

04-24-2015 LETTING ITEM 123

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

**PLANS FOR PROPOSED
FEDERAL AID HIGHWAY**
F.A.P. ROUTE 334 US ROUTE 12 (RAND ROAD)
AT ELA ROAD
INTERSECTION IMPROVEMENTS
SECTION: 02-00063-00-CH
PROJECT CMF 0334(014)
VILLAGE OF LAKE ZURICH
LAKE COUNTY
C-91-107-02

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|-------------|----------------|--------------------|--------------|-----------|
| 334 | 02-00063-00-CH | LAKE | 86 | 1 |
| ILLINOIS | | CONTRACT NO. 61A94 | | |

86+2=88

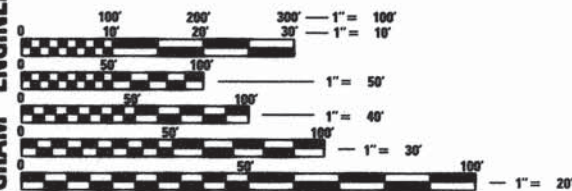
FOR LIST OF HIGHWAY STANDARDS, SEE SHEET NO. 2

FOR INDEX OF SHEETS, SEE SHEET NO. 2

FUNCTIONAL CLASSIFICATION:
US 12 (RAND RD.)
MAJOR ARTERIAL (SRA ROUTE)
ADT: 42,800 (2011)
DESIGN SPEED: 50 MPH
POSTED SPEED: 45 MPH

ELA ROAD
MINOR ARTERIAL
ADT: 14,900 (2011)
DESIGN SPEED: 40 MPH
POSTED SPEED: 30 MPH

FEDERAL AID PROGRAM ENGINEER: FAWAD F. AQUEEL, P.E. 847-705-4021 SCHAUMBURG, IL

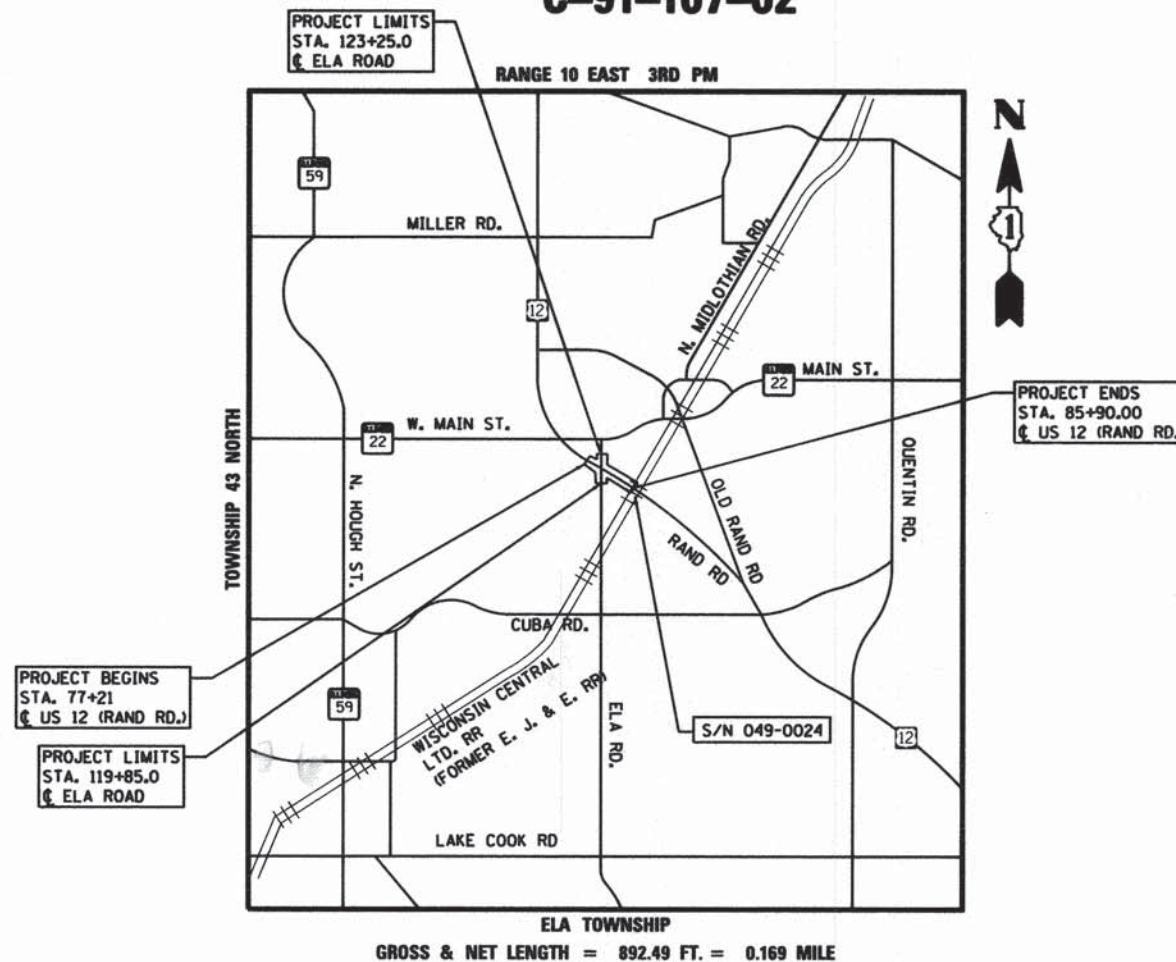


FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZE PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123
OR 811

PROJECT ENGINEER: THOMAS STEVENS, P.E. GRAEF

CONTRACT NO. 61A94 TIP ID: 10-02-0007



PROFESSIONAL ENGINEER'S SIGN & SEAL
Thomas Stevens
EXPIRES: 11-30-2015

LICENSED STRUCTURAL ENGINEER
NATHAN D. RICK
081-00703
STATE OF ILLINOIS
Exp. 11-30-2014
SINCE 48 MAR 56

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
APPROVED 12-29 2014
John DePinto
VILLAGE OF LAKE ZURICH
DECEMBER 31 2014
C. H. Holt
DISTRICT 1 ENGINEER OF LOCAL ROADS & STREETS
January 1 2015
John Fortmann
DEPUTY DIRECTOR OF HIGHWAYS, REGION 1 ENGINEER

GRAEF
5501 N. Higgins Road Suite 200
Chicago, Illinois 60631
773-399-0122

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OF THE STATE OF ILLINOIS

INDEX OF SHEETS

| SHEET NO. | DESCRIPTION |
|-----------|---|
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| 2 | INDEX OF SHEETS, HIGHWAY STANDARDS & GENERAL NOTES |
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HIGHWAY STANDARDS

| STD. NO. | TITLE |
|-----------|---|
| 000001-06 | STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS |
| 001001-02 | AREAS OF REINFORCEMENT BARS |
| 001006 | DECIMALS OF AN INCH AND OF A FOOT |
| 280001-07 | TEMPORARY EROSION CONTROL SYSTEMS |
| 424001-08 | PERPENDICULAR CURB RAMPS |
| 442201-03 | CLASS C AND D PATCHES |
| 542546-01 | FLUSH INLET BOX FOR MEDIAN |
| 602001-02 | CATCH BASIN, TYPE A |
| 602011-02 | CATCH BASIN, TYPE C |
| 602601-03 | PRECAST REINFORCED CONCRETE FLAT SLAB TOP |
| 602701-02 | MANHOLE STEPS |
| 604001-04 | FRAME AND LID, TYPE 1 |
| 604036-03 | GRATE TYPE 8 |
| 604041-03 | FRAME AND GRATE, TYPE 9 |
| 604091-03 | FRAME AND GRATE, TYPE 24 |
| 606001-06 | CONCRETE CURB TYPE B AND COMBINATION CONCRETE CURB AND GUTTER |
| 606101-04 | TYPE A GUTTER (INLET, OUTLET AND ENTRANCE) |
| 701006-05 | OFF-ROAD OPERATIONS, 2L, 2W, 15' TO 24" FROM PAVEMENT EDGE |
| 701011-04 | OFF-ROAD MOVING OPERATIONS, 2L, 2W, DAY ONLY |
| 701101-04 | OFF-ROAD OPERATIONS, MULTILANE, 15' TO 24" FROM PAVEMENT EDGE |
| 701301-04 | LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS |
| 701311-03 | LANE CLOSURE 2L, 2W MOVING OPERATIONS-DAY ONLY |
| 701326-04 | LANE CLOSURE, 2L, 2W, PAVEMENT WIDENING, FOR SPEEDS ≥ 45 MPH |
| 701421-07 | LANE CLOSURE, MULTILANE, DAY OPERATIONS ONLY, FOR SPEEDS ≥ 45 MPH TO 55 MPH |
| 701426-07 | LANE CLOSURE, MULTILANE, INTERMITTENT OR MOVING OPER., FOR SPEEDS ≥ 45 MPH |
| 701501-06 | URBAN LANE CLOSURE, 2L, 2W, UNDIVIDED |
| 701601-09 | URBAN LANE CLOSURE, MULTILANE, 1W OR 2W WITH NONTRAVERSABLE MEDIAN |
| 701701-09 | URBAN LANE CLOSURE MULTILANE INTERSECTION |
| 701901-04 | TRAFFIC CONTROL DEVICES |
| 780001-05 | TYPICAL PAVEMENT MARKINGS |
| 781001-03 | TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS |
| 814001-03 | HANDHOLES |
| 857001-01 | STANDARD PHASE DESIGNATION DIAGRAMS AND PHASE SEQUENCES |
| 873001-02 | TRAFFIC SIGNAL GROUNDING & BONDING |
| 877001-05 | STEEL MAST ARM ASSEMBLY AND POLE 16' THROUGH 55' |
| 878001-10 | CONCRETE FOUNDATION DETAILS |
| 880001-01 | SPAN WIRE MOUNTED SIGNALS AND FLASHING BEACON INSTALLATION |
| 880006-1 | TRAFFIC SIGNAL MOUNTING DETAILS |

GENERAL NOTES

- ALL CONSTRUCTION SHALL BE DONE ACCORDING TO THE STATE OF ILLINOIS "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" ADOPTED JAN. 1, 2012; THE "SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS, ADOPTED JAN. 1, 2012; THE LATEST EDITION OF THE "ILLINOIS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS"; "THE STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS" JANUARY 2014 SEVENTH EDITION. THE DETAILS IN THESE PLANS, AND THE SPECIAL PROVISIONS INCLUDED IN THE CONTRACT DOCUMENTS.
- ALL ELEVATIONS SHOWN ON THESE PLANS ARE BASED UPON BENCHMARKS PROVIDED BY THE VILLAGE OF LAKE ZURICH.
- HORIZONTAL CONTROL FOR THIS PROJECT IS BASED UPON LOCAL DATUM.
- BEFORE STARTING ANY EXCAVATION, THE CONTRACTOR SHALL CALL "J.U.L.I.E." AT 800-892-0123 FOR FIELD LOCATIONS OF BURIED ELECTRIC, TELEPHONE AND GAS FACILITIES. (48 HOUR NOTIFICATION IS REQUIRED).
- THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH UTILITY COMPANIES.
- THE CONTRACTOR WILL NOT BE ALLOWED TO SET UP A YARD OR FIELD OFFICE ON STATE PROPERTY WITHOUT WRITTEN PERMISSION FROM THE DEPARTMENT.
- WHEN ARTIFICIAL LIGHTING IS USED IN NIGHT OPERATIONS THE CONTRACTOR SHALL EXERCISE THE UTMOST PRECAUTIONS IN PREVENTING ADVERSE VISIBILITY TO THE MOTORING PUBLIC AND ADJOINING RESIDENTIAL AREAS.
- THE CONTRACTOR SHALL CONTACT THE TRAFFIC CONTROL SUPERVISOR AT (847) 705-4470 A MINIMUM 72 HOURS IN ADVANCE OF BEGINNING WORK.
- THE RESIDENT ENGINEER SHALL CONTACT WALTER CZARNY, AREA TRAFFIC FIELD ENGINEER, AT 847-438-2300 (2) WEEKS PRIOR TO PLACING PERMANENT PAVEMENT MARKINGS.
- FOR DETAILS OF PAVEMENT MARKING AND RAISED REFLECTIVE PAVEMENT MARKERS NOT SHOWN ON THE PLANS, REFER TO DISTRICT ONE DETAIL SHEETS TC11 AND TC 13 FOR US 12 RAND ROAD AND LAKE COUNTY DETAIL LC7800 FOR ELA ROAD FOR FURTHER INFORMATION
- ALL PAVEMENT PATCHING LOCATIONS ARE SHOWN ON THE PLANS BUT MAY BE MODIFIED IN THE FIELD BY THE ENGINEER.
- THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE ACCESS TO ABUTTING PROPERTY AT ALL TIMES DURING THE CONSTRUCTION OF THIS PROJECT.
- THE DEPARTMENT HAS DETERMINED THAT IN STREAM WORK IS NOT REQUIRED FOR THE WORK SPECIFIED IN THIS CONTRACT. THE DEPARTMENT HAS NOT OBTAINED A 404 PERMIT. IF THE CONTRACTOR CHOOSES TO USE ACTIVITIES REQUIRING A USACE 404 PERMIT, IT IS THE CONTRACTOR'S RESPONSIBILITY TO SECURE THE PROPER USACE PERMIT.
- THE DEPARTMENT HAS LET A RESURFACING CONTRACT COVERING THE AREA OF THIS IMPROVEMENT. THE WORK MAY BE ONGOING DURING THE COURSE OF THIS CONTRACT. LAKE COUNTY MAY BE LETTING A RESURFACING CONTRACT AND A SIDEWALK EXTENSION PROJECT DURING THE COURSE OF THIS CONTRACT. COOPERATION BETWEEN CONTRACTORS WILL BE REQUIRED FOR CONTRACT NO. 61A94.
- WHEN NECESSARY, LANE CLOSURES WILL ONLY BE PERMITTED BETWEEN THE HOURS OF 9AM TO 3PM.
- ALL RADII FOR PROPOSED CURB AND GUTTER ARE TO THE EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.
- UNLESS OTHERWISE NOTED, LOCATIONS SHOWN ON THE PLANS ARE TO THE EDGE OF PAVEMENT FOR STRUCTURES IN THE CURB AND TO THE CENTER OF THE STRUCTURE FOR ALL OTHER STRUCTURES. ALL TOP OF FRAME (RIM) ELEVATIONS FOR STRUCTURES LOCATED IN THE CURB AND GUTTER ARE AT THE EDGE OF PAVEMENT. SEE THE LCDOT DETAIL FOR DRAINAGE STRUCTURE RIM ELEVATIONS AND OFFSETS LC6003. DRAINAGE STRUCTURE FLAT-TOPS AND CONES SHALL BE TURNED SO THAT THE FRAMES ARE CLOSEST TO THE CENTERLINE OF THE LANE UNLESS OTHERWISE NOTED. ALL FLAT-TOPS AND CONES ARE ASSUMED TO BE ECCENTRIC UNLESS OTHERWISE NOTED.
- THE COST OF CONNECTING EXISTING STORM SEWERS TO THE PROPOSED DRAINAGE SYSTEM SHALL BE INCLUDED IN THE UNIT COST OF THE PROPOSED DRAINAGE STRUCTURE. THE COST OF CONNECTING PROPOSED STORM SEWER TO EXISTING STRUCTURES SHALL BE INCLUDED IN THE UNIT COST OF THE PROPOSED STORM SEWER. ADDITIONAL PIPE REQUIRED TO COMPLETE THE CONNECTIONS WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR "STORM SEWER" OF THE TYPE, SIZE AND CLASS REQUIRED.
- AT LOCATIONS WHERE THE PROPOSED STORM SEWER CROSSES OVER UTILITIES, A 4" STYROFOAM CUSHION SHALL BE PLACED UNDER THE STORM SEWER WHEN DIRECTED TO DO SO BY THE ENGINEER. THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE FOR THE PROPOSED STORM SEWER.
- IT IS THE CONTRACTORS SOLE RESPONSIBILITY TO COORDINATE WITH THE WISCONSIN CENTRAL LTD RAILROAD WHENEVER CONSTRUCTION ACTIVITY IS WITHIN 25 FEET OF THE RAILROAD ROW. THE CONTRACTOR SHALL RETAIN FLAGMEN EMPLOYED AND DESIGNATED BY THE WISCONSIN CENTRAL LTD RAILROAD TO MONITOR ON-COMING TRAIN TRAFFIC AND ADVISE CONTRACTOR PERSONNEL WHEN ACTIVITY ON OR NEAR THE RAILROAD RIGHT OF WAY MAY PROCEED. THIS ITEM WILL BE PAID FOR ACCORDING TO ARTICLE 107.12 AND WILL BE REIMBURSED ACCORDING TO ARTICLE 109.05.

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| | | |
|---------------------------------|-------------------|-----------|
| USER NAME = 1485 | DESIGNED - RS | REVISED - |
| PLOT SCALE = 5/8"=0'0" / 1"=10' | DRAWN - ED | REVISED - |
| PLOT DATE = 1/28/2015 | CHECKED - TS | REVISED - |
| | DATE - 12/17/2014 | REVISED - |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**US 12 (RAND ROAD) AT ELA ROAD
INDEX, GENERAL NOTES & HIGHWAY STANDARDS**

SCALE: 1"=50' SHEET 1 OF 1 SHEETS STA. TO STA.

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|----------------|--------|--------------|-----------|
| 334 | 02-00063-00-CH | LAKE | 86 | 2 |
| CONTRACT NO. 61A94 | | | | |
| ILLINOIS FED. AID PROJECT CMF-0334(014) | | | | |

| CODE NUMBER | ITEM | UNIT | TOTAL QUANTITY | 80% FEDERAL 20% LAKE ZURICH | 80% FEDERAL 20% LAKE COUNTY | 80% FEDERAL 20% LAKE ZURICH | 80% FEDERAL 20% LAKE ZURICH | 80% FEDERAL 20% LAKE ZURICH | 80% FEDERAL 20% LAKE ZURICH |
|-------------|------------------------------------|-------|----------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| | | | | 0004 RECONSTRUCTION | 0004 RECONSTRUCTION | 0021 TRAFFIC SIGNALS | 0040 RETAINING WALL | 0043 UTILITIES | 0042 TRAINEES |
| 20101000 | TEMPORARY FENCE | FOOT | 1,117 | 906 | 211 | | | | |
| 20200100 | EARTH EXCAVATION | CU YD | 916 | 766 | 150 | | | | |
| 20800150 | TRENCH BACKFILL | CU YD | 7 | 7 | | | | | |
| 21101505 | TOPSOIL EXCAVATION AND PLACEMENT | CU YD | 1,045 | 1,045 | | | | | |
| 25000300 | SEEDING, CLASS 3 | ACRE | 0.25 | 0.25 | 0 | | | | |
| 25000400 | NITROGEN FERTILIZER NUTRIENT | POUND | 18 | 16 | 2 | | | | |
| 25000600 | POTASSIUM FERTILIZER NUTRIENT | POUND | 18 | 16 | 2 | | | | |
| 25200110 | SODDING, SALT TOLERANT | SQ YD | 673 | 505 | 168 | | | | |
| 25200200 | SUPPLEMENTAL WATERING | UNIT | 20 | 15 | 5 | | | | |
| 28000250 | TEMPORARY EROSION CONTROL SEEDING | POUND | 75 | 65 | 10 | | | | |
| 28000305 | TEMPORARY DITCH CHECKS | FOOT | 35 | 35 | | | | | |
| 28000400 | PERIMETER EROSION BARRIER | FOOT | 23 | 23 | | | | | |
| 28000510 | INLET FILTERS | EACH | 12 | 11 | 1 | | | | |
| 30300112 | AGGREGATE SUBGRADE IMPROVEMENT 12" | SQ YD | 1,377 | 1,377 | | | | | |

• DENOTES SPECIALTY ITEM

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| USER NAME = 1485 | DESIGNED - RS | REVISED - |
| | DRAWN - ED | REVISED - |
| PLOT SCALE = 58.0000' / 1" = | CHECKED - TS | REVISED - |
| PLOT DATE = 1/29/2015 | DATE - 12/17/2014 | REVISED - |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

US 12 (RAND ROAD) AT ELA ROAD
SUMMARY OF QUANTITIES

SCALE: 1"=50' SHEET 1 OF 10 SHEETS STA. TO STA.

| F.A.P RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------|----------------|--------|---|--------------|
| 334 | 02-00063-00-CH | LAKE | 86 | 3 |
| CONTRACT NO. 61A94 | | | [ILLINOIS] FED. AID PROJECT CMF-0334(014) | |

| CODE NUMBER | ITEM | UNIT | TOTAL QUANTITY | 80% FEDERAL 20% LAKE ZURICH | 80% FEDERAL 20% LAKE COUNTY | 80% FEDERAL 20% LAKE ZURICH | 80% FEDERAL 20% LAKE ZURICH | 80% FEDERAL 20% LAKE ZURICH | 80% FEDERAL 20% LAKE ZURICH |
|-------------|--|-------|----------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| | | | | 0004 RECONSTRUCTION | 0004 RECONSTRUCTION | 0021 TRAFFIC SIGNALS | 0040 RETAINING WALL | 0043 UTILITIES | 0042 TRAINEES |
| 35101600 | AGGREGATE BASE COURSE, TYPE B 4" | SQ YD | 156 | | 156 | | | | |
| 35501321 | HOT-MIX ASPHALT BASE COURSE, 9 1/4" | SQ YD | 1,054 | 1,054 | | | | | |
| 35600713 | HOT-MIX ASPHALT BASE COURSE WIDENING, 9 1/4" | SQ YD | 77 | 77 | | | | | |
| 40600275 | BITUMINOUS MATERIALS (PRIME COAT) | POUND | 9,155 | 9,155 | | | | | |
| 40601005 | HOT-MIX ASPHALT REPLACEMENT OVER PATCHES | TON | 1 | 1 | | | | | |
| 40603595 | POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, MIX "F", N90 | TON | 127 | 127 | | | | | |
| 42001300 | PROTECTIVE COAT | SQ YD | 361 | 196 | 165 | | | | |
| 42300200 | PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT, 6 INCH | SQ YD | 31 | | 31 | | | | |
| 42400200 | PORTLAND CEMENT CONCRETE SIDEWALK 5 INCH | SQ FT | 1,128 | | 1,128 | | | | |
| 42400800 | DETECTABLE WARNINGS | SQ FT | 40 | | 40 | | | | |
| 44000500 | COMBINATION CURB AND GUTTER REMOVAL | FOOT | 1,133 | 1,097 | 36 | | | | |
| 44002208 | HOT-MIX ASPHALT REMOVAL OVER PATCHES, 2" | SQ YD | 9 | 9 | | | | | |
| 44201761 | CLASS D PATCHES, TYPE 1, 10 INCH | SQ YD | 8 | 8 | | | | | |
| 50200100 | STRUCTURE EXCAVATION | CU YD | 115 | | | | 115 | | |

• DENOTES SPECIALTY ITEM

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|-----------------------------------|-------------------|-----------|
| USER NAME = 1485 | DESIGNED - RS | REVISED - |
| | DRAWN - ED | REVISED - |
| PLOT SCALE = 50,0000' / 1" = 1/2" | CHECKED - TS | REVISED - |
| PLOT DATE = 1/29/2015 | DATE - 12/17/2014 | REVISED - |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

US 12 (RAND ROAD) AT ELA ROAD
SUMMARY OF QUANTITIES

SCALE: 1"=50' SHEET 2 OF 10 SHEETS STA. TO STA.

| | | | | |
|---|----------------|--------|-----------------|--------------|
| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 334 | 02-00063-00-CH | LAKE | 86 | 4 |
| CONTRACT NO. 61A94 | | | | |
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|-------------|---|-------|----------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| | | | | 0004 RECONSTRUCTION | 0004 RECONSTRUCTION | 0021 TRAFFIC SIGNALS | 0040 RETAINING WALL | 0043 UTILITIES | 0042 TRAINEES |
| 50300225 | CONCRETE STRUCTURES | CU YD | 72 | | | | 72 | | |
| 50300285 | FORM LINER TEXTURED SURFACE | SQ FT | 1,079 | | | | 1079 | | |
| 50300300 | PROTECTIVE COAT | SQ YD | 200 | | | | 200 | | |
| 50500505 | STUD SHEAR CONNECTORS | EACH | 141 | | | | 141 | | |
| 50800205 | REINFORCEMENT BARS, EPOXY COATED | POUND | 11,610 | | | | 11610 | | |
| 50901750 | PARAPET RAILING | FOOT | 255 | | | | 255 | | |
| 54244405 | FLUSH INLET BOX FOR MEDIAN, STANDARD 542546 | EACH | 2 | 2 | | | | | |
| 550A0040 | STORM SEWERS, CLASS A, TYPE 1 10" | FOOT | 24 | 24 | | | | | |
| 550A0050 | STORM SEWERS, CLASS A, TYPE 1 12" | FOOT | 136 | 136 | | | | | |
| • 56103000 | DUCTILE IRON WATER MAIN 6" | FOOT | 15 | | | | | 15 | |
| • 56103200 | DUCTILE IRON WATERMAIN, 10" | FOOT | 307 | | | | | 307 | |
| • 56105000 | WATER VALVES 8" | EACH | 1 | | | | | 1 | |
| • 56105100 | WATER VALVES 10" | EACH | 2 | | | | | 2 | |
| • 56105500 | INSERTING VALVES 6" | EACH | 1 | | | | | 1 | |

• DENOTES SPECIALTY ITEM

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| USER NAME = 1485 | DESIGNED - RS | REVISED - |
| PLOT SCALE = 50.0000' / 1" = | DRAWN - ED | REVISED - |
| PLOT DATE = 1/29/2015 | CHECKED - TS | REVISED - |
| | DATE - 12/17/2014 | REVISED - |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**US 12 (RAND ROAD) AT ELA ROAD
SUMMARY OF QUANTITIES**

SCALE: 1"=50' SHEET 3 OF 10 SHEETS STA. TO STA.

| | | | | |
|---|----------------|--------|-----------------|--------------|
| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 334 | 02-00063-00-CH | LAKE | 86 | 5 |
| CONTRACT NO. 61A94 | | | | |
| ILLINOIS FED. AID PROJECT CMF-0334(014) | | | | |

| CODE NUMBER | ITEM | UNIT | TOTAL QUANTITY | 80% FEDERAL 20% LAKE ZURICH | 80% FEDERAL 20% LAKE COUNTY | 80% FEDERAL 20% LAKE ZURICH | 80% FEDERAL 20% LAKE ZURICH | 80% FEDERAL 20% LAKE ZURICH | 80% FEDERAL 20% LAKE ZURICH |
|-------------|---|-------|----------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| | | | | 0004 RECONSTRUCTION | 0004 RECONSTRUCTION | 0021 TRAFFIC SIGNALS | 0040 RETAINING WALL | 0043 UTILITIES | 0042 TRAINEES |
| • 56400820 | FIRE HYDRANT WITH AUXILIARY VALVE AND VALVE BOX | EACH | 2 | | | | | 2 | |
| 59100100 | GEOCOMPOSITE WALL DRAIN | SQ YD | 914 | | | | 914 | | |
| 60107600 | PIPE UNDERDRAINS 4" | FOOT | 542 | 542 | | | | | |
| 60108100 | PIPE UNDERDRAINS 4" (SPECIAL) | FOOT | 7 | 7 | | | | | |
| 60204505 | CATCH BASINS, TYPE A, 5'-DIAMETER, TYPE 8 GRATE | EACH | 1 | 1 | | | | | |
| 60207705 | CATCH BASINS, TYPE C, TYPE 9 FRAME AND GRATE | EACH | 1 | 1 | | | | | |
| 60207915 | CATCH BASINS, TYPE C, TYPE 11V FRAME AND GRATE | EACH | 3 | 3 | | | | | |
| 60208240 | CATCH BASINS, TYPE C, TYPE 24 FRAME AND GRATE | EACH | 1 | 1 | | | | | |
| • 60248900 | VALVE VAULTS, TYPE A, 5'-DIAMETER, TYPE 1 FRAME, CLOSED LID | EACH | 3 | | | | | 3 | |
| 60255500 | MANHOLES TO BE ADJUSTED | EACH | 2 | 2 | | | | | |
| 60500050 | REMOVING CATCH BASINS | EACH | 1 | 1 | | | | | |
| 60500060 | REMOVING INLETS | EACH | 1 | 1 | | | | | |
| 60500080 | REMOVING CATCH BASINS TO MAINTAIN FLOW | EACH | 1 | 1 | | | | | |
| 60500090 | REMOVING INLETS TO MAINTAIN FLOW | EACH | 1 | 1 | | | | | |

• DENOTES SPECIALTY ITEM

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| | | |
|------------------------------|-------------------|-----------|
| USER NAME = 1485 | DESIGNED - RS | REVISED - |
| | DRAWN - ED | REVISED - |
| PLOT SCALE = 50.0000' / 1in. | CHECKED - TS | REVISED - |
| PLOT DATE = 1/29/2015 | DATE - 12/17/2014 | REVISED - |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**US 12 (RAND ROAD) AT ELA ROAD
SUMMARY OF QUANTITIES**

SCALE: 1"=50' SHEET 4 OF 10 SHEETS STA. TO STA.

| | | | | |
|---|----------------|--------|-----------------|--------------|
| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 334 | 02-00063-00-CH | LAKE | 86 | 6 |
| CONTRACT NO. 61A94 | | | | |
| ILLINOIS FED. AID PROJECT CMF-0334(014) | | | | |

| CODE NUMBER | ITEM | UNIT | TOTAL QUANTITY | 80% FEDERAL | 80% FEDERAL | 80% FEDERAL | 80% FEDERAL | 80% FEDERAL | 80% FEDERAL |
|-------------|--|--------|----------------|---------------------|---------------------|----------------------|---------------------|-----------------|-----------------|
| | | | | 20% LAKE ZURICH | 20% LAKE COUNTY | 20% LAKE ZURICH | 20% LAKE ZURICH | 20% LAKE ZURICH | 20% LAKE ZURICH |
| | | | | 0004 RECONSTRUCTION | 0004 RECONSTRUCTION | 0021 TRAFFIC SIGNALS | 0040 RETAINING WALL | 0043 UTILITIES | 0042 TRAINEES |
| 60602500 | CONCRETE GUTTER, TYPE A | FOOT | 255 | 255 | | | | | |
| 60603800 | COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12 | FOOT | 551 | 515 | 36 | | | | |
| 60604300 | COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.12 (VARIABLE WIDTH GUTTER FLAG) | FOOT | 56 | 56 | | | | | |
| 60605000 | COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.24 | FOOT | 419 | 419 | | | | | |
| 60605500 | COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.24 (VARIABLE WIDTH GUTTER FLAG) | FOOT | 42 | 42 | | | | | |
| • 66900450 | SPECIAL WASTE PLANS AND REPORTS | L SUM | 1 | 1 | | | | | |
| 67000400 | ENGINEER'S FIELD OFFICE, TYPE A | CAL MO | 6 | 6 | | | | | |
| 67100100 | MOBILIZATION | L SUM | 1 | 1 | | | | | |
| 70103815 | TRAFFIC CONTROL SURVEILLANCE | CAL DA | 86 | 86 | | | | | |
| 70106800 | CHANGEABLE MESSAGE SIGN | CAL MO | 6 | 6 | | | | | |
| 70300100 | SHORT TERM PAVEMENT MARKING | FOOT | 218 | 218 | | | | | |
| 70300220 | TEMPORARY PAVEMENT MARKING - LINE 4" | FOOT | 3,779 | 3,779 | | | | | |
| 70300240 | TEMPORARY PAVEMENT MARKING - LINE 6" | FOOT | 475 | 475 | | | | | |
| 70301000 | WORK ZONE PAVEMENT MARKING REMOVAL | SQ FT | 1,497 | 1,497 | | | | | |

• DENOTES SPECIALTY ITEM

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|------------------------------|-------------------|-----------|
| USER NAME = 1485 | DESIGNED - RS | REVISED - |
| PLOT SCALE = 50.0000' / 1" = | DRAWN - ED | REVISED - |
| PLOT DATE = 1/29/2015 | CHECKED - TS | REVISED - |
| | DATE - 12/17/2014 | REVISED - |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

US 12 (RAND ROAD) AT ELA ROAD
SUMMARY OF QUANTITIES

SCALE: 1"=50' SHEET 5 OF 10 SHEETS STA. TO STA.

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|----------------|--------|--------------|-----------|
| 334 | 02-00063-00-CH | LAKE | 86 | 7 |
| CONTRACT NO. 61A94 | | | | |
| ILLINOIS FED. AID PROJECT CMF-0334(014) | | | | |

| CODE NUMBER | ITEM | UNIT | TOTAL QUANTITY | 80% FEDERAL 20% LAKE ZURICH | 80% FEDERAL 20% LAKE COUNTY | 80% FEDERAL 20% LAKE ZURICH | 80% FEDERAL 20% LAKE ZURICH | 80% FEDERAL 20% LAKE ZURICH | 80% FEDERAL 20% LAKE ZURICH |
|-------------|--|-------|----------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| | | | | 0004 RECONSTRUCTION | 0004 RECONSTRUCTION | 0021 TRAFFIC SIGNALS | 0040 RETAINING WALL | 0043 UTILITIES | 0042 TRAINEES |
| 72000100 | SIGN PANEL - TYPE 1 | SQ FT | 15 | 15 | | | | | |
| 72400710 | RELOCATE SIGN PANEL - TYPE 1 | SQ FT | 24 | | | 24 | | | |
| 72800100 | TELESCOPING STEEL SIGN SUPPORT | FOOT | 29 | 29 | | | | | |
| • 78000100 | THERMOPLASTIC PAVEMENT MARKING - LETTERS AND SYMBOLS | SQ FT | 400 | 400 | | | | | |
| • 78000200 | THERMOPLASTIC PAVEMENT MARKING - LINE 4" | FOOT | 2,181 | 2,181 | | | | | |
| • 78000300 | THERMOPLASTIC PAVEMENT MARKING - LINE 5" | FOOT | 266 | 266 | | | | | |
| • 78000400 | THERMOPLASTIC PAVEMENT MARKING - LINE 6" | FOOT | 1,926 | 1,691 | 235 | | | | |
| • 78000600 | THERMOPLASTIC PAVEMENT MARKING - LINE 12" | FOOT | 186 | 72 | 114 | | | | |
| • 78000650 | THERMOPLASTIC PAVEMENT MARKING - LINE 24" | FOOT | 188 | 188 | | | | | |
| • 78100100 | RAISED REFLECTIVE PAVEMENT MARKER | EACH | 63 | 63 | | | | | |
| * 78300100 | PAVEMENT MARKING REMOVAL | SQ FT | 1,858 | 1,858 | | | | | |
| * 78300200 | RAISED REFLECTIVE PAVEMENT MARKER REMOVAL | EACH | 59 | 59 | | | | | |
| • 81028200 | UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA. | FOOT | 1,015 | | | 1,015 | | | |
| • 81028210 | UNDERGROUND CONDUIT, GALVANIZED STEEL, 2 1/2" DIA. | FOOT | 98 | | | 98 | | | |

• DENOTES SPECIALTY ITEM

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| USER NAME = 1485 | DESIGNED - RS | REVISED - |
| PLOT SCALE = 50.0000' / 1" = | DRAWN - ED | REVISED - |
| PLOT DATE = 1/29/2015 | CHECKED - TS | REVISED - |
| | DATE - 12/17/2014 | REVISED - |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**


| | | |
|--|----------------------|--------------|
| US 12 (RAND ROAD) AT ELA ROAD SUMMARY OF QUANTITIES | | |
| SCALE: 1"=50' | SHEET 6 OF 10 SHEETS | STA. TO STA. |

| | | | | |
|---|---------------------------|----------------|-----------------------|-------------------|
| F.A.P RTE. 334 | SECTION 02-00063-00-CH | COUNTY LAKE | TOTAL SHEETS 86 | SHEET NO. 8 |
| CONTRACT NO. 61A94 | | | | |
| ILLINOIS FED. AID PROJECT CMF-0334(014) | | | | |

| CODE NUMBER | ITEM | UNIT | TOTAL QUANTITY | 80% FEDERAL 20% LAKE ZURICH | 80% FEDERAL 20% LAKE COUNTY | 80% FEDERAL 20% LAKE ZURICH | 80% FEDERAL 20% LAKE ZURICH | 80% FEDERAL 20% LAKE ZURICH | 80% FEDERAL 20% LAKE ZURICH |
|-------------|--|------|----------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| | | | | 0004 RECONSTRUCTION | 0004 RECONSTRUCTION | 0021 TRAFFIC SIGNALS | 0040 RETAINING WALL | 0043 UTILITIES | 0042 TRAINEES |
| 81028220 | UNDERGROUND CONDUIT, GALVANIZED STEEL, 3" DIA. | FOOT | 110 | | | 110 | | | |
| 81028240 | UNDERGROUND CONDUIT, GALVANIZED STEEL, 4" DIA. | FOOT | 230 | | | 230 | | | |
| 81400100 | HANDHOLE | EACH | 4 | | | 4 | | | |
| 87300010 | GROUNDING EXISTING HANDHOLE FRAME AND COVER | EACH | 4 | | | 4 | | | |
| 87300925 | ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1C | FOOT | 4,933 | | | 4,933 | | | |
| 87301215 | ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C | FOOT | 703 | | | 703 | | | |
| 87301225 | ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C | FOOT | 875 | | | 875 | | | |
| 87301245 | ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C | FOOT | 348 | | | 348 | | | |
| 87301255 | ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C | FOOT | 2,029 | | | 2,029 | | | |
| 87301305 | ELECTRIC CABLE IN CONDUIT, LEAD - IN, NO. 14 1 PAIR | FOOT | 882 | | | 882 | | | |
| 87301900 | ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR, NO. 6 1C | FOOT | 1,019 | | | 1,019 | | | |
| 87502440 | TRAFFIC SIGNAL POST, GALVANIZED STEEL 10 FT. | EACH | 2 | | | 2 | | | |
| 87502500 | TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT. | EACH | 2 | | | 2 | | | |
| 87700170 | STEEL MAST ARM ASSEMBLY AND POLE, 26 FT. | EACH | 1 | | | 1 | | | |

• DENOTES SPECIALTY ITEM

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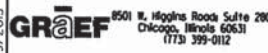
| | | | | | | | | | | |
|---|------------------------------|---------------|-----------|---|--|--------------------|----------------|---|--------------|-----------|
|  8501 N. Higgins Road Suite 200 Chicago, Illinois 60631 (773) 399-0112 | USER NAME = 1485 | DESIGNED - RS | REVISED - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | US 12 (RAND ROAD) AT ELA ROAD SUMMARY OF QUANTITIES | F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| | PLOT SCALE = 58.0000' / 1" = | DRAWN - ED | REVISED - | | | 334 | 02-00063-00-CH | LAKE | 86 | 9 |
| | PLOT DATE = 1/29/2015 | CHECKED - TS | REVISED - | | | CONTRACT NO. 61A94 | | ILLINOIS FED. AID PROJECT CMF-0334(014) | | |

SCALE: 1"=50' SHEET 7 OF 10 SHEETS STA. TO STA.

| CODE NUMBER | ITEM | UNIT | TOTAL QUANTITY | 80% FEDERAL 20% LAKE ZURICH | 80% FEDERAL 20% LAKE COUNTY | 80% FEDERAL 20% LAKE ZURICH | 80% FEDERAL 20% LAKE ZURICH | 80% FEDERAL 20% LAKE ZURICH | 80% FEDERAL 20% LAKE ZURICH |
|-------------|---|------|----------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| | | | | 0004 RECONSTRUCTION | 0004 RECONSTRUCTION | 0021 TRAFFIC SIGNALS | 0040 RETAINING WALL | 0043 UTILITIES | 0042 TRAINEES |
| • 87700230 | STEEL MAST ARM ASSEMBLY AND POLE, 38 FT. | EACH | 1 | | | 1 | | | |
| • 87800100 | CONCRETE FOUNDATION, TYPE A | FOOT | 16 | | | 16 | | | |
| • 87800400 | CONCRETE FOUNDATION, TYPE E 30-INCH DIAMETER | FOOT | 24 | | | 24 | | | |
| • 87900200 | DRILL EXISTING HANDHOLE | EACH | 9 | | | 9 | | | |
| • 88030020 | SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED | EACH | 1 | | | 1 | | | |
| • 88030100 | SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED | EACH | 1 | | | 1 | | | |
| • 88030110 | SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED | EACH | 5 | | | 5 | | | |
| • 88030240 | SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED | EACH | 2 | | | 2 | | | |
| • 88102717 | PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER | EACH | 4 | | | 4 | | | |
| • 88200210 | TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM | EACH | 6 | | | 6 | | | |
| • 88600100 | DETECTOR LOOP, TYPE I | FOOT | 264 | | | 264 | | | |
| • 88800100 | PEDESTRIAN PUSH-BUTTON | EACH | 4 | | | 4 | | | |
| • 89000100 | TEMPORARY TRAFFIC SIGNAL INSTALLATION | EACH | 1 | | | 1 | | | |
| • 89502375 | REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT | EACH | 1 | | | 1 | | | |

• DENOTES SPECIALTY ITEM

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| USER NAME = 1485 | DESIGNED - RS | REVISED - |
| PLOT SCALE = 50.0000' / 1" | DRAWN - ED | REVISED - |
| PLOT DATE = 1/29/2015 | CHECKED - TS | REVISED - |
| | DATE - 12/17/2014 | REVISED - |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**US 12 (RAND ROAD) AT ELA ROAD
SUMMARY OF QUANTITIES**

SCALE: 1"=50' SHEET 8 OF 10 SHEETS STA. TO STA.

| F.A.P RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|----------------|--------|-----------------|--------------|
| 334 | 02-00063-00-CH | LAKE | 86 | 10 |
| CONTRACT NO. 61A94 | | | | |
| ILLINOIS FED. AID PROJECT CMF-0334(014) | | | | |

| CODE NUMBER | ITEM | UNIT | TOTAL QUANTITY | 80% FEDERAL 20% LAKE ZURICH | 80% FEDERAL 20% LAKE COUNTY | 80% FEDERAL 20% LAKE ZURICH | 80% FEDERAL 20% LAKE ZURICH | 80% FEDERAL 20% LAKE ZURICH | 80% FEDERAL 20% LAKE ZURICH |
|-------------|---|-------|----------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| | | | | 0004 RECONSTRUCTION | 0004 RECONSTRUCTION | 0021 TRAFFIC SIGNALS | 0040 RETAINING WALL | 0043 UTILITIES | 0042 TRAINEES |
| • 89502380 | REMOVE EXISTING HANDHOLE | EACH | 4 | | | 4 | | | |
| • 89502385 | REMOVE EXISTING CONCRETE FOUNDATION | EACH | 4 | | | 4 | | | |
| Z0007118 | UNTREATED TIMBER LAGGING | SQ FT | 1,024 | | | | 1,024 | | |
| Z0026404 | FURNISHING SOLDIER PILES (W SECTION) | FOOT | 454 | | | | 454 | | |
| Z0030850 | TEMPORARY INFORMATION SIGNING | SQ FT | 103 | 103 | | | | | |
| • Z0033044 | RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM LEVEL 1 | EACH | 1 | | | 1 | | | |
| Z0046304 | PIPE UNDERDRAINS FOR STRUCTURES 4" | FOOT | 255 | | | | 255 | | |
| Z0048665 | RAILROAD PROTECTIVE LIABILITY INSURANCE | L SUM | 1 | 1 | | | | | |
| Z0056608 | STORM SEWER (WATER MAIN REQUIREMENTS) 12 INCH | FOOT | 7 | 7 | | | | | |
| • Z0073510 | TEMPORARY TRAFFIC SIGNAL TIMING | EACH | 1 | | | 1 | | | |
| Z0076600 | TRAINEES | HOUR | 500 | | | | | | 500 |
| Z0076604 | TRAINEES TRAINING PROGRAM GRADUATE | HOUR | 500 | | | | | | 500 |
| X0324455 | DRILLING AND SETTING SOLDIER PILES (IN SOIL) | CU FT | 1,504 | | | | 1,504 | | |
| X2511630 | EROSION CONTROL BLANKET (SPECIAL) | SQ YD | 687 | 687 | 0 | | | | |

• DENOTES SPECIALTY ITEM

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| USER NAME = 1485 | DESIGNED - RS | REVISED - |
| PLOT SCALE = 50.0000' / 1" = | DRAWN - ED | REVISED - |
| PLOT DATE = 1/29/2015 | CHECKED - TS | REVISED - |
| | DATE - 12/17/2014 | REVISED - |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**US 12 (RAND ROAD) AT ELA ROAD
SUMMARY OF QUANTITIES**

SCALE: 1"=50' SHEET 9 OF 10 SHEETS STA. TO STA.

| | | | | |
|---|--------------------------|----------------|-----------------------|--------------------|
| F.A.P RTE. 334 | SECTION 02-0063-00-CH | COUNTY LAKE | TOTAL SHEETS 86 | SHEET NO. 11 |
| CONTRACT NO. 61A94 | | | | |
| ILLINOIS FED. AID PROJECT CMF-0334(014) | | | | |

| CODE NUMBER | ITEM | UNIT | TOTAL QUANTITY | 80% FEDERAL 20% LAKE ZURICH | 80% FEDERAL 20% LAKE COUNTY | 80% FEDERAL 20% LAKE ZURICH | 80% FEDERAL 20% LAKE ZURICH | 80% FEDERAL 20% LAKE ZURICH | 80% FEDERAL 20% LAKE ZURICH |
|-------------|--|-------|----------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| | | | | 0004 RECONSTRUCTION | 0004 RECONSTRUCTION | 0021 TRAFFIC SIGNALS | 0040 RETAINING WALL | 0043 UTILITIES | 0042 TRAINEES |
| X4021000 | TEMPORARY ACCESS (PRIVATE ENTRANCE) | EACH | 1 | 1 | | | | | |
| X5010523 | REMOVE CONCRETE END SECTION | EACH | 2 | 2 | | | | | |
| * X6026622 | VALVE VAULTS TO BE REMOVED | EACH | 1 | | | | | 1 | |
| X7010216 | TRAFFIC CONTROL AND PROTECTION, (SPECIAL) | L SUM | 1 | 1 | | | | | |
| • X7810300 | RECESSED REFLECTIVE PAVMENT MARKER | EACH | 40 | 40 | | | | | |
| • X8710024 | FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F SM24F | FOOT | 4,933 | | | 4,933 | | | |
| • X8730320 | ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 20 3/C, TWISTED, SHIELDED | FOOT | 153 | | | 153 | | | |
| • X8950115 | RELOCATE LIGHT DETECTOR | EACH | 1 | | | 1 | | | |
| • X8950510 | REMOVE FIBER OPTIC CABLE FROM CONDUIT | FOOT | 4,933 | | | 4,933 | | | |
| | | | | | | | | | |
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• DENOTES SPECIALTY ITEM

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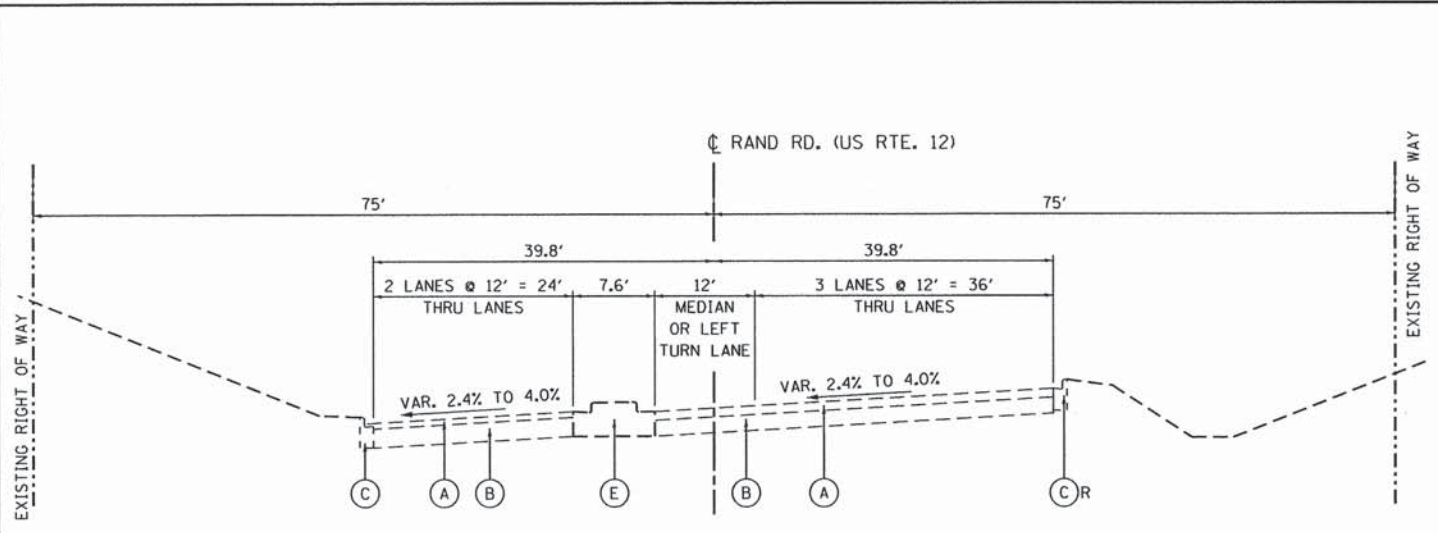
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|------------------------------|-------------------|-----------|
| USER NAME = 1485 | DESIGNED - RS | REVISED - |
| PLOT SCALE = 50.0000' / 1" = | DRAWN - ED | REVISED - |
| PLOT DATE = 1/29/2015 | CHECKED - TS | REVISED - |
| | DATE - 12/17/2014 | REVISED - |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

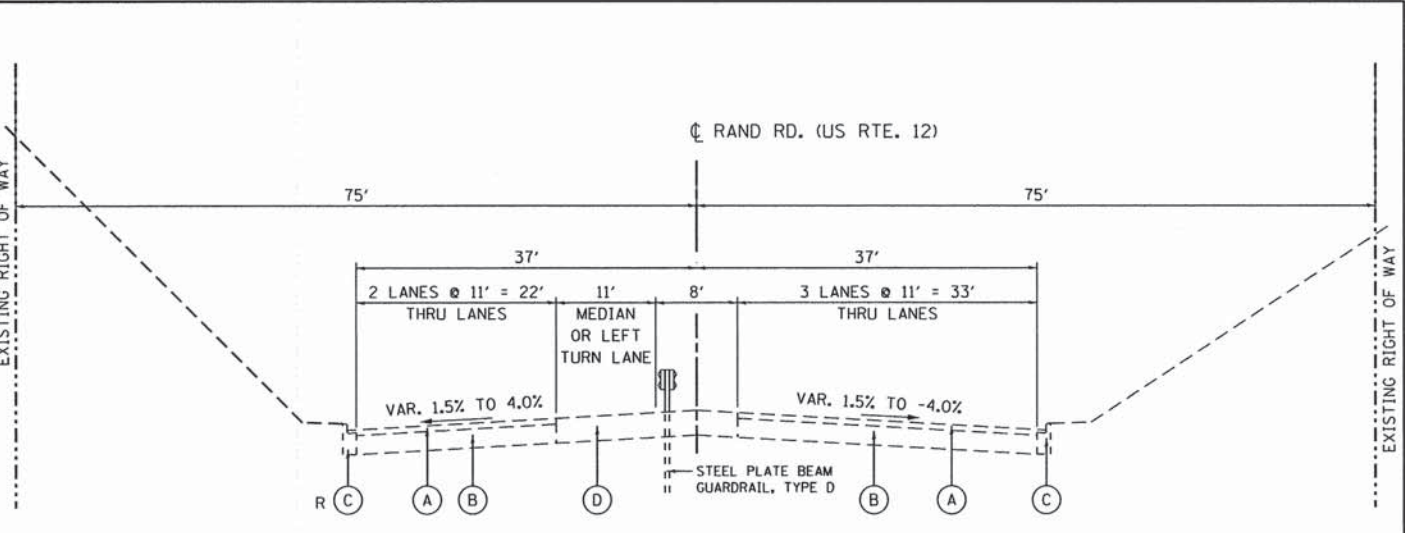
**US 12 (RAND ROAD) AT ELA ROAD
SUMMARY OF QUANTITIES**

SCALE: 1"=50' SHEET 10 OF 10 SHEETS STA. TO STA.

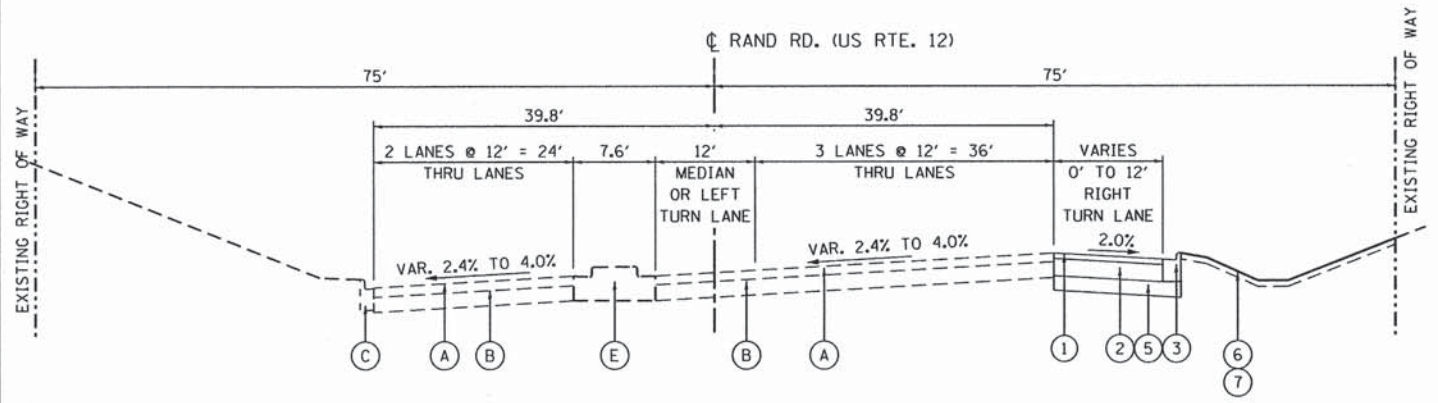
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|---|---------------------------|----------------|-----------------------|--------------------|
| F.A.P RTE. 334 | SECTION 02-00063-00-CH | COUNTY LAKE | TOTAL SHEETS 86 | SHEET NO. 12 |
| CONTRACT NO. 61A94 | | | | |
| ILLINOIS FED. AID PROJECT CMF-0334(014) | | | | |



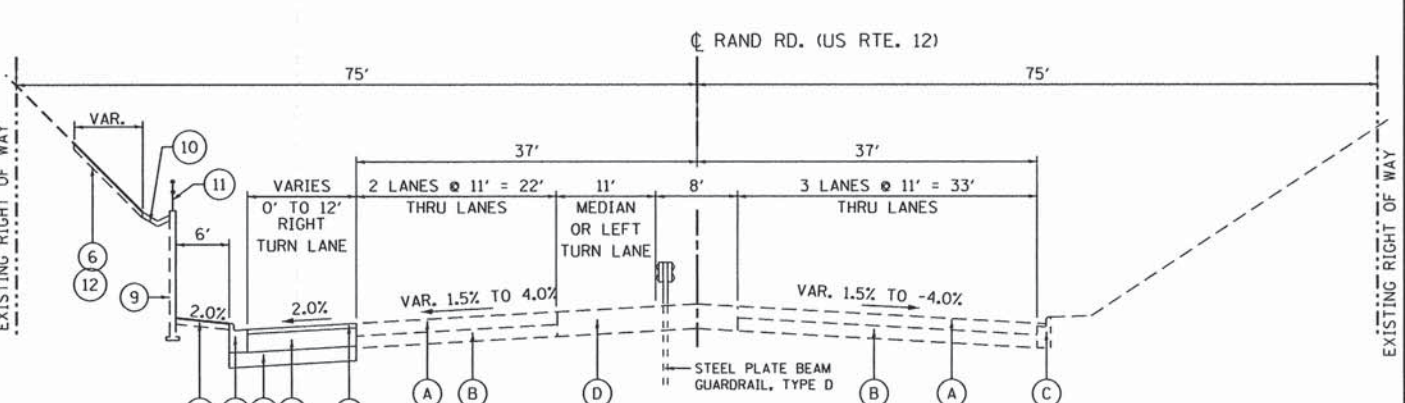
EXISTING TYPICAL SECTION
RAND ROAD
 STA. 76+50 TO STA. 81+00
 LOOKING EAST



EXISTING TYPICAL SECTION
RAND ROAD
 STA. 81+00 TO STA. 86+00
 LOOKING EAST



PROPOSED TYPICAL SECTION
RAND ROAD
 STA. 76+50 TO STA. 81+00
 LOOKING EAST



PROPOSED TYPICAL SECTION
RAND ROAD
 STA. 81+00 TO STA. 86+00
 LOOKING EAST

| HOT-MIX ASPHALT MIXTURE REQUIREMENTS | |
|--|------------------|
| MIXTURE TYPE | AIR VOIDS @ Ndes |
| ROADWAY WIDENING | |
| POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, MIX "F", N90 (IL 9.5mm) 2" | 4% @ 90 GYR |
| HMA BASE COURSE OR HMA BASE COURSE WIDENING, (IL 19.0mm), N70 9 1/4" | 4% @ 70 GYR |
| HMA REPLACEMENT OVER PATCHES | |
| POLYMERIZED HOT-MIX ASPHALT SURFACE COURSE, MIX "F", N90 (IL 9.5mm) 2" | 4% @ 90 GYR |
| CLASS D PATCHES, 10" | |
| CLASS D PATCHES (HMA BINDER IL 19mm) 10" | 4% @ 70 GYR |

THE UNIT WEIGHT USED TO CALCULATE ALL HOT-MIX ASPHALT SURFACE MIXTURE A IS 112 LBS/50 YD/IN.
 THE "AC TYPE" FOR POLYMERIZED HMA MIXES SHALL BE "SBS/SBR PG 76-22" AND FOR NON-POLYMERIZED HMA THE "AC TYPE" SHALL BE "PG 64-22" UNLESS MODIFIED BY DISTRICT ONE SPECIAL PROVISIONS.
 FOR USE OF RECYCLED MATERIALS SEE DISTRICT ONE SPECIAL PROVISIONS.

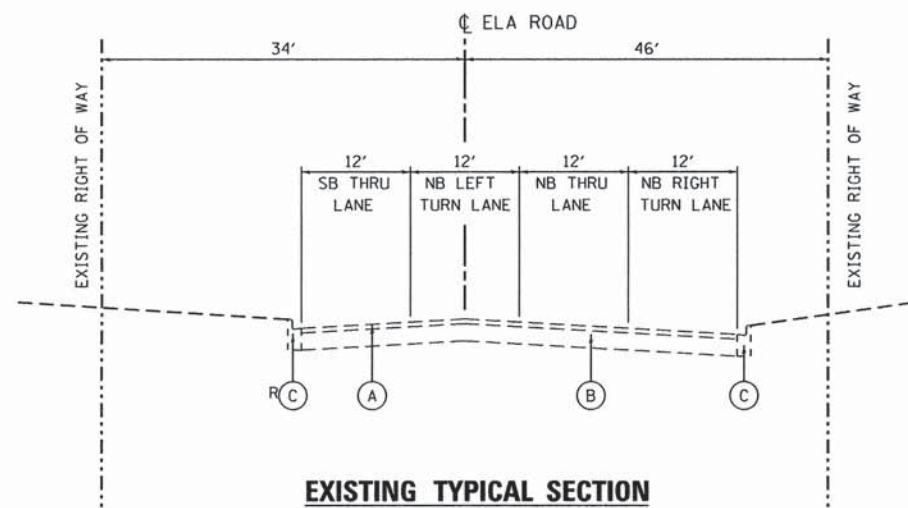
EXISTING LEGEND

- (A) HMA SURFACE 4 1/8"±
- (B) PCC BASE COURSE 10"-8"-10"
- (C) CONCRETE CURB & GUTTER
- (D) HMA PAVEMENT 9"±
- (E) PCC MEDIAN
- R ITEM TO BE REMOVED (SEE PLANS FOR LOCATIONS)

PROPOSED LEGEND

- (1) POLYMERIZED HMA SURFACE COURSE, MIX F N90 - 2"
- (2) HMA BASE COURSE, 9 1/4" (WIDTH > 6 FT) OR HMA BASE COURSE WIDENING, 9 1/4" (WIDTH ≤ 6 FT)
- (3) COMBINATION CONCRETE CURB & GUTTER, TYPE B-6.24
- (4) COMBINATION CONCRETE CURB & GUTTER, TYPE B-6.12
- (5) AGGREGATE SUBGRADE IMPROVEMENT, 12"
- (6) TOPSOIL PLACEMENT, MIN. 6"
- (7) SODDING, SALT TOLERANT
- (8) NOT USED THIS SHEET
- (9) SEGMENTAL CONCRETE BLOCK WALL, 0' TO 6' HIGH
- (10) CONCRETE GUTTER TYPE A
- (11) PARAPET RAILING
- (12) SODDING OR SEEDING, CLASS 3 (SEE LANDSCAPING PLANS)

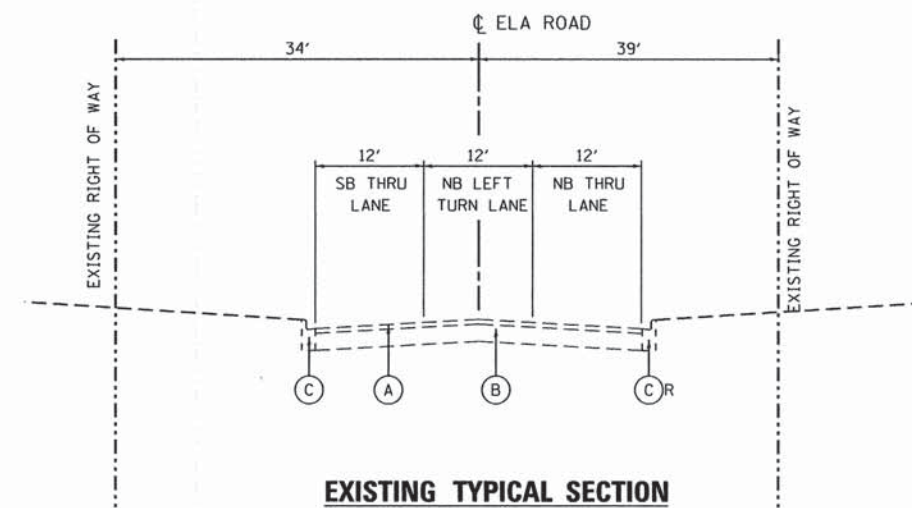
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EXISTING TYPICAL SECTION

ELA ROAD

STA. 117+76 TO STA. 121+00
LOOKING NORTH



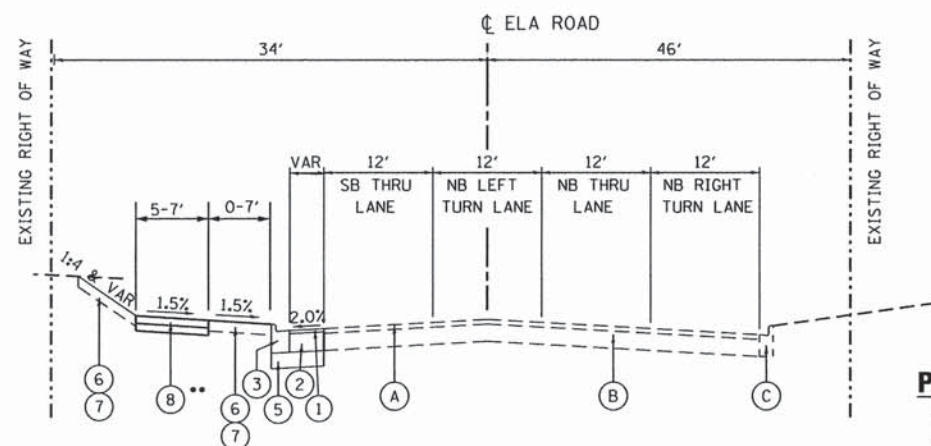
EXISTING TYPICAL SECTION

ELA ROAD

STA. 122+00 TO STA. 123+76
LOOKING NORTH

EXISTING LEGEND

- (A) HMA SURFACE 3"±
- (B) HMA BASE COURSE 7-9"
- (C) CONCRETE CURB & GUTTER
- R ITEM TO BE REMOVED (SEE PLANS FOR LOCATIONS)

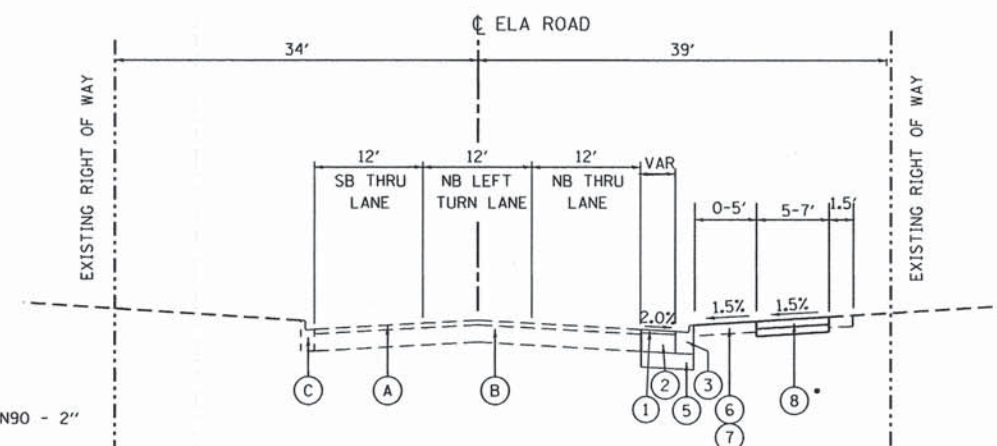


PROPOSED TYPICAL SECTION

ELA ROAD

STA. 119+85 TO RAND ROAD
LOOKING NORTH

** SIDEWALK BEGINS AT STA. 120+30



PROPOSED TYPICAL SECTION

ELA ROAD

RAND ROAD TO STA. 123+00
LOOKING NORTH

* SIDEWALK ENDS AT STA 123+25

NOTE 1. SEE PLANS AND CROSS SECTIONS FOR SIDEWALK AND GRADING.

