

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**  
**DIVISION OF HIGHWAYS**  
**PROPOSED**  
**HIGHWAY PLANS**  
**F.A.S. ROUTE 919 (MAKANDA ROAD)**  
**SECTION 8B-2 & 8B-3**  
**PROJECT ACRS-0919 (114)**  
**JACKSON COUNTY**  
**C-99-076-010**  
**SUPERSTRUCTURE REPLACEMENT**  
**OVER DRURY CREEK**

| F.A.S. RTE.         | SECTION     | COUNTY             | TOTAL SHEETS | SHEET NO. |
|---------------------|-------------|--------------------|--------------|-----------|
| 919                 | 8B-2 & 8B-3 | JACKSON            | 69           | 1         |
| FED. ROAD DIST. NO. | ILLINOIS    | CONTRACT NO. 78217 |              |           |

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**UTILITIES**

BUNCOMBE PUBLIC WATER  
 P.O. BOX 33  
 MAKANDA, IL 62956  
 ATTN: KAREN DUNN

AMEREN ILLINOIS  
 P.O. BOX 460  
 MARION, IL 62959  
 ATTN: JOE REINHARD

AMEREN GAS TRANSMISSION  
 370 S. MAIN  
 DECATUR, IL 62523  
 ATTN: MICHAEL WETHERELL

EGYPTIAN ELECTRIC COOP  
 10169 OLD HWY. 13  
 MURPHYSBORO, 62966  
 ATTN: KENDALL BLUNSELMAYER

FRONTIER COMMUNICATIONS  
 208 W. UNION  
 MARION, IL 62959  
 ATTN: RICK SHAW

MCI  
 P.O. BOX 387  
 SUMMIT, IL 60501  
 ATTN: TOM BUHER

360 NETWORKS/ZAYO GROUP  
 900 CAMBRIDGE CT.  
 GODFREY, IL 62035  
 ATTN: TIM PLANK

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



TOWNSHIP : MAKANDA

TRAFFIC DATA

|                            |                             |
|----------------------------|-----------------------------|
| FUNCTIONAL CLASSIFICATION: | MAJOR COLLECTOR (NON URBAN) |
| DESIGN SPEED:              | 35 MPH                      |
| POSTED SPEED:              | 35 MPH                      |
| ADT:                       | 640 (2014)                  |
| PV:                        | 80%                         |
| TRUCKS:                    | 10%                         |

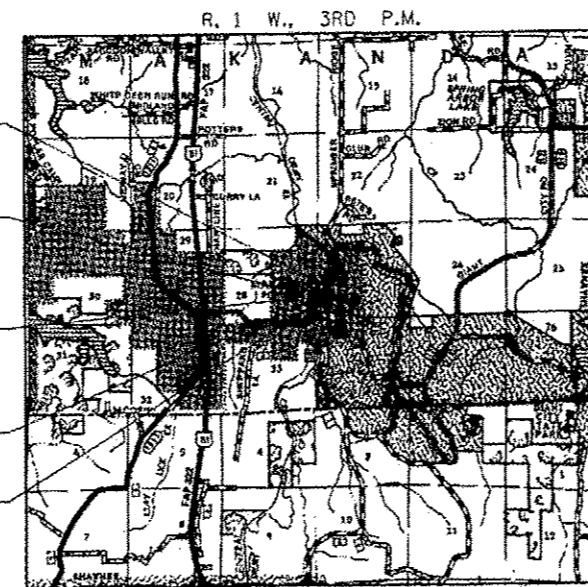
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION  
 DIVISION OF HIGHWAYS

SUBMITTED Jan 30 2015

*Debra L. Keene*  
 DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

May 8 2015  
*John D. Baranelli, P.E.*  
 ENGINEER OF DESIGN AND ENVIRONMENT

May 8 2015  
*Emmet O'Connell, P.E.*  
 DIRECTOR OF HIGHWAYS, CHIEF ENGINEER



IMPROVEMENT ENDS  
 STATION 4+70

STATION 3+48 SN: 039-0055  
 PPC DECK BEAM SUPERSTRUCTURE REPLACEMENT  
 133'-0", BK.-BK. ABUTMENTS  
 36'-0" WIDTH.; SKEW = 0°

STATION 2+30 SN: 039-2031  
 DOUBLE 10' SPAN X 4' RISE PRECAST  
 CONCRETE BOX CULVERT WITH CAST IN  
 PLACE END SECTIONS  
 LENGTH 42'-0" O-O HDWL; SKEW = 0°

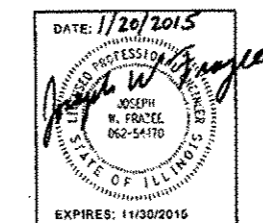
STATION EQUATION:  
 STA. 3+27.40 BK =  
 STA. 2+28.10 AH

IMPROVEMENT BEGINS  
 STATION 2+70

**LOCATION MAP**

APPROXIMATE SCALE: 0 1 MILE

NET LENGTH OF PROJECT = 299.30 FEET = 0.057 MILES  
 GROSS LENGTH OF PROJECT = 299.30 FEET = 0.057 MILES  
 ROADWAY LENGTH = 167.30 FEET = 0.032 MILES  
 BRIDGE LENGTH = 132.00 FEET = 0.025 MILES



**HAMPTON, LENZINI AND RENWICK, INC.**  
 CIVIL ENGINEERS • STRUCTURAL ENGINEERS • LAND SURVEYORS  
**HLR**  
 3085 STEVENSON DRIVE, SUITE 201  
 SPRINGFIELD, ILLINOIS 62703  
 217.548.3400 www.hlrengineering.com

**CONTRACT NO. 78217**

PROJECT ENGINEER: DAVID PICHE (618) 351-5227

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 OF THE STATE OF ILLINOIS**

**GENERAL NOTES**

- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL EXISTING FIELD DIMENSIONS AND CONDITIONS PRIOR TO CONSTRUCTION AND ORDERING MATERIALS.
- WHERE SECTION OR SUBSECTION MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL MONUMENTS UNTIL AN AUTHORIZED SURVEYOR OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HAVING AN AUTHORIZED SURVEYOR REESTABLISH ANY SECTION OR SUBSECTION MONUMENTS DESTROYED BY HIS OPERATIONS.
- ANY REFERENCE TO A STANDARD IN THESE PLANS SHALL BE INTERPRETED TO MEAN THE EDITION AS INDICATED BY THE SUBNUMBER LISTED ON THE INDEX OF SHEETS OR THE COPY OF THE STANDARD INCLUDED IN THE PLANS.
- PLAN DIMENSIONS AND DETAILS RELATIVE TO THE EXISTING STRUCTURE HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NORMAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE A CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN THE SCOPE OF WORK. THE CONTRACTOR, HOWEVER, WILL BE PAID FOR THE ACTUAL QUANTITY FURNISHED AT THE UNIT PRICE FOR THE WORK. CONSTRUCTION PLANS ARE AVAILABLE FOR REVIEW AT THE DISTRICT 9 OFFICE.
- THE THICKNESS OF HOT MIX ASPHALT MIXTURE SHOWN ON THE PLANS IS THE NOMINAL THICKNESS. DEVIATIONS FROM THE NOMINAL THICKNESS WILL BE PERMITTED WHEN SUCH DEVIATIONS OCCUR DUE TO IRREGULARITIES IN THE EXISTING SURFACE OR BASE ON WHICH THE HOT MIX ASPHALT MIXTURE IS PLACED.
- ALL OBSTRUCTIONS WHICH ARE WITHIN THE CLEAR ZONE SHOWN ON THE TYPICAL SECTION AND ARE NOT SHIELDED BY THE PROPOSED GUARDRAIL SHALL BE REMOVED BETWEEN STATION **2+40** AND STATION **5+00**. TYPICAL OBSTRUCTIONS ARE HEADWALLS, FOUNDATIONS, ETC. WHICH PROJECT 100 mm (4 IN.) OR MORE ABOVE THE GROUND LINE AND TREES WHICH WILL MATURE TO A DIAMETER OF 100 mm (4 IN.) OR GREATER.
- IF SO DIRECTED BY THE ENGINEER, DITCHES ADJACENT TO EMBANKMENTS SHALL BE CONSTRUCTED PRIOR TO STARTING THE CONSTRUCTION OF THE EMBANKMENT FILL.
- FACTORS USED FOR ESTIMATING PLAN QUANTITIES ARE AS FOLLOWS AND SHALL NOT BE USED FOR THE BASIS OF FINAL QUANTITIES:  
  
ALL HOT MIX ASPHALT - 2.016 TONS/CU.YD. (112 LBS/SQ.YD./INCH OF THICKNESS)  
ALL AGGREGATE 2.05 TONS/CU.YD.  
BITUMINOUS MATERIALS:  
ON PAVEMENT - 0.05 LB./SQ.FT.  
INTERMEDIATE LIFTS (FOG COAT) - 0.025 LB./SQ.FT.  
ON AGGREGATE SURFACE - 0.25 LB./SQ.FT.  
RIPRAP - 1.5 TONS/CU.YD.
- TREES SHALL BE PRESERVED THROUGHOUT THIS SECTION AS SHOWN ON THE PLANS AND AS DIRECTED BY THE ENGINEER. GENERALLY, TREES OUTSIDE THE CLEAR ZONE, AND WHICH DO NOT INTERFERE WITH CONSTRUCTION, SHALL NOT BE DISTURBED.
- TRIM EDGES OF EXISTING HOT MIX ASPHALT SURFACE FLUSH WITH EXISTING PAVEMENT PRIOR TO CONSTRUCTING NEW BASE COURSE WIDENING.
- EARTHWORK COMPACTION SHALL BE TO THE SATISFACTION OF THE ENGINEER.
- THE QUANTITY OF SHORT TERM PAVEMENT MARKING SHOWN IN THE PLANS IS BASED ON ONE APPLICATION EACH FOR THE SURFACE COURSE, AND LEVELING BINDER COURSE.
- WHEN WIDENING FLEXIBLE BASE PAVEMENT, THE CONTRACTOR SHALL TRIM EXISTING SURFACE AND BASE TO A FIRM, NEAR VERTICAL PLANE BEFORE CONSTRUCTING THE WIDENING. THE COST OF THIS REQUIREMENT IS INCLUDED IN THE UNIT PRICE BID FOR THE BASE COURSE WIDENING.
- AT ALL LOCATIONS WHERE THE PROPOSED HOT MIX ASPHALT OR CONCRETE PAVEMENT JOINS AN EXISTING HOT MIX ASPHALT OR CONCRETE PAVEMENT, A FULL DEPTH SAWED JOINT SHALL BE CONSTRUCTED. THE COST OF THIS JOINT WILL BE INCLUDED IN THE COST OF THE TYPE OF PAVEMENT BEING CONSTRUCTED.

**GENERAL NOTES**

- THE MINIMUM VERTICAL CLEARANCE FOR PERMANENT SIGNS PLACED ON BACKSLOPES SHALL BE 0.914 m (3 FT.) MEASURED FROM A POINT DIRECTLY BENEATH THE FAR EDGE OF THE SIGN.
- THE LIMITS OF ROCK AND EARTH SLOPES SHOWN IN THE CROSS SECTIONS ARE APPROXIMATE. THE ACTUAL SLOPE USED SHALL BE DETERMINED BY THE MATERIAL CLASSIFICATION AS DEFINED IN ARTICLE 202.04, AND AS DIRECTED BY THE ENGINEER.
- QUANTITY SHOWN IN THE PLANS FOR BRIDGE DECK GROOVING INCLUDES THE BRIDGE, THE BRIDGE APPROACH PAVEMENT, AND THE BRIDGE APPROACH PAVEMENT CONNECTOR (PCC).
- PROTECTIVE COAT SHALL BE APPLIED TO THE BRIDGE, THE BRIDGE APPROACH PAVEMENT, PCC PAVEMENT AND THE BRIDGE APPROACH CONNECTORS (PCC), IN ACCORDANCE WITH ARTICLE 503.19 OF THE STANDARD SPECIFICATIONS. THE SEASONAL EXCEPTION SHALL NOT APPLY. THE PROTECTIVE COAT SHALL BE APPLIED REGARDLESS OF THE CURING METHOD USED. THE RATE OF APPLICATION FOR EACH COAT IN SAW CUT GROOVED AREAS SHALL BE 25 SQUARE YARDS PER GALLON OF MIXTURE.
- PRIOR TO PLACEMENT OF THE FINAL PAVEMENT MARKINGS THE RESIDENT ENGINEER SHOULD CONTACT THE BUREAU OF OPERATIONS AND ARRANGE FOR INSPECTION AND APPROVAL OF THE PAVEMENT MARKING LAYOUT.
- IN ADDITION TO THE REQUIREMENTS OF ARTICLE 107.16 THE CONTRACTOR SHALL PROTECT THE SURFACE OF ALL BRIDGE DECKS AND BRIDGE APPROACH PAVEMENTS IN A MANNER SATISFACTORY TO THE ENGINEER BEFORE ANY EQUIPMENT IS ALLOWED TO CROSS THE STRUCTURE. PROTECTION SHALL BE PROVIDED FOR ALL EQUIPMENT AS DEFINED IN ARTICLE 101.16 REGARDLESS IF TRACK MOUNTED OR WHEELED.
- THE ADVANCE DETECTOR LOOPS ARE TYPICALLY LOCATED 275 FEET IN ADVANCE OF THE STOP BAR. THE BUREAU OF OPERATIONS SHOULD APPROVE THE LOOP LOCATIONS PRIOR TO INSTALLATION.
- THE CENTERLINE PAVEMENT MARKING SHOULD BE REMOVED FROM THE STOP BAR TO THE SAND ATTENUATORS OR DRUMS. EDGE LINE PAVEMENT MARKING SHOULD BE REMOVED IF A 10 FOOT LANE WIDTH CANNOT BE MAINTAINED. TEMPORARY EDGE LINES SHOULD BE INSTALLED WHEN THE EDGE LINES ARE REMOVED.
- ANY TIME THE CONCRETE BARRIER IS NOT IN THE PROPER POSITION, FLAGGERS SHALL BE IN PLACE TO CONTROL TRAFFIC. THE TEMPORARY TRAFFIC SIGNALS SHALL BE TURNED OFF OR COVERED.
- ALL TEMPORARY EROSION CONTROL MEASURES SHALL BE LEFT IN PLACE UNTIL REMOVAL IS REQUIRED TO CONSTRUCT FINAL GRADE LINES.

COMMITMENTS: DUE TO THE PRESENCE OF THE INDIANABAT, CLEARING OF TREES SHALL BE PROHIBITED FROM APRIL 1 THRU SEPTEMBER 30.

**HIGHWAY STANDARDS**

- 000001-06 STANDARD SYMBOLS, ABBREVIATIONS, AND PATTERNS
- 001001-02 AREAS OF REINFORCEMENT BARS
- 001006 DECIMAL OF AN INCH AND OF A FOOT
- 280001-07 TEMPORARY EROSION CONTROL SYSTEMS
- 420001-08 PAVEMENT JOINTS
- 420401-11 BRIDGE APPROACH PAVEMENT CONNECTOR
- 420601-05 24" PCC PAVEMENT
- 420701-02 PAVEMENT FABRIC
- 515001-03 NAME PLATE FOR BRIDGES
- 630001-10 STEEL PLATE BEAM GUARDRAIL
- 630201-06 PCC/HMA STABILIZATION AT STEEL PLATE BEAM GUARDRAIL
- 630301-06 SHOULDER WIDENING FOR TYPE 1, (SPECIAL) GUARDRAIL TERMINALS
- 631032-08 TRAFFIC BARRIER TERMINAL, TYPE 6A
- 635006-03 REFLECTOR AND TERMINAL MARKER PLACEMENT
- 635011-02 REFLECTOR MARKER AND MOUNTING DETAILS
- 701001-02 OFF-ROAD OPERATIONS 2L, 2W, MORE THAN 4.5M (15') AWAY
- 701006-05 OFF-ROAD OPERATIONS 2L, 2W, 4.5M (15') TO 600 MM (24") FROM PAVEMENT EDGE
- 701011-04 OFF-ROAD MOVING OPERATIONS 2L, 2W, DAY ONLY
- 701201-04 LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS > 45 MPH
- 701301-04 LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
- 701321-14 LANE CLOSURE, 2L, 2W, BRIDGE REPAIR WITH BARRIER
- 701326-04 LANE CLOSURE, 2L, 2W, PAVEMENT WIDENING FOR SPEEDS > 45 MPH
- 701901-04 TRAFFIC CONTROL DEVICES
- 704001-07 TEMPORARY CONCRETE BARRIER
- 780001-05 TYPICAL PAVEMENT MARKINGS
- 781001-03 TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS
- BLR21-9 TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS
- BLR27-1 TRAFFIC BARRIER TERMINAL TYPE 5A
- 60101-01 CONCRETE HEADWALL FOR PIPE DRAIN

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PREPARED BY: Joe Zdaniewicz  
DISTRICT STUDIES & PLANS ENGINEER

EXAMINED BY: John E. [Signature]  
DISTRICT LAND ACQUISITION ENGINEER

EXAMINED BY: Carrie Nuber  
DISTRICT PROGRAM DEVELOPMENT ENGINEER

EXAMINED BY: Kevin [Signature]  
DISTRICT OPERATIONS ENGINEER

EXAMINED BY: [Signature]  
DISTRICT PROJECT IMPLEMENTATION ENGINEER

EXAMINED BY: \_\_\_\_\_  
DISTRICT CONSTRUCTION ENGINEER

APPROVED BY: \_\_\_\_\_  
DISTRICT MATERIALS ENGINEER

DATE \_\_\_\_\_ 20\_\_\_\_

|   |                       |                   |           |   |   |           |           |      |         |                           |         |              |           |
|---|-----------------------|-------------------|-----------|---|---|-----------|-----------|------|---------|---------------------------|---------|--------------|-----------|
| FILE NAME = 0970217-sh1-gennotes.dgn  | USER NAME = *USER*    | DESIGNED - J.W.F. | REVISED - | <b>STATE OF ILLINOIS<br/>DEPARTMENT OF TRANSPORTATION</b> | <b>GENERAL NOTES AND STANDARDS<br/>MAKANDA ROAD</b> |           |           |      | F.A.S.  | SECTION                   | COUNTY  | TOTAL SHEETS | SHEET NO. |
| HAMPTON, LENZINI AND RENWICK, INC.<br>300 STEVENSON DRIVE, SUITE 201<br>SPRINGFIELD, ILLINOIS 62793 | PLOT SCALE = *SCALES* | DRAWN - T.W.K.    | REVISED - |   |   |           |           |      | 919     | 8B-2 & 8B-3               | JACKSON | 69           | 2         |
| ILLINOIS PROFESSIONAL DESIGN FIRM<br>167 PEACOCK CORP. 184-202522                                   | PLOT DATE = 1/28/2015 | CHECKED - L.F.S.  | REVISED - |   | CONTRACT NO. 78217                                  |           |           |      |         |                           |         |              |           |
|   |                       | DATE - 01/20/15   | REVISED - |   | SCALE:  | SHEET NO. | OF SHEETS | STA. | TO STA. | ILLINOIS FED. AID PROJECT |         |              |           |

| SUMMARY OF QUANTITIES |                                   |                             |   |
|-----------------------|-----------------------------------|-----------------------------|---|
| CODE NO               | ITEM                              | CONSTRUCTION TYPE CODE 0014 |   |
|                       |                                   | UNIT                        | FUNDING STP<br>80% FEDERAL<br>20% STATE |
| 20100500              | TREE REMOVAL, ACRES               | ACRE                        | 0.25                                    |
| 20200100              | EARTH EXCAVATION                  | CU YD                       | 39                                      |
| 20300100              | CHANNEL EXCAVATION                | CU YD                       | 141                                     |
| 20700220              | POROUS GRANULAR EMBANKMENT        | CU YD                       | 210                                     |
| 25000210              | SEEDING, CLASS 2A                 | ACRE                        | 0.25                                    |
| 25000350              | SEEDING, CLASS 7                  | ACRE                        | 0.25                                    |
| 25000400              | NITROGEN FERTILIZER NUTRIENT      | POUND                       | 22                                      |
| 25000500              | PHOSPHORUS FERTILIZER NUTRIENT    | POUND                       | 15                                      |
| 25000600              | POTASSIUM FERTILIZER NUTRIENT     | POUND                       | 15                                      |
| 25000700              | AGRICULTURAL GROUND LIMESTONE     | TON                         | 1                                       |
| 25100115              | MULCH, METHOD 2                   | ACRE                        | 0.5                                     |
| 25100630              | EROSION CONTROL BLANKET           | SQ YD                       | 237                                     |
| 28000250              | TEMPORARY EROSION CONTROL SEEDING | POUND                       | 65                                      |
| 28000305              | TEMPORARY DITCH CHECKS            | FOOT                        | 28                                      |

\* SEE SPECIAL PROVISIONS

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|   |                       |                   |           |   |   |                           |             |         |              |           |  |
|---|-----------------------|-------------------|-----------|---|---|---------------------------|-------------|---------|--------------|-----------|--|
| FILE NAME = D:\78217-wh1-500.dgn  | USER NAME = #USER#    | DESIGNED - J.W.F. | REVISED - | <b>STATE OF ILLINOIS<br/>DEPARTMENT OF TRANSPORTATION</b> | <b>SUMMARY OF QUANTITIES<br/>MAKANDA ROAD</b> | F.A.S.                    | SECTION     | COUNTY  | TOTAL SHEETS | SHEET NO. |  |
| HAMPTON, LENZINI AND RENWICK, INC.<br>3045 S. WYOMING STREET SUITE 207<br>SPRINGFIELD, ILLINOIS 62761 | PLOT SCALE = #SCALE#  | DRAWN - T.W.K.    | REVISED - |   |   | 919                       | 8B-2 & 8B-3 | JACKSON | 69           | 3         |  |
| ILLINOIS PROFESSIONAL DESIGN FIRM<br>101 E. PULASKI ST. CHICAGO, IL 60601                             | PLOT DATE = 1/20/2015 | CHECKED - L.F.S.  | REVISED - |   |   | CONTRACT NO. 78217        |             |         |              |           |  |
|   | DATE - 01/20/15       | REVISED -         | REVISED - |   |   | ILLINOIS FED. AID PROJECT |             |         |              |           |  |

| SUMMARY OF QUANTITIES |   |                             |   |
|-----------------------|---|-----------------------------|---|
| CODE NO.              | ITEM  | CONSTRUCTION TYPE CODE 0014 |   |
|                       |   | UNIT                        | FUNDING NHS<br>80% FEDERAL<br>20% STATE |
| 28000400              | PERIMETER EROSION BARRIER                       | FOOT                        | 450                                     |
| 28100109              | STONE RIPRAP, CLASS A5                          | SQ YD                       | 850                                     |
| 28200200              | FILTER FABRIC                                   | SQ YD                       | 850                                     |
| 35600708              | HOT-MIX ASPHALT BASE COURSE WIDENING 8"         | SQ YD                       | 197                                     |
| 40201000              | AGGREGATE FOR TEMPORARY ACCESS                  | TON                         | 101                                     |
| 40600275              | BITUMINOUS MATERIALS (PRIME COAT)               | PCUND                       | 198                                     |
| 40600627              | LEVELING BINDER (MACHINE METHOD), IL-9.5FG, N50 | TON                         | 39                                      |
| 40600982              | HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT    | SQ YD                       | 210                                     |
| 40600990              | TEMPORARY RAMP                                  | SQ YD                       | 145                                     |
| 40603310              | HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50    | TON                         | 35                                      |
| 40800050              | INCIDENTAL HOT-MIX ASPHALT SURFACING            | TON                         | 13                                      |
| 42000500              | PORTLAND CEMENT CONCRETE PAVEMENT 10"           | SQ YD                       | 108                                     |
| 42001200              | PAVEMENT FABRIC                                 | SQ YD                       | 108                                     |
| 42001420              | BRIDGE APPROACH PAVEMENT CONNECTOR (PCC)        | SQ YD                       | 24                                      |

^ SEE SPECIAL PROVISIONS

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|  |                    |                   |                           |   |   |                         |         |              |              |           |
|--|--------------------|-------------------|---------------------------|---|---|-------------------------|---------|--------------|--------------|-----------|
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| HAMPTON, LENZINI AND RENWICK, INC.<br>2045 E. BROADWAY, SUITE 204<br>SPRINGFIELD, ILLINOIS 62767 | DRAWN - T.W.F.     | REVISIONS -       | 919                       |   |   | 8B-2 & 8B-3             | JACKSON | 69           | 4            |           |
| PLOT SCALE = *SCALE*   | CHECKED - L.F.S.   | REVISIONS -       | CONTRACT NO. 78217        |   |   |                         |         |              |              |           |
| PLOT DATE = 1/20/2015  | DATE - 01/20/15    | REVISIONS -       | ILLINOIS FED. AID PROJECT |   |   |                         |         |              |              |           |
|  |                    |                   |                           | SCALE:  |   | SHEET NO. 2 OF 7 SHEETS |         | STA. TO STA. |              |           |



| SUMMARY OF QUANTITIES |   |                             |   |
|-----------------------|---|-----------------------------|---|
| CODE NO.              | ITEM  | CONSTRUCTION TYPE CODE C014 |   |
|                       |   | UNIT                        | FUNDING NHS<br>80% FEDERAL<br>20% STATE |
| 42001430              | BRIDGE APPROACH PAVEMENT CONNECTOR (FLEXIBLE)       | SQ YD                       | 21                                      |
| 42400100              | PORTLAND CEMENT CONCRETE SIDEWALK 4 INCH            | SQ FT                       | 909                                     |
| 44000100              | PAVEMENT REMOVAL                                    | SQ YD                       | 360                                     |
| 44000600              | SIDEWALK REMOVAL                                    | SQ FT                       | 650                                     |
| 44004250              | PAVED SHOULDER REMOVAL                              | SQ YD                       | 84                                      |
| 48203021              | HOT-MIX ASPHALT SHOULDERS, 6"                       | SQ YD                       | 114                                     |
| 50101500              | REMOVAL OF EXISTING SUPERSTRUCTURES                 | EACH                        | 1                                       |
| 50102400              | CONCRETE REMOVAL                                    | CU YD                       | 7.8                                     |
| 50200100              | STRUCTURE EXCAVATION                                | CU YD                       | 484                                     |
| 50300225              | CONCRETE STRUCTURES                                 | CU YD                       | 23.8                                    |
| 50300255              | CONCRETE SUPERSTRUCTURE                             | CU YD                       | 131.9                                   |
| 50300260              | BRIDGE DECK GROOVING                                | SQ YD                       | 616                                     |
| 50300300              | PROTECTIVE COAT                                     | SQ YD                       | 1027                                    |
| 50400405              | PRECAST PRESTRESSED CONCRETE DECK BEAMS (21" DEPTH) | SQ FT                       | 4656                                    |

SEE SPECIAL PROVISIONS

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|  |                       |                   |           |   |   |                    |                         |         |              |                           |  |
|--|-----------------------|-------------------|-----------|---|---|--------------------|-------------------------|---------|--------------|---------------------------|--|
| FILE NAME = D:\78217\sh1-500.dgn   | USER NAME = \$USER*   | DESIGNED - J.W.F. | REVISED - | <b>STATE OF ILLINOIS<br/>DEPARTMENT OF TRANSPORTATION</b> | <b>SUMMARY OF QUANTITIES<br/>MAKANDA ROAD</b> | F.A.S.             | SECTION                 | COUNTY  | TOTAL SHEETS | SHEET NO.                 |  |
| HAMPTON, LENZINI AND RENWICK, INC.<br>REGISTERED PROFESSIONAL ENGINEERS<br>151 W. WASHINGTON ST. SUITE 200<br>JACKSON, MISSISSIPPI 39201 | PLOT SCALE = #SCALE#  | DRAWN - T.W.F.    | REVISED - |   |   | 919                | 88-2 & 88-3             | JACKSON | 69           | 5                         |  |
| BLINGERS PROFESSIONAL DESIGN FIRM<br>151 W. WASHINGTON ST. SUITE 200<br>JACKSON, MISSISSIPPI 39201                                       | PLOT DATE = 3/19/2015 | CHECKED - L.F.S.  | REVISED - |   |   | CONTRACT NO. 78217 |                         |         |              |                           |  |
|  | DATE = 01/20/15       | REVISOR -         | REVISED - |   |   | SCALE:             | SHEET NO. 3 OF 7 SHEETS | STA.    | TO STA.      | ILLINOIS FED. AID PROJECT |  |

| SUMMARY OF QUANTITIES |  |                             |   |
|-----------------------|--|-----------------------------|---|
| CODE NO.              | ITEM   | CONSTRUCTION TYPE CODE 0014 |   |
|                       |  | UNIT                        | FUNDING NHS<br>80% FEDERAL<br>20% STATE |
| 50800205              | REINFORCEMENT BARS, EPOXY COATED                   | POUND                       | 44620                                   |
| 50800515              | BAR SPLICERS                                       | EACH                        | 364                                     |
| 50901050              | STEEL RAILING, TYPE SM                             | FOOT                        | 162                                     |
| 51500100              | NAME PLATES  | EACH                        | 2                                       |
| 52000110              | PREFORMED JOINT STRIP SEAL                         | FOOT                        | 74                                      |
| 54003000              | CONCRETE BOX CULVERTS                              | CU YD                       | 41.1                                    |
| 54011004              | PRECAST CONCRETE BOX CULVERTS 10' X 4'             | FOOT                        | 70                                      |
| 55100500              | STORM SEWER REMOVAL 12"                            | FOOT                        | 104                                     |
| 59100100              | GEOCOMPOSITE WALL DRAIN                            | SQ YD                       | 50                                      |
| 60500060              | REMOVING INLETS                                    | EACH                        | 4                                       |
| * 63100075            | TRAFFIC BARRIER TERMINAL, TYPE 5A                  | EACH                        | 2                                       |
| * 63100167            | TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT | EACH                        | 1                                       |
| 63200310              | GUARDRAIL REMOVAL                                  | FOOT                        | 264                                     |
| 67000400              | ENGINEER'S FIELD OFFICE, TYPE A                    | CAL MO                      | 6                                       |

^SEE SPECIAL PROVISIONS

\* SPECIALTY ITEM

|   |                       |                   |           |   |   |                         |        |         |        |              |                           |    |   |
|---|-----------------------|-------------------|-----------|---|---|-------------------------|--------|---------|--------|--------------|---------------------------|----|---|
| FILE NAME = 0978217-mh-500.dgn  | USER NAME = #USER#    | DESIGNED - J.W.F. | REVISED - | <b>STATE OF ILLINOIS<br/>DEPARTMENT OF TRANSPORTATION</b> | <b>SUMMARY OF QUANTITIES<br/>MAKANDA ROAD</b> |                         | F.A.S. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO.                 |    |   |
| HAMPTON, LENZINI AND RENWICK, INC.<br>200 STEVENSON DRIVE, SUITE 201<br>SPRINGFIELD, ILLINOIS 62761 | PLOT SCALE = #SCALE#  | DRAWN - T.W.K.    | REVISED - |   | SCALE:  | SHEET NO. 4 OF 7 SHEETS | STA.   | TO STA. | 919    | 88-2 & 88-3  | JACKSON                   | 69 | 6 |
| <b>HLR</b> ILLINOIS PROFESSIONAL DESIGN FIRM<br>131 PC BE CORP. 18420065                            | PLOT DATE = 1/28/2015 | CHECKED - L.F.S.  | REVISED - |   |   |                         |        |         |        |              | CONTRACT NO. 78217        |    |   |
|   | DATE = 01/20/15       | REVISIONS         | REVISED - |   |   |                         |        |         |        |              | ILLINOIS FED. AID PROJECT |    |   |

| SUMMARY OF QUANTITIES |   |                             |   |
|-----------------------|---|-----------------------------|---|
| CODE NO.              | ITEM  | CONSTRUCTION TYPE CODE 0014 |   |
|                       |   | UNIT                        | FUNDING NHS<br>80% FEDERAL<br>20% STATE |
| 67100100              | MOBILIZATION                                    | L SUM                       | 1                                       |
| 70100450              | TRAFFIC CONTROL AND PROTECTION, STANDARD 701201 | L SUM                       | 1                                       |
| 70100500              | TRAFFIC CONTROL AND PROTECTION, STANDARD 701326 | L SUM                       | 1                                       |
| 70101830              | TRAFFIC CONTROL AND PROTECTION, STANDARD BLR 21 | L SUM                       | 1                                       |
| 70103815              | TRAFFIC CONTROL SURVEILLANCE                    | CAL DA                      | 6                                       |
| 70106500              | TEMPORARY BRIDGE TRAFFIC SIGNALS                | EACH                        | 1                                       |
| 70106800              | CHANGEABLE MESSAGE SIGN                         | CAL MO                      | 2                                       |
| 70300100              | SHORT TERM PAVEMENT MARKING                     | FOOT                        | 152                                     |
| 70300210              | TEMPORARY PAVEMENT MARKING LETTERS AND SYMBOLS  | SQ FT                       | 122                                     |
| 70300220              | TEMPORARY PAVEMENT MARKING - LINE 4"            | FOOT                        | 2936                                    |
| 70300280              | TEMPORARY PAVEMENT MARKING - LINE 24"           | FOOT                        | 66                                      |
| 70301000              | WORK ZONE PAVEMENT MARKING REMOVAL              | SQ FT                       | 1272                                    |
| 70400100              | TEMPORARY CONCRETE BARRIER                      | FOOT                        | 413                                     |
| 70400200              | RELOCATE TEMPORARY CONCRETE BARRIER             | FOOT                        | 363                                     |

^ SEE SPECIAL PROVISIONS

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| SUMMARY OF QUANTITIES |  |                             |   |
|-----------------------|--|-----------------------------|---|
| CODE NO.              | ITEM   | CONSTRUCTION TYPE CODE 0014 |   |
|                       |  | UNIT                        | FUNDING NHS<br>80% FEDERAL<br>20% STATE |
| 70600250              | IMPACT ATTENUATORS, TEMPORARY (NON- REDIRECTIVE), TEST LEVEL 3 | EACH                        | 2                                       |
| 70600350              | IMPACT ATTENUATORS, RELOCATE (NON- REDIRECTIVE), TEST LEVEL 3  | EACH                        | 2                                       |
| * 78001100            | PAINT PAVEMENT MARKING - LETTERS AND SYMBOLS                   | SQ FT                       | 122                                     |
| * 78001110            | PAINT PAVEMENT MARKING - LINE 4"                               | FOOT                        | 2936                                    |
| * 78001180            | PAINT PAVEMENT MARKING - LINE 24"                              | FOOT                        | 66                                      |
| * 78200410            | GUARDRAIL MARKERS, TYPE A                                      | EACH                        | 8                                       |
| * 78201000            | TERMINAL MARKER - DIRECT APPLIED                               | EACH                        | 4                                       |
| 78300100              | PAVEMENT MARKING REMOVAL                                       | SQ FT                       | 418                                     |
| * 86200300            | UNINTERRUPTABLE POWER SUPPLY, EXTENDED                         | EACH                        | 1                                       |
| * X5030305            | CONCRETE WEARING SURFACE, 5"                                   | SQ YD                       | 518                                     |
| * X5030540            | FLOOR DRAINS (SPECIAL)   | EACH                        | 8                                       |
| * X5091505            | STEEL RAILING, TYPE TP-1 (SPECIAL)                             | FOOT                        | 162                                     |
| * X5880110            | GRANULAR BACKFILL FOR STRUCTURES                               | CU YD                       | 62                                      |
| * X6300135            | STEEL PLATE BEAM GUARDRAIL, TYPE B (SPECIAL)                   | FOOT                        | 38                                      |

\* SEE SPECIAL PROVISIONS

14

\* SPECIALTY ITEM

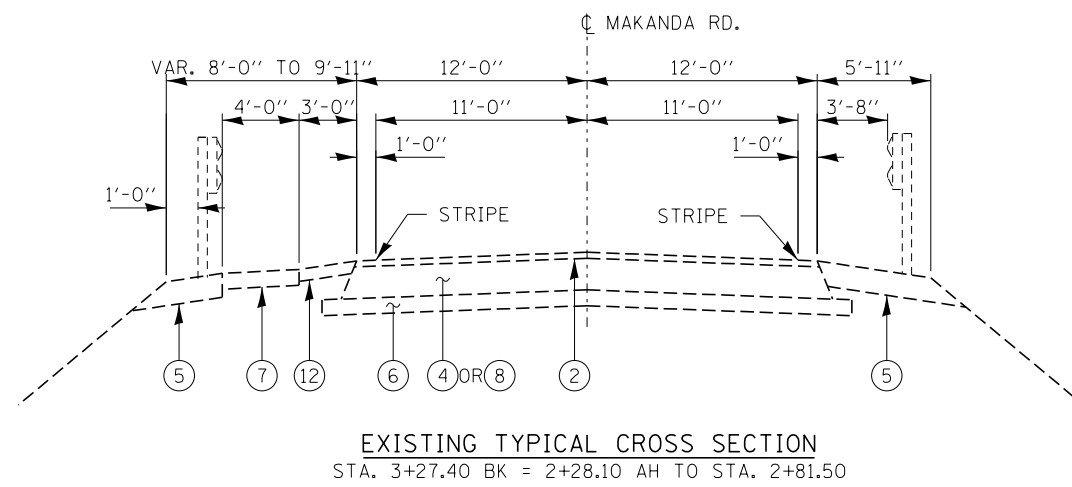
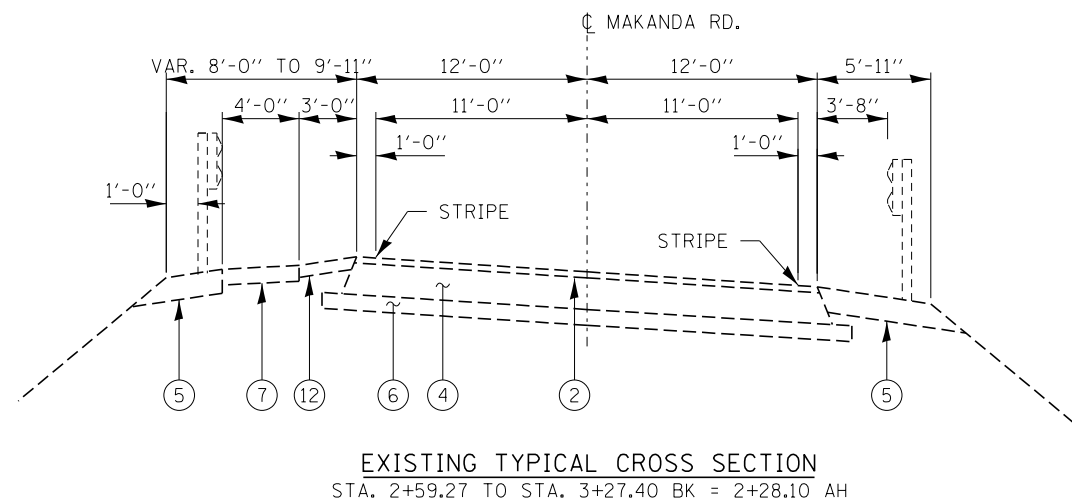
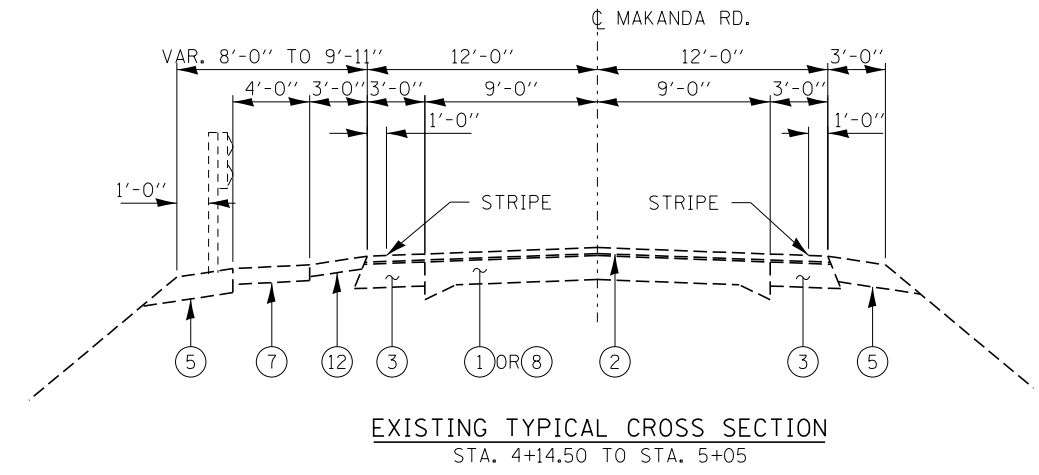
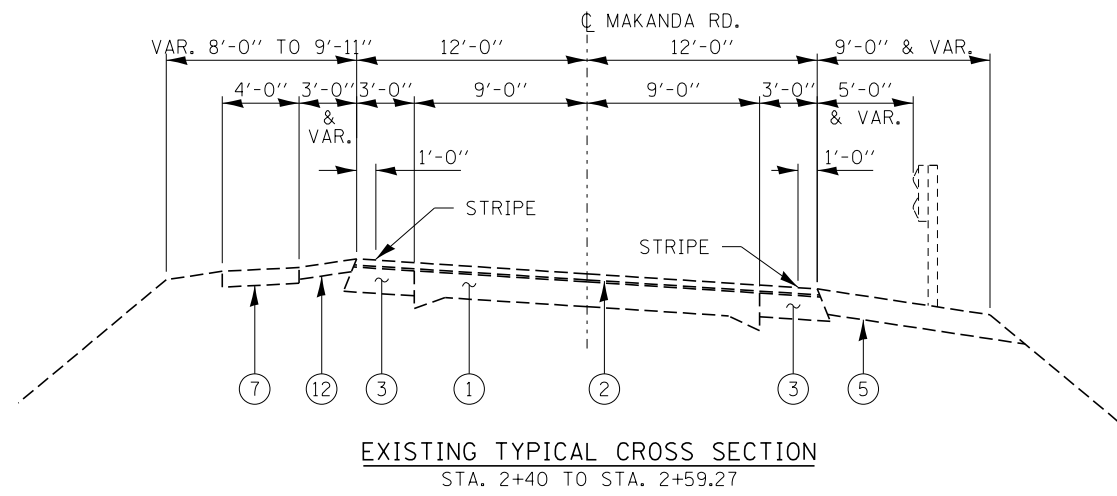
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| FILE NAME = D:\78217\hst-500.dgn  | USER NAME = #USER*    | DESIGNED - J.W.F. | REVISED - | <b>STATE OF ILLINOIS<br/>DEPARTMENT OF TRANSPORTATION</b> | <b>SUMMARY OF QUANTITIES<br/>MAKANDA ROAD</b> |                         | F.A.S. | SECTION | COUNTY                    | TOTAL SHEETS | SHEET NO. |
| HAMPTON, LENZINI AND RENWICK, INC.<br>3435 PLEASANTON DRIVE, SUITE 301<br>SPRINGFIELD, ILLINOIS 62783 | PLOT SCALE = #SCALE#  | DRAWN - T.W.K.    | REVISED - |   | SCALE:  | SHEET NO. 6 OF 7 SHEETS | STA.   | TO STA. | JACKSON                   | 69           | 8         |
| ILLINOIS PROFESSIONAL DESIGN FIRM<br>L9 / PE / SE CORP. 344.036634                                    | PLOT DATE = 1/20/2015 | CHECKED - L.F.S.  | REVISED - |   |   |                         |        |         | CONTRACT NO. 78217        |              |           |
|   | DATE = 01/20/15       | REVISIONS         |           |   |   |                         |        |         | ILLINOIS FED. AID PROJECT |              |           |

| SUMMARY OF QUANTITIES |  |                             |   |
|-----------------------|--|-----------------------------|---|
| CODE NO.              | ITEM   | CONSTRUCTION TYPE CODE 0014 |   |
|                       |  | UNIT                        | FUNDING NHS<br>80% FEDERAL<br>20% STATE |
| * ^ X6310088          | TRAFFIC BARRIER TERMINAL TYPE 6A (SPECIAL)                           | EACH                        | 1                                       |
| * ^ X6310188          | TRAFFIC BARRIER TERMINAL TYPE 6A (MODIFIED)                          | EACH                        | 1                                       |
| * ^ X6310195          | TRAFFIC BARRIER TERMINAL TYPE 1, SPECIAL (TANGENT), MODIFIED         | EACH                        | 1                                       |
| * ^ X6330725          | STEEL PLATE BEAM GUARDRAIL (SHORT RADIUS)                            | FOOT                        | 33                                      |
| ^ X7010202            | TRAFFIC CONTROL AND PROTECTION, STANDARD 701321 (SPECIAL)            | EACH                        | 1                                       |
| ^ Z0007430            | TEMPORARY SIDEWALK   | SQ FT                       | 178                                     |
| ^ Z0001900            | ASBESTOS BEARING PAD REMOVAL   | EACH                        | 58                                      |
| ^ Z0012754            | STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES) | SQ FT                       | 69                                      |
| ^ Z0026407            | TEMPORARY SHEET PILING   | SQ FT                       | 210                                     |
| ^ Z0046304            | PIPE UNDERDRAINS FOR STRUCTURES 4"                                   | FOOT                        | 114                                     |
| ^ Z0048665            | RAILROAD PROTECTIVE LIABILITY INSURANCE                              | L SUM                       | 1                                       |
| φ Z0076600            | TRAINEES   | Hour                        | 500                                     |
| φ Z0076604            | TRAINEES TRAINING PROGRAM GRADUATE                                   | Hour                        | 500                                     |
|                       |  |                             |   |
|                       |  |                             |   |

^ SEE SPECIAL PROVISIONS

\* SPECIALTY ITEM

φ 0042



NOTE: ALL TYPICAL CROSS SECTIONS ARE LOOKING UP STATION.

| HMA MIXTURE REQUIREMENTS   |                            |                            |                                     |                            |
|----------------------------|----------------------------|----------------------------|-------------------------------------|----------------------------|
| LOCATION(S):               | FAS 919\CH29\MAKANDA RD    | FAS 919\CH29\MAKANDA RD    | FAS 919\CH29\MAKANDA RD             | FAS 919\CH29\MAKANDA RD    |
| MIXTURE USE(S):            | HMA BASE COURSE WIDENING   | HMA SURFACE COURSE         | LEVELING BINDER (MM), IL 9.5 FG N50 | HMA SHOULDERS              |
| PG:                        | PG 64-22                   | PG 64-22                   | PG 64-22                            | PG 58-22                   |
| RAP % (MAX):               | SEE SPECIAL PROVISIONS     | SEE SPECIAL PROVISIONS     | SEE SPECIAL PROVISIONS              | SEE SPECIAL PROVISIONS     |
| DESIGN AIR VOIDS:          | 4% @ Ndes 50               | 4% @ Ndes 50               | 4% @ Ndes 50                        | 2% @ Ndes 30               |
| MIXTURE COMPOSITION:       | IL 19.0                    | IL 9.5                     | IL 9.5 FG                           | HMA SHOULDERS              |
| (MIXTURE GRADATION):       |                            |                            |                                     |                            |
| FRICTION AGGREGATE:        | NONE                       | MIXTURE C                  | NONE                                | NONE                       |
| MIXTURE WEIGHTS:           | 112 LBS\SY\ INCH THICKNESS | 112 LBS\SY\ INCH THICKNESS | 112 LBS\SY\ INCH THICKNESS          | 112 LBS\SY\ INCH THICKNESS |
| QUALITY MANAGEMENT PROGRAM | QC/QA                      | QC/QA                      | QC/QA                               | QC/QA                      |

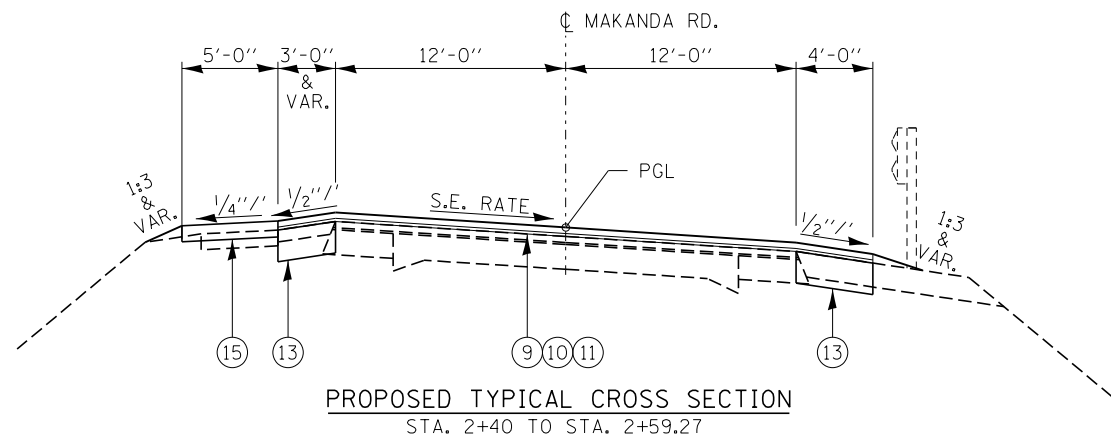
**LEGEND**

- ① EXIST CONCRETE PAVEMENT (9X6X9)
- ② EXISTING HMA SURFACE 1.5" MIN.
- ③ EXISTING BASE COURSE WIDENING 6"
- ④ EXISTING HMA BASE COURSE 6"
- ⑤ EXISTING AGGREGATE SHOULDER
- ⑥ EXISTING GRANULAR SUBBASE 4"
- ⑦ EXISTING PCC SIDEWALK
- ⑧ EXISTING CONCRETE APPROACH PAVEMENT
- ⑨ HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50, 1.5"
- ⑩ LEVELING BINDER (MACHINE METHOD), IL-9.5FG, N50
- ⑪ BITUMINOUS MATERIALS (PRIME COAT)
- ⑫ EXISTING HMA SURFACE 3" MIN.
- ⑬ HOT-MIX ASPHALT BASE COURSE WIDENING, 8"
- ⑭ PORTLAND CEMENT CONCRETE PAVEMENT 10" (JOINTED) STANDARD 420601
- ⑮ PORTLAND CEMENT CONCRETE SIDEWALK 4 INCH
- ⑯ HOT-MIX ASPHALT SHOULDERS, 6"
- ⑰ BRIDGE APPROACH PAVEMENT OR BRIDGE APPROACH PAVEMENT CONNECTOR
- ⑱ STEEL PLATE BEAM GUARD RAIL, TYPE A, 6 FOOT POST
- ⑲ TRAFFIC BARRIER TERMINAL, TYPE 6A OR 5A
- ⑳ POROUS GRANULAR EMBANKMENT (BACKFILL IS CA7 OR CA11 CAPPED WITH 1' CA6)

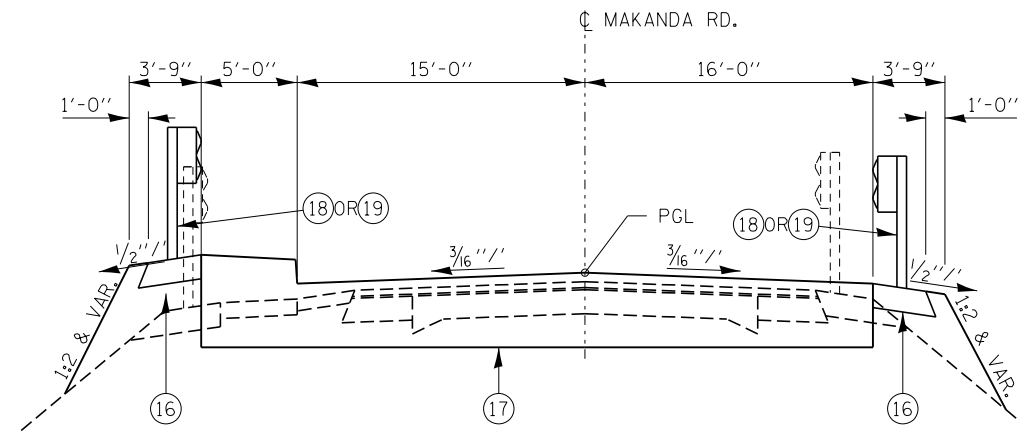
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| FILE NAME = D978217-sht-typical.dgn  | USER NAME = \$USER\$ | DESIGNED - J.W.F. | REVISED - |
| HAMPTON, LENZINI AND RENWICK, INC.<br>3035 STEVENSON DRIVE, SUITE 201<br>SPRINGFIELD, ILLINOIS 62703<br>ILLINOIS PROFESSIONAL DESIGN FIRM<br>LS / PE / SE CORP. 184.000959 | PLOT SCALE = *SCALE* | DRAWN - T.W.K.    | REVISED - |
| PLOT DATE = 3/19/2015  | DATE = 01/20/15      | CHECKED - L.F.S.  | REVISED - |

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

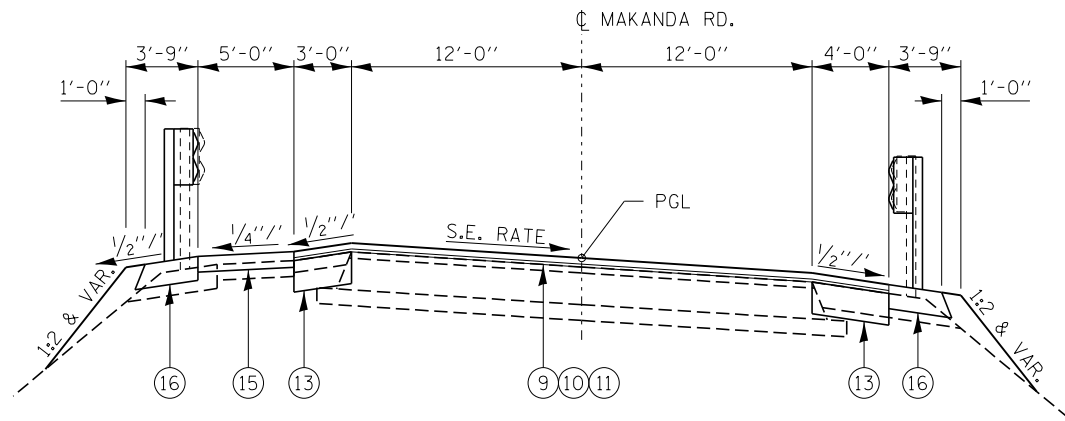
| EXISTING TYPICAL SECTIONS<br>MAKANDA ROAD |                         | F.A.S.             | SECTION     | COUNTY  | TOTAL SHEETS | SHEET NO.                 |
|---|-------------------------|--------------------|-------------|---------|--------------|---------------------------|
| SCALE:                                    | SHEET NO. 1 OF 2 SHEETS | 919                | 8B-2 & 8B-3 | JACKSON | 69           | 10                        |
|   | STA. TO STA.            | CONTRACT NO. 78217 |             |         |              | ILLINOIS FED. AID PROJECT |



