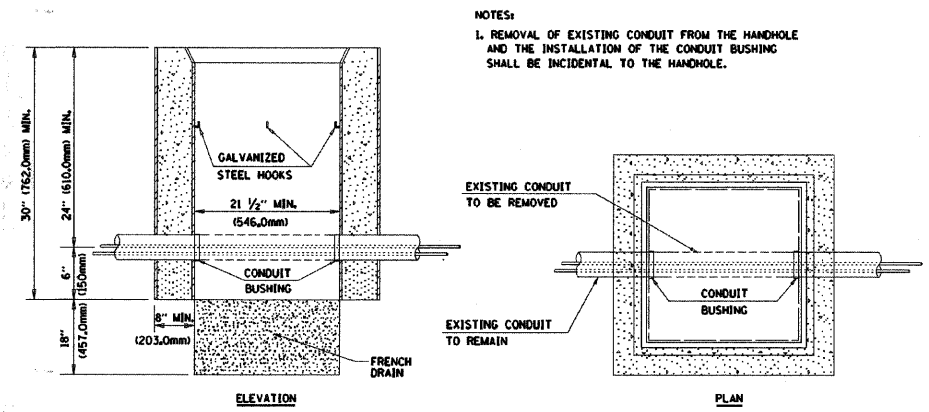
NOTES:

- ALL ELECTRICAL ITEMS, EXCEPT ITEMS #2 AND #11 SHALL BE ALUMINUM OR GALVANIZED
- ITEM #1- OZ/GEDNEY 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 CAP 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 A.T.S.

| REVISIONS | NAME | DATE |
|-----------|-------------------|----------|
| | BUREAU OF TRAFFIC | 5/30/00 |
| | BUREAU OF TRAFFIC | 3/15/01 |
| | BUREAU OF TRAFFIC | 11/12/01 |
| | BUREAU OF TRAFFIC | 1-01-02 |

ILLINOIS DEPARTMENT OF TRANSPORTATION

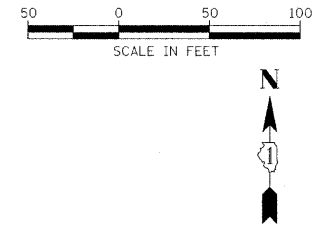
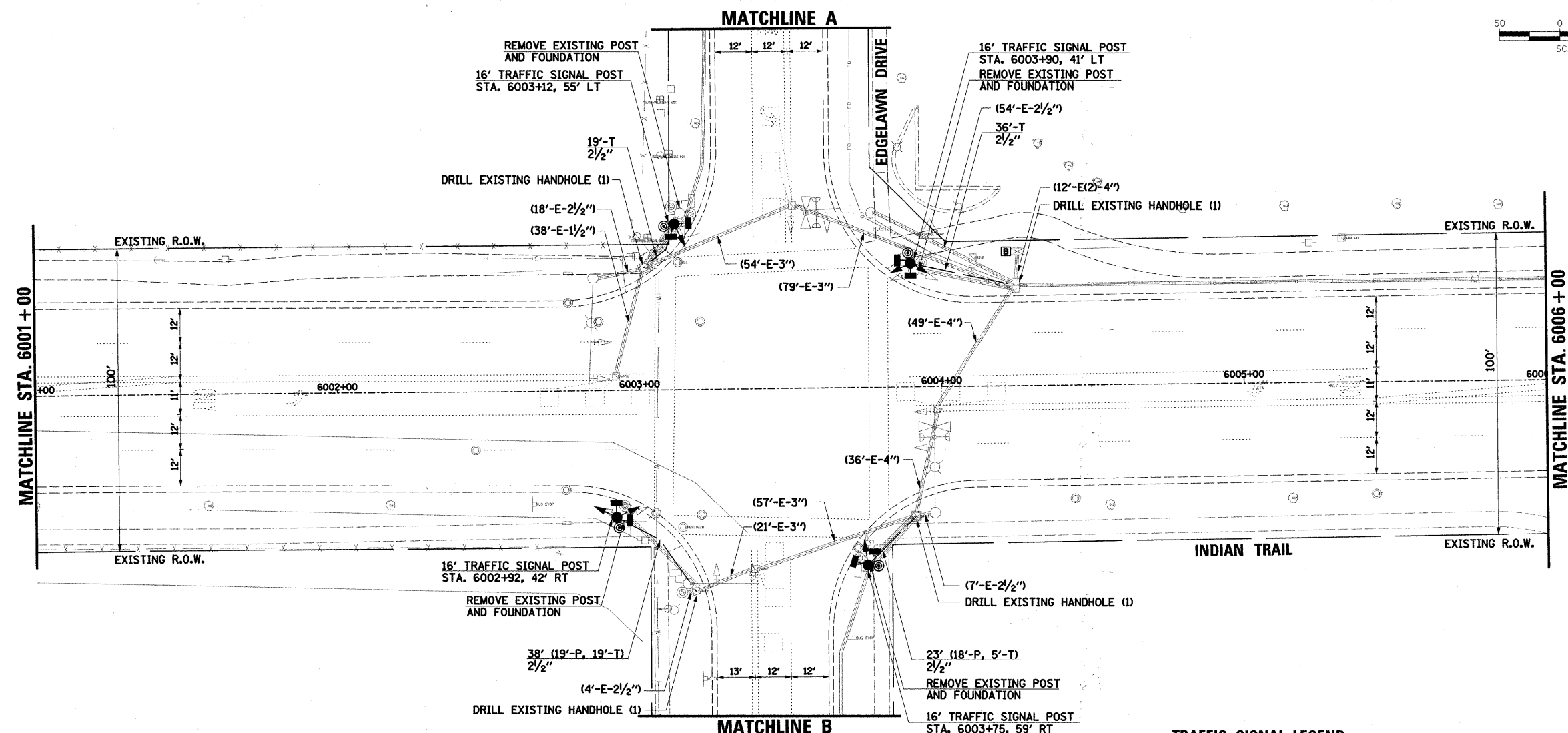
DISTRICT ONE
 STANDARD TRAFFIC SIGNAL
 DESIGN DETAILS

SCALE: NONE
 DATE: 2/15/2006

DRAWN BY: RWP
 DESIGNED BY: DAD
 CHECKED BY: DAZ
 SHEET 4 OF 4

| | |
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| DATE | |
| BY | |
| REVISIONS | |
| NO. | |
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| NO. | |
| DATE | |
| BY | |
| REVISIONS | |
| NO. | |



- NOTES:**
1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL EXISTING TRAFFIC SIGNAL OPERATIONS AT ALL TIMES DURING CONSTRUCTION.
 2. A MINIMUM OF ONE EAST-WEST AND ONE NORTH-SOUTH CROSSWALK SHALL REMAIN OPEN AT ALL TIMES IN ORDER TO MAINTAIN PEDESTRIAN ACCESS.

THE EXISTING CONDUITS (WHERE APPLICABLE) SHALL BE ABANDONED.

THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE REMOVED BY THE CONTRACTOR, SHALL REMAIN THE PROPERTY OF THE CITY OF AURORA AND SHALL BE DELIVERED BY THE CONTRACTOR TO THE MAINTENANCE FACILITY DESIGNATED BY THE CITY. THIS WORK SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT (SEE SCHEDULE OF QUANTITIES FOR REMOVAL ITEMS TO BE PAID FOR SEPERATELY).

- 4 EACH TRAFFIC SIGNAL POSTS
- 6 EACH TRAFFIC SIGNAL HEADS
- 8 EACH PEDESTRIAN SIGNAL HEADS
- 8 EACH PEDESTRIAN PUSH-BUTTONS

THE TRAFFIC SIGNAL CONTROL 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, MEDIANS, 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 | | PROPOSED | EXISTING |
|--|----------|----------|--|----------|----------|
| CONTROLLER | | | DETECTOR LOOP | | |
| SERVICE INSTALLATION | | | CAST IRON JUNCTION BOX | | |
| SIGNAL HEAD | | | EMERGENCY VEHICLE LIGHT DETECTOR | | |
| SIGNAL HEAD WITH BACKPLATE | | | CONFIRMATION BEACON | | |
| SIGNAL HEAD, PEDESTRIAN | | | SIGNAL HEAD OPTICALLY PROGRAMMED | | |
| SIGNAL POST | | | CONDUIT SPLICE | | |
| MAST ARM ASSEMBLY AND POLE, STEEL | | | WOOD POLE | | |
| MAST ARM ASSEMBLY AND POLE, ALUMINUM | | | RACEWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II | | |
| COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL WITH LUMINAIRE | | | VEHICLE DETECTOR, NON COMPENSATED MAGNETIC TYPE | | |
| UNIT DUCT | UD | | RAILROAD CONTROL CABINET | | |
| COMMON TRENCH | CT | | TELEPHONE CONNECTION | | |
| HANDHOLE | | | ILLUMINATED SIGN "NO LEFT TURN" | | |
| HEAVY DUTY HANDHOLE | | | ILLUMINATED SIGN "NO RIGHT TURN" | | |
| DOUBLE HANDHOLE | | | UNINTERRUPTABLE POWER SUPPLY | | |
| G.S. CONDUIT IN TRENCH (T) OR PUSHED (P) | | | VIDEO DETECTION CAMERA | | |
| PEDESTRIAN PUSHBUTTON DETECTOR | | | VIDEO DETECTION AREA | | |
| PAN/TILT/ZOOM CAMERA | | | WIRELESS ANTENNA | | |

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| | | DATE | REVISED |
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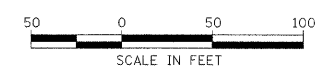
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| PLOT SCALE = | DATE |
| *SCALE* | 7/20/2009 |

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL MODIFICATION PLAN
 EDGELAWN DRIVE
 (SHEET 1 OF 3)

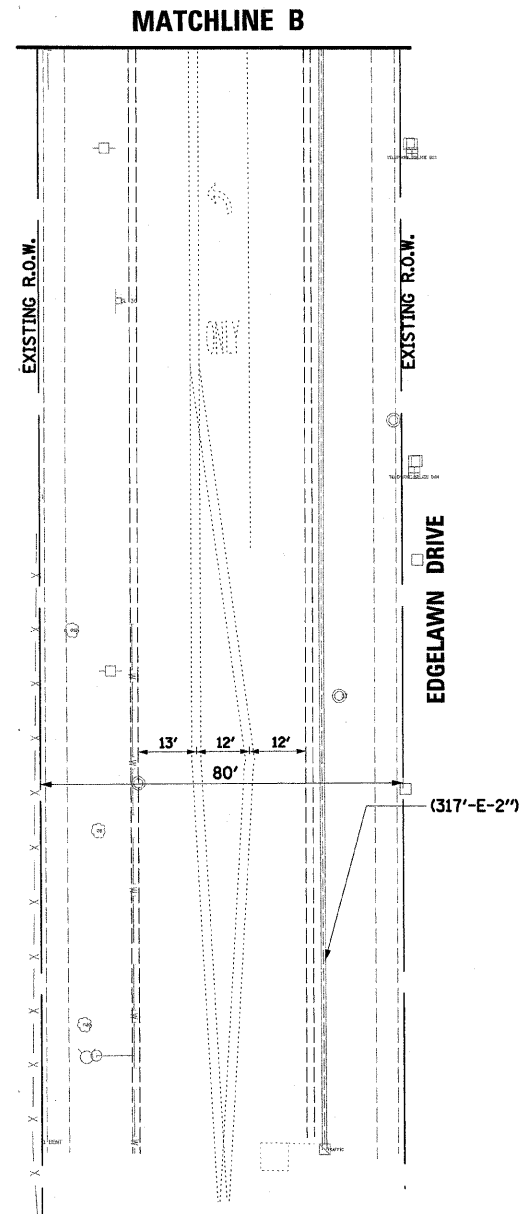
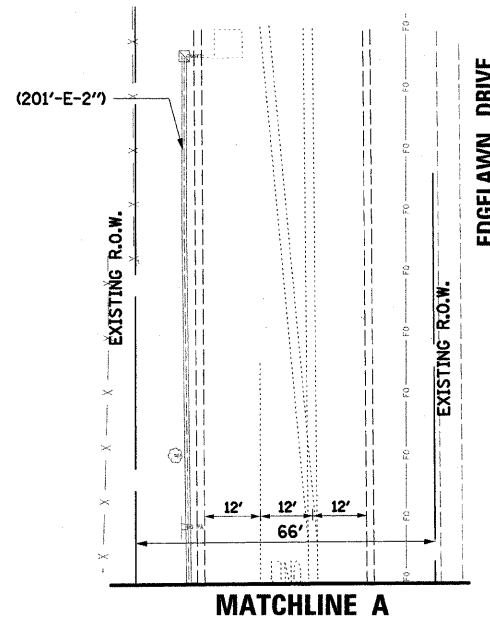
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| F.A.U. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 1503 | 08-00271-00-TL | KANE | 30 | 8 |
| FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT | | | CONTRACT NO. 63246 | |



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|---------------|-----------|------|
| PLAN | DESIGNED | DATE |
| NOTE BOOK NO. | CHECKED | BY |
| | DATE | |
| | FILE NAME | |

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| PROFILE | DESIGNED | DATE |
| NOTE BOOK NO. | CHECKED | BY |
| | DATE | |
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RESTORATION OF WORK AREA:
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TRAFFIC SIGNAL LEGEND

| | PROPOSED | EXISTING | | PROPOSED | EXISTING |
|--|----------|----------|--|----------|----------|
| CONTROLLER | | | DETECTOR LOOP | | |
| SERVICE INSTALLATION | | | CAST IRON JUNCTION BOX | | |
| SIGNAL HEAD | | | EMERGENCY VEHICLE LIGHT DETECTOR | | |
| SIGNAL HEAD WITH BACKPLATE | | | CONFIRMATION BEACON | | |
| SIGNAL HEAD, PEDESTRIAN | | | SIGNAL HEAD OPTICALLY PROGRAMMED | | |
| SIGNAL POST | | | CONDUIT SPLICE | | |
| MAST ARM ASSEMBLY AND POLE, STEEL | | | WOOD POLE | | |
| MAST ARM ASSEMBLY AND POLE, ALUMINUM | | | RACEWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II | | |
| COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL WITH LUMINAIRE | | | VEHICLE DETECTOR, NON COMPENSATED MAGNETIC TYPE | | |
| UNIT DUCT | UD | | RAILROAD CONTROL CABINET | | |
| COMMON TRENCH | CT | | TELEPHONE CONNECTION | | |
| HANDHOLE | | | ILLUMINATED SIGN "NO LEFT TURN" | | |
| HEAVY DUTY HANDHOLE | | | ILLUMINATED SIGN "NO RIGHT TURN" | | |
| DOUBLE HANDHOLE | | | UNINTERRUPTABLE POWER SUPPLY | | |
| G.S. CONDUIT IN TRENCH (T) OR PUSHED (P) | | | VIDEO DETECTION CAMERA | | |
| PEDESTRIAN PUSHBUTTON DETECTOR | | | VIDEO DETECTION AREA | | |
| PAN/TILT/ZOOM CAMERA | | | WIRELESS ANTENNA | | |

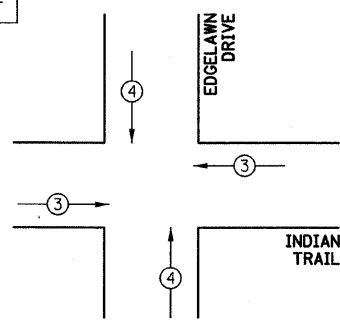
CABLE PLAN LEGEND

- | | | |
|-----------------|-----------------|---|
| EXISTING | PROPOSED | |
| | | 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 INSTALLATION |
| | | VEHICLE DETECTOR, INDUCTION LOOP |
| | | MAGNETIC DETECTOR |
| | | EMERGENCY VEHICLE LIGHT DETECTOR |
| | | CONFIRMATION BEACON |
| | | PUSHBUTTON DETECTOR |
| | | LUMINAIRE |
| | | DENOTES NUMBER OF CONDUCTORS. ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOP DETECTOR CABLE TO BE SHIELDED. |
| | | GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN) |
| | | FIBER OPTIC CABLE IN CONDUIT NO. 62.5/125 2-MM12F SM12F |
| | | SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD. |
| | | RAILROAD CONTROL CABINET |
| | | ILLUMINATED SIGN "NO LEFT TURN" |
| | | ILLUMINATED SIGN "NO RIGHT TURN" |
| | | WIRELESS ANTENNA |
| | | GROUND ROD AT HANDHOLE (H), DOUBLE HANDHOLE (H), OR CONTROLLER (C) |
| | | GROUND ROD AT POST (P) OR MAST ARM POLE (MA) |
| | | GROUND ROD AT ELECTRIC SERVICE INSTALLATION |
| | | UNINTERRUPTIBLE POWER SUPPLY |
| | | LED STREET NAME SIGN |
| | | VIDEO DETECTION CAMERA |
| | | PAN/TILT/ZOOM CAMERA |