PROPOSED LEGEND

- (1) POLYMERIZED HMA SURFACE COURSE, MIX F N90 - 2"
- (2) HMA BASE COURSE, 9 1/4" (WIDTH > 6 FT) OR HMA BASE COURSE WIDENING, 9 1/4" (WIDTH <= 6 FT)
- (3) COMBINATION CONCRETE CURB & GUTTER, TYPE B-6.24
- (4) COMBINATION CONCRETE CURB & GUTTER, TYPE B-6.12
- (5) AGGREGATE SUBGRADE IMPROVEMENT, 12"
- (6) TOPSOIL PLACEMENT, MIN. 6"
- (7) SODDING, SALT TOLERANT
- (8) PCC SIDEWALK, 5" & AGGREGATE BASE COURSE, TYPE B 4"

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

US 12 (RAND ROAD) AT ELA ROAD
TYPICAL SECTIONS - ELA ROAD

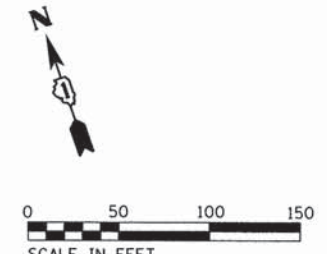
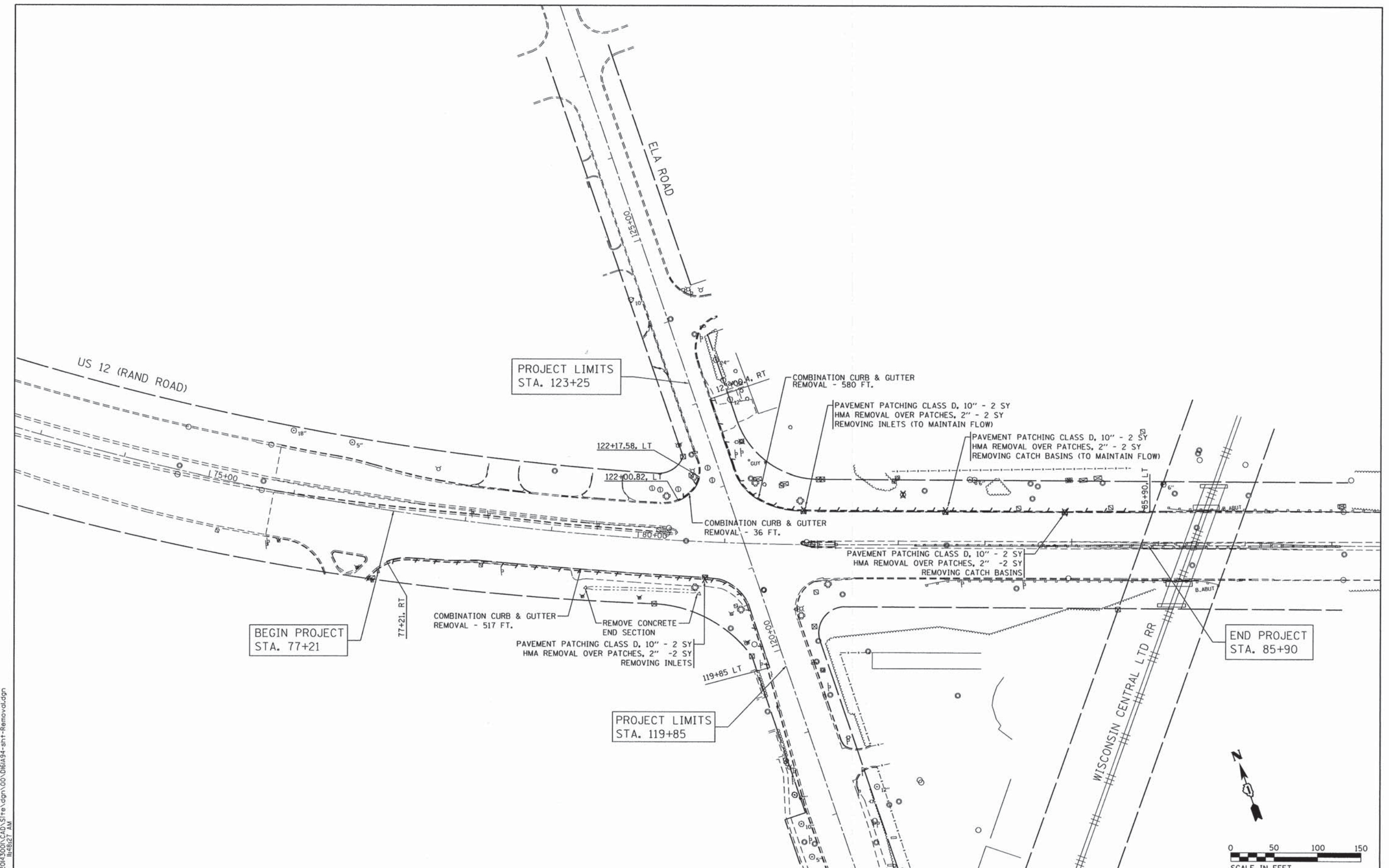
| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|----------------|--------|--------------|-----------|
| 334 | 02-00063-00-CH | LAKE | 86 | 14 |
| CONTRACT NO. 61A94 | | | | |
| ILLINOIS FED. AID PROJECT CMF-0334(014) | | | | |

SCALE: NONE SHEET 2 OF 2 SHEETS STA. TO STA.

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GRÖEF
1501 W. Higgins Road Suite 280
Chicago, Illinois 60631
773.399.0112

| | | |
|----------------------------|-------------------|-----------|
| USER NAME = 1485 | DESIGNED - RS | REVISED - |
| PLOT SCALE = 10.0000' / 1" | DRAWN - ED | REVISED - |
| PLOT DATE = 1/29/2015 | CHECKED - TS | REVISED - |
| | DATE - 12/17/2014 | REVISED - |



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GRÖEF
 501 N. Higgins Road Suite 200
 Chicago, Illinois 60631
 (773) 399-0112

| | | |
|----------------------------|-------------------|-----------|
| USER NAME = 1485 | DESIGNED - RS | REVISED - |
| DRAWN - ED | CHECKED - TS | REVISED - |
| PLOT SCALE = 50.0000' / 1" | DATE - 12/17/2014 | REVISED - |
| PLOT DATE = 1/29/2015 | | |

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

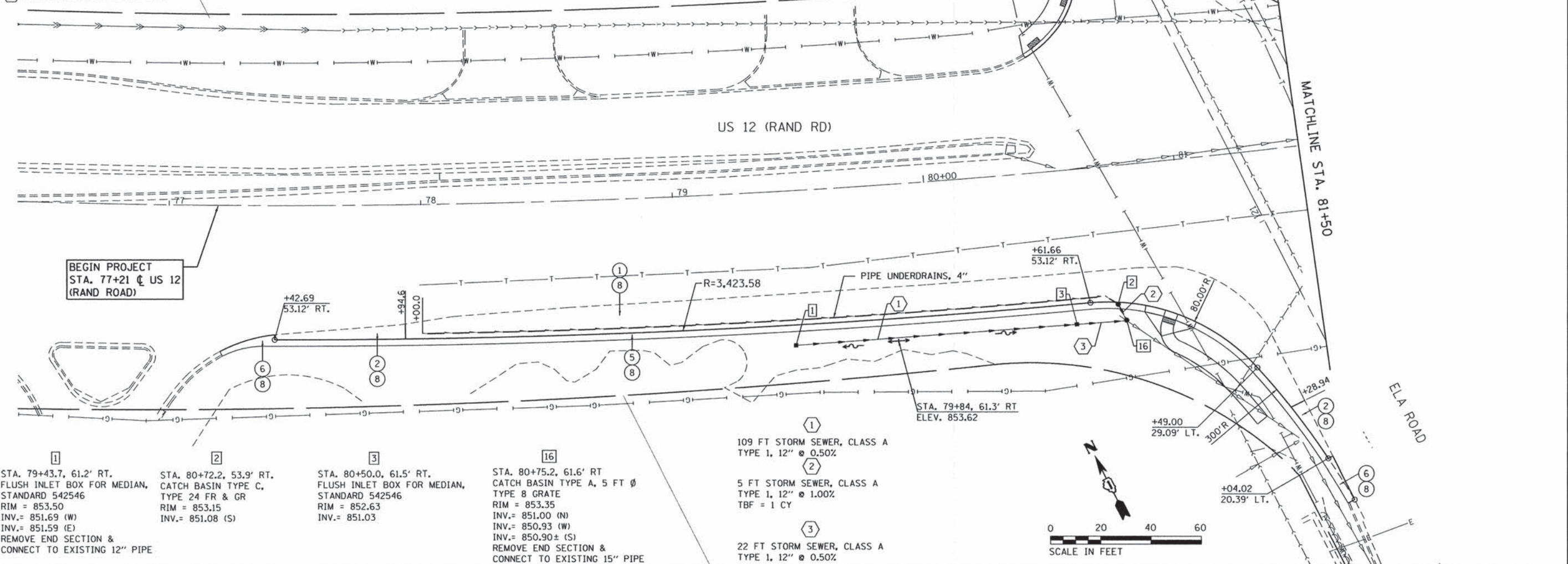
**US 12 (RAND ROAD) AT ELA ROAD
 REMOVAL PLAN**

SCALE: 1"=50' SHEET 1 OF 1 SHEETS STA. TO STA.

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|----------------|--------|--------------|-----------|
| 334 | 02-00063-00-CH | LAKE | 86 | 16 |
| CONTRACT NO. 61A94 | | | | |
| ILLINOIS FED. AID PROJECT CMF-0334(014) | | | | |

DRAINAGE LEGEND

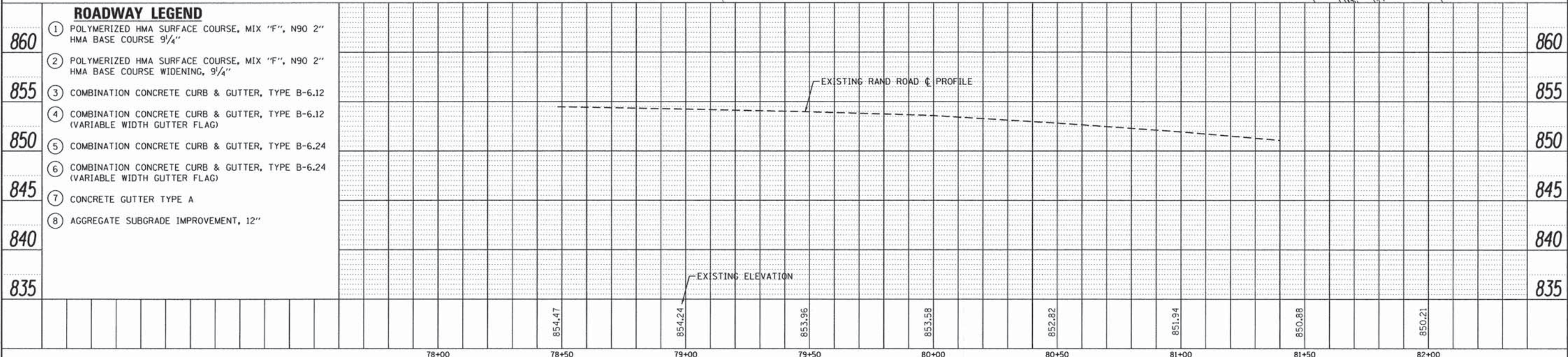
- (X) PROPOSED DRAINAGE STRUCTURE
- (X) PROPOSED STORM SEWER PIPE



- 1 STA. 79+43.7, 61.2' RT. FLUSH INLET BOX FOR MEDIAN, STANDARD 542546 RIM = 853.50 INV.= 851.69 (W) INV.= 851.59 (E) REMOVE END SECTION & CONNECT TO EXISTING 12" PIPE
- 2 STA. 80+72.2, 53.9' RT. CATCH BASIN TYPE C, TYPE 24 FR & GR RIM = 853.15 INV.= 851.08 (S)
- 3 STA. 80+50.0, 61.5' RT. FLUSH INLET BOX FOR MEDIAN, STANDARD 542546 RIM = 852.63 INV.= 851.03
- 16 STA. 80+75.2, 61.6' RT CATCH BASIN TYPE A, 5 FT Ø TYPE 8 GRATE RIM = 853.35 INV.= 851.00 (N) INV.= 850.93 (W) INV.= 850.90± (S) REMOVE END SECTION & CONNECT TO EXISTING 15" PIPE

ROADWAY LEGEND

- 1 POLYMERIZED HMA SURFACE COURSE, MIX "F", N90 2" HMA BASE COURSE 9 1/4"
- 2 POLYMERIZED HMA SURFACE COURSE, MIX "F", N90 2" HMA BASE COURSE WIDENING, 9 1/4"
- 3 COMBINATION CONCRETE CURB & GUTTER, TYPE B-6.12
- 4 COMBINATION CONCRETE CURB & GUTTER, TYPE B-6.12 (VARIABLE WIDTH GUTTER FLAG)
- 5 COMBINATION CONCRETE CURB & GUTTER, TYPE B-6.24
- 6 COMBINATION CONCRETE CURB & GUTTER, TYPE B-6.24 (VARIABLE WIDTH GUTTER FLAG)
- 7 CONCRETE GUTTER TYPE A
- 8 AGGREGATE SUBGRADE IMPROVEMENT, 12"



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RAND ROAD (US RTE 12) AT ELA ROAD
ROADWAY & DRAINAGE PLAN & PROFILE

| | | | | |
|---|------------------------|-------------|-----------------|--------------|
| F.A.P. RTE. 334 | SECTION 02-00063-00-CH | COUNTY LAKE | TOTAL SHEETS 86 | SHEET NO. 17 |
| CONTRACT NO. 61A94 | | | | |
| ILLINOIS FED. AID PROJECT CMF-0334(014) | | | | |

| | | |
|------------------------------|-------------------|-----------|
| USER NAME = 1485 | DESIGNED - RS | REVISED - |
| PLOT SCALE = 28,0000 ' / in. | DRAWN - ED | REVISED - |
| PLOT DATE = 1/29/2015 | CHECKED - TS | REVISED - |
| | DATE - 12/17/2014 | REVISED - |

SCALE: H 1"=20' V 1"=5'
SHEET 1 OF 3 SHEETS STA. TO STA.

PLAN

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| DATE | |
| BY | |
| DESIGNED | |
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| IN CHARGE | |
| DATE | |
| BY | |
| DATE | |
| BY | |
| DATE | |

PROFILE

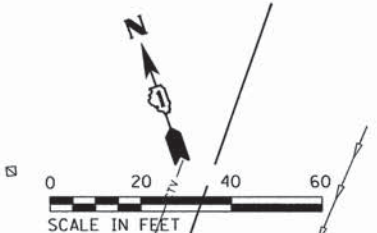
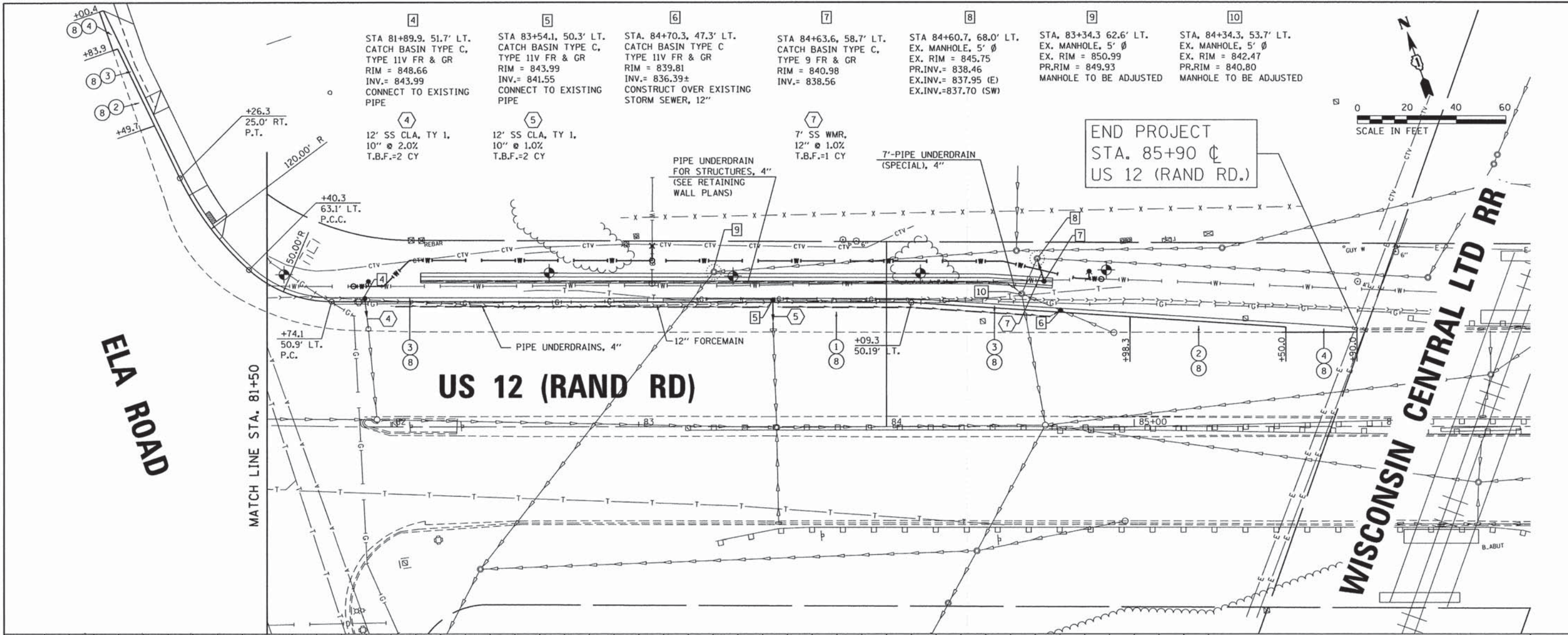
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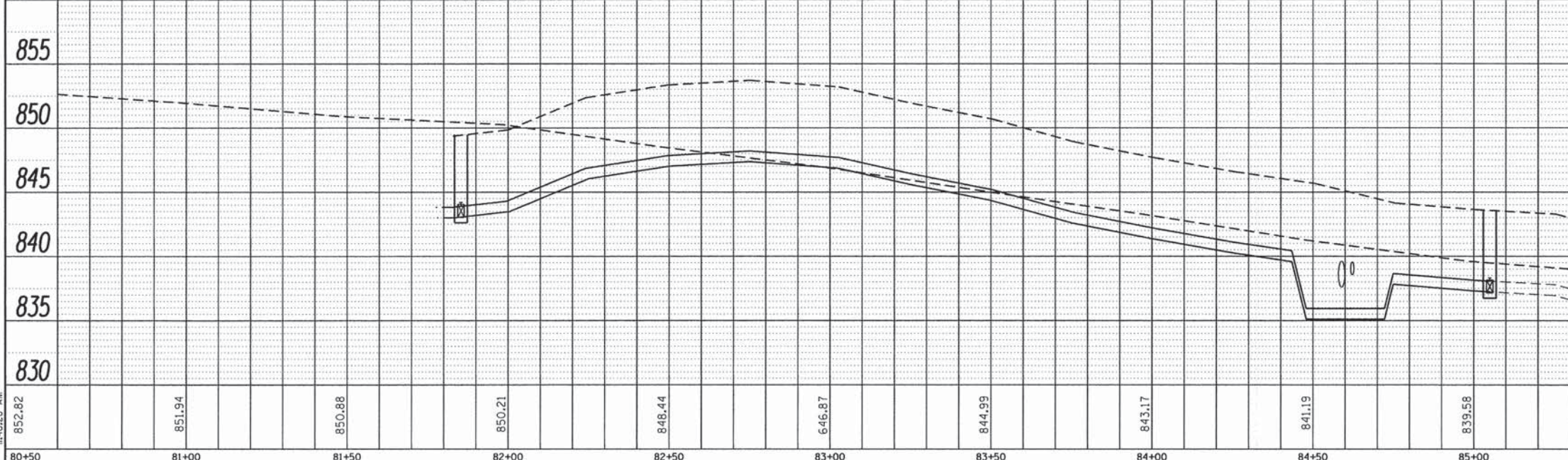
GRAF 8501 N. Higgins Road Suite 200
Chicago, Illinois 60631
(773) 399-0112

| | |
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| DATE | |
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| PLANNED | |
| DESIGNED | |
| CHECKED | |
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| DATE | |
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| NOTED | |



END PROJECT
STA. 85+90 (±)
US 12 (RAND RD.)



- ROADWAY LEGEND**
- ① POLYMERIZED HMA SURFACE COURSE, MIX "F", N90 2" HMA BASE COURSE 9 1/4"
 - ② POLYMERIZED HMA SURFACE COURSE, MIX "F", N90 2" HMA BASE COURSE WIDENING, 9 1/4"
 - ③ COMBINATION CONCRETE CURB & GUTTER, TYPE B-6.12
 - ④ COMBINATION CONCRETE CURB & GUTTER, TYPE B-6.12 (VARIABLE WIDTH GUTTER FLAG)
 - ⑤ COMBINATION CONCRETE CURB & GUTTER, TYPE B-6.24
 - ⑥ COMBINATION CONCRETE CURB & GUTTER, TYPE B-6.24 (VARIABLE WIDTH GUTTER FLAG)
 - ⑦ CONCRETE GUTTER TYPE A
 - ⑧ AGGREGATE SUBGRADE IMPROVEMENT, 12"
- DRAINAGE LEGEND**
- [X] PROPOSED DRAINAGE STRUCTURE
 - [X] PROPOSED STORM SEWER PIPE

| | | | | | | | | | | | | |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 80+50 | 81+00 | 81+50 | 82+00 | 82+50 | 83+00 | 83+50 | 84+00 | 84+50 | 85+00 | 85+50 | 86+00 | 86+50 |
| 852.82 | 851.94 | 850.88 | 850.21 | 848.44 | 846.87 | 844.99 | 843.17 | 841.19 | 839.58 | 838.64 | 838.13 | 837.61 |

GRAF
8501 N. Higgins Road, Suite 280
Chicago, Illinois 60631
(773) 399-0112

| | | |
|-----------------------------|-------------------|-----------|
| USER NAME = 1485 | DESIGNED - RS | REVISED - |
| | DRAWN - ED | REVISED - |
| PLOT SCALE = 28.0000' / in. | CHECKED - TS | REVISED - |
| PLOT DATE = 1/29/2015 | DATE - 12/17/2014 | REVISED - |

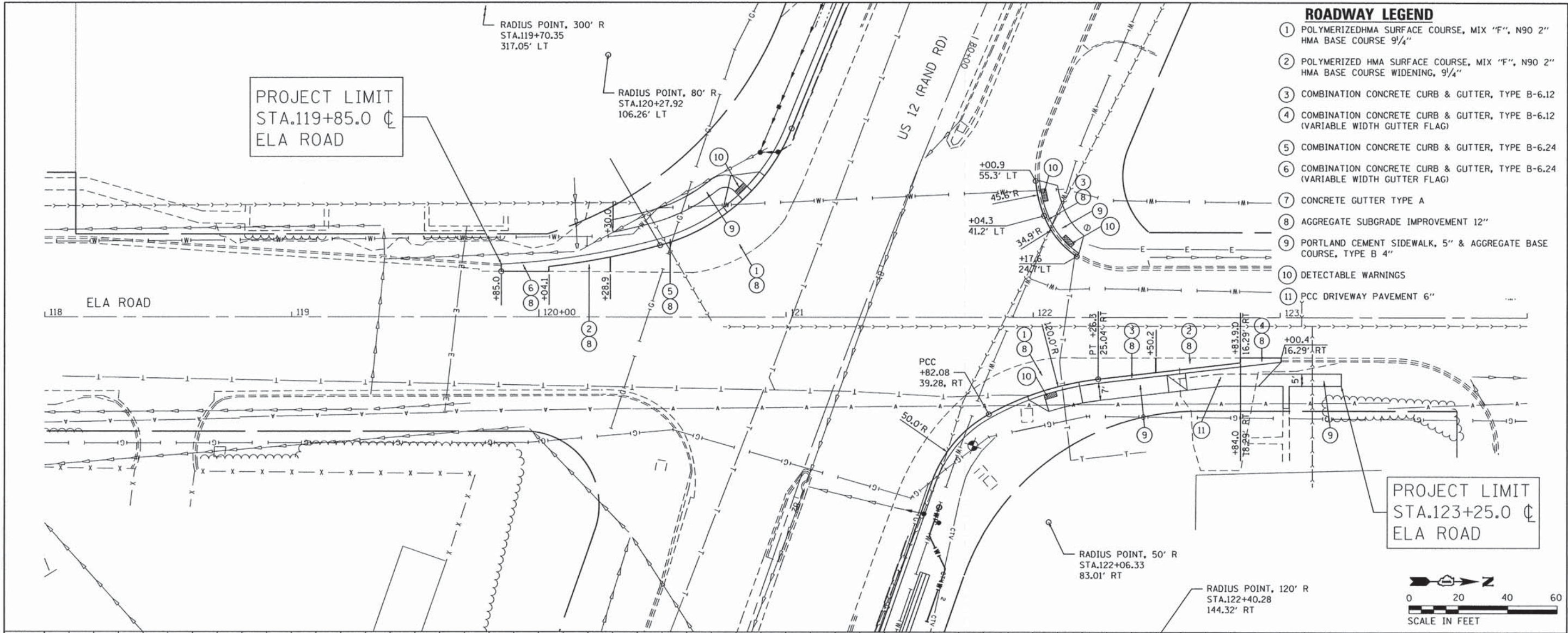
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

| | |
|--|----------------------------------|
| RAND ROAD (US RTE 12) AT ELA ROAD ROADWAY & DRAINAGE PLAN & PROFILE | |
| SCALE: H 1"=20' V 1"=5' | SHEET 2 OF 3 SHEETS STA. TO STA. |

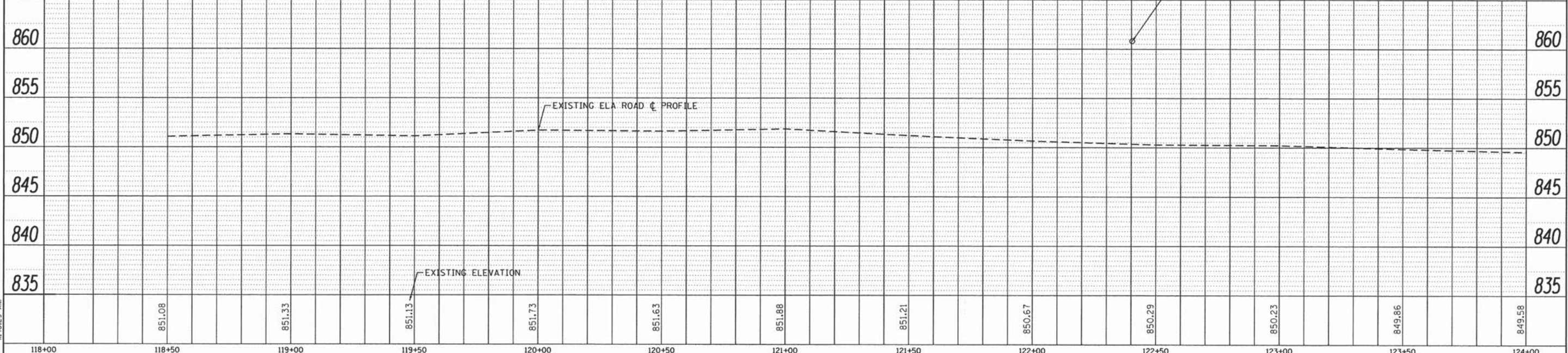
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| F.A.P. RTE. 334 | SECTION 02-00063-00-CH | COUNTY LAKE | TOTAL SHEETS 86 | SHEET NO. 18 |
| CONTRACT NO. 61A94 | | | | |
| [ILLINOIS] FED. AID PROJECT CMF-0334(014) | | | | |

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| DATE | |
| BY | |
| PLANNED | |
| CHECKED | |
| NO. 1 | |
| NO. 2 | |
| NO. 3 | |
| NO. 4 | |
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| NO. 7 | |
| NO. 8 | |
| NO. 9 | |
| NO. 10 | |
| NO. 11 | |
| NO. 12 | |
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| NO. 14 | |
| NO. 15 | |
| NO. 16 | |
| NO. 17 | |
| NO. 18 | |
| NO. 19 | |
| NO. 20 | |

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| DATE | |
| BY | |
| PLANNED | |
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| NO. 1 | |
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| NO. 18 | |
| NO. 19 | |
| NO. 20 | |

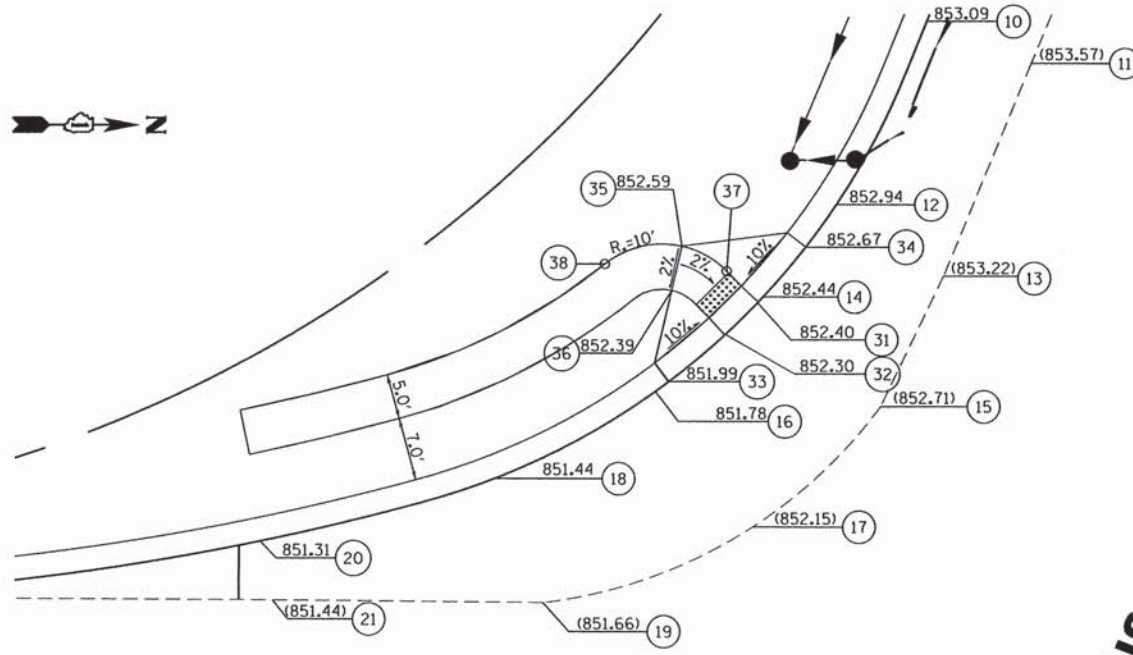


- ### ROADWAY LEGEND
- ① POLYMERIZEDHMA SURFACE COURSE, MIX "F", N90 2" HMA BASE COURSE 9 1/4"
 - ② POLYMERIZED HMA SURFACE COURSE, MIX "F", N90 2" HMA BASE COURSE WIDENING, 9 1/4"
 - ③ COMBINATION CONCRETE CURB & GUTTER, TYPE B-6.12
 - ④ COMBINATION CONCRETE CURB & GUTTER, TYPE B-6.12 (VARIABLE WIDTH GUTTER FLAG)
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 - ⑥ COMBINATION CONCRETE CURB & GUTTER, TYPE B-6.24 (VARIABLE WIDTH GUTTER FLAG)
 - ⑦ CONCRETE GUTTER TYPE A
 - ⑧ AGGREGATE SUBGRADE IMPROVEMENT 12"
 - ⑨ PORTLAND CEMENT SIDEWALK, 5" & AGGREGATE BASE COURSE, TYPE B 4"
 - ⑩ DETECTABLE WARNINGS
 - ⑪ PCC DRIVEWAY PAVEMENT 6"



| | | | | | | | | | | | | | |
|--|------------------------------|-------------------|-----------|---|--|---|-------------|-----------------|------------------------|-------------|-----------------|--------------|--|
| 8501 W. Higgins Road, Suite 200 Chicago, Illinois 60631 (773) 399-0112 | USER NAME = 1485 | DESIGNED - RS | REVISED - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | RAND ROAD (US RTE 12) AT ELA ROAD ROADWAY & DRAINAGE PLAN & PROFILE | | | F.A.P. RTE. 334 | SECTION 02-00063-00-CH | COUNTY LAKE | TOTAL SHEETS 86 | SHEET NO. 19 | |
| | PLOT SCALE = 28.0000' / 1" = | CHECKED - TS | REVISED - | | SCALE: H 1"=20' | SHEET 3 | OF 3 SHEETS | STA. TO STA. | CONTRACT NO. 61A94 | | | | |
| | PLOT DATE = 1/29/2015 | DATE - 12/17/2014 | REVISED - | | | ILLINOIS FED. AID PROJECT CMF-0334(014) | | | | | | | |
| | | | | | | | | | | | | | |

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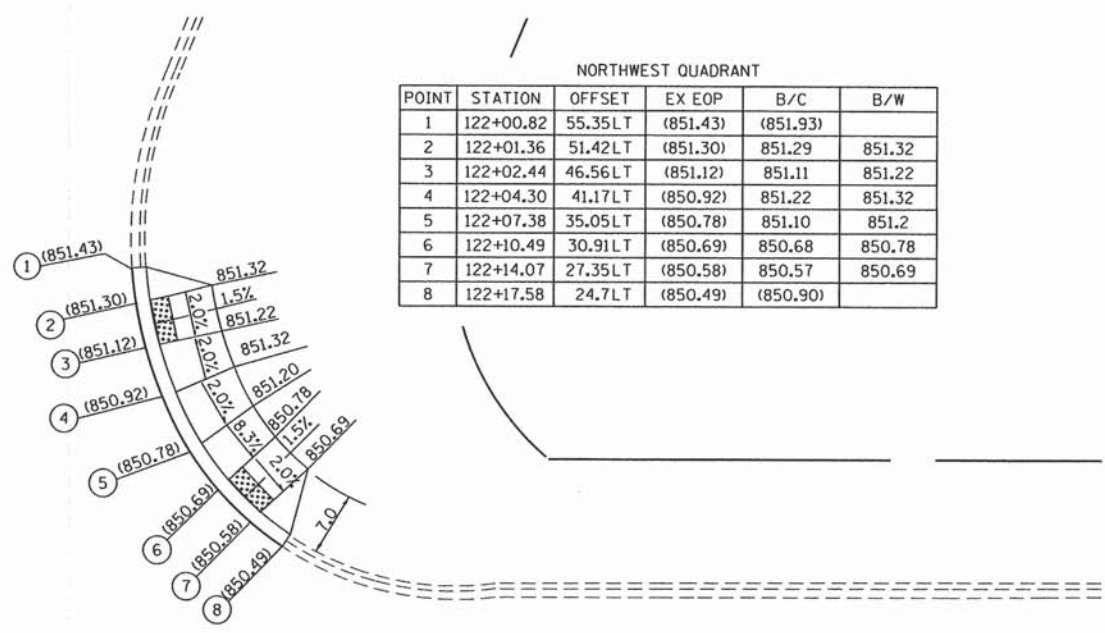


ELA ROAD

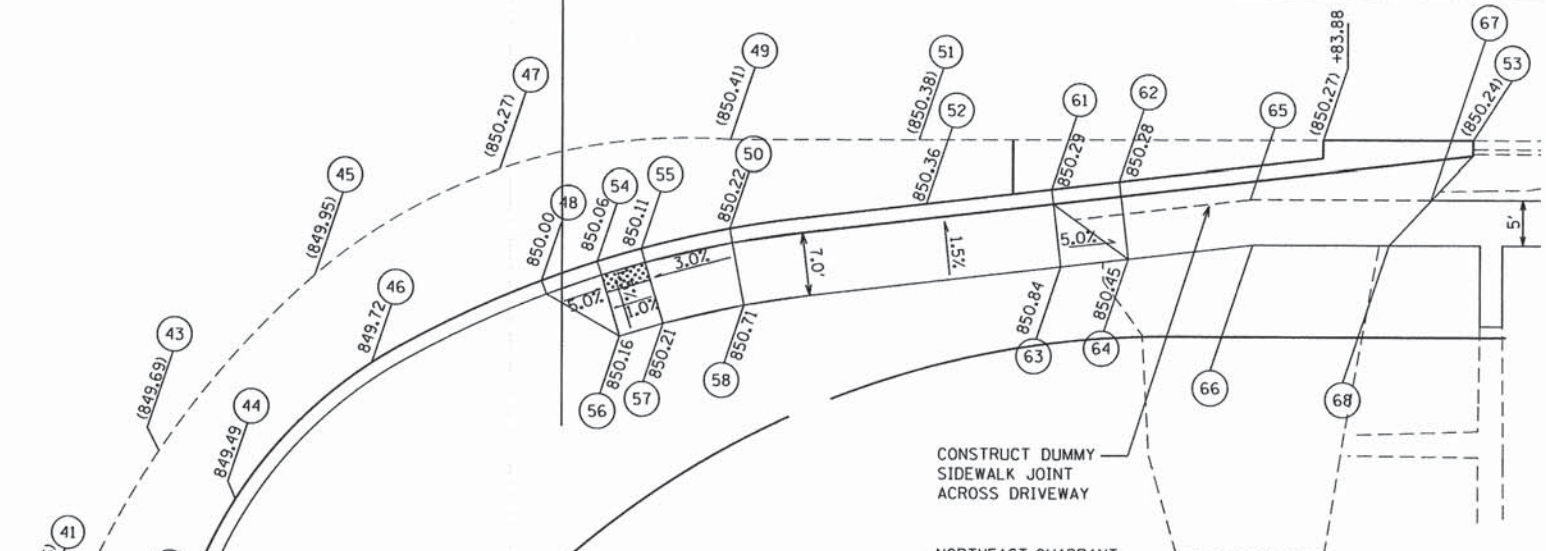
US 12 RAND ROAD

20+00 121 122 123

| SOUTHWEST QUADRANT | | | | | | | | |
|--------------------|-----------|---------|----------|-------|-----------|---------|-----------------|-----------------|
| POINT | STATION | OFFSET | EX EOP | POINT | STATION | OFFSET | PR EOP | B/C |
| 11 | 121+15.99 | 77.60LT | (853.57) | 10 | 121+04.50 | 82.21LT | 853.09 | 853.53 |
| 13 | 121+06.40 | 54.14LT | (853.22) | 12 | 120+94.57 | 62.00LT | 852.94 | 853.38 |
| 15 | 120+99.50 | 39.73LT | (852.71) | 14 | 120+86.52 | 51.80LT | 852.44 | 852.54 |
| 17 | 120+85.44 | 26.43LT | (852.15) | 16 | 120+74.69 | 41.35LT | 851.78 | 852.16 |
| 19 | 120+62.94 | 18.03LT | (851.66) | 18 | 120+57.00 | 31.73LT | 851.44 | 851.82 |
| 21 | 120+31.54 | 18.30LT | (851.44) | 20 | 120+31.19 | 24.78LT | 851.31 | 851.69 |
| | | | | 31 | 120+85.90 | 51.33LT | 852.40 | 852.39 |
| | | | | 32 | 120+82.33 | 47.69LT | 852.30 | 852.29 |
| | | | | 33 | 120+76.18 | 42.45LT | 851.99 | 852.37 |
| | | | | 34 | 120+91.20 | 57.31LT | 852.67 | 853.05 |
| | | | | 35 | 120+77.57 | 57.40LT | 852.59 | BACK OF LANDING |
| | | | | 36 | 120+76.47 | 52.51LT | 852.39 | BACK OF LANDING |
| | | | | 37 | 120+82.51 | 54.64LT | PC 10 FT RADIUS | |
| | | | | 38 | 120+69.09 | 55.41LT | PC 10 FT RADIUS | |



| NORTHWEST QUADRANT | | | | | |
|--------------------|-----------|---------|----------|----------|--------|
| POINT | STATION | OFFSET | EX EOP | B/C | B/W |
| 1 | 122+00.82 | 55.35LT | (851.43) | (851.93) | |
| 2 | 122+01.36 | 51.42LT | (851.30) | 851.29 | 851.32 |
| 3 | 122+02.44 | 46.56LT | (851.12) | 851.11 | 851.22 |
| 4 | 122+04.30 | 41.17LT | (850.92) | 851.22 | 851.32 |
| 5 | 122+07.38 | 35.05LT | (850.78) | 851.10 | 851.2 |
| 6 | 122+10.49 | 30.91LT | (850.69) | 850.68 | 850.78 |
| 7 | 122+14.07 | 27.35LT | (850.58) | 850.57 | 850.69 |
| 8 | 122+17.58 | 24.7LT | (850.49) | (850.90) | |



| NORTHEAST QUADRANT | | | | | | | | |
|--------------------|-----------|---------|----------|-------|-----------|---------|--------|--------|
| POINT | STATION | OFFSET | EX EOP | POINT | STATION | OFFSET | PR EOP | B/C |
| 41 | 81+87.31 | 38.55RT | (849.16) | 42 | 81+87.33 | 50.62RT | 848.92 | 849.36 |
| 43 | 81+64.08 | 41.97RT | (849.69) | 44 | 81+66.80 | 51.70RT | 849.49 | 849.93 |
| 45 | 121+72.79 | 31.44RT | (849.95) | 46 | 121+79.07 | 41.10RT | 849.72 | 850.16 |
| 47 | 121+93.11 | 19.76RT | (850.27) | 48 | 121+97.75 | 32.01RT | 850.00 | 850.44 |
| 49 | 122+18.52 | 16.44RT | (850.41) | 50 | 122+18.48 | 26.21RT | 850.22 | 850.66 |
| 51 | 122+39.32 | 16.40RT | (850.38) | 52 | 122+40.15 | 23.41RT | 850.36 | 850.80 |
| 53 | 123+00.40 | 16.30RT | (850.24) | 54 | 122+03.88 | 29.88RT | 850.06 | 850.08 |
| | | | | 55 | 122+08.74 | 28.44RT | 850.11 | 850.13 |
| | | | | 56 | 122+06.34 | 38.10RT | 850.16 | B/W |
| | | | | 57 | 122+11.13 | 36.66RT | 850.21 | B/W |
| | | | | 58 | 122+20.04 | 34.65RT | 850.71 | B/W |
| | | | | 61 | 122+53.96 | 21.80RT | 850.29 | 850.73 |
| | | | | 62 | 122+61.41 | 20.92RT | 850.28 | 850.34 |
| | | | | 63 | 122+54.96 | 30.32RT | 850.84 | B/W |
| | | | | 64 | 122+62.40 | 29.45RT | 850.45 | B/W |

CONSTRUCT DUMMY SIDEWALK JOINT ACROSS DRIVEWAY

CURB HEIGHT TRANSITION

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| USER NAME = 1485 | DESIGNED - RS | REVISED - |
| PLOT SCALE = 1/8"=1'-0" | DRAWN - ED | REVISED - |
| PLOT DATE = 1/29/2015 | CHECKED - TS | REVISED - |
| | DATE - 12/17/2014 | REVISED - |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

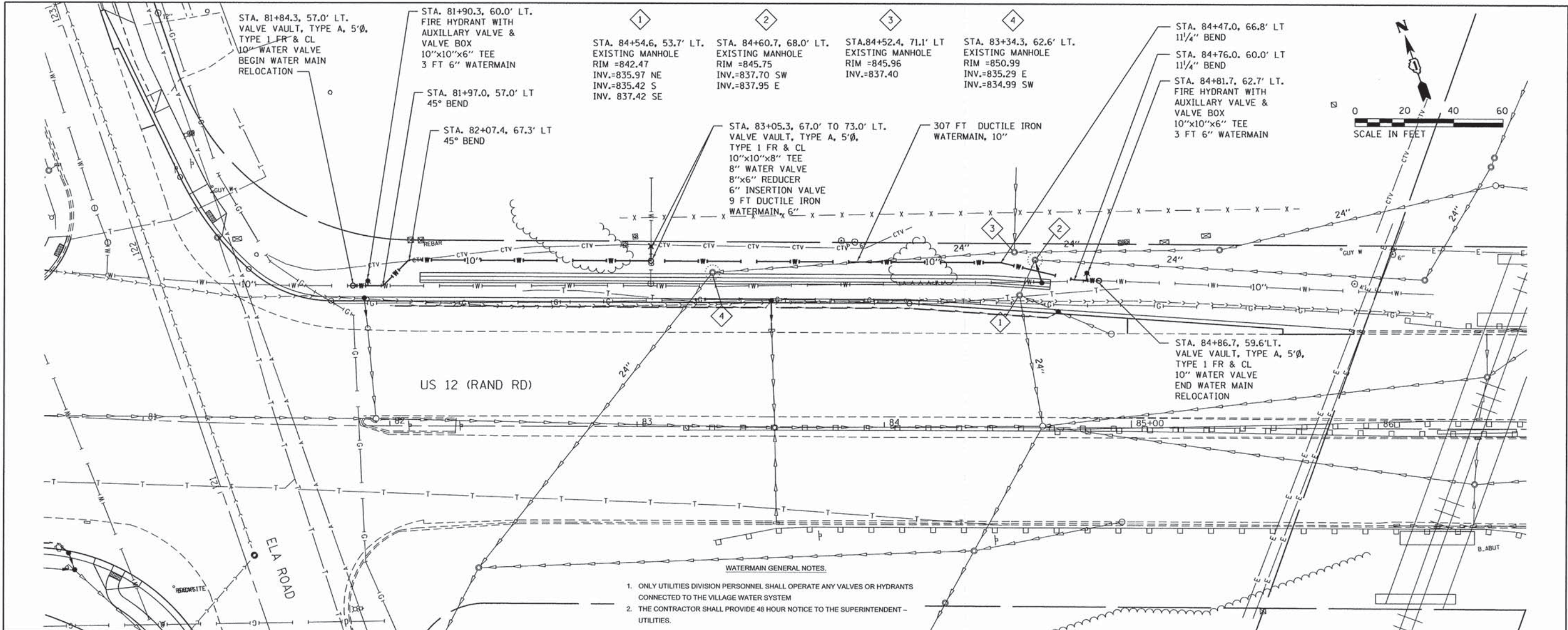
**US 12 (RAND ROAD) AT ELA ROAD
INTERSECTION GRADING & SIDEWALK CURB RAMPS**

SCALE: 1"= 10' SHEET 1 OF 1 SHEETS STA. TO STA.

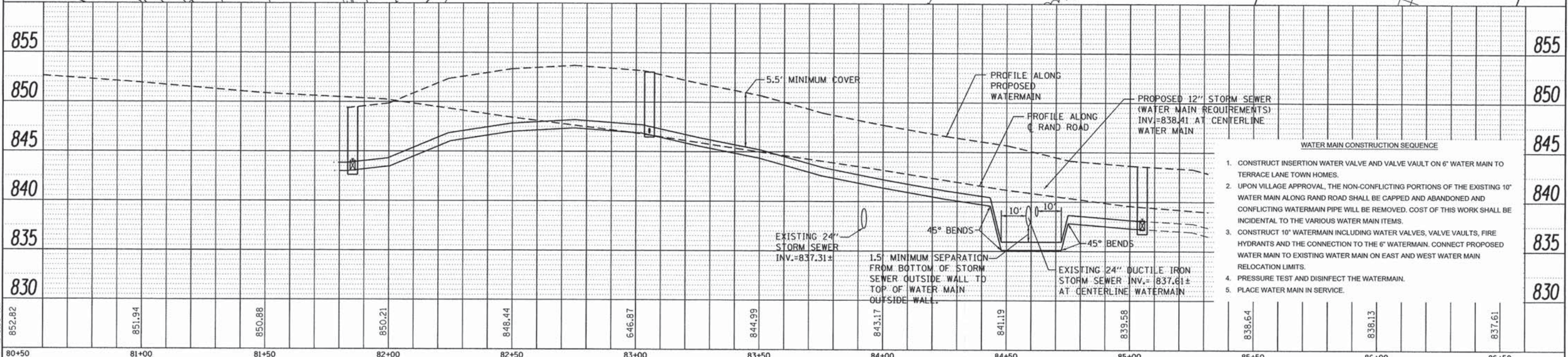
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| F.A.P. RTE. 334 | SECTION 02-00063-00-CH | COUNTY LAKE | TOTAL SHEETS 86 | SHEET NO. 20 |
| CONTRACT NO. 61A94 | | | | |
| ILLINOIS FED. AID PROJECT CMF-0334(014) | | | | |

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| PLAN | DATE |
| SUBMITTED | |
| REVISIONS | |
| NO. DATE | |
| NO. DATE | |
| NO. DATE | |
| NO. DATE | |
| NO. DATE | |

| | |
|--------------------------|------|
| PROFILE | DATE |
| DESIGNED | |
| PLANNED | |
| GRADES CHECKED | |
| STRUCTURE NOTATIONS OK'D | |
| NO. DATE | |
| NO. DATE | |
| NO. DATE | |
| NO. DATE | |



- WATERMAIN GENERAL NOTES.**
- ONLY UTILITIES DIVISION PERSONNEL SHALL OPERATE ANY VALVES OR HYDRANTS CONNECTED TO THE VILLAGE WATER SYSTEM
 - THE CONTRACTOR SHALL PROVIDE 48 HOUR NOTICE TO THE SUPERINTENDENT - UTILITIES.

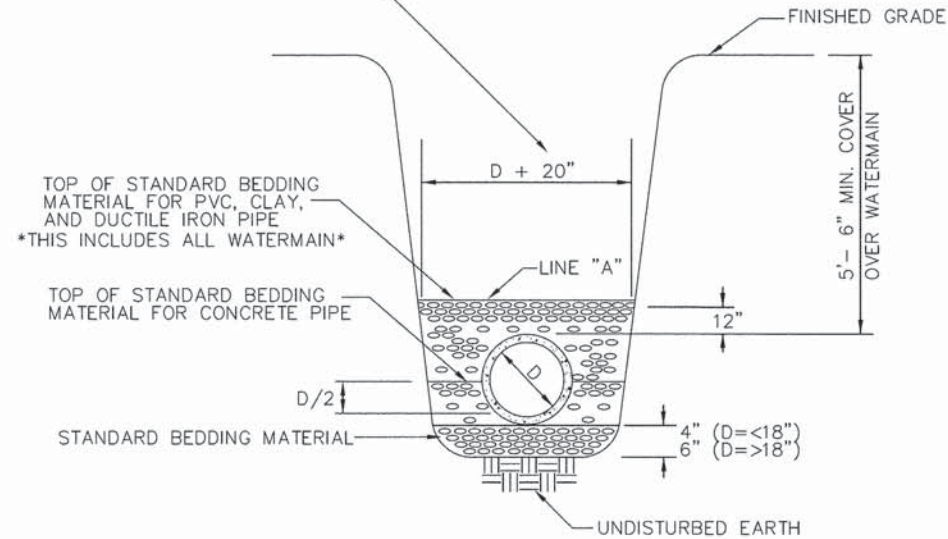


- WATER MAIN CONSTRUCTION SEQUENCE**
- CONSTRUCT INSERTION WATER VALVE AND VALVE VAULT ON 6" WATER MAIN TO TERRACE LANE TOWN HOMES.
 - UPON VILLAGE APPROVAL, THE NON-CONFLICTING PORTIONS OF THE EXISTING 10" WATER MAIN ALONG RAND ROAD SHALL BE CAPPED AND ABANDONED AND CONFLICTING WATERMAIN PIPE WILL BE REMOVED. COST OF THIS WORK SHALL BE INCIDENTAL TO THE VARIOUS WATER MAIN ITEMS.
 - CONSTRUCT 10" WATERMAIN INCLUDING WATER VALVES, VALVE VAULTS, FIRE HYDRANTS AND THE CONNECTION TO THE 6" WATERMAIN. CONNECT PROPOSED WATER MAIN TO EXISTING WATER MAIN ON EAST AND WEST WATER MAIN RELOCATION LIMITS.
 - PRESSURE TEST AND DISINFECT THE WATERMAIN.
 - PLACE WATER MAIN IN SERVICE.

| | | | | | | | | | | |
|--|-----------------------------|---------------|-----------|---|---|---|------------------------------|--------------------|-----------------|--------------|
| | USER NAME = 1485 | DESIGNED - RS | REVISED - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | RAND ROAD (US RTE 12) AT ELA ROAD PROPOSED WATER MAIN PLAN & PROFILE SHEET | F.A.P. RTE. 334 | SECTION 02-00063-00-CH | COUNTY LAKE | TOTAL SHEETS 86 | SHEET NO. 21 |
| | PLT SCALE = 20.0000' / 1" = | DRAWN - ED | REVISED - | | | SCALE: H 1"=20' V 1"=5' | SHEET OF SHEETS STA. TO STA. | CONTRACT NO. 61A94 | | |
| | PLT DATE = 1/29/2015 | CHECKED - TS | REVISED - | | | ILLINOIS FED. AID PROJECT CMF-0334(014) | | | | |


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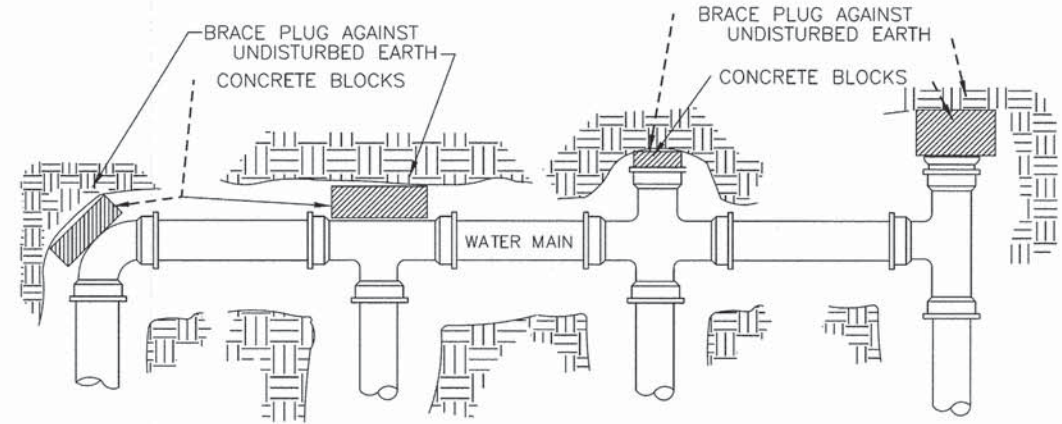
SEE EXHIBIT NO. 2 FOR TRENCH BACKFILL REQUIREMENTS



NOTES:


1. STANDARD BEDDING MATERIAL FOR NON-PLASTIC PIPE INCLUDING ALL WATERMAIN SHALL BE 1/4" TO 3/4" CRUSHED STONE, ASTM 448, SIZE CA-7 TO CA-11.
2. STANDARD BEDDING MATERIAL FOR PLASTIC PIPE SHALL CONFORM TO ASTM D2321, CLASS II NON-ANGULAR AGGREGATE.
3. SELECT, WELL COMPACTED EXCAVATED MATERIAL SHALL BE PLACED TO LINE "A" IF STANDARD BEDDING MATERIAL IS NOT REQUIRED TO LINE "A."
4. VOIDS LEFT BY SHEETING SHALL BE FILLED WITH STANDARD BEDDING MATERIAL AS THE SHEETING IS REMOVED.

| REVISIONS | DESCRIPTION | DATE |
|--|-------------|---------|
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| | | |
|  <div style="display: inline-block; vertical-align: middle;"> <p>VILLAGE OF LAKE ZURICH Engineering Division 70 EAST MAIN STREET LAKE ZURICH, IL 60047 (847) 540-1694</p> </div> <div style="display: inline-block; vertical-align: middle; margin-left: 20px;"> <p>DRAWN BY: R Kaplan CHECKED BY: E Lebbos DATE: Feb 24 '05 SCALE: NTS</p> </div> | | |
| Job STANDARD DETAILS | | JOB # |
| Dwg TYPICAL TRENCH AND STANDARD BEDDING | | DWG # 1 |

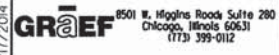


NOTES:

1. PROVIDE THRUST BLOCKING TO PREVENT MOVEMENT OF LINES UNDER PRESSURE AT ALL BENDS, TEES, CAPS, VALVES, HYDRANTS, AND AT POINTS SPECIFIED BY THE ENGINEER.
2. ALL BLOCKING SHALL BE MADE WITH CONCRETE BLOCKS AGAINST UNDISTURBED VERTICAL EARTH SURFACE.
3. ALTERNATE METHODS OF RESTRAINING WATER MAIN COMPONENTS SHALL REQUIRE THE APPROVAL OF THE VILLAGE ENGINEER.
4. NO WOOD IS ALLOWED IN THE THRUST BLOCKS.
5. MEGALUGS SERIES 1100 OR APPROVED EQUAL ARE REQUIRED AT ALL JOINTS.

| REVISIONS | DESCRIPTION | DATE |
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|  <div style="display: inline-block; vertical-align: middle;"> <p>VILLAGE OF LAKE ZURICH Engineering Division 70 EAST MAIN STREET LAKE ZURICH, IL 60047 (847) 540-1694</p> </div> <div style="display: inline-block; vertical-align: middle; margin-left: 20px;"> <p>DRAWN BY: R Kaplan CHECKED BY: E Lebbos DATE: Feb 24 '05 SCALE: NTS</p> </div> | | |
| Job STANDARD DETAILS | | JOB # |
| Dwg THRUST BLOCK | | DWG # 13 |

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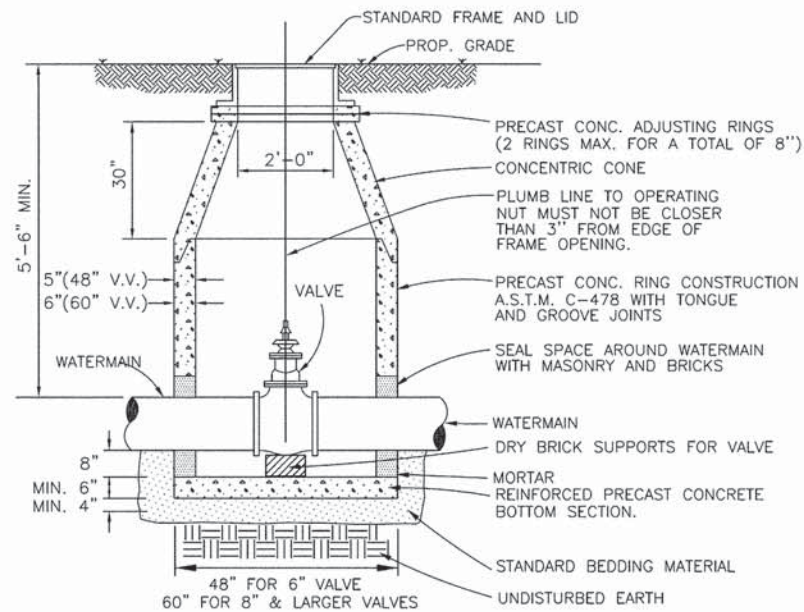


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| PLOT SCALE = 1:8000 ' / 1" | DRAWN - ED | REVISED - |
| PLOT DATE = 12/17/2014 | CHECKED - TS | REVISED - |
| | DATE - 12/17/2014 | REVISED - |


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

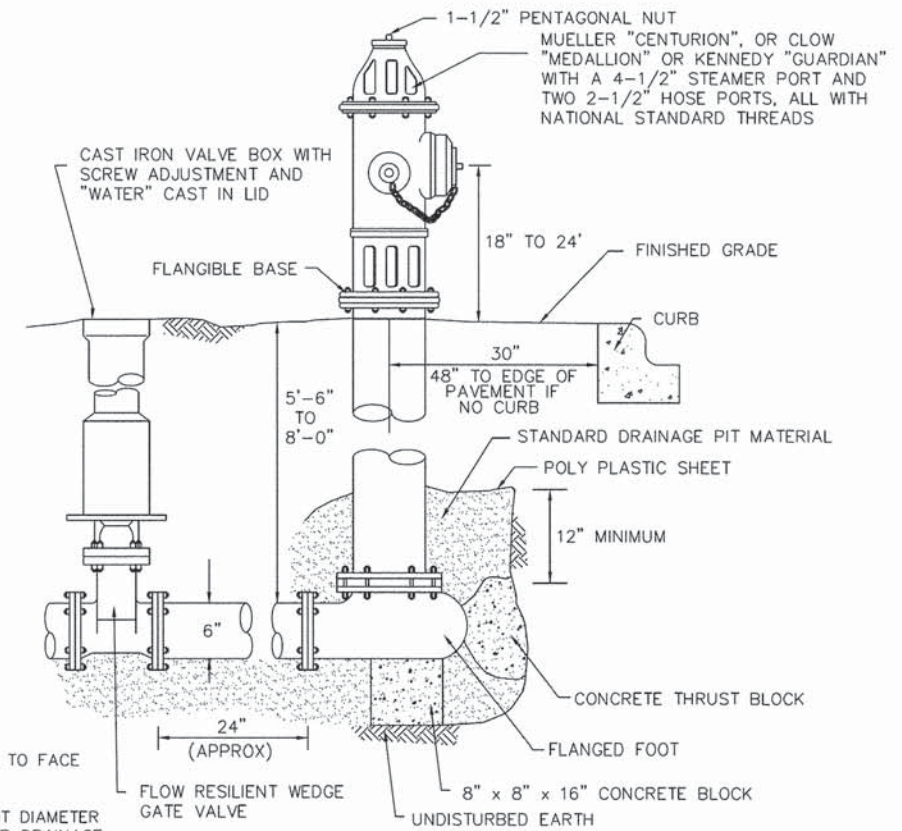
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|-------------------------------|---------------------|-----------------|------------------------|-------------|-----------------|--------------|
| US 12 (RAND ROAD) AT ELA ROAD | | F.A.P. RTE. 334 | SECTION 02-00063-00-CH | COUNTY LAKE | TOTAL SHEETS 86 | SHEET NO. 22 |
| SCALE: NTS | SHEET 1 OF 2 SHEETS | STA. TO STA. | CONTRACT NO. 61A94 | | | |

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|---|--|
| ILLINOIS FED. AID PROJECT CMF-0334(014) | |
|---|--|




- NOTES:
1. WATER MAIN 8 INCHES OR MORE IN DIAMETER SHALL REQUIRE A 60 INCH DIAMETER VALVE VAULT; WATER MAIN LESS THAN 8 INCHES IN DIAMETER SHALL REQUIRE A 48 INCH VALVE VAULT
 2. INSTALL MINIMUM 4" OF SELECTED GRANULAR BACKFILL UNDER STRUCTURE BOTTOM SECTION AND FILL ENTIRE EXCAVATION ALL AROUND STRUCTURE UP TO C.L. OF PIPE WITH BEDDING MATERIAL.
 3. PIPE OPENINGS SHALL BE CAST INTO WALL.
 4. STRUCTURE FRAME, ADJUSTING RINGS, AND ALL CONCRETE SECTIONS SHALL BE SET ON AND SEALED WITH BITUMINOUS MASTIC JOINT MATERIAL.
 5. FILL LUG HOLES WITH BITUMINOUS JOINING COMPOUND.
 6. VALVE VAULT BARREL SECTIONS SHALL CONFORM TO A.S.T.M. 478 AS DESCRIBED IN THE STANDARD SPECIFICATIONS FOR SEWER AND WATER MAIN CONSTRUCTION IN ILLINOIS, 5TH EDITION MAY 1996.

| REVISIONS | DESCRIPTION | DATE |
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|  <div style="display: flex; justify-content: space-between;"> <div style="text-align: center;"> <p>VILLAGE OF LAKE ZURICH Engineering Division 70 EAST MAIN STREET LAKE ZURICH, IL 60047 (847) 540-1694</p> </div> <div style="text-align: right;"> <p>DRAWN BY: R Kaplan CHECKED BY: E Lebbos DATE: Feb 24 '05 SCALE: NTS</p> </div> </div> | | |
| Job STANDARD DETAILS | | DWG # |
| Dwg VALVE VAULT | | 14 |



- NOTES:
1. STEAMER PORT TO FACE PAVEMENT
 2. PROVIDE 2 FOOT DIAMETER BY 2 FEET DEEP DRAINAGE PIT FILLED WITH 1 INCH WASHED STONE BELOW AND ADJACENT TO HYDRANT
 3. HYDRANT TO BE PAINTED ALKYD ENAMEL SAFETY RED

| REVISIONS | DESCRIPTION | DATE |
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|  <div style="display: flex; justify-content: space-between;"> <div style="text-align: center;"> <p>VILLAGE OF LAKE ZURICH Engineering Division 70 EAST MAIN STREET LAKE ZURICH, IL 60047 (847) 540-1694</p> </div> <div style="text-align: right;"> <p>DRAWN BY: R Kaplan CHECKED BY: E Lebbos DATE: Feb 24 '05 SCALE: NTS</p> </div> </div> | | |
| Job STANDARD DETAILS | | DWG # |
| Dwg FIRE HYDRANT | | 15 |

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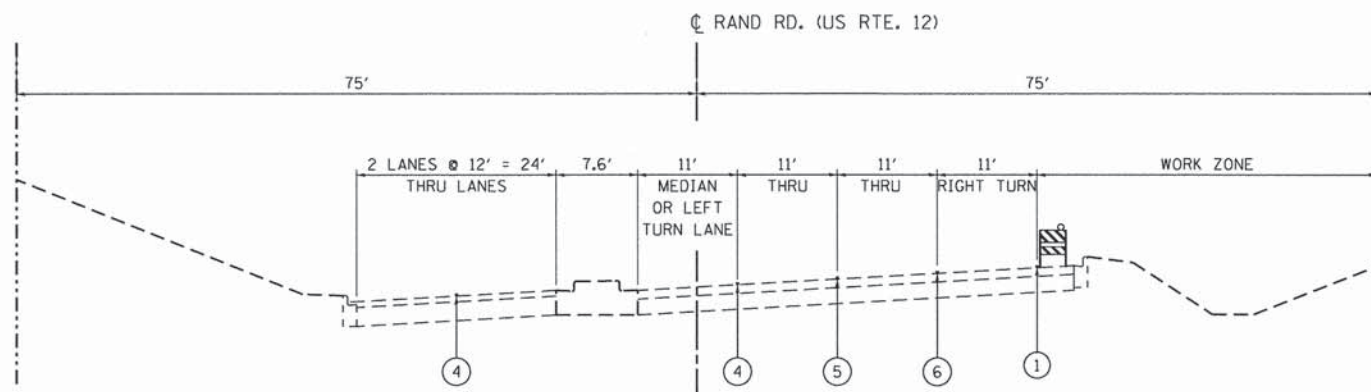


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| PLOT SCALE = 1.0000 ' / in. | DRAWN - ED | REVISED - |
| PLOT DATE = 12/17/2014 | CHECKED - TS | REVISED - |
| | DATE - 12/17/2014 | REVISED - |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

| | |
|--|----------------------------------|
| US 12 (RAND ROAD) AT ELA ROAD | |
| VILLAGE OF LAKE ZURICH WATERMAIN DETAILS | |
| SCALE: NTS | SHEET 2 OF 2 SHEETS STA. TO STA. |

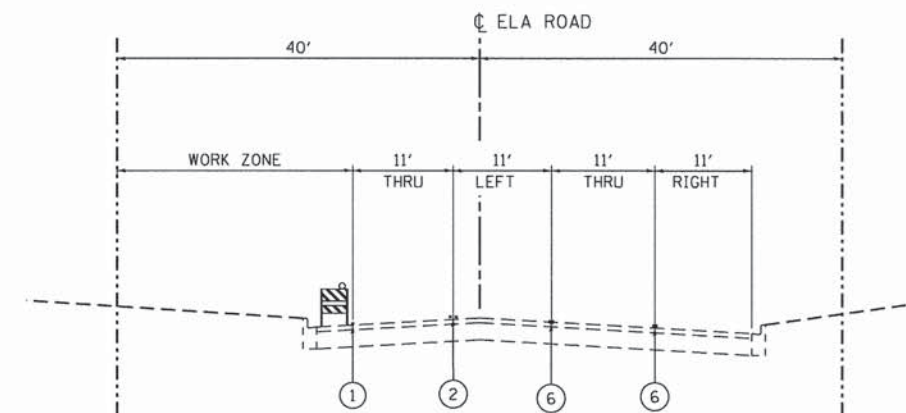
| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|----------------|--------|--------------|-----------|
| 334 | 02-00063-00-CH | LAKE | 86 | 23 |
| CONTRACT NO. 61A94 | | | | |
| ILLINOIS FED. AID PROJECT CMF-0334(014) | | | | |



EXISTING TYPICAL SECTION

RAND ROAD

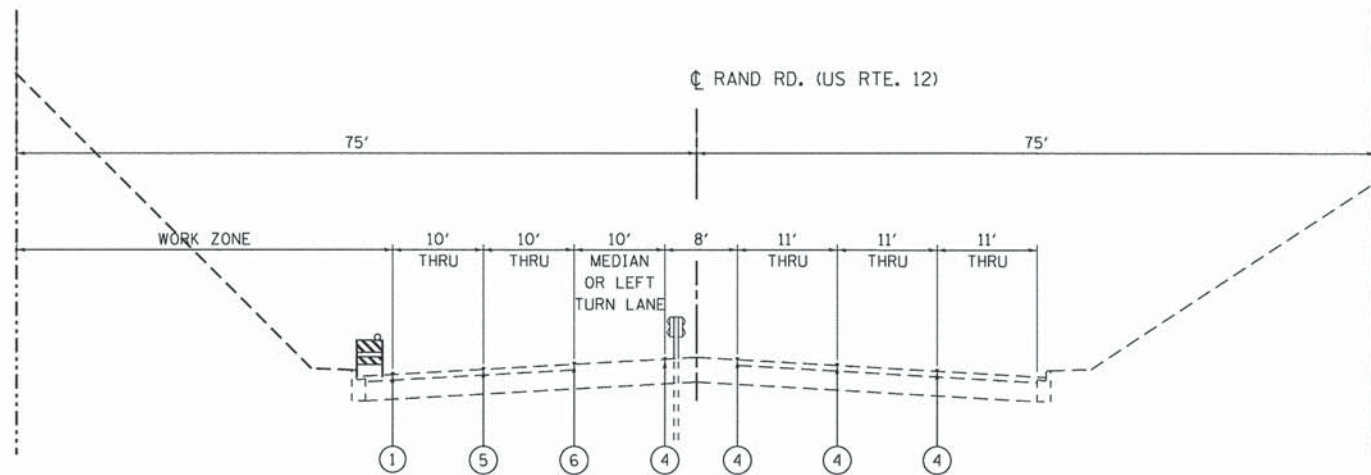
STA. 76+50 TO STA. 81+00
LOOKING EAST



EXISTING TYPICAL SECTION

ELA ROAD

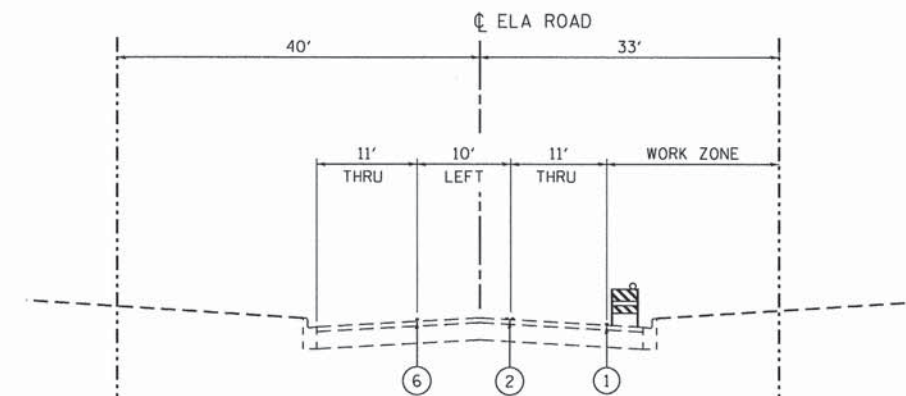
STA. 117+76 TO STA. 121+00
LOOKING NORTH



EXISTING TYPICAL SECTION

RAND ROAD

STA. 81+00 TO STA. 86+00
LOOKING EAST



EXISTING TYPICAL SECTION

ELA ROAD

STA. 122+00 TO STA. 123+25
LOOKING NORTH

TEMPORARY PAVEMENT MARKING LEGEND

- ① TEMPORARY PAVEMENT MARKING, LINE - 4" WHITE
- ② TEMPORARY PAVEMENT MARKING, LINE - 4" YELLOW
- ③ TEMPORARY PAVEMENT MARKING, LINE - 4" DOUBLE YELLOW
- ④ EXISTING PAVEMENT MARKING
- ⑤ TEMPORARY PAVEMENT MARKING, LINE - 4" WHITE SKIP-DASH
- ⑥ TEMPORARY PAVEMENT MARKING, LINE - 6" WHITE SOLID

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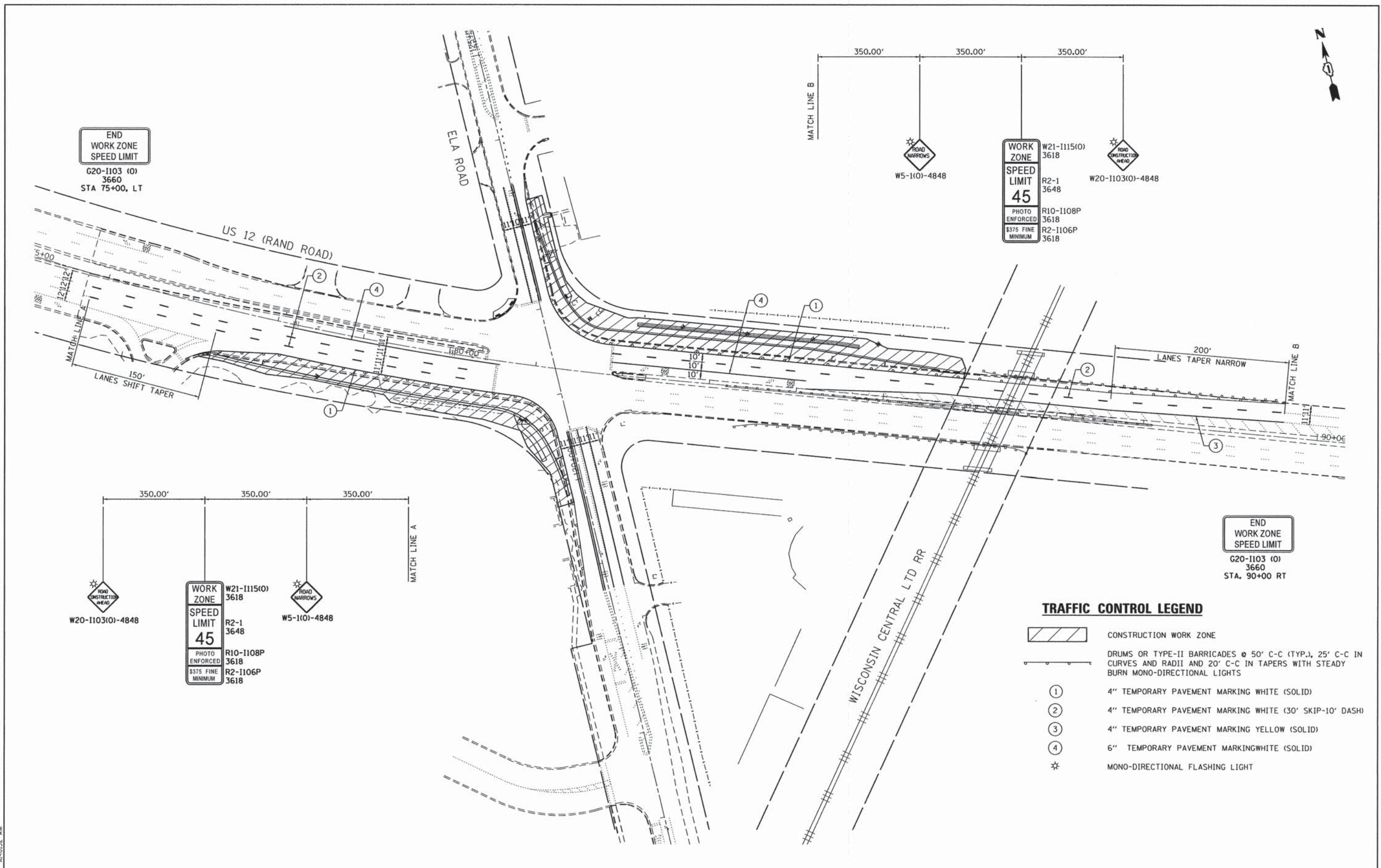
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| USER NAME = 1485 | DESIGNED - RS | REVISED - |
| DRAWN - ED | CHECKED - TS | REVISED - |
| DATE - 12/17/2014 | | |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

US 12 (RAND ROAD) AT ELA ROAD
SUGGESTED MAINTENANCE OF TRAFFIC TYPICAL SECTIONS

SCALE: 1"=50' SHEET 1 OF 1 SHEETS STA. TO STA.

