

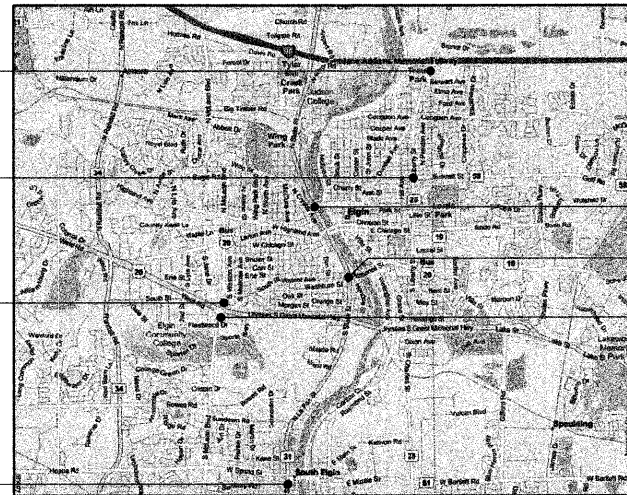
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
PLANS FOR PROPOSED
FEDERAL AID HIGHWAY**

**DISTRICT 1
VARIOUS KANE COUNTY LOCATIONS
HIGHWAY SAFETY IMPROVEMENT PROJECT
TRAFFIC SIGNAL MODERNIZATION PLANS
SECTION: 2009-105 TS
JOB NO. C-91-142-10
CITY OF ELGIN & VILLAGE OF SOUTH ELGIN, ILLINOIS
KANE COUNTY
PROJECT: ACHSIP-000S(696)**

LOCATION MAP
(NOT TO SCALE)



ILL RTE 25 (DUNDEE AVE)
AT I-90 RAMP

ILL RTE 58 (SUMMIT ST) AT
ILL RTE 25 (LIBERTY ST)

US RTE 20 WESTBOUND
RAMP AT SOUTH
McLEAN BLVD

ILL RTE 31 (LA FOX ST)
AT STATE ST

ILL RTE 31 (STATE ST) AT
KIMBALL ST/LAWRENCE AVE

ILL RTE 31 (SOUTH STATE ST)
AT WALNUT AVE/NATIONAL ST

US RTE 20 EASTBOUND
ENTRANCE RAMP/WELD RD
AT SOUTH McLEAN BLVD

CONTRACT NO. 60J01

J.U.L.I.E. TOLL FREE
1-800-892-0123

Call 48 hours before you dig
(Excluding Sat., Sun., & Holidays)

1-800-892-0123

JOINT
UTILITY
LOCATING
INFORMATION FOR
EXCAVATORS

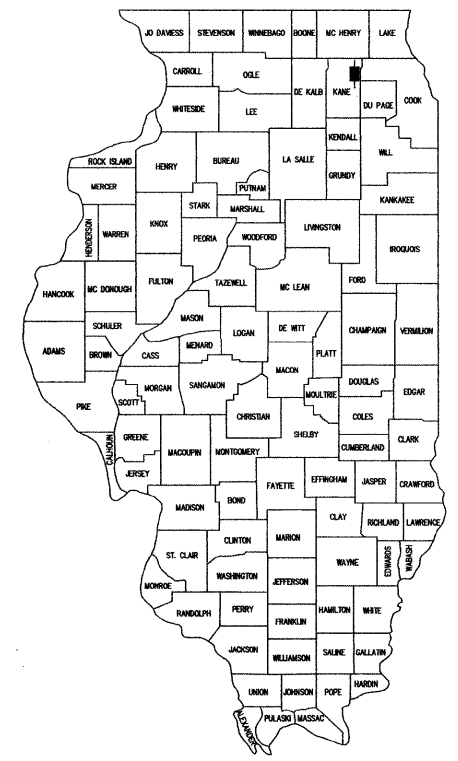
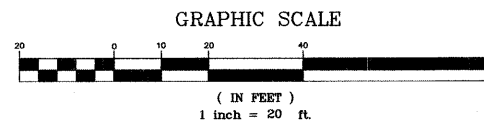
EXISTING UTILITIES: WHEN THE PLANS OR SPECIAL PROVISIONS INCLUDE INFORMATION PERTAINING TO THE LOCATION OF UNDERGROUND UTILITY FACILITIES, SUCH INFORMATION REPRESENTS ONLY THE OPINION OF THE ENGINEER AS TO THE LOCATION OF SUCH UTILITIES AND IS ONLY INCLUDED FOR THE CONVENIENCE OF THE BIDDER. THE ENGINEER AND OWNER ASSUME NO RESPONSIBILITY WHATSOEVER IN RESPECT TO THE SUFFICIENCY OR ACCURACY OF THE INFORMATION SHOWN ON THE PLANS RELATIVE TO THE LOCATION OF UNDERGROUND UTILITY FACILITIES OR THE MANNER IN WHICH THEY ARE TO BE REMOVED OR ADJUSTED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATION OF ALL SUCH UTILITIES. HE SHALL ALSO OBTAIN FROM THE RESPECTIVE UTILITY COMPANIES, DETAILED INFORMATION RELATIVE TO THE LOCATION OF THEIR FACILITIES AND THE WORKING SCHEDULES OF THE UTILITY COMPANIES FOR REMOVING OR ADJUSTING THEM.

CONTRACTOR IS RESPONSIBLE FOR CONTACTING J.U.L.I.E. AT 1-800-892-0123 AND MUST ACQUIRE A DIG NUMBER A MINIMUM OF 72 HOURS PRIOR TO ANY WORK BEING DONE.

IDOT STANDARDS:

- 000001-05 STANDARD SYMBOLS, ABBREVIATIONS & PATTERNS
- 001006 DECIMAL OF AN INCH AND OF A FOOT
- 424101-07 CURB RAMPS FOR SIDEWALK
- 442101-07 CLASS B PATCHES
- 606001-04 CONCRETE CURB TYPE B AND COMBINATION CONCRETE CURB AND GUTTER
- 701001-02 OFF-ROAD OPERATIONS 2L, 2W, >15' AWAY
- 701006-03 OFF-ROAD OPERATIONS 2L, 2W, 15' TO 24" FROM PAVEMENT EDGE
- 701011-02 OFF-ROAD MOVING OPERATIONS, 2L, 2W, DAY ONLY
- 701501-03 LANE CLOSURE 2L, 2W, SHORT TIME OPERATIONS
- 701806-06 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
- 720001-01 SIGN PANEL MOUNTING DETAILS
- 780001-02 TYPICAL PAVEMENT MARKINGS
- 814001-02 HANDHOLE
- 814006-02 DOUBLE HANDHOLE
- 857001-01 STANDARD PHASE DESIGNATION DIAGRAMS AND PHASE SEQUENCES
- 862001-01 UNINTERRUPTIBLE POWER SUPPLY (UPS)
- 873001-02 TRAFFIC SIGNAL GROUNDING
- 877001-04 STEEL MAST ARM ASSEMBLY AND POLE, 16' THROUGH 55'
- 878001-02 CONCRETE FOUNDATION DETAILS
- 880001-01 SPAN WIRE MOUNTED SIGNALS AND FLASHING BEACON INSTALLATION
- 880006-01 TRAFFIC SIGNAL MOUNTING DETAILS
- 886001-01 DETECTOR LOOP INSTALLATIONS

TRAFFIC SIGNAL MODIFICATION PLAN



LOCATION OF SECTION INDICATED THUS: [Symbol]

KENNETH L. BELGRAVE
062-051750
LICENSED
PROFESSIONAL
ENGINEER
STATE OF ILLINOIS

Kevin L. Belgrave
EXP 11/30/2011

GHA GENSLT HAMILTON
ASSOCIATES, INC.
Consulting Engineers & Surveyors
650 Forest Edge Drive
Vernon Hills, IL 60061
847-478-9700
FAX 847-478-9701

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED: Dec 11 2009

Kevin M. O'Keefe
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

January 29 2010

Scott E. Stett, P.E., D
ENGINEER OF DESIGN AND ENVIRONMENT

January 29 2010

Christine M. Reed, D
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

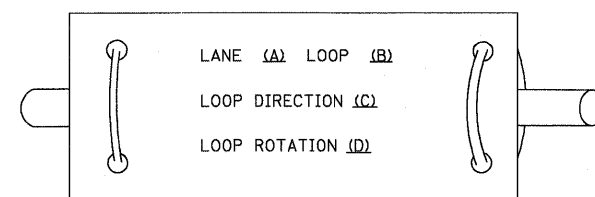
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| FILE NAME = 4085.852-TR1.dwg | USER NAME = GHA | DESIGNED - JRD | REVISED - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | TITLE SHEET | FAU RTE VARIES | SECTION 2009-105-TS | COUNTY KANE | TOTAL SHEETS 36 | SHEET NO. 1 |
| PLOT SCALE = 1" = .0833' | | CHECKED - KLB | | SCALE N.A. SHEET NO. OF SHEETS STA. TO STA. | | CONTRACT #: 60J01 | | | | |
| PLOT DATE = 12/9/2009 | | DATE - 11/20/09 | | | | ILLINOIS FED. AID PROJECT | | | | |

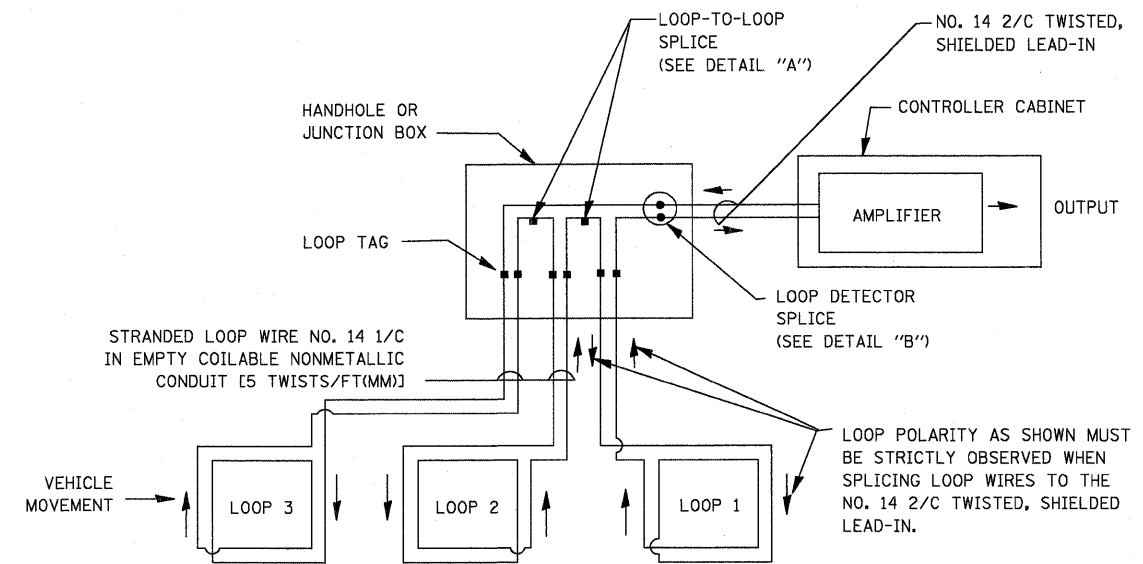
LOOP DETECTOR NOTES

1. EACH PAIR OF LOOP WIRES SHALL BE PLACED IN A SEPARATE EMPTY COILABLE NONMETALLIC CONDUIT FROM THE EDGE OF PAVEMENT TO THE HANDHOLE. SPACING BETWEEN THE HOLES DRILLED IN THE PAVEMENT SHALL NOT BE LESS THAN 6" (150 mm). EMPTY COILABLE NONMETALLIC CONDUIT 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

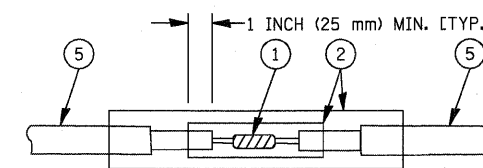


- A. LANE 1 IS THE LANE CLOSEST TO THE CENTERLINE OF THE ROADWAY
- B. LOOP #1 IS THE LOOP IN THE LANE CLOSEST TO THE INTERSECTION.
- C. LABEL LOOP CABLE "IN" OR LOOP CABLE "OUT".
- D. LABEL LOOP CABLE CLOCKWISE OR LOOP CABLE COUNTERCLOCKWISE.

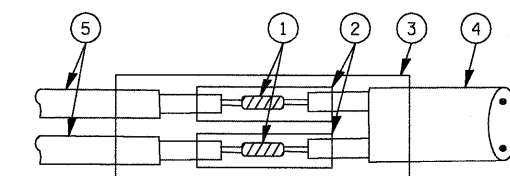


DETECTOR LOOP WIRING SCHEMATIC

- 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.

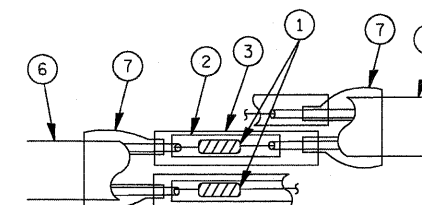


DETAIL "A"
LOOP-TO-LOOP SPLICE

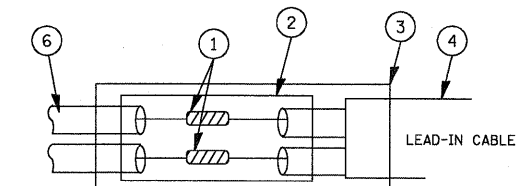


DETAIL "B"
LOOP-TO-CONTROLLER SPLICE

TYPE I LOOP



DETAIL "A"
LOOP-TO-LOOP SPLICE



DETAIL "B"
LOOP-TO-CONTROLLER SPLICE

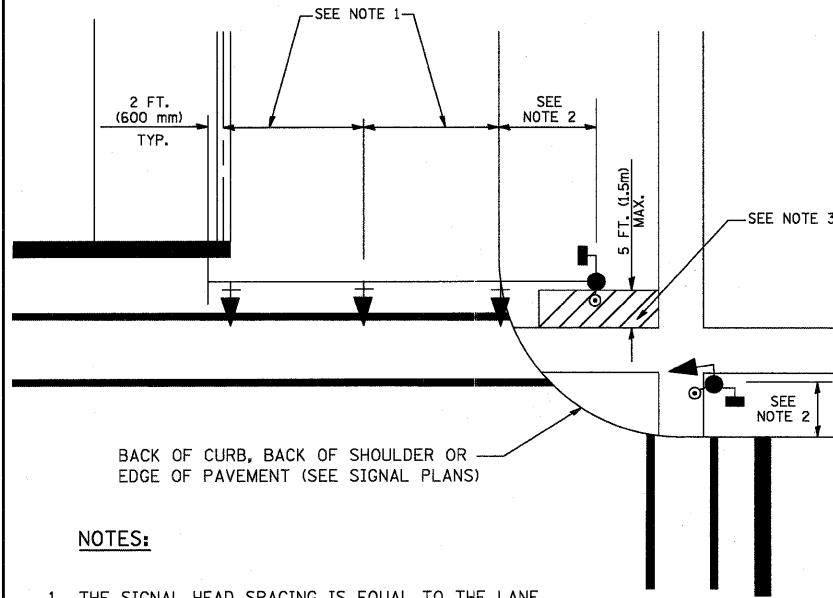
LOOP DETECTOR SPLICE

- 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.
- 6 PRE-FORMED LOOP
- 7 XL POLYOLEFIN 2 CONDUCTOR BREAKOUT SEALS, TYCO CBR-2 OR APPROVED EQUAL

| | | | | | | | | | | | | | |
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| FILE NAME = 4085.852-TR1.dwg | USER NAME = GHA | DESIGNED - JRD | REVISED - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | DISTRICT 1 STANDARD TRAFFIC SIGNAL DESIGN DETAILS | | | FAU. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. | |
| | | DRAWN - ZCW | REVISED - | | SCALE: N.A. | SHEET NO. 1 OF 6 SHEETS | STA. | TO STA. | VARIES | 2009-105-TS | KANE | 36 | 3 |
| | | CHECKED - KLB | REVISED - | | | | | | | | | | |
| | | DATE - 11/20/09 | REVISED - | | | | | | | | | | |
| | | PLOT SCALE = 1" = .0833' | | | | | | | | | | | |
| | | PLOT DATE = 12/9/2009 | | | | | | | | | | | |
| | | | | | | | | | | | ILLINOIS FED. AID PROJECT | CONTRACT #: 60J01 | |

TRAFFIC SIGNAL MAST ARM AND SIGNAL POST

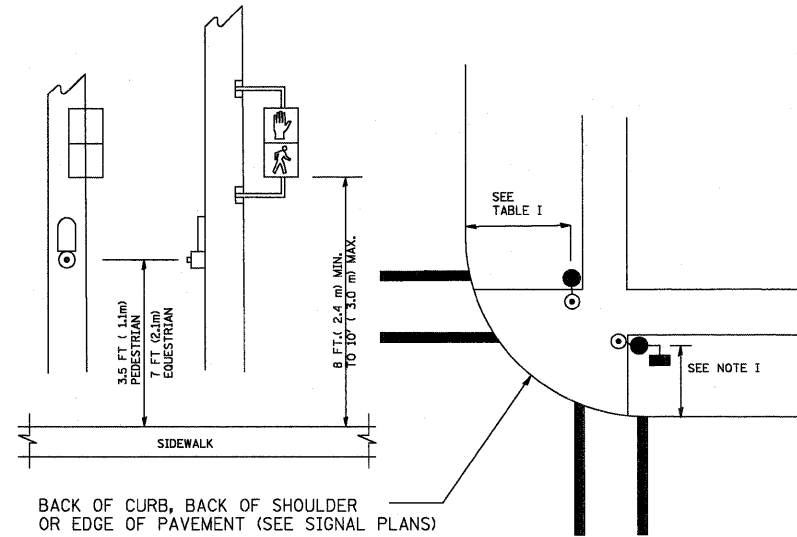
MAST ARM MOUNTED SIGNALS IN EXISTING, PROPOSED OR FUTURE SIDEWALK/BICYCLE PATH AREA. INTERSECTION SHOWN WITH PEDESTRIAN SIGNALS AND PEDESTRIAN PUSHBUTTON DETECTORS.



NOTES:

1. THE SIGNAL HEAD SPACING IS EQUAL TO THE LANE WIDTH OR AS SHOWN ON THE TRAFFIC SIGNAL PLAN.
2. REFER TO THE TRAFFIC SIGNAL EQUIPMENT OFFSET TABLE.
3. PROVIDE A LEVEL ALL-WEATHER SURFACE (CONCRETE SIDEWALK, ASPHALT BICYCLE PATH SURFACE OR MATCHING MATERIAL TO THE ADJACENT SURFACE) UP TO THE MAST ARM SHAFT OR THE SIGNAL POST.
4. THE FACE OF THE PEDESTRIAN PUSHBUTTON SHALL BE PARALLEL TO THE CROSSWALK TO BE USED.
5. THE LOCATIONS AND INSTALLATION OF PEDESTRIAN SIGNAL HEADS AND PEDESTRIAN PUSHBUTTONS SHALL MEET THE REQUIREMENTS OF THE MUTCD AND INFORMATION FOUND IN THE "AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES."

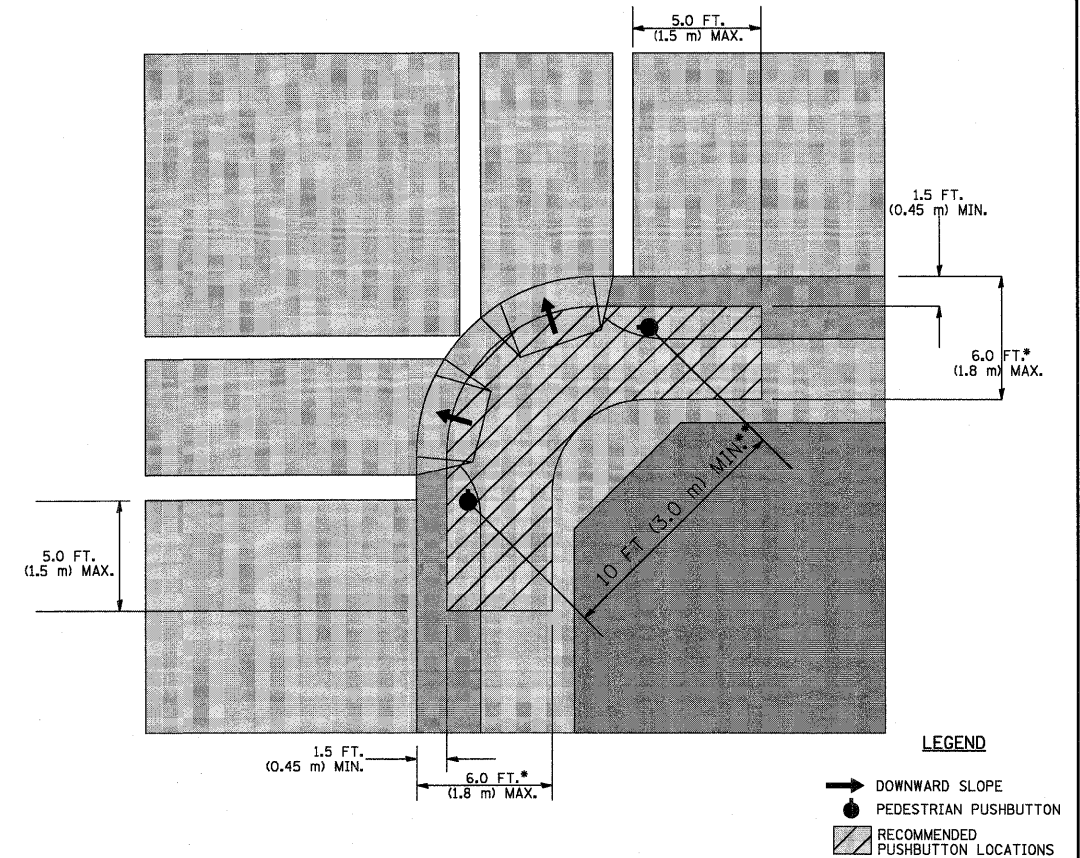
PEDESTRIAN SIGNAL POST AND PEDESTRIAN PUSH BUTTON POST



NOTES:

1. REFER TO THE TRAFFIC SIGNAL EQUIPMENT OFFSET TABLE.
2. PROVIDE A LEVEL ALL-WEATHER SURFACE (CONCRETE SIDEWALK, ASPHALT BICYCLE PATH SURFACE OR MATCHING MATERIAL TO THE ADJACENT SURFACE) UP TO THE PEDESTRIAN SIGNAL POST OR THE PEDESTRIAN PUSH BUTTON POST.
3. THE FACE OF THE PEDESTRIAN PUSHBUTTON SHALL BE PARALLEL TO THE CROSSWALK TO BE USED.
4. THE LOCATIONS AND INSTALLATION OF PEDESTRIAN SIGNAL HEADS AND PEDESTRIAN PUSHBUTTONS SHALL MEET THE REQUIREMENTS OF THE MUTCD AND INFORMATION FOUND IN THE "AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES."

RECOMMENDED PUSHBUTTON LOCATIONS



- WHERE THERE ARE CONSTRAINTS THAT MAKE IT IMPRACTICAL TO PLACE THE PEDESTRIAN PUSHBUTTON BETWEEN 1.5 FT (0.45 m) AND 6 FT (1.8 m) FROM THE EDGE OF THE CURB, SHOULDER, OR PAVEMENT, IT SHOULD NOT BE FURTHER THAN 10 FT (3 m) FROM THE EDGE OF THE CURB, SHOULDER, OR PAVEMENT.
- WHERE THERE ARE CONSTRAINTS ON A PARTICULAR CORNER THAT MAKE IT IMPRACTICAL TO PROVIDE THE 10 FT (3 m) SEPERATION BETWEEN THE TWO PEDESTRIAN PUSHBUTTONS, THE PUSHBUTTONS MAY BE PLACED CLOSER TOGETHER OR ON THE SAME POLE.

NOTES:

PEDESTRIAN SIGNAL HEADS SHALL BE MOUNTED WITH THE BOTTOM OF THE SIGNAL HOUSING INCLUDING BRACKETS NOT LESS THAN 8 FT (2.4 m) OR MORE THAN 10 FT (3 m) ABOVE SIDEWALK LEVEL, AND SHALL BE POSITIONED AND ADJUSTED TO PROVIDE MAXIMUM VISIBILITY AT THE BEGINNING OF THE CONTROLLED CROSSWALK.

THE BOTTOM OF THE SIGNAL HOUSING (INCLUDING BRACKETS) OF A VEHICULAR SIGNAL FACE THAT IS NOT LOCATED OVER A HIGHWAY SHALL BE AT LEAST 8 FT (2.4 m) BUT NOT MORE THAN 19 FT (5.8 m) ABOVE THE SIDEWALK OR, IF THERE IS NO SIDEWALK, ABOVE THE PAVEMENT GRADE AT THE CENTER OF THE ROADWAY.

THE BOTTOM OF THE SIGNAL HOUSING AND ANY RELATED ATTACHMENTS TO A SIGNAL FACE LOCATED OVER ANY PORTION OF A HIGHWAY SHALL BE ACCORDING TO CURRENT STATE STANDARDS 877001, 877002, 877006, 877011 AND 877012 WITH A MINIMUM OF 16 FT (5.0 m) AND A MAXIMUM OF 18 FT. (5.5 m) FROM THE HIGHEST POINT OF PAVEMENT.

THE BOTTOM OF THE TEMPORARY SPAN WIRE MOUNTED SIGNAL HOUSING AND ANY RELATED ATTACHMENTS TO A SIGNAL FACE LOCATED OVER ANY PORTION OF A HIGHWAY SHALL BE ACCORDING TO CURRENT STATE STANDARD 880001 WITH A MINIMUM OF 17 FT (5.18 m) FROM THE HIGHEST POINT OF PAVEMENT.

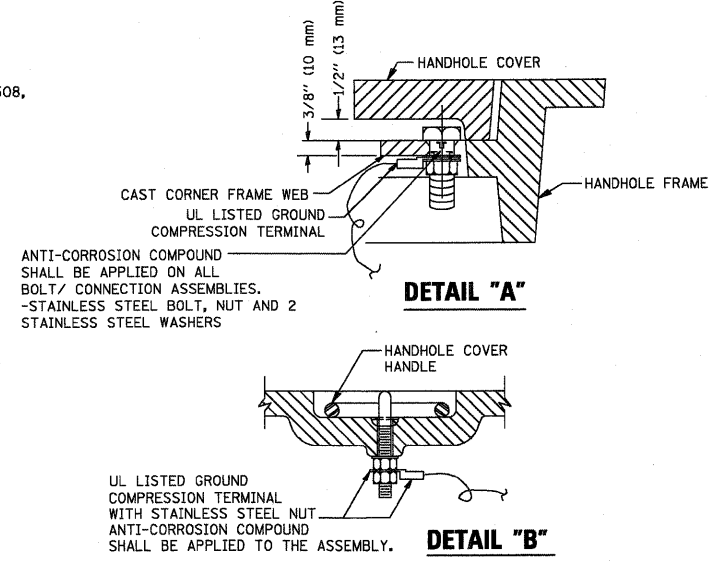
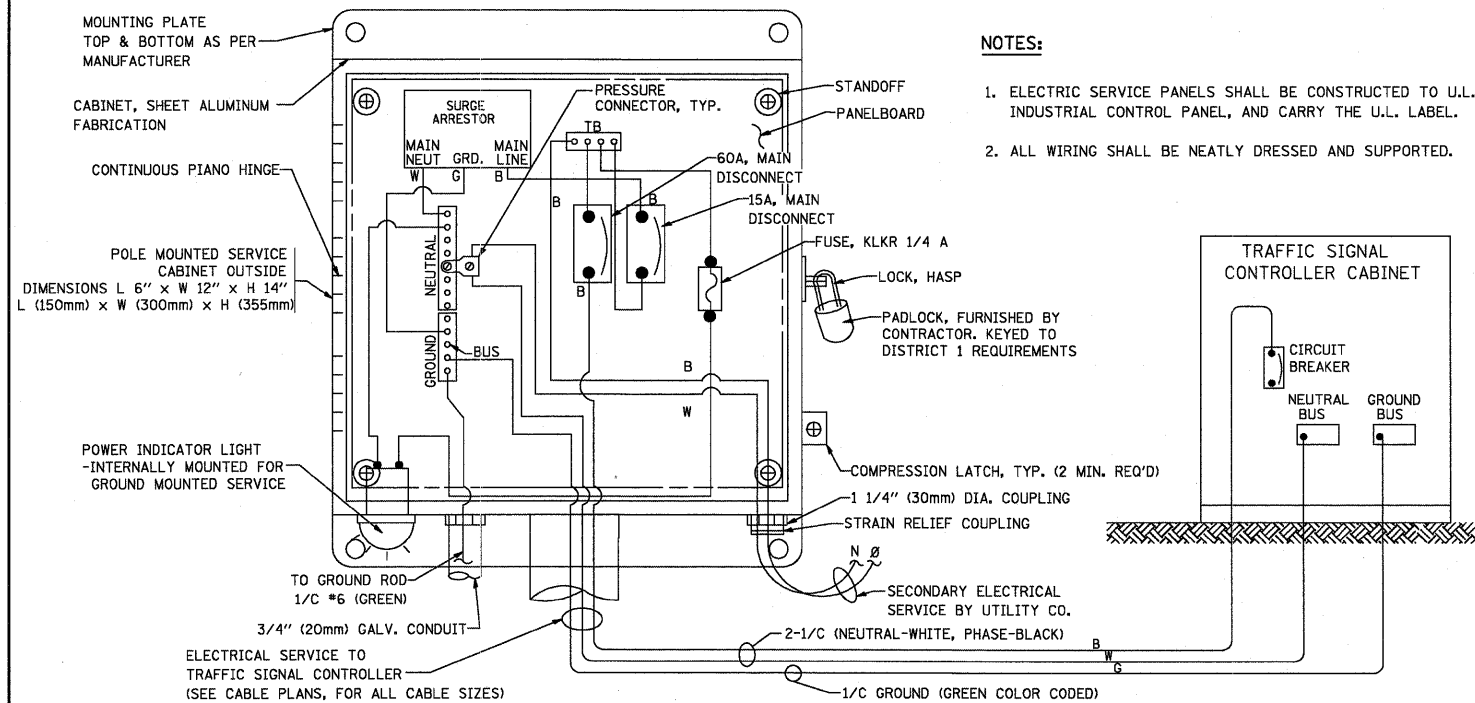
THE TOP OF THE SIGNAL HOUSING OF A SIGNAL FACE LOCATED OVER ANY PORTION OF A HIGHWAY SHALL NOT BE MORE THAN 25.6 FT (7.8 m) ABOVE THE PAVEMENT.

TRAFFIC SIGNAL EQUIPMENT OFFSET

| TRAFFIC SIGNAL EQUIPMENT | COMBINATION CONCRETE CURB AND GUTTER (MINIMUM DISTANCE FROM BACK OF CURB TO CENTERLINE OF FOUNDATION) | SHOULDER/NON-CURBED AREA (MINIMUM DISTANCE FROM EDGE OF PAVEMENT TO CENTERLINE OF FOUNDATION) |
|------------------------------------|---|---|
| TRAFFIC SIGNAL MAST ARM POLE | 6 FT (1.8m) | SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m) |
| TRAFFIC SIGNAL POST | 4 FT (1.2m) | SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m) |
| PEDESTRIAN SIGNAL POST | 4 FT (1.2m) | SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m) |
| PEDESTRIAN PUSHBUTTON POST | 4 FT (1.2m) | SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m) |
| TEMPORARY WOOD POLE | 6 FT (1.8m) | SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m) |
| CONTROLLER CABINET | 6 FT (1.8m) MINIMUM DISTANCE SEE NOTE 2 | SHOULDER WIDTH + 6 FT (1.8m), MINIMUM 16 FT (4.9m) SEE NOTE 3. |
| SERVICE INSTALLATION, GROUND MOUNT | 6 FT (1.8m) MINIMUM DISTANCE SEE NOTE 2 | SHOULDER WIDTH + 6 FT (1.8m), MINIMUM 16 FT (4.9m) SEE NOTE 3. |

NOTES:

1. CONTACT THE "AREA TRAFFIC SIGNAL MAINTENANCE AND OPERATIONS ENGINEER" FOR ASSISTANCE IN LOCATING THE TRAFFIC SIGNAL EQUIPMENT WHEN THERE ARE CONFLICTS WITH DITCHES OR THE MINIMUM OFFSET DISTANCES CANNOT BE MET.
2. MINIMUM DISTANCE FROM THE BACK OF CURB TO THE ROADWAY SIDE OF THE FOUNDATION.
3. MINIMUM DISTANCE FROM THE EDGE OF PAVEMENT TO THE ROADWAY SIDE OF THE FOUNDATION.
4. ANY CHANGES TO THE OFFSETS OF THE FOUNDATIONS, FROM THE MINIMUM DISTANCES LISTED IN THE "TRAFFIC SIGNAL EQUIPMENT OFFSET" CHART AND THE TRAFFIC SIGNAL INSTALLATION PLAN, COULD EFFECT THE PLACEMENT OF THE SIGNAL HEADS, PEDESTRIAN SIGNAL HEADS AND THE PEDESTRIAN PUSHBUTTONS. THE SIGNAL HEAD PLACEMENT ON THE MAST ARMS SHALL REMAIN AS PER THE TRAFFIC SIGNAL INSTALLATION PLAN AND THE "TRAFFIC SIGNAL MAST ARM AND SIGNAL POST" DETAIL ABOVE. THE PROPOSED MAST ARM LENGTHS MAY NEED TO BE REVISED TO MEET THE ABOVE REQUIREMENTS. THE PEDESTRIAN SIGNAL HEADS AND PEDESTRIAN PUSHBUTTONS MUST MEET THE REQUIREMENTS UNDER THE DETAILS ON THIS SHEET.

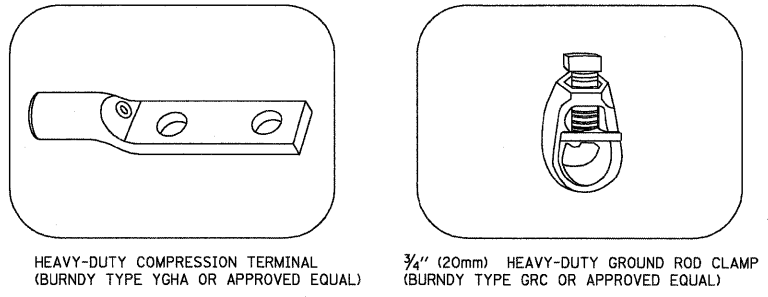
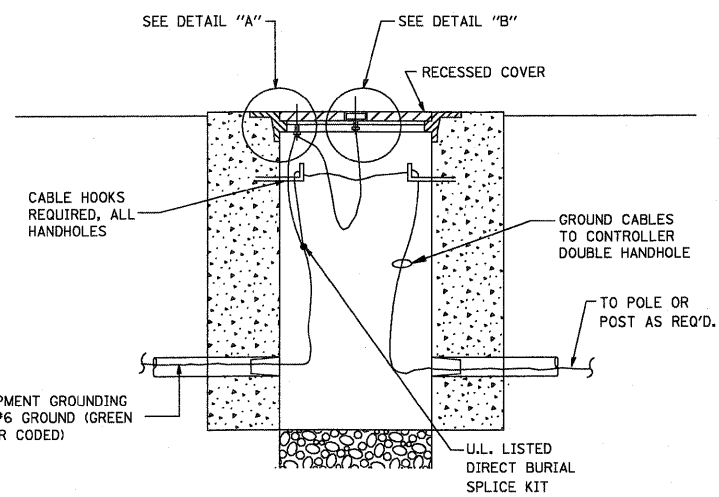
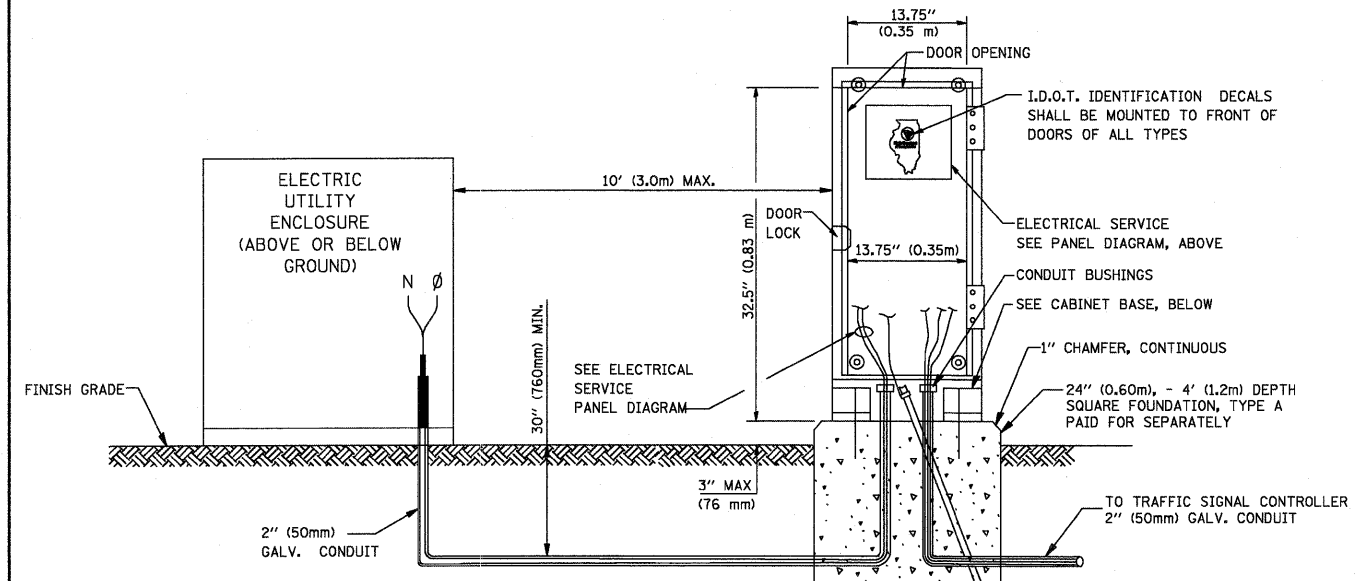


NOTES:

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.