EXISTING INTERSECTION AND PROPOSED SAMPLING (SYSTEM) DETECTORS

- 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

EMERGENCY VEHICLE PREEMPTION SEQUENCE



| PROPOSED EMERGENCY VEHICLE PREEMPTORS | | |
|---------------------------------------|---|---|
| PROPOSED EMERGENCY VEHICLE PREEMPTORS | 3 | 4 |
| MOVEMENT | ← | → |

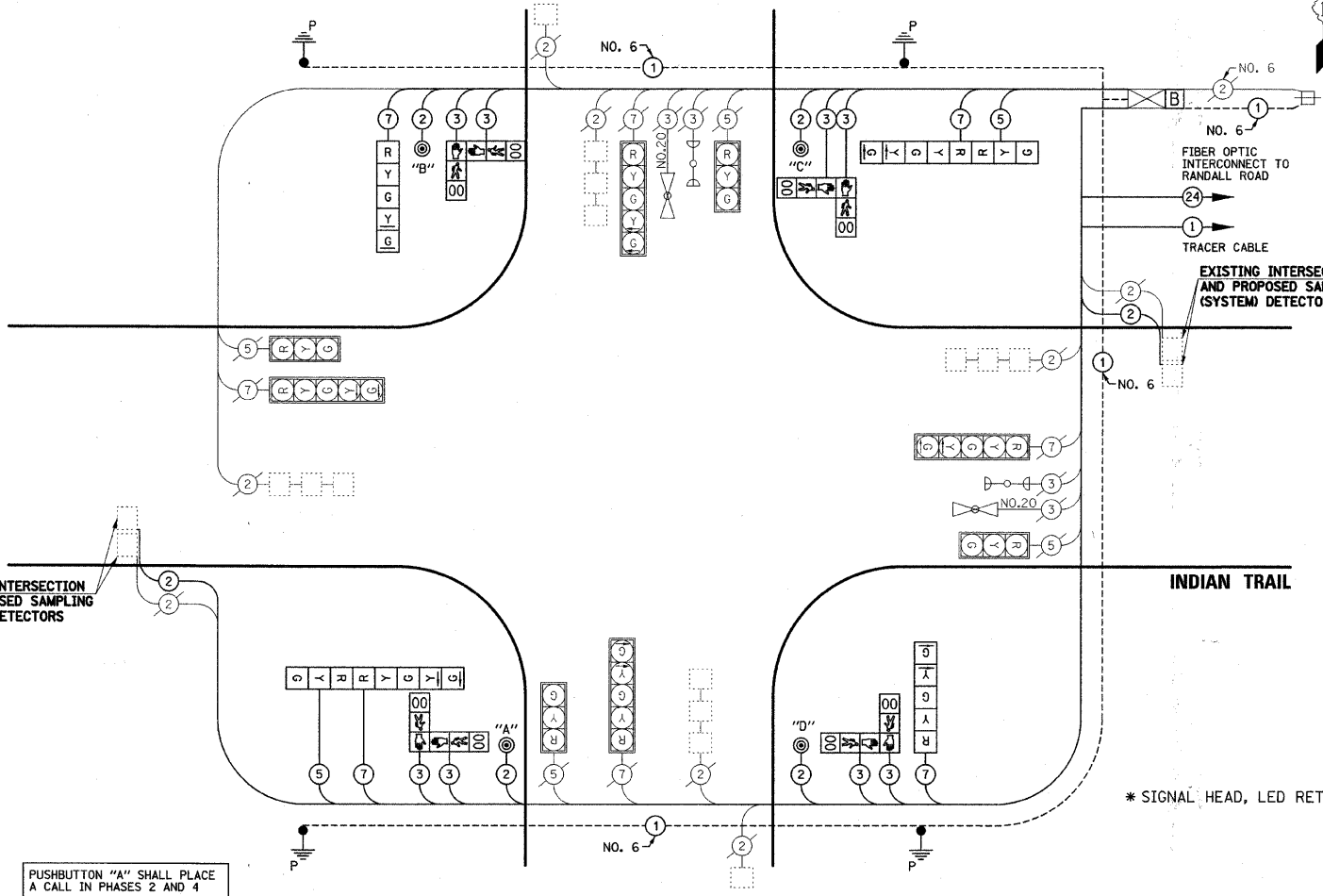
| FOUNDATION (DEPTH) | FT. (m) | CABLE SLACK | FT. (m) | VERTICAL | FT. (m) |
|--------------------|-------------|------------------|-----------|-------------------|--------------|
| TYPE A - POST | 4 (1.2) | HANDHOLE | 6.5 (2.0) | ALL FOUNDATIONS | 3.5 (1.0) |
| C - CONTROLLER | 4 (1.2) | DOUBLE HANDHOLE | 13 (4.0) | MAST ARM (L) POLE | 20'H-L-2= |
| D - CONTROLLER | 4 (1.2) | SIGNAL POST | 2 (1.0) | | (6m+L-0.6m) |
| E - M.A. LENGTH | | CONTROLLER CAB. | 1 (0.5) | BRACKET MOUNTED | 13 (4.0) |
| <30' | 30" (900mm) | FIBER OPTIC | 13 (4.0) | PED. PUSHBUTTON | 4 (1.2) |
| <40' | 30" (750mm) | ELECTRIC SERVICE | 1 (0.5) | ELECTRIC SERVICE | 13.5 (4.1) |
| <40' | 36" (900mm) | GROUND CABLE | 1 (0.5) | SERVICE TO GROUND | 13.5 (4.1) |
| <50' | 36" (900mm) | | | POST MOUNTED | 6 (1.8) |
| >50' | 36" (900mm) | | | | |
| TOTAL = | | | | | 603.2 |

| I.D.O.T TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS | | | | | |
|---|-----------|---------|-------------|---------------|------|
| TYPE | NO. LAMPS | WATTAGE | % OPERATION | TOTAL WATTAGE | |
| | | INCAND. | LED | | |
| SIGNAL (RED) | 14 | | 17 | 0.50 | 119 |
| (YELLOW) | 14 | | 25 | 0.25 | 87.5 |
| (GREEN) | 14 | | 15 | 0.25 | 52.5 |
| ARROW | 16 | | 12 | 0.10 | 19.2 |
| PED. SIGNAL | 8 | | 25 | 1.00 | 200 |
| CONTROLLER | 1 | | 100 | 1.00 | 100 |
| UPS | 1 | | 25 | 1.00 | 25 |

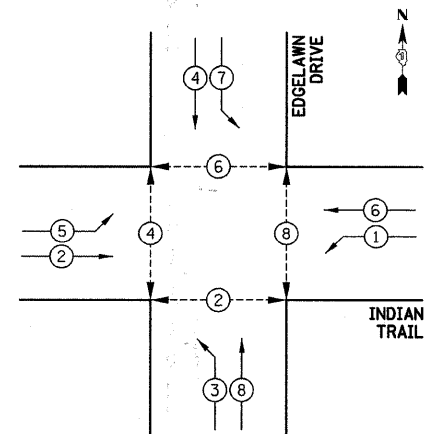
ENERGY COSTS TO: CITY OF AURORA
44 E. DOWNER PLACE
AURORA, ILLINOIS 60507-2067

ENERGY SUPPLY CONTACT: MARK SCHERIBEL
PHONE: (630) 723-2128
COMPANY: COMMONWEALTH EDISON

EDGELAWN DRIVE



CONTROLLER SEQUENCE



PHASE DESIGNATION DIAGRAM

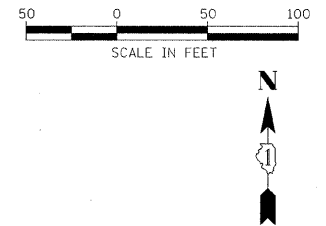
SCHEDULE OF QUANTITIES

| PAY ITEM DESCRIPTION | UNIT | EDGELAWN DRIVE |
|---|------|----------------|
| CONDUIT IN TRENCH, 2 1/2" DIA., GALVANIZED STEEL | FOOT | 79 |
| CONDUIT PUSHED, 2 1/2" DIA., GALVANIZED STEEL | FOOT | 37 |
| TRENCH AND BACKFILL FOR ELECTRICAL WORK | FOOT | 79 |
| MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION | EACH | 1 |
| ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C | FOOT | 697 |
| ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C | FOOT | 1450 |
| ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C | FOOT | 351 |
| ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C | FOOT | 725 |
| ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR | FOOT | 854 |
| TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT. | EACH | 4 |
| CONCRETE FOUNDATION, TYPE A | FOOT | 16 |
| DRILL EXISTING HANDHOLE | EACH | 4 |
| SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED | EACH | 2 |
| SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED | EACH | 2 |
| PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER | EACH | 4 |
| INDUCTIVE LOOP DETECTOR | EACH | 2 |
| PEDESTRIAN PUSH-BUTTON | EACH | 4 |
| MODIFY EXISTING CONTROLLER (SPECIAL) | EACH | 1 |
| REMOVE ELECTRIC CABLE FROM CONDUIT | FOOT | 3788 |
| REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT | EACH | 1 |
| REMOVE EXISTING CONCRETE FOUNDATION | EACH | 4 |
| PAINT TRAFFIC SIGNAL POST | EACH | 4 |
| UNINTERRUPTIBLE POWER SUPPLY | EACH | 1 |
| ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C | FOOT | 1156.5 |
| GROUND EXISTING HANDHOLE FRAME AND COVER | EACH | 10 |

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

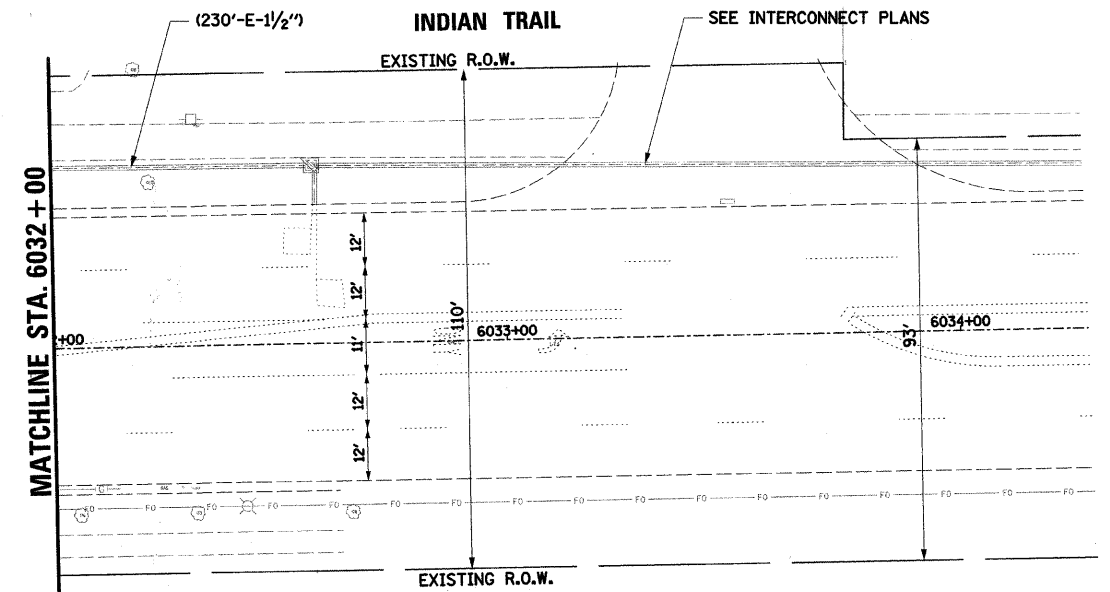
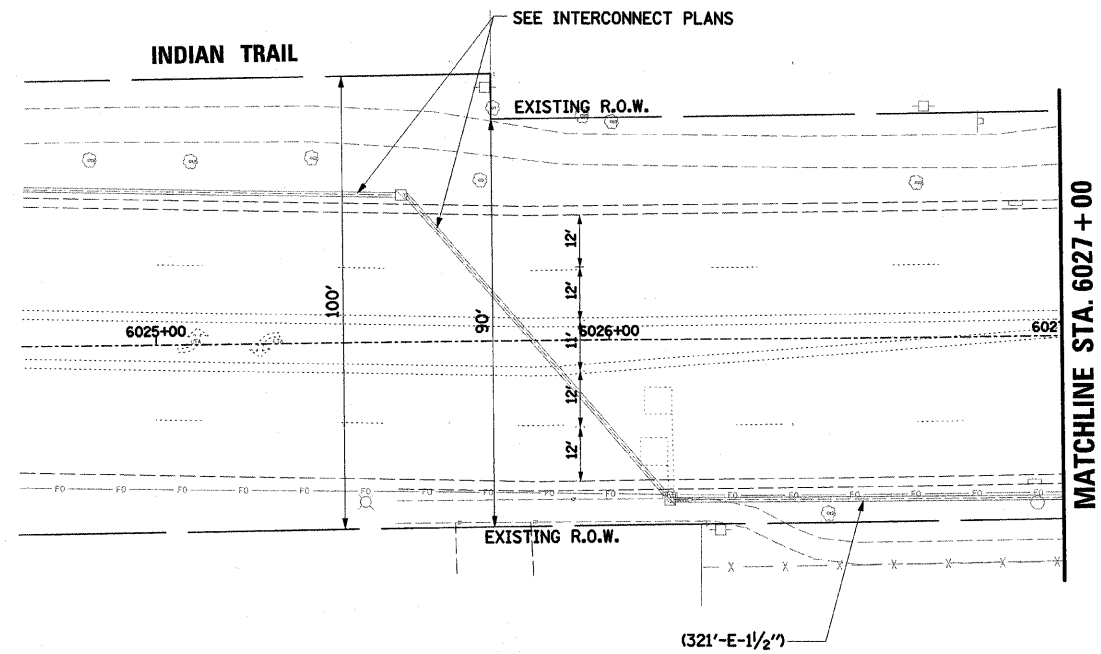
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| PROFILE | |
| SURVEYED | CHECKED |
| GRADES | CHECKED |
| NOTE BOOK | NO. |
| NO. | STRUCTURE NOTATIONS CHECKED |



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, MEDIANS, 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 | | PROPOSED | EXISTING |
|--|----------|----------|--|----------|----------|
| CONTROLLER | | | DETECTOR LOOP | | |
| SERVICE INSTALLATION | | | CAST IRON JUNCTION BOX | | |
| SIGNAL HEAD | | | EMERGENCY VEHICLE LIGHT DETECTOR | | |
| SIGNAL HEAD WITH BACKPLATE | | | CONFIRMATION BEACON | | |
| SIGNAL HEAD, PEDESTRIAN | | | SIGNAL HEAD OPTICALLY PROGRAMMED | | |
| SIGNAL POST | | | CONDUIT SPLICE | | |
| MAST ARM ASSEMBLY AND POLE, STEEL | | | WOOD POLE | | |
| MAST ARM ASSEMBLY AND POLE, ALUMINUM | | | RACEWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II | | |
| COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL WITH LUMINAIRE | | | VEHICLE DETECTOR, NON COMPENSATED MAGNETIC TYPE | | |
| UNIT DUCT | UD | | RAILROAD CONTROL CABINET | | |
| COMMON TRENCH | CT | | TELEPHONE CONNECTION | | |
| HANDHOLE | | | ILLUMINATED SIGN "NO LEFT TURN" | | |
| HEAVY DUTY HANDHOLE | | | ILLUMINATED SIGN "NO RIGHT TURN" | | |
| DOUBLE HANDHOLE | | | UNINTERRUPTABLE POWER SUPPLY | | |
| G.S. CONDUIT IN TRENCH (T) OR PUSHED (P) | | | VIDEO DETECTION CAMERA | | |
| PEDESTRIAN PUSHBUTTON DETECTOR | | | VIDEO DETECTION AREA | | |
| PAN/TILT/ZOOM CAMERA | | | WIRELESS ANTENNA | | |