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------|----------------|--------|---|-----------|
| 334 | 02-00063-00-CH | LAKE | 86 | 24 |
| CONTRACT NO. 61A94 | | | ILLINOIS FED. AID PROJECT CMF-0334(014) | |



END
WORK ZONE
SPEED LIMIT
G20-1103 (O)
3660
STA 75+00, LT

WORK ZONE
SPEED LIMIT
45
PHOTO ENFORCED
\$375 FINE MINIMUM

W21-1115(O)
3618
R2-1
3648
R10-1108P
3618
R2-1106P
3618

W20-1103(O)-4848
W5-1101-4848

350.00' 350.00' 350.00'

W20-1103(O)-4848

WORK ZONE
SPEED LIMIT
45
PHOTO ENFORCED
\$375 FINE MINIMUM



W21-1115(O)
3618
R2-1
3648
R10-1108P
3618
R2-1106P
3618

W5-1101-4848

MATCH LINE A

END
WORK ZONE
SPEED LIMIT
G20-1103 (O)
3660
STA. 90+00 RT

TRAFFIC CONTROL LEGEND

-  CONSTRUCTION WORK ZONE
-  DRUMS OR TYPE-II BARRICADES @ 50' C-C (TYP.), 25' C-C IN CURVES AND RADII AND 20' C-C IN TAPERS WITH STEADY BURN MONO-DIRECTIONAL LIGHTS
- ① 4" TEMPORARY PAVEMENT MARKING WHITE (SOLID)
- ② 4" TEMPORARY PAVEMENT MARKING WHITE (30' SKIP-10' DASH)
- ③ 4" TEMPORARY PAVEMENT MARKING YELLOW (SOLID)
- ④ 6" TEMPORARY PAVEMENT MARKING WHITE (SOLID)
- ☆ MONO-DIRECTIONAL FLASHING LIGHT

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| USER NAME = 1485 | DESIGNED - RS | REVISED - |
| PLOT SCALE = 58.0000' / 1" | DRAWN - ED | REVISED - |
| PLOT DATE = 1/29/2015 | CHECKED - TS | REVISED - |
| | DATE - 12/17/2014 | REVISED - |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**US 12 (RAND ROAD) AT ELA ROAD
SUGGESTED MAINTENANCE OF TRAFFIC PLAN RAND ROAD**



SCALE: 1"=50' SHEET 1 OF 2 SHEETS STA. TO STA.

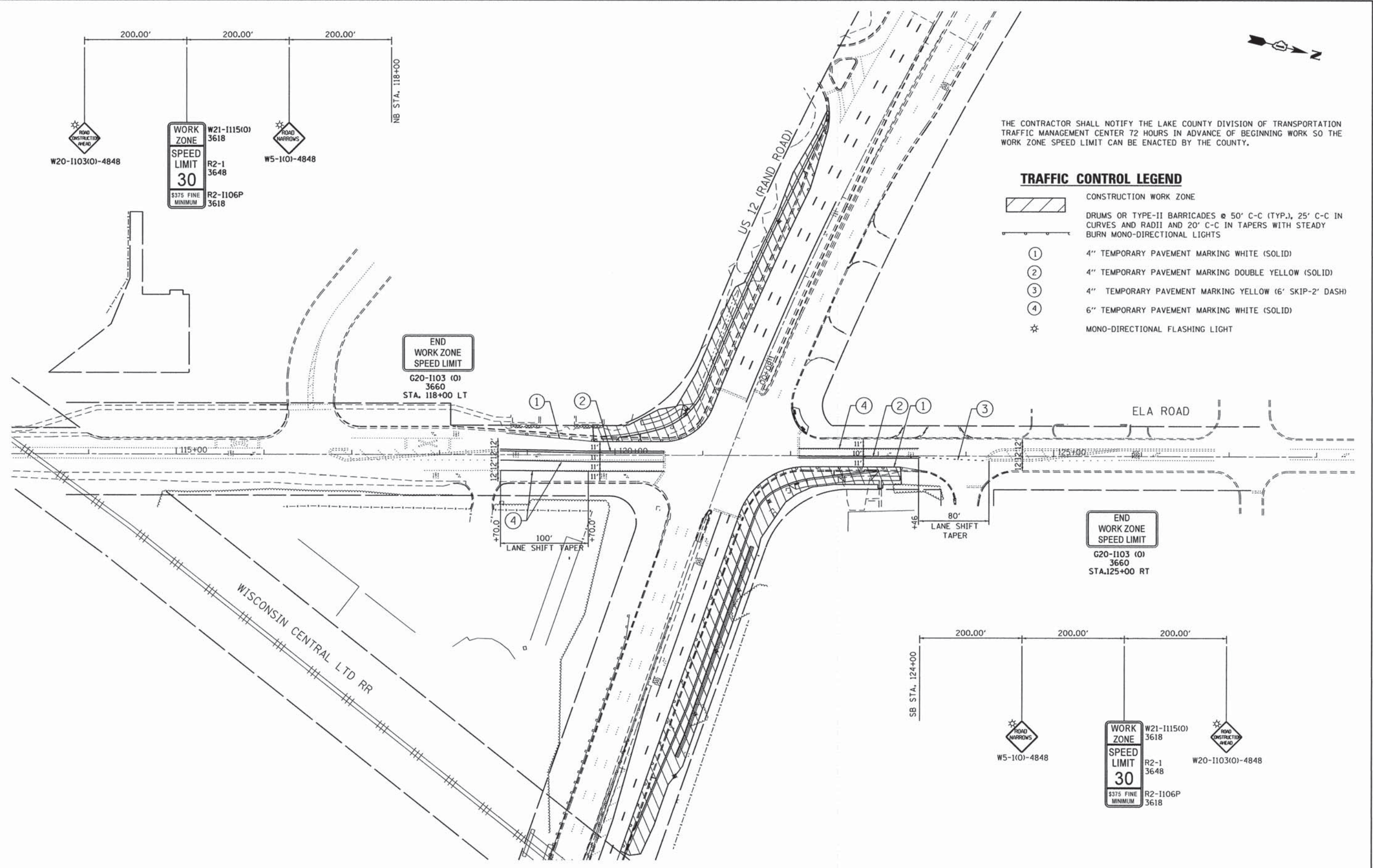
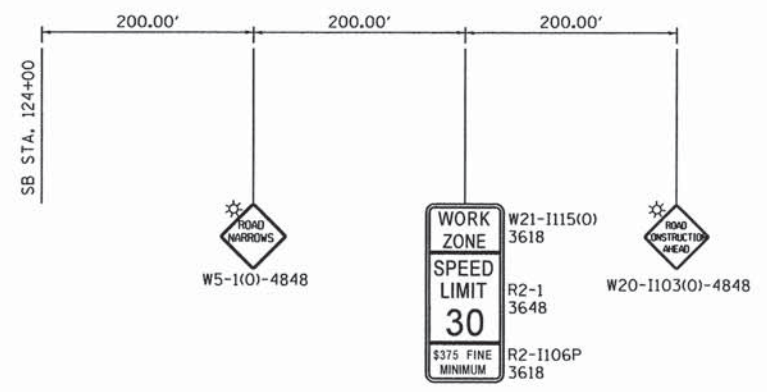
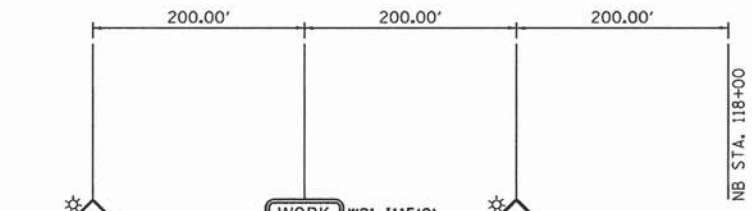
| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|----------------|--------|--------------|-----------|
| 334 | 02-00063-00-CH | LAKE | 86 | 25 |
| CONTRACT NO. 61A94 | | | | |
| ILLINOIS FED. AID PROJECT CMF-0334(014) | | | | |



THE CONTRACTOR SHALL NOTIFY THE LAKE COUNTY DIVISION OF TRANSPORTATION TRAFFIC MANAGEMENT CENTER 72 HOURS IN ADVANCE OF BEGINNING WORK SO THE WORK ZONE SPEED LIMIT CAN BE ENACTED BY THE COUNTY.

TRAFFIC CONTROL LEGEND

-  CONSTRUCTION WORK ZONE
-  DRUMS OR TYPE-II BARRICADES @ 50' C-C (TYP.), 25' C-C IN CURVES AND RADII AND 20' C-C IN TAPERS WITH STEADY BURN MONO-DIRECTIONAL LIGHTS
- ① 4" TEMPORARY PAVEMENT MARKING WHITE (SOLID)
- ② 4" TEMPORARY PAVEMENT MARKING DOUBLE YELLOW (SOLID)
- ③ 4" TEMPORARY PAVEMENT MARKING YELLOW (6' SKIP-2' DASH)
- ④ 6" TEMPORARY PAVEMENT MARKING WHITE (SOLID)
- ☆ MONO-DIRECTIONAL FLASHING LIGHT



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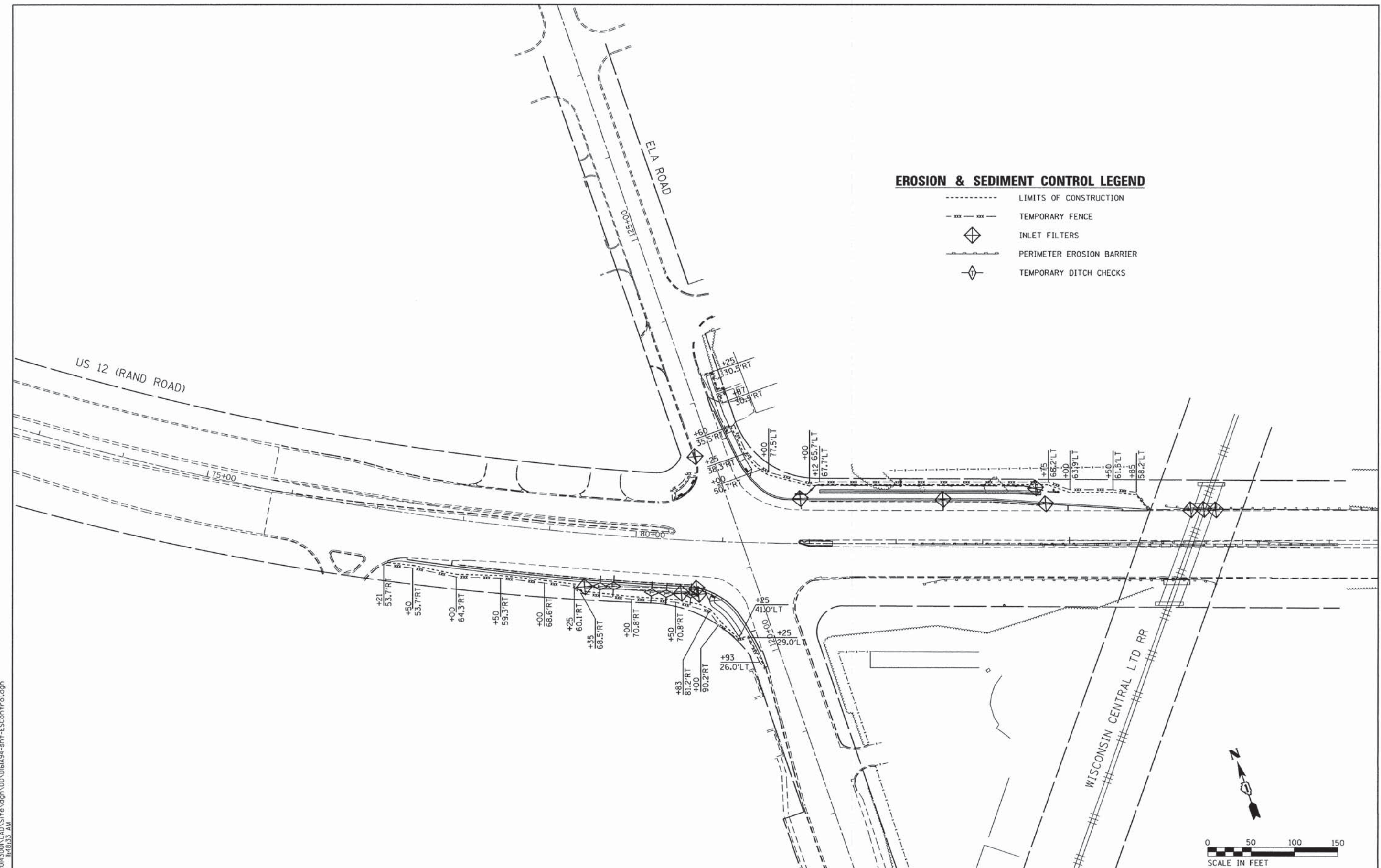
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| USER NAME = 1485 | DESIGNED - RS | REVISED - |
| DRAWN - ED | CHECKED - TS | REVISED - |
| PLOT SCALE = 58.0000' / 1" = | DATE - 12/17/2014 | REVISED - |
| PLOT DATE = 1/29/2015 | | |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**US 12 (RAND ROAD) AT ELA ROAD
SUGGESTED MAINTENANCE OF TRAFFIC - ELA ROAD**

SCALE: 1"=50' SHEET 2 OF 2 SHEETS STA. TO STA.

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|----------------|--------|--------------|-----------|
| 334 | 02-00063-00-CH | LAKE | 86 | 26 |
| CONTRACT NO. 61A94 | | | | |
| ILLINOIS FED. AID PROJECT CMF-0334(014) | | | | |



EROSION & SEDIMENT CONTROL LEGEND

- LIMITS OF CONSTRUCTION
- x x x - x x x - TEMPORARY FENCE
- ◇ INLET FILTERS
- PERIMETER EROSION BARRIER
- ◇ TEMPORARY DITCH CHECKS

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| | DRAWN - ED | REVISED - |
| PLOT SCALE = 58.8888' / 1" | CHECKED - TS | REVISED - |
| PLOT DATE = 1/29/2015 | DATE - 12/17/2014 | REVISED - |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

US 12 (RAND ROAD) AT ELA ROAD
EROSION & SEDIMENT CONTROL PLAN

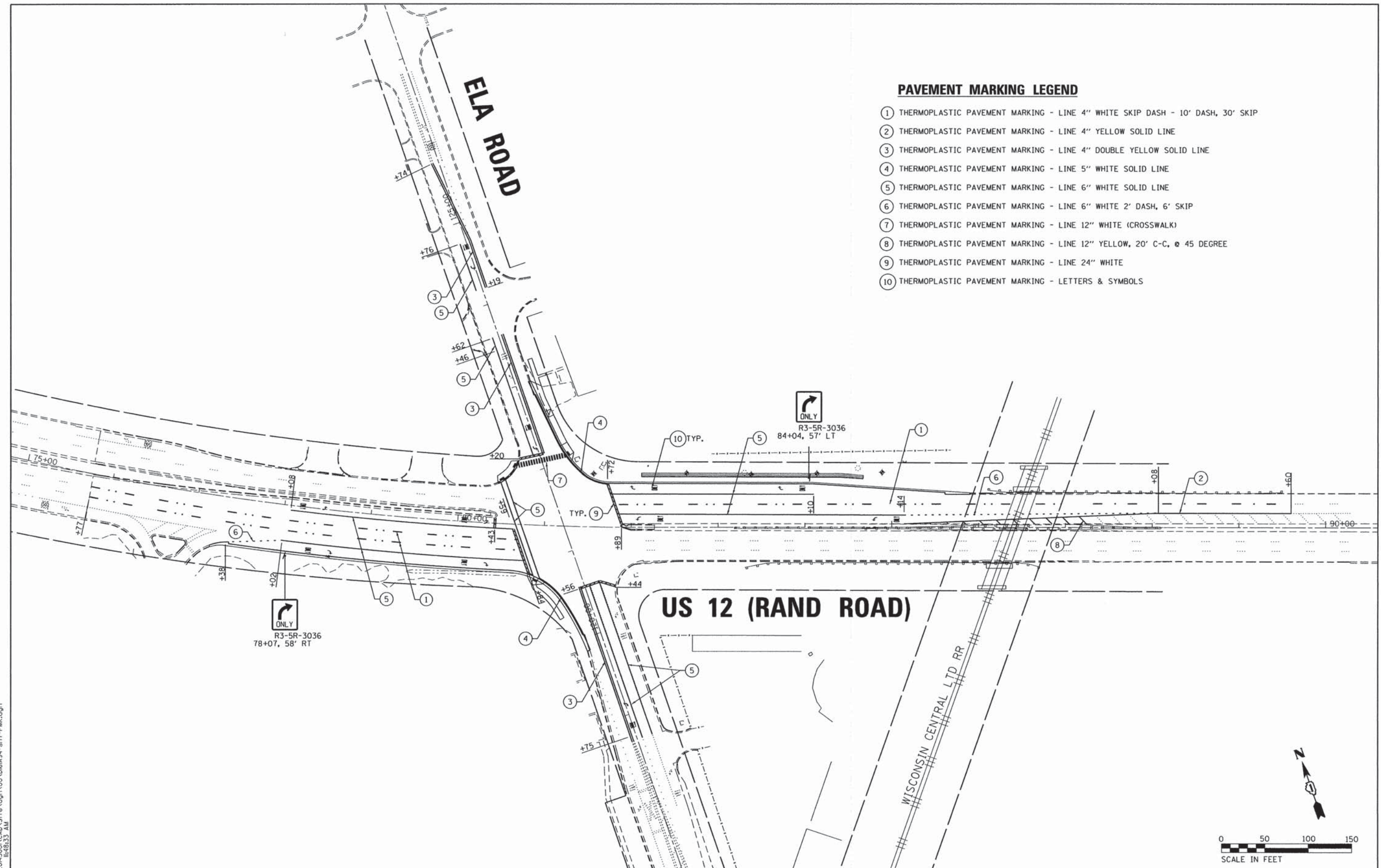
SCALE: 1"=50' SHEET OF SHEETS STA. TO STA.

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|----------------|--------|--------------|-----------|
| 334 | 02-00063-00-CH | LAKE | 86 | 27 |
| CONTRACT NO. 61A94 | | | | |
| ILLINOIS FED. AID PROJECT CMF-0334(014) | | | | |

ELA ROAD

PAVEMENT MARKING LEGEND

- ① THERMOPLASTIC PAVEMENT MARKING - LINE 4" WHITE SKIP DASH - 10' DASH, 30' SKIP
- ② THERMOPLASTIC PAVEMENT MARKING - LINE 4" YELLOW SOLID LINE
- ③ THERMOPLASTIC PAVEMENT MARKING - LINE 4" DOUBLE YELLOW SOLID LINE
- ④ THERMOPLASTIC PAVEMENT MARKING - LINE 5" WHITE SOLID LINE
- ⑤ THERMOPLASTIC PAVEMENT MARKING - LINE 6" WHITE SOLID LINE
- ⑥ THERMOPLASTIC PAVEMENT MARKING - LINE 6" WHITE 2' DASH, 6' SKIP
- ⑦ THERMOPLASTIC PAVEMENT MARKING - LINE 12" WHITE (CROSSWALK)
- ⑧ THERMOPLASTIC PAVEMENT MARKING - LINE 12" YELLOW, 20' C-C, @ 45 DEGREE
- ⑨ THERMOPLASTIC PAVEMENT MARKING - LINE 24" WHITE
- ⑩ THERMOPLASTIC PAVEMENT MARKING - LETTERS & SYMBOLS



US 12 (RAND ROAD)

WISCONSIN CENTRAL LTD RR

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**US 12 (RAND ROAD) AT ELA ROAD
PAVEMENT MARKING AND SIGNING PLAN**

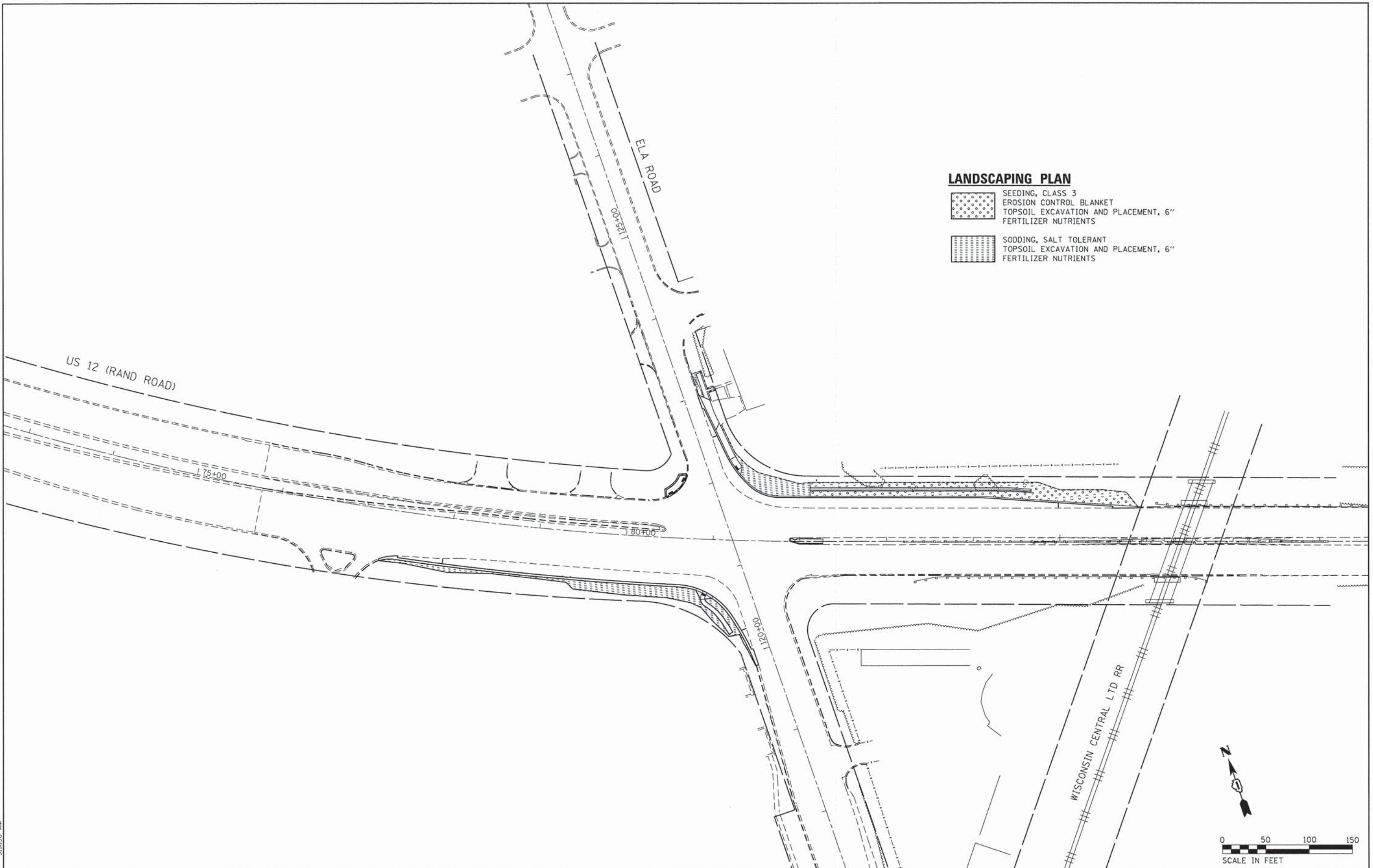
SCALE: 1"=50' SHEET 1 OF 1 SHEETS STA. TO STA.

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|----------------|--------|--------------|-----------|
| 334 | 02-00063-00-CH | LAKE | 86 | 28 |
| CONTRACT NO. 61A94 | | | | |
| ILLINOIS FED. AID PROJECT CMF-0334(014) | | | | |


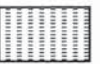
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GRAEF 8501 N. Higgins Road Suite 200
Chicago, Illinois 60631
(773) 399-0112

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|----------------------------|-------------------|-----------|
| USER NAME = 1485 | DESIGNED - RS | REVISED - |
| PLOT SCALE = 58.0000' / 1" | DRAWN - ED | REVISED - |
| PLOT DATE = 1/29/2015 | CHECKED - TS | REVISED - |
| | DATE - 12/17/2014 | REVISED - |



LANDSCAPING PLAN

-  SEEDING, CLASS 3
EROSION CONTROL BLANKET
TOPSOIL EXCAVATION AND PLACEMENT, 6"
FERTILIZER NUTRIENTS
-  SODDING, SALT TOLERANT
TOPSOIL EXCAVATION AND PLACEMENT, 6"
FERTILIZER NUTRIENTS

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GRAEF 8501 N. Higgins Road Suite 280
Chicago, Illinois 60631
(773) 399-0112

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| USER NAME = 1485 | DESIGNED - RS | REVISED - |
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| CHECKED - TS | REVISED - | |
| DATE - 12/17/2014 | REVISED - | |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**US 12 (RAND ROAD) AT ELA ROAD
LANDSCAPING PLAN**

SCALE: 1"=50' SHEET 1 OF 1 SHEETS STA. TO STA.

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------|----------------|--------|---|-----------|
| 334 | 02-00063-00-CH | LAKE | 86 | 29 |
| CONTRACT NO. 61A94 | | | ILLINOIS FED. AID PROJECT CMF-0334(014) | |

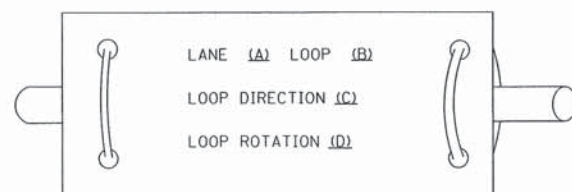
TRAFFIC SIGNAL LEGEND

| 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 | | | |
| UNINTERRUPTABLE POWER SUPPLY | | | | JUNCTION BOX | | | | FIBER OPTIC CABLE NO. 62.5/125, MM12F SM12F | | | |
| SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT | | | | UNDERGROUND CONDUIT, GALVANIZED STEEL (UC) | | | | FIBER OPTIC CABLE NO. 62.5/125, MM12F SM24F | | | |
| TELEPHONE CONNECTION (P) POLE OR (G) GROUND MOUNT | | | | TEMPORARY SPAN WIRE, TETHER WIRE, AND CABLE | | | | FIBER OPTIC CABLE NO. 62.5/125, MM12F SM24F | | | |
| 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 | S | STEEL MAST ARM POLE AND FOUNDATION TO BE REMOVED | | | |
| STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH PTZ CAMERA | | | | INTERSECTION ITEM | | I | IP | 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 | | | | QUEUE DETECTOR | | | |
| SIGNAL HEAD WITH BACKPLATE | | | | SIGNAL FACE | | | | PREFORMED QUEUE DETECTOR | | | |
| SIGNAL HEAD OPTICALLY PROGRAMMED | | | | SIGNAL FACE WITH BACKPLATE, "P" INDICATES PROGRAMMED HEAD | | | | PREFORMED INTERSECTION AND SAMPLING (SYSTEM) DETECTOR | | | |
| FLASHER INSTALLATION (S DENOTES SOLAR POWER) | | | | "RB" INDICATES REFLECTIVE BACKPLATE | | | | PREFORMED SAMPLING (SYSTEM) DETECTOR | | | |
| PEDESTRIAN SIGNAL HEAD | | | | 12" (300mm) PEDESTRIAN SIGNAL HEAD WALK/DON'T WALK SYMBOL | | | | RAILROAD SYMBOLS | | | |
| PEDESTRIAN PUSHBUTTON DETECTOR | | | | 12" (300mm) PEDESTRIAN SIGNAL HEAD INTERNATIONAL SYMBOL, OUTLINED | | | | RAILROAD CONTROL CABINET | | | |
| ACCESSIBLE PEDESTRIAN PUSHBUTTON DETECTOR | | | | 12" (300mm) PEDESTRIAN SIGNAL HEAD INTERNATIONAL SYMBOL, SOLID | | | | RAILROAD CANTILEVER MAST ARM | | | |
| ILLUMINATED SIGN "NO LEFT TURN" | | | | PEDESTRIAN SIGNAL HEAD, INTERNATIONAL SYMBOL, WITH COUNTDOWN TIMER | | | | FLASHING SIGNAL | | | |
| ILLUMINATED SIGN "NO RIGHT TURN" | | | | RADIO INTERCONNECT | | | | CROSSING GATE | | | |
| DETECTOR LOOP, TYPE I | | | | RADIO REPEATER | | | | CROSSBUCK | | | |
| PREFORMED DETECTOR LOOP | | | | DENOTES NUMBER OF CONDUCTORS, ELECTRIC CABLE NO. 14, UNLESS NOTED OTHERWISE, ALL DETECTOR LOOP CABLE TO BE SHIELDED | | | | | | | |
| MICROWAVE VEHICLE SENSOR | | | | GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN) | | | | | | | |
| VIDEO DETECTION CAMERA | | | | | | | | | | | |
| VIDEO DETECTION ZONE | | | | | | | | | | | |
| PAN, TILT, ZOOM CAMERA | | | | | | | | | | | |
| WIRELESS DETECTOR SENSOR | | | | | | | | | | | |
| WIRELESS ACCESS POINT | | | | | | | | | | | |

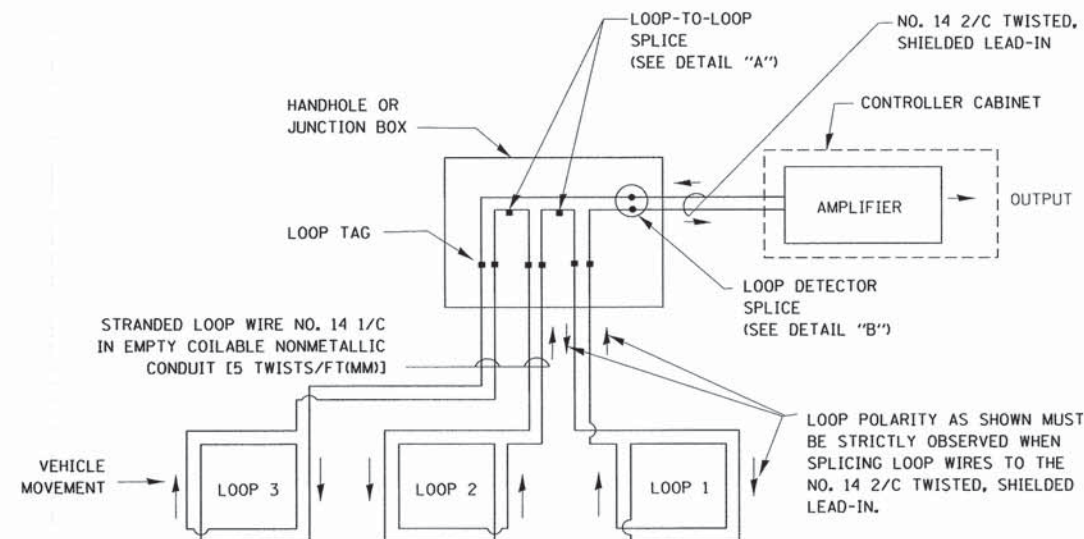
LOOP DETECTOR NOTES

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 DIVESHOLES 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

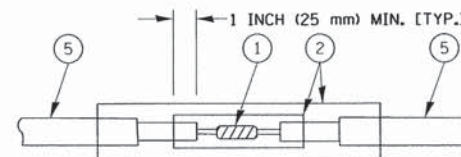


- A. LANE 1 IS THE LANE CLOSEST TO THE CENTERLINE OF THE ROADWAY
- B. LOOP #1 IS THE LOOP IN THE LANE CLOSEST TO THE INTERSECTION.
- C. LABEL LOOP CABLE "IN" OR LOOP CABLE "OUT".
- D. LABEL LOOP CABLE CLOCKWISE OR LOOP CABLE COUNTERCLOCKWISE.

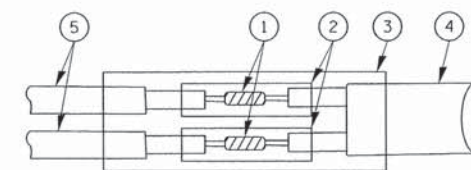


DETECTOR LOOP WIRING SCHEMATIC

- 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.

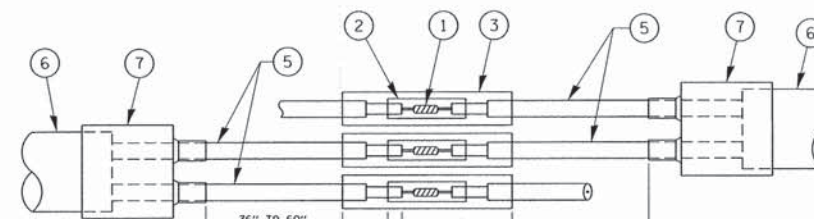


DETAIL "A"
LOOP-TO-LOOP SPLICE

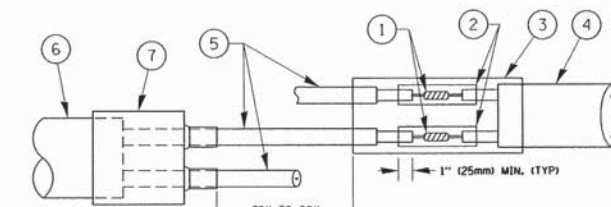


DETAIL "B"
LOOP-TO-CONTROLLER SPLICE

TYPE I LOOP



DETAIL "A"
LOOP-TO-LOOP SPLICE



DETAIL "B"
LOOP-TO-CONTROLLER SPLICE

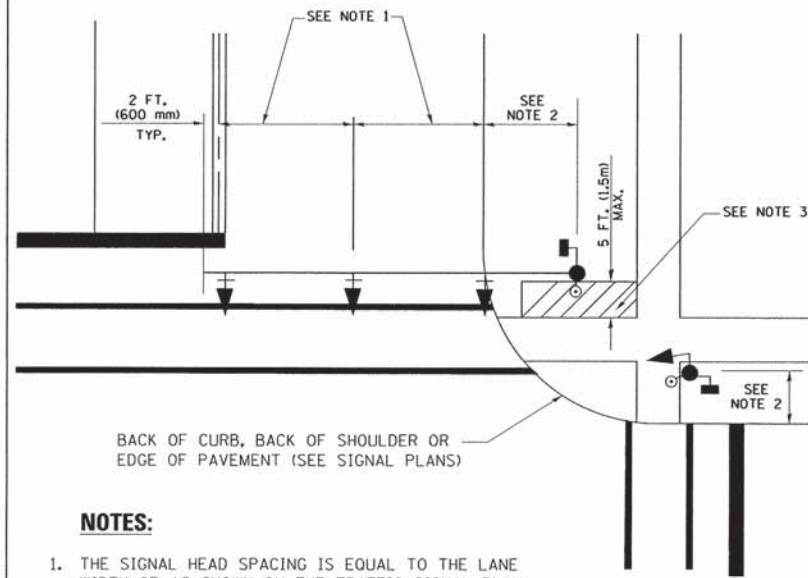
PREFORMED LOOP

LOOP DETECTOR SPLICE

- 1 WESTERN UNION SPLICE SOLDERED WITH ROSIN CORE FLUX. ALL EXPOSED SURFACES OF THE SOLDER SHALL BE SMOOTH. THE WESTERN UNION SPLICES SHALL BE STAGGERED.
- 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 PREFORMED LOOP
- 7 XL POLYOLEFIN 2 CONDUCTOR BREAKOUT SEALS. TYCO CBR-2 OR APPROVED EQUAL

| | | | | | | | | | | | |
|---|---------------------|-----------------|----------------------|---|--|-----------------|-------------------------|---|-----------------|---------------|--------------------|
| FILE NAME = | USER NAME = footemj | DESIGNED - DAD | REVISED - DAC 1-1-14 | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | DISTRICT ONE STANDARD TRAFFIC SIGNAL DESIGN DETAILS | F.A.P. RTE. 334 | SECTION 02-00063-00-CH | COUNTY LAKE | TOTAL SHEETS 86 | SHEET NO. 31 | |
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| PLOT SCALE = 50,0000' / 1in. | DATE - 10-28-09 | DATE - 10-28-09 | REVISED - | | | | | FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT | | CMF-0334(014) | |
| PLOT DATE = 1/13/2014 | | | | | | | | | | | |

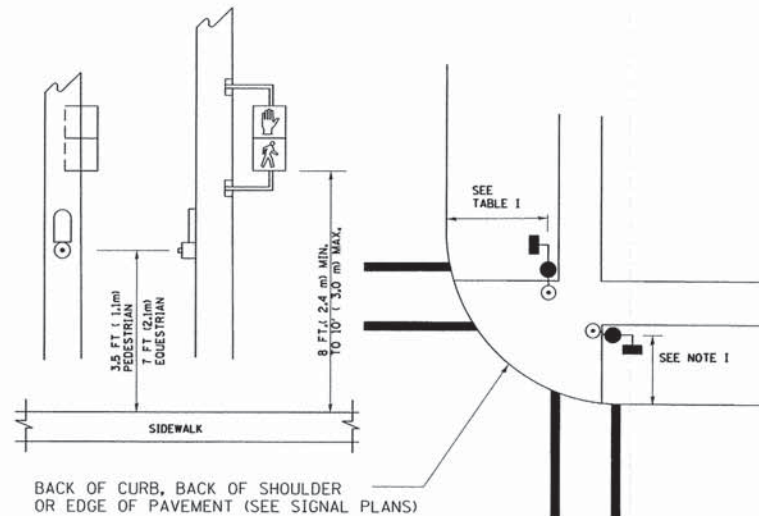
TRAFFIC SIGNAL MAST ARM AND SIGNAL POST
MAST ARM MOUNTED SIGNALS IN EXISTING, PROPOSED OR
FUTURE SIDEWALK/BICYCLE PATH AREA. INTERSECTION SHOWN
WITH PEDESTRIAN SIGNALS AND PEDESTRIAN PUSHBUTTON DETECTORS.



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."

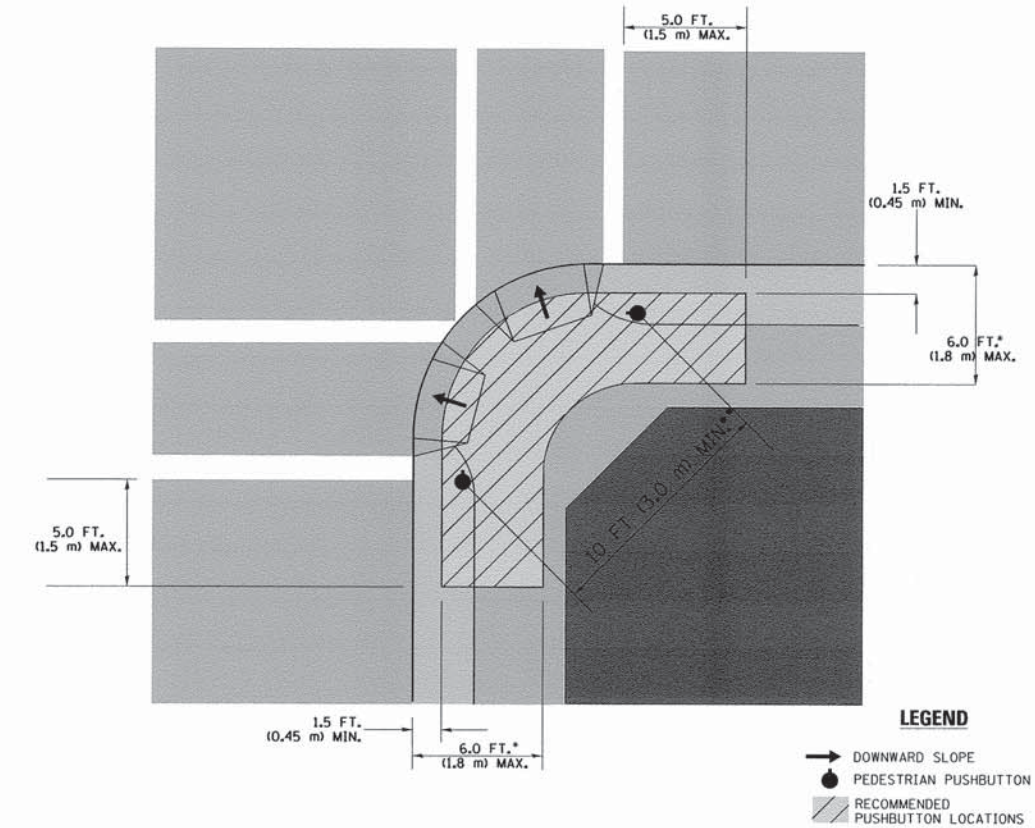
PEDESTRIAN SIGNAL POST
AND
PEDESTRIAN PUSH BUTTON POST



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 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:

1. 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.
2. 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.
3. 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.
4. 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.
5. 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:

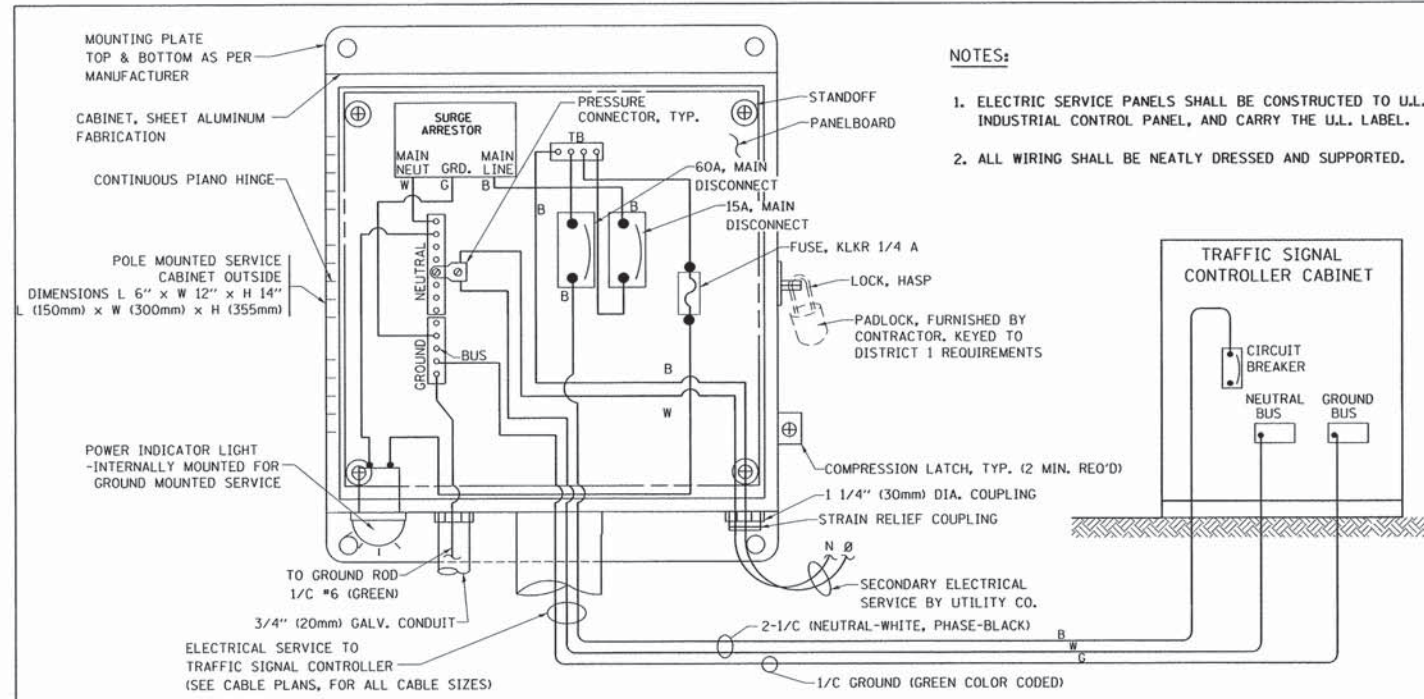
1. CONTACT THE "AREA TRAFFIC SIGNAL MAINTENANCE AND OPERATIONS ENGINEER" FOR ASSISTANCE IN LOCATING THE TRAFFIC SIGNAL EQUIPMENT WHEN THERE ARE CONFLICTS WITH DITCHES OR THE MINIMUM OFFSET DISTANCES CANNOT BE MET.
2. MINIMUM DISTANCE FROM THE BACK OF CURB TO THE ROADWAY SIDE OF THE FOUNDATION.
3. MINIMUM 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.

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| PLOT SCALE = 50.8088 "/in. | | CHECKED - DAD | REVISED - |
| PLOT DATE = 1/13/2014 | | DATE - 10-28-09 | REVISED - |

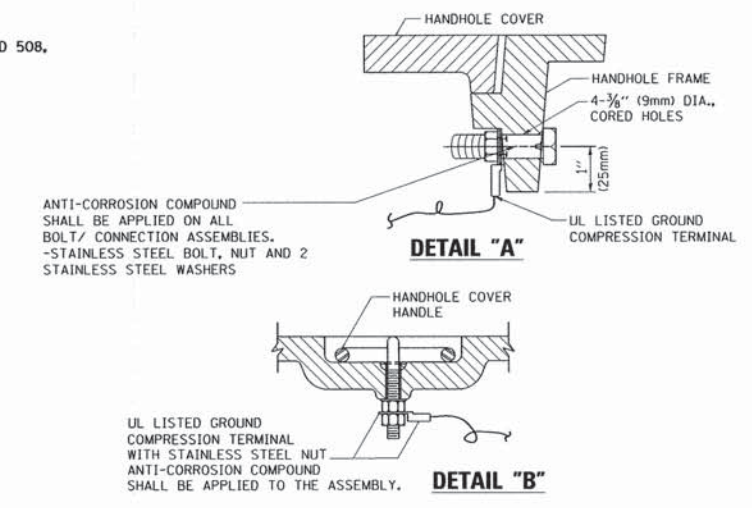
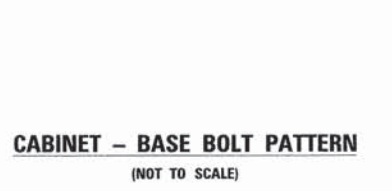
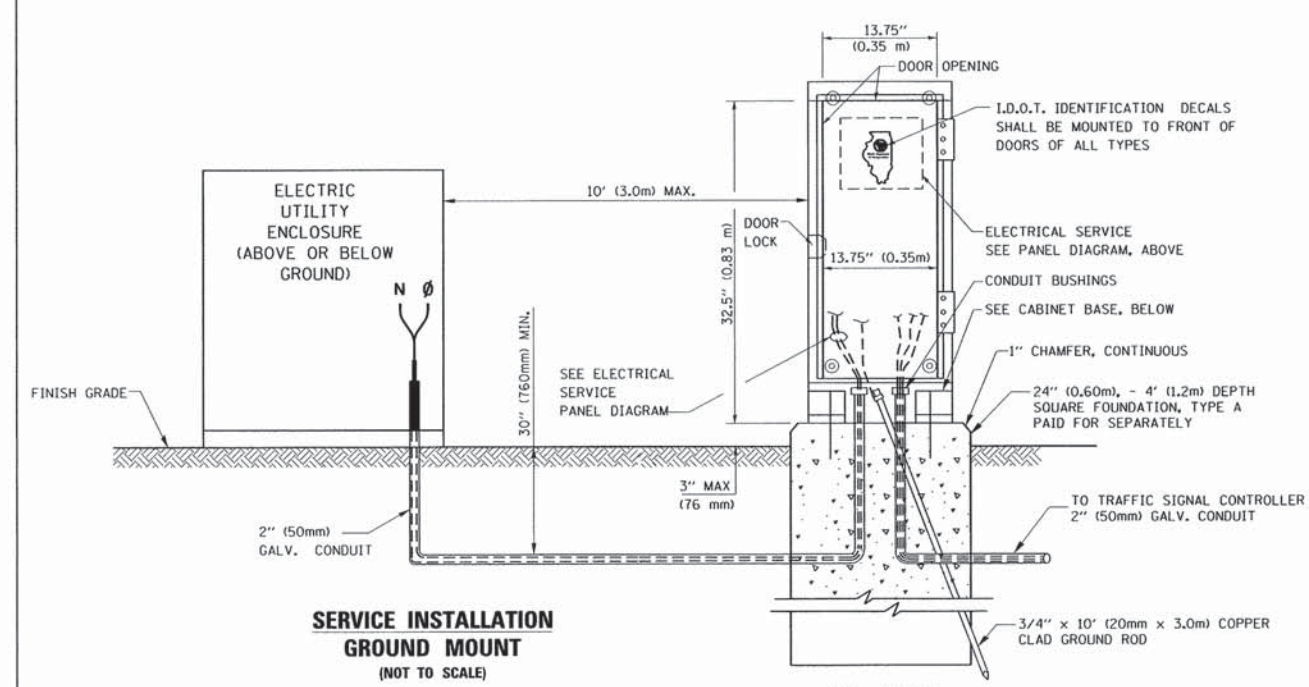
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DISTRICT ONE
STANDARD TRAFFIC SIGNAL DESIGN DETAILS
 SCALE: NONE SHEET NO. 3 OF 7 SHEETS STA. TO STA.

| | | | | |
|---|------------------------|-------------|--------------------|--------------|
| F.A.P. RTE. 334 | SECTION 02-00063-00-CH | COUNTY LAKE | TOTAL SHEETS 86 | SHEET NO. 32 |
| TS-05 | | | CONTRACT NO. 61A94 | |
| FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT CMF-0334(014) | | | | |

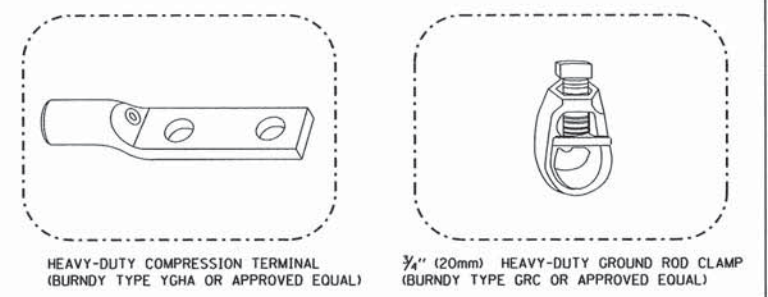
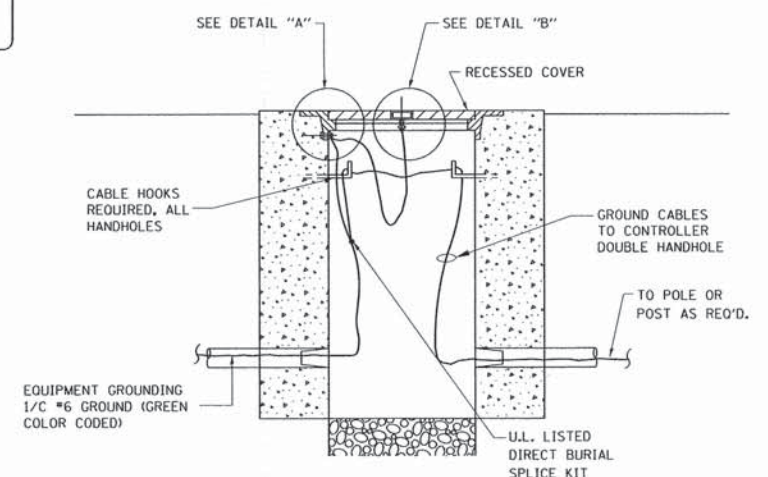


ELECTRICAL SERVICE – PANEL DIAGRAM (TYPICAL FOR POLE AND GROUND MOUNTED SERVICE)
SERVICE INSTALLATION POLE MOUNT (SHOWN)
 (NOT TO SCALE)

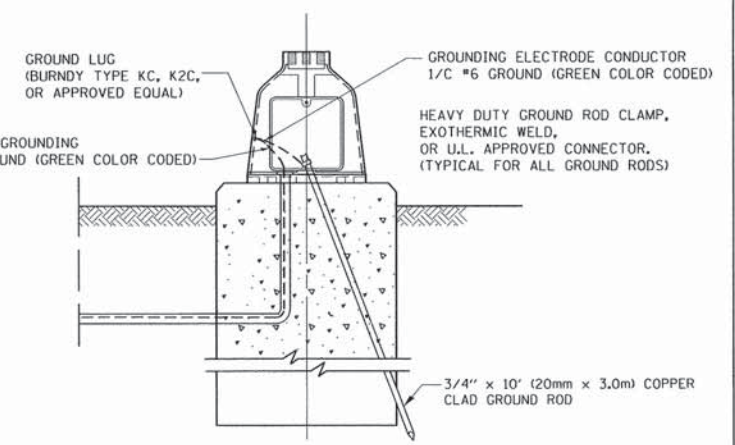
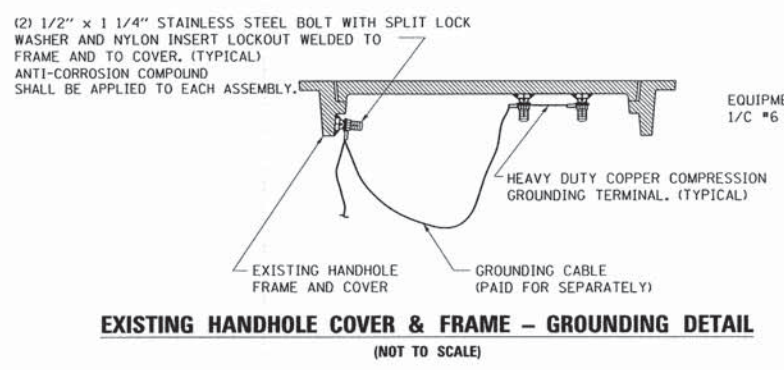


NOTES:
GROUNDING SYSTEM

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



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



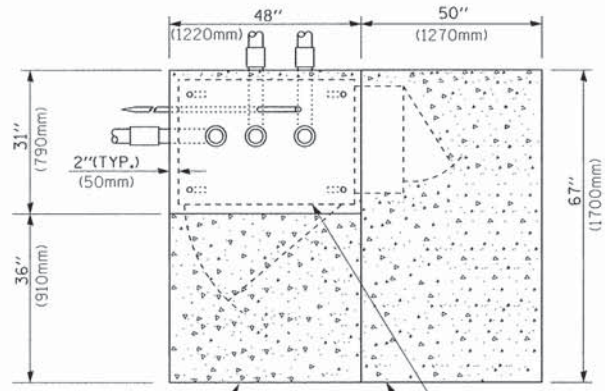
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| | | CHECKED - DAD | REVISED - |
| | | DATE - 10-28-09 | REVISED - |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

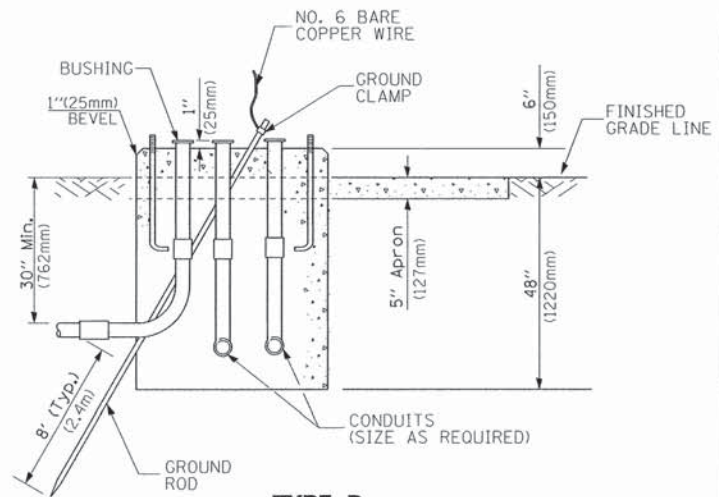
DISTRICT ONE
STANDARD TRAFFIC SIGNAL DESIGN DETAILS

SCALE: NONE SHEET NO. 4 OF 7 SHEETS STA. TO STA.

| | | | | |
|---|-----------------------|--------------------|-----------------|--------------|
| F.A.P. RTE. 334 | SECTION 02-0063-00-CH | COUNTY LAKE | TOTAL SHEETS 86 | SHEET NO. 33 |
| TS-05 | | CONTRACT NO. 61A94 | | |
| FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT CMF-0334(014) | | | | |



TOP VIEW



**TYPE D
FOR GROUND MOUNTED
CONTROLLER CABINET
AND UPS BATTERY CABINET**

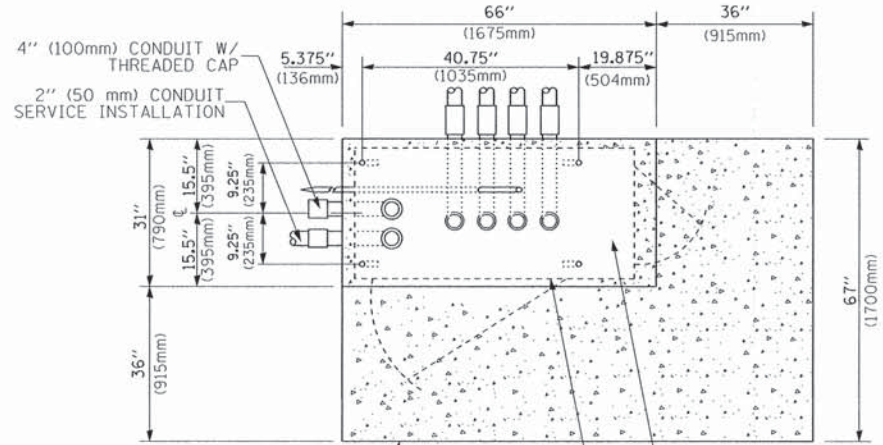
| CABLE SLACK LENGTH | FEET | METER |
|---|------|-------|
| HANDHOLE | 6.5 | 2.0 |
| DOUBLE HANDHOLE | 13.0 | 4.0 |
| SIGNAL POST | 2.0 | 0.6 |
| MAST ARM | 2.0 | 0.6 |
| CONTROLLER CABINET | 1.5 | 0.5 |
| FIBER OPTIC AT CABINET | 13.0 | 4.0 |
| ELECTRIC SERVICE AT (CABINET OR SERVICE LOCATION) | 1.5 | 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

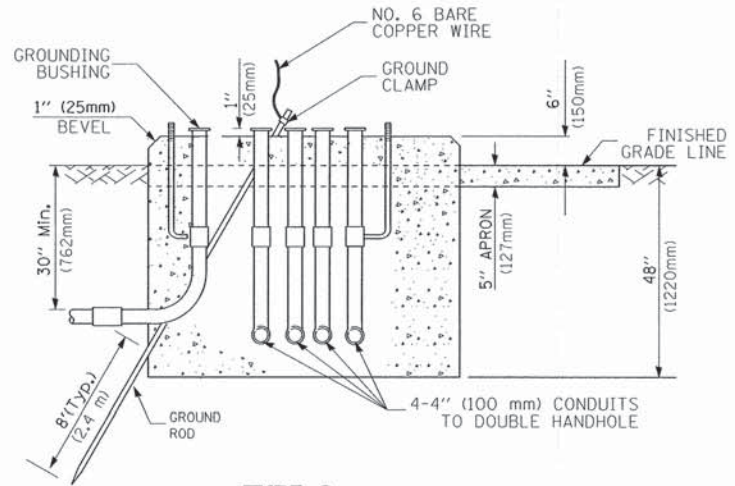
| VERTICAL CABLE LENGTH | FEET | METER |
|---|--------|-------|
| MAST ARM POLE (MAST ARM MOUNTED SIGNAL HEAD) (L = MAST ARM LENGTH - DISTANCE TO SIGNAL HEAD FROM END OF ARM) | 20.0+L | 6.0+L |
| BRACKET MOUNTED (MAST ARM POLE OR SIGNAL POLE) | 13.0 | 4.0 |
| PEDESTRIAN PUSH BUTTON | 6.0 | 2.0 |
| SERVICE 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

NOTE:
TOP OF FOUNDATION SHALL BE HIGHER THAN TOP OF DOUBLE HANDHOLE



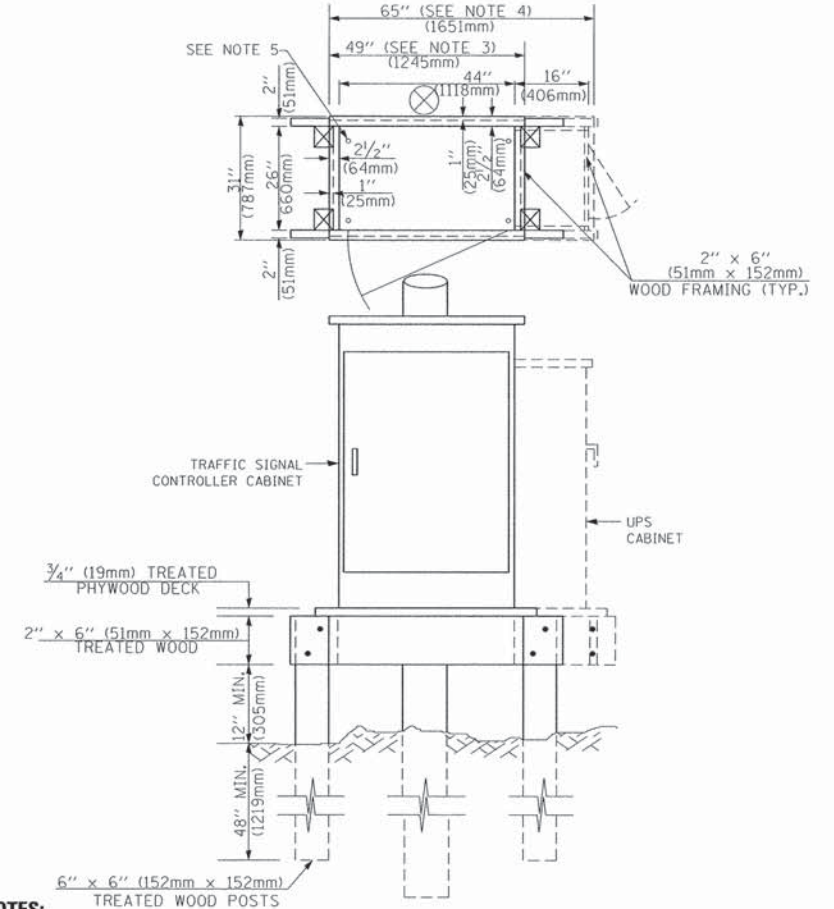
TOP VIEW



**TYPE C
FOR GROUND MOUNTED
SUPER P (TYPE IV) AND SUPER R (TYPE V)
CONTROLLER CABINETS**

| 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



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.

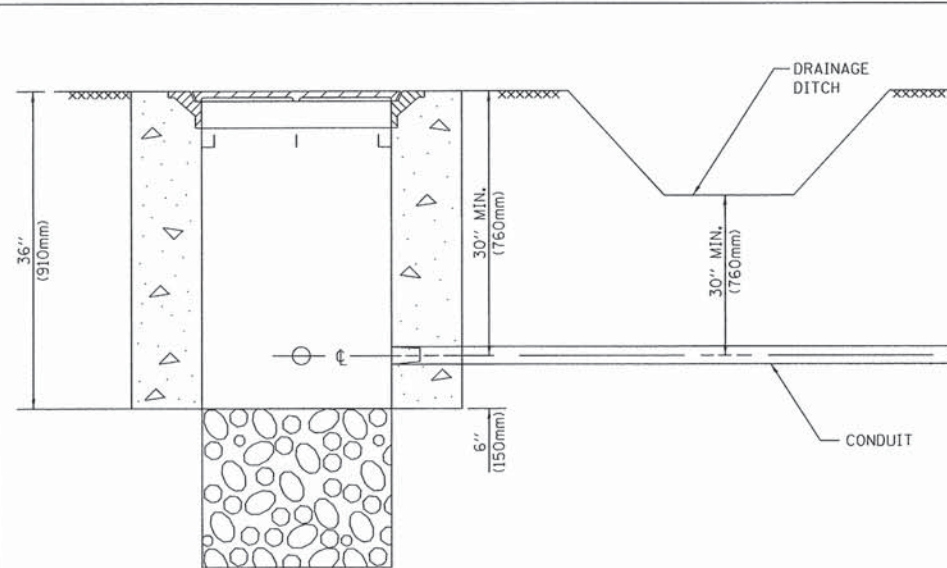
**TEMPORARY SIGNAL CONTROLLER
WOOD SUPPORT PLATFORM**

| Mast Arm Length | ① 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) |
| Greater than or equal to 40' (12.2 m) and less than 50' (15.2 m) | 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) |
| Greater than or equal to 50' (15.2 m) and up to 55' (16.8 m) | 15'-0" (4.6 m) | 36" (900mm) | 30" (750mm) | 12 | 7(22) |
| Greater than or equal to 56' (16.8 m) and less than 65' (19.8 m) | 21'-0" (6.4 m) | 42" (1060mm) | 36" (900mm) | 16 | 8(25) |
| Greater than or equal to 65' (19.8 m) and up to 75' (22.9 m) | 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.

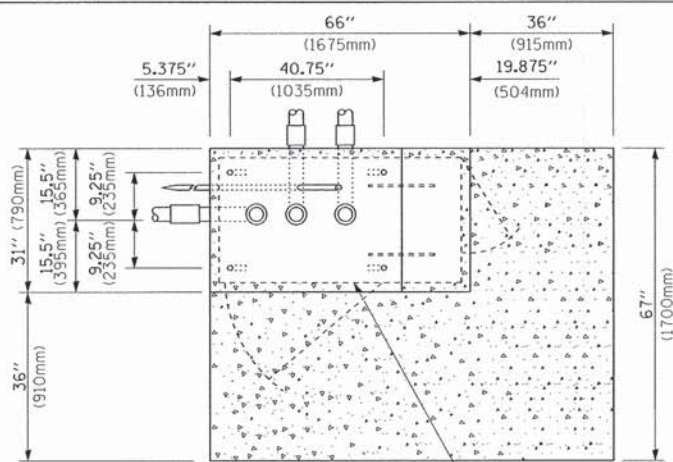
DEPTH OF MAST ARM FOUNDATIONS, TYPE E



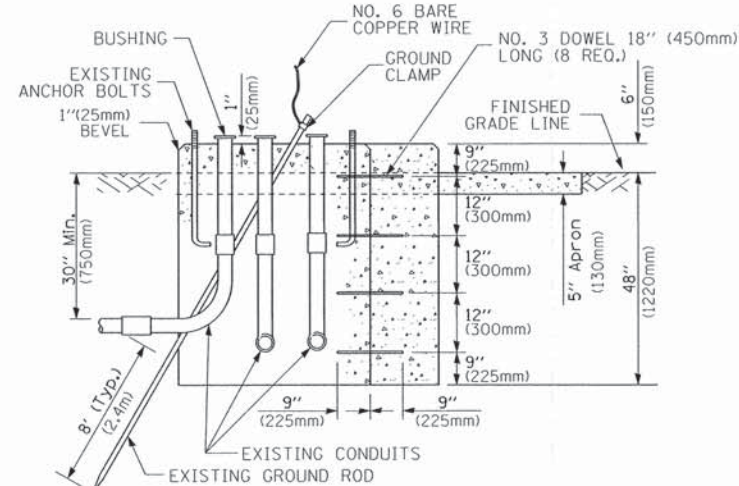
NOTES:

1. CONDUIT DEPTH SHALL BE A MINIMUM OF 30" (760mm) BELOW THE BOTTOM OF THE DRAINAGE DITCH OR ANY SLOPING GROUND
2. THE MINIMUM CONDUIT DEPTH APPLIES TO ALL CONDUIT PLACED UNDER ROADWAY PAVEMENT, MULTI-USE PATHS, SIDEWALKS AND SOIL SURFACES.
3. THE MINIMUM CONDUIT DEPTH APPLIES TO ALL HANDHOLES, HEAVY DUTY HANDHOLES AND DOUBLE HANDHOLES.

HANDHOLE WITH MINIMUM CONDUIT DEPTH
(NOT TO SCALE)



TOP VIEW
(NOT TO SCALE)

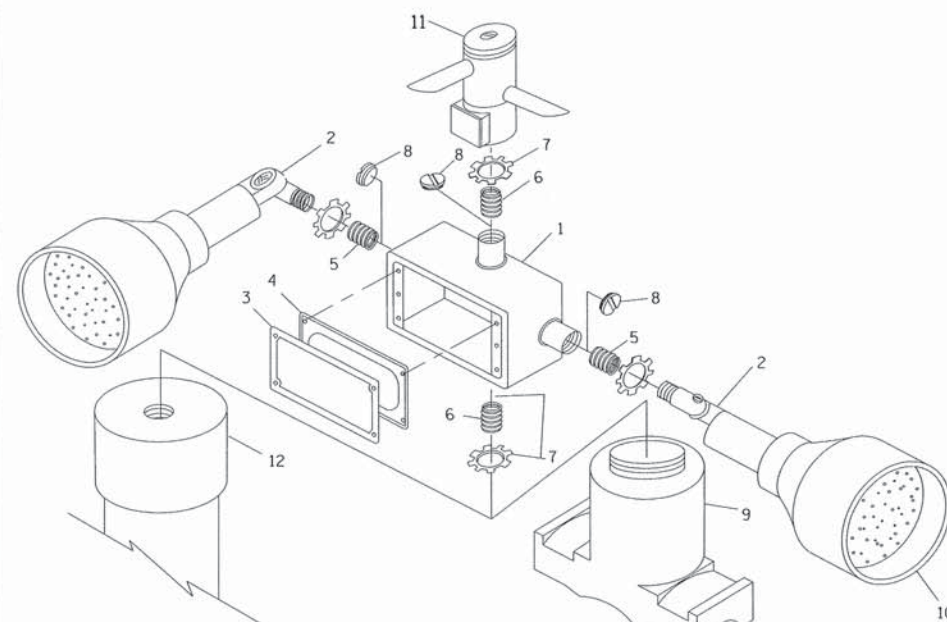


MODIFY EXISTING TYPE "D" FOUNDATION TO TYPE "C" FOUNDATION
(NOT TO SCALE)

| 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:

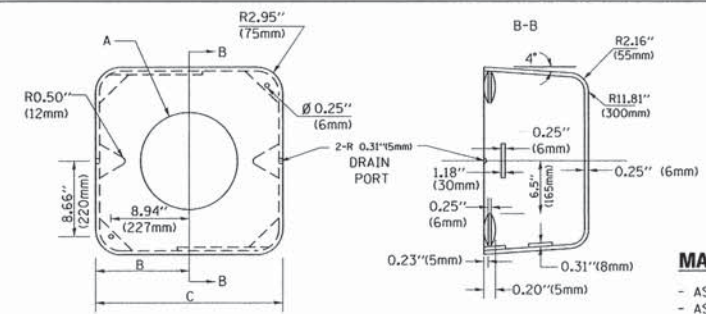
1. ALL ELECTRICAL ITEMS, EXCEPT ITEMS #2 AND #11 SHALL BE ALUMINUM OR GALVANIZED
2. ITEM #1- OZ/GEDNEY FSX-1-50 OR EQUIVALENT
ITEM #2- MULBERRY CON-O-SHADE LAMP SHIELD OR EQUIVALENT
ITEM #9- "BAND-IT" SADDLE BRACKET OR EQUIVALENT
3. WHEN POST MOUNTING IS SPECIFIED, ITEM #9 SHALL NOT BE REQUIRED. THE 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.



POST CAP MOUNT

MAST ARM MOUNT

EMERGENCY VEHICLE DETECTOR WITH CONFIRMATION BEACON MOUNTING DETAIL



MATERIAL:
- ASTM A36 STEEL
- ASTM A-123 HOT DIPPED GALVANIZED

| 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) |

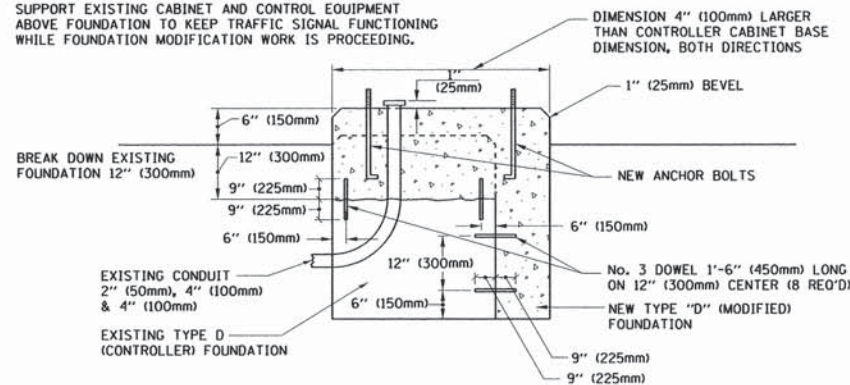
SHROUD

NOTES:

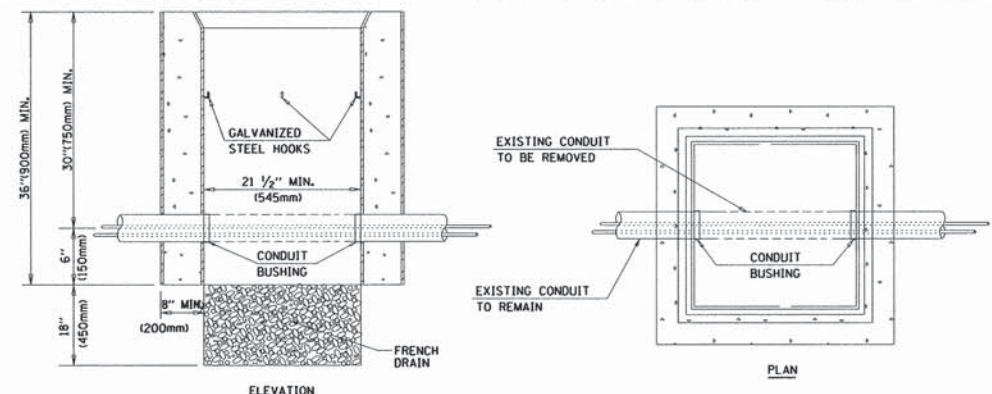
1. DIMENSION "A" IS EQUAL TO THE DIAMETER OF THE MAST ARM POLE AT THE TOP OF THE SHROUD. THE SHROUD SHALL BE TIGHT TO THE MAST ARM POLE.
2. THE SUPPLIER SHALL VERIFIED THE ABOVE DIMENSIONS BASED ON MAST ARM REQUIREMENTS.
3. THE HEIGHT OF THE SHROUD SHALL COVER THE ANCHOR BOLTS, NUTS AND MAST ARM POLE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

NOTE:

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



MODIFY EXISTING TYPE "D" FOUNDATION



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 INCLUDED WITH THE COST OF THE HANDHOLE.

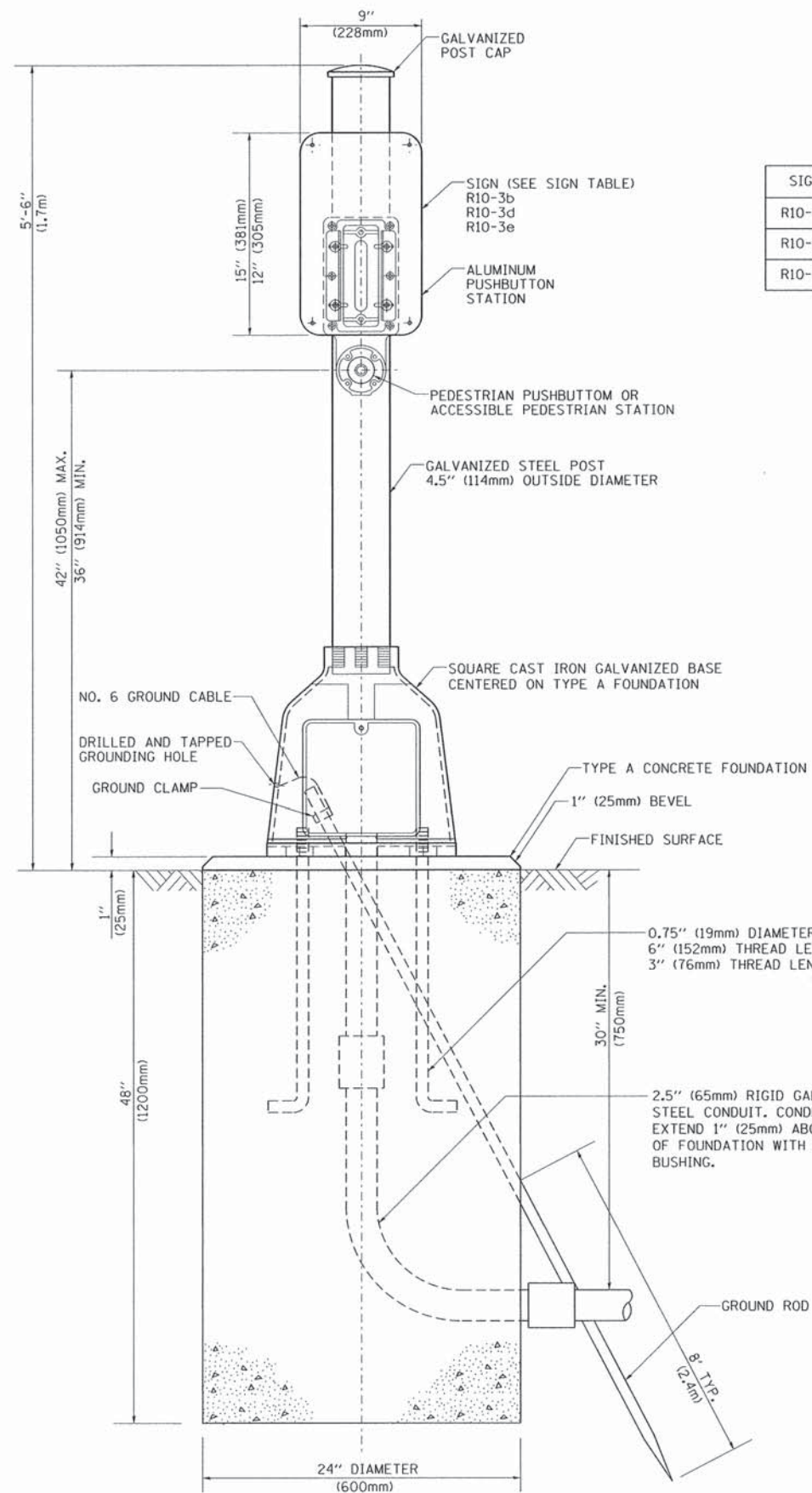
HANDHOLE TO INTERCEPT EXISTING CONDUIT

| | | | |
|--|------------------------------|-----------------|----------------------|
| FILE NAME = | USER NAME = Footemj | DESIGNED - DAD | REVISED - DAC 1-1-14 |
| ca:\pw_work\pwwork\footemj\d0106315\ts05.dgn | | DRAWN - BCK | REVISED - |
| | PLOT SCALE = 50.0000' / 1in. | CHECKED - DAD | REVISED - |
| | PLOT DATE = 1/13/2014 | DATE - 10-28-09 | REVISED - |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

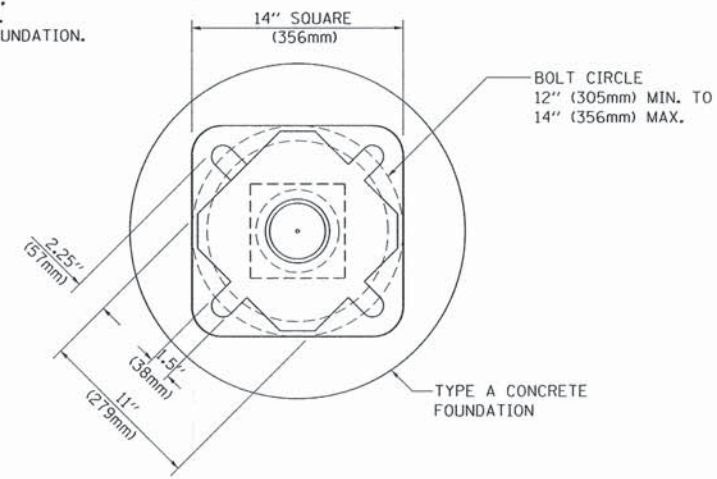
| | |
|---|--------------------------------------|
| DISTRICT ONE | |
| STANDARD TRAFFIC SIGNAL DESIGN DETAILS | |
| SCALE: NONE | SHEET NO. 6 OF 7 SHEETS STA. TO STA. |

| | | | | |
|---|------------------------|--------------------|-----------------|--------------|
| F.A.P. RTE. 334 | SECTION 02-00063-00-CH | COUNTY LAKE | TOTAL SHEETS 86 | SHEET NO. 35 |
| TS-05 | | CONTRACT NO. 61A94 | | |
| FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT CMF-0334(014) | | | | |



SIGN TABLE

| SIGN | DIMENSIONS |
|--------|--------------------------|
| R10-3b | 9" (228mm) X 12" (305mm) |
| R10-3d | 9" (228mm) X 12" (305mm) |
| R10-3e | 9" (228mm) X 15" (381mm) |



BOLT PATTERN

PEDESTRIAN PUSH BUTTON POST, TYPE A

| | | | |
|---|----------------------------|------------------|----------------------|
| FILE NAME = | USER NAME = footej | DESIGNED - DAG | REVISED - DAG 1-1-14 |
| cs:\pw_work\pwwork\footej\00108315\ts05.dgn | | DRAWN - GND | REVISED - |
| | PLOT SCALE = 50.0000' / 1" | CHECKED - DAD | REVISED - |
| | PLOT DATE = 1/13/2014 | DATE - 10/1/2012 | REVISED - |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**DISTRICT ONE
STANDARD TRAFFIC SIGNAL DESIGN DETAILS**

SCALE: NONE SHEET NO. 7 OF 7 SHEETS STA. TO STA.

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|----------------|--------|--------------------|-----------|
| 334 | 02-00063-00-CH | LAKE | 86 | 36 |
| TS-05 | | | CONTRACT NO. 61A94 | |
| FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT CMF-0334(014) | | | | |

REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT

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

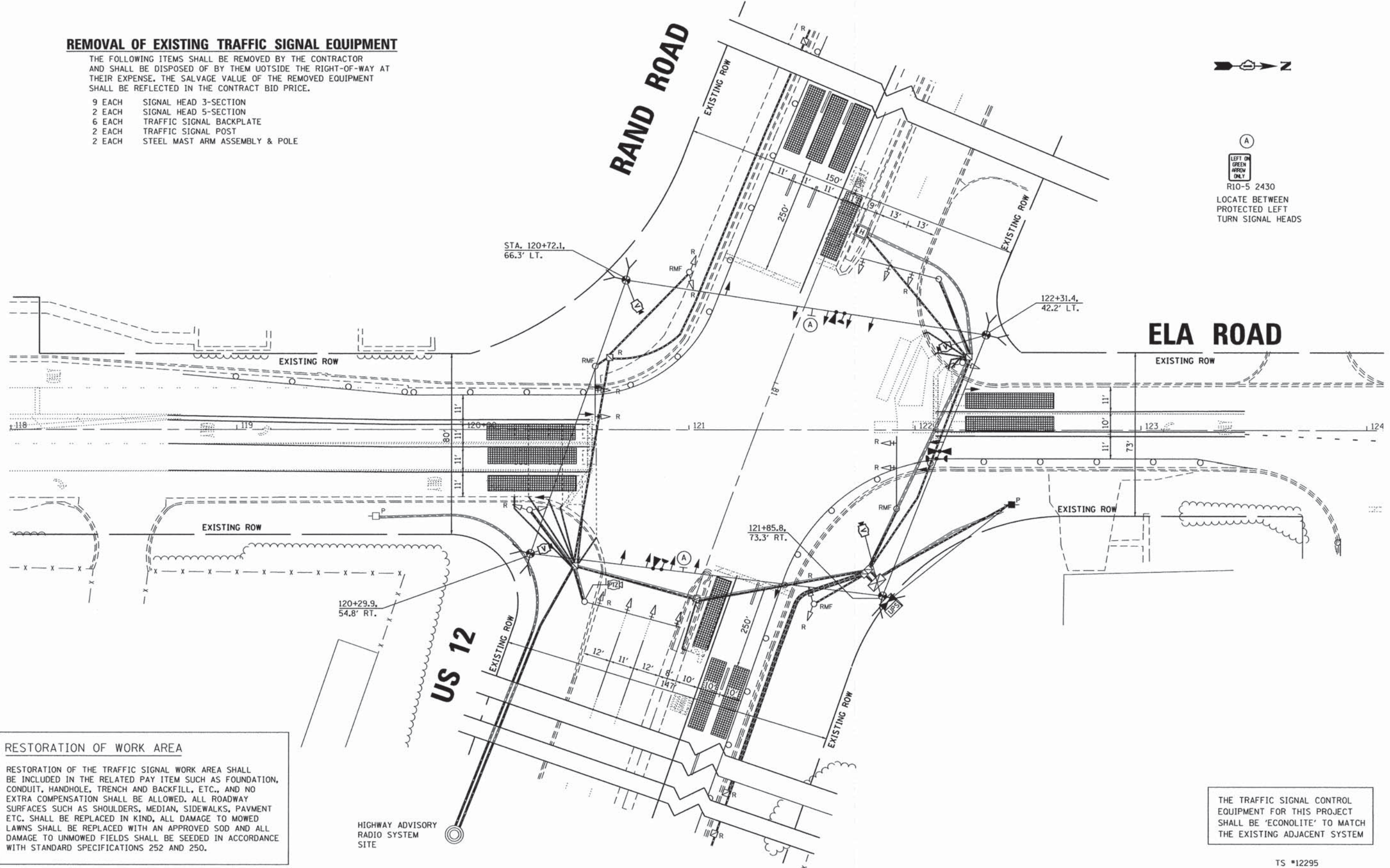
- 9 EACH SIGNAL HEAD 3-SECTION
- 2 EACH SIGNAL HEAD 5-SECTION
- 6 EACH TRAFFIC SIGNAL BACKPLATE
- 2 EACH TRAFFIC SIGNAL POST
- 2 EACH STEEL MAST ARM ASSEMBLY & POLE



(A)



R10-5 2430
LOCATE BETWEEN PROTECTED LEFT TURN SIGNAL HEADS



RESTORATION OF WORK AREA

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

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

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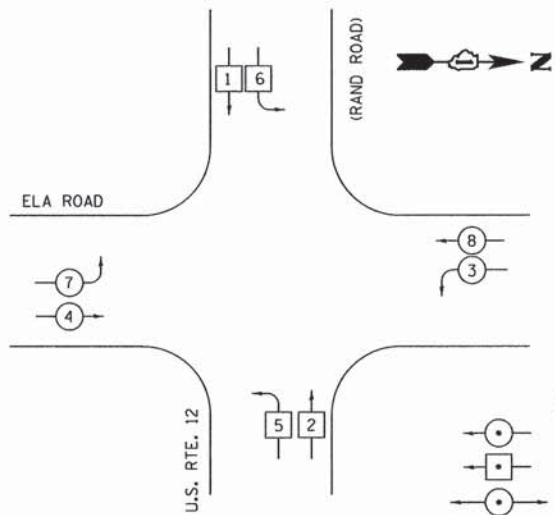
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|------------------------------|-------------------|-----------|
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| PLOT SCALE = 28.0000' / 1" = | DRAWN - ED | REVISED - |
| PLOT DATE = 1/29/2015 | CHECKED - TS | REVISED - |
| | DATE - 12/17/2014 | REVISED - |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

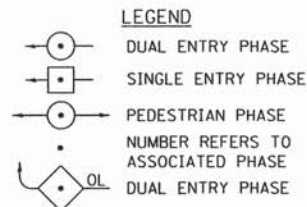
| | |
|---|----------------------------------|
| US 12 (RAND ROAD) AT ELA ROAD TEMPORARY TRAFFIC SIGNAL PLAN & REMOVAL PLAN | |
| SCALE: 1" = 20' | SHEET 1 OF 1 SHEETS STA. TO STA. |

| | | | | |
|---|----------------|--------|--------------|-----------|
| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 334 | 02-00063-00-CH | LAKE | 86 | 37 |
| CONTRACT NO. 61A94 | | | | |
| ILLINOIS FED. AID PROJECT CMF-0334(014) | | | | |

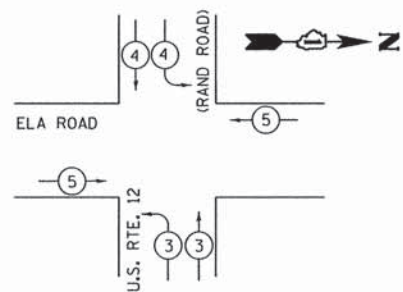
EXISTING CONTROLLER SEQUENCE



PHASE DESIGNATION DIAGRAM



EMERGENCY VEHICLE PREEMPTION SEQUENCE



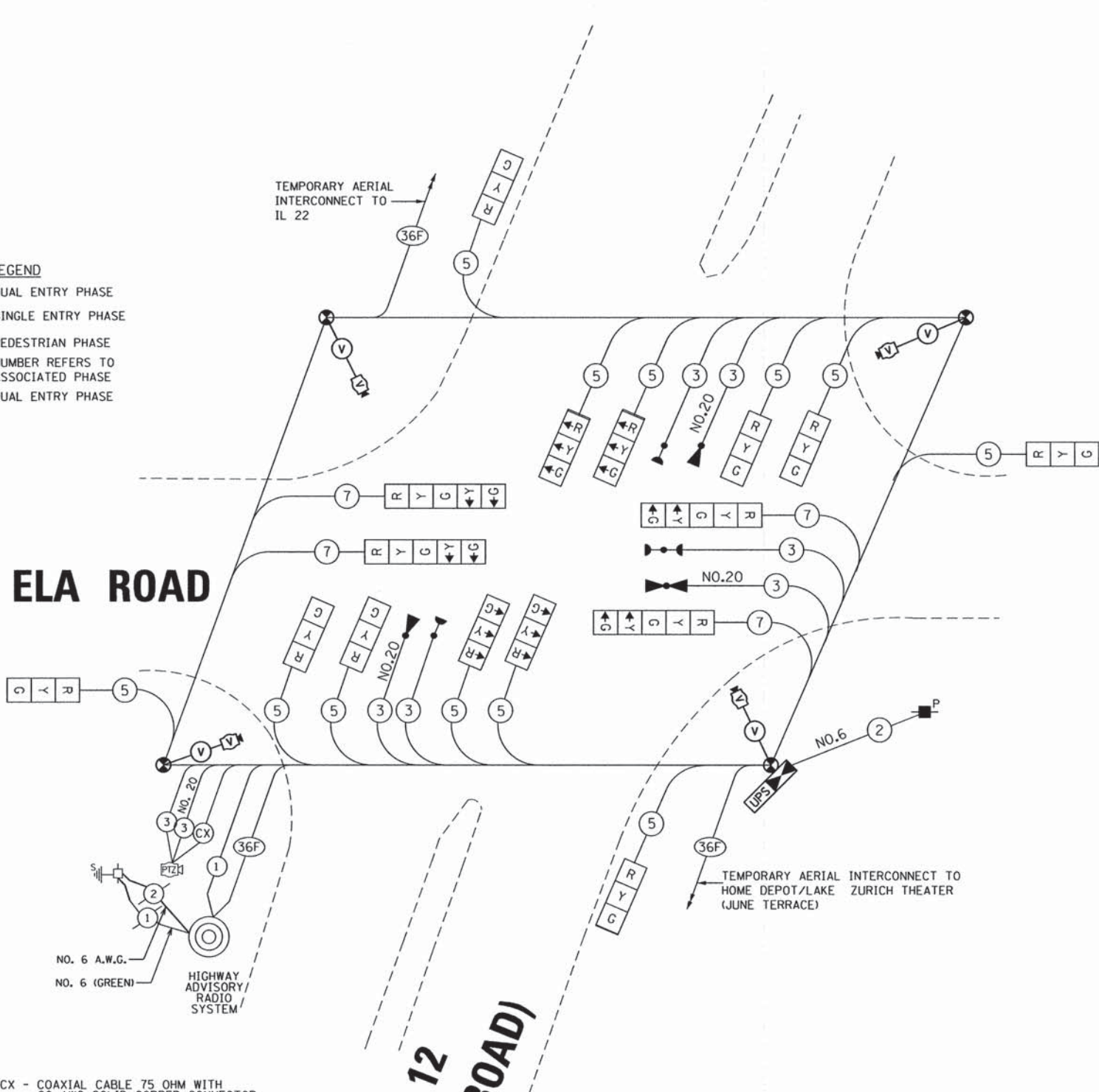
| PROPOSED EMERGENCY VEHICLE PREEMPTORS | | | |
|---------------------------------------|---|---|---|
| EMERGENCY VEHICLE PREEMPTOR | 3 | 4 | 5 |
| MOVEMENT | ↓ | ← | → |

| I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS | | | | | TOTAL WATTAGE |
|--|-----------|----------------|-----|-------------|---------------|
| TYPE | NO. LAMPS | WATTAGE INCAND | LED | % OPERATION | |
| SIGNAL (RED) | 12 | 17 | | 0.50 | 102 |
| (YELLOW) | 12 | 25 | | 0.25 | 75 |
| (GREEN) | 12 | 15 | | 0.25 | 45 |
| ARROW | 20 | 12 | | 0.30 | 72 |
| PED. SIGNAL | | 25 | | 1.00 | |
| CONTROLLER | 1 | 100 | | 1.00 | 100.0 |
| ILLUM. SIGN | | 25 | | 0.05 | |
| VIDEO SYSTEM | 1 | 150 | | 1.00 | 150.0 |
| FLASHER | | 25 | | | |
| TOTAL = | | | | | 544 |

ENERGY COST TO: Illinois Department of Transportation
Division of Highways / District 1
201 W. CENTER COURT, SCHAUMBURG, IL 60196

ENERGY SUPPLY: CONTACT: **DOTTIE PROSEN**
PHONE: (847) 8169-5323
COMPANY: ComEd - ACCOUNT NO. 10-004901

ELA ROAD



CX - COAXIAL CABLE 75 OHM WITH 20 AWG SOLID COPPER CONNECTOR

US 12 (RAND ROAD)

WORK ON TRAFFIC SIGNAL CONTROLLERS SHALL BE ACCORDING TO NTCIP (LATEST VERSION)

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

TS* 12295

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

TEMPORARY CABLE PLAN, PHASE DESIGNATION DIAGRAM & EMERGENCY VEHICLE PREEMPTION US 12 (RAND ROAD) AT ELA ROAD

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|-------------|----------------|--------|--------------|-----------|
| 334 | 02-00063-00-CH | LAKE | 86 | 38 |

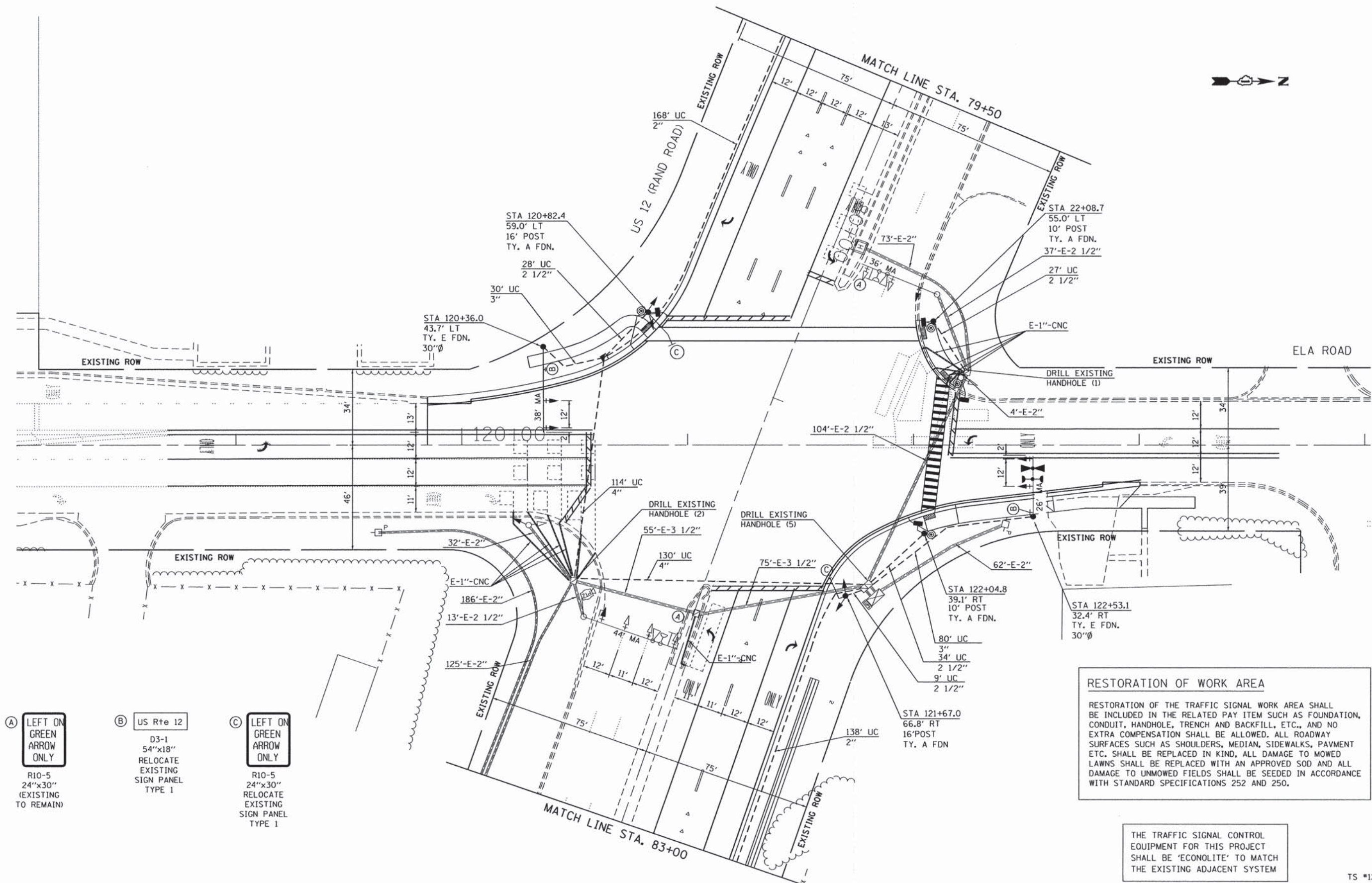
CONTRACT NO. 61A94
ILLINOIS FED. AID PROJECT CMF-0334(014)

SCALE: NONE SHEET OF SHEETS STA. TO STA.

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GRÖEF 2501 W. Higgins Road Suite 200 Chicago, Illinois 60631 773 329-0112

| | | |
|------------------------------|-------------------|-----------|
| USER NAME = 1485 | DESIGNED - RS | REVISED - |
| PLOT SCALE = 28,0000 ' / in. | DRAWN - ED | REVISED - |
| PLOT DATE = 1/29/2015 | CHECKED - TS | REVISED - |
| | DATE - 12/17/2014 | REVISED - |



- (A) LEFT ON GREEN ARROW ONLY**
R10-5
24"x30"
(EXISTING TO REMAIN)
- (B) US Rte 12**
D3-1
54"x18"
RELOCATE EXISTING SIGN PANEL TYPE 1
- (C) LEFT ON GREEN ARROW ONLY**
R10-5
24"x30"
RELOCATE EXISTING SIGN PANEL TYPE 1

RESTORATION OF WORK AREA

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

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

TS #12295

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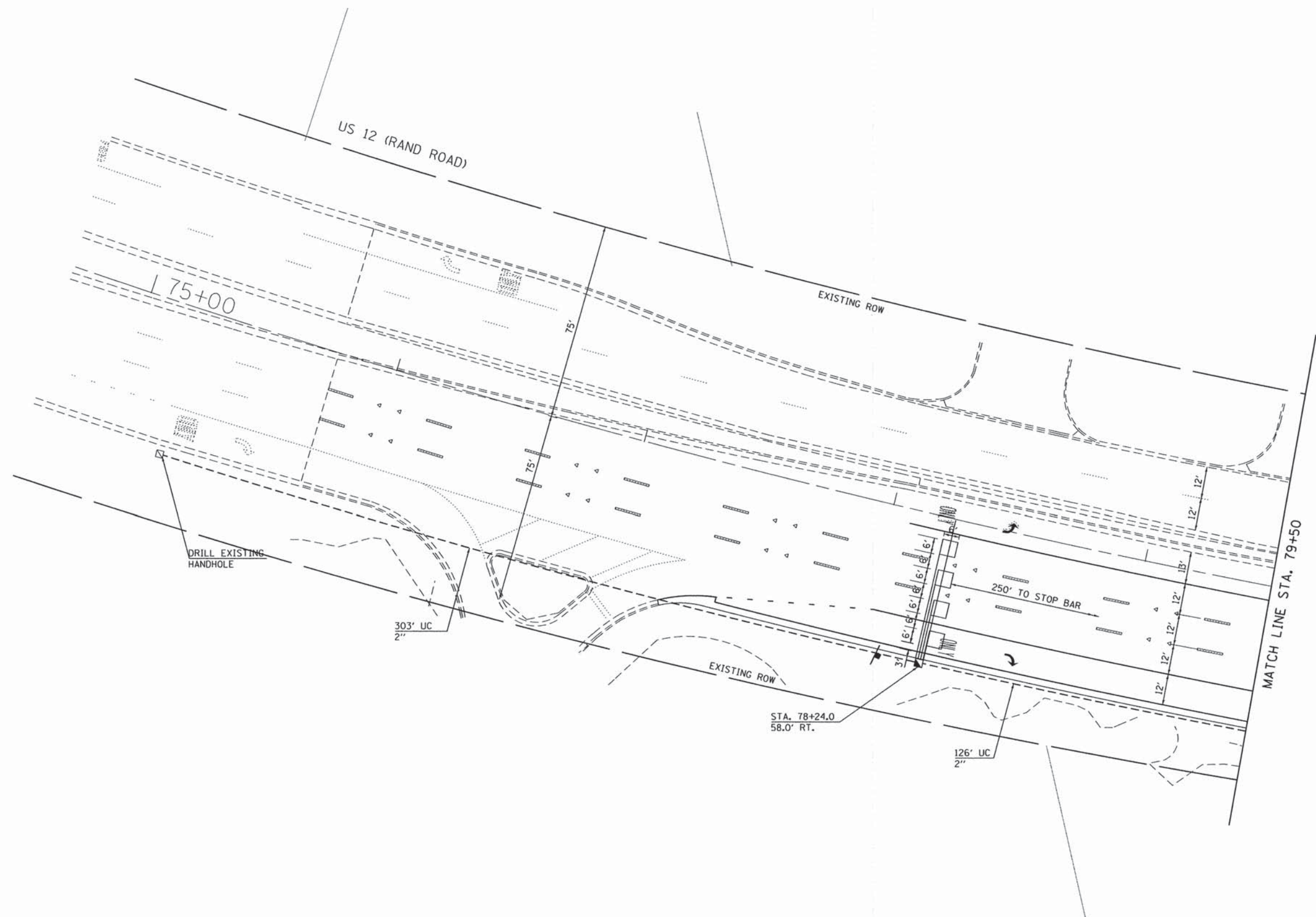
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| PLOT DATE = 1/29/2015 | CHECKED - TS | REVISED - |
| | DATE - 12/17/2014 | REVISED - |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**US 12 (RAND ROAD) AT ELA ROAD
TRAFFIC SIGNAL PLANS**

SCALE: 1"=20' SHEET 1 OF 3 SHEETS STA. TO STA.

| | | | | |
|--------------------|----------------|--------|---|-----------|
| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 334 | 02-00063-00-CH | LAKE | 86 | 39 |
| CONTRACT NO. 61A94 | | | ILLINOIS FED. AID PROJECT CMF-0334(014) | |



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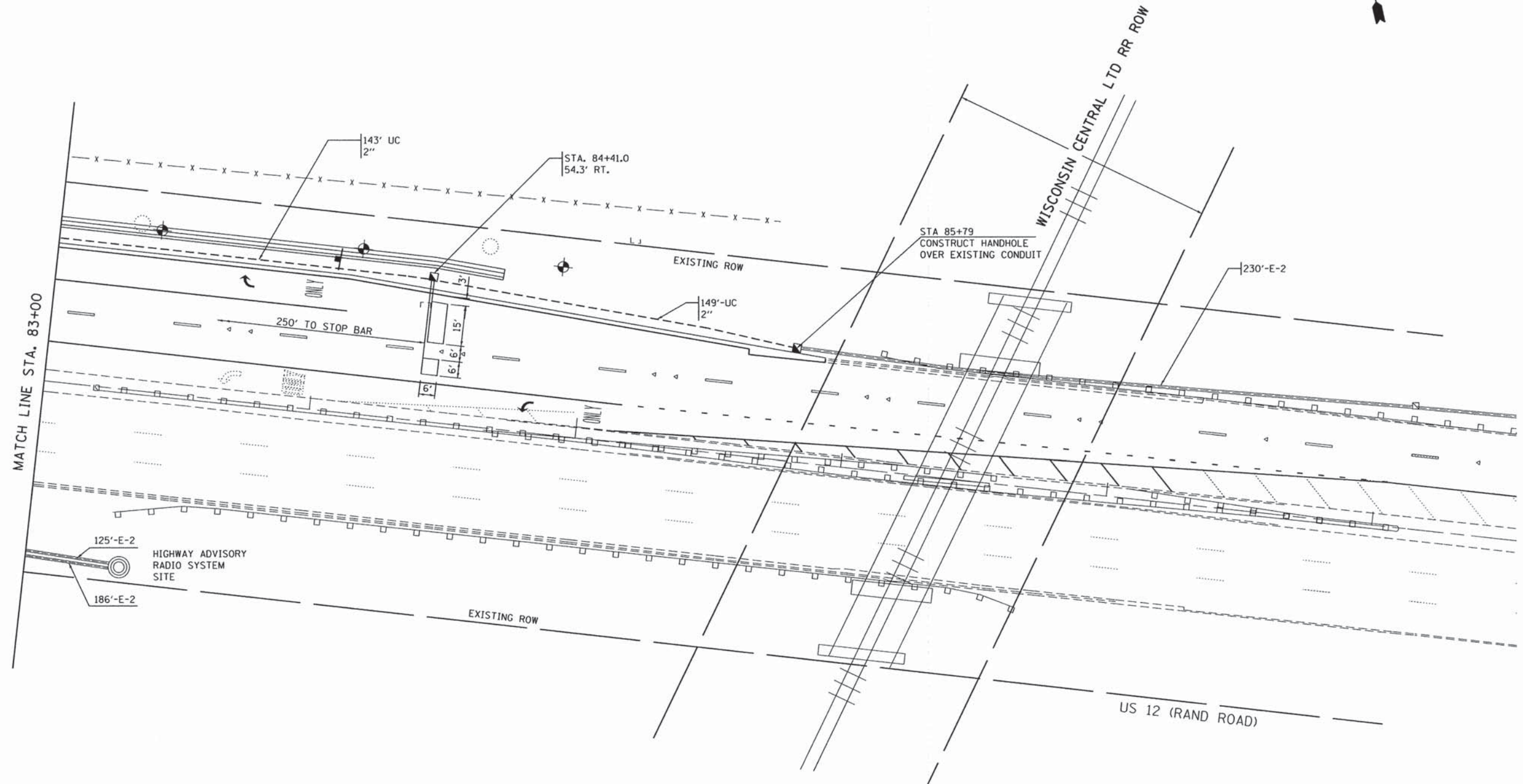


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| USER NAME = 1485 | DESIGNED - RS | REVISED - |
| DRAWN - ED | REVISOR - | |
| CHECKED - TS | REVISOR - | |
| DATE - 12/17/2014 | REVISOR - | |
| PLOT SCALE = 20,0000' / in. | | |
| PLOT DATE = 1/29/2015 | | |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

| | | | |
|---|---------|-------------|--------------|
| US 12 (RAND ROAD) AT ELA ROAD TRAFFIC SIGNAL PLANS | | | |
| SCALE: 1"=20' | SHEET 2 | OF 3 SHEETS | STA. TO STA. |

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|----------------|--------|--------------|-----------|
| 334 | 02-00063-00-CH | LAKE | 86 | 40 |
| CONTRACT NO. 61A94 | | | | |
| ILLINOIS FED. AID PROJECT CMF-0334(014) | | | | |



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|-----------------------------|-------------------|-----------|
| USER NAME = 1485 | DESIGNED - RS | REVISED - |
| DRAWN - ED | CHECKED - TS | REVISED - |
| PLOT SCALE = 28,0000' / in. | DATE - 12/17/2014 | REVISED - |
| PLOT DATE = 1/29/2015 | | |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

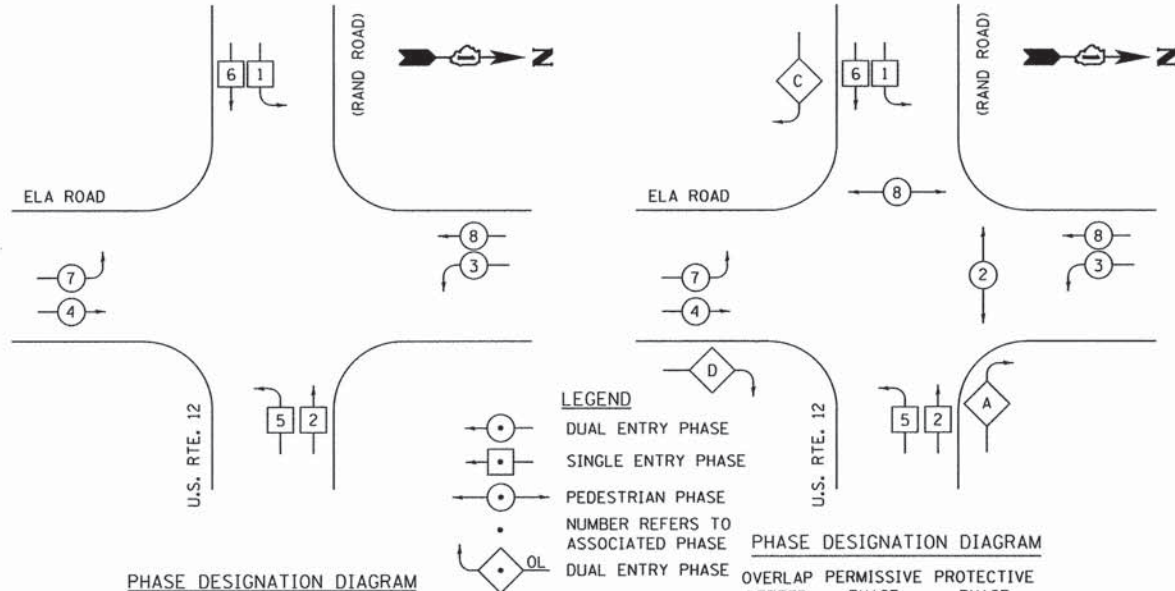
| | | | |
|---|---------|-------------|--------------|
| US 12 (RAND ROAD) AT ELA ROAD TRAFFIC SIGNAL PLANS | | | |
| SCALE: 1"=20' | SHEET 3 | OF 3 SHEETS | STA. TO STA. |

| | | | | |
|---|----------------|--------|--------------|-----------|
| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 334 | 02-00063-00-CH | LAKE | 86 | 41 |
| CONTRACT NO. 61A94 | | | | |
| [ILLINOIS] FED. AID PROJECT CMF-0334(014) | | | | |

TS #12295

EXISTING CONTROLLER SEQUENCE

PROPOSED CONTROLLER SEQUENCE



LEGEND

- DUAL ENTRY PHASE
- SINGLE ENTRY PHASE
- PEDESTRIAN PHASE
- NUMBER REFERS TO ASSOCIATED PHASE
- DUAL ENTRY PHASE

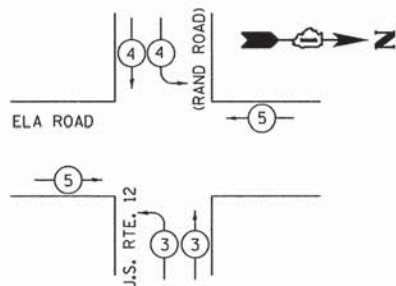
PHASE DESIGNATION DIAGRAM

| OVERLAP LETTER | PHASE | PROTECTIVE PHASE |
|----------------|---------|------------------|
| A | = 2 + 3 | |
| C | = 6 + 7 | |
| D | = 4 + 5 | |

SCHEDULE OF TRAFFIC SIGNAL QUANTITIES

| ITEM | UNIT | QUANTITY |
|---|-------|----------|
| RELOCATE SIGN PANEL - TYPE 1 | 50 FT | 24 |
| UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA. | FOOT | 575 |
| UNDERGROUND CONDUIT, GALVANIZED STEEL, 2 1/2" DIA. | FOOT | 98 |
| UNDERGROUND CONDUIT, GALVANIZED STEEL, 3" DIA. | FOOT | 110 |
| UNDERGROUND CONDUIT, GALVANIZED STEEL, 4" DIA. | FOOT | 230 |
| HANDHOLE | EACH | 3 |
| GROUNDING EXISTING HANDHOLE FRAME AND COVER | EACH | 4 |
| ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C | FOOT | 703 |
| ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C | FOOT | 875 |
| ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C | FOOT | 348 |
| ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C | FOOT | 2,029 |
| ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR | FOOT | 882 |
| ELECTRIC CABLE IN CONDUIT, EQUIP GRD COND, NO. 6 1C | FOOT | 1,019 |
| TRAFFIC SIGNAL POST, GALVANIZED STEEL 10 FT. | EACH | 2 |
| TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT. | EACH | 2 |
| STEEL MAST ARM ASSEMBLY AND POLE, 26 FT. | EACH | 1 |
| STEEL MAST ARM ASSEMBLY AND POLE, 38 FT. | EACH | 1 |
| CONCRETE FOUNDATION, TYPE A | FOOT | 16 |
| CONCRETE FOUNDATION, TYPE E 30-INCH DIAMETER | FOOT | 24 |
| DRILL EXISTING HANDHOLE | EACH | 9 |
| SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED | EACH | 1 |
| SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED | EACH | 1 |
| SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED | EACH | 5 |
| SIGNAL HEAD, LED, 2-FACE, 1-3 SECTION, 1-5 SECTION, BRACKET MOUNTED | EACH | 2 |
| PEDESTRIAN SIG HD, LED, 1-FACE, BRKT MTD WITH COUNTDOWN TIMER | EACH | 4 |
| TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM | EACH | 6 |
| DETECTOR LOOP, TYPE I | FOOT | 264 |
| PEDESTRIAN PUSH-BUTTON | EACH | 4 |
| TEMPORARY TRAFFIC SIGNAL INSTALLATION | EACH | 1 |
| REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT | EACH | 1 |
| REMOVE EXISTING HANDHOLE | EACH | 4 |
| REMOVE EXISTING CONCRETE FOUNDATION | EACH | 4 |
| ELECTRIC CABLE IN CONDUIT, SIGNAL, NO. 20 3/C, TW, SH | FOOT | 153 |
| RELOCATE LIGHT DETECTOR | EACH | 1 |
| TEMPORARY TRAFFIC SIGNAL TIMING | EACH | 1 |

EMERGENCY VEHICLE PREEMPTION SEQUENCE



PROPOSED EMERGENCY VEHICLE PREEMPTORS

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

| I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS | | | | TOTAL WATTAGE |
|--|-----------|-------------|-------------|---------------|
| TYPE | NO. LAMPS | WATTAGE LED | % OPERATION | |
| SIGNAL (RED) | 15 | 17 | 0.50 | 127.5 |
| (YELLOW) | 15 | 25 | 0.25 | 93.75 |
| (GREEN) | 15 | 15 | 0.25 | 56.25 |
| ARROW | 32 | 12 | 0.15 | 57.6 |
| PED. SIGNAL | 4 | 25 | 1.00 | 100 |
| CONTROLLER | 1 | 100 | 1.00 | 100 |
| ILLUM. SIGN VIDEO SYSTEM | | | 0.05 | |
| FLASHER | | 25 | | |
| TOTAL = | | | | 435.1 |

ENERGY COST TO: Illinois Department of Transportation
Division of Highways / District 1
201 W. CENTER COURT, SCHAUMBURG, IL 60196

ENERGY SUPPLY: CONTACT: DOTTIE PROSEN
PHONE: (847) 816-5323
COMPANY: ComEd - ACCOUNT NO. 10-004901

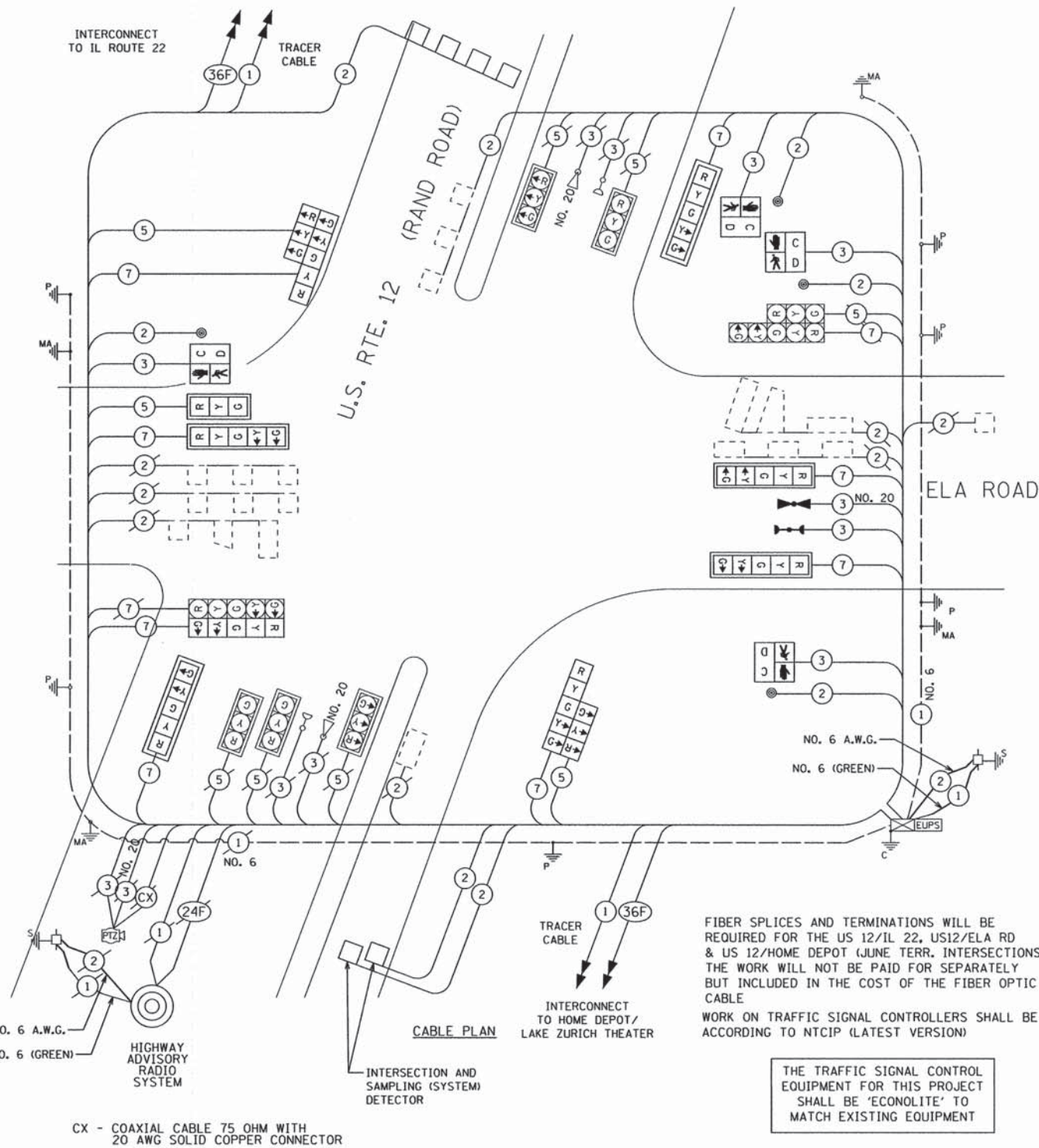
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|----------------------------|-------------------|-----------|
| USER NAME = 1485 | DESIGNED - RS | REVISED - |
| PLOT SCALE = 28,0000' / 1" | DRAWN - ED | REVISED - |
| PLOT DATE = 1/29/2015 | CHECKED - TS | REVISED - |
| | DATE - 12/17/2014 | REVISED - |

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

| | | | | | | |
|--|--|-----------------|------------------------|---------------------|-----------------|--------------|
| RAND ROAD (US RTE 12) AT ELA ROAD | | F.A.P. RTE. 334 | SECTION 02-00063-00-CH | COUNTY LAKE | TOTAL SHEETS 86 | SHEET NO. 42 |
| SCHEDULE OF QUANTITIES, CABLE PLAN, AND PHASE DESIGNATION DIAGRAM AND EMERGENCY VEHICLE PREEMPTION DIAGRAM | | SCALE: NONE | | SHEET 1 OF 1 SHEETS | | STA. TO STA. |



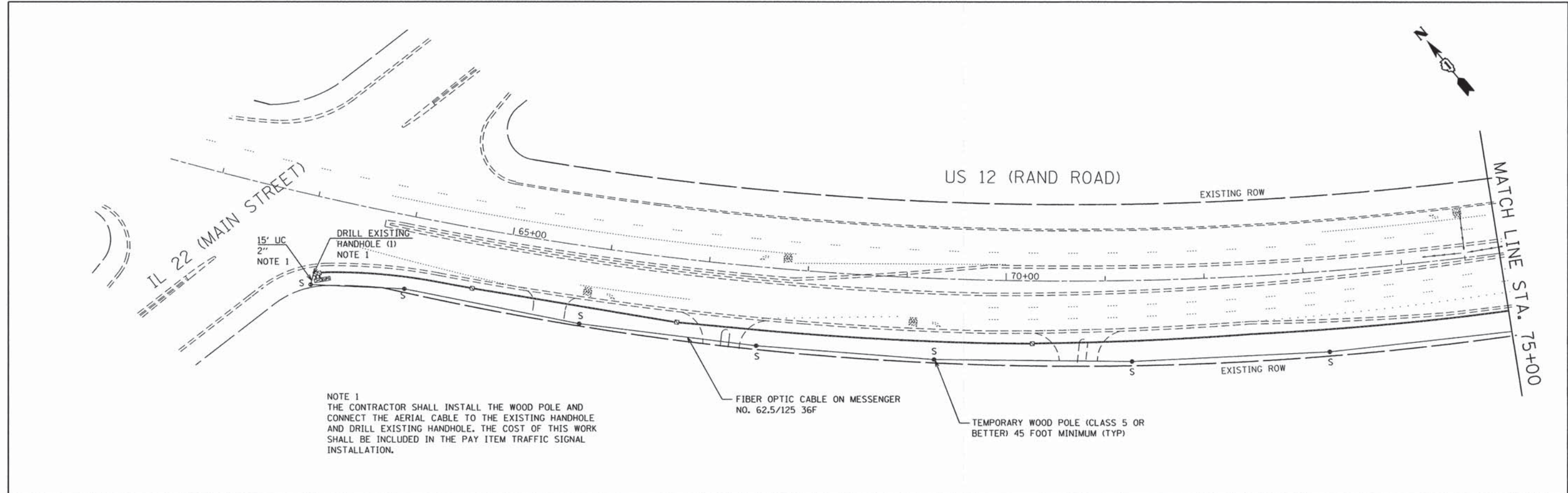
FIBER SPLICES AND TERMINATIONS WILL BE REQUIRED FOR THE US 12/IL 22, US12/ELA RD & US 12/HOME DEPOT (JUNE TERR. INTERSECTIONS) THE WORK WILL NOT BE PAID FOR SEPARATELY BUT INCLUDED IN THE COST OF THE FIBER OPTIC CABLE

WORK ON TRAFFIC SIGNAL CONTROLLERS SHALL BE ACCORDING TO NTCIP (LATEST VERSION)

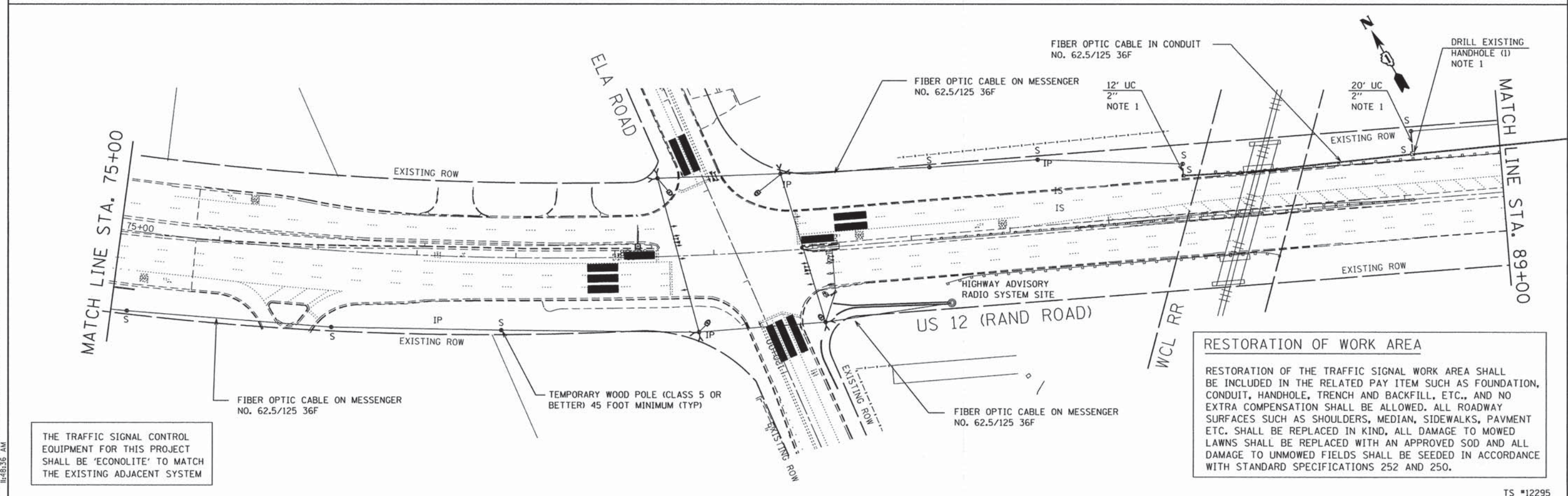
THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE 'ECONOLITE' TO MATCH EXISTING EQUIPMENT

TS #12295

ILLINOIS FED. AID PROJECT CMF-0334(014)



NOTE 1
 THE CONTRACTOR SHALL INSTALL THE WOOD POLE AND CONNECT THE AERIAL CABLE TO THE EXISTING HANDHOLE AND DRILL EXISTING HANDHOLE. THE COST OF THIS WORK SHALL BE INCLUDED IN THE PAY ITEM TRAFFIC SIGNAL INSTALLATION.



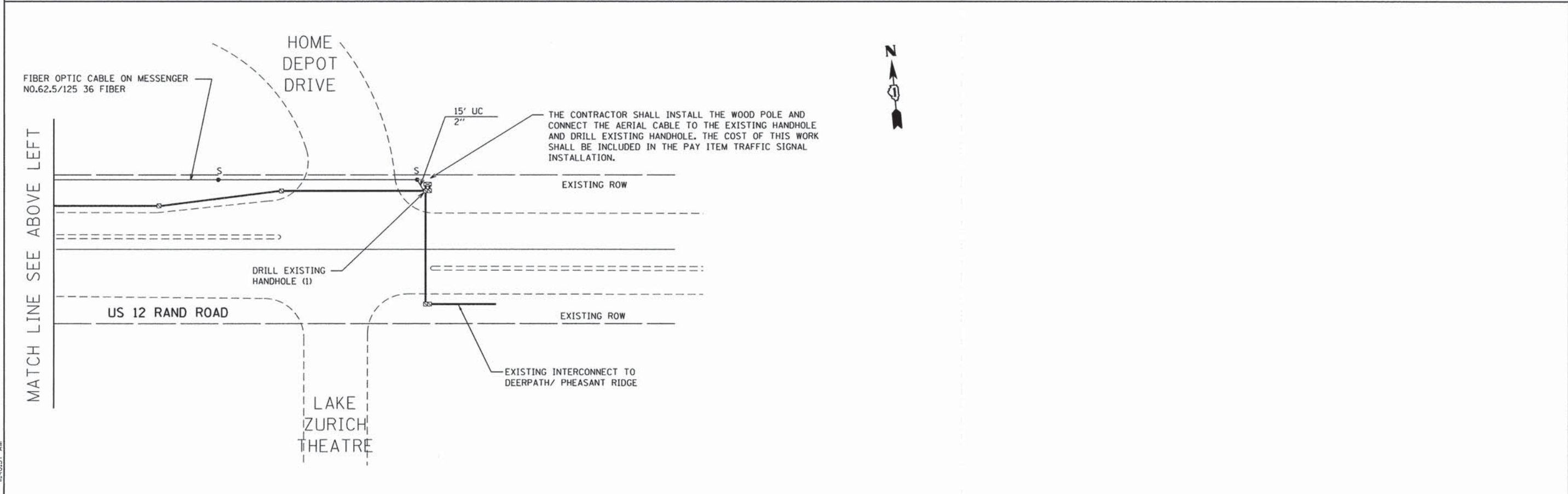
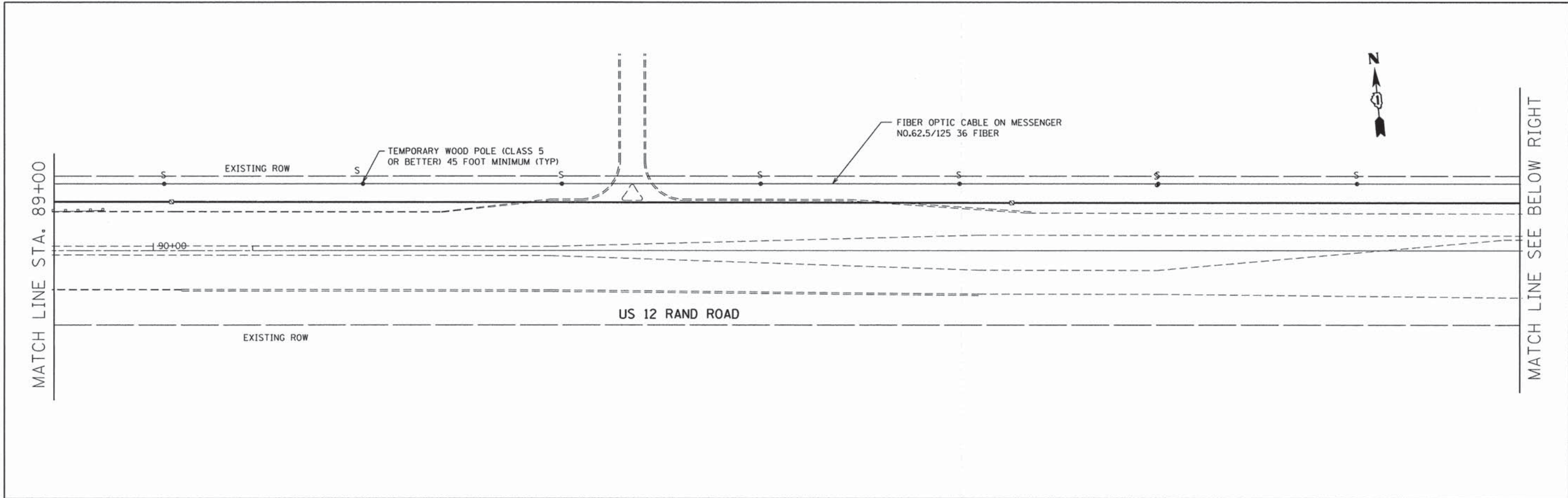
RESTORATION OF WORK AREA
 RESTORATION OF THE TRAFFIC SIGNAL WORK AREA SHALL BE INCLUDED IN THE RELATED PAY ITEM SUCH AS FOUNDATION, CONDUIT, HANDHOLE, TRENCH AND BACKFILL, ETC., AND NO EXTRA COMPENSATION SHALL BE ALLOWED. ALL ROADWAY SURFACES SUCH AS SHOULDERS, MEDIAN, SIDEWALKS, PAVMENT ETC. SHALL BE 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.