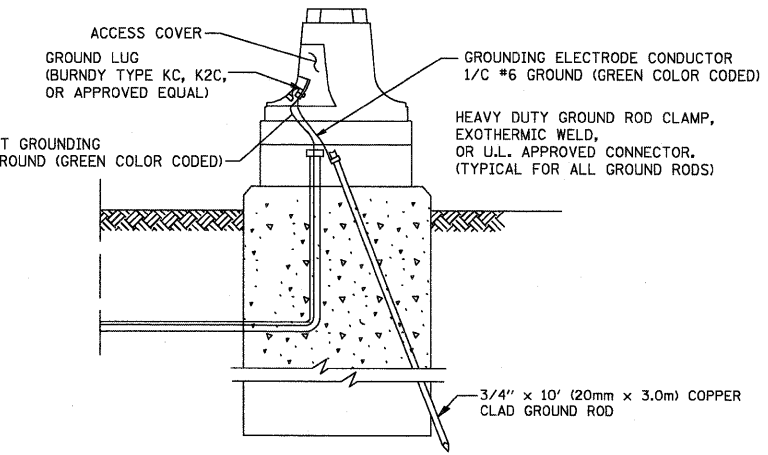
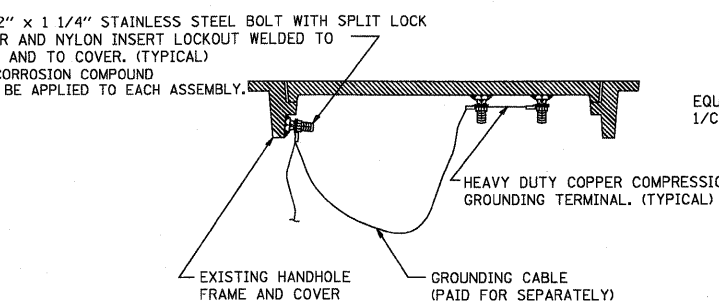
ELECTRICAL SERVICE - PANEL DIAGRAM (TYPICAL FOR POLE AND GROUND MOUNTED SERVICE)
SERVICE INSTALLATION POLE MOUNT (SHOWN)
 (NOT TO SCALE)



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.

HANDHOLE COVER & FRAME - GROUNDING DETAIL
 (NOT TO SCALE)



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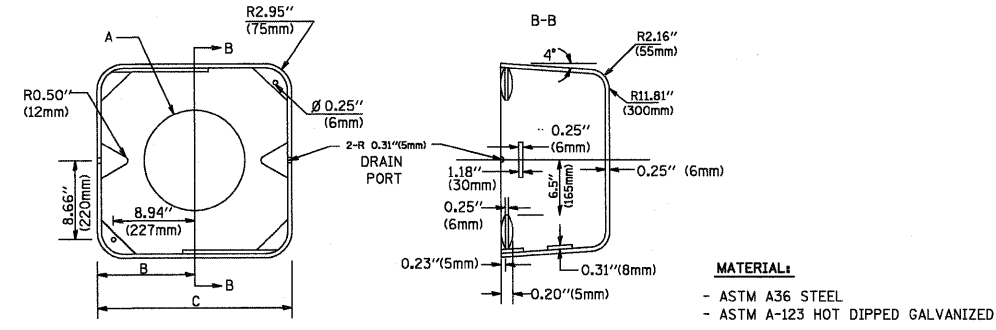
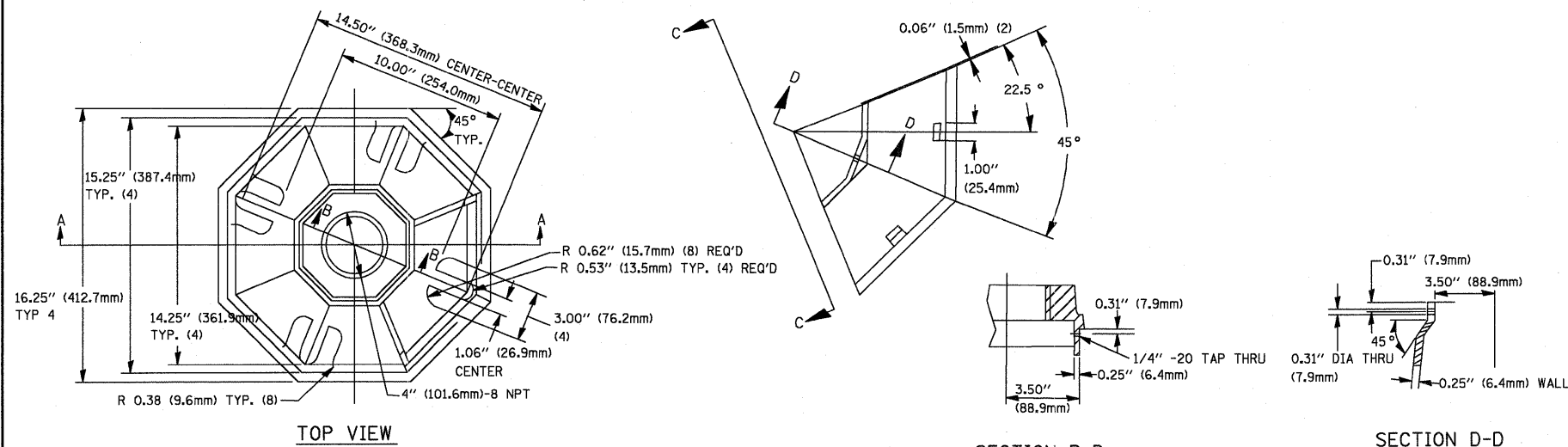
USER NAME = GHA
 DESIGNED - JRD
 DRAWN - ZCW
 CHECKED - KLB
 DATE - 11/20/09

REVISED -
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STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

DISTRICT 1 STANDARD TRAFFIC SIGNAL DESIGN DETAILS
 SCALE: N.A. SHEET NO. 3 OF 6 SHEETS STA. TO STA.

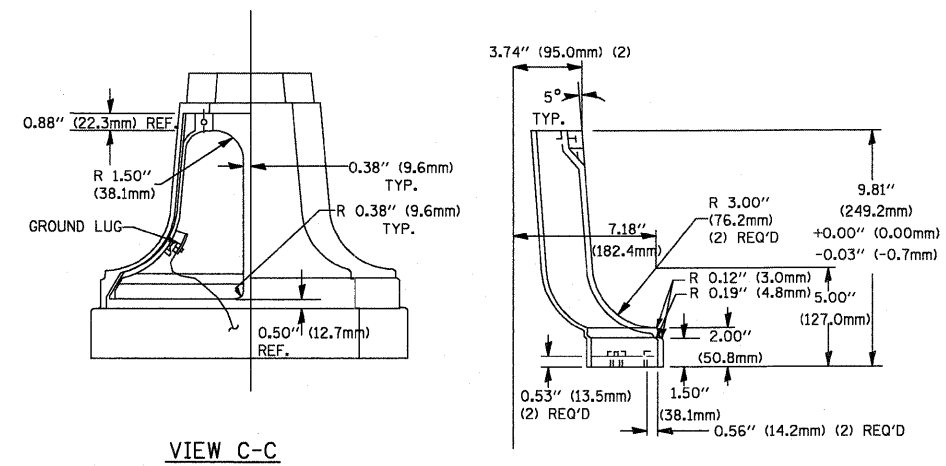
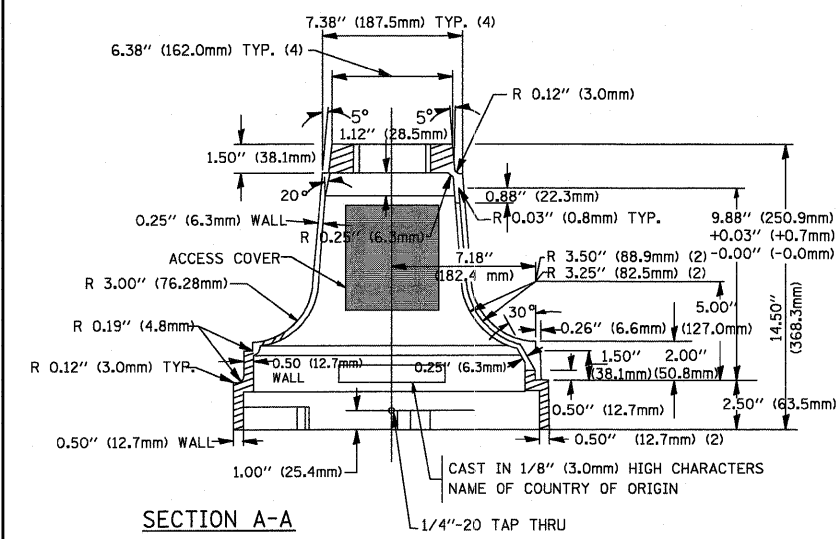
| | | | | |
|------------------|---------------------|-------------|---------------------------|-------------|
| FAU. RTE. VARIES | SECTION 2009-105-TS | COUNTY KANE | TOTAL SHEETS 36 | SHEET NO. 5 |
| CONTRACT # 60J01 | | | ILLINOIS FED. AID PROJECT | |



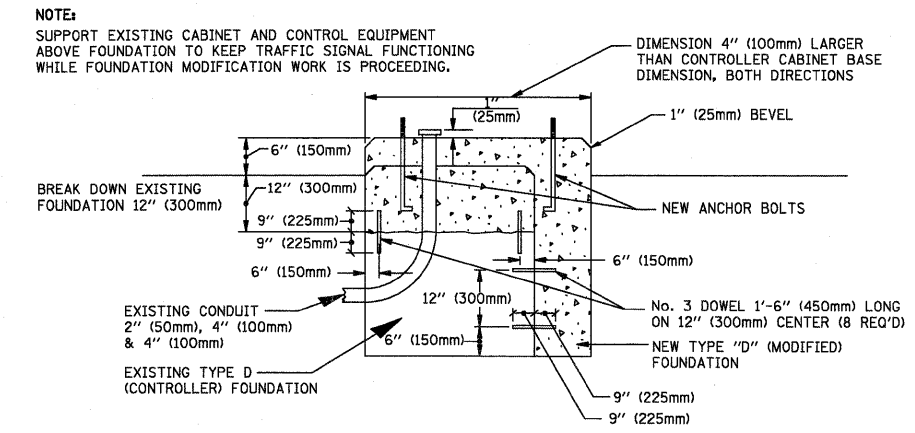
| | A | B | C | HEIGHT | WEIGHT |
|--|--------|----------------|---------------|--------------------------|-----------------|
| | VARIES | 9.5\"(241mm) | 19\"(483mm) | 7\"(178mm) - 12\"(300mm) | 53 lbs (24kg) |
| | VARIES | 10.75\"(273mm) | 21.5\"(546mm) | 7\"(178mm) - 12\"(300mm) | 68 lbs (31 kg) |
| | VARIES | 13.0\"(330mm) | 26\"(660mm) | 7\"(178mm) - 12\"(300mm) | 81 lbs (37 kg) |
| | VARIES | 18.5\"(470mm) | 37\"(940mm) | 7\"(178mm) - 12\"(300mm) | 126 lbs (57 kg) |

SHROUD

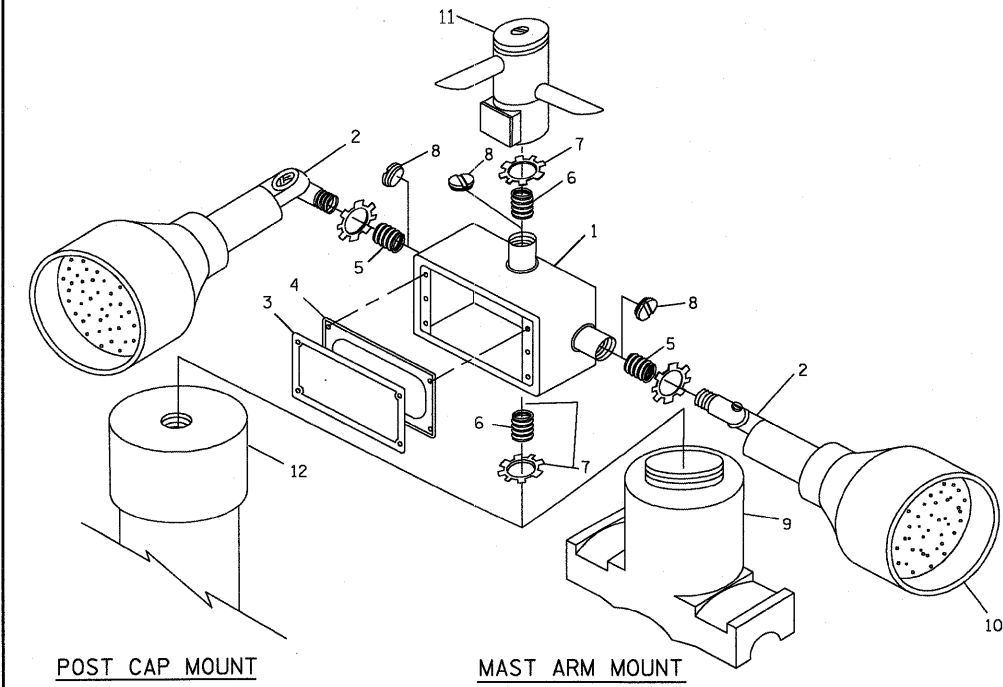
- NOTES:**
1. DIMENSION "A" IS EQUAL TO THE DIAMETER OF THE MAST ARM POLE AT THE TOP OF THE SHROUD. THE SHROUD SHALL BE TIGHT TO THE MAST ARM POLE.
 2. THE SUPPLIER SHALL VERIFY THE ABOVE DIMENSIONS BASED ON MAST ARM REQUIREMENTS.
 3. THE HEIGHT OF THE SHROUD SHALL COVER THE ANCHOR BOLTS, NUTS AND MAST ARM POLE BASE.



TRAFFIC SIGNAL POST - MOUNTING BASE - TYPE A

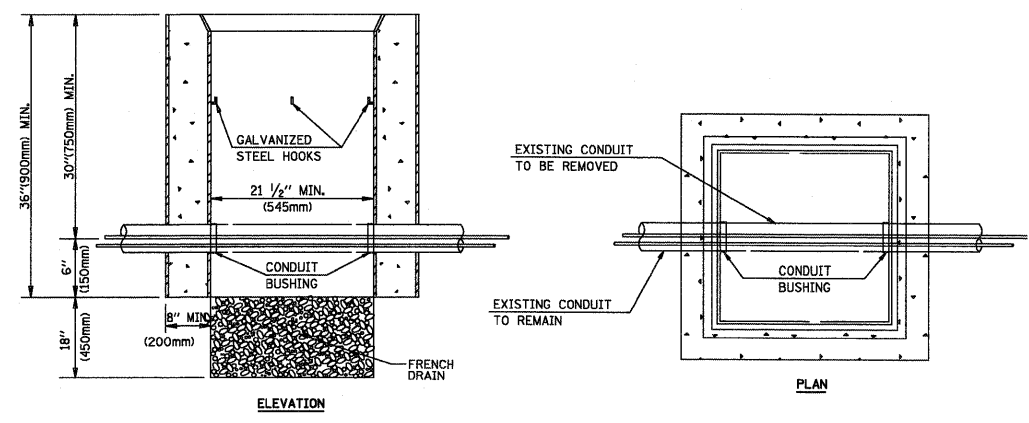


MODIFY EXISTING TYPE "D" FOUNDATION



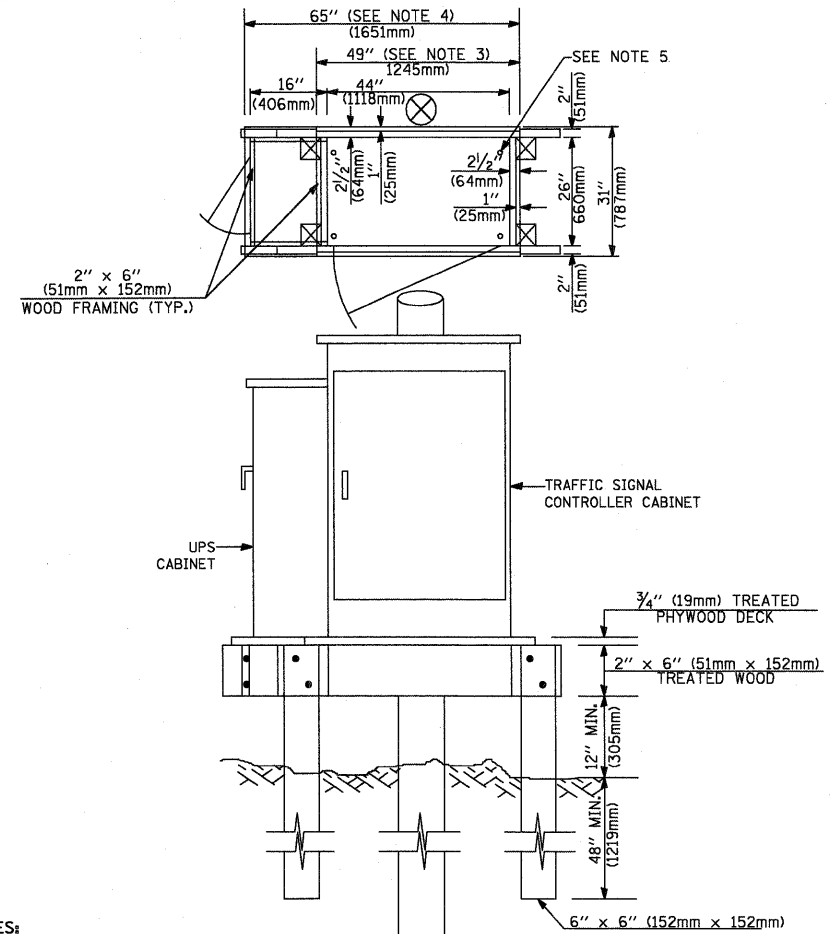
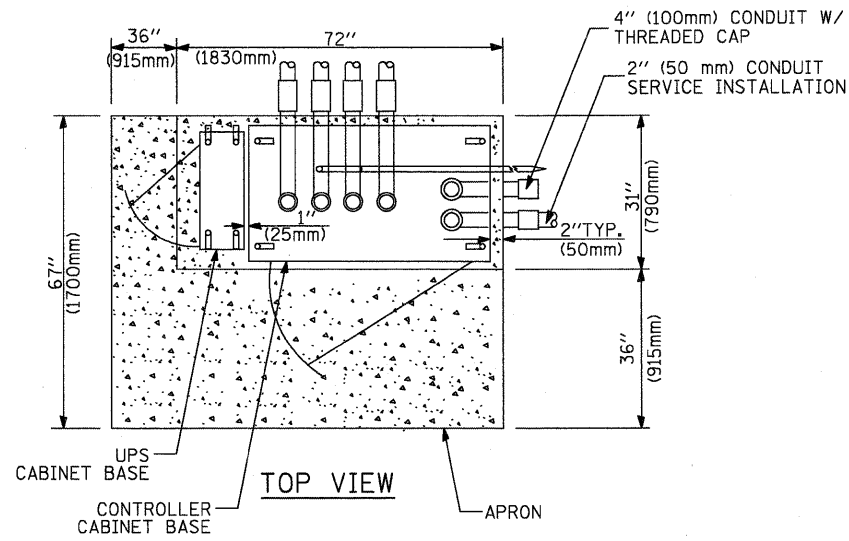
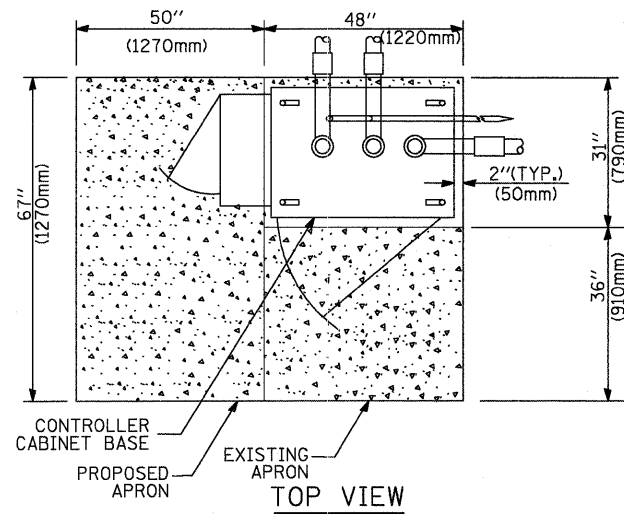
| ITEM NO. | IDENTIFICATION |
|----------|---|
| 1 | OUTLET BOX- GALV. 21 CU.IN. (0,000344 CU-M) |
| 2 | LAMP HOLDER AND COVER |
| 3 | OUTLET BOX COVER |
| 4 | RUBBER COVER GASKET |
| 5 | REDUCING BUSHING |
| 6 | 3/4\"(19 mm) CLOSE NIPPLE |
| 7 | 3/4\"(19 mm) LOCKNUT |
| 8 | 3/4\"(19 mm) HOLE PLUG |
| 9 | SADDLE BRACKET - GALV. |
| 10 | 6 WATT PAR 38 LED FLOOD LAMP |
| 11 | DETECTOR UNIT |
| 12 | POST CAP [18 FT. (5.4 m) POST MIN.] |

- NOTES:**
1. ALL ELECTRICAL ITEMS, EXCEPT ITEMS #2 AND #11 SHALL BE ALUMINUM OR GALVANIZED
 2. ITEM #1- OZ/GEDNEY FSX-1-50 OR EQUIVALENT
ITEM #2- MULBERRY CON-0-SHADE LAMP SHIELD OR EQUIVALENT
ITEM #9- "BAND-IT" SADDLE BRACKET OR EQUIVALENT
 3. 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.



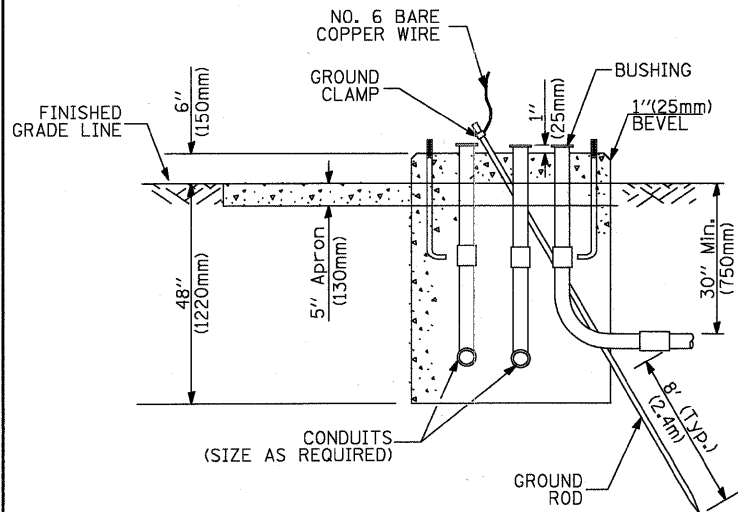
- NOTES:**
1. HANDHOLE CONSTRUCTED PER STATE STANDARD 814001.
 2. REMOVAL OF THE EXISTING CONDUIT FROM THE HANDHOLE AND THE INSTALLATION OF THE CONDUIT BUSHINGS SHALL BE INCIDENTAL TO THE HANDHOLE.

HANDHOLE TO INTERCEPT EXISTING CONDUIT

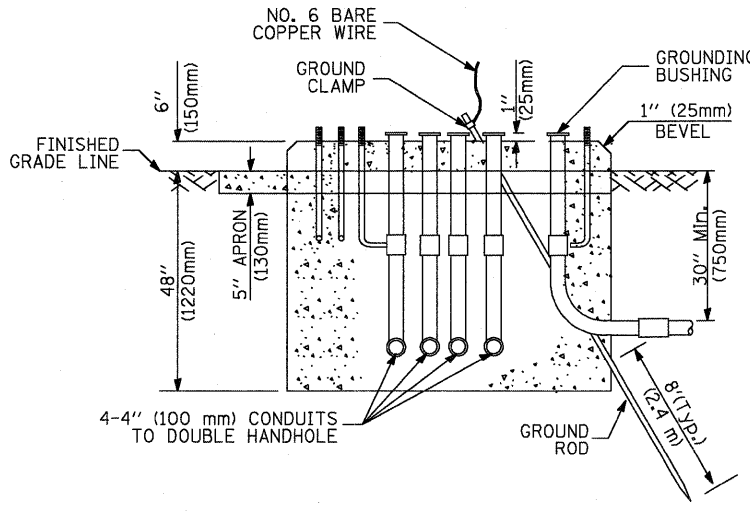


- NOTES:**
- BASED ON CONTROLLER CABINET TYPE IV WITH BASE DIMENSIONS OF 26" x 44" (660mm x 1118mm). ADJUST PLATFORM SIZE TO FIT CABINET BASE DIMENSIONS BEING SUPPLIED.
 - BASED ON UNINTERRUPTIBLE POWER SUPPLY CABINET WITH BASE DIMENSIONS OF 16" x 25" (406mm x 635mm). ADJUST PLATFORM SIZE TO FIT CABINET BASE DIMENSIONS BEING SUPPLIED.
 - PLATFORM SIZE FOR CONTROLLER CABINET TYPE IV.
 - PLATFORM SIZE FOR CONTROLLER CABINET TYPE IV AND UNINTERRUPTIBLE POWER SUPPLY CABINET.
 - DRILLED HOLES THROUGH THE PLATFORM BASE TO MATCH THE CONTROLLER CABINET BOLT TEMPLATE. FASTEN THE CONTROLLER CABINET TO THE PLATFORM WITH CARRIAGE BOLTS, WASHERS AND NUTS.
 - FASTEN ALL SUPPORT WOOD FRAMING TO THE WOOD POSTS WITH 2 LAG SCREWS FOR EACH CONNECTION.

TEMPORARY SIGNAL CONTROLLER WOOD SUPPORT PLATFORM



TYPE D FOR GROUND MOUNTED CONTROLLER CABINET AND UPS BATTERY CABINET



TYPE C FOR GROUND MOUNTED CONTROLLER CABINET AND UPS BATTERY CABINET

| CABLE SLACK LENGTH | FEET | METER |
|---|------|-------|
| HANDHOLE | 6.5 | 2.0 |
| DOUBLE HANDHOLE | 13.0 | 4.0 |
| SIGNAL POST | 2.0 | 0.6 |
| MAST ARM | 2.0 | 0.6 |
| CONTROLLER CABINET | 1.5 | 0.5 |
| FIBER OPTIC AT CABINET | 13.0 | 4.0 |
| ELECTRIC SERVICE AT (CABINET OR SERVICE LOCATION) | 1.5 | 0.5 |
| GROUND CABLE (SIGNAL POST, MAST ARM, CABINET) | 1.5 | 0.5 |
| GROUND CABLE (BETWEEN FRAME AND COVER) | 5.0 | 1.6 |

CABLE SLACK

| VERTICAL CABLE LENGTH | FEET | METER |
|---|--------|-------|
| MAST ARM POLE (MAST ARM MOUNTED SIGNAL HEAD) (L = MAST ARM LENGTH - DISTANCE TO SIGNAL HEAD FROM END OF ARM) | 20.0+L | 6.0+L |
| BRACKET MOUNTED (MAST ARM POLE OR SIGNAL POLE) | 13.0 | 4.0 |
| PEDESTRIAN PUSH BUTTON | 6.0 | 2.0 |
| SERVICE INSTALLATION POLE MOUNT TO SERVICE DROP | 13.5 | 4.1 |
| SERVICE INSTALLATION POLE MOUNT TO GROUND | 13.5 | 4.1 |
| SERVICE INSTALLATION GROUND MOUNT | 6.0 | 2.0 |
| FOUNDATION (SIGNAL POST, MAST ARM POLE, CONTROLLER CABINET, SERVICE-GROUND MOUNT) | 3.0 | 1.0 |

VERTICAL CABLE LENGTH

| FOUNDATION | DEPTH |
|---|--------------|
| TYPE A - Signal Post | 4'-0" (1.2m) |
| TYPE C - CONTROLLER W/ UPS | 4'-0" (1.2m) |
| TYPE D - CONTROLLER | 4'-0" (1.2m) |
| SERVICE INSTALLATION, GROUND MOUNT, TYPE A - SQUARE | 4'-0" (1.2m) |

DEPTH OF FOUNDATION

| Mast Arm Length | Foundation Depth | Foundation Diameter | Spiral Diameter | Quantity of Rebars | Size of Rebars |
|--|------------------|---------------------|-----------------|--------------------|----------------|
| Less than 30' (9.1 m) | 10'-0" (3.0 m) | 30" (750mm) | 24" (600mm) | 8 | 6(19) |
| Greater than or equal to 30' (9.1 m) and less than 40' (12.2 m) | 13'-6" (4.1 m) | 30" (750mm) | 24" (600mm) | 8 | 6(19) |
| | 11'-0" (3.4 m) | 36" (900mm) | 30" (750mm) | 12 | 7(22) |
| Greater than or equal to 40' (12.2 m) and less than 50' (15.2 m) | 13'-0" (4.0 m) | 36" (900mm) | 30" (750mm) | 12 | 7(22) |
| | 15'-0" (4.6 m) | 36" (900mm) | 30" (750mm) | 12 | 7(22) |
| Greater than or equal to 50' (15.2 m) and less than 65' (19.8 m) | 21'-0" (6.4 m) | 42" (1060mm) | 36" (900mm) | 16 | 8(25) |
| | 25'-0" (7.6 m) | 42" (1060mm) | 36" (900mm) | 16 | 8(25) |

- NOTES:**
- These foundation depths are for sites which have cohesive soils (clayey silt, sandy clay, etc.) along the length of the shaft, with an average Unconfined Compressive Strength (qu) > 1.0 tsf (100 kpa). This strength shall be verified by boring data prior to construction or with testing by the Engineer during foundation drilling. The Bureau of Bridges & structures should be contacted for a revised design if other conditions are encountered.
 - Combination mast arm assemblies under 55 feet (16.8 m) shall use 36" (900 mm) diameter foundations.
 - Combination mast arm assemblies under 56 feet (16.8 m) through 75 feet (22.9 m) shall use 42" (1060 mm) diameter foundations.
 - For mast arm assemblies with dual arms refer to state standard 878001.

DEPTH OF MAST ARM FOUNDATIONS, TYPE E

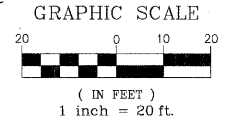
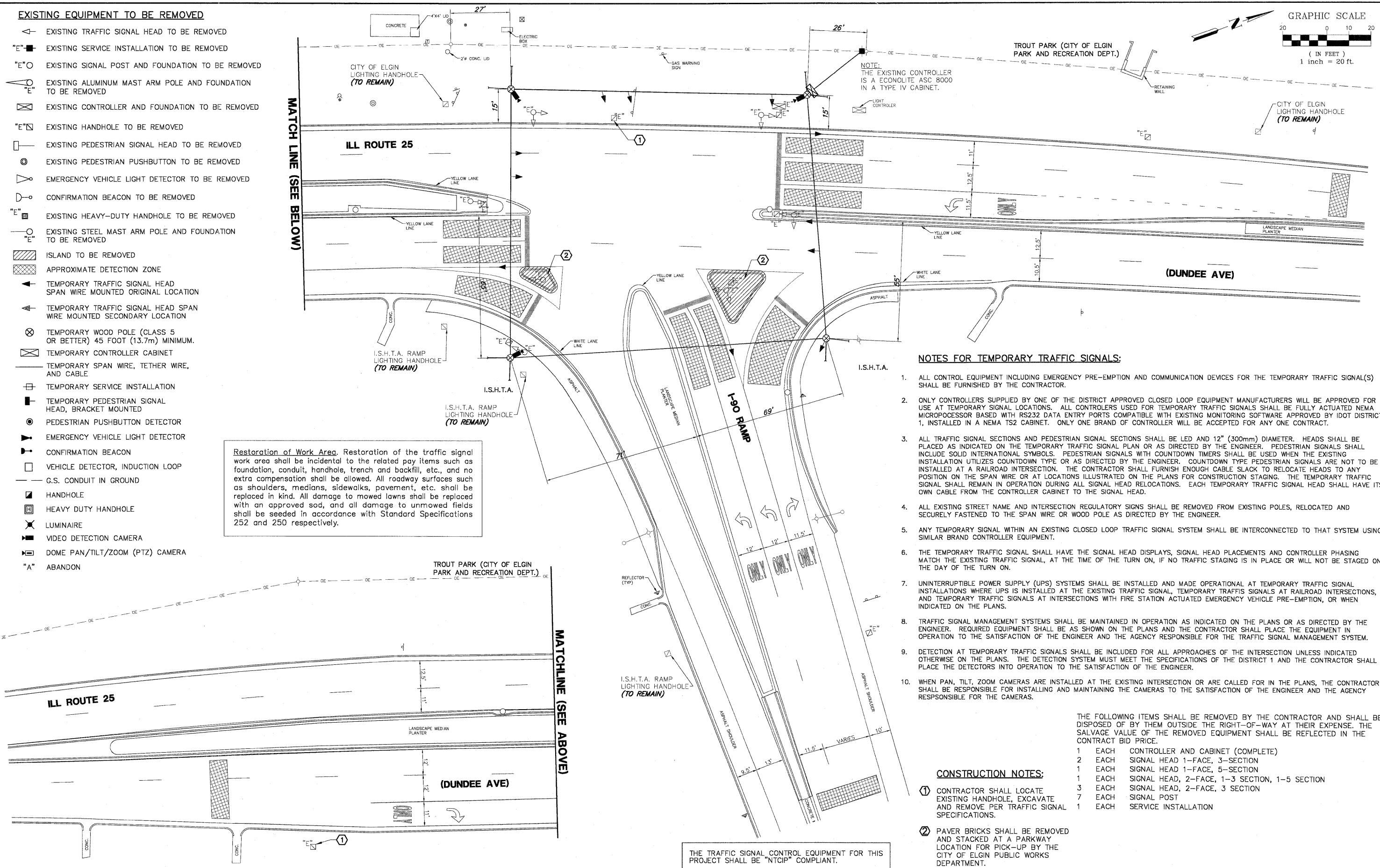
TRAFFIC SIGNAL LEGEND

| ITEM | REMOVAL | EXISTING | PROPOSED | ITEM | REMOVAL | EXISTING | PROPOSED | ITEM | REMOVAL | EXISTING | PROPOSED |
|---|---------|----------|----------|---|---------|----------|----------|--|---------|----------|----------|
| CONTROLLER CABINET | | | | EMERGENCY VEHICLE LIGHT DETECTOR | | | | ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1/C, UNLESS NOTED OTHERWISE | | | |
| RAILROAD CONTROL CABINET | | | | CONFIRMATION BEACON | | | | COAXIAL CABLE | | | |
| COMMUNICATIONS CABINET | | | | HANDHOLE | | | | VENDOR CABLE FOR CAMERA | | | |
| MASTER CONTROLLER | | | | HEAVY DUTY HANDHOLE | | | | COPPER INTERCONNECT CABLE, NO. 18 3 PAIR TWISTED, SHIELDED | | | |
| MASTER MASTER CONTROLLER | | | | DOUBLE HANDHOLE | | | | FIBER OPTIC CABLE NO. 62.5/125, MM12F | | | |
| UNINTERRUPTIBLE POWER SUPPLY | | | | JUNCTION BOX | | | | FIBER OPTIC CABLE NO. 62.5/125, MM12F SM12F | | | |
| SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT | | | | GALVANIZED STEEL CONDUIT IN TRENCH (T) OR PUSHED (P) | | | | FIBER OPTIC CABLE NO. 62.5/125, MM12F SM12F | | | |
| TELEPHONE CONNECTION (P) POLE OR (G) GROUND MOUNT | | | | TEMPORARY SPAN WIRE, TETHER WIRE, AND CABLE | | | | FIBER OPTIC CABLE NO. 62.5/125, (NUMBER OF FIBERS & TYPE TO BE NOTED ON PLANS) | | | |
| STEEL MAST ARM ASSEMBLY AND POLE | | | | COMMON TRENCH | | | | GROUND ROD AT (C) CONTROLLER, (H) HANDHOLE, (P) POST, (M) MAST ARM, OR (S) SERVICE | | | |
| ALUMINUM MAST ARM ASSEMBLY AND POLE | | | | COILABLE NONMETALLIC CONDUIT (EMPTY) | | | | CONTROLLER CABINET AND FOUNDATION TO BE REMOVED | | | |
| STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE | | | | SYSTEM ITEM | | S | | STEEL MAST ARM POLE AND FOUNDATION TO BE REMOVED | | | |
| STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH PTZ CAMERA | | | | INTERSECTION ITEM | | I | | ALUMINUM MAST ARM POLE AND FOUNDATION TO BE REMOVED | | | |
| SIGNAL POST | | | | REMOVE ITEM | R | | | STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE AND FOUNDATION TO BE REMOVED | | | |
| TEMPORARY WOOD POLE (CLASS 5 OR BETTER) 45 FOOT (13.7m) MINIMUM | | | | RELOCATE ITEM | RL | | | SIGNAL POST AND FOUNDATION TO BE REMOVED | | | |
| GUY WIRE | | | | ABANDON ITEM | A | | | INTERSECTION & SAMPLING (SYSTEM) DETECTOR | | | |
| SIGNAL HEAD | | | | 12" (300mm) TRAFFIC SIGNAL SECTION | | | | SAMPLING (SYSTEM) DETECTOR | | | |
| SIGNAL HEAD CONSTRUCTION STAGES (NUMBERS INDICATE THE CONSTRUCTION STAGE) | | | | 12" (300mm) RED WITH 8" (200mm) YELLOW AND GREEN TRAFFIC SIGNAL FACE | | | | EXISTING INTERSECTION LOOP DETECTOR | | | |
| SIGNAL HEAD WITH BACKPLATE | | | | SIGNAL FACE | | | | PROPOSED INTERSECTION AND SAMPLING (SYSTEM) DETECTOR | | | |
| SIGNAL HEAD OPTICALLY PROGRAMMED | | | | SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD | | | | EXISTING PREFORMED INTERSECTION LOOP DETECTOR | | | |
| FLASHER INSTALLATION (S DENOTES SOLAR POWER) | | | | 12" (300mm) PEDESTRIAN SIGNAL HEAD WALK/DON'T WALK SYMBOL | | | | PROPOSED INTERSECTION AND SAMPLING (SYSTEM) DETECTOR | | | |
| PEDESTRIAN SIGNAL HEAD | | | | 12" (300mm) PEDESTRIAN SIGNAL HEAD INTERNATIONAL SYMBOL, OUTLINED | | | | PREFORMED INTERSECTION AND SAMPLING (SYSTEM) DETECTOR | | | |
| PEDESTRIAN PUSHBUTTON DETECTOR | | | | 12" (300mm) PEDESTRIAN SIGNAL HEAD INTERNATIONAL SYMBOL, SOLID | | | | PREFORMED SAMPLING (SYSTEM) DETECTOR | | | |
| ACCESSIBLE PEDESTRIAN PUSHBUTTON DETECTOR | | | | PEDESTRIAN SIGNAL HEAD, INTERNATIONAL SYMBOL, WITH COUNTDOWN TIMER | | | | RAILROAD SYMBOLS | | | |
| ILLUMINATED SIGN "NO LEFT TURN" | | | | RADIO INTERCONNECT | | | | EXISTING | | PROPOSED | |
| ILLUMINATED SIGN "NO RIGHT TURN" | | | | RADIO REPEATER | | | | RAILROAD CONTROL CABINET | | | |
| DETECTOR LOOP, TYPE I | | | | DENOTES NUMBER OF CONDUCTORS, ELECTRIC CABLE NO. 14, UNLESS NOTED OTHERWISE, ALL DETECTOR LOOP CABLE TO BE SHIELDED | | | | RAILROAD CANTILEVER MAST ARM | | | |
| PREFORMED DETECTOR LOOP | | | | GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN) | | | | FLASHING SIGNAL | | | |
| MICROWAVE VEHICLE SENSOR | | | | | | | | CROSSING GATE | | | |
| VIDEO DETECTION CAMERA | | | | | | | | CROSSBUCK | | | |
| VIDEO DETECTION ZONE | | | | | | | | | | | |
| PAN, TILT, ZOOM CAMERA | | | | | | | | | | | |
| WIRELESS DETECTOR SENSOR | | | | | | | | | | | |
| WIRELESS ACCESS POINT | | | | | | | | | | | |

EXISTING EQUIPMENT TO BE REMOVED

- ◁ EXISTING TRAFFIC SIGNAL HEAD TO BE REMOVED
- "E" ■ EXISTING SERVICE INSTALLATION TO BE REMOVED
- "E" ○ EXISTING SIGNAL POST AND FOUNDATION TO BE REMOVED
- ⊕ EXISTING ALUMINUM MAST ARM POLE AND FOUNDATION TO BE REMOVED
- ⊗ EXISTING CONTROLLER AND FOUNDATION TO BE REMOVED
- "E" □ EXISTING HANDHOLE TO BE REMOVED
- EXISTING PEDESTRIAN SIGNAL HEAD TO BE REMOVED
- ⊙ EXISTING PEDESTRIAN PUSHBUTTON TO BE REMOVED
- ⊖ EMERGENCY VEHICLE LIGHT DETECTOR TO BE REMOVED
- ⊕ CONFIRMATION BEACON TO BE REMOVED
- "E" ■ EXISTING HEAVY-DUTY HANDHOLE TO BE REMOVED
- ⊕ EXISTING STEEL MAST ARM POLE AND FOUNDATION TO BE REMOVED
- ▨ ISLAND TO BE REMOVED
- ▨ APPROXIMATE DETECTION ZONE
- ◁ 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 (13.7m) MINIMUM.
- ⊗ TEMPORARY CONTROLLER CABINET
- TEMPORARY SPAN WIRE, TETHER WIRE, AND CABLE
- TEMPORARY SERVICE INSTALLATION
- TEMPORARY PEDESTRIAN SIGNAL HEAD, BRACKET MOUNTED
- ⊙ PEDESTRIAN PUSHBUTTON DETECTOR
- ⊖ EMERGENCY VEHICLE LIGHT DETECTOR
- ⊕ CONFIRMATION BEACON
- VEHICLE DETECTOR, INDUCTION LOOP
- G.S. CONDUIT IN GROUND
- HANDHOLE
- HEAVY DUTY HANDHOLE
- LUMINAIRE
- VIDEO DETECTION CAMERA
- DOME PAN/TILT/ZOOM (PTZ) CAMERA
- "A" ABANDON

Restoration of Work Area. Restoration of the traffic signal work area shall be incidental to the related pay items 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.