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| DRAWN BAH | REVISIONS | |
| CHECKED APS | DATE | |
| PLOT DATE = 7/28/2009 | | |

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

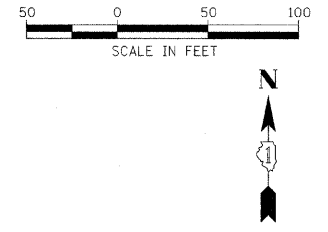
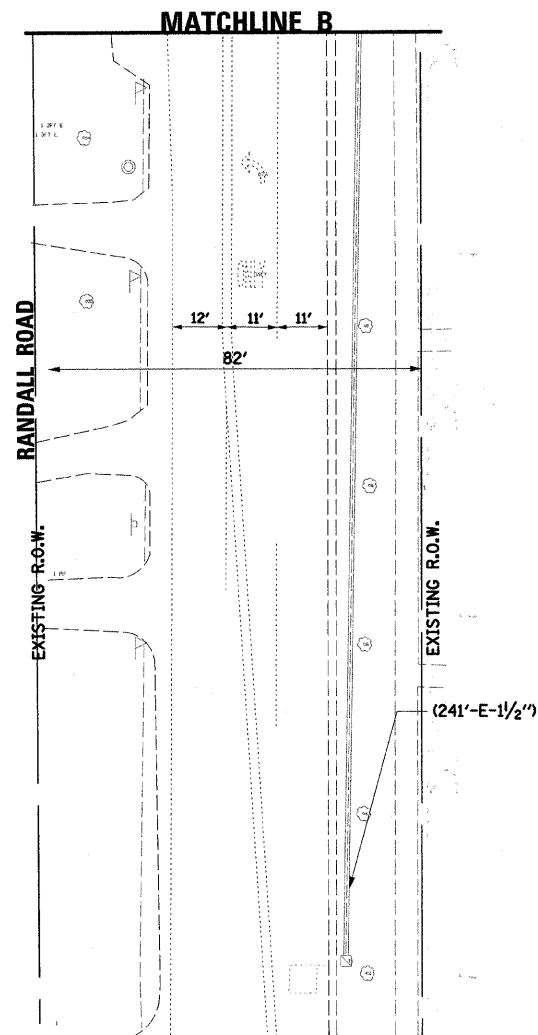
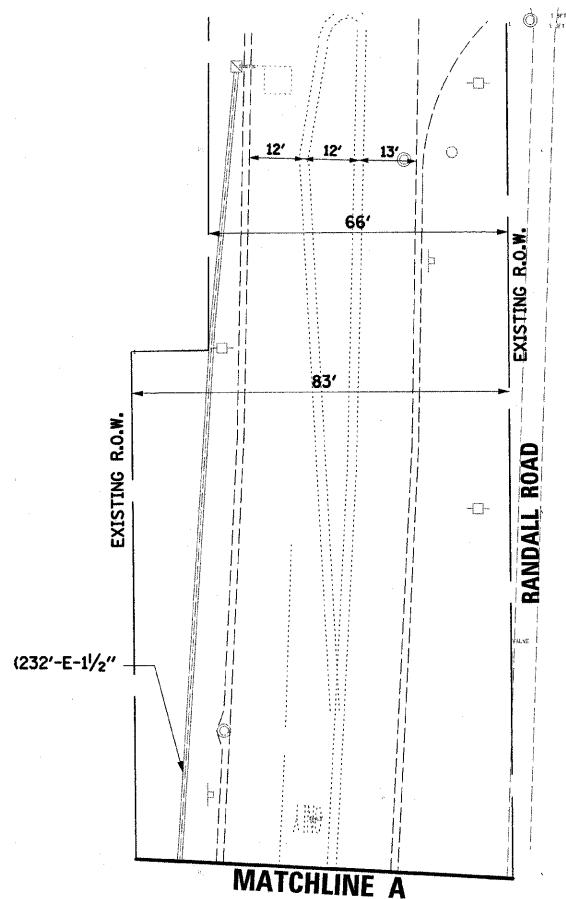
**TRAFFIC SIGNAL MODIFICATION PLAN
 RANDALL ROAD
 (SHEET 2 OF 3)**

| | | | | |
|--------------------|------------------------|-------------|---------------------------|--------------|
| F.A.U. RTE. 1503 | SECTION 08-00271-00-TL | COUNTY KANE | TOTAL SHEETS 30 | SHEET NO. 13 |
| CONTRACT NO. 63246 | | | ILLINOIS FED. AID PROJECT | |

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

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| SURVEYED | BY |
| ALIGNED | |
| CHECKED | |
| NOTE BOOK | |
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| NO. | |
| STRUCTURE NOTATIONS CHECKED | |



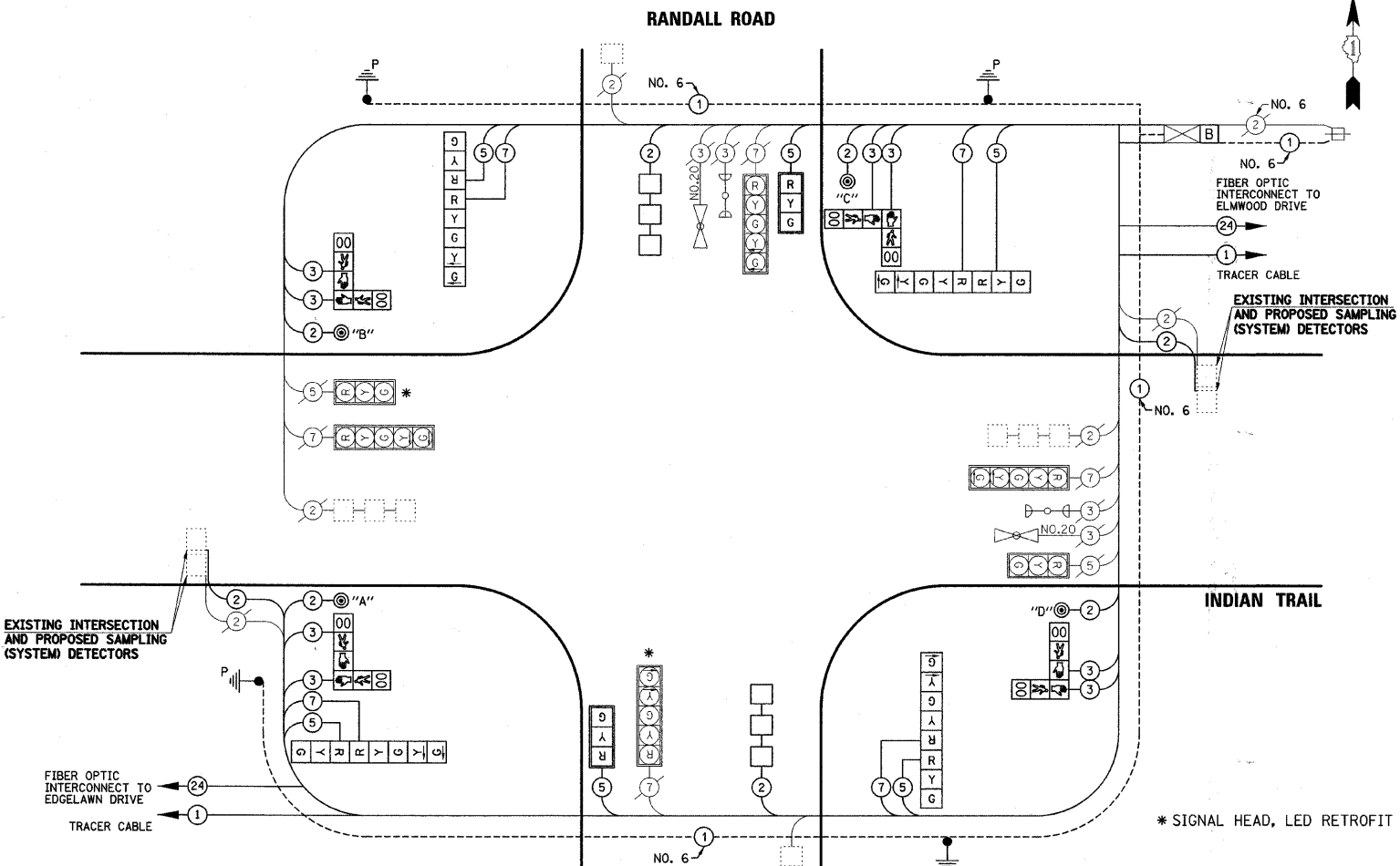
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TRAFFIC SIGNAL LEGEND

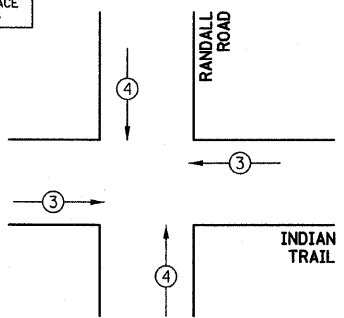
| | PROPOSED | EXISTING | | PROPOSED | EXISTING |
|--|----------|----------|--|----------|----------|
| CONTROLLER | | | DETECTOR LOOP | | |
| SERVICE INSTALLATION | | | CAST IRON JUNCTION BOX | | |
| SIGNAL HEAD | | | EMERGENCY VEHICLE LIGHT DETECTOR | | |
| SIGNAL HEAD WITH BACKPLATE | | | CONFIRMATION BEACON | | |
| SIGNAL HEAD, PEDESTRIAN | | | SIGNAL HEAD OPTICALLY PROGRAMMED | | |
| SIGNAL POST | | | CONDUIT SPLICE | | |
| MAST ARM ASSEMBLY AND POLE, STEEL | | | WOOD POLE | | |
| MAST ARM ASSEMBLY AND POLE, ALUMINUM | | | RACEWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II | | |
| COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL WITH LUMINAIRE | | | VEHICLE DETECTOR, NON COMPENSATED MAGNETIC TYPE | | |
| UNIT DUCT | UD | | RAILROAD CONTROL CABINET | | |
| COMMON TRENCH | CT | | TELEPHONE CONNECTION | | |
| HANDHOLE | | | ILLUMINATED SIGN "NO LEFT TURN" | | |
| HEAVY DUTY HANDHOLE | | | ILLUMINATED SIGN "NO RIGHT TURN" | | |
| DOUBLE HANDHOLE | | | UNINTERRUPTABLE POWER SUPPLY | | |
| G.S. CONDUIT IN TRENCH (T) OR PUSHED (P) | | | VIDEO DETECTION CAMERA | | |
| PEDESTRIAN PUSHBUTTON DETECTOR | | | VIDEO DETECTION AREA | | |
| PAN/TILT/ZOOM CAMERA | | | WIRELESS ANTENNA | | |

CABLE PLAN LEGEND

- | | | |
|-----------------|-----------------|---|
| EXISTING | PROPOSED | |
| | | 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 INSTALLATION |
| | | VEHICLE DETECTOR, INDUCTION LOOP |
| | | MAGNETIC DETECTOR |
| | | EMERGENCY VEHICLE LIGHT DETECTOR |
| | | CONFIRMATION BEACON |
| | | PUSHBUTTON DETECTOR |
| | | LUMINAIRE |
| | | DENOTES NUMBER OF CONDUCTORS. ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOP DETECTOR CABLE TO BE SHIELDED. |
| | | GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN) |
| | | FIBER OPTIC CABLE IN CONDUIT NO. 62.5/125 2-MM12F SM12F |
| | | SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD. |
| | | RAILROAD CONTROL CABINET |
| | | ILLUMINATED SIGN "NO LEFT TURN" |
| | | ILLUMINATED SIGN "NO RIGHT TURN" |
| | | WIRELESS ANTENNA |
| | | GROUND ROD AT HANDHOLE (H), DOUBLE HANDHOLE (H), OR CONTROLLER (C) |
| | | GROUND ROD AT POST (P) OR MAST ARM POLE (MA) |
| | | GROUND ROD AT ELECTRIC SERVICE INSTALLATION |
| | | UNINTERRUPTIBLE POWER SUPPLY |
| | | LED STREET NAME SIGN |
| | | VIDEO DETECTION CAMERA |
| | | PAN/TILT/ZOOM CAMERA |



- 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



EMERGENCY VEHICLE PREEMPTION SEQUENCE

| PROPOSED EMERGENCY VEHICLE PREEMPTORS | |
|---------------------------------------|----------|
| PROPOSED EMERGENCY VEHICLE PREEMPTORS | MOVEMENT |
| 3 | 4 |
| ← | ↑ |

| 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) |
| C - CONTROLLER | 4 (1.2) | DOUBLE HANDHOLE | 13 (4.0) | MAST ARM (L) POLE | 20'-H-2= |
| D - CONTROLLER | 4 (1.2) | SIGNAL POST | 2 (1.0) | | (6m-H-0.6m) |
| E - M.A. LENGTH | | CONTROLLER CAB. | 1 (0.5) | BRACKET MOUNTED | 13 (4.0) |
| <30' | 30" (900mm) | FIBER OPTIC | 13 (4.0) | PED. PUSHBUTTON | 4 (1.2) |
| <40' | 30" (750mm) | ELECTRIC SERVICE | 1 (0.5) | ELECTRIC SERVICE | 13.5 (4.1) |
| <40' | 36" (900mm) | GROUND CABLE | 1 (0.5) | SERVICE TO GROUND | 13.5 (4.1) |
| <50' | 36" (900mm) | | | POST MOUNTED | 6 (1.8) |
| ≥50' | 36" (900mm) | | | | |

| I.D.O.T TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS | | | | | |
|---|-----------|---------|-----|-------------|---------------|
| TYPE | NO. LAMPS | WATTAGE | | % OPERATION | TOTAL WATTAGE |
| | | INCAND. | LED | | |
| SIGNAL (RED) | 16 | | 17 | 0.50 | 136 |
| (YELLOW) | 16 | | 25 | 0.25 | 100 |
| (GREEN) | 16 | | 15 | 0.25 | 60 |
| ARROW | 16 | | 12 | 0.10 | 19.2 |
| PED. SIGNAL | 8 | | 25 | 1.00 | 200 |
| CONTROLLER | 1 | | 100 | 1.00 | 100 |
| UPS | 1 | | 25 | 1.00 | 25 |
| TOTAL = | | | | | 640.2 |

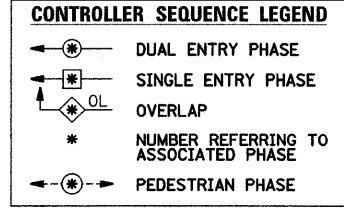
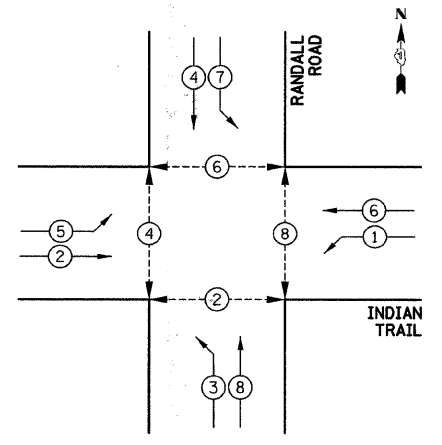
ENERGY COSTS TO: CITY OF AURORA
44 E. DOWNER PLACE
AURORA, ILLINOIS 60507-2067