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

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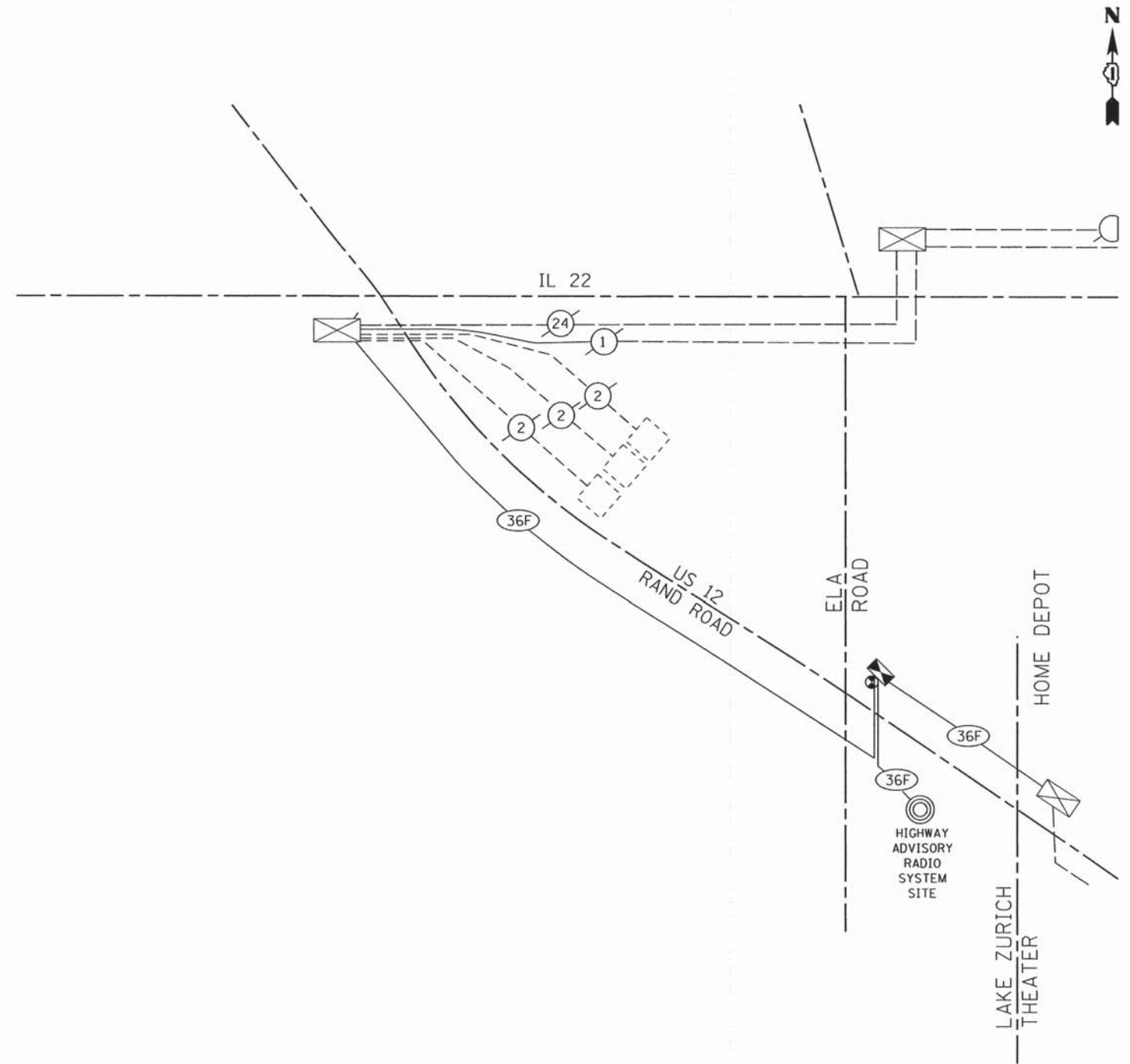
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|---|-----------------------------|-------------------|-----------|---|--|---------------------|--------------------------|---|---------------|-------------------|-----------------|--|
| 2501 N. Higgins Road Suite 200 Chicago, Illinois 60631 (773) 399-0112 | USER NAME = 1485 | DESIGNED - RS | REVISED - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | US 12 (RAND ROAD) AT ELA ROAD TEMPORARY INTERCONNECT PLAN | | F.A.P. RTE. = 334 | SECTION = 02-00063-00-CH | COUNTY = LAKE | TOTAL SHEETS = 86 | SHEET NO. = 42A | |
| | PLOT SCALE = 50,0000' / in. | CHECKED - TS | REVISED - | | SCALE: 1" = 50' | SHEET 1 OF 2 SHEETS | STA. IL 22 TO STA. 89+00 | CONTRACT NO. 61A94 [ILLINOIS] FED. AID PROJECT CMF-0334(014) | | | | |
| | PLOT DATE = 1/29/2015 | DATE = 12/17/2014 | REVISED - | | | | | | | | | |
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|--|----------------------------|-------------------|-----------|---|---|---------------------|-------------------------------|--------------------------|---------------|-------------------|-----------------|--|--|
| 2501 W. Higgins Road Suite 200 Chicago, Illinois 60631 (773) 399-012 | USER NAME = 1485 | DESIGNED - RS | REVISED - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | US 12 (RAND ROAD) AT ELA ROAD TEMPORARY INTERCONNECT PLANS | | F.A.P. RTE. = 334 | SECTION = 02-00063-00-CH | COUNTY = LAKE | TOTAL SHEETS = 86 | SHEET NO. = 42B | | |
| | PLOT SCALE = 50.0000' / 1" | DRAWN - LT / DG | REVISED - | | SCALE: 1" = 50' | SHEET 2 OF 2 SHEETS | STA. 89+00 TO STA. HOME DEPOT | CONTRACT NO. 61A94 | | | | | |
| | PLOT DATE = 1/29/2015 | CHECKED - TS | REVISED - | | ILLINOIS FED. AID PROJECT CMF-0334(014) | | | | | | | | |
| | | DATE = 12/17/2014 | REVISED - | | | | | | | | | | |



WORK ON TRAFFIC SIGNAL CONTROLLERS SHALL BE ACCORDING TO NTCIP. (LATEST VERSION).

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE 'ECONOLITE' TO MATCH EXISTING EQUIPMENT

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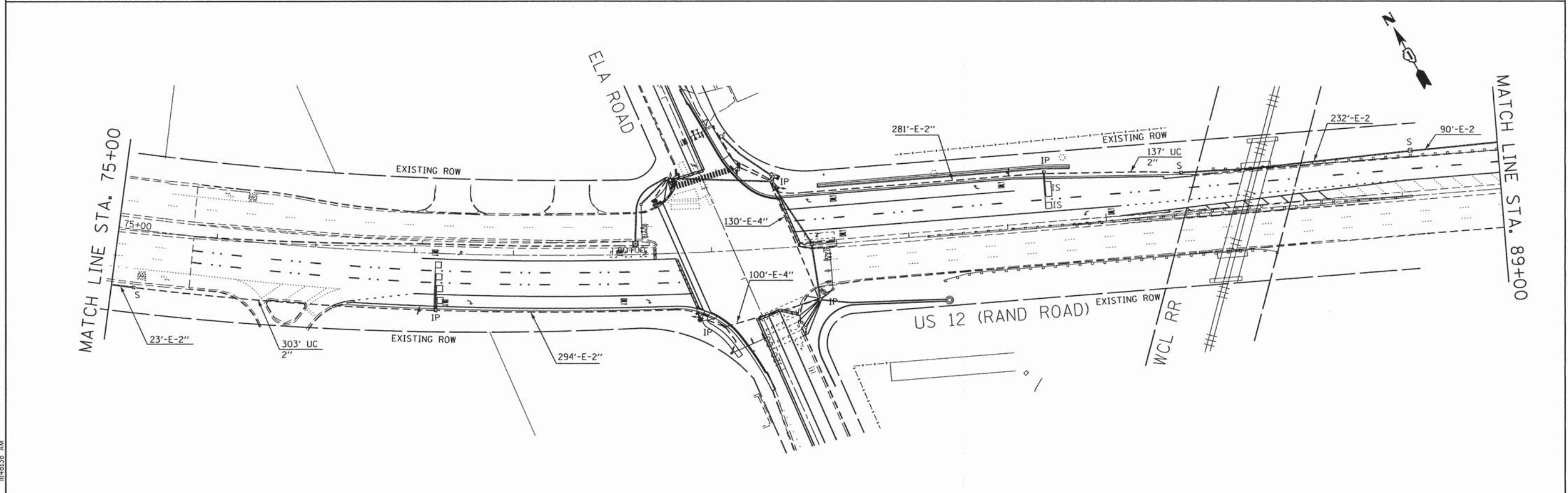
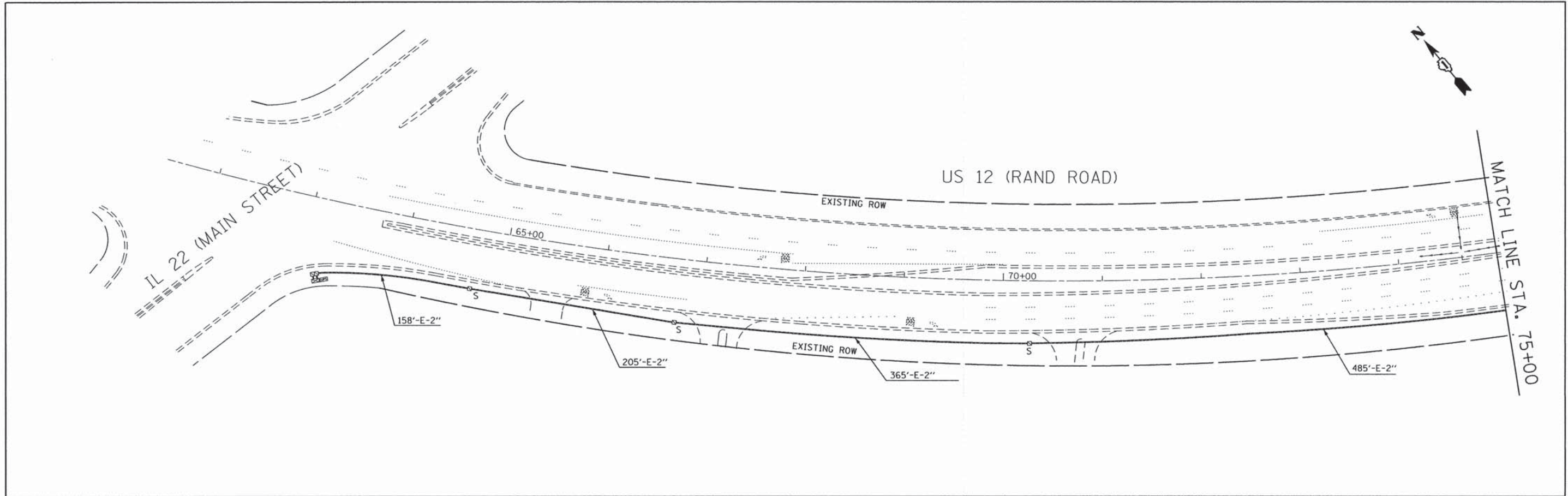


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| USER NAME = 1485 | DESIGNED - RS | REVISED - |
| | DRAWN - ED | REVISED - |
| PLOT SCALE = 28.0000' / in. | CHECKED - TS | REVISED - |
| PLOT DATE = 1/29/2015 | DATE - 12/17/2014 | REVISED - |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

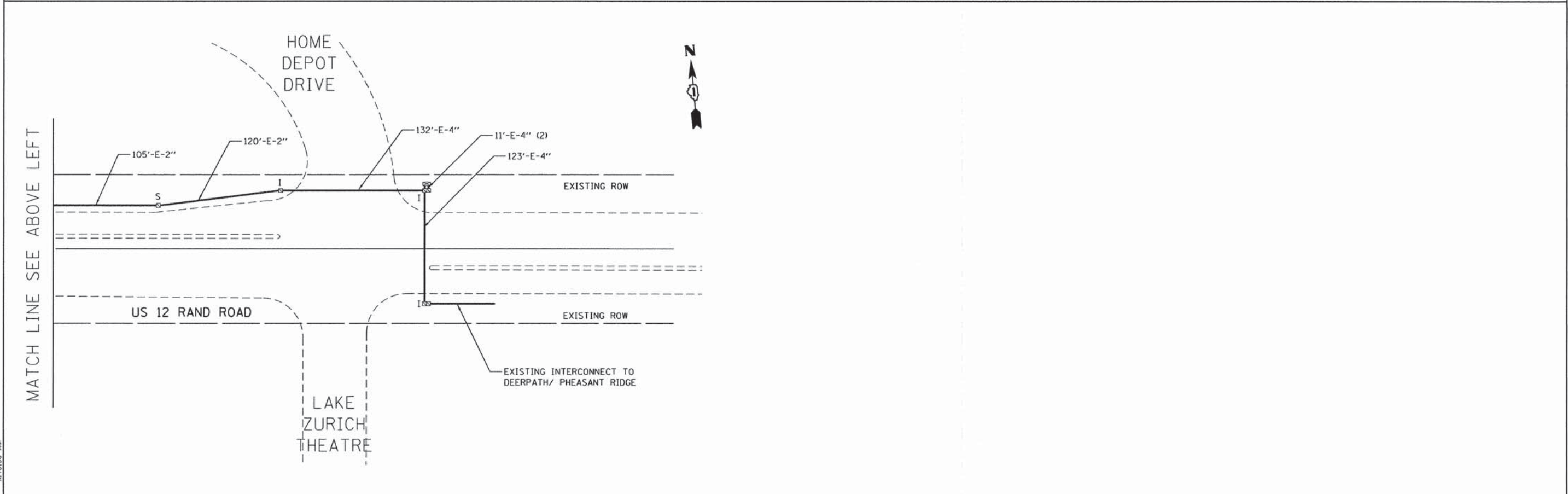
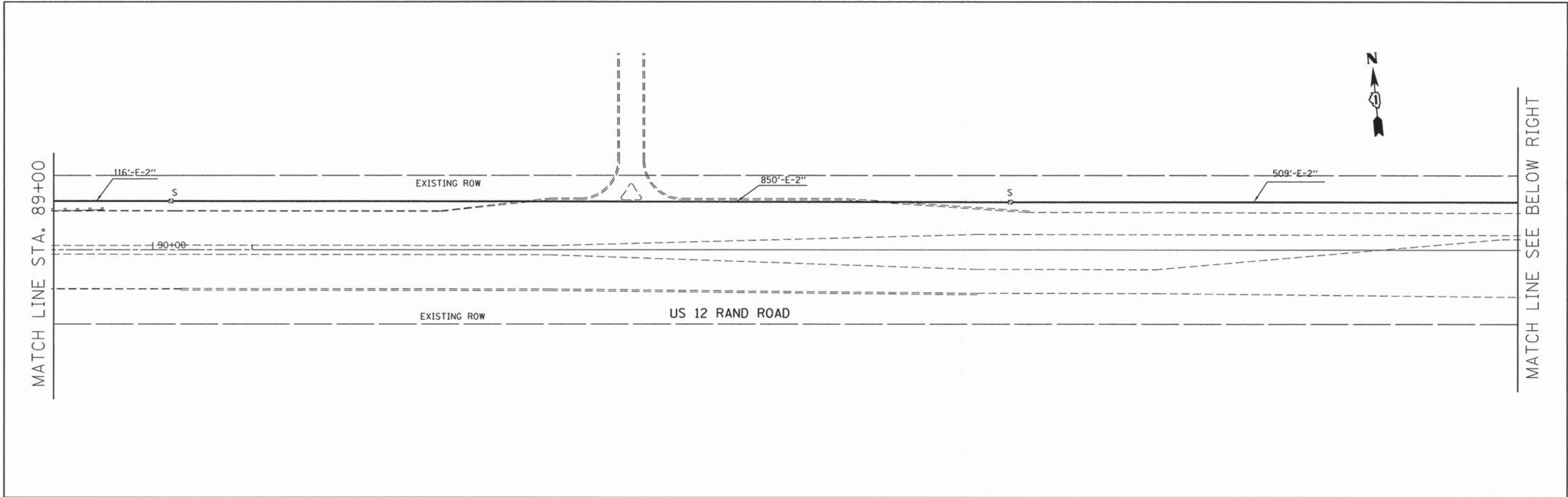
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|--|---|
| US 12 (RAND ROAD) AT ELA ROAD TEMPORARY INTERCONNECT CABLE PLAN | |
| SCALE: | SHEET 1 OF 1 SHEETS STA. IL 22 TO STA. HOME DEPOT |

| | | | | |
|---------------------------------------|----------------|--------|--------------|-----------|
| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 334 | 02-00063-00-CH | LAKE | 86 | 43 |
| CONTRACT NO. 61A94 | | | | |
| ILLINOIS FED. AID PROJECT CMF-0334014 | | | | |



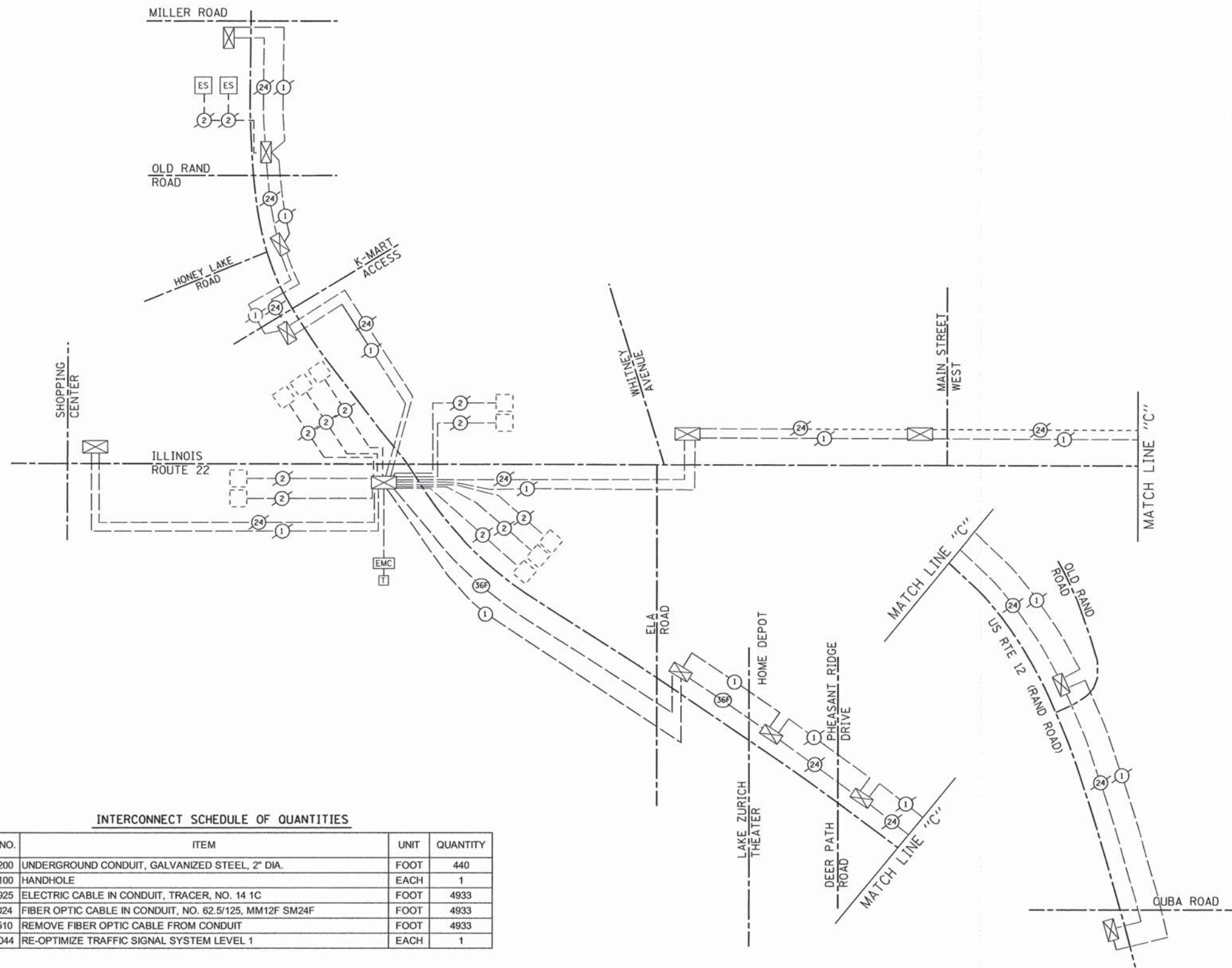
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|--|------------------------------|-----------------|-----------|---|--|----------------|---------------|-------------|---------|--------|--------------|-----------|
| 5501 W. Higgins Road, Suite 200 Chicago, Illinois 60631 (773) 399-0112 | USER NAME = 1485 | DESIGNED - RS | REVISED - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | US 12 (RAND ROAD) AT ELA ROAD INTERCONNECT PLAN | | | F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| | PLOT SCALE = 58.0000' / 1" = | DRAWN - LT / DG | REVISED - | | 334 | 02-00063-00-CH | LAKE | 86 | 44 | | | |
| | PLOT DATE = 1/29/2015 | CHECKED - TS | REVISED - | | CONTRACT NO. 61A94 | | | | | | | |
| | DATE - 12/17/2014 | REVISOR - | REVISED - | | ILLINOIS FED. AID PROJECT CMF-0334(014) | | | | | | | |
| | | | | SCALE: 1" = 50' | SHEET 1 OF 2 SHEETS | STA. IL 22 | TO STA. 89+00 | | | | | |



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|--|-----------------------------|-------------------|-----------|---|---|-------------------------------|-------------|---------|--------|--------------|-----------|
| 4501 W. Higgins Road, Suite 280 Chicago, Illinois 60631 (773) 399-0112 | USER NAME = 1485 | DESIGNED - RS | REVISED - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | US 12 (RAND ROAD) AT ELA ROAD INTERCONNECT PLANS | | F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| | PLOT SCALE = 50.0000' / in. | DRAWN - LT / DG | REVISED - | | 334 | 02-00063-00-CH | LAKE | 86 | 45 | | |
| | PLOT DATE = 1/29/2015 | CHECKED - TS | REVISED - | | CONTRACT NO. 61A94 | | | | | | |
| | | DATE - 12/17/2014 | REVISED - | | ILLINOIS FED. AID PROJECT CMF-0334(014) | | | | | | |
| | | | | SCALE: 1" = 50' | SHEET 2 OF 2 SHEETS | STA. 89+00 TO STA. HOME DEPOT | | | | | |



INTERCONNECT SCHEDULE OF QUANTITIES

| CODE NO. | ITEM | UNIT | QUANTITY |
|----------|---|------|----------|
| 81028200 | UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA. | FOOT | 440 |
| 81400100 | HANDHOLE | EACH | 1 |
| 87300925 | ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1C | FOOT | 4933 |
| X8710024 | FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F SM24F | FOOT | 4933 |
| X8950510 | REMOVE FIBER OPTIC CABLE FROM CONDUIT | FOOT | 4933 |
| Z0033044 | RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM LEVEL 1 | EACH | 1 |

NOTES

- FIBER SPLICES AND TERMINATIONS WILL BE REQUIRED FOR THE US 12/IL 22, US12/ELA RD & US 12/HOME DEPOT (JUNE TERR. INTERSECTIONS) THE WORK WILL NOT BE PAID FOR SEPARATELY BUT INCLUDED IN THE COST OF THE FIBER OPTIC CABLE
- WORK ON TRAFFIC SIGNAL CONTROLLERS SHALL BE ACCORDING TO NTCIP (LATEST VERSION)

THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE 'ECONOLITE' TO MATCH EXISTING EQUIPMENT

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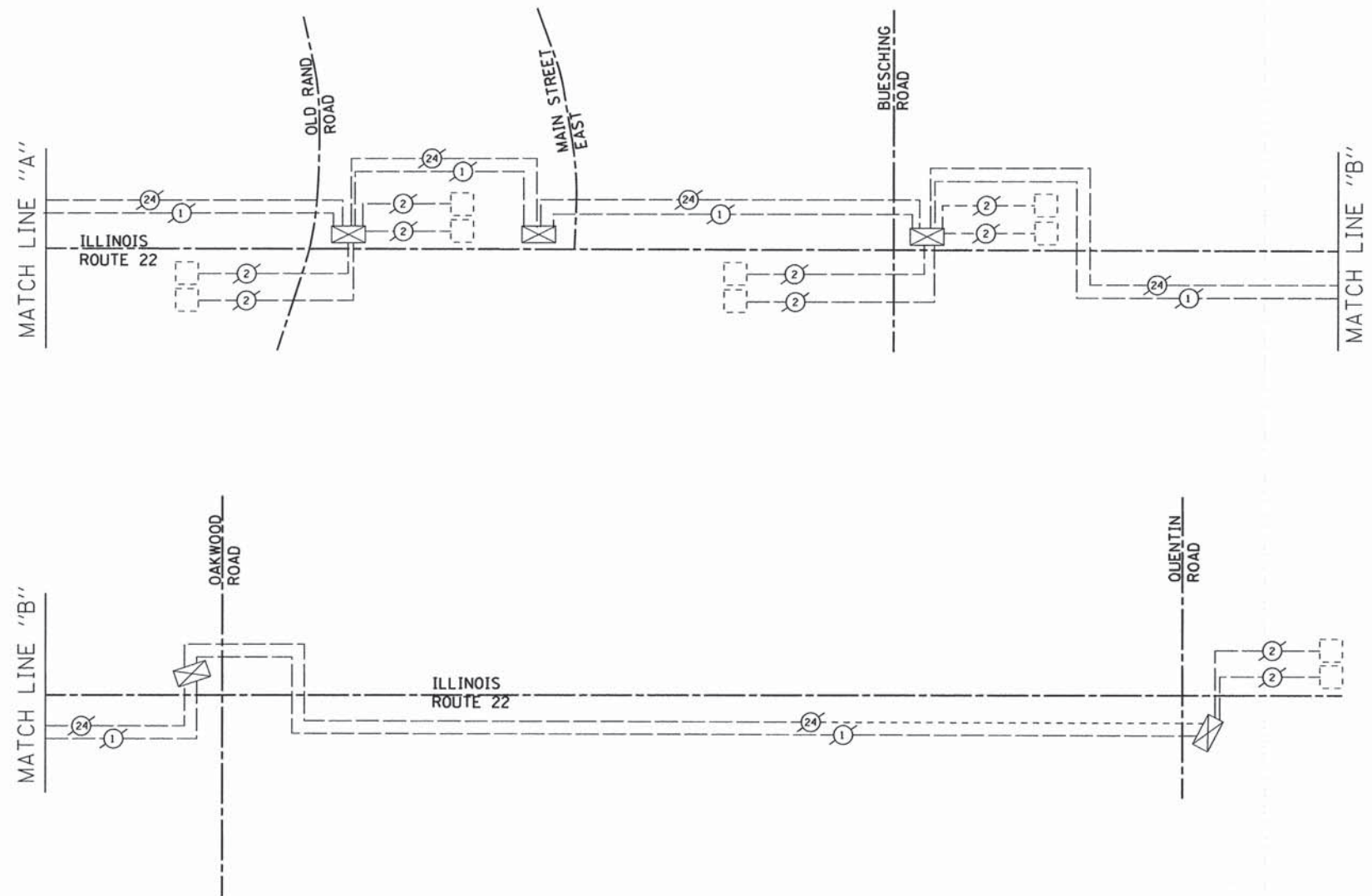
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| | DRAWN - ED | REVISED - |
| PLOT SCALE = 20,0000' / in. | CHECKED - TS | REVISED - |
| PLOT DATE = 1/29/2015 | DATE - 12/17/2014 | REVISED - |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

US 12 (RAND ROAD) AT ELA ROAD
INTERCONNECT SCHEMATIC

SCALE: NA SHEET 1 OF 2 SHEETS STA. MILLER ROAD TO STA. CUBA ROAD

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|----------------|--------|--------------|-----------|
| 334 | 02-00063-00-CH | LAKE | 86 | 46 |
| CONTRACT NO. 61A94 | | | | |
| ILLINOIS FED. AID PROJECT CMF-0334(014) | | | | |



THE TRAFFIC SIGNAL CONTROL EQUIPMENT FOR THIS PROJECT SHALL BE 'ECONOLITE' TO MATCH EXISTING EQUIPMENT

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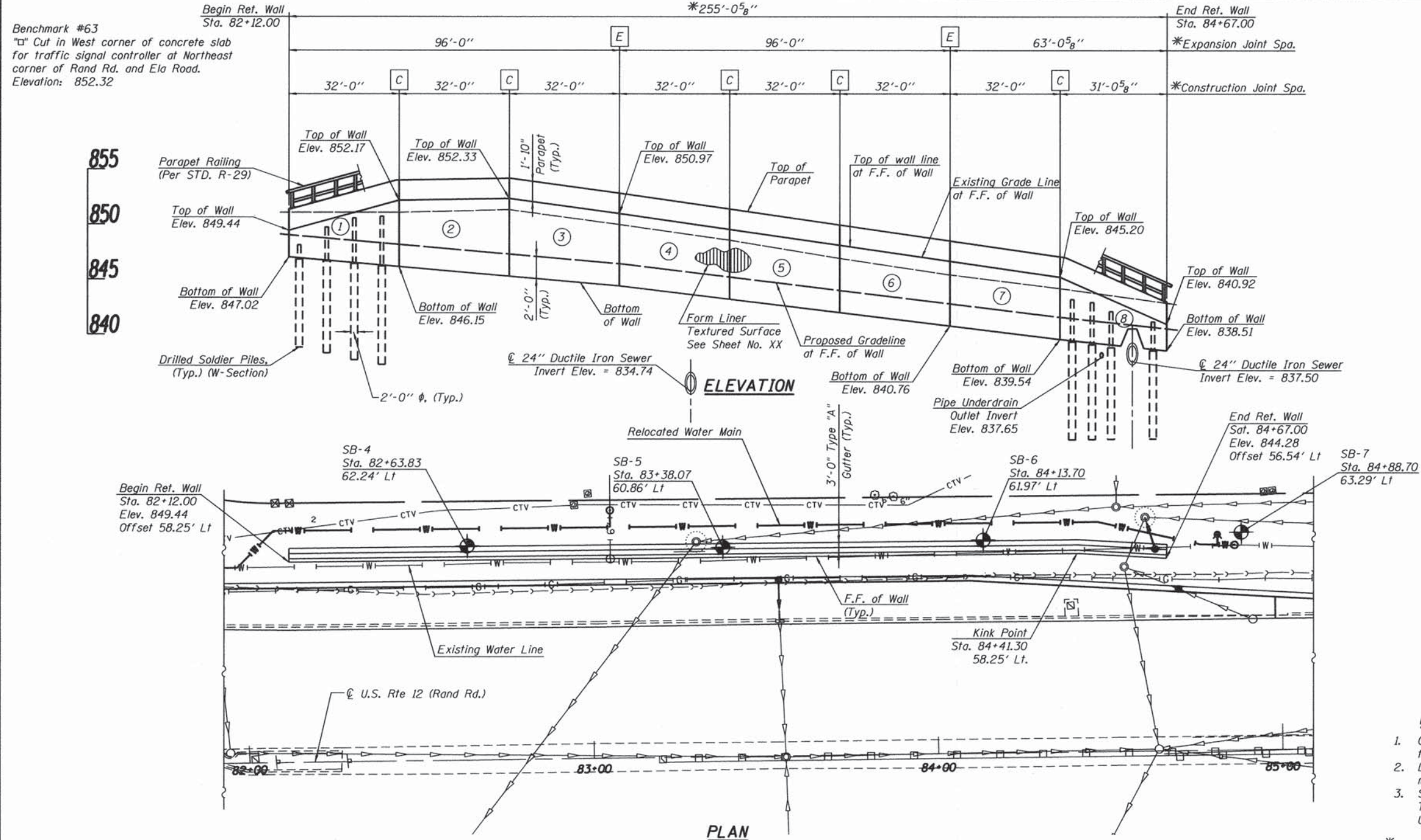


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|------------------------------|-------------------|-----------|
| USER NAME = 1485 | DESIGNED - RS | REVISED - |
| DRAWN - ED | CHECKED - TS | REVISED - |
| PLOT SCALE = 28,0000' / 1" = | DATE - 12/17/2014 | REVISED - |
| PLOT DATE = 1/29/2015 | | |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

| | | | |
|---|---------|-------------|--------------|
| US 12 (RAND ROAD) AT ELA ROAD INTERCONNECT SCHEMATIC | | | |
| SCALE: NA | SHEET 2 | OF 2 SHEETS | STA. TO STA. |

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|----------------|--------|--------------|-----------|
| 334 | 02-00063-00-CH | LAKE | 86 | 47 |
| CONTRACT NO. 61A94 | | | | |
| ILLINOIS FED. AID PROJECT CMF-0334(014) | | | | |



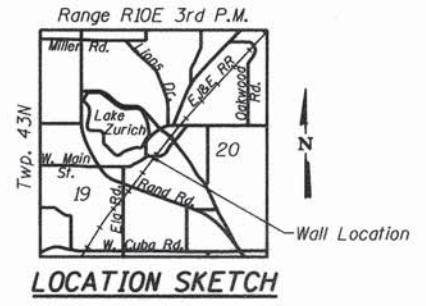
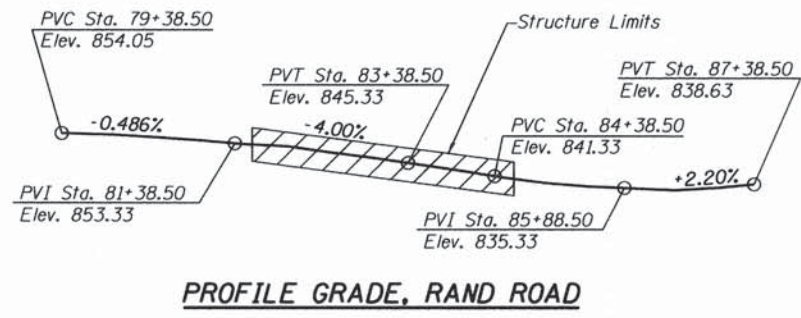
- LEGEND**
- ⊕ Indicates Soil Boring
 - G— Indicates Existing Gas Main
 - W— Indicates Existing Water Main
 - R— Indicates Relocated Water Main
 - T— Indicates Existing Telephone Line
 - E— Indicates Existing Electric
 - CTV— Indicates Existing Cable TV
 - C— Indicates Exist. & Prop. Storm Sewer
 - E— Indicates Construction Joint
 - E— Indicates Expansion Joint
 - ① Indicates Wall Panel Number
 - Indicates Catch Basin & Inlet
 - ⊗ Indicates Light Pole
 - F.F. Front Face
 - B.F. Back Face
 - G.L. Ground Line

- NOTES**
1. Offsets are measured from the ϕ Rand Road to the front face of Retaining Wall.
 2. Longitudinal Retaining Wall Dimensions are measured along F.F. of Wall.
 3. See Roadway Plans for ROW Lines, Temporary Easement, Requirements, and Utility Information
- *All lengths measured along front face of Retaining Wall

HIGHWAY CLASSIFICATION
 Rte. FAP 334 (US 12 Rand Rd.)
 Functional Class: Strategic Regional Arterial
 ADT: 42,800 (2011); 49,300 (2027)
 DHV: 2,880 (2027)
 ADTT: 5.0%
 Design Speed: 50 m.p.h.
 Posted Speed: 45 m.p.h.
 Two-Way Traffic
 Directional Distribution: 50/50

DESIGN SPECIFICATIONS
 2012 AASHTO LFRD Bridge Design Specifications, 6th Edition with 2013 Iterims

DESIGN STRESSES
FIELD UNITS
 $f'_c = 3,500$ psi
 $f_y = 60,000$ psi (Reinforcement)
 $f_y = 50,000$ psi (Soldier Pile)
 $f_u = 60,000$ psi (Shear Studs)



GENERAL PLAN & ELEVATION
RAND ROAD (U.S. ROUTE 12) AT ELA ROAD
F.A.P. ROUTE 334
SECTION 02-00063-00-CH
LAKE COUNTY
STATIONS 81+00 TO 85+00

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|--|-------------------|-------------------|-----------|---|---|--------------------|---------------------------------------|-------------|-----------------|--------------|
| 8501 W. Higgins Road Suite 200 Chicago, Illinois 60634 (773) 399-0112 | USER NAME = | DESIGNED - N.D.R. | REVISED - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | GENERAL PLAN & ELEVATION RAND AND ELA ROAD-RETAINING WALL PLANS SHEET NO. 01 OF 11 SHEETS | F.A.P. RTE. 334 | SECTION 02-00063-00-CH | COUNTY LAKE | TOTAL SHEETS 86 | SHEET NO. 48 |
| | PLOT SCALE = | CHECKED - J.A.Z. | REVISED - | | | CONTRACT NO. 61A94 | ILLINOIS FED. AID PROJECT CNF-0334014 | | | |
| PLOT DATE = | DATE - 12/17/2014 | REVISED - | REVISED - | | | | | | | |

SEQUENCE OF WALL CONSTRUCTION

1. Locate existing utilities and confirm proposed soldier pile layout is not in conflict with the existing utilities that are to remain in place.
2. Drill holes for soldier piles. Remove loose material and water, if present, from hole. Set soldier piles using bracing as required to maintain proper alignments and elevations as shown in the pile schedule.
3. Place encasement concrete to elevations shown in the pile schedule.
4. After encasement concrete has cured, fill remainder of hole to existing grade with Controlled Low Strength Material (CLSM) as shown on the plans and according to the Special Provisions.
5. Place lagging between piles as excavation requires. Excavate to elevations required to construct wall panel and pipe under drain.
6. Install under drain, geo-composite wall drain and studs welded to soldier piles per the pile schedule and plan details.
7. Place reinforcement and cast permanent wall facing.

RETAINING WALL GENERAL NOTES

1. Reinforcement bars designated (E) shall be epoxy coated.
2. Bars noted as "3 x 2 h₁ (E)" bars indicate three lines of bars with two lengths per line of h₁ (E) bars.
3. Reinforcement bar bending and cutting diagram dimensions are out to out measures.
4. Soil boring logs represent data collected at that specific boring location, per the station and offset reported on the plans and within the geotechnical boring logs. The presentation of this information within this plan set no way implies or infers that the subsurface conditions will not vary from this information reported at these specific boring locations.
5. It is the Contractor's responsibility to verify and locate all utilities within the project limit prior to the start of construction.
6. The locations of the existing utilities, vaults and manholes shown on the drawing are approximated based on available survey data and record drawings. Prior to drilling of the soldier piles, the contractor shall locate all utilities near the proposed soldier pile locations and verify the construction alignments will not be in conflict with the utilities that are to remain in place. If a conflict is identified, the contractor shall immediately notify the Engineer and begin coordination for a solution to the conflict prior to drilling and setting the soldier pile in question.
7. Prior to the start of wall construction, the relocation of the existing 10" water main shall be completed, including the removal of any portion of the abandoned line that will be in conflict with the proposed soldier pile shaft excavation. See utility plans for more information.
8. Clear cover for reinforcing bars shall be a minimum of two (2) inches for normally formed concrete and three (3) inches for concrete cast against earth, unless noted otherwise on the plans.
9. The Contractor is responsible for the design and performance of the untreated timber lagging. The design computations must be signed and sealed by an Illinois licensed Structural Engineer and submitted to the Engineer for approval. See the Special Provisions for further information and controlling design criteria.

INDEX OF SHEETS

| | |
|---------|--|
| S1 | GENERAL PLAN & ELEVATION |
| S2 | GENERAL NOTES & TOTAL BILL OF MATERIAL |
| S3 | TYPICAL SECTIONS |
| S4-S5 | SOLDIER PILE LAYOUT |
| S6-S7 | CONCRETE FACING |
| S8 | BICYCLE & PARAPET RAILINGS |
| S9 | FORM LINER TEXTURED SURFACE |
| S10-S11 | BORING LOGS |

TOTAL BILL OF MATERIAL

| ITEM | UNIT | TOTAL |
|--|---------|---------|
| Structure Excavation | Cu. Yd. | 115.2 |
| Concrete Structures | Cu. Yd. | 72.0 |
| Form Liner Textured Surface | Sq. Ft. | 1,079.0 |
| Protective Coat | Sq. Yd. | 200.4 |
| Stud Shear Connectors | Each | 141 |
| Reinforcement Bars, Epoxy Coated | Pound | 11,610 |
| Geocomposite Wall Drain | Sq. Yd. | 914.0 |
| Parapet Railing | Foot | 255.1 |
| Drilling and Setting Soldier Piles (in soil) | Cu. Ft. | 1,504 |
| Pipe Underdrains for Structures 4" | Foot | 255.3 |
| Untreated Timber Lagging | Sq. Ft. | 1,024 |
| Furnishing Soldier Piles (W-Section) | Foot | 454.3 |

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8501 W. Higgins Road, Suite 280
Chicago, Illinois 60631; (773) 399-0112

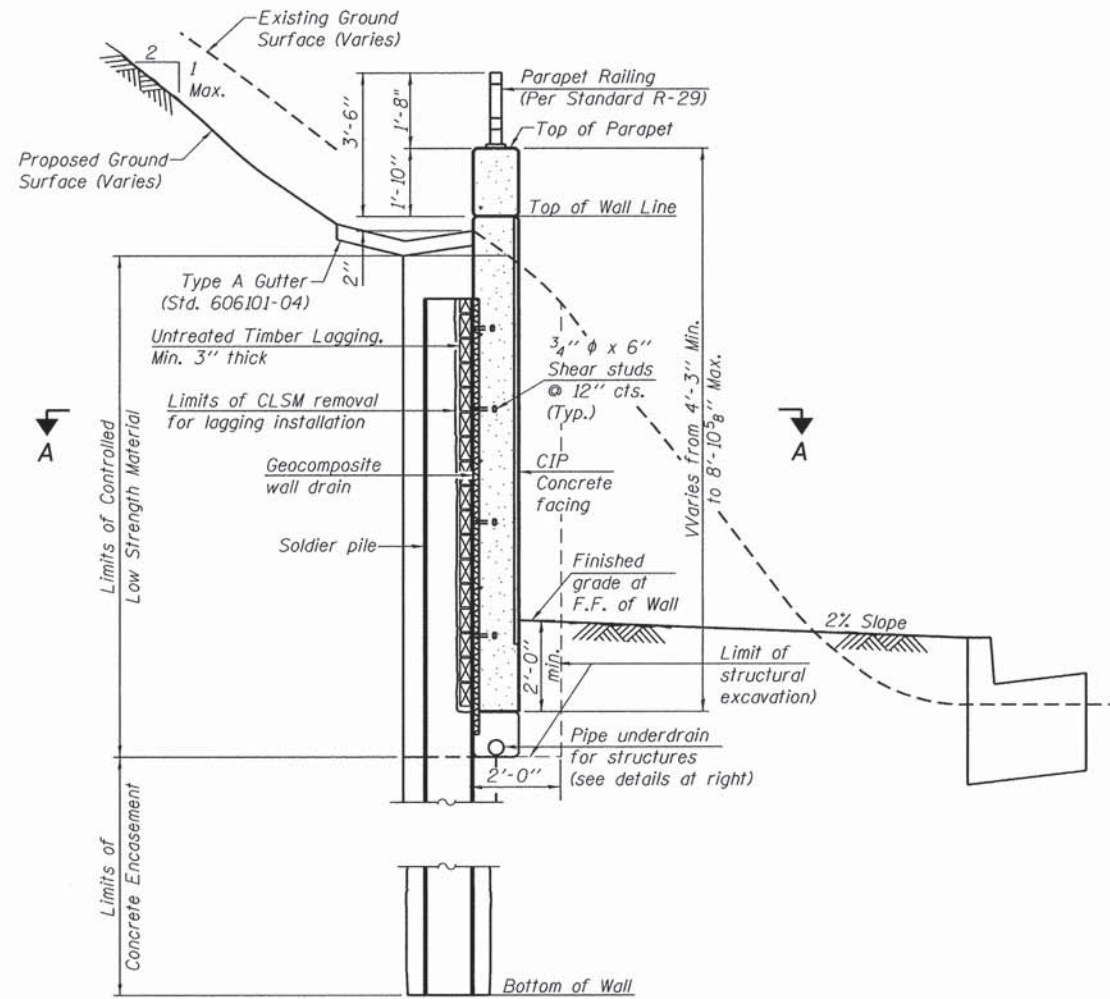
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| USER NAME = | DESIGNED - N.D.R. | REVISED - |
| | CHECKED - J.A.Z. | REVISED - |
| PLOT SCALE = | DRAWN - D.L.G. | REVISED - |
| PLOT DATE = | DATE - 12/17/2014 | REVISED - |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

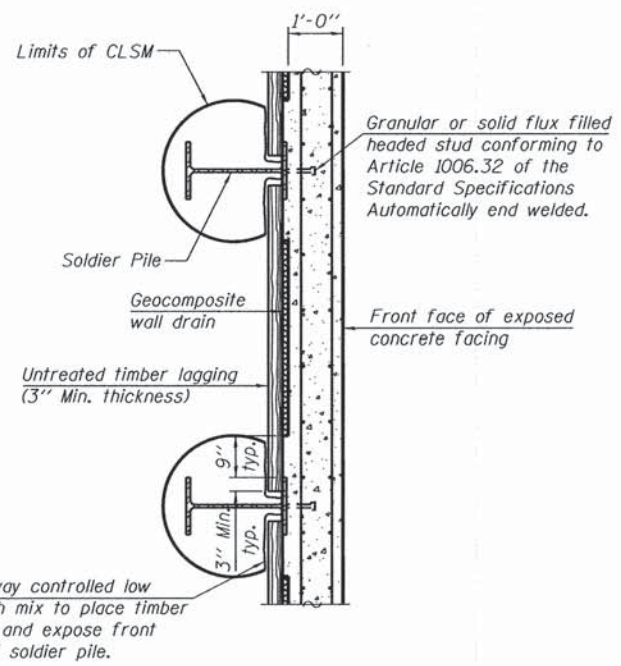
**GENERAL NOTES & TOTAL BILL OF MATERIAL
RAND AND ELA ROAD-RETAINING WALL PLANS**

SHEET NO. S2 OF 11 SHEETS

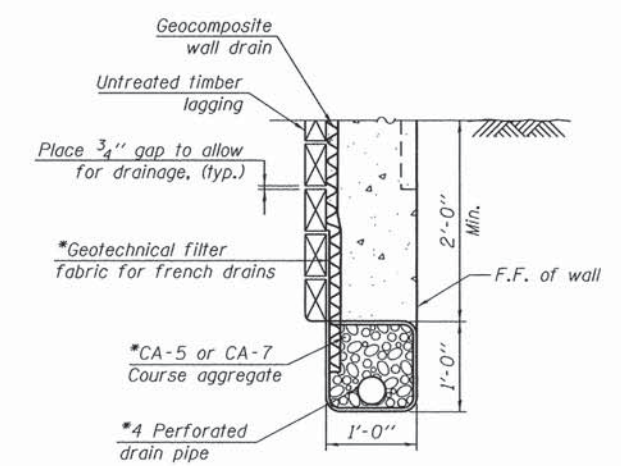
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|--|----------------|--------|--------------------|-----------|
| F.A.P. RTE.: | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 334 | 02-00063-00-CH | LAKE | 86 | 49 |
| | | | CONTRACT NO. 61A94 | |
| ILLINOIS FED. AID PROJECT CMF-03340140 | | | | |



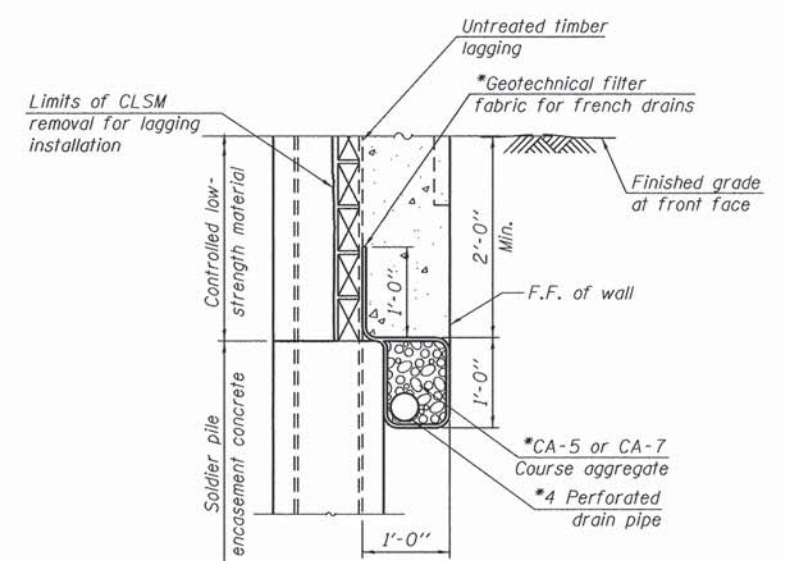
SECTION THRU SOLDIER PILE WALL



SECTION A-A



UNDERDRAIN DETAIL BETWEEN SOLDIER PILES

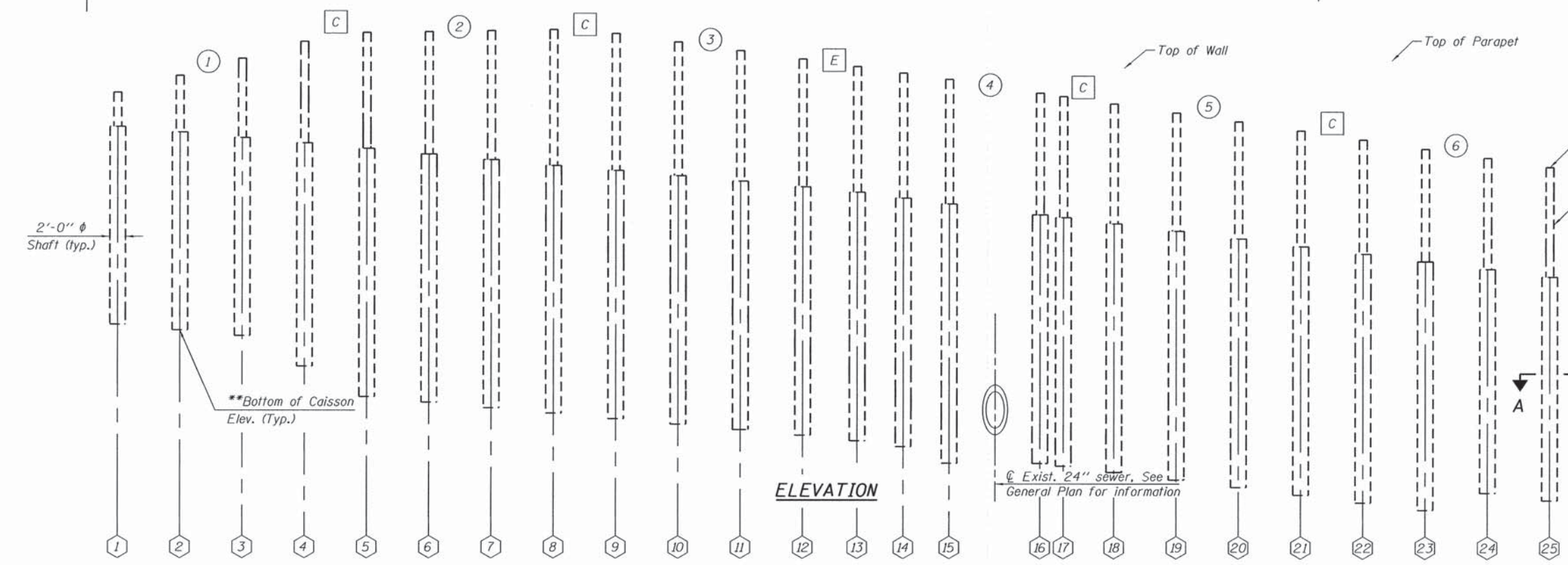
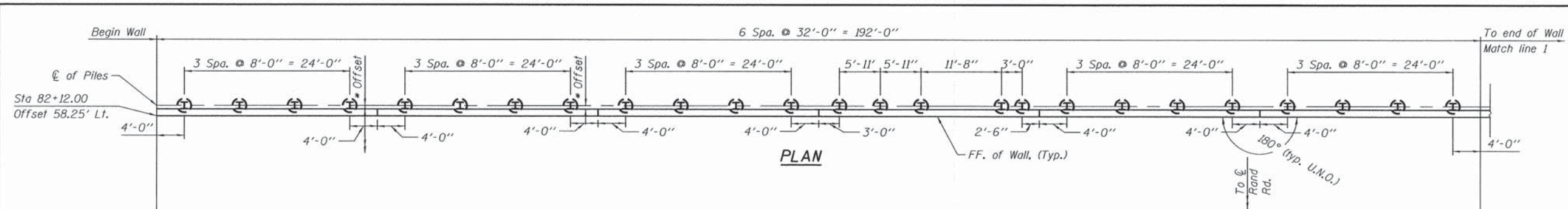


UNDERDRAIN DETAIL AT SOLDIER PILES

*Cost included with "PIPE UNDERDRAINS FOR STRUCTURES 4"

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| | | | | | | | | | | | |
|--|--------------|-------------------|-----------|---|--|----------------|---------------|---------|--------|--------------|-----------|
| GRAF 8501 W. Higgins Road, Suite 280 Chicago, Illinois 60631 (773) 399-0112 | USER NAME = | DESIGNED - N.D.R. | REVISED - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | TYPICAL SECTIONS RAND AND ELA ROAD-RETAINING WALL PLANS | | F.A.P. RTE. = | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| | PLOT SCALE = | CHECKED - J.A.Z. | REVISED - | | 334 | 02-00063-00-0H | LAKE | 86 | 50 | | |
| | PLOT DATE = | DRAWN - D.L.G. | REVISED - | | CONTRACT NO. 61A94 | | | | | | |
| | | DATE - 12/17/2014 | REVISED - | | ILLINOIS FED. AID PROJECT CMF-03340141 | | | | | | |



SOLDIER PILE SCHEDULE

| Pile No. | Station | Offset | Pile Size | Bottom of Caisson Elev | Top of Pile Elev | Pile Length | Top of Encasement Elev. | No of Shear Connectors |
|----------|----------|--------|-----------|------------------------|------------------|-------------|-------------------------|------------------------|
| 1 | 82+16.00 | 59.771 | W12x35 | 838.91 | 848.28 | 9.4 | 846.91 | 1.0 |
| 2 | 82+24.00 | 59.771 | W12x35 | 838.69 | 848.96 | 10.3 | 846.69 | 2.0 |
| 3 | 82+32.00 | 59.771 | W12x35 | 838.47 | 849.65 | 11.2 | 846.47 | 3.0 |
| 4 | 82+40.00 | 59.771 | W12x35 | 837.24 | 850.33 | 13.1 | 846.24 | 4.0 |
| 5 | 82+48.00 | 59.758 | W12x50 | 836.02 | 850.69 | 14.7 | 846.02 | 5.0 |
| 6 | 82+56.00 | 59.758 | W12x50 | 835.80 | 850.73 | 15.0 | 845.80 | 5.0 |
| 7 | 82+64.00 | 59.758 | W12x50 | 835.58 | 850.77 | 15.2 | 845.58 | 5.0 |
| 8 | 82+72.00 | 59.758 | W12x50 | 835.36 | 850.81 | 15.5 | 845.36 | 5.0 |
| 9 | 82+80.00 | 59.758 | W12x50 | 835.14 | 850.66 | 15.6 | 845.14 | 6.0 |
| 10 | 82+88.00 | 59.758 | W12x50 | 834.91 | 850.32 | 15.5 | 844.91 | 5.0 |
| 11 | 82+96.00 | 59.758 | W12x50 | 834.69 | 849.98 | 15.3 | 844.69 | 5.0 |
| 12 | 83+04.00 | 59.758 | W12x50 | 834.47 | 849.64 | 15.2 | 844.47 | 5.0 |

| Pile No. | Station | Offset | Pile Size | Bottom of Caisson Elev | Top of Pile Elev | Pile Length | Top of Encasement Elev. | No of Shear Connectors |
|----------|----------|--------|-----------|------------------------|------------------|-------------|-------------------------|------------------------|
| 13 | 83+11.00 | 59.758 | W12x50 | 834.25 | 849.34 | 15.1 | 844.25 | 5.0 |
| 14 | 83+16.92 | 59.758 | W12x50 | 834.02 | 849.07 | 15.1 | 844.02 | 5.0 |
| 15 | 83+22.83 | 59.758 | W12x50 | 833.80 | 848.80 | 15.1 | 843.80 | 5.0 |
| 16 | 83+34.50 | 59.758 | W12x50 | 833.36 | 848.28 | 15.0 | 843.36 | 5.0 |
| 17 | 83+37.50 | 59.758 | W12x50 | 833.25 | 848.14 | 14.9 | 843.25 | 5.0 |
| 18 | 83+44.00 | 59.758 | W12x50 | 833.00 | 847.85 | 14.9 | 843.00 | 5.0 |
| 19 | 83+52.00 | 59.758 | W12x50 | 832.70 | 847.49 | 14.8 | 842.70 | 5.0 |
| 20 | 83+60.00 | 59.758 | W12x50 | 832.40 | 847.13 | 14.8 | 842.40 | 5.0 |
| 21 | 83+68.00 | 59.758 | W12x50 | 832.10 | 846.77 | 14.7 | 842.10 | 5.0 |
| 22 | 83+76.00 | 59.758 | W12x50 | 831.80 | 846.41 | 14.7 | 841.80 | 5.0 |
| 23 | 83+84.00 | 59.758 | W12x50 | 831.49 | 846.04 | 14.6 | 841.49 | 5.0 |
| 24 | 83+92.00 | 59.771 | W12x35 | 832.19 | 845.68 | 13.5 | 841.19 | 4.0 |
| 25 | 84+00.00 | 59.771 | W12x35 | 831.89 | 845.32 | 13.5 | 840.89 | 4.0 |

- LEGEND**
- 1 Pile No.
 - I Panel No.
 - C Construction Joint
 - E Expansion Joint

- NOTES**
1. *For offset of ϕ Soldier Pile to ϕ of Rand Road, see Soldier Pile Schedule.
 2. **See Soldier Pile Schedule for Soldier Pile Elevation and Section Information.
 3. For Section A-A see Sheet S5 of S11.

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 8501 W. Higgins Road, Suite 280
 Chicago, Illinois 60631; (773) 399-0112

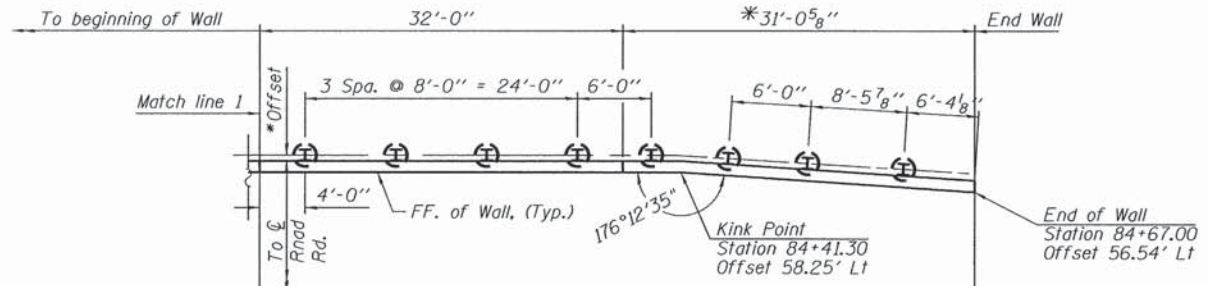
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| USER NAME = | DESIGNED - N.D.R. | REVISED - |
| PLOT SCALE = | CHECKED - J.A.Z. | REVISED - |
| PLOT DATE = | DRAWN - D.L.G. | REVISED - |
| | DATE - 12/17/2014 | REVISED - |

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

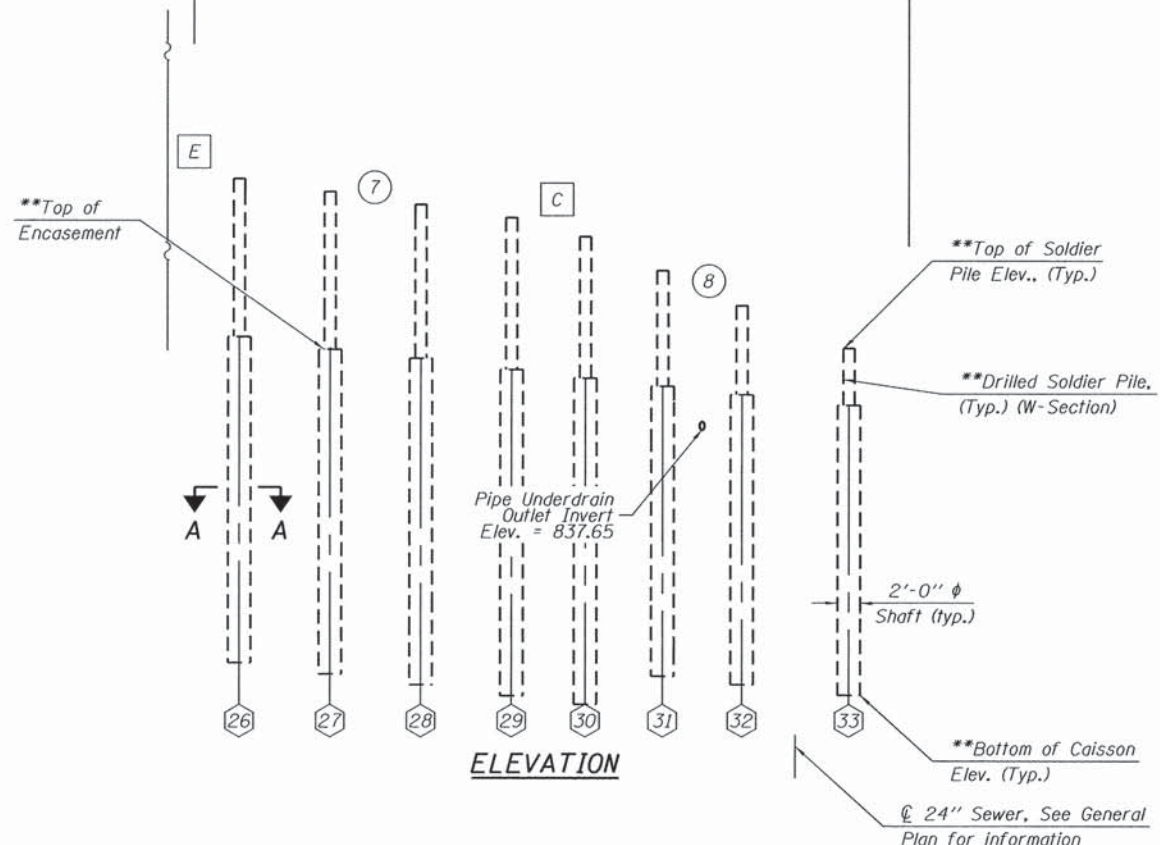
**SOLDIER PILE LAYOUT
 RAND AND ELA ROAD-RETAINING WALL PLANS**

SHEET NO. S4 OF 11 SHEETS

| | | | | |
|--------------------|-----------------------|-------------|---|--------------|
| F.A.P. RTE. 334 | SECTION 02-0063-00-CH | COUNTY LAKE | TOTAL SHEETS 86 | SHEET NO. 51 |
| CONTRACT NO. 61A94 | | | ILLINOIS FED. AID PROJECT CMF-0334(014) | |



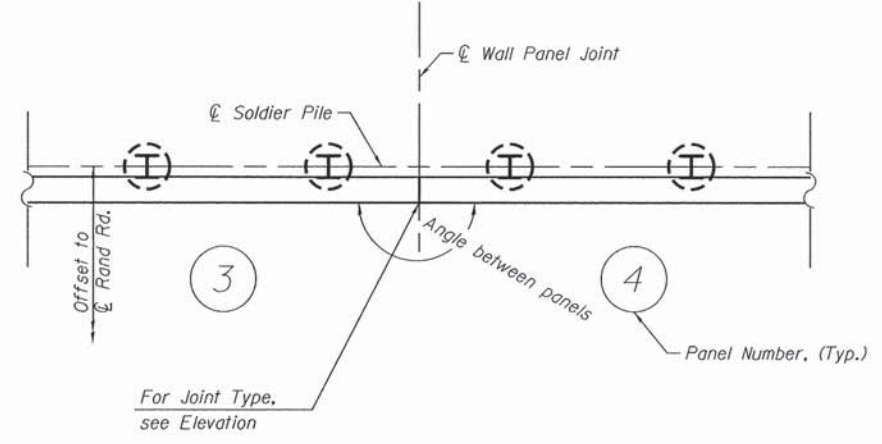
PLAN



ELEVATION

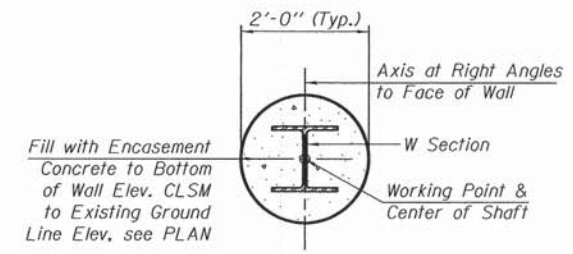
SOLDIER PILE SCHEDULE

| Pile No. | Station | Offset | Pile Size | Bottom of Caisson Elev | Top of Pile Elev | Pile Length | Top of Encasement Elev. | No of Shear Connectors |
|----------|----------|--------|-----------|------------------------|------------------|-------------|-------------------------|------------------------|
| 26 | 84+08.00 | 59.771 | W12x35 | 831.59 | 844.96 | 13.4 | 840.59 | 4.0 |
| 27 | 84+16.00 | 59.771 | W12x35 | 831.29 | 844.60 | 13.4 | 840.29 | 4.0 |
| 28 | 84+24.00 | 59.771 | W12x35 | 830.99 | 844.24 | 13.3 | 839.99 | 4.0 |
| 29 | 84+32.00 | 59.771 | W12x35 | 830.68 | 843.88 | 13.2 | 839.68 | 4.0 |
| 30 | 84+38.50 | 59.771 | W12x35 | 830.45 | 843.36 | 13.0 | 839.45 | 4.0 |
| 31 | 84+45.31 | 59.510 | W12x35 | 831.22 | 842.42 | 11.2 | 839.22 | 3.0 |
| 32 | 84+52.30 | 59.040 | W12x35 | 830.99 | 841.45 | 10.5 | 838.99 | 2.0 |
| 33 | 84+60.77 | 58.480 | W12x35 | 830.71 | 840.28 | 9.6 | 838.71 | 2.0 |



BILL OF MATERIAL

| Item | Unit | Quantity |
|--|---------|----------|
| Stud Shear Connectors | Each | 141 |
| Geocomposite Wall Drain | Sq. Yd. | 914.0 |
| Drilling and Setting Soldier Piles (in soil) | Cu. Ft. | 1,504 |
| Pipe Underdrains for Structures 4" | Foot | 255.3 |
| Untreated Timber Lagging | Sq. Ft. | 1,024 |
| Furnishing Soldier Piles (W Section) | Foot | 454.3 |



SECTION A - A

LEGEND

- ⬡ Pile No.
- Ⓜ Panel No.
- ⓐ Construction Joint
- ⓔ Expansion Joint
- * Measured Along F.F. of Wall
- ** See Soldier Pile Schedule for Soldier Pile Elevation and Section Information.