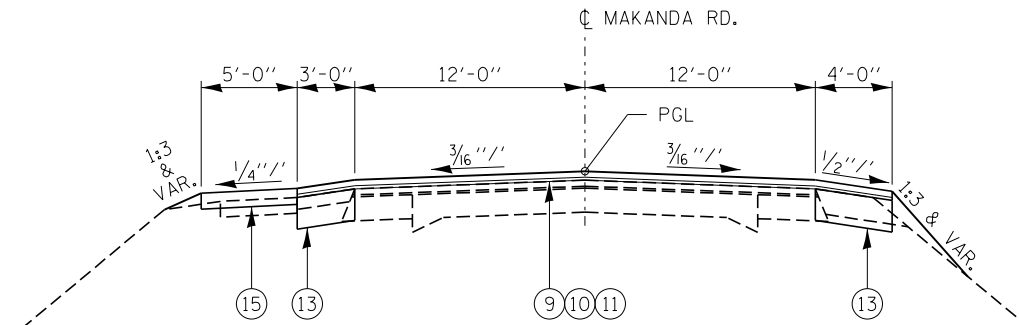
PROPOSED TYPICAL CROSS SECTION  
STA. 2+40 TO STA. 2+59.27



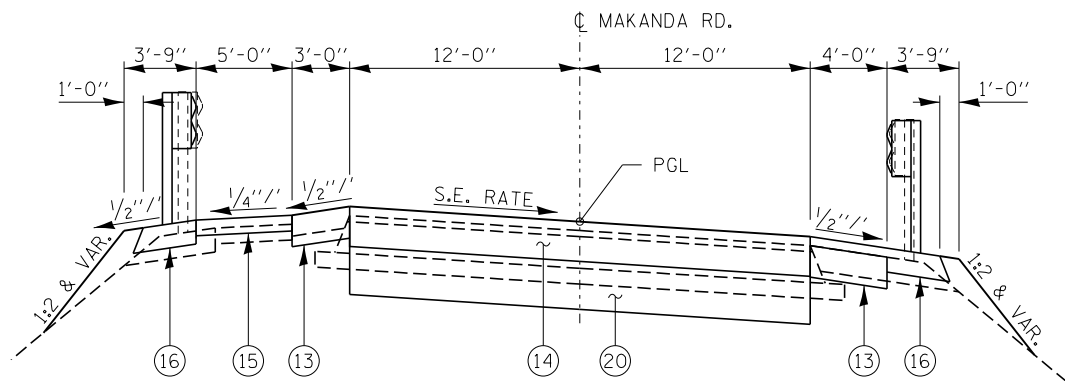
PROPOSED TYPICAL CROSS SECTION  
STA. 2+46.25 TO STA. 2+82.25  
STA. 4+13.75 TO STA. 4+49.75



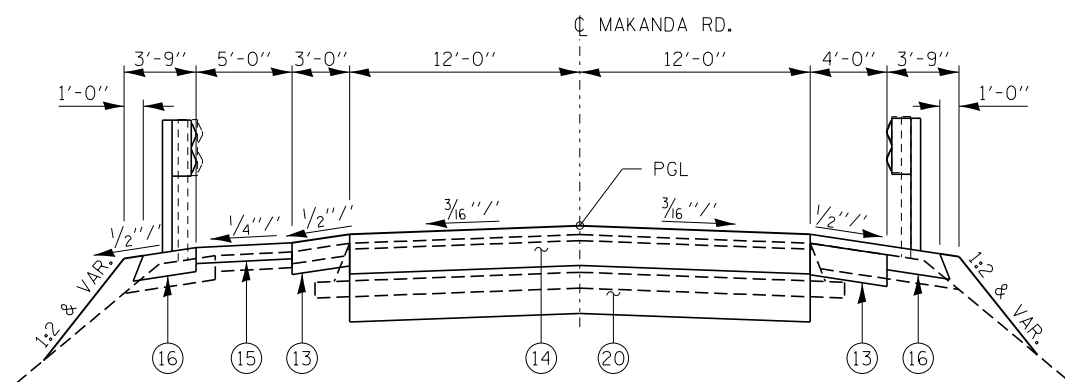
PROPOSED TYPICAL CROSS SECTION  
STA. 2+59.27 TO STA. 3+05



PROPOSED TYPICAL CROSS SECTION  
STA. 4+49.75 TO STA. 5+00



PROPOSED TYPICAL CROSS SECTION  
STA. 3+05 TO STA. 3+27.40 BK = 2+28.10 AH



PROPOSED TYPICAL CROSS SECTION  
STA. 3+27.40 BK = 2+28.10 AH TO STA. 2+46.25

**LEGEND**

- ① EXIST CONCRETE PAVEMENT (9X6X9)
- ② EXISTING HMA SURFACE 1.5" MIN.
- ③ EXISTING BASE COURSE WIDENING 6"
- ④ EXISTING HMA BASE COURSE 6"
- ⑤ EXISTING AGGREGATE SHOULDER
- ⑥ EXISTING GRANULAR SUBBASE 4"
- ⑦ EXISTING PCC SIDEWALK
- ⑧ EXISTING CONCRETE APPROACH PAVEMENT
- ⑨ HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50, 1.5"
- ⑩ LEVELING BINDER (MACHINE METHOD), IL-9.5FG, N50
- ⑪ BITUMINOUS MATERIALS (PRIME COAT)
- ⑫ EXISTING HMA SURFACE 3" MIN.
- ⑬ HOT-MIX ASPHALT BASE COURSE WIDENING, 8"
- ⑭ PORTLAND CEMENT CONCRETE PAVEMENT 10" (JOINTED) STANDARD 420601
- ⑮ PORTLAND CEMENT CONCRETE SIDEWALK 4 INCH
- ⑯ HOT-MIX ASPHALT SHOULDERS, 6"
- ⑰ BRIDGE APPROACH PAVEMENT OR BRIDGE APPROACH PAVEMENT CONNECTOR
- ⑱ STEEL PLATE BEAM GUARD RAIL, TYPE A, 6 FOOT POST
- ⑲ TRAFFIC BARRIER TERMINAL, TYPE 6A OR 5A
- ⑳ POROUS GRANULAR EMBANKMENT (BACKFILL IS CA7 OR CA11 CAPPED WITH 1' CA6)

NOTE: ALL TYPICAL CROSS SECTIONS ARE  
LOOKING UP STATION.

|  |                       |                   |           |
|--|-----------------------|-------------------|-----------|
| FILE NAME = D978217-sht-typical.dgn  | USER NAME = \$USER\$  | DESIGNED - J.W.F. | REVISED - |
| HAMPTON, LENZINI AND RENWICK, INC.<br>3085 STEVENSON DRIVE, SUITE 201<br>SPRINGFIELD, ILLINOIS 62763<br>ILLINOIS PROFESSIONAL DESIGN FIRM<br>LS / PE / SE CORP. 184.000959 | PLOT SCALE = *SCALE*  | DRAWN - T.W.K.    | REVISED - |
|  | PLOT DATE = 3/19/2015 | CHECKED - L.F.S.  | REVISED - |
|  |                       | DATE - 01/20/15   | REVISED - |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PROPOSED TYPICAL SECTIONS  
MAKANDA ROAD

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

| F.A.S.                    | SECTION     | COUNTY  | TOTAL SHEETS | SHEET NO. |
|---------------------------|-------------|---------|--------------|-----------|
| 919                       | 8B-2 & 8B-3 | JACKSON | 69           | 11        |
| CONTRACT NO. 78217        |             |         |              |           |
| ILLINOIS FED. AID PROJECT |             |         |              |           |



| ROADWAY SCHEDULE               |   |                                |                                  |  |  |                |   |                                       |                 |  |   |                                      |                  |                  |                        |                              |                 |
|--------------------------------|---|--------------------------------|----------------------------------|--|--|----------------|---|---------------------------------------|-----------------|--|---|--------------------------------------|------------------|------------------|------------------------|------------------------------|-----------------|
| LOCATION                       | HOT-MIX ASPHALT BASE COURSE WIDENING 8" | AGGREGATE FOR TEMPORARY ACCESS | BITUMINOUS MATERIAL (PRIME COAT) | LEVELING BINDER (MACHINE METHOD) IL-9.5FG, N50 | HOT-MIX ASPHALT SURFACE REMOVAL BUTT-JOINT | TEMPORARY RAMP | HOT-MIX ASPHALT SURFACE COURSE MIX C, N50 | PORTLAND CEMENT CONCRETE PAVEMENT 10" | PAVEMENT FABRIC | BRIDGE APPROACH PAVEMENT CONNECTOR (PCC) | BRIDGE APPROACH PAVEMENT CONNECTOR (FLEXIBLE) | PORTLAND CEMENT CONCRETE SIDEWALK 4" | PAVEMENT REMOVAL | SIDEWALK REMOVAL | PAVED SHOULDER REMOVAL | HOT-MIX ASPHALT SHOULDERS 6" | PROTECTIVE COAT |
|                                | 36500708                                | 40201000                       | 40600275                         | 40600627                                       | 40600982                                   | 40600990       | 40603310                                  | 42000500                              | 42001200        | 42001420                                 | 42001430                                      | 42400100                             | 44000100         | 44000600         | 44004250               | 48203021                     | 50300300        |
|                                | SQ YD                                   | TON                            | POUND                            | TON  | SQ YD                                      | SQ YD          | TON                                       | SQ YD                                 | SQ YD           | SQ YD                                    | SQ YD   | SQ FT                                | SQ YD            | SQ FT            | SQ YD                  | SQ YD                        | SQ YD           |
| FAS919\CH29\MAKANDARD          |   |                                |                                  |  |  |                |   |                                       |                 |  |   |                                      |                  |                  |                        |                              |                 |
| STAGE I                        |   |                                |                                  |  |  |                |   |                                       |                 |  |   |                                      |                  |                  |                        |                              |                 |
| CL STA3+05 TO CL STA3+27.40    |   | 51                             |                                  |  |  |                |   |                                       |                 |  |   |                                      | 60               | 90               | 7                      |                              |                 |
| CL STA2+28.10 TO CL STA2+50    |   | 50                             |                                  |  |  |                |   |                                       |                 |  |   |                                      | 58               | 88               | 7                      |                              |                 |
| STAGE II                       |   |                                |                                  |  |  |                |   |                                       |                 |  |   |                                      |                  |                  |                        |                              |                 |
| LT STA2+00 TO LT STA3+27.40    | 42                                      |                                |                                  |  |  | 22             |   | 30                                    | 30              |  |   | 537                                  |                  | 340              | 35                     | 20                           | 30              |
| LT STA2+28.10 TO LT STA2+81.50 | 6                                       |                                |                                  |  |  |                |   | 24                                    | 24              | 13                                       |   | 91                                   | 42               | 126              | 11                     | 17                           | 38              |
| LT STA4+14.50 TO LT STA5+50    | 33                                      |                                |                                  |  |  | 26             |   |                                       |                 |  | 10  | 281                                  | 47               | 206              | 16                     | 21                           |                 |
| RT STA2+00 TO RT STA3+05       | 47                                      |                                |                                  |  |  |                |   |                                       |                 |  |   |                                      |                  |                  |                        |                              |                 |
| RT STA2+46.25 TO RT STA2+81.50 | 14                                      |                                |                                  |  |  |                |   |                                       |                 |  |   |                                      |                  |                  | 4                      |                              |                 |
| RT STA4+14.50 TO RT STA5+37.23 | 55                                      |                                |                                  |  |  |                |   |                                       |                 |  |   |                                      |                  |                  | 4                      |                              |                 |
| STAGE III                      |   |                                |                                  |  |  |                |   |                                       |                 |  |   |                                      |                  |                  |                        |                              |                 |
| RT STA2+00 TO RT STA3+27.40    |   |                                |                                  |  |  | 29             |   | 30                                    | 30              |  |   |                                      |                  |                  |                        | 18                           | 30              |
| RT STA2+28.10 TO RT STA2+82.50 |   |                                |                                  |  |  |                |   | 24                                    | 24              | 11                                       |   |                                      | 56               |                  |                        | 17                           | 35              |
| RT STA4+13.75 TO RT STA4+59.75 |   |                                |                                  |  |  | 34             |   |                                       |                 |  | 11  |                                      | 63               |                  |                        | 21                           |                 |
| CL STA2+40 TO CL STA3+05       |   |                                | 116                              | 25   | 24   | 17             | 19  |                                       |                 |  |   |                                      |                  |                  |                        |                              |                 |
| CL STA4+49.75 TO CL STA5+50    |   |                                | 82                               | 14   | 62   | 17             | 16  |                                       |                 |  |   |                                      |                  |                  |                        |                              |                 |
| ENTRANCE SUMMARY               |   |                                |                                  |  |  |                |   |                                       |                 |  |   |                                      |                  |                  |                        |                              |                 |
|                                |   |                                |                                  |  | 62   |                |   |                                       |                 |  |   |                                      | 34               |                  |                        |                              |                 |
| TOTAL                          | 197                                     | 101                            | 198                              | 39   | 148  | 145            | 35  | 108                                   | 108             | 24                                       | 21  | 909                                  | 360              | 850              | 84                     | 114                          | 133             |

| GUARDRAIL SCHEDULE             |                                  |   |                   |                          |                                |                                   |  |   |  |  |
|--------------------------------|----------------------------------|---|-------------------|--------------------------|--------------------------------|-----------------------------------|--|---|--|--|
| LOCATION                       | TRAFFIC BARRIER TERMINAL TYPE 5A | TRAFFIC BARRIER TERMINAL TYPE 1 (SPECIAL) TANGENT | GUARDRAIL REMOVAL | GUARDRAIL MARKERS TYPE A | TERMINAL MARKER DIRECT APPLIED | STEEL PLATE BEAM TYPE B (SPECIAL) | TRAFFIC BARRIER TERMINAL TYPE 6A (SPECIAL) | TRAFFIC BARRIER TERMINAL TYPE 6A (MODIFIED) | TRAFFIC BARRIER TERMINAL TYPE 1, SPECIAL (TANGENT), MODIFIED | STEEL PLATE BEAM GUARD RAIL (SHORT RADIUS) |
|                                | 63100075                         | 63100167  | 63200310          | 78200410                 | 78201000                       | X6300135                          | X6310088                                   | X6310188                                    | X6310195   | X6330725                                   |
|                                | EACH                             | EACH  | FOOT              | EACH                     | EACH                           | FOOT                              | EACH                                       | EACH  | EACH   | FOOT                                       |
| FAS919\CH29\MAKANDARD          |                                  |   |                   |                          |                                |                                   |  |   |  |  |
| STAGE I                        |                                  |   |                   |                          |                                |                                   |  |   |  |  |
| RT STA3+02 TO RT STA3+27.40    |                                  |   | 25                |                          |                                |                                   |  |   |  |  |
| RT STA2+28.10 TO RT STA2+53    |                                  |   | 25                |                          |                                |                                   |  |   |  |  |
| STAGE II                       |                                  |   |                   |                          |                                |                                   |  |   |  |  |
| LT STA2+62.68 TO LT STA3+27.40 |                                  | 1   |                   |                          | 1                              | 12                                |  |   |  |  |
| LT STA2+28.10 TO LT STA4+65.89 | 2                                |   | 79                | 4                        | 1                              | 26                                |  |   |  | 33   |
| STAGE III                      |                                  |   |                   |                          |                                |                                   |  |   |  |  |
| RT STA2+36 TO RT STA3+27.40    |                                  |   | 66                |                          | 1                              |                                   | 1  |   | 1  |  |
| RT STA2+28.10 TO RT STA4+55.42 |                                  |   | 69                | 4                        | 1                              |                                   |  | 1   |  |  |
| TOTAL                          | 2                                | 1   | 264               | 8                        | 4                              | 38                                | 1  | 1   | 1  | 33   |

| STAGING SCHEDULE               |                            |                                     |   |  |
|--------------------------------|----------------------------|-------------------------------------|---|--|
| LOCATION                       | TEMPORARY CONCRETE BARRIER | RELOCATE TEMPORARY CONCRETE BARRIER | IMPACT ATTENUATORS TEMPORARY (NON-REDIRECTIVE) TEST LEVEL 3 | IMPACT ATTENUATORS RELOCATE (NON-REDIRECTIVE) TEST LEVEL 3 |
|                                | 70400100                   | 70400200                            | 70600250  | 70600350   |
|                                | FOOT                       | FOOT                                | EACH  | EACH   |
| FAS919\CH29\MAKANDARD          |                            |                                     |   |  |
| STAGE II                       |                            |                                     |   |  |
| RT STA3+02 TO RT STA3+27.40    | 25                         |                                     |   |  |
| RT STA2+28.10 TO RT STA2+52.7  | 25                         |                                     |   |  |
| LT STA2+11.50 TO LT STA3+27.40 | 86                         |                                     | 1   |  |
| LT STA2+28.10 TO LT STA5+34.70 | 277                        |                                     | 1   |  |
| STAGE III                      |                            |                                     |   |  |
| RT STA2+11.50 TO RT STA3+27.40 |                            | 86                                  |   | 1  |
| RT STA2+28.10 TO RT STA5+34.70 |                            | 277                                 |   | 1  |
| TOTAL                          | 413                        | 363                                 | 2   | 2  |

| EARTHWORK SUMMARY           |                  |                    |                      |                  |         |   |                     |   |
|-----------------------------|------------------|--------------------|----------------------|------------------|---------|---|---------------------|---|
| LOCATION                    | EARTH EXCAVATION | CHANNEL EXCAVATION | STRUCTURE EXCAVATION | SHRINKAGE FACTOR | % USED  | EARTH EXCAVATION ADJUSTED FOR SHRINKAGE( 25%) | EMBANKMENT REQUIRED | EARTHWORK BALANCE WASTE (+) OR SHORTAGE (-) |
|                             | CUBIC YARD       | CUBIC YARD         | CUBIC YARD           |                  |         | CUBIC YARD                                    | CUBIC YARD          | CUBIC YARD                                  |
|                             | 20200100         | 20300100           | 50200100             |                  |         |   |                     |   |
| FAS 919 / CH 29 / MAKANDARD |                  |                    |                      |                  |         |   |                     |   |
| STA2+00 TO STA3+27.40       | 12               |                    |                      | 25.00%           | 100.00% | 9   | 17                  | -8  |
| STA2+28.10 TO STA2+81.50    | 10               |                    |                      | 25.00%           | 100.00% | 8   | 11                  | -3  |
| STA4+14.50 TO STA5+45       | 17               |                    |                      | 25.00%           | 100.00% | 13  | 12                  | 1   |
| BOX CULVERT                 |                  |                    | 422                  | 25.00%           | 100.00% | 317   |                     | 317   |
| BRIDGE                      |                  | 141                | 62                   | 25.00%           | 0.00%   |   |                     |   |
| TOTAL                       | 39               | 141                | 484                  |                  |         | 347   | 40                  | 307   |

WASTE EXCAVATION = 307 CU.YD.

| SEEDING SCHEDULE            |                  |                 |                                |  |   |                               |                |                         |                                     |
|-----------------------------|------------------|-----------------|--------------------------------|--|---|-------------------------------|----------------|-------------------------|-------------------------------------|
| LOCATION                    | SEEDING CLASS 2A | SEEDING CLASS 7 | NITROGEN FERTILIZER NUTRIENT** | PHOSPHORUS FERTILIZER NUTRIENT 90 LBS/ACRE | POTASSIUM FERTILIZER NUTRIENT 90 LBS/ACRE | AGRICULTURAL GROUND LIME/ACRE | MULCH METHOD 2 | EROSION CONTROL BLANKET | TEMPORARY EROSION CONTROL SEEDING * |
|                             | 25000210         | 25000350        | 25000400                       | 25000500                                   | 25000600                                  | 25000700                      | 25100115       | 25100630                | 28000250                            |
|                             | ACRE             | ACRE            | POUND                          | POUND                                      | POUND                                     | TON                           | ACRE           | SQ YD                   | POUND                               |
| FAS 919 / CH 29 / MAKANDARD |                  |                 |                                |  |   |                               |                |                         |                                     |
| STA2+00 TO STA3+27.40       | 0.02             | 0.02            | 2.6                            | 1.8  | 1.8                                       | 0.04                          | 0.05           | 59                      | 8.0                                 |
| STA2+28.10 TO STA2+81.50    | 0.13             | 0.13            | 16.5                           | 11.4                                       | 11.4                                      | 0.25                          | 0.26           | 114                     | 51.0                                |
| STA4+14.50 TO STA5+45       | 0.02             | 0.02            | 1.8                            | 1.2  | 1.2                                       | 0.03                          | 0.02           | 64                      | 5.3                                 |
| TOTAL                       | 0.17             | 0.17            | 20.9                           | 14.4                                       | 14.4                                      | 0.3                           | 0.33           | 237                     | 64.3                                |
| USE                         | 0.25             | 0.25            | 22                             | 15   | 15  | 1                             | 0.5            | 237                     | 65                                  |

\* 100 LBS/ACRE FOR 4 APPLICATIONS  
 \*\* 90 LBS/ACRE FOR SEEDING CLASS 2A AND 40 LBS/ACRE FOR SEEDING CLASS 7

| ENTRANCE SCHEDULE      |       |              |                     |  |                                      |                  |
|------------------------|-------|--------------|---------------------|--|--------------------------------------|------------------|
| LOCATION               | WIDTH | SURFACE TYPE | SURFACING THICKNESS | HOT-MIX ASPHALT SURFACE REMOVAL BUTT-JOINT | INCIDENTAL HOT-MIX ASPHALT SURFACING | PAVEMENT REMOVAL |
|                        | FOOT  |              | INCH                | 40600982                                   | 40800050                             | 44000100         |
|                        |       |              |                     | SQ YD                                      | TON                                  | SQ YD            |
| FAS 919/CH29/MAKANDARD |       |              |                     |  |                                      |                  |
| LT STA4+82             | 28    | HMA          | 3                   |  | 8                                    | 34               |
| RT STA4+76             | 36    | HMA          | 1.5                 | 62   | 5                                    |                  |
| TOTAL                  |       |              |                     | 62   | 13                                   | 34               |

| 20100500 TREE REMOVAL       |      |
|-----------------------------|------|
| LOCATION                    | ACRE |
| FAS 919 / CH 29 / MAKANDARD |      |
| RT STA2+87 TO RT STA3+20    | 0.02 |
| TOTAL                       | 0.02 |
| USE                         | 0.25 |

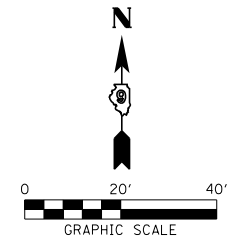
| 28000305 TEMPORARY DITCH CHECKS |      |
|---------------------------------|------|
| LOCATION                        | FOOT |
| FAS 919 / CH 29 / MAKANDARD     |      |
| 53' LT STA3+30                  | 14   |
| 40' RT STA3+15                  | 14   |
| TOTAL                           | 28   |

| 55100500 STORM SEWER REMOVAL, 12" |      |
|-----------------------------------|------|
| LOCATION                          | FOOT |
| FAS 919 / CH 29 / MAKANDARD       |      |
| LT STA2+71 TO RT 2+71             | 52   |
| LT STA4+25 TO RT 4+25             | 52   |
| TOTAL                             | 104  |

| 60500060 REMOVING INLETS    |      |
|-----------------------------|------|
| LOCATION                    | EACH |
| FAS 919 / CH 29 / MAKANDARD |      |
| LT STA2+71                  | 1    |
| RT STA2+71                  | 1    |
| LT STA4+25                  | 1    |
| RT STA4+25                  | 1    |
| TOTAL                       | 4    |

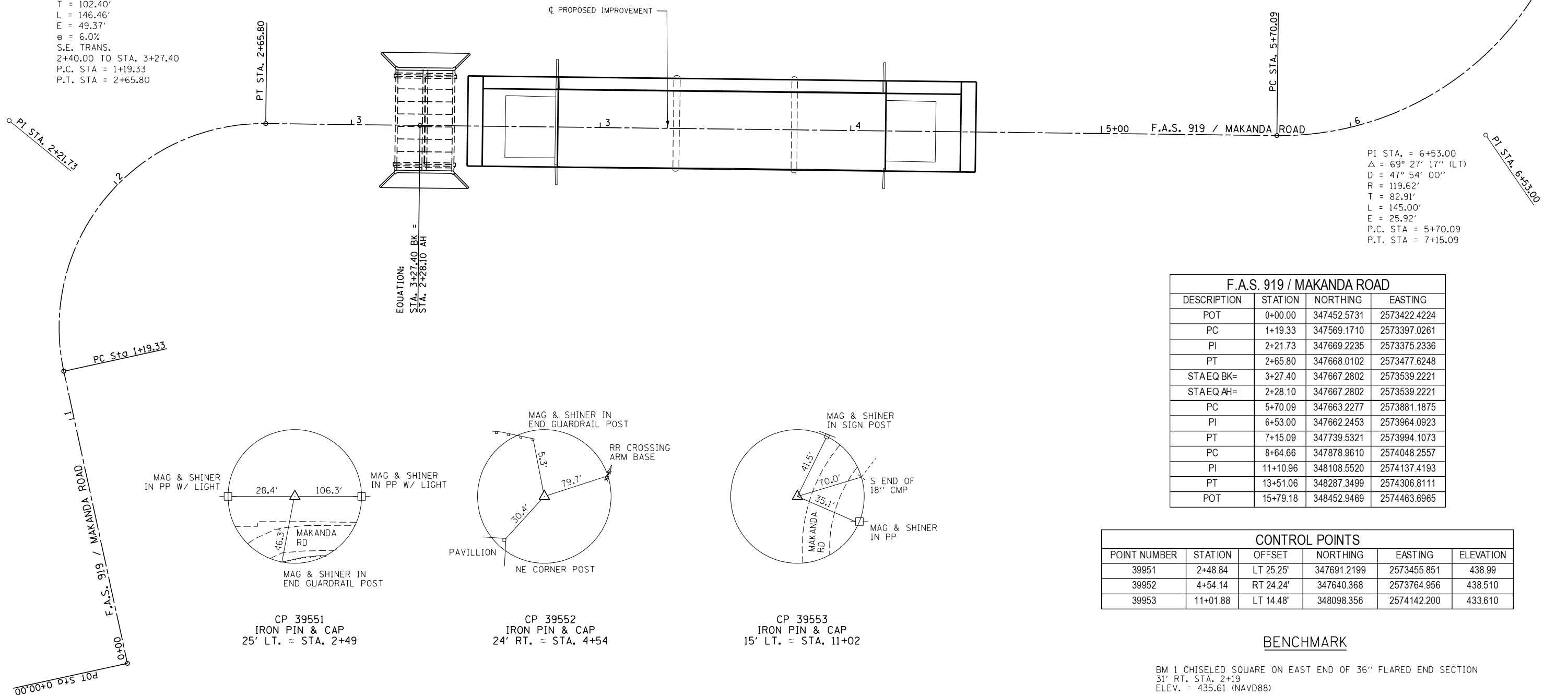
| PAVEMENT MARKING SCHEDULE      |                             |  |                                      |                         |                                  |                                     |                                    |  |                                  |                         |                                  |                                 |                          |
|--------------------------------|-----------------------------|--|--------------------------------------|-------------------------|----------------------------------|-------------------------------------|------------------------------------|--|----------------------------------|-------------------------|----------------------------------|---------------------------------|--------------------------|
| LOCATION                       | SHORT TERM PAVEMENT MARKING | TEMPORARY PAVEMENT MARKING - LETTERS AND SYMBOLS | TEMPORARY PAVEMENT MARKING - LINE 4" |                         |                                  | TEMPORARY PAVEMENT MARKING LINE 24" | WORK ZONE PAVEMENT MARKING REMOVAL | PAINT PAVEMENT MARKING - LETTERS AND SYMBOLS | PAINT PAVEMENT MARKING - LINE 4" |                         |                                  | PAINT PAVEMENT MARKING LINE 24" | PAVEMENT MARKING REMOVAL |
|                                |                             |  | SINGLE WHITE EDGE LINE               | SOLID YELLOW NO PASSING | SKIPPED DASHED YELLOW CENTERLINE |                                     |                                    |  | SINGLE WHITE EDGE LINE           | SOLID YELLOW NO PASSING | SKIPPED DASHED YELLOW CENTERLINE |                                 |                          |
|                                |                             |  | FOOT                                 | FOOT                    | FOOT                             |                                     |                                    |  | FOOT                             | FOOT                    | FOOT                             |                                 |                          |
| FAS 919 / CH 29 / MAKANDARD    |                             |  |                                      |                         |                                  |                                     |                                    |  |                                  |                         |                                  |                                 |                          |
| CL STA0+73.50 TO CL STA3+27.40 | 52                          |  |                                      | 508                     |                                  | 184                                 |                                    |  | 508                              |                         |                                  |                                 | 112                      |
| CL STA2+28.10 TO CL STA7+22.00 | 100                         |  |                                      | 922                     | 10                               | 340                                 |                                    |  | 922                              | 10                      |                                  |                                 | 109                      |
| RT STA0+73.50 TO RT STA3+27.40 |                             |  | 254                                  |                         |                                  | 84                                  |                                    | 254  |                                  |                         |                                  |                                 | 35                       |
| RT STA2+28.10 TO RT STA7+22.00 |                             | 61   | 494                                  |                         |                                  | 33                                  | 290                                | 61   | 494                              |                         | 33                               |                                 | 96                       |
| LT STA0+73.50 TO LT STA3+27.40 |                             |  | 254                                  |                         |                                  | 84                                  |                                    | 254  |                                  |                         |                                  |                                 | 33                       |
| LT STA2+28.10 TO LT STA7+22.00 |                             | 61   | 494                                  |                         |                                  | 33                                  | 290                                | 61   | 494                              |                         | 33                               |                                 | 33                       |
| SUBTOTAL                       | 152                         | 122  | 1496                                 | 1430                    | 10                               | 66                                  | 1272                               | 122  | 1496                             | 1430                    | 10                               | 66                              | 418                      |
| TOTAL                          | 152                         | 122  |                                      | 2936                    |                                  | 66                                  | 1272                               | 122  |                                  | 2936                    |                                  | 66                              | 418                      |

| 28000400 PERIMETER EROSION BARRIER |      |
|------------------------------------|------|
| LOCATION                           | FOOT |
| FAS 919 / CH 29 / MAKANDARD        |      |
| LT STA2+31 TO LT 3+08              | 92   |
| LT STA2+50 TO LT 2+82              | 32   |
| LT STA3+24 TO LT 3+37              | 53   |
| LT STA4+13 TO LT 4+62              | 51   |
| RT STA2+30 TO RT 3+08              | 77   |
| RT STA2+50 TO RT 2+82              | 32   |
| RT STA3+01 TO RT 3+17              | 70   |
| RT STA4+13 TO RT 4+53              | 43   |
| TOTAL                              | 450  |



PI STA. = 2+21.73  
 $\Delta$  = 102° 58' 00" (RT)  
 D = 70° 18' 06"  
 R = 81.50'  
 T = 102.40'  
 L = 146.46'  
 E = 49.37'  
 e = 6.0%  
 S.E. TRANS.  
 2+40.00 TO STA. 3+27.40  
 P.C. STA = 1+19.33  
 P.T. STA = 2+65.80

PI STA. = 6+53.00  
 $\Delta$  = 69° 27' 17" (LT)  
 D = 47° 54' 00"  
 R = 119.62'  
 T = 82.91'  
 L = 145.00'  
 E = 25.92'  
 P.C. STA = 5+70.09  
 P.T. STA = 7+15.09

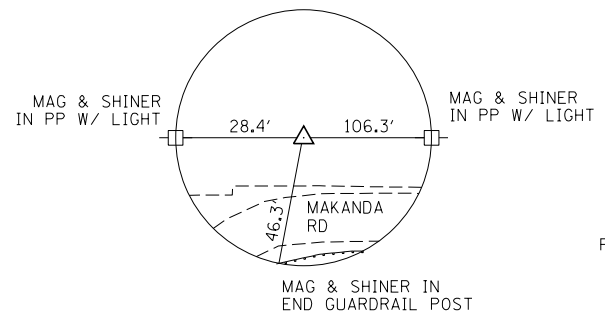


| F.A.S. 919 / MAKANDA ROAD |          |             |              |
|---------------------------|----------|-------------|--------------|
| DESCRIPTION               | STATION  | NORTHING    | EASTING      |
| POT                       | 0+00.00  | 347452.5731 | 2573422.4224 |
| PC                        | 1+19.33  | 347569.1710 | 2573397.0261 |
| PI                        | 2+21.73  | 347669.2235 | 2573375.2336 |
| PT                        | 2+65.80  | 347668.0102 | 2573477.6248 |
| STAEQ BK=                 | 3+27.40  | 347667.2802 | 2573539.2221 |
| STAEQ AH=                 | 2+28.10  | 347667.2802 | 2573539.2221 |
| PC                        | 5+70.09  | 347663.2277 | 2573881.1875 |
| PI                        | 6+53.00  | 347662.2453 | 2573964.0923 |
| PT                        | 7+15.09  | 347739.5321 | 2573994.1073 |
| PC                        | 8+64.66  | 347878.9610 | 2574048.2557 |
| PI                        | 11+10.96 | 348108.5520 | 2574137.4193 |
| PT                        | 13+51.06 | 348287.3499 | 2574306.8111 |
| POT                       | 15+79.18 | 348452.9469 | 2574463.6965 |

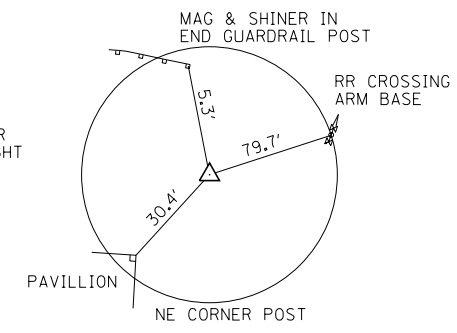
| CONTROL POINTS |          |           |             |             |           |
|----------------|----------|-----------|-------------|-------------|-----------|
| POINT NUMBER   | STATION  | OFFSET    | NORTHING    | EASTING     | ELEVATION |
| 39951          | 2+48.84  | LT 25.25' | 347691.2199 | 2573455.851 | 438.99    |
| 39952          | 4+54.14  | RT 24.24' | 347640.368  | 2573764.956 | 438.510   |
| 39953          | 11+01.88 | LT 14.48' | 348098.356  | 2574142.200 | 433.610   |

**BENCHMARK**

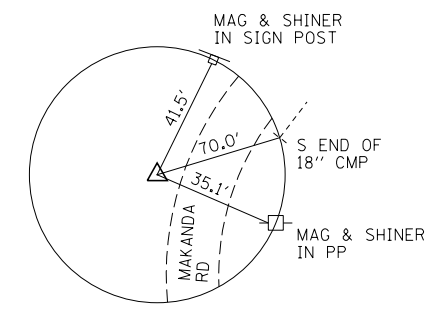
BM 1 CHISELED SQUARE ON EAST END OF 36" FLARED END SECTION  
 31' RT. STA. 2+19  
 ELEV. = 435.61 (NAVD88)



CP 39551  
 IRON PIN & CAP  
 25' LT. ≈ STA. 2+49



CP 39552  
 IRON PIN & CAP  
 24' RT. ≈ STA. 4+54



CP 39553  
 IRON PIN & CAP  
 15' LT. ≈ STA. 11+02

|  |                       |                   |           |
|--|-----------------------|-------------------|-----------|
| FILE NAME = D978217-sht-ATB.dgn  | USER NAME = #USER*    | DESIGNED - J.W.F. | REVISED - |
| HAMPTON, LENZINI AND RENWICK, INC.<br>3085 STEVENSON DRIVE, SUITE 201<br>SPRINGFIELD, ILLINOIS 62703<br>ILLINOIS PROFESSIONAL DESIGN FIRM<br>LS / PE / SE CORP. 184.000959 | PLOT SCALE = *SCALE*  | DRAWN - T.W.K.    | REVISED - |
|  | PLOT DATE = 1/20/2015 | CHECKED - L.F.S.  | REVISED - |
|  |                       | DATE - 01/20/15   | REVISED - |

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

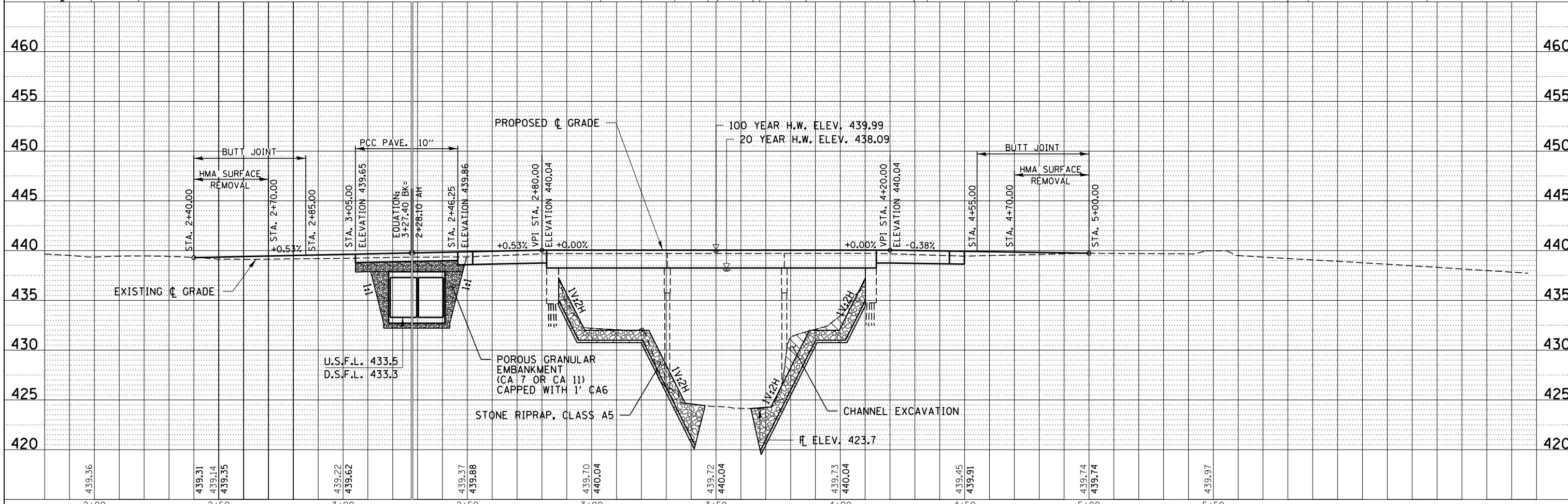
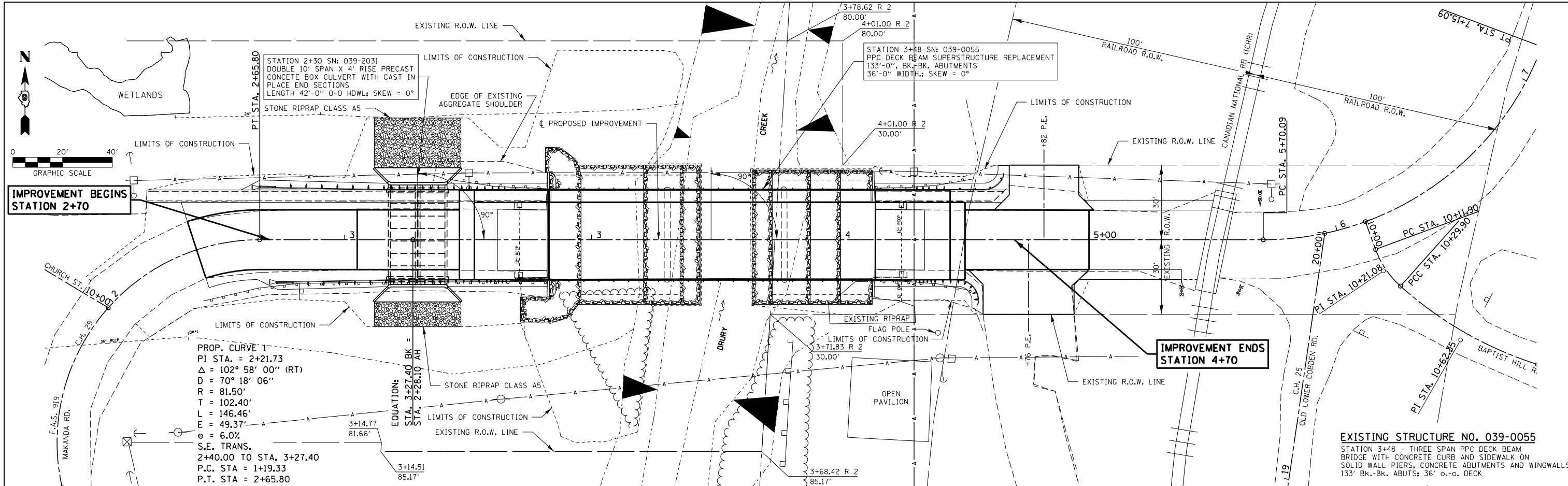
**ALIGNMENT, TIES AND BENCHMARKS  
 MAKANDA ROAD**

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

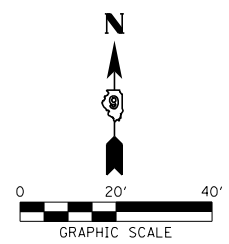
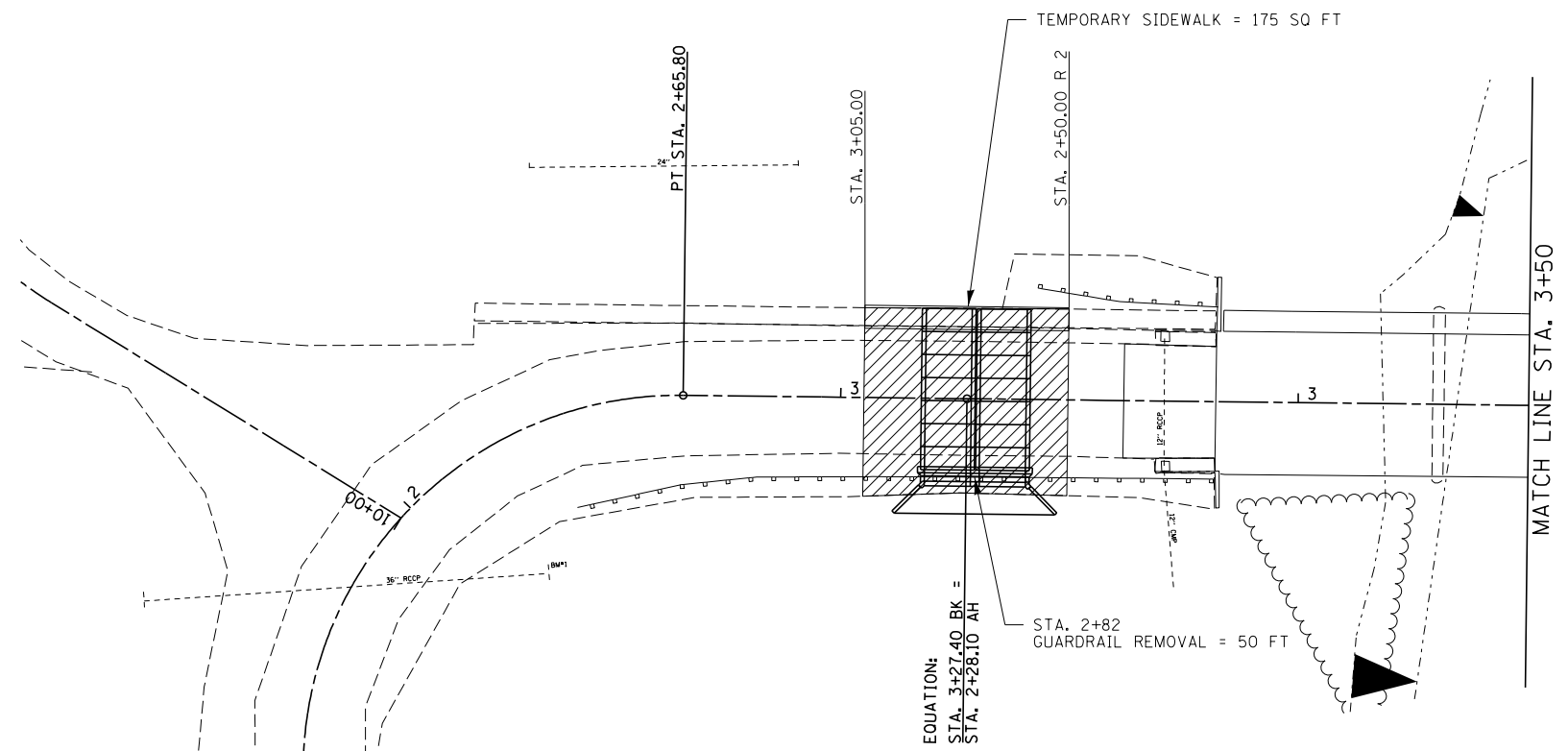
| F.A.S.                    | SECTION     | COUNTY  | TOTAL SHEETS | SHEET NO. |
|---------------------------|-------------|---------|--------------|-----------|
| 919                       | 8B-2 & 8B-3 | JACKSON | 69           | 14        |
| CONTRACT NO. 78217        |             |         |              |           |
| ILLINOIS FED. AID PROJECT |             |         |              |           |

|      |          |    |      |
|------|----------|----|------|
| PLAN | SURVEYED | BY | DATE |
|      | PLOTTED  |    |      |
|      | ALIGNED  |    |      |
|      | CHECKED  |    |      |
|      | FILED    |    |      |
|      | NO.      |    |      |

|         |           |    |      |
|---------|-----------|----|------|
| PROFILE | SURVEYED  | BY | DATE |
|         | PLOTTED   |    |      |
|         | GRADES    |    |      |
|         | CHECKED   |    |      |
|         | STRUCTURE |    |      |
|         | NOTATIONS |    |      |
|         | CHKD      |    |      |
|         | NO.       |    |      |

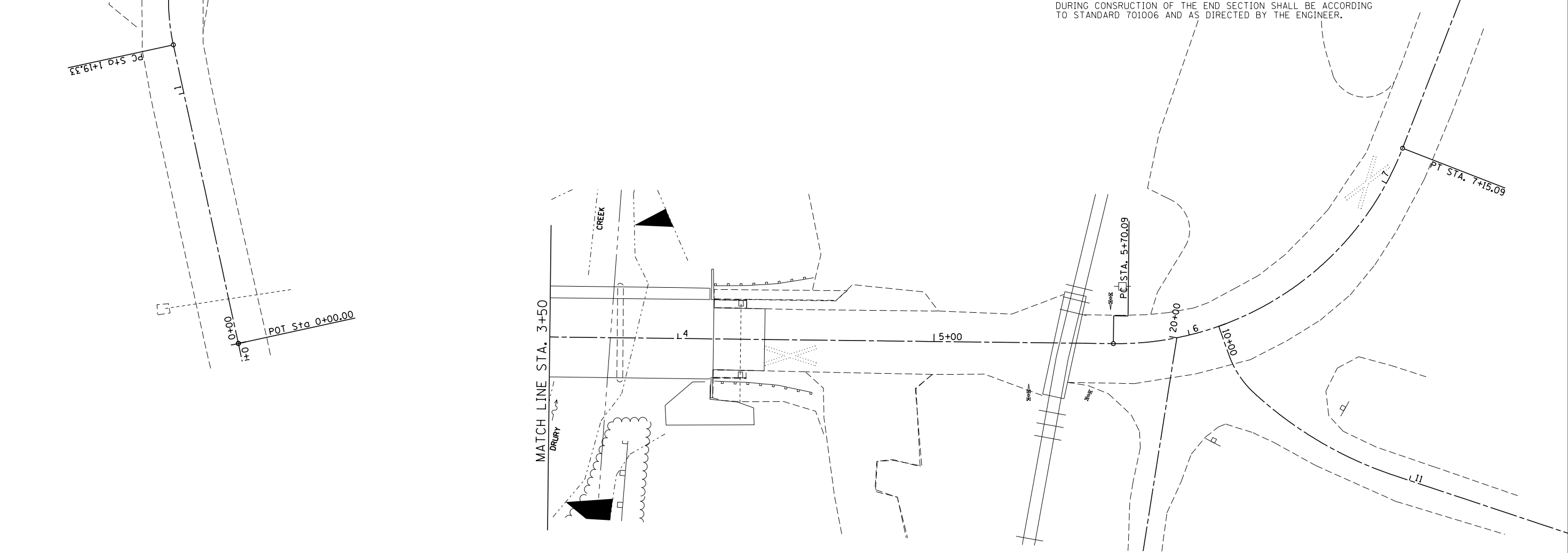


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| HAMPTON, LENZINI AND RENWICK, INC.                                   | PLOT SCALE = *SCALE*  | DRAWN - T.W.K.    | REVISED - |   |  | 919                       | 8B-2 & 8B-3 | JACKSON | 69           | 15        |  |
| 3085 STEVENSON DRIVE, SUITE 201<br>SPRINGFIELD, ILLINOIS 62703       | PLOT DATE = 1/20/2015 | CHECKED - L.F.S.  | REVISED - |   |  | CONTRACT NO. 78217        |             |         |              |           |  |
| ILLINOIS PROFESSIONAL DESIGN FIRM<br>L.S./P.E./S.E. CORP. 184.000959 | DATE = 01/20/15       | REVISOR -         | REVISED - |   |  | ILLINOIS FED. AID PROJECT |             |         |              |           |  |

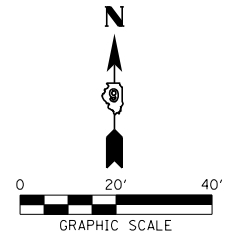


- LEGEND**
- PAVEMENT, SHOULDER & SIDEWALK REMOVAL
  - EXISTING STRUCTURE REMOVAL
  - BASE COURSE WIDENING
  - HMA REMOVAL BUTT JOINT
  - TEMPORARY RAMP

- NOTES:**
1. THE ROAD AND SIDEWALK SHALL BE CLOSED TO TRAFFIC DURING INSTALLATION OF THE PRECAST BOX CULVERT SECTIONS ACCORDING TO STANDARD BLR 21-9 AND THE SPECIAL PROVISION FOR TRAFFIC CONTROL
  2. PRIOR TO OPENING THE ROAD FOR TRAFFIC, AGGREGATE SURFACE COURSE TYPE B, 10" THICK SHALL BE PLACED OVER THE CULVERT ACCORDING TO THE STANDARD SPECIFICATIONS SECTION 402.10. AGGREGATE FOR TEMPORARY ACCESS = 101 TON
  3. THE CAST-IN-PLACE CONCRETE END SECTION AT RIGHT STATION 2+30 SHALL BE CONSTRUCTED BEFORE THE ROADWAY IS LIMITED TO ONE LANE TRAFFIC IN STAGE 2. TRAFFIC CONTROL DURING CONSTRUCTION OF THE END SECTION SHALL BE ACCORDING TO STANDARD 701006 AND AS DIRECTED BY THE ENGINEER.

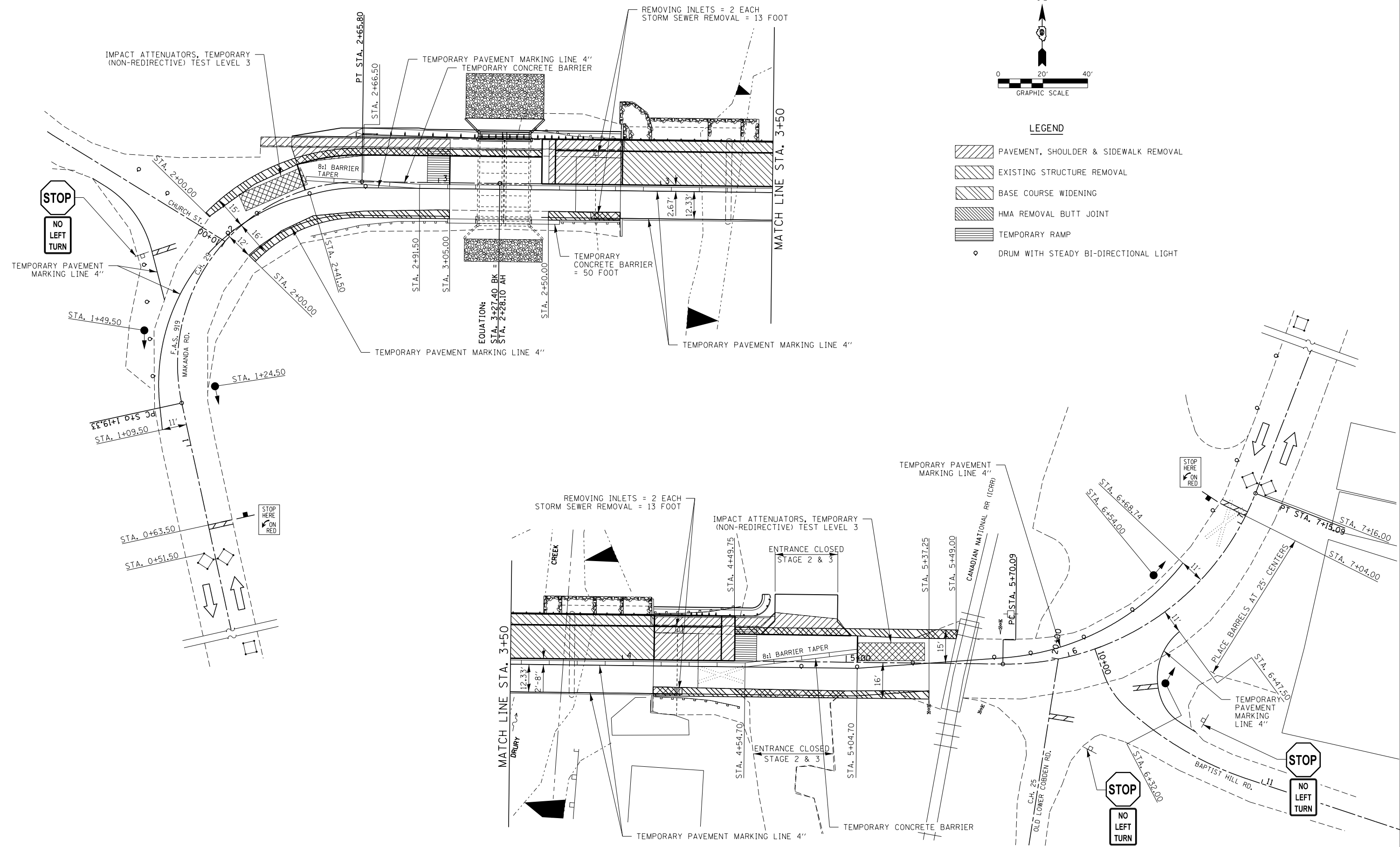


|  |                       |                   |           |   |                                      |                         |        |         |                           |              |           |    |    |
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| HAMPTON, LENZINI AND RENWICK, INC.<br>3035 STEVENSON DRIVE, SUITE 201<br>SPRINGFIELD, ILLINOIS 62703<br>ILLINOIS PROFESSIONAL DESIGN FIRM<br>L.S./P.E./S.E. CORP. 184.000959 | PLOT SCALE = *SCALE*  | DRAWN - T.W.K.    | REVISED - |   | SCALE: 1:20                          | SHEET NO. 1 OF 3 SHEETS | STA.   | TO STA. | 919                       | 8B-2 & 8B-3  | JACKSON   | 69 | 16 |
|  | PLOT DATE = 3/19/2015 | CHECKED - L.F.S.  | REVISED - |   |                                      |                         |        |         | CONTRACT NO. 78217        |              |           |    |    |
|  |                       | DATE - 01/20/15   | REVISED - |   |                                      |                         |        |         | ILLINOIS FED. AID PROJECT |              |           |    |    |



**LEGEND**

- PAVEMENT, SHOULDER & SIDEWALK REMOVAL
- EXISTING STRUCTURE REMOVAL
- BASE COURSE WIDENING
- HMA REMOVAL BUTT JOINT
- TEMPORARY RAMP
- DRUM WITH STEADY BI-DIRECTIONAL LIGHT



|  |                    |
|--|--------------------|
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| HAMPTON, LENZINI AND RENWICK, INC.<br>3035 STEVENSON DRIVE, SUITE 201<br>SPRINGFIELD, ILLINOIS 62703<br>ILLINOIS PROFESSIONAL DESIGN FIRM<br>LS / PE / SE CORP. 184.000959 |                    |
| PLOT SCALE = *SCALE*   | CHECKED - L.F.S.   |
| PLOT DATE = 3/19/2015  | DATE - 01/20/15    |

|                   |           |
|-------------------|-----------|
| DESIGNED - J.W.F. | REVISED - |
| DRAWN - T.W.K.    | REVISED - |
| CHECKED - L.F.S.  | REVISED - |
| DATE - 01/20/15   | REVISED - |

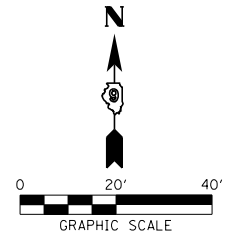
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**STAGE 2 PLAN  
MAKANDA ROAD**

SCALE: 1:20 SHEET NO. 2 OF 3 SHEETS STA. TO STA.