ENERGY SUPPLY CONTACT: MARK SCHERIBEL
PHONE: (630) 723-2128
COMPANY: COMMONWEALTH EDISON

SCHEDULE OF QUANTITIES

| PAY ITEM DESCRIPTION | UNIT | RANDALL ROAD |
|---|------|--------------|
| CONDUIT IN TRENCH, 2 1/2" DIA., GALVANIZED STEEL | FOOT | 47 |
| CONDUIT PUSHED, 2 1/2" DIA., GALVANIZED STEEL | FOOT | 10 |
| TRENCH AND BACKFILL FOR ELECTRICAL WORK | FOOT | 85 |
| MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION | EACH | 1 |
| ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C | FOOT | 734 |
| ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C | FOOT | 1524 |
| ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C | FOOT | 1090.5 |
| ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C | FOOT | 694 |
| ELECTRIC CABLE IN CONDUIT, LEAD IN, NO. 14 1 PAIR | FOOT | 1137 |
| TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT. | EACH | 4 |
| CONCRETE FOUNDATION, TYPE A | FOOT | 16 |
| DRILL EXISTING HANDHOLE | EACH | 10 |
| SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED | EACH | 2 |
| SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED | EACH | 4 |
| PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER | EACH | 4 |
| TRAFFIC SIGNAL BACKPLATE, LOUVERED | EACH | 2 |
| INDUCTIVE LOOP DETECTOR | EACH | 4 |
| DETECTOR LOOP, TYPE 1 | FOOT | 256 |
| PEDESTRIAN PUSH-BUTTON | EACH | 4 |
| MODIFY EXISTING CONTROLLER (SPECIAL) | EACH | 1 |
| REMOVE ELECTRIC CABLE FROM CONDUIT | FOOT | 4342 |
| REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT | EACH | 1 |
| REMOVE EXISTING CONCRETE FOUNDATION | EACH | 4 |
| PAINT TRAFFIC SIGNAL POST | EACH | 4 |
| UNINTERRUPTIBLE POWER SUPPLY | EACH | 1 |
| ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C | FOOT | 671.5 |
| GROUND EXISTING HANDHOLE FRAME AND COVER | EACH | 7 |
| SIGNAL HEAD, LED, 3-SECTION, MAST ARM MOUNTED, RETROFIT | EACH | 1 |
| SIGNAL HEAD, LED, 5-SECTION, MAST ARM MOUNTED, RETROFIT | EACH | 1 |

CONTROLLER SEQUENCE



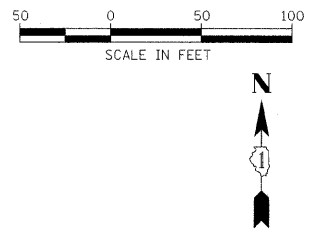
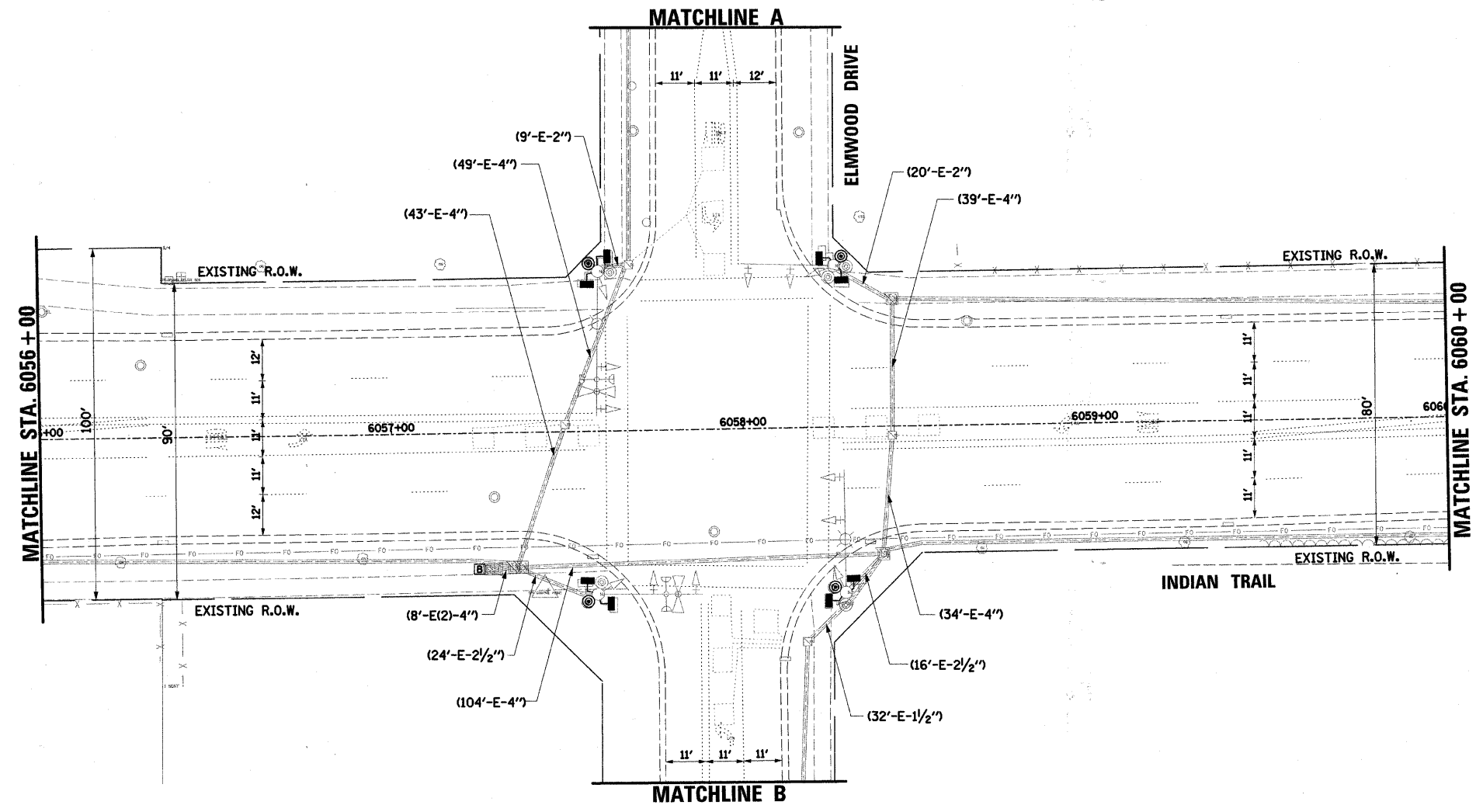
THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM.

PHASE DESIGNATION DIAGRAM

DATE: _____ BY: _____
 PLAN: _____
 CHECKED: _____
 DATE: _____ BY: _____
 PROFILE: _____
 CHECKED: _____
 DATE: _____

| | |
|-----------|------|
| PLAN | DATE |
| BY | |
| REVIEWED | |
| DESIGNED | |
| CHECKED | |
| APPROVED | |
| FILE NAME | |
| NO. | |

| | |
|-----------|------|
| PROFILE | DATE |
| BY | |
| REVIEWED | |
| DESIGNED | |
| CHECKED | |
| APPROVED | |
| FILE NAME | |
| NO. | |



- NOTES:**
1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL EXISTING TRAFFIC SIGNAL OPERATIONS AT ALL TIMES DURING CONSTRUCTION.
 2. A MINIMUM OF ONE EAST-WEST AND ONE NORTH-SOUTH CROSSWALK SHALL REMAIN OPEN AT ALL TIMES IN ORDER TO MAINTAIN PEDESTRIAN ACCESS.

THE TRAFFIC SIGNAL CONTROL 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, MEDIANS, 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 EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE REMOVED BY THE CONTRACTOR, SHALL REMAIN THE PROPERTY OF THE CITY OF AURORA AND SHALL BE DELIVERED BY THE CONTRACTOR TO THE MAINTENANCE FACILITY DESIGNATED BY THE CITY. THIS WORK SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT (SEE SCHEDULE OF QUANTITIES FOR REMOVAL ITEMS TO BE PAID FOR SEPERATELY).

- 8 EACH PEDESTRIAN SIGNAL HEADS
- 8 EACH PEDESTRIAN PUSH-BUTTONS

TRAFFIC SIGNAL LEGEND

| | PROPOSED | EXISTING | | PROPOSED | EXISTING |
|--|----------|----------|--|----------|----------|
| CONTROLLER | | | DETECTOR LOOP | | |
| SERVICE INSTALLATION | | | CAST IRON JUNCTION BOX | | |
| SIGNAL HEAD | | | EMERGENCY VEHICLE LIGHT DETECTOR | | |
| SIGNAL HEAD WITH BACKPLATE | | | CONFIRMATION BEACON | | |
| SIGNAL HEAD, PEDESTRIAN | | | SIGNAL HEAD OPTICALLY PROGRAMMED | | |
| SIGNAL POST | | | CONDUIT SPLICE | | |
| MAST ARM ASSEMBLY AND POLE, STEEL | | | WOOD POLE | | |
| MAST ARM ASSEMBLY AND POLE, ALUMINUM | | | RACEWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II | | |
| COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL WITH LUMINAIRE | | | VEHICLE DETECTOR, NON COMPENSATED MAGNETIC TYPE | | |
| UNIT DUCT | UD | | RAILROAD CONTROL CABINET | | |
| COMMON TRENCH | CT | | TELEPHONE CONNECTION | | |
| HANDHOLE | | | ILLUMINATED SIGN "NO LEFT TURN" | | |
| HEAVY DUTY HANDHOLE | | | ILLUMINATED SIGN "NO RIGHT TURN" | | |
| DOUBLE HANDHOLE | | | UNINTERRUPTABLE POWER SUPPLY | | |
| G.S. CONDUIT IN TRENCH (T) OR PUSHED (P) | | | VIDEO DETECTION CAMERA | | |
| PEDESTRIAN PUSHBUTTON DETECTOR | | | VIDEO DETECTION AREA | | |
| PAN/TILT/ZOOM CAMERA | | | WIRELESS ANTENNA | | |

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 DRAWN BAH
 CHECKED APS
 PLOT DATE = 7/20/2009

DESIGNED -
 DRAWN BAH
 CHECKED APS
 DATE -

REVISED -
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 REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

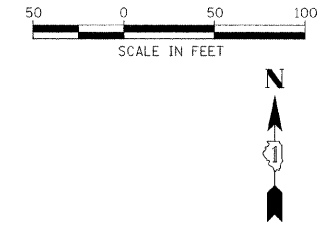
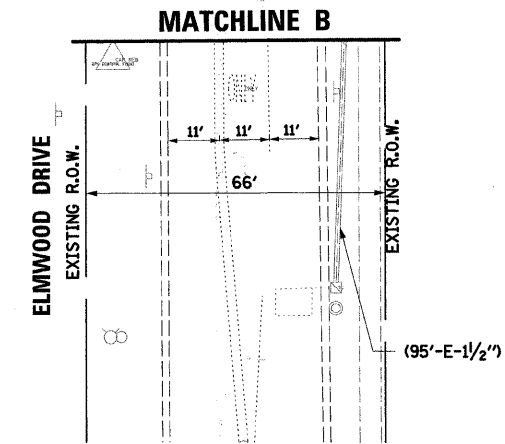
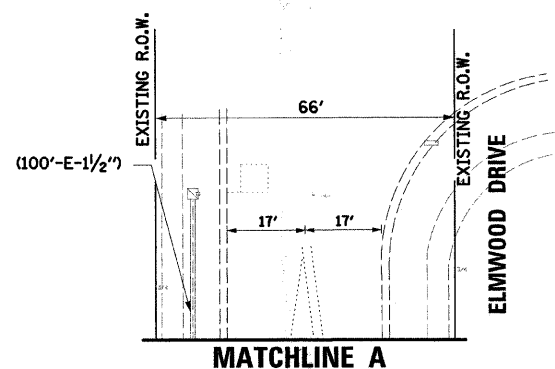
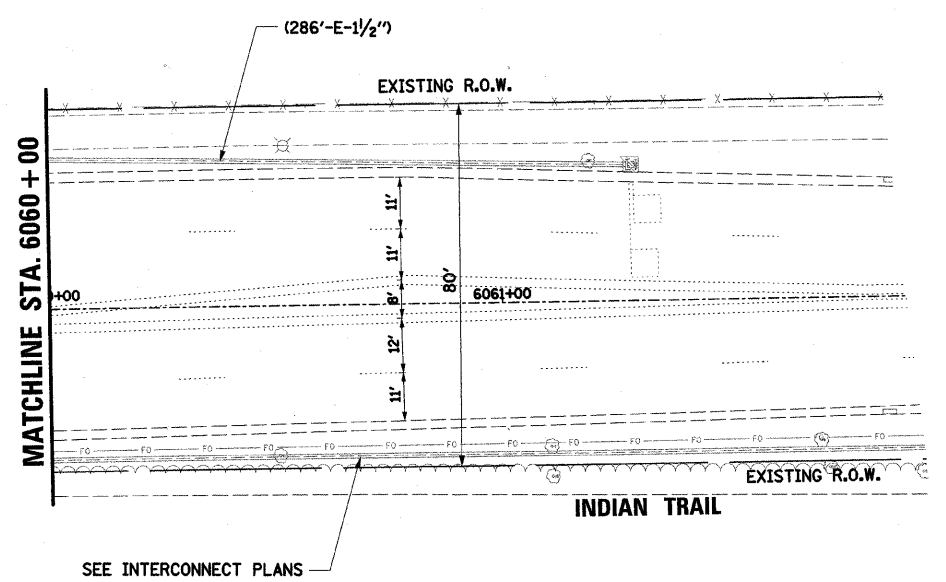
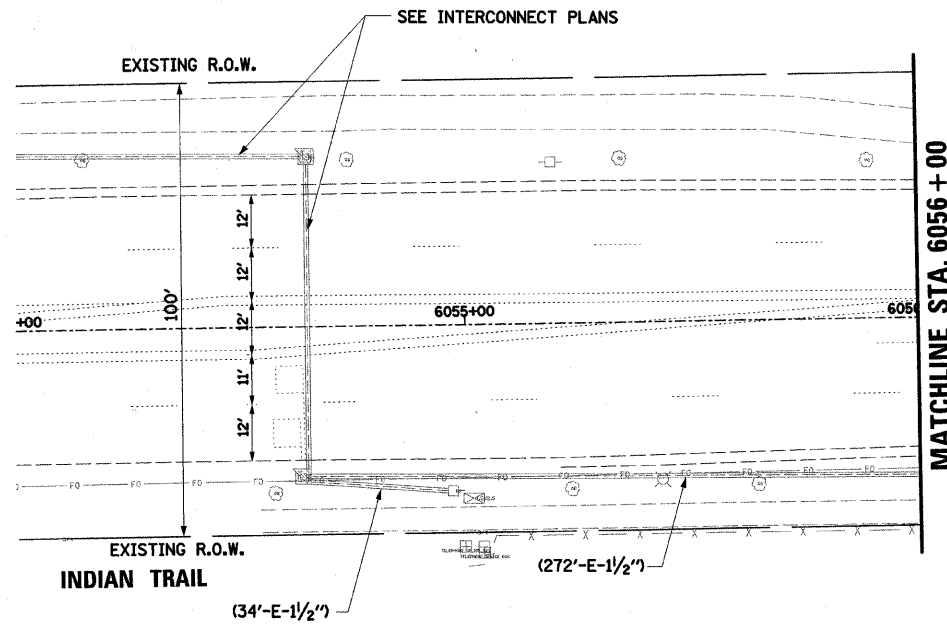
TRAFFIC SIGNAL MODIFICATION PLAN
 ELMWOOD DRIVE
 (SHEET 1 OF 2)

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

| | | | | |
|---|----------------|--------|--------------------|-----------|
| F.A.U. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 1503 | 08-00271-00-TL | KANE | 30 | 16 |
| FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT | | | CONTRACT NO. 63246 | |

| | |
|-------------------|------|
| PLAN | DATE |
| BY | |
| DESIGNED | |
| GRADES CHECKED | |
| ALIGNMENT CHECKED | |
| ASST. FILE NAME | |
| NO. | |

| | |
|-------------------|------|
| PROFILE | DATE |
| BY | |
| DESIGNED | |
| GRADES CHECKED | |
| ALIGNMENT CHECKED | |
| ASST. FILE NAME | |
| NO. | |



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, MEDIANS, 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 | | PROPOSED | EXISTING |
|--|----------|----------|--|----------|----------|
| CONTROLLER | | | DETECTOR LOOP | | |
| SERVICE INSTALLATION | | | CAST IRON JUNCTION BOX | | |
| SIGNAL HEAD | | | EMERGENCY VEHICLE LIGHT DETECTOR | | |
| SIGNAL HEAD WITH BACKPLATE | | | CONFIRMATION BEACON | | |
| SIGNAL HEAD, PEDESTRIAN | | | SIGNAL HEAD OPTICALLY PROGRAMMED | | |
| SIGNAL POST | | | CONDUIT SPLICE | | |
| MAST ARM ASSEMBLY AND POLE, STEEL | | | WOOD POLE | | |
| MAST ARM ASSEMBLY AND POLE, ALUMINUM | | | RACEWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II | | |
| COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL WITH LUMINAIRE | | | VEHICLE DETECTOR, NON COMPENSATED MAGNETIC TYPE | | |
| UNIT DUCT | | | RAILROAD CONTROL CABINET | | |
| COMMON TRENCH | | | TELEPHONE CONNECTION | | |
| HANDHOLE | | | ILLUMINATED SIGN "NO LEFT TURN" | | |
| HEAVY DUTY HANDHOLE | | | ILLUMINATED SIGN "NO RIGHT TURN" | | |
| DOUBLE HANDHOLE | | | UNINTERRUPTABLE POWER SUPPLY | | |
| G.S. CONDUIT IN TRENCH (T) OR PUSHED (P) | | | VIDEO DETECTION CAMERA | | |
| PEDESTRIAN PUSHBUTTON DETECTOR | | | VIDEO DETECTION AREA | | |
| PAN/TILT/ZOOM CAMERA | | | WIRELESS ANTENNA | | |