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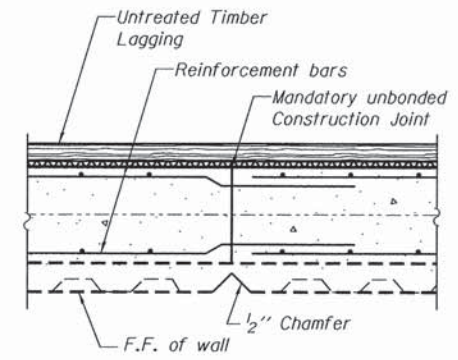
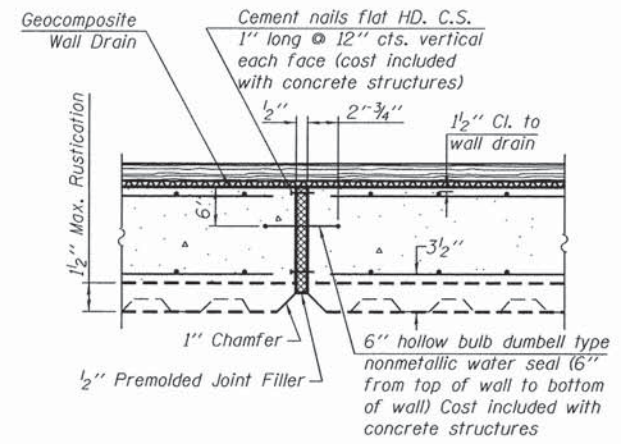
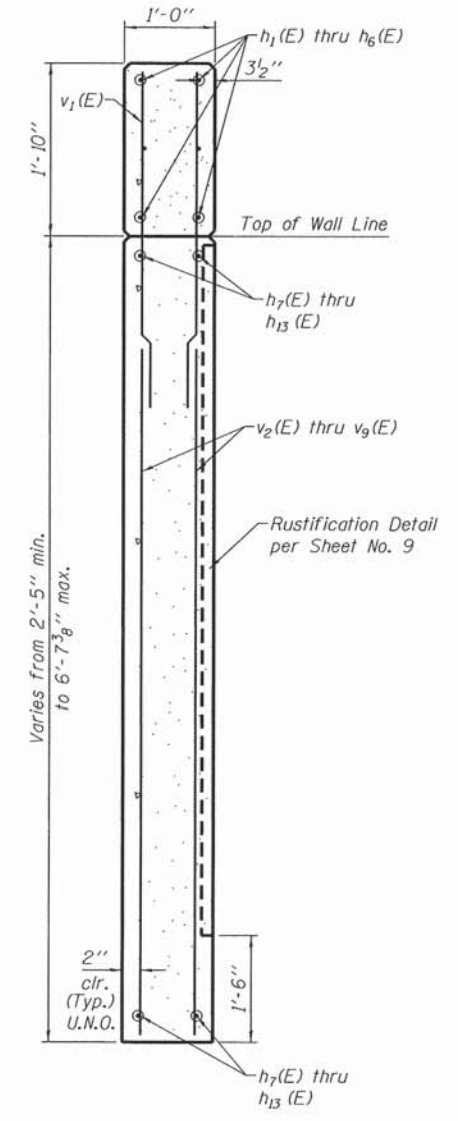
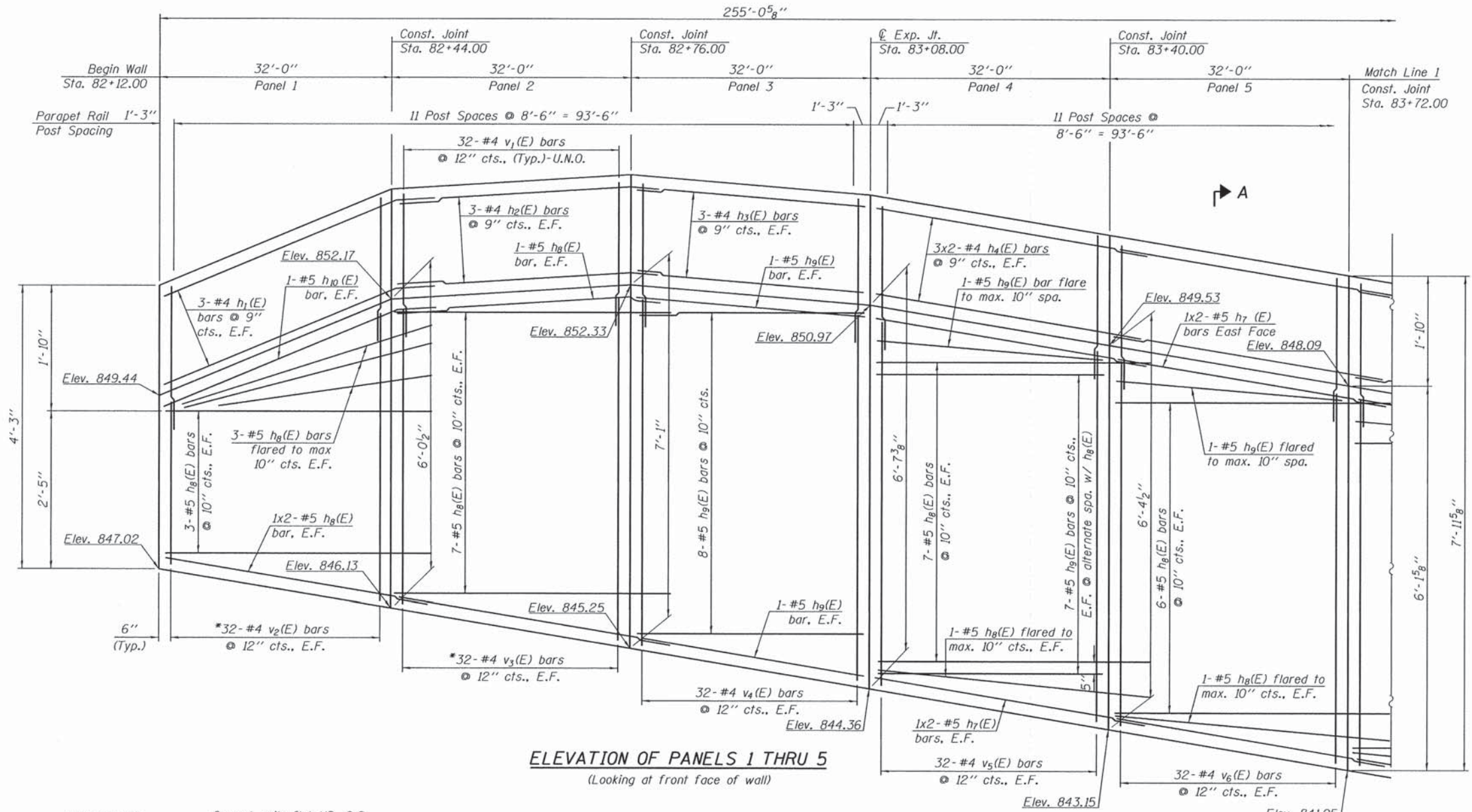
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| USER NAME = | DESIGNED - N.D.R. | REVISED - |
| PLOT SCALE = | CHECKED - J.A.Z. | REVISED - |
| PLOT DATE = | DRAWN - D.L.G. | REVISED - |
| | DATE - 12/17/2014 | REVISED - |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOLDIER PILE LAYOUT
RAND AND ELA ROAD-RETAINING WALL PLANS

SHEET NO. 55 OF 11 SHEETS

| | | | | |
|--------------------|-----------------------|-------------|---|--------------|
| F.A.P. RTE. 334 | SECTION 02-0063-00-01 | COUNTY LAKE | TOTAL SHEETS 86 | SHEET NO. 52 |
| CONTRACT NO. 61A94 | | | (ILLINOIS) FED. AID PROJECT CMF-0334014 | |



NOTES

*See Bar Cutting Diagram on Sheet 7 of 11.

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8501 W. Higgins Road, Suite 280
Chicago, Illinois 60634 (773) 399-0112

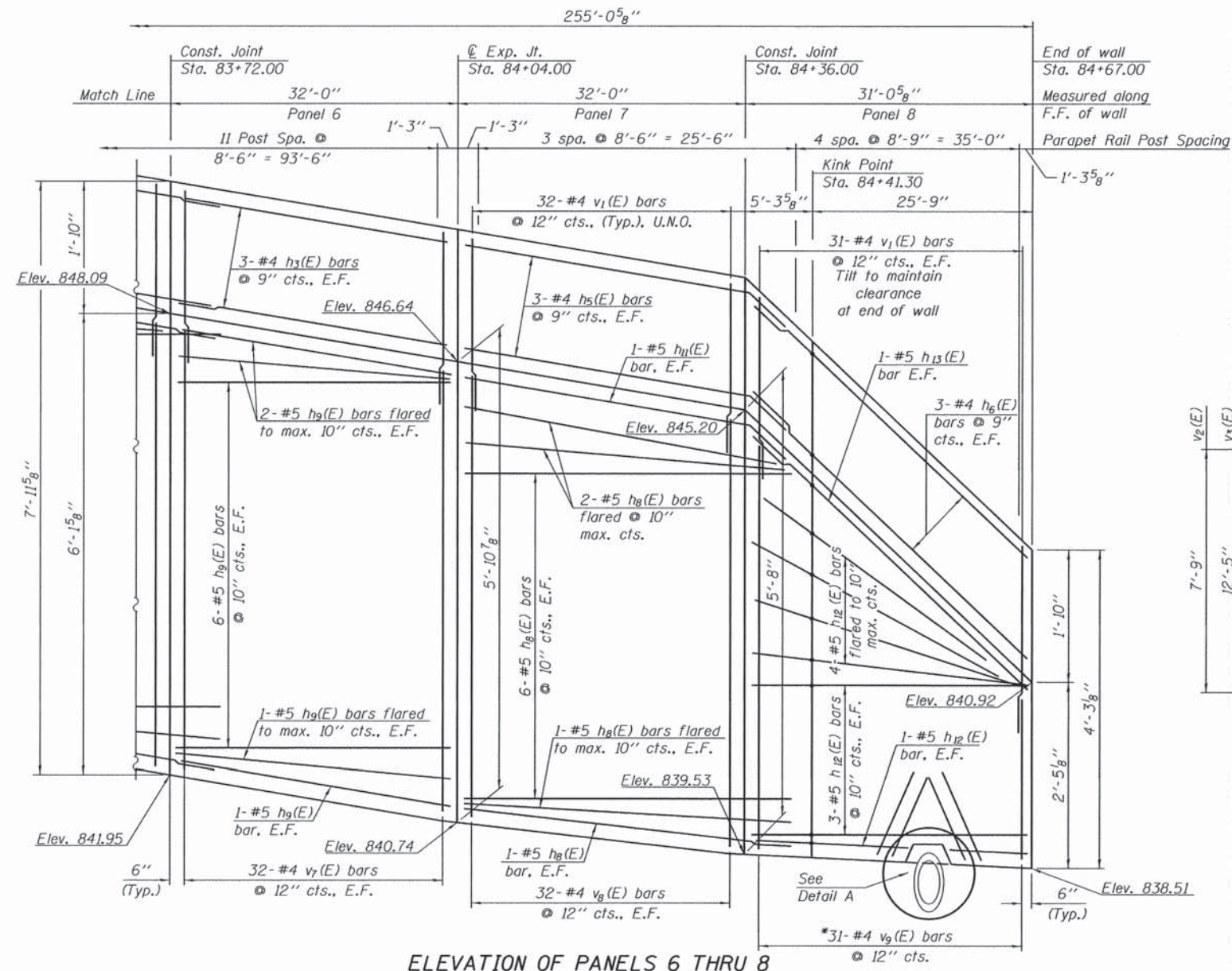
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|--------------|-------------------|-----------|
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| PLOT SCALE = | CHECKED - J.A.Z. | REVISED - |
| PLOT DATE = | DRAWN - D.L.G. | REVISED - |
| | DATE - 12/17/2014 | REVISED - |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

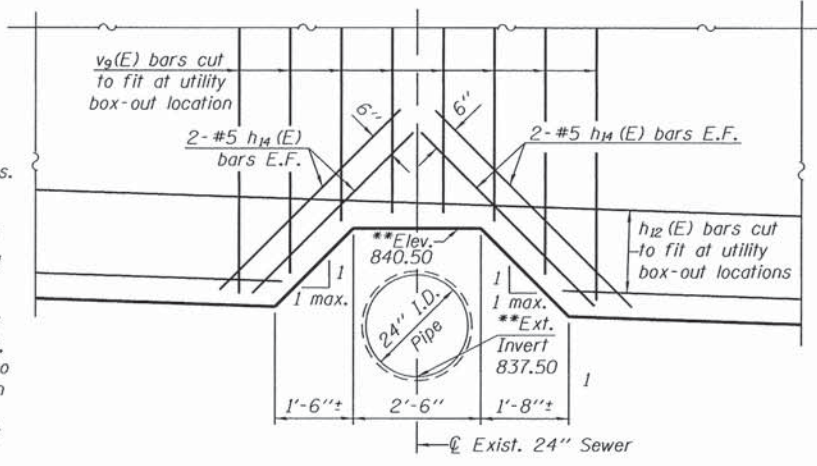
**CONCRETE FACING
RAND AND ELA ROAD-RETAINING WALL PLANS**

| | | | | |
|--|------------------------|-------------|-----------------|--------------|
| F.A.P. RTE. 334 | SECTION 02-00063-00-CH | COUNTY LAKE | TOTAL SHEETS 86 | SHEET NO. 53 |
| CONTRACT NO. 61A94 | | | | |
| ILLINOIS FED. AID PROJECT CMF-03340140 | | | | |

SHEET NO. 56 OF 11 SHEETS



ELEVATION OF PANELS 6 THRU 8
(Looking at front face of wall)



DETAIL A

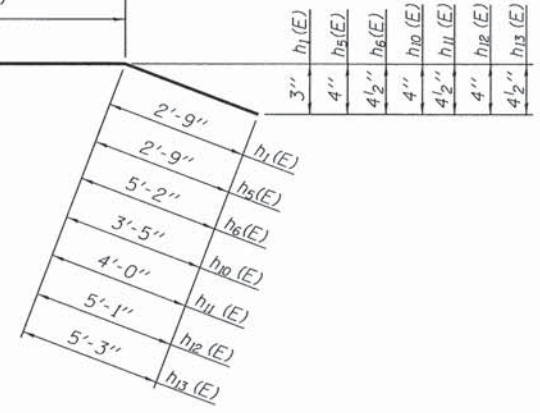
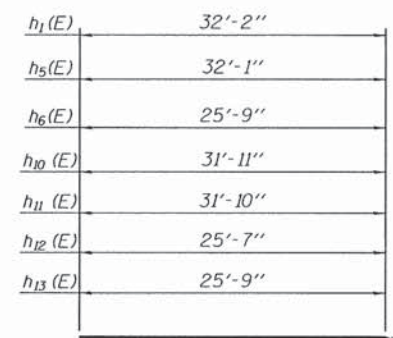
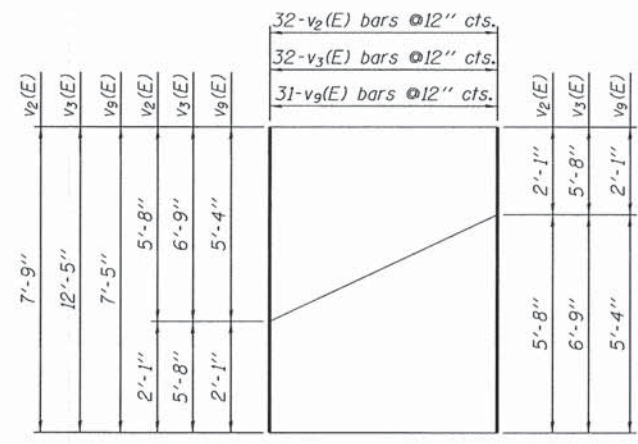
**Utility box-out dimensions and elevations are based on existing survey and available as-built information and may be subject to nominal construction variations. The box-out is to be built to provide a minimum of 6 inches of clearance from the pipe to the bottom of wall panel. Granular backfill, such as CA-6, will be used to replace bedding excavated while exposing the pipe and to fill the annular space between the existing 24" sewer and the bottom of wall panel 8. In the event the in situ elevations or the location of the box-out varies from what is shown on the plans, the contractor shall make the required adjustments to meet the criteria stated above for clearance between the wall panel and the pipe. This work will not be considered as cause for additional compensation, but shall be considered as included with the cost of CONCRETE STRUCTURES.

BILL OF MATERIAL

| Bar | No. | Size | Length | Shape |
|---------------------|-----|------|---------|-------|
| h ₁ (E) | 6 | #4 | 34'-11" | — |
| h ₂ (E) | 6 | #4 | 34'-7" | — |
| h ₃ (E) | 12 | #4 | 31'-8" | — |
| h ₄ (E) | 12 | #4 | 34'-8" | — |
| h ₅ (E) | 6 | #4 | 34'-10" | — |
| h ₆ (E) | 6 | #4 | 30'-11" | — |
| h ₇ (E) | 12 | #5 | 33'-9" | — |
| h ₈ (E) | 96 | #5 | 35'-3" | — |
| h ₉ (E) | 56 | #5 | 31'-8" | — |
| h ₁₀ (E) | 2 | #5 | 35'-4" | — |
| h ₁₁ (E) | 2 | #5 | 35'-10" | — |
| h ₁₂ (E) | 16 | #5 | 30'-8" | — |
| h ₁₃ (E) | 2 | #5 | 31'-0" | — |
| h ₁₄ (E) | 4 | #5 | 4'-0" | — |
| v ₁ (E) | 510 | #4 | 4'-8" | — |
| v ₂ (E) | 64 | #4 | 7'-9" | — |
| v ₃ (E) | 64 | #4 | 12'-5" | — |
| v ₄ (E) | 64 | #4 | 6'-4" | — |
| v ₅ (E) | 64 | #4 | 6'-0" | — |
| v ₆ (E) | 64 | #4 | 5'-9" | — |
| v ₇ (E) | 64 | #4 | 5'-6" | — |
| v ₈ (E) | 64 | #4 | 5'-3" | — |
| v ₉ (E) | 62 | #4 | 7'-5" | — |

BILL OF MATERIAL

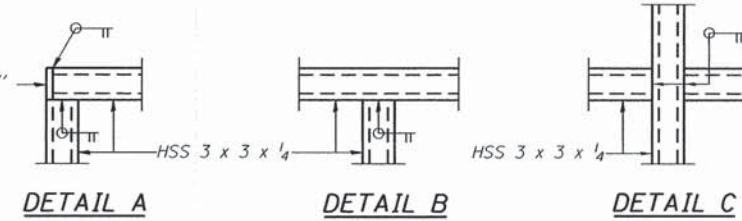
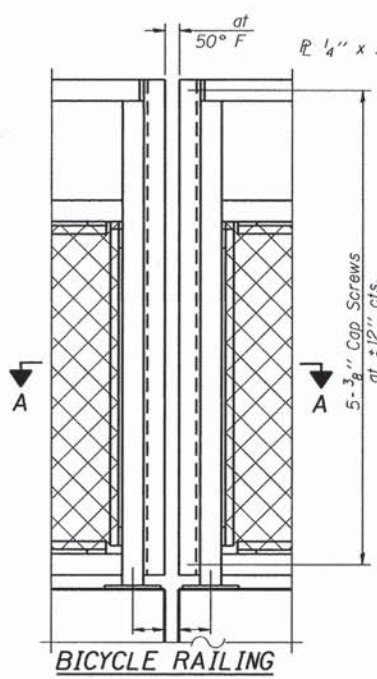
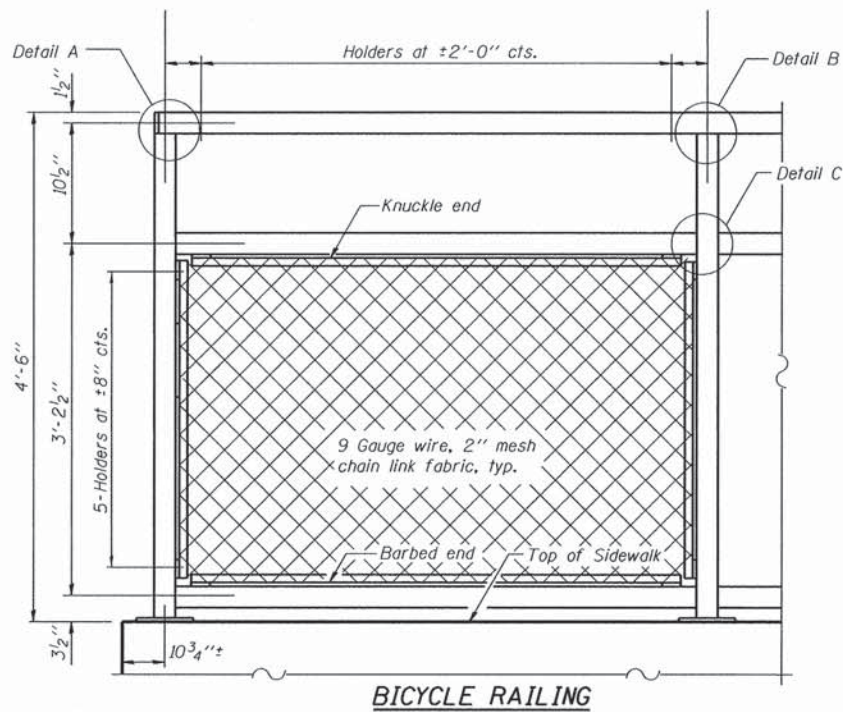
| Item | Unit | Quantity |
|----------------------------------|---------|----------|
| Structure Excavation | Cu. Yd. | 115.2 |
| Concrete Structures | Cu. Yd. | 72.0 |
| Protective Coat | Sq. Yd. | 200.4 |
| Reinforcement Bars, Epoxy Coated | Pound | 11,610 |



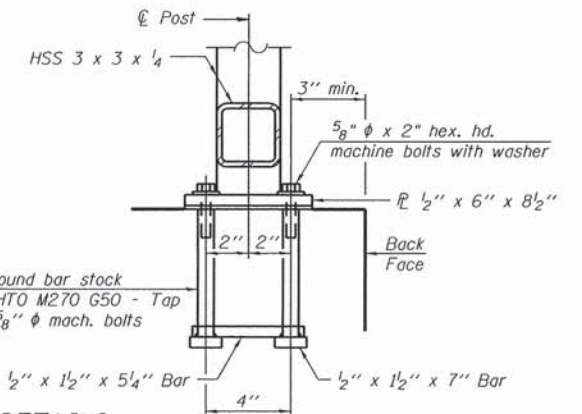
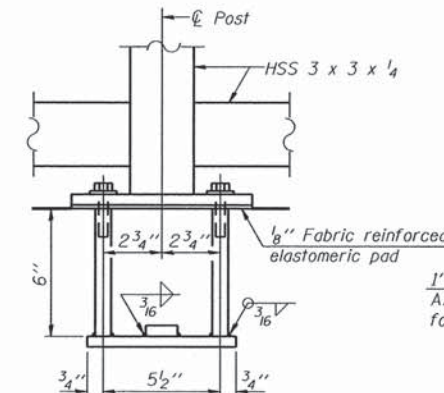
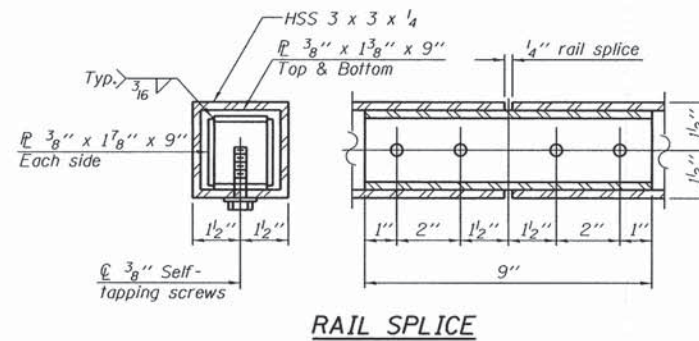
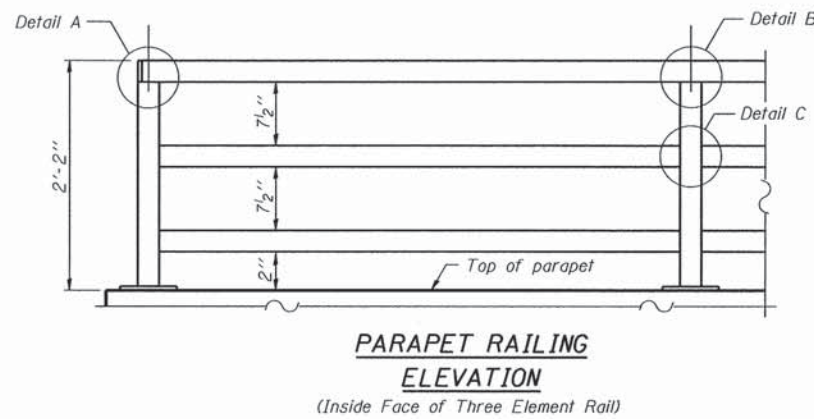
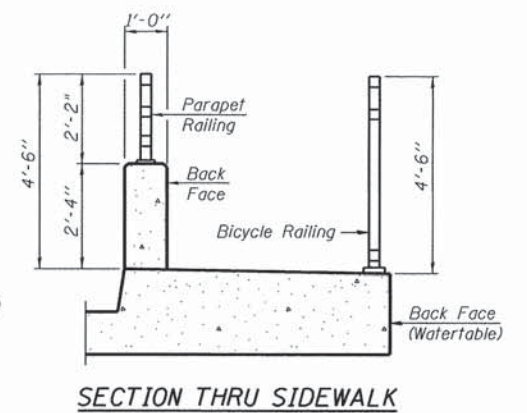
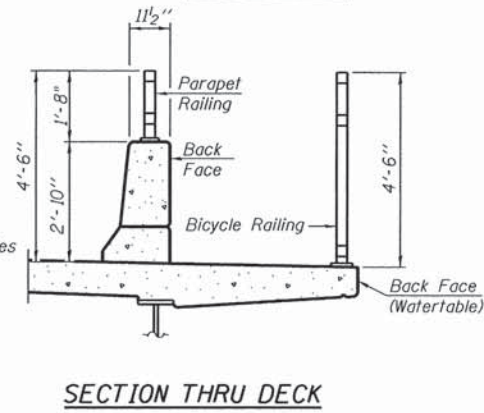
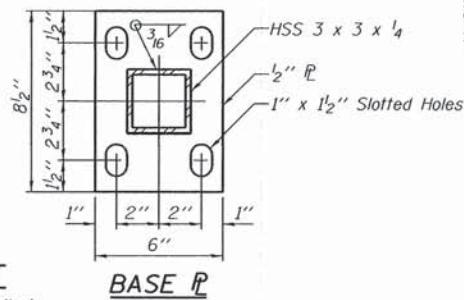
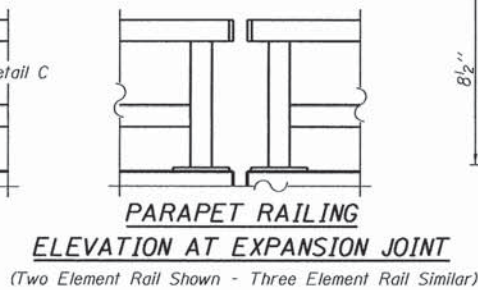
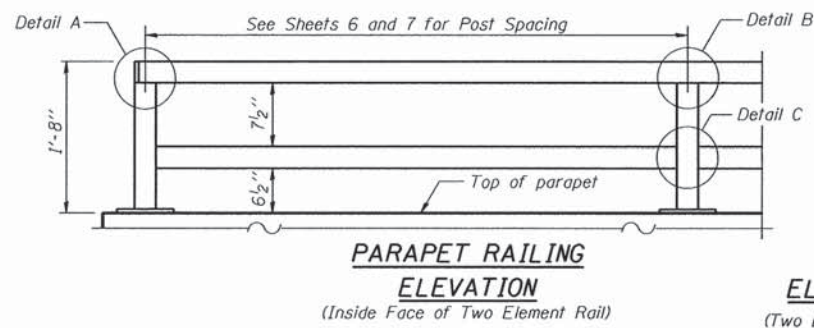
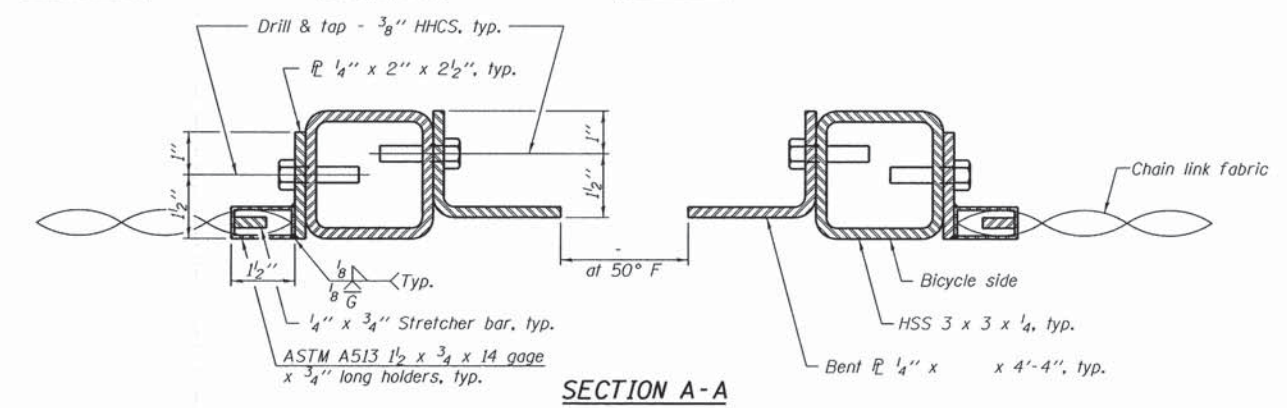
BAR CUTTING DIAGRAMS

*Order bars full length and cut to fit as shown. Use remainder at opposite end of callout, opposite face of wall panel.

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All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.



In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and setting 5/8" anchor rods according to Article 509.06 of the Standard Specifications. Embedment shall be according to the manufacturer's specifications.

BILL OF MATERIAL

| Item | Unit | Quantity |
|-----------------|------|----------|
| Parapet Railing | Foot | 255.1 |

R-29

1-27-12 (10'-0" Maximum Post Spacing)

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8501 W. Higgins Road, Suite 280
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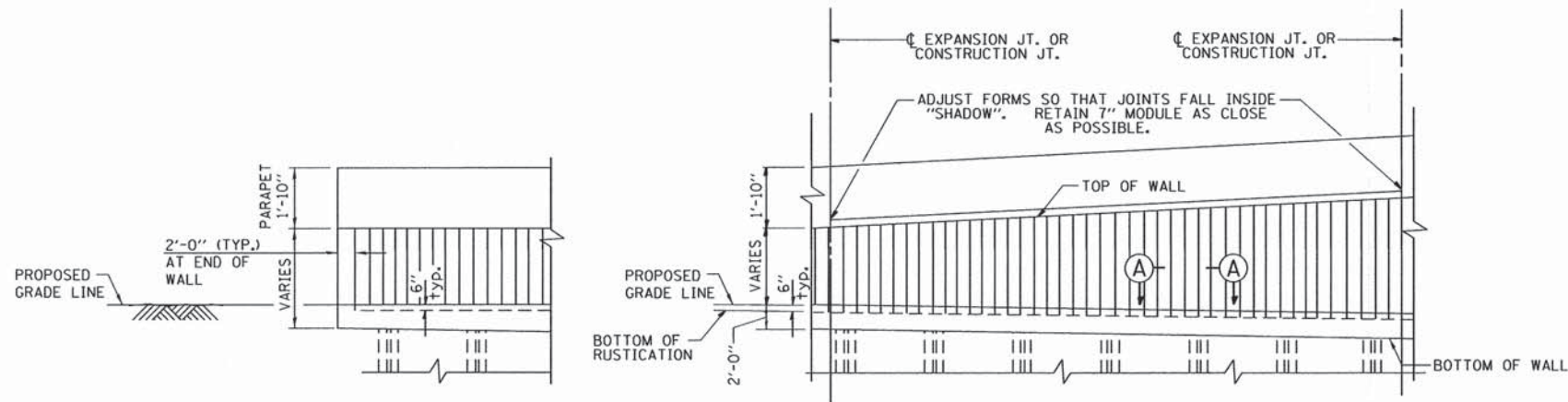
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| | DATE - 12/17/2014 | REVISED - |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

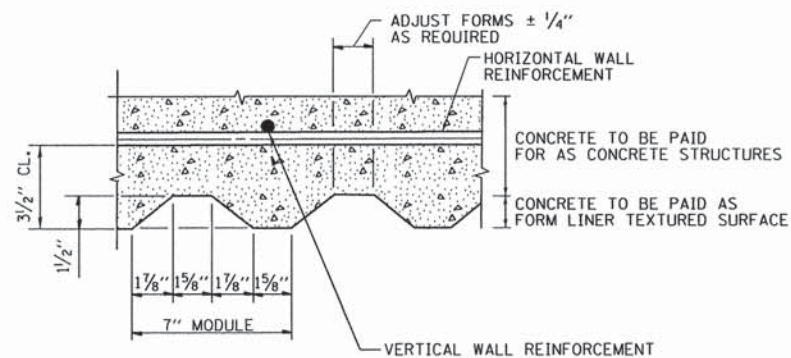
BICYCLE & PARAPET RAILINGS
RAND AND ELA ROAD-RETAINING WALL PLANS

SHEET NO. 58 OF 11 SHEETS

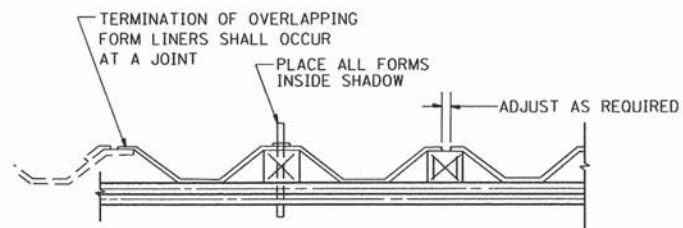
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| F.A.P. RTE. 334 | SECTION 02-0063-00-CH | COUNTY LAKE | TOTAL SHEETS 86 | SHEET NO. 55 |
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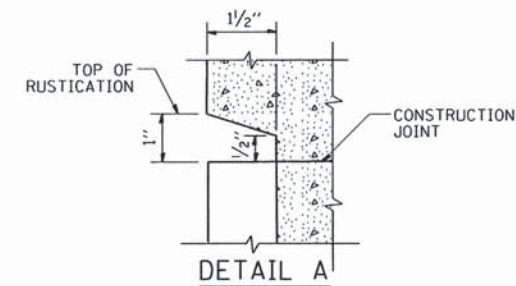
ELEVATION-TYPICAL ARCHITECTURAL FINISH



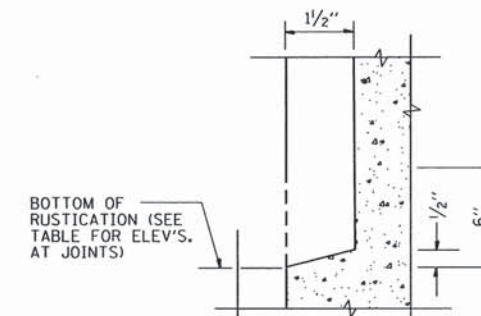
SECTION A-A



SUGGESTED FORMWORK DETAIL



DETAIL A



DETAIL B

BILL OF MATERIAL

| Item | Unit | Quantity |
|-----------------------------|---------|----------|
| Form Liner Textured Surface | Sq. Ft. | 1,079.0 |

FORM LINER ELEVATION SCHEDULE

| STATION | TOP OF RUSTICATION ELEV. | BOTTOM OF RUSTICATION ELEV. |
|----------|--------------------------|-----------------------------|
| 82+14.00 | 849.61 | 848.47 |
| 82+44.00 | 852.17 | 847.63 |
| 82+76.00 | 852.33 | 846.75 |
| 83+08.00 | 850.97 | 845.86 |
| 83+40.00 | 849.53 | 844.65 |
| 83+72.00 | 848.09 | 843.45 |
| 84+04.00 | 846.64 | 842.24 |
| 84+36.00 | 845.20 | 841.03 |
| 85+65.00 | 841.20 | 840.07 |

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8501 W. Higgins Road, Suite 280
Chicago, Illinois 60631; (773) 399-0112

| | | |
|--------------|-------------------|-----------|
| USER NAME = | DESIGNED - N.D.R. | REVISED - |
| PLOT SCALE = | CHECKED - J.A.Z. | REVISED - |
| PLOT DATE = | DRAWN - D.L.G. | REVISED - |
| | DATE - 12/17/2014 | REVISED - |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RUSTICATION FINISH
RAND AND ELA ROAD-RETAINING WALL PLANS

SHEET NO. 59 OF 11 SHEETS

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------|---------------|--------|--|-----------|
| 334 | 02-0063-00-CH | LAKE | 86 | 56 |
| CONTRACT NO. 61A94 | | | ILLINOIS FED. AID PROJECT CMF-03341014 | |

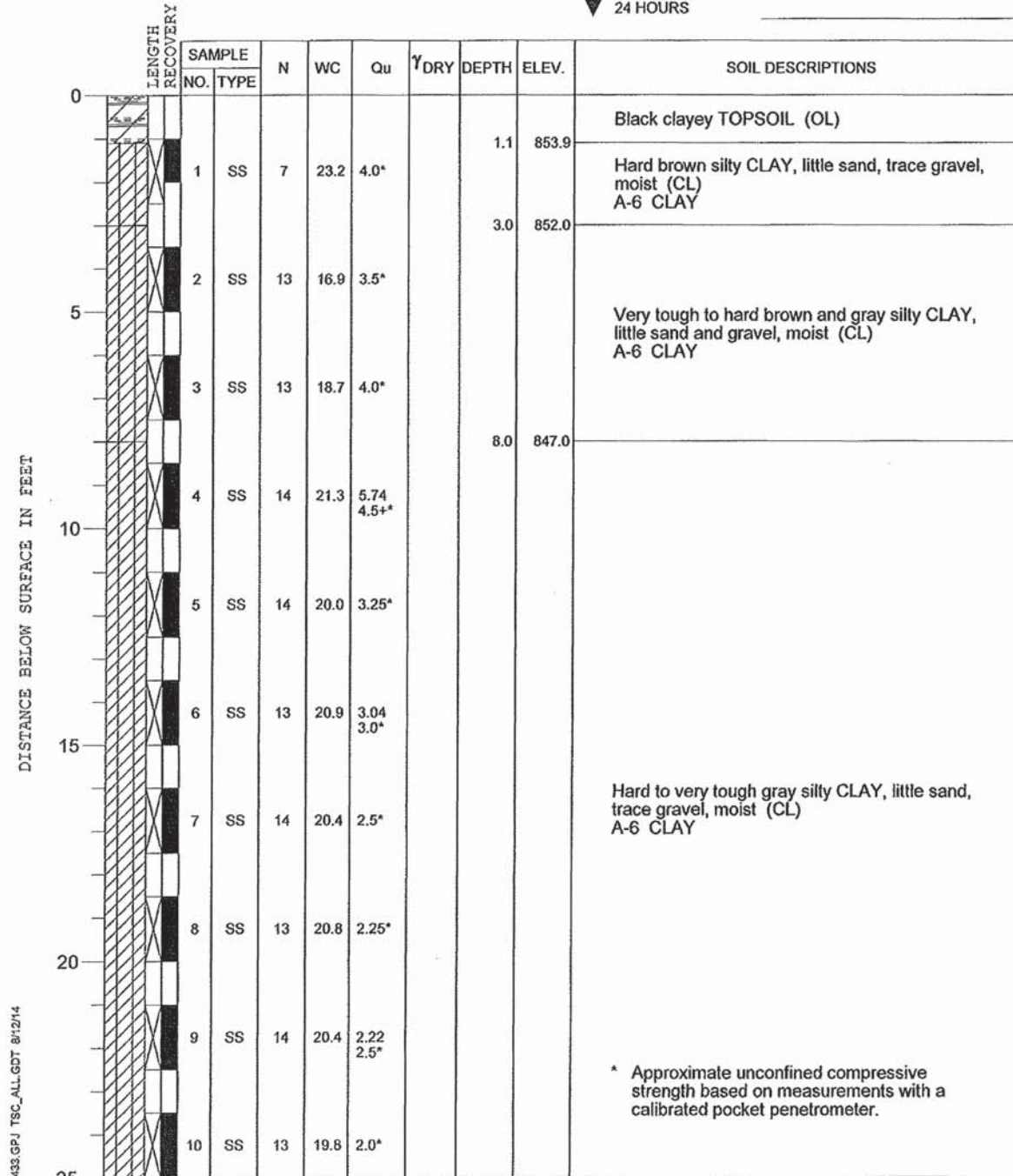
PROJECT Intersection Improvements, US 12 / Rand Road at Ela Road, Lake Zurich, IL

CLIENT GRAEF-USA, Inc., 8501 West Higgins Road, Chicago, IL



BORING SB-4 DATE STARTED 7-8-14 DATE COMPLETED 7-8-14 JOB L-81,433

ELEVATIONS WATER LEVEL OBSERVATIONS
 GROUND SURFACE 855.0 WHILE DRILLING Dry
 END OF BORING 830.0 AT END OF BORING Dry
 24 HOURS



DRILL RIG NO. 262

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

End of Boring at 25.0'

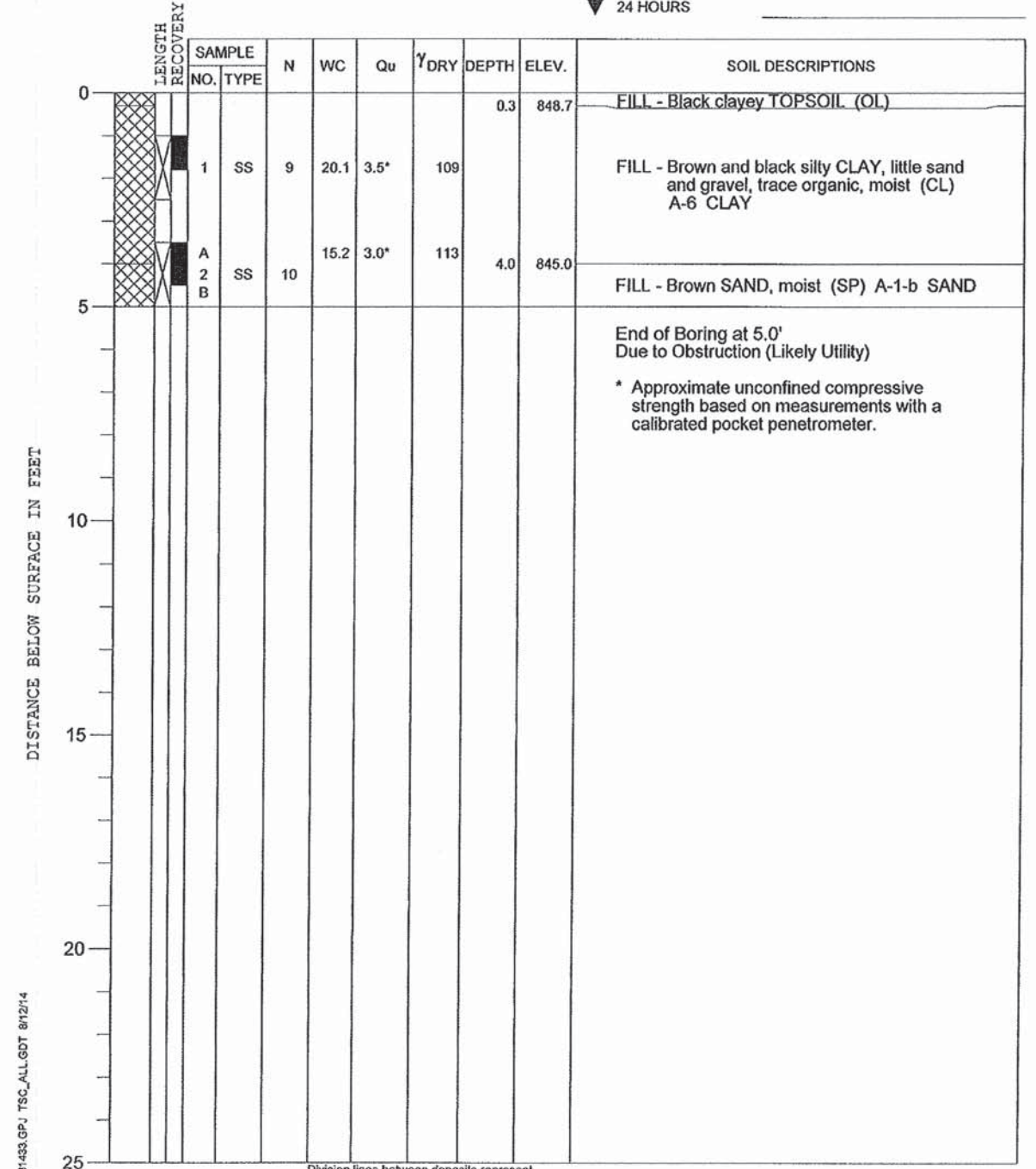
PROJECT Intersection Improvements, US 12 / Rand Road at Ela Road, Lake Zurich, IL

CLIENT GRAEF-USA, Inc., 8501 West Higgins Road, Chicago, IL



BORING SB-5 DATE STARTED 7-8-14 DATE COMPLETED 7-8-14 JOB L-81,433

ELEVATIONS WATER LEVEL OBSERVATIONS
 GROUND SURFACE 849.0 WHILE DRILLING Dry
 END OF BORING 844.0 AT END OF BORING Dry
 24 HOURS



DRILL RIG NO. 262

Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

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8501 W. Higgins Road, Suite 280
 Chicago, Illinois 60631; (773) 399-0112

| | | |
|--------------|-------------------|-----------|
| USER NAME * | DESIGNED - N.D.R. | REVISED - |
| PLOT SCALE * | CHECKED - J.A.Z. | REVISED - |
| PLOT DATE * | DRAWN - D.L.G. | REVISED - |
| | DATE - 12/17/2014 | REVISED - |

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

SOIL BORING LOG, SB-1
 RAND AND ELA ROAD-RETAINING WALL PLANS

SHEET NO. 510 OF 11 SHEETS

| | | | | |
|--------------------|------------------------|-------------|---|--------------|
| F.A.P. RTE. 334 | SECTION 02-00063-00-CH | COUNTY LAKE | TOTAL SHEETS 86 | SHEET NO. 57 |
| CONTRACT NO. 61A94 | | | ILLINOIS FED. AID PROJECT CMF-0334(014) | |

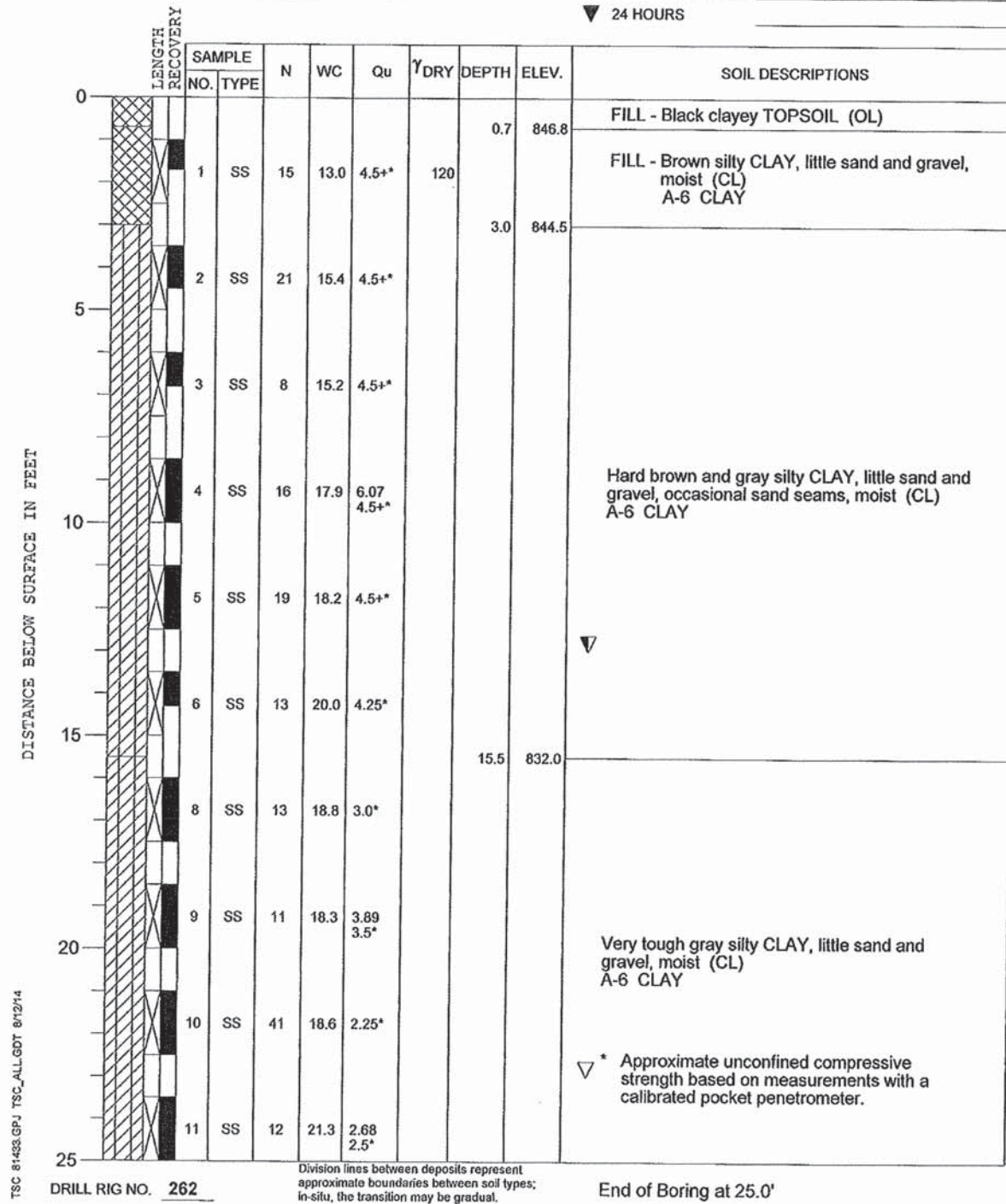
PROJECT **Intersection Improvements, US 12 / Rand Road at Ela Road, Lake Zurich, IL**

CLIENT **GRAEF-USA, Inc., 8501 West Higgins Road, Chicago, IL**

BORING **SB-6** DATE STARTED **7-7-14** DATE COMPLETED **7-7-14** JOB **L-81,433**



| ELEVATIONS | | WATER LEVEL OBSERVATIONS | |
|----------------|-------|--------------------------|-------|
| GROUND SURFACE | 847.5 | ▽ WHILE DRILLING | 13.0' |
| END OF BORING | 822.5 | ▽ AT END OF BORING | 23.0' |
| | | ▽ 24 HOURS | |



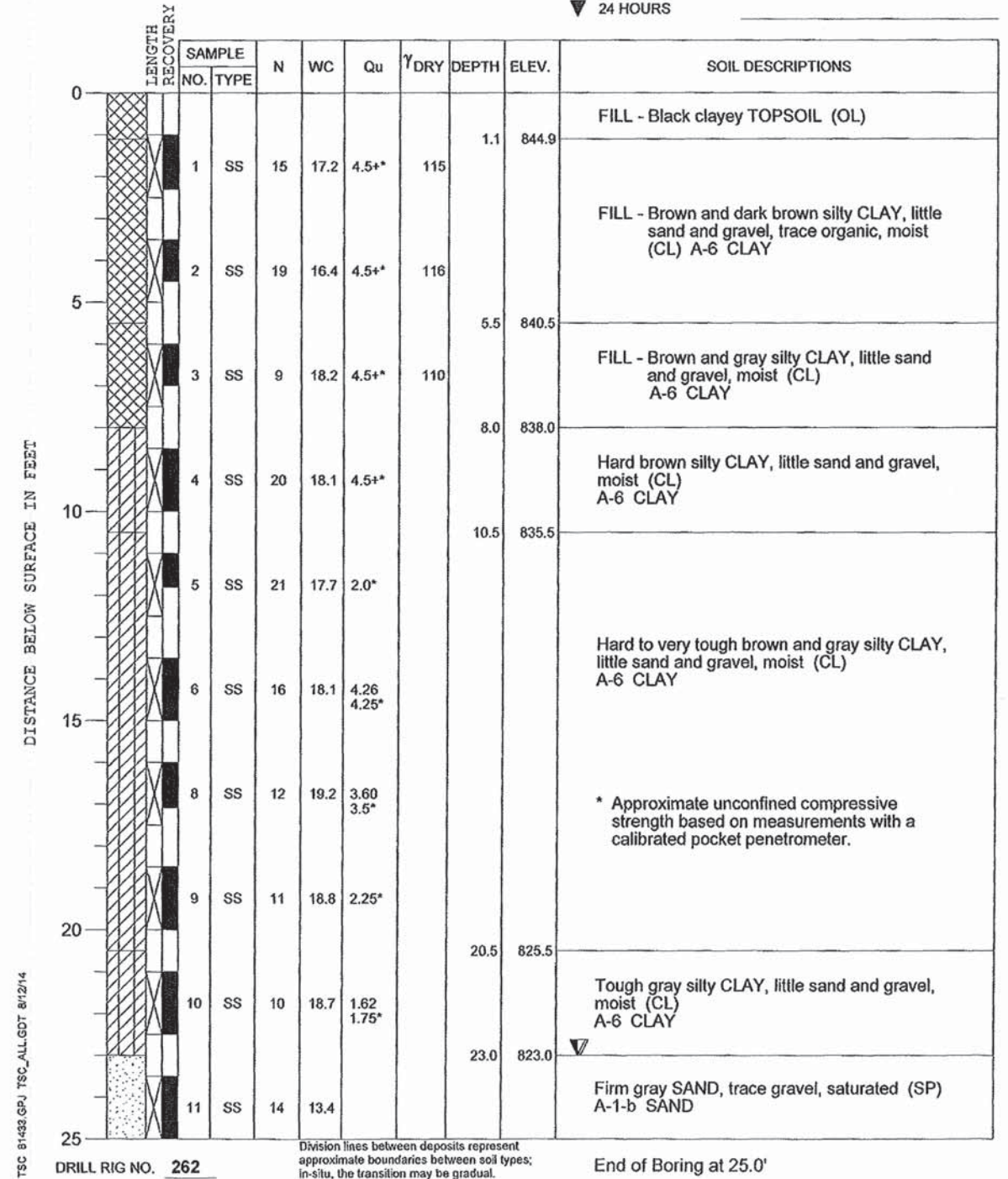
PROJECT **Intersection Improvements, US 12 / Rand Road at Ela Road, Lake Zurich, IL**

CLIENT **GRAEF-USA, Inc., 8501 West Higgins Road, Chicago, IL**

BORING **SB-7** DATE STARTED **7-7-14** DATE COMPLETED **7-7-14** JOB **L-81,433**



| ELEVATIONS | | WATER LEVEL OBSERVATIONS | |
|----------------|-------|--------------------------|-------|
| GROUND SURFACE | 846.0 | ▽ WHILE DRILLING | 23.0' |
| END OF BORING | 821.0 | ▽ AT END OF BORING | 23.0' |
| | | ▽ 24 HOURS | |



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8501 W. Higgins Road, Suite 280
Chicago, Illinois 60631; (773) 399-0112

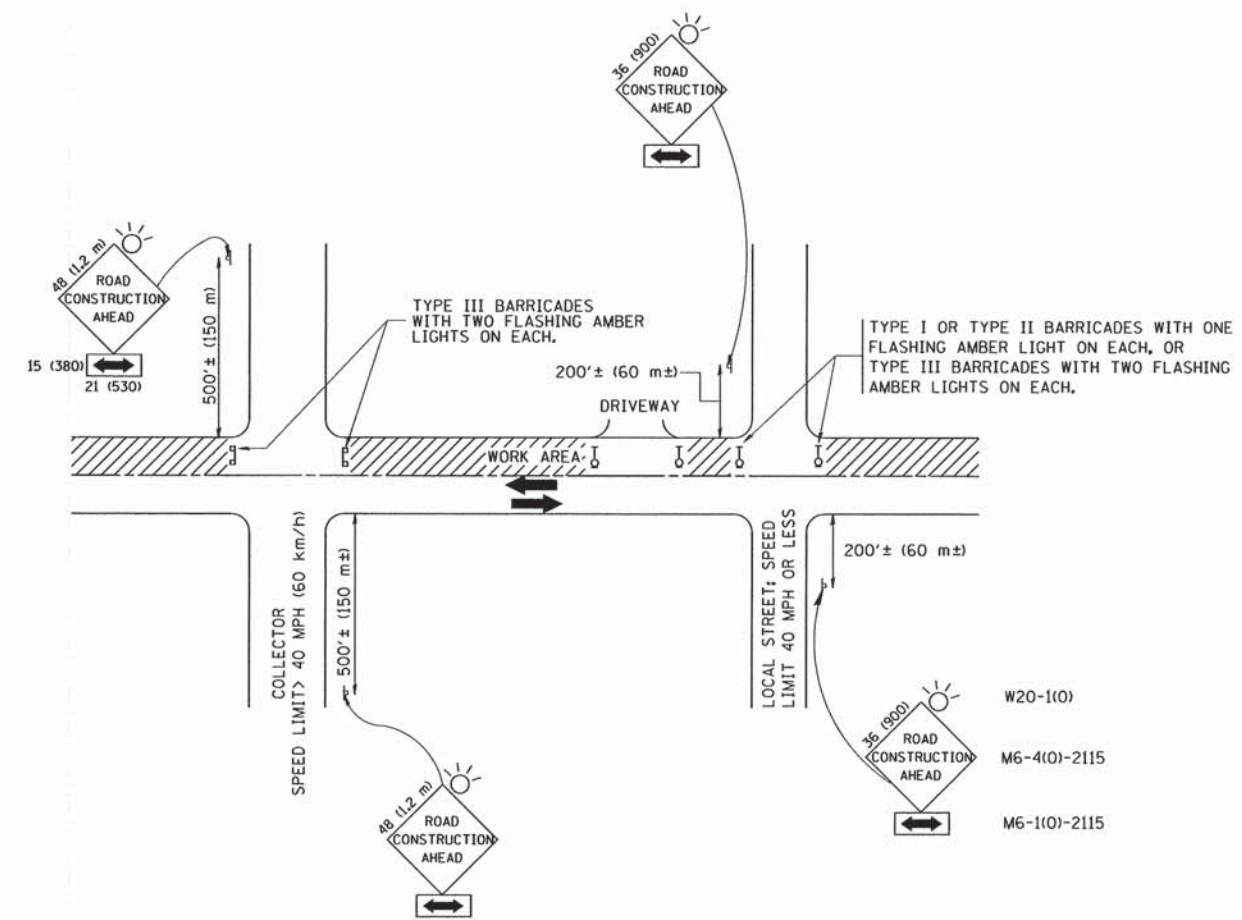
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| USER NAME = | DESIGNED - N.D.R. | REVISED - |
| PLOT SCALE = | CHECKED - J.A.Z. | REVISED - |
| PLOT DATE = | DRAWN - D.L.G. | REVISED - |
| | DATE - 12/17/2014 | REVISED - |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOG, SB-2
RAND AND ELA ROAD-RETAINING WALL PLANS

SHEET NO. S11 OF 11 SHEETS

| | | | | |
|--------------------|----------------|--------|---|-----------|
| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 334 | 02-00063-00-CH | LAKE | 86 | 58 |
| CONTRACT NO. 61A94 | | | ILLINOIS FED. AID PROJECT CMF-0334(014) | |



TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS

NOTES:

- A. FOR NO LANE RESTRICTION ON THE SIDE ROAD OR DRIVEWAYS
 - 1. SIDE ROAD WITH A SPEED LIMIT OF 40 MPH (60 km/h) OR LESS AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:
 - a) ONE ROAD CONSTRUCTION AHEAD SIGN 36 x 36 (900x900) WITH A FLASHER AND FLAG MOUNTED ON IT APPROXIMATELY 200' (60 m) IN ADVANCE OF THE MAIN ROUTE.
 - b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE I, TYPE II OR TYPE III BARRICADES, 1/3 OF THE CROSS SECTION OF THE CLOSED PORTION.
 - 2. SIDE ROAD WITH A SPEED LIMIT GREATER THAN 40 MPH (60 km/h) AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:
 - a) ONE ROAD CONSTRUCTION AHEAD SIGN 48 x 48 (1.2 m x 1.2 m) WITH A FLASHER MOUNTED ON IT APPROXIMATELY 500' (150 m) IN ADVANCE OF THE MAIN ROUTE.
 - b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE III BARRICADES, 1/2 OF THE CROSS SECTION OF THE CLOSED PORTION.
 - 3. WHEN THE SIDE ROAD LIES BETWEEN THE BEGINNING OF THE MAINLINE SIGNING AND THE WORK ZONE, A SINGLE HEADED ARROW (M6-1) SHALL BE USED IN LIEU OF THE DOUBLE HEADED ARROW (M6-4).
- B. FOR A LANE CLOSURE ON A SIDE ROAD OR DRIVEWAY:
 - USE APPLICABLE PORTIONS OF THE TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES (STD. 701501, STD. 701606 OR THE APPROPRIATE STANDARD). THE SPACING OF SIGNS AND BARRICADES SHALL BE ADJUSTED FOR FIELD CONDITIONS AS DIRECTED BY THE ENGINEER. THE DIRECTIONAL ARROW SHALL BE COVERED OR REMOVED WHEN NO LONGER CONSISTENT WITH THE SIDE ROAD LANE CLOSURE.
- C. ADVANCE WARNING SIGNS ARE TO BE OMITTED ON DRIVEWAY UNLESS OTHERWISE NOTED.
- D. THE TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS SHALL BE INCIDENTAL TO THE COST OF SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

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

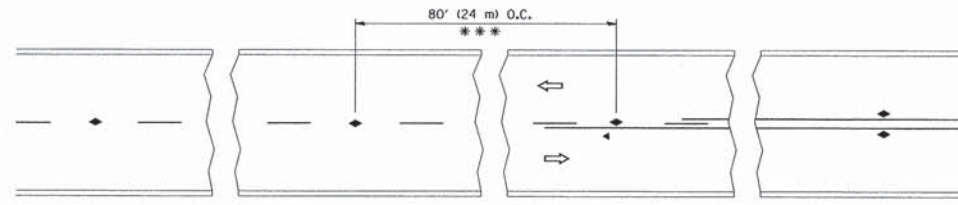
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| | | DRAWN - | REVISED - A. HOUSEH 03-06-96 |
| | PLOT SCALE = 50.000 "/ IN. | CHECKED - | REVISED - A. HOUSEH 10-15-96 |
| | PLOT DATE = 1/4/2008 | DATE - 06-89 | REVISED - T. RAMMACHER 01-06-00 |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL AND PROTECTION FOR
SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS

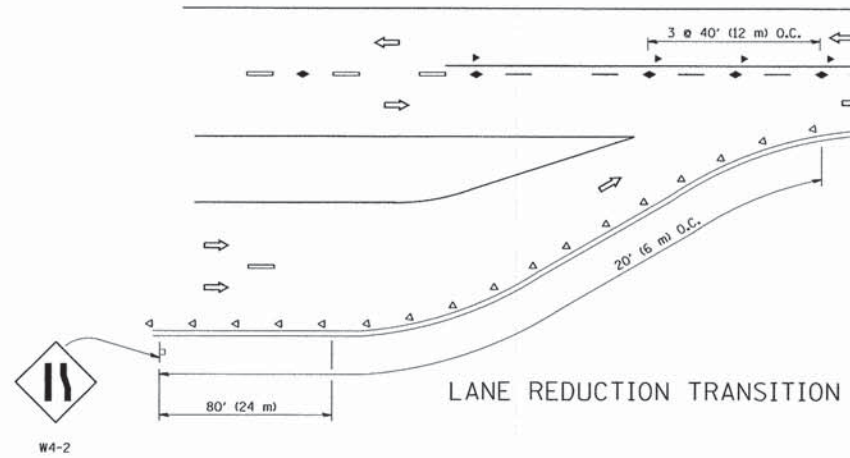
SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.

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|---|---------------------------|--------------------|--------------------|-----------------|
| F.A.P. RTE. 334 | SECTION 02-00063-00-CH | COUNTY LAKE | TOTAL SHEETS 86 | SHEET NO. 60 |
| TC-10 | | CONTRACT NO. 61A94 | | |
| FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT CMF-0334(014) | | | | |

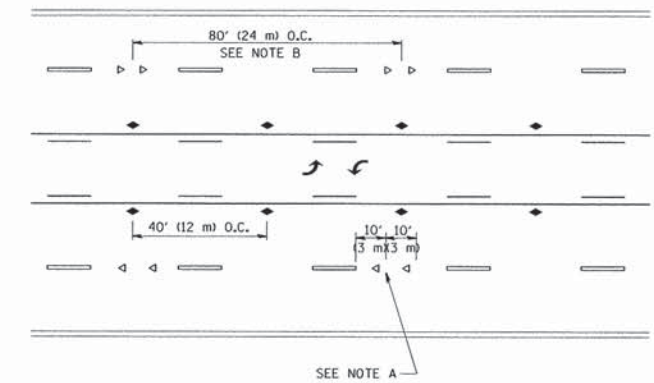


*** REDUCE TO 40' (12 m) O.C. ON CURVES WITH POSTED OR ADVISORY SPEED 45 M.P.H. (70 km/h) OR LESS.

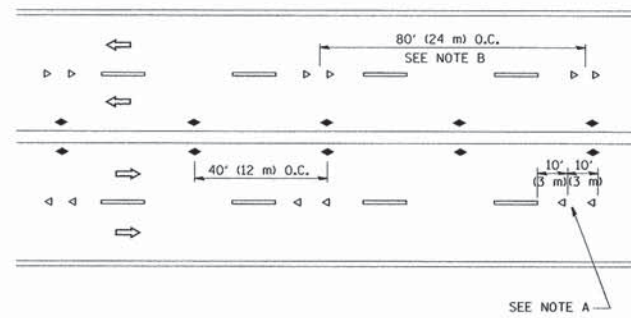
TWO-LANE/TWO-WAY



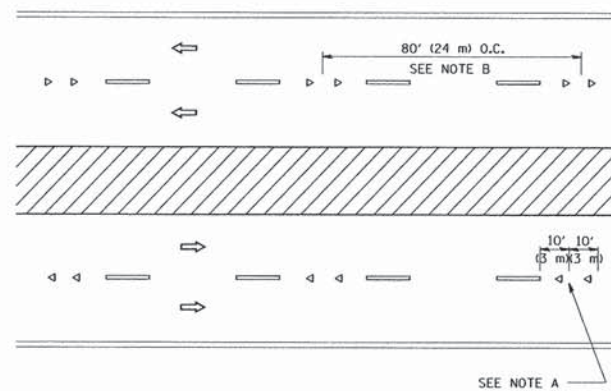
LANE REDUCTION TRANSITION



TWO-WAY LEFT TURN



MULTI-LANE/UNDIVIDED



MULTI-LANE/DIVIDED

GENERAL NOTES

1. MARKERS USED WITH DASHED LINES SHALL BE CENTERED IN THE GAP BETWEEN SEGMENTS.
2. MARKERS USED ADJACENT TO SOLID LINES SHALL BE OFFSET 2 TO 3 (50 TO 75) TOWARD TRAFFIC AS SHOWN.
3. MARKERS THROUGH TANGENTS LESS THAN 500' (150 m) IN LENGTH BETWEEN CURVES SHALL BE INSTALLED AT THE LESSER OF THE TWO CURVE SPACINGS.

SYMBOLS

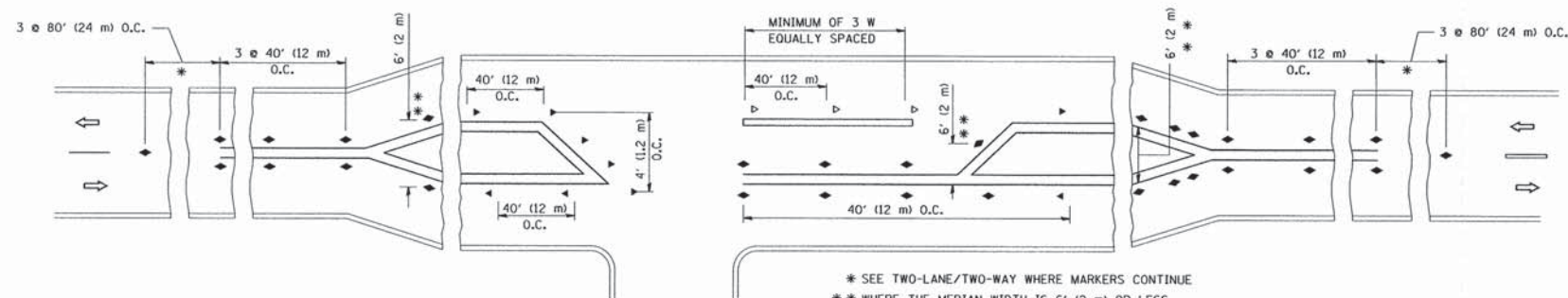
- YELLOW STRIPE
- WHITE STRIPE
- ◄ ONE-WAY AMBER MARKER
- ◄ ONE-WAY CRYSTAL MARKER (W/O)
- ◆ TWO-WAY AMBER MARKER

LANE MARKER NOTES

- A. USE DOUBLE LANE LINE MARKERS SPACED AS SHOWN.
- B. REDUCE TO 40' (12 m) O.C. ON CURVES WHERE ADVISORY SPEEDS ARE 10 M.P.H (20 km/h) LOWER THAN POSTED SPEEDS.

DESIGN NOTES

1. DOUBLE LANE LINE MARKERS SHALL BE USED UNLESS SPECIFIED OTHERWISE.
2. EXCEPT AS SHOWN ON THE LANE REDUCTION TRANSITION AND FREEWAY EXIT RAMP DETAIL, MARKERS ARE NOT TO BE SPECIFIED ON RIGHT EDGE LINES.
3. THE EXACT MARKER LIMITS, SPACING, AND COLOR SHALL BE INCLUDED IN THE PLANS WHEN STANDARD SPECIFICATIONS ARE NOT BEING USED.
4. MARKERS SHOULD NOT BE USED ALONGSIDE CURBS EXCEPT FOR EXTREMELY SHORT SECTIONS OF CURBS WHERE NOT MORE THAN TWO MARKERS WOULD BE INVOLVED.



LEFT TURN

* SEE TWO-LANE/TWO-WAY WHERE MARKERS CONTINUE
 ** WHERE THE MEDIAN WIDTH IS 6' (2 m) OR LESS USE TWO-WAY MARKERS.

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

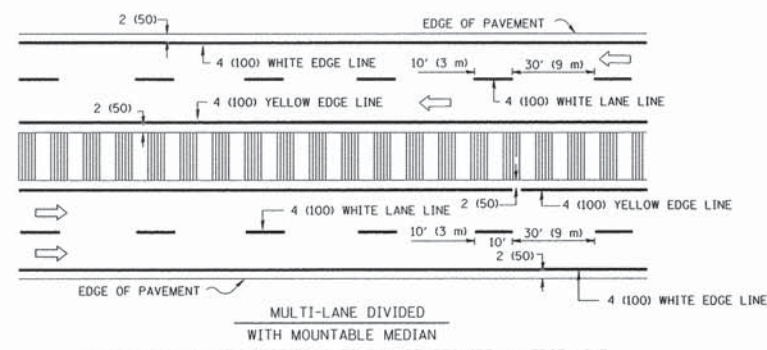
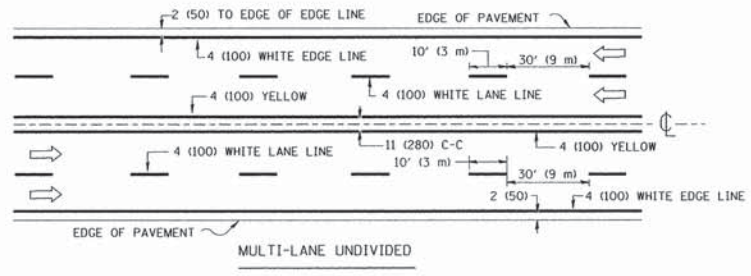
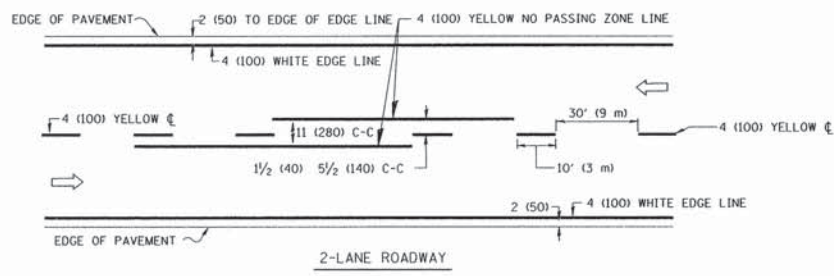
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| | | DRAWN - | REVISED - T. RAMMACHER 03-12-99 |
| | PLOT SCALE = 50,000 "/ IN. | CHECKED - | REVISED - T. RAMMACHER 01-06-00 |
| | PLOT DATE = 3/2/2011 | DATE - | REVISED - C. JUCIUS 09-09-09 |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TYPICAL APPLICATIONS
RAISED REFLECTIVE PAVEMENT MARKERS (SNOW-PLOW RESISTANT)

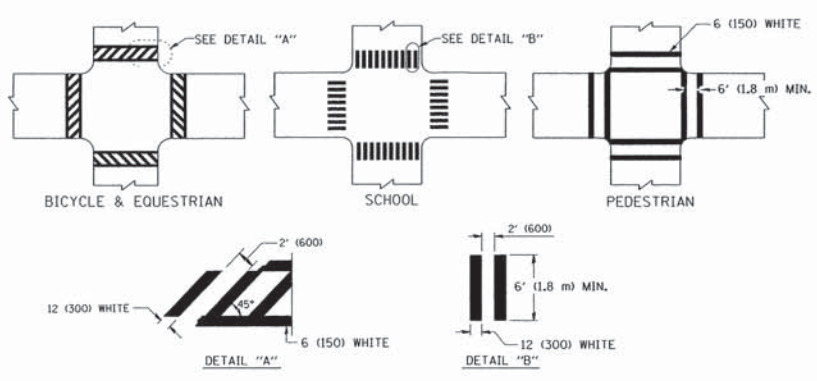
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|---|---------------------------|--------------------|--------------------|-----------------|
| F.A.P. RTE. 334 | SECTION 02-00063-00-CH | COUNTY LAKE | TOTAL SHEETS 86 | SHEET NO. 61 |
| TC-11 | | CONTRACT NO. 61A94 | | |
| FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT CMF-0334(014) | | | | |

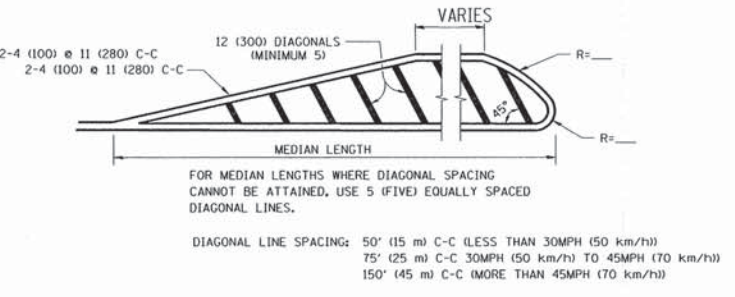
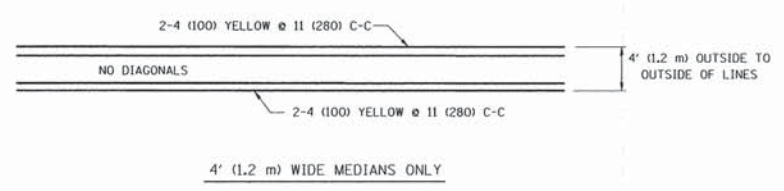


NOTE: MEDIANS WITH BARRIER CURB DO NOT REQUIRE AN EDGE LINE

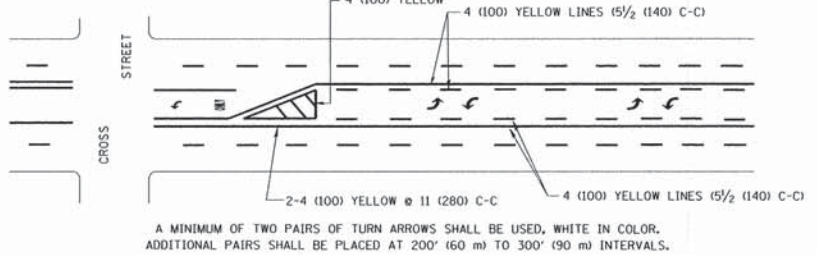
TYPICAL LANE AND EDGE LINE MARKING



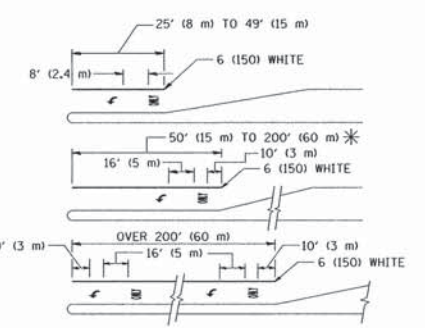
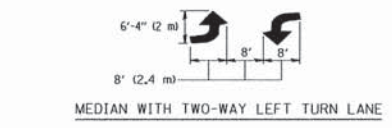
TYPICAL CROSSWALK MARKING



MEDIANS OVER 4' (1.2 m) WIDE



TYPICAL PAINTED MEDIAN MARKING

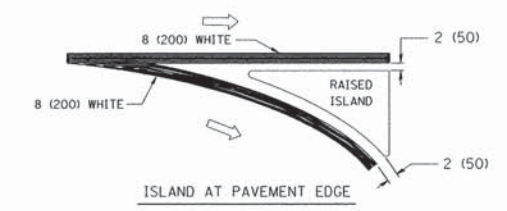
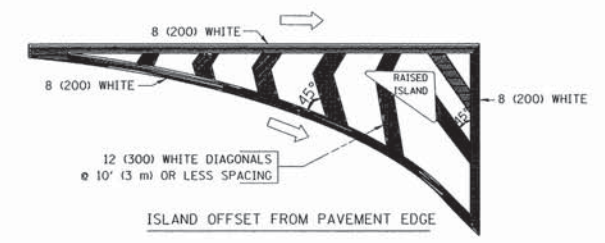


FULL SIZE LETTERS 8' (2.4 m) AND ARROWS SHALL BE USED.
AREA = 15.6 SQ. FT. (1.5 m²) ONLY AREA = 20.8 SQ. FT. (1.9 m²)

* 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 LEFT (OR RIGHT) TURN LANE

TYPICAL TURN LANE MARKING



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. |
| GORE 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" 15 6' (1.8 m) 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.

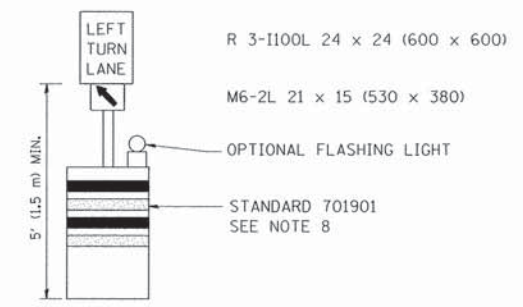
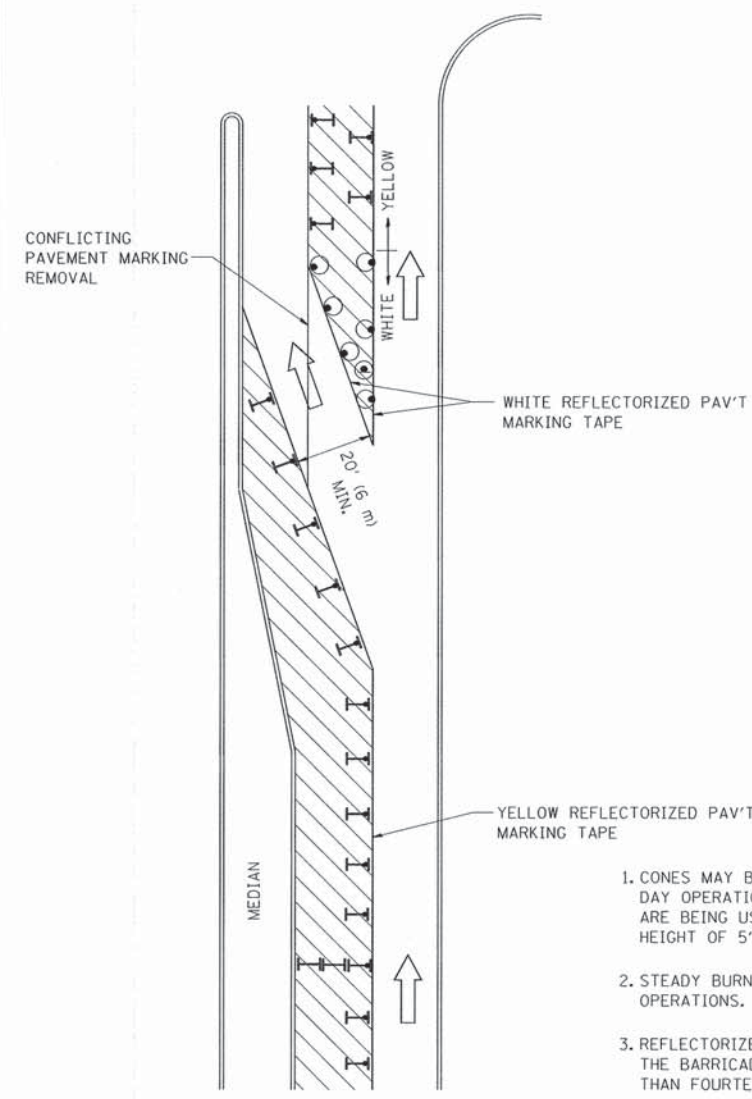
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| | PLOT SCALE = 50,000 / IN. | CHECKED - | REVISED - |
| | PLOT DATE = 9/9/2009 | DATE - 03-19-90 | REVISED - |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DISTRICT ONE
TYPICAL PAVEMENT MARKINGS

| | | |
|-------------|-------------------------|--------------|
| SCALE: NONE | SHEET NO. 1 OF 1 SHEETS | STA. TO STA. |
|-------------|-------------------------|--------------|

| | | | | |
|---|----------------|--------------|--------------|-----------|
| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 334 | 02-00063-00-CH | LAKE | 86 | 62 |
| TC-13 | | CONTRACT NO. | 61A94 | |
| FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT CMF-0334(014) | | | | |



GENERAL NOTES

1. CONES MAY BE SUBSTITUTED FOR BARRICADES OR DRUMS AT HALF THE SPACING DURING DAY OPERATIONS. CONES SHALL BE A MINIMUM OF 28 (710) IN HEIGHT. WHEN CONES ARE BEING USED, THE "LEFT TURN LANE" SIGN MAY BE SKID MOUNTED AT A MINIMUM HEIGHT OF 5' (1.5 m).
2. STEADY BURNING LIGHTS WILL NOT BE REQUIRED ON BARRICADES OR DRUMS FOR DAY OPERATIONS. ALL LIGHTS SHALL BE MONODIRECTIONAL.
3. REFLECTORIZED TEMPORARY PAVEMENT MARKING TAPE SHALL BE PLACED THROUGHOUT THE BARRICADED AREA OF EACH TURN BAY WHERE THE CLOSURE TIME IS GREATER THAN FOURTEEN DAYS.
4. THIS APPLICATION ALSO APPLIES WHEN WORK IS BEING PERFORMED IN THE RIGHT LANE(S) AND THE RIGHT TURN BAY IS TO REMAIN OPEN. UNDER THIS CONDITION, "RIGHT TURN LANE" R3-100 24 x 24 (600 x 600) AND M6-2R 21 x 15 (530 x 380) SHALL BE USED.
5. THESE CONTROLS SHALL SUPPLEMENT MAINLINE TRAFFIC CONTROL FOR LANE CLOSURES.
6. LONGITUDINAL DIMENSIONS MAY BE ADJUSTED TO FIT FIELD CONDITIONS.
7. FORM OPER 725 IS REQUIRED.
8. IF A DRUM OR TYPE II BARRICADE WITH AN ATTACHED SIGN PANEL WHICH MEETS NCHRP 350 REQUIREMENTS IS NOT AVAILABLE, THE SIGNS SHALL BE MOUNTED, ABOVE THE BARRICADES, ON SEPARATE SIGNS SUPPORTS THAT MEET NCHR 350 PREQUIREMENTS.
9. TRAFFIC CONTROL AND PROTECTION AT TURN BAYS (TO REMAIN OPEN TO TRAFFIC) SHALL BE INCLUDED IN THE COST SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

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

LEGEND

- WORK AREA
- LANE OPEN TO TRAFFIC
- TYPE I OR II BARRICADE WITH STEADY BURN LIGHT
- DRUM WITH STEADY BURN LIGHT
- DRUM WITH SIGN (WITH OPTIONAL FLASHING LIGHT) SEE DETAIL
- TYPE I OR II CHECK BARRICADE WITH FLASHING LIGHT

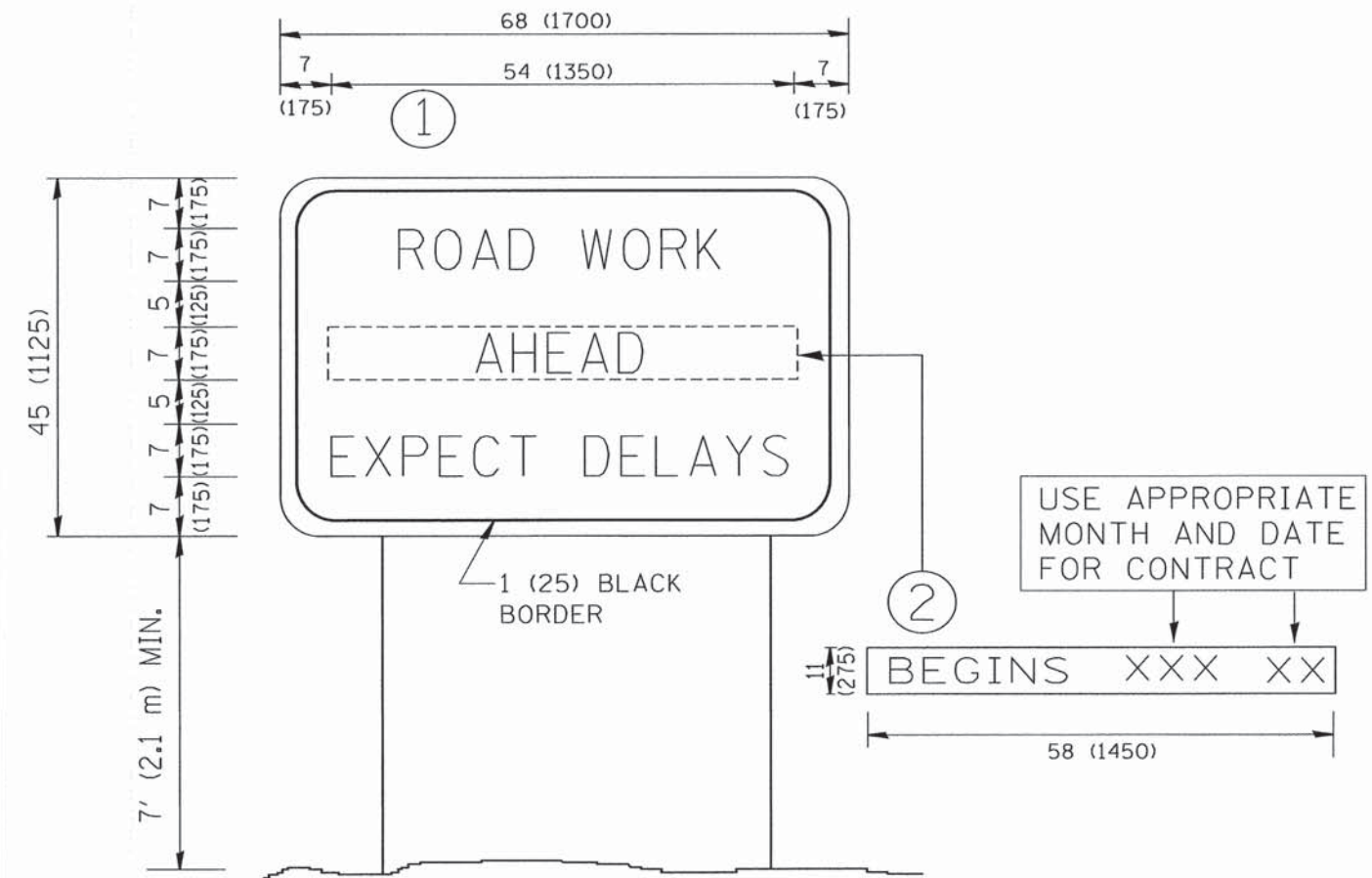
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| FILE NAME = | USER NAME = drvakosgn | REVISED -T. RAMMACHER 09-08-94 | REVISED - R. BORO 09-14-09 |
| ct\pw\work\VPWIDOT\DRIVAKOSGN\d8108315\14.dgn | | REVISED - A. HOUSEH 11-07-95 | REVISED - |
| | PLOT SCALE = 49,9999' / IN. | REVISED - A. HOUSEH 10-12-96 | REVISED - |
| | PLOT DATE = 9/14/2009 | REVISED -T. RAMMACHER 01-06-00 | REVISED - |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TRAFFIC CONTROL AND PROTECTION AT TURN BAYS
(TO REMAIN OPEN TO TRAFFIC)**

SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA.

| | | | | |
|---|----------------|--------------|--------------|-----------|
| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 334 | 02-00063-00-CH | LAKE | 86 | 63 |
| TC-14 | | CONTRACT NO. | 61A94 | |
| FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT CMF-0334(014) | | | | |



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 = W:\diststd\22x34\to22.dgn | USER NAME = geglionobt | DESIGNED - | REVISED - R. MIRS 09-15-97 | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | ARTERIAL ROAD INFORMATION SIGN | F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| | PLOT SCALE = 50,000' / IN. | DRAWN - | REVISED - R. MIRS 12-11-97 | | | 334 | 02-00063-00-CH | LAKE | 86 | 64 |
| PLOT DATE = 1/4/2008 | DATE - | CHECKED - | REVISED - T. RAMMACHER 02-02-99 | SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA. | | TC-22 | | CONTRACT NO. 61A94 | | |
| | | | REVISED - C. JUCIUS 01-31-07 | | | FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT | | CMF-0334(014) | | |

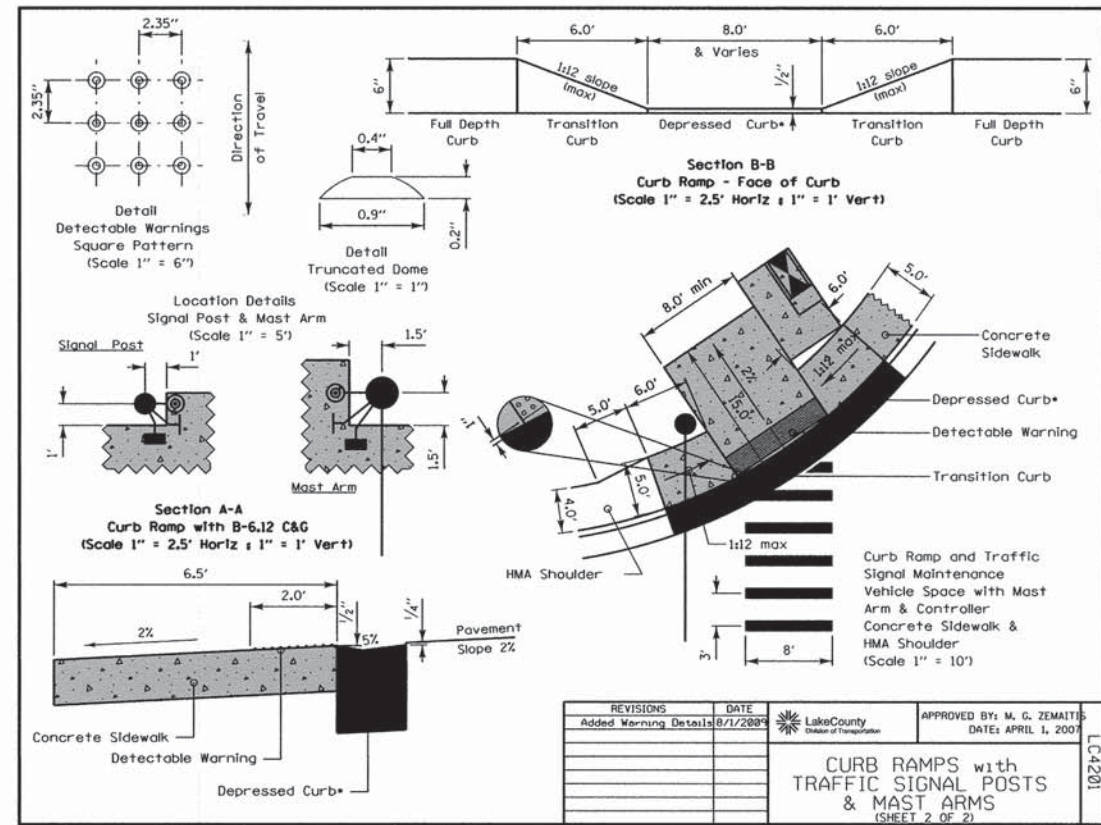
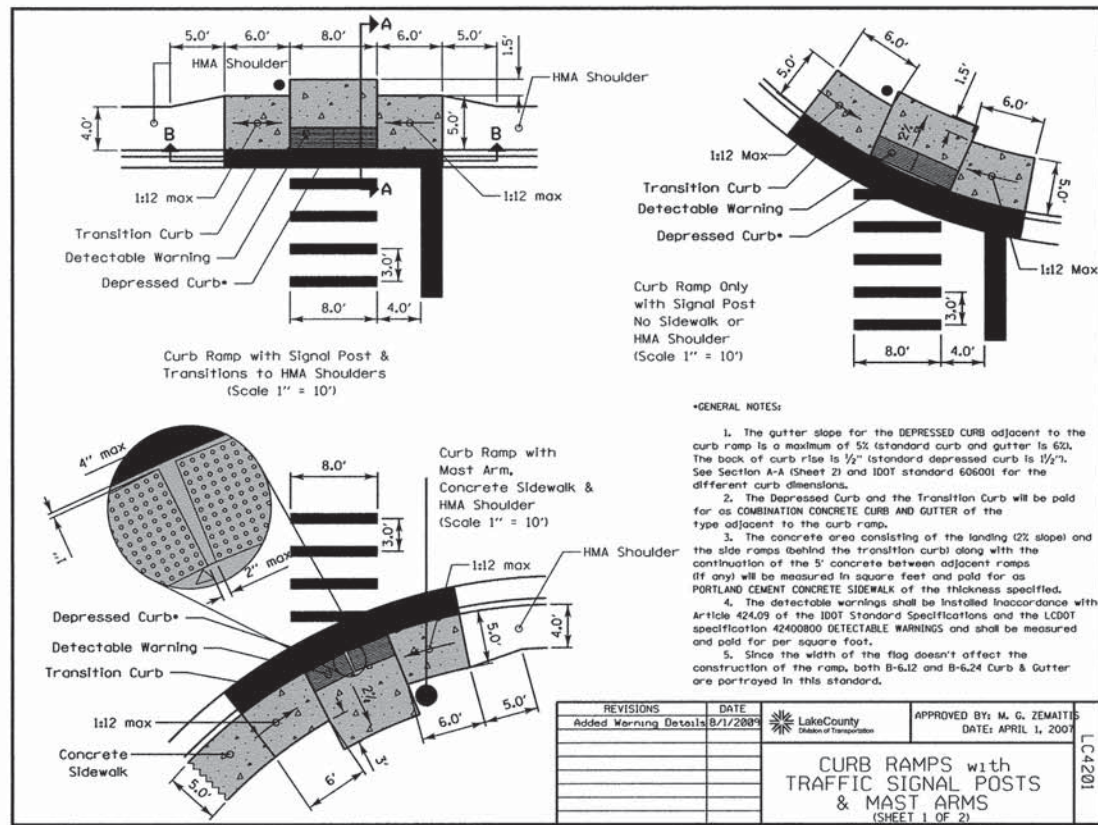
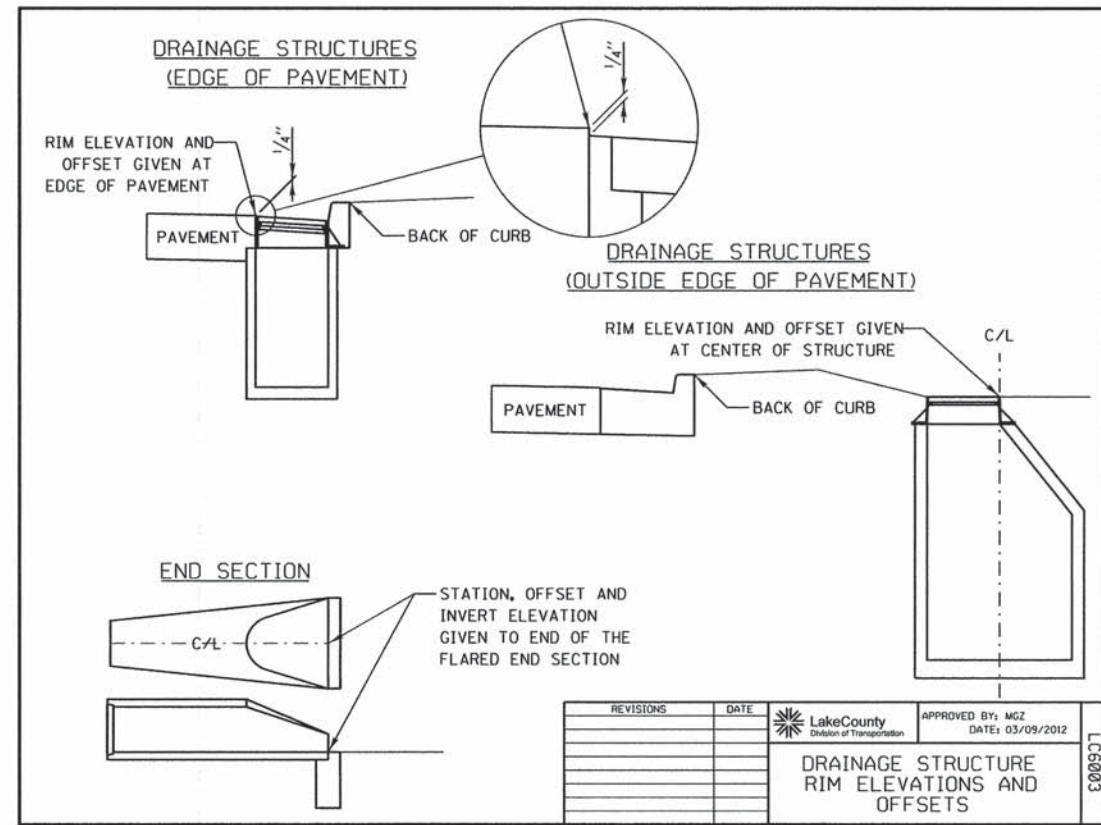
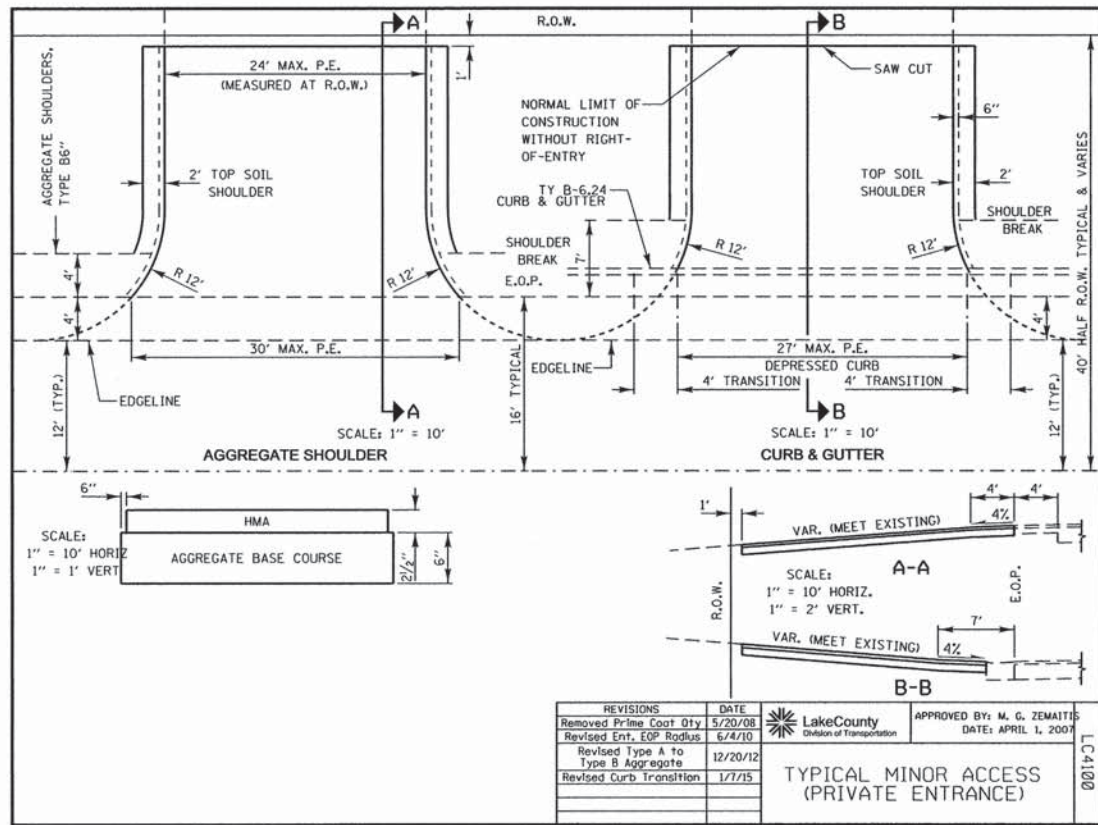


3.0" RADIUS, 0.5" BORDER, WHITE ON GREEN; REFLECTORIZED
 "DRIVEWAY" D; "ENTRANCE" D; STANDARD ARROW CUSTOM 12.0" x 5.0"

NOTES:

1. HALF OF THE SIGNS WILL REQUIRE A LEFT HAND FACING ARROW.
2. TWO SIGNS SHALL BE USED AT EACH COMMERCIAL ENTRANCE
 PLACED BACK-TO-BACK; ONE WITH A RIGHT HAND ARROW (SHOWN)
 SHALL BE PLACED ON THE NEAR RIGHT SIDE THE DRIVEWAY
 AND ONE WITH A LEFT HAND ARROW SHALL BE PLACED ON THE
 FAR LEFT SIDE OF THE DRIVEWAY.
3. SIGNS TO BE PAID FOR AS ITEM "TEMPORARY INFORMATION SIGNING".

| | | | | | | | | | | | | |
|-------------------------------------|-----------------------------|------------|------------------------------|---|--|----------------|------|---|---------|--------|-----------------|--------------|
| FILE NAME * | USER NAME = goglianob | DESIGNED - | REVISED - C. JUCIUS 02-15-07 | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | DRIVEWAY ENTRANCE SIGNING | | | F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| c:\pwork\p1dot\goglianob\0808315\to | 5.dgn | DRAWN - | REVISED - | | 334 | 02-00063-00-CH | LAKE | 86 | 65 | | | |
| | PLOT SCALE = 50.000 * / in. | CHECKED - | REVISED - | | TC-26 | | | CONTRACT NO. 61A94 | | | | |
| | PLOT DATE = 12/13/2012 | DATE - | REVISED - | | SCALE: NONE SHEET NO. 1 OF 1 SHEETS STA. TO STA. | | | FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT CMF-0334(014) | | | | |



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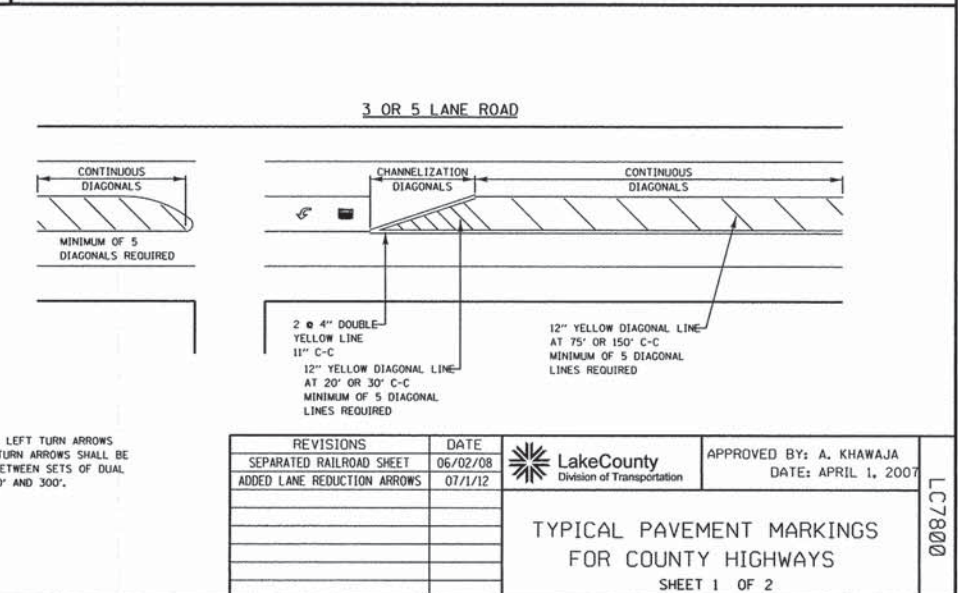
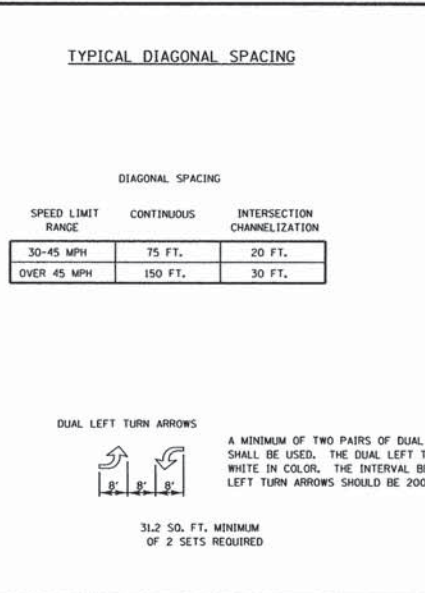
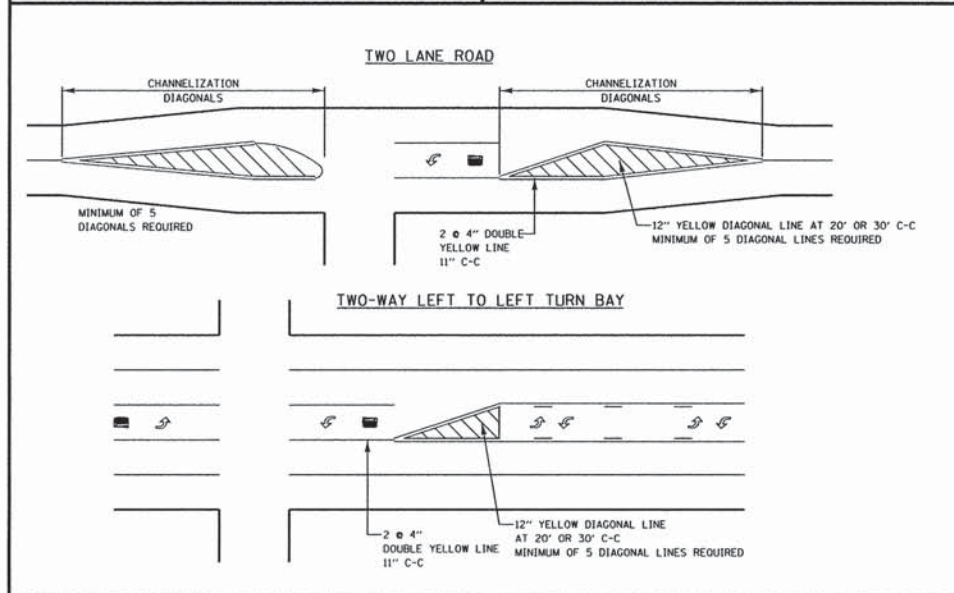
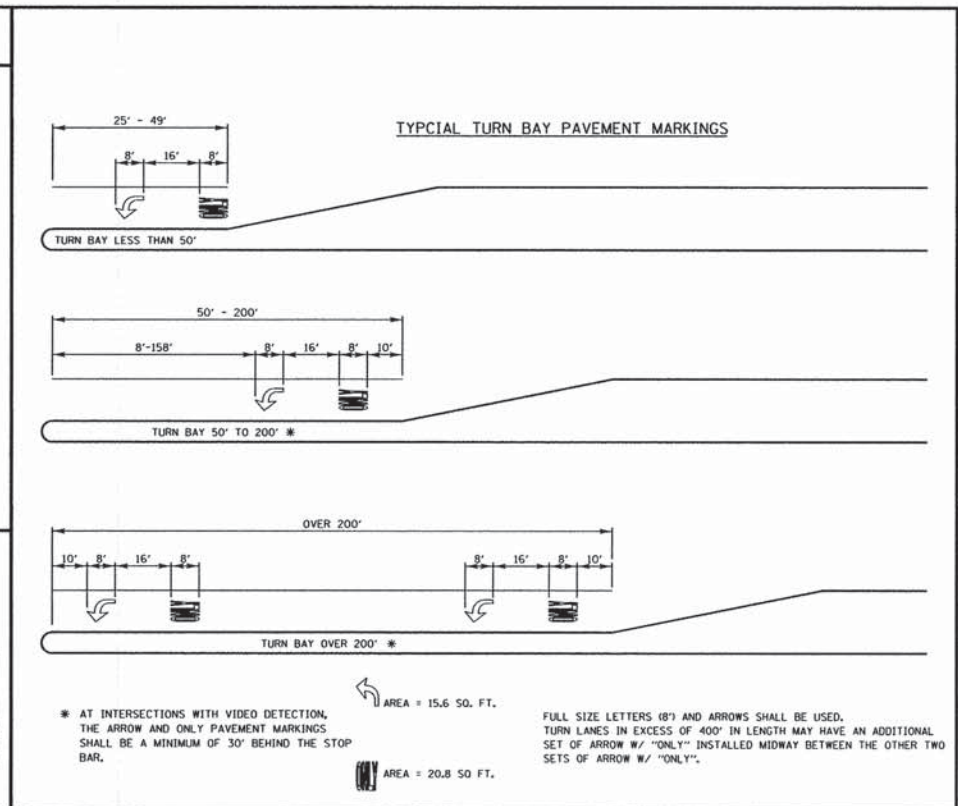
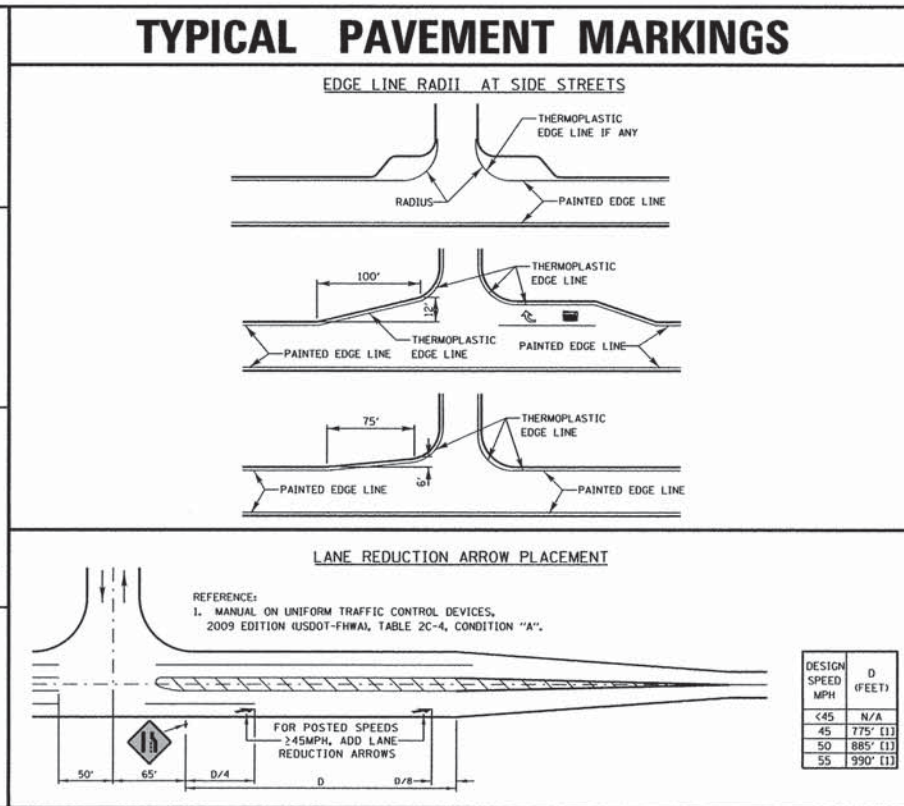
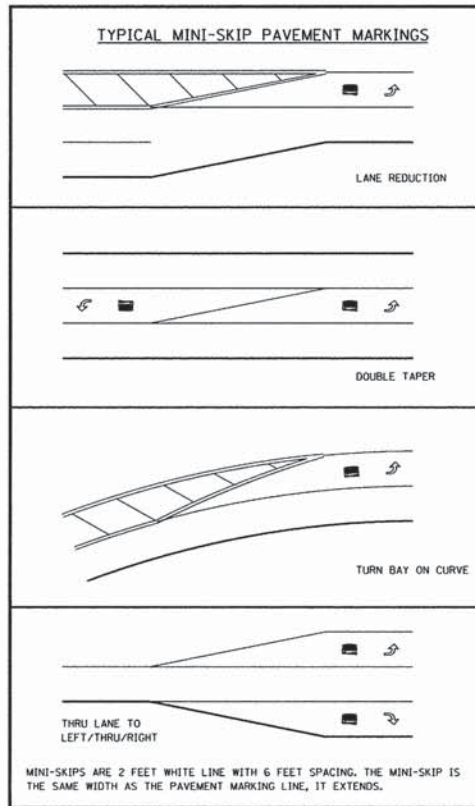
GR&EF
 8501 W. Higgins Road Suite 280
 Chicago, Illinois 60631
 (773) 379-0112

USER NAME = 1485
 DESIGNED - RS
 DRAWN - ED
 CHECKED - TS
 PLOT DATE = 1/29/2015
 DATE - 12/17/2014

REVISED -
 REVISED -
 REVISED -
 REVISED -
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

US 12 (RAND ROAD) AT ELA ROAD
LAKE COUNTY DETAILS
 SCALE: 1"=50' SHEET 1 OF 4 SHEETS STA. TO STA.

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|----------------|--------|--------------|-----------|
| 334 | 02-00063-00-CH | LAKE | 86 | 66 |
| CONTRACT NO. 61A94 | | | | |
| [ILLINOIS] FED. AID PROJECT CMF-0334(014) | | | | |



| REVISIONS / REMARKS | | | | |
|---------------------|-------------|------|----|----------|
| NO. | DESCRIPTION | DATE | BY | SURVEYOR |
| | | | | |
| | | | | |

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LakeCounty
Division of Transportation

PROJECT NAME
LAKE COUNTY STANDARDS & DETAILS

| ROUTE | SECTION | SECTION NUMBER | SHEET | SHEETS |
|-------|---------|----------------|-------|--------|
| CHXX | XXX | XX-XXXXX-XX-XX | XXX | XXX |

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| PLOT DATE = 1/29/2015 | CHECKED - TS | REVISED - |
| | DATE - 12/17/2014 | REVISED - |

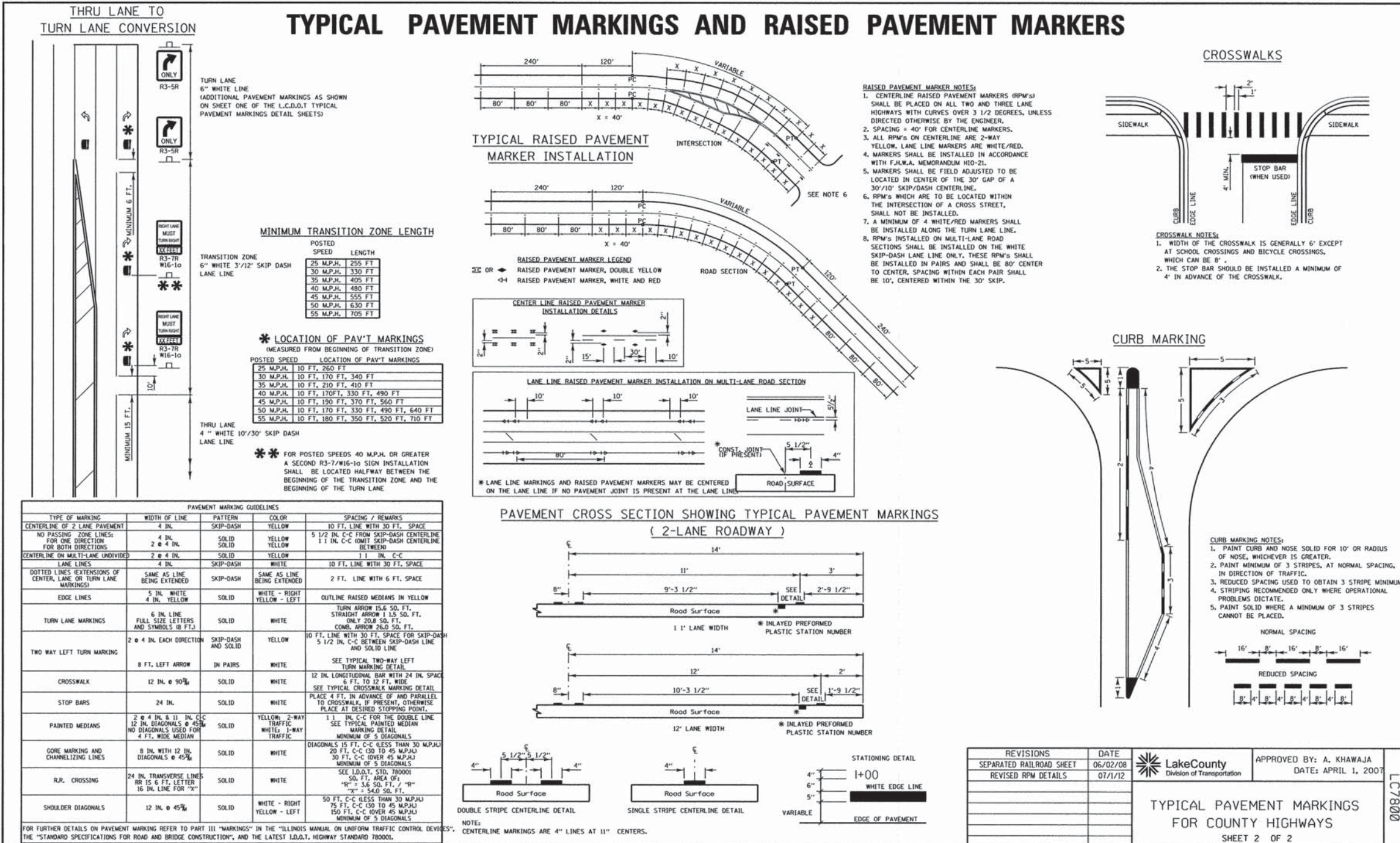
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

US 12 (RAND ROAD) AT ELA ROAD
LAKE COUNTY DETAILS

SCALE: 1"=50' SHEET 2 OF 4 SHEETS STA. TO STA.

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|-------------|----------------|--------|--------------|-----------|
| 334 | 02-00063-00-CH | LAKE | 86 | 67 |

CONTRACT NO. 61A94
ILLINOIS FED. AID PROJECT CMF-0334(014)



| | | | | | |
|--|--|--|--|---|--------|
| REVISIONS / REMARKS NO. DESCRIPTION DATE BY SURVEYORS / / / / / / / / / / / / / / / / / / | | PROJECT NAME LAKE COUNTY STANDARDS & DETAILS | ROUTE SECTION CHXX XXX XX-XXXX-XX-XX | APPROVED BY: A. KHAWAJA DATE: APRIL 1, 2007 | LC7800 |
|--|--|--|--|---|--------|

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USER NAME = 1485

PLOT SCALE = 50,0000' / in.

PLOT DATE = 1/29/2015

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

US 12 (RAND ROAD) AT ELA ROAD
LAKE COUNTY DETAILS

SCALE: 1"=50'

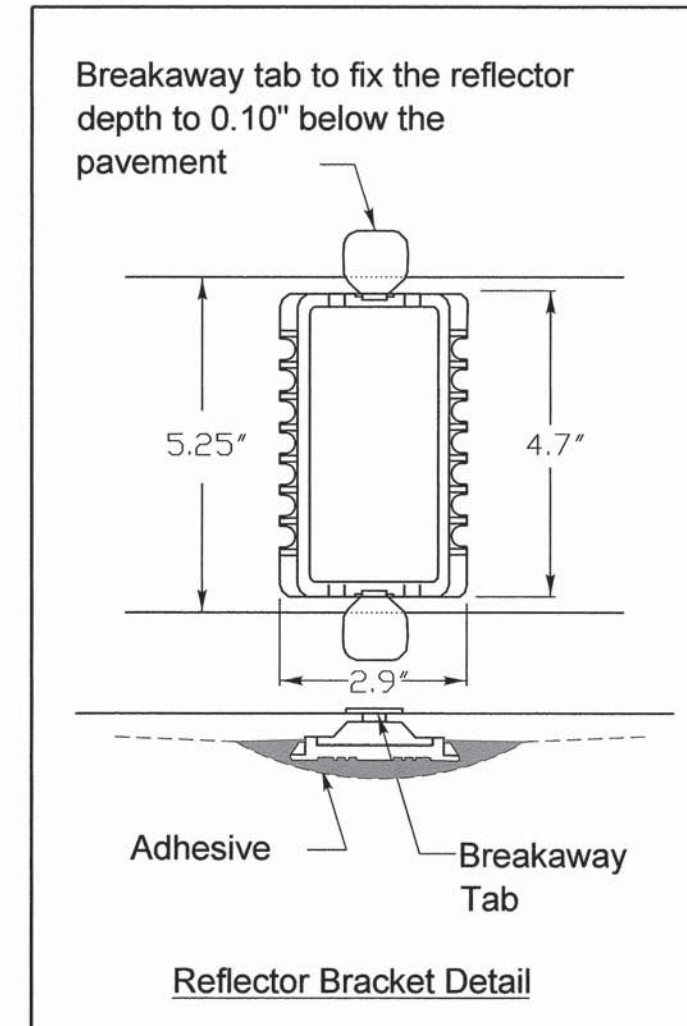
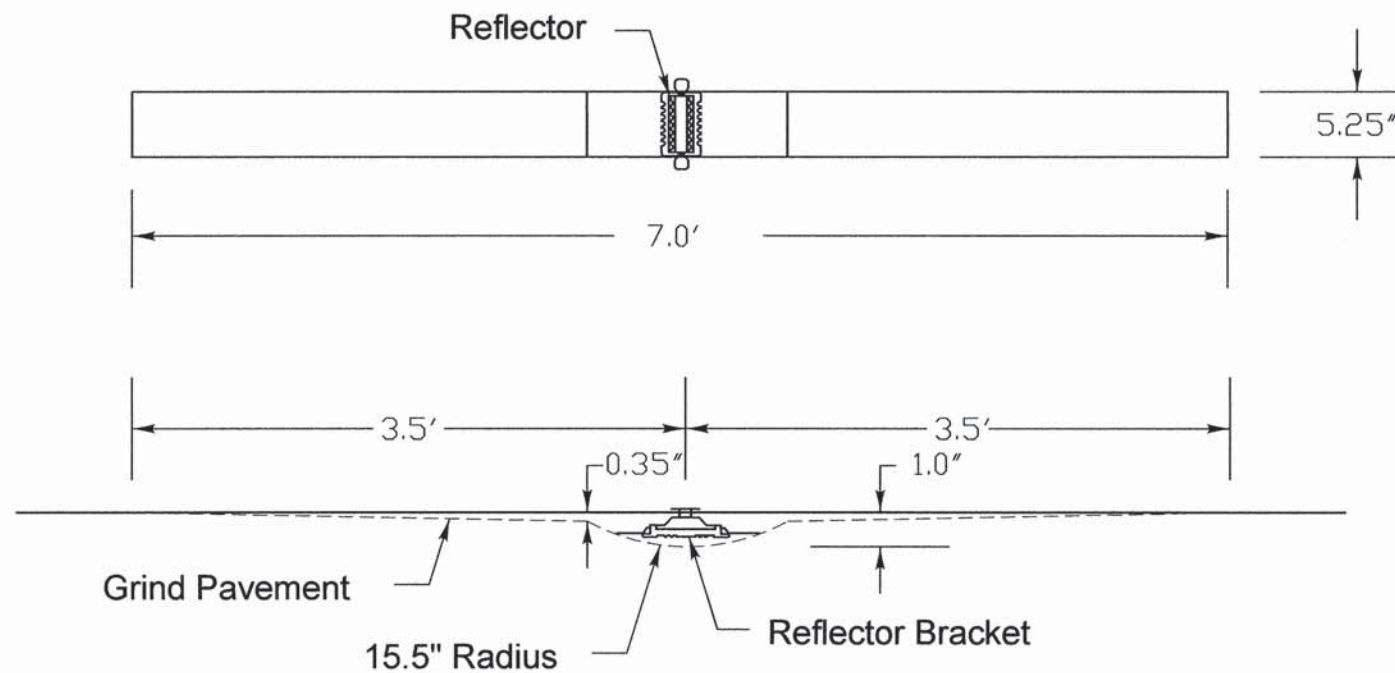
SHEET 3 OF 4 SHEETS STA. TO STA.

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|-------------|---------------|--------|--------------|-----------|
| 334 | 02-0063-00-CH | LAKE | 86 | 68 |

CONTRACT NO. 61A94

ILLINOIS FED. AID PROJECT CMF-0334(014)


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Notes

1. The reflective pavement marker lens shall be a 3M 190 series pavement marker or an approved equal.
2. The reflector bracket shall be made of a polycarbonate and shall be a MarkerOne Series R100 or an approved equal.
3. The adhesive used shall meet the requirements of AASHTO M237 specification for adhesives to be used in cementing asphalt surfaces.
4. Markers shall be placed at 40' intervals on lane lines and painted medians and 40' intervals on curves and approaching intersections as shown on LCDOT standard LC7800.

| REVISIONS | DATE |
|-----------|------|
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 APPROVED BY: JN
 DATE: 12/02/13

**RECESSED REFLECTIVE
PAVEMENT MARKER**

LC7805

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| USER NAME = 1485 | DESIGNED - RS | REVISED - |
| PLOT SCALE = 50.0000' / in. | DRAWN - ED | REVISED - |
| PLOT DATE = 1/29/2015 | CHECKED - TS | REVISED - |
| | DATE - 12/17/2014 | REVISED - |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

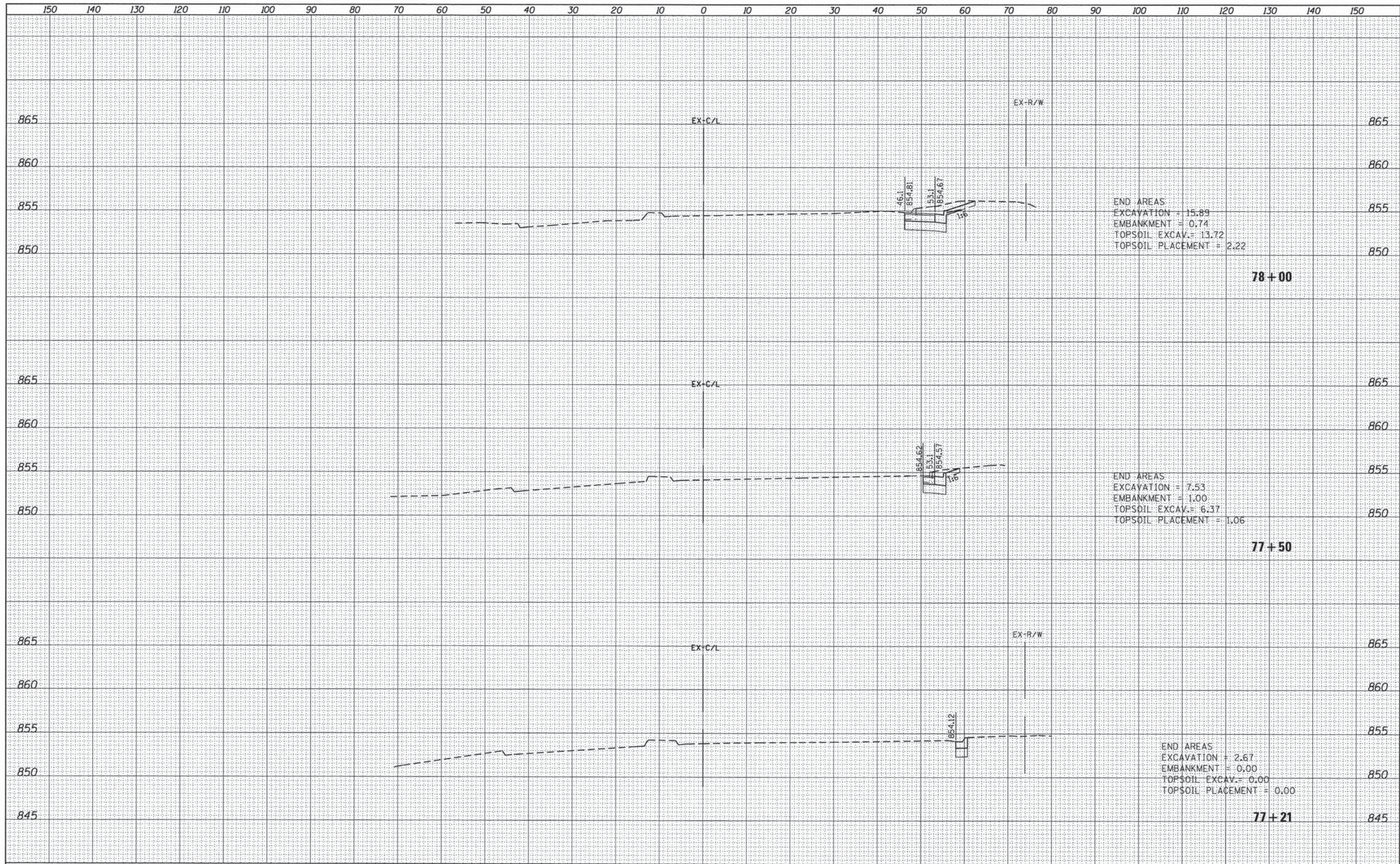
**US 12 (RAND ROAD) AT ELA ROAD
LAKE COUNTY DETAILS**

SCALE: 1"=50' SHEET 4 OF 4 SHEETS STA. TO STA.