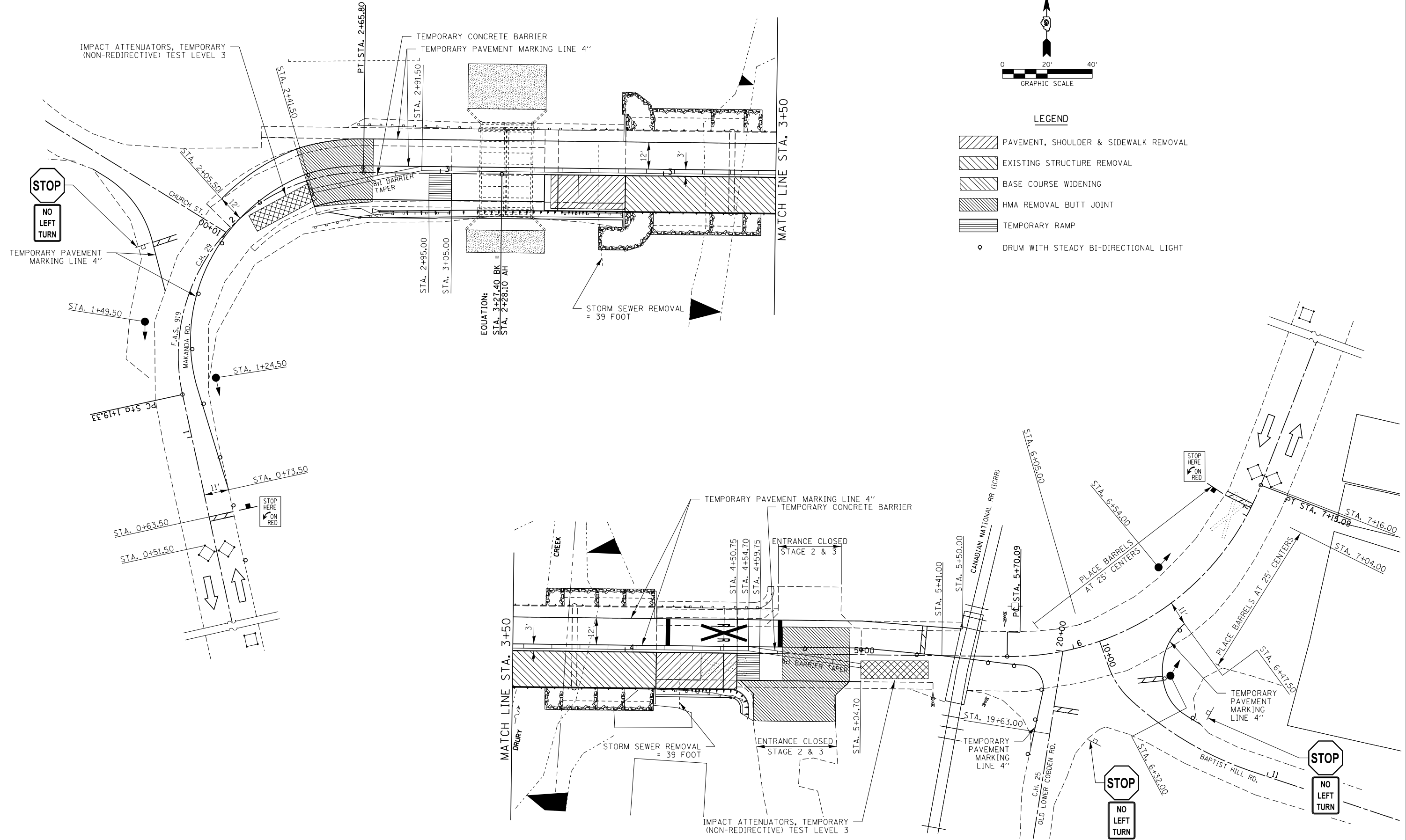
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|--------------------|-------------|---------|--------------|-----------|
| F.A.S.             | SECTION     | COUNTY  | TOTAL SHEETS | SHEET NO. |
| 919                | 8B-2 & 8B-3 | JACKSON | 69           | 17        |
| CONTRACT NO. 78217 |             |         |              |           |

ILLINOIS FED. AID PROJECT



**LEGEND**

- PAVEMENT, SHOULDER & SIDEWALK REMOVAL
- EXISTING STRUCTURE REMOVAL
- BASE COURSE WIDENING
- HMA REMOVAL BUTT JOINT
- TEMPORARY RAMP
- DRUM WITH STEADY BI-DIRECTIONAL LIGHT



|  |                       |                   |           |
|--|-----------------------|-------------------|-----------|
| FILE NAME = D978217-sht-staging.dgn  | USER NAME = \$USER\$  | DESIGNED - J.W.F. | REVISED - |
| HAMPTON, LENZINI AND RENWICK, INC.   |                       | DRAWN - T.W.K.    | REVISED - |
| 3035 STEVENSON DRIVE, SUITE 201<br>SPRINGFIELD, ILLINOIS 62703<br>ILLINOIS PROFESSIONAL DESIGN FIRM<br>L.S./P.E./S.E. CORP. 184.000959 |                       | CHECKED - L.F.S.  | REVISED - |
|  | PLOT SCALE = *SCALE*  | DATE - 01/20/15   | REVISED - |
|  | PLOT DATE = 3/19/2015 |                   |           |

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

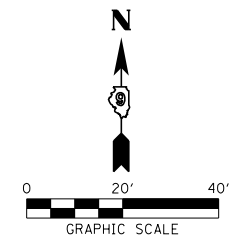
**STAGE 3 PLAN  
MAKANDA ROAD**

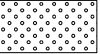
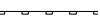



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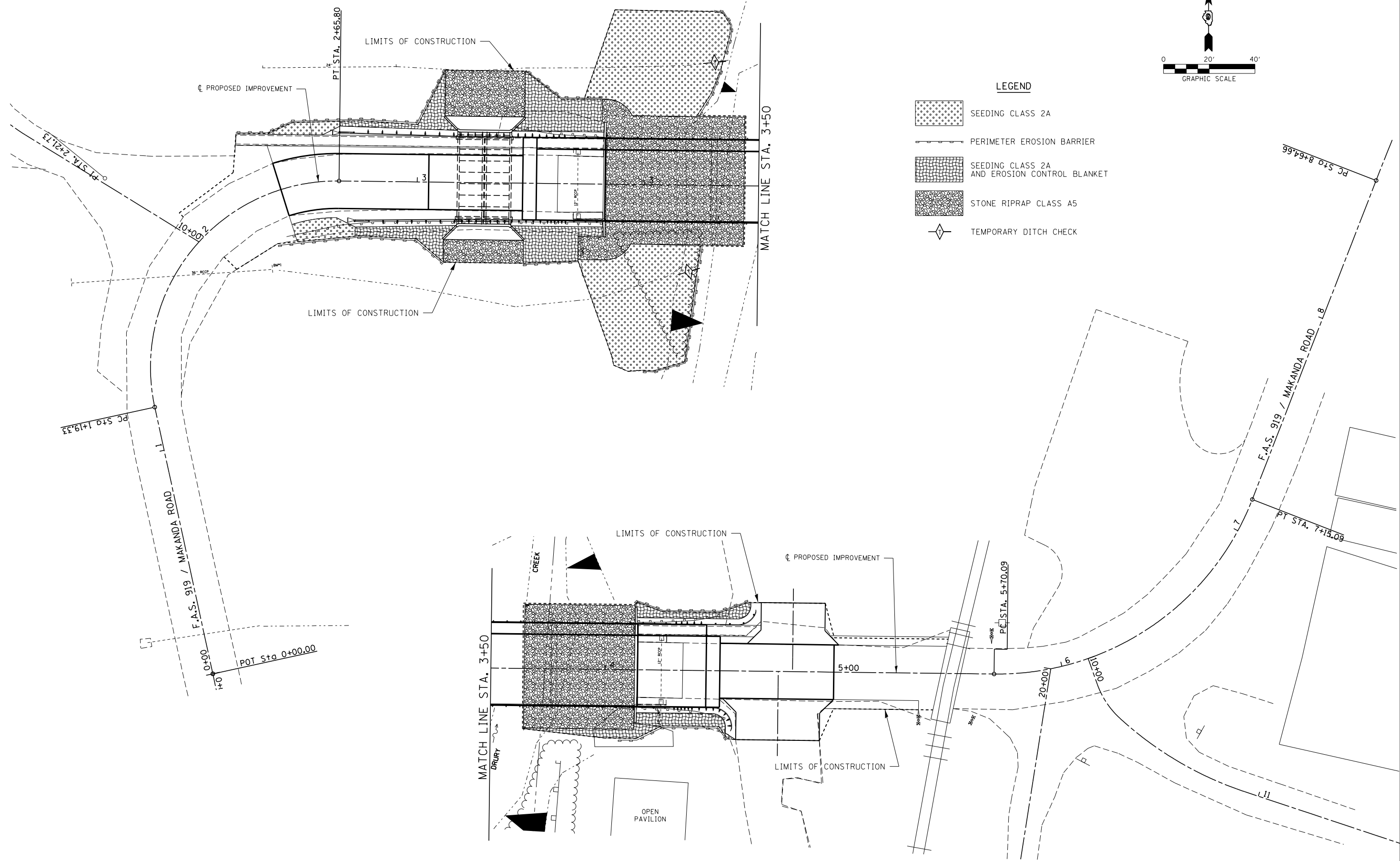
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| F.A.S.                    | SECTION     | COUNTY  | TOTAL SHEETS | SHEET NO. |
| 919                       | 8B-2 & 8B-3 | JACKSON | 69           | 18        |
| CONTRACT NO. 78217        |             |         |              |           |
| ILLINOIS FED. AID PROJECT |             |         |              |           |







- LEGEND**
-  SEEDING CLASS 2A
  -  PERIMETER EROSION BARRIER
  -  SEEDING CLASS 2A AND EROSION CONTROL BLANKET
  -  STONE RIPRAP CLASS A5
  -  TEMPORARY DITCH CHECK

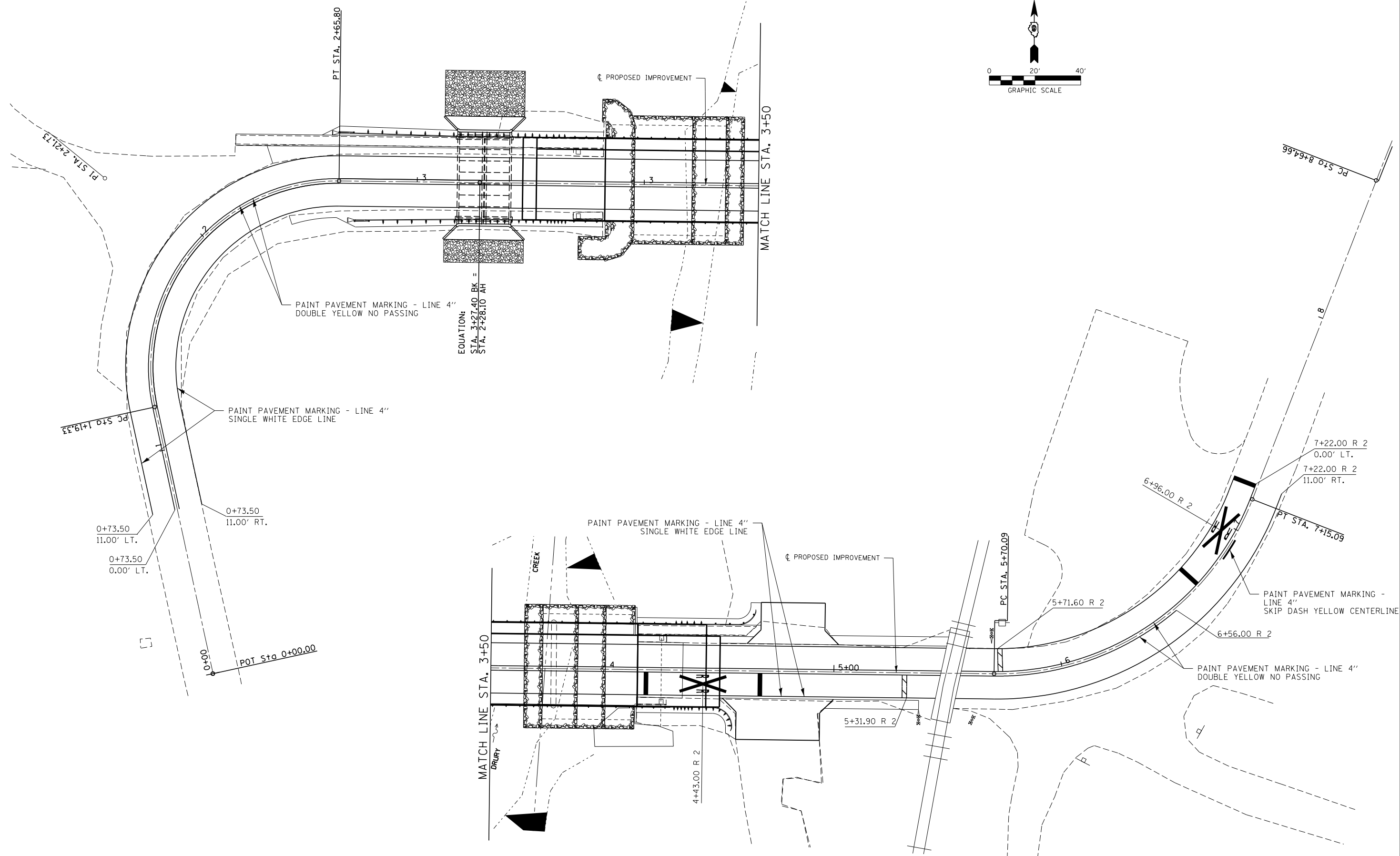
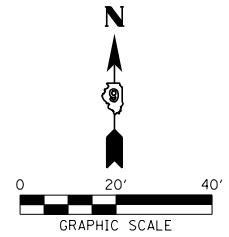


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| HAMPTON, LENZINI AND RENWICK, INC.<br>3035 STEVENSON DRIVE, SUITE 201<br>SPRINGFIELD, ILLINOIS 62703<br>ILLINOIS PROFESSIONAL DESIGN FIRM<br>LS / PE / SE CORP. 184.000959 | PLOT SCALE = *SCALE* | DRAWN - T.W.K.    | REVISED - |
| PLOT DATE = 1/20/2015  |                      | CHECKED - L.F.S.  | REVISED - |
|  |                      | DATE - 01/20/15   | REVISED - |

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

|  |           |           |              |
|--|-----------|-----------|--------------|
| <b>EROSION CONTROL PLAN<br/>MAKANDA ROAD</b> |           |           |              |
| SCALE: 1:20                                  | SHEET NO. | OF SHEETS | STA. TO STA. |

|                           |             |         |              |           |
|---------------------------|-------------|---------|--------------|-----------|
| F.A.S.                    | SECTION     | COUNTY  | TOTAL SHEETS | SHEET NO. |
| 919                       | 8B-2 & 8B-3 | JACKSON | 69           | 20        |
| CONTRACT NO. 78217        |             |         |              |           |
| ILLINOIS FED. AID PROJECT |             |         |              |           |



|  |                      |                   |           |
|--|----------------------|-------------------|-----------|
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| HAMPTON, LENZINI AND RENWICK, INC.<br>3035 STEVENSON DRIVE, SUITE 201<br>SPRINGFIELD, ILLINOIS 62703<br>ILLINOIS PROFESSIONAL DESIGN FIRM<br>LS / PE / SE CORP. 184.000959 | PLOT SCALE = *SCALE* | DRAWN - T.W.K.    | REVISED - |
| PLOT DATE = 1/20/2015  |                      | CHECKED - L.F.S.  | REVISED - |
|  |                      | DATE - 01/20/15   | REVISED - |

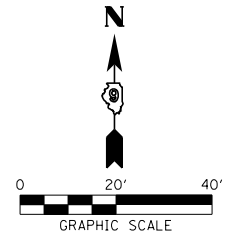
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PAVEMENT MARKING PLAN  
MAKANDA ROAD**

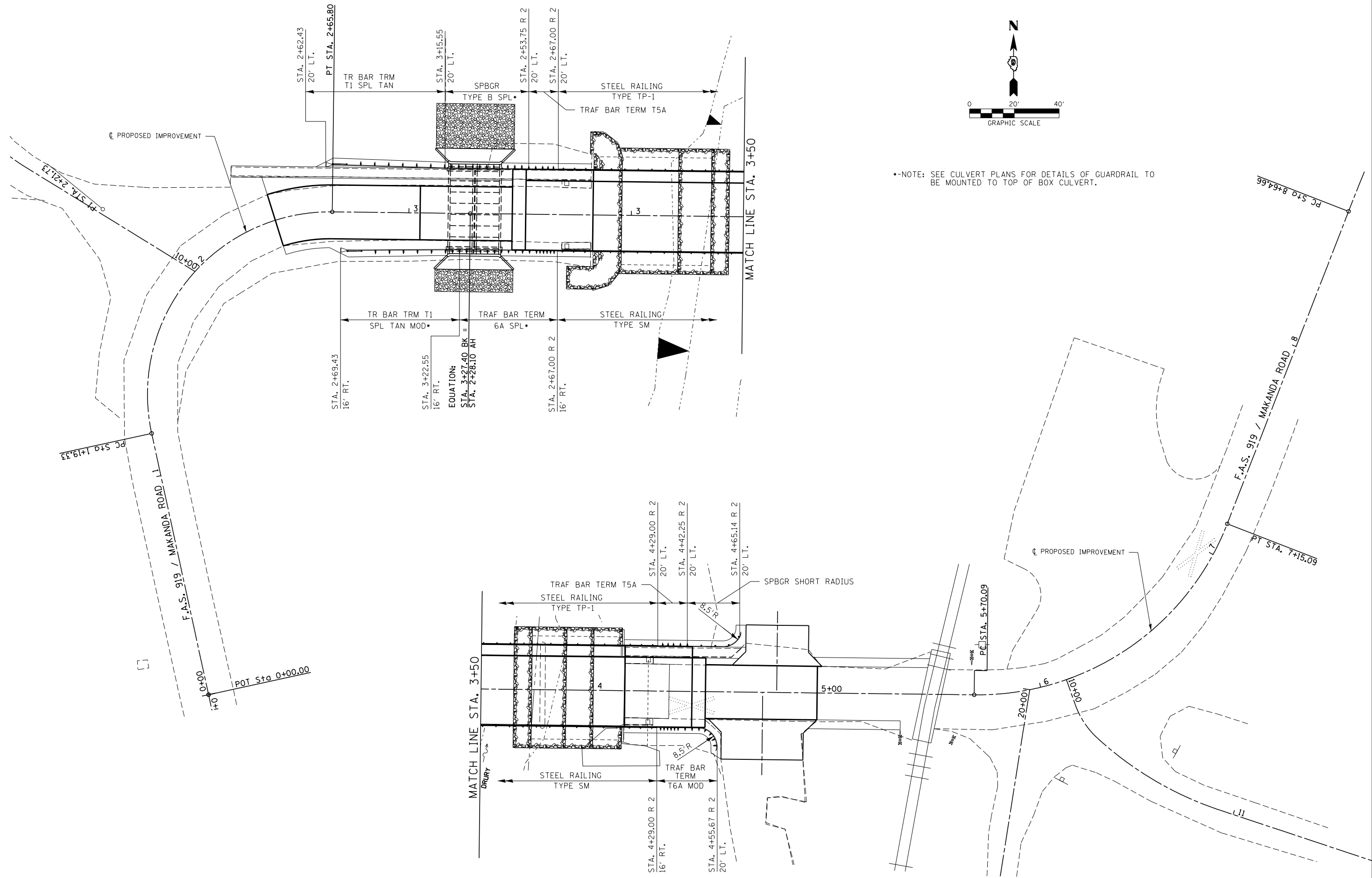
SCALE: 1:20      SHEET NO.      OF      SHEETS      STA.      TO      STA.

| F.A.S.             | SECTION     | COUNTY  | TOTAL SHEETS | SHEET NO. |
|--------------------|-------------|---------|--------------|-----------|
| 919                | 8B-2 & 8B-3 | JACKSON | 68           | 21        |
| CONTRACT NO. 78217 |             |         |              |           |

ILLINOIS FED. AID PROJECT



•NOTE: SEE CULVERT PLANS FOR DETAILS OF GUARDRAIL TO BE MOUNTED TO TOP OF BOX CULVERT.



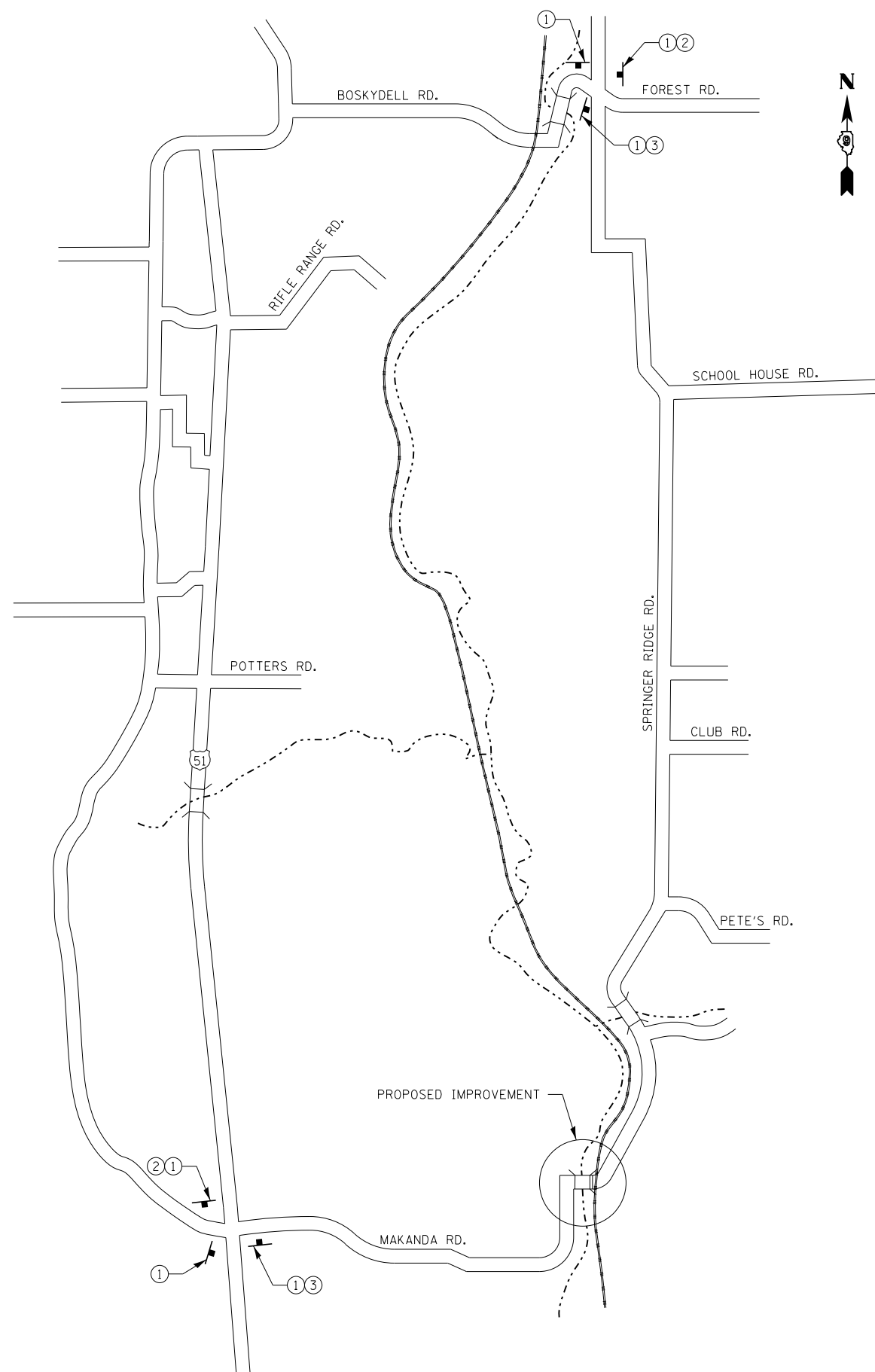
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| HAMPTON, LENZINI AND RENWICK, INC.<br>3035 STEVENSON DRIVE, SUITE 201<br>SPRINGFIELD, ILLINOIS 62703<br>ILLINOIS PROFESSIONAL DESIGN FIRM<br>LS / PE / SE CORP. 184.000959 | PLOT SCALE = *SCALE* | DRAWN - T.W.K.    | REVISED - |
| PLOT DATE = 1/20/2015  |                      | CHECKED - L.F.S.  | REVISED - |
|  |                      | DATE - 01/20/15   | REVISED - |

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

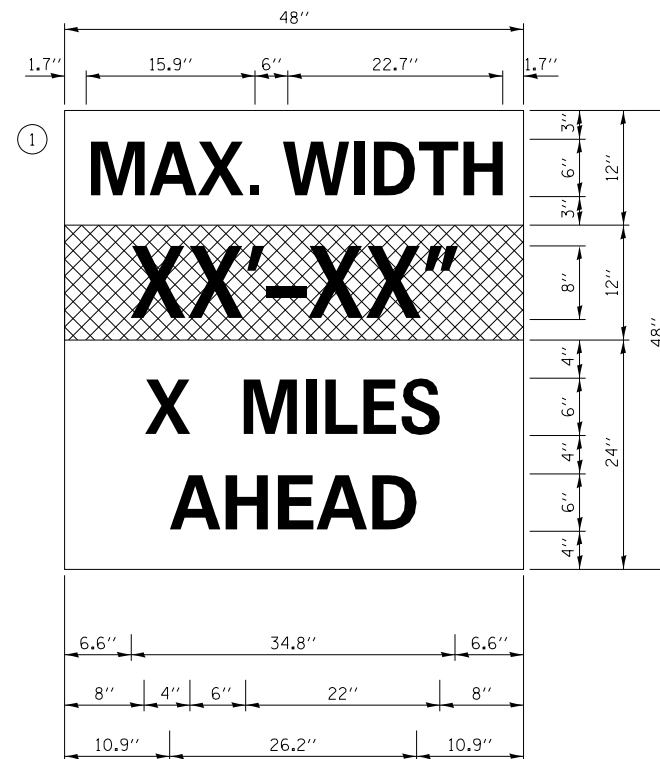
**GUARDRAIL LAYOUT  
MAKANDA ROAD**

SCALE: 1:20 SHEET NO. OF SHEETS STA. TO STA.

|                           |             |         |              |           |
|---------------------------|-------------|---------|--------------|-----------|
| F.A.S.                    | SECTION     | COUNTY  | TOTAL SHEETS | SHEET NO. |
| 919                       | 8B-2 & 8B-3 | JACKSON | 69           | 22        |
| CONTRACT NO. 78217        |             |         |              |           |
| ILLINOIS FED. AID PROJECT |             |         |              |           |

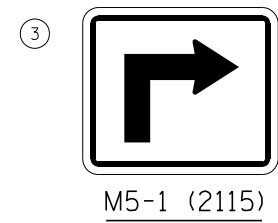
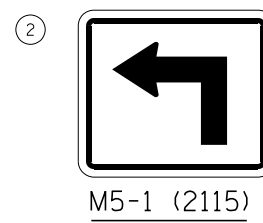


SIGN LEGEND



W12-I103

W12-I103 (WIDTH IS 80)  
 NO BORDER, BLACK ON WHITE:  
 "MAX WIDTH" D:  
 NO BORDER, BLACK ON ORANGE:  
 "XX'-XX'" D:  
 NO BORDER, BLACK ON WHITE:  
 "X MILES" D: "AHEAD" D:

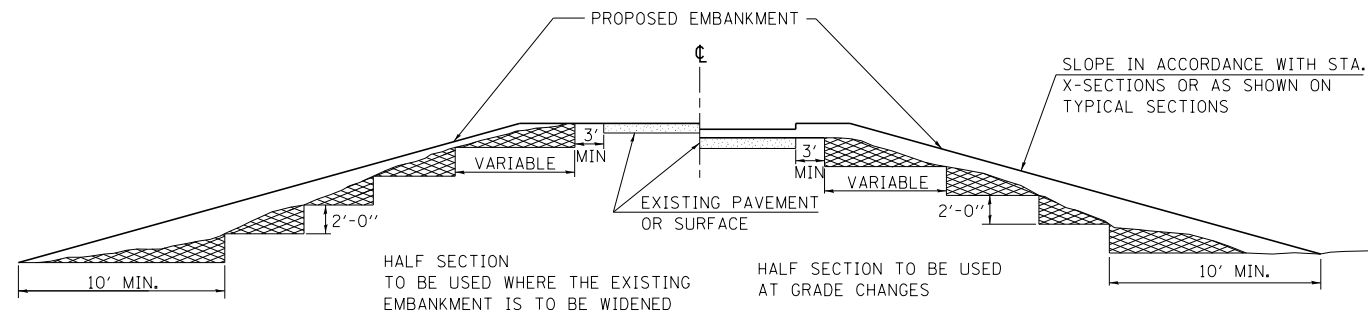


DETOUR NOTES

1. THE CONTRACTOR SHALL FURNISH THE POSTS AND ERECT THE SIGNS AT THE LOCATION DIRECTED BY THE ENGINEER. ALL SIGNS SHALL BE POST MOUNTED.
2. THE ABOVE NOTED WORK INCLUDING SIGN, POSTS, HARDWARE AND LABOR SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE EACH, FOR TRAFFIC CONTROL AND PROTECTION STD. 701321 (SPECIAL) AND NO OTHER COMPENSATION WILL BE ALLOWED.
3. THE WIDTH SHOWN ON THE W12-I103 SIGN SHALL BE 1'-6" LESS THAN ACTUAL STAGING WIDTH OR AS DIRECTED BY THE ENGINEER. THE "X" AHEAD WILL BE DETERMINED BY THE ENGINEER.

|  |                       |                   |           |   |  |           |           |      |         |         |             |              |           |    |
|--|-----------------------|-------------------|-----------|---|--|-----------|-----------|------|---------|---------|-------------|--------------|-----------|----|
| FILE NAME = D978217-sht-sign.dgn   | USER NAME = *USER*    | DESIGNED - L.F.S. | REVISED - | <b>STATE OF ILLINOIS<br/>DEPARTMENT OF TRANSPORTATION</b> | <b>WIDE LOAD SIGNING DETAIL<br/>MAKANDA ROAD</b> |           |           |      | F.A.S.  | SECTION | COUNTY      | TOTAL SHEETS | SHEET NO. |    |
| HAMPTON, LENZINI AND RENWICK, INC.<br>3035 STEVENSON DRIVE, SUITE 201<br>SPRINGFIELD, ILLINOIS 62703<br>ILLINOIS PROFESSIONAL DESIGN FIRM<br>LS / PE / SE CORP. 184.000959 | PLOT SCALE = *SCALE*  | DRAWN - T.W.K.    | REVISED - |   | SCALE:   | SHEET NO. | OF SHEETS | STA. | TO STA. | 919     | 8B-2 & 8B-3 | JACKSON      | 69        | 23 |
|  | PLOT DATE = 1/20/2015 | CHECKED - J.W.F.  | REVISED - |   | CONTRACT NO.                                     |           |           |      |         |         |             |              |           |    |
|  |                       | DATE - 01/20/15   | REVISED - |   | ILLINOIS FED. AID PROJECT                        |           |           |      |         |         |             |              |           |    |

## TYPICAL CROSS SECTION SHOWING STEP CONSTRUCTION ON EXISTING FILL

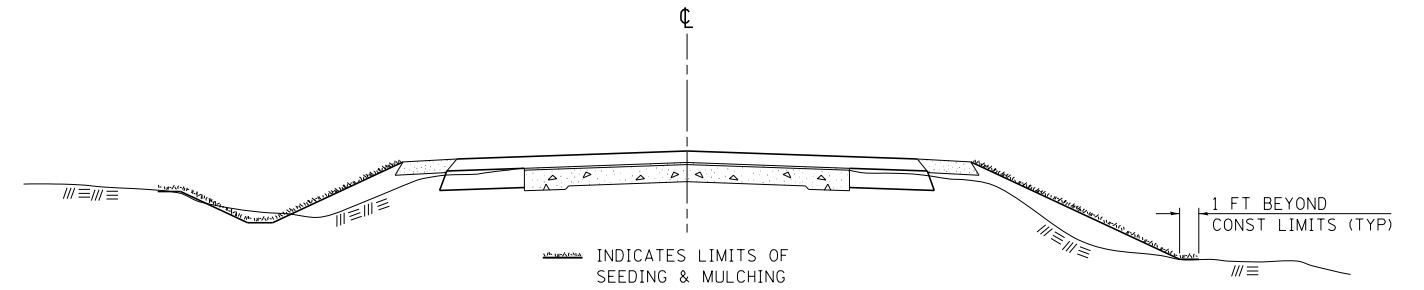


MATERIAL TO BE REMOVED AND REPLACED IN THE EMBANKMENT IN ACCORDANCE WITH ART. 205.04 OF THE STANDARD SPECIFICATION. COST TO BE INCLUDED IN THE VARIOUS ITEMS OF EXCAVATION AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED BECAUSE OF THIS WORK.

| REVISIONS |         |
|-----------|---------|
| REDRAWN   | 2-15-89 |
| REVISED   | 8-15-94 |
| CHECKED   | 6-3-99  |
| RESIZED   | 5-7-08  |

STD. 9-16

## SEEDING & MULCHING



### GENERAL NOTES

IN GENERAL, ALL EARTH SURFACES DISTURBED DURING CONSTRUCTION OPERATIONS SHALL BE SEEDED AND MULCHED UPON COMPLETION OF ALL GRADING OPERATIONS.

FERTILIZER NUTRIENTS AND LIMESTONE SHALL BE APPLIED TO ALL SEEDED AREAS.

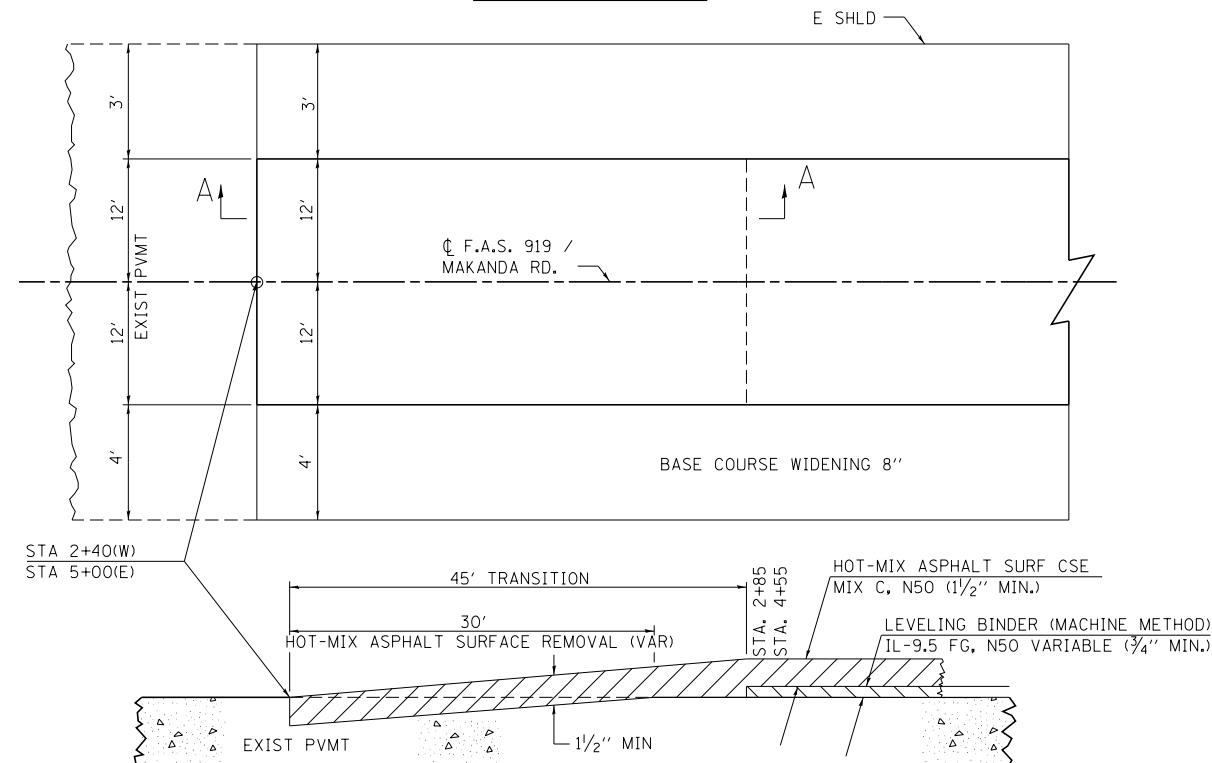
THE RATES OF APPLICATION OF FERTILIZER, MULCH AND LIMESTONE SHALL BE AS SPECIFIED IN THE SPECIAL PROVISIONS.

SECTIONS 250 AND 251 OF THE STANDARD SPECIFICATIONS SHALL GOVERN THIS WORK EXCEPT AS SPECIFIED HEREIN OR AS NOTED IN THE SPECIAL PROVISIONS.

| REVISIONS |         |
|-----------|---------|
| REDRAWN   | 2-15-89 |
| REVISED   | 8-15-94 |
| REVISED   | 6-3-99  |
| REVISED   | 3-27-08 |

STD. 9-12

## BUTT JOINT



SECTION A-A

| REVISIONS |          |
|-----------|----------|
| DRAWN     | 10-17-90 |
| REVISED   | 01-11-01 |
| REVISED   | 3-25-08  |
| REVISED   |          |

STD. 9-86

|  |                      |                   |           |
|--|----------------------|-------------------|-----------|
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| HAMPTON, LENZINI AND RENWICK, INC.<br>3035 STEVENSON DRIVE, SUITE 201<br>SPRINGFIELD, ILLINOIS 62703<br>ILLINOIS PROFESSIONAL DESIGN FIRM<br>LS / PE / SE CORP. 184.000959 | PLOT SCALE = *SCALE* | DRAWN - T.W.K.    | REVISED - |
| PLOT DATE = 1/20/2015  |                      | CHECKED - L.F.S.  | REVISED - |
|  |                      | DATE - 01/20/15   | REVISED - |

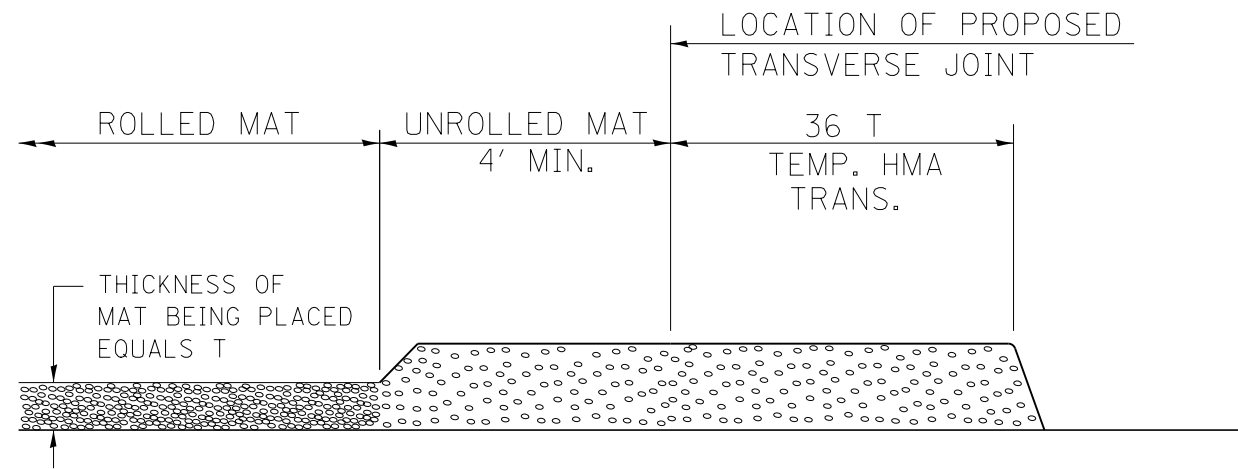
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**STANDARD DETAILS DISTRICT 9  
MAKANDA ROAD**

SCALE: SHEET NO. 1 OF 2 SHEETS STA. TO STA.

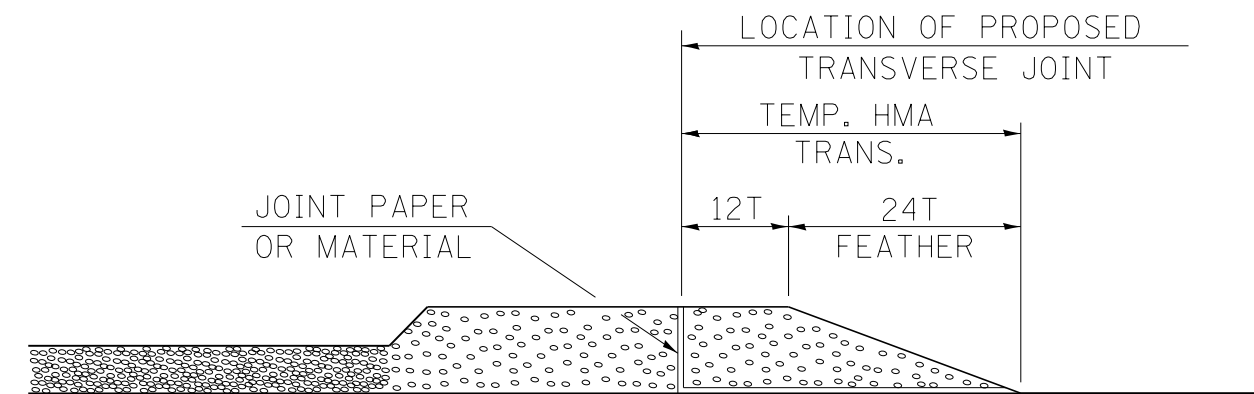
| F.A.S.                    | SECTION     | COUNTY  | TOTAL SHEETS | SHEET NO. |
|---------------------------|-------------|---------|--------------|-----------|
| 919                       | 8B-2 & 8B-3 | JACKSON | 69           | 24        |
| CONTRACT NO. 78217        |             |         |              |           |
| ILLINOIS FED. AID PROJECT |             |         |              |           |

# TEMPORARY HOT-MIX ASPHALT TRANSITIONS



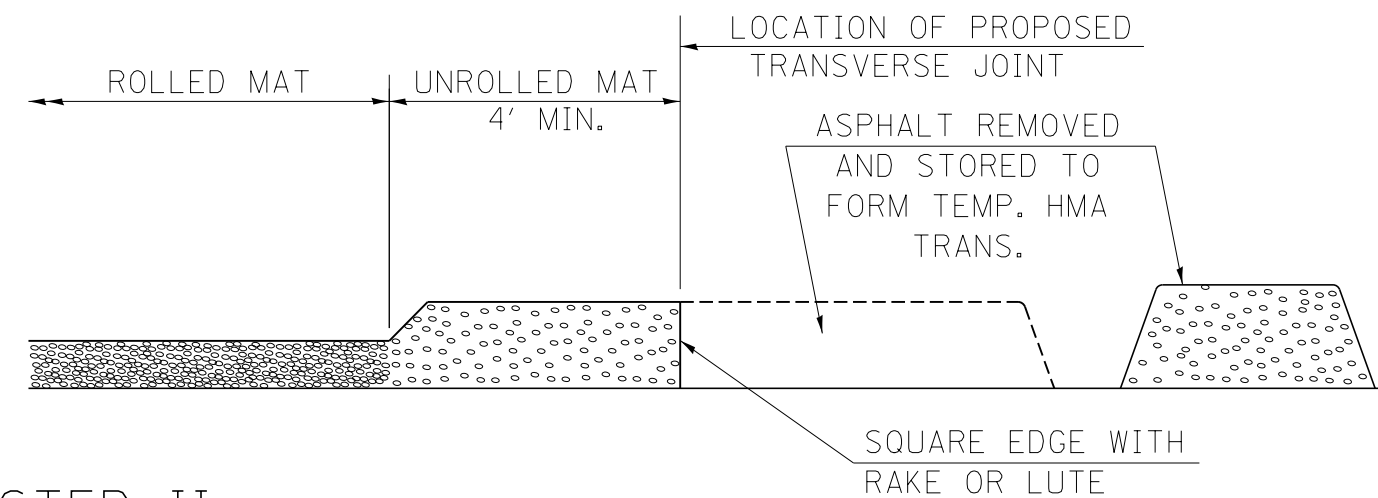
## STEP I

1. PLACE HOT-MIX ASPHALT MAT, LENGTH 36 TIMES THE THICKNESS OF THE MAT BEING PLACED PAST THE PROPOSED TRANSVERSE JOINT LOCATION USING NORMAL OPERATING PROCEDURES. EXTREME CARE SHOULD BE TAKEN TO MAINTAIN ENOUGH MATERIAL IN FRONT OF THE SCREED TO MAINTAIN REQUIRED PAVING DEPTH.



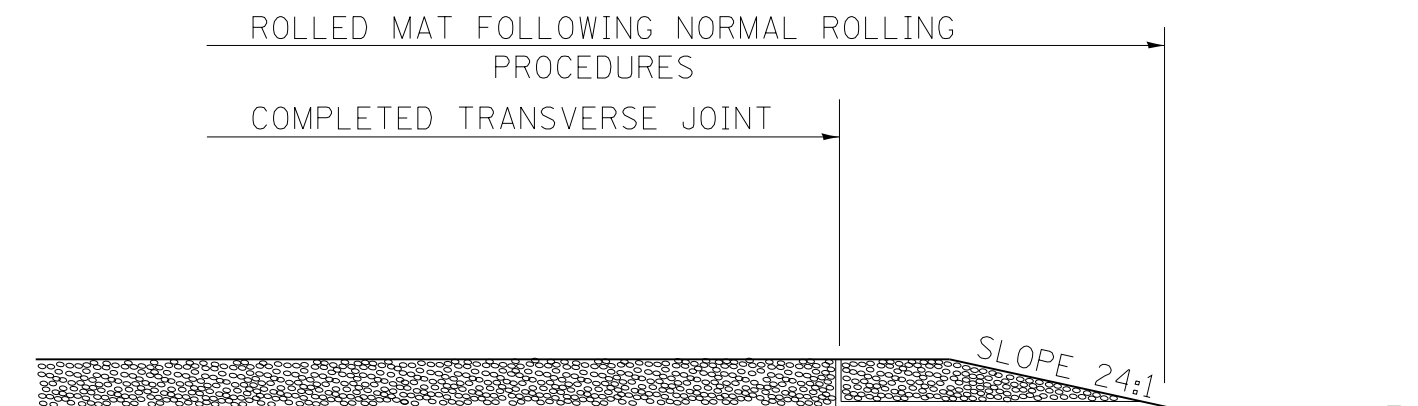
## STEP III

1. JOINT PAPER OR OTHER PRESELECTED JOINT MATERIAL IS THEN PLACED IN THE CLEARED AREA AND THE EXCESS ASPHALT USED TO HAND FORM A TRANSITION TO THE DIMENSIONS SHOWN ABOVE.
2. NOTE THAT IN CONSTRUCTING THE TRANSITION, THE MAT DEPTH IS CONTINUED AS PART OF THE TRANSITION BEFORE FORMING THE FEATHER.



## STEP II

1. MOVE THE PAVER OUT OF THE WAY AND REMOVE THE ASPHALT FROM THE AREA OF THE PROPOSED TEMPORARY HOT-MIX ASPHALT TRANSITION.
2. SQUARE UP THE END OF THE MAT WITH A RAKE OR LUTE.
3. NOTE THAT THE MAT WITHIN 4' OF THE END OF JOINT IS NOT TO BE ROLLED AT THIS TIME.



## STEP IV

1. COMPLETE TEMPORARY TRANSITION BY ROLLING.
2. TO RESUME PAVING, AT THE JOINT, REMOVE TEMPORARY TRANSITION AND DISPOSE OF THE MATERIAL ACCORDING TO ART. 202.03 OF THE STD. SPECS. (COST INCLUDED IN THE CONTRACT).
3. CONSTRUCTING THE TEMPORARY TRANSITIONS WILL NOT BE PAID FOR SEPARATELY IN ACCORDANCE WITH ARTICLE 406.14 OF THE STANDARD SPECIFICATIONS.

STD. 9-26

| REVISIONS |          |
|-----------|----------|
| REDRAWN   | 2-15-89  |
| REVISED   | 8-16-94  |
| REVISED   | 01-09-07 |
| RESIZED   | 05-8-08  |

|  |                       |                   |           |
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| HAMPTON, LENZINI AND RENWICK, INC.<br>3035 STEVENSON DRIVE, SUITE 201<br>SPRINGFIELD, ILLINOIS 62703<br>ILLINOIS PROFESSIONAL DESIGN FIRM<br>LS / PE / SE CORP. 184.000959 | PLOT SCALE = *SCALE*  | DRAWN - T.W.K.    | REVISED - |
|  | PLOT DATE = 1/20/2015 | CHECKED - L.F.S.  | REVISED - |
|  |                       | DATE - 01/20/15   | REVISED - |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

STANDARD DETAILS DISTRICT 9  
MAKANDA ROAD

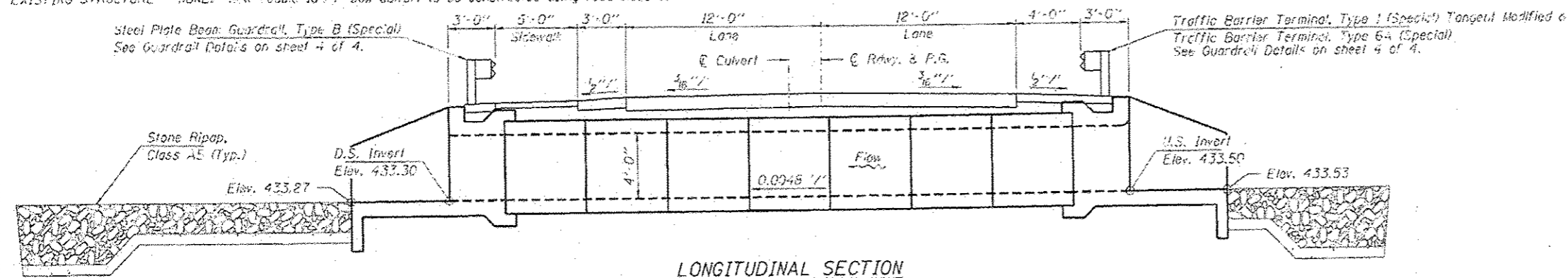
SCALE: SHEET NO. 2 OF 2 SHEETS STA. TO STA.

|                           |             |         |              |           |
|---------------------------|-------------|---------|--------------|-----------|
| F.A.S.                    | SECTION     | COUNTY  | TOTAL SHEETS | SHEET NO. |
| 919                       | 8B-2 & 8B-3 | JACKSON | 69           | 25        |
| CONTRACT NO. 78217        |             |         |              |           |
| ILLINOIS FED. AID PROJECT |             |         |              |           |



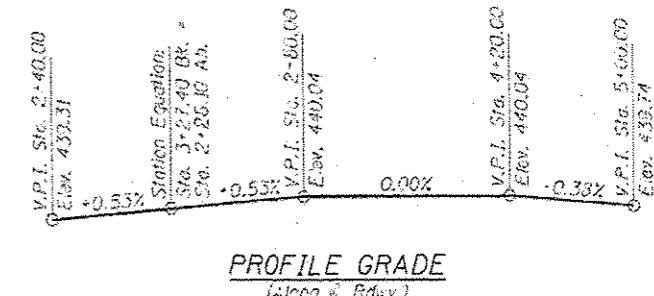
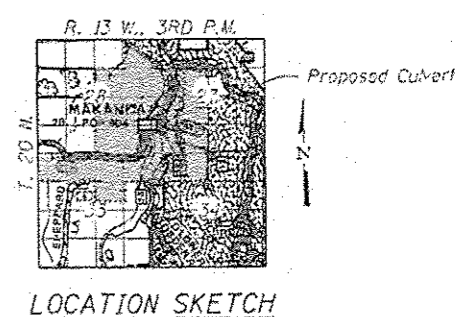
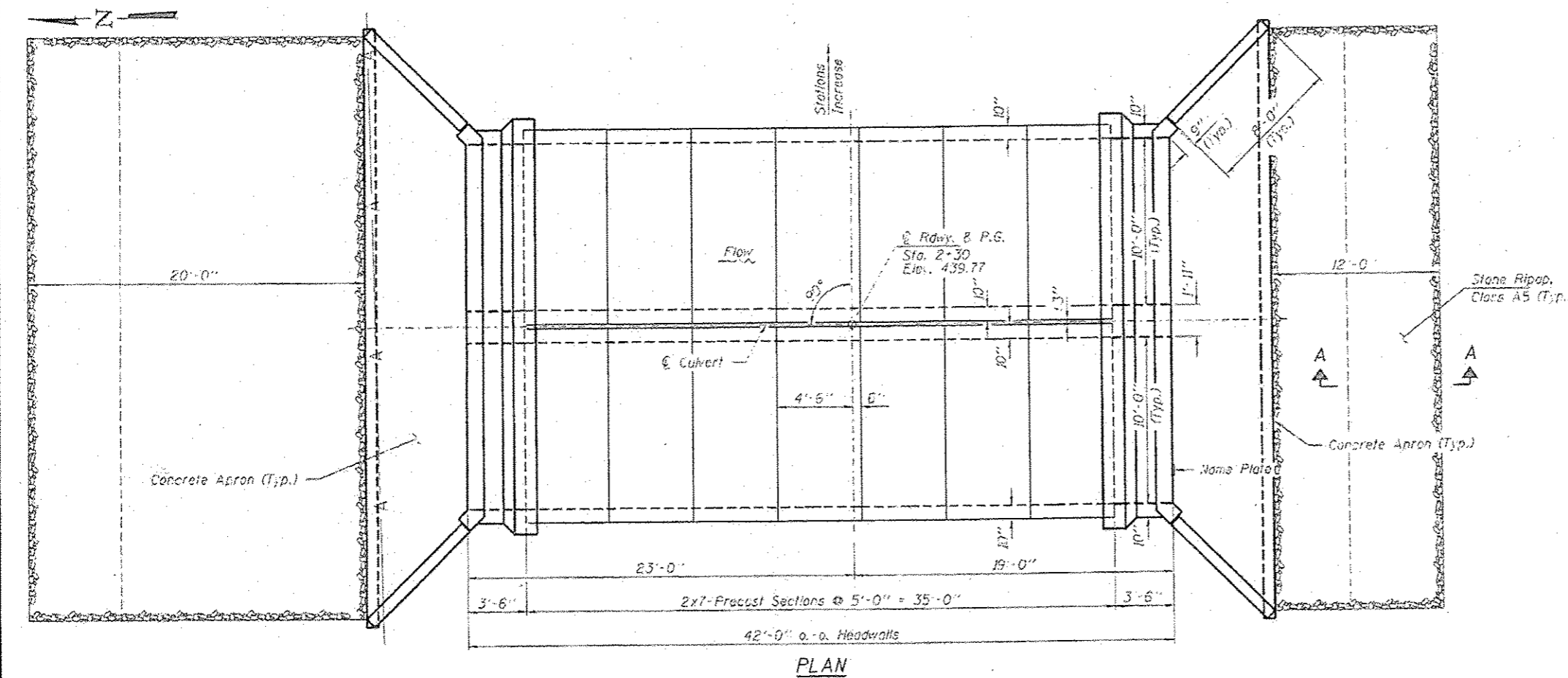
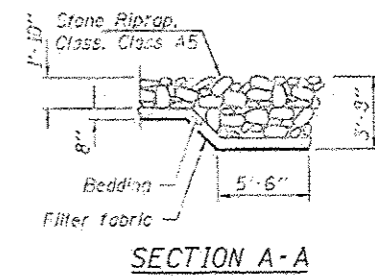
BENCHMARK: Chisled "□" on east end of fixed end section of 36" RCUP under Makanda Rd. 31' Rt., Sta. 2+19, Elev. 434.83

EXISTING STRUCTURE - NONE: New double 10'-11" box culvert to be constructed using road closure.



**INDEX OF STRUCTURE SHEETS**

1. General Plan
2. General Details
- 3-4. Culvert Details



**DESIGN SPECIFICATIONS**

2012 AASHTO LRFD Bridge Design Specifications, with 2013 Interims

**LOADING HL-93**

Allow 50#/Sq. Ft. for future wearing surface.

**DESIGN STRESSES**

**FIELD UNITS**  
 $f'_c = 3,500$  psi  
 $f_y = 60,000$  psi (Reinforcement)

**PRECAST UNITS**

$f'_c = 5,000$  psi  
 $f_y = 65,000$  psi (Welded Wire Fabric)

**WATERWAY INFORMATION**

Drainage Area = 17.9 Sq. Mi. Existing Low Grade Elev. 436.0 @ Sta. 6+00 Proposed Low Grade Elev. 438.0 @ Sta. 6+00

| Flood          | Freq. Yr. | Q C.F.S. | Opening Sq. Ft. |       | Natural H.W.E. | Head Ft. |       | Headwater Et. |        |
|----------------|-----------|----------|-----------------|-------|----------------|----------|-------|---------------|--------|
|                |           |          | Exist.          | Prop. |                | Exist.   | Prop. | Exist.        | Prop.  |
| Bridge         | 10        | 3600     | 890             | 890   | 437.89         | 0.43     | 0.36  | 438.37        | 438.25 |
|                |           |          | 0               | 60    |                |          |       |               |        |
| Relief Culvert | 20        | 4510     | 890             | 890   | 438.09         | 0.75     | 0.56  | 438.84        | 438.65 |
|                |           |          | 0               | 60    |                |          |       |               |        |
| Bridge         | 100       | 6620     | 890             | 890   | 439.99         | 0.49     | 0.45  | 440.48        | 440.45 |
|                |           |          | 0               | 80    |                |          |       |               |        |

**APPROVED**  
For Structural Adequacy Only

*D. Carl Perry*  
Engineer of Bridges & Structures



*Michael D. Cerra* 1/20/2015  
ILLINOIS STRUCTURAL NO. 081-5994 Expires 11-30-2016

**GENERAL PLAN & ELEVATION**  
**F.A.S. 919 / MAKANDA ROAD**  
**OVER DRURY CREEK OVERFLOW**  
**SECTION 8B-3**  
**JACKSON COUNTY**  
**STATION 2+30.00**  
**STRUCTURE NO. 039-2031**

|   |                      |                  |                  |   |  |                         |                    |
|---|----------------------|------------------|------------------|---|--|-------------------------|--------------------|
| FILE NAME: 110458-1-11-11-11-11   | USER NAME: [blank]   | DESIGNED: D.W.T. | REVISED: [blank] | STATE OF ILLINOIS<br>DEPARTMENT OF TRANSPORTATION | GENERAL PLAN<br>STRUCTURE NO. 039-2031 | SHEET NO. 1 OF 4 SHEETS |                    |
| 2305 STE. 1000 DRURY RD., SUITE 201<br>SPRINGFIELD, ILLINOIS 62703<br>317.246.1400 www.illinois.gov | PLOT SCALE: [blank]  | CHECKED: T.J.A.  | REVISED: [blank] |   | F.A.S. 919                             | SECTION 8B-3            | COUNTY JACKSON     |
| 184-0030<br>ILLINOIS PROFESSIONAL DESIGNATION<br>LICENSE CONFIRMATION                               | PLOT DATE: 1-22-2015 | DRAWN: C.A.B.    | REVISED: [blank] |   | TOTAL SHEETS 69                        | SHEET NO. 26            | CONTRACT NO. 78217 |
|   |                      | CHECKED: M.D.C.  | REVISED: [blank] |   | ILLINOIS FED. AID PROJECT              |                         |                    |

BENCHMARK: Chiseled "□" on east end of flared end section of 36" RCCP under Makanda Rd. 31' Rt., Sta. 2+19, Elev. 434.83

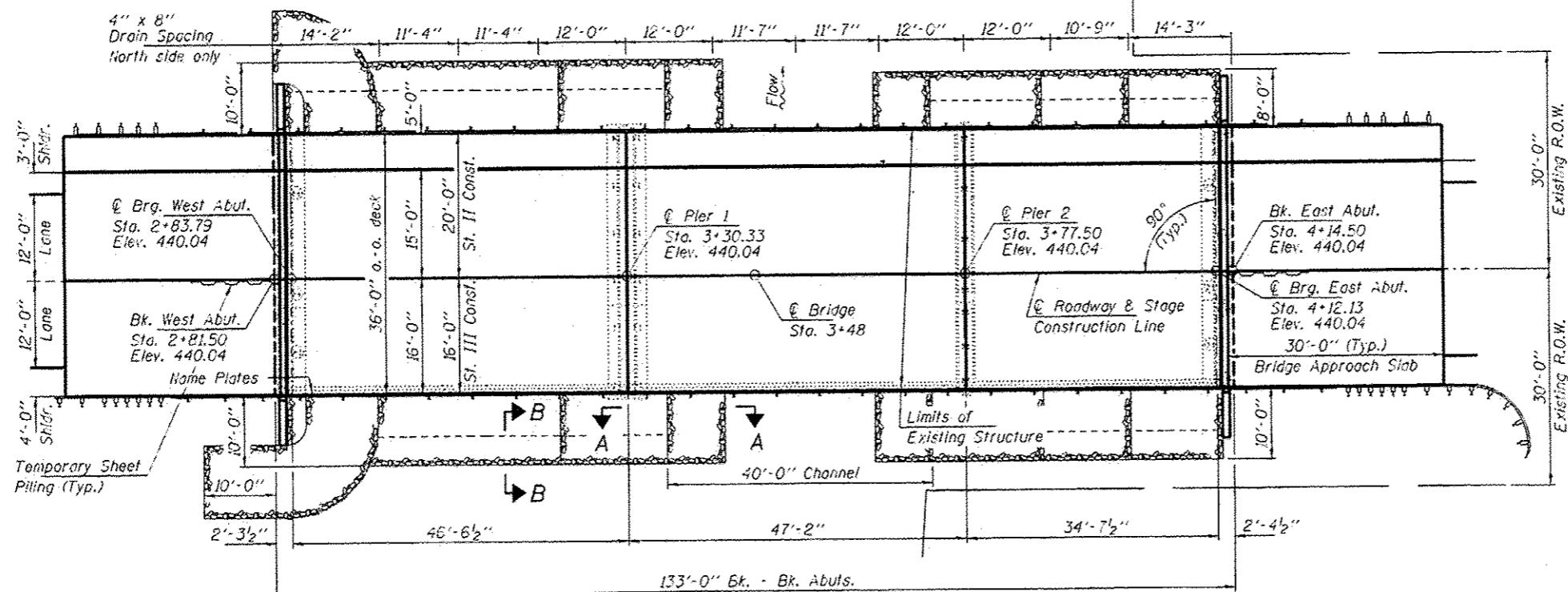
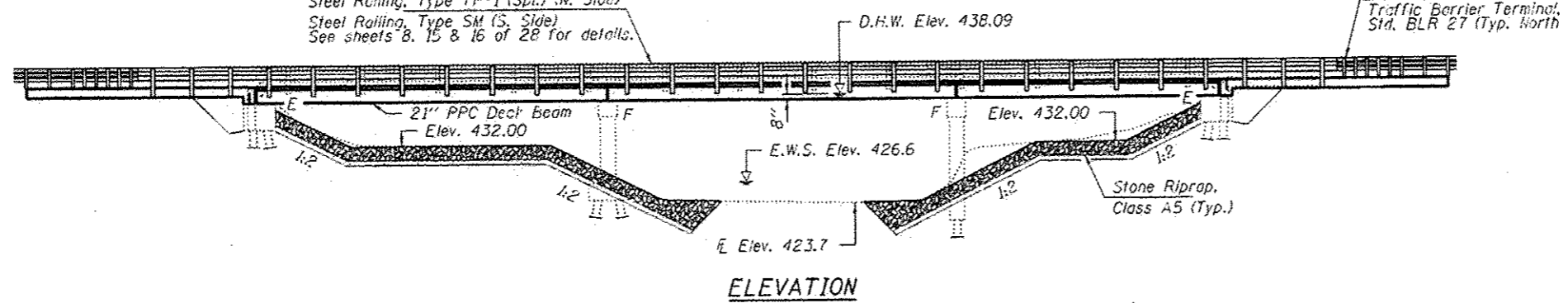
EXISTING STRUCTURE: S.N. 039-0055, Built in 1965 as FAS 919, Section 8B-1, Three span ppc deck beam bridge with concrete curb and sidewalk on pile bent abutments and pile supported piers. 133'-0" bk.-bk. abuts.; 36'-0" o.-o. deck.

Superstructure to be replaced using stage construction.

No Salvage

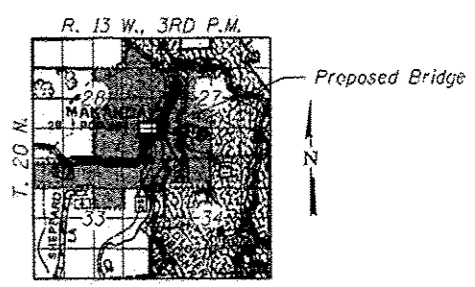
Steel Railing, Type TP-1 (Spl.) (W. Side)  
Steel Railing, Type SM (S. Side)  
See sheets 8, 15 & 16 of 28 for details.

Traffic Barrier Terminal, Type 6A (Mod.) (East End)  
Traffic Barrier Terminal, Type 6A (Special) (West End)  
Sta. 631032 (Typ. South Side) &  
Traffic Barrier Terminal, Type 5A  
Std. BLR 27 (Typ. North Side)



**INDEX OF STRUCTURE SHEETS**

1. General Plan & Elevation
2. General Details
3. Stage Construction Details
4. Temporary Concrete Barrier for Stage Construction
- 5-6. Top of Slab Elevations
7. Superstructure
- 8-10. Superstructure Details
11. 21"x48" PPC Deck Beam - Spans 1 & 2
12. 21"x48" PPC Deck Beam Details - Spans 1 & 2
13. 21"x48" PPC Deck Beam - Span 3
14. 21"x48" PPC Deck Beam Details - Span 3
15. Steel Railing, Type SM
16. Steel Railing, Type TP-1
17. Preformed Joint Strip Seal
- 18-19. Approach Slab Details
20. West Abutment Removal Details
21. West Abutment
22. East Abutment Removal Details
23. East Abutment
24. Pier 1
25. Pier 2
26. Bar Splicer Details
- 27-28. Borings



**DESIGN SPECIFICATIONS (NEW CONST.)**

2012 AASHTO LRFD Bridge Design Specifications, with 2013 Interims.  
1995 Seismic Retrofitting Manual for Highway Bridges FHWA RD-94/052

**LOADING HL-93 (NEW CONST.)**

Allow 50#/sq. ft. for future wearing surface.

**DESIGN STRESSES**

**FIELD UNITS (NEW CONSTRUCTION)**  
f'c = 5,000 psi  
fy = 60,000 psi (Reinf.)

**PRECAST PRESTRESSED UNITS**  
f'c = 6,000 psi  
f'ci = 5,000 psi  
fpu = 270,000 psi (1/2" low lax. strands)  
fpbl = 201,960 psi (1/2" low lax. strands)

**FIELD UNITS (EXISTING)**

f'c = 3,500 psi  
fy = 60,000 psi

**SEISMIC DATA**

Seismic Performance Category (SPC) = B  
Horizontal Bedrock Acceleration Coefficient (A): 0.139g  
Site Coefficient (S): 1.5

**Design Scour Elevations (ft.)**

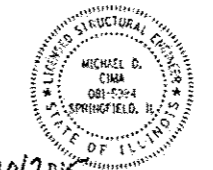
| W. Abut. | Pier 1 | Pier 2 | E. Abut. |
|----------|--------|--------|----------|
| 434.1    | 424.4  | 421.4  | 434.1    |

**WATERWAY INFORMATION**

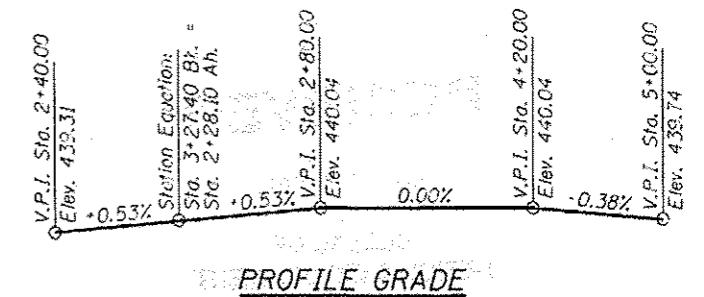
Existing Low Grade Elev. 438.0 @ Sta. 6+00  
Proposed Low Grade Elev. 438.0 @ Sta. 6+00

| Flood                 | Freq. Yr. | C.F.S. | Opening Sq. Ft. |       | Natural Head - Ft. |       | Headwater E. |        |        |
|-----------------------|-----------|--------|-----------------|-------|--------------------|-------|--------------|--------|--------|
|                       |           |        | Exist.          | Prop. | Exist.             | Prop. | Exist.       | Prop.  |        |
| Bridge                | 10        | 3600   | 890             | 890   | 437.89             | 0.48  | 0.36         | 438.37 | 438.25 |
|                       |           |        | 0               | 80    |                    |       |              |        |        |
|                       |           |        | 890             | 970   |                    |       |              |        |        |
| Design & Over. Paving | 20        | 4510   | 890             | 890   | 438.09             | 0.75  | 0.56         | 438.84 | 438.65 |
|                       |           |        | 0               | 80    |                    |       |              |        |        |
|                       |           |        | 890             | 890   |                    |       |              |        |        |
| Base                  | 100       | 6820   | 890             | 890   | 439.99             | 0.49  | 0.46         | 440.48 | 440.45 |
|                       |           |        | 0               | 80    |                    |       |              |        |        |
|                       |           |        | 890             | 970   |                    |       |              |        |        |

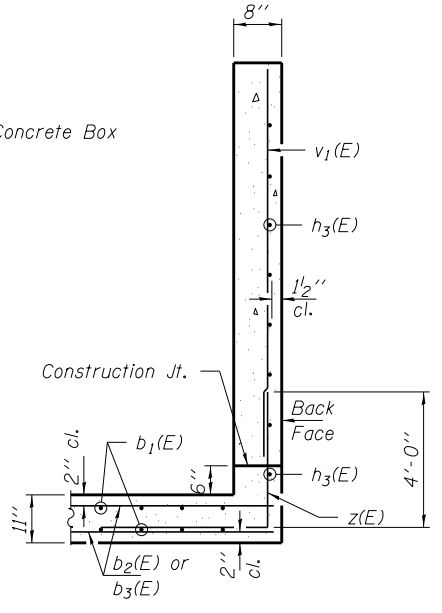
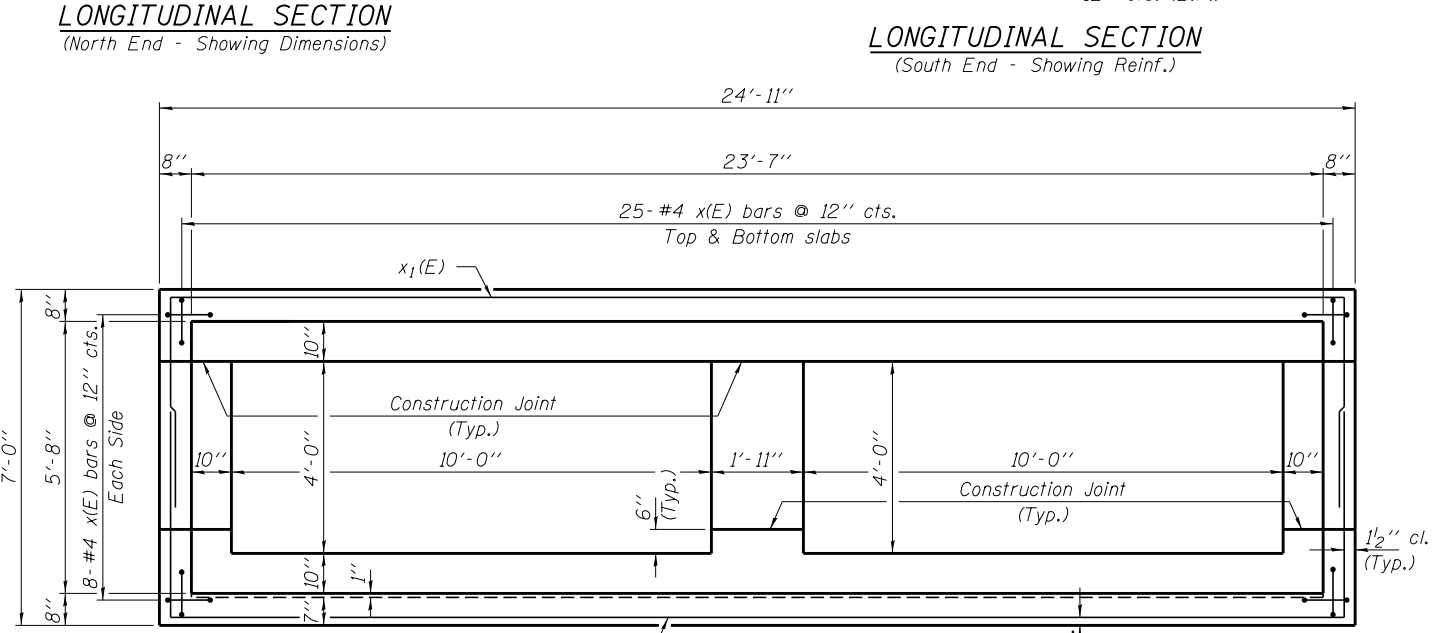
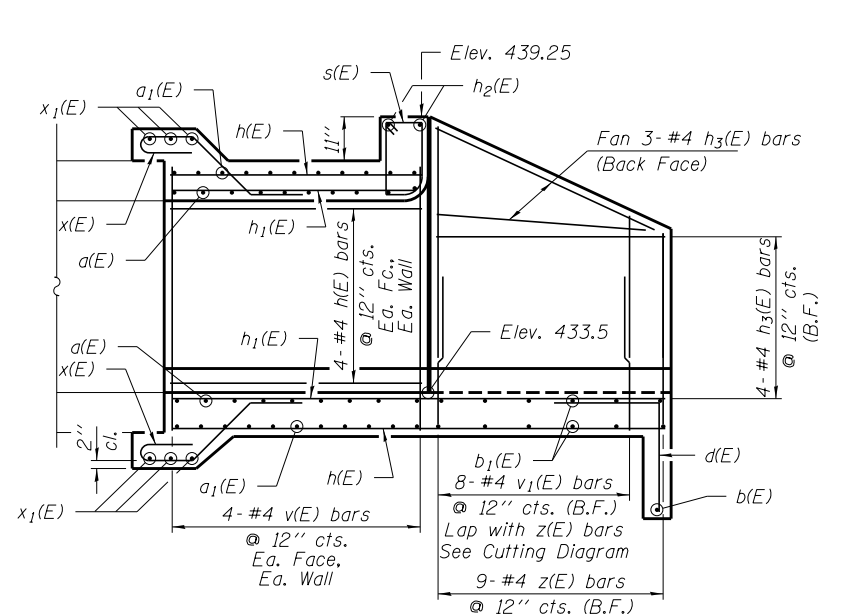
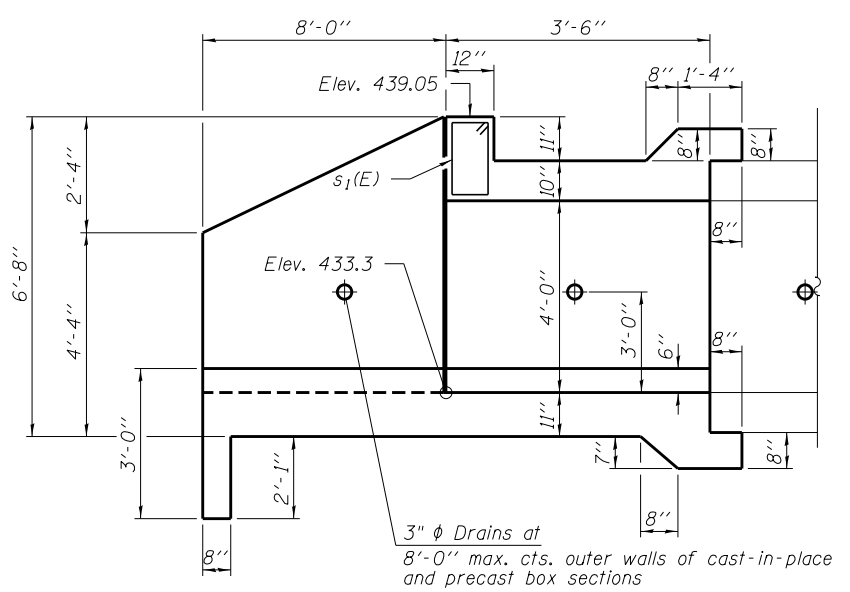
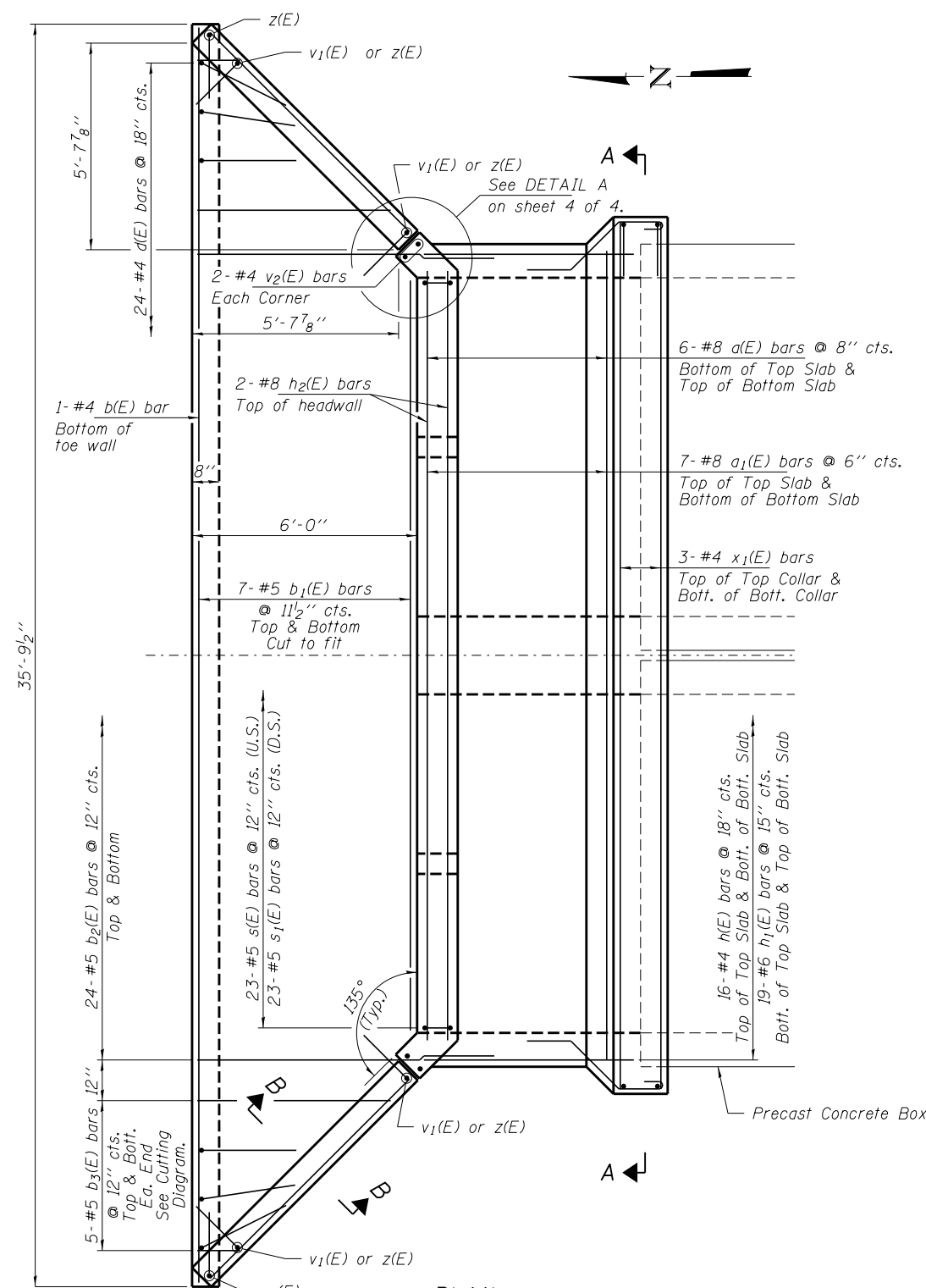
**APPROVED**  
For Structural Adequacy Only  
*O. Carl Puryear JFS*  
Engineer of Bridges & Structures



*Michael D. Cerna* 1/20/2015  
ILLINOIS STRUCTURAL NO. 081-5984 Expires 11-30-2016



**GENERAL PLAN & ELEVATION**  
F.A.S. 919 / MAKANDA ROAD  
OVER DRURY CREEK  
SECTION 8B-2  
JACKSON COUNTY  
STATION 3+48.00  
STRUCTURE NO. 039-0055



FILE NAME = D978217-sht-culvert.dgn  
 3085 STEVENSON DRIVE, SUITE 201  
 SPRINGFIELD, ILLINOIS 62703  
 217.546.3400 www.hfrengineering.com  
**HLR**  
 184.000099  
 ILLINOIS PROFESSIONAL DESIGN FIRM  
 LS / PE / SE CORPORATION

USER NAME =  
 DESIGNED - D.W.T.  
 CHECKED - T.J.A.  
 PLOT SCALE =  
 DRAWN - D.A.B.  
 CHECKED - M.D.C.  
 PLOT DATE = 5/4/2015

DESIGNED - D.W.T.  
 CHECKED - T.J.A.  
 DRAWN - D.A.B.  
 CHECKED - M.D.C.

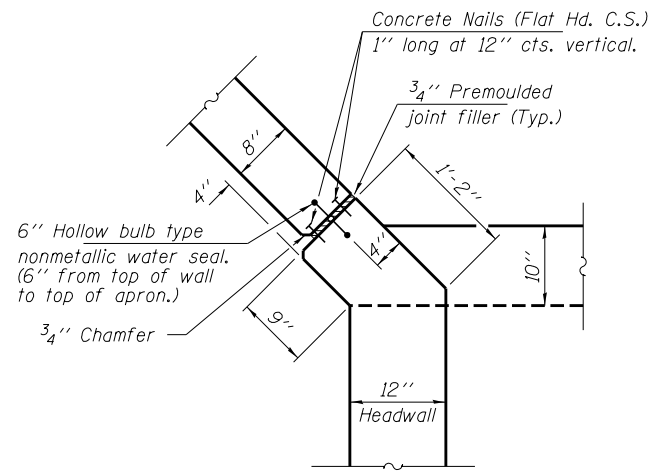
REVISED -  
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**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

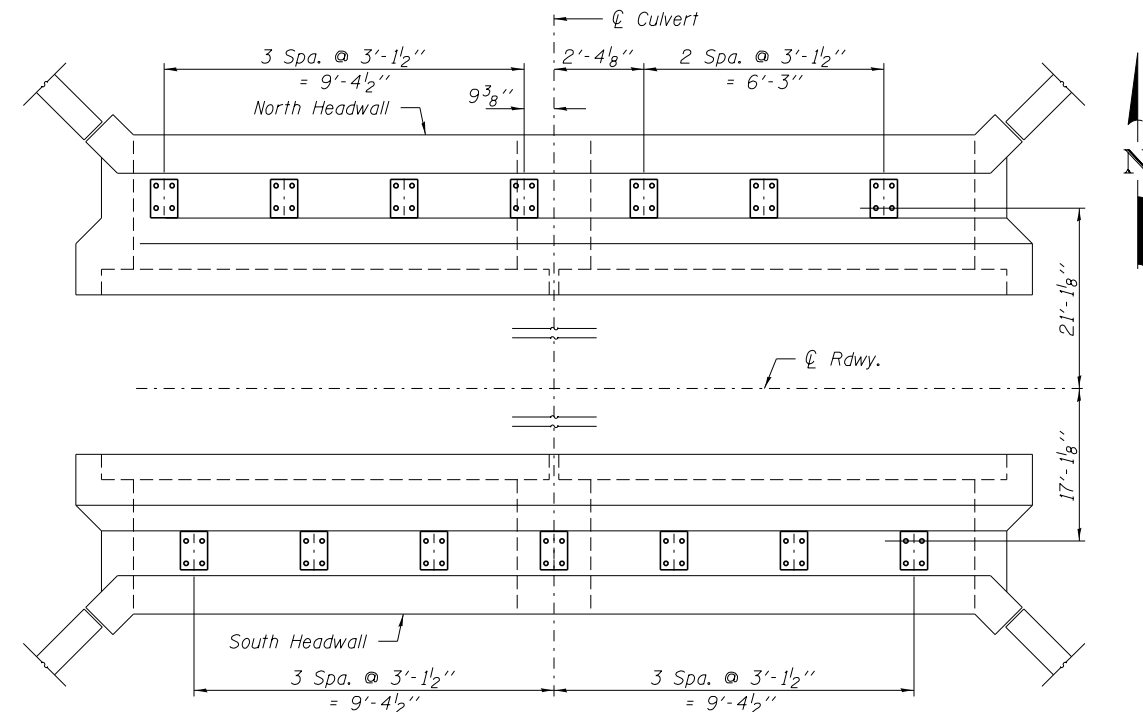
**CULVERT DETAILS  
 STRUCTURE NO. 039-2031**

SHEET NO. 3 OF 4 SHEETS

| F.A.S.                    | SECTION | COUNTY  | TOTAL SHEETS | SHEET NO. |
|---------------------------|---------|---------|--------------|-----------|
| 919                       | 8B-3    | JACKSON | 69           | 28        |
| CONTRACT NO. 78217        |         |         |              |           |
| ILLINOIS FED. AID PROJECT |         |         |              |           |

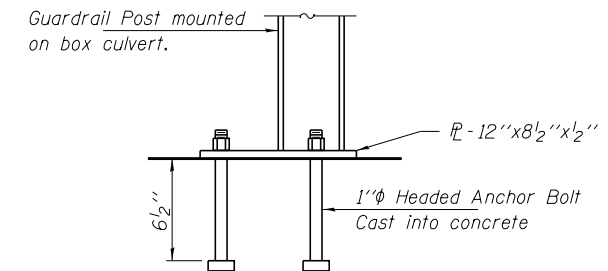


**DETAIL A**



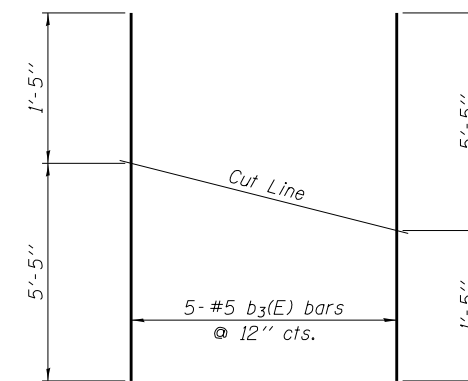
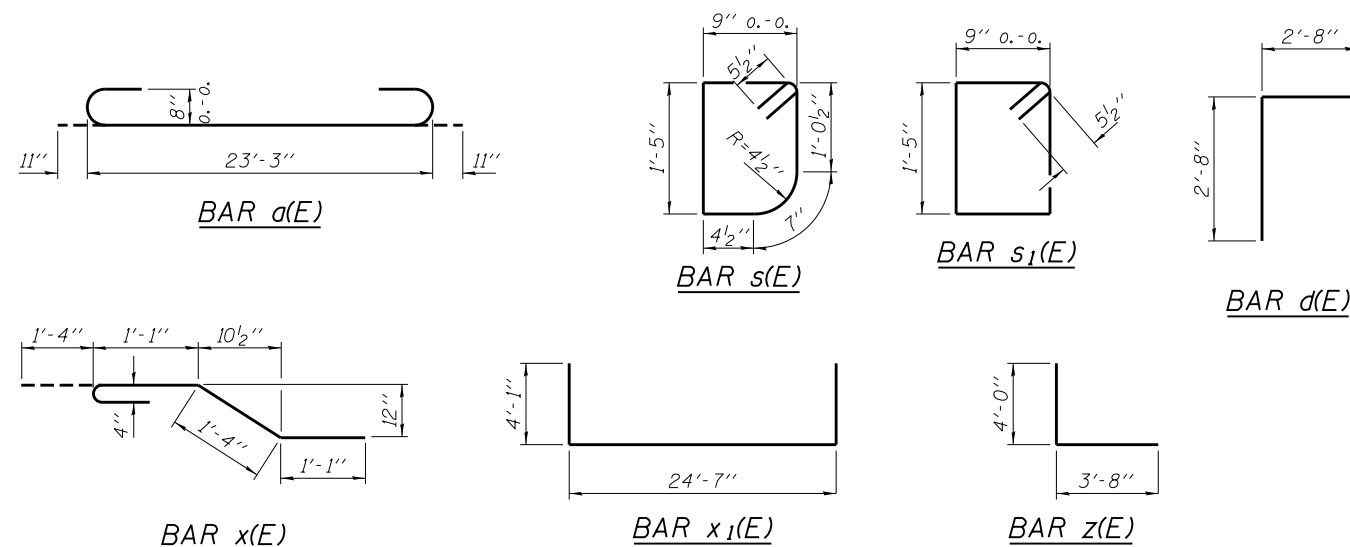
**GUARDRAIL POST ANCHOR BOLT LAYOUT - PLAN VIEW**

Note:  
Cost of anchor bolts cast into concrete shall be included in Concrete Box Culverts.  
Drilled anchor bolts not allowed.



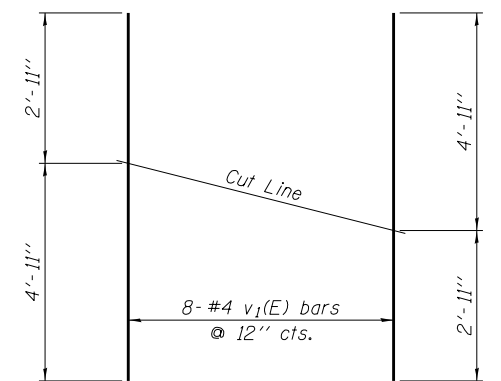
**ANCHOR BOLT CROSS SECTION**

See Highway Std. 630101 - Case IV for remainder of rail details.



**CUTTING DIAGRAM**

Order b<sub>3</sub>(E) bars full length. Cut as shown and use the remainder in opposite face of slab.



**CUTTING DIAGRAM**

Order v<sub>1</sub>(E) bars full length. Cut as shown and use the remainder in opposite wingwall.

|  |                       |                   |           |
|--|-----------------------|-------------------|-----------|
| FILE NAME = D978217-sht-culvert.dgn  | USER NAME =           | DESIGNED - D.W.T. | REVISED - |
| 3085 STEVENSON DRIVE, SUITE 201<br>SPRINGFIELD, ILLINOIS 62703<br>217.546.3400 www.hireengineering.com |                       | CHECKED - T.J.A.  | REVISED - |
| 184.000000<br>ILLINOIS PROFESSIONAL DESIGN FIRM<br>L3 / PE / SE CORPORATION                            | PLOT SCALE =          | DRAWN - D.A.B.    | REVISED - |
|  | PLOT DATE = 1/20/2015 | CHECKED - M.D.C.  | REVISED - |

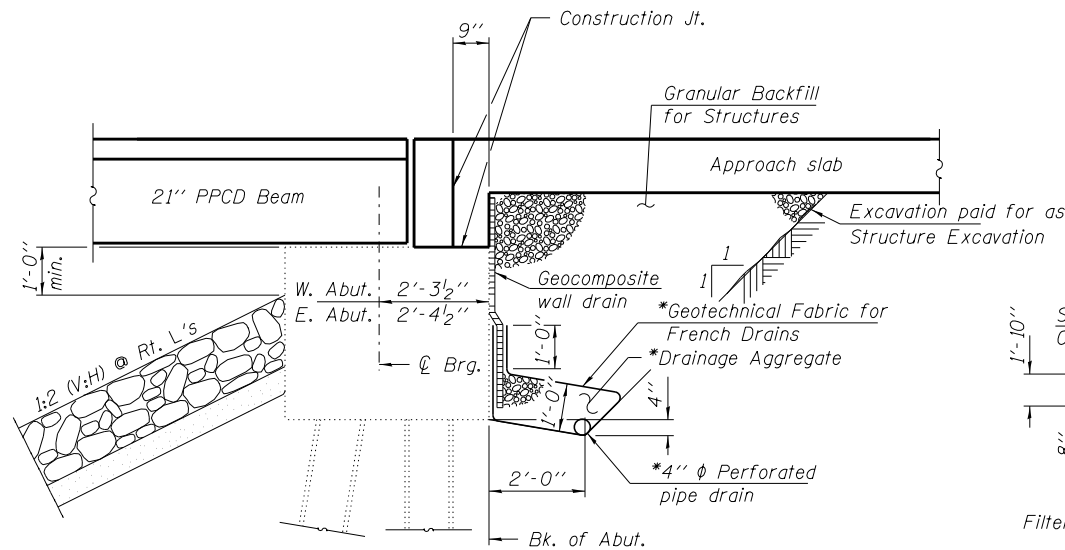
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**CULVERT DETAILS  
STRUCTURE NO. 039-2031**

SHEET NO. 4 OF 4 SHEETS

|                    |         |         |                           |           |
|--------------------|---------|---------|---------------------------|-----------|
| F.A.S.             | SECTION | COUNTY  | TOTAL SHEETS              | SHEET NO. |
| 919                | 8B-3    | JACKSON | 69                        | 29        |
| CONTRACT NO. 78217 |         |         | ILLINOIS FED. AID PROJECT |           |

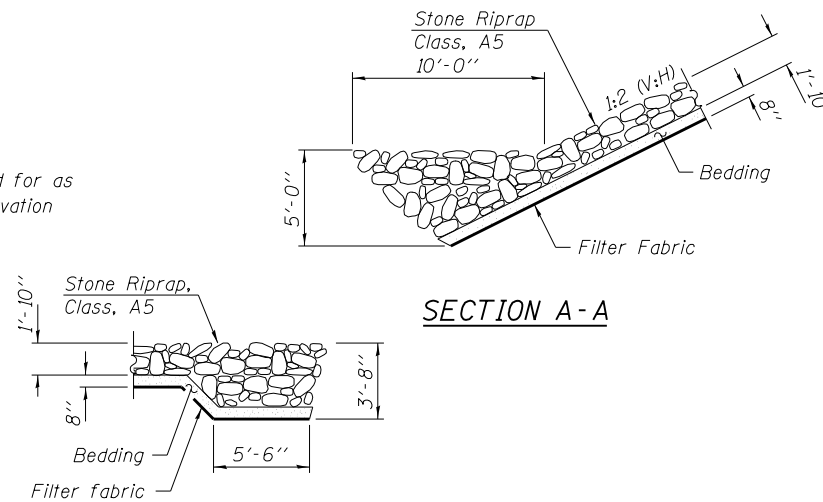




**SECTION THRU ABUTMENT**

\*Included in the cost of Pipe Underdrains for Structures.

All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).



**SECTION B-B**

**SECTION A-A**

STATION 3+48.00  
 RE-BUILT 201L BY  
 STATE OF ILLINOIS  
 F.A.S. RTE. 919 SEC. 8B-2  
 LOADING HL-93  
 STR. NO. 039-0055

**NAME PLATE**

See Std. 515001

Existing Name Plate shall be cleaned and relocated next to new Name Plate. Cost included with Name Plates.

**GENERAL NOTES**

Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.  
 Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.  
 Reinforcement bars designated (E) shall be epoxy coated.  
 The contractor is advised that the existing PPC Deck Beams are in a deteriorated condition with reduced load carrying capacity. It is the Contractor's responsibility to account for the condition of the beams when developing construction procedures for removal and replacement of the superstructure.  
 If the Contractor's procedures for existing beam removal or placement of new beams involves placement of heavy equipment on the new or existing deck beams, a detailed procedure shall be submitted to the Engineer for approval. The procedure shall include calculations, sealed by an Illinois Licensed Structural Engineer, verifying the structural adequacy of the beams for the proposed loads. Cost included with Removal of Existing Superstructures.  
 Repair of the substructure shall be completed prior to placement of the new deck beams.

**TOTAL BILL OF MATERIAL**

| ITEM   | UNIT    | SUPER  | SUB   | TOTAL  |
|--|---------|--------|-------|--------|
| Stone Riprap, Class A5   | Sq. Yd. |        |       | 725    |
| Filter Fabric  | Sq. Yd. |        |       | 725    |
| Structure Excavation   | Cu. Yd. |        | 62    | 62     |
| Removal of Existing Superstructures                            | Each    | 1      |       | 1      |
| Concrete Removal   | Cu. Yd. |        | 7.8   | 7.8    |
| Floor Drains (Special)   | Each    | 8      |       | 8      |
| Concrete Structures  | Cu. Yd. |        | 23.8  | 23.8   |
| Concrete Superstructure  | Cu. Yd. | 131.9  |       | 131.9  |
| Bridge Deck Grooving   | Sq. Yd. | 616    |       | 616    |
| Protective Coat  | Sq. Yd. | 868    | 26    | 894    |
| Reinforcement Bars, Epoxy Coated                               | Pound   | 31,630 | 5,180 | 36,810 |
| Bar Splicers   | Each    | 272    | 92    | 364    |
| Precast Prestressed Concrete Deck Beams (21" Depth)            | Sq. Ft. | 4,656  |       | 4,656  |
| Steel Railing, Type TP-1 (Special)                             | Each    | 162    |       | 162    |
| Steel Railing, Type SM   | Each    | 162    |       | 162    |
| Temporary Sheet Piling   | Sq. Ft. |        | 210   | 210    |
| Name Plates  | Each    | 1      |       | 1      |
| Preformed Joint Strip Seal                                     | Each    | 74     |       | 74     |
| Geocomposite Wall Drain  | Sq. Yd. |        | 50    | 50     |
| Granular Backfill For Structures                               | Cu. Yd. |        | 62    | 62     |
| Pipe Underdrains for Structures 4"                             | Foot    |        | 114   | 114    |
| Structural Repair of Concrete (Depth Equal to or Less Than 5") | Sq. Ft. |        | 69    | 69     |
| Concrete Wearing Surface, 5"                                   | Sq. Yd. | 518    |       | 518    |
| Asbestos Bearing Pad Removal                                   | Each    |        | 56    | 56     |

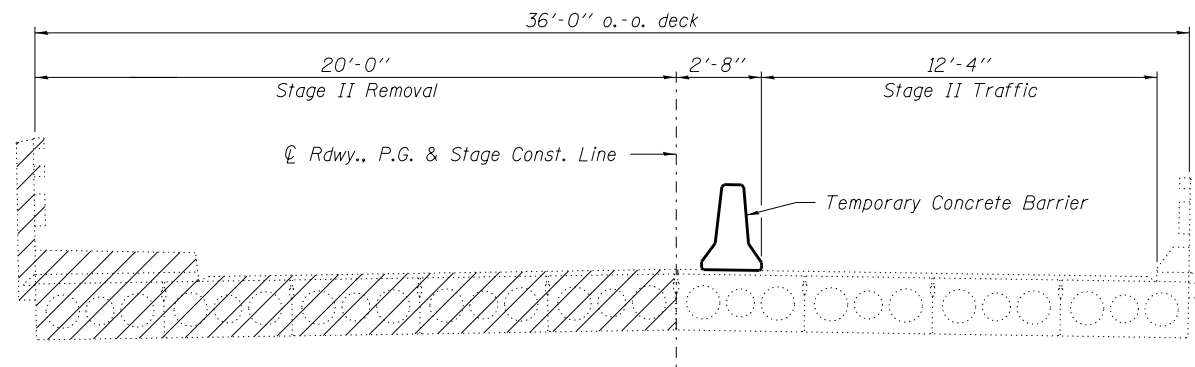
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| 3085 STEVENSON DRIVE, SUITE 201<br>SPRINGFIELD, ILLINOIS 62703<br>217.546.3400 www.hfrengineering.com |                       | CHECKED - T.J.A.  | REVISED - |
| 184.000009<br>ILLINOIS PROFESSIONAL DESIGN FIRM<br>LS / PE / SE CORPORATION                           |                       | DRAWN - D.A.B.    | REVISED - |
|   | PLOT SCALE =          | CHECKED - M.D.C.  | REVISED - |
|   | PLOT DATE = 1/20/2015 |                   |           |

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

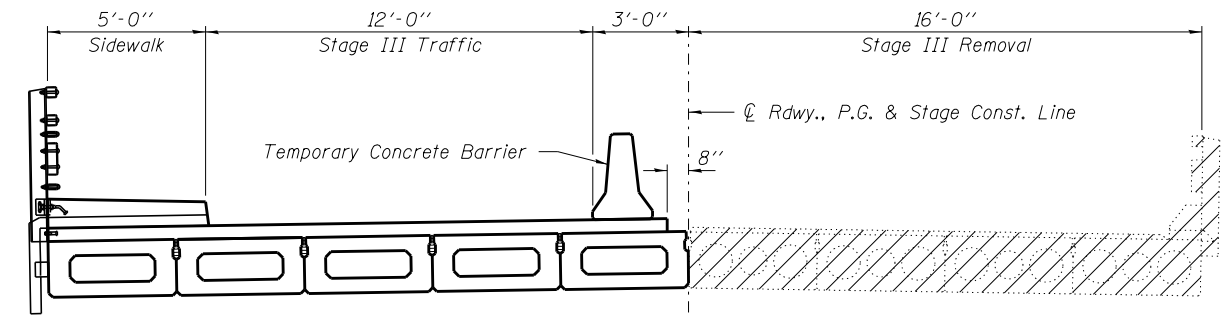
GENERAL DETAILS  
 STRUCTURE NO. 039-0055

SHEET NO. 2 OF 28 SHEETS

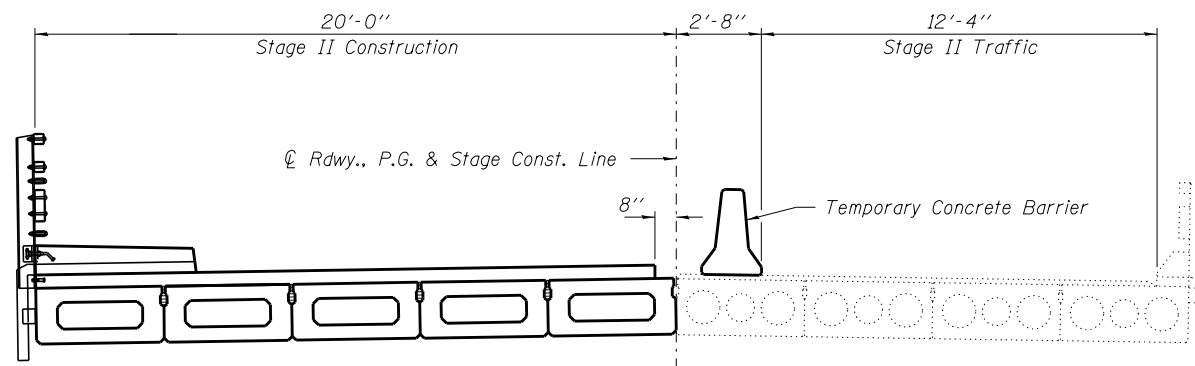
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|---------------------------|---------|---------|--------------------|-----------|
| F.A.S.                    | SECTION | COUNTY  | TOTAL SHEETS       | SHEET NO. |
| 919                       | 8B-2    | JACKSON | 69                 | 31        |
|                           |         |         | CONTRACT NO. 78217 |           |
| ILLINOIS FED. AID PROJECT |         |         |                    |           |



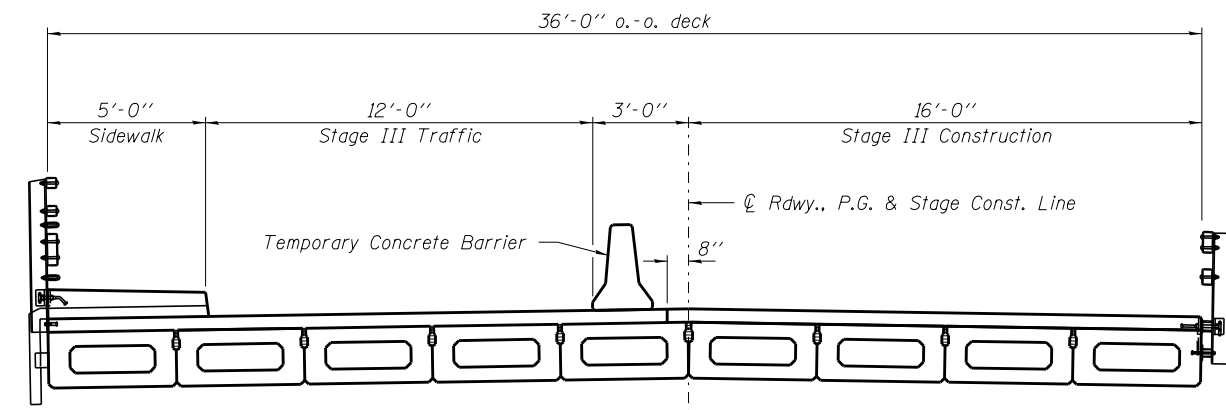
Stage II REMOVAL



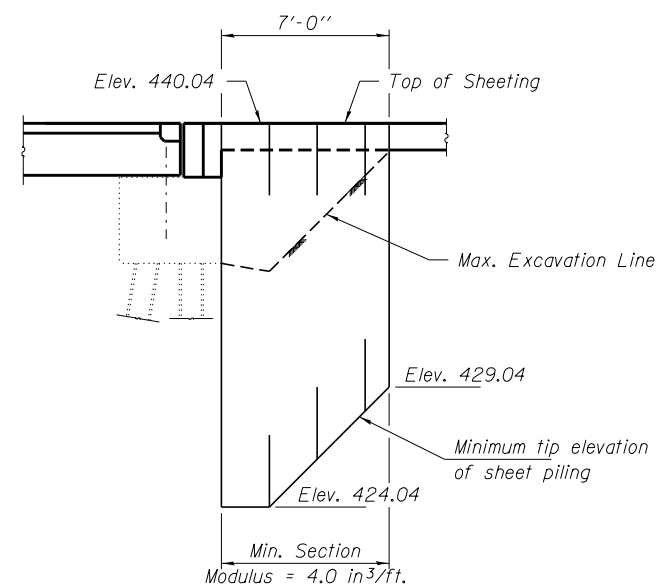
Stage III REMOVAL



Stage II CONSTRUCTION



Stage III CONSTRUCTION



TEMPORARY SHEET PILING AT ABUTMENTS

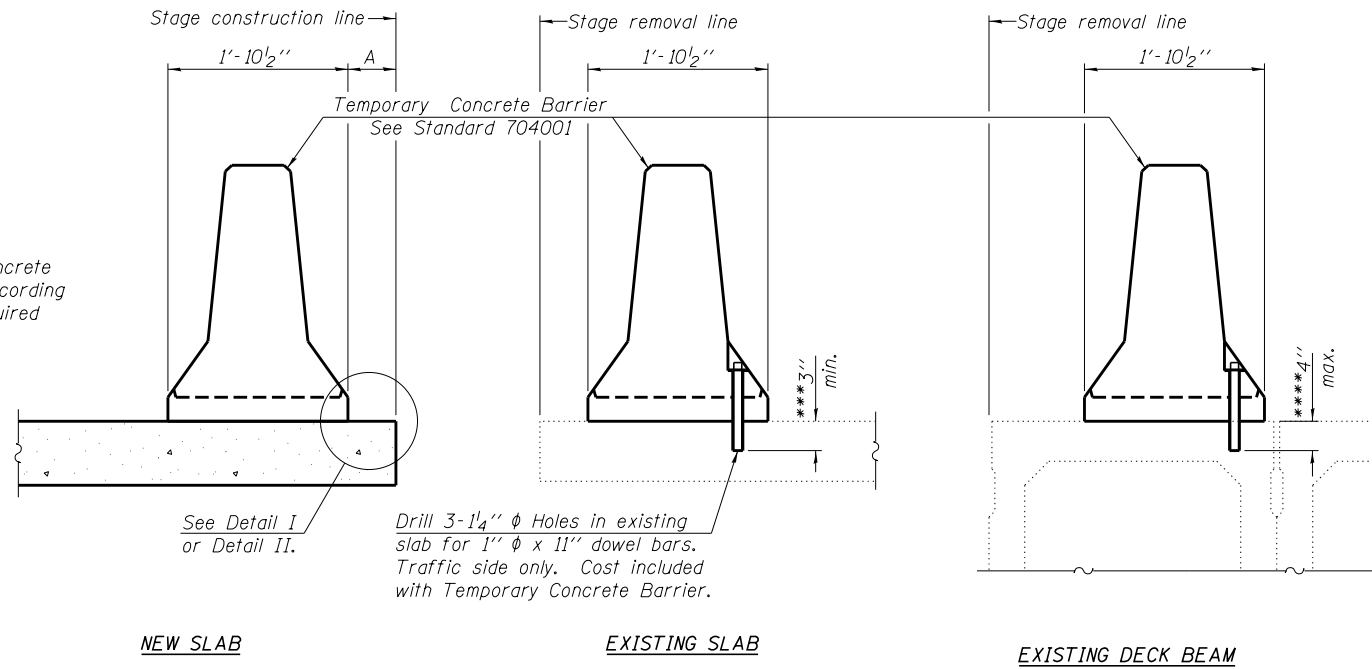
If the Contractor chooses to alter the temporary cantilevered sheet piling design requirements shown on the plans, a design submittal including plan details and calculations will be required for review and acceptance by the Engineer.

Notes:  
 All sections are looking East.  
 Hatched areas indicate removal.  
 See Roadway Plans for quantity of Temporary Concrete Barrier.  
 Removal of Existing Bridge Rail and Transverse Joints is included with Removal of Existing Superstructures.  
 The precast box sections and south cast in place end section of SN 039-2031 shall be constructed prior to establishing one-lane traffic control and beginning Stage II Removal.  
 For Stage I Removal and construction limits see Roadway Plans.

|  |                  |                   |                           |   |  |        |         |        |              |           |
|--|------------------|-------------------|---------------------------|---|--|--------|---------|--------|--------------|-----------|
| FILE NAME = D978217-sht-bridge.dgn   | USER NAME =      | DESIGNED - D.W.T. | REVISED -                 | <b>STATE OF ILLINOIS<br/>DEPARTMENT OF TRANSPORTATION</b> | <b>STAGE CONSTRUCTION DETAILS<br/>STRUCTURE NO. 039-0055</b> | F.A.S. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 3085 STEVENSON DRIVE, SUITE 201<br>SPRINGFIELD, ILLINOIS 62703<br>217.546.3400 www.hireengineering.com | CHECKED - T.J.A. | REVISED -         | 919                       |   |  | 8B-2   | JACKSON | 69     | 32           |           |
| 184.000989<br>ILLINOIS PROFESSIONAL DESIGN FIRM<br>LS / PE / SE CORPORATION                            | DRAWN - D.A.B.   | REVISED -         | CONTRACT NO. 78217        |   |  |        |         |        |              |           |
| PLOT SCALE =   | CHECKED - M.D.C. | REVISED -         | ILLINOIS FED. AID PROJECT |   |  |        |         |        |              |           |
| PLOT DATE = 1/20/2015  |                  |                   |                           | SHEET NO. 3 OF 28 SHEETS                                  |  |        |         |        |              |           |



When "A" is 3'-6" or less, the temporary concrete barrier shall be anchored to the new slab according to Detail I or Detail II. No anchorage is required when "A" is greater than 3'-6".



SECTIONS THRU SLAB OR DECK BEAM

NOTES

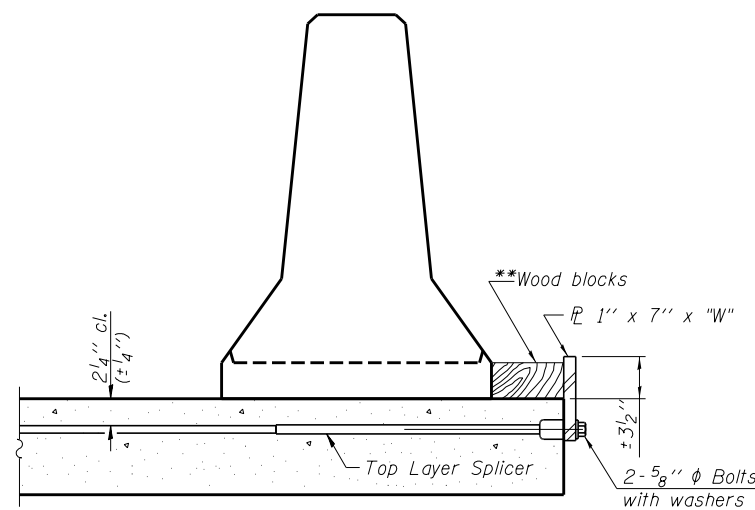
Detail I - With Bar Splicer or Couplers:  
Connect one (1) 1" x 7" x "W" steel  $\bar{L}$  to the top layer of couplers with 2-5/8"  $\phi$  bolts screwed to coupler at approximate  $\bar{C}$  of each barrier panel.

Detail II - With Extended Reinforcement Bars:  
Connect one (1) 1" x 7" x "W" steel  $\bar{L}$  to the concrete slab or concrete wearing surface with 2-5/8"  $\phi$  Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate  $\bar{C}$  of each barrier panel.

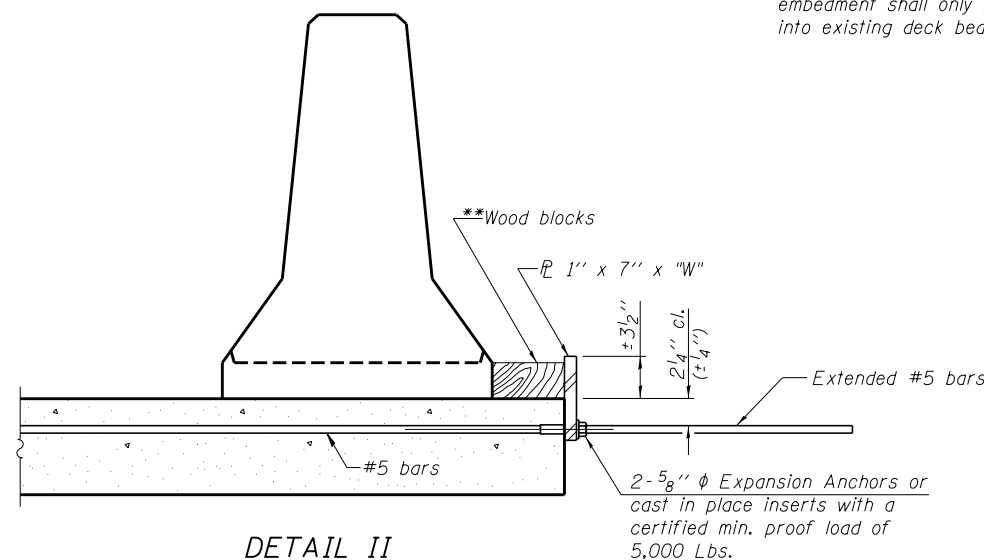
Cost of anchorage is included with Temporary Concrete Barrier. The 1" x 7" x "W" plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

\*\*\* Dimension shown is minimum required embedment into concrete.  
If hot-mix asphalt wearing surface is present, minimum embedment shall be in addition to wearing surface depth.

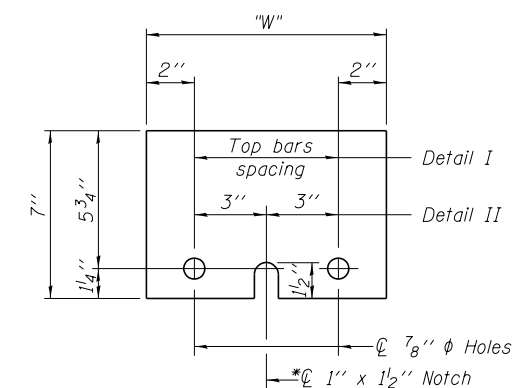
\*\*\*\* If existing deck beam is to remain in place after stage construction, embedment shall only be into wearing surface and not into existing deck beam concrete.



DETAIL I



DETAIL II



STEEL RETAINER  $\bar{L}$  1" x 7" x "W"

\* Required only with Detail II

\*\* Wood blocks may be omitted when required to provide minimum stage traffic lane width. When the wood blocks are omitted, the concrete barrier shall be in direct contact with the steel retainer plate.

"W" = Top bars spacing + 4"

R-27 7-1-10

|  |                  |                   |                          |   |   |                           |         |        |              |           |
|--|------------------|-------------------|--------------------------|---|---|---------------------------|---------|--------|--------------|-----------|
| FILE NAME = D978217-sht-bridge.dgn   | USER NAME =      | DESIGNED - D.W.T. | REVISED -                | <b>STATE OF ILLINOIS<br/>DEPARTMENT OF TRANSPORTATION</b> | <b>TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION<br/>STRUCTURE NO. 039-0055</b> | F.A.S.                    | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 3085 STEVENSON DRIVE, SUITE 201<br>SPRINGFIELD, ILLINOIS 62703<br>217.546.3400 www.hireengineering.com | CHECKED - T.J.A. | REVISED -         | 919                      |   |   | 8B-2                      | JACKSON | 69     | 33           |           |
| 184.00099<br>ILLINOIS PROFESSIONAL DESIGN FIRM<br>LS / PE / SE CORPORATION                             | DRAWN - D.A.B.   | REVISED -         | CONTRACT NO. 78217       |   |   |                           |         |        |              |           |
| PLOT SCALE =   | CHECKED - M.D.C. | REVISED -         | SHEET NO. 4 OF 28 SHEETS |   |   |                           |         |        |              |           |
| PLOT DATE = 1/20/2015  |                  |                   |                          |   |   | ILLINOIS FED. AID PROJECT |         |        |              |           |

NORTH EDGE OF PAVEMENT

| Location                  | Station | Offset | Theoretical Grade Elevations |
|---------------------------|---------|--------|------------------------------|
| End of W. Approach Slab   | 2+52.25 | -20.00 | 439.58                       |
| A                         | 2+62.25 | -20.00 | 439.64                       |
| B                         | 2+72.25 | -20.00 | 439.69                       |
| Start of W. Approach Slab | 2+82.25 | -20.00 | 439.73                       |

NORTH CURB LINE

| Location                  | Station | Offset | Theoretical Grade Elevations |
|---------------------------|---------|--------|------------------------------|
| End of W. Approach Slab   | 2+52.25 | -15.00 | 439.66                       |
| A                         | 2+62.25 | -15.00 | 439.72                       |
| B                         | 2+72.25 | -15.00 | 439.77                       |
| Start of W. Approach Slab | 2+82.25 | -15.00 | 439.81                       |

NORTH EDGE OF SHOULDER

| Location                  | Station | Offset | Theoretical Grade Elevations |
|---------------------------|---------|--------|------------------------------|
| End of W. Approach Slab   | 2+52.25 | -12.00 | 439.70                       |
| A                         | 2+62.25 | -12.00 | 439.76                       |
| B                         | 2+72.25 | -12.00 | 439.81                       |
| Start of W. Approach Slab | 2+82.25 | -12.00 | 439.85                       |

☉ RDWY., P.G. & STAGE CONSTRUCTION LINE

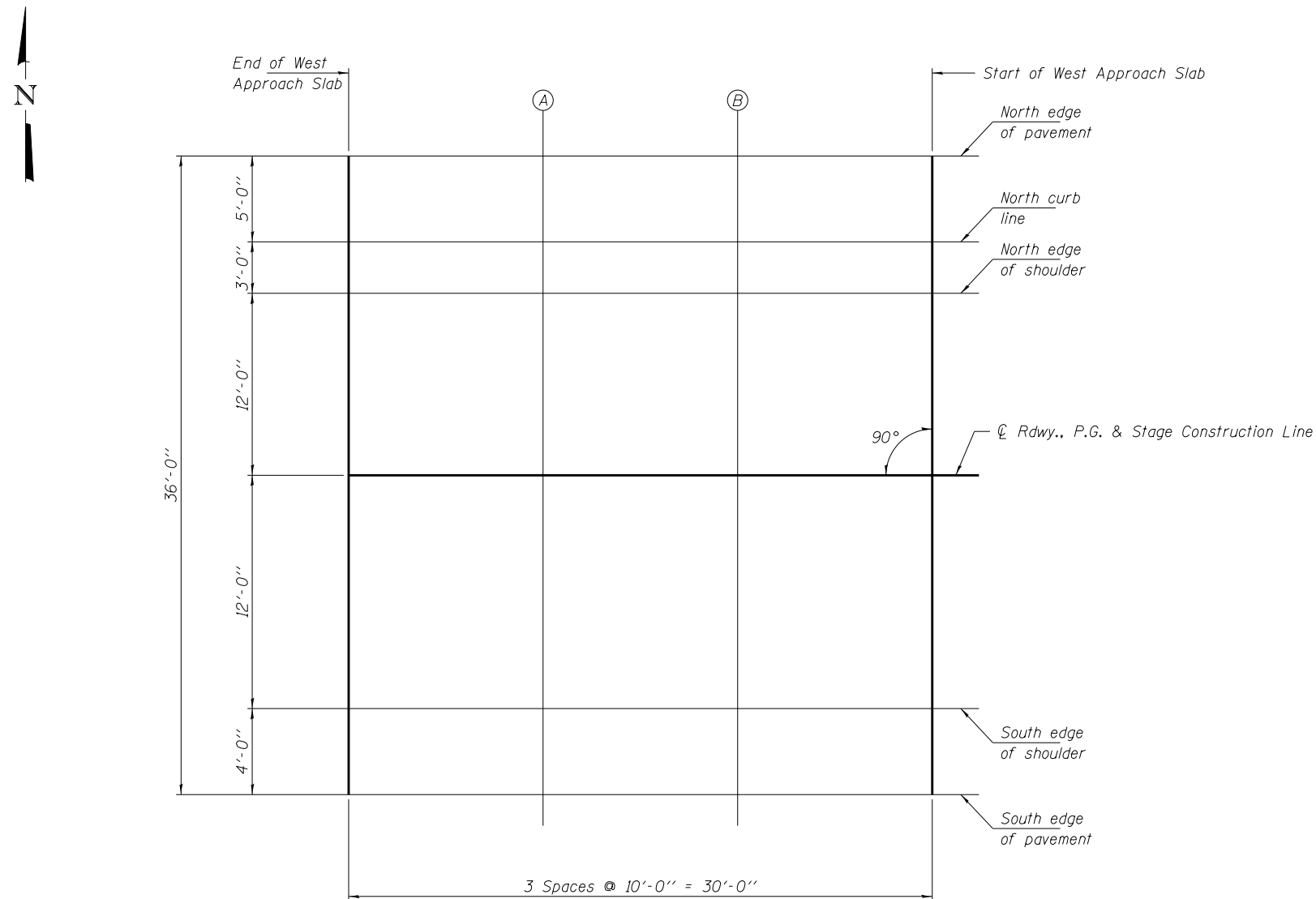
| Location                  | Station | Offset | Theoretical Grade Elevations |
|---------------------------|---------|--------|------------------------------|
| End of W. Approach Slab   | 2+52.25 | 0.00   | 439.89                       |
| A                         | 2+62.25 | 0.00   | 439.95                       |
| B                         | 2+72.25 | 0.00   | 440.00                       |
| Start of W. Approach Slab | 2+82.25 | 0.00   | 440.04                       |

SOUTH EDGE OF SHOULDER

| Location                  | Station | Offset | Theoretical Grade Elevations |
|---------------------------|---------|--------|------------------------------|
| End of W. Approach Slab   | 2+52.25 | 12.00  | 439.70                       |
| A                         | 2+62.25 | 12.00  | 439.76                       |
| B                         | 2+72.25 | 12.00  | 439.81                       |
| Start of W. Approach Slab | 2+82.25 | 12.00  | 439.85                       |

SOUTH EDGE OF PAVEMENT

| Location                  | Station | Offset | Theoretical Grade Elevations |
|---------------------------|---------|--------|------------------------------|
| End of W. Approach Slab   | 2+52.25 | 16.00  | 439.64                       |
| A                         | 2+62.25 | 16.00  | 439.70                       |
| B                         | 2+72.25 | 16.00  | 439.75                       |
| Start of W. Approach Slab | 2+82.25 | 16.00  | 439.79                       |



WEST APPROACH SLAB - PLAN

NORTH EDGE OF PAVEMENT

| Location                  | Station | Offset | Theoretical Grade Elevations |
|---------------------------|---------|--------|------------------------------|
| Start of E. Approach Slab | 4+13.75 | -20.00 | 439.73                       |
| A                         | 4+23.75 | -20.00 | 439.72                       |
| B                         | 4+33.75 | -20.00 | 439.68                       |
| End of E. Approach Slab   | 4+43.75 | -20.00 | 439.65                       |

NORTH CURB LINE

| Location                  | Station | Offset | Theoretical Grade Elevations |
|---------------------------|---------|--------|------------------------------|
| Start of E. Approach Slab | 4+13.75 | -15.00 | 439.81                       |
| A                         | 4+23.75 | -15.00 | 439.80                       |
| B                         | 4+33.75 | -15.00 | 439.76                       |
| End of E. Approach Slab   | 4+43.75 | -15.00 | 439.73                       |

NORTH EDGE OF SHOULDER

| Location                  | Station | Offset | Theoretical Grade Elevations |
|---------------------------|---------|--------|------------------------------|
| Start of E. Approach Slab | 4+13.75 | -12.00 | 439.85                       |
| A                         | 4+23.75 | -12.00 | 439.84                       |
| B                         | 4+33.75 | -12.00 | 439.80                       |
| End of E. Approach Slab   | 4+43.75 | -12.00 | 439.77                       |

RDWY., P.G. & STAGE CONSTRUCTION LINE

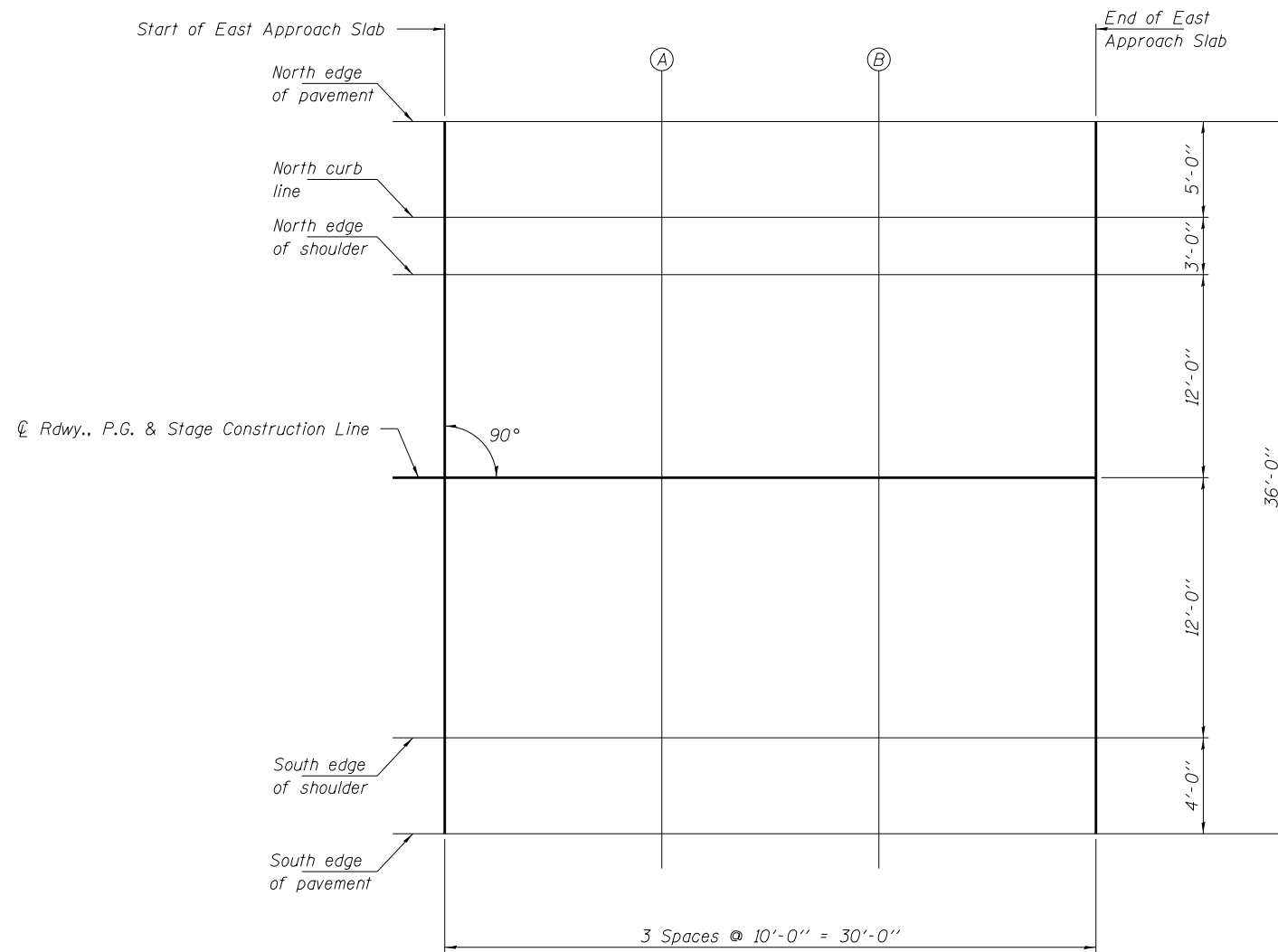
| Location                  | Station | Offset | Theoretical Grade Elevations |
|---------------------------|---------|--------|------------------------------|
| Start of E. Approach Slab | 4+13.75 | 0.00   | 440.04                       |
| A                         | 4+23.75 | 0.00   | 440.03                       |
| B                         | 4+33.75 | 0.00   | 439.99                       |
| End of E. Approach Slab   | 4+43.75 | 0.00   | 439.96                       |

SOUTH EDGE OF SHOULDER

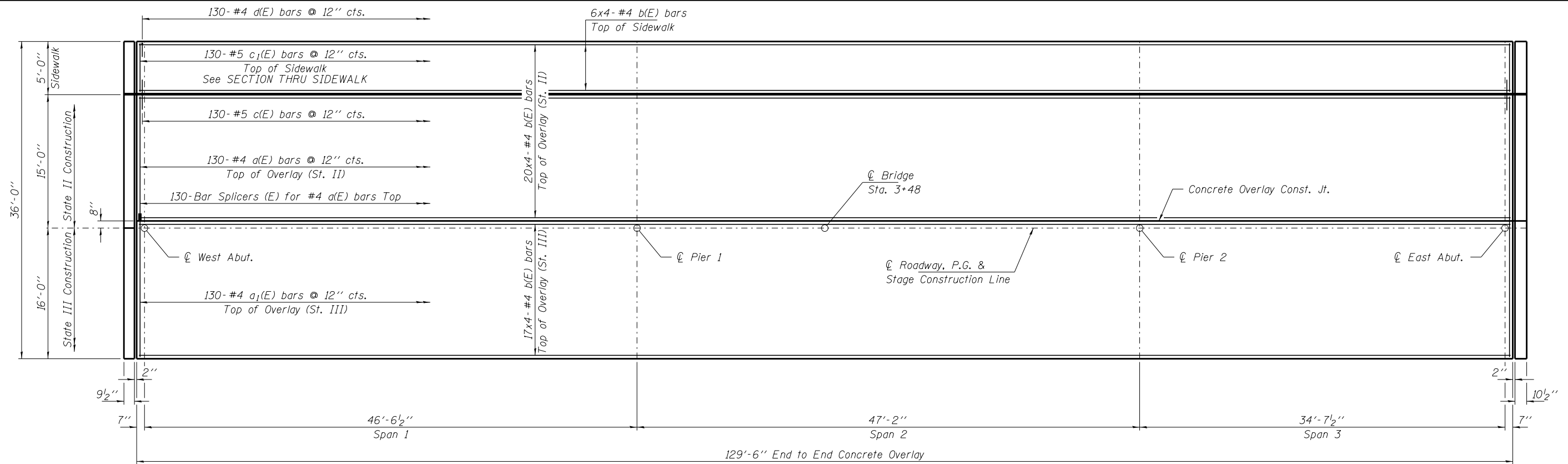
| Location                  | Station | Offset | Theoretical Grade Elevations |
|---------------------------|---------|--------|------------------------------|
| Start of E. Approach Slab | 4+13.75 | 12.00  | 439.85                       |
| A                         | 4+23.75 | 12.00  | 439.84                       |
| B                         | 4+33.75 | 12.00  | 439.80                       |
| End of E. Approach Slab   | 4+43.75 | 12.00  | 439.77                       |

SOUTH EDGE OF PAVEMENT

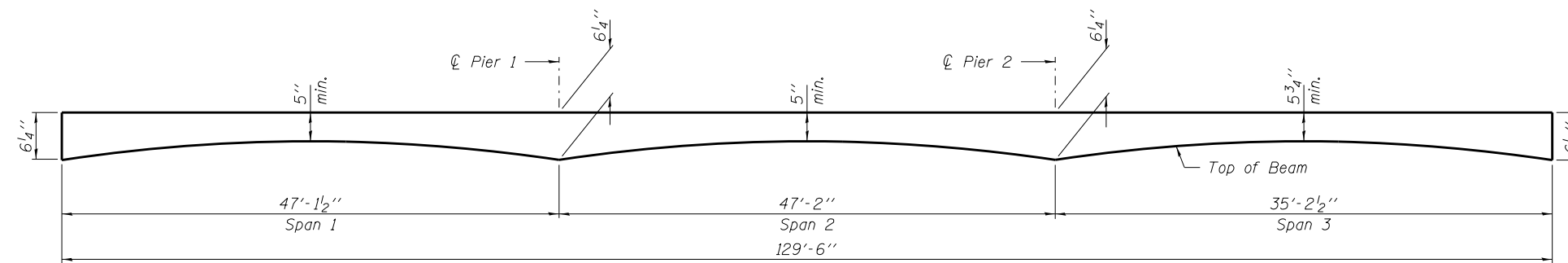
| Location                  | Station | Offset | Theoretical Grade Elevations |
|---------------------------|---------|--------|------------------------------|
| Start of E. Approach Slab | 4+13.75 | 16.00  | 439.79                       |
| A                         | 4+23.75 | 16.00  | 739.78                       |
| B                         | 4+33.75 | 16.00  | 739.74                       |
| End of E. Approach Slab   | 4+43.75 | 16.00  | 439.71                       |



EAST APPROACH SLAB - PLAN



PLAN



ANTICIPATED CONCRETE WEARING SURFACE PROFILE

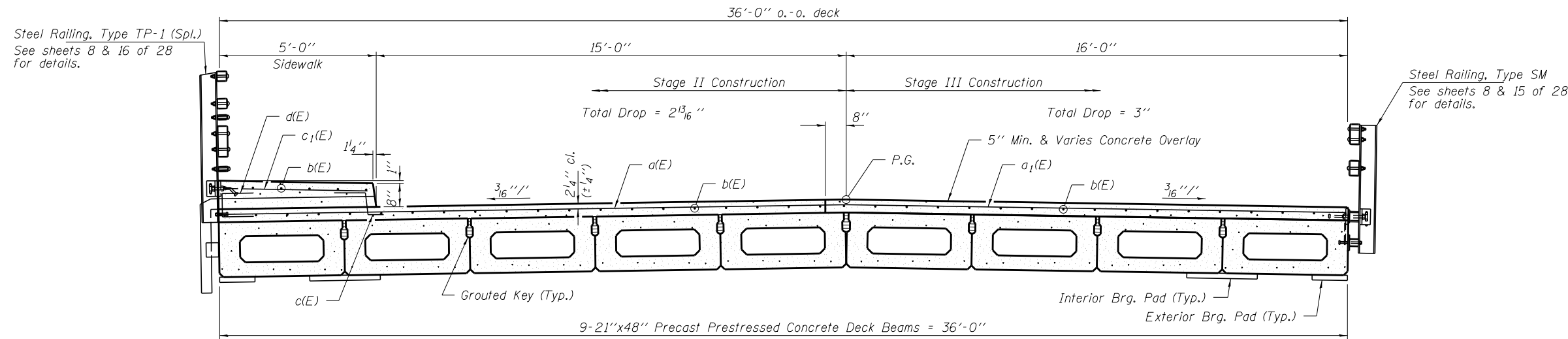
(For information only - beam camber may vary in field.)

Notes:  
 See sheets 8 thru 10 of 28 for superstructure details.  
 Bars indicated thus 6x4-#4 etc. indicates 6 lines of bars with 4 lengths per line.  
 Floor Drain locations shown on sheet 1 of 28.  
 Adjust reinforcement to miss drain locations.

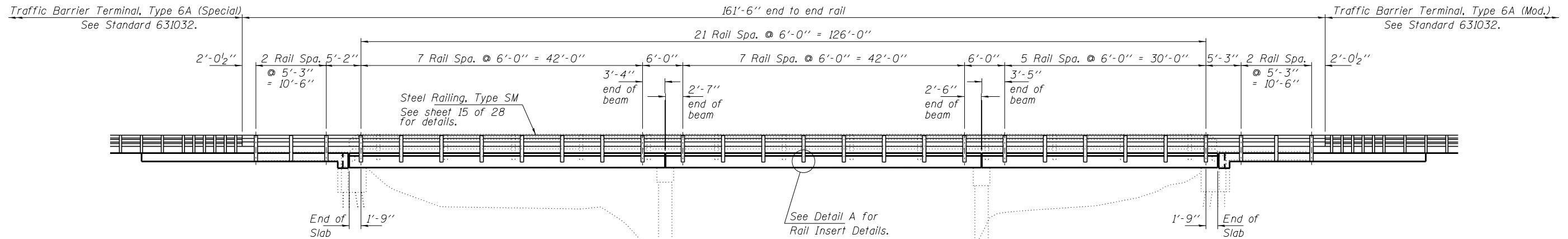
MIN. BAR LAP  
 #4 bars = 1'-8"

SUPERSTRUCTURE  
 BILL OF MATERIAL

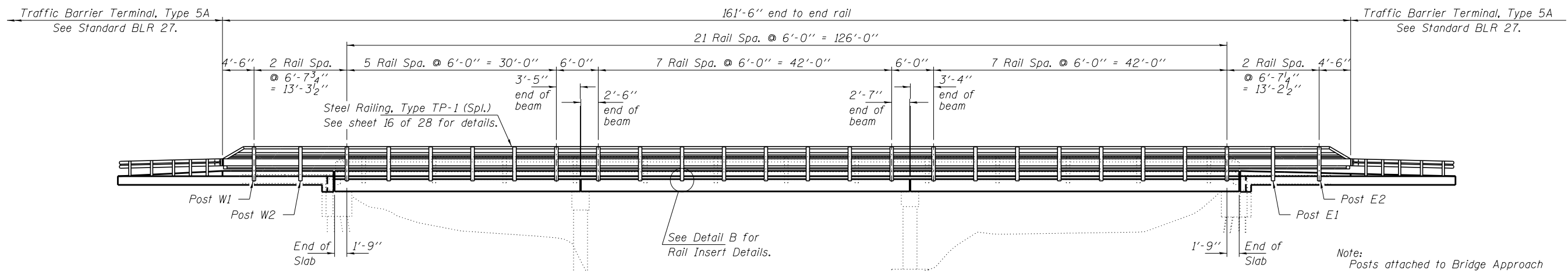
| BAR NO.                          | SIZE    | LENGTH  | SHAPE |
|----------------------------------|---------|---------|-------|
| d(E) 130                         | #4      | 18'-11" | —     |
| a1(E) 130                        | #4      | 16'-4"  | —     |
| b(E) 172                         | #4      | 33'-6"  | —     |
| c(E) 130                         | #5      | 2'-3"   | ⌒     |
| c1(E) 130                        | #5      | 4'-6"   | —     |
| d(E) 130                         | #4      | 2'-10"  | □     |
| Protective Coat                  | Sq. Yd. | 604     |       |
| Bridge Deck Grooving             | Sq. Yd. | 423     |       |
| Concrete Superstructure          | Cu. Yd. | 16.8    |       |
| Concrete Wearing Surface, 5"     | Sq. Yd. | 518     |       |
| Reinforcement Bars, Epoxy Coated | Pound   | 8,070   |       |
| Bar Splicers                     | Each    | 130     |       |
| Floor Drains (Special)           | Each    | 8       |       |



CROSS SECTION  
 (Looking East)

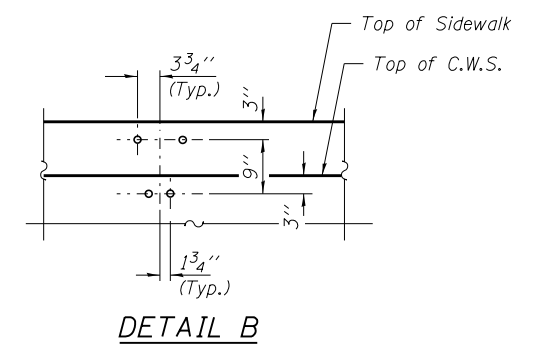
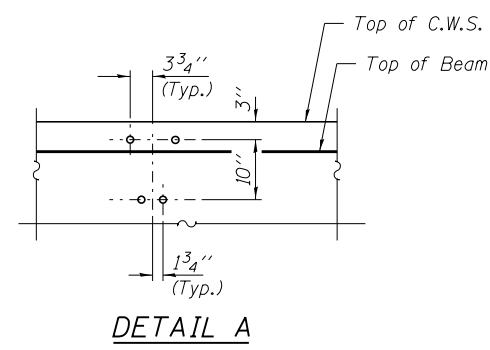
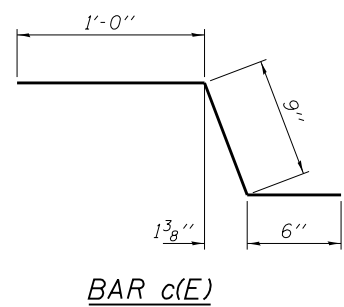
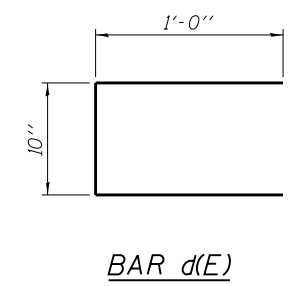


**RAIL ELEVATION**  
(South Side)  
Showing Rail Post Spaces  
See sheet 15 of 28 for Railing Details.

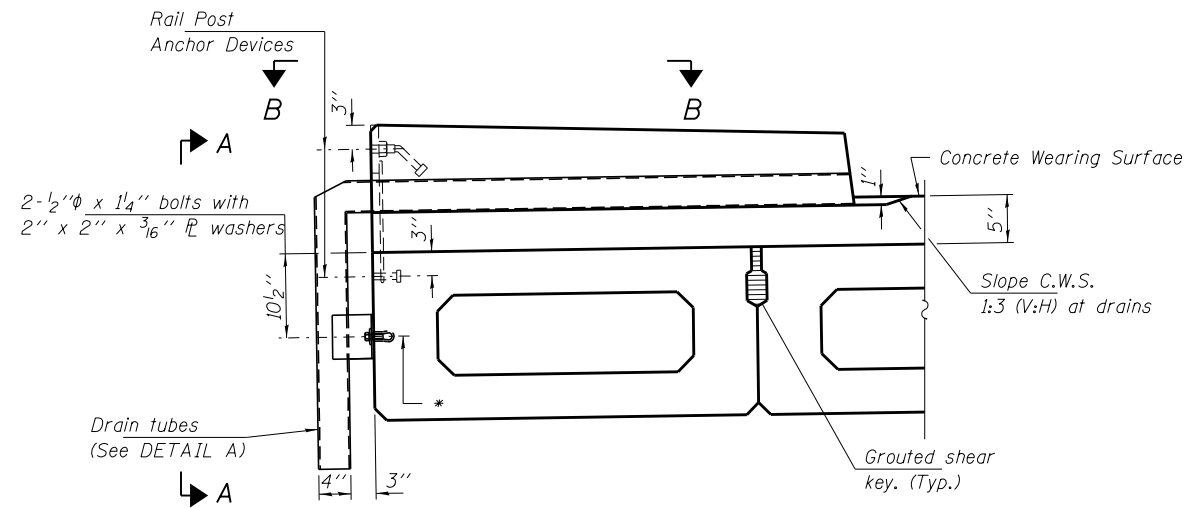


**RAIL ELEVATION**  
(North Side)  
Showing Rail Post Spaces  
See sheet 16 of 28 for Railing Details.

Note:  
Posts attached to Bridge Approach Slab for TP-1 will need to have holes spaced and longer posts to conform with slope of sidewalk.

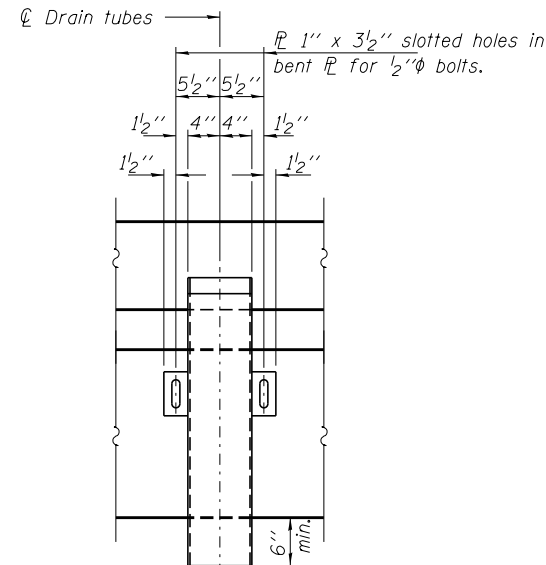


|  |             |                   |           |   |  |                           |         |         |              |           |  |
|--|-------------|-------------------|-----------|---|--|---------------------------|---------|---------|--------------|-----------|--|
| FILE NAME = D978217-sht-bridge.dgn   | USER NAME = | DESIGNED - D.W.T. | REVISED - | <b>STATE OF ILLINOIS<br/>DEPARTMENT OF TRANSPORTATION</b> | <b>SUPERSTRUCTURE DETAILS<br/>STRUCTURE NO. 039-0055</b> | F.A.S.                    | SECTION | COUNTY  | TOTAL SHEETS | SHEET NO. |  |
| 3085 STEVENSON DRIVE, SUITE 201<br>SPRINGFIELD, ILLINOIS 62703<br>217.546.3400 www.hireengineering.com |             | CHECKED - T.J.A.  | REVISED - |   |  | 919                       | 8B-2    | JACKSON | 69           | 37        |  |
| 184.000009<br>ILLINOIS PROFESSIONAL DESIGN FIRM<br>LS / PE / SE CORPORATION                            |             | DRAWN - D.A.B.    | REVISED - |   |  | CONTRACT NO. 78217        |         |         |              |           |  |
|  |             | CHECKED - M.D.C.  | REVISED - |   |  | ILLINOIS FED. AID PROJECT |         |         |              |           |  |
|  |             |                   |           | SHEET NO. 8 OF 28 SHEETS                                  |  |                           |         |         |              |           |  |

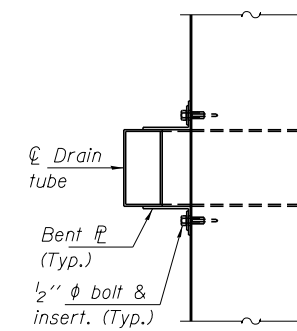


**DRAIN SECTION THRU SIDEWALK**

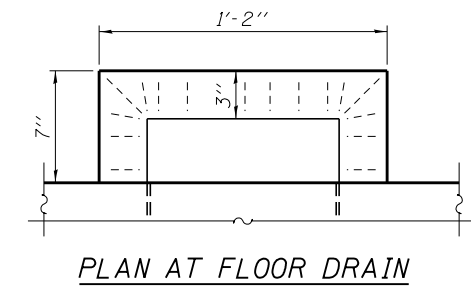
\*Loop Ferrule inserts for 1/2 inch diameter bolts. Place a loop of beam depth.



**VIEW A-A**



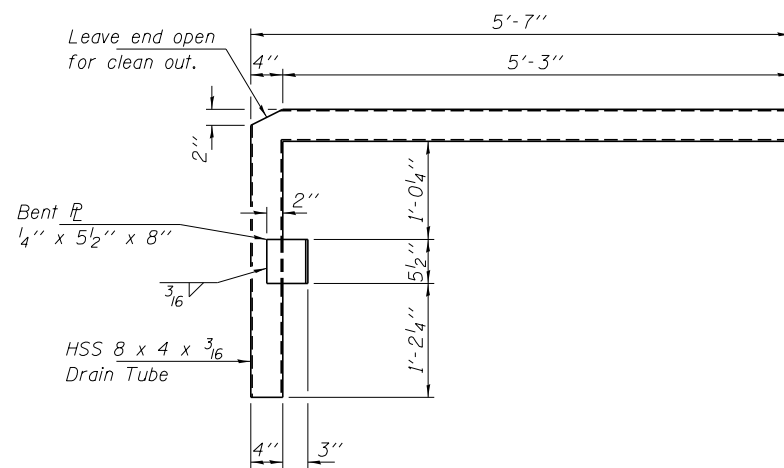
**VIEW B-B**



**PLAN AT FLOOR DRAIN**

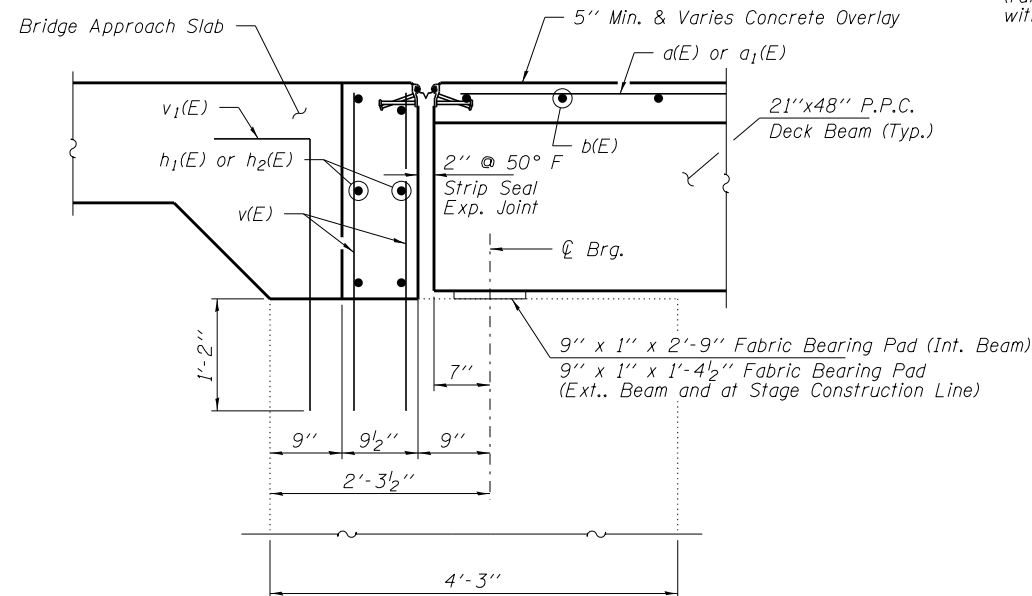
Note:  
All drain tubes and accessories shall be galvanized according to AASHTO M111 or M232, (as applicable).  
The cost of the drain tube assemblies and everything necessary for their installation is included with Floor Drains (Special).

Notes:  
After beams have been erected, holes shall be drilled into substructure and dowel rods placed. Dowel holes shall be filled with non-shrink grout to top of beam and allowed to cure min. 24 hours prior to grouting the shear keys.  
Concrete wearing surface to be poured after grouting the shear keys.  
Dowel rods drilled in cap are included in the cost of Precast Prestressed Concrete Deck Beams (21 inch depth).

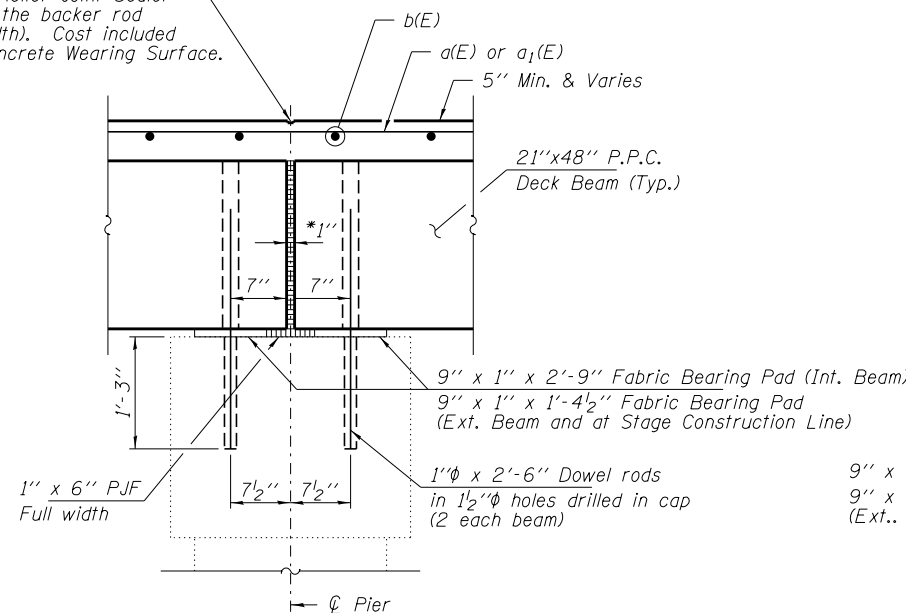


**DETAIL A**

1/2 inch by 3/4 inch formed joint with Bridge Relief Joint Sealer without the backer rod (full width). Cost included with Concrete Wearing Surface.

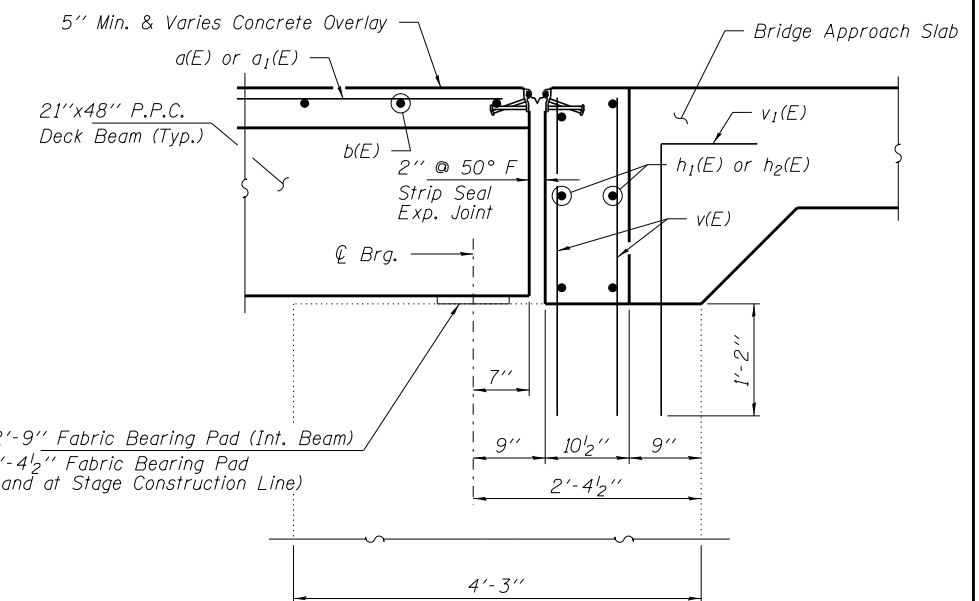


**SECTION THRU WEST ABUTMENT AT ROADWAY**



**SECTION THRU FIXED PIER**

\*1 inch Jt. shall be filled with non-shrink grout. 1 inch dimension may vary to accommodate tolerance in beam lengths.



**SECTION THRU EAST ABUTMENT AT ROADWAY**

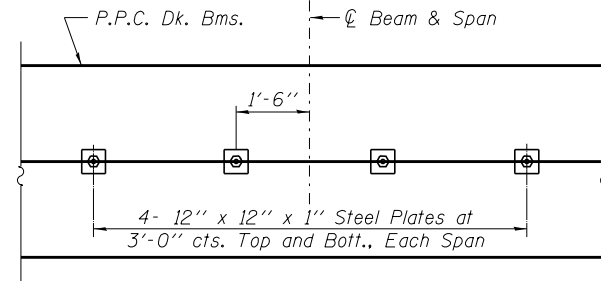
|   |                       |                   |           |
|---|-----------------------|-------------------|-----------|
| FILE NAME = D978217-sht-bridge.dgn  | USER NAME =           | DESIGNED - D.W.T. | REVISED - |
| 3085 STEVENSON DRIVE, SUITE 201<br>SPRINGFIELD, ILLINOIS 62703<br>217.546.3400 www.hfrengineering.com |                       | CHECKED - T.J.A.  | REVISED - |
| 184.000009<br>ILLINOIS PROFESSIONAL DESIGN FIRM<br>LS / PE / SE CORPORATION                           | PLOT SCALE =          | DRAWN - D.A.B.    | REVISED - |
|   | PLOT DATE = 1/20/2015 | CHECKED - M.D.C.  | REVISED - |

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

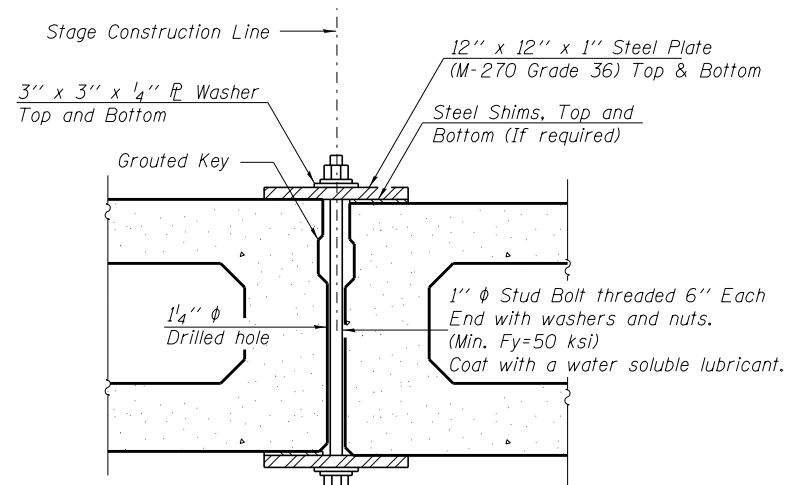
**SUPERSTRUCTURE DETAILS  
STRUCTURE NO. 039-0055**

SHEET NO. 9 OF 28 SHEETS

|                           |         |         |                    |           |
|---------------------------|---------|---------|--------------------|-----------|
| F.A.S.                    | SECTION | COUNTY  | TOTAL SHEETS       | SHEET NO. |
| 919                       | 8B-2    | JACKSON | 69                 | 38        |
| ILLINOIS FED. AID PROJECT |         |         | CONTRACT NO. 78217 |           |



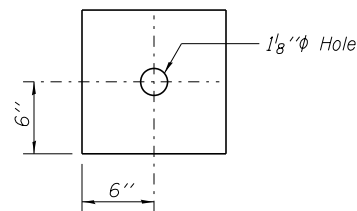
PLAN



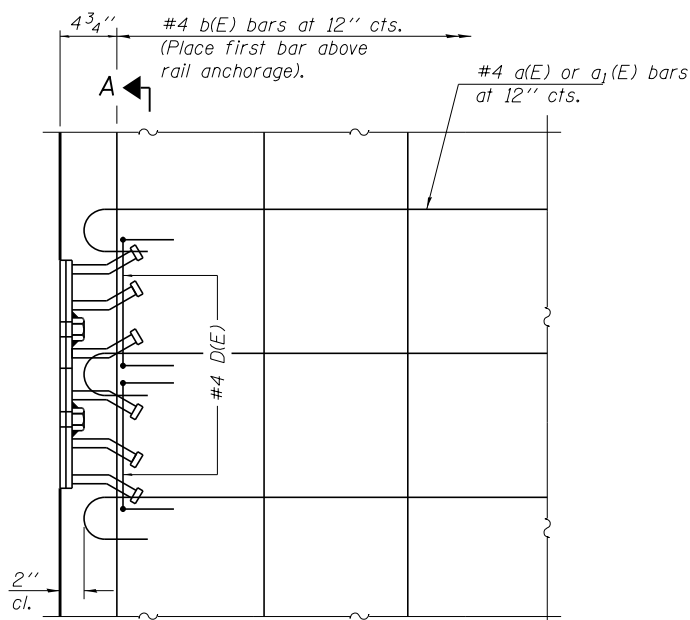
SECTION

**SHEAR KEY CLAMPING DETAILS AT STAGE CONST. JT.**

Cost included with Precast Prestressed Concrete Deck Beams (21" Depth).



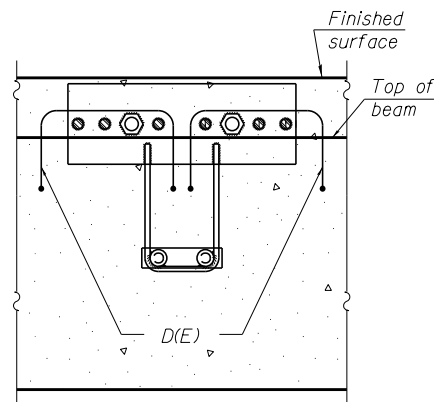
CLAMPING PLATE



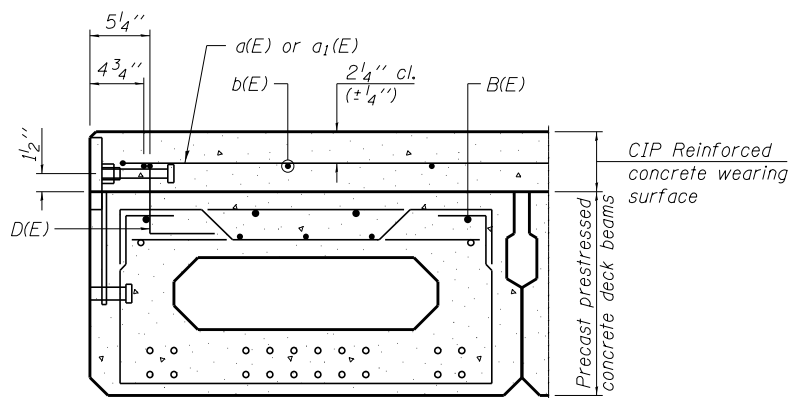
PLAN

Notes:  
The rail anchorage shall be cast with the beam and the wearing surface shall be cast in the field.  
Formwork necessary for the wearing surface may be secured utilizing the bottom rail anchorage inserts and/or additional inserts cast into the beam. Drilling into the beam will not be permitted.

See sheet 8 of 28 for location of rail anchors.



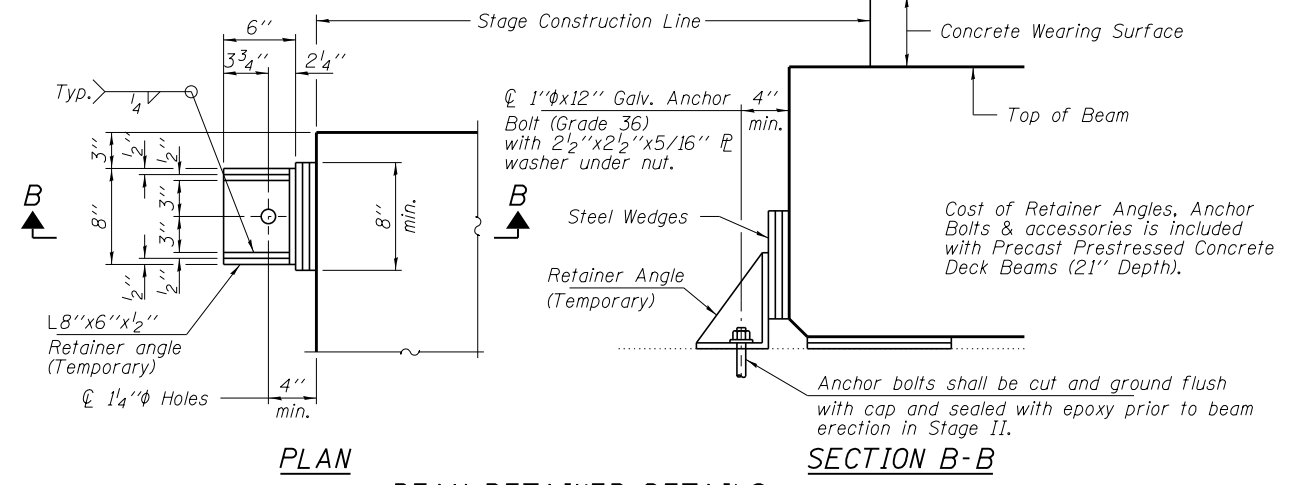
SECTION A-A



CROSS SECTION

**CONCRETE OVERLAY MODIFICATIONS FOR RAIL ANCHORAGE**

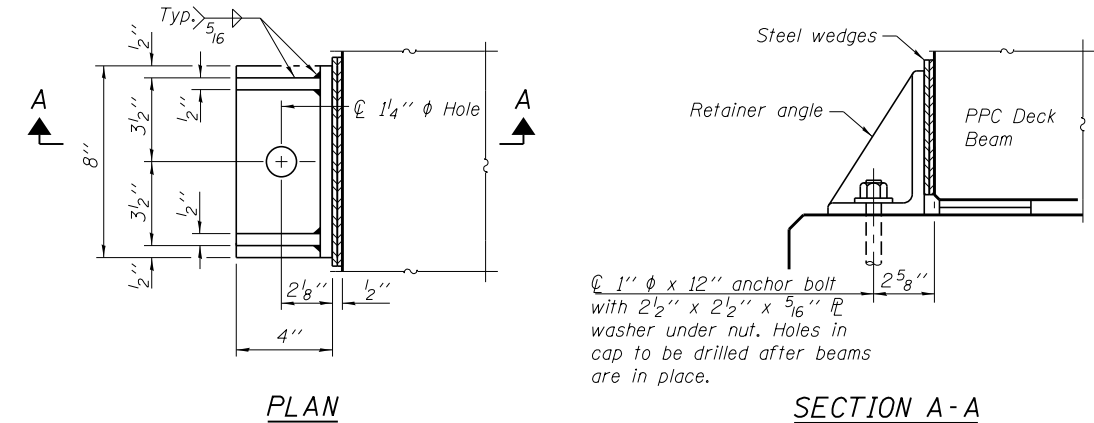
PPC Deck Beams shown, PC Bridge Slabs similar.



PLAN

SECTION B-B

**BEAM RETAINER DETAILS AT STAGE CONSTRUCTION LINE**  
(2 Required, 1-Each Abutment)

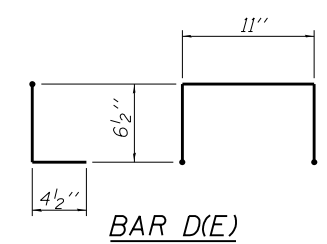


PLAN

SECTION A-A

**EXTERIOR BEAM RETAINER DETAILS**

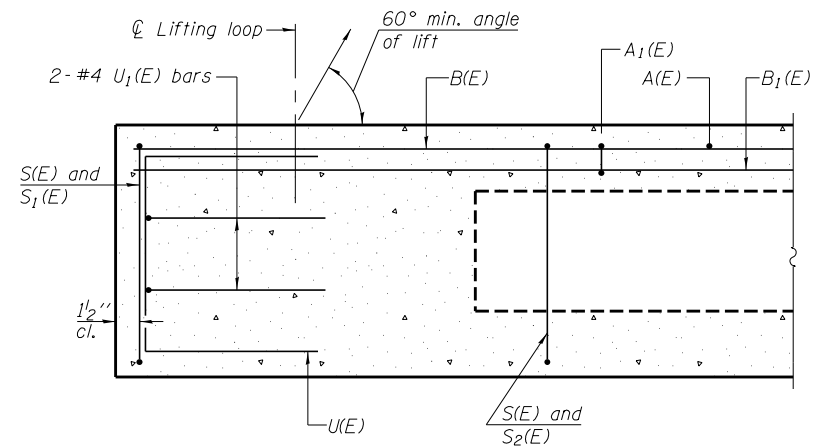
(4 Required, 2-Each Abut.)



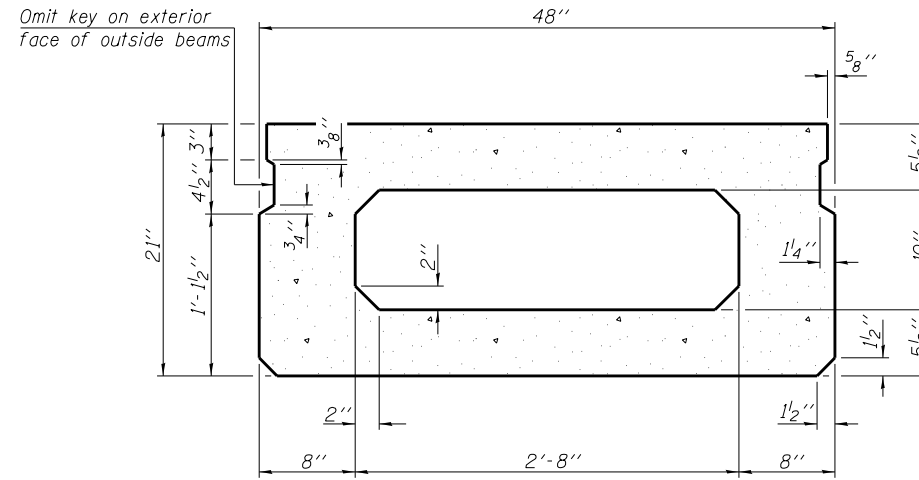
BAR D(E)

Notes:  
Cost of Side Retainer, Anchor Bolts & accessories are included with Precast Prestressed Concrete Deck Beams. The side retainer shall be galvanized after shop fabrication according to AASHTO M11 and ASTM 385. Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.  
Anchor bolts for side retainers to be installed in holes drilled after members are in place.  
Fill 1/8 inch gap with shim to provide temporary lateral support until shear keys have been grouted and concrete wearing surface has been placed.  
Anchor bolts and plate washers shall be galvanized according to AASHTO M232.  
Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.  
After the notch or concrete overlay are poured and cured, the steel wedges shall be removed.

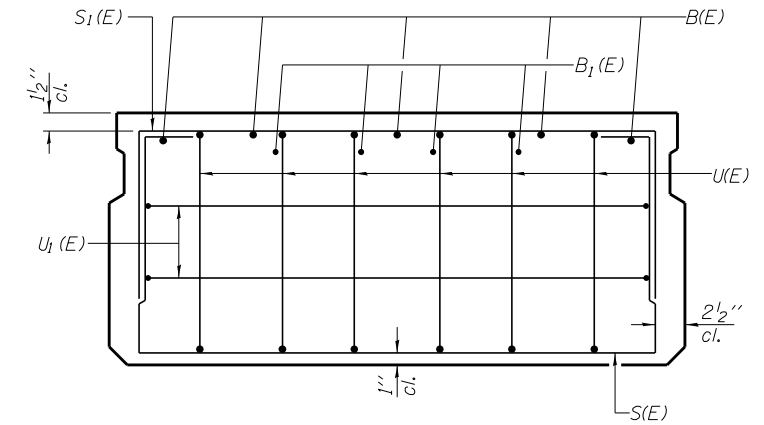
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|--|-----------------------|-------------------|-----------|---|--|---------------------------|---------|---------|--------------|-----------|--|
| FILE NAME = D978217-sht-bridge.dgn   | USER NAME =           | DESIGNED - D.W.T. | REVISED - | <b>STATE OF ILLINOIS<br/>DEPARTMENT OF TRANSPORTATION</b> | <b>SUPERSTRUCTURE DETAILS<br/>STRUCTURE NO. 039-0055</b> | F.A.S.                    | SECTION | COUNTY  | TOTAL SHEETS | SHEET NO. |  |
| 3085 STEVENSON DRIVE, SUITE 201<br>SPRINGFIELD, ILLINOIS 62703<br>217.546.3400 www.hireengineering.com |                       | CHECKED - T.J.A.  | REVISED - |   |  | 919                       | 8B-2    | JACKSON | 69           | 39        |  |
| 184.00089<br>ILLINOIS PROFESSIONAL DESIGN FIRM<br>LS / PE / SE CORPORATION                             | PLOT SCALE =          | DRAWN - D.A.B.    | REVISED - |   |  | CONTRACT NO. 78217        |         |         |              |           |  |
|  | PLOT DATE = 1/20/2015 | CHECKED - M.D.C.  | REVISED - |   |  | SHEET NO. 10 OF 28 SHEETS |         |         |              |           |  |



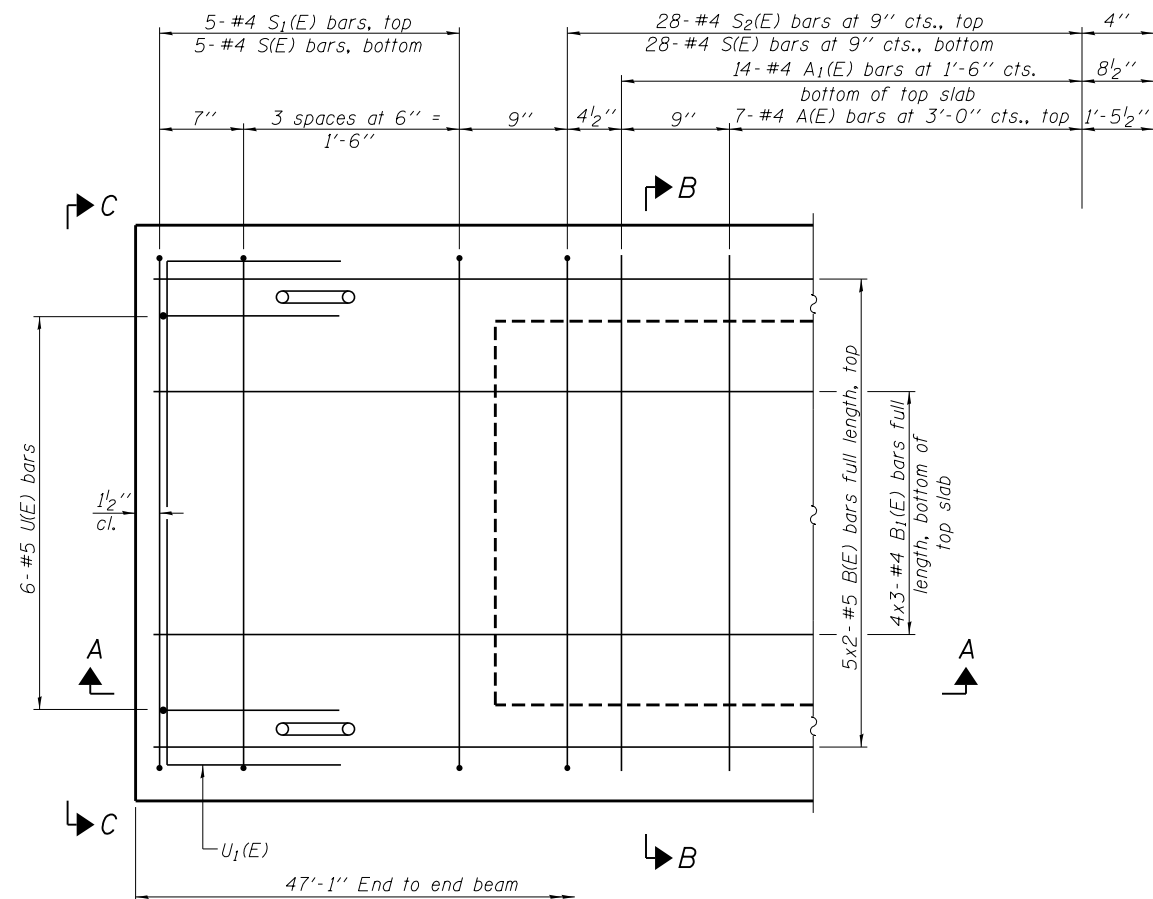
SECTION A-A



SECTION B-B  
(Showing dimensions)



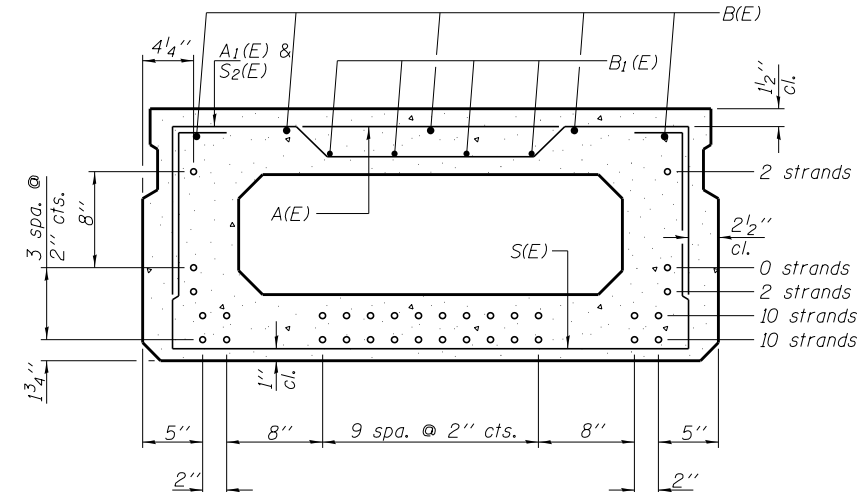
VIEW C-C



PLAN VIEW

Note:  
Spacing of S(E) and S<sub>2</sub>(E) bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.  
Bars indicated thus 5x2-#5 etc. indicates 5 lines of bars with 2 lengths per line.

Symmetrical about  $\bar{C}$



SECTION B-B

(Showing reinforcement and permissible strand locations)

Note: Place the number of strands specified in each row symmetrically about the centerline of beam in the permissible strand locations shown.

**MINIMUM BAR LAP**

#4 bar = 2'-0"  
#5 bar = 2'-6"

**BAR LIST**  
**ONE BEAM ONLY**  
(For Information Only)

| Bar                | No. | Size | Length | Shape |
|--------------------|-----|------|--------|-------|
| A(E)               | 14  | #4   | 3'-7"  | —     |
| A <sub>1</sub> (E) | 28  | #4   | 3'-10" | ~     |
| B(E)               | 10  | #5   | 24'-8" | —     |
| B <sub>1</sub> (E) | 12  | #4   | 17'-0" | —     |
| S(E)               | 66  | #4   | 7'-5"  | □     |
| S <sub>1</sub> (E) | 10  | #4   | 5'-11" | □     |
| S <sub>2</sub> (E) | 56  | #4   | 6'-2"  | □     |
| U(E)               | 12  | #5   | 4'-0"  | □     |
| U <sub>1</sub> (E) | 4   | #4   | 6'-0"  | □     |

Note: See sheets 12 thru 14 of 28 for additional details and Bill of Material.

**ADDITIONAL BARS REQUIRED FOR EXTERIOR BEAMS ONLY**  
(For Information Only)

| Bar  | No. | Size | Length | Shape |
|------|-----|------|--------|-------|
| D(E) | 16  | #4   | 2'-9"  | □     |

PD-2148-0

7-1-10

|  |                       |                   |           |
|--|-----------------------|-------------------|-----------|
| FILE NAME = D978217-sht-brIDGE.dgn   | USER NAME =           | DESIGNED - D.W.T. | REVISED - |
| 3085 STEVENSON DRIVE, SUITE 201<br>SPRINGFIELD, ILLINOIS 62703<br>217.546.3400 www.hireengineering.com |                       | CHECKED - T.J.A.  | REVISED - |
| 184.000099<br>ILLINOIS PROFESSIONAL DESIGN FIRM<br>LS / PE / SE CORPORATION                            |                       | DRAWN - D.A.B.    | REVISED - |
|  | PLOT SCALE =          | CHECKED - M.D.C.  | REVISED - |
|  | PLOT DATE = 1/20/2015 |                   |           |

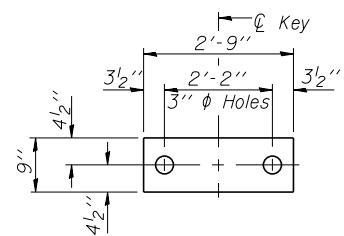
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

21" x 48" PPC DECK BEAM - SPANS 1 & 2  
STRUCTURE NO. 039-0055

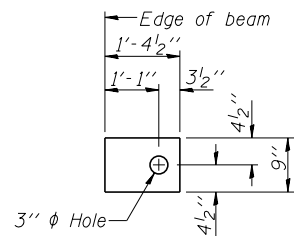
SHEET NO. 11 OF 28 SHEETS

|                           |         |         |              |           |
|---------------------------|---------|---------|--------------|-----------|
| F.A.S.                    | SECTION | COUNTY  | TOTAL SHEETS | SHEET NO. |
| 919                       | 8B-2    | JACKSON | 69           | 40        |
| CONTRACT NO. 78217        |         |         |              |           |
| ILLINOIS FED. AID PROJECT |         |         |              |           |





**FABRIC BEARING PAD**  
(Interior - 28 Req'd.)

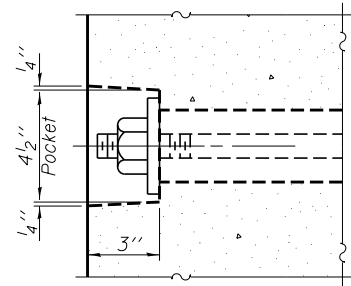


**FABRIC BEARING PAD**  
(Exterior - 16 Req'd.)

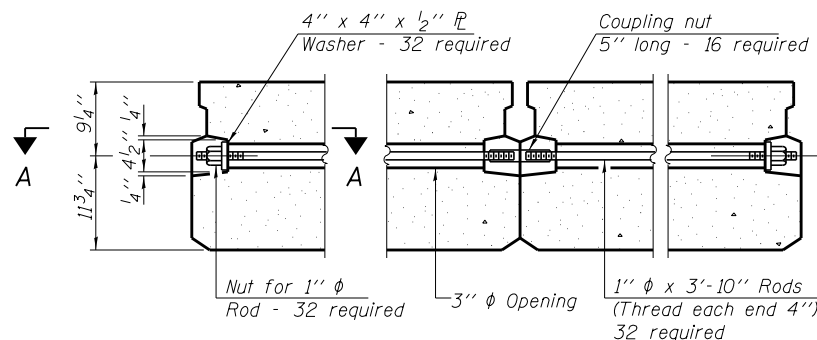
**FIXED**

Notes:

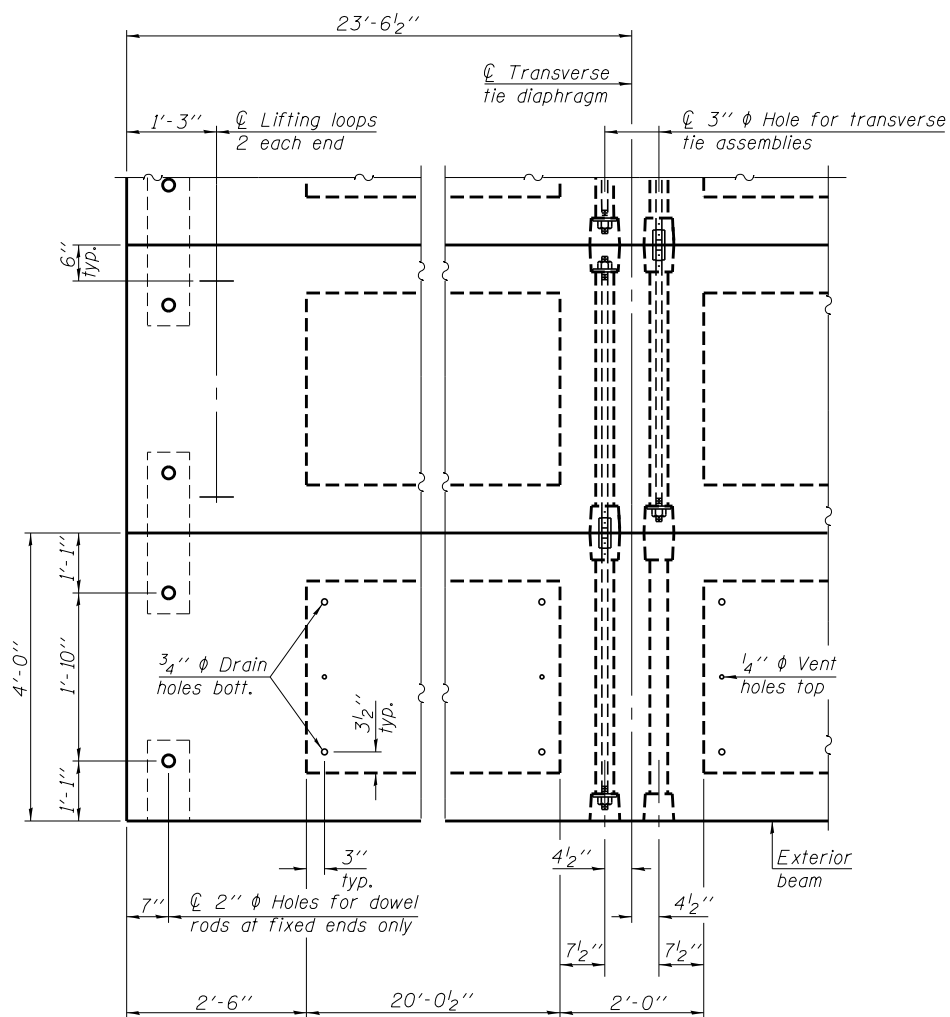
All bearing pads shall be 1" thick.  
Omit holes when using expansion bearings.  
Expansion bearing pad shall be bonded to the substructure.



**SECTION A-A**

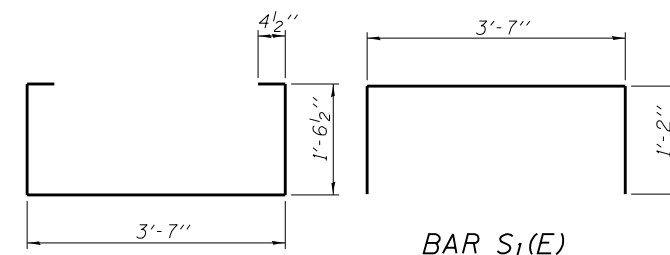


**TYPICAL TRANSVERSE TIE ASSEMBLY**



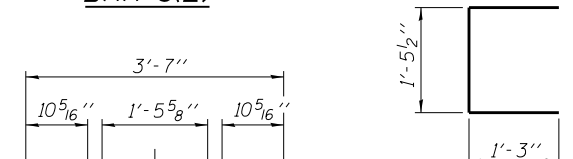
**PLAN VIEW**

Note: Connect beams in pairs with the transverse tie configuration shown.



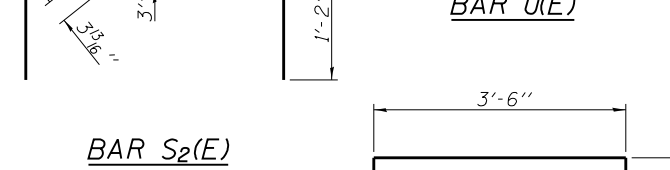
**BAR S<sub>1</sub>(E)**

**BAR S(E)**



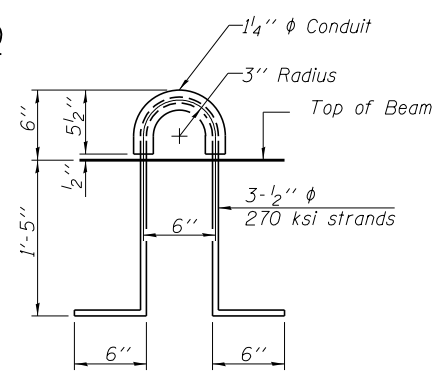
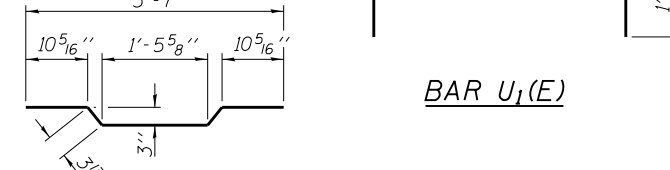
**BAR U(E)**

**BAR S<sub>2</sub>(E)**



**BAR U<sub>1</sub>(E)**

**BAR A<sub>1</sub>(E)**



**LIFTING LOOP DETAIL**

**NOTES**

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in.  
The 1" rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place.  
Two 1/8" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.  
A minimum 2 1/2" diameter lifting pin shall be used to engage the lifting loops during handling.  
Corrosion Inhibitor, per Article 1020.05(b)(12) and 1021.07 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.  
Compressive strength of prestressed concrete, f'c, shall be 6000 psi.  
Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi.  
Reinforcement bars designated (E) shall be epoxy coated.

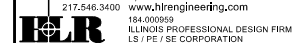
**BILL OF MATERIAL**

|   |         |       |
|---|---------|-------|
| Precast Prestressed Conc. Deck Bms. (21" depth) | Sq. Ft. | 3,390 |
|---|---------|-------|

PD-2148-OD

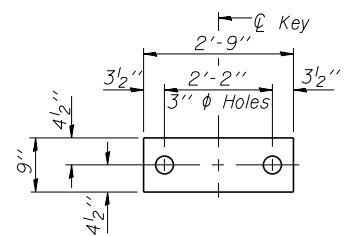
7-1-10

|  |                   |           |   |   |                           |         |         |              |           |  |
|--|-------------------|-----------|---|---|---------------------------|---------|---------|--------------|-----------|--|
| FILE NAME = D:\978217-sht-bridge.dgn   | DESIGNED - D.W.T. | REVISIONS | STATE OF ILLINOIS<br>DEPARTMENT OF TRANSPORTATION | 21" x 48" PPC DECK BEAM DETAILS - SPANS 1 & 2<br>STRUCTURE NO. 039-0055 | F.A.S.                    | SECTION | COUNTY  | TOTAL SHEETS | SHEET NO. |  |
| 3085 STEVENSON DRIVE, SUITE 201<br>SPRINGFIELD, ILLINOIS 62703<br>217.546.3400 www.hireengineering.com | CHECKED - T.J.A.  | REVISED - |   |   | 919                       | 8B-2    | JACKSON | 69           | 41        |  |
| PLOT SCALE =   | DRAWN - D.A.B.    | REVISED - |   |   | CONTRACT NO. 78217        |         |         |              |           |  |
| PLOT DATE = 5/4/2015   | CHECKED - M.D.C.  | REVISED - |   |   | SHEET NO. 12 OF 28 SHEETS |         |         |              |           |  |

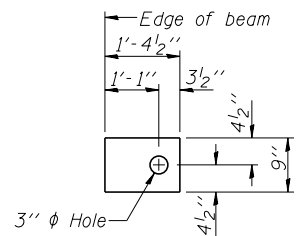


ILLINOIS FED. AID PROJECT





**FABRIC BEARING PAD**  
(Interior - 14 Req'd.)

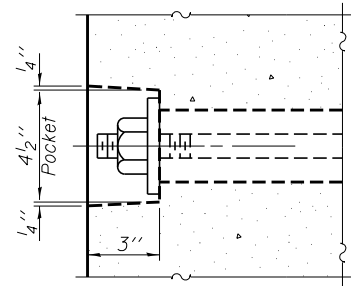


**FABRIC BEARING PAD**  
(Exterior - 8 Req'd.)

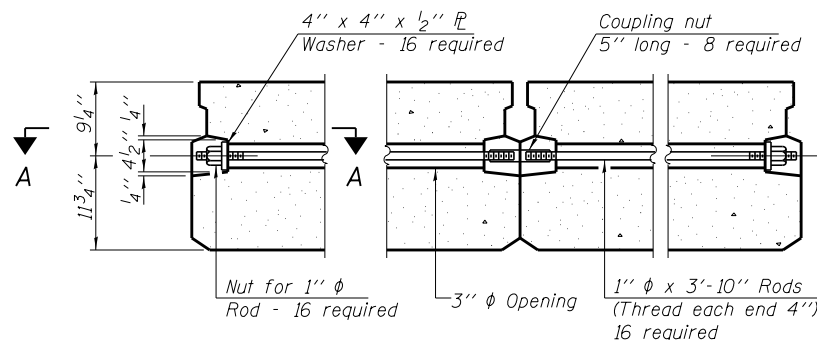
**FIXED**

Notes:

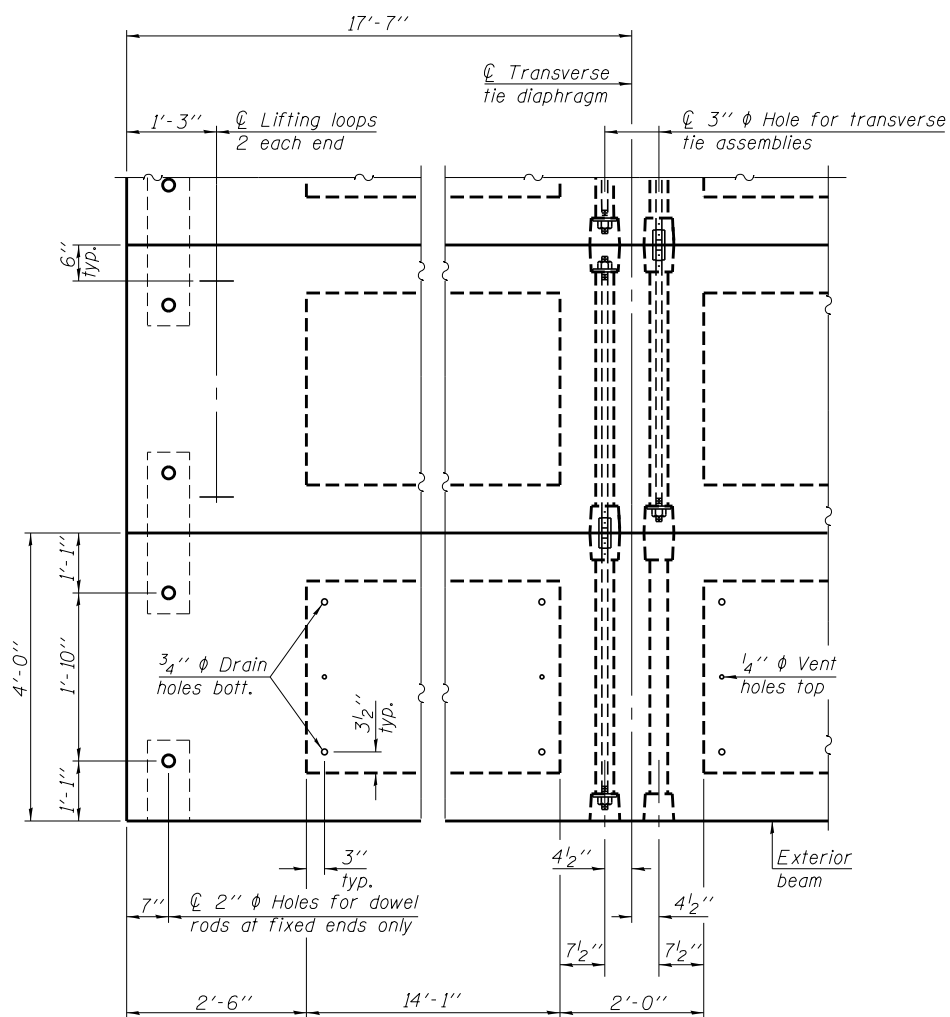
All bearing pads shall be 1" thick.  
Omit holes when using expansion bearings.  
Expansion bearing pad shall be bonded to the substructure.



**SECTION A-A**

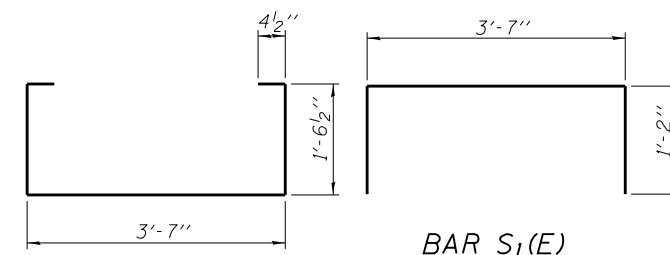


**TYPICAL TRANSVERSE TIE ASSEMBLY**



**PLAN VIEW**

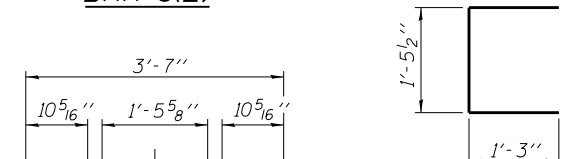
Note: Connect beams in pairs with the transverse tie configuration shown.



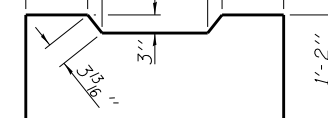
**BAR S<sub>1</sub>(E)**



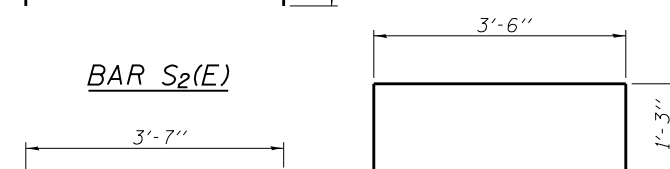
**BAR S(E)**



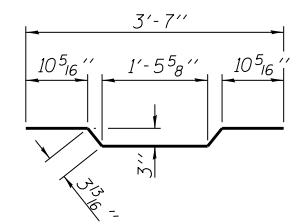
**BAR U(E)**



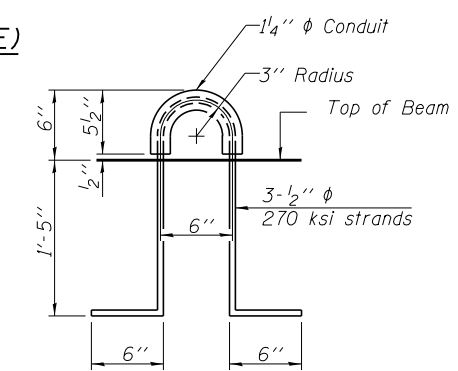
**BAR S<sub>2</sub>(E)**



**BAR U<sub>1</sub>(E)**



**BAR A<sub>1</sub>(E)**



**LIFTING LOOP DETAIL**

**NOTES**

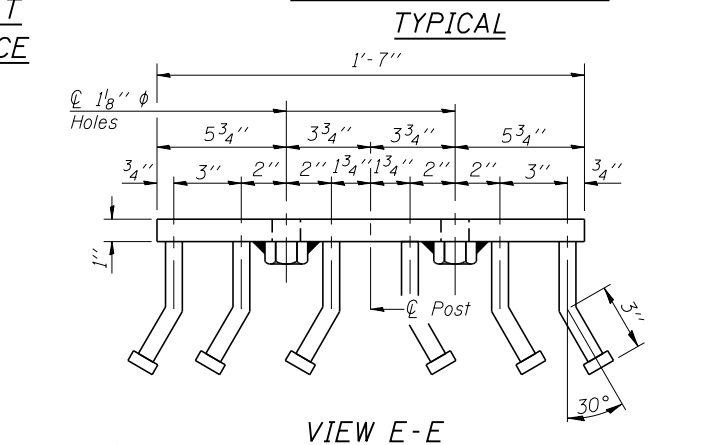
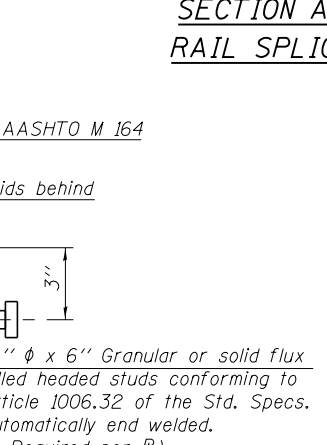
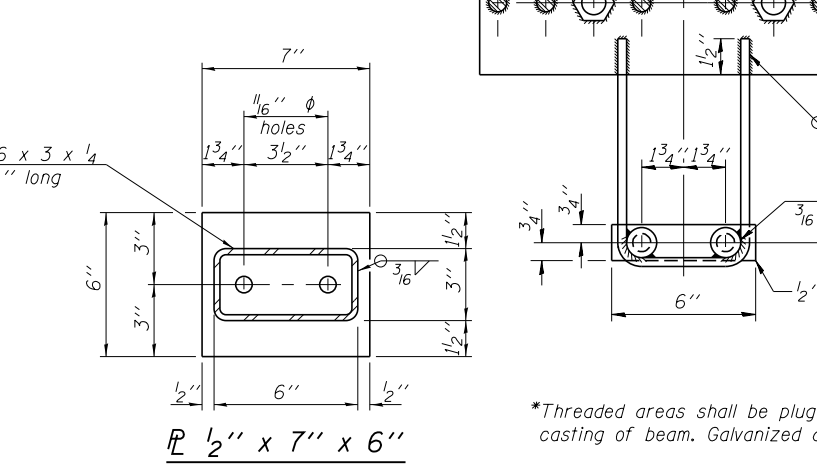
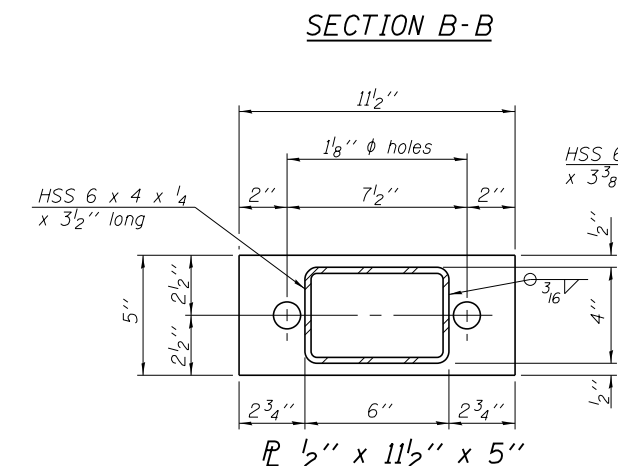
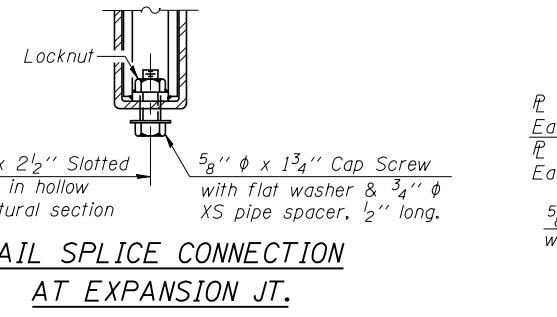
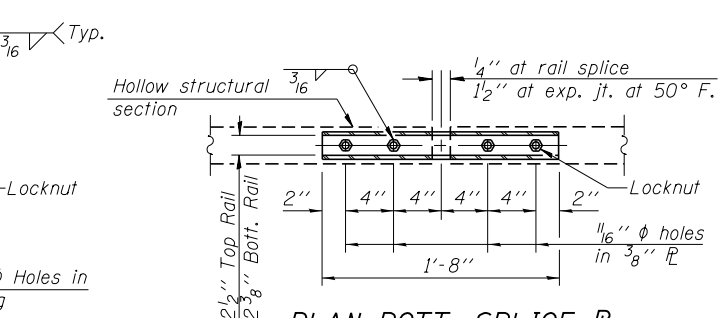
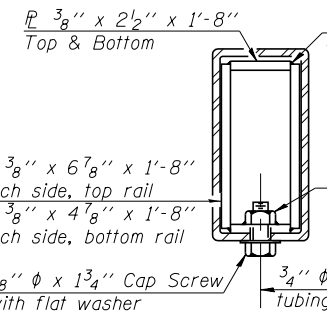
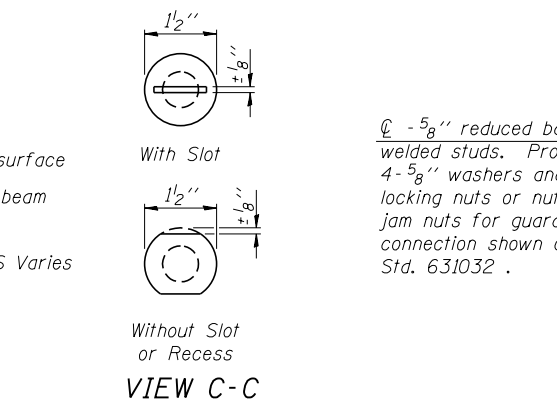
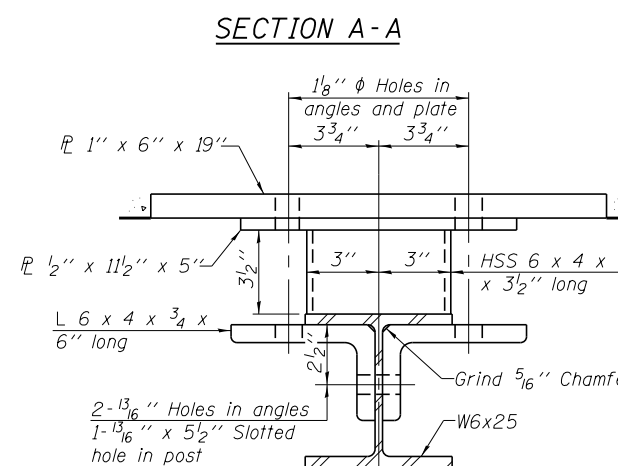
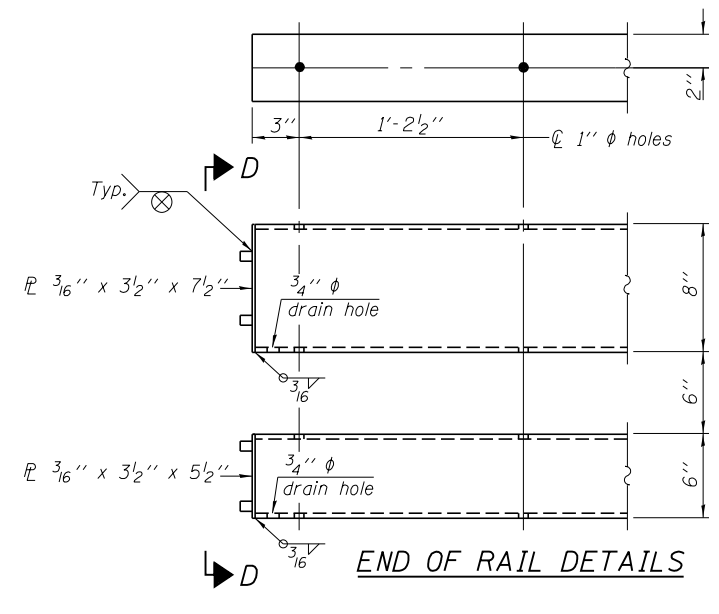
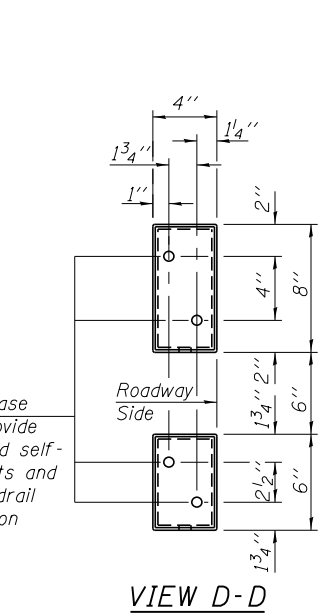
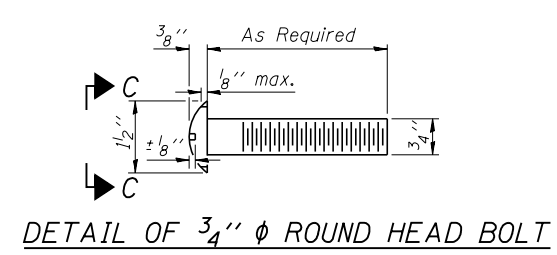
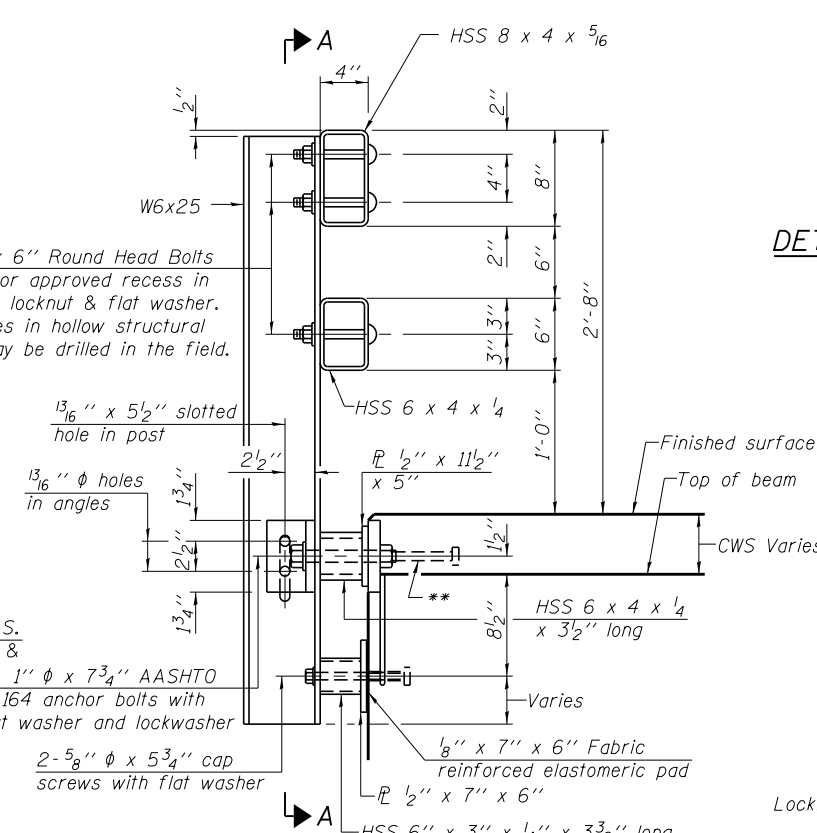
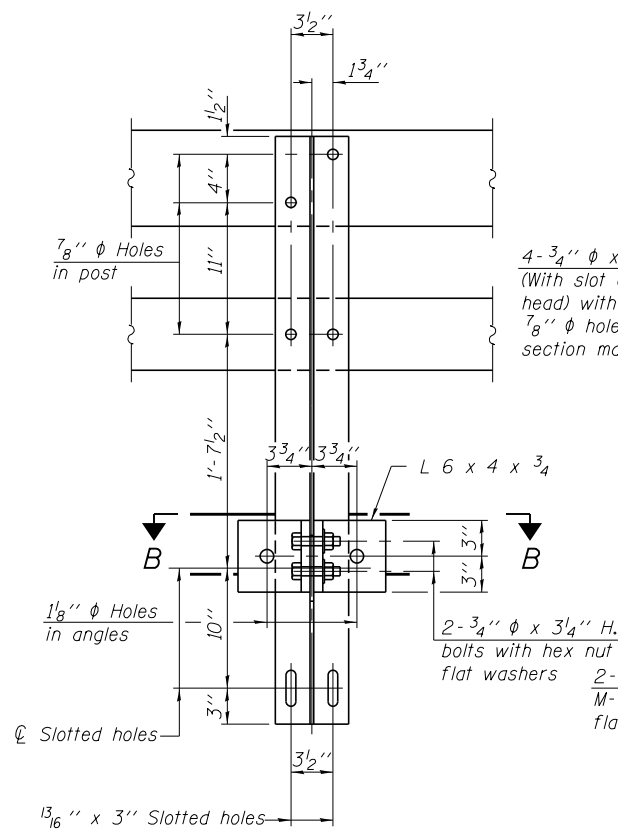
- Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in.
- The 1" rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place.
- Two 1/8" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.
- A minimum 2 1/2" diameter lifting pin shall be used to engage the lifting loops during handling.
- Corrosion Inhibitor, per Article 1020.05(b)(12) and 1021.07 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.
- Compressive strength of prestressed concrete, f'c, shall be 6000 psi.
- Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi.
- Reinforcement bars designated (E) shall be epoxy coated.

**BILL OF MATERIAL**

|   |         |       |
|---|---------|-------|
| Precast Prestressed Conc. Deck Bms. (21" depth) | Sq. Ft. | 1,266 |
|---|---------|-------|

PD-2148-OD 7-1-10

|  |                   |             |   |  |                           |         |         |              |           |
|--|-------------------|-------------|---|--|---------------------------|---------|---------|--------------|-----------|
| FILE NAME = D978217-sht-bridge.dgn   | DESIGNED - D.W.T. | REVISIONS - | <b>STATE OF ILLINOIS<br/>DEPARTMENT OF TRANSPORTATION</b> | <b>21" x 48" PPC DECK BEAM DETAILS - SPAN 3<br/>STRUCTURE NO. 039-0055</b> | F.A.S.                    | SECTION | COUNTY  | TOTAL SHEETS | SHEET NO. |
| 3085 STEVENSON DRIVE, SUITE 201<br>SPRINGFIELD, ILLINOIS 62703<br>217.546.3400 www.hireengineering.com | CHECKED - T.J.A.  | REVISIONS - |   |  | 919                       | 8B-2    | JACKSON | 69           | 43        |
| PLOT SCALE =   | DRAWN - D.A.B.    | REVISIONS - |   |  | CONTRACT NO. 78217        |         |         |              |           |
| PLOT DATE = 5/4/2015   | CHECKED - M.D.C.  | REVISIONS - |   |  | SHEET NO. 14 OF 28 SHEETS |         |         |              |           |



Notes:  
 All field drilled holes shall be coated with an approved zinc rich paint before erection.  
 For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Railing, Type SM.  
 Steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.  
 \*\* The studs of the anchor devices shall be placed below the top reinforcement bars and the outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchor device.

**BILL OF MATERIAL**

| Item                   | Unit | Quantity |
|------------------------|------|----------|
| Steel Railing, Type SM | Foot | 162      |

R-34CWS 7-1-10 (6'-3" Maximum Post Spacing) (5" minimum to 7 1/8" maximum CWS thickness)

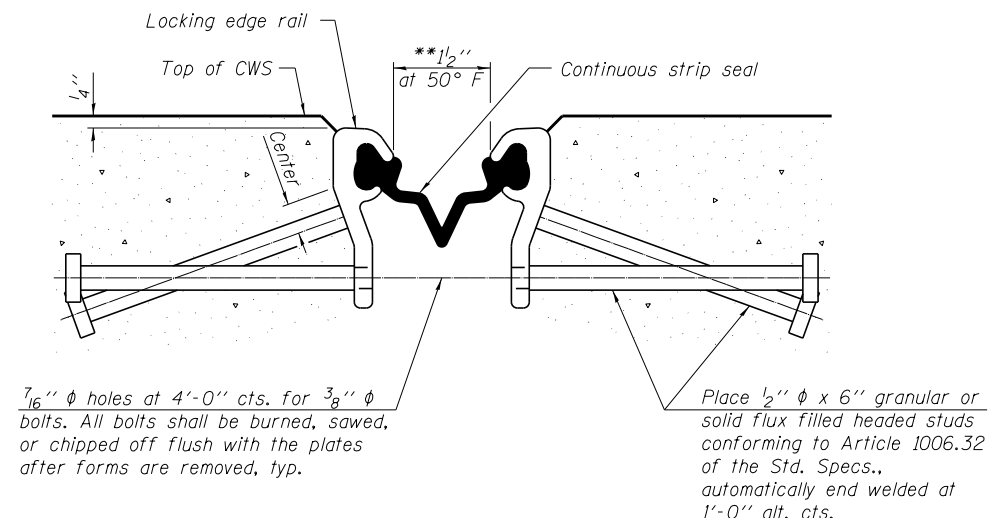
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|---|-------------|-------------------|-----------|
| FILE NAME = D978217-sht-bridge.dgn  | USER NAME = | DESIGNED - D.W.T. | REVISED - |
| 3085 STEVENSON DRIVE, SUITE 201<br>SPRINGFIELD, ILLINOIS 62703<br>217.546.3400 www.hfrengineering.com |             | CHECKED - T.J.A.  | REVISED - |
|   |             | DRAWN - D.A.B.    | REVISED - |
|   |             | CHECKED - M.D.C.  | REVISED - |
|   |             |                   |           |

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

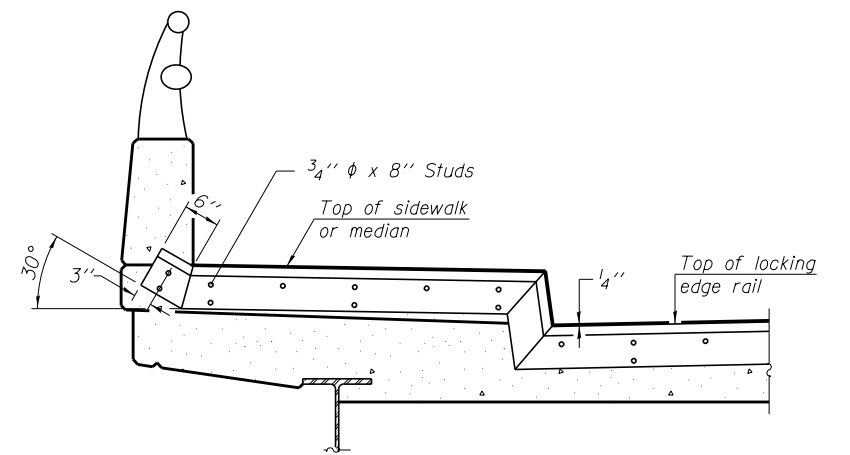
STEEL RAILING, TYPE SM WITH CONCRETE WEARING SURFACE  
 STRUCTURE NO. 039-0055  
 SHEET NO. 15 OF 28 SHEETS

|                    |         |         |                           |           |
|--------------------|---------|---------|---------------------------|-----------|
| F.A.S.             | SECTION | COUNTY  | TOTAL SHEETS              | SHEET NO. |
| 919                | 8B-2    | JACKSON | 69                        | 44        |
| CONTRACT NO. 78217 |         |         | ILLINOIS FED. AID PROJECT |           |

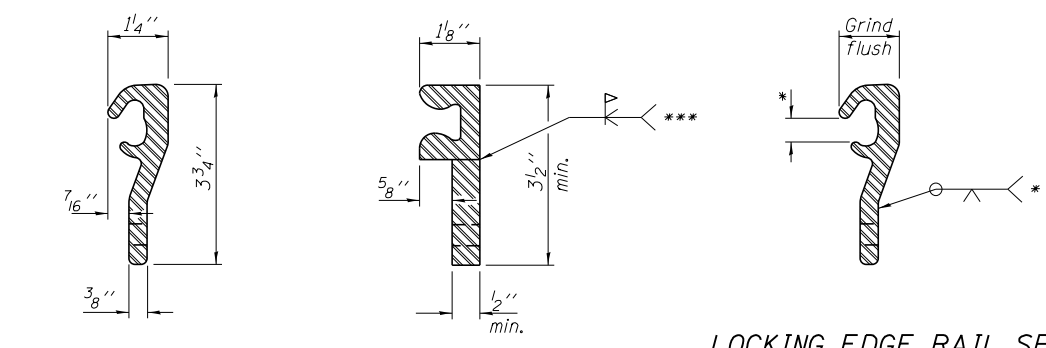




**SECTION THRU STRIP SEAL JOINT  
FOR OVERLAY OVER DECK BEAMS**



**TYPICAL END TREATMENT  
AT SIDEWALK OR MEDIAN**  
Shorter plates with a single row of studs at 12 inch centers may be necessary on medians which are shallower than 9 inches. See manufacturer's recommendation.



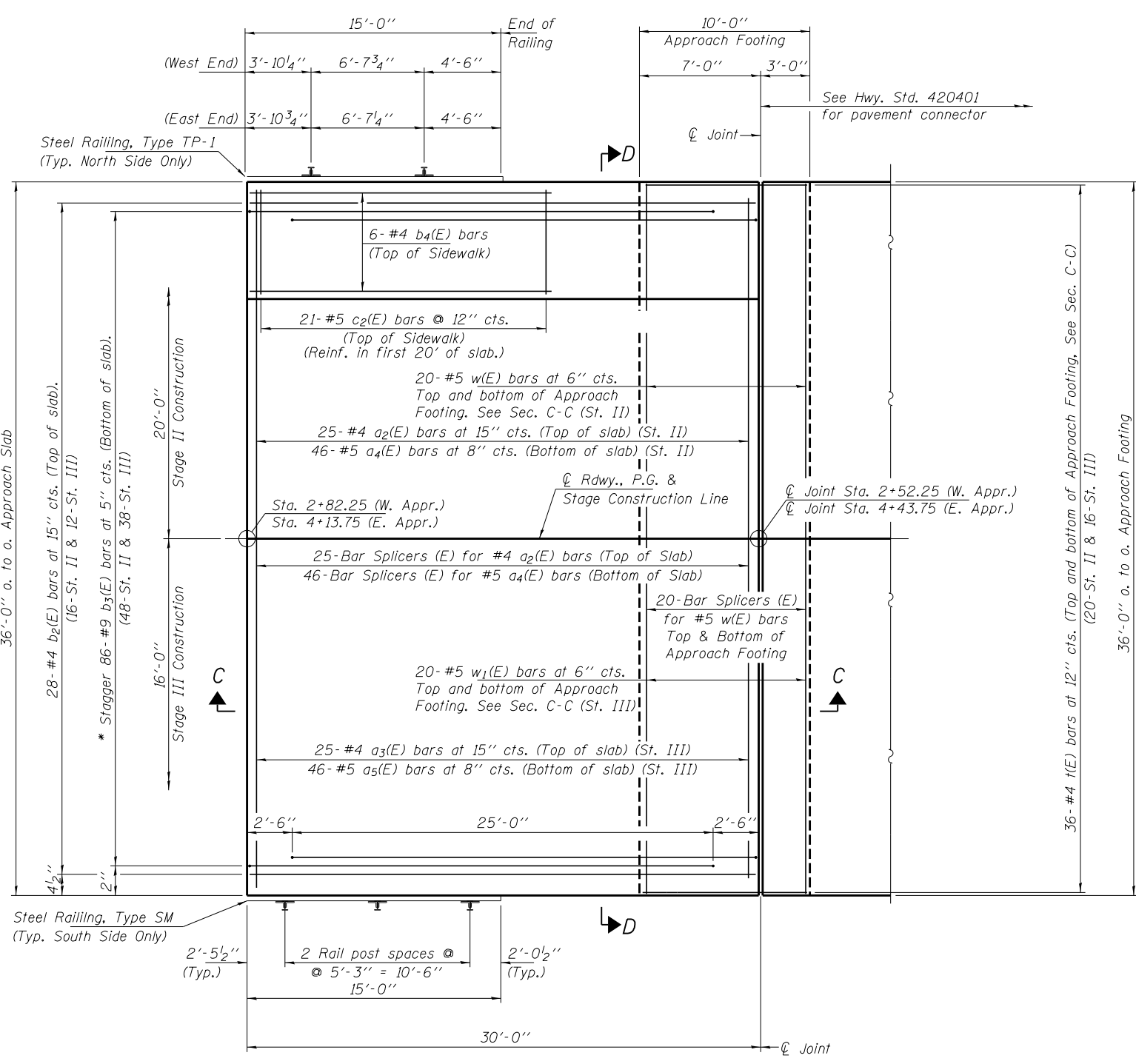
**LOCKING EDGE RAIL SPLICE**  
Rolled rail shown, welded rail similar.

**Notes:**  
 The strip seal shall be made continuous and shall have a minimum thickness of 1/4 inch. The configuration of the strip seal shall match the configuration of the Locking Edge Rails.  
 The height and thickness of the Locking Edge Rails shown are minimum dimensions. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed.  
 The inside of the Locking Edge Rail groove shall be free of weld residue. Locking Edge Rails may be spliced at slope discontinuities and stage construction joints.  
 The manufacturer's recommended installation methods shall be followed. The cost of Structural Steel shall be included in the item Preformed Joint Strip Seal.  
 All Steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.  
 Maximum space between rail segments at stage lines shall be 3/16 inch, sealed with a suitable sealant.

- \* Omit weld at seal opening.
- \*\* When joint is fixed, dimension is set at 1 1/2 inches.
- \*\*\* Back gouge not required if complete joint penetration is verified by mock-up.

**BILL OF MATERIAL**

| Item                       | Unit | Total |
|----------------------------|------|-------|
| Preformed Joint Strip Seal | Foot | 74    |



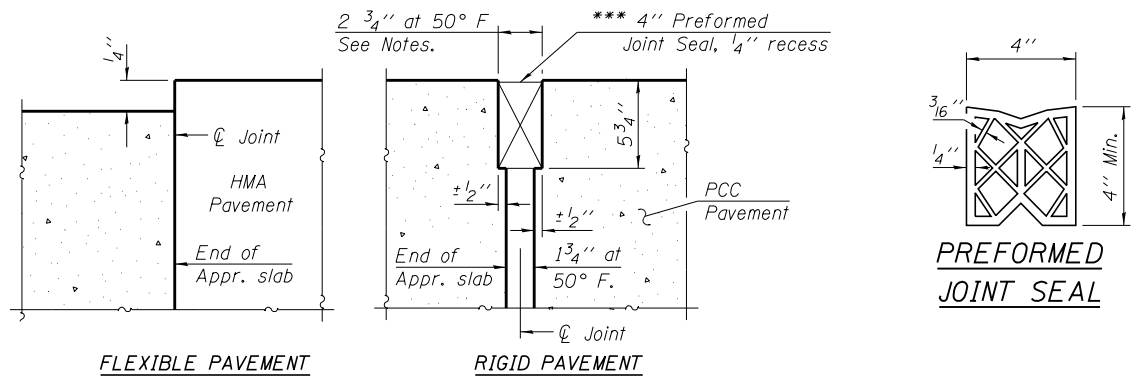
**PLAN**

\* Tilt #9 b<sub>3</sub>(E) bars as required to maintain clearance.

See sheets 15 & 16 of 28 for Railing Details.  
See sheet 8 of 28 for Rail Insert dimensions.  
East Approach slab shown. West Approach  
Slab similar mirrored 180° about North-South axis.

Notes:  
See sheet 19 of 28 for Sections C-C & D-D.  
a<sub>2</sub>(E) thru a<sub>5</sub>(E) bar spacings measured along  $\hat{C}$  Rdwy.  
The joint opening shall be determined per Article 520.04 except that on jointless structures, the distance described as the bridge length between the nearest fixed bearings each way from the joint shall be taken as half the bridge length plus the approach slab length. The minimum dimension shall be 1 1/2' for installation purposes.

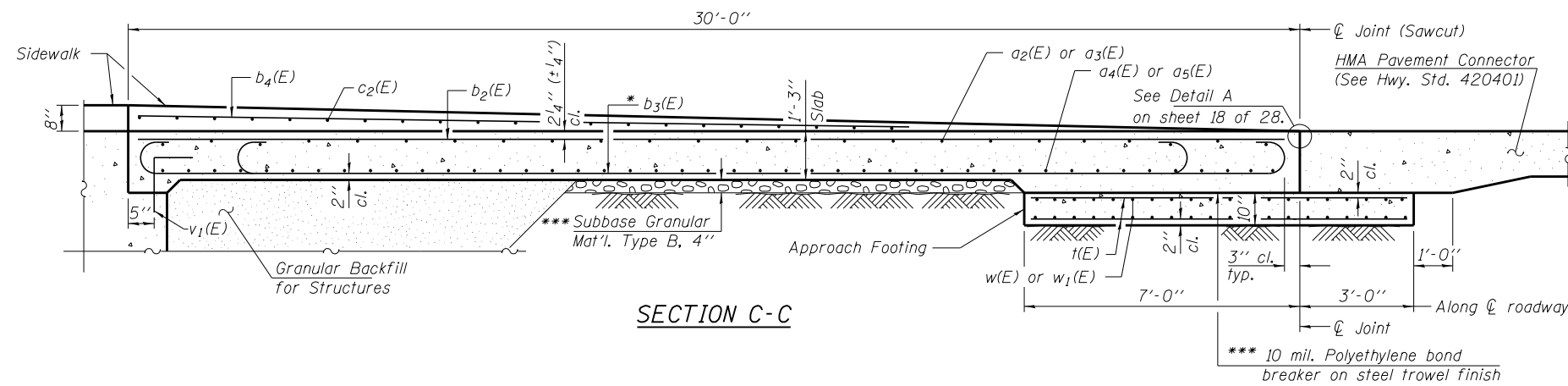
\*\*\* Cost included with Concrete Superstructure.



**DETAIL A**

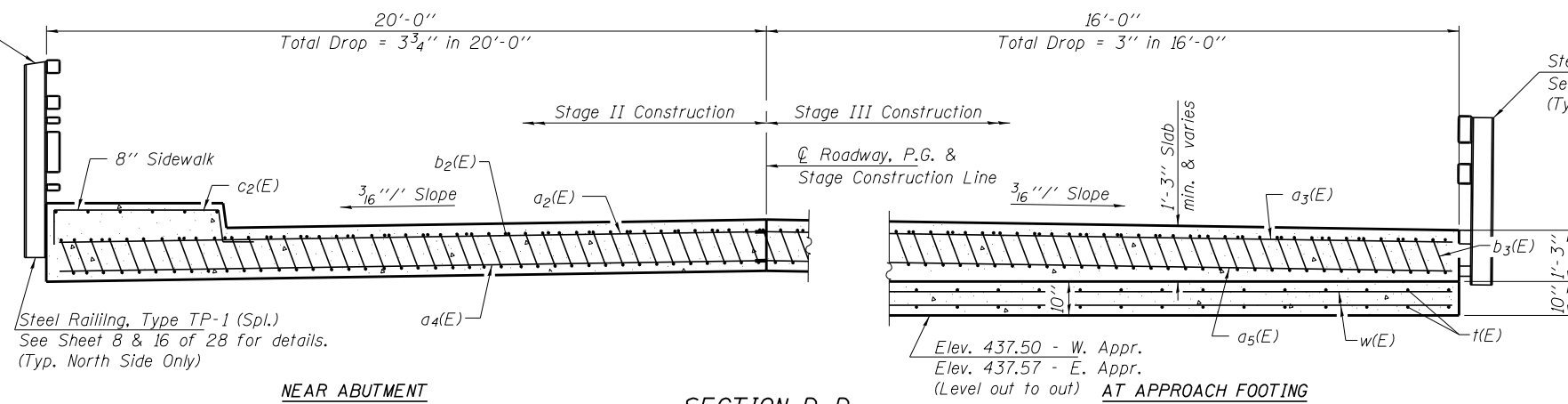
|  |                       |                   |           |   |   |                           |         |         |              |           |  |
|--|-----------------------|-------------------|-----------|---|---|---------------------------|---------|---------|--------------|-----------|--|
| FILE NAME = D978217-sht-bridge.dgn   | USER NAME =           | DESIGNED - D.W.T. | REVISED - | <b>STATE OF ILLINOIS<br/>DEPARTMENT OF TRANSPORTATION</b> | <b>APPROACH SLAB DETAILS<br/>STRUCTURE NO. 039-0055</b> | F.A.S.                    | SECTION | COUNTY  | TOTAL SHEETS | SHEET NO. |  |
| 3085 STEVENSON DRIVE, SUITE 201<br>SPRINGFIELD, ILLINOIS 62703<br>217.546.3400 www.hireengineering.com |                       | CHECKED - T.J.A.  | REVISED - |   |   | 919                       | 8B-2    | JACKSON | 69           | 47        |  |
| 184.000989<br>ILLINOIS PROFESSIONAL DESIGN FIRM<br>LS / PE / SE CORPORATION                            | PLOT SCALE =          | DRAWN - D.A.B.    | REVISED - |   |   | CONTRACT NO. 78217        |         |         |              |           |  |
|  | PLOT DATE = 1/20/2015 | CHECKED - M.D.C.  | REVISED - |   |   | SHEET NO. 18 OF 28 SHEETS |         |         |              |           |  |

(Sheet 1 of 2)



Notes:  
 Approach slab shall be paid for as Concrete Superstructure.  
 Approach footing concrete shall be paid for as Concrete Structures.  
 Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.  
 For  $v_1(E)$  bar details, see sheet 21 & 23 of 28.  
 The approach footing maximum applied service bearing pressure ( $Q_{max}$ ) = 2.0 ksf.  
 Cost of excavation for approach footing included with Concrete Structures.  
 For Granular Backfill for Structures and drainage treatment details, see sheet 2 of 28.  
 Sidewalk to be poured monolithically with Bridge Approach Slab.

Steel Railing, Type TP-1 (Spl.)  
 See Sheet 8 & 16 of 28 for details.  
 (Typ. North Side Only)



Steel Railing, Type SM  
 See Sheet 8 & 15 of 28 for details.  
 (Typ. South Side Only)

\* Tilt #9  $b_3(E)$  bars as required to maintain clearance.

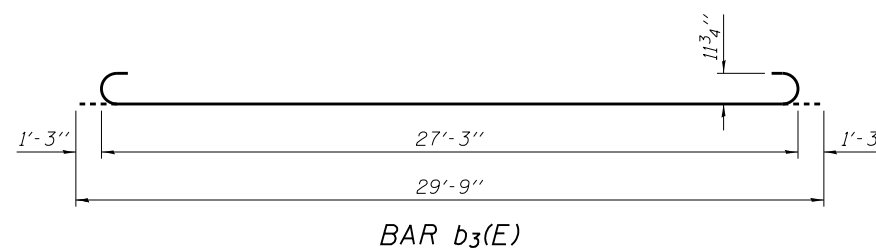
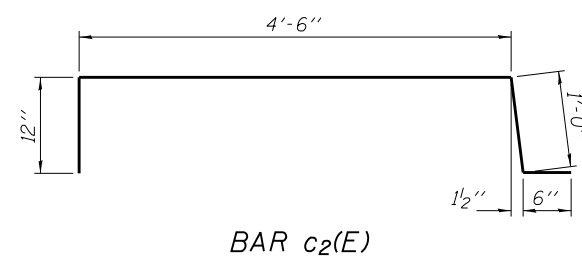
\*\*\* Cost included with Concrete Superstructure.

NEAR ABUTMENT

SECTION D-D  
 (See Plan for dimensions not shown)

TWO APPROACHES  
 BILL OF MATERIAL

| Bar                              | No. | Size    | Length | Shape |
|----------------------------------|-----|---------|--------|-------|
| $a_2(E)$                         | 50  | #4      | 19'-8" | —     |
| $a_3(E)$                         | 50  | #4      | 15'-8" | —     |
| $a_4(E)$                         | 92  | #5      | 19'-8" | —     |
| $a_5(E)$                         | 92  | #5      | 15'-8" | —     |
| $b_2(E)$                         | 56  | #4      | 29'-8" | —     |
| $b_3(E)$                         | 172 | #9      | 29'-9" | ⌋     |
| $b_4(E)$                         | 12  | #4      | 22'-0" | —     |
| $c_2(E)$                         | 42  | #5      | 7'-0"  | ⌋     |
| $t(E)$                           | 144 | #4      | 9'-8"  | —     |
| $w(E)$                           | 80  | #5      | 19'-8" | —     |
| $w_1(E)$                         | 80  | #5      | 15'-8" | —     |
| Concrete Structures              |     | Cu. Yd. | 22.2   |       |
| Concrete Superstructure          |     | Cu. Yd. | 109.6  |       |
| Bridge Deck Grooving             |     | Sq. Yd. | 193    |       |
| Protective Coat                  |     | Sq. Yd. | 264    |       |
| Reinforcement Bars, Epoxy Coated |     | Pound   | 27,440 |       |
| Bar Splicers                     |     | Each    | 222    |       |



(Sheet 2 of 2)

|  |                       |                   |           |
|--|-----------------------|-------------------|-----------|
| FILE NAME = D978217-sht-bridge.dgn   | USER NAME =           | DESIGNED - D.W.T. | REVISED - |
| 3085 STEVENSON DRIVE, SUITE 201<br>SPRINGFIELD, ILLINOIS 62703<br>217.546.3400 www.hireengineering.com |                       | CHECKED - T.J.A.  | REVISED - |
| 184.000009<br>ILLINOIS PROFESSIONAL DESIGN FIRM<br>LS / PE / SE CORPORATION                            |                       | DRAWN - D.A.B.    | REVISED - |
|  | PLOT SCALE =          | CHECKED - M.D.C.  | REVISED - |
|  | PLOT DATE = 1/20/2015 |                   |           |

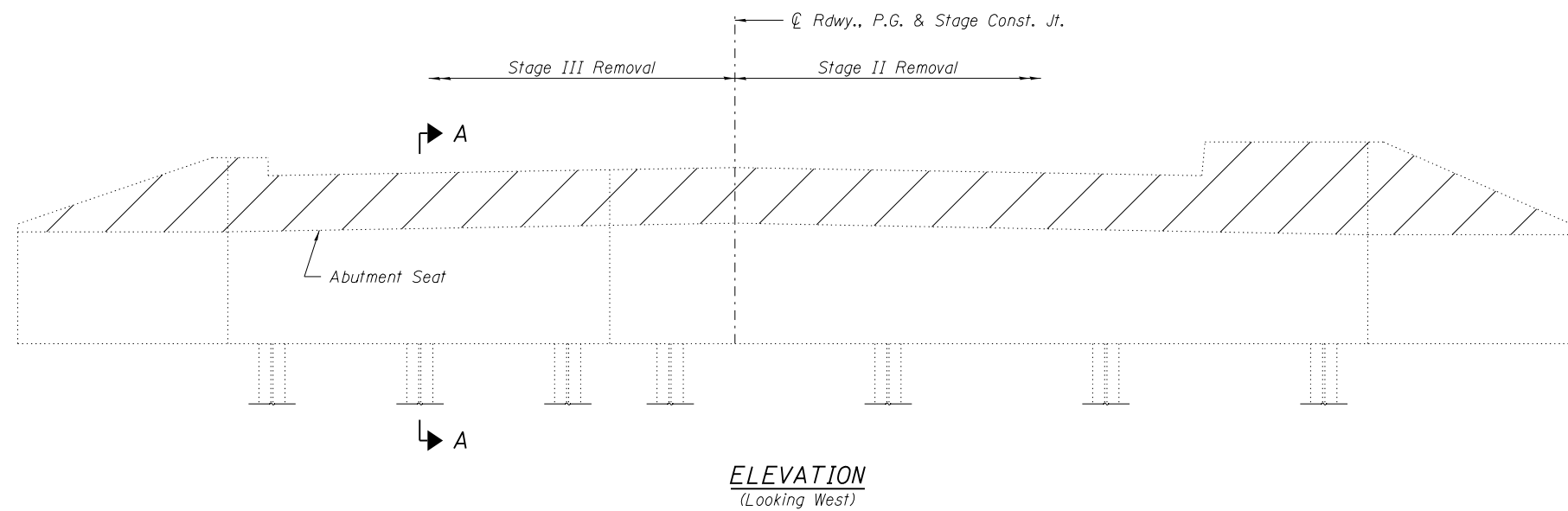
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

APPROACH SLAB DETAILS  
 STRUCTURE NO. 039-0055

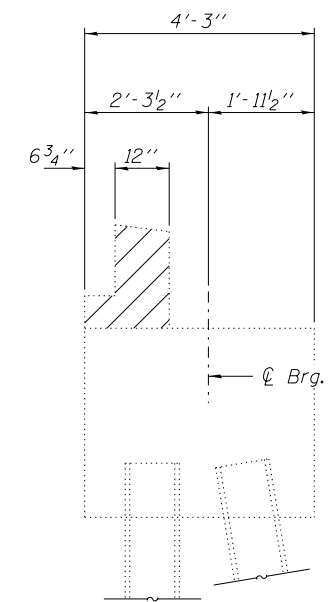
SHEET NO. 19 OF 28 SHEETS

| F.A.S.                    | SECTION | COUNTY  | TOTAL SHEETS | SHEET NO. |
|---------------------------|---------|---------|--------------|-----------|
| 919                       | 8B-2    | JACKSON | 69           | 48        |
| CONTRACT NO. 78217        |         |         |              |           |
| ILLINOIS FED. AID PROJECT |         |         |              |           |

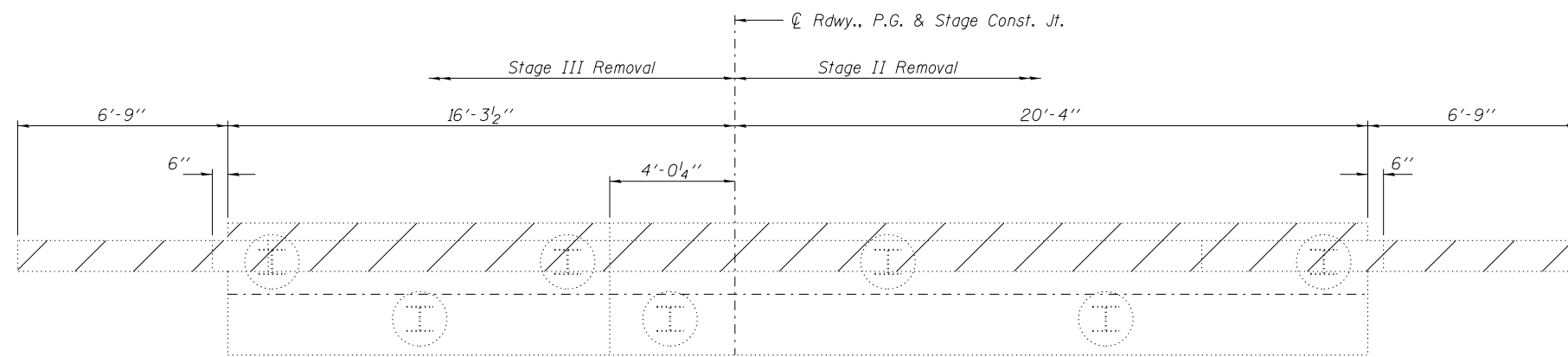




**ELEVATION**  
(Looking West)



**SECTION A-A**

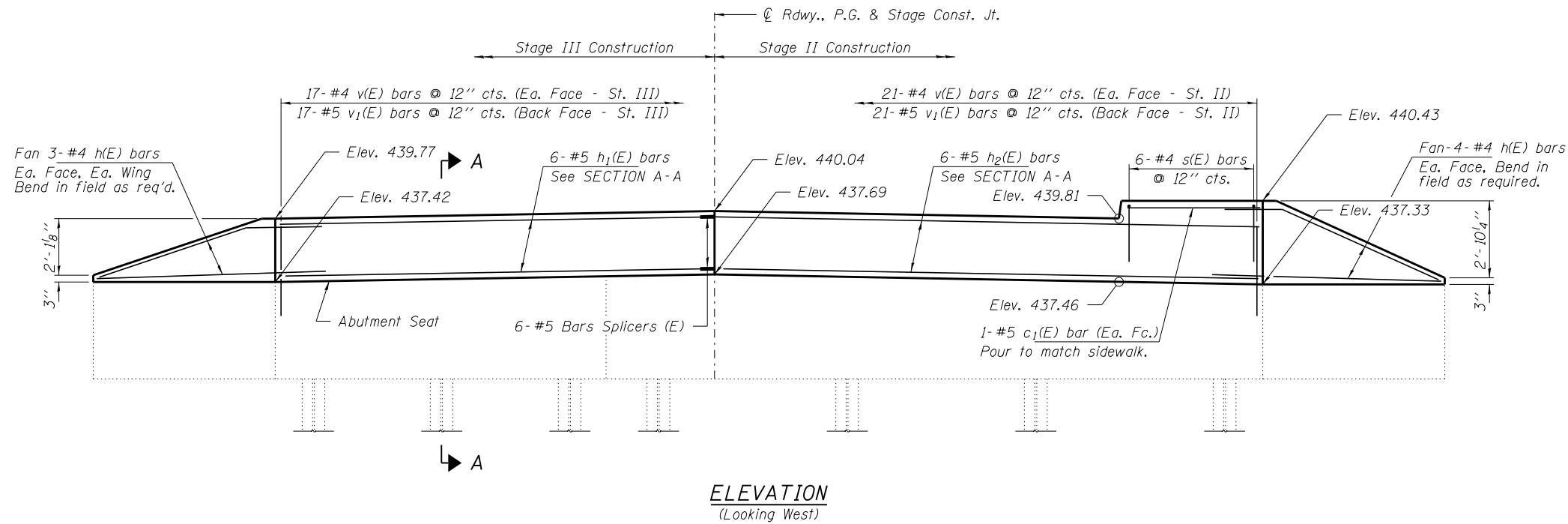


**PLAN**

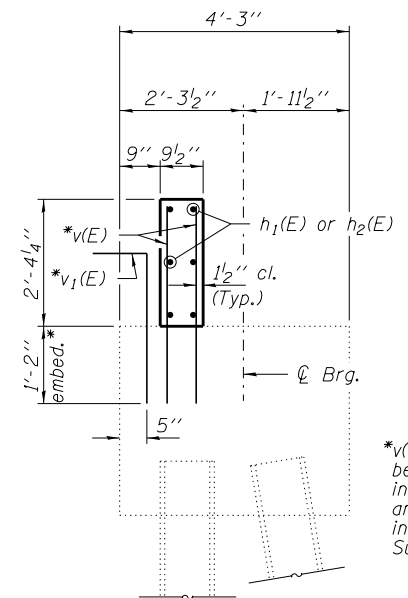
**Notes:**  
 Leave existing vertical bars in place at wingwalls.  
 Hatched areas indicate Concrete Removal.  
 Existing vertical reinforcement in the wingwalls shall be cleaned and incorporated into the new construction. Cost included with Concrete Removal.  
 The existing abutment bearing seat is to be inspected by the Engineer after deck beam removal. Deteriorated concrete areas shall be repaired if deemed necessary using Structural Repair of Concrete (Depth equal to or less than 5"). Concrete Sealer shall be applied to Concrete Repair areas. Cost included in Concrete Repair item.

**BILL OF MATERIAL**

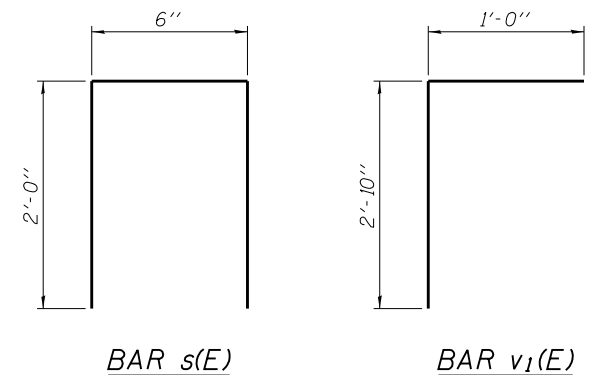
| Item             | Unit    | Quantity |
|------------------|---------|----------|
| Concrete Removal | Cu. Yd. | 3.9      |



**ELEVATION**  
(Looking West)

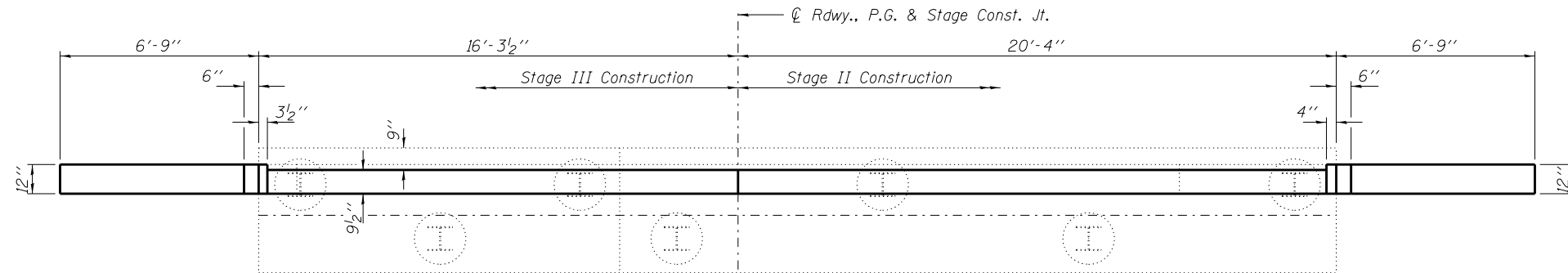


**SECTION A-A**



**BAR s(E)**

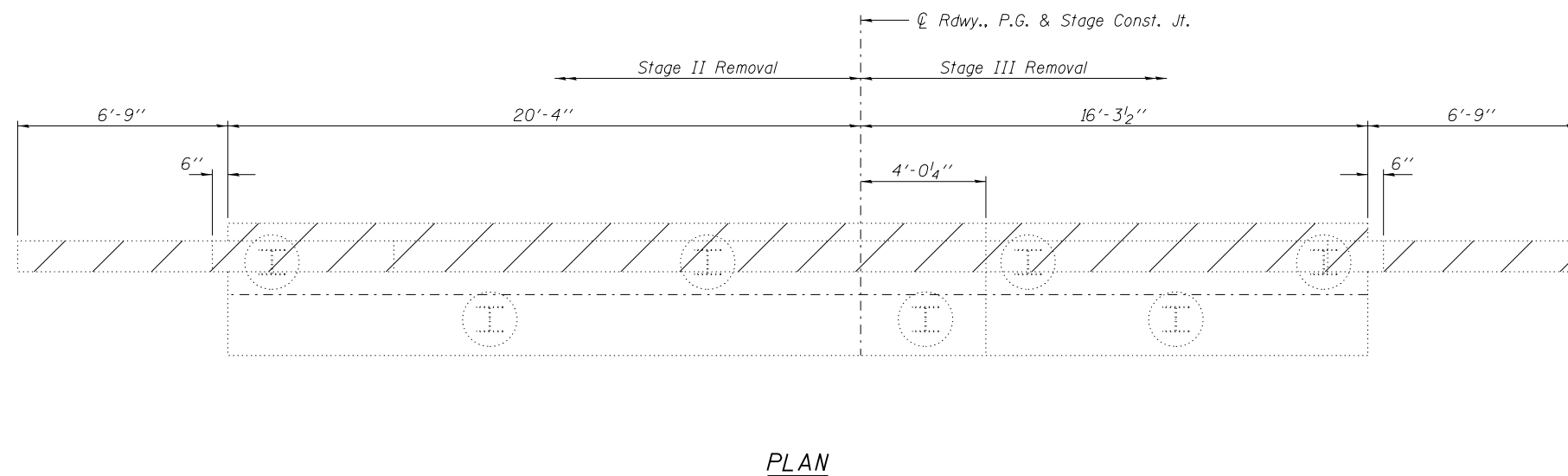
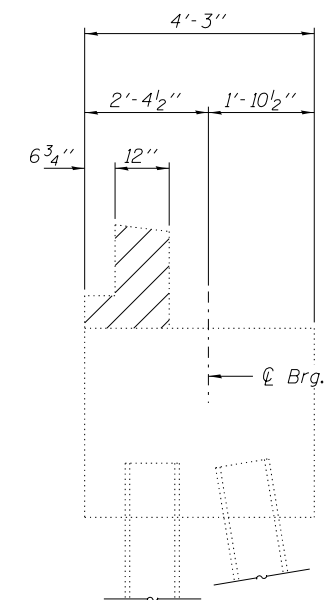
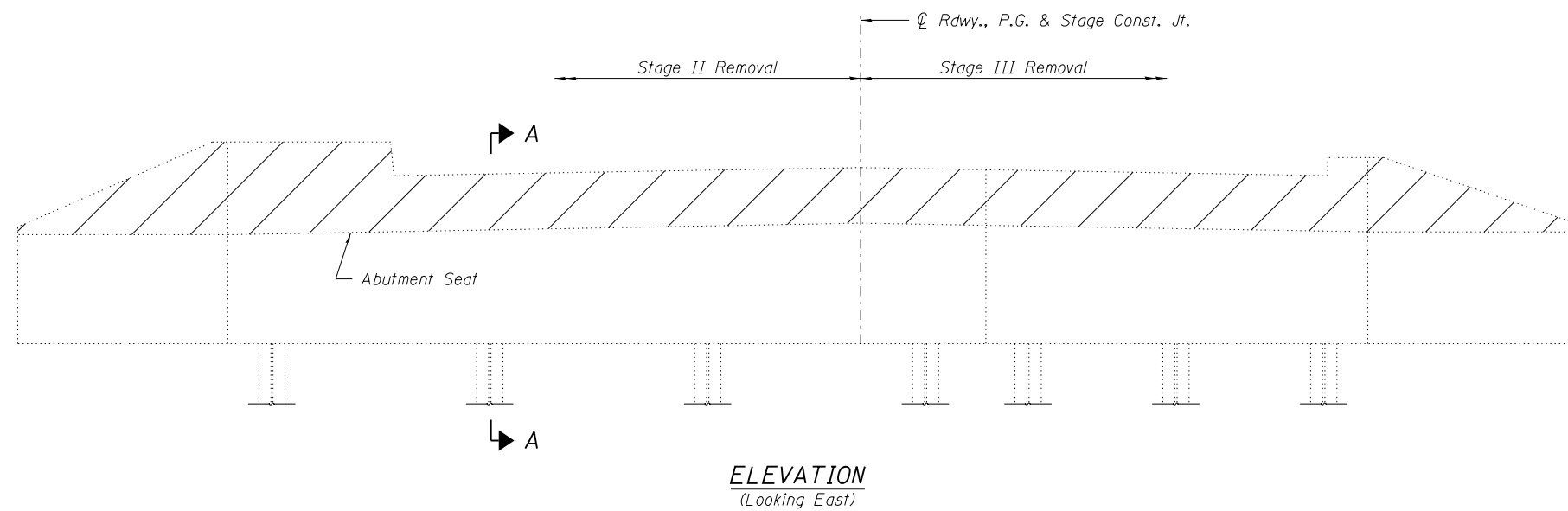
**BAR v1(E)**



**PLAN**

**BILL OF MATERIAL - W. ABUT.**

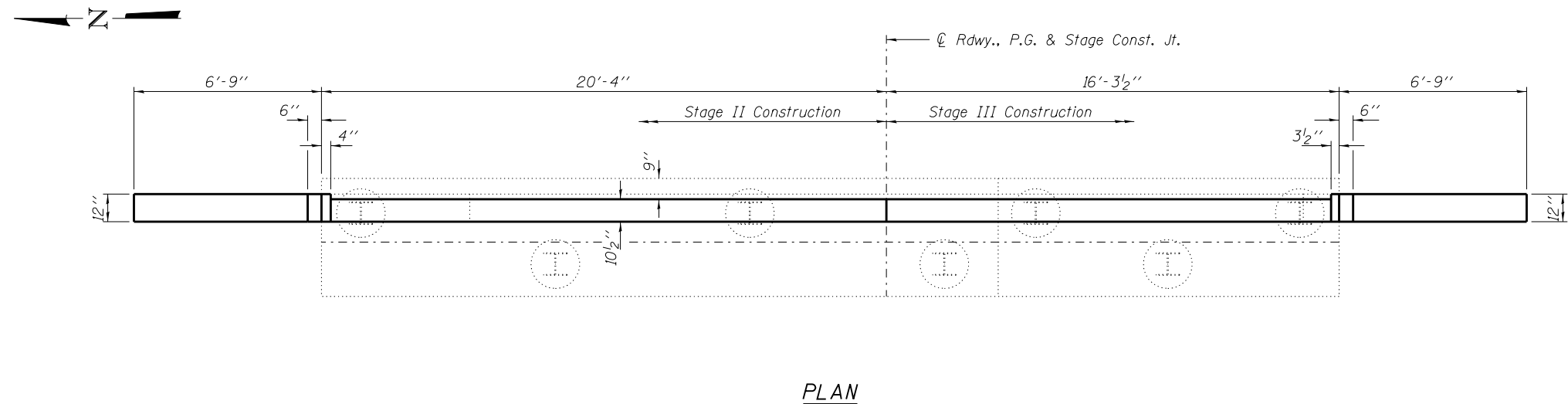
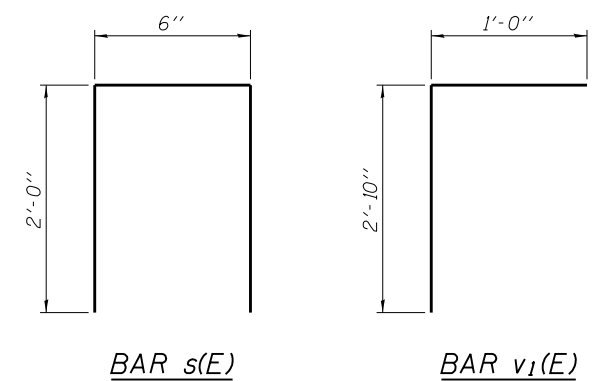
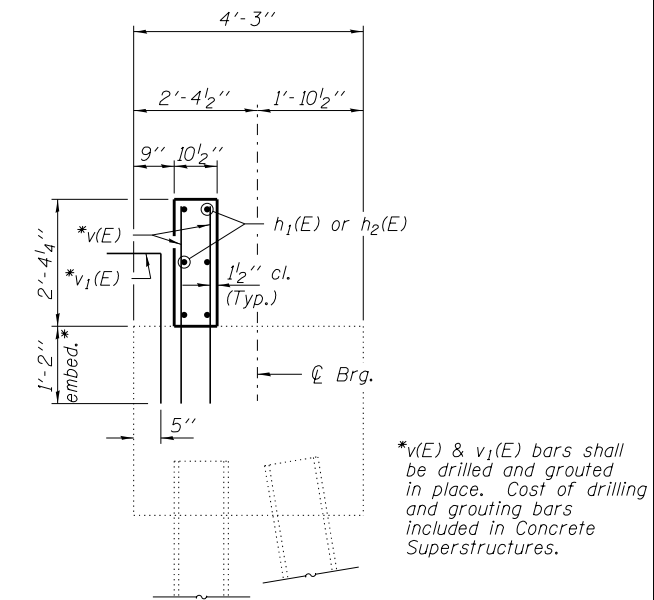
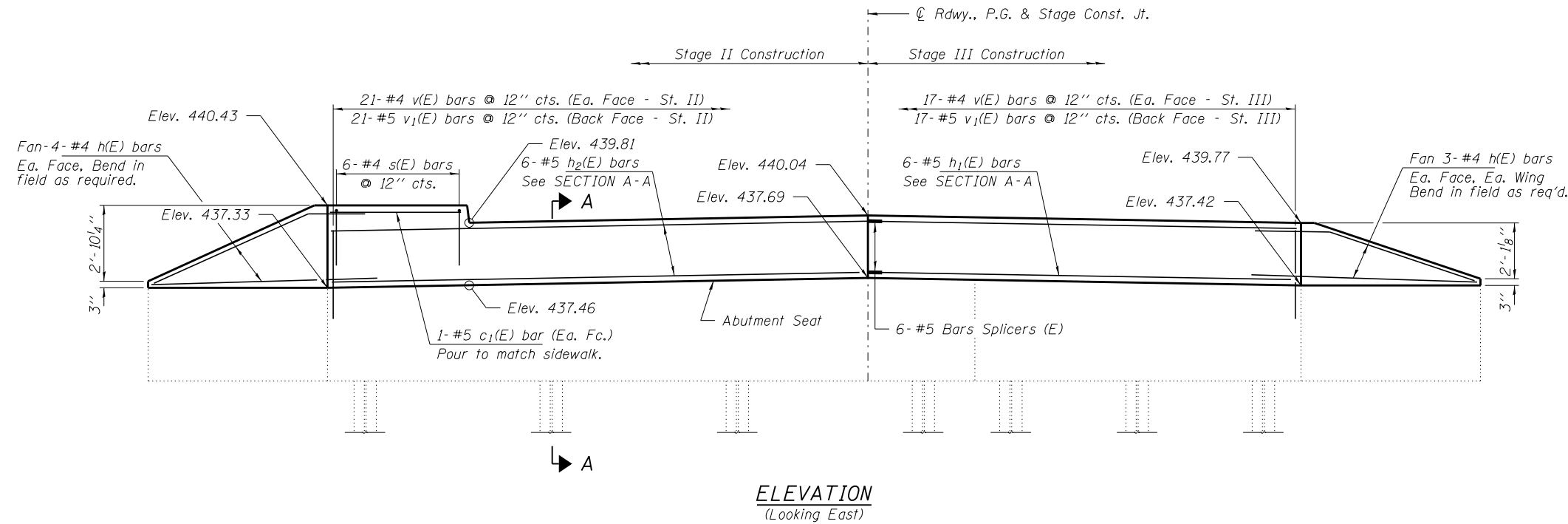
| BAR                              | NO. | SIZE | LENGTH  | SHAPE |
|----------------------------------|-----|------|---------|-------|
| h(E)                             | 14  | #4   | 8'-6"   | —     |
| h1(E)                            | 6   | #5   | 16'-0"  | —     |
| h2(E)                            | 6   | #5   | 20'-0"  | —     |
| c1(E)                            | 2   | #5   | 4'-6"   | —     |
| s(E)                             | 6   | #4   | 4'-6"   | U     |
| v(E)                             | 76  | #4   | 3'-4"   | —     |
| v1(E)                            | 38  | #5   | 3'-10"  | —     |
| Concrete Structures              |     |      | Cu. Yd. | 0.8   |
| Concrete Superstructure          |     |      | Cu. Yd. | 2.6   |
| Protective Coat                  |     |      | Sq. Yd. | 13.0  |
| Reinforcement Bars, Epoxy Coated |     |      | Pound   | 650   |
| Bar Splicers                     |     |      | Each    | 6     |



**Notes:**  
 Leave existing vertical bars in place at wingwalls.  
 Hatched areas indicate Concrete Removal.  
 Existing vertical reinforcement in the wingwalls shall be cleaned and incorporated into the new construction. Cost included with Concrete Removal.  
 The existing abutment bearing seat is to be inspected by the Engineer after deck beam removal. Deteriorated concrete areas shall be repaired if deemed necessary using Structural Repair of Concrete (Depth equal to or less than 5"). Concrete Sealer shall be applied to Concrete Repair areas. Cost included in Concrete Repair item.

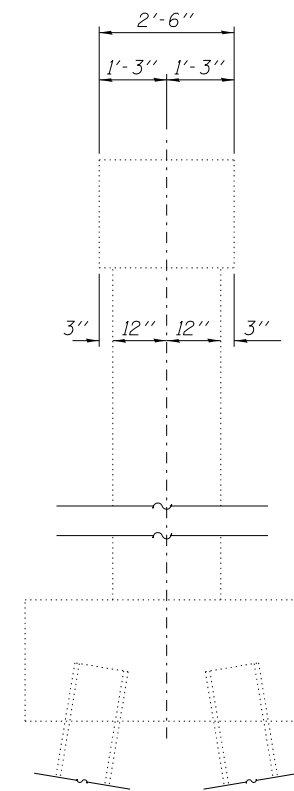
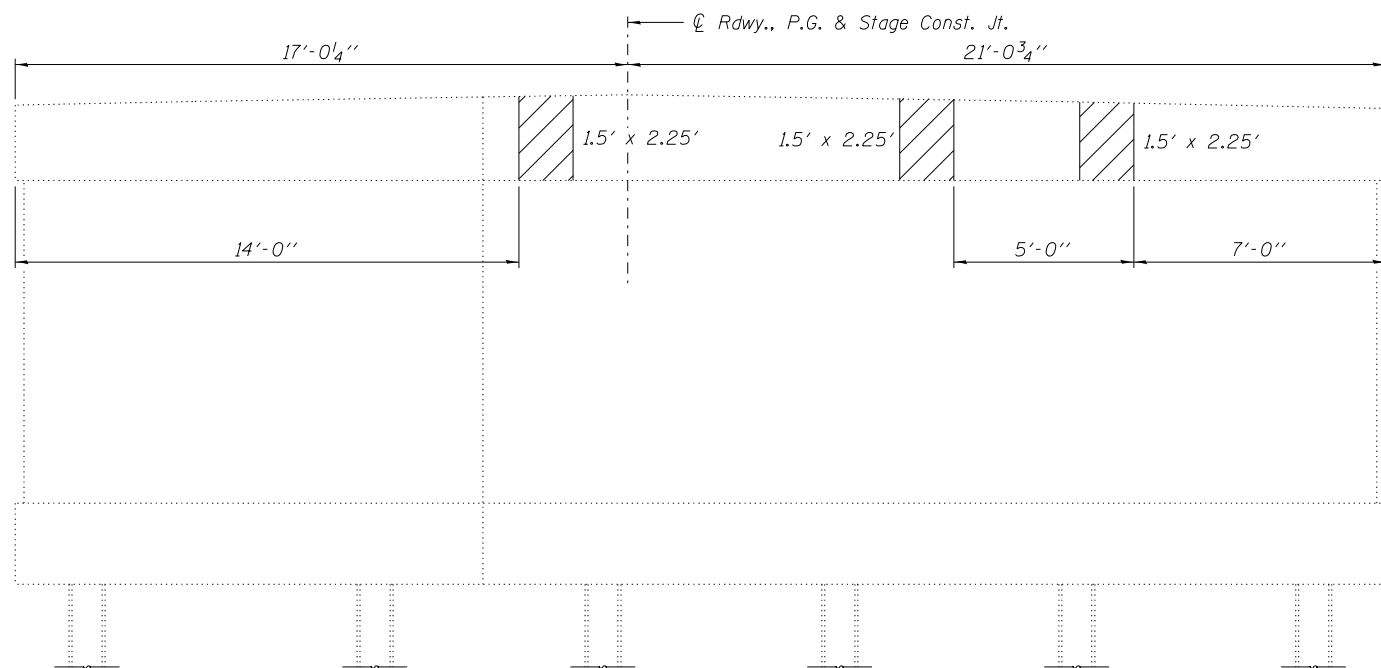
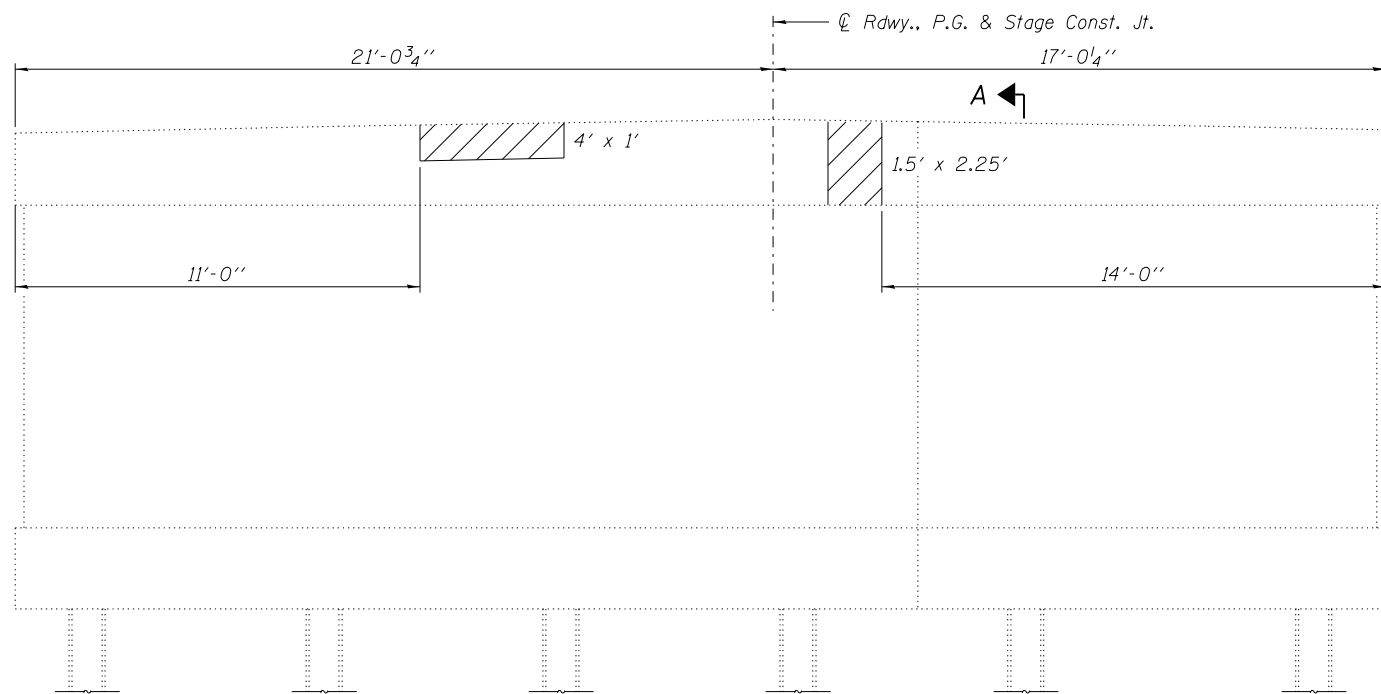
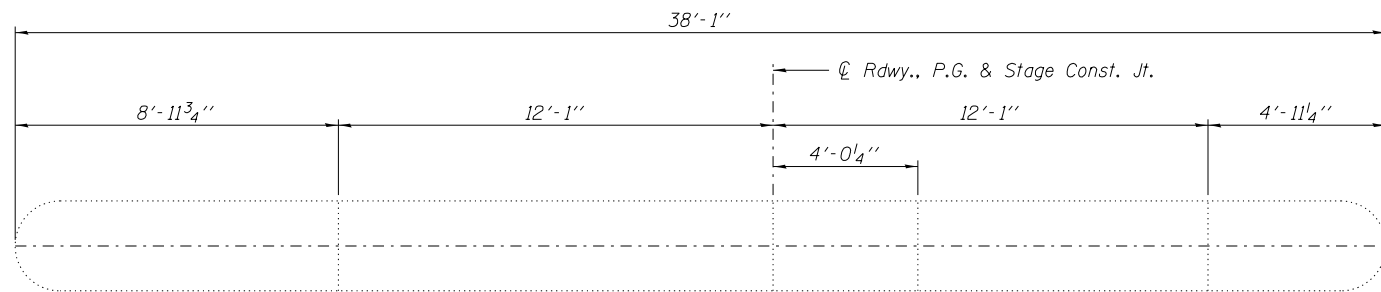
**BILL OF MATERIAL**

| Item             | Unit    | Quantity |
|------------------|---------|----------|
| Concrete Removal | Cu. Yd. | 3.9      |



**BILL OF MATERIAL - E. ABUT.**

| BAR                              | NO. | SIZE | LENGTH  | SHAPE |
|----------------------------------|-----|------|---------|-------|
| h(E)                             | 14  | #4   | 8'-6"   | —     |
| h <sub>1</sub> (E)               | 6   | #5   | 16'-0"  | —     |
| h <sub>2</sub> (E)               | 6   | #5   | 20'-0"  | —     |
| c <sub>1</sub> (E)               | 2   | #5   | 4'-6"   | —     |
| s(E)                             | 6   | #4   | 4'-6"   | ⌏     |
| v(E)                             | 76  | #4   | 3'-4"   | —     |
| v <sub>1</sub> (E)               | 38  | #5   | 3'-10"  | —     |
| Concrete Structures              |     |      | Cu. Yd. | 0.8   |
| Concrete Superstructure          |     |      | Cu. Yd. | 2.9   |
| Protective Coat                  |     |      | Sq. Yd. | 13.0  |
| Reinforcement Bars, Epoxy Coated |     |      | Pound   | 650   |
| Bar Splicers                     |     |      | Each    | 6     |



Note:  
The existing pier bearing seat is to be inspected by the Engineer after deck beam removal. Deteriorated concrete areas shall be repaired if deemed necessary using Structural Repair of Concrete (Depth Equal to or Less Than 5").

**BILL OF MATERIAL**

|   |         |    |
|---|---------|----|
| Structural Repair of Conc. (Depth Equal to or Less Than 5") | Sq. Ft. | 18 |
|---|---------|----|

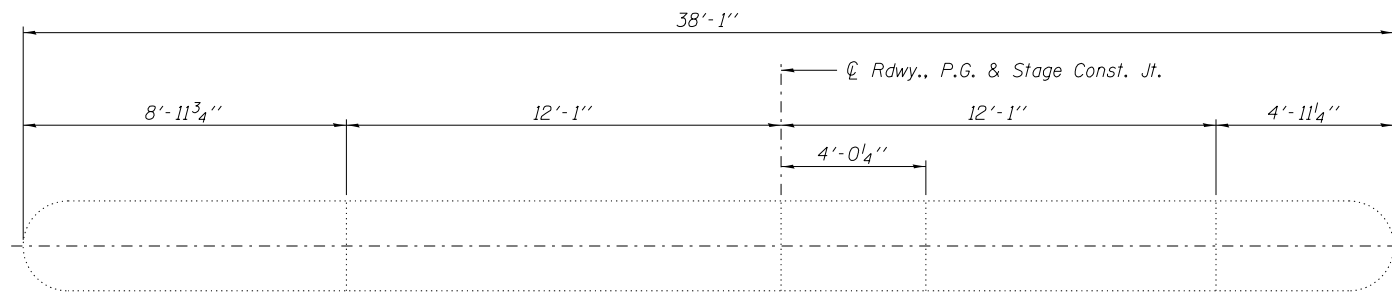
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| 3085 STEVENSON DRIVE, SUITE 201<br>SPRINGFIELD, ILLINOIS 62703<br>217.546.3400 www.hfengineering.com |                       | CHECKED - T.J.A.  | REVISED - |
| <b>HLR</b> 184.000989<br>ILLINOIS PROFESSIONAL DESIGN FIRM<br>L.S. / P.E. / S.E. CORPORATION         |                       | DRAWN - D.A.B.    | REVISED - |
|  | PLOT SCALE =          | CHECKED - M.D.C.  | REVISED - |
|  | PLOT DATE = 1/20/2015 |                   |           |

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

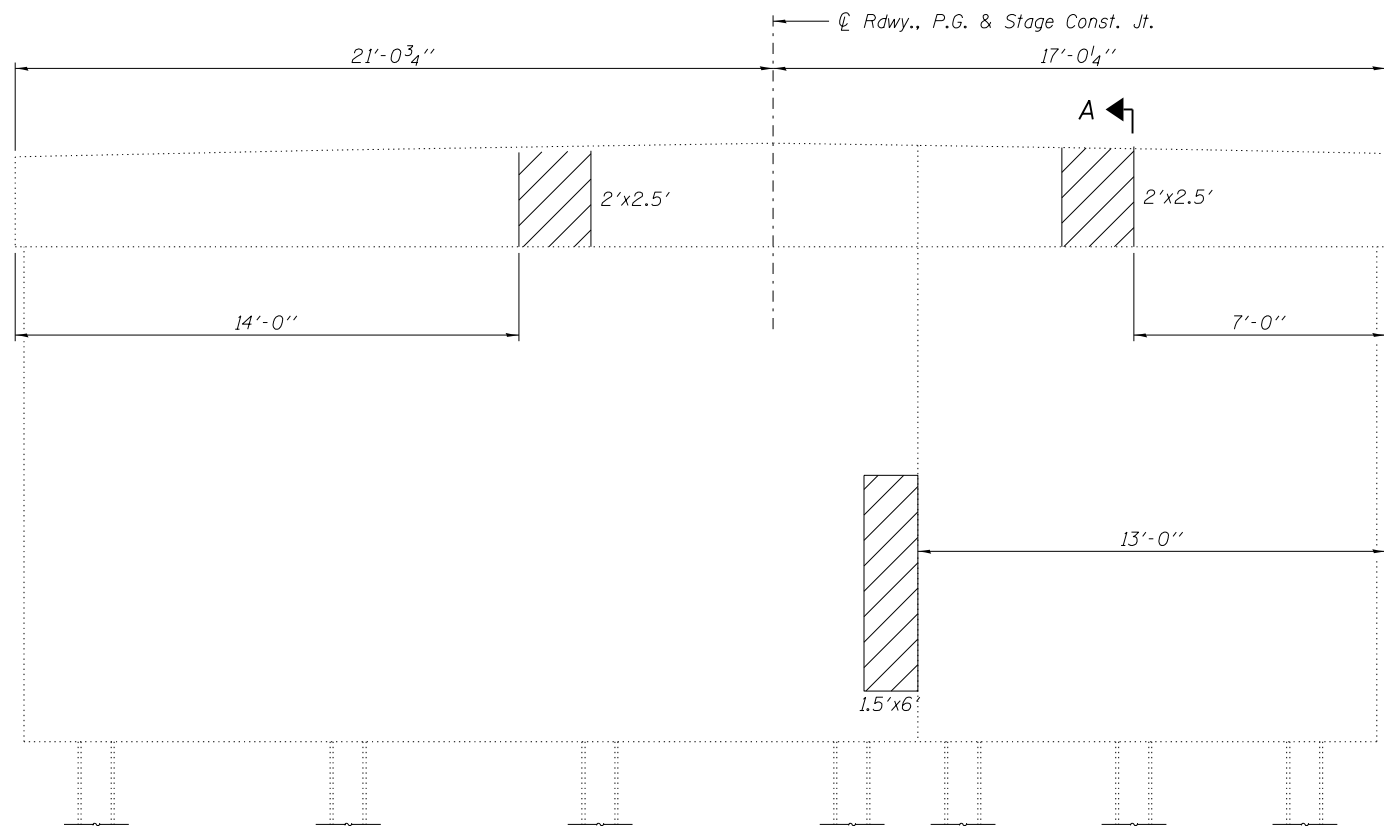
**PIER 1  
STRUCTURE NO. 039-0055**

SHEET NO. 24 OF 28 SHEETS

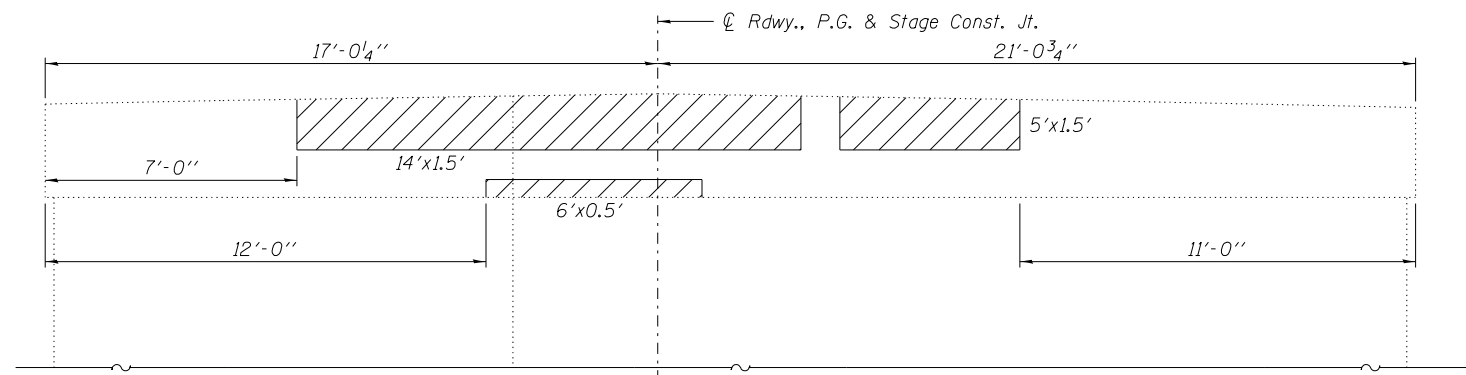
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| F.A.S.             | SECTION | COUNTY  | TOTAL SHEETS              | SHEET NO. |
| 919                | 8B-2    | JACKSON | 69                        | 53        |
| CONTRACT NO. 78217 |         |         | ILLINOIS FED. AID PROJECT |           |



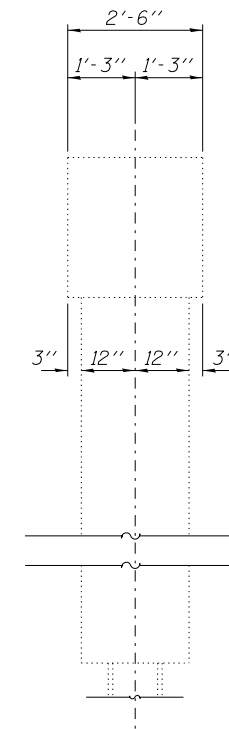
**PLAN**



**ELEVATION**  
(Looking East)



**ELEVATION**  
(Looking West)



**SECTION A-A**

Note:  
The existing pier bearing seat is to be inspected by the Engineer after deck beam removal. Deteriorated concrete areas shall be repaired if deemed necessary using Structural Repair of Concrete (Depth Equal to or Less Than 5").

**BILL OF MATERIAL**

|   |         |    |
|---|---------|----|
| Structural Repair of Conc. (Depth Equal to or Less Than 5") | Sq. Ft. | 51 |
|---|---------|----|

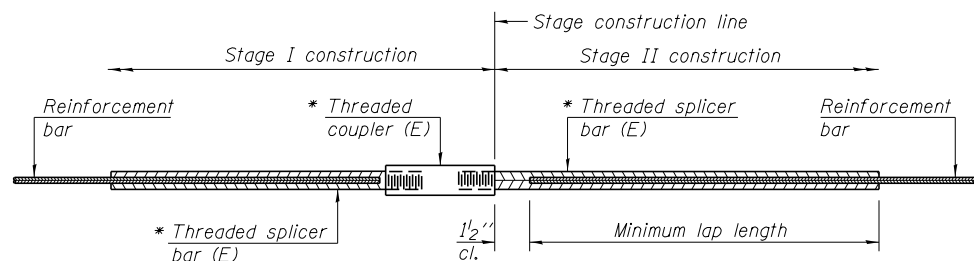
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| 3085 STEVENSON DRIVE, SUITE 201<br>SPRINGFIELD, ILLINOIS 62703<br>217.546.3400 www.hireengineering.com |                       | CHECKED - T.J.A.  | REVISED - |
| <b>HLR</b><br>184.000099<br>ILLINOIS PROFESSIONAL DESIGN FIRM<br>LS / PE / SE CORPORATION              |                       | DRAWN - D.A.B.    | REVISED - |
|  | PLOT SCALE =          | CHECKED - M.D.C.  | REVISED - |
|  | PLOT DATE = 1/20/2015 |                   |           |

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PIER 2  
STRUCTURE NO. 039-0055**

SHEET NO. 25 OF 28 SHEETS

|                    |         |         |                           |           |
|--------------------|---------|---------|---------------------------|-----------|
| F.A.S.             | SECTION | COUNTY  | TOTAL SHEETS              | SHEET NO. |
| 919                | 8B-2    | JACKSON | 69                        | 54        |
| CONTRACT NO. 78217 |         |         | ILLINOIS FED. AID PROJECT |           |



**STANDARD BAR SPLICER ASSEMBLY**

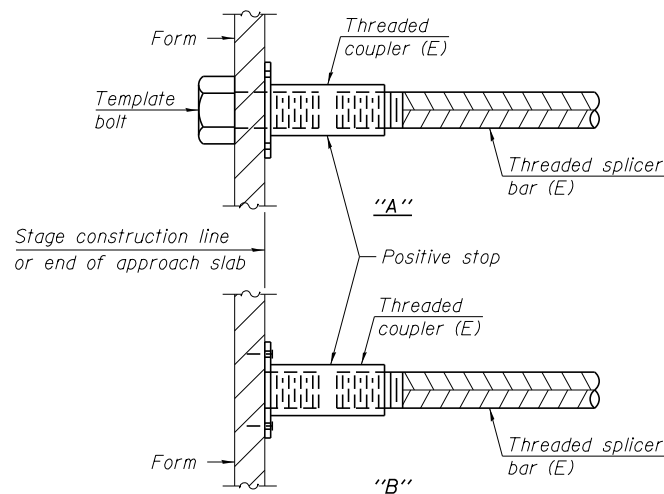
| Minimum Lap Lengths    |         |         |         |         |         |         |
|------------------------|---------|---------|---------|---------|---------|---------|
| Bar size to be spliced | Table 1 | Table 2 | Table 3 | Table 4 | Table 5 | Table 6 |
| 3, 4                   | 1'-5"   | 1'-11"  | 2'-1"   | 2'-4"   | 2'-7"   | 2'-11"  |
| 5                      | 1'-9"   | 2'-5"   | 2'-7"   | 2'-11"  | 3'-3"   | 3'-8"   |
| 6                      | 2'-1"   | 2'-11"  | 3'-1"   | 3'-6"   | 3'-10"  | 4'-5"   |
| 7                      | 2'-9"   | 3'-10"  | 4'-2"   | 4'-8"   | 5'-2"   | 5'-10"  |
| 8                      | 3'-8"   | 5'-1"   | 5'-5"   | 6'-2"   | 6'-9"   | 7'-8"   |
| 9                      | 4'-7"   | 6'-5"   | 6'-10"  | 7'-9"   | 8'-7"   | 9'-8"   |

- Table 1: Black bar, 0.8 Class C
- Table 2: Black bar, Top bar lap, 0.8 Class C
- Table 3: Epoxy bar, 0.8 Class C
- Table 4: Epoxy bar, Top bar lap, 0.8 Class C
- Table 5: Epoxy bar, Class C
- Table 6: Epoxy bar, Top bar top, Class C

Threaded splicer bar length = min. lap length + 1 1/2" + thread length

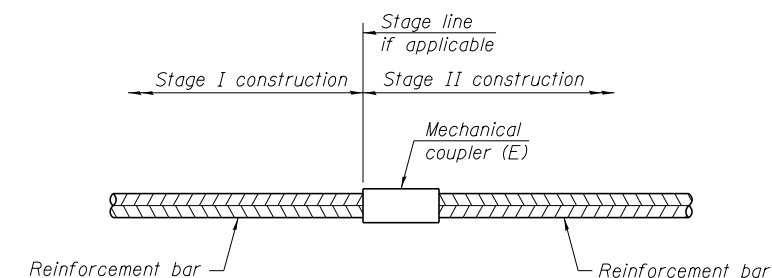
\* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

| Location        | Bar size | No. assemblies required | Table for minimum lap length |
|-----------------|----------|-------------------------|------------------------------|
| W. Abut.        | #5       | 6                       | 5                            |
| E. Abut.        | #5       | 6                       | 5                            |
| CWS             | #4       | 130                     | 5                            |
| W. Bridge Appr. | #4       | 25                      | 5                            |
|                 | #5       | 86                      | 5                            |
| E. Bridge Appr. | #4       | 25                      | 5                            |
|                 | #5       | 86                      | 5                            |



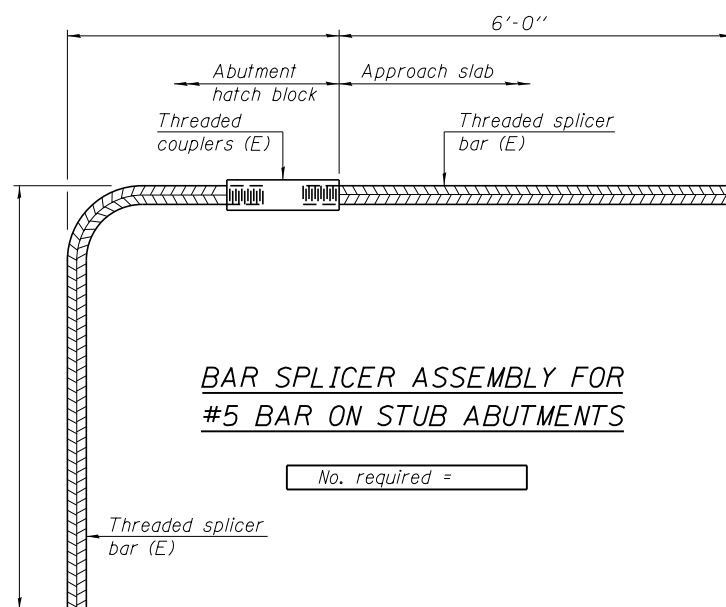
**INSTALLATION AND SETTING METHODS**

"A" : Set bar splicer assembly by means of a template bolt.  
 "B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.  
 (E) : Indicates epoxy coating.



**STANDARD MECHANICAL SPLICER**

| Location | Bar size | No. assemblies required |
|----------|----------|-------------------------|
|          |          |                         |
|          |          |                         |
|          |          |                         |
|          |          |                         |



**BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS**

No. required =

**NOTES**

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.  
 All reinforcement shall be lapped and tied to the splicer bars.  
 Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.  
 See approved list of bar splicer assemblies and mechanical splicers for alternatives.

BSD-1 8-31-12

| ILLINOIS DEPARTMENT OF TRANSPORTATION<br>District Nine Materials   |      |                            |        | Bridge Foundation<br>Boring Log |  |       |           |        |    |
|--|------|----------------------------|--------|---------------------------------|--|-------|-----------|--------|----|
| FAS 919 (Makanda Road) Over Drury Creek                            |      |                            |        | Sheet 1 of 2                    |  |       |           |        |    |
| Route: FAS 919   |      | Structure Number: 039-0055 |        | Date: 6/6/2011                  |  |       |           |        |    |
| Section: 8B-1  |      | Bored By: R Moberly        |        | Checked By: R Graeff            |  |       |           |        |    |
| County: Jackson  |      | Location: Makanda          |        |                                 |  |       |           |        |    |
| Boring No 1-S  | DEPT | BLOWS                      | Qu tsf | W%                              | Surf Wat Elev: 424.3   | DEPT  | BLOWS     | Qu tsf | W% |
| Station 4+ 40  |      |                            |        |                                 | Ground Water Elevation   |       |           |        |    |
| Offset 9' Rt CL  |      |                            |        |                                 | when Drilling 412.4  |       |           |        |    |
| Ground Surface 439.4 Ft  |      |                            |        |                                 | At Completion  |       |           |        |    |
|  |      |                            |        |                                 | At: Hrs:   |       |           |        |    |
| 19" Asphalt  |      | Cored                      |        |                                 | Soft, very moist, grey, Silt Loam  | 1     | 0.4B      | 25     |    |
| 437.9  |      |                            |        |                                 | to Silty Clay Loam A-4   | 2     |           |        |    |
|  |      | Augered                    |        |                                 | 412.4  |       |           |        |    |
| Soft, very moist, brown and grey, Silty Clay A-6                   |      | 2                          |        |                                 | Very soft, wet, grey, Silty Clay   | WH    |           |        |    |
|  |      | 1                          | 0.4B   | 27                              | Loam A-4 with Sand seams   | 1     | 0.2B      | 24     |    |
|  |      | 1                          |        |                                 |  | 3     |           |        |    |
| 434.9  |      |                            |        |                                 | 409.9  |       |           |        |    |
| Loose to medium dense, moist, black, Coal pieces                   | 5.0  | 2                          |        |                                 | Very loose, wet, grey, fine Sand   | 30.0  | WH        |        |    |
|  |      | 5                          |        |                                 | 87% Sand   | 1     |           | 28     |    |
|  |      | 5                          |        |                                 | 10% Silt   | 3     |           |        |    |
| 432.4  |      |                            |        |                                 | 3% Clay  |       |           |        |    |
|  |      |                            |        |                                 | 407.4  |       | Washed 4' |        |    |
| Loose, moist, black and grey, Coal pieces with Silty Clay Loam A-4 |      | 1                          |        |                                 | Loose, wet, brown and grey, Sand with some Clay and Gravel                 | 3     |           |        |    |
|  |      | 3                          |        | 25                              |  | 4     |           |        |    |
|  |      | 5                          |        |                                 |  | 4     |           |        |    |
| 429.9  |      |                            |        |                                 | 404.9  |       |           |        |    |
| Very soft, very moist, grey, Silt Loam to Silty Clay Loam A-4      | 10.0 | WH                         |        |                                 | Stiff, moist, grey, Clay A7-6  | 35.0  | 3         |        |    |
|  |      | WH                         | 0.2B   | 25                              |  |       | 7         | 1.6B   | 17 |
|  |      | WH                         |        |                                 |  |       | 10        |        |    |
|  |      |                            |        |                                 | 402.4  |       |           |        |    |
|  |      | WH                         |        |                                 | Very stiff, damp, grey and brown, Sandy Clay to Weathered Sandy Clay Shale | 17    |           |        |    |
|  |      | WH                         | 0.0    | 29                              |  | 25    | 2.1S      | 8      |    |
|  |      | WH                         |        |                                 |  | 34    |           |        |    |
| 424.9  |      |                            |        |                                 | 400.4  |       |           |        |    |
| Stiff, moist, grey, Silt Loam A-4                                  | 15.0 | 3                          |        |                                 | V dense, dry, brown, Sandst  | 399.9 | 100/0.5"  |        |    |
|  |      | 5                          | 1.8S   | 23                              |  | 40.0  |           |        |    |
|  |      | 5                          |        |                                 | Very dense, dry, brown and grey, Sandstone with Clay Shale seams           |       |           |        |    |
| 422.4  |      |                            |        |                                 |  |       |           |        |    |
| Stiff, moist, brown, Silty Clay to Silty Clay Loam A-6             |      | 2                          |        |                                 | Cored 39.0 to 44.0 feet  |       |           |        |    |
|  |      | 4                          | 1.1B   | 26                              | 97% Recovery; 70% RQD  |       |           |        |    |
|  |      | 5                          |        |                                 |  |       |           |        |    |
| 419.9  |      |                            |        |                                 | 395.4  |       |           |        |    |
| Medium, very moist, brown, Silty Clay Loam A-6                     | 20.0 | 2                          |        |                                 | Very dense, dry, brown and grey, Sandstone                                 | 45.0  |           |        |    |
|  |      | 3                          | 0.8S   | 24                              |  |       |           |        |    |
|  |      | 4                          |        |                                 | Cored 44.0 to 49.0 feet  |       |           |        |    |
| 417.4  |      |                            |        |                                 |  |       |           |        |    |
| Medium, very moist, brown mottled grey, Silty Clay Loam A-6        |      | 1                          |        |                                 | 100% Recovery; 83% RQD   |       |           |        |    |
|  |      | 1                          | 0.6S   | 26                              |  |       |           |        |    |
|  |      | 2                          |        |                                 |  |       |           |        |    |
| 414.8  |      |                            |        |                                 | 390.4  |       |           |        |    |
|  | 25.0 | 1                          |        |                                 | 50.0   |       |           |        |    |

N-Std Pentr Test: 2" OD Sampler, 140# Hammer, 30" Fall (Type Fail. B-Bulge S-Shear E-Estimated P-Penetrometer)

| ILLINOIS DEPARTMENT OF TRANSPORTATION<br>District Nine Materials |      |                            |        | Bridge Foundation<br>Boring Log |  |       |           |        |    |
|--|------|----------------------------|--------|---------------------------------|--|-------|-----------|--------|----|
| FAS 919 (Makanda Road) Over Drury Creek                          |      |                            |        | Sheet 2 of 2                    |  |       |           |        |    |
| Route: FAS 919   |      | Structure Number: 039-0055 |        | Date: 6/6/2011                  |  |       |           |        |    |
| Section: 8B-1  |      | Bored By: R Moberly        |        | Checked By: R Graeff            |  |       |           |        |    |
| County: Jackson  |      | Location: Makanda          |        |                                 |  |       |           |        |    |
| Boring No: 1-S   | DEPT | BLOWS                      | Qu tsf | W%                              | Surf Wat Elev: 424.3   | DEPT  | BLOWS     | Qu tsf | W% |
| Station: 4+ 40   |      |                            |        |                                 | Ground Water Elevation   |       |           |        |    |
| Offset: 9' Rt CL   |      |                            |        |                                 | when Drilling 412.4  |       |           |        |    |
| Ground Surface: 439.4 Ft   |      |                            |        |                                 | At Completion  |       |           |        |    |
|  |      |                            |        |                                 | At: Hrs:   |       |           |        |    |
|  |      |                            |        |                                 | Soft, very moist, grey, Silt Loam  | 1     | 0.4B      | 25     |    |
|  |      |                            |        |                                 | to Silty Clay Loam A-4   | 2     |           |        |    |
|  |      |                            |        |                                 | 412.4  |       |           |        |    |
|  |      |                            |        |                                 | Very soft, wet, grey, Silty Clay   | WH    |           |        |    |
|  |      |                            |        |                                 | Loam A-4 with Sand seams   | 1     | 0.2B      | 24     |    |
|  |      |                            |        |                                 |  | 3     |           |        |    |
|  |      |                            |        |                                 | 409.9  |       |           |        |    |
|  |      |                            |        |                                 | Very loose, wet, grey, fine Sand   | 30.0  | WH        |        |    |
|  |      |                            |        |                                 | 87% Sand   | 1     |           | 28     |    |
|  |      |                            |        |                                 | 10% Silt   | 3     |           |        |    |
|  |      |                            |        |                                 | 3% Clay  |       |           |        |    |
|  |      |                            |        |                                 | 407.4  |       | Washed 4' |        |    |
|  |      |                            |        |                                 | Loose, wet, brown and grey, Sand with some Clay and Gravel                 | 3     |           |        |    |
|  |      |                            |        |                                 |  | 4     |           |        |    |
|  |      |                            |        |                                 |  | 4     |           |        |    |
|  |      |                            |        |                                 | 404.9  |       |           |        |    |
|  |      |                            |        |                                 | Stiff, moist, grey, Clay A7-6  | 35.0  | 3         |        |    |
|  |      |                            |        |                                 |  |       | 7         | 1.6B   | 17 |
|  |      |                            |        |                                 |  |       | 10        |        |    |
|  |      |                            |        |                                 | 402.4  |       |           |        |    |
|  |      |                            |        |                                 | Very stiff, damp, grey and brown, Sandy Clay to Weathered Sandy Clay Shale | 17    |           |        |    |
|  |      |                            |        |                                 |  | 25    | 2.1S      | 8      |    |
|  |      |                            |        |                                 |  | 34    |           |        |    |
|  |      |                            |        |                                 | 400.4  |       |           |        |    |
|  |      |                            |        |                                 | V dense, dry, brown, Sandst  | 399.9 | 100/0.5"  |        |    |
|  |      |                            |        |                                 |  | 40.0  |           |        |    |
|  |      |                            |        |                                 | Very dense, dry, brown and grey, Sandstone with Clay Shale seams           |       |           |        |    |
|  |      |                            |        |                                 | Cored 39.0 to 44.0 feet  |       |           |        |    |
|  |      |                            |        |                                 | 97% Recovery; 70% RQD  |       |           |        |    |
|  |      |                            |        |                                 |  |       |           |        |    |
|  |      |                            |        |                                 | 395.4  |       |           |        |    |
|  |      |                            |        |                                 | Very dense, dry, brown and grey, Sandstone                                 | 45.0  |           |        |    |
|  |      |                            |        |                                 | Cored 44.0 to 49.0 feet  |       |           |        |    |
|  |      |                            |        |                                 |  |       |           |        |    |
|  |      |                            |        |                                 | 100% Recovery; 83% RQD   |       |           |        |    |
|  |      |                            |        |                                 |  |       |           |        |    |
|  |      |                            |        |                                 | 390.4  |       |           |        |    |
|  |      |                            |        |                                 | 50.0   |       |           |        |    |

N-Std Pentr Test: 2" OD Sampler, 140# Hammer, 30" Fall (Type Fail. B-Bulge S-Shear E-Estimated P-Penetrometer)

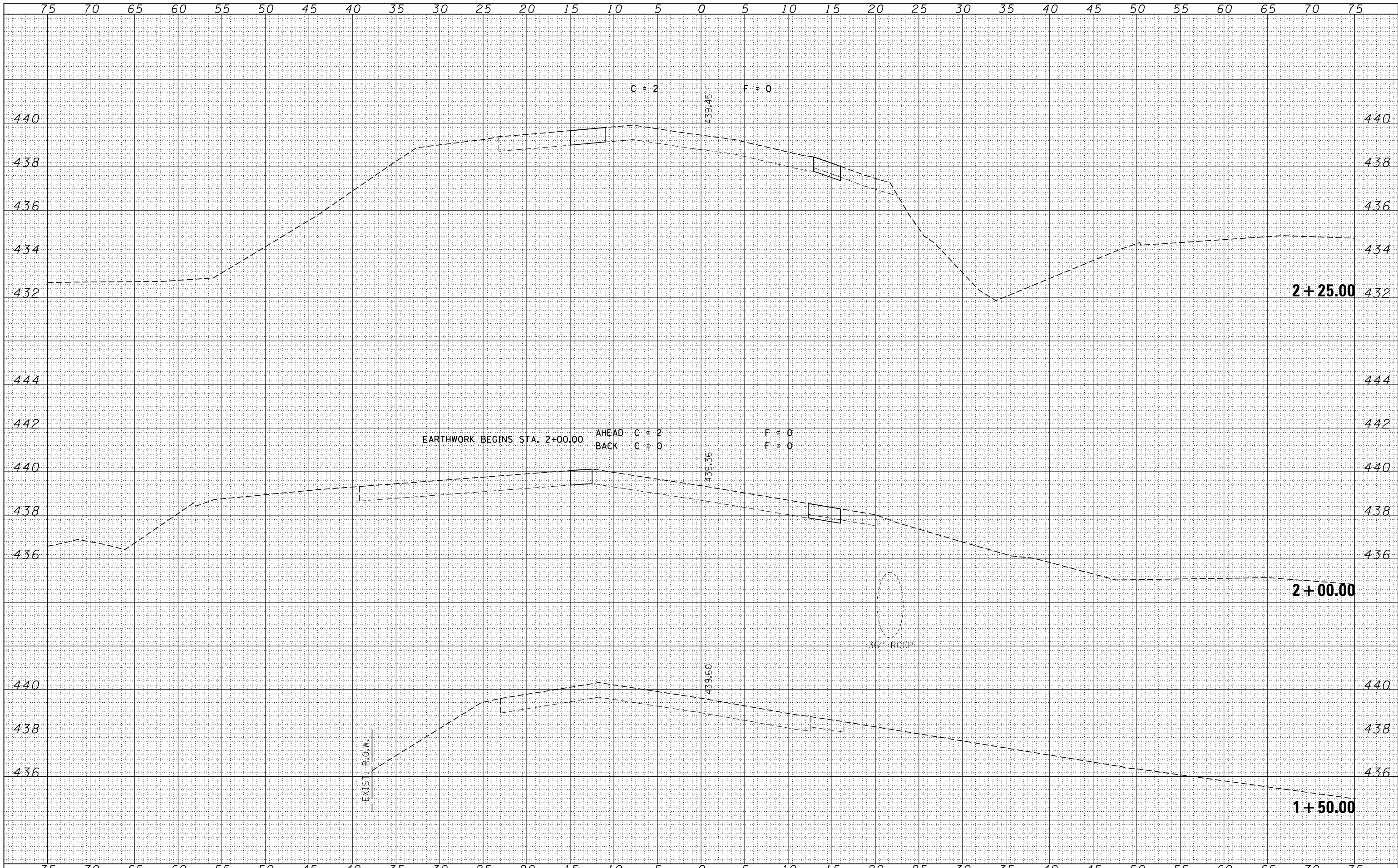
BORING 1-S





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| DATE         |  |
| BY           |  |
| FINAL SURVEY |  |
| SURVEYED     |  |
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| CHECKED      |  |
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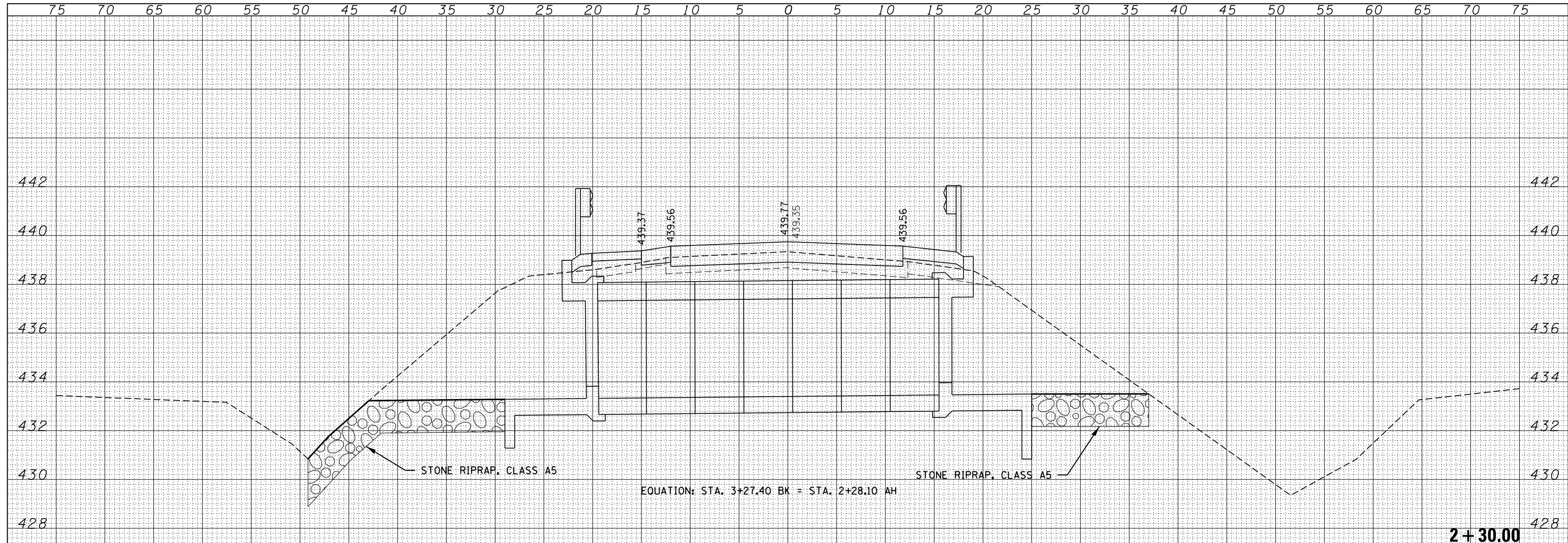
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| DATE            |  |
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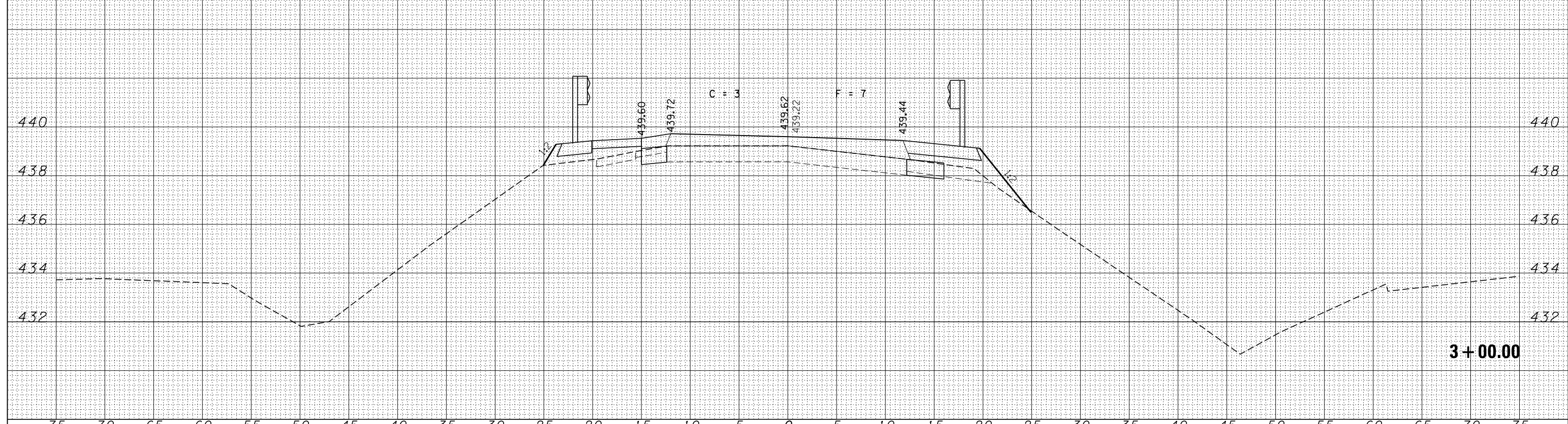
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| FILE NAME = D978217-sht-xsst.dgn   | USER NAME = *USERS* | DESIGNED - J.W.F. | REVISED -    | <b>STATE OF ILLINOIS</b><br><b>DEPARTMENT OF TRANSPORTATION</b> | <b>CROSS SECTIONS</b><br><b>MAKANDA ROAD</b> | F.A.S.      | SECTION   | COUNTY       | TOTAL SHEETS    | SHEET NO.                 |
| HAMPTON, LENZINI AND RENWICK, INC.   | DRAWN - T.W.K.      | REVISED -         | 919          |   |  | 8B-2 & 8B-3 | JACKSON   | 69           | 58              |                           |
| 3885 STEVENSON DRIVE, SUITE 201<br>SPRINGFIELD, ILLINOIS 62703<br>ILLINOIS PROFESSIONAL DESIGN FIRM<br>L.S. / P.E. / S.E. CORP. 184.000958 | CHECKED - L.F.S.    | REVISED -         | CONTRACT NO. |   |  |             |           |              |                 |                           |
| PLOT SCALE = *SCALE*   | DATE - 01/20/15     | REVISED -         | SCALE:       |   |  | SHEET NO.   | OF SHEETS | STA. 1+50.00 | TO STA. 2+25.00 | ILLINOIS FED. AID PROJECT |



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



FILE NAME = D978217-sht-xsst.dgn  
 USER NAME = \*USERS\*  
 DESIGNED - J.W.F.  
 DRAWN - T.W.K.  
 CHECKED - L.F.S.  
 DATE - 01/20/15

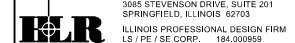
DESIGNED - J.W.F.  
 REVISIONS -  
 DRAWN - T.W.K.  
 REVISIONS -  
 CHECKED - L.F.S.  
 REVISIONS -  
 DATE - 01/20/15  
 REVISIONS -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS  
 MAKANDA ROAD

SCALE: SHEET NO. OF SHEETS STA. 3+00.00 TO STA. 2+30.00

| F.A.S.                    | SECTION     | COUNTY  | TOTAL SHEETS | SHEET NO. |
|---------------------------|-------------|---------|--------------|-----------|
| 919                       | 8B-2 & 8B-3 | JACKSON | 69           | 60        |
| CONTRACT NO.              |             |         |              |           |
| ILLINOIS FED. AID PROJECT |             |         |              |           |









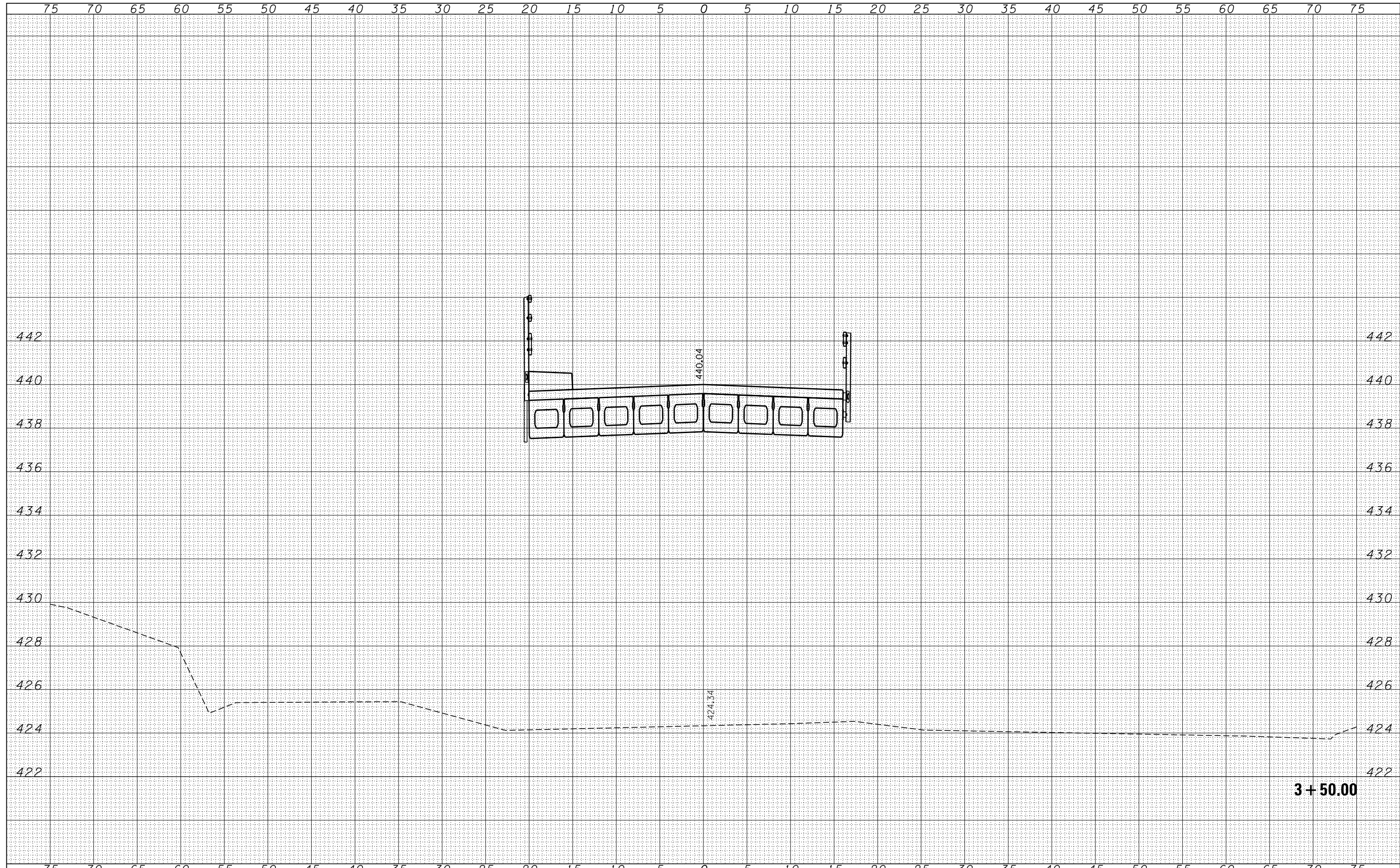






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| FINAL SURVEY |  |
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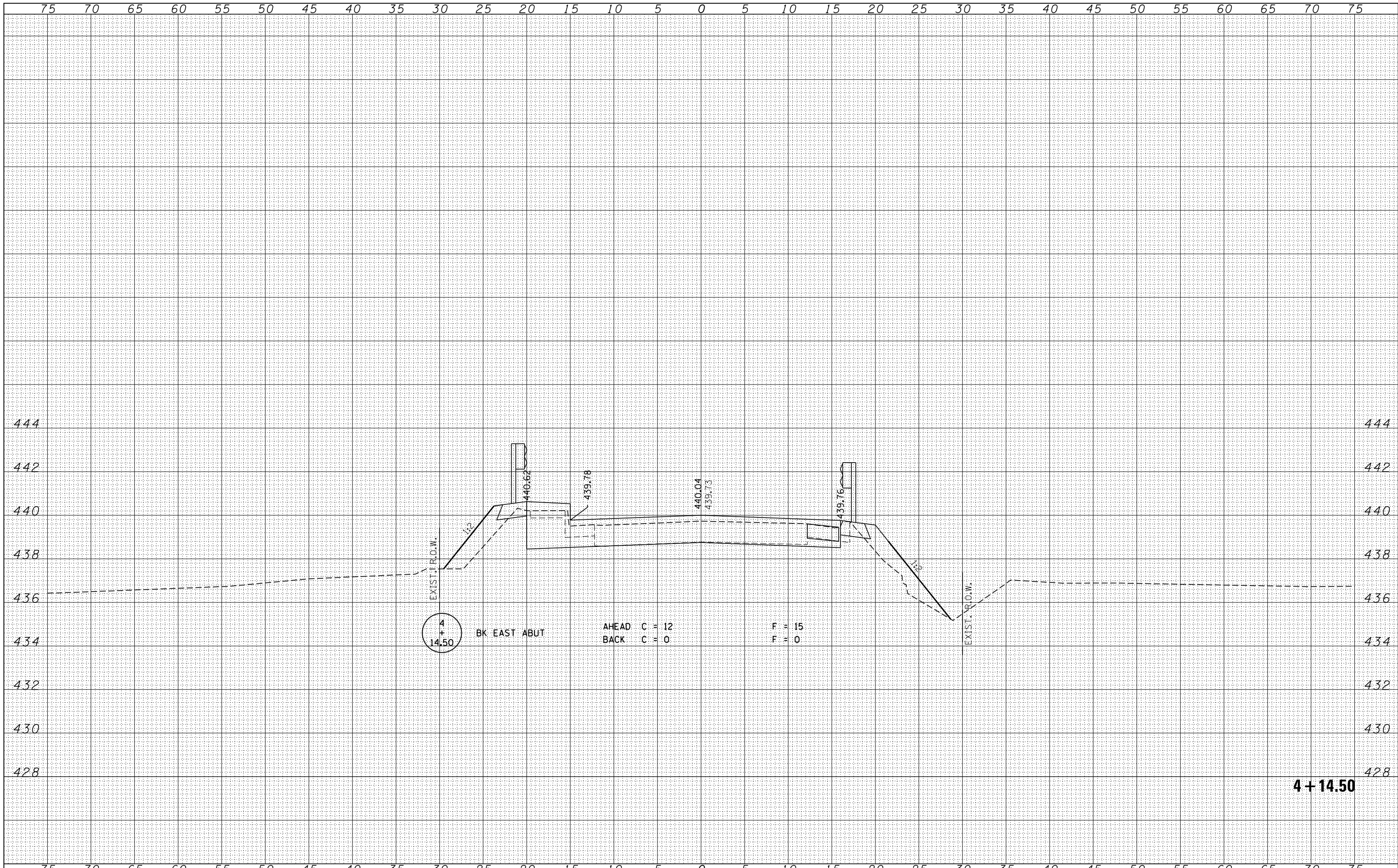
**3 + 50.00**

|   |                     |                   |           |  |              |             |           |              |                 |
|---|---------------------|-------------------|-----------|--|--------------|-------------|-----------|--------------|-----------------|
| FILE NAME = D978217-sht-xsst.dgn  | USER NAME = *USERS* | DESIGNED - J.W.F. | REVISED - | <p align="center"><b>STATE OF ILLINOIS</b><br/><b>DEPARTMENT OF TRANSPORTATION</b></p> <p align="center"><b>CROSS SECTIONS</b><br/><b>MAKANDA ROAD</b></p> | F.A.S.       | SECTION     | COUNTY    | TOTAL SHEETS | SHEET NO.       |
| HAMPTON, LENZINI AND RENWICK, INC.<br>3885 STEVENSON DRIVE, SUITE 201<br>SPRINGFIELD, ILLINOIS 62703<br>ILLINOIS PROFESSIONAL DESIGN FIRM<br>L/S / PE / SE CORP. 184.000958 |                     | DRAWN - T.W.K.    | REVISED - |  | 919          | 8B-2 & 8B-3 | JACKSON   | 69           | 65              |
|   |                     | CHECKED - L.F.S.  | REVISED - |  | CONTRACT NO. |             |           |              |                 |
|   |                     | DATE - 01/20/15   | REVISED - |  | SCALE:       | SHEET NO.   | OF SHEETS | STA. 3+50.00 | TO STA. 3+50.00 |



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| BY            |          |
| FINAL SURVEY  | SURVEYED |
| NOTE BOOK NO. | PLOTTED  |
|               | TEMPLATE |
|               | AREAS    |
|               | CHECKED  |

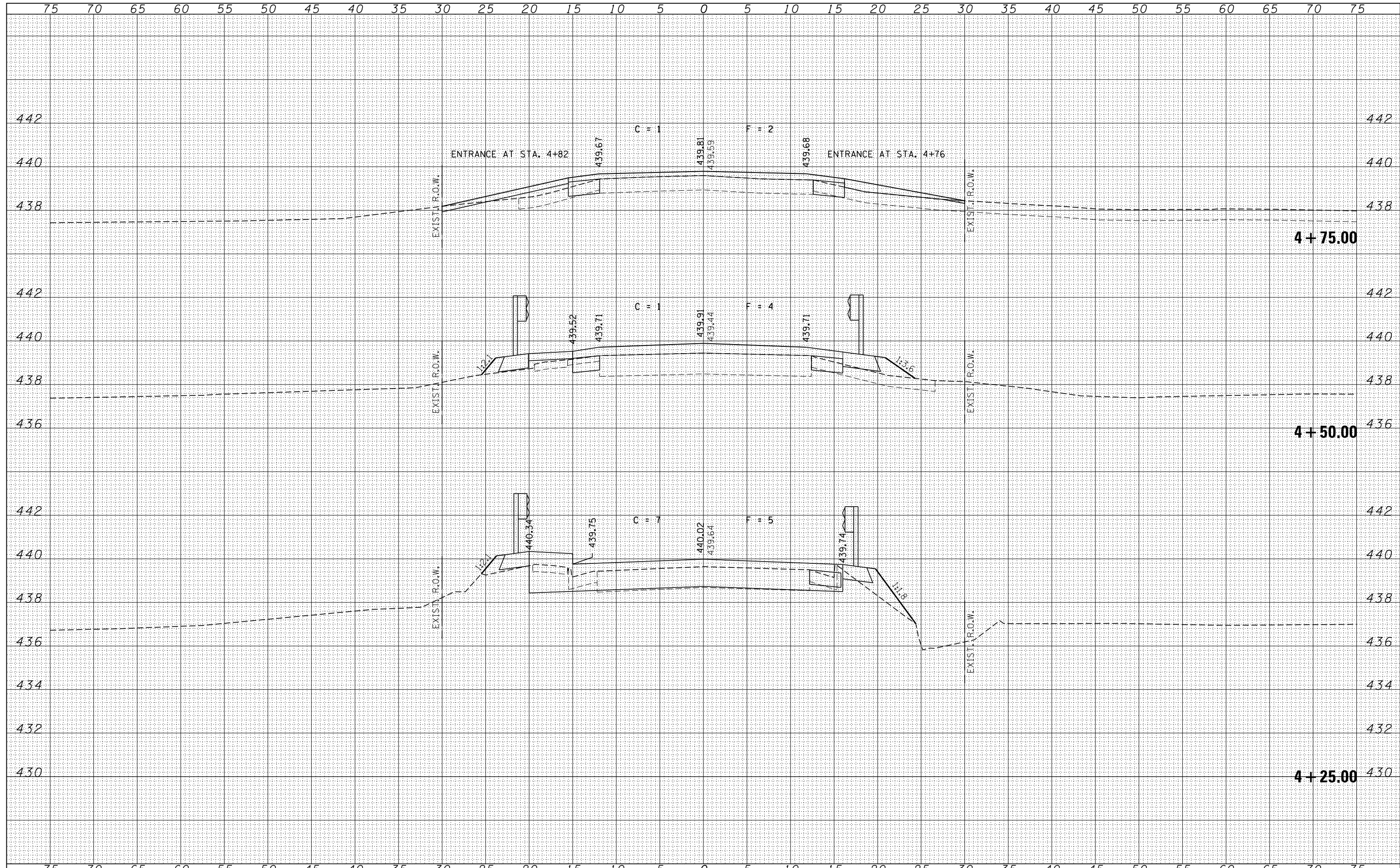
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| ORIGINAL SURVEY | SURVEYED |
| NOTE BOOK NO.   | PLOTTED  |
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|--|---------------------|-------------------|-----------|---|--|-------------|-----------|--------------|-----------------|---------------------------|--------------|-----------|
| FILE NAME = D978217-sht-xsst.dgn   | USER NAME = *USERS* | DESIGNED - J.W.F. | REVISED - | <b>STATE OF ILLINOIS</b><br><b>DEPARTMENT OF TRANSPORTATION</b> | <b>CROSS SECTIONS</b><br><b>MAKANDA ROAD</b> |             |           | F.A.S.       | SECTION         | COUNTY                    | TOTAL SHEETS | SHEET NO. |
| HAMPTON, LENZINI AND RENWICK, INC.   |                     | DRAWN - T.W.K.    | REVISED - |   | 919  | 8B-2 & 8B-3 | JACKSON   | 69           | 67              |                           |              |           |
| 3885 STEVENSON DRIVE, SUITE 201<br>SPRINGFIELD, ILLINOIS 62703<br>ILLINOIS PROFESSIONAL DESIGN FIRM<br>L.S. / P.E. / S.E. CORP. 184.000958 |                     | CHECKED - L.F.S.  | REVISED - |   | CONTRACT NO.                                 |             |           |              |                 |                           |              |           |
|  |                     | DATE - 01/20/15   | REVISED - |   | SCALE:                                       | SHEET NO.   | OF SHEETS | STA. 4+13.89 | TO STA. 4+13.89 | ILLINOIS FED. AID PROJECT |              |           |

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| DATE          |  |
| BY            |  |
| NO.           |  |
| AREAS CHECKED |  |
| TEMPLATES     |  |
| NOTE BOOK     |  |
| SURVEY        |  |
| FINAL         |  |

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| DATE          |  |
| BY            |  |
| NO.           |  |
| AREAS CHECKED |  |
| TEMPLATES     |  |
| NOTE BOOK     |  |
| SURVEY        |  |
| ORIGINAL      |  |



|  |                     |                   |            |   |  |              |             |           |              |                 |                           |
|--|---------------------|-------------------|------------|---|--|--------------|-------------|-----------|--------------|-----------------|---------------------------|
| FILE NAME = D978217-sht-xsst.dgn   | USER NAME = *USERS* | DESIGNED - J.W.F. | REVISIED - | <b>STATE OF ILLINOIS</b><br><b>DEPARTMENT OF TRANSPORTATION</b> | <b>CROSS SECTIONS</b><br><b>MAKANDA ROAD</b> | F.A.S.       | SECTION     | COUNTY    | TOTAL SHEETS | SHEET NO.       |                           |
| HAMPTON, LENZINI AND RENWICK, INC.   |                     | DRAWN - T.W.K.    | REVISIED - |   |  | 919          | 8B-2 & 8B-3 | JACKSON   | 69           | 68              |                           |
| 3885 STEVENSON DRIVE, SUITE 201<br>SPRINGFIELD, ILLINOIS 62703<br>ILLINOIS PROFESSIONAL DESIGN FIRM<br>L.S. / P.E. / S.E. CORP. 184.009958 |                     | CHECKED - L.F.S.  | REVISIED - |   |  | CONTRACT NO. |             |           |              |                 |                           |
|  |                     | DATE - 01/20/15   | REVISIED - |   |  | SCALE:       | SHEET NO.   | OF SHEETS | STA. 4+25.00 | TO STA. 4+75.00 | ILLINOIS FED. AID PROJECT |