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 CHECKED APS
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 PLOT DATE = 7/28/2009

DESIGNED -
 REVISED -
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DESIGNED -
 REVISED -
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 REVISED -
 REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

TRAFFIC SIGNAL MODIFICATION PLAN
 ELMWOOD DRIVE
 (SHEET 2 OF 2)

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

| | | | | |
|---|----------------|--------|--------------|-----------|
| F.A.U. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 1503 | 08-00271-00-TL | KANE | 30 | 17 |
| CONTRACT NO. 63246 | | | | |
| FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT | | | | |

CABLE PLAN LEGEND

| EXISTING | PROPOSED | DESCRIPTION |
|----------|----------|---|
| | | 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 INSTALLATION |
| | | VEHICLE DETECTOR, INDUCTION LOOP |
| | | MAGNETIC DETECTOR |
| | | EMERGENCY VEHICLE LIGHT DETECTOR |
| | | CONFIRMATION BEACON |
| | | PUSHBUTTON DETECTOR |
| | | LUMINAIRE |
| | | DENOTES NUMBER OF CONDUCTORS. ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOP DETECTOR CABLE TO BE SHIELDED. |
| | | GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN) |
| | | FIBER OPTIC CABLE IN CONDUIT NO. 62.5/125 2-MM12F SMI2F |
| | | SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD. |
| | | RAILROAD CONTROL CABINET |
| | | ILLUMINATED SIGN "NO LEFT TURN" |
| | | ILLUMINATED SIGN "NO RIGHT TURN" |
| | | WIRELESS ANTENNA |
| | | GROUND ROD AT HANDHOLE (H), DOUBLE HANDHOLE (H), OR CONTROLLER (C) |
| | | GROUND ROD AT POST (P) OR MAST ARM POLE (MA) |
| | | GROUND ROD AT ELECTRIC SERVICE INSTALLATION |
| | | UNINTERRUPTIBLE POWER SUPPLY |
| | | LED STREET NAME SIGN |
| | | VIDEO DETECTION CAMERA |
| | | PAN/TILT/ZOOM CAMERA |

EXISTING INTERSECTION AND PROPOSED SAMPLING (SYSTEM) DETECTORS

FIBER OPTIC INTERCONNECT TO RANDALL ROAD

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

DATE: _____
 BY: _____
 SURVEYED: _____
 GRADES CHECKED: _____
 ALIGNMENT CHECKED: _____
 NOTE BOOK NO.: _____
 PLOT FILE NAME: _____

DATE: _____
 BY: _____
 SURVEYED: _____
 GRADES CHECKED: _____
 ALIGNMENT CHECKED: _____
 NOTE BOOK NO.: _____
 PLOT FILE NAME: _____

| 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 |
| (YELLOW) | 12 | | 25 | 0.25 | 75 |
| (GREEN) | 12 | | 15 | 0.25 | 45 |
| ARROW | 16 | | 12 | 0.10 | 19.2 |
| PED. SIGNAL | 8 | | 25 | 1.00 | 200 |
| CONTROLLER | 1 | | 100 | 1.00 | 100 |
| UPS | 1 | | 25 | 1.00 | 25 |
| TOTAL = 566.2 | | | | | |

ENERGY COSTS TO: CITY OF AURORA
 44 E. DOWNER PLACE
 AURORA, ILLINOIS 60507-2067

ENERGY SUPPLY CONTACT: MARK SCHERIBEL
 PHONE: (630) 723-2128
 COMPANY: COMMONWEALTH EDISON

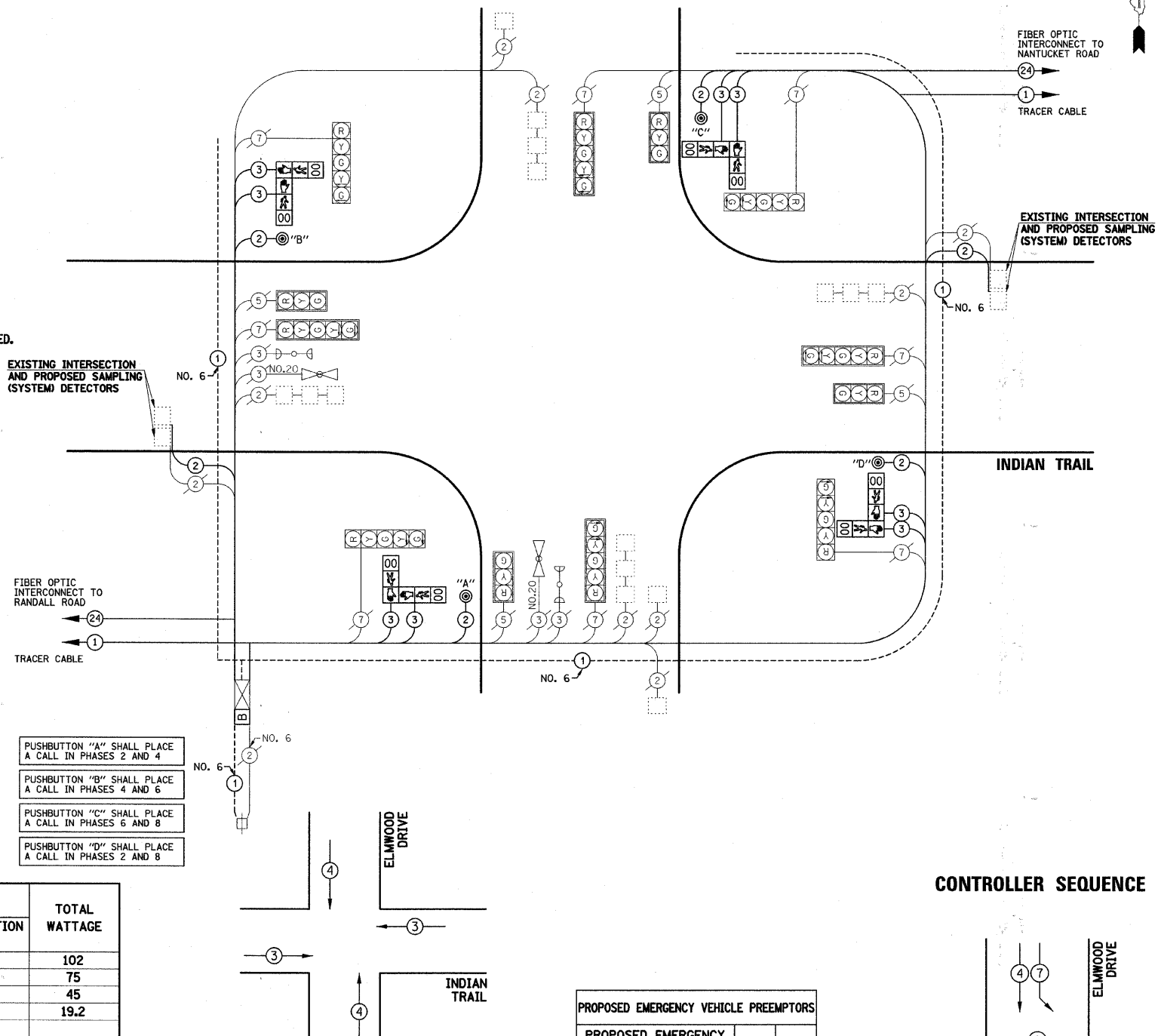
| FOUNDATION (DEPTH) | FT. (m) | CABLE SLACK | FT. (m) | VERTICAL | FT. (m) |
|--------------------|-------------|------------------|-----------|-------------------|-------------|
| TYPE A - POST | 4 (1.2) | HANDHOLE | 6.5 (2.0) | ALL FOUNDATIONS | 3.5 (1.0) |
| C - CONTROLLER | 4 (1.2) | DOUBLE HANDHOLE | 13 (4.0) | MAST ARM (L) POLE | 20'-H-2= |
| D - CONTROLLER | 4 (1.2) | SIGNAL POST | 2 (1.0) | | (6m-H-0.6m) |
| E - M.A. LENGTH | | CONTROLLER CAB. | 1 (0.5) | BRACKET MOUNTED | 13 (4.0) |
| <30' | 30" (900mm) | FIBER OPTIC | 13 (4.0) | PED. PUSHBUTTON | 4 (1.2) |
| <40' | 30" (750mm) | ELECTRIC SERVICE | 1 (0.5) | ELECTRIC SERVICE | 13.5 (4.1) |
| <40' | 36" (900mm) | GROUND CABLE | 1 (0.5) | SERVICE TO GROUND | 13.5 (4.1) |
| <50' | 36" (900mm) | | | POST MOUNTED | 6 (1.8) |
| >50' | 36" (900mm) | | | | |

EMERGENCY VEHICLE PREEMPTION SEQUENCE

| PROPOSED EMERGENCY VEHICLE PREEMPTORS | 3 | 4 |
|---------------------------------------|---|---|
| MOVEMENT | ← | → |

ELMWOOD DRIVE

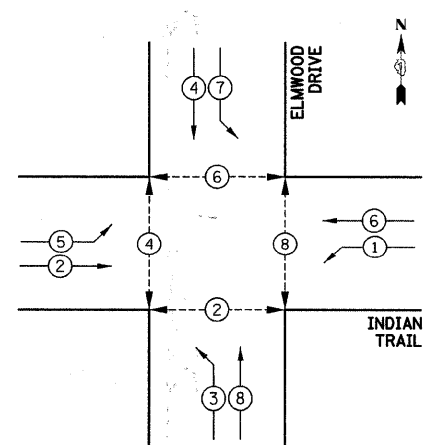
INDIAN TRAIL



SCHEDULE OF QUANTITIES

| PAY ITEM DESCRIPTION | UNIT | ELMWOOD DRIVE |
|---|------|---------------|
| MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION | EACH | 1 |
| ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C | FOOT | 613 |
| ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C | FOOT | 1282 |
| ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR | FOOT | 815.5 |
| PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER | EACH | 4 |
| INDUCTIVE LOOP DETECTOR | EACH | 2 |
| PEDESTRIAN PUSH-BUTTON | EACH | 4 |
| MODIFY EXISTING CONTROLLER (SPECIAL) | EACH | 1 |
| REMOVE ELECTRIC CABLE FROM CONDUIT | FOOT | 2508 |
| REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT | EACH | 1 |
| UNINTERRUPTIBLE POWER SUPPLY | EACH | 1 |
| ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C | FOOT | 779 |
| GROUND EXISTING HANDHOLE FRAME AND COVER | EACH | 7 |

CONTROLLER SEQUENCE

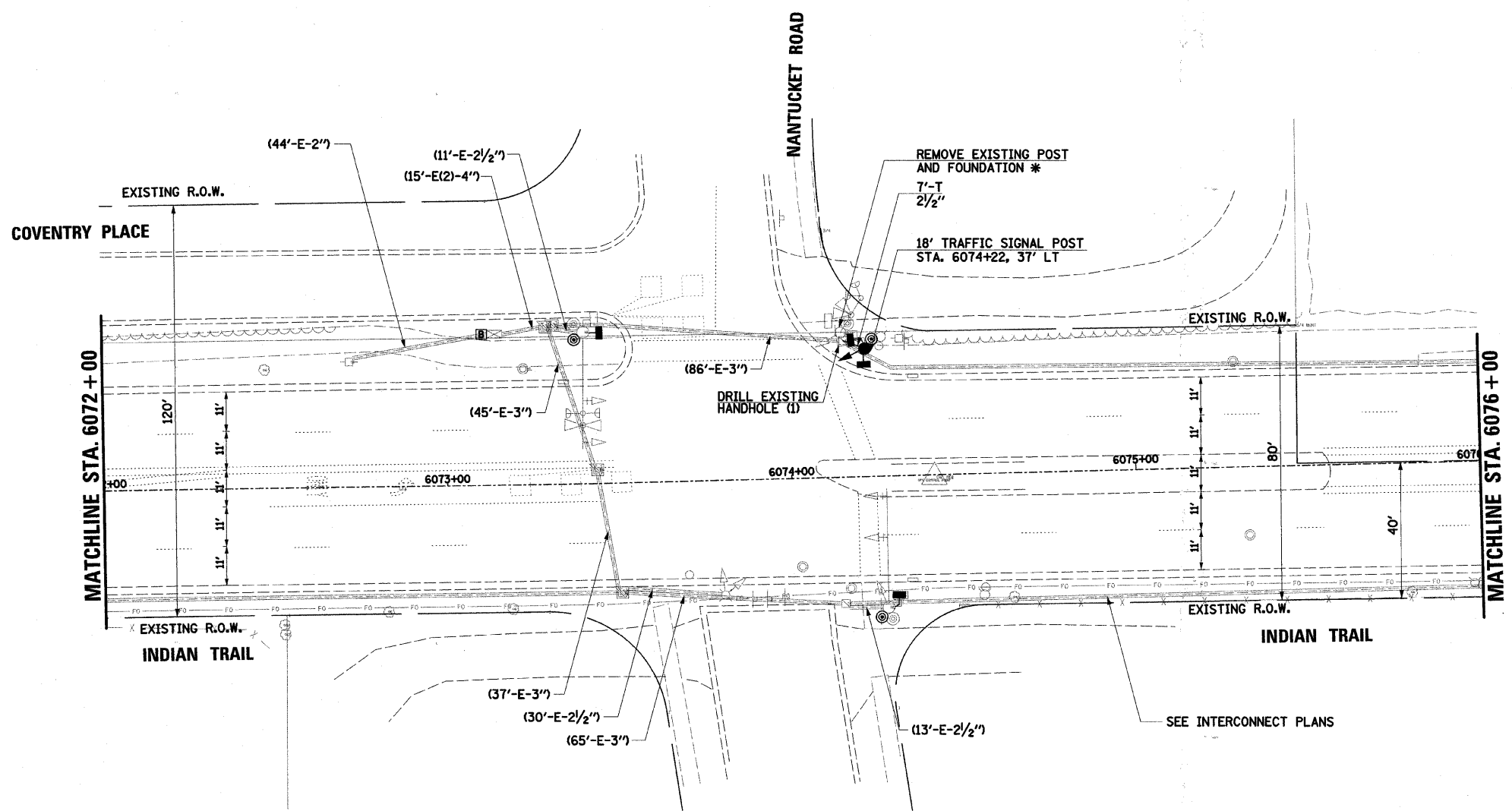
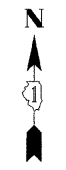


CONTROLLER SEQUENCE LEGEND

| | |
|--|--|
| | DUAL ENTRY PHASE |
| | SINGLE ENTRY PHASE |
| | OVERLAP |
| | * NUMBER REFERRING TO ASSOCIATED PHASE |
| | PEDESTRIAN PHASE |

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

PHASE DESIGNATION DIAGRAM



| | |
|----------|------|
| PLAN | DATE |
| BY | |
| DESIGNED | |
| DRAWN | |
| CHECKED | |
| DATE | |

| | |
|----------|------|
| PROFILE | DATE |
| BY | |
| DESIGNED | |
| DRAWN | |
| CHECKED | |
| DATE | |

TRAFFIC SIGNAL LEGEND

| | PROPOSED | EXISTING | | PROPOSED | EXISTING |
|--|----------|----------|--|----------|----------|
| CONTROLLER | | | DETECTOR LOOP | | |
| SERVICE INSTALLATION | | | CAST IRON JUNCTION BOX | | |
| SIGNAL HEAD | | | EMERGENCY VEHICLE LIGHT DETECTOR | | |
| SIGNAL HEAD WITH BACKPLATE | | | CONFIRMATION BEACON | | |
| SIGNAL HEAD, PEDESTRIAN | | | SIGNAL HEAD OPTICALLY PROGRAMMED | | |
| SIGNAL POST | | | CONDUIT SPLICE | | |
| MAST ARM ASSEMBLY AND POLE, STEEL | | | WOOD POLE | | |
| MAST ARM ASSEMBLY AND POLE, ALUMINUM | | | RACEWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II | | |
| COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL WITH LUMINAIRE | | | VEHICLE DETECTOR, NON COMPENSATED MAGNETIC TYPE | | |
| UNIT DUCT | UD | | RAILROAD CONTROL CABINET | | |
| COMMON TRENCH | CT | | TELEPHONE CONNECTION | | |
| HANDHOLE | | | ILLUMINATED SIGN "NO LEFT TURN" | | |
| HEAVY DUTY HANDHOLE | | | ILLUMINATED SIGN "NO RIGHT TURN" | | |
| DOUBLE HANDHOLE | | | UNINTERRUPTABLE POWER SUPPLY | | |
| G.S. CONDUIT IN TRENCH (T) OR PUSHED (P) | | | VIDEO DETECTION CAMERA | | |
| PEDESTRIAN PUSHBUTTON DETECTOR | | | VIDEO DETECTION AREA | | |
| PAN/TILT/ZOOM CAMERA | | | WIRELESS ANTENNA | | |

* EXISTING EMERGENCY VEHICLE PREEMPTION EQUIPMENT SHALL BE REMOVED AND RELOCATED TO THE PROPOSED TRAFFIC SIGNAL POST IN THE NORTHEAST CORNER (SEE SPECIAL PROVISIONS).