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|---------------|--------|--------------|-----------|
| 334 | 02-0063-00-CH | LAKE | 86 | 69 |
| CONTRACT NO. 61A94 | | | | |
| ILLINOIS FED. AID PROJECT CMF-0334(014) | | | | |

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| DATE | |
| BY | |
| SUBMITTED | |
| FINAL SURVEY | |
| NOTE BOOK | |
| TEMPLATE | |
| AREAS | |
| AREAS CHECKED | |

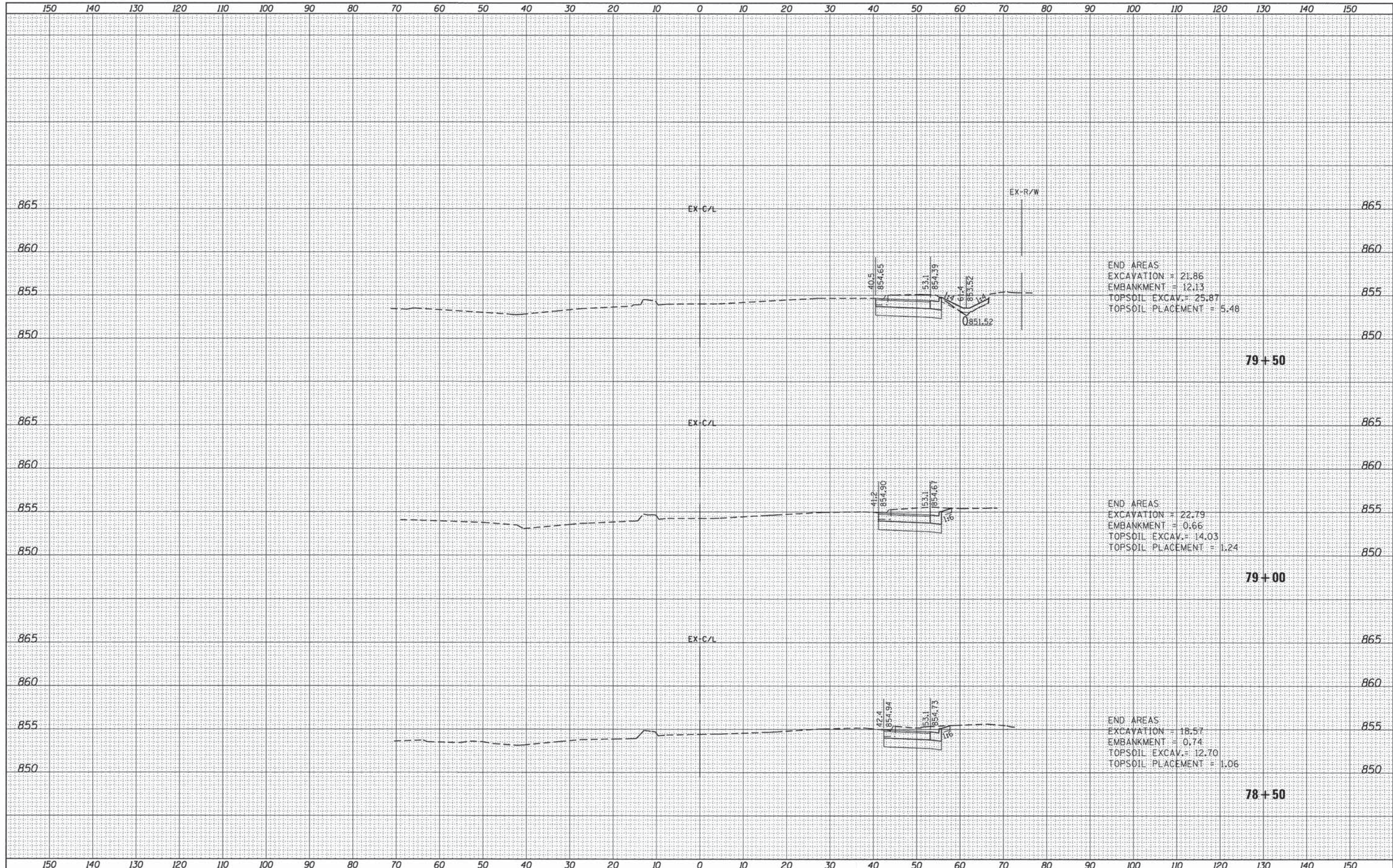
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| DATE | |
| BY | |
| SUBMITTED | |
| ORIGINAL SURVEY | |
| NOTE BOOK | |
| TEMPLATE | |
| AREAS | |
| AREAS CHECKED | |



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| PLOT SCALE = 10.0000' / 1" = | DRAWN - ED | CHECKED - TS | REVISED - | | | SCALE: SHEET 1 OF 12 SHEETS | STA. 77+21 TO STA. 78+00 | CONTRACT NO. 61A94 | | | | |
| Default | DATE - 12/17/2014 | REVISED - | | | | ILLINOIS FED. AID PROJECT CMF-03340141 | | | | | | |
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FINAL SURVEY BY DATE
 SURVEYED BY DATE
 TEMPLATE NO.
 NOTE BOOK NO.
 AREAS CHECKED

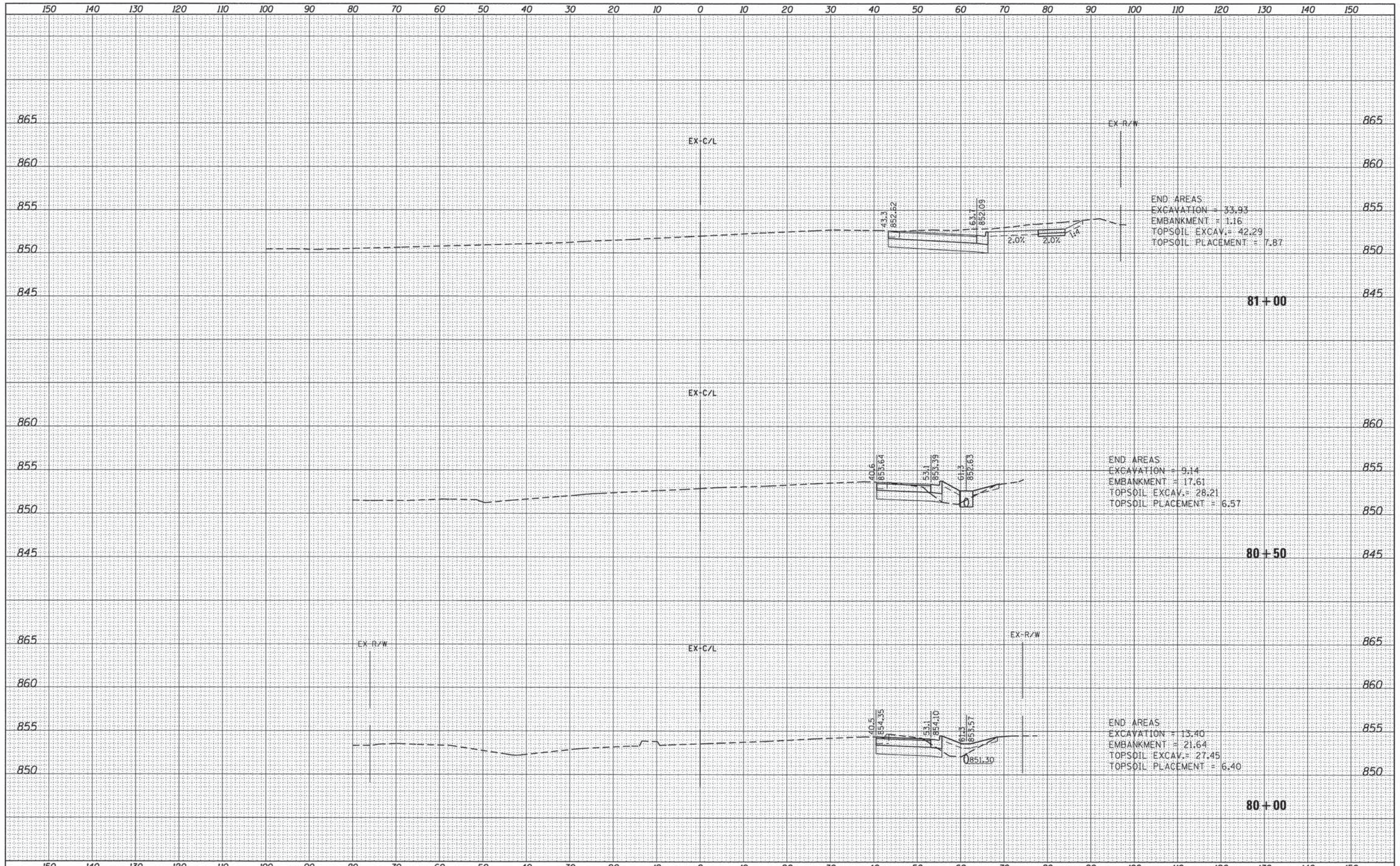
ORIGINAL SURVEY BY DATE
 SURVEYED BY DATE
 TEMPLATE NO.
 NOTE BOOK NO.
 AREAS CHECKED



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| FILE NAME = H:\Jobs\2014\20143001\CAD\Site\rdgn\00\0161A94-01-XS_RandRd.dgn | USER NAME = 1485 | DESIGNED - RS | REVISED - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | | | | US 12 (RAND ROAD) AT ELA ROAD CROSS SECTIONS - US 12 (RAND ROAD) | | | | F.A.P. RTE. 334 | SECTION 02-0063-00-CH | COUNTY LAKE | TOTAL SHEETS 86 | SHEET NO. 71 | | | |
| PLDT SCALE = 10.0000' / in. | PLDT DATE = 12/17/2014 | DRAWN - ED | REVISED - | | | | | | | | | SCALE: SHEET 2 OF 12 SHEETS STA. 78+50 TO STA. 79+50 | | | | CONTRACT NO. 61A94 | | | |
| | | CHECKED - TS | REVISED - | | | | | | | | | | | | | | | | |
| | | DATE - 12/17/2014 | REVISED - | | | | | | | | | | | | | | | | |

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| FINAL SURVEY | SURVEYED | DATE |
| NOTE BOOK | NO. | |
| TEMPLATE | AREAS CHECKED | |

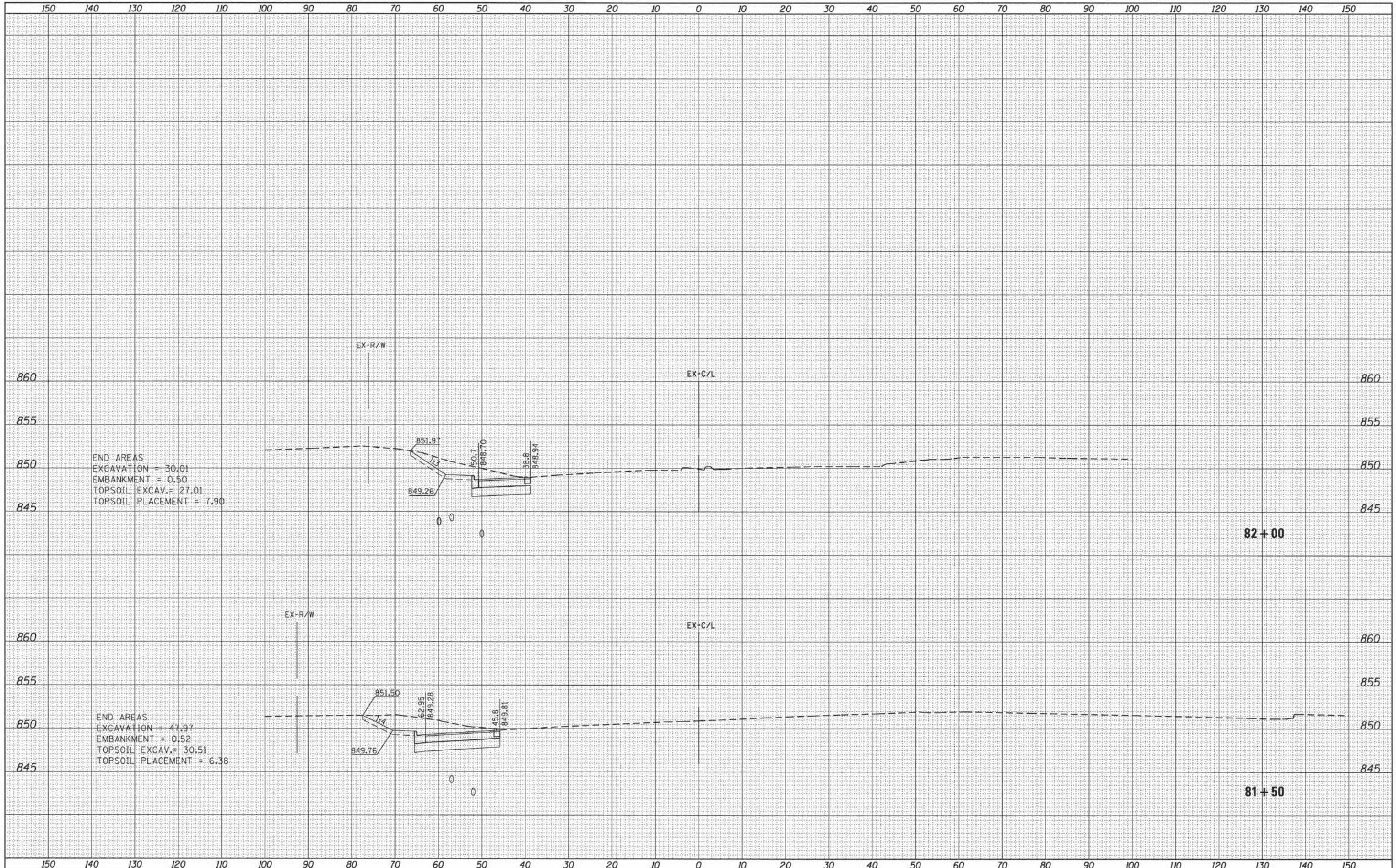
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| ORIGINAL SURVEY | SURVEYED | DATE |
| NOTE BOOK | NO. | |
| TEMPLATE | AREAS CHECKED | |



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|---|-------------------|---------------|-----------|---|---|----------------------|--------------------------|------------------------|-------------|-----------------|--------------|--|
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| PLOT SCALE = 10.0000' / 1" = | DESIGNED - ED | REVISED - | | | SCALE: | SHEET 3 OF 12 SHEETS | STA. 80+00 TO STA. 81+00 | CONTRACT NO. 61A94 | | | | |
| PLOT DATE = 12/17/2014 | CHECKED - TS | REVISED - | | | ILLINOIS FED. AID PROJECT CMF-033410140 | | | | | | | |
| | DATE - 12/17/2014 | REVISED - | | | | | | | | | | |

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| FINAL SURVEY | SURVEYED | DATE |
| NOTE BOOK | PLOTTED | |
| NO. | TEMPLATE | |
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| ORIGINAL SURVEY | SURVEYED | DATE |
| NOTE BOOK | PLOTTED | |
| NO. | TEMPLATE | |
| | AS | |
| | AREAS | |
| | CHECKED | |



END AREAS
 EXCAVATION = 30.01
 EMBANKMENT = 0.50
 TOPSOIL EXCAV. = 27.01
 TOPSOIL PLACEMENT = 7.90

END AREAS
 EXCAVATION = 47.97
 EMBANKMENT = 0.52
 TOPSOIL EXCAV. = 30.51
 TOPSOIL PLACEMENT = 6.38

FILE NAME = H:\Jobs\2014\20143001\CAD\Site\dgn\00\0161A94-sh-t-XS_RandR.dgn
 PLOT SCALE = 10.0000' / 1" =
 PLOT DATE = 12/17/2014

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|-------------------|---------------|-----------|
| USER NAME = 1485 | DESIGNED - RS | REVISED - |
| DRAWN - ED | CHECKED - TS | REVISIONS |
| DATE - 12/17/2014 | | |

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

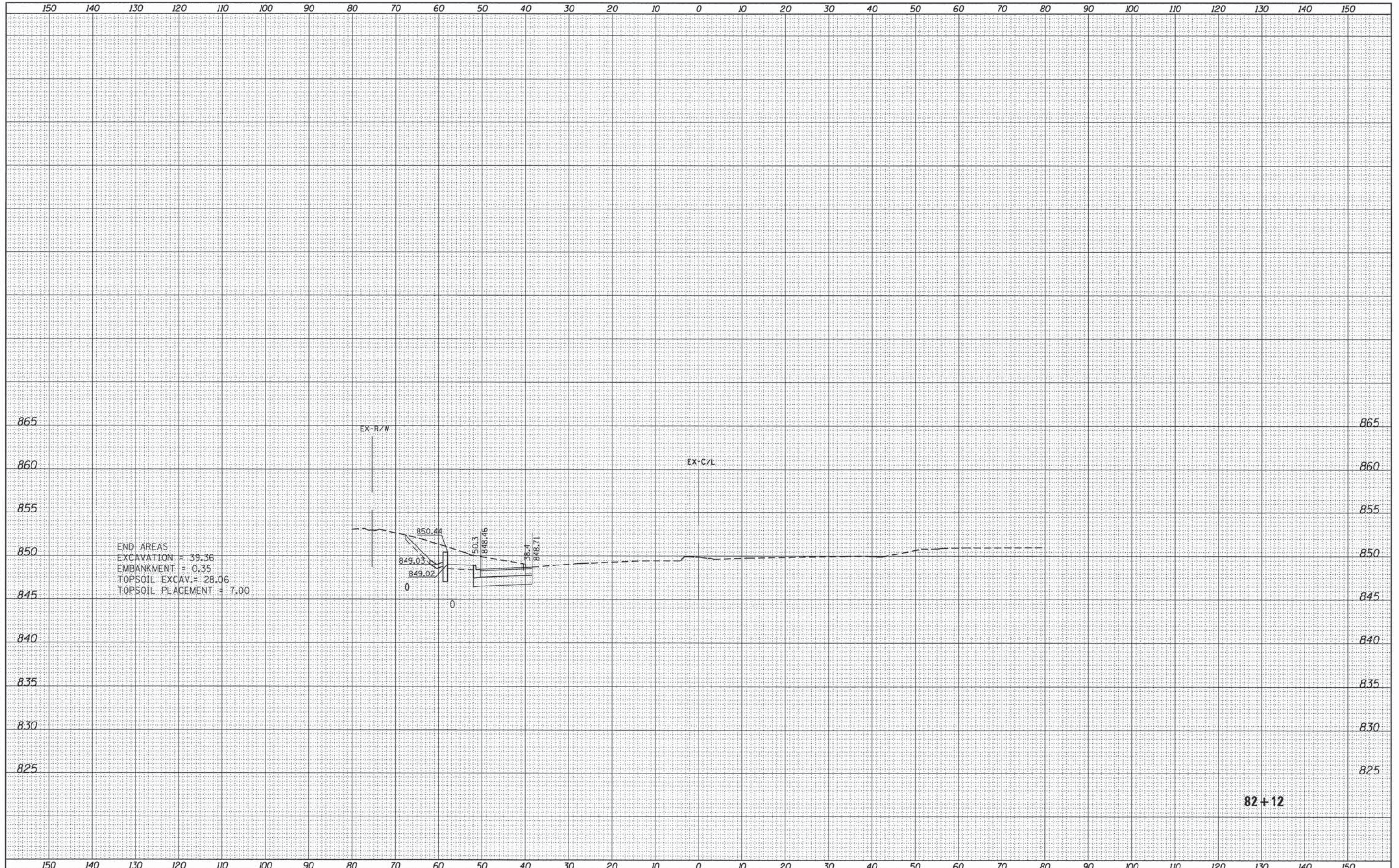
US 12 (RAND ROAD) AT ELA ROAD
 CROSS SECTIONS - US 12 (RAND ROAD)

SCALE: SHEET 6 OF 12 SHEETS STA. 81+50 TO STA. 82+00

| | | | | |
|--------------------|------------------------|-------------|--|--------------|
| F.A.P. RTE. 334 | SECTION 02-00063-00-CH | COUNTY LAKE | TOTAL SHEETS 86 | SHEET NO. 73 |
| CONTRACT NO. 61A94 | | | ILLINOIS FED. AID PROJECT CMF-03340141 | |

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| FINAL SURVEY | SUBMITTED | DATE |
| NOTE BOOK | PLOTTED | BY |
| NO. | TEMPLATE | |
| | AREAS | |
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| ORIGINAL SURVEY | SUBMITTED | DATE |
| NOTE BOOK | PLOTTED | BY |
| NO. | TEMPLATE | |
| | AREAS | |
| | CHECKED | |

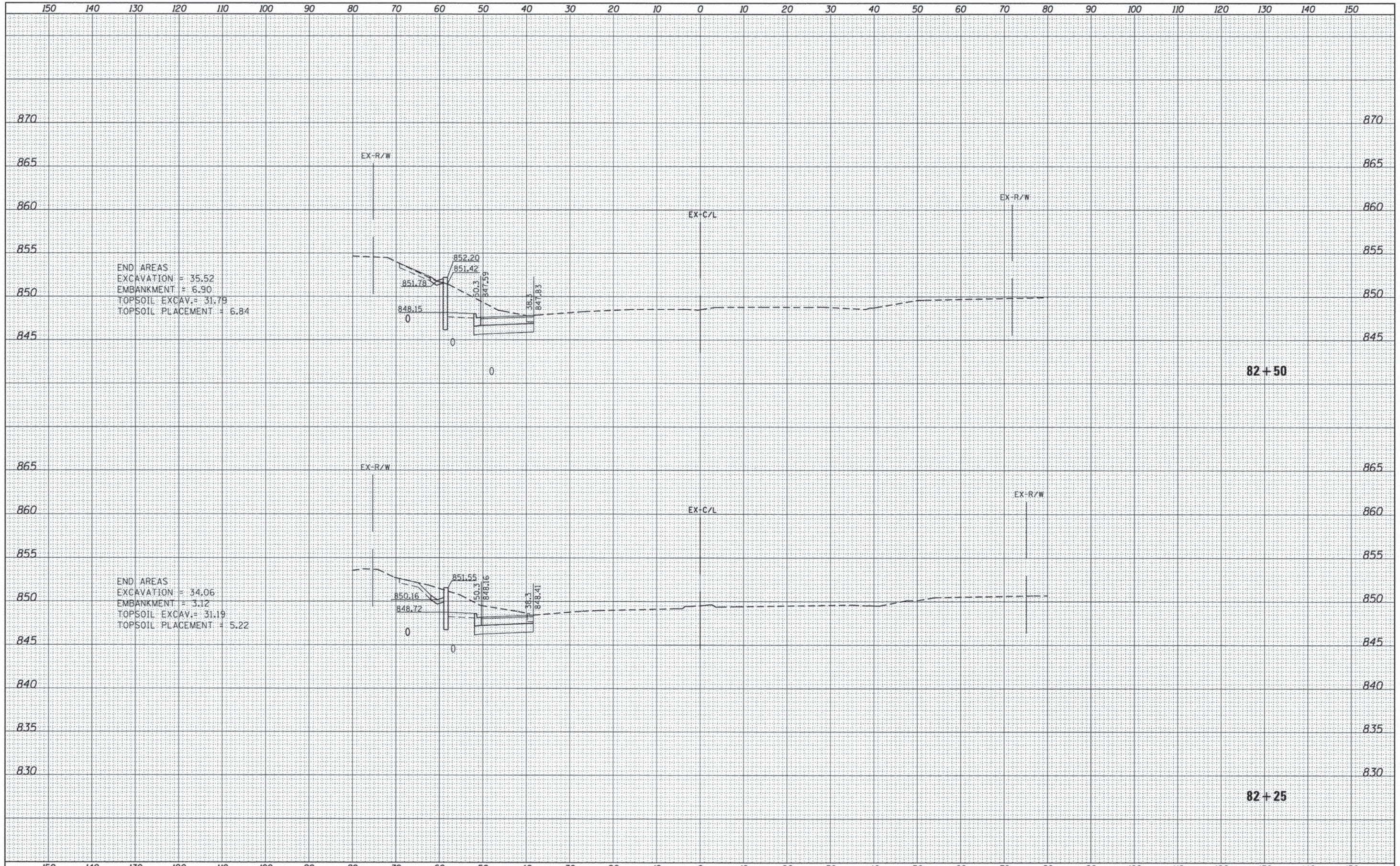


82+12

| | | | | | | | | | | |
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| FILE NAME = | USER NAME = 1485 | DESIGNED - RS | REVISED - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | US 12 (RAND ROAD) AT ELA ROAD CROSS SECTIONS - US 12 (RAND ROAD) | F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| H:\Jobs\2014\20143001\CAD\Site\00\0161A94-sh-t-XS_RandRd.dgn | | DRAWN - ED | REVISED - | | | 334 | 02-00063-00-CH | LAKE | 86 | 74 |
| PLOT SCALE = 10.0000' / in. | | CHECKED - TS | REVISED - | | | CONTRACT NO. 61A94 | | | | |
| Default | | DATE - 12/17/2014 | REVISED - | | | SCALE: | SHEET 7 OF 12 SHEETS | STA. 82+12 TO STA. 82+12 | ILLINOIS FED. AID PROJECT CMF-03340141 | |

| | |
|---------------|--|
| DATE | |
| BY | |
| SUBMITTED | |
| FINAL SURVEY | |
| NOTE BOOK | |
| TEMPLATE | |
| AREAS | |
| AREAS CHECKED | |
| NO. | |

| | |
|-----------------|--|
| DATE | |
| BY | |
| SUBMITTED | |
| ORIGINAL SURVEY | |
| NOTE BOOK | |
| TEMPLATE | |
| AREAS | |
| AREAS CHECKED | |
| NO. | |



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|---|-----------------------------|-------------------|-----------|
| FILE NAME = | USER NAME = 1485 | DESIGNED - RS | REVISED - |
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| Default | PLOT SCALE = 10.0000' / 1in | CHECKED - TS | REVISED - |
| | PLOT DATE = 12/17/2014 | DATE - 12/17/2014 | REVISED - |

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

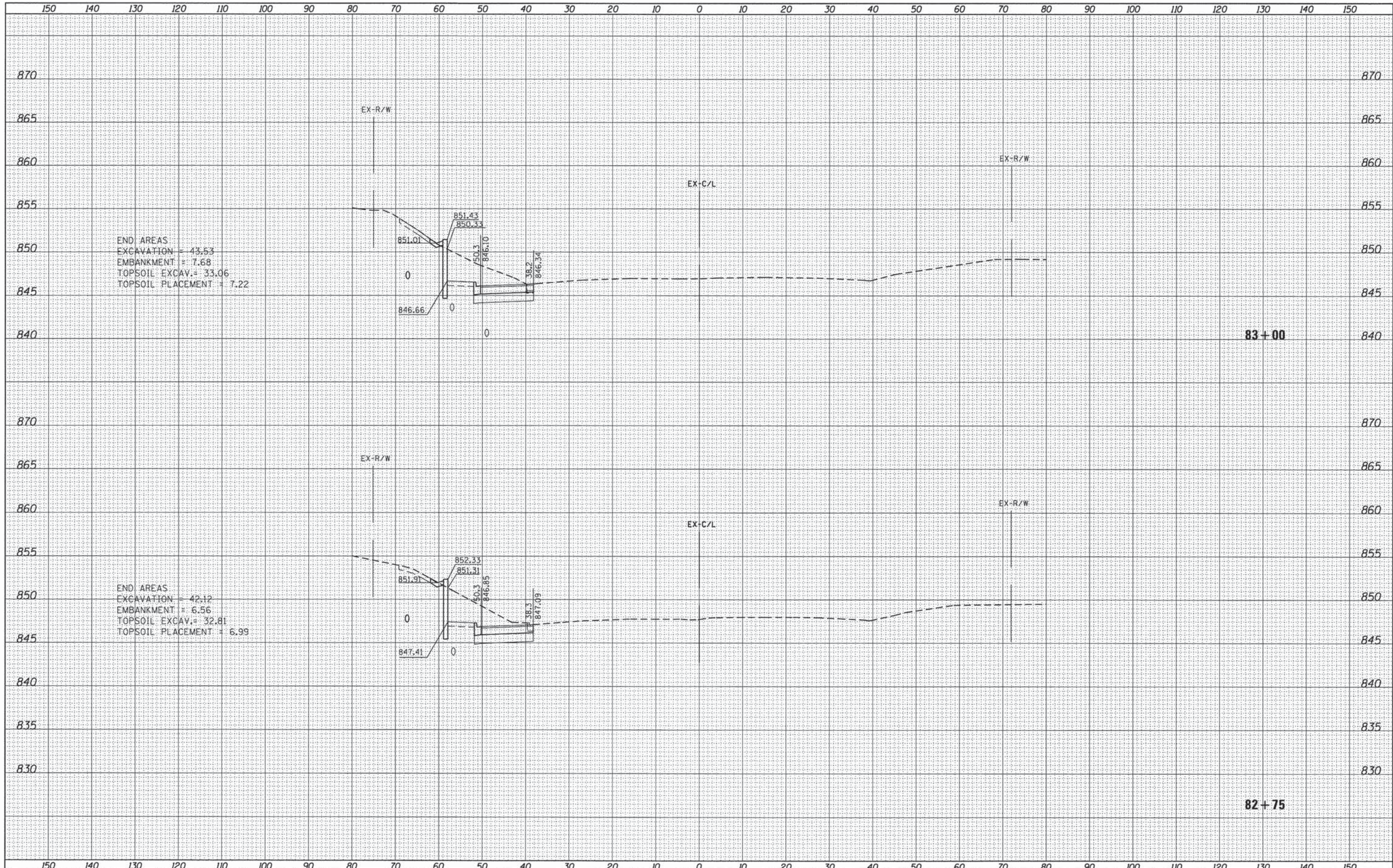
**US 12 (RAND ROAD) AT ELA ROAD
CROSS SECTIONS - US 12 (RAND ROAD)**

SCALE: SHEET 8 OF 12 SHEETS STA. 82+25 TO STA. 82+50

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|----------------|--------|--------------|-----------|
| 334 | 02-00063-00-CH | LAKE | 86 | 75 |
| CONTRACT NO. 61A94 | | | | |
| ILLINOIS FED. AID PROJECT CMF-033410141 | | | | |

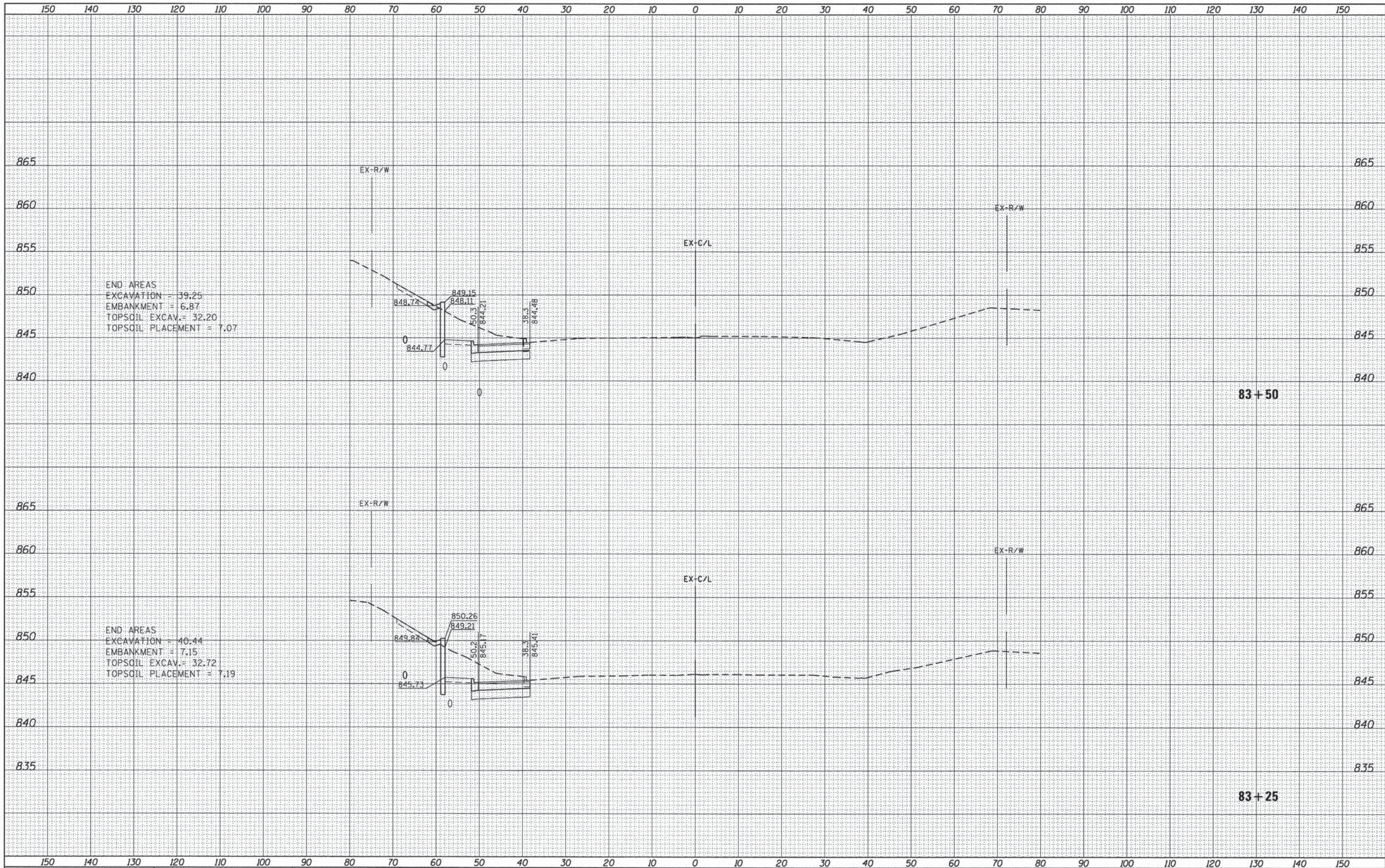
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| DATE | |
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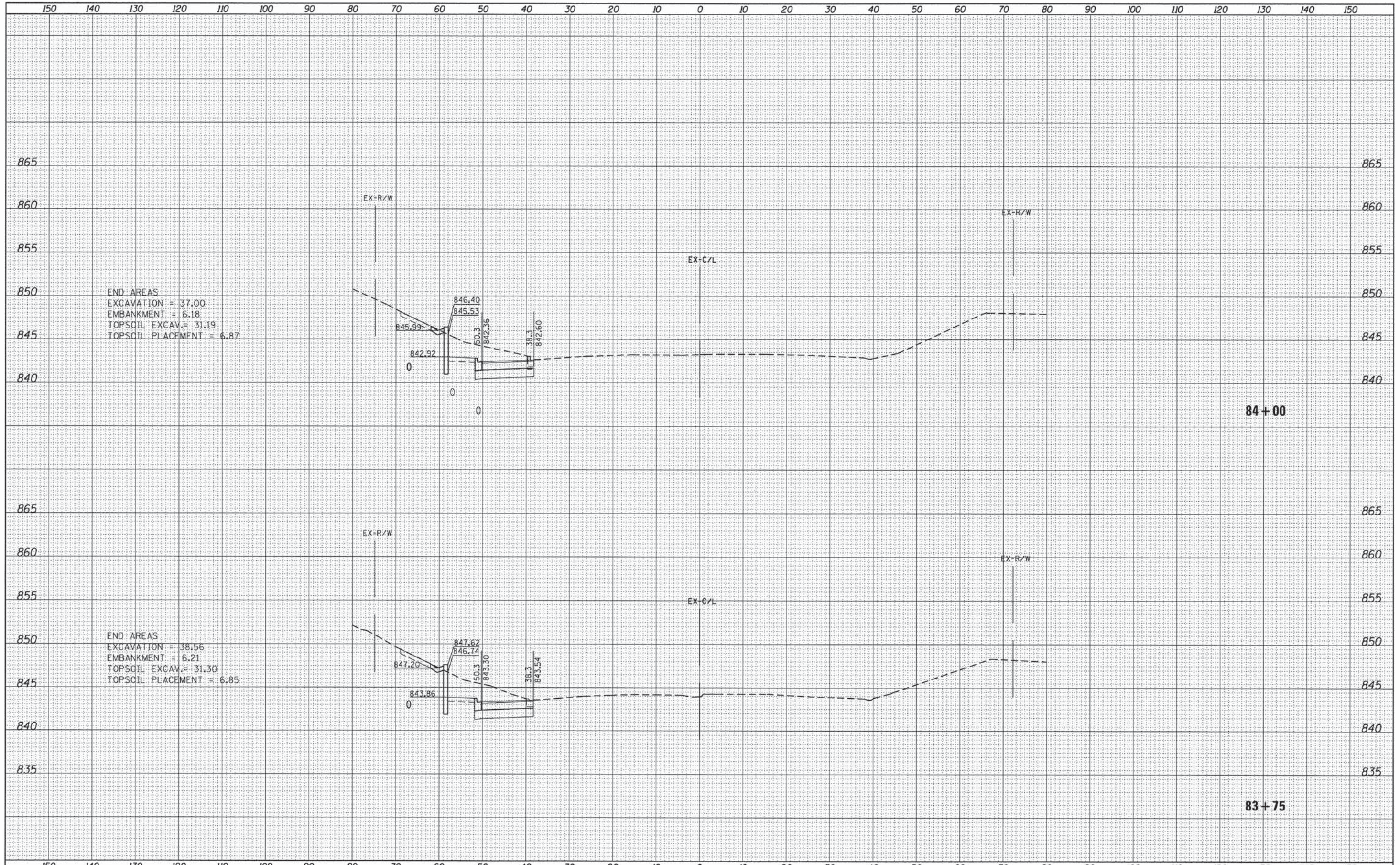
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| FILE NAME = | USER NAME = 1485 | DESIGNED - RS | REVISED - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | US 12 (RAND ROAD) AT ELA ROAD CROSS SECTIONS - US 12 (RAND ROAD) | F.A.P. RTE. 334 | SECTION 02-00063-00-CH | COUNTY LAKE | TOTAL SHEETS 86 | SHEET NO. 77 |
| H:\Jobs\2014\20143001\CAD\Site\tdgn\00\0161A94-s\1-XS_RandRd.dgn | PLLOT SCALE = 10.0000' / in. | DRAWN - ED | REVISED - | | | CONTRACT NO. 61A94 | | | | |
| Default | PLLOT DATE = 12/17/2014 | CHECKED - TS | REVISED - | | | SCALE: SHEET 10 OF SHEETS STA. 83+25 TO STA. 83+50 | | | | |
| | | DATE - 12/17/2014 | REVISED - | | | (ILLINOIS) FED. AID PROJECT CMF-0334(014) | | | | |

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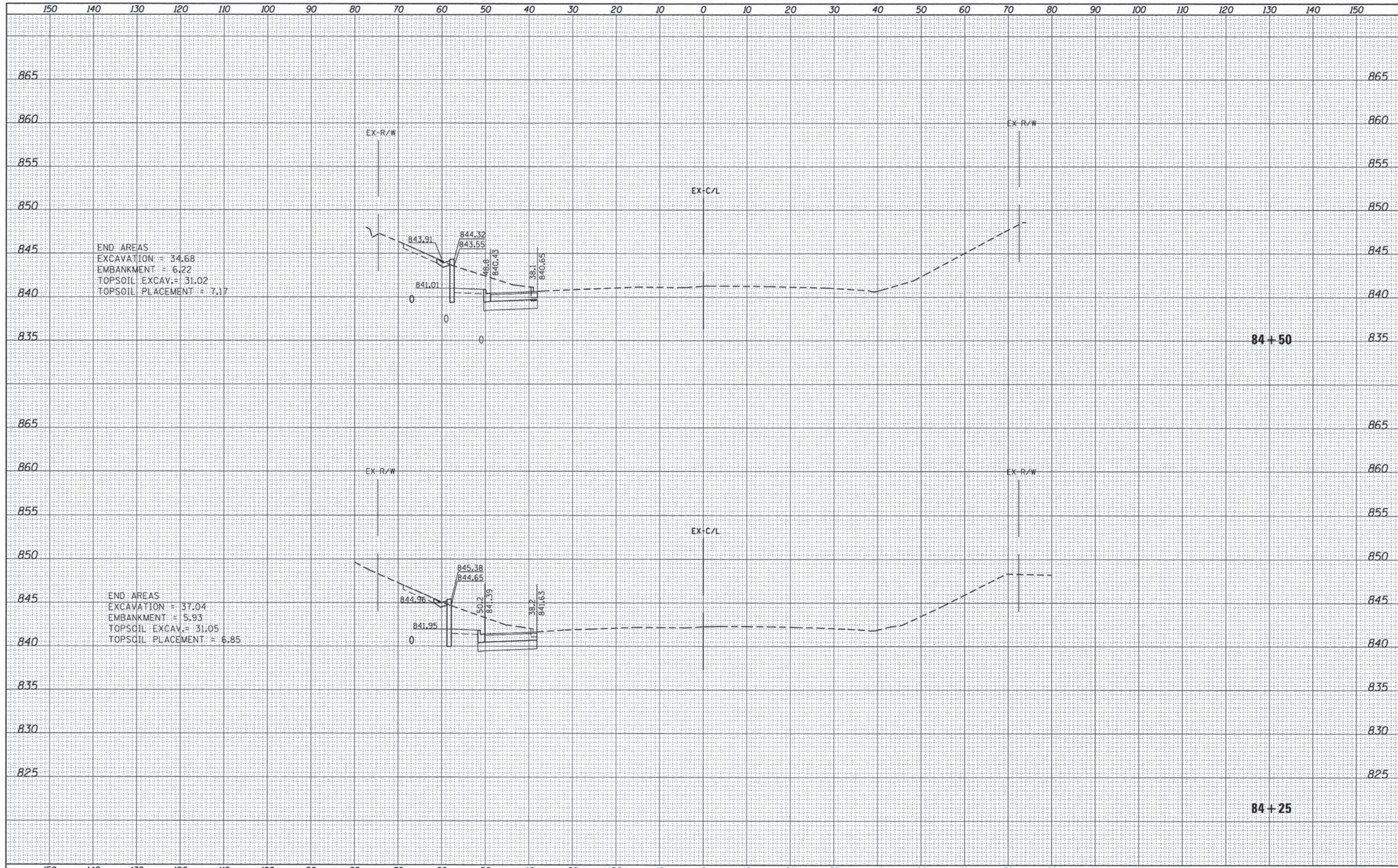
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| FILE NAME = | USER NAME = 1485 | DESIGNED - RS | REVISED - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | US 12 (RAND ROAD) AT ELA ROAD CROSS SECTIONS - US 12 (RAND ROAD) | F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| H:\Jobs\2014\2014300\1\CAD\Site\dgn\00\0161A94-s1-t-XS_RandRd.dgn | PLOT SCALE = 10.0000' / 1" | DRAWN - ED | REVISED - | | | 334 | 02-00063-00-CH | LAKE | 86 | 78 |
| Default | PLOT DATE = 12/17/2014 | CHECKED - TS | REVISED - | | | CONTRACT NO. 61A94 | | | | |
| | DATE = 12/17/2014 | DATE - 12/17/2014 | REVISED - | | | SCALE: SHEET 11 OF 12 SHEETS STA. 83+75 TO STA. 84+00 | | | ILLINOIS FED. AID PROJECT CMF-0334(014) | |

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END AREAS
 EXCAVATION = 34.68
 EMBANKMENT = 6.22
 TOPSOIL EXCAV. = 31.02
 TOPSOIL PLACEMENT = 7.17

END AREAS
 EXCAVATION = 37.04
 EMBANKMENT = 5.93
 TOPSOIL EXCAV. = 31.05
 TOPSOIL PLACEMENT = 6.85

FILE NAME = H:\Jobs2014\20143001\CAD\Site\dgn\010161A94.dgn
 USER NAME = 1485
 DESIGNED - RS
 DRAWN - ED
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 DATE - 12/17/2014

PLLOT SCALE = 10.0000' / in.
 PLOT DATE = 12/17/2014

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STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

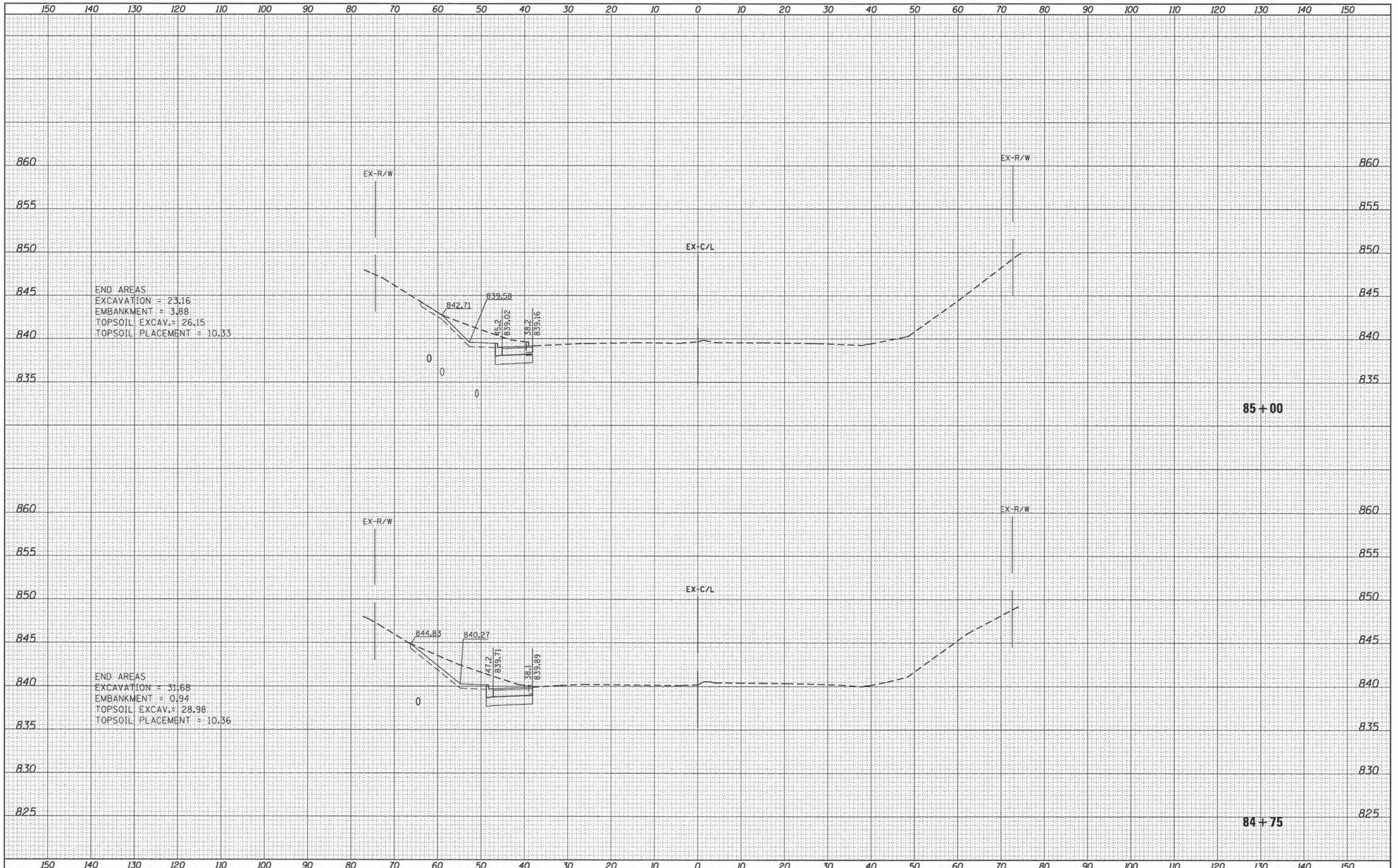
US 12 (RAND ROAD) AT ELA ROAD
 CROSS SECTIONS - US 12 (RAND ROAD)

SCALE: SHEET 12 OF 12 SHEETS STA. 84+25 TO STA. 84+50

| F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------|----------------|--------|---|-----------|
| 334 | 02-00063-00-CH | LAKE | 86 | 79 |
| CONTRACT NO. 61A94 | | | ILLINOIS FED. AID PROJECT CMF-0334(014) | |

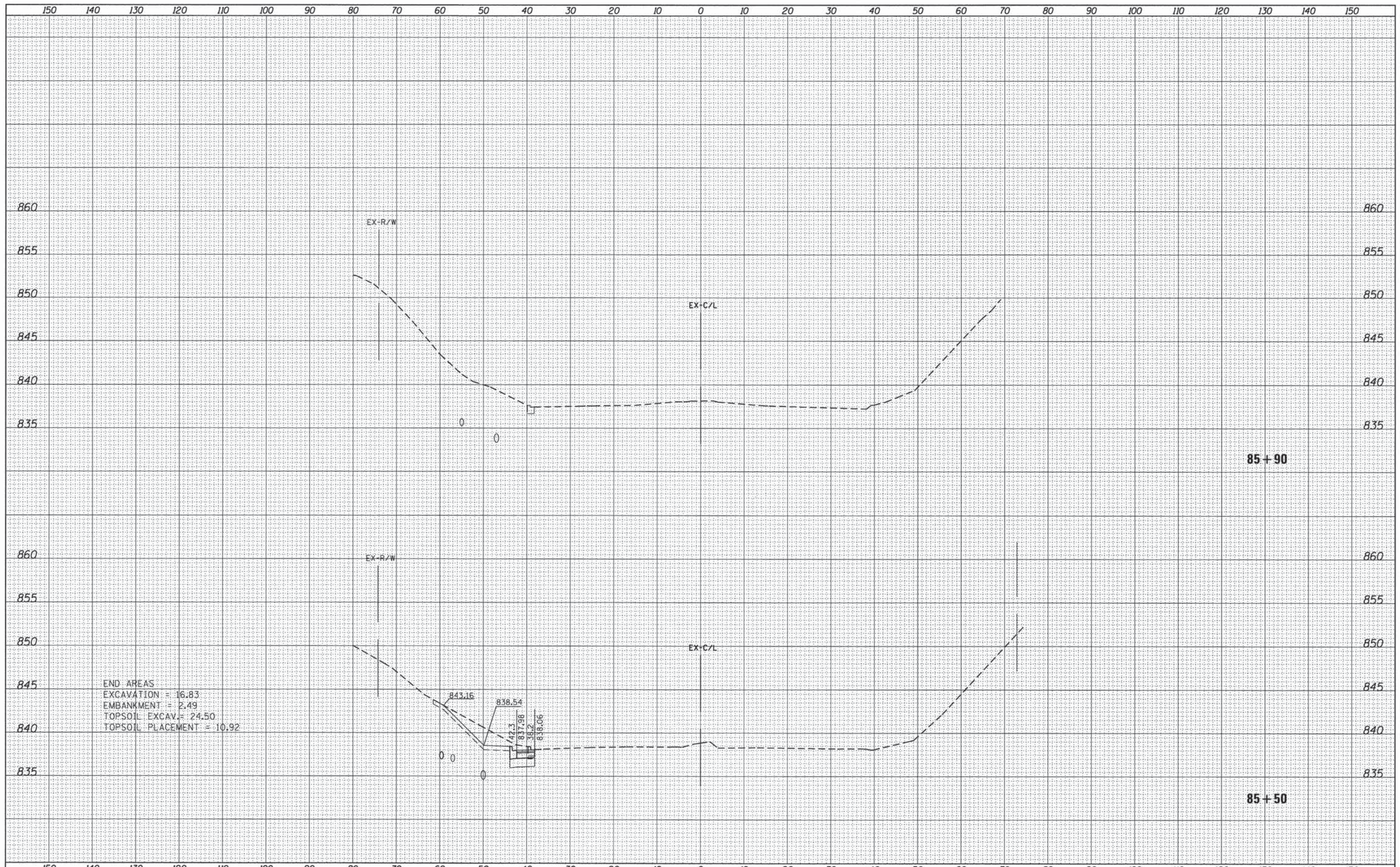
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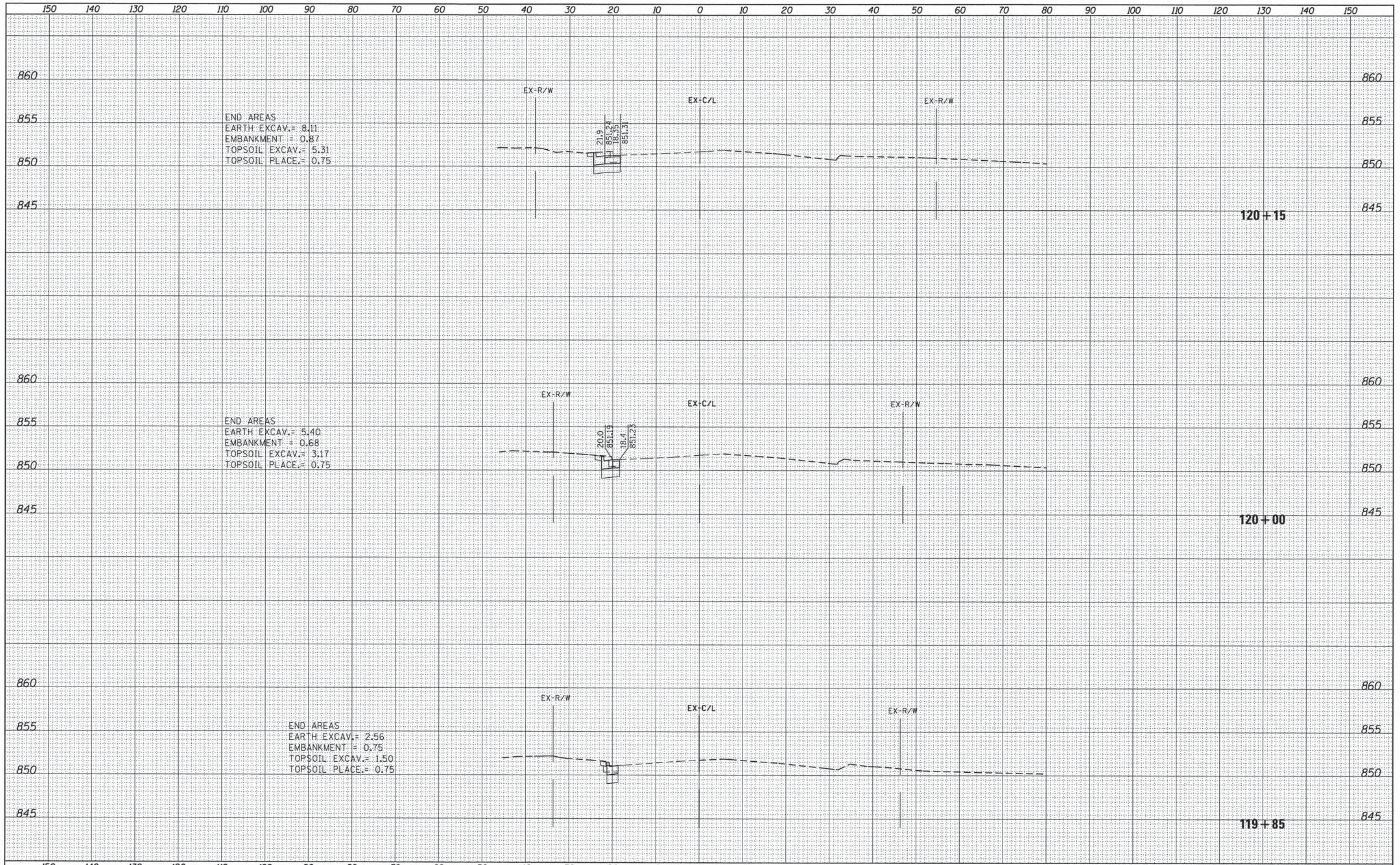
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| FILE NAME = | USER NAME = 1485 | DESIGNED - RS | REVISED - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | US 12 (RAND ROAD) AT ELA ROAD CROSS SECTIONS - US 12 (RAND ROAD) | | | | F.A.P. RTE. 334 | SECTION 02-0063-00-CH | COUNTY LAKE | TOTAL SHEETS 86 | SHEET NO. 81 |
| H:\Jobs\2014\20143001\CAD\Site\dgn\08\0161A94-01 | t-XS_RandRd.dgn | DRAWN - ED | REVISED - | | SCALE: | SHEET 12 | OF 12 | SHEETS | STA. 85+50 | TO STA. 86+00 | CONTRACT NO. 61A94 | | |
| Default | | CHECKED - TS | REVISED - | | ILLINOIS FED. AID PROJECT CMF-03340141 | | | | | | | | |
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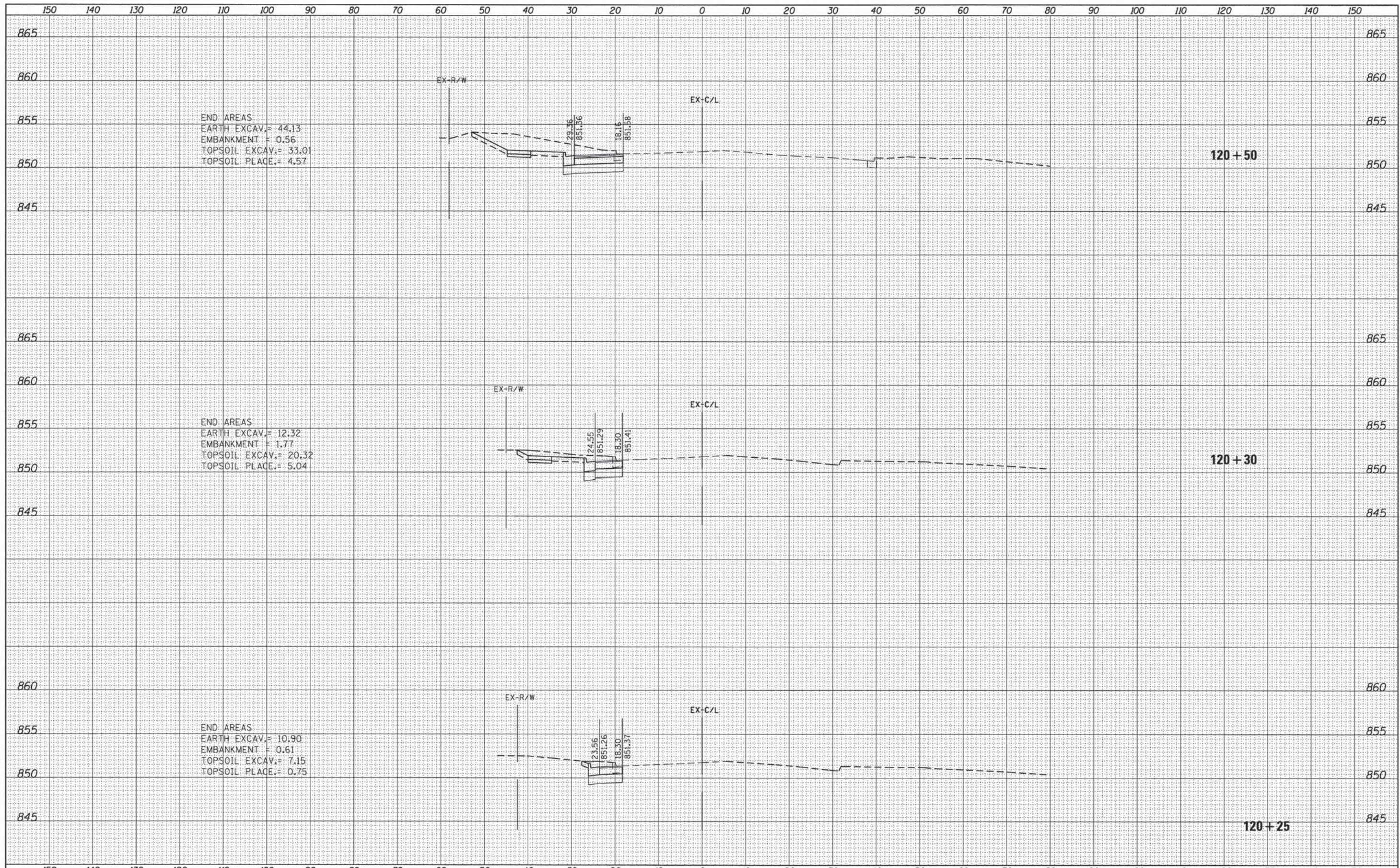
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| FILE NAME = H:\Jobs\2014\20143001\CAD\Site\dgn\00\0161A94-st-XS_ElaRd.dgn | USER NAME = 1485 | DESIGNED - RS | REVISIONS - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION US 12 (RAND ROAD) AT ELA ROAD CROSS SECTIONS - ELA ROAD | F.A.P. RTE. 334 | SECTION 02-00063-00-CH | COUNTY LAKE | TOTAL SHEETS 86 | SHEET NO. 82 |
| PLOT SCALE = 10,0000' / in. | CHECKED - TS | REVISIONS - | SCALE: SHEET 1 OF 5 SHEETS STA. 119+75 TO STA. 120+15 | | CONTRACT NO. 61A94 | | | | |
| PLOT DATE = 12/17/2014 | DATE - 12/17/2014 | REVISIONS - | | | ILLINOIS FED. AID PROJECT CMF-0334(014) | | | | |
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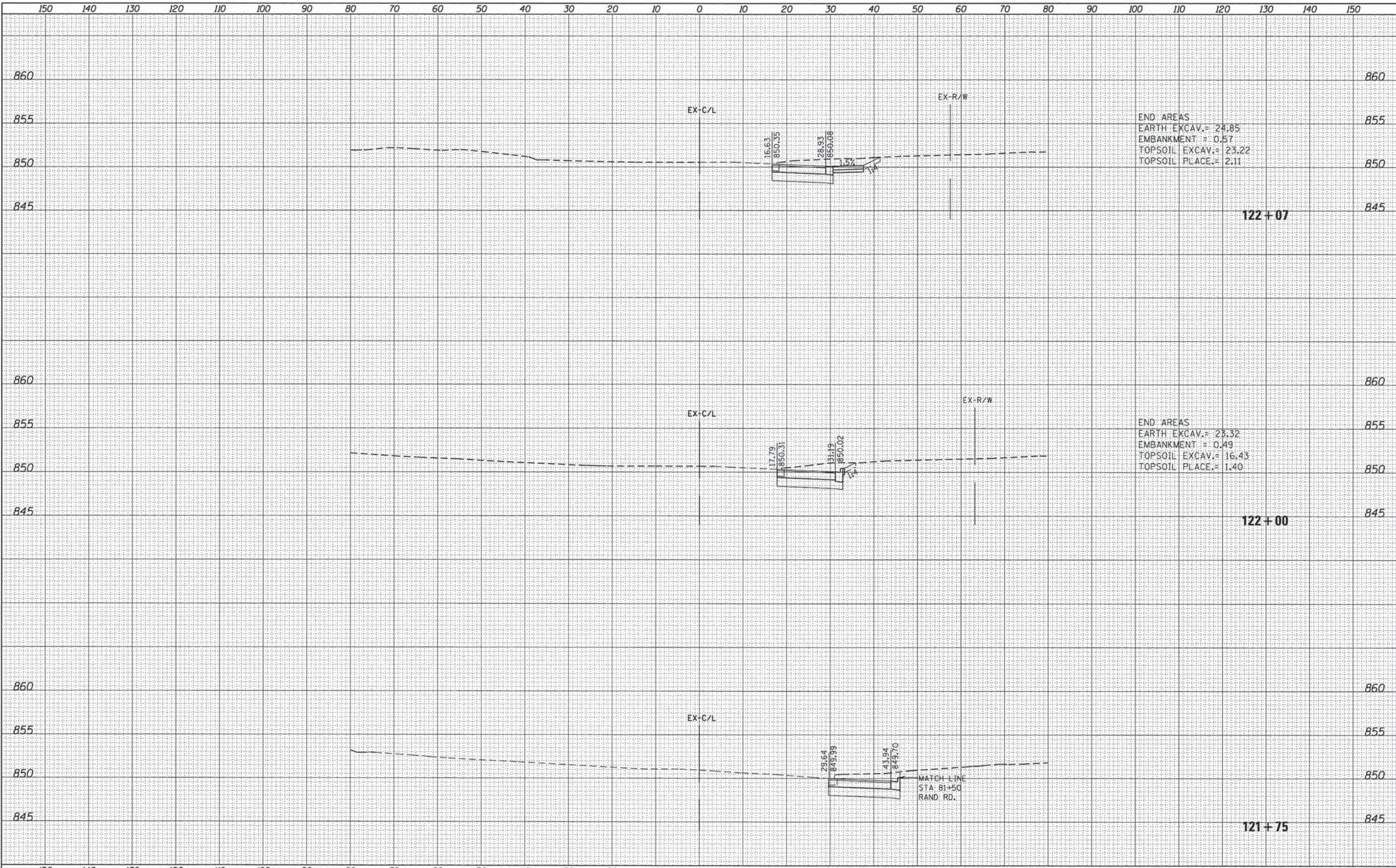
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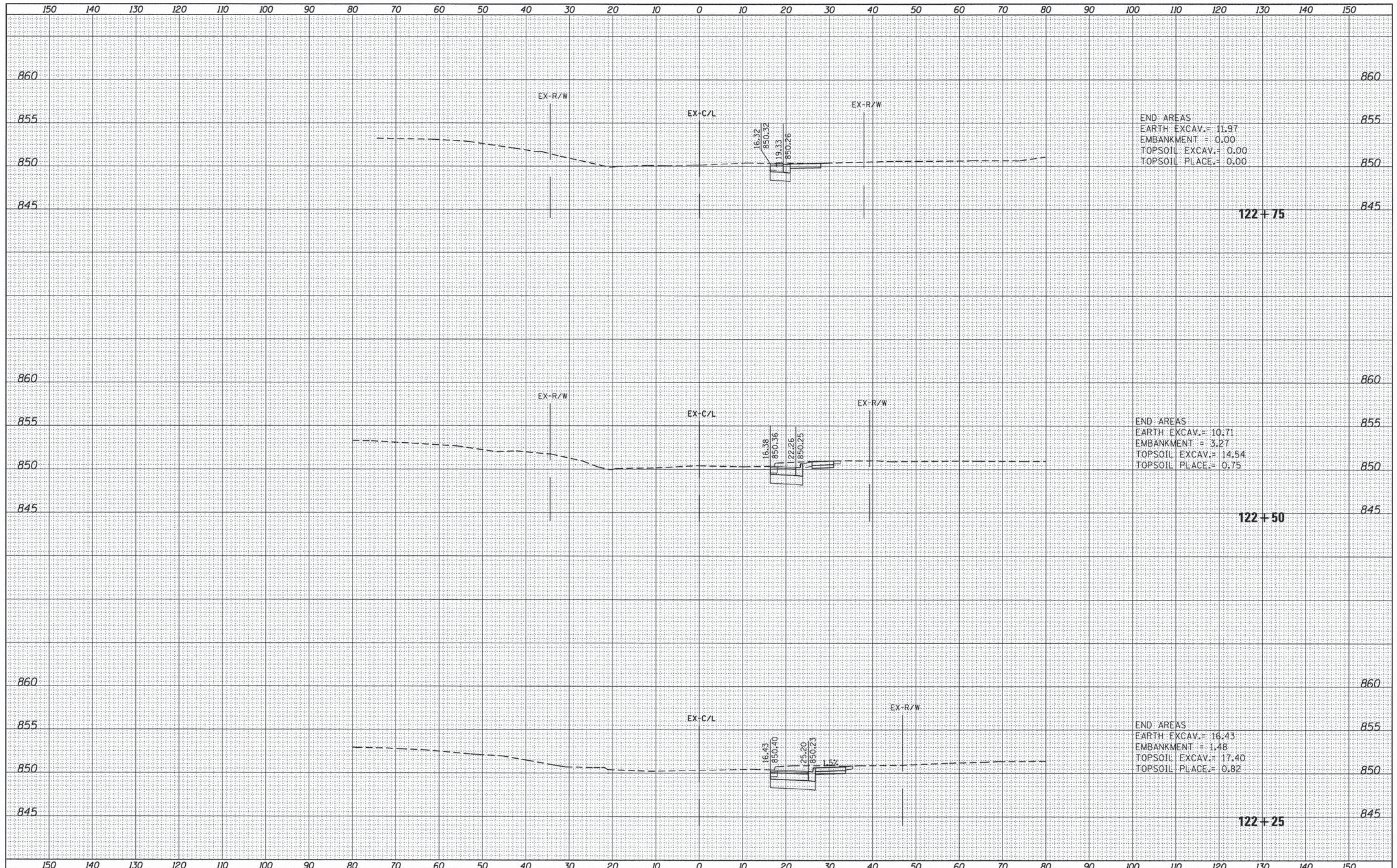


END AREAS
 EARTH EXCAV. = 24.85
 EMBANKMENT = 0.57
 TOPSOIL EXCAV. = 23.22
 TOPSOIL PLACE. = 2.11

END AREAS
 EARTH EXCAV. = 23.32
 EMBANKMENT = 0.49
 TOPSOIL EXCAV. = 16.43
 TOPSOIL PLACE. = 1.40

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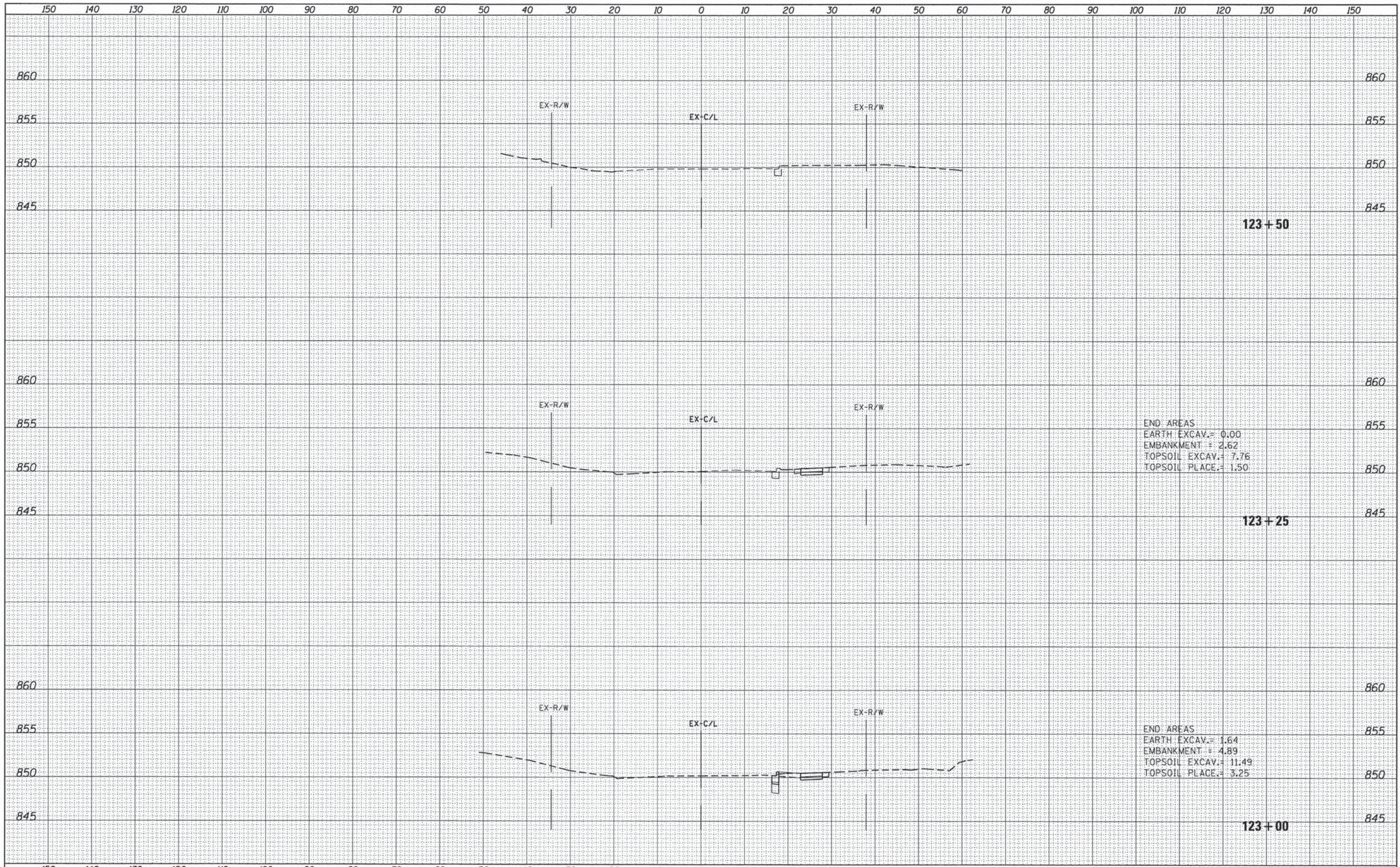
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| FILE NAME = | USER NAME = 1485 | DESIGNED - RS | REVISED - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | US 12 (RAND ROAD) AT ELA ROAD CROSS SECTIONS - ELA ROAD | F.A.P. RTE. = | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| H:\Jobs\2014\20143001\CAD\Site\dgn\00\0161A94.dgn | t-XS_E1aR.dgn | DRAWN - ED | REVISED - | | | 334 | 02-00063-00-CH | LAKE | 86 | 85 |
| Default | PLOT SCALE = 10,0000' / 1" = | CHECKED - TS | REVISED - | | | CONTRACT NO. 61A94 | | | | |
| | PLOT DATE = 12/17/2014 | DATE - 12/17/2014 | REVISED - | | | SCALE: | SHEET 4 OF 5 SHEETS | STA. 122+25 TO STA. 122+75 | ILLINOIS FED. AID PROJECT CMF-03340140 | |

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END AREAS
 EARTH EXCAV. = 0.00
 EMBANKMENT = 2.62
 TOPSOIL EXCAV. = 7.76
 TOPSOIL PLACE. = 1.50

END AREAS
 EARTH EXCAV. = 1.64
 EMBANKMENT = 4.89
 TOPSOIL EXCAV. = 11.49
 TOPSOIL PLACE. = 3.25

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| FILE NAME = | USER NAME = 1485 | DESIGNED - RS | REVISED - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | | | | US 12 (RAND ROAD) AT ELA ROAD | | | | F.A.P. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| H:\Jobs2014\20143001\CAD\Site\tdgn\00\10161A94.dgn | PLT-XS_ElaRd.dgn | DRAWN - ED | REVISED - | | | | | SCALE: | SHEET 5 | OF 5 | SHEETS | STA. 123+00 | TO STA. 123+50 | 334 | 02-0063-00-CH | LAKE |
| Default | PLOT SCALE = 10.0000' / in. | CHECKED - TS | REVISED - | | | | | CONTRACT NO. 61A94 | | | | ILLINOIS FED. AID PROJECT CMF-0334(014) | | | | |
| | PLOT DATE = 12/17/2014 | DATE - 12/17/2014 | REVISED - | | | | | | | | | | | | | |