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 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 LED AND 12" (300mm) DIAMETER. HEADS SHALL BE PLACED AS INDICATED ON THE TEMPORARY TRAFFIC SIGNAL PLAN OR AS DIRECTED BY THE ENGINEER. PEDESTRIAN SIGNALS SHALL INCLUDE SOLID INTERNATIONAL SYMBOLS. PEDESTRIAN SIGNALS WITH COUNTDOWN TIMERS SHALL BE USED WHEN THE EXISTING INSTALLATION UTILIZES COUNTDOWN TYPE OR AS DIRECTED BY THE ENGINEER. COUNTDOWN TYPE PEDESTRIAN SIGNALS ARE NOT TO BE INSTALLED AT A RAILROAD INTERSECTION. 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 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 CONTROLLER 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.
7. UNINTERRUPTIBLE POWER SUPPLY (UPS) SYSTEMS SHALL BE INSTALLED AND MADE OPERATIONAL AT TEMPORARY TRAFFIC SIGNAL INSTALLATIONS WHERE UPS IS INSTALLED AT THE EXISTING TRAFFIC SIGNAL, TEMPORARY TRAFFIC SIGNALS AT RAILROAD INTERSECTIONS, AND TEMPORARY TRAFFIC SIGNALS AT INTERSECTIONS WITH FIRE STATION ACTUATED EMERGENCY VEHICLE PRE-EMPTION, OR WHEN INDICATED ON THE PLANS.
8. TRAFFIC SIGNAL MANAGEMENT SYSTEMS SHALL BE MAINTAINED IN OPERATION AS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER. REQUIRED EQUIPMENT SHALL BE AS SHOWN ON THE PLANS AND THE CONTRACTOR SHALL PLACE THE EQUIPMENT IN OPERATION TO THE SATISFACTION OF THE ENGINEER AND THE AGENCY RESPONSIBLE FOR THE TRAFFIC SIGNAL MANAGEMENT SYSTEM.
9. DETECTION AT TEMPORARY TRAFFIC SIGNALS SHALL BE INCLUDED FOR ALL APPROACHES OF THE INTERSECTION UNLESS INDICATED OTHERWISE ON THE PLANS. THE DETECTION SYSTEM MUST MEET THE SPECIFICATIONS OF THE DISTRICT 1 AND THE CONTRACTOR SHALL PLACE THE DETECTORS INTO OPERATION TO THE SATISFACTION OF THE ENGINEER.
10. WHEN PAN, TILT, ZOOM CAMERAS ARE INSTALLED AT THE EXISTING INTERSECTION OR ARE CALLED FOR IN THE PLANS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING AND MAINTAINING THE CAMERAS TO THE SATISFACTION OF THE ENGINEER AND THE AGENCY RESPONSIBLE FOR THE CAMERAS.

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 (COMPLETE)
- 2 EACH SIGNAL HEAD 1-FACE, 3-SECTION
- 1 EACH SIGNAL HEAD 1-FACE, 5-SECTION
- 1 EACH SIGNAL HEAD, 2-FACE, 1-3 SECTION, 1-5 SECTION
- 3 EACH SIGNAL HEAD, 2-FACE, 3 SECTION
- 7 EACH SIGNAL POST
- 1 EACH SERVICE INSTALLATION

CONSTRUCTION NOTES:

- ① CONTRACTOR SHALL LOCATE EXISTING HANDHOLE, EXCAVATE AND REMOVE PER TRAFFIC SIGNAL SPECIFICATIONS.
- ② PAVER BRICKS SHALL BE REMOVED AND STACKED AT A PARKWAY LOCATION FOR PICK-UP BY THE CITY OF ELGIN PUBLIC WORKS DEPARTMENT.

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

FILE NAME = 4085.852-TR1.dwg

USER NAME = G1A
 PLOT SCALE = 1" = .0833'
 PLOT DATE = 12/9/2009

DESIGNED - JRD
 DRAWN - ZCW
 CHECKED - KLB
 DATE - 11/20/09

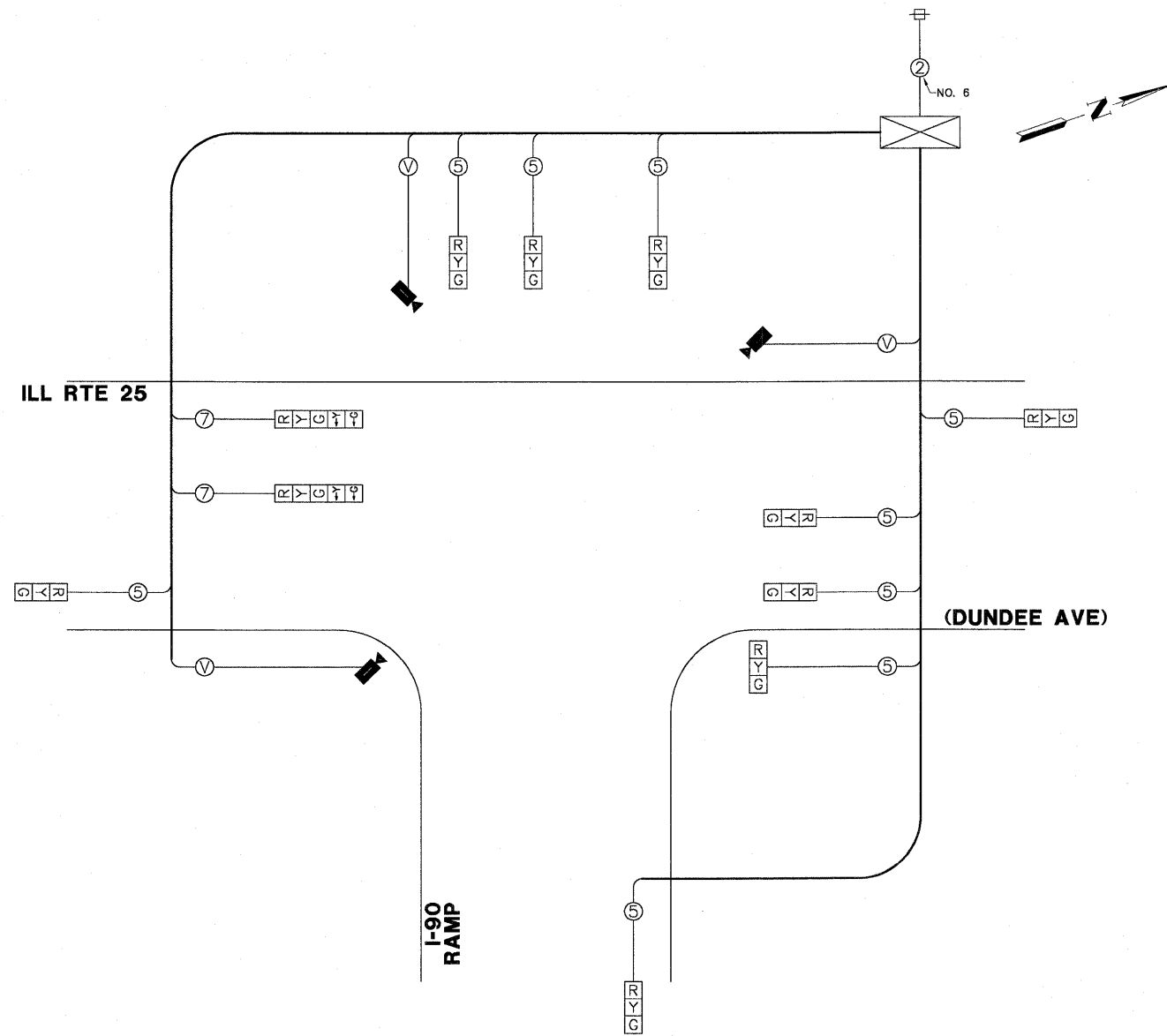
REVISED -
 REVISED -
 REVISED -
 REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

TEMPORARY TRAFFIC SIGNAL INSTALLATION AND REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT ILL RTE 25 (DUNDEE AVE) AT I-90 RAMP

| FALL | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|-------------|--------|--------------|-----------|
| VARIES | 2009-105-TS | KANE | 36 | 9 |
| CONTRACT #: | | | 60J01 | |
| ILLINOIS FED. AID PROJECT | | | | |

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



TEMPORARY CABLE PLAN

TEMPORARY CABLE PLAN LEGEND

- R TEMPORARY TRAFFIC SIGNAL SECTION OR PEDESTRIAN SIGNAL SECTION 12"
- TEMPORARY CONTROLLER CABINET
- TEMPORARY SERVICE INSTALLATION
- 5 INDICATES NUMBER OF CONDUCTORS IN CABLE. ALL CONDUCTORS TO BE NUMBER 14 AWG WIRE UNLESS OTHERWISE NOTED.
- EMERGENCY VEHICLE LIGHT DETECTOR
- CONFIRMATION BEACON
- VEHICLE DETECTOR, INDUCTION LOOP
- V PEDESTRIAN PUSHBUTTON DETECTOR
- V PEDESTRIAN SIGNAL HEAD
- VIDEO DETECTION CAMERA
- PTZ CAMERA
- V VENDOR CABLE FOR CAMERA

| I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS | | | | | TOTAL WATTAGE |
|--|----------|---------|--------|-------------|------------------|
| TYPE | NO LAMPS | WATTAGE | | % OPERATION | |
| | | INCAND. | L.E.D. | | |
| SIGNAL (RED) | 11 | 135 | 17 | 0.50 | 93.5 |
| SIGNAL (YELLOW) | 11 | 135 | 25 | 0.25 | 68.75 |
| SIGNAL (GREEN) | 11 | 135 | 15 | 0.25 | 41.25 |
| ARROW | 4 | 135 | 12 | 0.10 | 4.8 |
| PED. SIGNAL | - | 90 | 25 | 1.00 | - |
| CONTROLLER | 1 | - | 100 | 1.00 | 100.0 |
| LUMINAIRE | - | - | 250 | 0.50 | - |
| L.E.D. ST. NAME SIGN | - | - | 64 | 0.50 | - |
| VIDEO SYSTEM | 1 | - | 150 | 1.00 | 150.0 |
| BATTERY BACKUP | - | - | 25 | 1.00 | - |
| TOTAL = | | | | | 458.3 |

Restoration of Work Area. Restoration of the traffic signal work area shall be incidental to the related pay items 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 TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "NTCIP" COMPLIANT.

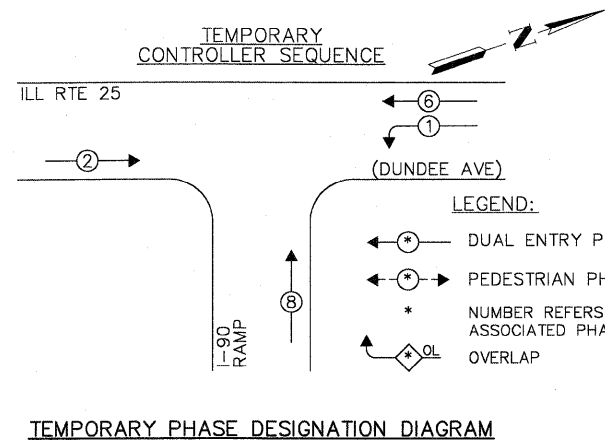
| | | | |
|------------------------------|-----------------|-----------------|-----------|
| FILE NAME = 4085.852-TR1.dwg | USER NAME = GH4 | DESIGNED - JRD | REVISED - |
| | | DRAWN - ZCW | REVISED - |
| | | CHECKED - KLB | REVISED - |
| | | DATE - 11/20/09 | REVISED - |

| | |
|-----------------|-----------|
| DESIGNED - JRD | REVISED - |
| DRAWN - ZCW | REVISED - |
| CHECKED - KLB | REVISED - |
| DATE - 11/20/09 | REVISED - |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TEMPORARY CABLE PLAN AND
TEMPORARY PHASE DESIGNATION DIAGRAM
ILL RTE 25 (DUNDEE AVE) AT I-90 RAMP**

| | | | | |
|---------------------------|---------------------|-------------|-----------------|--------------|
| FAU. RTE. VARIES | SECTION 2009-105-TS | COUNTY KANE | TOTAL SHEETS 36 | SHEET NO. 10 |
| CONTRACT #: | | | 60J01 | |
| ILLINOIS FED. AID PROJECT | | | | |



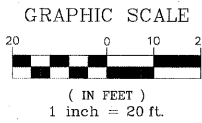
TEMPORARY PHASE DESIGNATION DIAGRAM

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

CONSTRUCTION NOTES:

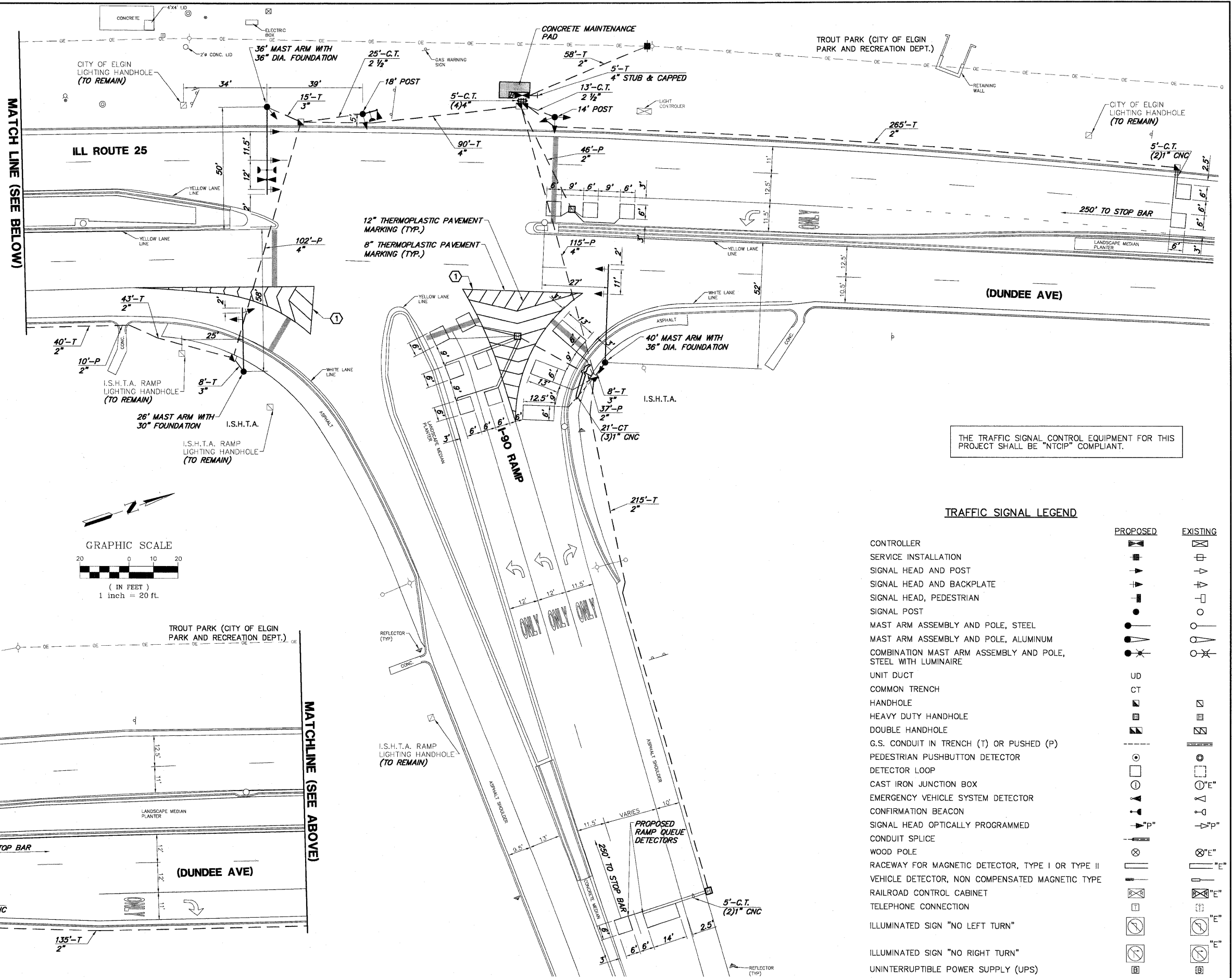
① EXISTING ISLANDS SHALL BE REPLACED WITH SUB-BASE GRANULAR MATERIAL, TYPE B, 4"; CLASS D PATCHES, 10" AND HMA SURFACE COURSE MIX "D", N70, 2". PAVED ISLANDS SHALL BE MARKED PER DISTRICT ONE TYPICAL PAVEMENT MARKINGS.

Restoration of Work Area. Restoration of the traffic signal work area shall be incidental to the related pay items 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.



MATCH LINE (SEE BELOW)

MATCHLINE (SEE ABOVE)



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

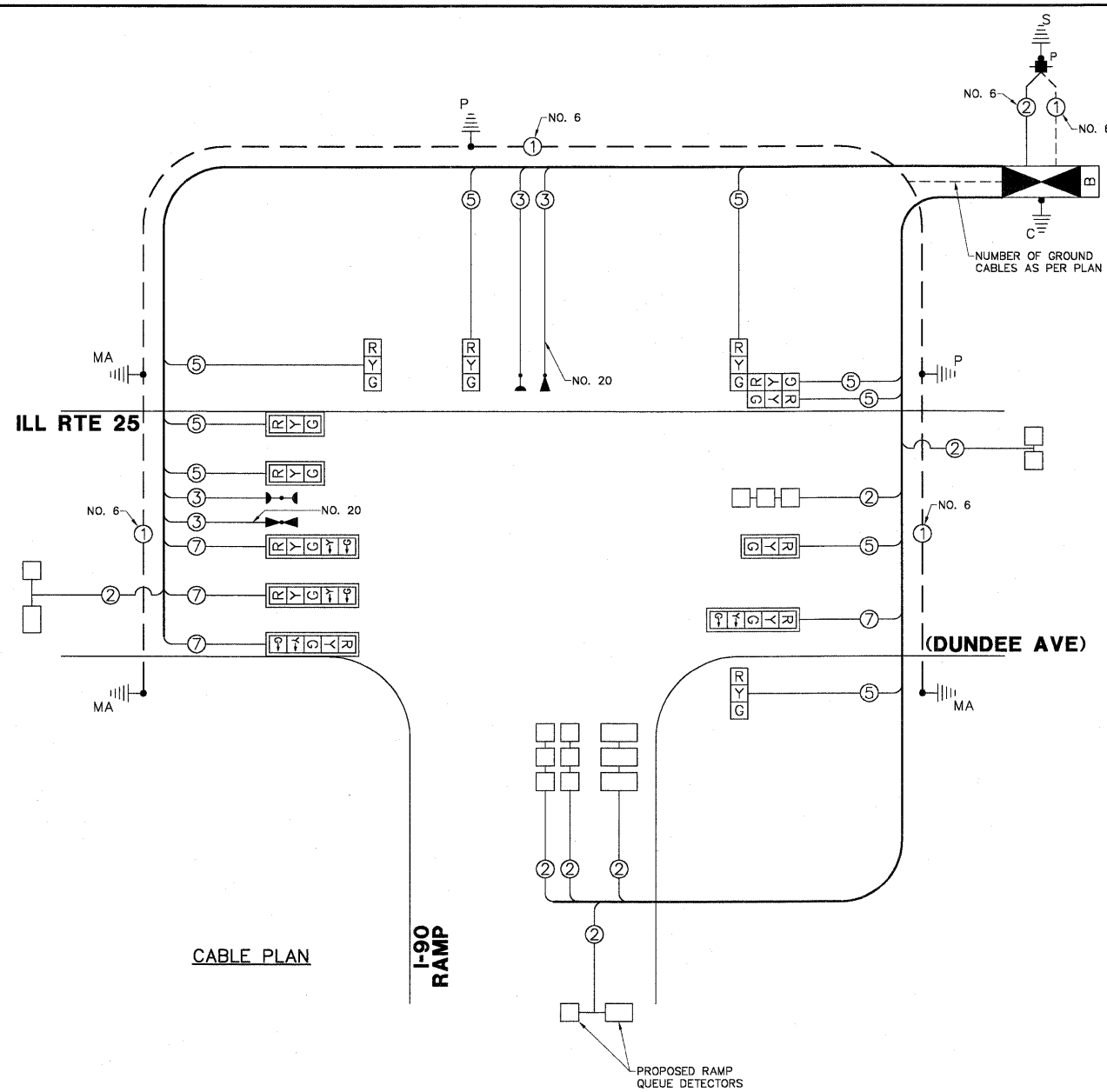
TRAFFIC SIGNAL LEGEND

| | PROPOSED | EXISTING |
|--|----------|----------|
| CONTROLLER | [Symbol] | [Symbol] |
| SERVICE INSTALLATION | [Symbol] | [Symbol] |
| SIGNAL HEAD AND POST | [Symbol] | [Symbol] |
| SIGNAL HEAD AND 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, ALUMINUM | [Symbol] | [Symbol] |
| COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL WITH LUMINAIRE | [Symbol] | [Symbol] |
| UNIT DUCT | UD | [Symbol] |
| COMMON TRENCH | CT | [Symbol] |
| HANDHOLE | [Symbol] | [Symbol] |
| HEAVY DUTY HANDHOLE | [Symbol] | [Symbol] |
| DOUBLE HANDHOLE | [Symbol] | [Symbol] |
| G.S. CONDUIT IN TRENCH (T) OR PUSHED (P) | [Symbol] | [Symbol] |
| PEDESTRIAN PUSHBUTTON DETECTOR | [Symbol] | [Symbol] |
| DETECTOR LOOP | [Symbol] | [Symbol] |
| CAST IRON JUNCTION BOX | [Symbol] | [Symbol] |
| EMERGENCY VEHICLE SYSTEM DETECTOR | [Symbol] | [Symbol] |
| CONFIRMATION BEACON | [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] |
| TELEPHONE CONNECTION | [Symbol] | [Symbol] |
| ILLUMINATED SIGN "NO LEFT TURN" | [Symbol] | [Symbol] |
| ILLUMINATED SIGN "NO RIGHT TURN" | [Symbol] | [Symbol] |
| UNINTERRUPTIBLE POWER SUPPLY (UPS) | [Symbol] | [Symbol] |

| | | | | | | | | | | | | | |
|------------------------------|-----------------|-----------------|-----------|---|---|---------------------------|---------------------|--------------|-------------------|---------------------|-------------|-----------------|--------------|
| FILE NAME = 4085.852-TR1.dwg | USER NAME = GHA | DESIGNED - JRD | REVISED - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | TRAFFIC SIGNAL MODERNIZATION PLAN ILL RTE 25 (DUNDEE AVE) AT I-90 RAMP | SCALE 1"=20' | SHEET NO. OF SHEETS | STA. TO STA. | FAU. RITE. VARIES | SECTION 2009-105-TS | COUNTY KANE | TOTAL SHEETS 36 | SHEET NO. 11 |
| PLOT SCALE = 1" = .0833' | DESIGNED - JRD | REVISOR - ZCW | REVISED - | | | CONTRACT # 60J01 | | | | | | | |
| PLOT DATE = 12/9/2009 | CHECKED - KLB | DATE - 11/20/09 | REVISED - | | | ILLINOIS FED. AID PROJECT | | | | | | | |
| | | | | | | | | | | | | | |

SCHEDULE OF QUANTITIES
ILL RTE 25 (DUNDEE AVE) AT I-90 RAMP

| NO. | QUANT. | UNIT |
|-----|--------|--|
| 1. | 15 | CU YD EARTH EXCAVATION |
| 2. | 80 | SQ YD SUB-BASE GRANULAR MATERIAL, TYPE B, 4" |
| 3. | 18 | TON HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N70 |
| 4. | 12 | GAL BITUMINOUS MATERIALS (PRIME COAT) |
| 5. | 115 | FOOT COMBINATION CURB AND GUTTER REMOVAL |
| 6. | 720 | SQ FT MEDIAN REMOVAL |
| 7. | 80 | SQ YD CLASS D PATCHES, TYPE III, 10 INCH |
| 8. | 2 | CAL MO ENGINEER'S FIELD OFFICE, TYPE A |
| 9. | 350 | FOOT THERMOPLASTIC PAVEMENT MARKING - LINE 8" |
| 10. | 250 | FOOT THERMOPLASTIC PAVEMENT MARKING - LINE 12" |
| 11. | 756 | FOOT CONDUIT IN TRENCH, 2" DIA, GALVANIZED STEEL |
| 12. | 38 | FOOT CONDUIT IN TRENCH, 2-1/2" DIA, GALVANIZED STEEL |
| 13. | 31 | FOOT CONDUIT IN TRENCH, 3" DIA, GALVANIZED STEEL |
| 14. | 106 | FOOT CONDUIT IN TRENCH, 4" DIA, GALVANIZED STEEL |
| 15. | 103 | FOOT CONDUIT PUSHED, 2" DIA, GALVANIZED STEEL |
| 16. | 217 | FOOT CONDUIT PUSHED, 4" DIA, GALVANIZED STEEL |
| 17. | 5 | EACH HANDHOLE |
| 18. | 3 | EACH HEAVY-DUTY HANDHOLE |
| 19. | 1 | EACH DOUBLE HANDHOLE |
| 20. | 874 | FOOT TRENCH AND BACKFILL FOR ELECTRICAL WORK |
| 21. | 1 | EACH FULL-ACTUATED CONTROLLER AND TYPE IV CABINET |
| 22. | 349 | FOOT ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 3C |
| 23. | 1,205 | FOOT ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 5C |
| 24. | 970 | FOOT ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 7C |
| 25. | 1,727 | FOOT ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAR |
| 26. | 79 | FOOT ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C |
| 27. | 1 | EACH TRAFFIC SIGNAL POST, GALVANIZED STEEL, 14 FT |
| 28. | 1 | EACH TRAFFIC SIGNAL POST, GALVANIZED STEEL, 18 FT |
| 29. | 1 | EACH STEEL MAST ARM ASSEMBLY AND POLE, 26 FT |
| 30. | 1 | EACH STEEL MAST ARM ASSEMBLY AND POLE, 36 FT |
| 31. | 1 | EACH STEEL MAST ARM ASSEMBLY AND POLE, 40 FT |
| 32. | 8 | FOOT CONCRETE FOUNDATION, TYPE A |
| 33. | 4 | FOOT CONCRETE FOUNDATION, TYPE C |
| 34. | 10 | FOOT CONCRETE FOUNDATION, TYPE E, 30 INCH DIAMETER |
| 35. | 24 | FOOT CONCRETE FOUNDATION, TYPE E, 36 INCH DIAMETER |
| 36. | 3 | EACH SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED |
| 37. | 3 | EACH SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED |
| 38. | 4 | EACH SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED |
| 39. | 1 | EACH SIGNAL HEAD, LED, 3-FACE, 3-SECTION, BRACKET MOUNTED |
| 40. | 7 | EACH TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINIUM |
| 41. | 7 | EACH INDUCTIVE LOOP DETECTOR |
| 42. | 752 | FOOT DETECTOR LOOP, TYPE I |
| 43. | 2 | EACH LIGHT DETECTOR |
| 44. | 1 | EACH LIGHT DETECTOR AMPLIFIER |
| 45. | 1 | EACH TEMPORARY TRAFFIC SIGNAL INSTALLATION |
| 46. | 1 | EACH REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT |
| 47. | 9 | EACH REMOVE EXISTING HANDHOLE |
| 48. | 8 | EACH REMOVE EXISTING CONCRETE FOUNDATION |
| 49. | 77.1 | SQ FT TEMPORARY INFORMATION SIGNING |
| 50. | 1 | EACH TEMPORARY TRAFFIC SIGNAL TIMING |
| 51. | 1 | EACH SERVICE INSTALLATION - POLE MOUNTED |
| 52. | 1 | EACH UNINTERRUPTIBLE POWER SUPPLY (UPS) |
| 53. | 508 | FOOT ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C |
| 54. | 349 | FOOT ELECTRIC CABLE IN CONDUIT, NO. 20 3C, TWISTED, SHIELDED |
| 55. | 600 | SQ FT BRICK PAVEMENT REMOVAL |
| 56. | 115 | FOOT SAWING PAVEMENT (FULL DEPTH) |



CABLE PLAN LEGEND

| EXISTING | PROPOSED | DESCRIPTION |
|----------|----------|---|
| [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 |
| [Symbol] | [Symbol] | VEHICLE DETECTOR, INDUCTION LOOP |
| [Symbol] | [Symbol] | MAGNETIC DETECTOR |
| [Symbol] | [Symbol] | EMERGENCY VEHICLE LIGHT DETECTOR |
| [Symbol] | [Symbol] | CONFIRMATION BEACON |
| [Symbol] | [Symbol] | PUSHBUTTON DETECTOR |
| [Symbol] | [Symbol] | DENOTES NUMBER OF CONDUCTORS. ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOP DETECTOR CABLE TO BE SHIELDED. |
| [Symbol] | [Symbol] | GROUND CABLE IN CONDUIT NO.6 SOLID COPPER (GREEN) |
| [Symbol] | [Symbol] | FIBER OPTIC CABLE IN CONDUIT NO. 62.5/125 MM12F SM24F |
| [Symbol] | [Symbol] | SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD |
| [Symbol] | [Symbol] | RAILROAD CONTROL CABINET |
| [Symbol] | [Symbol] | ILLUMINATED SIGN "NO LEFT TURN" |
| [Symbol] | [Symbol] | ILLUMINATED SIGN "NO RIGHT TURN" |
| [Symbol] | [Symbol] | GROUND ROD AT HANDHOLE (H), DOUBLE HANDHOLE (H), OR CONTROLLER (C) |
| [Symbol] | [Symbol] | GROUND ROD AT POST (P) OR MAST ARM POLE (MA) |
| [Symbol] | [Symbol] | GROUND ROD AT ELECTRIC SERVICE INSTALLATION |
| [Symbol] | [Symbol] | UNINTERRUPTIBLE POWER SUPPLY (UPS) |
| [Symbol] | [Symbol] | 12" (300mm) PEDESTRIAN SIGNAL SECTION WITH COUNTDOWN TIMER |

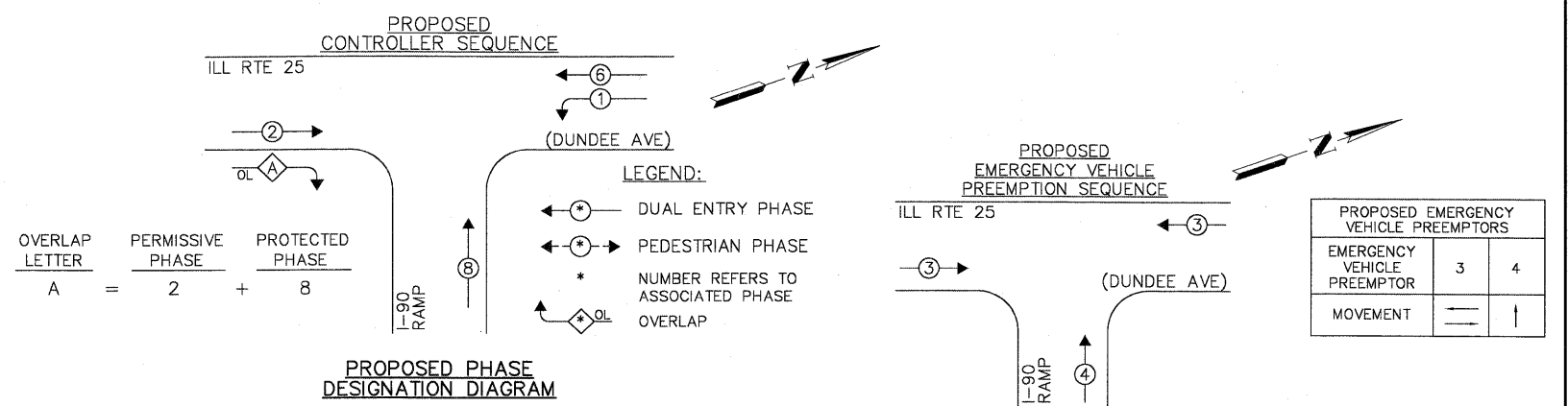
Restoration of Work Area. Restoration of the traffic signal work area shall be incidental to the related pay items such as foundation, conduit, handhole, trench and backfill, etc., and no extra compensation shall be allowed. All roadway surfaces such as shoulders, medians, sidewalks, pavement, etc. shall 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 TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "NTCIP" COMPLIANT.

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

| TYPE | NO LAMPS | WATTAGE | | % OPERATION | TOTAL WATTAGE |
|----------------------|----------|---------|--------|-------------|---------------|
| | | INCAND. | L.E.D. | | |
| SIGNAL (RED) | 13 | 135 | 17 | 0.50 | 110.50 |
| SIGNAL (YELLOW) | 13 | 135 | 25 | 0.25 | 81.25 |
| SIGNAL (GREEN) | 13 | 135 | 15 | 0.25 | 48.75 |
| ARROW | 4 | 135 | 12 | 0.10 | 4.80 |
| PED.SIGNAL | - | 90 | 25 | 1.00 | - |
| CONTROLLER | 1 | - | 100 | 1.00 | 100.00 |
| LUMINAIRE | - | - | 250 | 0.50 | - |
| L.E.D. ST. NAME SIGN | - | - | 64 | 0.50 | - |
| VIDEO SYSTEM | - | - | 150 | 1.00 | - |
| BATTERY BACKUP | 1 | - | 25 | 1.00 | 25.00 |
| TOTAL = | | | | | 370.3 |

ENERGY COSTS - BILLED TO: CITY OF ELGIN
(ADDRESS) 150 DEXTER COURT
(ADDRESS) ELGIN, IL 60120
ENERGY SUPPLY - CONTACT: KATHY NYSTROM
PHONE: (847) 816-5489
COMPANY: COM ED - ELGIN



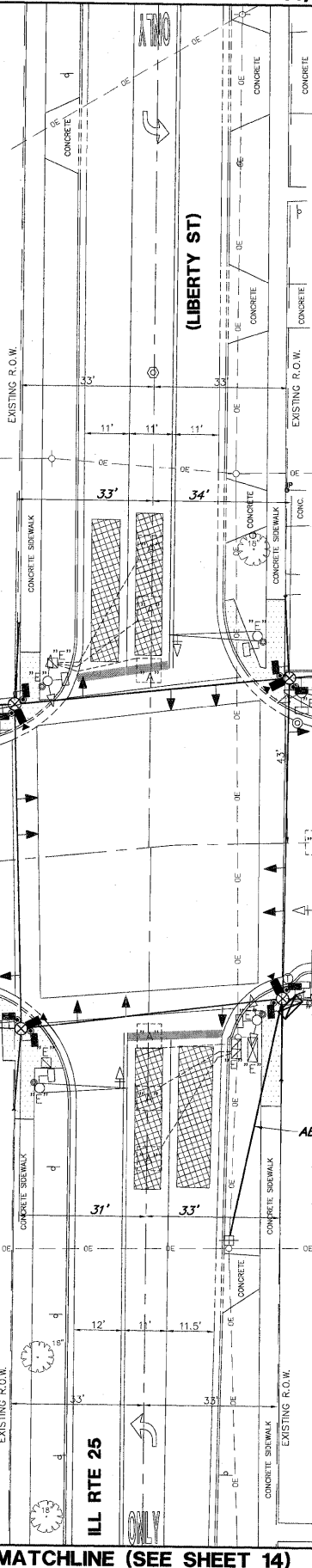
EXISTING EQUIPMENT TO BE REMOVED

- ◁ EXISTING TRAFFIC SIGNAL HEAD TO BE REMOVED
- "E" ■ EXISTING SERVICE INSTALLATION TO BE REMOVED
- "E" ○ EXISTING SIGNAL POST AND FOUNDATION TO BE REMOVED
- ⊙ EXISTING ALUMINUM MAST ARM POLE AND FOUNDATION TO BE REMOVED
- ⊠ EXISTING CONTROLLER AND FOUNDATION TO BE REMOVED
- "E" □ EXISTING HANDHOLE TO BE REMOVED
- EXISTING PEDESTRIAN SIGNAL HEAD TO BE REMOVED
- ⊙ EXISTING PEDESTRIAN PUSHBUTTON TO BE REMOVED
- ⊙ EXISTING VEHICLE LIGHT DETECTOR TO BE REMOVED
- ⊙ CONFIRMATION BEACON TO BE REMOVED
- "E" ■ EXISTING HEAVY-DUTY HANDHOLE TO BE REMOVED
- ⊙ EXISTING STEEL MAST ARM POLE AND FOUNDATION TO BE REMOVED
- ▨ SIDEWALK TO BE REMOVED
- ▨ APPROXIMATE DETECTION ZONE

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 (13.7m) MINIMUM.
- ⊠ TEMPORARY CONTROLLER CABINET
- TEMPORARY SPAN WIRE, TETHER WIRE, AND CABLE
- ⊠ TEMPORARY SERVICE INSTALLATION
- TEMPORARY PEDESTRIAN SIGNAL HEAD, BRACKET MOUNTED
- ⊙ PEDESTRIAN PUSHBUTTON DETECTOR
- ⊙ EMERGENCY VEHICLE LIGHT DETECTOR
- ⊙ CONFIRMATION BEACON
- VEHICLE DETECTOR, INDUCTION LOOP
- G.S. CONDUIT IN GROUND
- HANDHOLE
- HEAVY DUTY HANDHOLE
- ⊙ LUMINAIRE
- VIDEO DETECTION CAMERA
- DOME PAN/TILT/ZOOM (PTZ) CAMERA
- "A" ABANDON

MATCHLINE (SEE SHEET 14)



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 INCLUDE SOLID INTERNATIONAL SYMBOLS. PEDESTRIAN SIGNALS WITH COUNTDOWN TIMERS SHALL BE USED WHEN THE EXISTING INSTALLATION UTILIZES COUNTDOWN TYPE OR AS DIRECTED BY THE ENGINEER. COUNTDOWN TYPE PEDESTRIAN SIGNALS ARE NOT TO BE INSTALLED AT A RAILROAD INTERSECTION. 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.
3. ALL TRAFFIC SIGNAL SECTIONS AND PEDESTRIAN SIGNAL SECTIONS SHALL BE LED AND 12" (300mm) DIAMETER. HEADS SHALL BE PLACED AS INDICATED ON THE TEMPORARY TRAFFIC SIGNAL PLAN OR AS DIRECTED BY THE ENGINEER. PEDESTRIAN SIGNALS SHALL INCLUDE SOLID INTERNATIONAL SYMBOLS. PEDESTRIAN SIGNALS WITH COUNTDOWN TIMERS SHALL BE USED WHEN THE EXISTING INSTALLATION UTILIZES COUNTDOWN TYPE OR AS DIRECTED BY THE ENGINEER. COUNTDOWN TYPE PEDESTRIAN SIGNALS ARE NOT TO BE INSTALLED AT A RAILROAD INTERSECTION. 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 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 CONTROLLER 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.
7. UNINTERRUPTIBLE POWER SUPPLY (UPS) SYSTEMS SHALL BE INSTALLED AND MADE OPERATIONAL AT TEMPORARY TRAFFIC SIGNAL INSTALLATIONS WHERE UPS IS INSTALLED AT THE EXISTING TRAFFIC SIGNAL, TEMPORARY TRAFFIC SIGNALS AT RAILROAD INTERSECTIONS, AND TEMPORARY TRAFFIC SIGNALS AT INTERSECTIONS WITH FIRE STATION ACTUATED EMERGENCY VEHICLE PRE-EMPTION, OR WHEN INDICATED ON THE PLANS.
8. TRAFFIC SIGNAL MANAGEMENT SYSTEMS SHALL BE MAINTAINED IN OPERATION AS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER. REQUIRED EQUIPMENT SHALL BE AS SHOWN ON THE PLANS AND THE CONTRACTOR SHALL PLACE THE EQUIPMENT IN OPERATION TO THE SATISFACTION OF THE ENGINEER AND THE AGENCY RESPONSIBLE FOR THE TRAFFIC SIGNAL MANAGEMENT SYSTEM.
9. DETECTION AT TEMPORARY TRAFFIC SIGNALS SHALL BE INCLUDED FOR ALL APPROACHES OF THE INTERSECTION UNLESS INDICATED OTHERWISE ON THE PLANS. THE DETECTION SYSTEM MUST MEET THE SPECIFICATIONS OF THE DISTRICT 1 AND THE CONTRACTOR SHALL PLACE THE DETECTORS INTO OPERATION TO THE SATISFACTION OF THE ENGINEER.
10. WHEN PAN, TILT, ZOOM CAMERAS ARE INSTALLED AT THE EXISTING INTERSECTION OR ARE CALLED FOR IN THE PLANS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING AND MAINTAINING THE CAMERAS TO THE SATISFACTION OF THE ENGINEER AND THE AGENCY RESPONSIBLE FOR THE CAMERAS.

MATCHLINE (SEE SHEET 14)

MATCHLINE (SEE SHEET 14)

NOTE:
THE EXISTING CONTROLLER IS AN EAGLE EPAC 300 M40 IN A TYPE IV CABINET.

CONSTRUCTION NOTES:

- ① THE CONTRACTOR SHALL DRILL THE EXISTING HANDHOLE AND INSTALL 1" UNIT DUCT TO THE TEMPORARY INTERSECTION CONTROLLER. A TEMPORARY FIBER OPTIC INTERCONNECT PATCH WILL BE ROUTED THROUGH THE UNIT DUCT FROM THE TEMPORARY CONTROLLER TO THE EXISTING HANDHOLE. MAINTAINING THE EXISTING INTERCONNECT TO HIAWATHA DRIVE DURING CONSTRUCTION SHALL BE INCIDENTAL TO THE COST OF THE TEMPORARY TRAFFIC SIGNAL.

Restoration of Work Area. Restoration of the traffic signal work area shall be incidental to the related pay items 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 TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "EAGLE" 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 (COMPLETE)
- 2 EACH SIGNAL HEAD 1-FACE, 3-SECTION
- 4 EACH SIGNAL HEAD 1-FACE, 5-SECTION
- 4 EACH SIGNAL HEAD, 2-FACE, 1-3 SECTION, 1-5 SECTION
- 8 EACH PEDESTRIAN SIGNAL HEAD
- 8 EACH PEDESTRIAN PUSHBUTTON
- 4 EACH TRAFFIC SIGNAL BACKPLATE
- 4 EACH MAST ARM ASSEMBLY
- 4 EACH TRAFFIC SIGNAL POST
- 1 EACH SERVICE INSTALLATION

| | | | |
|------------------------------|--------------------------|-----------------|-----------|
| FILE NAME = 4085.852-TR1.dwg | USER NAME = GHA | DESIGNED - JRD | REVISED - |
| | | DRAWN - ZCW | REVISED - |
| | PLOT SCALE = 1" = .0833' | CHECKED - KLB | REVISED - |
| | PLOT DATE = 12/9/2009 | DATE - 11/20/09 | REVISED - |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TEMPORARY TRAFFIC SIGNAL INSTALLATION AND REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT
ILL RTE 58 (SUMMIT ST) AT ILL RTE 25 (LIBERTY ST)**

| | | | | |
|------------------|---------------------|-------------|---------------------------|--------------|
| FAU. RTE. VARIES | SECTION 2009-105-TS | COUNTY KANE | TOTAL SHEETS 36 | SHEET NO. 13 |
| CONTRACT # 60J01 | | | ILLINOIS FED. AID PROJECT | |

EXISTING EQUIPMENT TO BE REMOVED

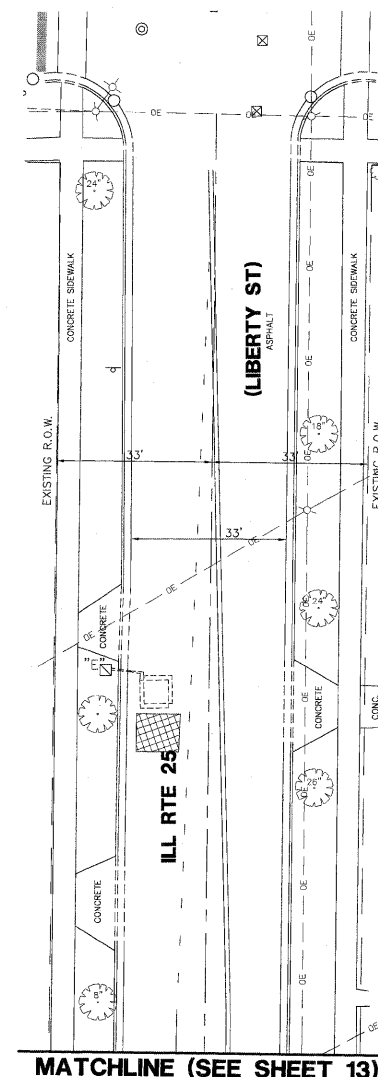
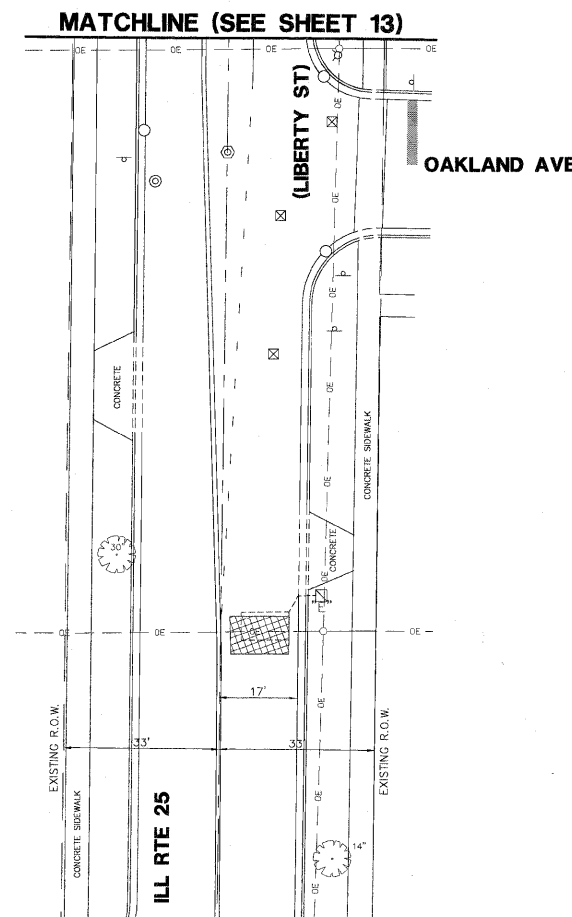
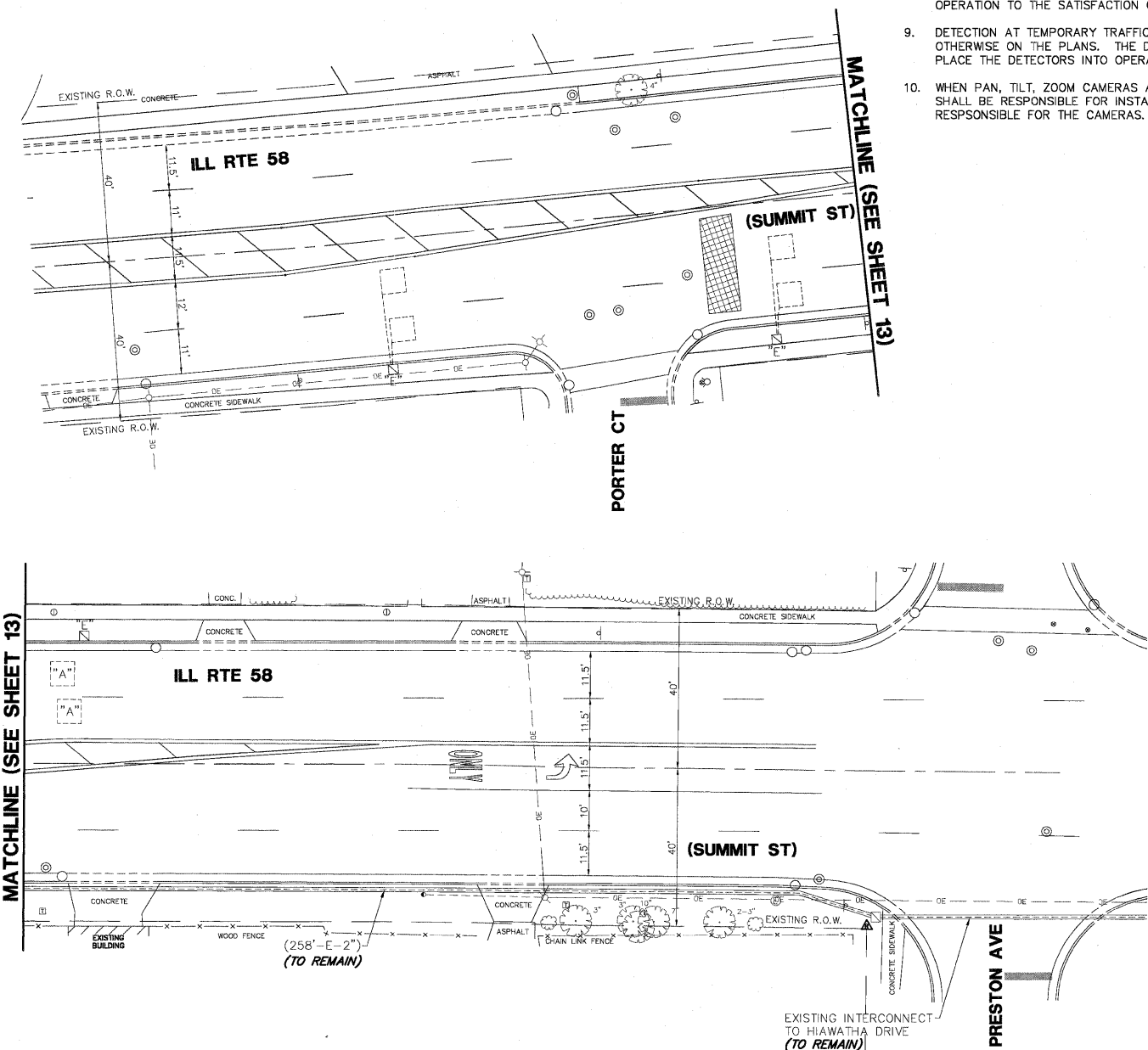
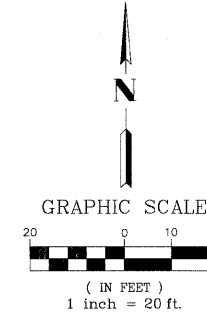
- ◁ EXISTING TRAFFIC SIGNAL HEAD TO BE REMOVED
- "E" ■ EXISTING SERVICE INSTALLATION TO BE REMOVED
- "E" ○ EXISTING SIGNAL POST AND FOUNDATION TO BE REMOVED
- ⊗ EXISTING ALUMINUM MAST ARM POLE AND FOUNDATION TO BE REMOVED
- ⊠ EXISTING CONTROLLER AND FOUNDATION TO BE REMOVED
- "E" □ EXISTING HANDHOLE TO BE REMOVED
- EXISTING PEDESTRIAN SIGNAL HEAD TO BE REMOVED
- ⊙ EXISTING PEDESTRIAN PUSHBUTTON TO BE REMOVED
- ⊕ EMERGENCY VEHICLE LIGHT DETECTOR TO BE REMOVED
- ⊖ CONFIRMATION BEACON TO BE REMOVED
- "E" ■ EXISTING HEAVY-DUTY HANDHOLE TO BE REMOVED
- ⊗ EXISTING STEEL MAST ARM POLE AND FOUNDATION TO BE REMOVED
- ▨ SIDEWALK 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 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 LED AND 12" (300mm) DIAMETER. HEADS SHALL BE PLACED AS INDICATED ON THE TEMPORARY TRAFFIC SIGNAL PLAN OR AS DIRECTED BY THE ENGINEER. PEDESTRIAN SIGNALS SHALL INCLUDE SOLID INTERNATIONAL SYMBOLS. PEDESTRIAN SIGNALS WITH COUNTDOWN TIMERS SHALL BE USED WHEN THE EXISTING INSTALLATION UTILIZES COUNTDOWN TYPE OR AS DIRECTED BY THE ENGINEER. COUNTDOWN TYPE PEDESTRIAN SIGNALS ARE NOT TO BE INSTALLED AT A RAILROAD INTERSECTION. 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 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 CONTROLLER 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.
7. UNINTERRUPTIBLE POWER SUPPLY (UPS) SYSTEMS SHALL BE INSTALLED AND MADE OPERATIONAL AT TEMPORARY TRAFFIC SIGNAL INSTALLATIONS WHERE UPS IS INSTALLED AT THE EXISTING TRAFFIC SIGNAL, TEMPORARY TRAFFIC SIGNALS AT RAILROAD INTERSECTIONS, AND TEMPORARY TRAFFIC SIGNALS AT INTERSECTIONS WITH FIRE STATION ACTUATED EMERGENCY VEHICLE PRE-EMPTION, OR WHEN INDICATED ON THE PLANS.
8. TRAFFIC SIGNAL MANAGEMENT SYSTEMS SHALL BE MAINTAINED IN OPERATION AS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER. REQUIRED EQUIPMENT SHALL BE AS SHOWN ON THE PLANS AND THE CONTRACTOR SHALL PLACE THE EQUIPMENT IN OPERATION TO THE SATISFACTION OF THE ENGINEER AND THE AGENCY RESPONSIBLE FOR THE TRAFFIC SIGNAL MANAGEMENT SYSTEM.
9. DETECTION AT TEMPORARY TRAFFIC SIGNALS SHALL BE INCLUDED FOR ALL APPROACHES OF THE INTERSECTION UNLESS INDICATED OTHERWISE ON THE PLANS. THE DETECTION SYSTEM MUST MEET THE SPECIFICATIONS OF THE DISTRICT 1 AND THE CONTRACTOR SHALL PLACE THE DETECTORS INTO OPERATION TO THE SATISFACTION OF THE ENGINEER.
10. WHEN PAN, TILT, ZOOM CAMERAS ARE INSTALLED AT THE EXISTING INTERSECTION OR ARE CALLED FOR IN THE PLANS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING AND MAINTAINING THE CAMERAS TO THE SATISFACTION OF THE ENGINEER AND THE AGENCY RESPONSIBLE FOR THE CAMERAS.

TEMPORARY TRAFFIC SIGNAL LEGEND

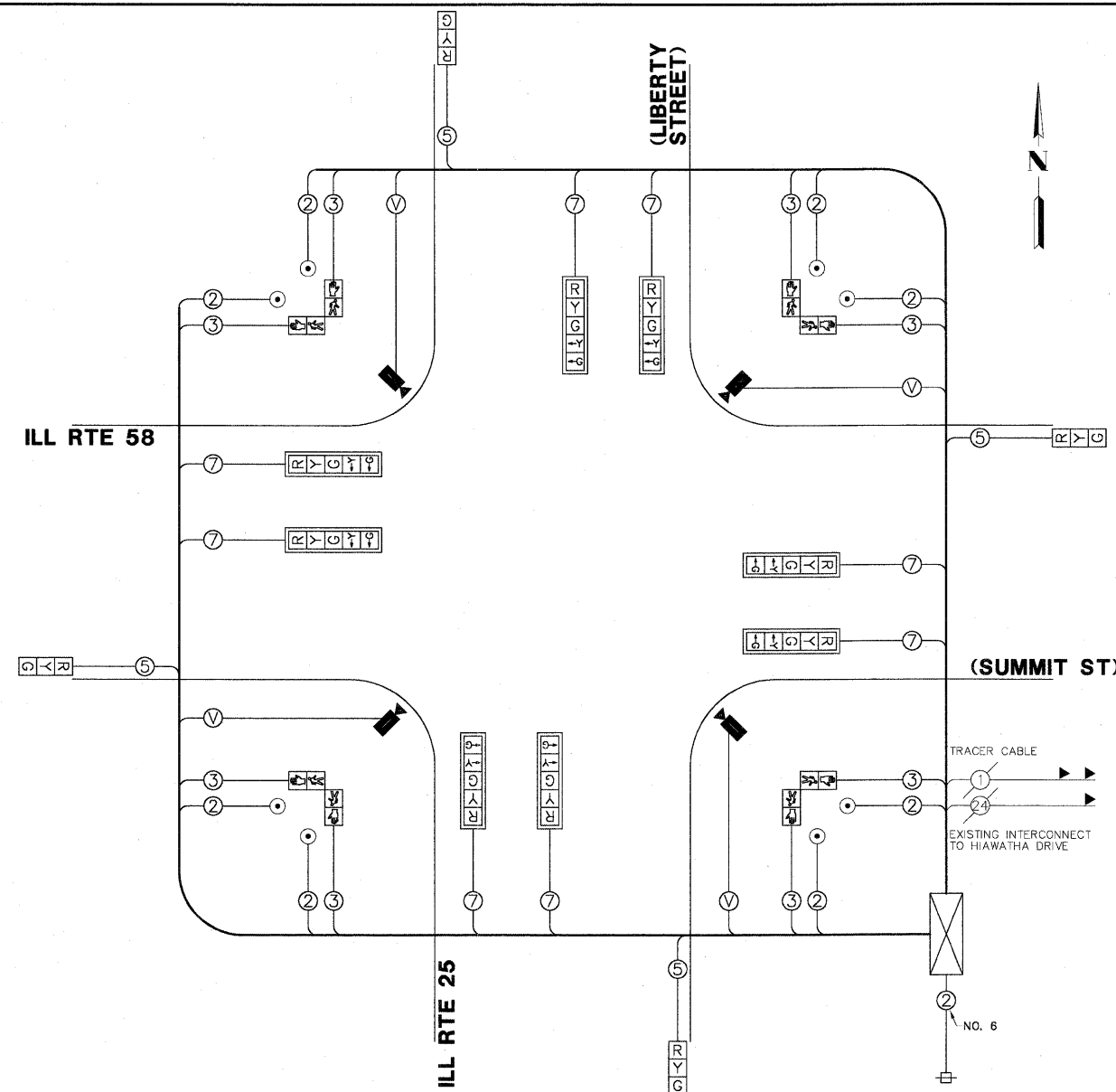
- ◁ TEMPORARY TRAFFIC SIGNAL HEAD SPAN WIRE MOUNTED ORIGINAL LOCATION
- ◁ TEMPORARY TRAFFIC SIGNAL HEAD SPAN WIRE MOUNTED SECONDARY LOCATION
- ⊗ TEMPORARY WOOD POLE (CLASS 5 OR BETTER) 45 FOOT (13.7m) MINIMUM.
- ⊠ TEMPORARY CONTROLLER CABINET
- TEMPORARY SPAN WIRE, TETHER WIRE, AND CABLE
- ⊕ TEMPORARY SERVICE INSTALLATION
- TEMPORARY PEDESTRIAN SIGNAL HEAD, BRACKET MOUNTED
- ⊙ PEDESTRIAN PUSHBUTTON DETECTOR
- ⊕ EMERGENCY VEHICLE LIGHT DETECTOR
- ⊖ CONFIRMATION BEACON
- VEHICLE DETECTOR, INDUCTION LOOP
- G.S. CONDUIT IN GROUND
- HANDHOLE
- ⊕ HEAVY DUTY HANDHOLE
- ⊗ LUMINAIRE
- VIDEO DETECTION CAMERA
- ⊕ DOME PAN/TILT/ZOOM (PTZ) CAMERA
- "A" ABANDON



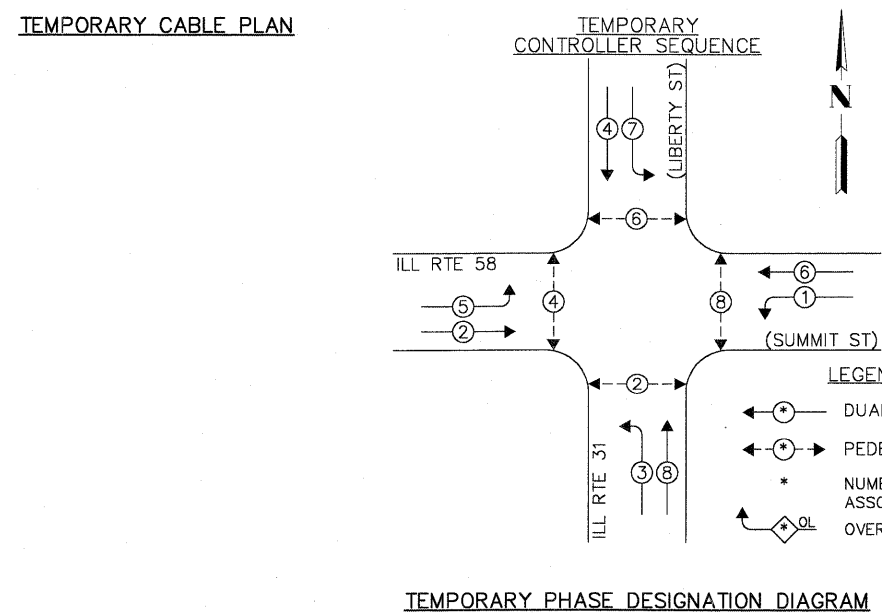
Restoration of Work Area. Restoration of the traffic signal work area shall be incidental to the related pay items such as foundation, conduit, handhole, trench and backfill, etc., and no extra compensation shall be allowed. All roadway surfaces such as shoulders, medians, sidewalks, pavement, etc. shall 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 TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "EAGLE" TO MATCH THE EXISTING ADJACENT SYSTEM.

| | | | | | | | | | | | | | | |
|---------------------------------|-----------------|-----------------|-----------|---|---|-------------|---------------------|--------------|---------------------------|---------------------|-------------|-----------------|--------------|--|
| FILE NAME = 4085.852-TR1.dwg | USER NAME = GHA | DESIGNED - JRD | REVISED - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | TEMPORARY TRAFFIC SIGNAL INSTALLATION AND REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT ILL RTE 58 (SUMMIT ST) AT ILL RTE 25 (LIBERTY ST) | SCALE: N.A. | SHEET NO. OF SHEETS | STA. TO STA. | FAU. RTE. VARIES | SECTION 2009-105-TS | COUNTY KANE | TOTAL SHEETS 36 | SHEET NO. 14 | |
| PLOT SCALE = 1" = .0833' | | DRAWN - ZCW | REVISED - | | | | | | CONTRACT # 60J01 | | | | | |
| PLOT DATE = 12/9/2009 | | CHECKED - KLB | REVISED - | | | | | | ILLINOIS FED. AID PROJECT | | | | | |
| | | DATE - 11/20/09 | REVISED - | | | | | | | | | | | |



- TEMPORARY CABLE PLAN LEGEND**
- R TEMPORARY TRAFFIC SIGNAL SECTION OR PEDESTRIAN SIGNAL SECTION 12"
 - X TEMPORARY CONTROLLER CABINET
 - + TEMPORARY SERVICE INSTALLATION
 - 5 INDICATES NUMBER OF CONDUCTORS IN CABLE. ALL CONDUCTORS TO BE NUMBER 14 AWG WIRE UNLESS OTHERWISE NOTED.
 - EMERGENCY VEHICLE LIGHT DETECTOR
 - CONFIRMATION BEACON
 - VEHICLE DETECTOR, INDUCTION LOOP
 - PEDESTRIAN PUSHBUTTON DETECTOR
 - PEDESTRIAN SIGNAL HEAD
 - VIDEO DETECTION CAMERA
 - PTZ CAMERA
 - V VENDOR CABLE FOR CAMERA



| I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS | | | | | TOTAL WATTAGE |
|--|----------|-----------------|--------|-------------|---------------|
| TYPE | NO LAMPS | WATTAGE INCAND. | L.E.D. | % OPERATION | |
| SIGNAL (RED) | 12 | 135 | 17 | 0.50 | 102.0 |
| SIGNAL (YELLOW) | 12 | 135 | 25 | 0.25 | 75.0 |
| SIGNAL (GREEN) | 12 | 135 | 15 | 0.25 | 45.0 |
| ARROW | 16 | 135 | 12 | 0.10 | 19.2 |
| PED.SIGNAL | 8 | 90 | 25 | 1.00 | 200.0 |
| CONTROLLER | 1 | - | 100 | 1.00 | 100.0 |
| LUMINAIRE | - | - | 250 | 0.50 | - |
| L.E.D. ST. NAME SIGN | - | - | 64 | 0.50 | - |
| VIDEO SYSTEM | 1 | - | 150 | 1.00 | 150.0 |
| BATTERY BACKUP | - | - | 25 | 1.00 | - |
| TOTAL = | | | | | 691.2 |

Restoration of Work Area. Restoration of the traffic signal work area shall be incidental to the related pay items 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.

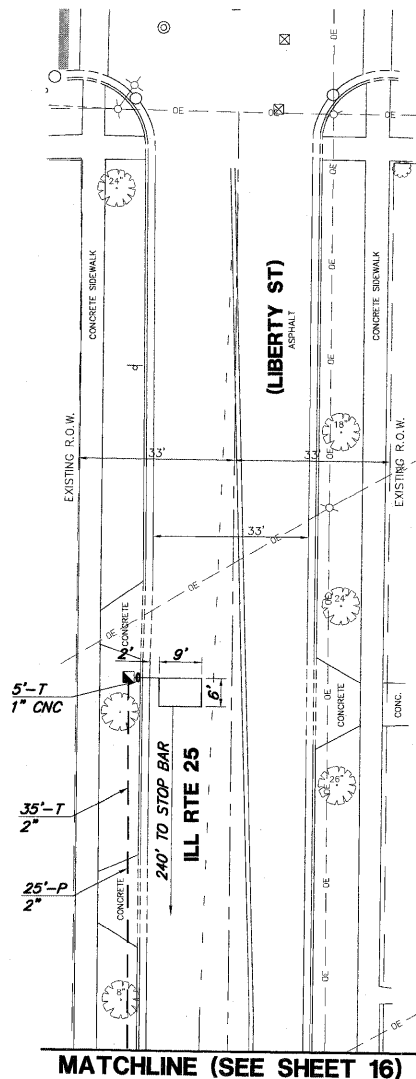
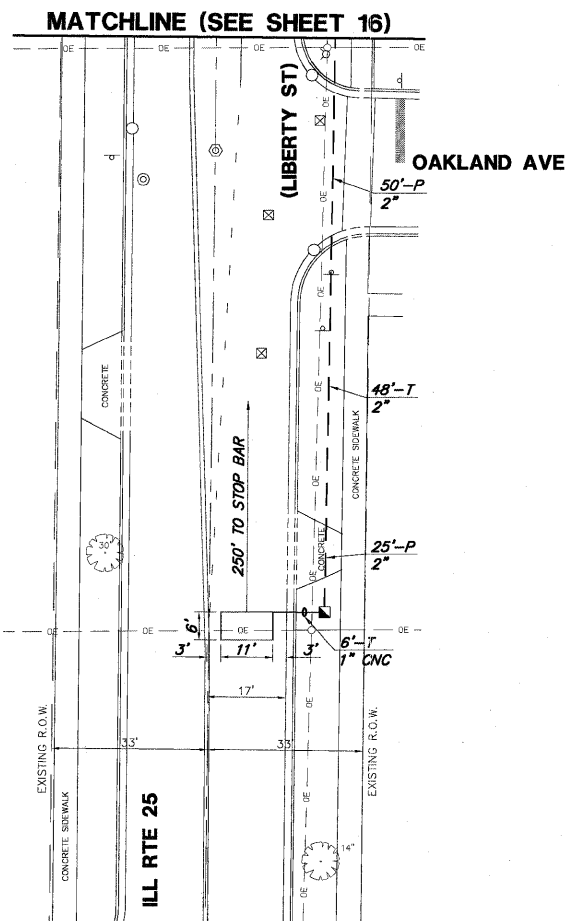
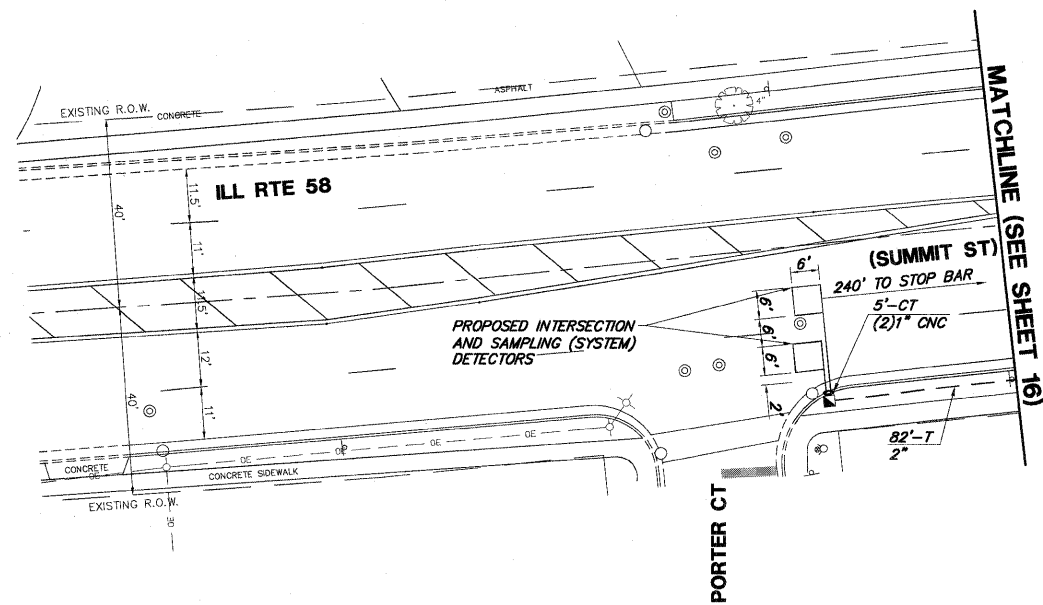
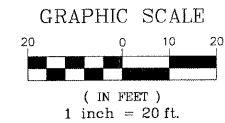
THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "EAGLE" TO MATCH THE EXISTING ADJACENT SYSTEM.

TRAFFIC SIGNAL LEGEND

| | PROPOSED | EXISTING |
|--|----------|----------|
| CONTROLLER | | |
| SERVICE INSTALLATION | | |
| SIGNAL HEAD AND POST | | |
| SIGNAL HEAD AND BACKPLATE | | |
| SIGNAL HEAD, PEDESTRIAN | | |
| SIGNAL POST | | |
| MAST ARM ASSEMBLY AND POLE, STEEL | | |
| MAST ARM ASSEMBLY AND POLE, ALUMINUM | | |
| COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL WITH LUMINAIRE | | |
| UNIT DUCT | | |
| COMMON TRENCH | | |
| HANDHOLE | | |
| HEAVY DUTY HANDHOLE | | |
| DOUBLE HANDHOLE | | |

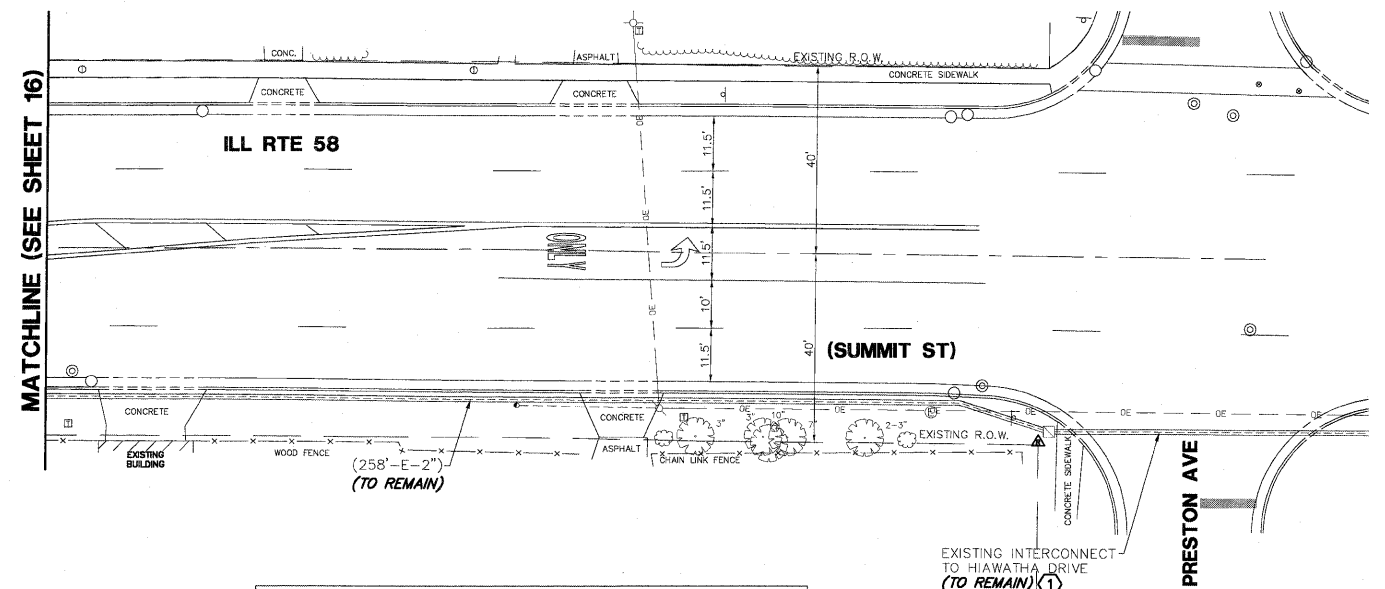
TRAFFIC SIGNAL LEGEND (CONT'D)

| | PROPOSED | EXISTING |
|--|----------|----------|
| G.S. CONDUIT IN TRENCH (T) OR PUSHED (P) | | |
| PEDESTRIAN PUSHBUTTON DETECTOR | | |
| DETECTOR LOOP | | |
| CAST IRON JUNCTION BOX | | |
| EMERGENCY VEHICLE SYSTEM DETECTOR | | |
| CONFIRMATION BEACON | | |
| 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 | | |
| TELEPHONE CONNECTION | | |
| ILLUMINATED SIGN "NO LEFT TURN" | | |
| ILLUMINATED SIGN "NO RIGHT TURN" | | |
| UNINTERRUPTIBLE POWER SUPPLY (UPS) | | |



CONSTRUCTION NOTES:

- THE CONTRACTOR SHALL REMOVE EXISTING FIBER OPTIC AND TRACER CABLES FROM EXISTING CONDUIT AFTER PULLING AND TERMINATING NEW FIBER OPTIC AND TRACER CABLES BETWEEN THE NEW CONTROLLER AT ILL RTE 58 AND ILL RTE 25 AND THE EXISTING CONTROLLER AT HIAWATHA DRIVE. THE CONTRACTOR WILL HAVE TO TAKE MAINTENANCE OF THE EXISTING TRAFFIC SIGNAL INSTALLATION AT ILL RTE 58 AND HIAWATHA DRIVE TO TERMINATE THE FIBER OPTIC CABLE.



Restoration of Work Area. Restoration of the traffic signal work area shall be incidental to the related pay items 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 TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "EAGLE" TO MATCH THE EXISTING ADJACENT SYSTEM.

| | | | | | | | | | | | | |
|------------------------------|--------------------------|-----------------|-----------|---|---|---------------------|--------------|------------------|---------------------|-------------|-----------------|--------------|
| FILE NAME = 4085.852-TR1.dwg | USER NAME = GHA | DESIGNED - JRD | REVISED - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | TRAFFIC SIGNAL MODERNIZATION PLAN ILL RTE 58 (SUMMIT ST) AT IL RTE 25 (LIBERTY ST) | | | FAU. RTE. VARIES | SECTION 2009-105-TS | COUNTY KANE | TOTAL SHEETS 36 | SHEET NO. 17 |
| | PLOT SCALE = 1" = .0833" | DRAWN - ZCW | REVISED - | | SCALE N.A. | SHEET NO. OF SHEETS | STA. TO STA. | CONTRACT # 60J01 | | | | |
| | PLOT DATE = 12/9/2009 | CHECKED - KLB | REVISED - | | ILLINOIS FED. AID PROJECT | | | | | | | |
| | | DATE - 11/20/09 | REVISED - | | | | | | | | | |

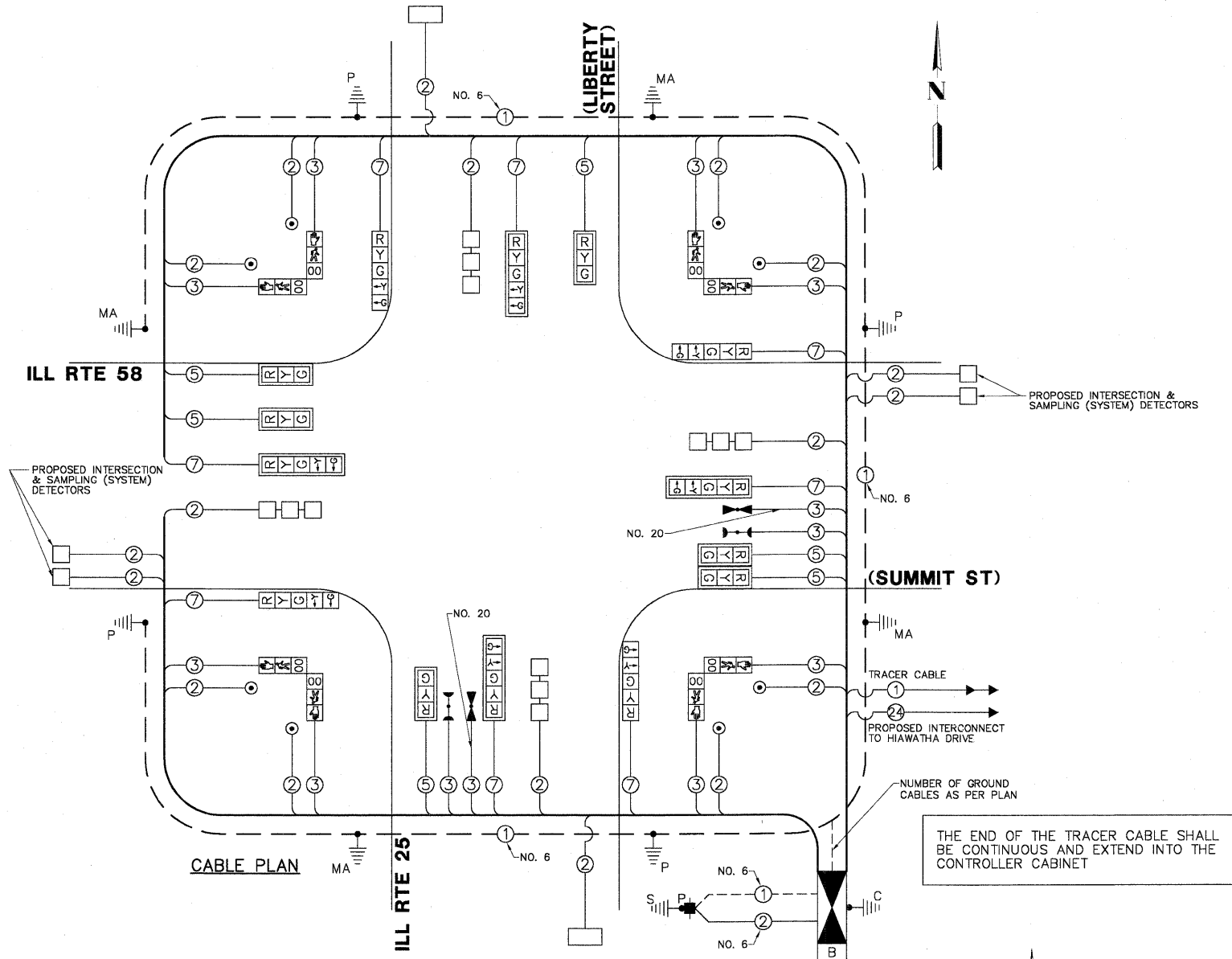
SCHEDULE OF QUANTITIES

ILL RTE 58 (SUMMIT ST) AT ILL RTE 25 (LIBERTY ST)

| NO. | QUANT. | UNIT |
|-----|--------|--|
| 1. | 10 | CU YD EARTH EXCAVATION |
| 2. | 1,550 | SQ FT PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH |
| 3. | 950 | SQ FT SIDEWALK REMOVAL |
| 4. | 2 | CAL MO ENGINEER'S FIELD OFFICE, TYPE A |
| 5. | 52.5 | SQ FT SIGN PANEL - TYPE 2 |
| 6. | 823 | FOOT CONDUIT IN TRENCH, 2" DIA., GALVANIZED STEEL |
| 7. | 57 | FOOT CONDUIT IN TRENCH, 2-1/2" DIA., GALVANIZED STEEL |
| 8. | 117 | FOOT CONDUIT IN TRENCH, 3" DIA., GALVANIZED STEEL |
| 9. | 29 | FOOT CONDUIT IN TRENCH, 4" DIA., GALVANIZED STEEL |
| 10. | 417 | FOOT CONDUIT PUSHED, 2" DIA., GALVANIZED STEEL |
| 11. | 306 | FOOT CONDUIT PUSHED, 4" DIA., GALVANIZED STEEL |
| 12. | 6 | EACH HANDHOLE |
| 13. | 4 | EACH HEAVY-DUTY HANDHOLE |
| 14. | 2 | EACH DOUBLE HANDHOLE |
| 15. | 1,080 | FOOT TRENCH AND BACKFILL FOR ELECTRICAL WORK |
| 16. | 1 | EACH FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL |
| 17. | 1 | EACH TRANSCEIVER - FIBER OPTIC |
| 18. | 1,054 | FOOT ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 2C |
| 19. | 1,359 | FOOT ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 3C |
| 20. | 1,087 | FOOT ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 5C |
| 21. | 1,323 | FOOT ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 7C |
| 22. | 2,682 | FOOT ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR |
| 23. | 65 | FOOT ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C |
| 24. | 4 | EACH TRAFFIC SIGNAL POST, GALVANIZED STEEL, 16 FT |
| 25. | 2 | EACH STEEL MAST ARM ASSEMBLY AND POLE, 24 FT |
| 26. | 2 | EACH STEEL MAST ARM ASSEMBLY AND POLE, 34 FT |
| 27. | 16 | FOOT CONCRETE FOUNDATION, TYPE A |
| 28. | 4 | FOOT CONCRETE FOUNDATION, TYPE C |
| 29. | 20 | FOOT CONCRETE FOUNDATION, TYPE E, 30 INCH DIAMETER |
| 30. | 22 | FOOT CONCRETE FOUNDATION, TYPE E, 36 INCH DIAMETER |
| 31. | 1 | EACH DRILL EXISTING HANDHOLE |
| 32. | 6 | EACH SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED |
| 33. | 4 | EACH SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED |
| 34. | 4 | EACH SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED |
| 35. | 4 | EACH PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER |
| 36. | 10 | EACH TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINIUM |
| 37. | 10 | EACH INDUCTIVE LOOP DETECTOR |
| 38. | 609 | FOOT DETECTOR LOOP, TYPE I |
| 39. | 2 | EACH LIGHT DETECTOR |
| 40. | 1 | EACH LIGHT DETECTOR AMPLIFIER |
| 41. | 8 | EACH PEDESTRIAN PUSH-BUTTON |
| 42. | 1 | EACH TEMPORARY TRAFFIC SIGNAL INSTALLATION |
| 43. | 1 | EACH REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT |
| 44. | 11 | EACH REMOVE EXISTING HANDHOLE |
| 45. | 9 | EACH REMOVE EXISTING CONCRETE FOUNDATION |
| 46. | 102.8 | SQ FT TEMPORARY INFORMATION SIGNING |
| 47. | 1 | EACH TEMPORARY TRAFFIC SIGNAL TIMING |
| 48. | 1 | EACH SERVICE INSTALLATION - POLE MOUNTED |
| 49. | 1 | EACH UNINTERRUPTIBLE POWER SUPPLY (UPS) |
| 50. | 767 | FOOT ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C |
| 51. | 233 | FOOT ELECTRIC CABLE IN CONDUIT, NO. 20 3C, TWISTED, SHIELDED |

CABLE PLAN LEGEND

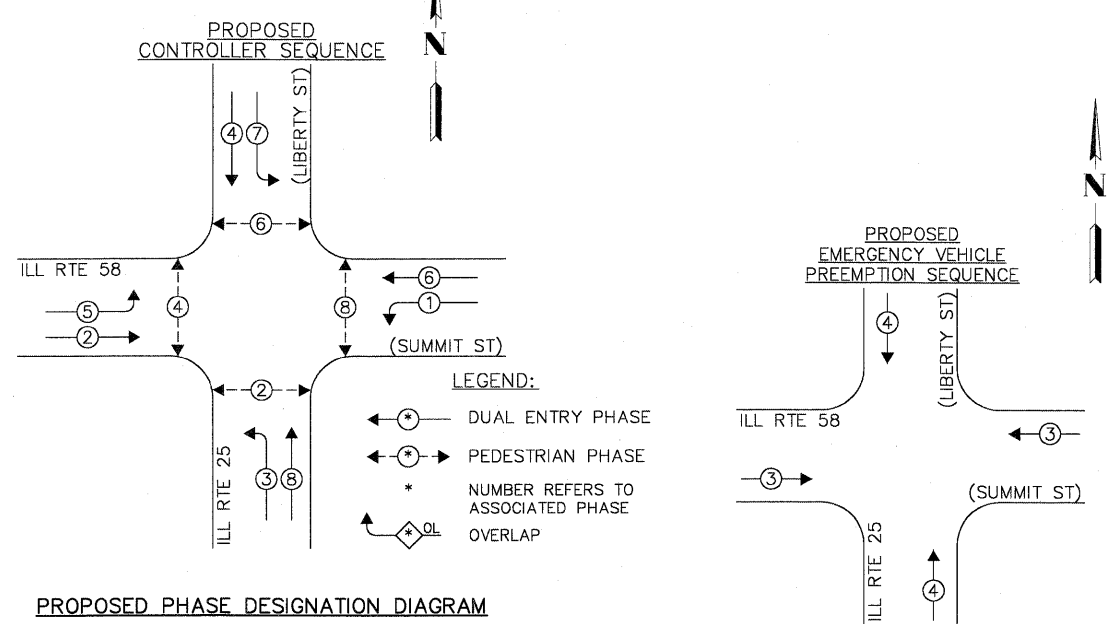
| EXISTING | PROPOSED | DESCRIPTION |
|----------|----------|---|
| | | 8" (200mm) TRAFFIC SIGNAL SECTION |
| | | 12" (300mm) TRAFFIC SIGNAL SECTION |
| | | 12" (300mm) PEDESTRIAN SIGNAL SECTION |
| | | CONTROLLER CABINET |
| | | SERVICE INSTALLATION |
| | | TELEPHONE |
| | | VEHICLE DETECTOR, INDUCTION LOOP |
| | | MAGNETIC DETECTOR |
| | | EMERGENCY VEHICLE LIGHT DETECTOR |
| | | CONFIRMATION BEACON |
| | | PUSHBUTTON DETECTOR |
| | | DENOTES NUMBER OF CONDUCTORS. ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOP DETECTOR CABLE TO BE SHIELDED. |
| | | GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN) |
| | | FIBER OPTIC CABLE IN CONDUIT NO. 62.5/125 MM12F SM24F |
| | | SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD |
| | | RAILROAD CONTROL CABINET |
| | | ILLUMINATED SIGN "NO LEFT TURN" |
| | | ILLUMINATED SIGN "NO RIGHT TURN" |
| | | 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 (UPS) |
| | | 12" (300mm) PEDESTRIAN SIGNAL SECTION WITH COUNTDOWN TIMER |



THE END OF THE TRACER CABLE SHALL BE CONTINUOUS AND EXTEND INTO THE CONTROLLER CABINET

Restoration of Work Area. Restoration of the traffic signal work area shall be incidental to the related pay items 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 TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "EAGLE" TO MATCH THE EXISTING ADJACENT SYSTEM.



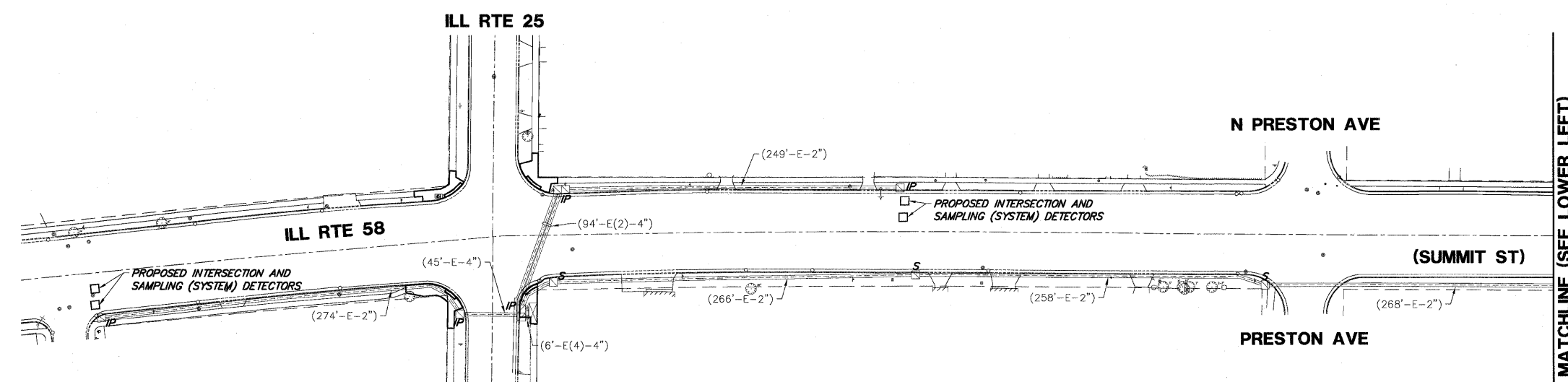
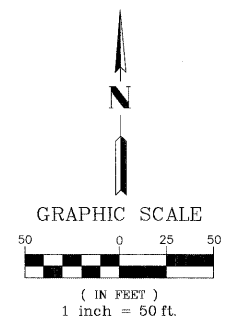
PROPOSED EMERGENCY VEHICLE PREEMPTORS

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

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

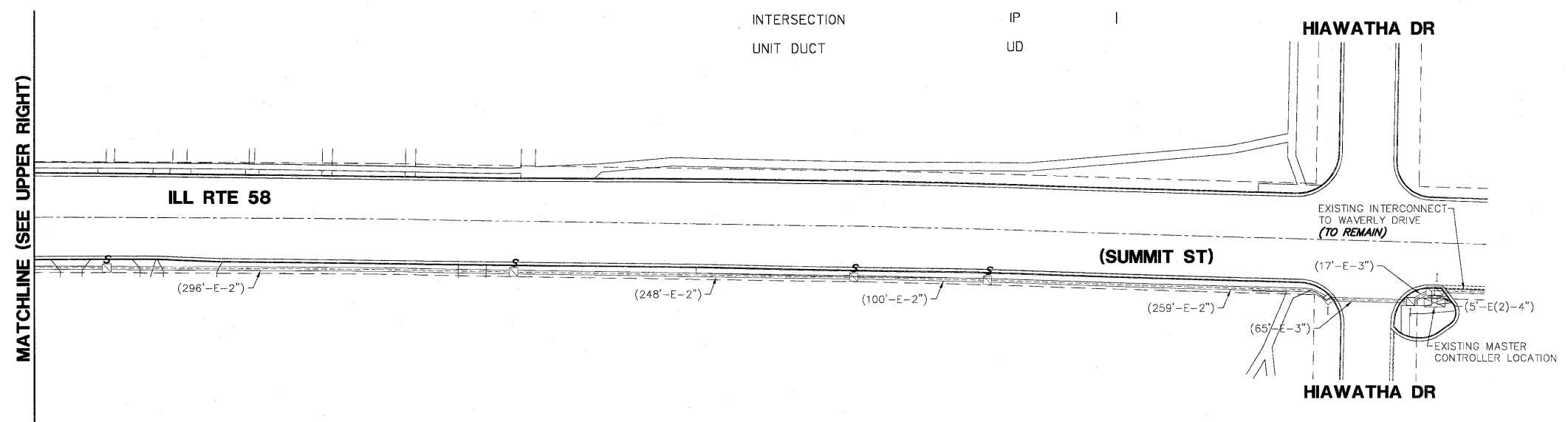
| TYPE | NO LAMPS | WATTAGE | | % OPERATION | TOTAL WATTAGE |
|----------------------|----------|---------|--------|-------------|---------------|
| | | INCAND. | L.E.D. | | |
| SIGNAL (RED) | 14 | 135 | 17 | 0.50 | 119.0 |
| SIGNAL (YELLOW) | 14 | 135 | 25 | 0.25 | 87.5 |
| SIGNAL (GREEN) | 14 | 135 | 15 | 0.25 | 52.5 |
| ARROW | 16 | 135 | 12 | 1.00 | 19.2 |
| PED. SIGNAL | 8 | 90 | 25 | 1.00 | 200.0 |
| CONTROLLER | 1 | - | 100 | 1.00 | 100.0 |
| LUMINAIRE | - | - | 250 | 0.50 | - |
| L.E.D. ST. NAME SIGN | - | - | 64 | 0.50 | - |
| VIDEO SYSTEM | - | - | 150 | 1.00 | - |
| BATTERY BACKUP | 1 | - | 25 | 1.00 | 25.0 |
| TOTAL = | | | | | 603.2 |

ENERGY COSTS - BILLED TO: CITY OF ELGIN
 (ADDRESS) 150 DEXTER COURT
 (ADDRESS) ELGIN, IL 60120
 ENERGY SUPPLY - CONTACT: KATHY NYSTROM
 PHONE: (847) 816-5489
 COMPANY: COM ED - ELGIN



INTERCONNECT PLAN LEGEND

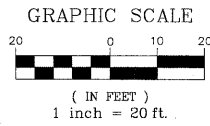
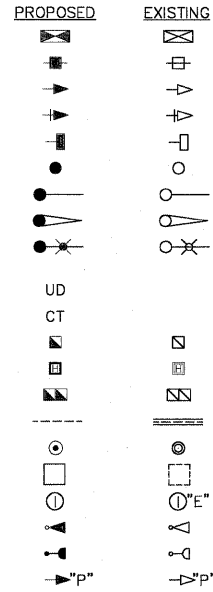
| | PROPOSED | EXISTING |
|--|----------|----------|
| CONTROLLER CABINET | | |
| VIDEO COMMUNICATIONS CABINET | | |
| HANDHOLE | | |
| DOUBLE HANDHOLE | | |
| HEAVY-DUTY HANDHOLE | | |
| G.S. CONDUIT IN TRENCH (T) OR PUSHED (P) | | |
| DETECTOR LOOP | | |
| SYSTEM | S | |
| INTERSECTION | IP | I |
| UNIT DUCT | UD | |



| | | | | | | | | | | | | | |
|------------------------------|--------------------------|-----------------|-----------|---|--|---------------------|--------------|------------------|---------------------|---------------------------|-----------------|--------------|--|
| FILE NAME = 4085.852-TR1.dwg | USER NAME = GHA | DESIGNED - JRD | REVISED - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | INTERCONNECT PLAN ILL ROUTE 58 (SUMMIT STREET) BETWEEN ILL ROUTE 25 (LIBERTY STREET) AND HIAWATHA DRIVE | | | FAU. RTE. VARIES | SECTION 2009-105-TS | COUNTY KANE | TOTAL SHEETS 36 | SHEET NO. 19 | |
| | PLOT SCALE = 1" = .0833' | DRAWN - ZCW | REVISED - | | SCALE N.A. | SHEET NO. OF SHEETS | STA. TO STA. | CONTRACT # 60J01 | | ILLINOIS FED. AID PROJECT | | | |
| | PLOT DATE = 12/9/2009 | CHECKED - KLB | REVISED - | | | | | | | | | | |
| | | DATE - 11/20/09 | REVISED - | | | | | | | | | | |

TRAFFIC SIGNAL LEGEND

- CONTROLLER
- SERVICE INSTALLATION
- SIGNAL HEAD AND POST
- SIGNAL HEAD AND BACKPLATE
- SIGNAL HEAD, PEDESTRIAN
- SIGNAL POST
- MAST ARM ASSEMBLY AND POLE, STEEL
- MAST ARM ASSEMBLY AND POLE, ALUMINUM
- COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL WITH LUMINAIRE
- UNIT DUCT
- COMMON TRENCH
- HANDHOLE
- HEAVY DUTY HANDHOLE
- DOUBLE HANDHOLE
- G.S. CONDUIT IN TRENCH (T) OR PUSHED (P)
- PEDESTRIAN PUSHBUTTON DETECTOR
- DETECTOR LOOP
- CAST IRON JUNCTION BOX
- EMERGENCY VEHICLE SYSTEM DETECTOR
- CONFIRMATION BEACON
- SIGNAL HEAD OPTICALLY PROGRAMMED



NOTE:
THE EXISTING CONTROLLER IS AN EAGLE EPAC 3808 M40 IN A TYPE IV CABINET.

MATCHLINE (SEE MIDDLE RIGHT)

AVENUE

N. CRYSTAL

C. & N.W. R.R.

MATCHLINE (SEE MIDDLE LEFT)

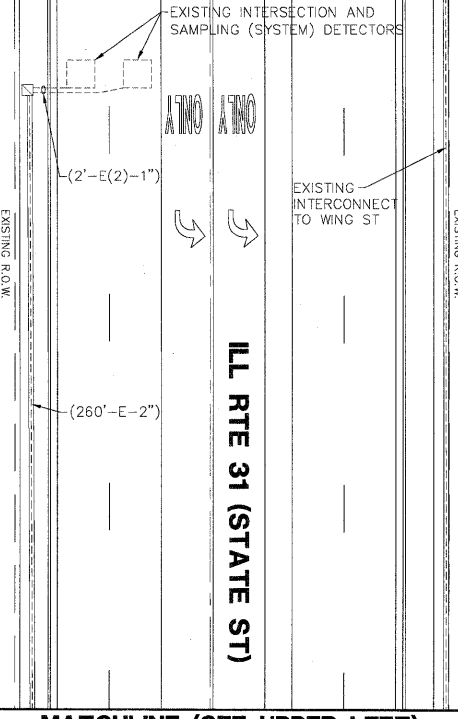


R8-8
(24"x36")
(2 REQUIRED)



R10-5
(24"x30")
(4 REQUIRED)

Restoration of Work Area. Restoration of the traffic signal work area shall be incidental to the related pay items 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.



LAWRENCE AVENUE

MATCHLINE (SEE LOWER RIGHT)

ILL RTE 31 (STATE ST)

CONSTRUCTION NOTES:

- 1 INSTALL UNINTERRUPTIBLE POWER SUPPLY UNIT.
- 2 REMOVE EXISTING SIGN AND REPLACE WITH R10-5. (ALL REQUIRED)
- 3 ALL EXISTING CONFIRMATION BEACONS SHALL BE RETROFITTED WITH LED INDICATORS. THIS WORK SHALL BE INCIDENTAL TO THE PAY ITEM: UNINTERRUPTIBLE POWER SUPPLY.
- 4 ALL CABINET MODIFICATIONS AND/OR LOAD SWITCH REPLACEMENTS REQUIRED FOR PROPER OPERATION OF THE LED SIGNAL AND LED CONFIRMATION BEACON INDICATIONS TO THE SATISFACTION OF THE ENGINEER SHALL BE INCIDENTAL TO THE PAY ITEM: UNINTERRUPTIBLE POWER SUPPLY.

(STATE ST)

KIMBALL STREET

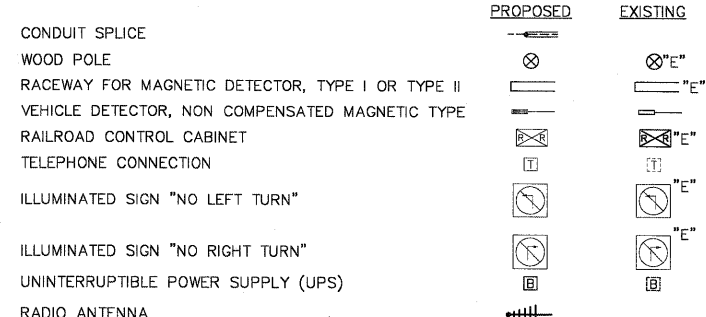
WEST LINE R.R.

METRA/MILWAUKEE DISTRICT

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.

- 14 EACH SIGNAL HEAD 1-FACE, 3-SECTION
- 1 EACH SIGNAL HEAD 1-FACE, 5-SECTION
- 1 EACH SIGNAL HEAD, 2-FACE, 1-3 SECTION, 1-5 SECTION
- 2 EACH SIGNAL HEAD, 2-FACE, 3 SECTION
- 12 EACH TRAFFIC SIGNAL BACKPLATE
- 4 EACH INCANDESCENT CONFIRMATION BEACON

TRAFFIC SIGNAL LEGEND (CONT'D)



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

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

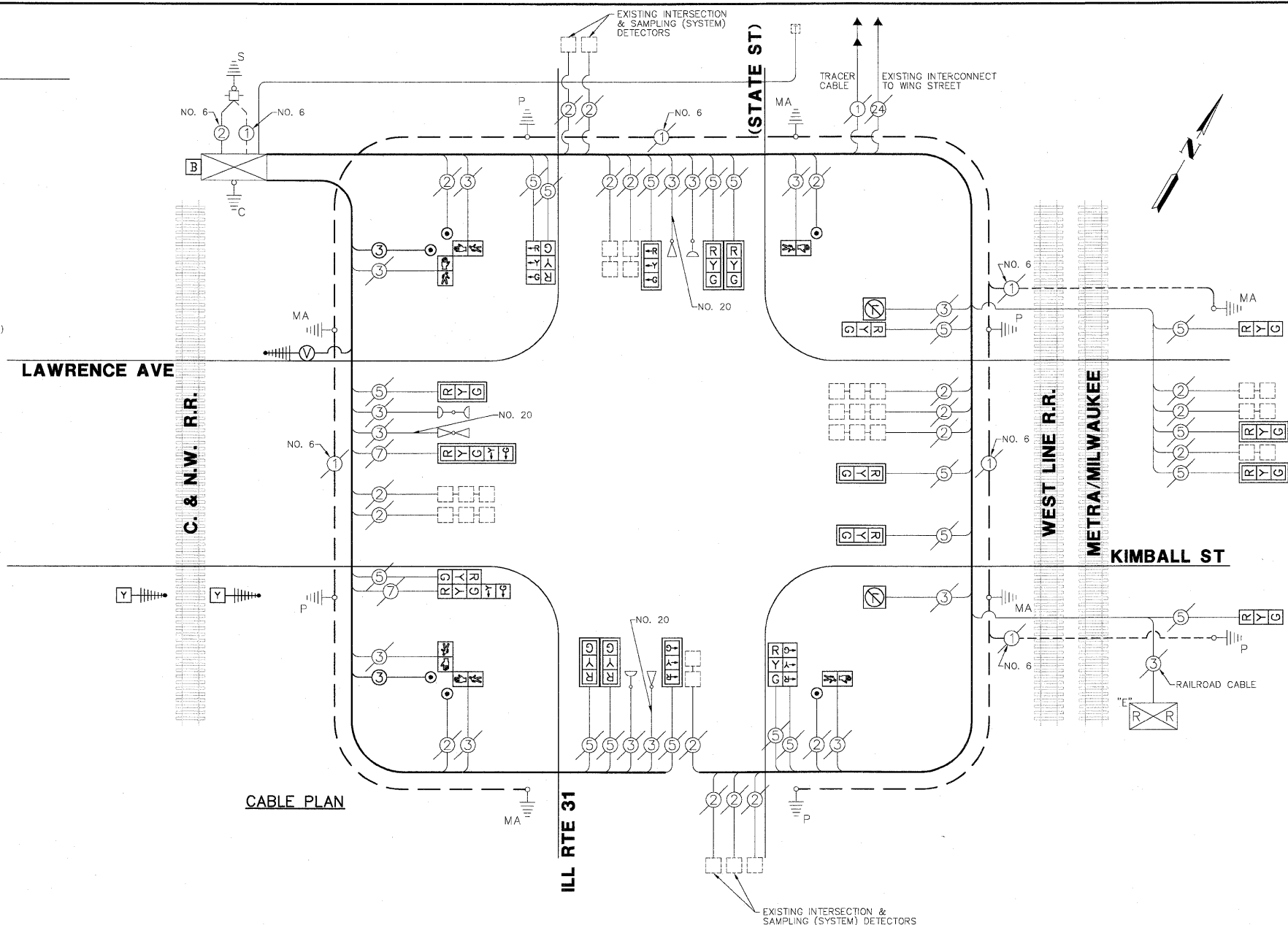
**TRAFFIC SIGNAL MODERNIZATION PLAN
ILL RTE 31 (STATE ST) AT KIMBALL ST/LAWRENCE AVE**

| | | | | | | | | |
|------------------------------|-----------------|----------------|-----------|------------------|---------------------|--------------|------------------|---------------------------|
| FILE NAME = 4085.852-TR1.dwg | USER NAME = GHA | DESIGNED - JRD | REVISED - | FAU. RTE. VARIES | SECTION 2009-105-TS | COUNTY KANE | TOTAL SHEETS 36 | SHEET NO. 21 |
| PLOT SCALE = 1" = .0833' | CHECKED - KLB | DRAWN - ZCW | REVISED - | SCALE 1"=20' | SHEET NO. OF SHEETS | STA. TO STA. | CONTRACT # 60J01 | ILLINOIS FED. AID PROJECT |
| PLOT DATE = 12/9/2009 | DATE - 11/20/09 | REVISOR - | REVISOR - | | | | | |

SCHEDULE OF QUANTITIES

ILL RTE 31 (STATE ST) AT KIMBALL ST/LAWRENCE AVE

| NO. | QUANT. | UNIT | DESCRIPTION |
|-----|--------|-------|---|
| 1. | 32.0 | SQ FT | SIGN PANEL - TYPE 1 |
| 2. | 1 | EACH | MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION |
| 3. | 176 | FOOT | ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 2C |
| 4. | 2 | EACH | TRAFFIC SIGNAL POST, GALVANIZED STEEL, 18 FT |
| 5. | 8 | FOOT | CONCRETE FOUNDATION, TYPE A |
| 6. | 11 | EACH | SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED |
| 7. | 3 | EACH | SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED |
| 8. | 1 | EACH | SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED |
| 9. | 2 | EACH | SIGNAL HEAD, LED, 2-FACE, 3-SECTION, BRACKET MOUNTED |
| 10. | 1 | EACH | SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED |
| 11. | 2 | EACH | PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED |
| 12. | 2 | EACH | PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED |
| 13. | 12 | EACH | TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINIUM |
| 14. | 6 | EACH | PEDESTRIAN PUSH-BUTTON |
| 15. | 2 | EACH | ILLUMINATED SIGN, LED |
| 16. | 1 | EACH | REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT |
| 17. | 1 | L SUM | RAILROAD PROTECTIVE LIABILITY INSURANCE |
| 18. | 1 | EACH | RADIO ACTIVATED SOLAR ADVANCE FLASHING BEACON SYSTEM (COMPLETE) |



CABLE PLAN LEGEND

| EXISTING | PROPOSED | DESCRIPTION |
|----------|----------|---|
| | | 8" (200mm) TRAFFIC SIGNAL SECTION |
| | | 12" (300mm) TRAFFIC SIGNAL SECTION |
| | | 12" (300mm) PEDESTRIAN SIGNAL SECTION |
| | | CONTROLLER CABINET |
| | | SERVICE INSTALLATION |
| | | TELEPHONE |
| | | VEHICLE DETECTOR, INDUCTION LOOP |
| | | MAGNETIC DETECTOR |
| | | EMERGENCY VEHICLE LIGHT DETECTOR |
| | | CONFIRMATION BEACON |
| | | PUSHBUTTON DETECTOR |
| | | 2 DENOTES NUMBER OF CONDUCTORS. ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOP DETECTOR CABLE TO BE SHIELDED. |
| | | 36 FIBER OPTIC CABLE IN CONDUIT NO. 62.5/125 MM12F SM24F |
| | | SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD |
| | | RAILROAD CONTROL CABINET |
| | | ILLUMINATED SIGN "NO LEFT TURN" |
| | | ILLUMINATED SIGN "NO RIGHT TURN" |
| | | C GROUND ROD AT HANDHOLE (H), DOUBLE HANDHOLE (H), OR CONTROLLER (C) |
| | | P GROUND ROD AT POST (P) OR MAST ARM POLE (MA) |
| | | S GROUND ROD AT ELECTRIC SERVICE INSTALLATION |
| | | UPS UNINTERRUPTIBLE POWER SUPPLY (UPS) |
| | | 12" (300mm) PEDESTRIAN SIGNAL SECTION WITH COUNTDOWN TIMER |
| | | V VENDOR CABLE |
| | | RA RADIO ANTENNA |

Restoration of Work Area. Restoration of the traffic signal work area shall be incidental to the related pay items 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 TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "NTCIP" COMPLIANT.

| I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS | | | | | TOTAL WATTAGE |
|--|----------|-----------------|--------|-------------|---------------|
| TYPE | NO LAMPS | WATTAGE INCAND. | L.E.D. | % OPERATION | |
| SIGNAL (RED) | 21 | 135 | 17 | 0.50 | 178.50 |
| SIGNAL (YELLOW) | 21 | 135 | 25 | 0.25 | 131.25 |
| SIGNAL (GREEN) | 21 | 135 | 15 | 0.25 | 78.75 |
| ARROW | 4 | 135 | 12 | 0.10 | 4.80 |
| PED. SIGNAL | 6 | 90 | 25 | 1.00 | 150.00 |
| CONTROLLER | 1 | - | 100 | 1.00 | 100.00 |
| LUMINAIRE | - | - | 250 | 0.50 | - |
| L.E.D. ST. NAME SIGN | - | - | 64 | 0.50 | - |
| VIDEO SYSTEM | - | - | 150 | 1.00 | - |
| BATTERY BACKUP | 1 | - | 25 | 1.00 | 25.00 |
| ILLUM. SIGN | 2 | - | 25 | 0.05 | 2.50 |
| TOTAL = | | | | | 670.80 |

ENERGY COSTS - BILLED TO: CITY OF ELGIN
 (ADDRESS) 150 DEXTER COURT
 (ADDRESS) ELGIN, IL 60120
 ENERGY SUPPLY - CONTACT: KATHY NYSTROM
 PHONE: (847) 816-5489
 COMPANY: COM. ED - ELGIN

SEQUENCE OF OPERATION

| MOVEMENT | N | | | | | | | | | | | | | | | | | | | | | | F L A S H | | | | | | | | | | | | | | | |
|--|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|-----|----|---------------|----|-----|-----|-----|-----|--------------------|-----|-----------------------|----|--------------------|-----|-----|-----|-----|-----|-----|----|----|-----|-----|-----|-----|----|
| | 1 | 2A | 2B | 3A | 3B | 4A | 4B | 5 | 6 | 7A | 7B | 8 | 9A | 9B | 10 | 11 | 12A | 12B | 13A | 13B | 14A | 14B | | 15 | 16 | 17A | 17B | 17C | 17D | 18A | 18B | 19 | 20 | 21A | 21B | 21C | 21D | |
| PHASE INTERVAL | 1+5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CHANGE TO | 1+6 | | 2+5 | | 2+6 | | 2+6 | | 2+6 | | 2+6 | | 2+6 | | 1+5, 3+8, 4+8 | | 1+6 | | 2+5 | | 1+5, 1+6, 2+5, 2+6 | | 4+8 | | 1+5, 1+6, 2+5, 2+6 | | | | | | | | | | | | | |
| ILL 31 NB CENTER AND FAR RIGHT MAST ARM AND NEAR RIGHT SIGNALS | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | G | G | G | G | G | Y | R | Y | R | G | G | R | R | R | R | R | R | R | R | R | R | R | |
| ILL 31 NB END MAST ARM AND FAR LEFT SIGNALS | ←G | ←Y | ←R | ←G | ←G | ←Y | ←R | ←R | ←R | ←R | ←R | ←R | ←G | ←Y | ←R | ←R | ←R | ←R | ←R | ←R | ←R | ←R | ←R | ←R | ←R | ←R | ←R | ←R | ←R | ←R | ←R | ←R | ←R | ←R | ←R | ←R | ←R | |
| ILL 31 SB CENTER AND FAR RIGHT MAST ARM, NEAR RIGHT SIGNALS | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | G | G | G | G | R | R | R | G | Y | R | G | G | Y | R | R | R | R | R | R | R | R | R | R |
| ILL 31 SB END MAST ARM AND FAR LEFT SIGNALS | ←G | ←G | ←G | ←Y | ←R | ←Y | ←R | ←G | ←G | ←Y | ←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 | |
| KIMBALL ST. WB NEAR SIDE SIGNALS ON CANTILEVER AND NEAR SIDE FAR LEFT SIGNAL | 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 | R | R | R | R | R | R |
| KIMBALL ST. WB FAR RIGHT MAST ARM | 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 | R | R | R | R | R | R |
| KIMBALL ST. WB END MAST ARM AND FAR LEFT SIGNALS | 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 | R | R | R | R | R | R |
| LAWRENCE AVE. EB CENTER AND END MAST ARM, FAR LEFT AND NEAR RIGHT SIGNALS | 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 | R | R | R | R | R | R |
| PEDESTRIAN SIGNALS CROSSING NORTH LEG OF ILL RTE 31 | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H |
| PEDESTRIAN SIGNALS CROSSING SOUTH LEG OF ILL RTE 31 | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H |
| PEDESTRIAN SIGNALS CROSSING LAWRENCE AVENUE | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H |
| LAWRENCE AVE. EB FLASHING BEACONS | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL |

* TO APPEAR ONLY UPON PUSHBUTTON ACTUATION

** FLASHING [Symbol] IS TO TERMINATE AT THE COMPLETION OF THE PEDESTRIAN INTERVAL CLEARANCE.

⊙ THIS [Symbol] OR FLASHING [Symbol] INTERVAL MAY FINISH TIMING IN THE BIDIRECTIONAL STRAIGHT THROUGH MOVEMENT IF THE LEFT ARROW TIME IS NOT SUFFICIENT TO COMPLETE [Symbol] OR FLASHING [Symbol] INTERVALS.

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

PHASES 2 AND 6 SHALL BE PLACED ON RECALL.

FL = FLASHING
 DK = DARK

RAILROAD PREEMPTION SEQUENCE OF OPERATION

| CHANGE FROM NORMAL SEQUENCE OF OPERATION INTERVAL NUMBER | | | | | | | | | | | | | | | | | | | | PREEMPTOR NUMBER 3 | PREEMPTOR NUMBER 4 | PREEMPTOR NUMBER 5 | PREEMPTOR NUMBER 2 | |
|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--------------------|--------------------|--------------------|--------------------------|--|
| | 1 | 5 | 8 | 10 | 15 | 19 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | | | | |
| CHANGE FROM EMERGENCY VEHICLE PREEMPTION SEQUENCE OF OPERATION INTERVAL NUMBER | | | | | | | | | | | | | | | | | | | | 2 | 3 | 4 | 5 | |
| RAILROAD PREEMPTION SEQUENCE OF OPERATION INTERVAL NUMBER | 1A | 1B | 1C | 1D | 1E | 1F | 1G | 1H | 1J | 1K | 1L | 1M | 1N | 1P | 1Q | 1R | 1S | 1T | 2 | 3 | 4 | 5 | CLEAR TO NORMAL SEQUENCE | |
| RAILROAD PREEMPTION SEQUENCE OF OPERATION INTERVAL NUMBER | 1B | 2 | 1D | 2 | 1F | 2 | 1H | 2 | 1K | 2 | 1M | 2 | 1P | 2 | 1R | 2 | 1T | 2 | 3 | 4 | 4 | | | |
| ILL 31 NB CENTER AND FAR RIGHT MAST ARM SIGNALS AND NEAR RIGHT SIGNALS | R | R | R | R | Y | R | Y | R | R | R | R | R | Y | R | R | R | R | R | R | R | R | R | △ | |
| ILL 31 NB END MAST ARM AND FAR LEFT SIGNALS | ←Y | ←R | ←R | ←R | ←Y | ←R | ←R | ←R | ←R | ←R | ←R | ←R | ←Y | ←R | ←R | ←R | ←R | ←R | ←R | ←R | ←R | ←R | △ | |
| ILL 31 SB CENTER AND FAR RIGHT MAST ARM, NEAR RIGHT SIGNALS | R | R | Y | R | R | Y | R | R | R | R | R | R | Y | R | R | R | R | R | R | R | R | R | △ | |
| ILL 31 SB END MAST ARM AND FAR LEFT SIGNALS | ←Y | ←R | ←Y | ←R | ←R | ←Y | ←R | ←R | ←R | ←R | ←R | ←R | ←Y | ←R | ←R | ←R | ←R | ←R | ←R | ←R | ←R | △ | | |
| KIMBALL ST. WB NEAR SIDE SIGNALS ON CANTILEVER AND NEAR SIDE FAR LEFT SIGNAL | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | △ | |
| KIMBALL ST. WB FAR RIGHT MAST ARM | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | △ | |
| KIMBALL ST. WB END MAST ARM AND FAR LEFT SIGNALS | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | △ | |
| LAWRENCE AVE. EB CENTER AND END MAST ARM, FAR LEFT AND NEAR RIGHT SIGNALS | 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 LEG OF ILL RTE 31 | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | △ | |
| PEDESTRIAN SIGNALS CROSSING SOUTH LEG OF ILL RTE 31 | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | △ | |
| PEDESTRIAN SIGNALS CROSSING LAWRENCE AVENUE | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | △ | |
| ILL RTE 31 NB INTERNALLY ILLUMINATED NRT SIGNALS | NRT | NRT | NRT | NRT | NRT | NRT | NRT | NRT | NRT | NRT | NRT | NRT | NRT | NRT | NRT | NRT | NRT | NRT | NRT | NRT | NRT | NRT | | |
| LAWRENCE AVE. EB FLASHING BEACONS | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | | |

△ 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.

NRT = "NO RIGHT TURN" OR [Symbol]

FL = FLASHING
 DK = DARK

EMERGENCY VEHICLE PREEMPTION SEQUENCE OF OPERATION

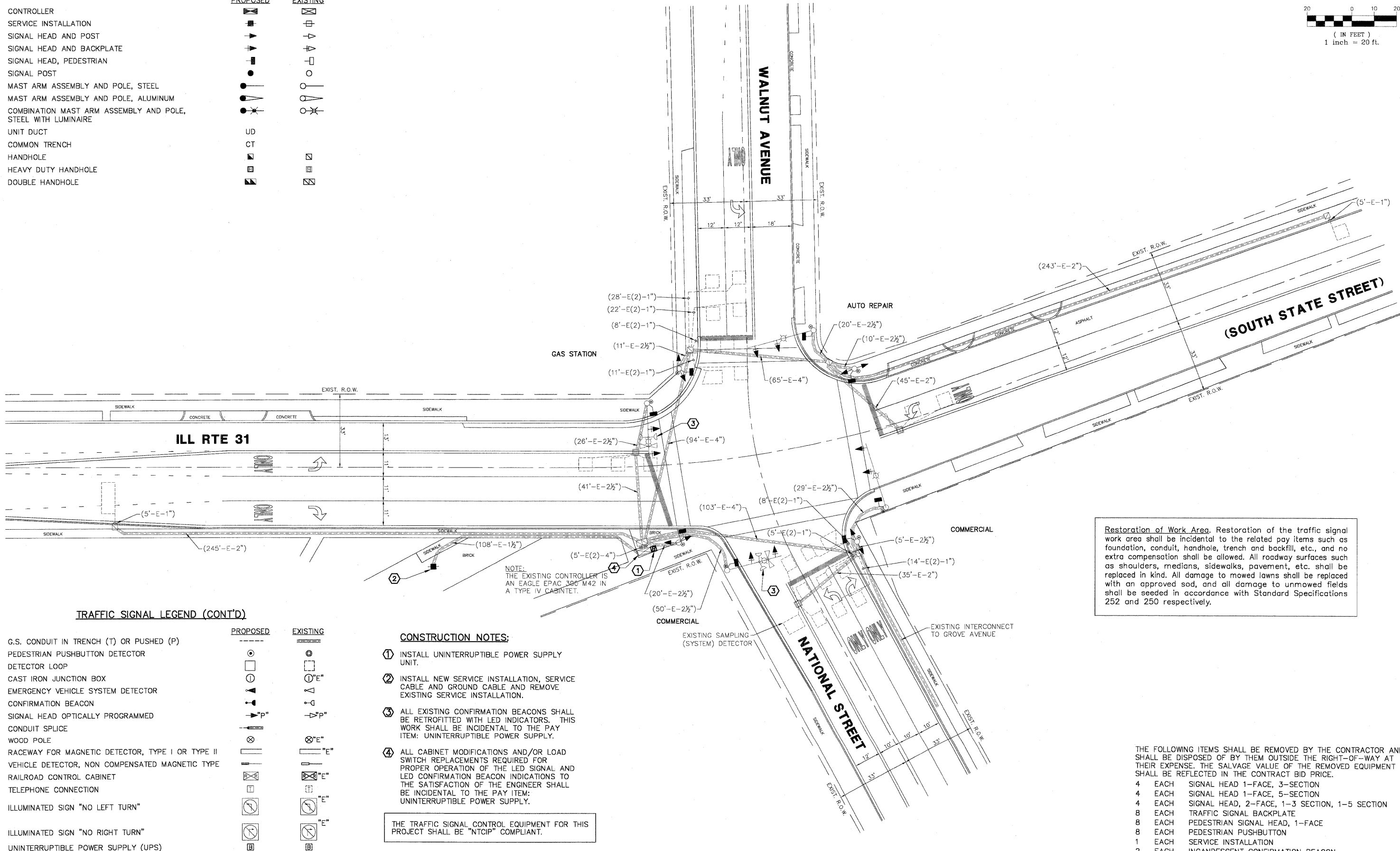
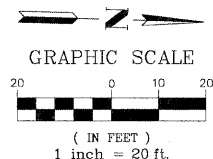
| CHANGE FROM NORMAL SEQUENCE OF OPERATION INTERVAL NUMBER | | | | | | | | | | | | | | | | | | | | PREEMPTOR NUMBER 3 | PREEMPTOR NUMBER 4 | PREEMPTOR NUMBER 5 | | | | | | | | | | | | | | | | | |
|--|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--------------------|--------------------|--------------------|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|--------------------------|
| | 1 | 1 | 1 | 5 | 5 | 8 | 8 | 10 | 10 | 10 | 15 | 15 | 19 | 19 | 2 | 3 | 4 | | | | | | | | | | | | | | | | | | | | | | |
| 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 | 1W | 1X | 1Y | 1Z | 1AA | 1BB | 1CC | 1DD | 1EE | 1FF | 1GG | 1HH | 1JJ | 1KK | 1LL | 2 | 3 | 4 | CLEAR TO NORMAL SEQUENCE |
| CHANGE TO EMERGENCY VEHICLE PREEMPTION SEQUENCE OF OPERATION INTERVAL NUMBER | 1B | 2 | 1D | 3 | 1F | 4 | 1H | 1J | 2 | 3 | 2 | 1N | 3 | 1Q | 1R | 2 | 1T | 1U | 3 | 1W | 1X | 4 | 1Z | 1AA | 1BB | 1CC | 2 | 1EE | 4 | 1GG | 1HH | 1JJ | 1KK | 2 | 4 | | | | |
| ILL 31 NB CENTER AND FAR RIGHT MAST ARM SIGNALS AND NEAR RIGHT SIGNALS | R | R | R | R | R | R | R | R | R | R | G | Y | R | G | G | G | G | Y | R | G | Y | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | ◇ |
| ILL 31 NB END MAST ARM AND FAR LEFT SIGNALS | ←G | ←G | ←Y | ←R | ←Y | ←R | ←R | ←R | ←R | ←R | ←G | ←Y | ←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 | ◇ |
| ILL 31 SB CENTER AND FAR RIGHT MAST ARM, NEAR RIGHT SIGNALS | R | R | R | R | R | R | G | Y | R | G | R | R | R | G | Y | R | G | G | G | Y | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | R | ◇ |
| ILL 31 SB END MAST ARM AND FAR LEFT SIGNALS | ←Y | ←R | ←G | ←G | ←Y | ←R | ←G | ←Y | ←R | ←G | ←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 | ◇ |
| KIMBALL ST. WB NEAR SIDE SIGNALS ON CANTILEVER AND NEAR SIDE FAR LEFT SIGNAL | 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 | R | R | R | R | R | R | ◇ |
| KIMBALL ST. WB FAR RIGHT MAST ARM | 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 | R | R | R | R | R | R | ◇ |
| KIMBALL ST. WB END MAST ARM AND FAR LEFT SIGNALS | 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 | R | R | R | R | R | R | ◇ |
| LAWRENCE AVE. EB CENTER AND END MAST ARM, FAR LEFT AND NEAR RIGHT SIGNALS | 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 | R | R | R | R | R | R | ◇ |
| PEDESTRIAN SIGNALS CROSSING NORTH LEG OF ILL RTE 31 | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | ◇ |
| PEDESTRIAN SIGNALS CROSSING SOUTH LEG OF ILL RTE 31 | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | ◇ |
| PEDESTRIAN SIGNALS CROSSING LAWRENCE AVENUE | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | H | ◇ |
| LAWRENCE AVE. EB FLASHING BEACONS | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | FL | DK |

◇ EMERGENCY VEHICLE PREEMPTION 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 INTERVAL 2, 3, OR 4 IS TERMINATED.

FL = FLASHING
 DK = DARK

TRAFFIC SIGNAL LEGEND

| | PROPOSED | EXISTING |
|--|----------|----------|
| CONTROLLER | | |
| SERVICE INSTALLATION | | |
| SIGNAL HEAD AND POST | | |
| SIGNAL HEAD AND BACKPLATE | | |
| SIGNAL HEAD, PEDESTRIAN | | |
| SIGNAL POST | | |
| MAST ARM ASSEMBLY AND POLE, STEEL | | |
| MAST ARM ASSEMBLY AND POLE, ALUMINUM | | |
| COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL WITH LUMINAIRE | | |
| UNIT DUCT | UD | |
| COMMON TRENCH | CT | |
| HANDHOLE | | |
| HEAVY DUTY HANDHOLE | | |
| DOUBLE HANDHOLE | | |



Restoration of Work Area. Restoration of the traffic signal work area shall be incidental to the related pay items 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 (CONT'D)

| | PROPOSED | EXISTING |
|--|----------|----------|
| G.S. CONDUIT IN TRENCH (T) OR PUSHED (P) | | |
| PEDESTRIAN PUSHBUTTON DETECTOR | | |
| DETECTOR LOOP | | |
| CAST IRON JUNCTION BOX | | |
| EMERGENCY VEHICLE SYSTEM DETECTOR | | |
| CONFIRMATION BEACON | | |
| 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 | | |
| TELEPHONE CONNECTION | | |
| ILLUMINATED SIGN "NO LEFT TURN" | | |
| ILLUMINATED SIGN "NO RIGHT TURN" | | |
| UNINTERRUPTIBLE POWER SUPPLY (UPS) | | |

CONSTRUCTION NOTES:

- INSTALL UNINTERRUPTIBLE POWER SUPPLY UNIT.
- INSTALL NEW SERVICE INSTALLATION, SERVICE CABLE AND GROUND CABLE AND REMOVE EXISTING SERVICE INSTALLATION.
- ALL EXISTING CONFIRMATION BEACONS SHALL BE RETROFITTED WITH LED INDICATORS. THIS WORK SHALL BE INCIDENTAL TO THE PAY ITEM: UNINTERRUPTIBLE POWER SUPPLY.
- ALL CABINET MODIFICATIONS AND/OR LOAD SWITCH REPLACEMENTS REQUIRED FOR PROPER OPERATION OF THE LED SIGNAL AND LED CONFIRMATION BEACON INDICATIONS TO THE SATISFACTION OF THE ENGINEER SHALL BE INCIDENTAL TO THE PAY ITEM: UNINTERRUPTIBLE POWER SUPPLY.

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

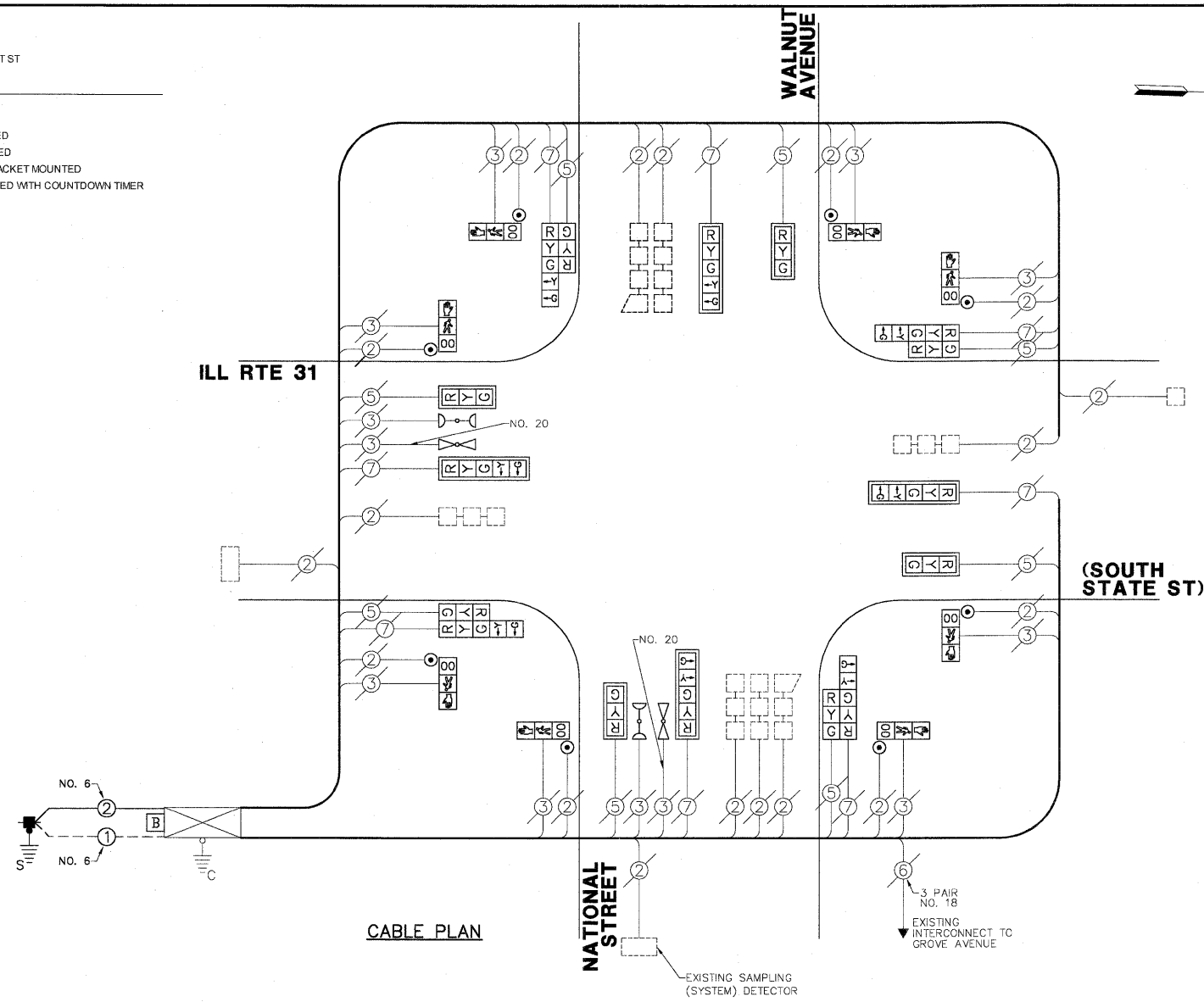
THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

| | | |
|---|------|---|
| 4 | EACH | SIGNAL HEAD 1-FACE, 3-SECTION |
| 4 | EACH | SIGNAL HEAD 1-FACE, 5-SECTION |
| 4 | EACH | SIGNAL HEAD, 2-FACE, 1-3 SECTION, 1-5 SECTION |
| 8 | EACH | TRAFFIC SIGNAL BACKPLATE |
| 8 | EACH | PEDESTRIAN SIGNAL HEAD, 1-FACE |
| 8 | EACH | PEDESTRIAN PUSHBUTTON |
| 1 | EACH | SERVICE INSTALLATION |
| 2 | EACH | INCANDESCENT CONFIRMATION BEACON |

SCHEDULE OF QUANTITIES

ILL RTE 31 (SOUTH STATE ST) AT WALNUT AVE/WALNUT ST

| NO. | QUANT. | UNIT |
|-----|--------|--|
| 1. | 1 | EACH MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION |
| 2. | 130 | FOOT ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C |
| 3. | 4 | EACH SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED |
| 4. | 4 | EACH SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED |
| 5. | 4 | EACH SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED |
| 6. | 8 | EACH PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER |
| 7. | 8 | EACH TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINIUM |
| 8. | 8 | EACH PEDESTRIAN PUSH-BUTTON |
| 9. | 234 | FOOT REMOVE ELECTRIC CABLE FROM CONDUIT |
| 10. | 1 | EACH REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT |
| 11. | 1 | EACH SERVICE INSTALLATION - POLE MOUNTED |
| 12. | 1 | EACH UNINTERRUPTIBLE POWER SUPPLY (UPS) |
| 13. | 117 | FOOT ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C |



CABLE PLAN

CABLE PLAN LEGEND

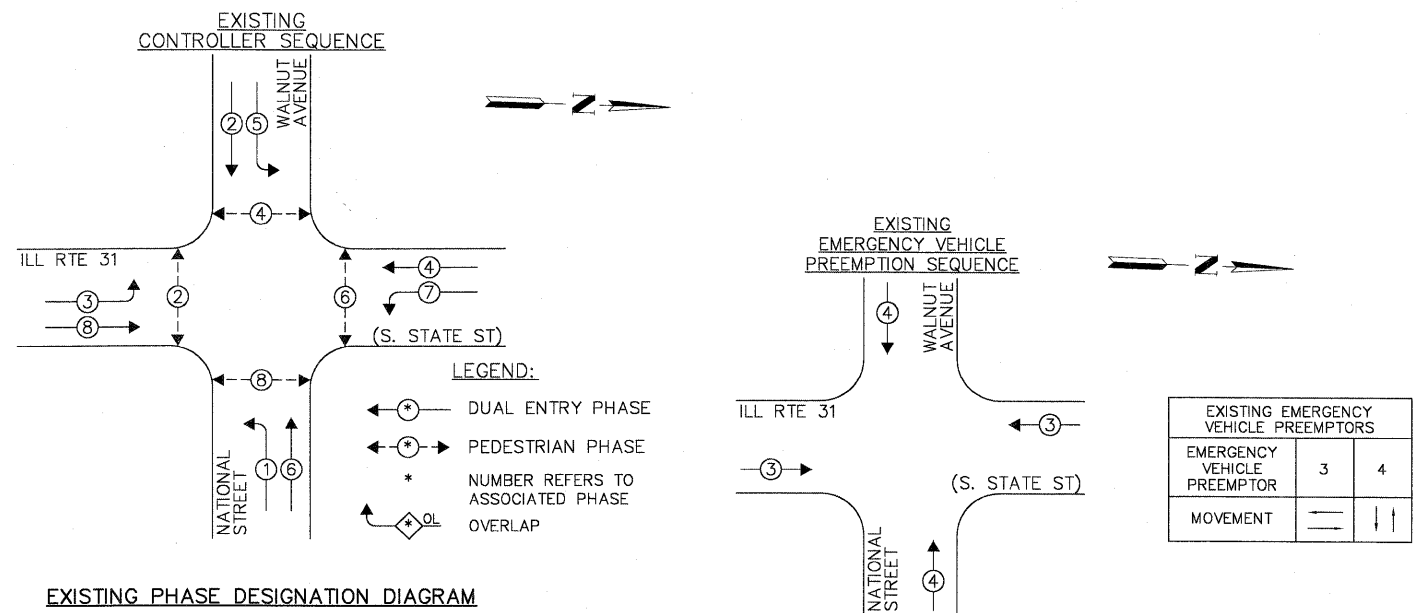
| EXISTING | PROPOSED | DESCRIPTION |
|----------|----------|---|
| | | 8" (200mm) TRAFFIC SIGNAL SECTION |
| | | 12" (300mm) TRAFFIC SIGNAL SECTION |
| | | 12" (300mm) PEDESTRIAN SIGNAL SECTION |
| | | CONTROLLER CABINET |
| | | SERVICE INSTALLATION |
| | | TELEPHONE |
| | | VEHICLE DETECTOR, INDUCTION LOOP |
| | | MAGNETIC DETECTOR |
| | | EMERGENCY VEHICLE LIGHT DETECTOR |
| | | CONFIRMATION BEACON |
| | | PUSHBUTTON DETECTOR |
| | | DENOTES NUMBER OF CONDUCTORS. ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOP DETECTOR CABLE TO BE SHIELDED. |
| | | FIBER OPTIC CABLE IN CONDUIT NO. 62.5/125 MM12F SM24F |
| | | SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD |
| | | RAILROAD CONTROL CABINET |
| | | ILLUMINATED SIGN "NO LEFT TURN" |
| | | ILLUMINATED SIGN "NO RIGHT TURN" |
| | | 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 (UPS) |
| | | 12" (300mm) PEDESTRIAN SIGNAL SECTION WITH COUNTDOWN TIMER |

Restoration of Work Area. Restoration of the traffic signal work area shall be incidental to the related pay items 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 TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "NTCIP" COMPLIANT.

| I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS | | | | | TOTAL WATTAGE |
|--|----------|-----------------|--------|-------------|---------------|
| TYPE | NO LAMPS | WATTAGE INCAND. | L.E.D. | % OPERATION | |
| SIGNAL (RED) | 16 | 135 | 17 | 0.50 | 136.0 |
| SIGNAL (YELLOW) | 16 | 135 | 25 | 0.25 | 100.0 |
| SIGNAL (GREEN) | 16 | 135 | 15 | 0.25 | 60.0 |
| ARROW | 16 | 135 | 12 | 0.10 | 19.2 |
| PED.SIGNAL | 8 | 90 | 25 | 1.00 | 200.0 |
| CONTROLLER | 1 | - | 100 | 1.00 | 100.0 |
| LUMINAIRE | - | - | 250 | 0.50 | - |
| L.E.D. ST. NAME SIGN | - | - | 64 | 0.50 | - |
| VIDEO SYSTEM | - | - | 150 | 1.00 | - |
| BATTERY BACKUP | 1 | - | 25 | 1.00 | 25.0 |
| TOTAL = | | | | | 640.2 |

ENERGY COSTS - BILLED TO: CITY OF ELGIN
 (ADDRESS) 150 DEXTER COURT
 (ADDRESS) ELGIN, IL 60120
 ENERGY SUPPLY - CONTACT: KATHY NYSTROM
 PHONE: (847) 816-5489
 COMPANY: COM ED - ELGIN

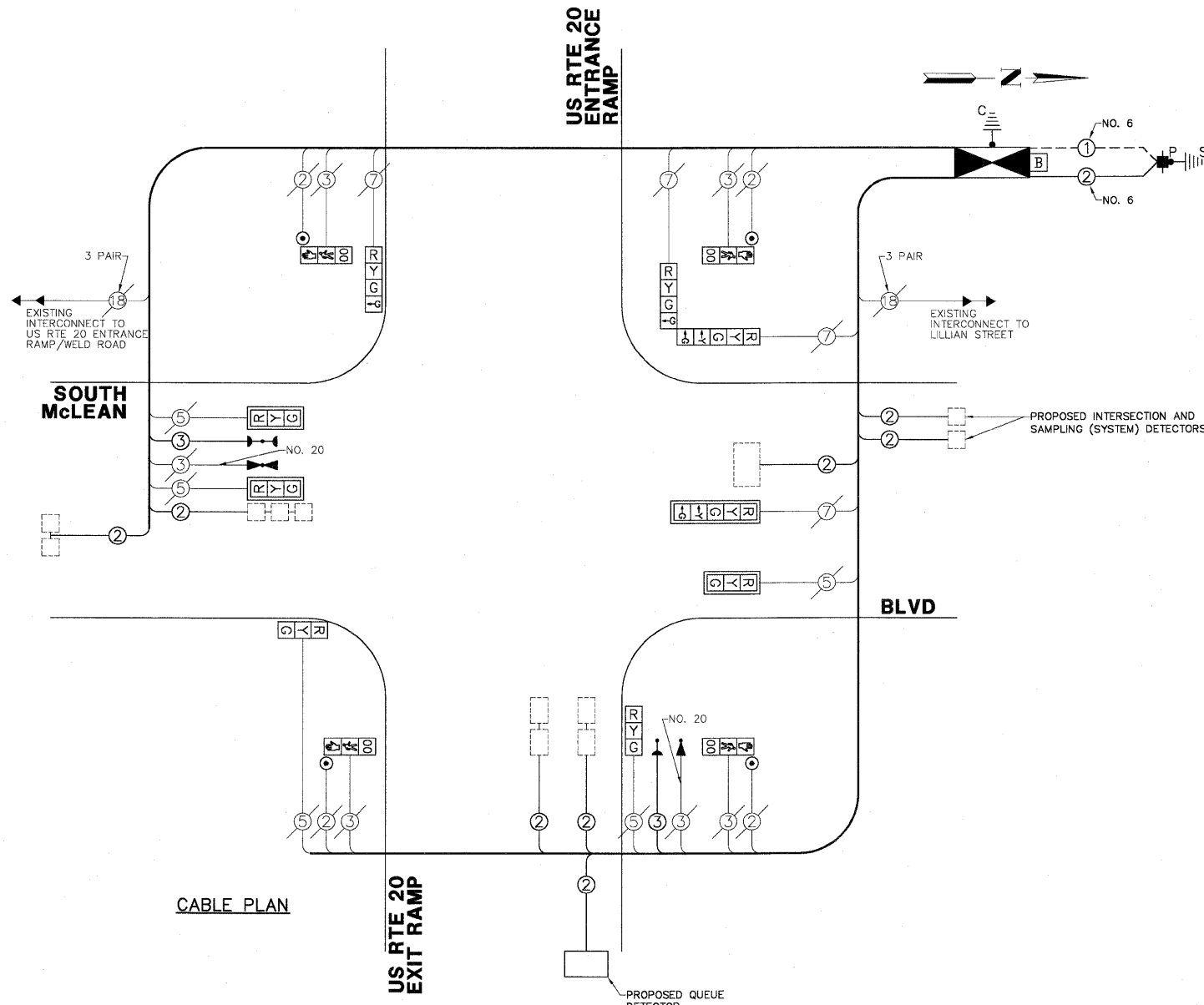


EXISTING PHASE DESIGNATION DIAGRAM

SCHEDULE OF QUANTITIES

US RTE 20 WESTBOUND RAMP AT McLEAN BLVD

| NO. | QUANT. | UNIT |
|-----|--------|--|
| 1. | 420 | FOOT CONDUIT IN TRENCH, 2" DIA, GALVANIZED STEEL |
| 2. | 1 | EACH HEAVY-DUTY HANDHOLE |
| 3. | 420 | FOOT TRENCH AND BACKFILL FOR ELECTRICAL WORK |
| 4. | 1 | EACH MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION |
| 5. | 1 | EACH FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL |
| 6. | 1 | EACH TRANSCEIVER - FIBER OPTIC |
| 7. | 357 | FOOT ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 3C |
| 8. | 783 | FOOT ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR |
| 9. | 204 | FOOT ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C |
| 10. | 1 | EACH DRILL EXISTING HANDHOLE |
| 11. | 3 | EACH SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED |
| 12. | 2 | EACH SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED |
| 13. | 1 | EACH SIGNAL HEAD, LED, 1-FACE, 4-SECTION, BRACKET MOUNTED |
| 14. | 1 | EACH SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED |
| 15. | 1 | EACH SIGNAL HEAD, LED, 2-FACE, 1-4 SECTION, 1-5 SECTION, BRACKET MOUNTED |
| 16. | 4 | EACH PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER |
| 17. | 4 | EACH TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINIUM |
| 18. | 8 | EACH INDUCTIVE LOOP DETECTOR |
| 19. | 35 | FOOT DETECTOR LOOP, TYPE I |
| 20. | 2 | EACH LIGHT DETECTOR |
| 21. | 1 | EACH LIGHT DETECTOR AMPLIFIER |
| 22. | 4 | EACH PEDESTRIAN PUSH-BUTTON |
| 23. | 191 | FOOT REMOVE ELECTRIC CABLE FROM CONDUIT |
| 24. | 1 | EACH REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT |
| 25. | 1 | EACH SERVICE INSTALLATION - POLE MOUNTED |
| 26. | 1 | EACH UNINTERRUPTIBLE POWER SUPPLY (UPS) |
| 27. | 191 | FOOT ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C |

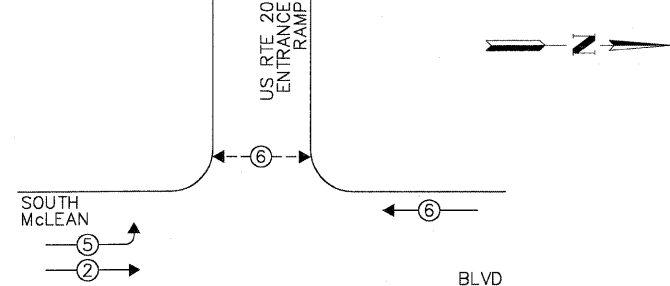


CABLE PLAN

CABLE PLAN LEGEND

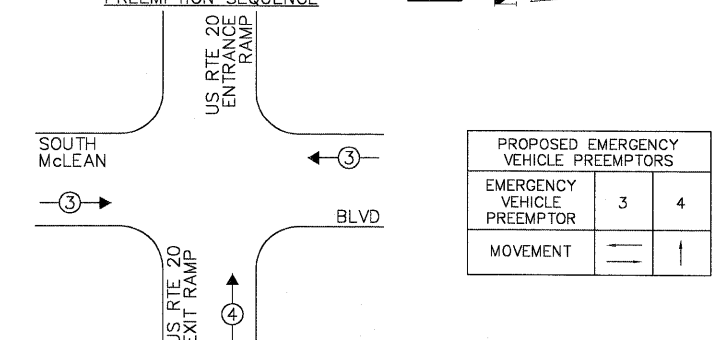
| EXISTING | PROPOSED | DESCRIPTION |
|----------|----------|---|
| | | 8" (200mm) TRAFFIC SIGNAL SECTION |
| | | 12" (300mm) TRAFFIC SIGNAL SECTION |
| | | 12" (300mm) PEDESTRIAN SIGNAL SECTION |
| | | CONTROLLER CABINET |
| | | SERVICE INSTALLATION |
| | | TELEPHONE |
| | | VEHICLE DETECTOR, INDUCTION LOOP |
| | | MAGNETIC DETECTOR |
| | | EMERGENCY VEHICLE LIGHT DETECTOR |
| | | CONFIRMATION BEACON |
| | | PUSHBUTTON DETECTOR |
| | | DENOTES NUMBER OF CONDUCTORS. ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOP DETECTOR CABLE TO BE SHIELDED. |
| | | GROUND CABLE IN CONDUIT NO.6 SOLID COPPER (GREEN) |
| | | FIBER OPTIC CABLE IN CONDUIT NO. 62.5/125 MM12F SM24F |
| | | SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD |
| | | RAILROAD CONTROL CABINET |
| | | ILLUMINATED SIGN "NO LEFT TURN" |
| | | ILLUMINATED SIGN "NO RIGHT TURN" |
| | | 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 (UPS) |
| | | 12" (300mm) PEDESTRIAN SIGNAL SECTION WITH COUNTDOWN TIMER |

PROPOSED CONTROLLER SEQUENCE



EXISTING PHASE DESIGNATION DIAGRAM

PROPOSED EMERGENCY VEHICLE PREEMPTION SEQUENCE



Restoration of Work Area. Restoration of the traffic signal work area shall be incidental to the related pay items 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 TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "EAGLE" TO MATCH THE EXISTING ADJACENT SYSTEM.

| I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS | | | | | TOTAL WATTAGE |
|--|----------|-----------------|--------|-------------|---------------|
| TYPE | NO LAMPS | WATTAGE INCAND. | L.E.D. | % OPERATION | |
| SIGNAL (RED) | 9 | 135 | 17 | 0.50 | 76.5 |
| SIGNAL (YELLOW) | 9 | 135 | 25 | 0.25 | 56.25 |
| SIGNAL (GREEN) | 11 | 135 | 15 | 0.25 | 41.25 |
| ARROW | 4 | 135 | 12 | 0.10 | 4.8 |
| PED. SIGNAL | 4 | 90 | 25 | 1.00 | 100.0 |
| CONTROLLER | 1 | - | 100 | 1.00 | 100.0 |
| LUMINAIRE | - | - | 250 | 0.50 | - |
| L.E.D. ST. NAME SIGN | - | - | 64 | 0.50 | - |
| VIDEO SYSTEM | - | - | 150 | 1.00 | - |
| BATTERY BACKUP | 1 | - | 25 | 1.00 | 25.0 |
| TOTAL = | | | | | 403.8 |

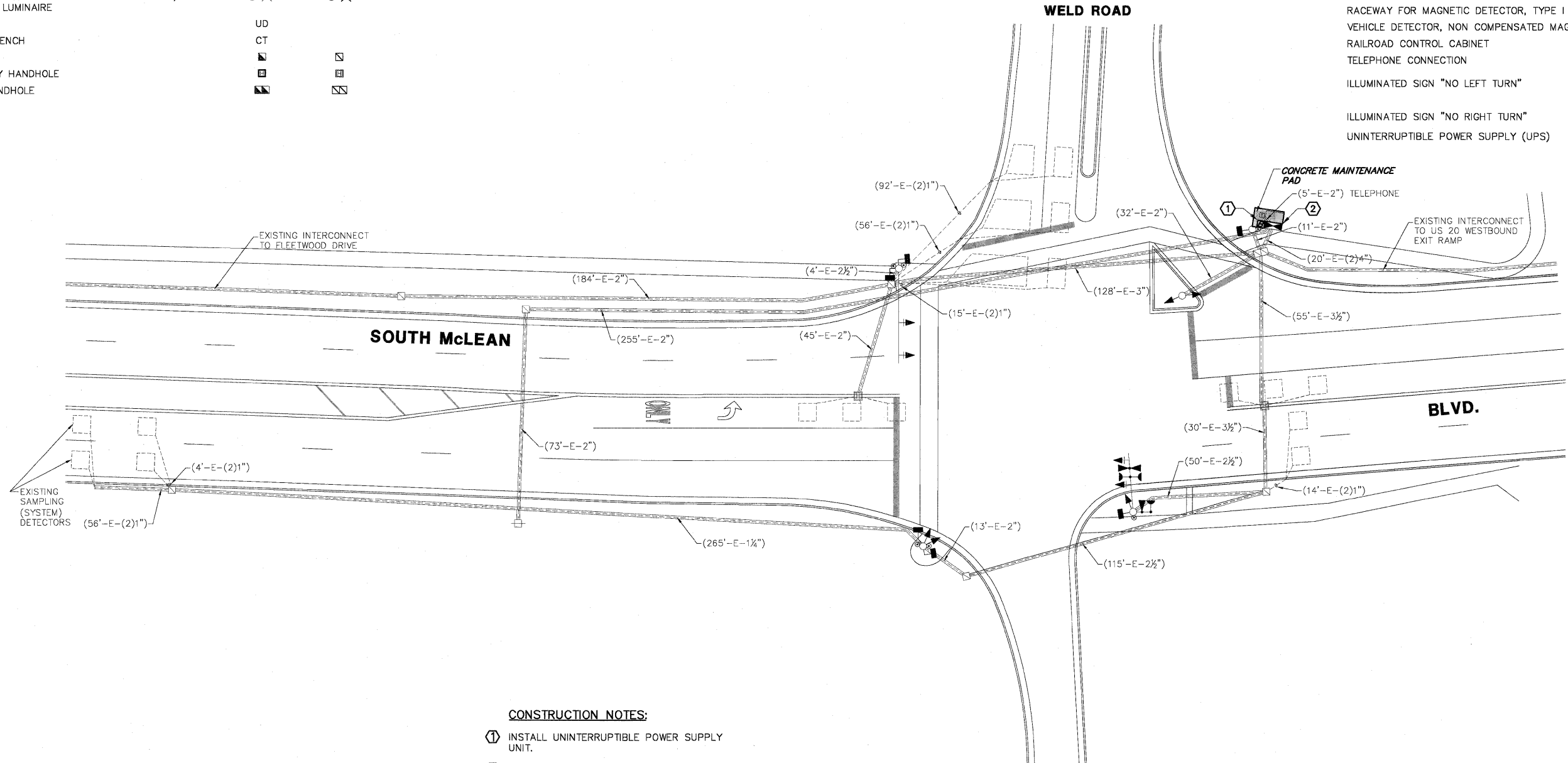
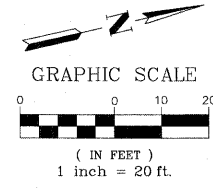
ENERGY COSTS - BILLED TO: CITY OF ELGIN
 (ADDRESS) 150 DEXTER COURT
 (ADDRESS) ELGIN, IL 60120
 ENERGY SUPPLY - CONTACT: KATHY NYSTROM
 PHONE: (847) 816-5489
 COMPANY: COM ED - ELGIN

TRAFFIC SIGNAL LEGEND

| | PROPOSED | EXISTING |
|--|----------|----------|
| CONTROLLER | | |
| SERVICE INSTALLATION | | |
| SIGNAL HEAD AND POST | | |
| SIGNAL HEAD AND BACKPLATE | | |
| SIGNAL HEAD, PEDESTRIAN | | |
| SIGNAL POST | | |
| MAST ARM ASSEMBLY AND POLE, STEEL | | |
| MAST ARM ASSEMBLY AND POLE, ALUMINUM | | |
| COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL WITH LUMINAIRE | | |
| UNIT DUCT | UD | |
| COMMON TRENCH | CT | |
| HANDHOLE | | |
| HEAVY DUTY HANDHOLE | | |
| DOUBLE HANDHOLE | | |

TRAFFIC SIGNAL LEGEND (CONT'D)

| | PROPOSED | EXISTING |
|--|----------|----------|
| G.S. CONDUIT IN TRENCH (T) OR PUSHED (P) | | |
| PEDESTRIAN PUSHBUTTON DETECTOR | | |
| DETECTOR LOOP | | |
| CAST IRON JUNCTION BOX | | |
| EMERGENCY VEHICLE SYSTEM DETECTOR | | |
| CONFIRMATION BEACON | | |
| 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 | | |
| TELEPHONE CONNECTION | | |
| ILLUMINATED SIGN "NO LEFT TURN" | | |
| ILLUMINATED SIGN "NO RIGHT TURN" | | |
| UNINTERRUPTIBLE POWER SUPPLY (UPS) | | |



CONSTRUCTION NOTES:

- ① INSTALL UNINTERRUPTIBLE POWER SUPPLY UNIT.
- ② THE CONTRACTOR SHALL COORDINATE WITH THE CITY OF ELGIN, MIKE HALL (847) 931-5960 AND THEIR CONSULTANT, HAMPTON, LENZINI, AND RENNICK, INC., BOB GREENE, (847) 697-6700 FOR THEIR FUTURE PROJECT TO UPGRADE THE ADJACENT CONTROLLERS AT LILLIAN STREET, FLEETWOOD DRIVE, AND SPARTAN DRIVE AND THE ASSOCIATED INTERCONNECT BETWEEN ALL FIVE INTERSECTIONS.

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 (COMPLETE)
- 2 EACH LIGHT DETECTOR
- 1 EACH LIGHT DETECTOR AMPLIFIER
- 2 EACH SIGNAL HEAD 1-FACE, 3-SECTION
- 1 EACH SIGNAL HEAD 1-FACE, 4-SECTION
- 2 EACH SIGNAL HEAD 1-FACE, 5-SECTION
- 1 EACH SIGNAL HEAD, 2-FACE, 1-3 SECTION, 1-5 SECTION
- 1 EACH SIGNAL HEAD, 2-FACE, 1-4 SECTION, 1-5 SECTION
- 4 EACH TRAFFIC SIGNAL BACKPLATE
- 2 EACH PEDESTRIAN SIGNAL HEAD, 1-FACE
- 2 EACH PEDESTRIAN SIGNAL HEAD, 2-FACE
- 4 EACH PEDESTRIAN PUSH-BUTTON
- 1 EACH MASTER CONTROLLER

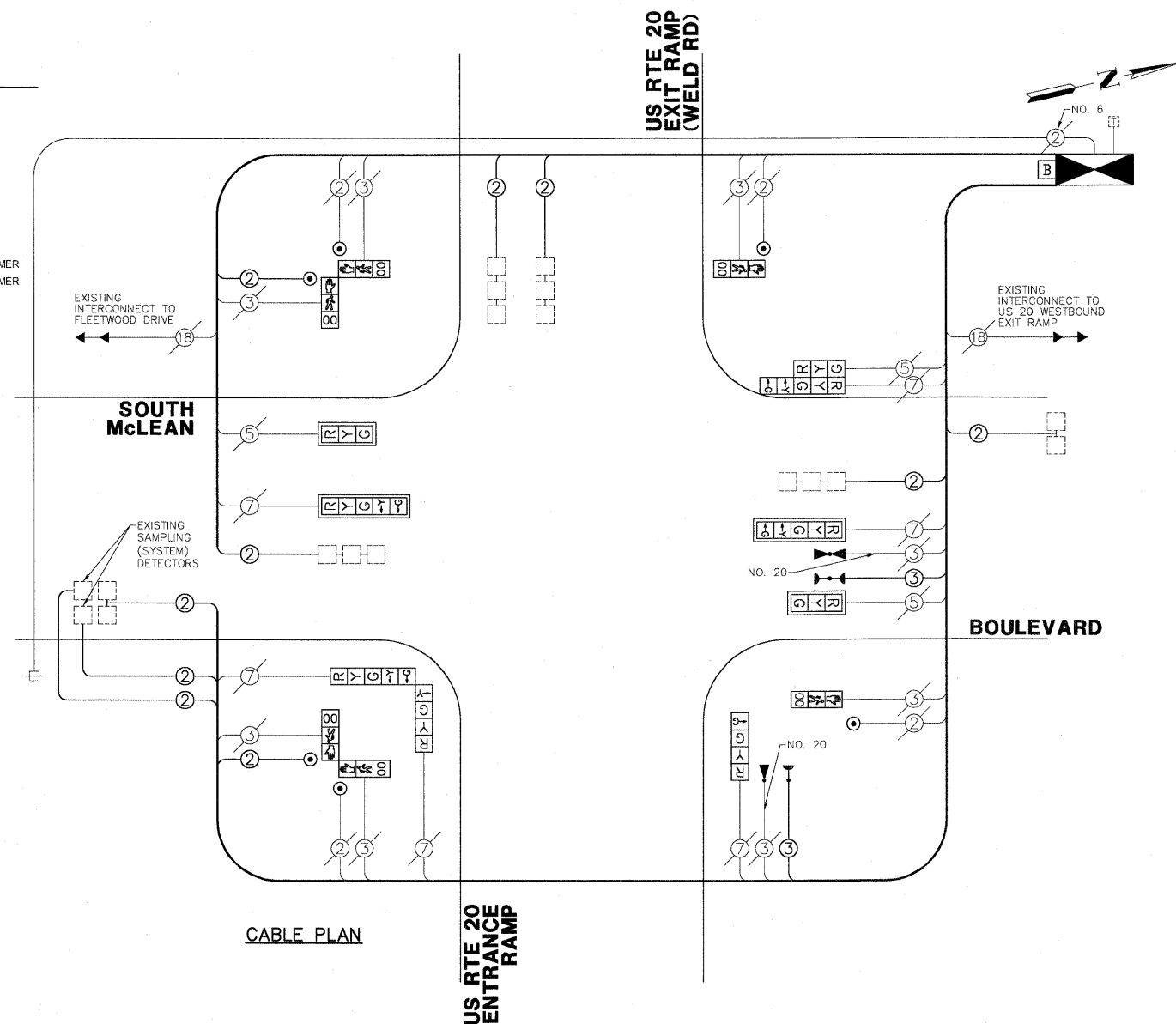
Restoration of Work Area. Restoration of the traffic signal work area shall be incidental to the related pay items such as foundation, conduit, handhole, trench and backfill, etc., and no extra compensation shall be allowed. All roadway surfaces such as shoulders, medians, sidewalks, pavement, etc. shall 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 TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "EAGLE" TO MATCH THE EXISTING ADJACENT SYSTEM.

| | | | | | | | | | | | | |
|------------------------------|--------------------------|-----------------|-----------|---|---|-----------|-----------|-----------------|---------------------|------------------|---------------------------|--------------|
| FILE NAME = 4085.852-TR1.dwg | USER NAME = GHA | DESIGNED - JRD | REVISED - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | TRAFFIC SIGNAL MODERNIZATION PLAN US 20 EASTBOUND ENTRANCE RAMP/WELD RD AT SOUTH McLEAN BLVD | | | FALL RTE VARIES | SECTION 2009-105-TS | COUNTY KANE | TOTAL SHEETS 36 | SHEET NO. 28 |
| | PLOT SCALE = 1" = .0833' | DRAWN - ZCW | REVISED - | | SCALE N.A. | SHEET NO. | OF SHEETS | STA. | TO STA. | CONTRACT # 60J01 | ILLINOIS FED. AID PROJECT | |
| | PLOT DATE = 12/9/2009 | CHECKED - KLB | REVISED - | | | | | | | | | |
| | | DATE - 11/20/09 | REVISED - | | | | | | | | | |

SCHEDULE OF QUANTITIES
US RTE 20 EASTBOUND EXIT RAMP/WELD RD AT SOUTH McLEAN BLVD

| NO. | QUANT. | UNIT |
|-----|--------|--|
| 1. | 1 | EACH MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION |
| 2. | 1 | EACH MASTER CONTROLLER, SPECIAL |
| 3. | 1 | EACH TRANSCIVER - FIBER OPTIC |
| 4. | 461 | FOOT ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 2C |
| 5. | 431 | FOOT ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 3C |
| 6. | 2 | EACH SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED |
| 7. | 1 | EACH SIGNAL HEAD, LED, 1-FACE, 4-SECTION, BRACKET MOUNTED |
| 8. | 2 | EACH SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED |
| 9. | 1 | EACH SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED |
| 10. | 1 | EACH SIGNAL HEAD, LED, 2-FACE, 1-4 SECTION, 1-5 SECTION, BRACKET MOUNTED |
| 11. | 2 | EACH PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER |
| 12. | 2 | EACH PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER |
| 13. | 4 | EACH TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINIUM |
| 14. | 8 | EACH INDUCTIVE LOOP DETECTOR |
| 15. | 2 | EACH LIGHT DETECTOR |
| 16. | 1 | EACH LIGHT DETECTOR AMPLIFIER |
| 17. | 6 | EACH PEDESTRIAN PUSH-BUTTON |
| 18. | 1 | EACH REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT |
| 19. | 1 | EACH UNINTERRUPTIBLE POWER SUPPLY (UPS) |



CABLE PLAN LEGEND

| EXISTING | PROPOSED | DESCRIPTION |
|----------|----------|---|
| | | 8" (200mm) TRAFFIC SIGNAL SECTION |
| | | 12" (300mm) TRAFFIC SIGNAL SECTION |
| | | 12" (300mm) PEDESTRIAN SIGNAL SECTION |
| | | CONTROLLER CABINET |
| | | SERVICE INSTALLATION |
| | | TELEPHONE |
| | | VEHICLE DETECTOR, INDUCTION LOOP |
| | | MAGNETIC DETECTOR |
| | | EMERGENCY VEHICLE LIGHT DETECTOR |
| | | CONFIRMATION BEACON |
| | | PUSHBUTTON DETECTOR |
| | | DENOTES NUMBER OF CONDUCTORS. ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOP DETECTOR CABLE TO BE SHIELDED. |
| | | GROUND CABLE IN CONDUIT NO.6 SOLID COPPER (GREEN) |
| | | FIBER OPTIC CABLE IN CONDUIT NO. 62.5/125 MM12F SM24F |
| | | SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD |
| | | RAILROAD CONTROL CABINET |
| | | ILLUMINATED SIGN "NO LEFT TURN" |
| | | ILLUMINATED SIGN "NO RIGHT TURN" |
| | | 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 (UPS) |
| | | 12" (300mm) PEDESTRIAN SIGNAL SECTION WITH COUNTDOWN TIMER |

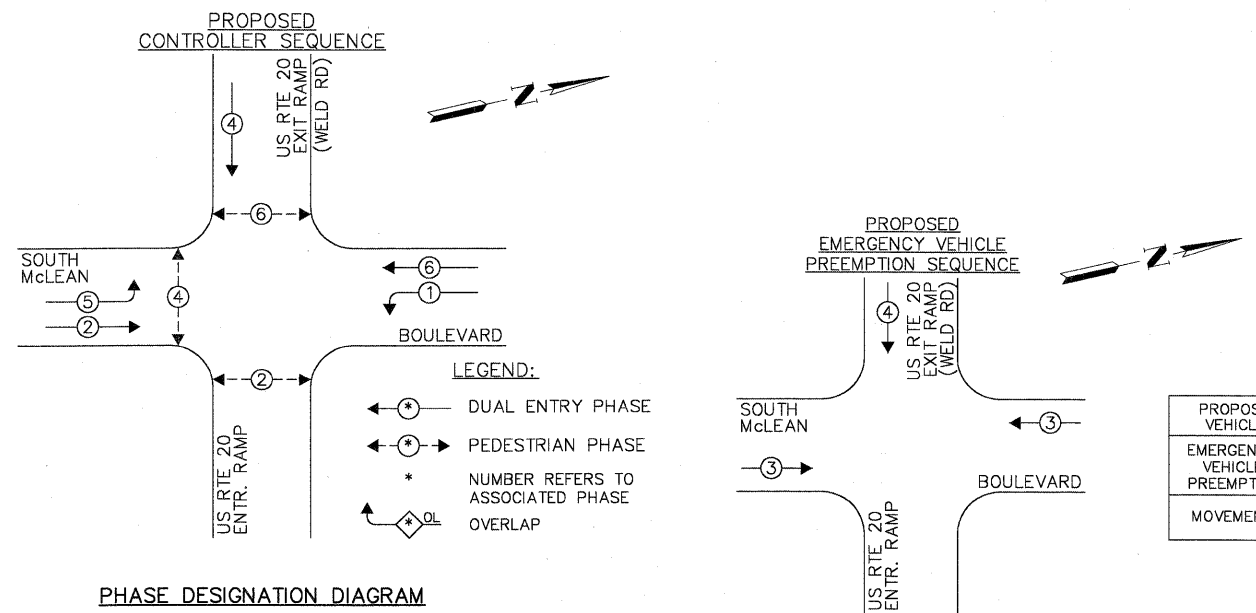
I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS

| TYPE | NO LAMPS | WATTAGE | | % OPERATION | TOTAL WATTAGE |
|----------------------|----------|---------|--------|-------------|---------------|
| | | INCAND. | L.E.D. | | |
| SIGNAL (RED) | 9 | 135 | 17 | 0.50 | 76.5 |
| SIGNAL (YELLOW) | 9 | 135 | 25 | 0.25 | 56.3 |
| SIGNAL (GREEN) | 11 | 135 | 15 | 0.25 | 41.25 |
| ARROW | 8 | 135 | 12 | 0.10 | 9.6 |
| PED. SIGNAL | 6 | 90 | 25 | 1.00 | 150.0 |
| CONTROLLER | 1 | 100 | 1.00 | 100.0 | |
| LUMINAIRE | - | 250 | 0.50 | - | - |
| L.E.D. ST. NAME SIGN | - | 64 | 0.50 | - | - |
| VIDEO SYSTEM | - | 150 | 1.00 | - | - |
| BATTERY BACKUP | 1 | 25 | 1.00 | 25.0 | |
| TOTAL = | | | | | 458.65 |

ENERGY COSTS - BILLED TO: CITY OF ELGIN
(ADDRESS) 150 DEXTER COURT
(ADDRESS) ELGIN, IL 60120
ENERGY SUPPLY - CONTACT: KATHY NYSTROM
PHONE: (847) 816-5489
COMPANY: COM ED - ELGIN

Restoration of Work Area. Restoration of the traffic signal work area shall be incidental to the related pay items 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 TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE "EAGLE" TO MATCH THE EXISTING ADJACENT SYSTEM.

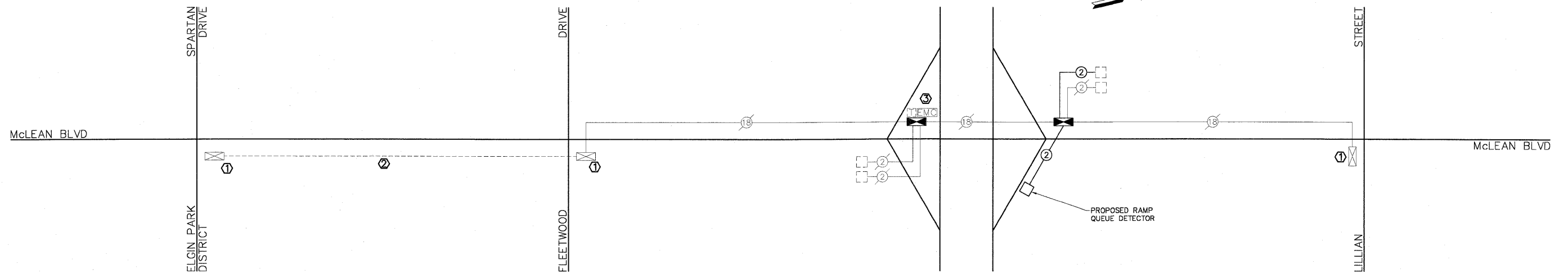


PROPOSED EMERGENCY VEHICLE PREEMPTORS

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

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. 18 3 PAIR TWISTED, SHIELDED | |
| MASTER MASTER CONTROLLER | | PROPOSED INTERCONNECT CABLE - NO. 18 3 PAIR TWISTED, SHIELDED | |
| EXISTING INTERSECTION & SAMPLING (SYSTEM) DETECTORS | | EXISTING LOOP DETECTOR CABLE 2/C TWISTED, SHIELDED | |
| PROPOSED INTERSECTION & SAMPLING (SYSTEM) DETECTORS | | PROPOSED LOOP DETECTOR CABLE 2/C TWISTED, SHIELDED | |
| EXISTING INTERSECTION LOOP DETECTORS PROPOSED SAMPLING (SYSTEM) DETECTORS | | EXISTING ELECTRIC CABLE, 1/C (AS SPECIFIED) | |
| EXISTING SAMPLING (SYSTEM) DETECTORS | | PROPOSED ELECTRIC CABLE, 1/C (AS SPECIFIED) | |
| PROPOSED SAMPLING (SYSTEM) DETECTORS | | EXISTING INTERCONNECT CABLE - NO. 62.5/125, 36F FIBER OPTIC CABLE | |
| EXISTING SAMPLING (SYSTEM) DETECTORS. PROPOSED INTERSECTION AND SAMPLING (SYSTEM) DETECTORS | | PROPOSED FIBER OPTIC CABLE IN CONDUIT - 24 SINGLEMODE | |
| EXISTING SAMPLING (SYSTEM) DETECTORS PROPOSED SAMPLING (SYSTEM) DETECTORS | | EXISTING TELEPHONE CONNECTION | |
| EXISTING PREFORMED INTERSECTION & SAMPLING (SYSTEM) DETECTORS | | PROPOSED TELEPHONE CONNECTION | |
| PROPOSED PREFORMED INTERSECTION & SAMPLING (SYSTEM) DETECTORS | | EXISTING ISDN TELEPHONE CONNECTION | |
| EXISTING SAMPLING (SYSTEM) PREFORMED DETECTORS | | PROPOSED ISDN TELEPHONE CONNECTION | |
| PROPOSED SAMPLING (SYSTEM) PREFORMED DETECTORS | | | |



CONSTRUCTION NOTES:

- ① NEW CONTROLLER AND ASSOCIATED CABINET ITEMS TO BE INSTALLED BY THE CITY OF ELGIN PROJECT.
- ② BREAK IN EXISTING COPPER INTERCONNECT - TO BE REPAIRED BY CITY OF ELGIN PROJECT.
- ③ THE CITY OF ELGIN WILL OPTIMIZE THE EXISTING INTERCONNECT SYSTEM AFTER ALL REPAIRS AND ADDITIONS ARE COMPLETED.

FOR INFORMATION ONLY

| | | | | | | | | | | | |
|------------------------------|--------------------------|-----------------|-----------|---|--|---------------------------|---------------------|--------------|------------------|--------------|--|
| FILE NAME = 4085.652-TR1.dwg | USER NAME = GHA | DESIGNED - JRD | REVISED - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | INTERCONNECT SCHEMATIC ILL ROUTE 58 (SUMMIT STREET) BETWEEN ILL ROUTE 25 (LIBERTY STREET) AND WAVERLY DRIVE | FAU. RTE. VARIES | SECTION 2009-105-TS | COUNTY KANE | TOTAL SHEETS 36 | SHEET NO. 30 | |
| | PLOT SCALE = 1" = .0833' | DRAWN - ZCW | REVISED - | | | SCALE N.A. | SHEET NO. OF SHEETS | STA. TO STA. | CONTRACT # 60J01 | | |
| | PLOT DATE = 12/9/2009 | CHECKED - KLB | REVISED - | | | ILLINOIS FED. AID PROJECT | | | | | |
| | | DATE - 11/20/09 | REVISED - | | | | | | | | |

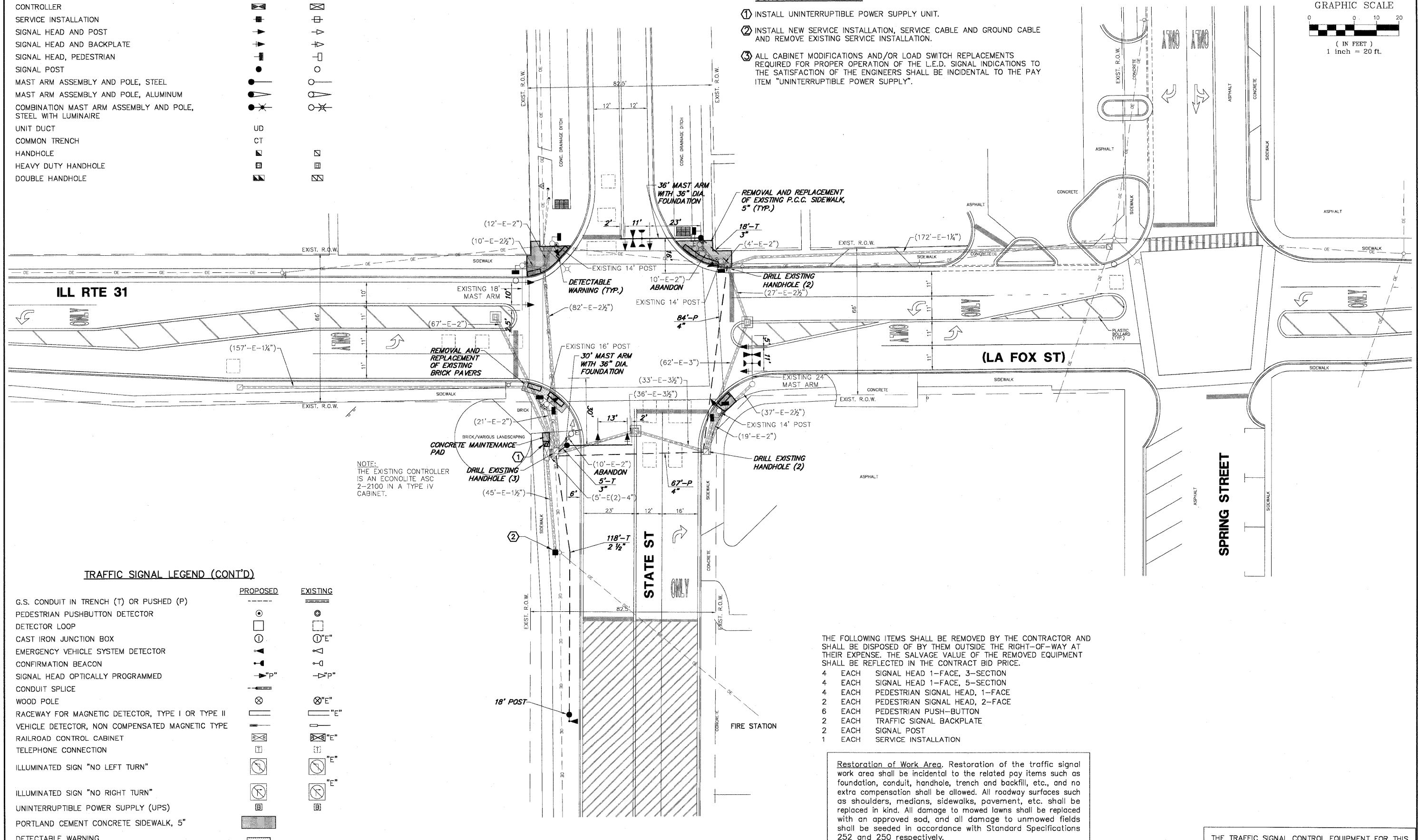
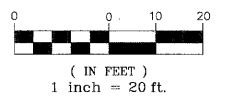
TRAFFIC SIGNAL LEGEND

| | PROPOSED | EXISTING |
|--|----------|----------|
| CONTROLLER | | |
| SERVICE INSTALLATION | | |
| SIGNAL HEAD AND POST | | |
| SIGNAL HEAD AND BACKPLATE | | |
| SIGNAL HEAD, PEDESTRIAN | | |
| SIGNAL POST | | |
| MAST ARM ASSEMBLY AND POLE, STEEL | | |
| MAST ARM ASSEMBLY AND POLE, ALUMINUM | | |
| COMBINATION MAST ARM ASSEMBLY AND POLE, STEEL WITH LUMINAIRE | | |
| UNIT DUCT | | |
| COMMON TRENCH | | |
| HANDHOLE | | |
| HEAVY DUTY HANDHOLE | | |
| DOUBLE HANDHOLE | | |

CONSTRUCTION NOTES:

- INSTALL UNINTERRUPTIBLE POWER SUPPLY UNIT.
- INSTALL NEW SERVICE INSTALLATION, SERVICE CABLE AND GROUND CABLE AND REMOVE EXISTING SERVICE INSTALLATION.
- ALL CABINET MODIFICATIONS AND/OR LOAD SWITCH REPLACEMENTS REQUIRED FOR PROPER OPERATION OF THE L.E.D. SIGNAL INDICATIONS TO THE SATISFACTION OF THE ENGINEERS SHALL BE INCIDENTAL TO THE PAY ITEM "UNINTERRUPTIBLE POWER SUPPLY".