NOTE:
1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL EXISTING TRAFFIC SIGNAL OPERATIONS AT ALL TIMES DURING CONSTRUCTION.

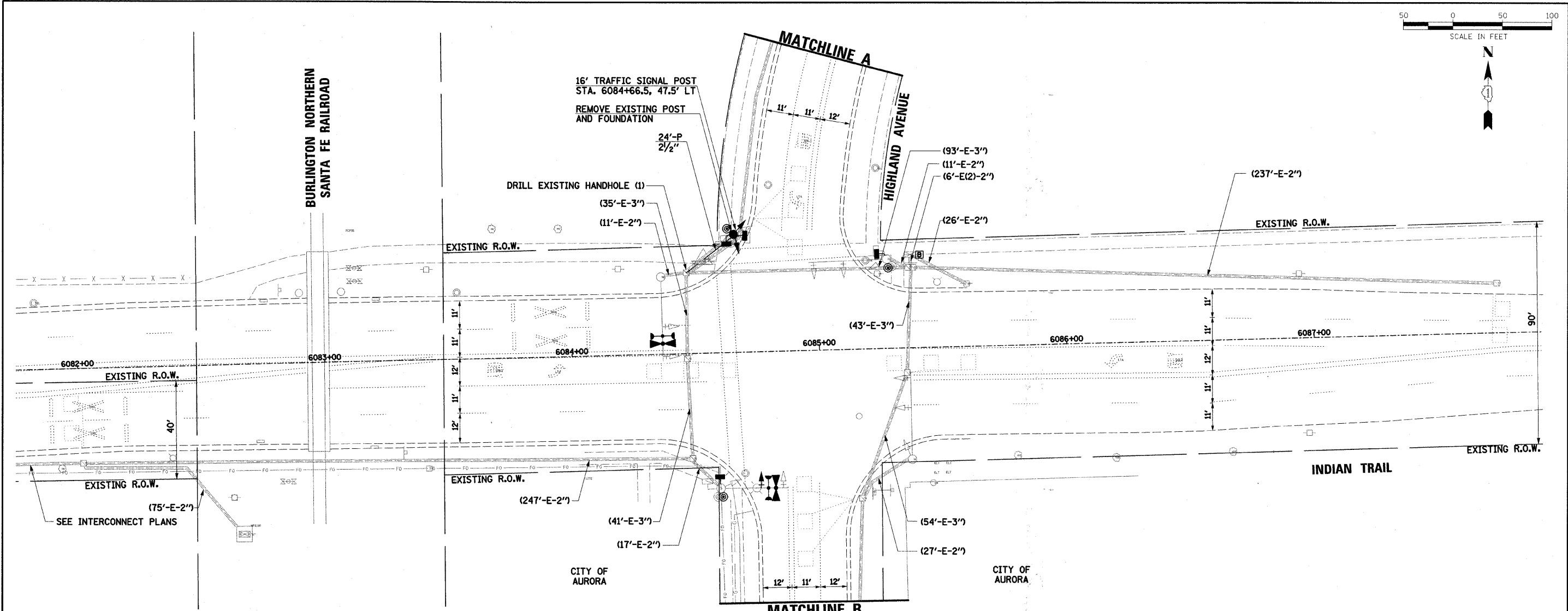
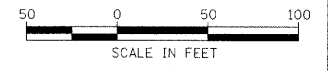
THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM.

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, MEDIANS, 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 EXISTING CONDUITS (WHERE APPLICABLE) SHALL BE ABANDONED.

THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE REMOVED BY THE CONTRACTOR, SHALL REMAIN THE PROPERTY OF THE CITY OF AURORA AND SHALL BE DELIVERED BY THE CONTRACTOR TO THE MAINTENANCE FACILITY DESIGNATED BY THE CITY. THIS WORK SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT (SEE SCHEDULE OF QUANTITIES FOR REMOVAL ITEMS TO BE PAID FOR SEPERATELY).

- 1 EACH TRAFFIC SIGNAL POST
- 1 EACH TRAFFIC SIGNAL HEADS
- 4 EACH PEDESTRIAN SIGNAL HEADS
- 3 EACH PEDESTRIAN PUSH-BUTTONS



| | |
|----------|--|
| DATE | |
| BY | |
| REVISION | |
| NO. | |
| DATE | |
| BY | |
| REVISION | |
| NO. | |
| DATE | |
| BY | |
| REVISION | |
| NO. | |

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|----------|--|
| DATE | |
| BY | |
| REVISION | |
| NO. | |
| DATE | |
| BY | |
| REVISION | |
| NO. | |
| DATE | |
| BY | |
| REVISION | |
| NO. | |

TRAFFIC SIGNAL LEGEND

| | PROPOSED | EXISTING | | PROPOSED | EXISTING |
|--|----------|----------|--|----------|----------|
| CONTROLLER | | | DETECTOR LOOP | | |
| SERVICE INSTALLATION | | | CAST IRON JUNCTION BOX | | |
| SIGNAL HEAD | | | EMERGENCY VEHICLE LIGHT DETECTOR | | |
| SIGNAL HEAD WITH BACKPLATE | | | CONFIRMATION BEACON | | |
| SIGNAL HEAD, PEDESTRIAN | | | SIGNAL HEAD OPTICALLY PROGRAMMED | | |
| SIGNAL POST | | | CONDUIT SPLICE | | |
| MAST ARM ASSEMBLY AND POLE, STEEL | | | WOOD POLE | | |
| MAST ARM ASSEMBLY AND POLE, ALUMINUM | | | RACEWAY FOR MAGNETIC DETECTOR, TYPE I OR TYPE II | | |
| COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL WITH LUMINAIRE | | | VEHICLE DETECTOR, NON COMPENSATED MAGNETIC TYPE | | |
| UNIT DUCT | UD | | RAILROAD CONTROL CABINET | | |
| COMMON TRENCH | CT | | TELEPHONE CONNECTION | | |
| HANDHOLE | | | ILLUMINATED SIGN "NO LEFT TURN" | | |
| HEAVY DUTY HANDHOLE | | | ILLUMINATED SIGN "NO RIGHT TURN" | | |
| DOUBLE HANDHOLE | | | UNINTERRUPTIBLE POWER SUPPLY | | |
| G.S. CONDUIT IN TRENCH (T) OR PUSHED (P) | | | VIDEO DETECTION CAMERA | | |
| PEDESTRIAN PUSHBUTTON DETECTOR | | | VIDEO DETECTION AREA | | |
| PAN/TILT/ZOOM CAMERA | | | WIRELESS ANTENNA | | |

NOTE:
1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL EXISTING TRAFFIC SIGNAL OPERATIONS AT ALL TIMES DURING CONSTRUCTION.

THE EXISTING CONDUITS (WHERE APPLICABLE) SHALL BE ABANDONED.

THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE REMOVED BY THE CONTRACTOR, SHALL REMAIN THE PROPERTY OF THE CITY OF AURORA AND SHALL BE DELIVERED BY THE CONTRACTOR TO THE MAINTENANCE FACILITY DESIGNATED BY THE CITY. THIS WORK SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT (SEE SCHEDULE OF QUANTITIES FOR REMOVAL ITEMS TO BE PAID FOR SEPERATELY).

- 1 EACH TRAFFIC SIGNAL POSTS
- 2 EACH TRAFFIC SIGNAL HEADS
- 4 EACH PEDESTRIAN SIGNAL HEADS
- 4 EACH PEDESTRIAN PUSH-BUTTONS
- 1 EACH TRAFFIC SIGNAL CONTROLLER

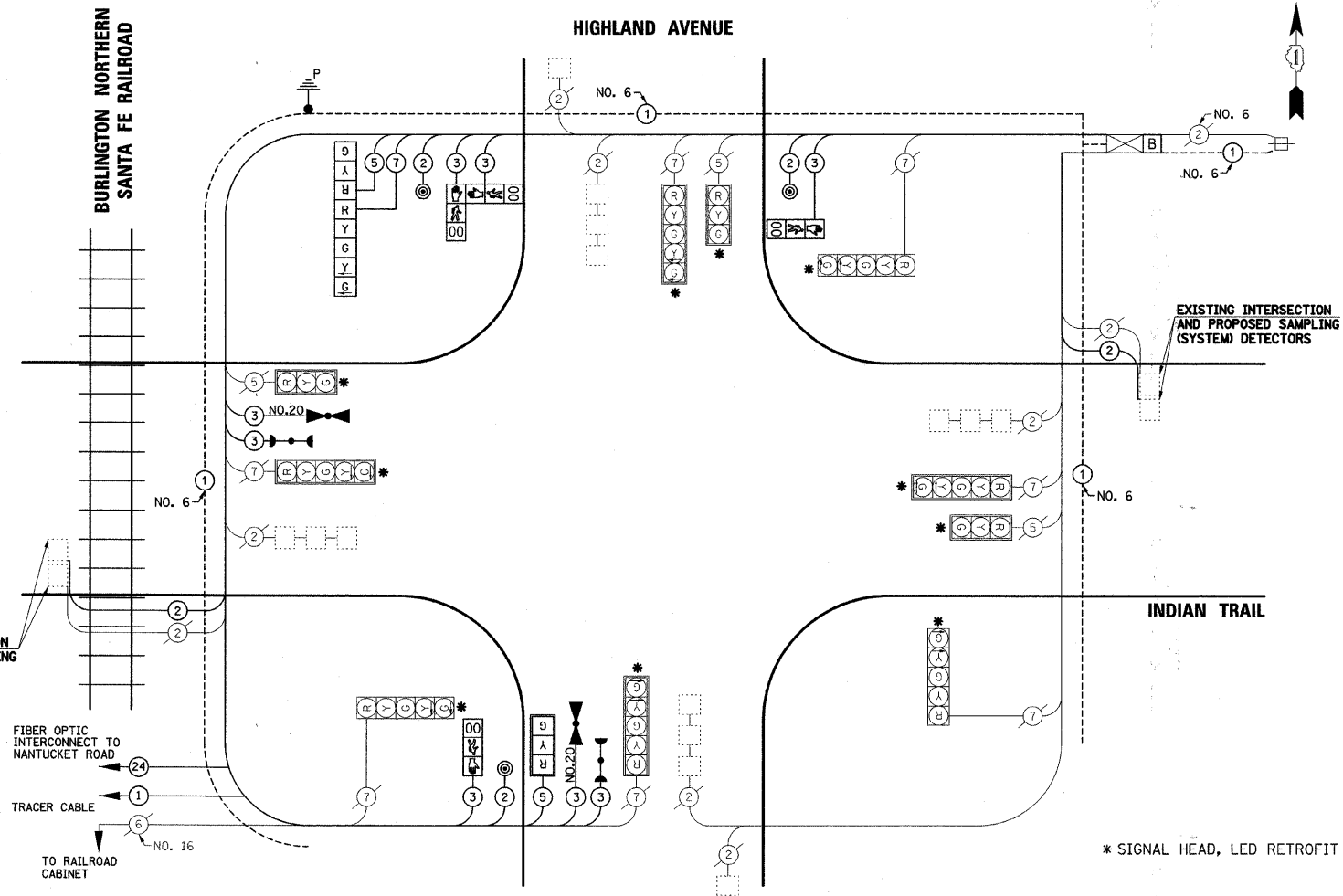
THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "ECONOLITE" TO MATCH THE EXISTING ADJACENT SYSTEM.

THE EMERGENCY VEHICLE PREEMPTION EQUIPMENT FOR THIS PROJECT SHALL BE OPTICOM AS REQUIRED BY THE CITY OF AURORA.

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, MEDIANS, 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.

CABLE PLAN LEGEND

- | | | |
|-----------------|-----------------|---|
| EXISTING | PROPOSED | |
| | | 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 INSTALLATION |
| | | VEHICLE DETECTOR, INDUCTION LOOP |
| | | MAGNETIC DETECTOR |
| | | EMERGENCY VEHICLE LIGHT DETECTOR |
| | | CONFIRMATION BEACON |
| | | PUSHBUTTON DETECTOR |
| | | LUMINAIRE |
| | | DENOTES NUMBER OF CONDUCTORS. ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOP DETECTOR CABLE TO BE SHIELDED. |
| | | GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN) |
| | | FIBER OPTIC CABLE IN CONDUIT NO. 62.5/125 2-MM12F SM12F |
| | | SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD. |
| | | RAILROAD CONTROL CABINET |
| | | ILLUMINATED SIGN "NO LEFT TURN" |
| | | ILLUMINATED SIGN "NO RIGHT TURN" |
| | | WIRELESS ANTENNA |
| | | GROUND ROD AT HANDHOLE (H), DOUBLE HANDHOLE (H), OR CONTROLLER (C) |
| | | GROUND ROD AT POST (P) OR MAST ARM POLE (MA) |
| | | GROUND ROD AT ELECTRIC SERVICE INSTALLATION |
| | | UNINTERRUPTIBLE POWER SUPPLY |
| | | LED STREET NAME SIGN |
| | | VIDEO DETECTION CAMERA |
| | | PAN/TILT/ZOOM CAMERA |



SCHEDULE OF QUANTITIES

| PAY ITEM DESCRIPTION | UNIT | HIGHLAND AVENUE |
|---|-------|-----------------|
| CONDUIT PUSHED, 2 1/2" DIA., GALVANIZED STEEL | FOOT | 24 |
| MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION | EACH | 1 |
| FULL-ACTUATED CONTROLLER IN EXISTING CABINET | EACH | 1 |
| ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C | FOOT | 433 |
| ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C | FOOT | 1079.5 |
| ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C | FOOT | 429 |
| ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C | FOOT | 161.5 |
| ELECTRIC CABLE IN CONDUIT, LEAD IN, NO. 14 1 PAIR | FOOT | 729.5 |
| TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT. | EACH | 1 |
| CONCRETE FOUNDATION, TYPE A | FOOT | 4 |
| DRILL EXISTING HANDHOLE | EACH | 1 |
| SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED | EACH | 1 |
| SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED | EACH | 1 |
| PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER | EACH | 2 |
| PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER | EACH | 1 |
| TRAFFIC SIGNAL BACKPLATE, LOUVERED | EACH | 1 |
| INDUCTIVE LOOP DETECTOR | EACH | 2 |
| LIGHT DETECTOR | EACH | 2 |
| LIGHT DETECTOR AMPLIFIER | EACH | 1 |
| PEDESTRIAN PUSH-BUTTON | EACH | 3 |
| REMOVE ELECTRIC CABLE FROM CONDUIT | FOOT | 1361.5 |
| REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT | EACH | 1 |
| REMOVE EXISTING CONCRETE FOUNDATION | EACH | 1 |
| PAINT TRAFFIC SIGNAL POST | EACH | 1 |
| UNINTERRUPTIBLE POWER SUPPLY | EACH | 1 |
| ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C | FOOT | 598 |
| ELECTRIC CABLE IN CONDUIT, NO. 20 3C TWISTED SHIELDED | FOOT | 464 |
| GROUND EXISTING HANDHOLE FRAME AND COVER | EACH | 6 |
| RAILROAD PROTECTIVE LIABILITY INSURANCE | L SUM | 1 |
| SIGNAL HEAD, LED, 3-SECTION, MAST ARM MOUNTED, RETROFIT | EACH | 3 |
| SIGNAL HEAD, LED, 5-SECTION, MAST ARM MOUNTED, RETROFIT | EACH | 4 |
| SIGNAL HEAD, LED, 5-SECTION, BRACKET MOUNTED, RETROFIT | EACH | 3 |

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

| TYPE | NO. LAMPS | WATTAGE | | % OPERATION | TOTAL WATTAGE |
|----------------|-----------|---------|-----|-------------|---------------|
| | | INCAND. | LED | | |
| SIGNAL (RED) | 13 | | 17 | 0.50 | 110.5 |
| (YELLOW) | 13 | | 25 | 0.25 | 81.3 |
| (GREEN) | 13 | | 15 | 0.25 | 48.8 |
| ARROW | 16 | | 12 | 0.10 | 19.2 |
| PED. SIGNAL | 4 | | 25 | 1.00 | 100 |
| CONTROLLER | 1 | | 100 | 1.00 | 100 |
| UPS | 1 | | 25 | 1.00 | 25 |
| TOTAL = | | | | | 484.8 |

ENERGY COSTS TO: CITY OF AURORA
44 E. DOWNER PLACE
AURORA, ILLINOIS 60507-2067

ENERGY SUPPLY CONTACT: MARK SCHERIBEL
PHONE: (630) 723-2128
COMPANY: COMMONWEALTH EDISON

| FOUNDATION (DEPTH) | FT. (m) | CABLE SLACK | FT. (m) | VERTICAL | FT. (m) |
|--------------------|-------------|------------------|-----------|-------------------|-------------|
| TYPE A - POST | 4 (1.2) | HANDHOLE | 6.5 (2.0) | ALL FOUNDATIONS | 3.5 (1.0) |
| C - CONTROLLER | 4 (1.2) | DOUBLE HANDHOLE | 13 (4.0) | MAST ARM (L) POLE | 20'±L-2= |
| D - CONTROLLER | 4 (1.2) | SIGNAL POST | 2 (1.0) | | (6m±L-0.6m) |
| E - M.A. LENGTH | | CONTROLLER CAB. | 1 (0.5) | BRACKET MOUNTED | 13 (4.0) |
| <30' | 30" (900mm) | FIBER OPTIC | 13 (4.0) | PED. PUSHBUTTON | 4 (1.2) |
| <40' | 30" (750mm) | ELECTRIC SERVICE | 1 (0.5) | ELECTRIC SERVICE | 13.5 (4.1) |
| <40' | 36" (900mm) | GROUND CABLE | 1 (0.5) | SERVICE TO GROUND | 13.5 (4.1) |
| <50' | 36" (900mm) | | | POST MOUNTED | 6 (1.8) |
| >50' | 36" (900mm) | | | | |

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

THE EMERGENCY VEHICLE PREEMPTION EQUIPMENT FOR THIS PROJECT SHALL BE OPTICOM AS REQUIRED BY THE CITY OF AURORA.

DATE: _____
BY: _____
SURVEYED: _____
GRADES CHECKED: _____
ALIGNMENT CHECKED: _____
NOTE BOOK NO.: _____
FILE NAME: _____

DATE: _____
BY: _____
PROFILE SURVEYED: _____
GRADES CHECKED: _____
B.M. NOTED: _____
STRUCTURE NOTATIONS: _____
NOTE BOOK NO.: _____
FILE NAME: _____

PROPOSED SEQUENCE OF OPERATION

| MOVEMENT | | 1+5 | | 1+6 | | 2+5 | | 2+6 | | 3+7 | | 4+7 | | 3+8 | | 4+8 | | FLASH | | | | | | | | | | | | | | | |
|--|-----|-----|-----|-----|----|----------|-----|-----|----|-----|----------|-----|-----|-----|----|-----|-----|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|
| PHASE | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12A | 12B | 13 | 14 | 15 | | 16 | 17 | 18 | 19 | 20A | 20B | 21 | 22 | 23A | 23B | 24 | 25 | 26A | 26B | |
| CHANGE TO | | 1+6 | 2+5 | 2+6 | | | 2+6 | 2+6 | | | | 3+7 | 3+8 | 4+7 | | | 4+8 | | 1+5 | 2+5 | 1+6 | 2+6 | | 4+8 | 1+5 | 2+5 | 1+6 | 2+6 | | 1+5 | 2+5 | 1+6 | 2+6 |
| INDIAN TRAIL MID MAST ARM SIGNAL | E/B | R | R | R | R | R | R | R | G | G | G | G | Y | R | R | R | R | | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R |
| INDIAN TRAIL FAR LEFT AND END MAST ARM SIGNALS | E/B | R | R | R | R | R | R | R | G | G | G | G | Y | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R |
| INDIAN TRAIL MID MAST ARM SIGNAL | W/B | R | R | R | R | G | G | G | R | R | G | G | Y | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R |
| INDIAN TRAIL FAR LEFT AND END MAST ARM SIGNALS | W/B | R | R | R | R | G | G | G | R | R | G | G | Y | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R |
| HIGHLAND AVENUE MID MAST ARM SIGNAL | N/B | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R |
| HIGHLAND AVENUE FAR LEFT AND END MAST ARM SIGNALS | N/B | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R |
| HIGHLAND AVENUE NEAR RIGHT AND MID MAST ARM SIGNALS | S/B | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R |
| HIGHLAND AVENUE FAR LEFT AND END MAST ARM SIGNALS | S/B | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R |
| PEDESTRIAN SIGNALS CROSSING - NORTH SIDE OF INDIAN TRAIL | | DW | DW | DW | DW | W* FL DW | DW | DW | DW | DW | W* FL DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW |
| PEDESTRIAN SIGNALS CROSSING - WEST SIDE OF HIGHLAND AVENUE | | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW |

NOTE: PHASES 2+6 SHALL BE ON RECALL

* TO APPEAR ONLY UPON PUSH BUTTON ACTIVATION

** FLASHING "DONT WALK" IS TO TERMINATE AT THE COMPLETION OF THE PEDESTRIAN INTERVAL CLEARANCE

W = WALK

FL = FLASHING "DONT WALK"

DW = "DONT WALK"

PROPOSED RAILROAD PREEMPTION SEQUENCE OF OPERATION

| CHANGE FROM NORMAL SEQUENCE OF OPERATION INTERVAL NUMBER | 1 | 5 | 8 | 10 | 13 | 17 | 21 | 24 | PREEMPTOR NUMBER 3 | PREEMPTOR NUMBER 4 | PREEMPTOR NUMBER 2 | CLEAR TO NORMAL SEQUENCE | | | | | | | | | | |
|--|-----|-------|----|----|-------|----|----|-------|--------------------|--------------------|--------------------|--------------------------|----|----|----|----|----|----|----|----|----|---|
| 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 | 1N | 1P | 1Q | 1R | 1S | 2 | 3 | 4 | 5 | |
| CHANGE TO RAILROAD PREEMPTION SEQUENCE OF OPERATION INTERVAL NUMBER | 2 | 1C | 2 | 2 | 1G | 2 | 2 | 1J | 2 | 1L | 2 | 1N | 2 | 1Q | 2 | 1S | 2 | 3 | 4 | 5 | | |
| INDIAN TRAIL MID MAST ARM SIGNAL | E/B | R | R | R | G | G | R | R | R | R | R | R | R | G | G | R | R | G | Y | R | R | Δ |
| INDIAN TRAIL FAR LEFT AND END MAST ARM SIGNALS | E/B | R | R | R | G | G | R | R | R | R | R | R | R | G | G | R | R | G | Y | R | R | Δ |
| INDIAN TRAIL MID MAST ARM SIGNAL | W/B | R | Y | R | R | Y | R | R | R | R | R | R | R | Y | R | R | R | R | R | R | R | Δ |
| INDIAN TRAIL FAR LEFT AND END MAST ARM SIGNALS | W/B | R | Y | R | R | Y | R | R | R | R | R | R | R | Y | R | R | R | R | R | R | R | Δ |
| HIGHLAND AVENUE MID MAST ARM SIGNAL | N/B | R | R | R | R | R | R | R | Y | R | Y | R | R | R | Y | R | R | R | R | R | G | Δ |
| HIGHLAND AVENUE FAR LEFT AND END MAST ARM SIGNALS | N/B | R | R | R | R | R | R | R | Y | R | Y | R | R | R | Y | R | R | R | R | R | G | Δ |
| HIGHLAND AVENUE NEAR RIGHT AND MID MAST ARM SIGNALS | S/B | R | R | R | R | R | R | R | Y | R | R | Y | R | R | R | Y | R | R | R | R | G | Δ |
| HIGHLAND AVENUE FAR LEFT AND END MAST ARM SIGNALS | S/B | R | R | R | R | R | R | R | Y | R | R | Y | R | R | R | Y | R | R | R | R | G | Δ |
| PEDESTRIAN SIGNALS CROSSING - NORTH SIDE OF INDIAN TRAIL | DW | FL DW | DW | DW | FL DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | Δ |
| PEDESTRIAN SIGNALS CROSSING - WEST SIDE OF HIGHLAND AVENUE | DW | DW | DW | DW | DW | DW | DW | FL DW | DW | DW | DW | FL DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | 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 AFTER RAILROAD PREEMPTION INTERVAL 5 IS TERMINATED.

EXISTING/PROPOSED TRAFFIC SIGNAL RAILROAD PREEMPTION SEQUENCE

| | TIME (SECONDS) |
|--|----------------|
| DELAY ¹ | 1 |
| MINIMUM GREEN | 1 |
| PED CLEARANCE BEFORE YELLOW ² | 0 |
| MAX YELLOW INTERVAL ³ | 4.0 |
| MAX RED INTERVAL ³ | 1.5 |
| MAX TIME BEFORE TRACK CLEARANCE GREEN | 7.5 |
| TRACK CLEARANCE ⁴ | 23 |

- ONE SECOND PROGRAMMED INTO RR PREEMPTORS TO LIMIT FALSE CALLS AND REQUIRED FOR PROPER 3 WIRE SUPERVISORY INTERCONNECT OPERATION.
- TIME SHOULD BE ZERO UNLESS EXTRAORDINARY CONDITIONS EXIST WHERE ADDITIONAL PED CLEARANCE TIME IS NECESSARY.
- BASED ON INFORMATION PROVIDED BY THE CITY OF AURORA, INCLUDES UP TO 4 SECONDS OF CONCURRENT FLASHING DONT WALK.
- TRACK CLEARANCE TIME WAS DETERMINED BASED ON QUEUE STORAGE AREA FROM THE INTERSECTION THROUGH THE CROSSING.

PROPOSED EMERGENCY VEHICLE PREEMPTION SEQUENCE OF OPERATION

| CHANGE FROM NORMAL SEQUENCE OF OPERATIONS INTERVAL NUMBER | 1 | 5 | 5 | 8 | 8 | 10 | 10 | 13 | 17 | 17 | 21 | 21 | 24 | 24 | 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 | 1T | 1U | 1V | 2 | 3 | | |
| CHANGE TO EMERGENCY VEHICLE PREEMPTION SEQUENCE OF OPERATION INTERVAL NUMBER | 2 | 2 | 1D | 3 | 2 | 1G | 3 | 2 | 1K | 3 | 2 | 1N | 2 | 3 | 1R | 2 | 3 | 1U | 2 | 3 | | | | |
| INDIAN TRAIL MID MAST ARM SIGNAL | E/B | R | R | R | R | G | Y | R | G | Y | R | R | R | R | R | R | R | R | R | R | R | G | R | ◇ |
| INDIAN TRAIL FAR LEFT AND END MAST ARM SIGNALS | E/B | R | R | R | R | G | Y | R | G | Y | R | R | R | R | R | R | R | R | R | R | R | G | R | ◇ |
| INDIAN TRAIL MID MAST ARM SIGNAL | W/B | R | G | Y | R | R | R | R | G | Y | R | R | R | R | R | R | R | R | R | R | R | G | R | ◇ |
| INDIAN TRAIL FAR LEFT AND END MAST ARM SIGNALS | W/B | R | G | Y | R | R | R | R | G | Y | R | R | R | R | R | R | R | R | R | R | R | G | R | ◇ |
| HIGHLAND AVENUE MID MAST ARM SIGNAL | N/B | R | R | R | R | R | R | R | R | R | R | R | R | R | Y | R | G | Y | R | G | R | G | ◇ | |
| HIGHLAND AVENUE FAR LEFT AND END MAST ARM SIGNALS | N/B | R | R | R | R | R | R | R | R | R | R | R | R | R | Y | R | G | Y | R | G | R | G | ◇ | |
| HIGHLAND AVENUE NEAR RIGHT AND MID MAST ARM SIGNALS | S/B | R | R | R | R | R | R | R | R | R | R | R | R | R | Y | R | G | Y | R | G | R | G | ◇ | |
| HIGHLAND AVENUE FAR LEFT AND END MAST ARM SIGNALS | S/B | R | R | R | R | R | R | R | R | R | R | R | R | R | Y | R | G | Y | R | G | R | G | ◇ | |
| PEDESTRIAN SIGNALS CROSSING - NORTH SIDE OF INDIAN TRAIL | DW | FL DW | DW | DW | DW | DW | DW | FL DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | ◇ | |
| PEDESTRIAN SIGNALS CROSSING - WEST SIDE OF HIGHLAND AVENUE | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | DW | ◇ | |

◇ EMERGENCY VEHICLE SEQUENCES 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.

PLAN
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BY
SURVEYED
GRADES CHECKED
ALIGNED CHECKED
NOTE BOOK
NO.

PROFILE
DATE
BY
SURVEYED
GRADES CHECKED
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NOTE BOOK
NO.