GRAPHIC SCALE



FILE NAME = 4085.852-TR1.dwg

USER NAME = GHA
 PLOT SCALE = 1" = .0833'
 PLOT DATE = 12/9/2009

DESIGNED - JRD
 DRAWN - ZCW
 CHECKED - KLB
 DATE - 11/20/09

REVISED -
 REVISED -
 REVISED -
 REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**TRAFFIC SIGNAL MODIFICATION PLAN
 ILL ROUTE 31 (LA FOX ST) AT STATE STREET**

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

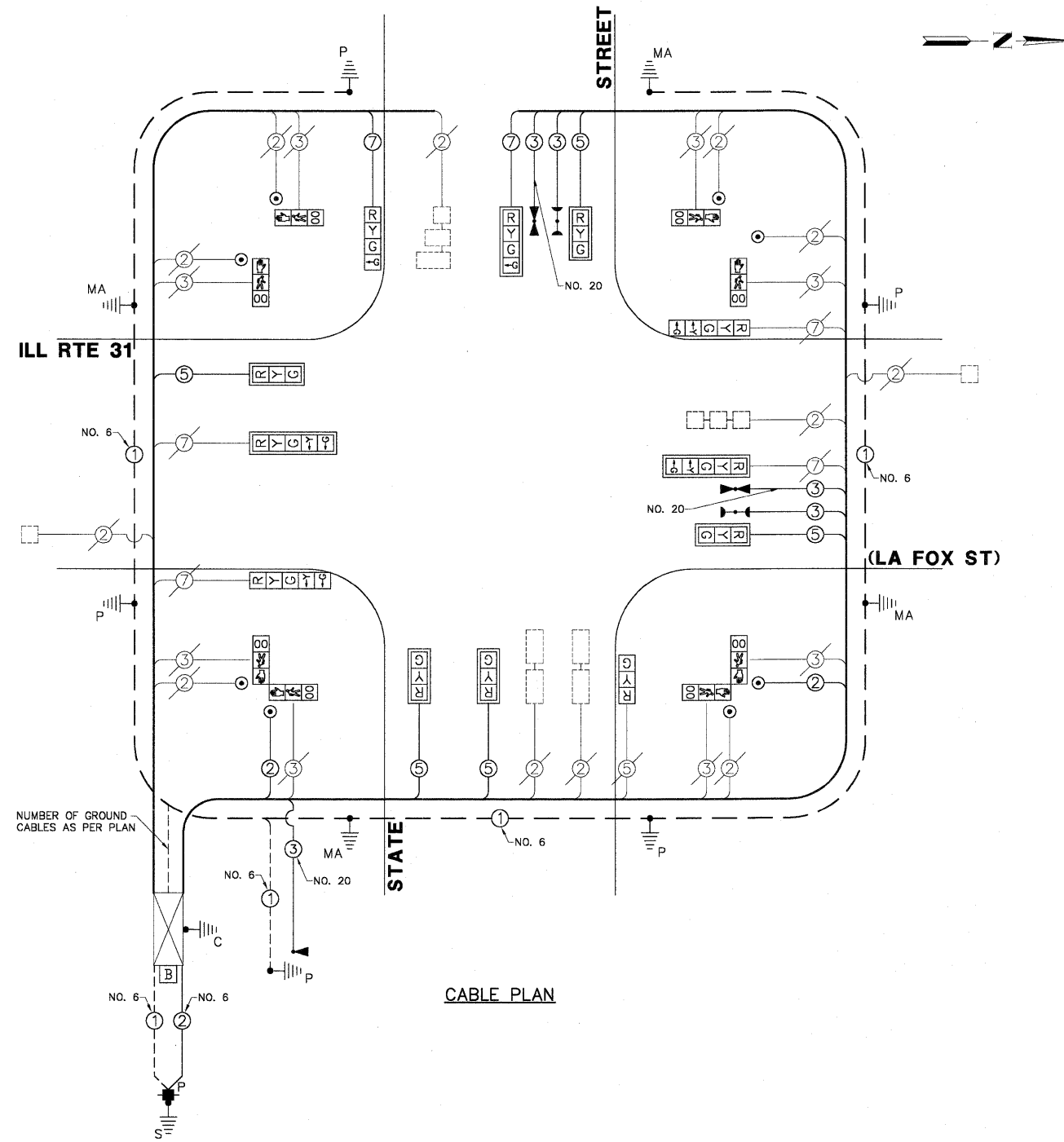
| FAU. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|-------------|--------|--------------|-----------|
| VARIABLES | 2009-105-TS | KANE | 36 | 31 |
| CONTRACT #: | | | 60J01 | |
| ILLINOIS FED. AID PROJECT | | | | |

SCHEDULE OF QUANTITIES
ILL RTE 31 (LAFOX ST) AT STATE ST.

| NO. | QUANT. | UNIT |
|-----|--------|--|
| 1. | 460 | SQ FT PORTLAND CEMENT CONCRETE SIDEWALK, 5 INCH |
| 2. | 100 | SQ FT DETECTABLE WARNINGS |
| 3. | 460 | SQ FT SIDEWALK REMOVAL |
| 4. | 250 | SQ FT SIGN PANEL - TYPE 2 |
| 5. | 118 | FOOT CONDUIT IN TRENCH, 2-1/2" DIA, GALVANIZED STEEL |
| 6. | 23 | FOOT CONDUIT IN TRENCH, 3" DIA, GALVANIZED STEEL |
| 7. | 151 | FOOT CONDUIT PUSHED, 4" DIA, GALVANIZED STEEL |
| 8. | 141 | FOOT TRENCH AND BACKFILL FOR ELECTRICAL WORK |
| 9. | 1 | EACH MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION |
| 10. | 123 | FOOT ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 2C |
| 11. | 436 | FOOT ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 3C |
| 12. | 364 | FOOT ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 5C |
| 13. | 264 | FOOT ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 14 7C |
| 14. | 63 | FOOT ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2C |
| 15. | 1 | EACH TRAFFIC SIGNAL POST, GALVANIZED STEEL, 18 FT |
| 16. | 1 | EACH STEEL MAST ARM ASSEMBLY AND POLE, 30 FT |
| 17. | 1 | EACH STEEL MAST ARM ASSEMBLY AND POLE, 36 FT |
| 18. | 4 | FOOT CONCRETE FOUNDATION, TYPE A |
| 19. | 22 | FOOT CONCRETE FOUNDATION, TYPE E, 36 INCH DIAMETER |
| 20. | 7 | EACH DRILL EXISTING HANDHOLE |
| 21. | 5 | EACH SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED |
| 22. | 1 | EACH SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED |
| 23. | 1 | EACH SIGNAL HEAD, LED, 1-FACE, 4-SECTION, BRACKET MOUNTED |
| 24. | 1 | EACH SIGNAL HEAD, LED, 1-FACE, 4-SECTION, MAST ARM MOUNTED |
| 25. | 2 | EACH SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED |
| 26. | 2 | EACH SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST ARM MOUNTED |
| 27. | 4 | EACH PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER |
| 28. | 2 | EACH PEDESTRIAN SIGNAL HEAD, LED, 2-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER |
| 29. | 8 | EACH TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINIUM |
| 30. | 3 | EACH LIGHT DETECTOR |
| 31. | 1 | EACH LIGHT DETECTOR AMPLIFIER |
| 32. | 8 | EACH PEDESTRIAN PUSH-BUTTON |
| 33. | 1 | EACH MODIFY EXISTING CONTROLLER |
| 34. | 203 | FOOT REMOVE ELECTRIC CABLE FROM CONDUIT |
| 35. | 1 | EACH REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT |
| 36. | 1 | EACH SERVICE INSTALLATION - POLE MOUNTED |
| 37. | 6 | EACH GROUNDING EXISTING HANDHOLE FRAME AND COVER |
| 38. | 1 | EACH UNINTERRUPTIBLE POWER SUPPLY (UPS) |
| 39. | 607 | FOOT ELECTRIC CABLE IN CONDUIT, GROUNDING, NO. 6 1C |
| 40. | 593 | FOOT ELECTRIC CABLE IN CONDUIT, NO. 20 3C, TWISTED, SHIELDED |
| 41. | 125 | SQ FT BRICK PAVEMENT REMOVAL AND REPLACEMENT |

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 |
| | | VEHICLE DETECTOR, INDUCTION LOOP |
| | | MAGNETIC DETECTOR |
| | | EMERGENCY VEHICLE LIGHT DETECTOR |
| | | CONFIRMATION BEACON |
| | | PUSHBUTTON DETECTOR |
| | | DENOTES NUMBER OF CONDUCTORS. ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOP DETECTOR CABLE TO BE SHIELDED. |
| | | GROUND CABLE IN CONDUIT NO.6 SOLID COPPER (GREEN) |
| | | FIBER OPTIC CABLE IN CONDUIT NO. 62.5/125 MM12F SM24F |
| | | SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD |
| | | RAILROAD CONTROL CABINET |
| | | ILLUMINATED SIGN "NO LEFT TURN" |
| | | ILLUMINATED SIGN "NO RIGHT TURN" |
| | | 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 (UPS) |
| | | 12" (300mm) PEDESTRIAN SIGNAL SECTION WITH COUNTDOWN TIMER |



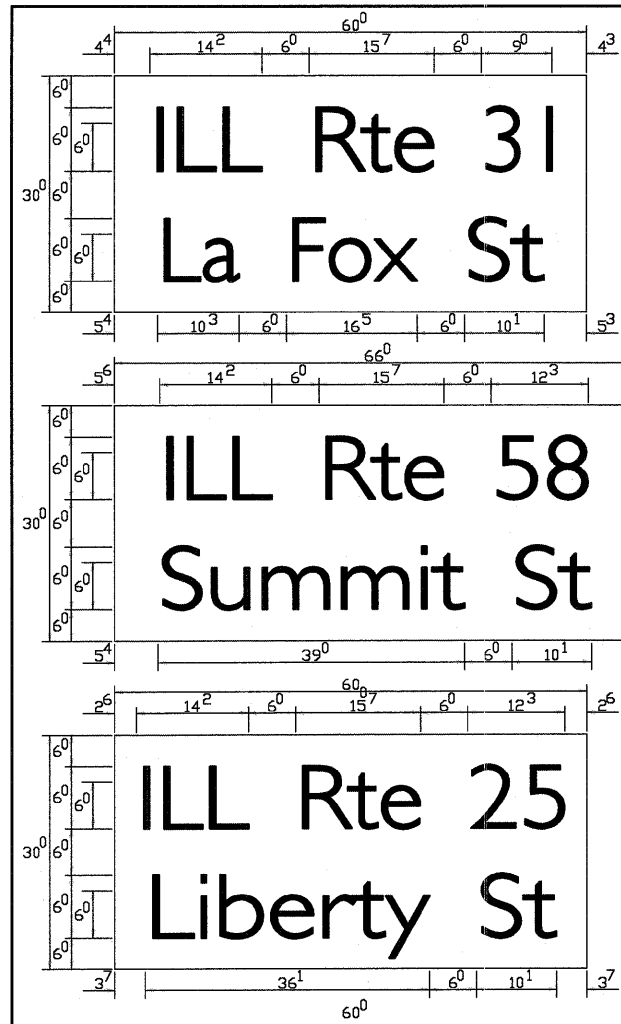
CABLE PLAN

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

Restoration of Work Area. Restoration of the traffic signal work area shall be incidental to the related pay items 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.

| I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS | | | | | TOTAL WATTAGE |
|--|----------|---------|--------|-------------|------------------|
| TYPE | NO LAMPS | WATTAGE | | % OPERATION | |
| | | INCAND. | L.E.D. | | |
| SIGNAL (RED) | 12 | 135 | 17 | 0.50 | 102.0 |
| SIGNAL (YELLOW) | 12 | 135 | 25 | 0.25 | 75.0 |
| SIGNAL (GREEN) | 12 | 135 | 15 | 0.25 | 45.0 |
| ARROW | 10 | 135 | 12 | 0.10 | 12.0 |
| PED.SIGNAL | 8 | 90 | 25 | 1.00 | 200.0 |
| CONTROLLER | 1 | - | 100 | 1.00 | - |
| LUMINAIRE | - | - | 250 | 0.50 | - |
| L.E.D. ST. NAME SIGN | - | - | 64 | 0.50 | - |
| VIDEO SYSTEM | - | - | 150 | 1.00 | - |
| BATTERY BACKUP | 1 | - | 25 | 1.00 | 25.0 |
| TOTAL = | | | | | 459.0 |

ENERGY COSTS - BILLED TO: VILLAGE OF SOUTH ELGIN
(ADDRESS) 10 N. WATER STREET
(ADDRESS) SOUTH ELGIN, IL 60177
ENERGY SUPPLY - CONTACT: KATHY NYSTROM
PHONE: (847) 816-5489
COMPANY: COM ED - ELGIN

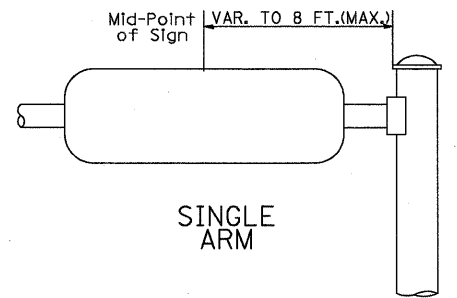
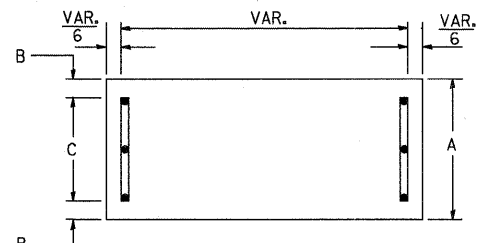


— Sq. M. each
12.5 Sq. Ft. each
2 Required
Design Series D

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

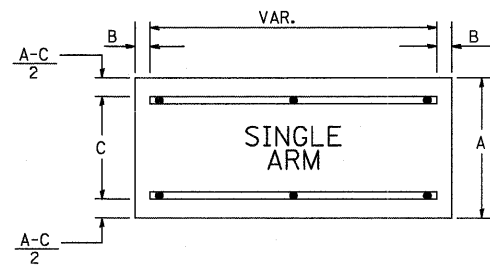
— Sq. M. each
12.5 Sq. Ft. each
2 Required
Design Series D

SUPPORTING CHANNELS

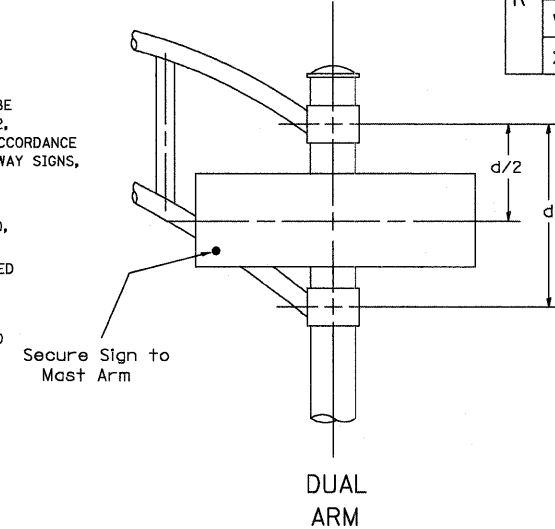


SINGLE ARM

SUPPORTING CHANNELS



| A | B | C |
|-----|----|-----|
| 18" | 2" | 12" |
| 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, 2³ DENOTES $\frac{3}{8}$

| SERIES | SECOND LETTER | | | | | | | | | | | | | | | | | | | |
|---------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---|
| | a c d e | | g o q | | b h i k l | | m n p r u | | 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 | C | D | C | D |
| A W X | 1 ² | 1 ⁴ | 1 ⁴ | 1 ⁵ | 1 ² | 1 ⁴ | 0 ⁶ | 1 ⁰ | 1 ¹ | 1 ⁴ | 0 ⁶ | 1 ⁰ | 1 ¹ | 1 ² | 1 ⁴ | 1 ² | 1 ⁴ | 1 ² | 1 ⁴ | |
| B | 1 ⁴ | 1 ⁵ | 2 ⁰ | 2 ¹ | 1 ⁴ | 1 ⁵ | 1 ¹ | 1 ² | 1 ⁴ | 1 ⁵ | 1 ² | 1 ⁴ | 1 ² | 1 ⁴ | 1 ² | 1 ⁴ | 1 ⁶ | 1 ⁷ | | |
| C E G | 1 ⁴ | 1 ⁵ | 2 ⁰ | 2 ¹ | 1 ² | 1 ⁴ | 0 ⁶ | 1 ⁰ | 1 ² | 1 ⁴ | 1 ² | 1 ⁴ | 1 ⁴ | 1 ⁵ | 1 ⁴ | 1 ⁵ | | | | |
| D O Q R | 1 ⁴ | 1 ⁵ | 2 ⁰ | 2 ¹ | 1 ⁴ | 1 ⁵ | 0 ⁶ | 1 ⁰ | 1 ² | 1 ⁴ | 1 ² | 1 ⁴ | 1 ⁴ | 1 ⁵ | 1 ⁴ | 1 ⁵ | | | | |
| F | 0 ⁵ | 0 ⁶ | 1 ⁴ | 1 ⁵ | 0 ⁶ | 1 ⁰ | 0 ⁵ | 0 ⁶ | 0 ⁶ | 1 ⁰ | 0 ⁶ | 1 ⁰ | 0 ⁶ | 1 ⁰ | 0 ⁶ | 1 ⁰ | 1 ¹ | 1 ² | | |
| H I M N | 2 ⁰ | 2 ¹ | 2 ² | 2 ⁴ | 2 ⁰ | 2 ¹ | 1 ⁴ | 1 ⁵ | 1 ⁶ | 1 ⁷ | 1 ⁶ | 1 ⁷ | 2 ⁰ | 2 ¹ | 2 ⁰ | 2 ¹ | | | | |
| J U | 2 ⁰ | 2 ¹ | 2 ⁰ | 2 ¹ | 1 ⁶ | 1 ⁷ | 1 ⁴ | 1 ⁵ | 1 ⁶ | 1 ⁷ | 1 ⁶ | 1 ⁷ | 1 ⁶ | 1 ⁷ | 2 ⁰ | 2 ¹ | | | | |
| K L | 1 ¹ | 1 ² | 1 ⁶ | 1 ⁷ | 1 ¹ | 1 ² | 0 ⁵ | 0 ⁶ | 1 ¹ | 1 ² | 1 ¹ | 1 ² | 1 ¹ | 1 ² | 1 ² | 1 ⁴ | | | | |
| P | 1 ² | 1 ⁴ | 1 ⁴ | 1 ⁵ | 1 ² | 1 ⁴ | 0 ⁵ | 0 ⁶ | 1 ¹ | 1 ² | 1 ¹ | 1 ² | 1 ² | 1 ⁴ | 1 ² | 1 ⁴ | | | | |
| S | 1 ² | 1 ⁴ | 1 ⁶ | 1 ⁷ | 1 ² | 1 ⁴ | 0 ⁶ | 1 ⁰ | 1 ² | 1 ⁴ | 1 ² | 1 ⁴ | 1 ² | 1 ⁴ | 1 ² | 1 ⁴ | | | | |
| T | 1 ¹ | 1 ² | 1 ⁶ | 1 ⁷ | 0 ⁶ | 1 ⁰ | 0 ⁶ | 1 ⁰ | 1 ¹ | 1 ² | 1 ¹ | 1 ² | 1 ¹ | 1 ² | 1 ² | 1 ⁴ | | | | |
| V | 0 ⁶ | 1 ⁰ | 1 ⁴ | 1 ⁵ | 1 ¹ | 1 ² | 0 ⁶ | 1 ⁰ | 1 ² | 1 ⁴ | 1 ² | 1 ⁴ | 1 ² | 1 ⁴ | 1 ² | 1 ⁴ | | | | |
| Y | 0 ⁵ | 0 ⁶ | 1 ⁴ | 1 ⁵ | 0 ⁶ | 1 ⁰ | 0 ⁵ | 0 ⁶ | 0 ⁵ | 0 ⁷ | 0 ⁵ | 0 ⁶ | 0 ⁶ | 1 ⁰ | 1 ¹ | 1 ² | | | | |
| Z | 1 ⁶ | 1 ⁷ | 2 ² | 2 ⁴ | 1 ⁶ | 1 ⁷ | 1 ² | 1 ⁴ | 1 ⁶ | 1 ⁷ | 1 ⁶ | 1 ⁷ | 1 ⁶ | 1 ⁷ | 2 ⁰ | 2 ¹ | | | | |

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

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

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 ⁶ | 1 ⁷ | 1 ⁶ | 1 ⁷ | 1 ⁴ | 1 ⁵ | 1 ² | 1 ⁴ | 1 ⁴ | 1 ⁵ | 1 ⁴ | 1 ⁵ | 1 ⁶ | 1 ⁷ | 1 ² | 1 ⁴ | 1 ⁶ | 1 ⁷ | 1 ⁶ | 1 ⁷ |
| 1 | 2 ⁰ | 2 ¹ | 2 ⁰ | 2 ¹ | 2 ⁰ | 2 ¹ | 1 ⁶ | 1 ⁷ | 1 ⁴ | 1 ⁵ | 2 ⁰ | 2 ¹ | 2 ⁰ | 2 ¹ | 1 ⁴ | 1 ⁵ | 2 ⁰ | 2 ¹ | 2 ⁰ | 2 ¹ |
| 2 3 4 | 1 ⁴ | 1 ⁵ | 1 ⁴ | 1 ⁵ | 1 ⁴ | 1 ⁵ | 1 ² | 1 ⁴ | 1 ² | 1 ⁴ | 1 ⁴ | 1 ⁵ | 1 ⁴ | 1 ⁵ | 1 ¹ | 1 ² | 1 ⁶ | 1 ⁷ | 1 ⁴ | 1 ⁵ |
| 5 | 1 ⁴ | 1 ⁵ | 1 ⁴ | 1 ⁵ | 1 ⁴ | 1 ⁵ | 1 ¹ | 1 ² | 1 ¹ | 1 ² | 1 ⁴ | 1 ⁵ | 1 ⁴ | 1 ⁵ | 1 ¹ | 1 ² | 1 ⁴ | 1 ⁵ | 1 ⁴ | 1 ⁵ |
| 6 | 1 ⁶ | 1 ⁷ | 1 ⁴ | 1 ⁵ | 1 ⁴ | 1 ⁵ | 1 ² | 1 ⁵ | 1 ² | 1 ⁴ | 1 ⁴ | 1 ⁵ | 1 ⁴ | 1 ⁵ | 1 ¹ | 1 ² | 1 ⁴ | 1 ⁵ | 1 ⁴ | 1 ⁵ |
| 7 | 1 ² | 1 ⁴ | 1 ² | 1 ⁴ | 1 ⁴ | 1 ⁵ | 1 ² | 1 ⁵ | 0 ⁵ | 0 ⁶ | 1 ² | 1 ⁴ | 1 ⁴ | 1 ⁵ | 1 ¹ | 1 ² | 1 ⁴ | 1 ⁵ | 1 ² | 1 ⁴ |
| 8 | 1 ⁶ | 1 ⁷ | 1 ⁶ | 1 ⁷ | 1 ⁴ | 1 ⁵ | 1 ² | 1 ⁵ | 1 ² | 1 ⁴ | 1 ⁴ | 1 ⁵ | 1 ⁶ | 1 ⁷ | 1 ² | 1 ⁴ | 1 ⁶ | 1 ⁷ | 1 ⁴ | 1 ⁵ |

UPPER AND LOWER CASE LETTER WIDTHS

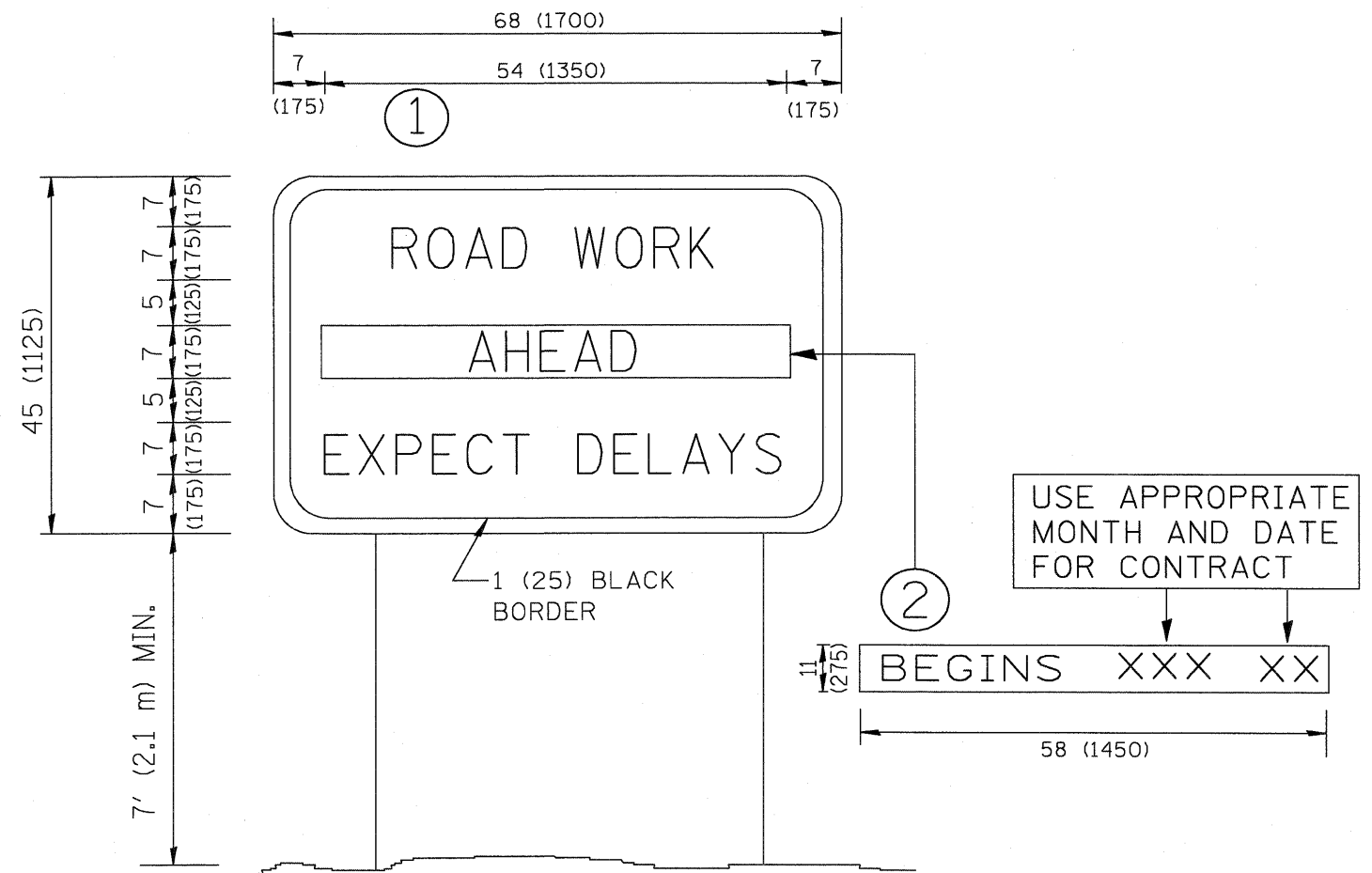
| LETTERS | 6 INCH UPPER CASE LETTERS | | | | 8 INCH UPPER CASE LETTERS | | | | LETTERS | 6 INCH LOWER CASE LETTERS | |
|---------|---------------------------|----------------|----------------|----------------|---------------------------|----------------|----------------|---|---------|---------------------------|---|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

| NUMBER | 6 INCH SERIES | | 8 INCH SERIES | |
|--------|----------------|----------------|----------------|----------------|
| | C | D | C | D |
| 1 | 1 ² | 1 ⁴ | 1 ⁵ | 2 ⁰ |
| 2 | 3 ² | 4 ⁰ | 4 ³ | 5 ³ |
| 3 | 3 ² | 4 ⁰ | 4 ³ | 5 ³ |
| 4 | 3 ⁵ | 4 ³ | 4 ⁷ | 5 ⁷ |
| 5 | 3 ² | 4 ⁰ | 4 ³ | 5 ³ |
| 6 | 3 ² | 4 ⁰ | 4 ³ | 5 ³ |
| 7 | 3 ² | 4 ⁰ | 4 ³ | 5 ³ |
| 8 | 3 ² | 4 ⁰ | 4 ³ | 5 ³ |
| 9 | 3 ² | 4 ⁰ | 4 ³ | 5 ³ |
| 0 | 3 ⁴ | 4 ² | 4 ⁵ | 5 ⁵ |

NOTE: SIGN DIMENSIONS ARE IN ENGLISH UNITS

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 877001,

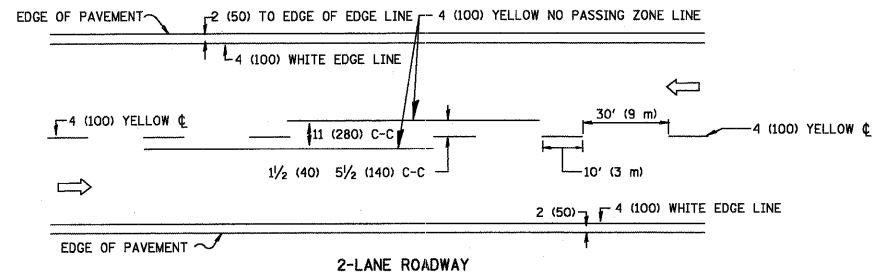


NOTES:

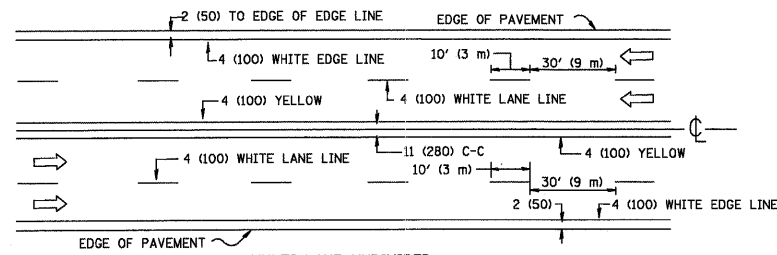
1. USE BLACK LETTERING ON ORANGE BACKGROUND.
2. ERECT SIGNS IN ADVANCE OF THE LOCATION FOR THE "ROAD CONSTRUCTION AHEAD" SIGN AT LOCATIONS AS DIRECTED BY THE ENGINEER.
3. ERECT SIGN ① WITH INSTALLED PANEL ② ONE WEEK PRIOR TO THE START OF CONSTRUCTION.
4. REMOVE PANEL ② SOON AFTER THE START OF CONSTRUCTION.
5. SEE SPECIAL PROVISION FOR "TEMPORARY INFORMATION SIGNING" FOR ADDITIONAL INFORMATION.
6. ONE SIGN ASSEMBLY EQUALS 25.70 SQ. FT. (2.3 SQ. M.)
7. SHALL BE PAID FOR AS TEMPORARY INFORMATION SIGNING.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

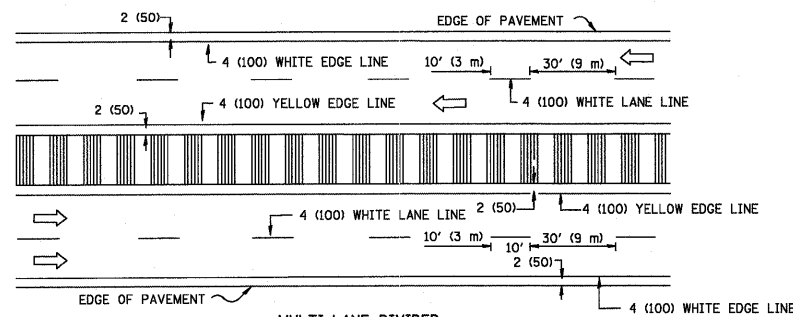
| | | | | | | | | | | | | | | |
|---------------------------------|-----------------|-----------------|-----------|---|--|--------------|--------|--------------|---------|--------|-----------------|---------------------------|----|----|
| FILE NAME = 4085.852-TR1.dwg | USER NAME = GHA | DESIGNED - JRD | REVISED - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | TEMPORARY INFORMATION SIGNING | | | FAU. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. | | |
| | | DRAWN - ZCW | REVISED - | | SCALE N.A. | SHEET NO. OF | SHEETS | STA. | TO STA. | VARIES | 2009-105-TS | KANE | 36 | 35 |
| | | CHECKED - KLB | REVISED - | | | | | | | | | | | |
| | | DATE - 11/20/09 | REVISED - | | | | | | | | | | | |
| | | | | | | | | CONTRACT #: | | 60J01 | | ILLINOIS FED. AID PROJECT | | |



2-LANE ROADWAY



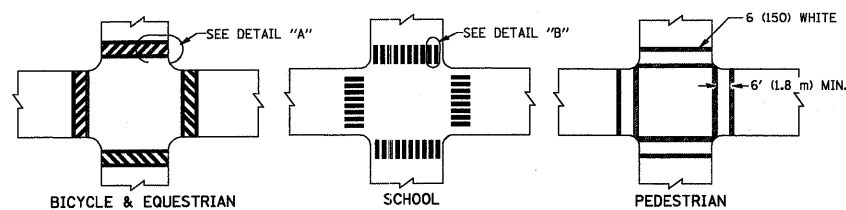
MULTI-LANE UNDIVIDED



MULTI-LANE DIVIDED WITH MOUNTABLE MEDIAN

NOTE: MEDIANS WITH BARRIER CURB DO NOT REQUIRE AN EDGE LINE

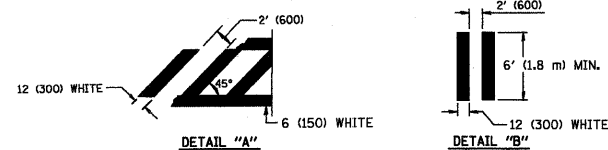
TYPICAL LANE AND EDGE LINE MARKING



BICYCLE & EQUESTRIAN

SCHOOL

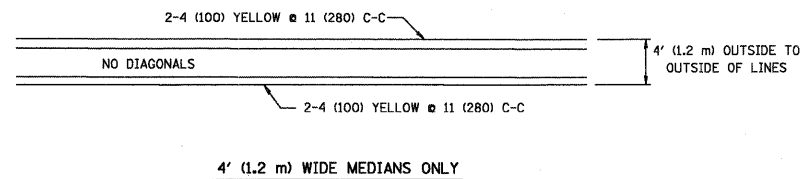
PEDESTRIAN



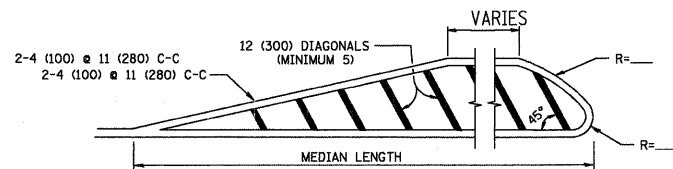
DETAIL "A"

DETAIL "B"

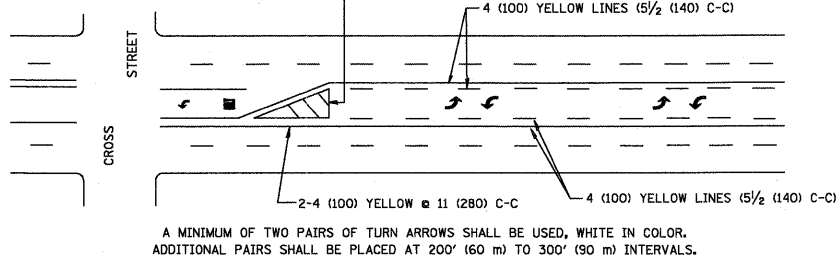
TYPICAL CROSSWALK MARKING



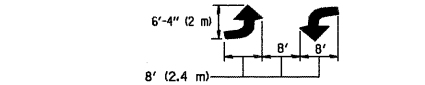
4' (1.2 m) WIDE MEDIANS ONLY



MEDIANS OVER 4' (1.2 m) WIDE

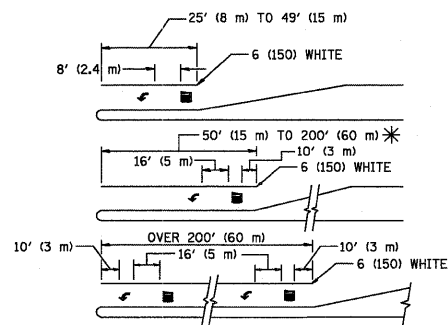


TYPICAL PAINTED MEDIAN MARKING



MEDIAN WITH TWO-WAY LEFT TURN LANE

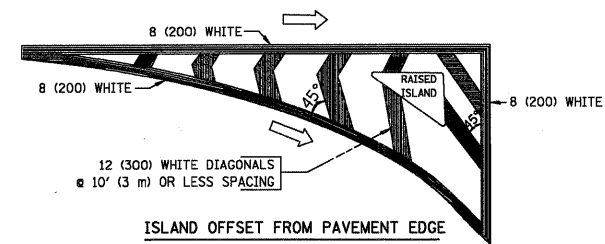
TYPICAL PAINTED MEDIAN MARKING



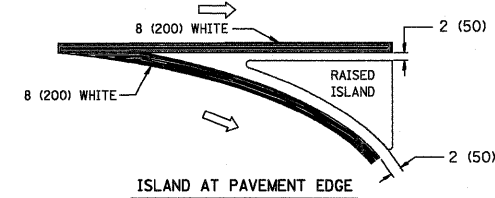
TYPICAL LEFT (OR RIGHT) TURN LANE MARKING

FULL SIZE LETTERS 8' (2.4 m) AND ARROWS SHALL BE USED.
 * TURN LANES IN EXCESS OF 400' (120 m) IN LENGTH MAY HAVE AN ADDITIONAL SET OF ARROW - "ONLY" INSTALLED MIDWAY BETWEEN THE OTHER TWO SETS OF ARROW - "ONLY".

TYPICAL TURN LANE MARKING



ISLAND OFFSET FROM PAVEMENT EDGE



ISLAND AT PAVEMENT EDGE

TYPICAL ISLAND MARKING

| TYPE OF MARKING | WIDTH OF LINE | PATTERN | COLOR | SPACING / REMARKS |
|---|--|---------------------------------|---|---|
| CENTERLINE ON 2 LANE PAVEMENT | 4 (100) | SKIP-DASH | YELLOW | 10' (3 m) LINE WITH 30' (9 m) SPACE |
| CENTERLINE ON MULTI-LANE UNDIVIDED PAVEMENT | 2 @ 4 (100) | SOLID | YELLOW | 11 (280) C-C |
| NO PASSING ZONE LINES: FOR ONE DIRECTION FOR BOTH DIRECTIONS | 4 (100) 2 @ 4 (100) | SOLID SOLID | YELLOW YELLOW | 5/2 (140) C-C FROM SKIP-DASH CENTERLINE 11 (280) C-C OMIT SKIP-DASH CENTERLINE BETWEEN |
| LANE LINES | 4 (100) 5 (125) ON FREEWAYS | SKIP-DASH SKIP-DASH | WHITE WHITE | 10' (3 m) LINE WITH 30' (9 m) SPACE |
| DOTTED LINES (EXTENSIONS OF CENTER, LANE OR TURN LANE MARKINGS) | SAME AS LINE BEING EXTENDED | SKIP-DASH | SAME AS LINE BEING EXTENDED | 2' (600) LINE WITH 6' (1.8 m) SPACE |
| EDGE LINES | 4 (100) | SOLID | YELLOW-LEFT WHITE-RIGHT | OUTLINE MOUNTABLE MEDIANS IN YELLOW; EDGE LINES ARE NOT USED NEXT TO BARRIER CURB |
| TURN LANE MARKINGS | 6 (150) LINE; FULL SIZE LETTERS & SYMBOLS (8' (2.4m)) | SOLID | WHITE | SEE TYPICAL TURN LANE MARKING DETAIL |
| TWO WAY LEFT TURN MARKING | 2 @ 4 (100) EACH DIRECTION 8' (2.4m) LEFT ARROW | SKIP-DASH AND SOLID IN PAIRS | YELLOW WHITE | 10' (3 m) LINE WITH 30' (9 m) SPACE FOR SKIP-DASH; 5/2 (140) C-C BETWEEN SOLID LINE AND SKIP-DASH LINE SEE TYPICAL TWO-WAY LEFT TURN MARKING DETAIL |
| CROSSWALK LINES (PEDESTRIAN) A. DIAGONALS (BIKE & EQUESTRIAN) B. LONGITUDINAL BARS (SCHOOL) | 2 @ 6 (150) 12 (300) @ 45° 12 (300) @ 90° | SOLID SOLID SOLID | WHITE WHITE WHITE | NOT LESS THAN 6' (1.8 m) APART 2' (600) APART 2' (600) APART SEE TYPICAL CROSSWALK MARKING DETAILS. |
| STOP LINES | 24 (600) | SOLID | WHITE | PLACE 4' (1.2 m) IN ADVANCE OF AND PARALLEL TO CROSSWALK, IF PRESENT. OTHERWISE, PLACE AT DESIRED STOPPING POINT. PARALLEL TO CROSSROAD CENTERLINE, WHERE POSSIBLE. |
| PAINTED MEDIANS | 2 @ 4 (100) WITH 12 (300) DIAGONALS @ 45° NO DIAGONALS USED FOR 4' (1.2 m) WIDE MEDIANS | SOLID | YELLOW; TWO WAY TRAFFIC WHITE; ONE WAY TRAFFIC | 11 (280) C-C FOR THE DOUBLE LINE SEE TYPICAL PAINTED MEDIAN MARKING. |
| CORE MARKING AND CHANNELIZING LINES | 8 (200) WITH 12 (300) DIAGONALS @ 45° | SOLID | WHITE | DIAGONALS: 15' (4.5 m) C-C (LESS THAN 30MPH (50 km/h)) 20' (6 m) C-C (30MPH (50 km/h) TO 45MPH (70 km/h)) 30' (9 m) C-C (OVER 45MPH (70 km/h)) |
| RAILROAD CROSSING | 24 (600) TRANSVERSE LINES; "RR" IS 6' (1.8 m) LETTERS; 16 (400) LINE FOR "X" | SOLID | WHITE | SEE STATE STANDARD 780001 AREA OF: "R"=3.6 SQ. FT. (0.33 m ²) EACH "X"=54.0 SQ. FT. (5.0 m ²) |
| SHOULDER DIAGONALS | 12 (300) @ 45° | SOLID | WHITE - RIGHT YELLOW - LEFT | 50' (15 m) C-C (LESS THAN 30MPH (50 km/h)) 75' (25 m) C-C (30 MPH (50 km/h) TO 45MPH (70 km/h)) 150' (45 m) C-C (OVER 45MPH (70 km/h)) |

FOR FURTHER DETAILS ON PAVEMENT MARKING REFER TO STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND STATE STANDARD 780001.

All dimensions are in inches (millimeters) unless otherwise shown.