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| USER NAME = _USER_ | DESIGNED - | REVISED - |
| DRAWN BAH | REVISOR - | |
| CHECKED APS | REVISOR - | |
| DATE - | REVISOR - | |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**CONTROLLER, RAILROAD PREEMPTION, AND
EMERGENCY VEHICLE PREEMPTION
SEQUENCES OF OPERATION**

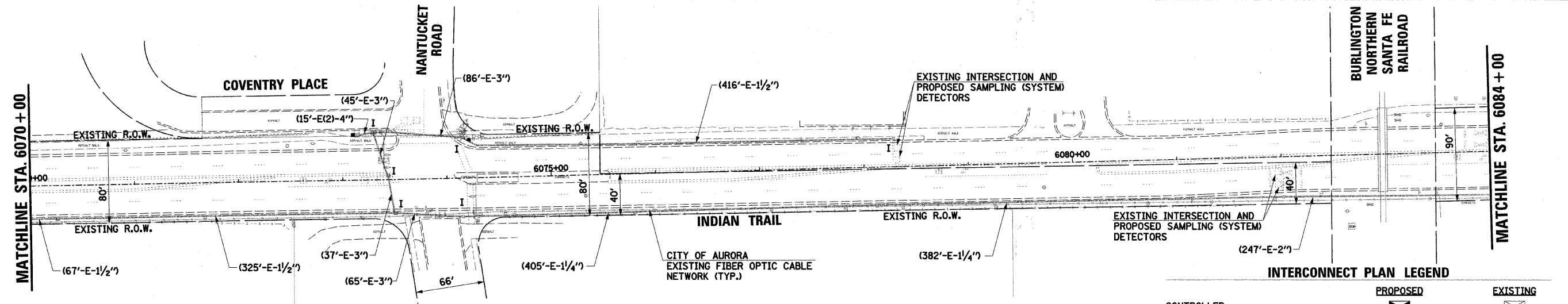
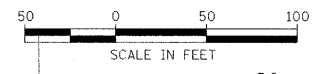
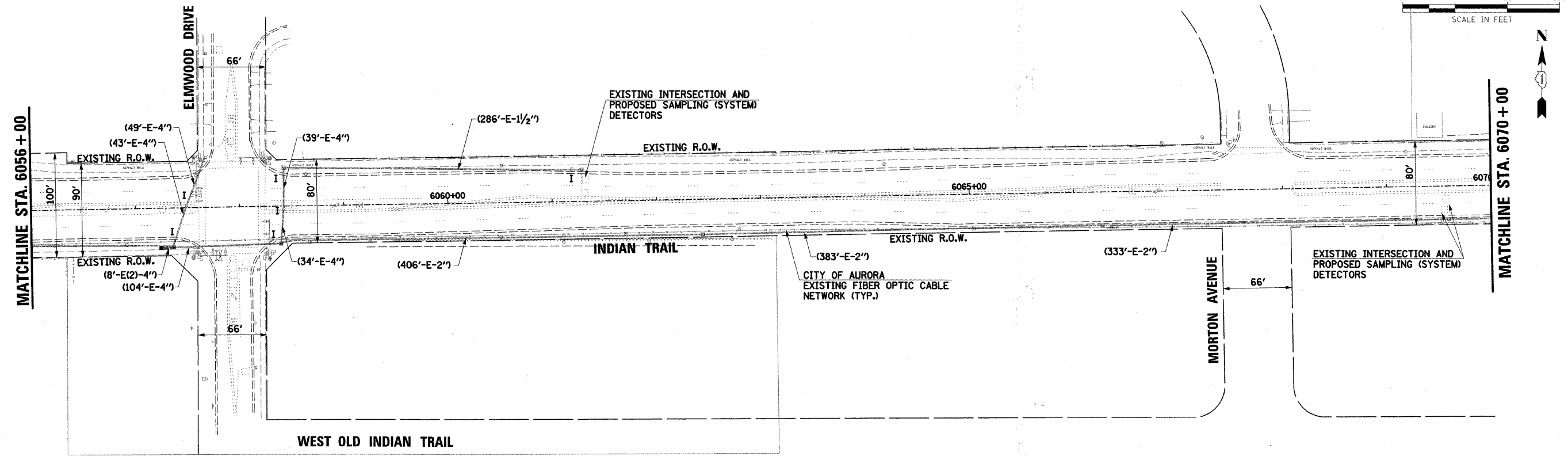
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| F.A.U. RTE. 1503 | SECTION 08-00271-00-TL | COUNTY KANE | TOTAL SHEETS 30 | SHEET NO. 25 |
| CONTRACT NO. 63246 | | | | |

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

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

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| DATE | |
| BY | |
| DESIGNED | |
| DRAWN | |
| CHECKED | |
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| FILE NAME | |
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| DATE | |
| BY | |
| DESIGNED | |
| DRAWN | |
| CHECKED | |
| DATE | |
| FILE NAME | |
| NO. | |



INTERCONNECT PLAN LEGEND

| | PROPOSED | EXISTING |
|--|----------|----------|
| CONTROLLER | [Symbol] | [Symbol] |
| HANDHOLE | [Symbol] | [Symbol] |
| DOUBLE HANDHOLE | [Symbol] | [Symbol] |
| HEAVY-DUTY HANDHOLE | [Symbol] | [Symbol] |
| G.S. CONDUIT IN TRENCH (T) OR PUSHED (P) | [Symbol] | [Symbol] |
| DETECTOR LOOP | [Symbol] | [Symbol] |
| UNIT DUCT | UD | |
| SYSTEM | S | |
| INTERSECTION | IP | I |
| MAST ARM ASSEMBLY AND POLE, STEEL | [Symbol] | [Symbol] |
| WIRELESS ANTENNA | [Symbol] | [Symbol] |
| VIDEO DETECTION ZONE | [Symbol] | [Symbol] |

MODIFY EXISTING CONTROLLER (SPECIAL):
 ALL TRAFFIC SIGNAL CONTROLLERS MUST BE FULLY OPERATIONAL AND NTCIP COMPATIBLE PRIOR TO INTEGRATION INTO THE CENTRALIZED TRANSPORTATION MANAGEMENT SYSTEM (SEE SPECIAL PROVISIONS).

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, MEDIANS, 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.

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 PLOT DATE = 7/20/2009

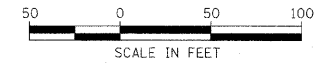
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| DRAWN BAH | CHECKED APS | REVISED - |
| DATE - | | REVISED - |

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**INTERCONNECT PLAN
 (SHEET 3 OF 4)**

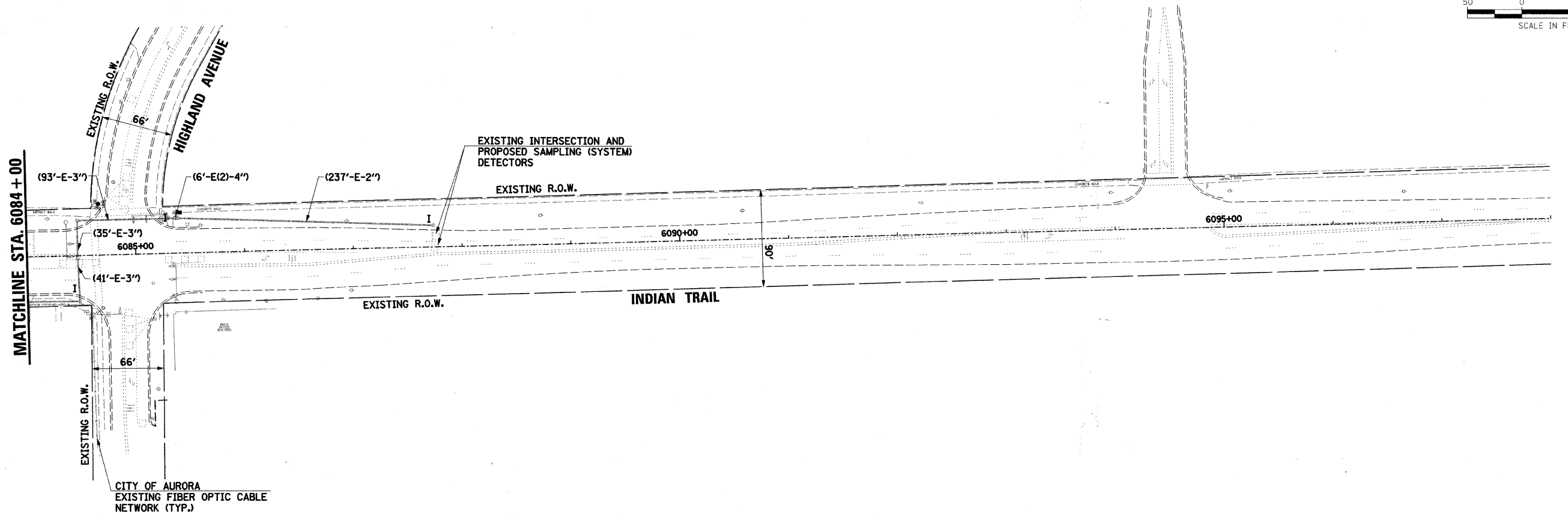
SCALE: SHEET NO. OF SHEETS STA. TO STA.

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|---|------------------------|-------------|-----------------|--------------|
| F.A.U. RTE. 1503 | SECTION 08-00271-00-TL | COUNTY KANE | TOTAL SHEETS 30 | SHEET NO. 28 |
| CONTRACT NO. 63246 | | | | |
| FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT | | | | |



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| PLANNED | |
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| DATE | |
| BY | |
| CHECKED | |
| DESIGNED | |
| NOTED | |
| PLANNED | |
| NO. | |



INTERCONNECT PLAN LEGEND

| | PROPOSED | EXISTING |
|--|----------|----------|
| CONTROLLER | | |
| HANDHOLE | | |
| DOUBLE HANDHOLE | | |
| HEAVY-DUTY HANDHOLE | | |
| G.S. CONDUIT IN TRENCH (T) OR PUSHED (P) | | |
| DETECTOR LOOP | | |
| UNIT DUCT | UD | |
| SYSTEM | S | |
| INTERSECTION | IP | I |
| MAST ARM ASSEMBLY AND POLE, STEEL | | |
| WIRELESS ANTENNA | | |
| VIDEO DETECTION ZONE | | |

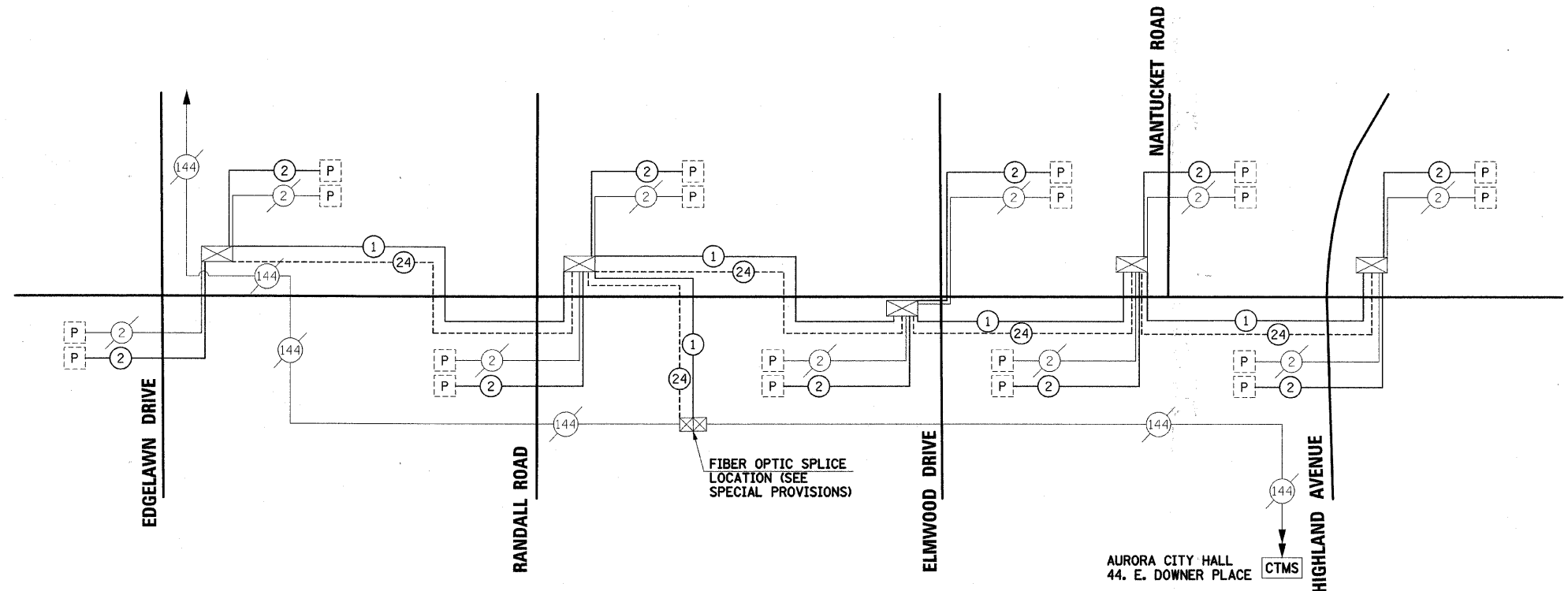
MODIFY EXISTING CONTROLLER (SPECIAL):
 ALL TRAFFIC SIGNAL CONTROLLERS MUST BE FULLY OPERATIONAL AND NTCIP COMPATIBLE PRIOR TO INTEGRATION INTO THE CENTRALIZED TRANSPORTATION MANAGEMENT SYSTEM (SEE SPECIAL PROVISIONS).

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, MEDIANS, 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.

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| PLOT SCALE = #SCALE# | DRAWN <i>BAH</i> | CHECKED <i>APS</i> | REVISED - | | | SCALE: SHEET NO. OF SHEETS STA. TO STA. | | CONTRACT NO. 63246 | | | |
| PLOT DATE = 7/20/2009 | DATE - | REVISED - | REVISED - | | | FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT | | | | | |
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| NO. | |



INTERCONNECT SCHEMATIC LEGEND

- | | | | |
|--|--|--|--|
| | EXISTING INTERSECTION CONTROLLER | | EXISTING FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F SM12F |
| | PROPOSED INTERSECTION CONTROLLER | | PROPOSED FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F SM12F |
| | EXISTING MASTER CONTROLLER | | EXISTING INTERCONNECT CABLE - NO. 62.5/125 12F FIBER OPTIC CABLE |
| | PROPOSED MASTER CONTROLLER | | PROPOSED INTERCONNECT CABLE - NO. 62.5/125 12F FIBER OPTIC CABLE |
| | EXISTING INTERSECTION & SAMPLING (SYSTEM) DETECTORS | | EXISTING INTERCONNECT CABLE - NO. 18 3 PAIR TWISTED, SHIELDED |
| | PROPOSED INTERSECTION & SAMPLING (SYSTEM) DETECTORS | | PROPOSED INTERCONNECT CABLE - NO. 18 3 PAIR TWISTED, SHIELDED |
| | EXISTING INTERSECTION LOOP DETECTORS | | EXISTING LOOP DETECTOR CABLE 2/C TWISTED, SHIELDED |
| | PROPOSED SAMPLING (SYSTEM) DETECTORS | | PROPOSED LOOP DETECTOR CABLE 2/C TWISTED, SHIELDED |
| | EXISTING SAMPLING (SYSTEM) DETECTORS | | EXISTING ELECTRIC CABLE 1/C (AS SPECIFIED) |
| | PROPOSED SAMPLING (SYSTEM) DETECTORS | | PROPOSED ELECTRIC CABLE 1/C (AS SPECIFIED) |
| | EXISTING SAMPLING (SYSTEM) DETECTORS PROPOSED INTERSECTION & SAMPLING (SYSTEM) DETECTORS | | EXISTING TELEPHONE CONNECTION |
| | EXISTING SAMPLING (SYSTEM) DETECTORS PROPOSED SAMPLING (SYSTEM) DETECTORS | | PROPOSED TELEPHONE CONNECTION |
| | EXISTING PREFORMED INTERSECTION & SAMPLING (SYSTEM) DETECTORS | | EXISTING VIDEO DETECTION CAMERA |
| | PROPOSED PREFORMED INTERSECTION & SAMPLING (SYSTEM) DETECTORS | | PROPOSED VIDEO DETECTION CAMERA |
| | EXISTING SAMPLING (SYSTEM) PREFORMED DETECTORS | | EXISTING SAMPLING (SYSTEM) VIDEO DETECTION ZONE |
| | PROPOSED SAMPLING (SYSTEM) PREFORMED DETECTORS | | PROPOSED SAMPLING (SYSTEM) VIDEO DETECTION ZONE |
| | PROPOSED WIRELESS ANTENNA | | CENTRALIZED TRANSPORTATION MANAGEMENT SYSTEM |
| | EXISTING WIRELESS ANTENNA | | |

INTERCONNECT SCHEDULE OF QUANTITIES

| PAY ITEM DESCRIPTION | UNIT | INTERCONNECT |
|---|-------|--------------|
| CONDUIT PUSHED, 2" DIA., GALVANIZED STEEL | FOOT | 70 |
| TRANSCEIVER - FIBER OPTIC | EACH | 5 |
| REMOVE ELECTRIC CABLE FROM CONDUIT | FOOT | 9058.5 |
| ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1C | FOOT | 9141.5 |
| OPTIMIZE TRAFFIC SIGNAL SYSTEM | EACH | 1 |
| FIBER OPTIC CABLE SPLICE | EACH | 1 |
| FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F SM12F | FOOT | 9141.5 |
| TERMINAL SERVER | EACH | 1 |
| ETHERNET SWITCH | EACH | 1 |
| CENTRALIZED SYSTEM FIELD INTEGRATION / SETUP | L SUM | 1 |

| | | | | | | | | | | | | |
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| FILE NAME = ...V690_6.sig_int_schem.dgn | USER NAME = _USER_ | DESIGNED - | REVISED - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | INTERCONNECT SCHEMATIC | F.A.U. RTE. 1503 | SECTION 08-00271-00-TL | COUNTY KANE | TOTAL SHEETS 30 | SHEET NO. 30 | | |
| | PLOT SCALE = #SCALE# | DRAWN BAH | REVISED - | | | CONTRACT NO. 63246 | | | | | | |
| | PLOT DATE = 7/20/2009 | CHECKED APS | REVISED - | | | SCALE: | SHEET NO. | OF | SHEETS | STA. | TO | STA. |
| | | DATE - | REVISED - | | | FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT | | | | | | |