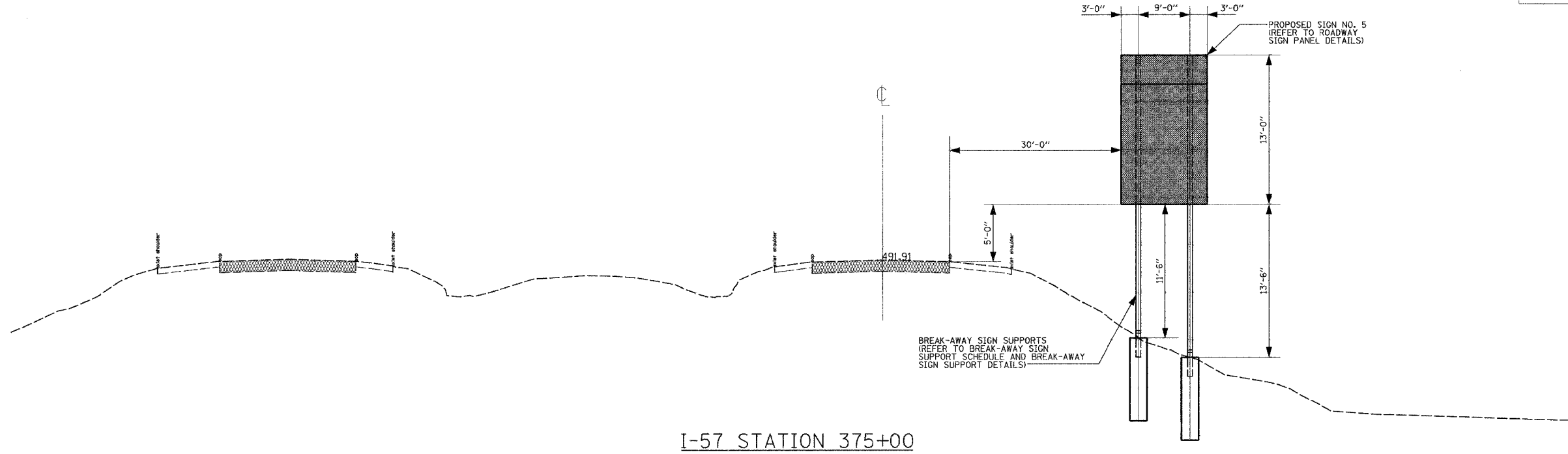


| F.A.I. RTE.           | SECTION     | COUNTY                    | TOTAL SHEETS | SHEET NO. |
|-----------------------|-------------|---------------------------|--------------|-----------|
| 57                    | (X1-6-2)HKB | WILLIAMSON                | 272          | 101       |
| STA.                  |             | TO STA.                   |              |           |
| FED. ROAD DIST. NO. 9 |             | ILLINOIS FED. AID PROJECT |              |           |



PLOT DATE = 3/19/2007  
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 PLOT SCALE = 1/8"=1'-0"  
 USER NAME = dcherner

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ILLINOIS DEPARTMENT OF TRANSPORTATION  
 PAVEMENT MARKING AND SIGNAGE PLANS  
 BREAK-AWAY SIGN SUPPORT ELEVATIONS

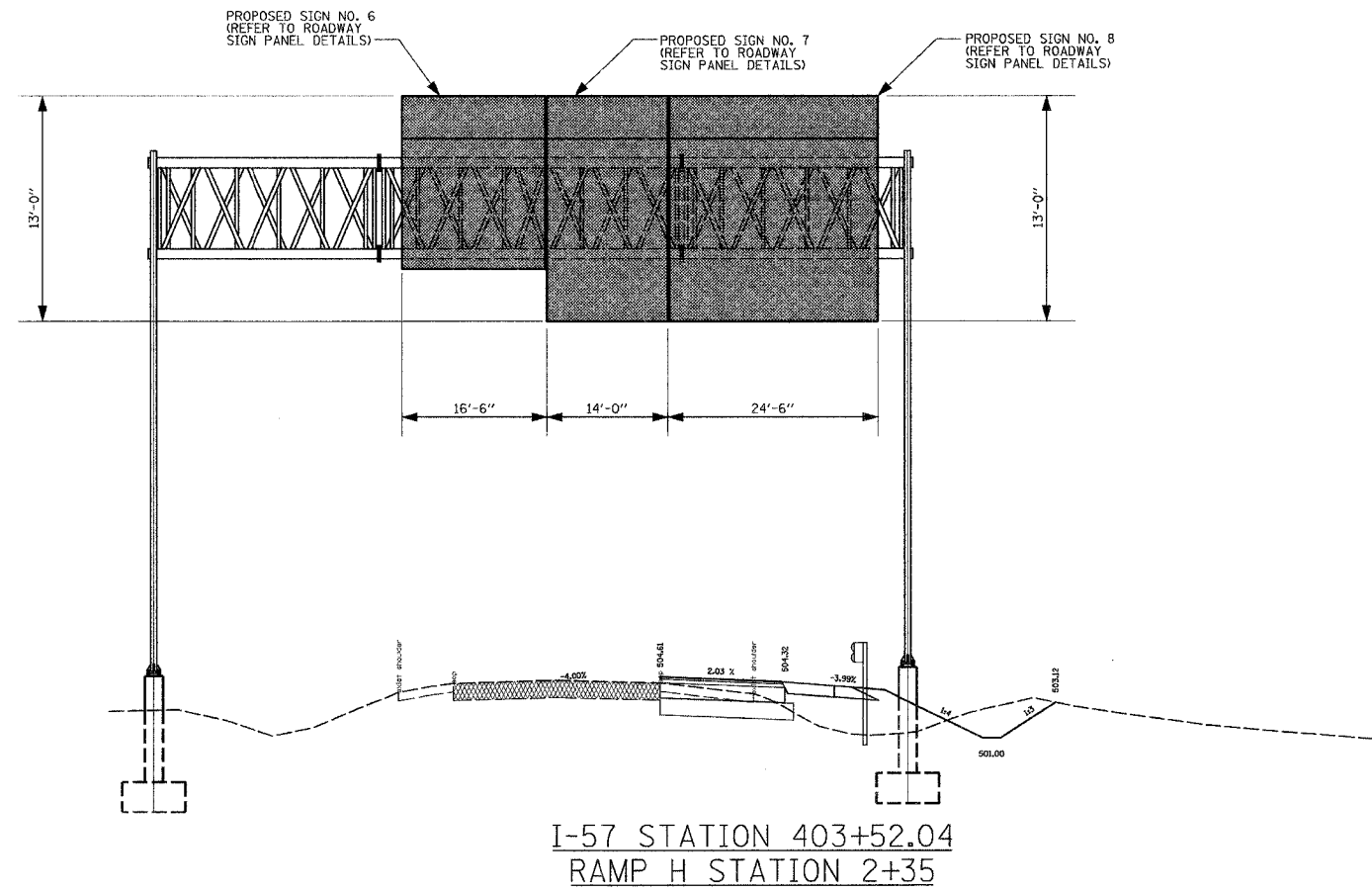
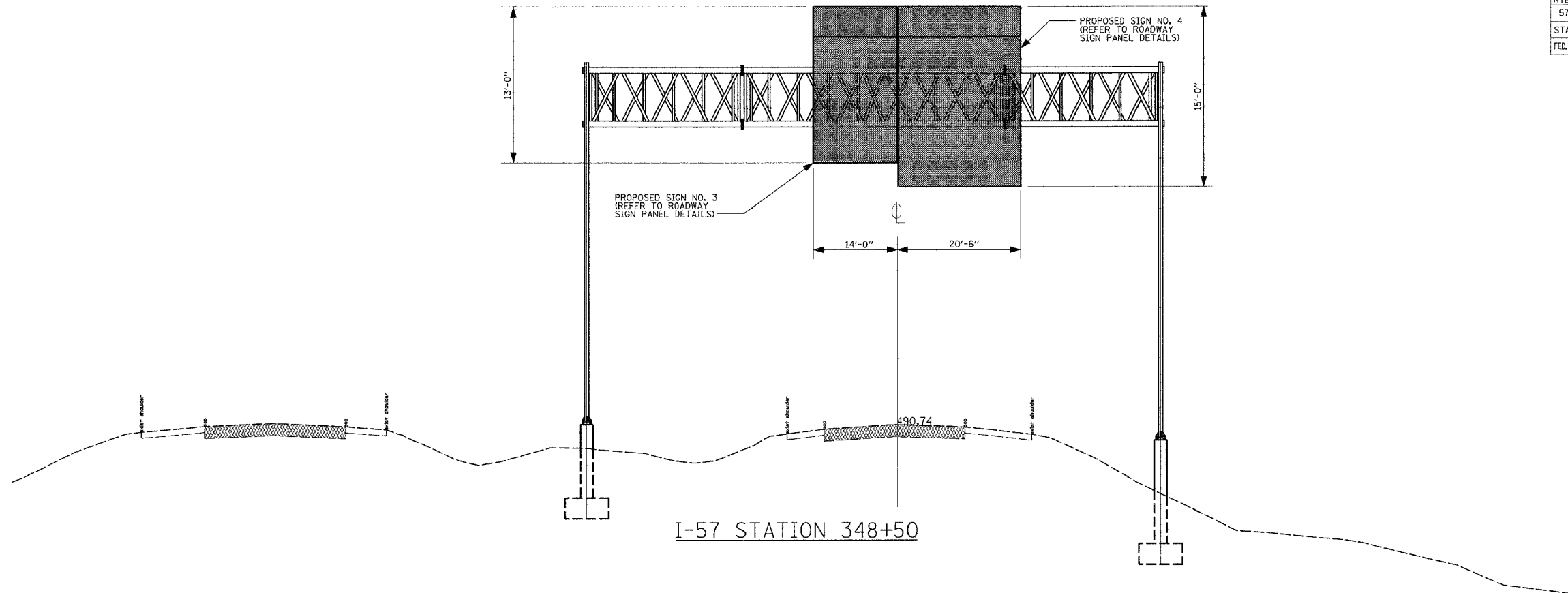
MORGAN AVENUE INTERCHANGE  
 FAI ROUTE 57 WITH FAI ROUTE 9718  
 WILLIAMSON COUNTY

SHEET 17 OF 19

SCALE: N/A  
 DATE 3-19-2007

DRAWN BY DH  
 CHECKED BY RD

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| F.A.I. RTE.           | SECTION     | COUNTY                    | TOTAL SHEETS | SHEET NO. |
| 57                    | (X1-6-2)HBK | WILLIAMSON                | 272          | 102       |
| STA.                  |             | TO STA.                   |              |           |
| FED. ROAD DIST. NO. 9 |             | ILLINOIS FED. AID PROJECT |              |           |



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ILLINOIS DEPARTMENT OF TRANSPORTATION  
**PAVEMENT MARKING AND SIGNAGE PLANS**  
**OVERHEAD SIGN SUPPORT ELEVATIONS**

MORGAN AVENUE INTERCHANGE  
 FAI ROUTE 57 WITH FAI ROUTE 9718  
 WILLIAMSON COUNTY

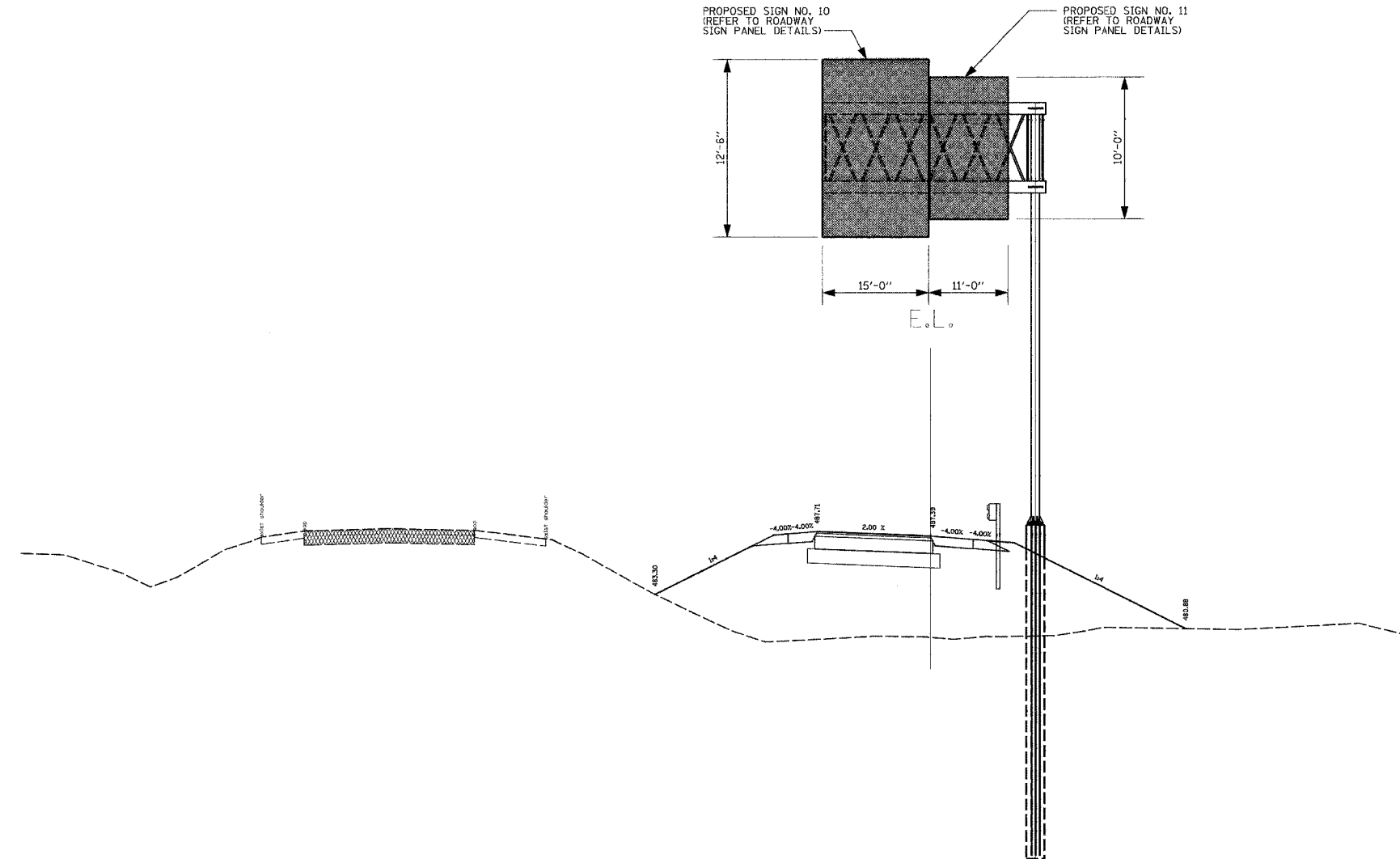
SHEET 18 OF 19

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 DATE 3-19-2007

DRAWN BY DH  
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 USER NAME = dheeraj

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| F.A.I. RTE.           | SECTION     | COUNTY                    | TOTAL SHEETS | SHEET NO. |
| 57                    | (X1-6-2)HBK | WILLIAMSON                | 272          | 103       |
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| FED. ROAD DIST. NO. 9 |             | ILLINOIS FED. AID PROJECT |              |           |



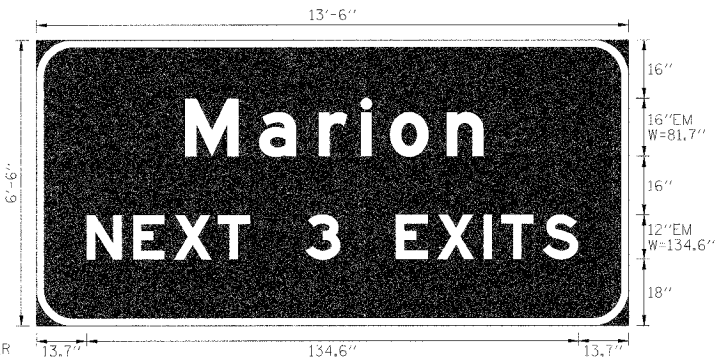
I-57 STATION 417+15.26  
 RAMP H STATION 16+00

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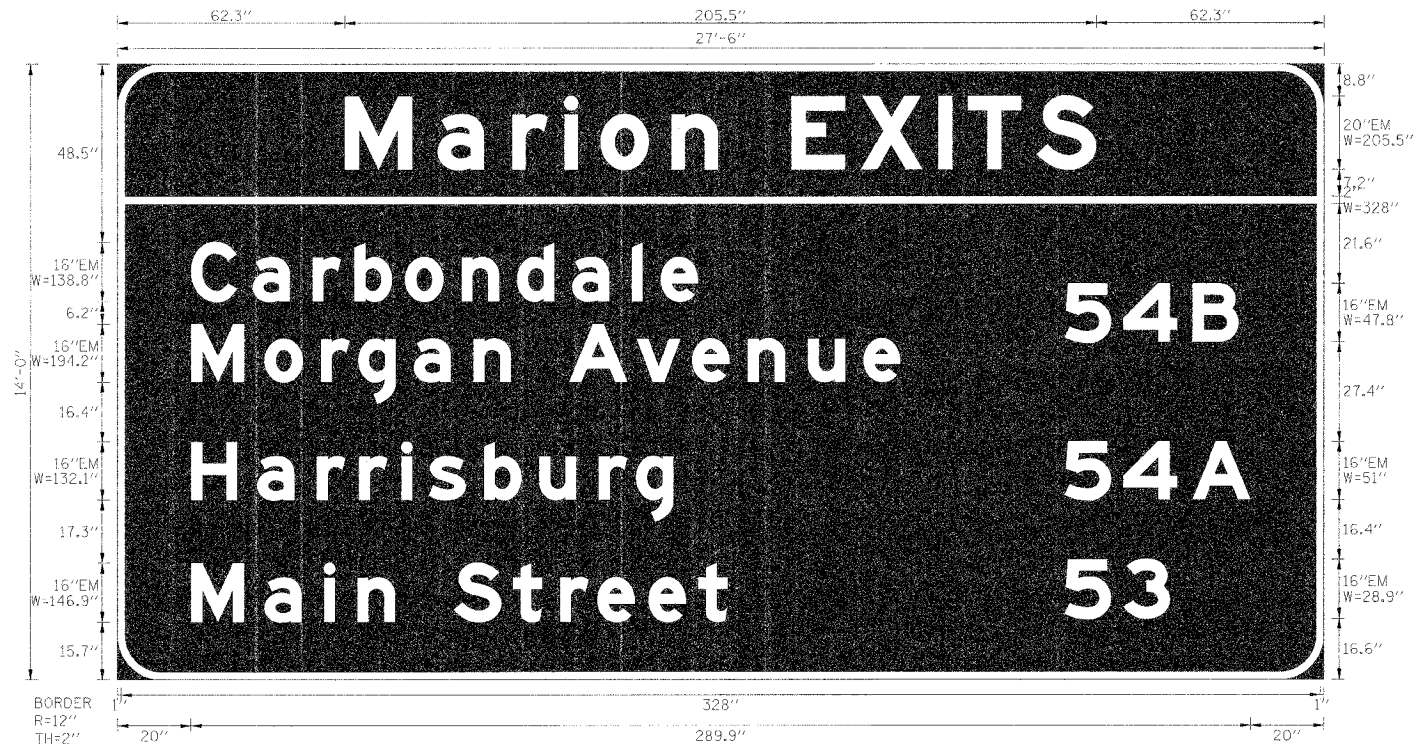
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ILLINOIS DEPARTMENT OF TRANSPORTATION  
 PAVEMENT MARKING AND SIGNAGE PLANS  
 OVERHEAD SIGN SUPPORT ELEVATIONS  
 MORGAN AVENUE INTERCHANGE  
 FAI ROUTE 57 WITH FAU ROUTE 9718  
 WILLIAMSON COUNTY  
 SHEET 19 OF 19  
 SCALE: N/A  
 DATE 3-19-2007  
 DRAWN BY DH  
 CHECKED BY RD

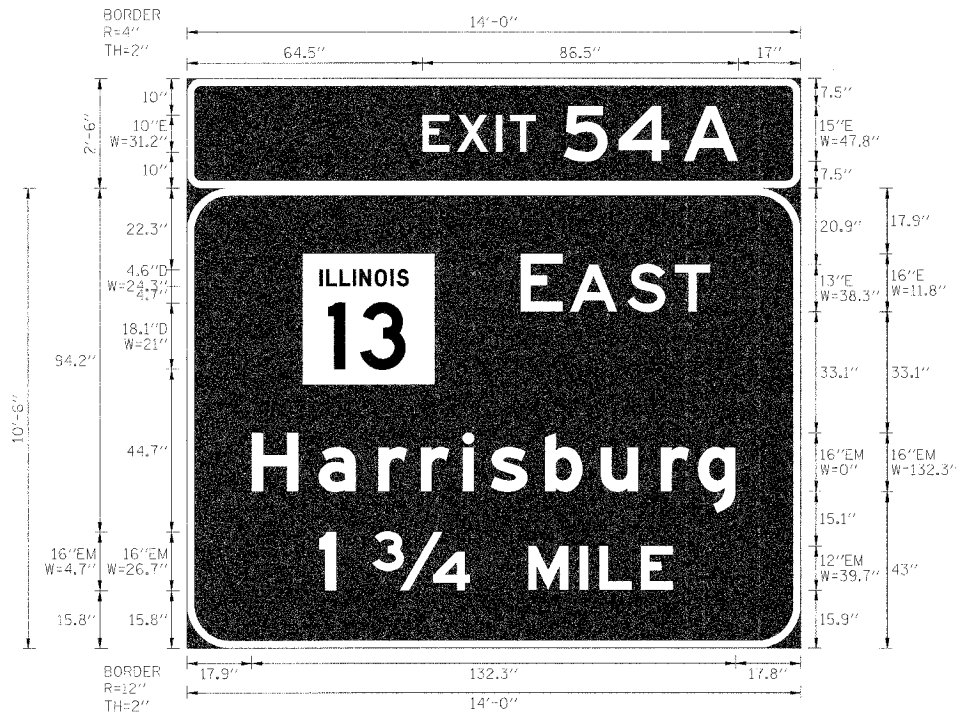
| F.A.I. RTE.           | SECTION    | COUNTY                    | TOTAL SHEETS | SHEET NO. |
|-----------------------|------------|---------------------------|--------------|-----------|
| 57                    | OXI-6-2HKB | WILLIAMSON                | 272          | 104       |
| STA. N/A              |            | TO STA. N/A               |              |           |
| FED. ROAD DIST. NO. 9 |            | ILLINOIS FED. AID PROJECT |              |           |



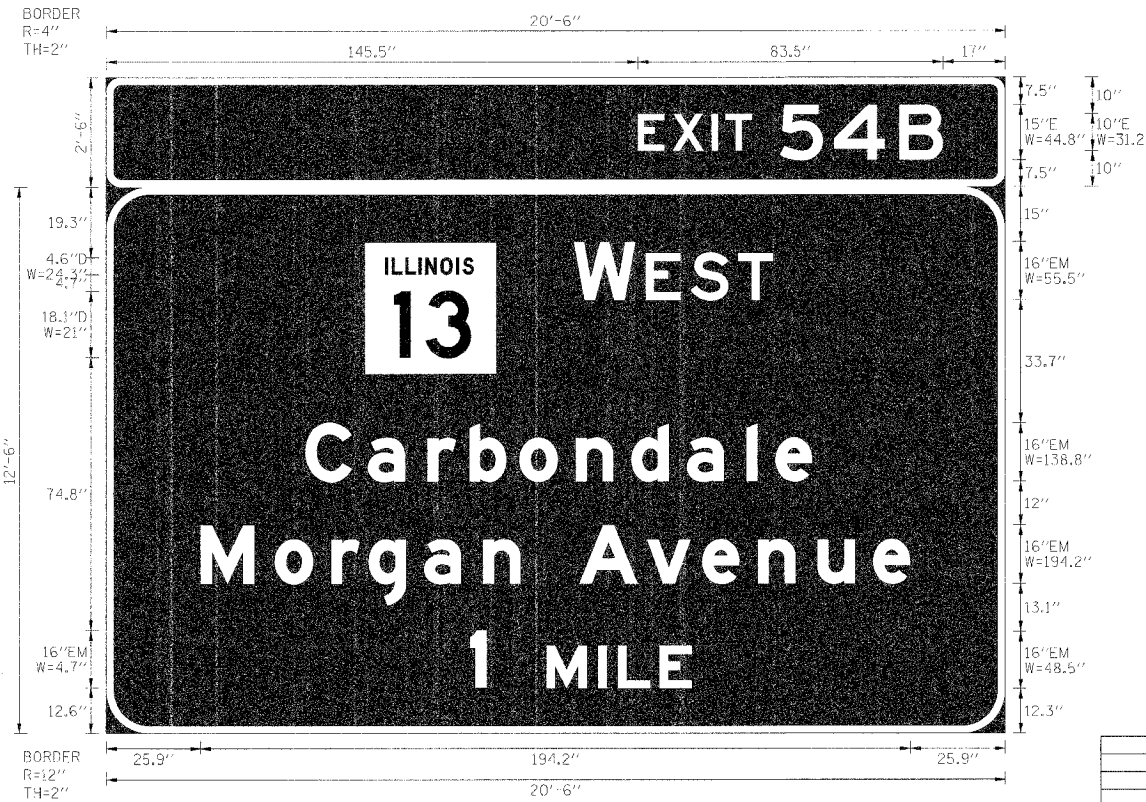
SIGN NO. 1 SOUTHBOUND I-57  
(STA. 238+00 100.87' RT.)



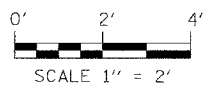
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(STA. 246+00 107.68' RT.)



SIGN NO. 3 SOUTHBOUND I-57  
(STA. 348+50 OVERHEAD SIGNS)



SSIGN NO. 4 SOUTHBOUND I-57  
(STA. 348+50 OVERHEAD SIGNS)



| REVISIONS |             | DATE |
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ILLINOIS DEPARTMENT OF TRANSPORTATION

**ROADWAY SIGN PANELS**

MORGAN AVENUE INTERCHANGE  
FAI ROUTE 57 WITH FAI ROUTE 9718  
WILLIAMSON COUNTY  
SHEET 1 OF 3

SCALE: 1" = 2'  
DATE: 3-19-2007

DRAWN BY: DH  
CHECKED BY: RD

PLOT DATE = 3/19/2007  
FILE NAME = P:\0466683\sign\0466683.dgn  
PLOT SCALE = 2.0000 / IN.  
USER NAME = dcheyman

| F.A.I. RT.            | SECTION     | COUNTY                    | TOTAL SHEETS | SHEET NO. |
|-----------------------|-------------|---------------------------|--------------|-----------|
| 57                    | (X1-6-2)HBK | WILLIAMSON                | 272          | 105       |
| STA. N/A              |             | TO STA. N/A               |              |           |
| FED. ROAD DIST. NO. 9 |             | ILLINOIS FED. AID PROJECT |              |           |



SIGN NO. 7 SOUTHBOUND I-57  
(STA. 403+52.04 OVERHEAD SIGN)



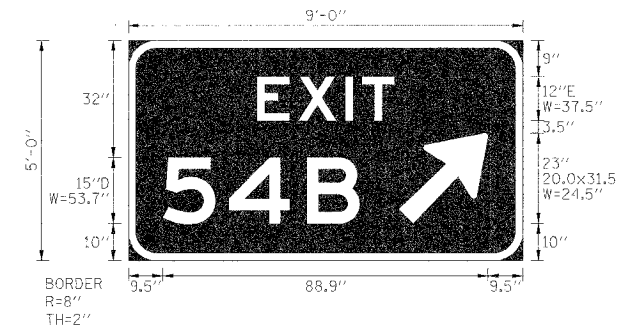
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(STA. 403+52.04 OVERHEAD SIGN)



SIGN NO. 6 SOUTHBOUND I-57  
(STA. 403+52.04 OVERHEAD SIGN)



SIGN NO. 5 SOUTHBOUND I-57  
(STA. 375+00 49.21' RT.)



SIGN NO. 9 SOUTHBOUND RAMP 'H'  
(STA. 7+11.09 28.0' LT.)



| REVISIONS |             | DATE |
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ILLINOIS DEPARTMENT OF TRANSPORTATION

**ROADWAY SIGN PANELS**

MORGAN AVENUE INTERCHANGE  
FAI ROUTE 57 WITH FAI ROUTE 9718  
WILLIAMSON COUNTY  
SHEET 2 OF 3

SCALE: 1" = 2'  
DATE: 3-19-2007

DRAWN BY: DH  
CHECKED BY: RD

PLOT DATE = 3/19/2007  
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| F.A.I. RTE.           | SECTION     | COUNTY                    | TOTAL SHEETS | SHEET NO. |
|-----------------------|-------------|---------------------------|--------------|-----------|
| 57                    | (X1-6-2)HBR | WILLIAMSON                | 272          | 106       |
| STA. N/A              |             | TO STA. N/A               |              |           |
| FED. ROAD DIST. NO. 9 |             | ILLINOIS FED. AID PROJECT |              |           |



SIGN NO. 10 SOUTHBOUND RAMP 'H'  
(STA. 417+15.26 OVERHEAD SIGN)



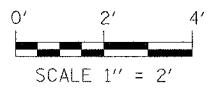
SIGN NO. 11 SOUTHBOUND RAMP 'H'  
(STA. 417+15.26 OVERHEAD SIGN)



SIGN NO. 12 SOUTHBOUND I-57 AND MORGAN AVENUE BRIDGE  
(STA. 1475+16.96 BRIDGE MOUNTED SIGN)



SIGN NO. 13 SOUTHBOUND I-57 AND MORGAN AVENUE BRIDGE  
(STA. 1475+16.96 BRIDGE MOUNTED SIGN)



PLOT DATE = 3/19/2007  
 FILE NAME = P:\946600\sign\046600sign01.dgn  
 PLOT SCALE = 2.0000 / IN.  
 USER NAME = dbeemar

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ILLINOIS DEPARTMENT OF TRANSPORTATION

**ROADWAY SIGN PANELS**

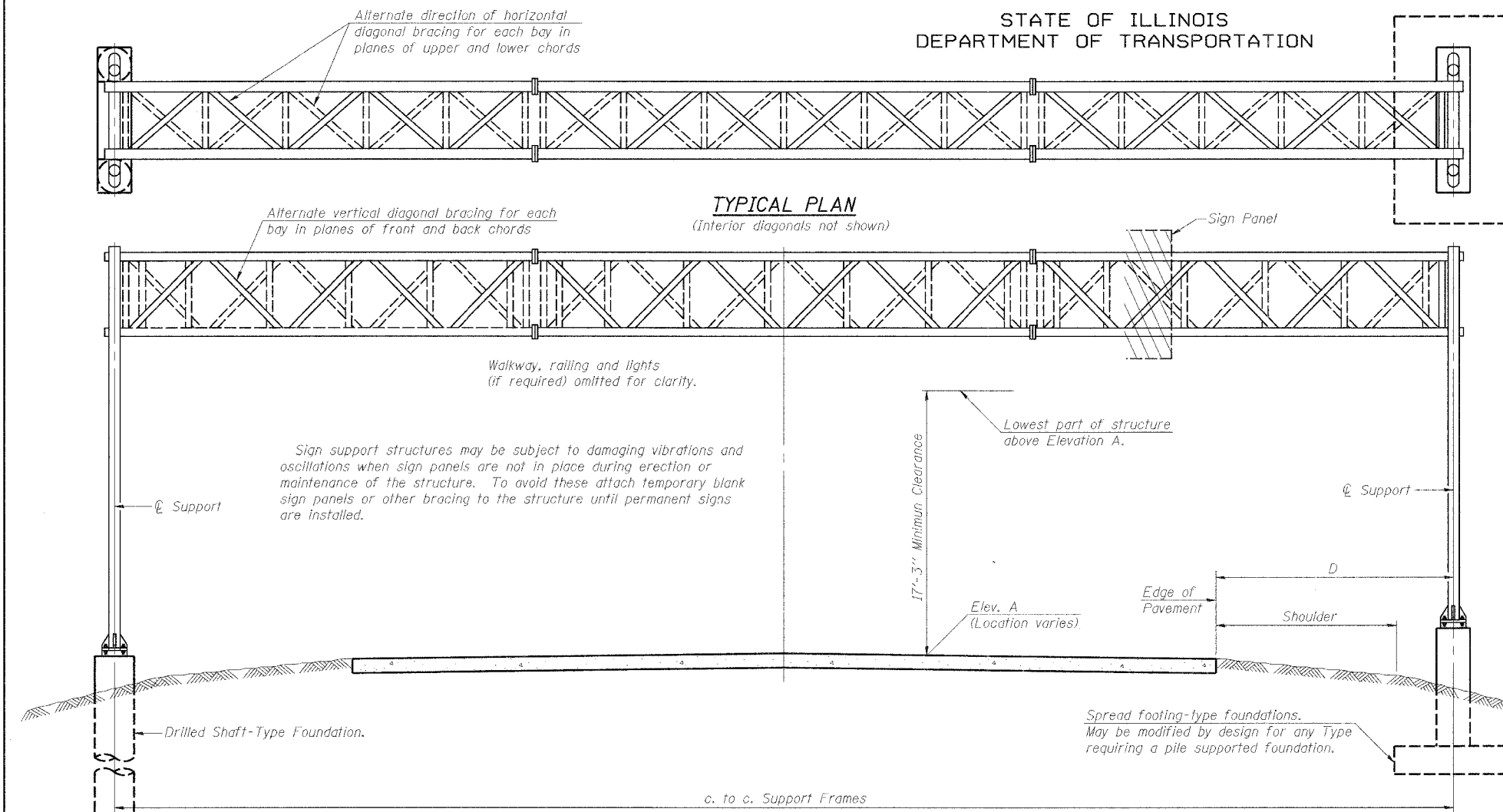
MORGAN AVENUE INTERCHANGE  
 FAT ROUTE 57 WITH FAU ROUTE 9718  
 WILLIAMSON COUNTY  
 SHEET 3 OF 3

SCALE: 1" = 2'  
 DATE: 3-19-2007

DRAWN BY: DH  
 CHECKED BY: RD

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| F.A.I. RTE.           | SECTION   | COUNTY                    | TOTAL SHEETS | SHEET NO. |
| ST                    | XI-6-2H8K | WILLIAMSON                | 272          | 107       |
| STA.                  |           | TO STA.                   |              |           |
| FED. ROAD DIST. NO. 9 |           | ILLINOIS FED. AID PROJECT |              |           |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



**GENERAL NOTES**

DESIGN: AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals. ("AASHTO Specifications")

CONSTRUCTION: Current (at time of letting) Illinois Department of Transportation Standard Specifications for Road and Bridge Construction, Supplemental Specifications and Special Provisions. ("Standard Specifications")

LOADING: 90 M.P.H. WIND VELOCITY

WIND LOADING: 30 p.s.f. normal to Sign Panel Area and truss elements not behind sign Loading Diagram.

WALKWAY LOADING: Dead load plus 500 lbs. concentrated live load.

DESIGN STRESSES:  
Field Units  
 $f'_c = 3,500$  p.s.i.  
 $f_y = 60,000$  p.s.i. (reinforcement)

WELDING: All welds to be continuous unless otherwise shown. All welding to be done in accordance with current AWS D1.1 and D1.2 Structural Welding Codes (Steel and Aluminum) and the Standard Specifications.

MATERIALS: Aluminum Alloys as shown throughout plans. All Structural Steel Pipe shall be ASTM A53 Grade B with a minimum yield of 35,000 p.s.i., or A500 Grade B or C with a minimum yield of 46,000 p.s.i. If A500 pipe is substituted for A53, then the outside diameter shall be as detailed and wall thickness greater than or equal to A53.

All Structural Steel Plates and Shapes shall conform to AASHTO M270 Gr. 36, Gr. 50 or Gr. 50W\*. Stainless steel for shims, sleeves and handhole covers shall be ASTM A240, Type 302 or 304, or another alloy suitable for exterior exposure and acceptable to the Engineer.

The steel pipe and stiffening ribs at the base plate for the column shall have a minimum longitudinal Charpy V-Notch (CVN) energy of 15 lb.-ft. at 40° F. (Zone 2) before galvanizing.

FASTENERS FOR ALUMINUM TRUSSES: All bolts noted as "high strength" must satisfy the requirements of AASHTO M164 (ASTM A325), or approved alternate, and must have matching lock nuts. Threaded studs for splices (if Members interfere) must satisfy the requirements of ASTM A449, ASTM A193, Grade B7, or approved alternate, and must have matching lock nuts. Bolts and lock nuts not required to be high strength must satisfy the requirements of ASTM A307. All bolts and lock nuts must be hot dip galvanized per AASHTO M232. The lock nuts must have nylon or steel inserts. A stainless steel flat washer conforming to ASTM A240 Type 302 or 304, is required under both head and nut or under both nuts where threaded studs are used. High strength bolt installation shall conform to Article 505.04 (f) (2)d of the IDOT Standard Specifications for Road and Bridge Construction. Rotational capacity ("ROCAP") testing of bolts will not be required.

U-BOLTS AND EYEBOLTS: U-Bolts and Eyebolts must be produced from ASTM A276 Type 304, 304L, 316 or 316L, Condition A, cold finished stainless steel, or an equivalent material acceptable to the Engineer. All nuts for U-Bolts and Eyebolts must be lock nuts equivalent to ASTM A307 with nylon or steel inserts and hot dip galvanized per AASHTO M232. A stainless steel flat washer conforming to ASTM A240, Type 302 or 304, is required under each U-Bolt and Eyebolt lock nut.

GALVANIZING: All Steel Grating, Plates, Shapes and Pipe shall be Hot Dip Galvanized after fabrication in accordance with AASHTO M111. Painting is not permitted.

ANCHOR RODS: Shall conform to AASHTO M314 Gr. 36 or 55 with a minimum Charpy V-Notch (CVN) energy of 15 lb.-ft. at 40° F.

CONCRETE SURFACES: All concrete surfaces above an elevation 6" below the lowest final ground line at each foundation shall be cleaned and coated with Bridge Seat Sealer in accordance with the Standard Specifications.

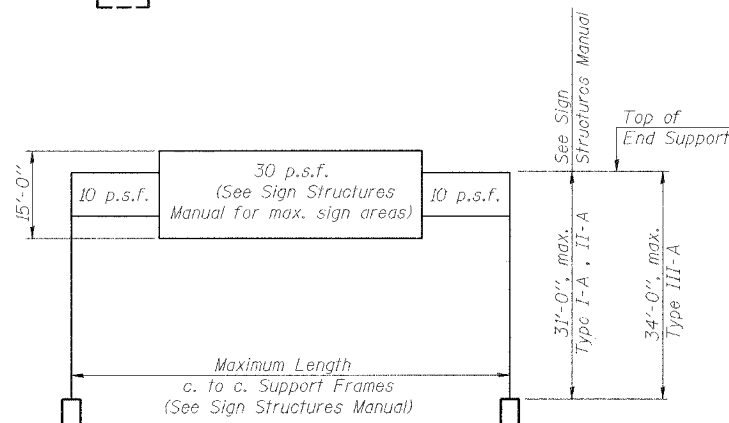
REINFORCEMENT BARS: Reinforcement Bars designated (E) shall be epoxy coated in accordance with the Standard Specifications.

\* If M270 Gr. 50W (M222) steel is proposed, chemistry for plate to be used shall first be approved by the Engineer as suitable for galvanizing and welding.

**TYPICAL ELEVATION**  
(Looking at Face of Signs)

Elev. A = Elevation at point of minimum clearance to sign, walkway support or truss.

| Structure Number | Station   | Design Truss Type | c. to c. Supports | Elev. A | Dim. D | Height of Tallest Sign | Total Sign Area |
|------------------|-----------|-------------------|-------------------|---------|--------|------------------------|-----------------|
| 9S1001057R055.5  | 348+50.00 | I-A               | 96'-0"            | 490.74  | 32'-0" | 15'-0"                 | 489.5 s.f.      |
| 9S1001057R054.5  | 403+52.04 | II-A              | 87'-0"            | 504.40  | 14'-6" | 13'-0"                 | 665.5 s.f.      |
|                  |           |                   |                   |         |        |                        |                 |
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**DESIGN WIND LOADING DIAGRAM**  
Parameters shown are basis for I.D.O.T. Standards and Sign Manual Tables. Installations not within dimensional limits shown require special analysis for all components.

|          |                                    |
|----------|------------------------------------|
| DESIGNED | 200                                |
| CHECKED  | EXAMINED                           |
| DRAWN    | PASSED                             |
| CHECKED  | ENGINEER OF BRIDGES AND STRUCTURES |

OS-A-1 7/01/2006

**TOTAL BILL OF MATERIAL**

| ITEM                                    | UNIT     | TOTAL |
|---|----------|-------|
| OVERHEAD SIGN STRUCTURE SPAN TYPE I-A   | Foot     | 96.0  |
| OVERHEAD SIGN STRUCTURE SPAN TYPE II-A  | Foot     | 87.0  |
| OVERHEAD SIGN STRUCTURE SPAN TYPE III-A | Foot     | -     |
| OVERHEAD SIGN STRUCTURE WALKWAY         | Foot     | 94.0  |
| CONCRETE FOUNDATIONS                    | Cu. Yds. | 33.0  |
| DRILLED SHAFT CONCRETE FOUNDATIONS      | Cu. Yds. | 9.7   |

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ILLINOIS DEPARTMENT OF TRANSPORTATION  
**OVERHEAD SIGN STRUCTURES  
GENERAL PLAN & ELEVATION  
ALUMINUM TRUSS & STEEL SUPPORTS**

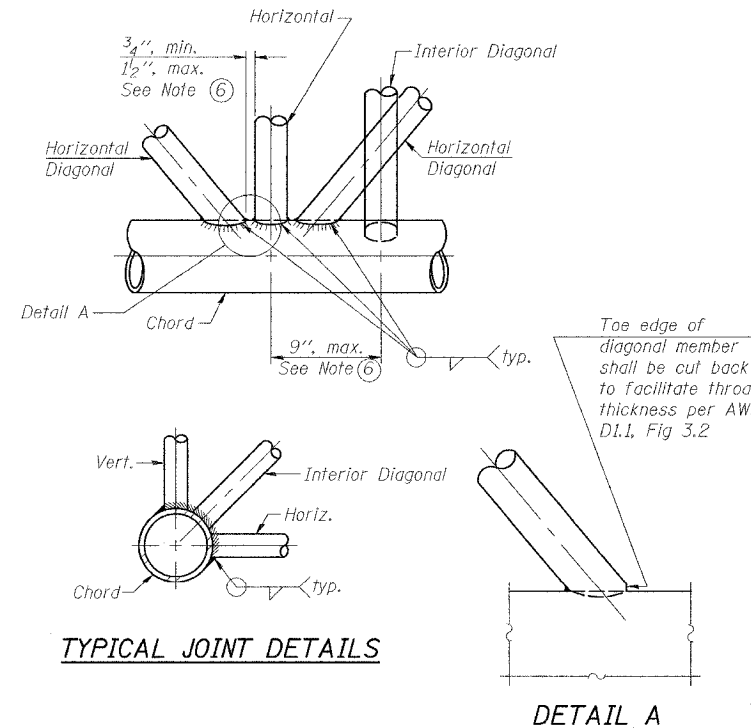
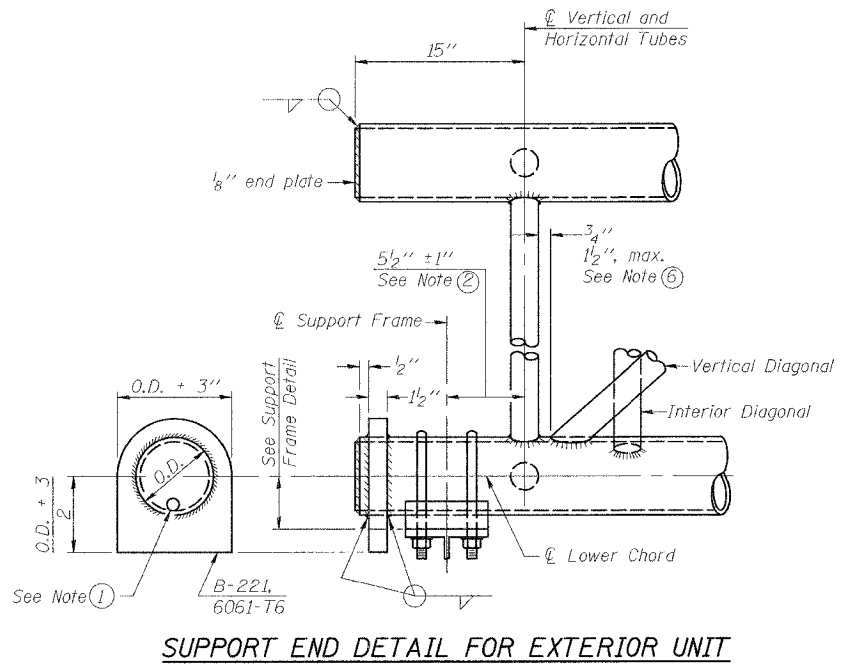
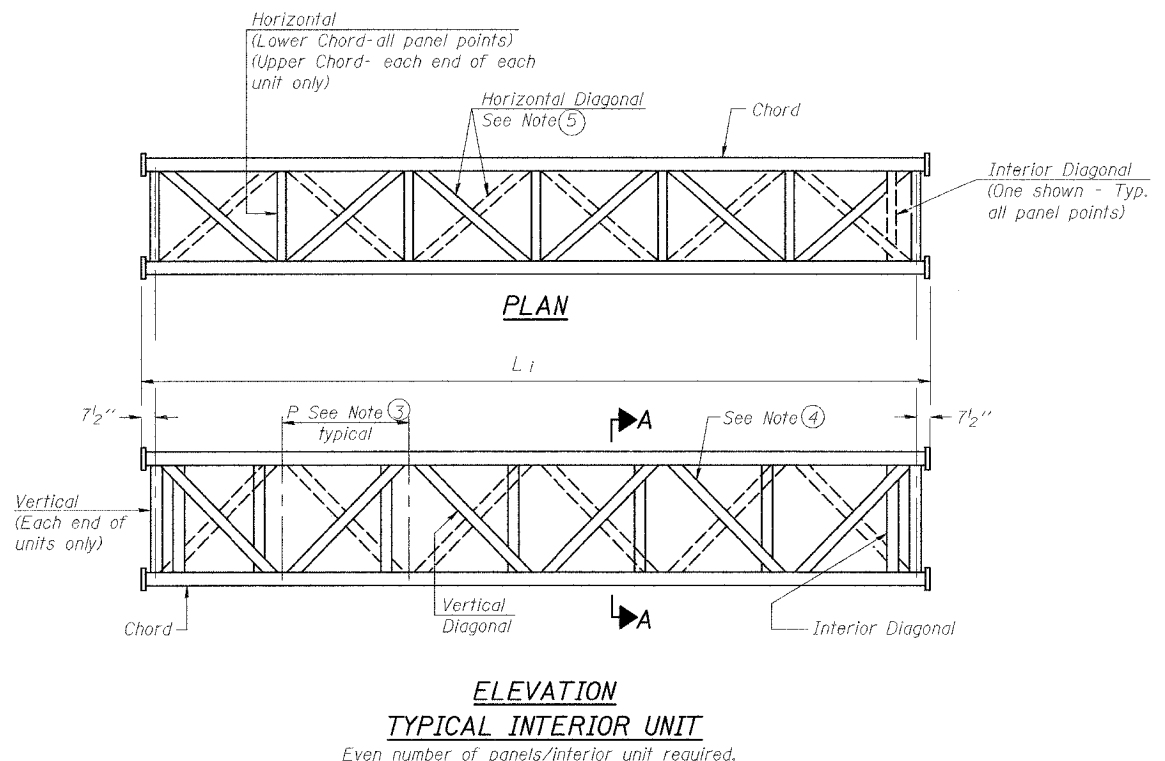
MORGAN AVENUE INTERCHANGE  
FAT ROUTE 57 WITH FAU ROUTE 9718  
WILLIAMSON COUNTY

SHEET 1 OF 11

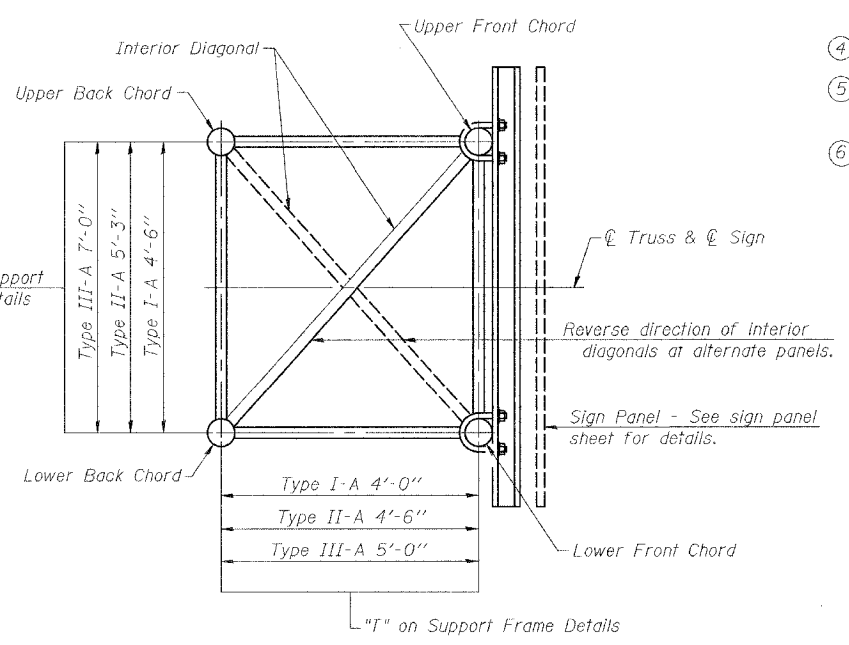
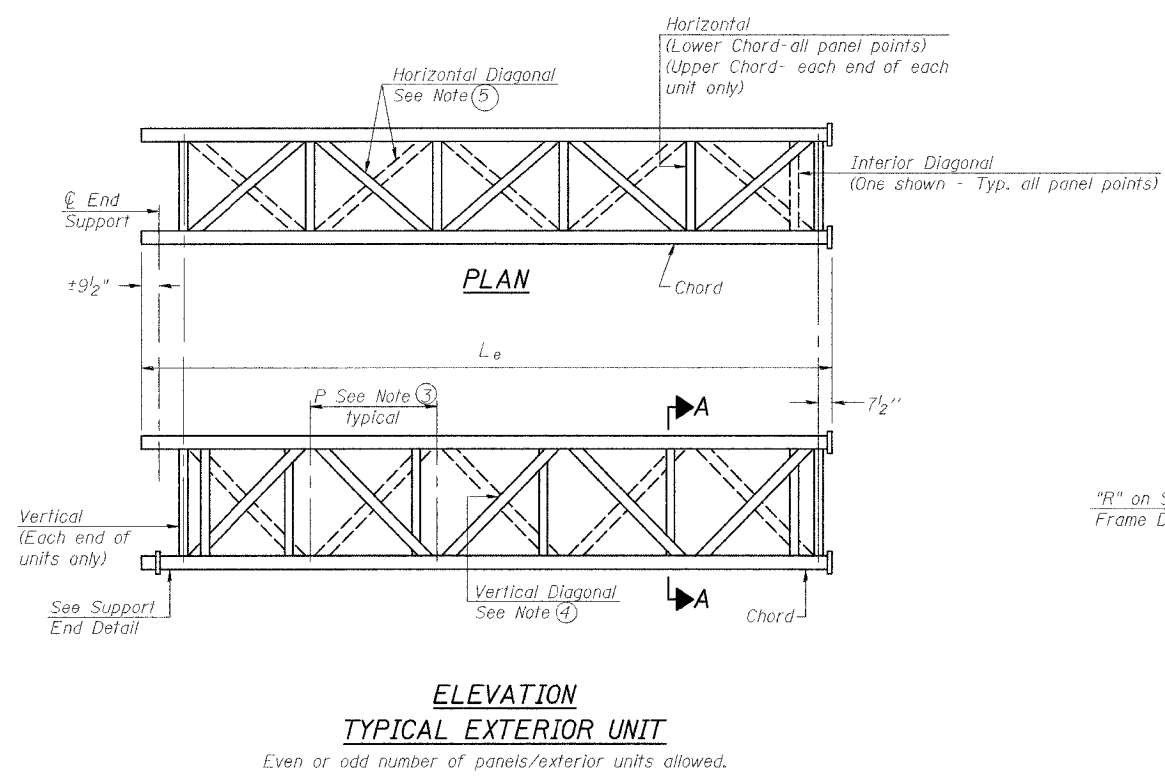
SCALE: N/A

DATE: 3-19-2007

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| F.A.I. RTE.           | SECTION    | COUNTY           | TOTAL SHEETS | SHEET NO. |
| 57                    | 0X1-6-2HKB | WILLIAMSON       | 272          | 108       |
| STA.                  | TO STA.    |                  |              |           |
| FED. ROAD DIST. NO. 9 | ILLINOIS   | FED. AID PROJECT |              |           |



- NOTES**
- Contractor may alternatively use standard aluminum drive-fit cap to close end. 1/2"  $\phi$  drain hole in end plate/drive-fit cap. (Typ. at ends of all chords)
  - 5 1/2" end dimension may vary by  $\pm 1"$  to provide uniform panel spacing (P).
  - Panel spacing (P) shall be uniform for entire truss and between 4'-0" and 5'-0" for Type I-A or 4'-0" and 5'-6" for Types II-A and III-A.
  - Vertical Diagonals in front and back face shall alternate.
  - Hidden lines show wind bracing alternates direction between planes of top and bottom chords.
  - All diagonals shall be detailed for minimum offset from the panel point based on the following: Offset shall be such as to provide a 3/4" minimum to 1 1/2" maximum clearance between any diagonal and any horizontal or vertical member, and to provide clearance for U-bolt connections of signs or walkway brackets.



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ILLINOIS DEPARTMENT OF TRANSPORTATION  
**OVERHEAD SIGN STRUCTURES  
 ALUMINUM TRUSS DETAILS  
 FOR TRUSS TYPES I-A, II-A AND III-A**

MORGAN AVENUE INTERCHANGE  
 FAI ROUTE 57 WITH FAU ROUTE 971B  
 WILLIAMSON COUNTY

SHEET 2 OF 11

SCALE: N/A DATE: 3-19-2007

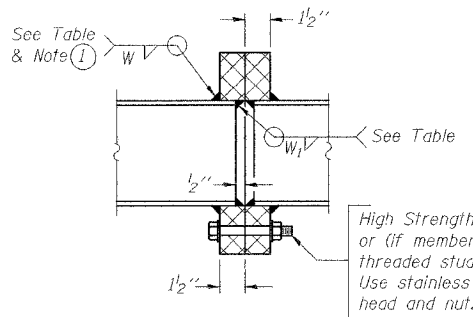
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 USER NAME = dhoerner



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| F.A.T. RTE.                                     | SECTION    | COUNTY     | TOTAL SHEETS | SHEET NO. |
| 57  | 0X1-6-2H8K | WILLIAMSON | 272          | 109       |
| STAL  | TO STA.    |            |              |           |
| FED. ROAD DIST. NO. 9 ILLINOIS FED. AID PROJECT |            |            |              |           |

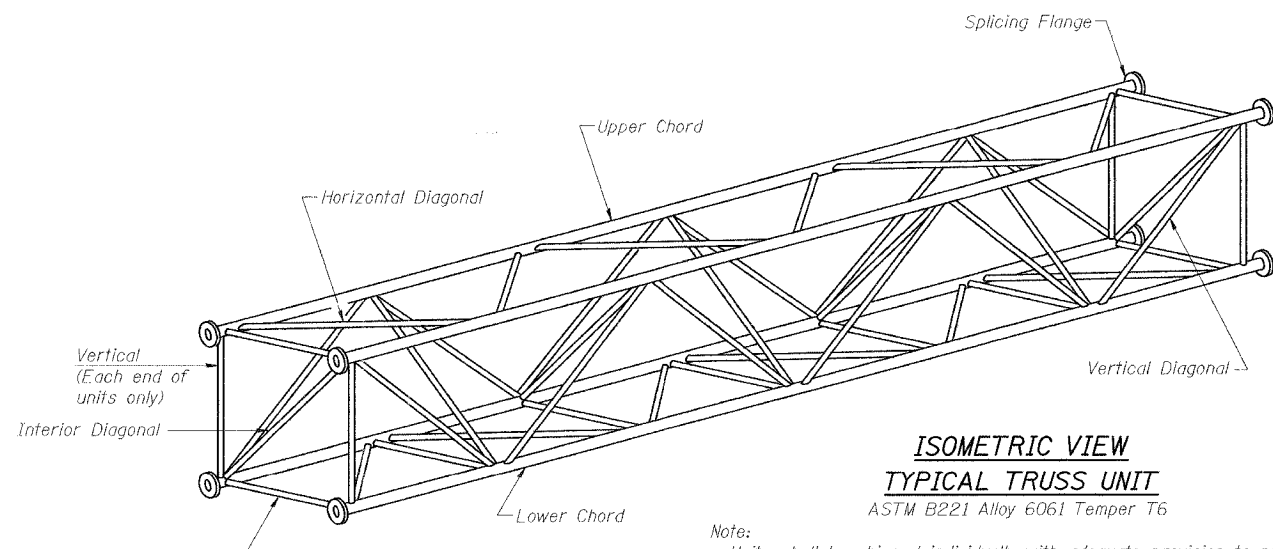
TRUSS UNIT TABLE

| Structure Number | Station   | Design Truss Type | Exterior Units (2)  |                             |                |            | Interior Unit       |                             |                |        | Upper & Lower Chord |        | Verticals; Horizontals; Vertical, Horizontal, and Interior Diagonals |            | Camber at Midspan | Splicing Flange |      |      |        |                |
|------------------|-----------|-------------------|---------------------|-----------------------------|----------------|------------|---------------------|-----------------------------|----------------|--------|---------------------|--------|--|------------|-------------------|-----------------|------|------|--------|----------------|
|                  |           |                   | No. Panels per Unit | Unit Lgth.(L <sub>e</sub> ) | Panel Lgth.(P) | No. Req'd. | No. Panels per Unit | Unit Lgth.(L <sub>i</sub> ) | Panel Lgth.(P) | O.D.   | Wall                | O.D.   | Wall   | Bolts      |                   | Weld Sizes      |      | A    | B      |                |
|                  |           |                   |                     |                             |                |            |                     |                             |                |        |                     |        |  | No./Splice |                   | Dia.            | W    |      |        | W <sub>1</sub> |
| 9S1001057R055.5  | 348+50.00 | I-A               | 7                   | 34'-3"                      | 4'-7 1/2"      | 1          | 6                   | 29'-0"                      | 4'-7 1/2"      | 5 1/2" | 5/16"               | 2 1/2" | 5/16"  | 3 1/16"    | 6                 | 7/8"            | 3/8" | 1/4" | 9 1/4" | 12 1/4"        |
| 9S1001057R054.5  | 403+52.04 | II-A              | 5                   | 28'-0 1/4"                  | 5'-2 3/4"      | 1          | 6                   | 32'-7 1/2"                  | 5'-2 3/4"      | 5 1/2" | 5/16"               | 3"     | 5/16"  | 2 3/8"     | 6                 | 7/8"            | 3/8" | 1/4" | 9 1/4" | 12 1/4"        |

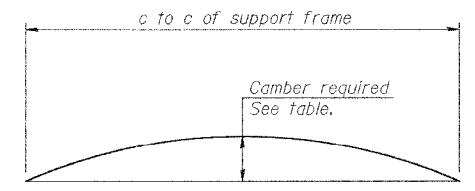


SECTION B-B

(1) Splicing Flanges shall be attached to each truss unit with the truss shop assembled to camber shown. Truss units shall be in proper alignment and flange surfaces shall be shop bolted into full contact before welding. Sufficient external welds or tacks shall be made to secure flanges until remaining welds are made after disassembly. Adjacent flanges shall be "match marked" to insure proper field assembly.



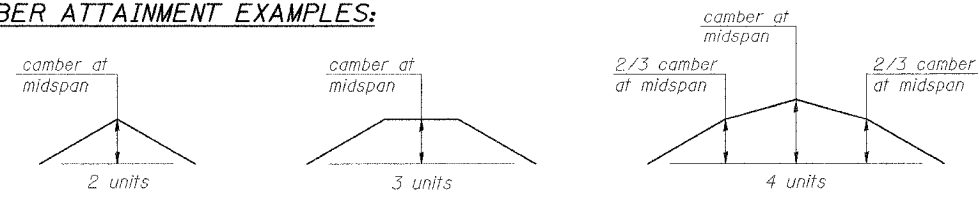
Note: Units shall be shipped individually with adequate provision to prevent detrimental motion during transport. This may require ropes between horizontals and diagonals or energy dissipating (elastic) ties to the vehicle. The Contractor is responsible for maintaining the configuration and protection of the units.



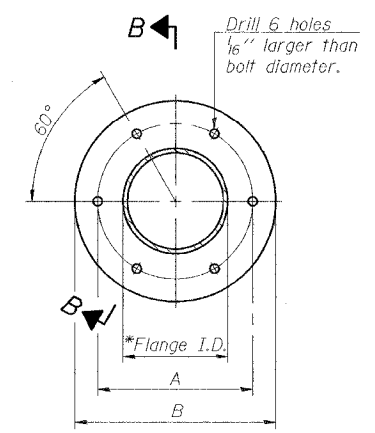
CAMBER DIAGRAM

Camber curve shown is theoretical. Actual camber attained by slope changes at splices between units.

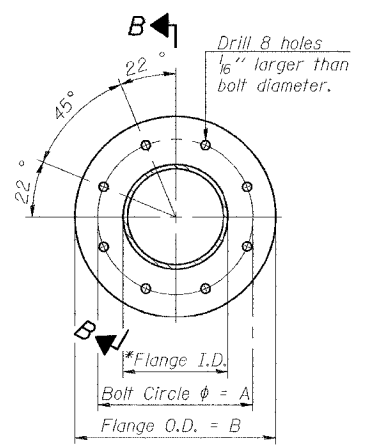
CAMBER ATTAINMENT EXAMPLES:



Camber shown is for fabrication only, measured with truss fully supported. (No-load condition)



TRUSS TYPES I-A, II-A, & III-A



TRUSS TYPES II-A & III-A

SPLICING FLANGES

ASTM B221, Alloy 6061-T6 or ASTM B209, Alloy 6061-T651

\*To fit O.D. of Chord with maximum gap of 1/16\"/>

| NUMBER | REVISION | DATE |
|--------|----------|------|
|        |          |      |
|        |          |      |
|        |          |      |
|        |          |      |
|        |          |      |

PLOT DATE = 3/16/2007  
 PLOT NAME = 3/16/2007-401-04186306-042.dgn  
 PLOT SCALE = 81.0000 1' = 1"  
 USER NAME = dhoerner

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**OVERHEAD SIGN STRUCTURES**  
**ALUMINUM TRUSS DETAILS**  
**FOR TRUSS TYPES I-A, II-A AND III-A**

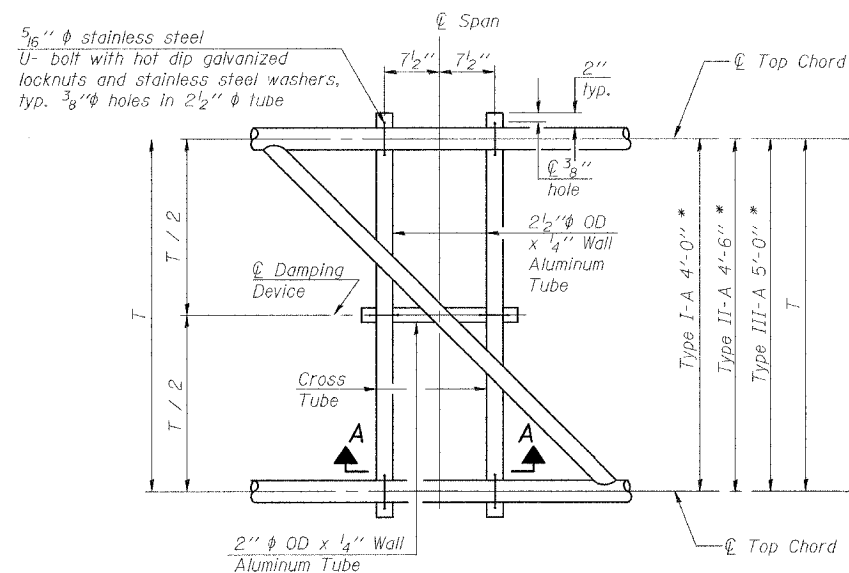
MORGAN AVENUE INTERCHANGE  
 FAI ROUTE 57 WITH FAU ROUTE 9718  
 WILLIAMSON COUNTY

SHEET 3 OF 11

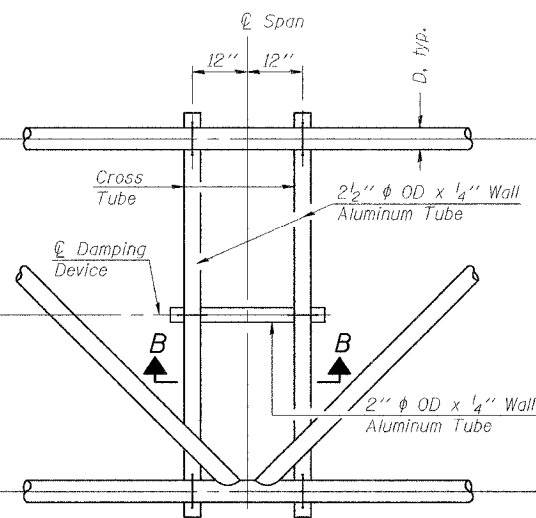
SCALE: N/A DATE: 3-19-2007

|                       |           |                  |              |           |
|-----------------------|-----------|------------------|--------------|-----------|
| F.A.I. RTE.           | SECTION   | COUNTY           | TOTAL SHEETS | SHEET NO. |
| 57                    | X1-6-2HKB | WILLIAMSON       | 272          | 110       |
| STA.                  | TO STA.   |                  |              |           |
| FED. ROAD DIST. NO. 9 | ILLINOIS  | FED. AID PROJECT |              |           |

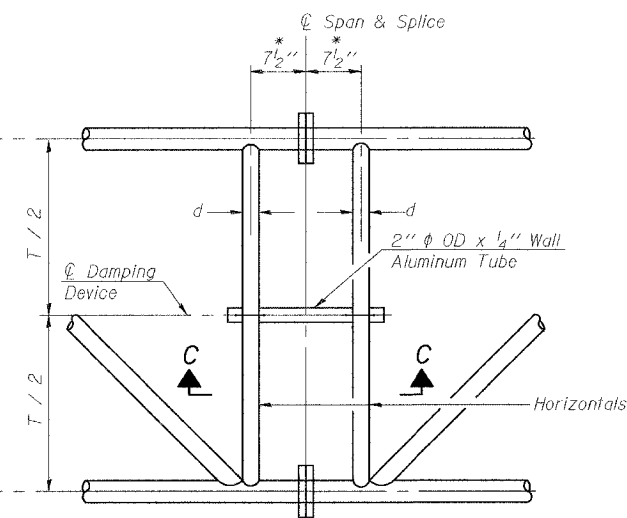
\* Center of horizontal to center of splice dimension may vary. Verify before drilling holes in mounting tube.



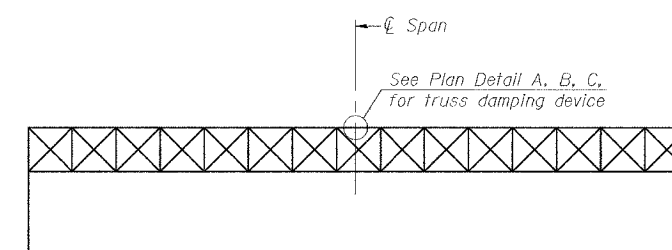
**PLAN DETAIL "A"**  
Span between Panel Points



**PLAN DETAIL "B"**  
Span at Panel Point



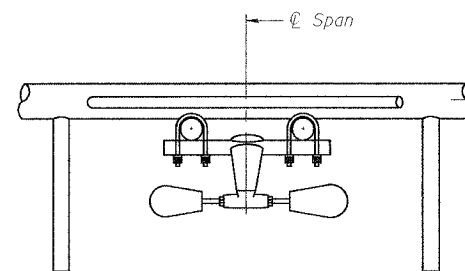
**PLAN DETAIL "C"**  
Span at Chord Splice



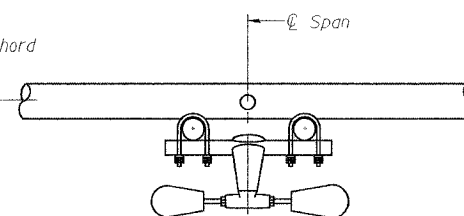
**ELEVATION**  
Aluminum Overhead Sign Truss

**NOTES**  
Damper: One damper per truss.  
(31 lbs. Stockbridge-Type Aluminum)  
Cost Included in Overhead Sign Structure...

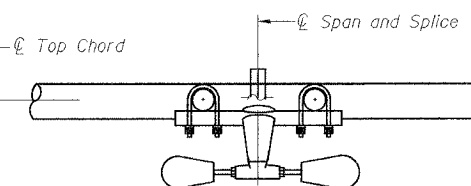
Materials: Aluminum tubes shall be ASTM B221 alloy 6061 temper T6. Cost included in Overhead Sign Structure...



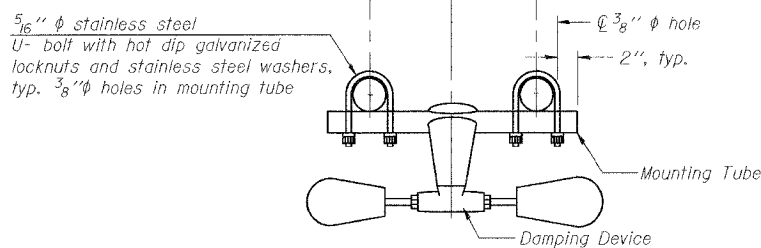
**SECTION A-A**



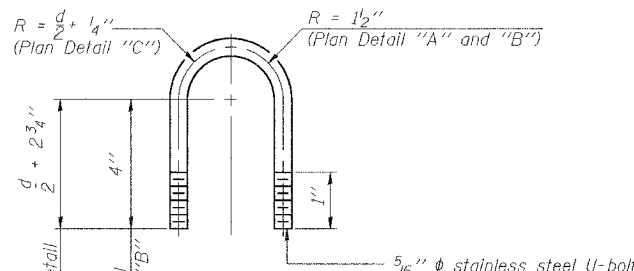
**SECTION B-B**



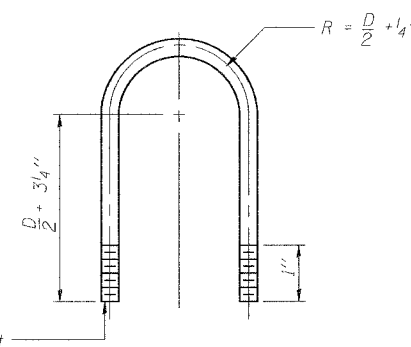
**SECTION C-C**



**TRUSS DAMPING DEVICE CONNECTION DETAIL**  
(Typical)



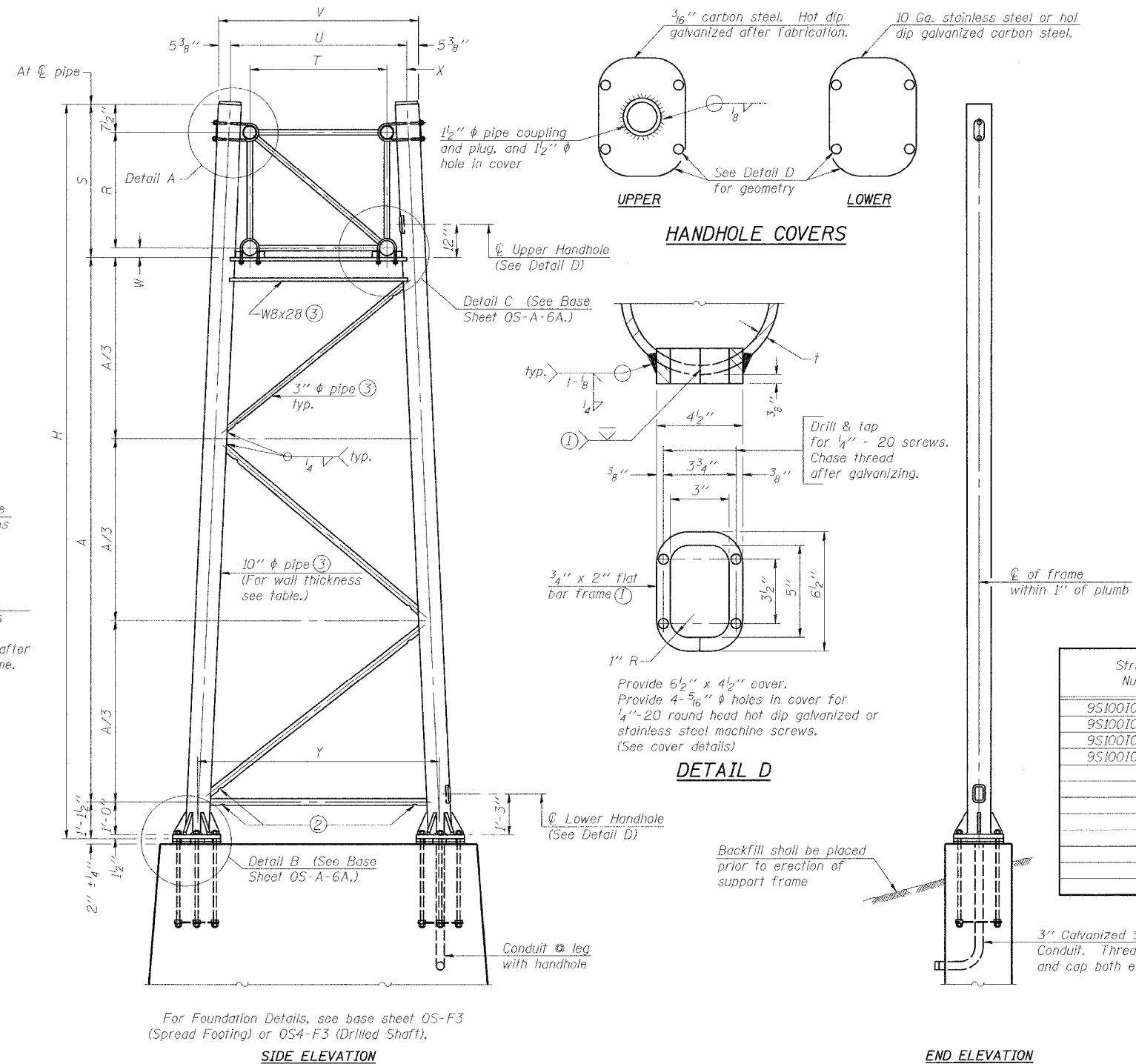
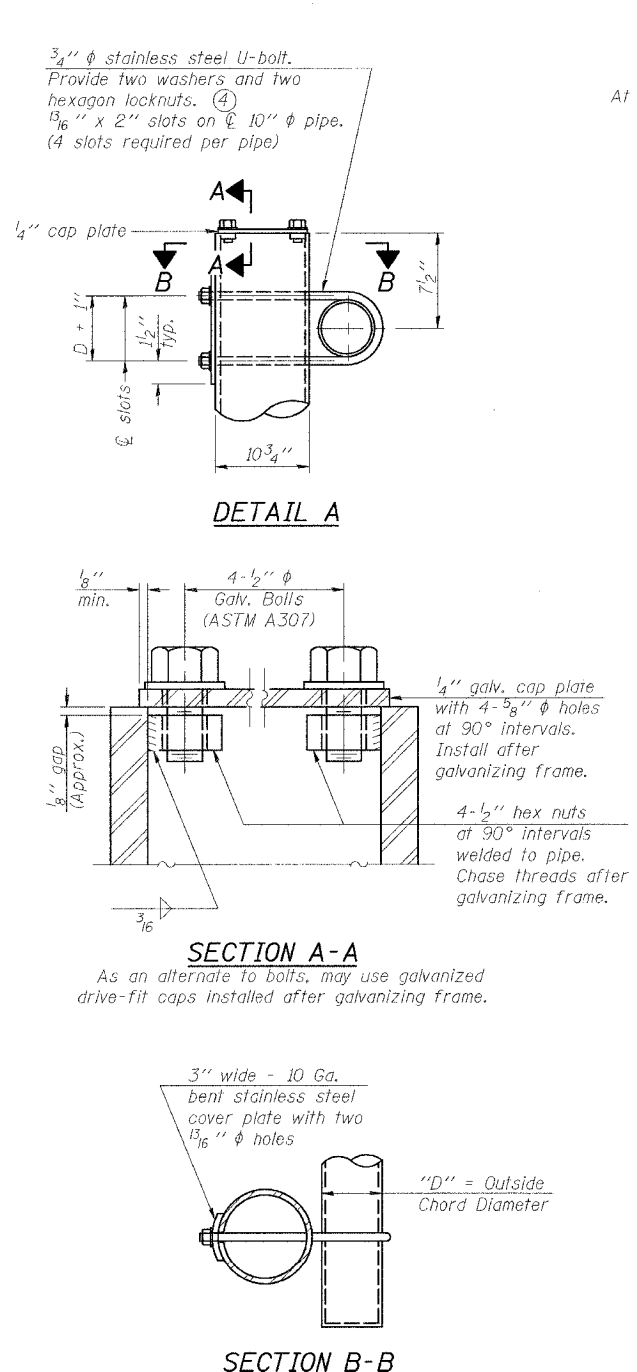
**DAMPING DEVICE MOUNTING TUBE U-BOLT DETAIL**  
(Typical)



**TOP CHORD TO CROSS TUBE U-BOLT DETAIL**  
(Typical - Detail "A" and "B")

PLOT DATE = 3/18/2007  
PLOT SCALE = 0.125000 X 1/16"  
USER NAME = dhoerner

| F.A.I. RTE.           | SECTION    | COUNTY           | TOTAL SHEETS | SHEET NO. |
|-----------------------|------------|------------------|--------------|-----------|
| 57                    | 0X1-6-2H8K | WILLIAMSON       | 272          | 111       |
| STA.                  | TO STA.    |                  |              |           |
| FED. ROAD DIST. NO. 9 | ILLINOIS   | FED. AID PROJECT |              |           |



- Support Design Loads: See Base Sheet OS-A-1 for design and loading criteria.  
Load combinations checked include deadload plus:
- 100% wind normal to sign, 20% parallel to sign
  - 60% wind normal to sign, 30% parallel to sign
- In lieu of fabricated handhole frame as shown, may cut from 2" plate (rolling direction vertical). All cut faces to be ground to ANSI Roughness of 500  $\mu$ m or less.
  - Galvanizing vent holes of adequate size shall be provided on underside at each end of bracing pipes. Alternately, holes may be provided in wall of pipe column. All vent holes shall be drilled and de-burred, typ.
  - Steel pipe, plate, carbon steel handhole covers and rolled sections shall be hot dip galvanized after fabrication. Painting is not permitted. See Base Sheet OS-A-1.
  - See General Notes for fasteners.
  - Dimensions shown are based on selection criteria in the Sign Structures Manual. Nonstandard applications must have dimensions verified or amended as appropriate.
  - "H" based on 15'-0" or actual sign height, whichever is greater.

| Structure Number | Station   | Support |       | Truss Type | Pipe Wall Thickness | H (6)      | A          |
|------------------|-----------|---------|-------|------------|---------------------|------------|------------|
|                  |           | Left    | Right |            |                     |            |            |
| 9S1001057R055.5  | 348+50.00 | X       |       | I-A        | 0.365               | 29'-1 1/2" | 22'-6 1/8" |
| 9S1001057R055.5  | 348+50.00 |         | X     | I-A        | 0.365               | 31'-0"     | 24'-5"     |
| 9S1001057R054.5  | 403+52.04 | X       |       | II-A       | 0.365               | 29'-3"     | 22'-4 1/4" |
| 9S1001057R054.5  | 403+52.04 |         | X     | II-A       | 0.365               | 28'-8 3/4" | 21'-4"     |

| NUMBER | REVISION | DATE |
|--------|----------|------|
|        |          |      |
|        |          |      |

| Truss Type | Dimensions |           |       |       |            |        |        |       |
|------------|------------|-----------|-------|-------|------------|--------|--------|-------|
|            | R          | S         | T     | U     | V          | W      | X      | Y     |
| I-A        | 4'-6"      | 5'-5 1/2" | 4'-0" | 5'-6" | 6'-4 3/4"  | 4"     | 9"     | 8'-3" |
| II-A (5)   | 5'-3"      | 6'-3 1/4" | 4'-6" | 6'-1" | 6'-11 3/4" | 4 3/4" | 9 1/2" | 8'-3" |

ILLINOIS DEPARTMENT OF TRANSPORTATION

**OVERHEAD SIGN STRUCTURES**

**SUPPORT FRAME FOR ALUMINUM TRUSS**

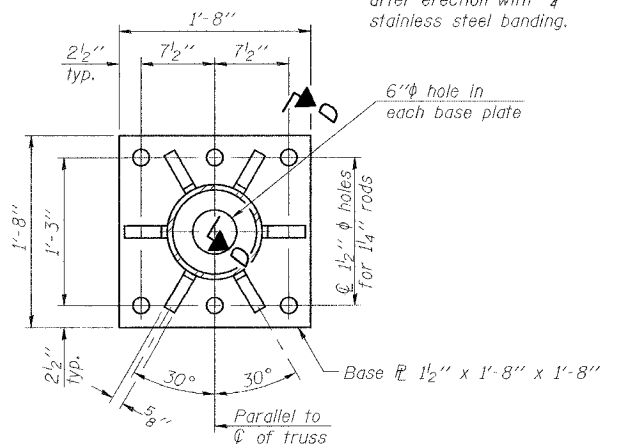
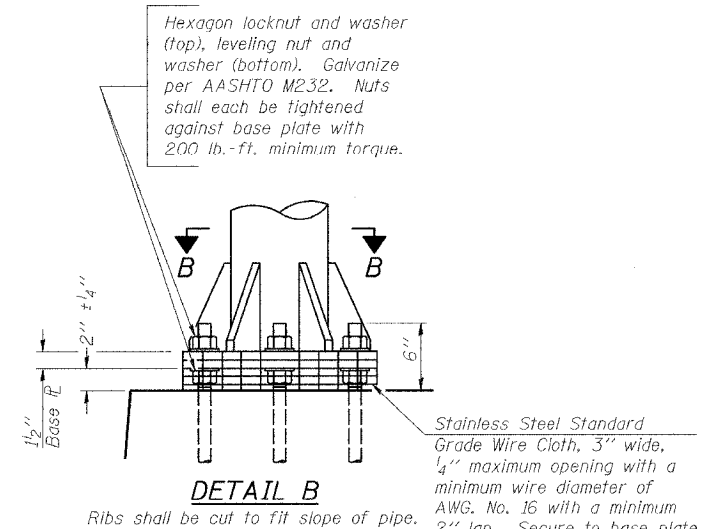
MORGAN AVENUE INTERCHANGE  
FAI ROUTE 57 WITH FAU ROUTE 9718  
WILLIAMSON COUNTY

SHEET 5 OF 11

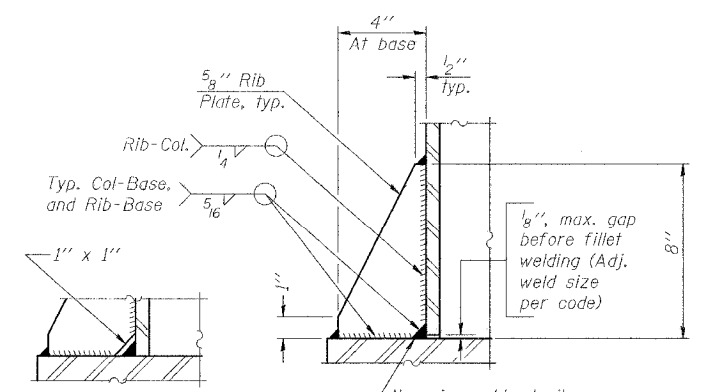
SCALE: N/A DATE: 3-19-2007

PLOT DATE = 3/22/2007  
 FILE NAME = P:\100000\100000.dwg  
 PLOT SCALE = 8.128000 1/1 IN.  
 USER NAME = dhoerner

|                       |            |                  |              |           |
|-----------------------|------------|------------------|--------------|-----------|
| F.A.I. RTE.           | SECTION    | COUNTY           | TOTAL SHEETS | SHEET NO. |
| 57                    | OX1-6-2H8K | WILLIAMSON       | 272          | 112       |
| STA.                  | TO STA.    |                  |              |           |
| FED. ROAD DIST. NO. 9 | ILLINOIS   | FED. AID PROJECT |              |           |



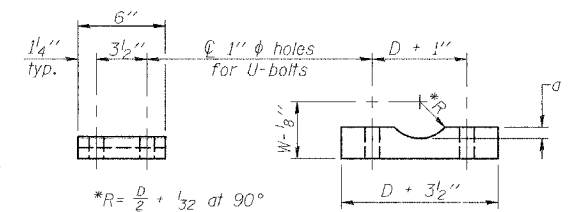
SECTION B-B



SECTION D-D

\*\* Alternate detail if welding col. to base plate first, then snip inside corner of ribs. Terminate weld on rib 1/4" from snip.

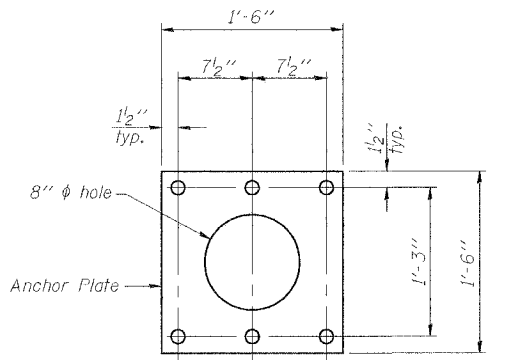
No snip req'd. at rib inside corner if placed before col. to base plate welding.\*\*



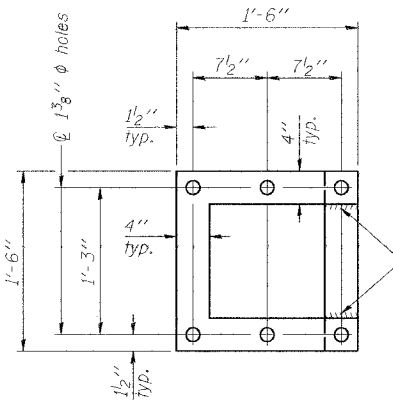
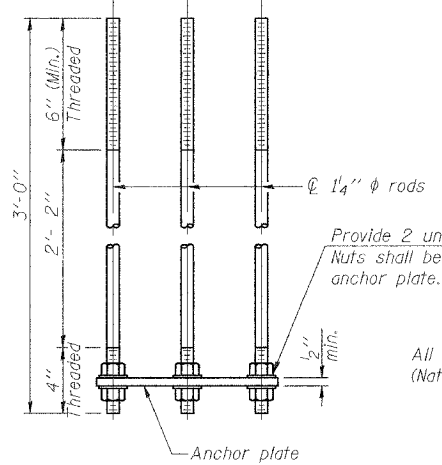
SADDLE SHIM DETAIL

ASTM B26 Alloy 356-F or ASTM B209 Alloy 6061-T651 (4 required per sign truss)

| Truss Chord Nominal Dia. | a      |
|--------------------------|--------|
| 5"                       | 3/4"   |
| 5 1/2"                   | 13/16" |
| 6"                       | 7/8"   |
| 6 1/2"                   | 15/16" |
| 7"                       | 1"     |

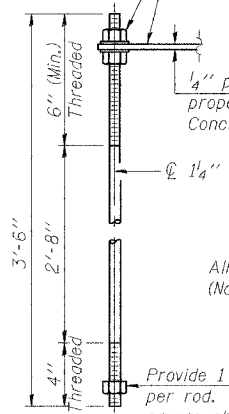


ANCHOR ROD DETAIL Spread Footing Foundation



POSITIONING PLATE(S)

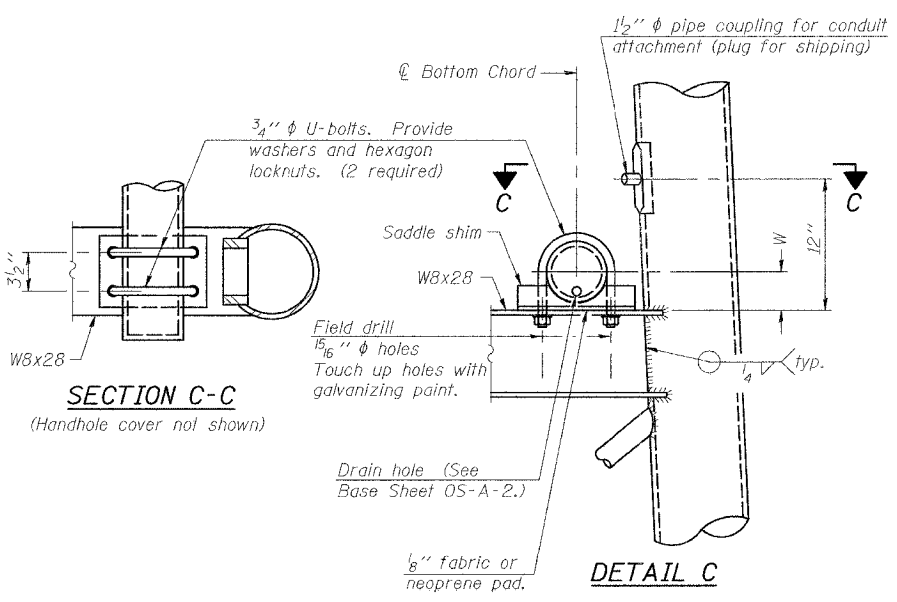
Optionally may use four (4) separate bars. Weld to maintain perpendicularity.



ANCHOR ROD DETAIL Drilled Shaft Foundation

Anchor rods shall conform to AASHTO M314 Grade 36 or 50 and meet Charpy V-Notch (CVN) energy of 15 lb.-ft. at 40° F. Galvanize upper 12" per AASHTO M232. No welding shall be permitted on rods.

10"  $\phi$  PIPE SUPPORT FRAME DETAILS



SECTION C-C (Handhole cover not shown)

DETAIL C

| NUMBER | REVISION | DATE |
|--------|----------|------|
|        |          |      |
|        |          |      |
|        |          |      |
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|        |          |      |

ILLINOIS DEPARTMENT OF TRANSPORTATION

OVERHEAD SIGN STRUCTURES

SUPPORT FRAME DETAILS ALUMINUM TRUSS

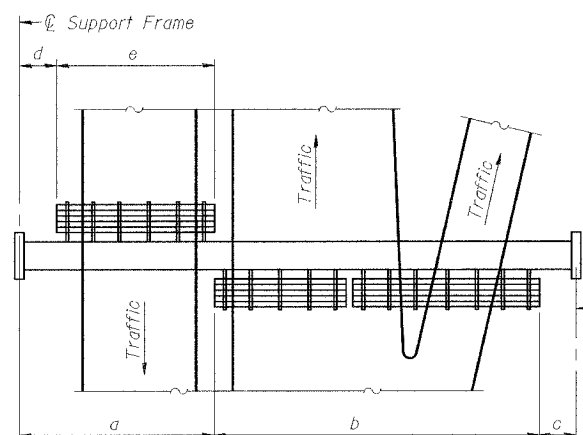
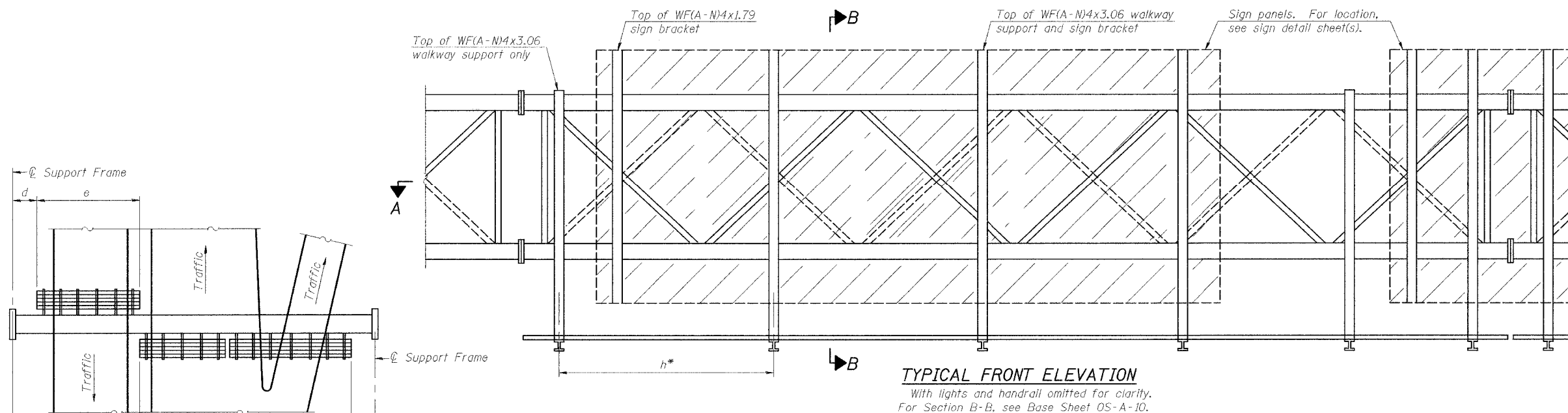
MORGAN AVENUE INTERCHANGE  
FAI ROUTE 57 WITH FAU ROUTE 9718  
WILLIAMSON COUNTY

SHEET 6 OF 11

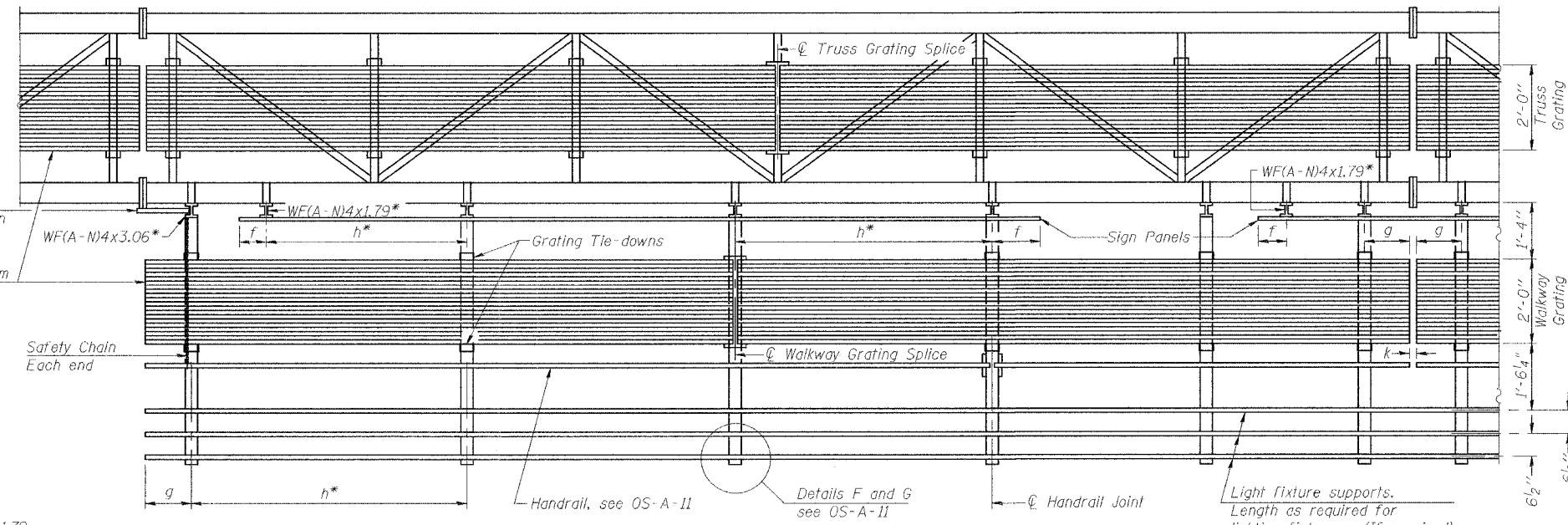
SCALE: N/A DATE: 3-19-2007

PLOT DATE = 3/15/2007  
 FILE NAME = P:\10402000\10402000.dwg  
 PLOT SCALE = 8.1182000 x 1 IN.  
 USER NAME = dhoerrner

|                       |            |            |                  |           |
|-----------------------|------------|------------|------------------|-----------|
| F.A.I. RTE.           | SECTION    | COUNTY     | TOTAL SHEETS     | SHEET NO. |
| 57                    | 0X1-6-2HKB | WILLIAMSON | 272              | 113       |
| STA.                  | TO STA.    |            |                  |           |
| FED. ROAD DIST. NO. 9 |            | ILLINOIS   | FED. AID PROJECT |           |



**PLAN WALKWAY AND HANDRAIL SKETCH**  
(Road plan beneath truss varies)



Walkway and Truss Grating width dimensions are nominal and may vary ±1/2" based on available standard widths.

**BRACKET TABLE**

| Sign Width   |                       | Number Brackets Required |
|--------------|-----------------------|--------------------------|
| Greater Than | Less Than or Equal To |                          |
|              | 8'-0"                 | 2                        |
|              | 14'-0"                | 3                        |
|              | 20'-0"                | 4                        |
|              | 26'-0"                | 5                        |
|              | 32'-0"                | 6                        |

WF(A-N)4x1.79 or WF(A-N)4x3.06  
ASTM B308, Alloy 6061-T6

\*\* Alternate angle for safety chain attachment

Standard Aluminum Grating, see Details T and W

Safety Chain Each end

**Notes:**

\* Space walkway brackets WF(A-N)4x3.06 and sign brackets WF(A-N)4x1.79 for efficiency and within limits shown:

f = 12" maximum, 4" minimum (End of sign to center of nearest bracket)

g = 12" maximum, 4" minimum (End of walkway grating to center of nearest support bracket)

h = 6'-0" maximum (center to center of sign and/or walkway support brackets, WF(A-N)4x1.79 or WF(A-N)4x3.06)

k = 2" maximum gap between adjacent walkway grating sections and handrail ends

\*\* If walkway bracket at safety chain location is behind sign, add angle to bracket, see Alternate Safety Chain Attachment on Base Sheet OS-A-11.

For Details T and W, Section B-B and Grating Splice Details see Base Sheet OS-A-10.

For Handrail Details see Base Sheet OS-A-11.

**SECTION A-A**

Handrail and walkway shall span a minimum of three brackets between splices and/or gap joints. Place all sign and walkway brackets as close to panel points as practical. Handrail joints, grating, and light support splices placed as needed.

Truss grating to facilitate inspection shall run full length (center to center of support frames) ±12" on overhead trusses. Cost of truss grating is included in "Overhead Sign Structure".

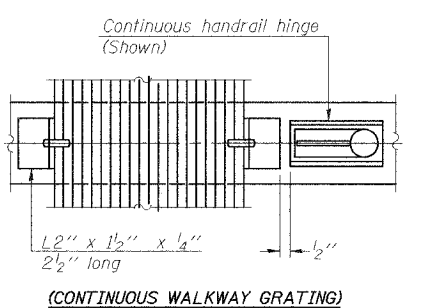
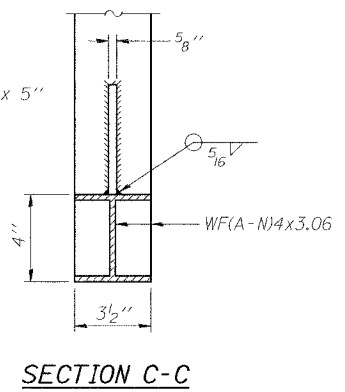
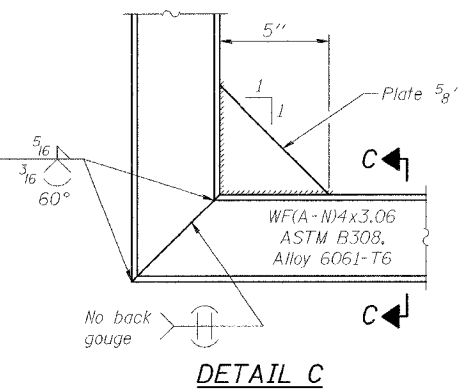
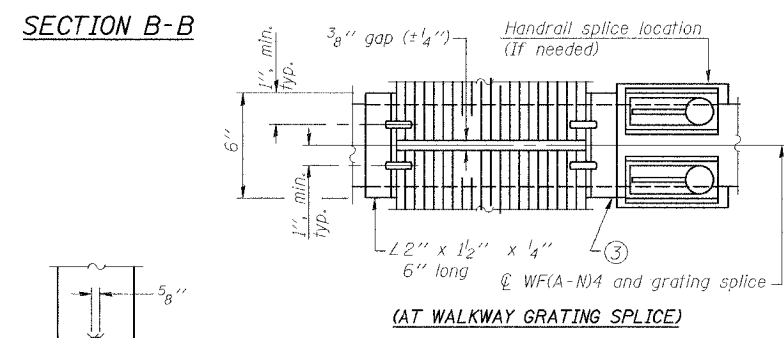
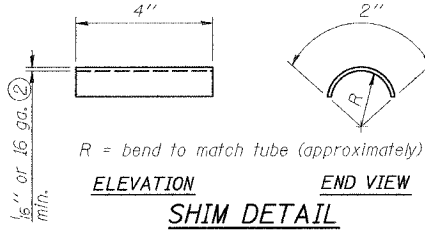
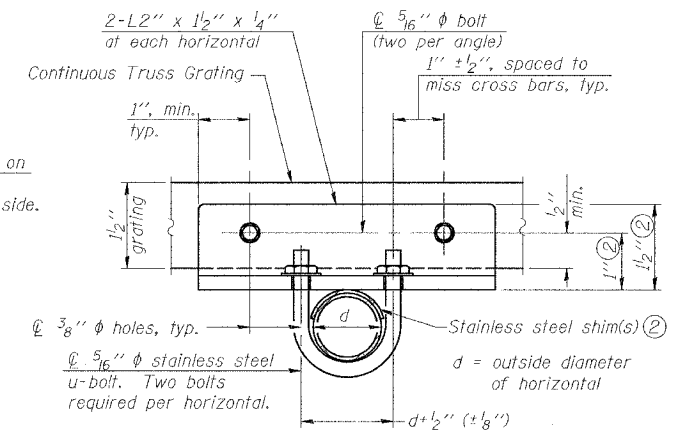
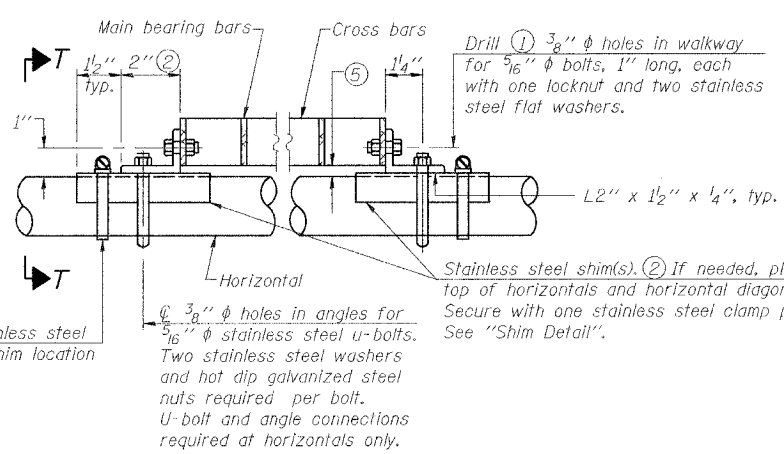
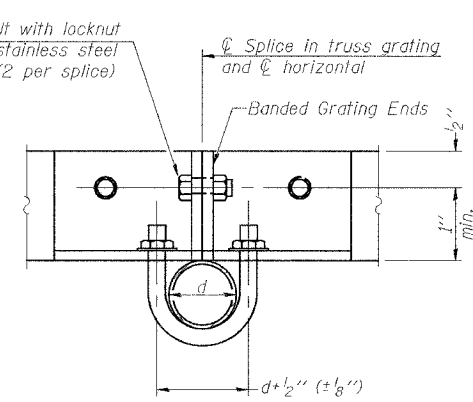
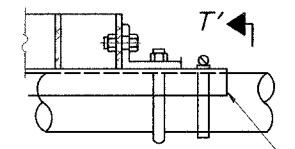
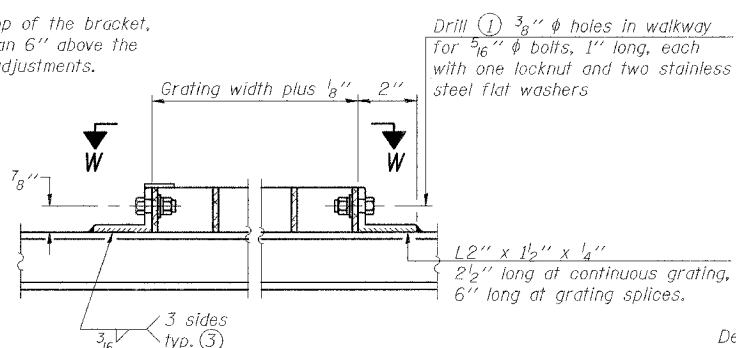
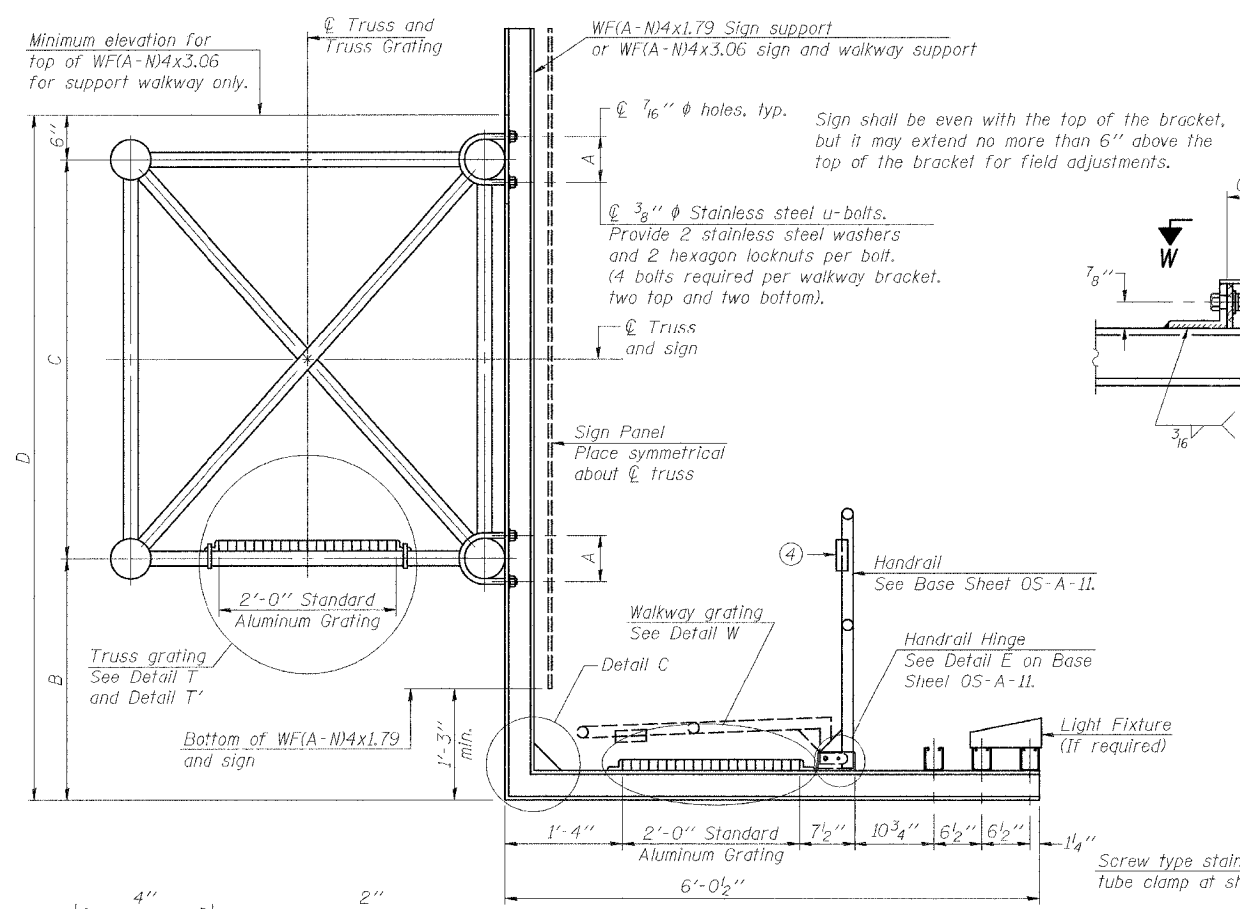
| Structure Number | Station   | a       | b      | c      | d | e | Walkway Grating and Handrail Lengths |
|------------------|-----------|---------|--------|--------|---|---|--------------------------------------|
| 9S1001057R055.5  | 348+50.00 | 36'-10" | 37'-0" | 22'-2" | - | - | 37'-0"                               |
| 9S1001057R054.5  | 403+52.04 | 20'-4"  | 57'-0" | 9'-8"  | - | - | 57'-0"                               |
|                  |           |         |        |        |   |   |                                      |
|                  |           |         |        |        |   |   |                                      |
|                  |           |         |        |        |   |   |                                      |
|                  |           |         |        |        |   |   |                                      |
|                  |           |         |        |        |   |   |                                      |
|                  |           |         |        |        |   |   |                                      |
|                  |           |         |        |        |   |   |                                      |

| NUMBER | REVISION | DATE |
|--------|----------|------|
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|        |          |      |
|        |          |      |

PLOT DATE = 3/29/2007  
 PLOT NAME = P:\060507.dgn  
 PLOT SCALE = 841.2880  
 USER NAME = dhsener

**ILLINOIS DEPARTMENT OF TRANSPORTATION**  
**OVERHEAD SIGN STRUCTURES**  
**ALUMINUM WALKWAY DETAILS**  
 MORGAN AVENUE INTERCHANGE  
 FAI ROUTE 57 WITH FAU ROUTE 9718  
 WILLIAMSON COUNTY  
 SHEET 7 OF 11  
 SCALE: N/A      DATE: 3-19-2007

|                       |            |                  |              |           |
|-----------------------|------------|------------------|--------------|-----------|
| F.A.I. RTE.           | SECTION    | COUNTY           | TOTAL SHEETS | SHEET NO. |
| 57                    | OX1-6-2H8K | WILLIAMSON       | 272          | 114       |
| STA.                  | TO STA.    |                  |              |           |
| FED. ROAD DIST. NO. 9 | ILLINOIS   | FED. AID PROJECT |              |           |



**SPECIFICATIONS FOR STANDARD ALUMINUM GRATING**

Main Bearing Bars shall be 3/16" x 1 1/2" on 1 3/16" centers and conform to ASTM B221 Alloy 6061-T6.  
 Cross bars shall be 3/16" x 1 1/2" on 4" centers and conform to ASTM B221 Alloy 6063-T5 or 6061-T6.

OR

Aluminum Grating with modified "I" sections for main bearing bars shall meet the following requirements:  
 Main bars shall conform to ASTM B221 Alloy 6061-T6 and have a minimum section modulus equal to 0.0705 in.<sup>3</sup> per bar, a depth of 1 1/2", spaced on 1 3/16" centers.  
 Cross bars shall conform to ASTM B221 Alloy 6063-T5 or T-42 and spaced on 4" centers.

| Structure Number | Station   | A  | B         | C     | D           |
|------------------|-----------|----|-----------|-------|-------------|
| 9S1001057R055.5  | 348+50.00 | 6" | 6'-6"     | 4'-6" | 11'-6"      |
| 9S1001057R054.5  | 403+52.04 | 6" | 6'-1 1/2" | 5'-3" | 11'-10 1/2" |

- Drilling holes in grating may be done in shop or field, based on Contractor's preference and subject to accurate alignment.
- Stainless steel shims shall be placed as shown in Detail T if needed to compensate for alignment variations between horizontal and diagonal pipes beyond adjustment provided by angles. Thicker shims may be used subject to shims performing properly.
- If Handrail Joint present, weld angle to WF(A-N)4 and 1/4" extension bars. (See Base Sheet OS-A-11.)
- 1/8" x 1/2" x 2" welded to handrail posts to protect locations that contact grating.
- Tube to grating gap may vary from 0 to 1/2", max. to align walkway, allow for camber, etc.

| NUMBER | REVISION | DATE |
|--------|----------|------|
|        |          |      |
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ILLINOIS DEPARTMENT OF TRANSPORTATION

**OVERHEAD SIGN STRUCTURES  
ALUMINUM WALKWAY DETAILS**

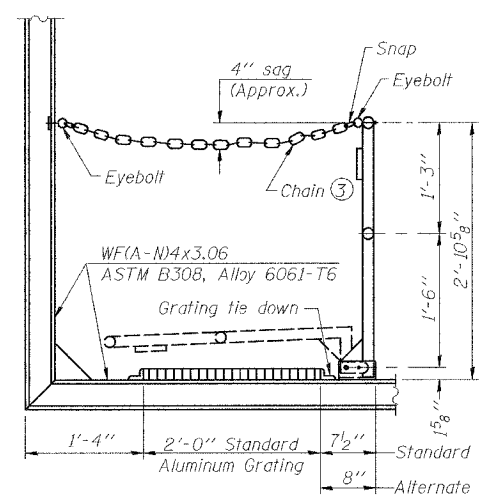
MORGAN AVENUE INTERCHANGE  
FAI ROUTE 57 WITH FAU ROUTE 9718  
WILLIAMSON COUNTY

SHEET 8 OF 11

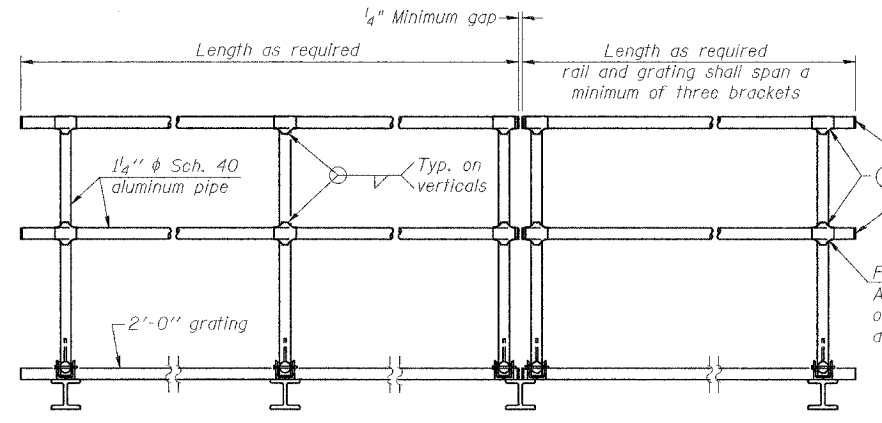
SCALE: N/A DATE: 3-19-2007

PLOT DATE = 5/25/2007  
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 PLOT SCALE = 0.100000 1/10"  
 USER NAME = chisner

|                       |             |                  |              |           |
|-----------------------|-------------|------------------|--------------|-----------|
| F.A.I. RTE.           | SECTION     | COUNTY           | TOTAL SHEETS | SHEET NO. |
| 57                    | 0X1-6-2HKBK | WILLIAMSON       | 272          | 115       |
| STA.                  | TO STA.     |                  |              |           |
| FED. ROAD DIST. NO. 9 | ILLINOIS    | FED. AID PROJECT |              |           |



**SIDE ELEVATION**  
(Showing safety chain w/o sign)



**FRONT ELEVATION**

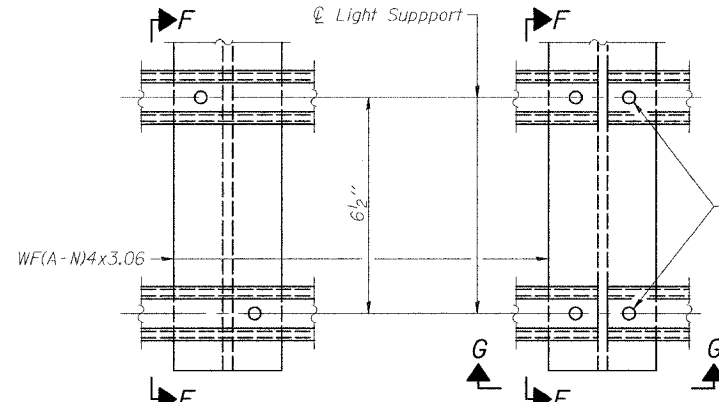
**HANDRAIL DETAILS**

Handrail pipe shall be ASTM B241 or B429, Alloy 6063-T6 or Alloy 6061-T6.

① Install standard force-fit end caps or weld 1/8" end plates with 1/8" c.f.w. and grind smooth. (All rail ends)

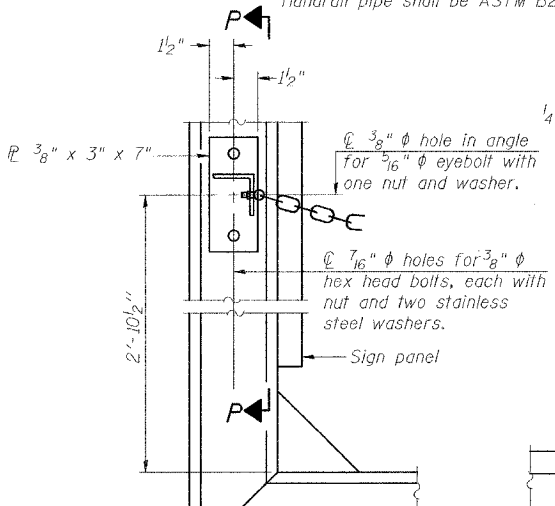
Fittings-ASTM B26, Alloy 356-T7 or 1/2" aluminum pipe

② Horizontal handrail member shall be continuous thru fitting. Provide 1/16" hole in fitting for 3/8" bolt. Field drill 7/16" hole in horizontal rail member. Provide locknut and two stainless steel washers for bolt. (Use 5/16" eyebolts in 7/16" holes on top rail at ends only.)



**DETAIL F**

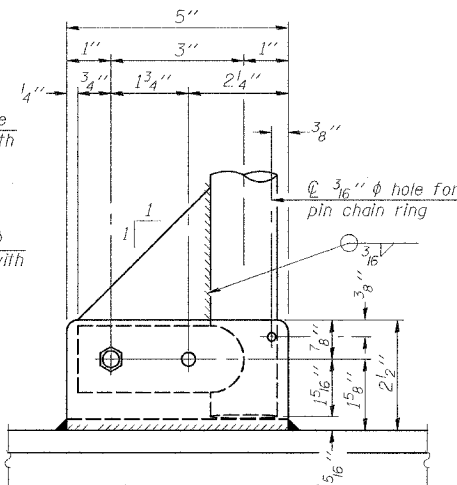
**DETAIL G**



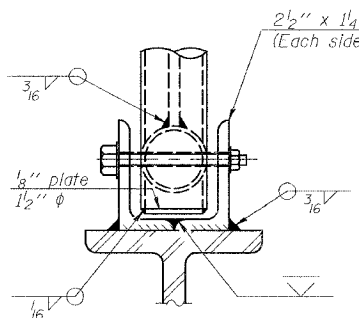
**ALTERNATE SAFETY CHAIN ATTACHMENT**

(With Sign Present)

Items not shown same as "Side Elevation" of "Handrail Details"

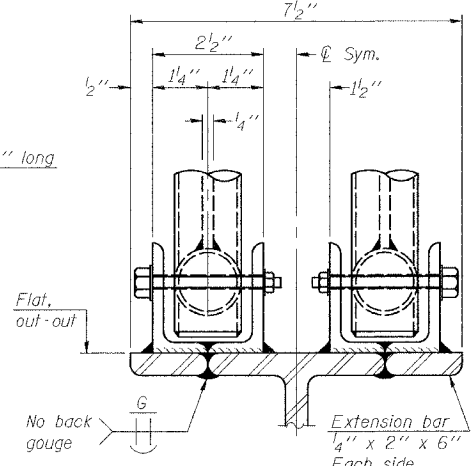


**SIDE ELEVATION**

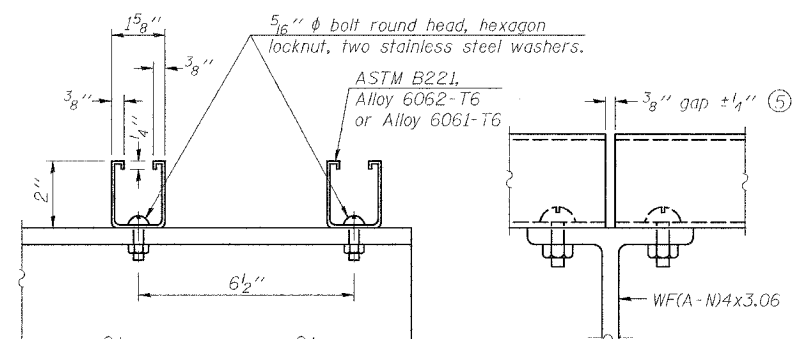


**FRONT ELEVATION**

See "Elevation" at right for dimensions.



**ELEVATION AT HANDRAIL JOINT** ④

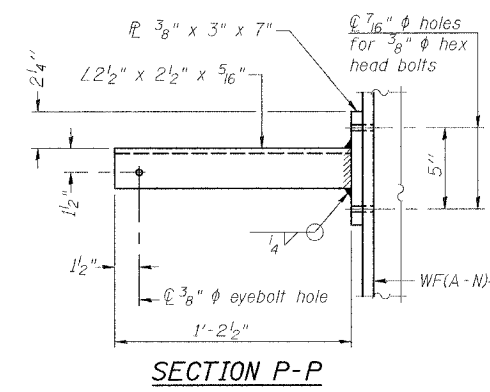


**SECTION F-F**

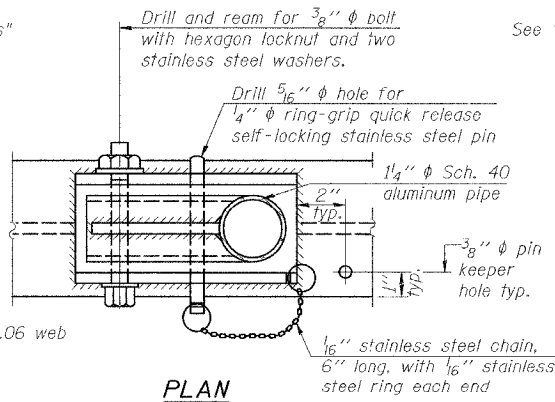
**SECTION G-G**

**LIGHTING FIXTURE MOUNTS (IF REQUIRED)**

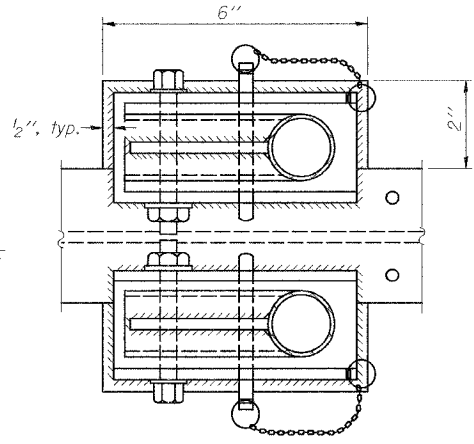
⑤ Field cut ends of light support channels shall be free of burrs or hazardous projections and coated with zinc-rich primer or equivalent.



**SECTION P-P**

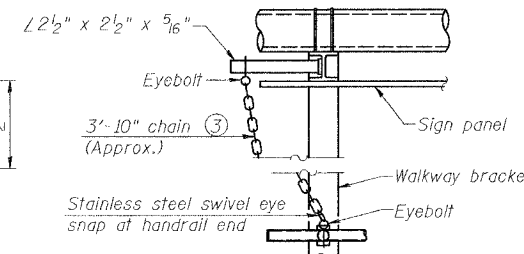


**PLAN DETAIL E HANDRAIL HINGE**



**PLAN AT HANDRAIL JOINT**

Details not shown same as "PLAN"

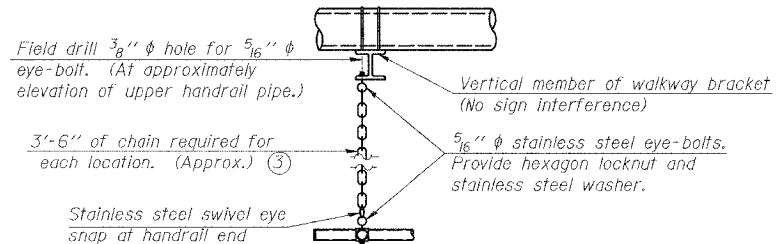


**ALTERNATE SAFETY CHAIN ATTACHMENT**

Details not shown similar to "Safety Chain" Details (Walkway omitted for clarity)

③ 3/16" Type 304L stainless steel chain, approximately 12 links per foot.

④ Extrusions may be used in lieu of the details shown, with approval of the Engineer.



**SAFETY CHAIN**

One required for each end of each walkway.

| NUMBER | REVISION | DATE |
|--------|----------|------|
|        |          |      |
|        |          |      |
|        |          |      |

ILLINOIS DEPARTMENT OF TRANSPORTATION

**OVERHEAD SIGN STRUCTURES**

**ALUMINUM HANDRAIL DETAILS**

MORGAN AVENUE INTERCHANGE  
FAI ROUTE 57 WITH FAU ROUTE 9718  
WILLIAMSON COUNTY

SHEET 9 OF 11

SCALE: N/A

DATE: 3-19-2007

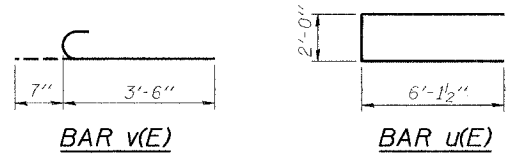
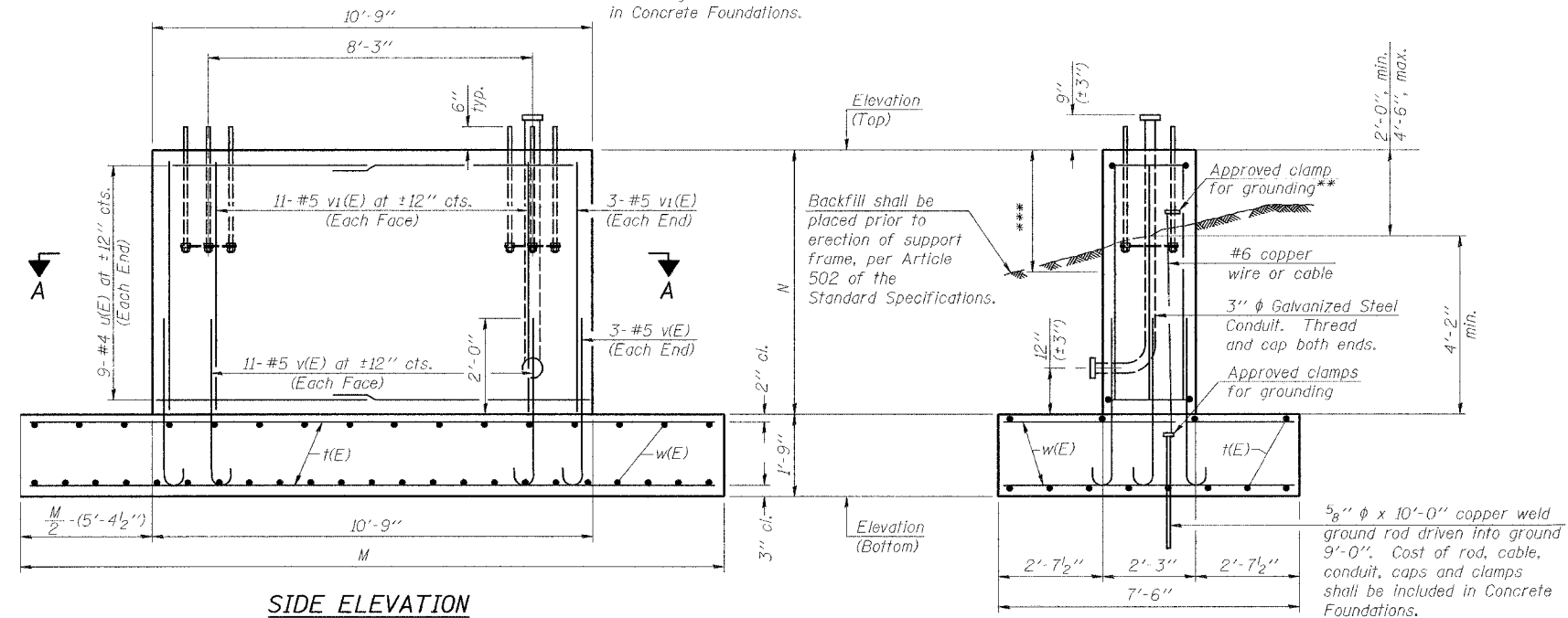
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PLOT SCALE = 1/8" = 1'-0"  
USER NAME = jhoerrner

|                       |            |                  |              |           |
|-----------------------|------------|------------------|--------------|-----------|
| F.A.I. RTE.           | SECTION    | COUNTY           | TOTAL SHEETS | SHEET NO. |
| 57                    | OX1-6-2HKB | WILLIAMSON       | 272          | 116       |
| STA.                  | TO STA.    |                  |              |           |
| FED. ROAD DIST. NO. 9 | ILLINOIS   | FED. AID PROJECT |              |           |

For anchor rod size and placement, see Support Frame Detail Sheet.

\*\* Anchor rod shall be ground or filed to bright metal at clamp and cable connection location.

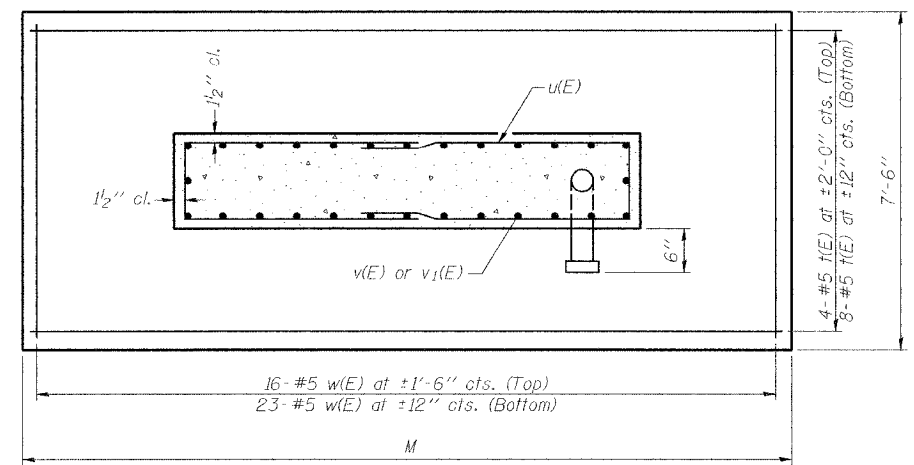
\*\*\* A normal surface finish followed by a Bridge Seat Sealer application will be required on concrete surfaces above the lowest elevation 6" below finished ground line. Cost included in Concrete Foundations.



BAR LIST - EACH FOUNDATION

| Bar                | Number | Size | Length | Shape |
|--------------------|--------|------|--------|-------|
| f(E)               | 12     | #5   | *      | —     |
| u(E)               | 18     | #4   | 14'-3" | ⊓     |
| v(E)               | 28     | #5   | 4'-1"  | C     |
| v <sub>1</sub> (E) | 28     | #5   | *      | —     |
| w(E)               | 39     | #5   | 7'-3"  | —     |

\*Length of f(F) bar = (Dim. M) - 6"  
v<sub>1</sub>(E) bar = (Dim. N) - 3"



SECTION A-A

| Structure Number | Station   | Left Foundation |                  |       |        | Right Foundation |                  |       |        | Class SI Concrete (Cu. Yds.) |
|------------------|-----------|-----------------|------------------|-------|--------|------------------|------------------|-------|--------|------------------------------|
|                  |           | Elevation Top   | Elevation Bottom | N     | M      | Elevation Top    | Elevation Bottom | N     | M      |                              |
| 9S1001057R054.5  | 403+52.04 | 504.65          | 496.73           | 6'-2" | 22'-6" | 505.17           | 497.25           | 6'-2" | 22'-6" | 33.0                         |
|                  |           |                 |                  |       |        |                  |                  |       |        |                              |
|                  |           |                 |                  |       |        |                  |                  |       |        |                              |
|                  |           |                 |                  |       |        |                  |                  |       |        |                              |
|                  |           |                 |                  |       |        |                  |                  |       |        |                              |
|                  |           |                 |                  |       |        |                  |                  |       |        |                              |
|                  |           |                 |                  |       |        |                  |                  |       |        |                              |
|                  |           |                 |                  |       |        |                  |                  |       |        |                              |
|                  |           |                 |                  |       |        |                  |                  |       |        |                              |
|                  |           |                 |                  |       |        |                  |                  |       |        |                              |
|                  |           |                 |                  |       |        |                  |                  |       |        |                              |
|                  |           |                 |                  |       |        |                  |                  |       |        |                              |

Note:  
The foundation dimensions shown are based on the presence of mostly cohesive soils with an average Unconfined Compressive Strength (Qu) of at least 1.0 tsf, which must be determined by previous soil investigations at the jobsite. When other conditions are indicated, the boring data will be included in the plans and the foundation dimensions shown will be the result of site specific designs.  
During construction, if footing length or width or wall height change by more than 12", or if reinforcement is changed, "as-built" plans shall be prepared and submitted to the District Bureau of Operations for future reference.

DETAILS FOR 10" Ø SUPPORT FRAME

| NUMBER | REVISION | DATE |
|--------|----------|------|
|        |          |      |
|        |          |      |
|        |          |      |
|        |          |      |
|        |          |      |
|        |          |      |

ILLINOIS DEPARTMENT OF TRANSPORTATION

OVERHEAD SIGN STRUCTURES  
SPREAD FOOTING DETAILS

MORGAN AVENUE INTERCHANGE  
FAI ROUTE 57 WITH FAU ROUTE 9718  
WILLIAMSON COUNTY

SHEET 10 OF 11

SCALE: N/A DATE: 3-19-2007

PLOT DATE = 3/15/2007  
 FILE NAME = P:\104660\104660.dgn  
 PLOT SCALE = 0.10000 1/10  
 USER NAME = ghoerrner



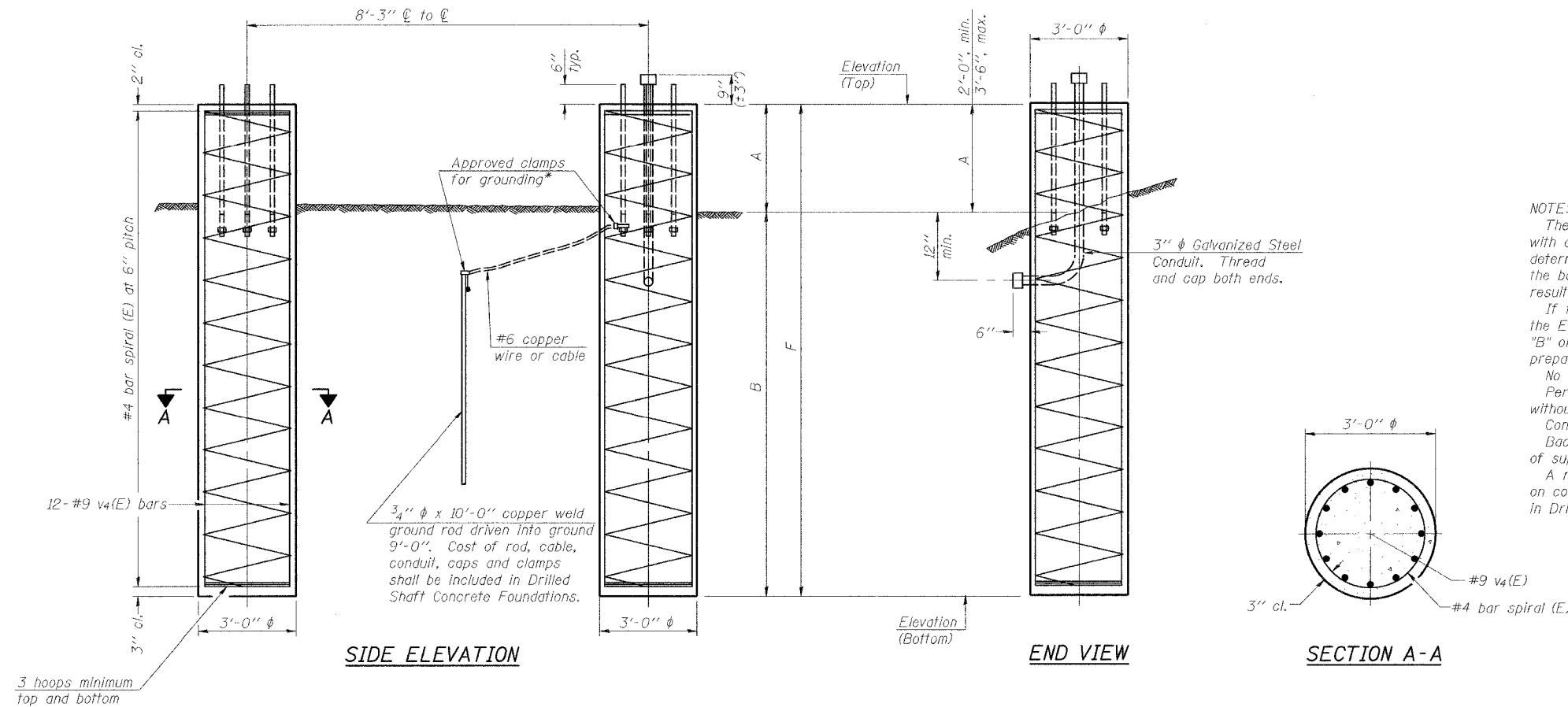
| F.A.I. RTE.           | SECTION    | COUNTY     | TOTAL SHEETS     | SHEET NO. |
|-----------------------|------------|------------|------------------|-----------|
| 57                    | OX1-6-2HMK | WILLIAMSON | 272              | 117       |
| STA.                  |            | TO STA.    |                  |           |
| FED. ROAD DIST. NO. 9 |            | ILLINOIS   | FED. AID PROJECT |           |

For anchor rod size and placement, see Support Frame Detail Sheet.

\* Anchor rod shall be ground or filed to bright metal at clamp and cable connection location.

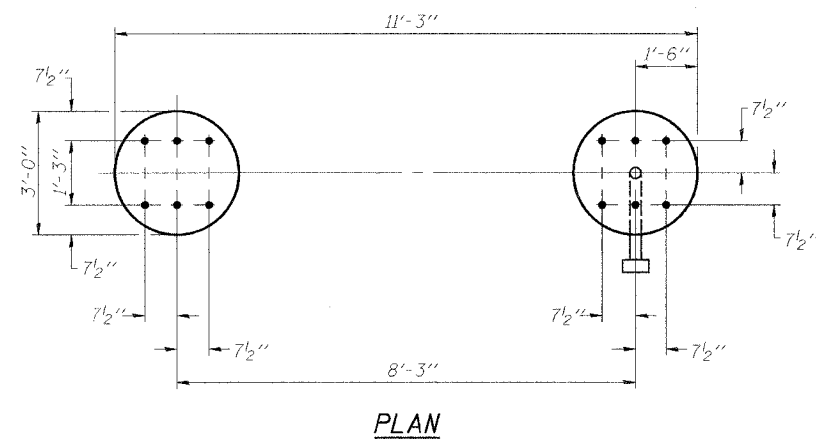
BAR LIST - EACH FOUNDATION

| Bar                                    | Number | Size | Length    | Shape |
|--|--------|------|-----------|-------|
| v4(E)                                  | 24     | #9   | F less 5" |       |
| #4 bar spiral (E) - see Side Elevation |        |      |           |       |



**NOTES:**  
 The foundation dimensions shown are based on the presence of mostly cohesive soils with an average Unconfined Compressive Strength ( $Q_u$ ) of at least 1.25 tsf, which must be determined by previous soil investigations at the jobsite. When other conditions are indicated, the boring data will be included in the plans and the foundation dimensions shown will be the result of site specific designs.  
 If the conditions encountered are different than those indicated, the Contractor shall notify the Engineer to determine if the foundation dimensions need to be modified. If dimensions "B" or "F" are revised by more than 12" by the Contractor, "as-built" plans shall be prepared and submitted to the District Bureau of Operations for future reference.  
 No sonotubes or decomposable forms shall be used below the lower conduit entrance.  
 Permanent metal forms or other shielding may not be left in place below that elevation without the Engineer's written permission.  
 Concrete shall be placed monolithically, without construction joints.  
 Backfill shall be placed per Article 502 of Standard Specification and prior to erection of support column.  
 A normal surface finish followed by a Bridge Seal Sealer application will be required on concrete surfaces above the lowest elevation 6" below finished ground line. Cost included in Drilled Shaft Concrete Foundation.

| Structure Number | Station   | Elevation Top | Elevation Bottom | Left Foundation |        |        | Right Foundation |                  |       | Class SI Concrete (Cu. Yds.) |        |     |
|------------------|-----------|---------------|------------------|-----------------|--------|--------|------------------|------------------|-------|------------------------------|--------|-----|
|                  |           |               |                  | A               | B      | F      | Elevation Top    | Elevation Bottom | A     |                              | B      | F   |
| 9S1001057R055.5  | 348+50.00 | 490.76        | 472.26           | 2'-0"           | 16'-6" | 18'-6" | 489.43           | 470.93           | 2'-0" | 16'-6"                       | 18'-6" | 9.7 |
|                  |           |               |                  |                 |        |        |                  |                  |       |                              |        |     |
|                  |           |               |                  |                 |        |        |                  |                  |       |                              |        |     |
|                  |           |               |                  |                 |        |        |                  |                  |       |                              |        |     |
|                  |           |               |                  |                 |        |        |                  |                  |       |                              |        |     |
|                  |           |               |                  |                 |        |        |                  |                  |       |                              |        |     |
|                  |           |               |                  |                 |        |        |                  |                  |       |                              |        |     |
|                  |           |               |                  |                 |        |        |                  |                  |       |                              |        |     |



| NUMBER | REVISION | DATE |
|--------|----------|------|
|        |          |      |
|        |          |      |
|        |          |      |
|        |          |      |

DETAILS FOR 10" Ø SUPPORT FRAME  
 TYPE I-A or II-A TRUSS

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**OVERHEAD SIGN STRUCTURES  
 DRILLED SHAFT DETAILS**  
 MORGAN AVENUE INTERCHANGE  
 FAI ROUTE 57 WITH FAI ROUTE 9718  
 WILLIAMSON COUNTY  
 SHEET 11 OF 11  
 SCALE: N/A DATE: 3-19-2007

PLOT DATE = 3/19/2007  
 PLOT SCALE = 1/8" = 1'-0"  
 USER NAME = dcheerier

|                       |             |                  |              |           |
|-----------------------|-------------|------------------|--------------|-----------|
| F.A.I. RTE.           | SECTION     | COUNTY           | TOTAL SHEETS | SHEET NO. |
| 57                    | 0X1-6-2/HBK | WILLIAMSON       | 272          | 118       |
| STA.                  | TO STA.     |                  |              |           |
| FED. ROAD DIST. NO. 9 | ILLINOIS    | FED. AID PROJECT |              |           |

**GENERAL NOTES**

DESIGN: AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals. ("AASHTO Specifications")

CONSTRUCTION: Current (at time of letting) Illinois Department of Transportation Standard Specifications for Road and Bridge Construction, Supplemental Specifications and Special Provisions. ("Standard Specifications")

LOADING: 90 M.P.H. WIND VELOCITY

WALKWAY LOADING: Dead load plus 500 lbs. concentrated live load.

DESIGN STRESSES:  
Field Units  
f<sub>c</sub> = 3,500 p.s.i.  
f<sub>y</sub> = 60,000 p.s.i. (reinforcement)

WELDING: All welds to be continuous unless otherwise shown. All welding to be done in accordance with current AWS D1.1 and D1.2 Structural Welding Codes (Steel and Aluminum) and the Standard Specifications.

MATERIALS: Aluminum Alloys as shown throughout plans. All Structural Steel Pipe shall be ASTM A53 Grade B with a minimum yield of 35,000 p.s.i., or A500 Grade B or C with a minimum yield of 46,000 p.s.i. If A500 pipe is substituted for A53, then the outside diameter shall be as detailed and wall thickness greater than or equal to A53.

All Structural Steel Plates and Shapes shall conform to AASHTO M270 Gr. 36, Gr. 50 or Gr. 50W\*. Stainless steel for shims, sleeves and handhole covers shall be ASTM A240, Type 302 or 304, or another alloy suitable for exterior exposure and acceptable to the Engineer. The steel pipe and stiffening ribs at the base plate for the column shall have a minimum longitudinal Charpy V-Notch (CVN) energy of 15 lb.-ft. at 40° F. (Zone 2) before galvanizing.

FASTENERS FOR ALUMINUM TRUSSES: All bolts noted as "high strength" must satisfy the requirements of AASHTO M164 (ASTM A325), or approved alternate, and must have matching lock nuts. Threaded studs for splices (if Members interfere) must satisfy the requirements of ASTM A449, ASTM A193, Grade B7, or approved alternate, and must have matching lock nuts. Bolts and lock nuts not required to be high strength must satisfy the requirements of ASTM A307. All bolts and lock nuts must be hot dip galvanized per AASHTO M232. The lock nuts must have nylon or steel inserts. A stainless steel flat washer conforming to ASTM A240 Type 302 or 304, is required under both head and nut or under both nuts where threaded studs are used. High strength bolt installation shall conform to Article 505.04 (f) (2)d of the IDOT Standard Specifications for Road and Bridge Construction. Rotational capacity ("ROCAP") testing of bolts will not be required.

U-BOLTS AND EYEBOLTS: U-Bolts and Eyebolts must be produced from ASTM A276 Type 304, 304L, 316 or 316L, Condition A, cold finished stainless steel, or an equivalent material acceptable to the Engineer. All nuts for U-Bolts and Eyebolts must be lock nuts equivalent to ASTM A307 with nylon or steel inserts and hot dip galvanized per AASHTO M232. A stainless steel flat washer conforming to ASTM A240, Type 302 or 304, is required under each U-Bolt and Eyebolt lock nut.

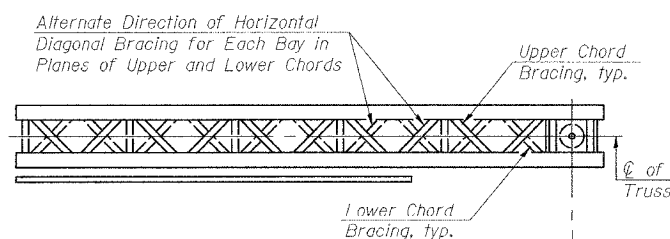
GALVANIZING: All Steel Grating, Plates, Shapes and Pipe shall be Hot Dip Galvanized after fabrication in accordance with AASHTO M111. Painting is not permitted.

ANCHOR RODS: Shall conform to AASHTO M314 Gr. 55 with a minimum Charpy V-Notch (CVN) energy of 15 lb.-ft. at 10° F.

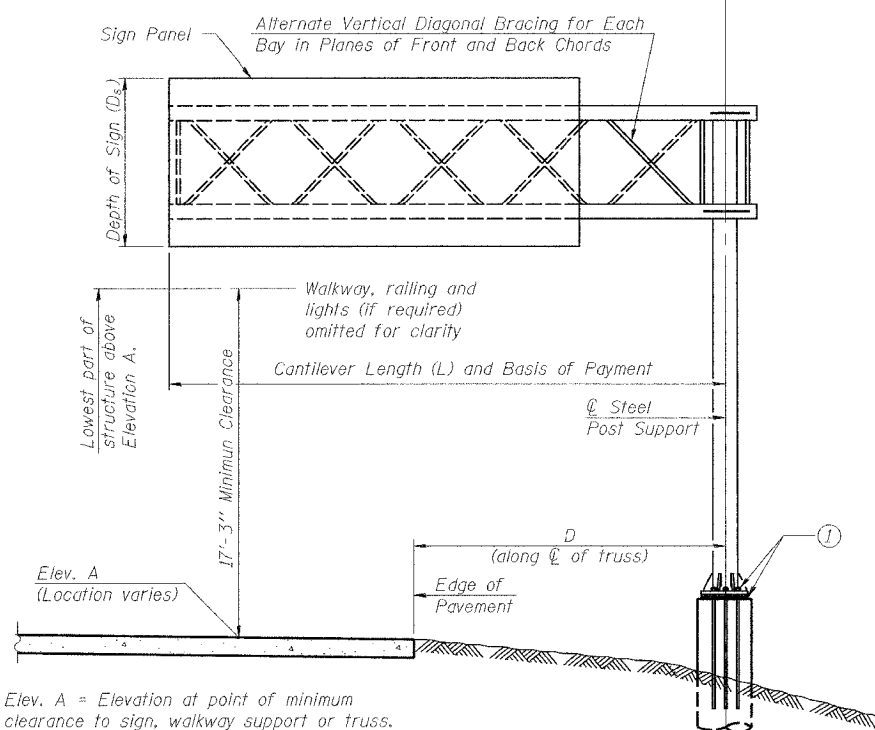
CONCRETE SURFACES: All concrete surfaces above an elevation 6" below the lowest final ground line at each foundation shall be cleaned and coated with Bridge Seat Sealer in accordance with the Standard Specifications.

REINFORCEMENT BARS: Reinforcement Bars designated (E) shall be epoxy coated in accordance with the Standard Specifications.

\* If M270 Gr. 50W (M222) steel is proposed, chemistry for plate to be used shall first be approved by the Engineer as suitable for galvanizing and welding.



**TYPICAL PLAN**  
(Walkway not shown)



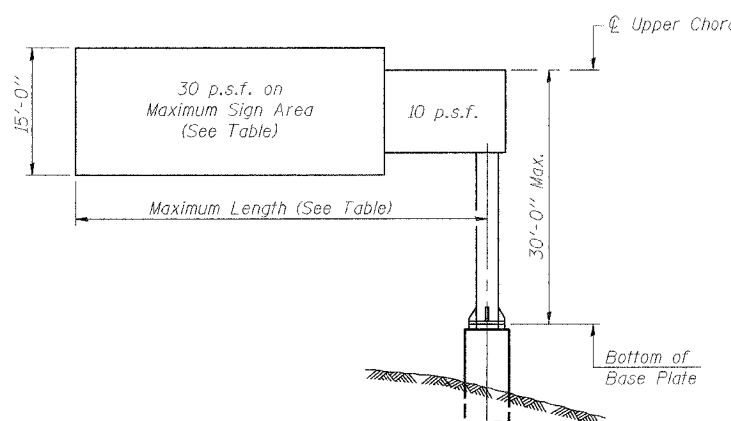
**TYPICAL ELEVATION**  
Looking in Direction of Traffic

Elev. A = Elevation at point of minimum clearance to sign, walkway support or truss.

Sign support structures may be subject to damaging vibrations and oscillations when sign panels are not in place during erection or maintenance of the structure. To avoid these vibrations and oscillations, consideration should be given to attaching temporary blank sign panels to the structure.

| Structure Number | Station   | Design Truss Type | Cantilever Length (L) | Elev. A | Dim. D | D <sub>s</sub> | Total Sign Area |
|------------------|-----------|-------------------|-----------------------|---------|--------|----------------|-----------------|
| 9C1001057R054.3  | 417+15.26 | II-C-A            | 30'-0"                | 487.71  | 14'-9" | 12'-6"         | 297.5 s.f.      |
|                  |           |                   |                       |         |        |                |                 |
|                  |           |                   |                       |         |        |                |                 |
|                  |           |                   |                       |         |        |                |                 |
|                  |           |                   |                       |         |        |                |                 |
|                  |           |                   |                       |         |        |                |                 |
|                  |           |                   |                       |         |        |                |                 |
|                  |           |                   |                       |         |        |                |                 |
|                  |           |                   |                       |         |        |                |                 |
|                  |           |                   |                       |         |        |                |                 |

| Truss Type | Maximum Sign Area | Maximum Length |
|------------|-------------------|----------------|
| I-C-A      | 170 Sq. Ft.       | 25 Ft.         |
| II-C-A     | 340 Sq. Ft.       | 30 Ft.         |
| III-C-A    | 400 Sq. Ft.       | 40 Ft.         |



**DESIGN WIND LOADING DIAGRAM**

Parameters shown are basis for I.D.O.T. Standards. Installations not within dimensional limits shown require special analysis for all components.

- ① After adjustments to level truss and insure adequate vertical clearance, all top and leveling nuts shall be tightened against the base plate with a minimum torque of 200 lb.-ft. Stainless steel mesh shall then be placed around the perimeter of the base plate. Secure to base plate with stainless steel banding.

Note:  
Trusses shall be shipped individually with adequate provision to prevent detrimental motion during transport. This may require ropes between horizontals and diagonals or energy dissipating (elastic) ties to the vehicle. The contractor is responsible for maintaining the configuration and protection of the trusses.

**TOTAL BILL OF MATERIAL**

| NUMBER | REVISION | DATE |
|--------|----------|------|
|        |          |      |
|        |          |      |
|        |          |      |
|        |          |      |

| ITEM  | UNIT     | TOTAL  |
|---|----------|--------|
| OVERHEAD SIGN STRUCTURE CANTILEVER TYPE I-C-A   | Foot     | -      |
| OVERHEAD SIGN STRUCTURE CANTILEVER TYPE II-C-A  | Foot     | 30.0   |
| OVERHEAD SIGN STRUCTURE CANTILEVER TYPE III-C-A | Foot     | -      |
| OVERHEAD SIGN STRUCTURE WALKWAY, TYPE A         | Foot     | 28'-0" |
| DRILLED SHAFT CONCRETE FOUNDATIONS              | Cu. Yds. | 8.4    |

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**CANTILEVER SIGN STRUCTURES  
GENERAL PLAN & ELEVATION  
ALUMINUM TRUSS & STEEL POST**

MORGAN AVENUE INTERCHANGE  
FAI ROUTE, 57 WITH FAU ROUTE 9718  
WILLIAMSON COUNTY

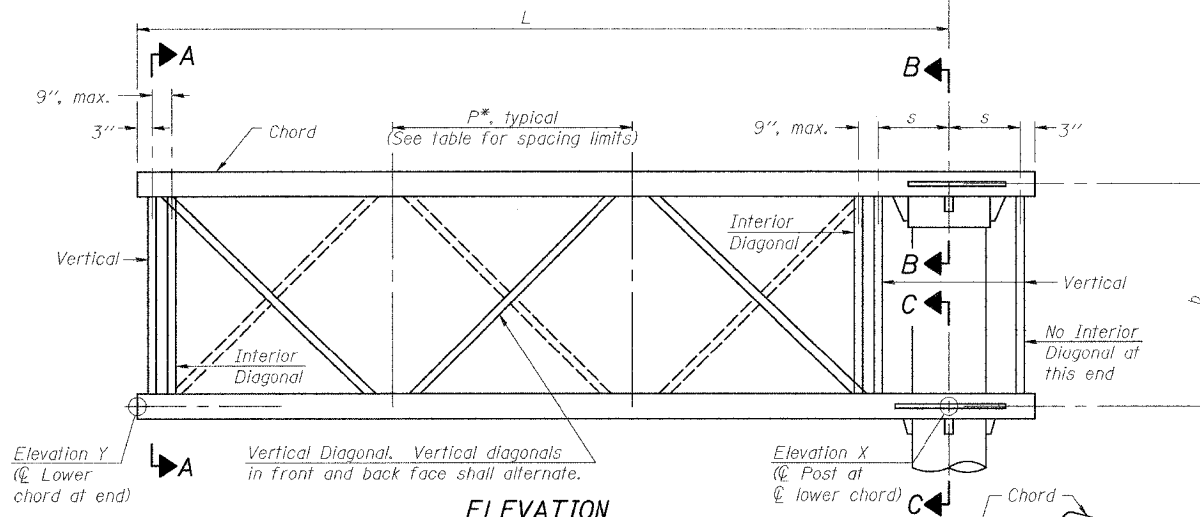
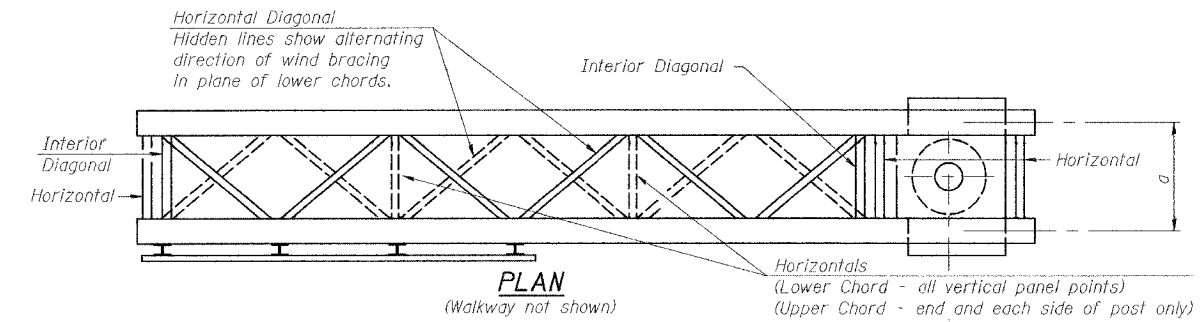
SHEET 1 OF 9

SCALE: N/A

DATE: 3-19-2007

PLOT DATE = 3/19/2007  
 PLOT NAME = OSC-A-1.dwg  
 PLOT SCALE = 1/8" = 1'-0"  
 USER NAME = dfoermer

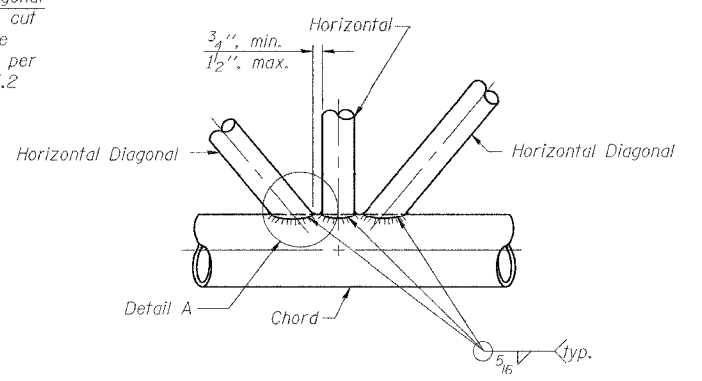
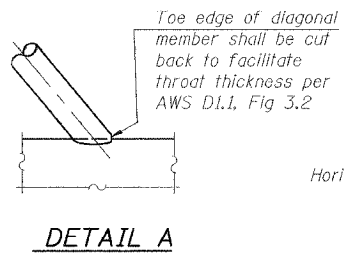
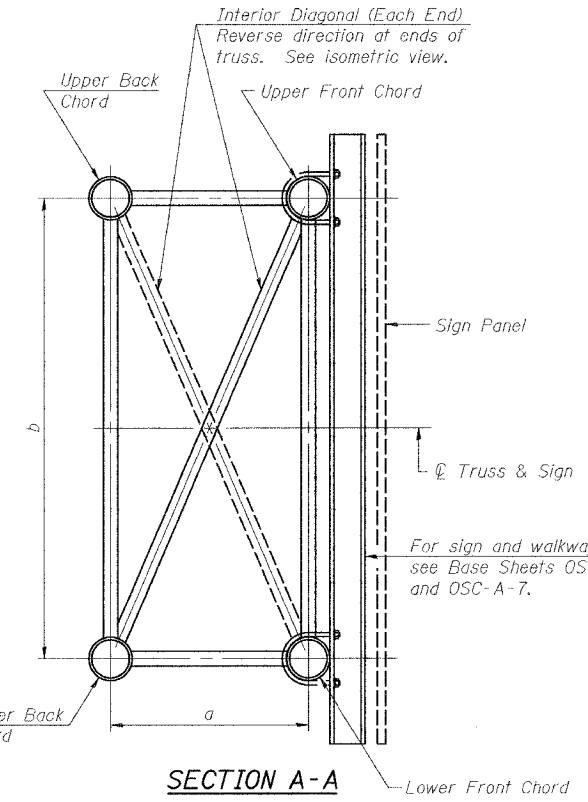
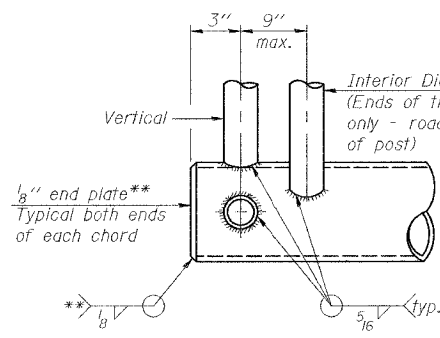
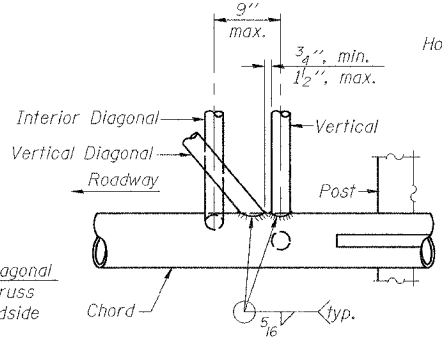
|                       |            |                  |              |           |
|-----------------------|------------|------------------|--------------|-----------|
| F.A.I. RTE.           | SECTION    | COUNTY           | TOTAL SHEETS | SHEET NO. |
| 57                    | 0X1-6-2HBK | WILLIAMSON       | 272          | 119       |
| STA.                  | TO STA.    |                  |              |           |
| FED. ROAD DIST. NO. 9 | ILLINOIS   | FED. AID PROJECT |              |           |



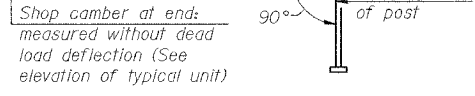
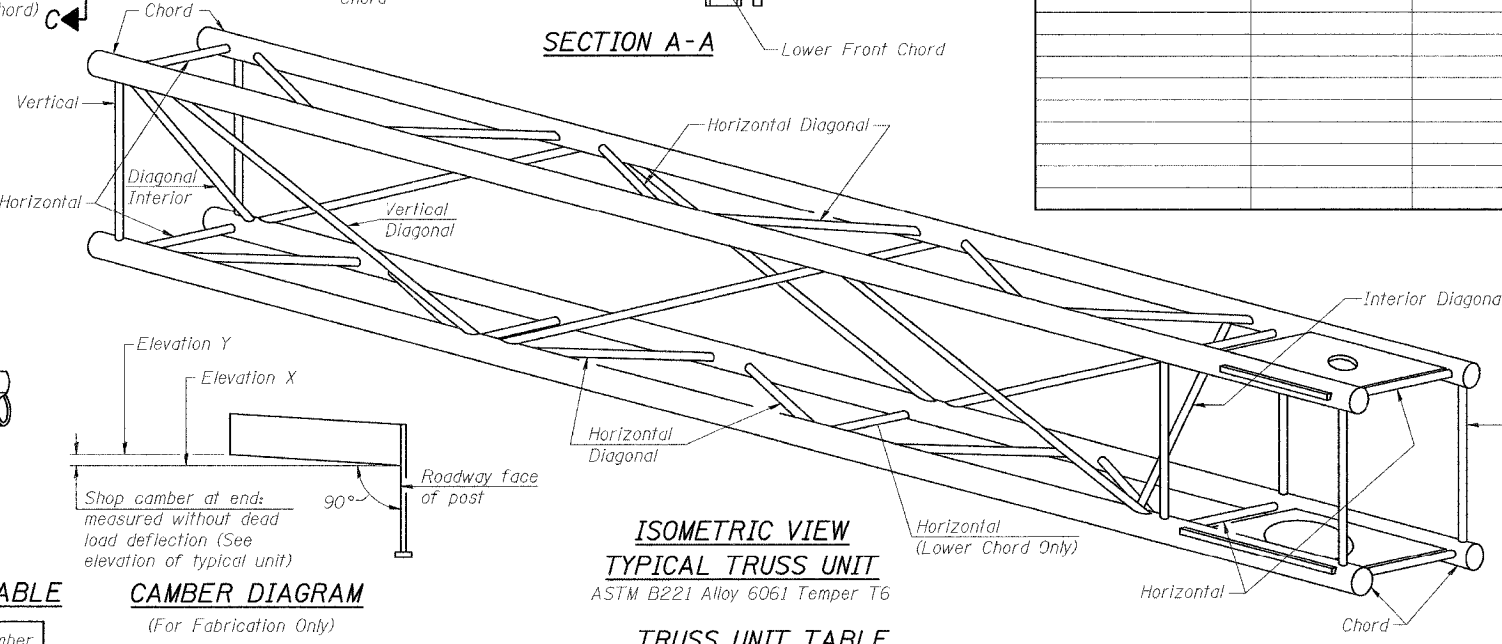
**TYPICAL TRUSS UNIT**

For Section B-B and Section C-C, see Base Sheet OSC-A-3.

Note:  
There are twice as many horizontal diagonals as there are vertical diagonals.



| Structure Number | Station   | Truss Type | Design Length (L) | Number of Panels Per Unit | Panel Length (P)* |
|------------------|-----------|------------|-------------------|---------------------------|-------------------|
| 9C1001057R054.3  | 417+15.26 | II-C-A     | 30'-0"            | 7                         | 4'-0"             |
|                  |           |            |                   |                           |                   |
|                  |           |            |                   |                           |                   |
|                  |           |            |                   |                           |                   |
|                  |           |            |                   |                           |                   |
|                  |           |            |                   |                           |                   |
|                  |           |            |                   |                           |                   |
|                  |           |            |                   |                           |                   |
|                  |           |            |                   |                           |                   |
|                  |           |            |                   |                           |                   |



**SHOP CAMBER TABLE**

| Unit Length (L) | Shop Camber at End |
|-----------------|--------------------|
| 15'             | 1 1/2"             |
| 16'-17'         | 1 3/4"             |
| 18'-20'         | 2"                 |
| 21'-22'         | 2 1/4"             |
| 23'-25'         | 2 1/2"             |
| 26'-27'         | 2 3/4"             |
| 28'-30'         | 3"                 |
| 31'-32'         | 3 1/4"             |
| 33'-35'         | 3 1/2"             |
| 36'-37'         | 4"                 |
| 38'-40'         | 4 1/2"             |

**TRUSS UNIT TABLE**

| Truss Type            | Dimension "a" | Dimension "b" | Dimension "s" | Limits for Panel Spacing (P)* | Up. & Low. Chord |       | Verticals; Horizontals; Vertical, Horizontal, and Interior Diagonals |       |
|-----------------------|---------------|---------------|---------------|-------------------------------|------------------|-------|--|-------|
|                       |               |               |               |                               | O.D.             | Wall  | O.D.   | Wall  |
| I-C-A                 | 24"           | 54"           | 16"           | 36" min. to 48" max.          | 5"               | 5/16" | 2 1/2"   | 5/16" |
| II-C-A                | 36"           | 66"           | 21"           | 42" min. to 54" max.          | 6 1/2"           | 5/16" | 3 1/4"   | 5/16" |
| III-C-A (35' Max.)    | 36"           | 84"           | 21"           | 48" min. to 66" max.          | 7"               | 3/8"  | 3 1/2"   | 3/8"  |
| III-C-A (>35' to 40') | 36"           | 84"           | 21"           | 48" min. to 66" max.          | 8"               | 3/8"  | 3 1/2"   | 3/8"  |

\*P =  $\frac{L - S - 3"}{\# \text{ Panels}}$

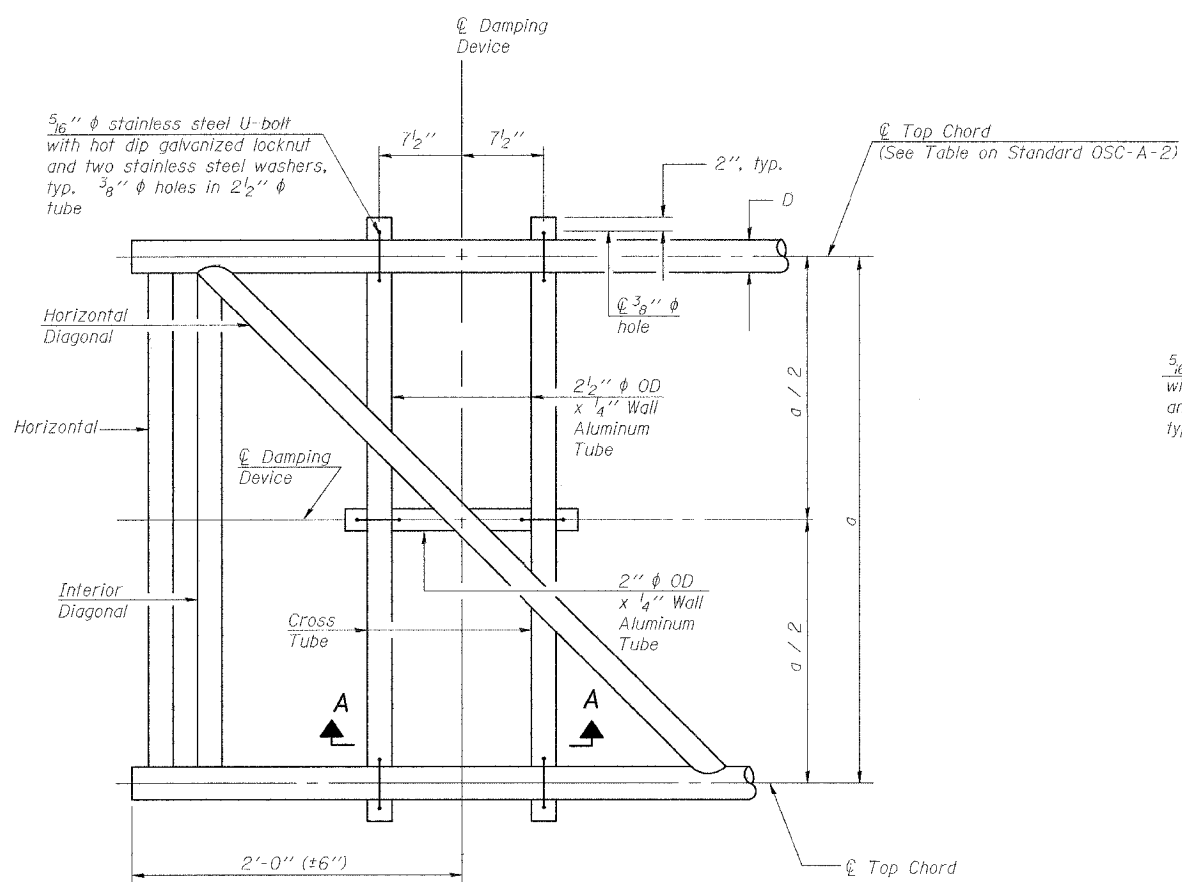
| NUMBER | REVISION | DATE |
|--------|----------|------|
|        |          |      |
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|        |          |      |
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ILLINOIS DEPARTMENT OF TRANSPORTATION  
CANTILEVER SIGN STRUCTURES  
TRUSS DETAILS  
ALUMINUM TRUSS & STEEL POST

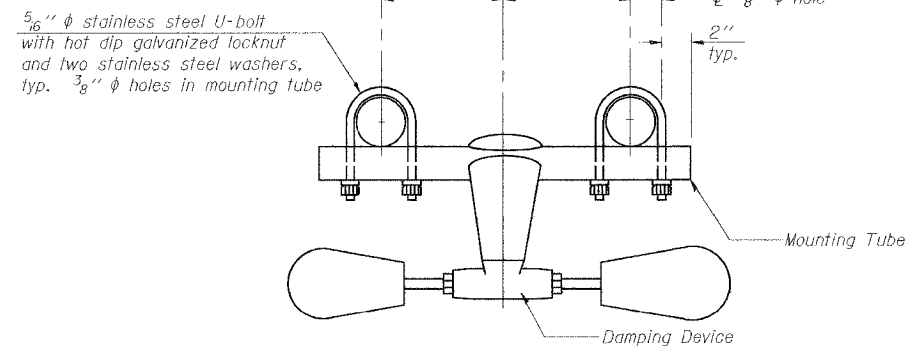
WORGAN AVENUE INTERCHANGE  
FAI ROUTE 57 WITH FAU ROUTE 9718  
WILLIAMSON COUNTY

SHEET 2 OF 9

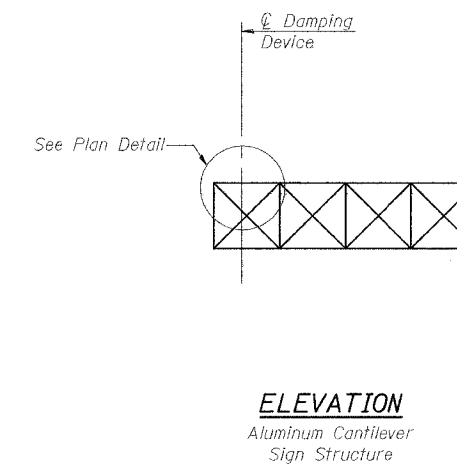
| F.A.I. RTE.           | SECTION   | COUNTY                    | TOTAL SHEETS | SHEET NO. |
|-----------------------|-----------|---------------------------|--------------|-----------|
| 57                    | X1-6-2H8K | WILLIAMSON                | 272          | 120       |
| STA.                  |           | TO STA.                   |              |           |
| FED. ROAD DIST. NO. 9 |           | ILLINOIS FED. AID PROJECT |              |           |



PLAN DETAIL

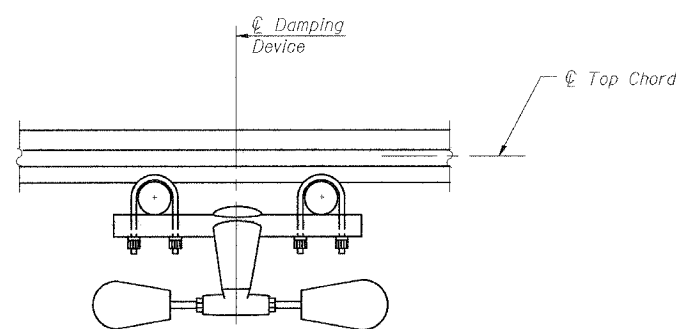


TRUSS DAMPING DEVICE CONNECTION DETAIL

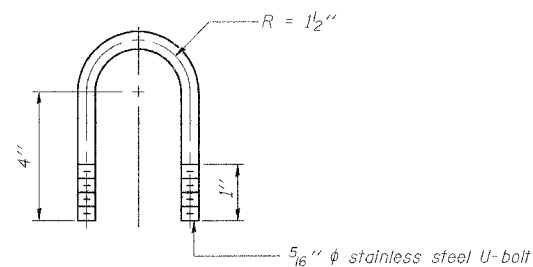


GENERAL NOTES

- Damper: One damper per truss. (31 lbs. Stockbridge-Type Aluminum)
- Materials: Aluminum tubes shall be ASTM B221 alloy 6061 temper T6

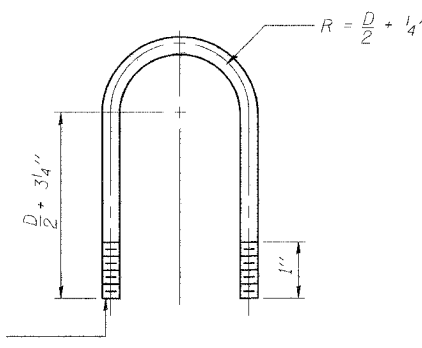


SECTION A-A



DAMPING DEVICE MOUNTING TUBE U-BOLT DETAIL

(Typical)

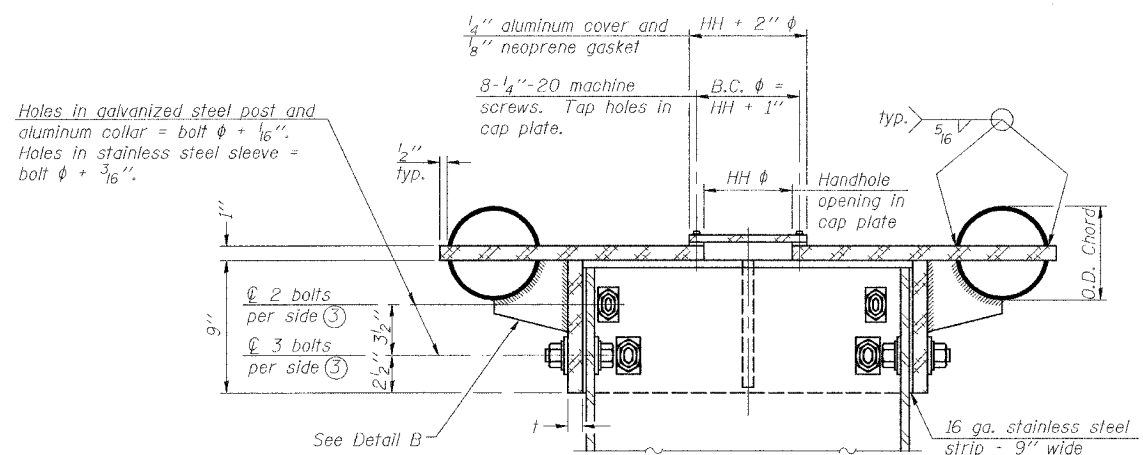


TOP CHORD TO CROSS TUBE U-BOLT DETAIL

(Typical)

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 FILE NAME = P:\01062007\01062007.dwg  
 PLOT SCALE = 0.100000  
 USER NAME = dcharner

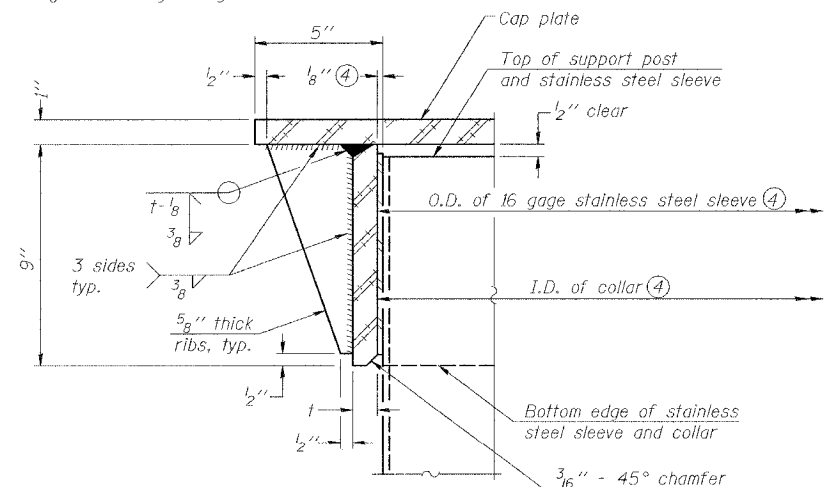
|                       |            |            |                  |           |
|-----------------------|------------|------------|------------------|-----------|
| F.A.I. RTE.           | SECTION    | COUNTY     | TOTAL SHEETS     | SHEET NO. |
| 57                    | OX1-6-2HKB | WILLIAMSON | 272              | 121       |
| STA.                  | TO STA.    |            |                  |           |
| FED. ROAD DIST. NO. 9 |            | ILLINOIS   | FED. AID PROJECT |           |
| CONTRACT # 99272      |            |            |                  |           |



④ Collar I.D. shall be manufactured to correspond to O.D. of actual galvanized post and stainless steel sleeve plus 1/8 inch (± 1/16 inch). Maximum gap between post and collar at any location equals 1/8 inch before tightening bolts.

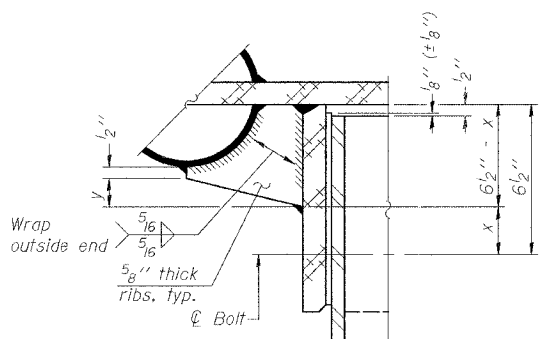
**SECTION B-B**

Bolts, washers (including contoured washers), and locknuts shall be stainless steel.



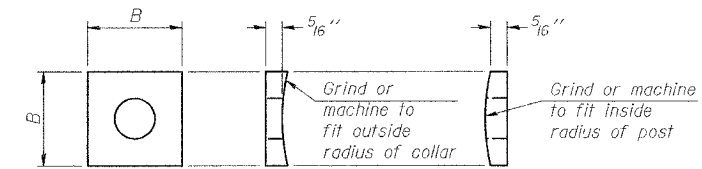
**DETAIL A**

(Two locations)



**DETAIL B**

Two locations (For details not shown, see Detail C)



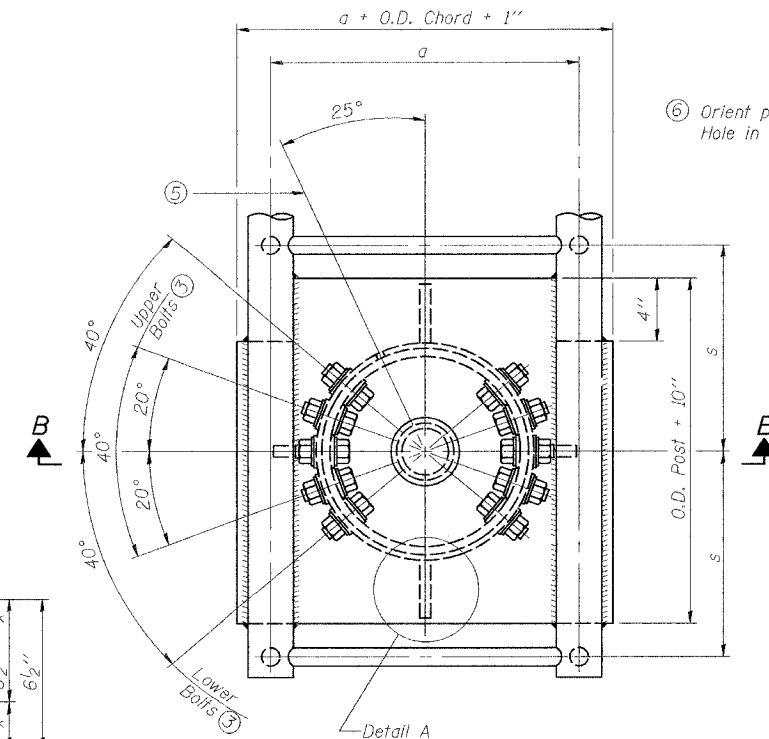
**CONTOURED WASHERS**

| Bolt Size | Contoured Washers |        |
|-----------|-------------------|--------|
|           | Hole Dia.         | B      |
| 7/8"      | 1"                | 2 1/2" |
| 1"        | 1 1/8"            | 3"     |
| 1 1/4"    | 1 3/8"            | 3 1/4" |

**DETAIL OF STAINLESS STEEL SLEEVE**

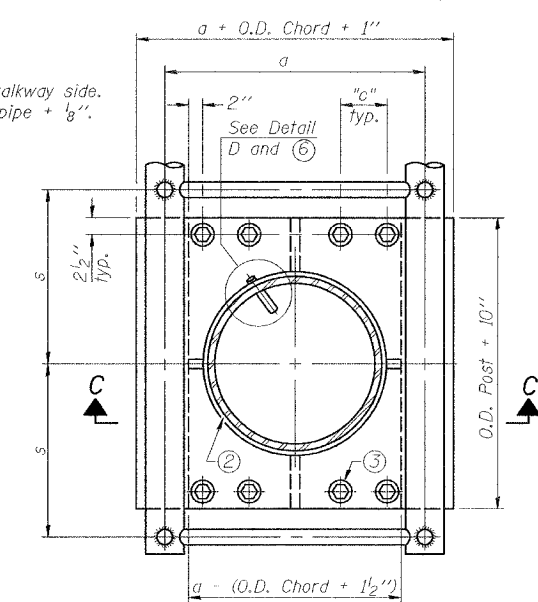
Weld to post after galvanizing. (Prepare post surface to insure tight, uniform fit and allow welding.) Welds to be 1/2 inch long at 6 inch cts. along top edge and at 1/4 inch opening.

| NUMBER | REVISION | DATE |
|--------|----------|------|
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|        |          |      |
|        |          |      |



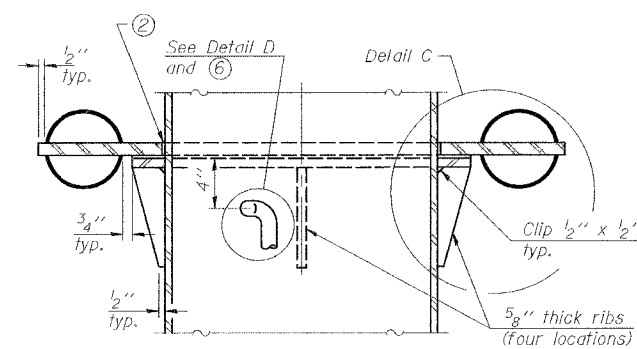
**PLAN VIEW - TOP OF COLUMN**

⑤ Optional full penetration weld in collar. (Two locations maximum....(180° apart)....X-ray or UT 100%)

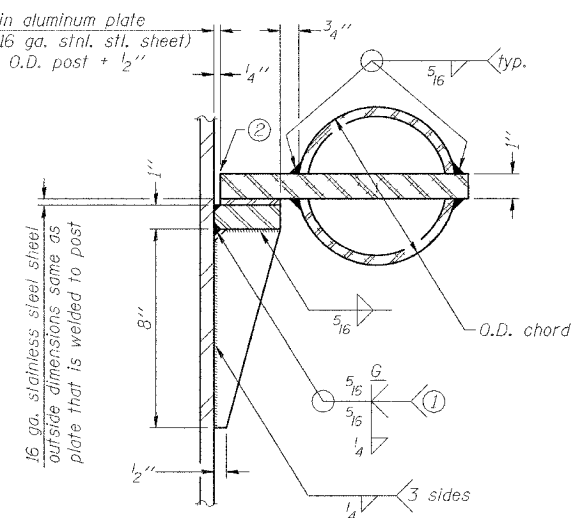


**SECTION THRU POST ABOVE LOWER CHORDS**

Hole in aluminum plate (and 16 ga. stnl. stl. sheet) to be O.D. post + 1/2 inch



**SECTION C-C**



**DETAIL C**

- ① Grind top if required to fully seat aluminum plate and stainless steel sheet.
- ② After tightening lower connection bolts, fill gap with non-hardening, silicone caulk suitable for exterior exposure and acceptable to the Engineer. Cost is included in Overhead Sign Structure Cantilever.

| Truss Type            | Post Size        | Upper & Lower Connection Bolt Diameter ③ | Lower Juncture Bolt Spacing Dimension "c" ③ | Opening in Cap Plate "HH" | Collar Thickness (t) | Side Ribs |        |
|-----------------------|------------------|--|---|---------------------------|----------------------|-----------|--------|
|                       |                  |  |   |                           |                      | x         | y      |
| I-C-A                 | 16" phi (83#/#)  | 7/8"                                     | 3 1/4"                                      | 8"                        | 5/8"                 | 1 3/4"    | 2 1/4" |
| II-C-A                | 24" phi (125#/#) | 1"                                       | 3 1/2"                                      | 12"                       | 7/8"                 | 2"        | 1 1/4" |
| III-C-A (35' max.)    | 24" phi (125#/#) | 1 1/4"                                   | 3 1/2"                                      | 12"                       | 7/8"                 | 2"        | 1"     |
| III-C-A (>35' to 40') | 24" phi (171#/#) | 1 1/4"                                   | 3 1/2"                                      | 12"                       | 7/8"                 | 2"        | 1"     |

③ Upper and lower connection bolts in collar and bolts at lower chord connection shall be high strength with matching locknuts. Connection bolts shall have 2 stainless steel flat washers each.

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**CANTILEVER SIGN STRUCTURES**  
**JUNCTURE DETAILS**  
**ALUMINUM TRUSS & STEEL POST**

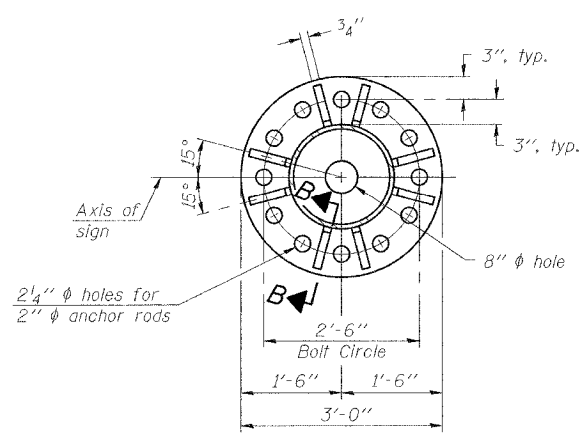
MORGAN AVENUE INTERCHANGE  
 FAJ ROUTE 57 WITH FAJ ROUTE 9718  
 WILLIAMSON COUNTY

SHEET 4 OF 9

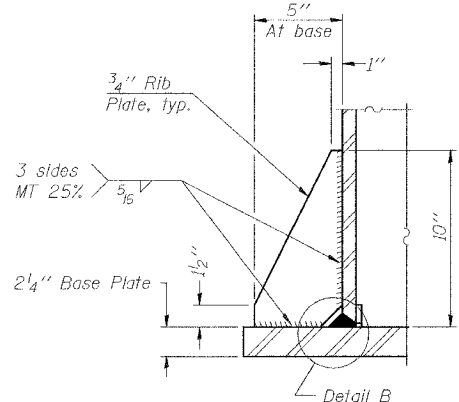
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PLOT DATE = 3/19/2007  
 PLOT SCALE = 1/8" = 1'-0"  
 USER NAME = dhaerner

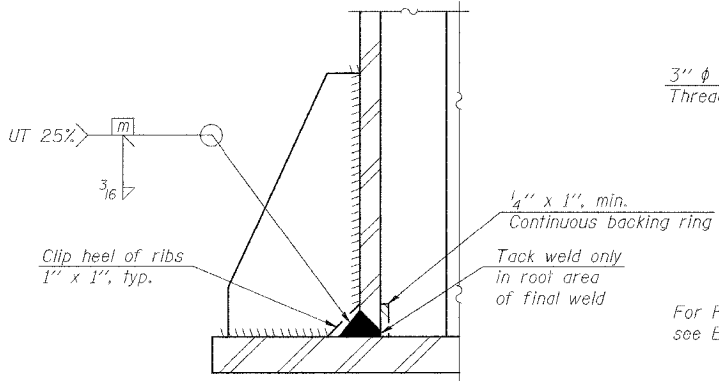
|                       |            |                  |              |           |
|-----------------------|------------|------------------|--------------|-----------|
| F.A.I. RTE.           | SECTION    | COUNTY           | TOTAL SHEETS | SHEET NO. |
| 57                    | OX1-6-2HKB | WILLIAMSON       | 272          | 122       |
| STA.                  | TO STA.    |                  |              |           |
| FED. ROAD DIST. NO. 9 | ILLINOIS   | FED. AID PROJECT |              |           |



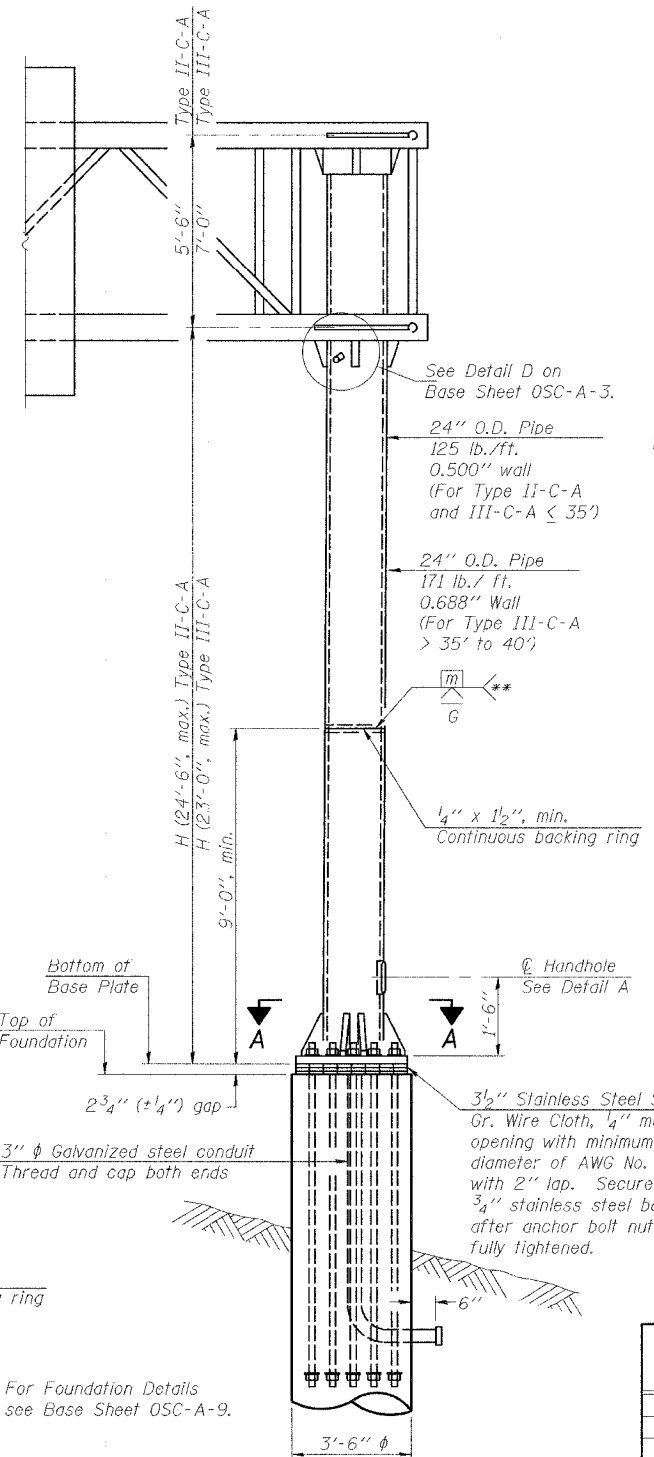
SECTION A-A



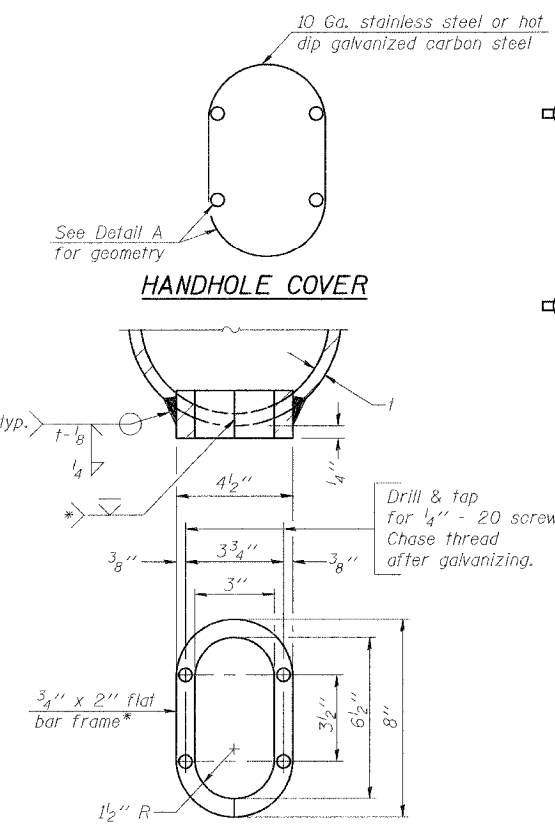
SECTION B-B



DETAIL B  
(Typical rib)



FRONT ELEVATION



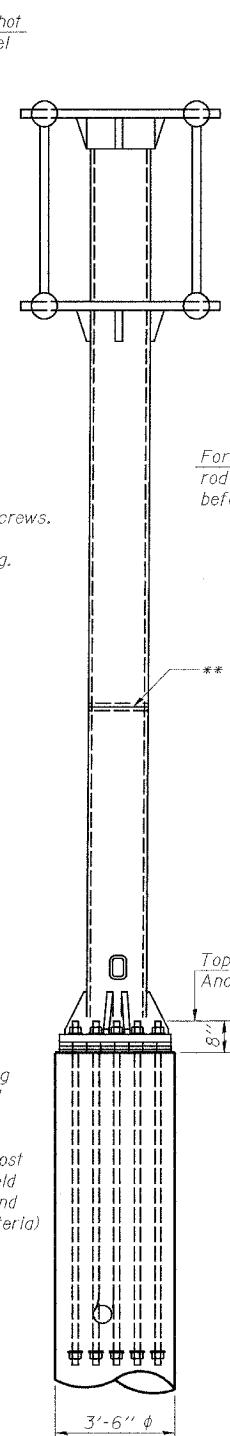
DETAIL A

\* Bent bars may be butt welded top and bottom or bottom only. In lieu of fabricated handhole frame as shown, may cut from 2" plate (rolling direction vertical). All cut faces to be ground to ANSI Roughness of 500 μin or less.

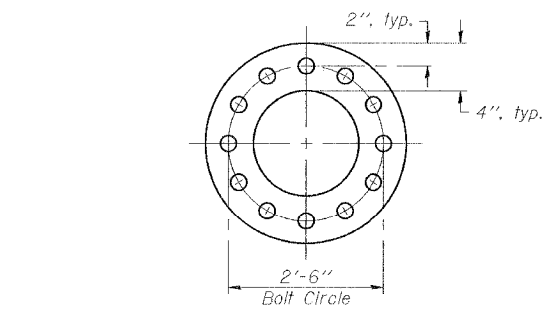
\*\* Butt welded joint in post is only allowed for post heights (H) over 20 ft. in length. If used, weld procedure must be preapproved by Engineer and joint shall receive 100% RT or UT (tension criteria) at Contractor's expense.

| Structure Number | Station   | H          |
|------------------|-----------|------------|
| 9C1001057R054.3  | 417+15.26 | 22'-7 1/8" |
|                  |           |            |
|                  |           |            |
|                  |           |            |
|                  |           |            |
|                  |           |            |
|                  |           |            |
|                  |           |            |
|                  |           |            |

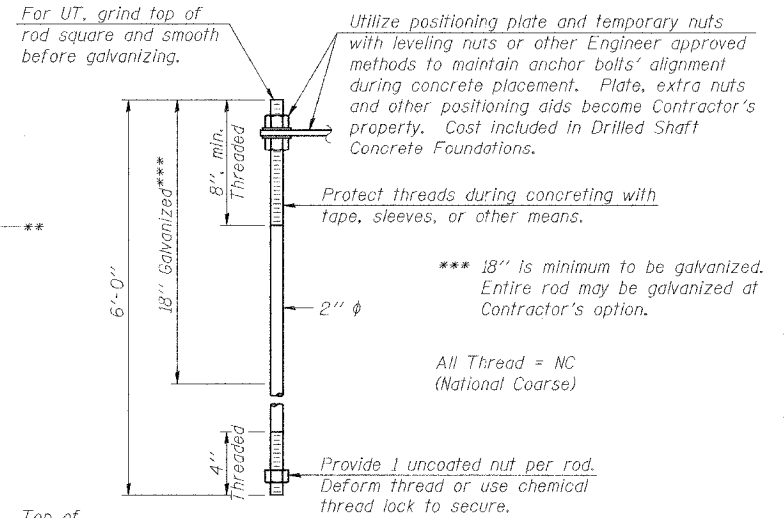
Note: "H" based on 15'-0" or actual sign height, whichever is greater.



SIDE ELEVATION



SUGGESTED POSITIONING PLATE



ANCHOR ROD DETAIL

Anchor rods shall conform to AASHTO M314 Grade 55 and meet Charpy V-Notch (CVN) energy of 15 lb.-ft. at 10° F. before galvanizing. Galvanize the upper 18" (minimum) and associated M291, Grade A, C or DH heavy hex nuts and hardened washers per AASHTO M232. No welding shall be permitted on rods. Provide an unfinished nut at bottom, a hexagon locknut and washer above base plate and a leveling nut and washer below base plate. Nuts shall each be lightened with 200 lb.-ft. minimum torque against base plate. Before or after threading, but before galvanizing, each anchor rod shall be ultrasonically tested (UT) by a Level II or III inspector, qualified in accord with ANSI guidelines, using a straight beam, 1/2" φ 3.5 mhz. transducer, to insure no rejectable flaws exist in the upper 18" (tension criteria). Cost of testing included in Drilled Shaft Concrete Foundations.

| NUMBER | REVISION | DATE |
|--------|----------|------|
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|        |          |      |

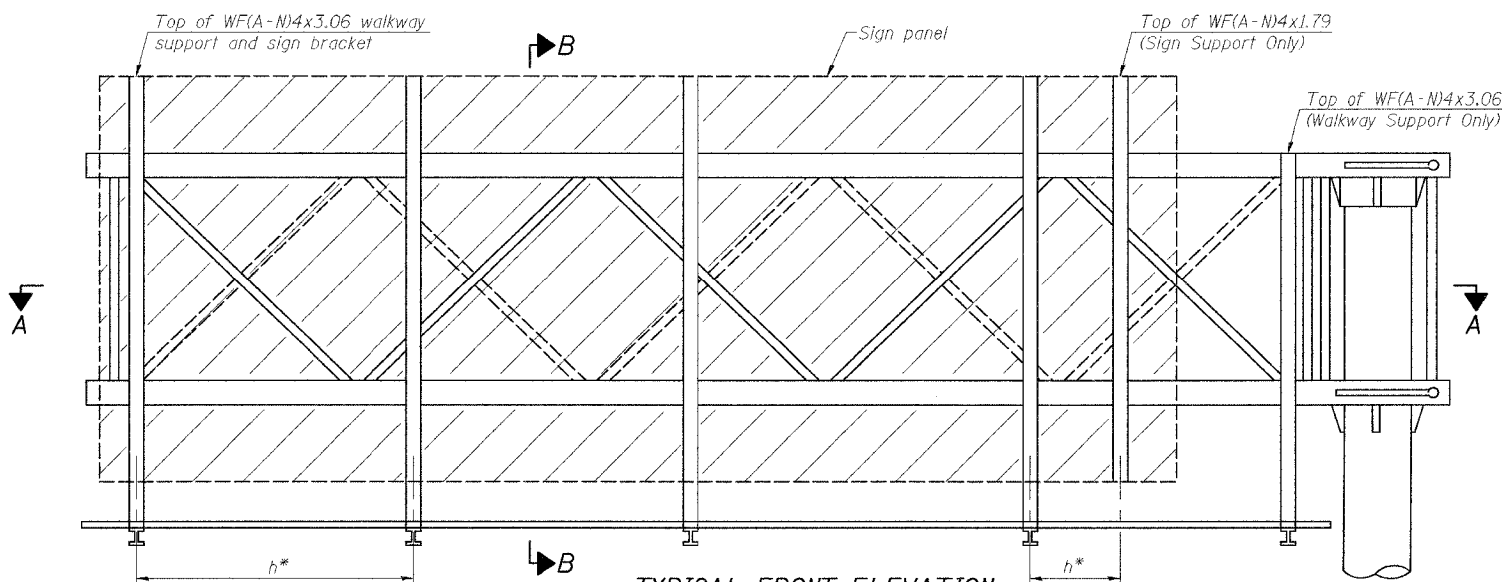
ILLINOIS DEPARTMENT OF TRANSPORTATION  
**CANTILEVER SIGN STRUCTURES**  
**TYPE II-C-A & III-C-A TRUSS SUPPORT POST**  
**ALUMINUM TRUSS & STEEL POST**

MORGAN AVENUE INTERCHANGE  
 FAI ROUTE 57 WITH FAU ROUTE 9718  
 WILLIAMSON COUNTY

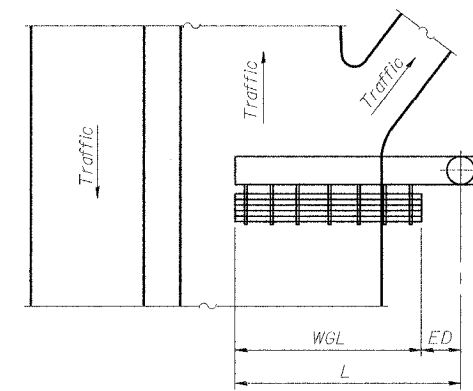
SHEET 5 OF 9

PLOT DATE = 3/20/2007  
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 USER NAME = dharner

|                       |            |                  |              |           |
|-----------------------|------------|------------------|--------------|-----------|
| F.A.I. RTE.           | SECTION    | COUNTY           | TOTAL SHEETS | SHEET NO. |
| 57                    | 0X1-6-2HBK | WILLIAMSON       | 272          | 123       |
| STA.                  | TO STA.    |                  |              |           |
| FED. ROAD DIST. NO. 9 | ILLINOIS   | FED. AID PROJECT |              |           |

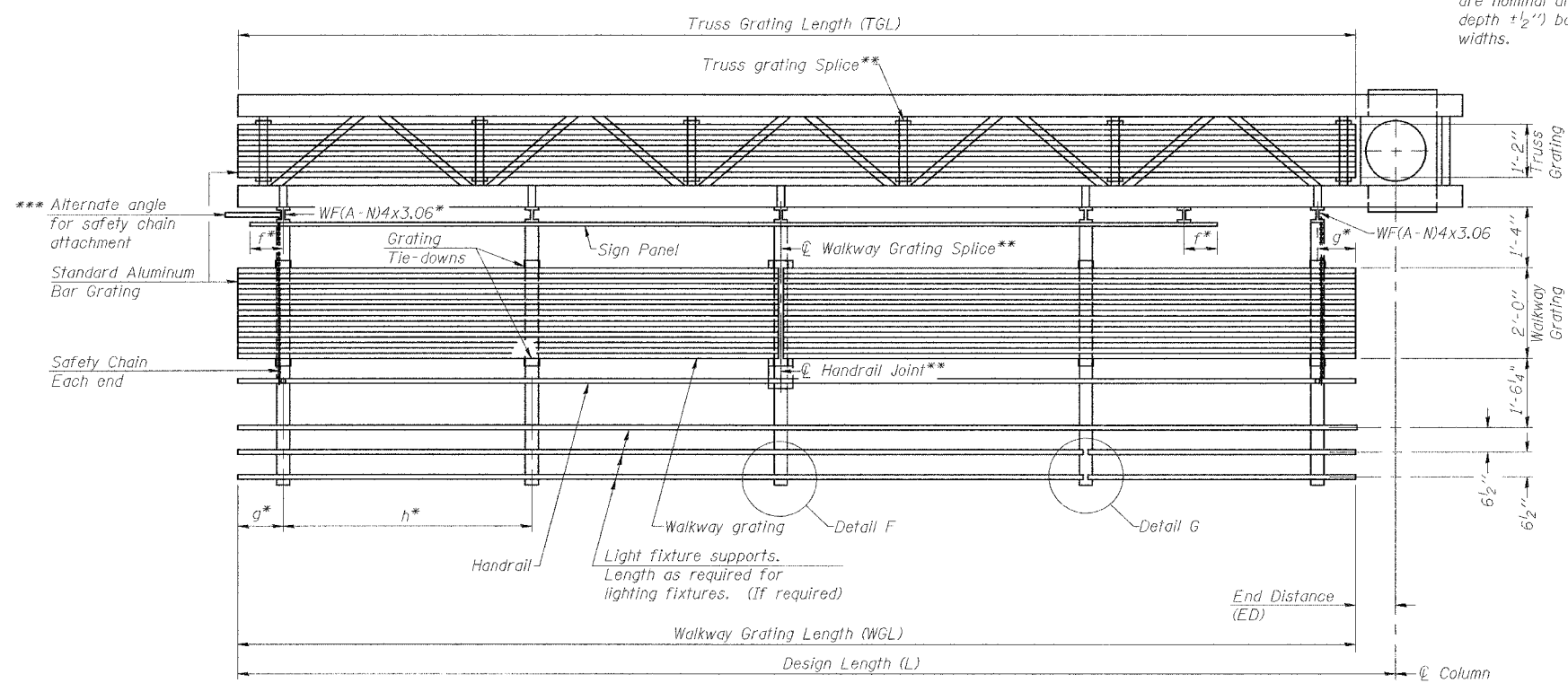


**TYPICAL FRONT ELEVATION**  
With lights and handrail omitted for clarity.



**PLAN WALKWAY AND HANDRAIL SKETCH**  
(Road plan beneath truss varies)

Walkway and truss grating dimensions are nominal and may vary (width ±1/2", depth ±1/2") based on available standard widths.



**SECTION A-A**

Truss grating to facilitate inspection shall run full length of cantilevers. Cost of truss grating is included in Overhead Sign Structure Cantilever.

Handrail and walkway grating shall span a minimum of three brackets between splices.  
\*\* Use and location of handrail joints or grating splices are optional, based on lengths needed and material availability.

$$TGL = L - \left( \frac{\text{Post O.D.}}{2} + 6' \right)$$

| NUMBER | REVISION | DATE |
|--------|----------|------|
|        |          |      |
|        |          |      |
|        |          |      |
|        |          |      |

| Structure Number | Station   | WGL    | ED    | TGL    |
|------------------|-----------|--------|-------|--------|
| 9C1001057R054.3  | 417+15.26 | 28'-0" | 2'-0" | 27'-6" |
|                  |           |        |       |        |
|                  |           |        |       |        |
|                  |           |        |       |        |
|                  |           |        |       |        |
|                  |           |        |       |        |
|                  |           |        |       |        |
|                  |           |        |       |        |
|                  |           |        |       |        |

- Notes:  
 \* Space walkway brackets WF(A-N)4x3.06 and sign brackets WF(A-N)4x1.79 for efficiency and within limits shown:  
 f = 12" maximum, 4" minimum (End of sign to center of nearest bracket)  
 g = 12" maximum, 4" minimum (End of walkway to center of nearest bracket)  
 h = 6'-0" maximum (center to center sign and/or walkway support brackets, WF(A-N)4x1.79 or WF(A-N)4x3.06)

\*\*\* If walkway bracket at safety chain location is behind sign, add angle to bracket. See alternate safety chain attachment on base sheet OSC-A-8

For details of sign placement, sign/walkway brackets, truss and walkway gratings, grating splices and Section B-B, see Base Sheet OSC-A-7.  
 For details of handrail, handrail joint, safety chain and Details F and G, see Base Sheet OSC-A-8.

**BRACKET TABLE**

| Sign Width   |                       | Number Brackets Required |
|--------------|-----------------------|--------------------------|
| Greater Than | Less Than or Equal To |                          |
| 8'-0"        | 14'-0"                | 2                        |
| 14'-0"       | 20'-0"                | 3                        |
| 20'-0"       | 26'-0"                | 4                        |
| 26'-0"       | 32'-0"                | 5                        |
|              |                       | 6                        |

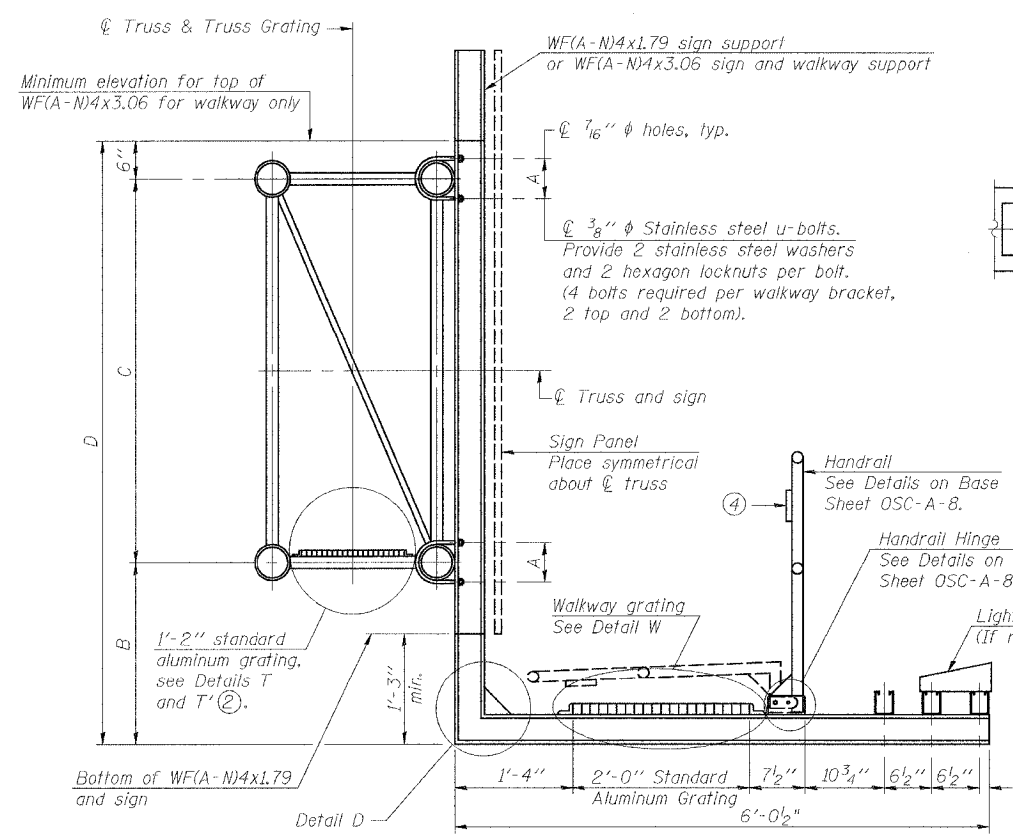
ILLINOIS DEPARTMENT OF TRANSPORTATION  
**CANTILEVER SIGN STRUCTURES**  
**ALUMINUM WALKWAY DETAILS**  
**ALUMINUM TRUSS & STEEL POST**

MORGAN AVENUE INTERCHANGE  
 FAI ROUTE 57 WITH FAU ROUTE 9718  
 WILLIAMSON COUNTY

SHEET 6 OF 9

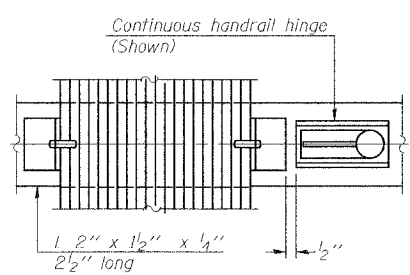
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 PLOT SCALE = 81.8808 / IN  
 USER NAME = jhoerner

|                       |             |                  |              |           |
|-----------------------|-------------|------------------|--------------|-----------|
| F.A.I. RTE.           | SECTION     | COUNTY           | TOTAL SHEETS | SHEET NO. |
| 57                    | OX1-6-21HBK | WILLIAMSON       | 272          | 124       |
| STA.                  | TO STA.     |                  |              |           |
| FED. ROAD DIST. NO. 9 | ILLINOIS    | FED. AID PROJECT |              |           |

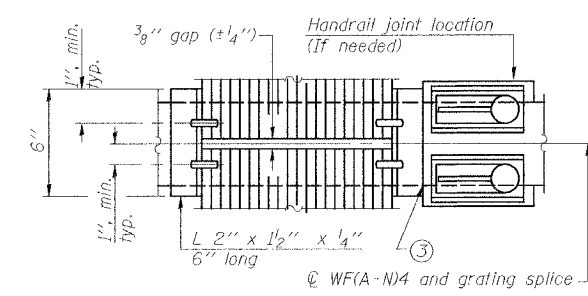


**SECTION B-B**

Sign shall be even with the top of the bracket, but it may extend no more than 6" above the top of the bracket for field adjustments.

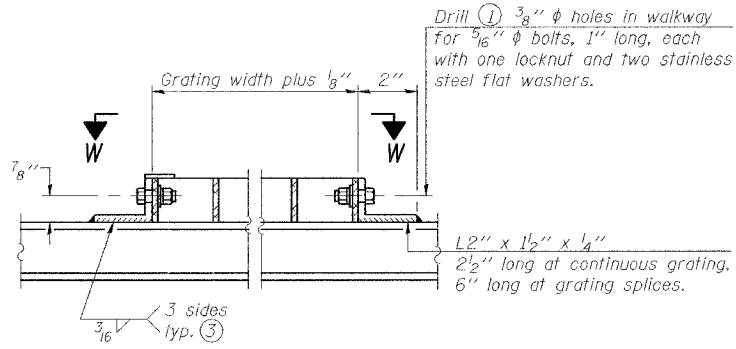


**(CONTINUOUS WALKWAY GRATING)**

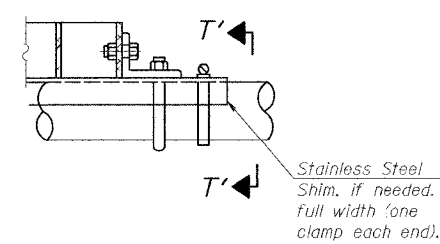


**(AT WALKWAY GRATING SPLICE)**

**SECTION W-W**

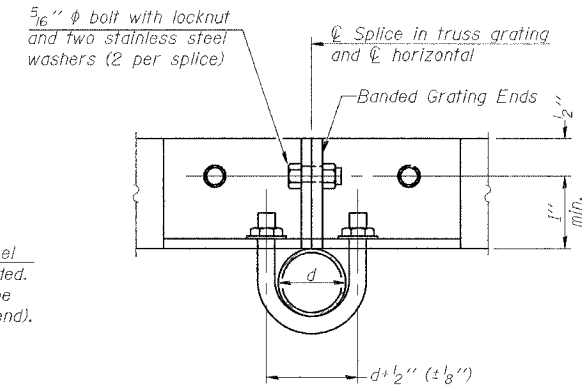


**DETAIL W**  
(Walkway grating)

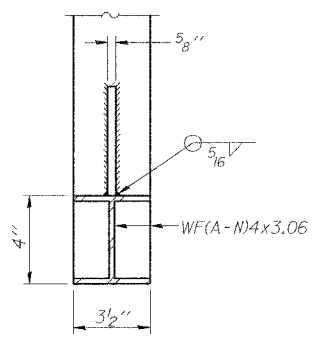


**DETAIL T'**  
(Truss grating splice)

Details not shown same as Detail T. Alternate materials may be used subject to the Engineer's review and approval.

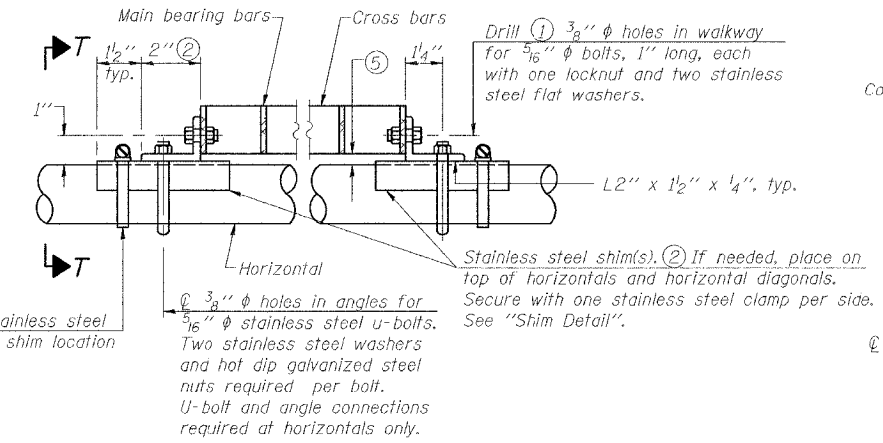


**SECTION T'-T'**



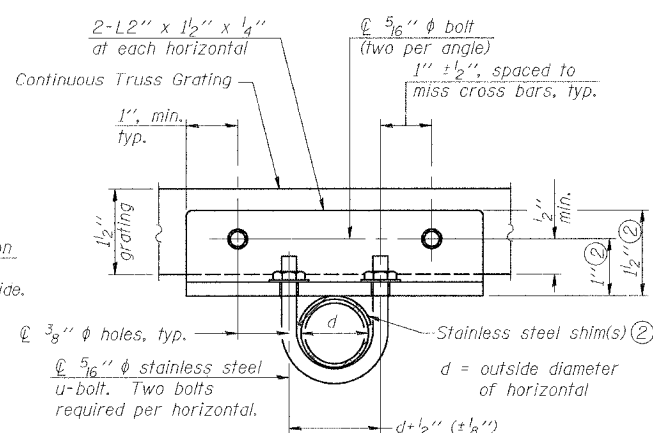
**SECTION D-D**

Screw type stainless steel tube clamp at shim location.

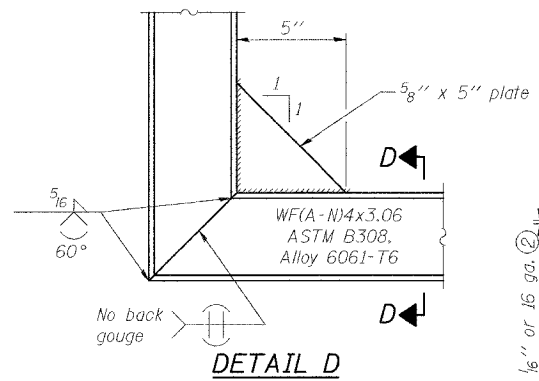


**DETAIL T**  
(Continuous Truss grating)

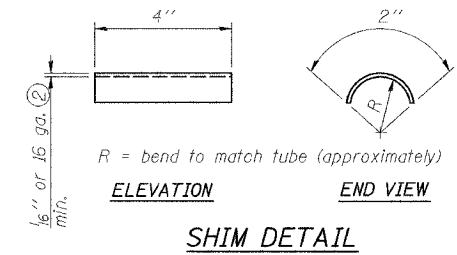
- ① Drilling holes in grating may be done in shop or field, based on Contractor's preference and subject to accurate alignment.
- ② Stainless steel shims shall be placed as shown in Detail T if needed to compensate for alignment variations between horizontal and diagonal pipes beyond adjustment provided by angles. Thicker shims may be used subject to shims performing properly.
- ③ If Handrail Joint present, weld angle to WF(A-N)4 and 1/4 inch extension bars. (See Base Sheet OSC-A-8.)
- ④ 1/2 inch x 1/2 inch x 2 inch welded to handrail posts to protect locations that contact grating.
- ⑤ Tube to grating gap may vary from 0 to 1/2 inch, max. to align walkway, allow for camber, etc.



**SECTION T-T**



**DETAIL D**



**SHIM DETAIL**

| NUMBER | REVISION | DATE |
|--------|----------|------|
|        |          |      |
|        |          |      |
|        |          |      |

| Structure Number | Station   | A  | B     | C     | D      |
|------------------|-----------|----|-------|-------|--------|
| 9C1001057R054.3  | 417+15.26 | 7" | 6'-0" | 5'-6" | 12'-0" |
|                  |           |    |       |       |        |
|                  |           |    |       |       |        |
|                  |           |    |       |       |        |

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**CANTILEVER SIGN STRUCTURES  
 WALKWAY DETAILS  
 ALUMINUM TRUSS & STEEL POST**

MORGAN AVENUE INTERCHANGE  
 FAI ROUTE 57 WITH FAU ROUTE 9718  
 WILLIAMSON COUNTY

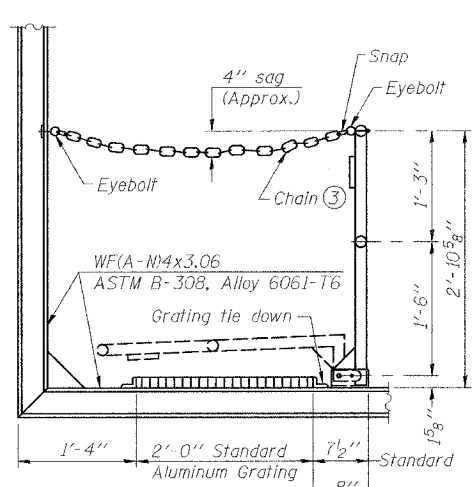
SHEET 7 OF 9

SCALE: N/A DATE: 3-19-2007

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 USER NAME = dhoerner

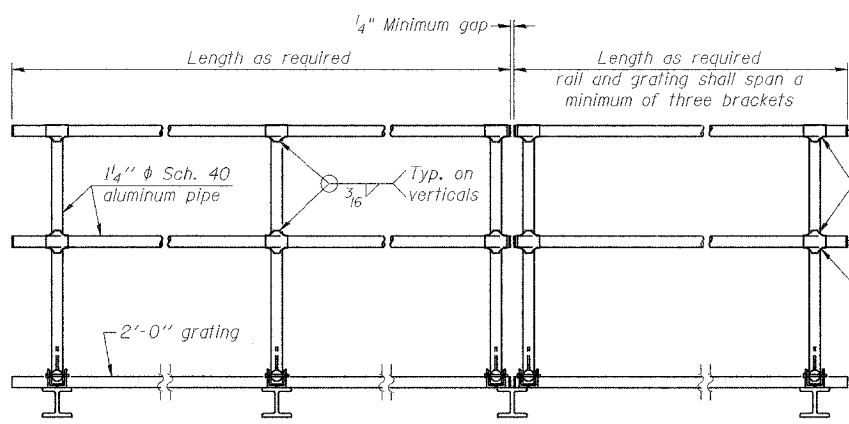


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|-----------------------|-------------|------------------|--------------|-----------|
| F.A.I. RTE.           | SECTION     | COUNTY           | TOTAL SHEETS | SHEET NO. |
| 57                    | 0X1-6-21HBK | WILLIAMSON       | 272          | 125       |
| STA.                  | TO STA.     |                  |              |           |
| FED. ROAD DIST. NO. 9 | ILLINOIS    | FED. AID PROJECT |              |           |



**SIDE ELEVATION**

(Showing Safety Chain W/O Sign)



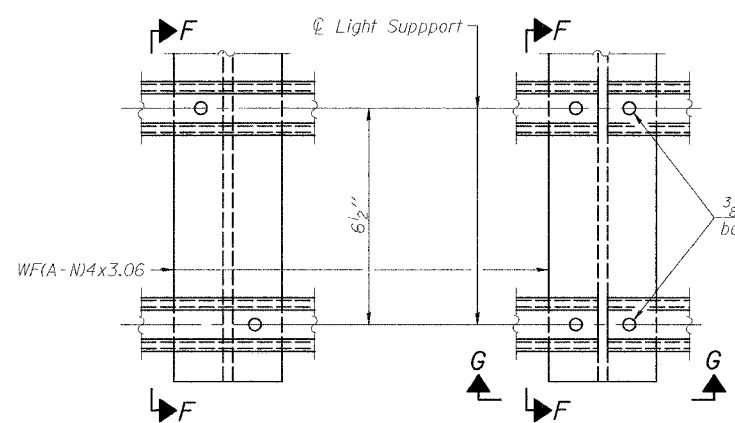
**FRONT ELEVATION**

**HANDRAIL DETAILS**

Handrail pipe shall be ASTM B241 or B429, Alloy 6063-T6 or Alloy 6061-T6.

① Install standard force-fit end caps or weld 1/2 inch end plates with 1/2 inch c.f.w. and grind smooth. (All rail ends)

② Horizontal handrail member shall be continuous thru fitting. Provide 7/16 inch hole in fitting for 3/8 inch bolt. Field drill 1/16 inch hole in horizontal rail member. Provide locknut and two stainless steel washers for bolt. (Use 5/16 inch eyebolts in 1/16 inch holes on top rail at ends only.)



**DETAIL F**

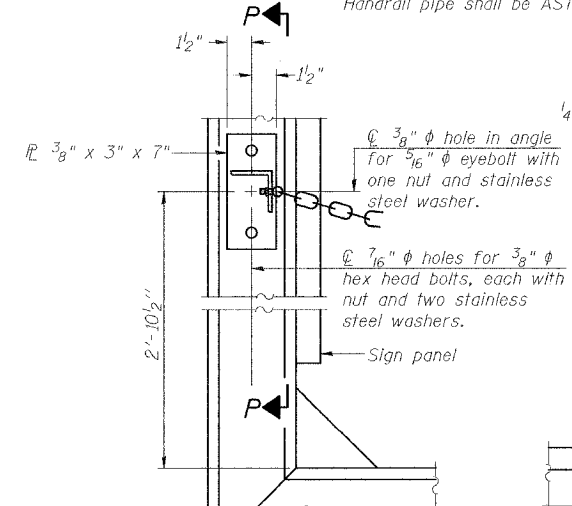
**DETAIL G**

**SECTION F-F**

**SECTION G-G**

**LIGHTING FIXTURE MOUNTS (IF REQUIRED)**

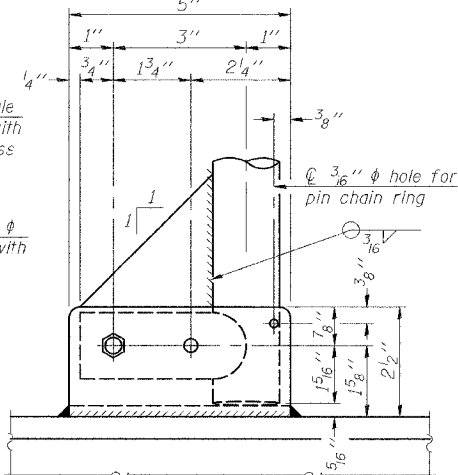
⑤ Field cut ends of light support channels shall be free of burrs or hazardous projections and coated with zinc-rich primer or equivalent.



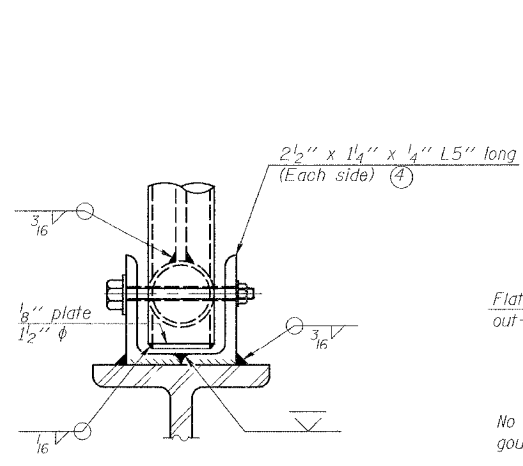
**ALTERNATE SAFETY CHAIN ATTACHMENT**

(With Sign Present)

Items not shown same as "Side Elevation" of "Handrail Details"

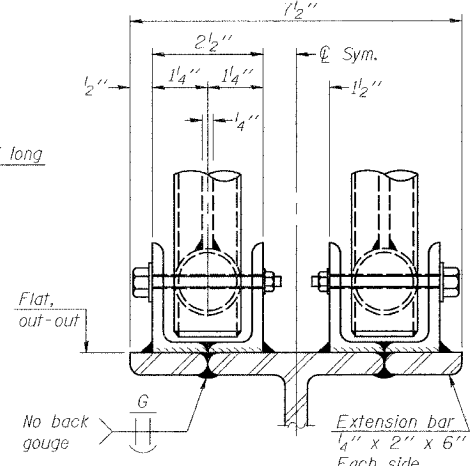


**SIDE ELEVATION**



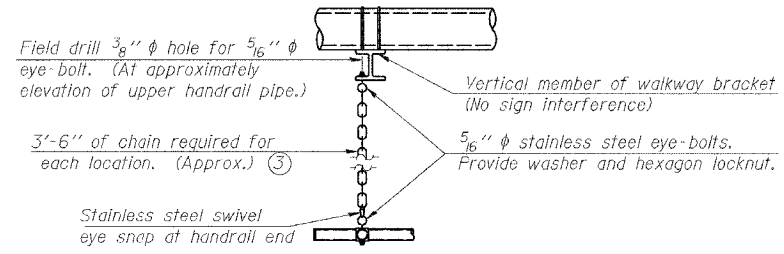
**FRONT ELEVATION**

Details not shown same as "ELEVATION" at right.



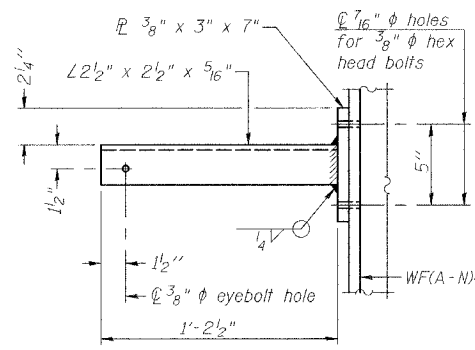
**ELEVATION AT HANDRAIL JOINT**

Details not shown same as "FRONT ELEVATION"

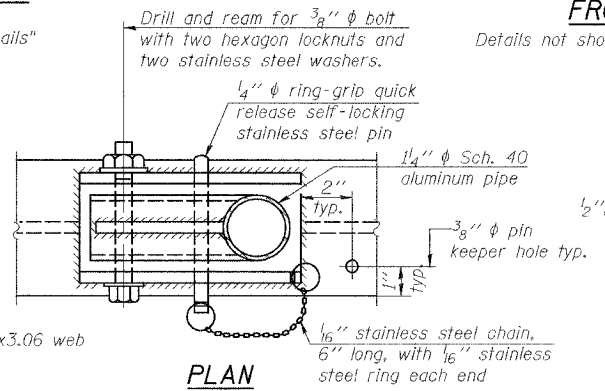


**SAFETY CHAIN**

One required for each end of each walkway.

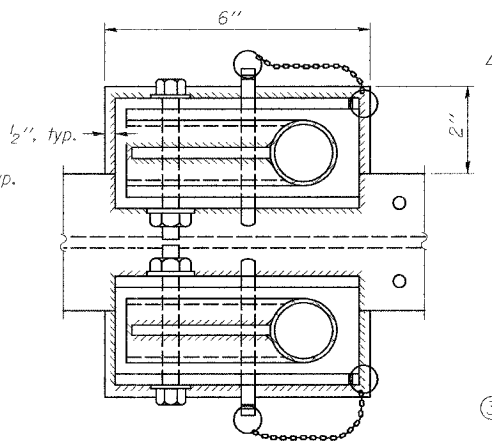


**SECTION P-P**



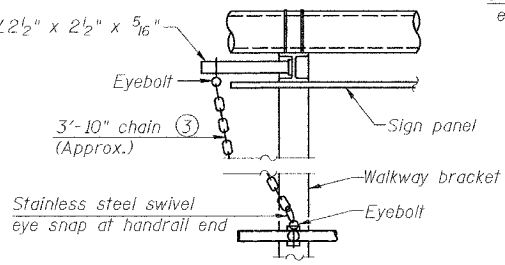
**PLAN**

**DETAIL E HANDRAIL HINGE**



**PLAN AT HANDRAIL JOINT**

Details not shown same as "PLAN"



**ALTERNATE SAFETY CHAIN ATTACHMENT**

Details not shown similar to "Safety Chain" Details (Walkway omitted for clarity)

③ 3/16 inch Type 304L stainless steel chain, approximately 12 links per foot.

④ Extrusions may be used in lieu of the details shown, with approval of the Engineer.

| NUMBER | REVISION | DATE |
|--------|----------|------|
|        |          |      |
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|        |          |      |
|        |          |      |

PLOT DATE = 5/15/2007  
 FILE NAME = P:\2006\0504.dwg  
 PLOT SCALE = 80/8000  
 USER NAME = dhoerner

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**CANTILEVER SIGN STRUCTURES**  
**HANDRAIL DETAILS**  
**ALUMINUM TRUSS & STEEL POST**

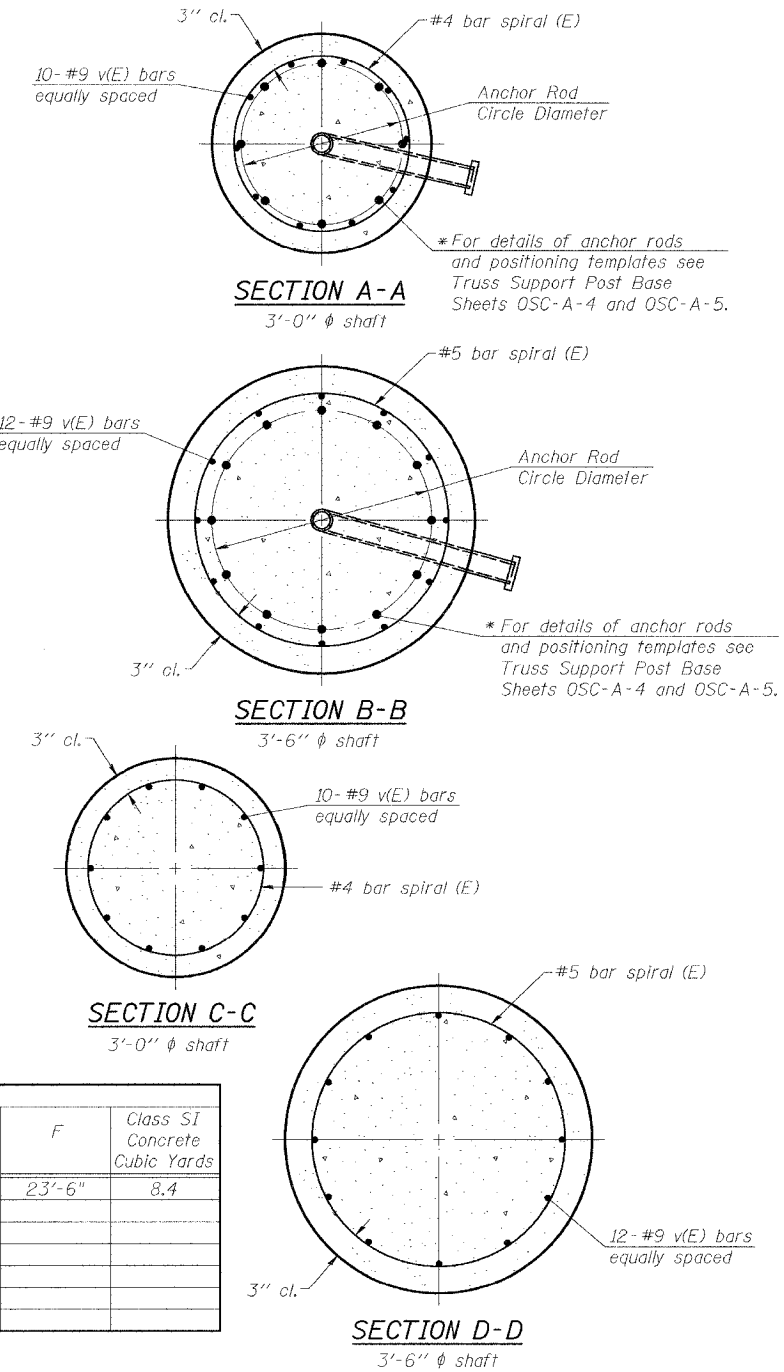
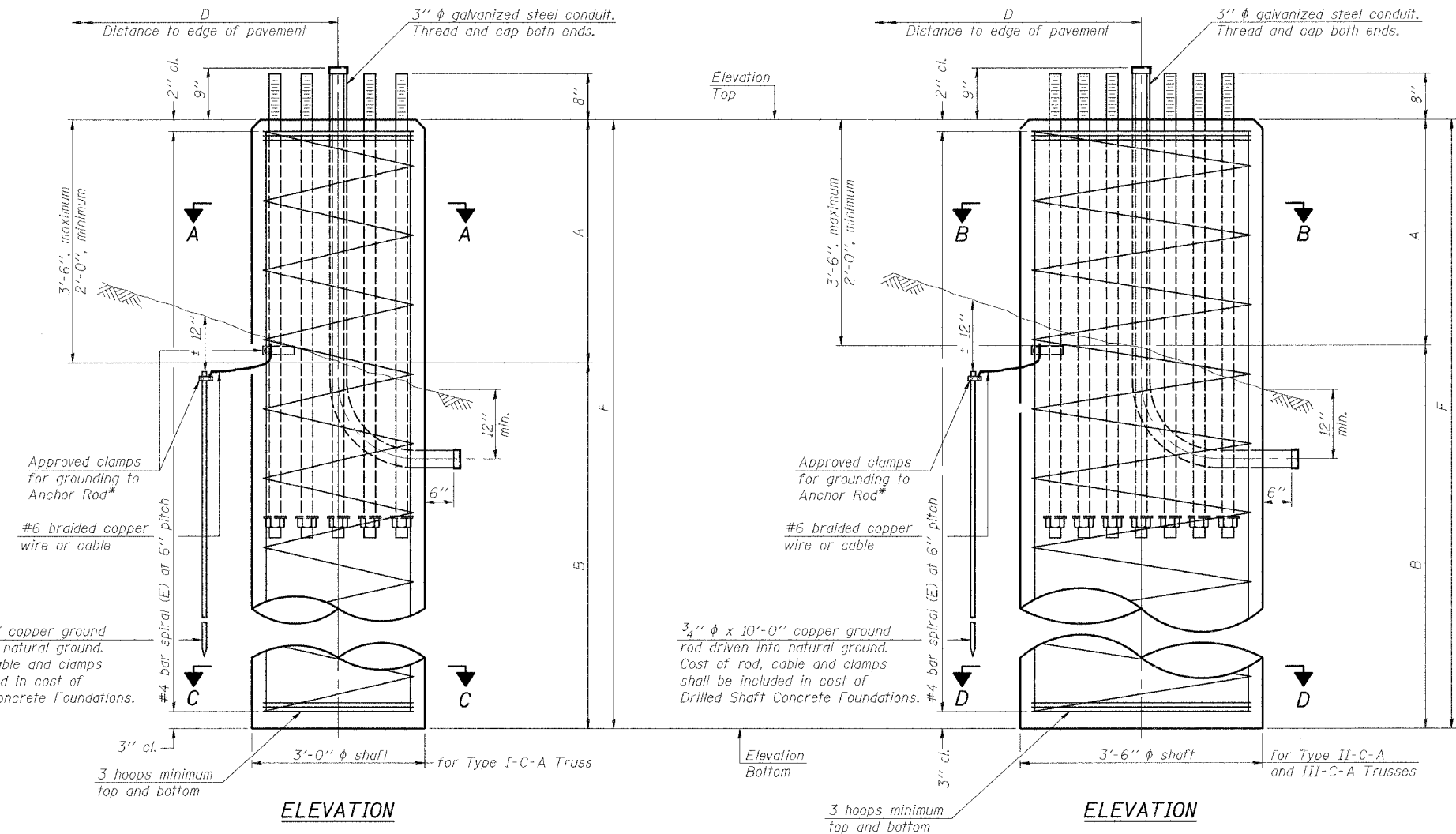
MORGAN AVENUE INTERCHANGE  
 FAI ROUTE 57 WITH FAU ROUTE 9718  
 WILLIAMSON COUNTY

SHEET 8 OF 9

SCALE: N/A DATE: 3-19-2007

|                       |            |                  |              |           |
|-----------------------|------------|------------------|--------------|-----------|
| F.A.I. RTE.           | SECTION    | COUNTY           | TOTAL SHEETS | SHEET NO. |
| 57                    | 0X1-6-2HBK | WILLIAMSON       | 272          | 126       |
| STA.                  | TO STA.    |                  |              |           |
| FED. ROAD DIST. NO. 9 | ILLINOIS   | FED. AID PROJECT |              |           |

\* Grind anchor rod to bright finish at ground clamp location before installing clamp.



**NOTES:**  
 The foundation dimensions shown in the Foundation Design Table are based on the presence of mostly cohesive soils with an average Unconfined Compressive Strength ( $Q_u$ ) of at least 1.25 tsf, which must be determined by previous soil investigations at the jobsite. When other conditions are indicated, the boring data will be included in the plans and the foundation dimensions shown in the Foundation Data Table will be the result of site specific designs.  
 If the conditions encountered are different than those indicated, the Contractor shall notify the Engineer to determine if the foundation dimensions need to be modified. If dimensions "B" or "F" are revised by more than 12" by the Contractor, "as-built" plans shall be prepared and submitted to the District Bureau of Operations for future reference.  
 No sonotubes or decomposable forms shall be used below the lower conduit entrance. Permanent metal forms or other shielding may not be left in place below that elevation without the Engineer's written permission.  
 Concrete shall be placed monolithically, without construction joints.  
 Backfill shall be placed per Article 502 of Standard Specification and prior to erection of support column.  
 A normal surface finish followed by a Bridge Seat Sealer application will be required on concrete surfaces above the lowest elevation 6" below finished ground line. Cost included in "Drilled Shaft Concrete Foundation".

| Structure Number | Station   | Truss Type | Shaft Diameter | Elevation Top | Elevation Bottom | $Q_u$ (tsf) | A     | B      | F      | Class SI Concrete Cubic Yards |
|------------------|-----------|------------|----------------|---------------|------------------|-------------|-------|--------|--------|-------------------------------|
| 9C1001057R054.3  | 417+15.26 | II-C-A     | 3'-6"          | 488.18        | 464.68           | 1.25        | 2'-0" | 21'-6" | 23'-6" | 8.4                           |
|                  |           |            |                |               |                  |             |       |        |        |                               |
|                  |           |            |                |               |                  |             |       |        |        |                               |
|                  |           |            |                |               |                  |             |       |        |        |                               |

| Truss Type | Post Base Sheet | Maximum Cantilever Length (ft) | Maximum Total Sign Area (sq ft) | Shaft Diameter (ft) | "B" Depth (ft) | Anchor Rods No. | Anchor Rod Diameter (in) | Anchor Rod Circle Diameter (in) |
|------------|-----------------|--------------------------------|---------------------------------|---------------------|----------------|-----------------|--------------------------|---------------------------------|
| I-C-A      | OSC-A-4         | 25                             | 170                             | 3.0                 | 16.0           | 8               | 2                        | 22                              |
| II-C-A     | OSC-A-5         | 30                             | 170                             | 3.5                 | 17.0           | 12              | 2                        | 30                              |
| II-C-A     | OSC-A-5         | 30                             | 340                             | 3.5                 | 21.5           | 12              | 2                        | 30                              |
| III-C-A    | OSC-A-5         | 35                             | 170                             | 3.5                 | 19.0           | 12              | 2                        | 30                              |
| III-C-A    | OSC-A-5         | 35                             | 250                             | 3.5                 | 22.5           | 12              | 2                        | 30                              |
| III-C-A    | OSC-A-5         | 35                             | 400                             | 3.5                 | 26.5           | 12              | 2                        | 30                              |
| III-C-A    | OSC-A-5         | 40                             | 400                             | 3.5                 | 32.0           | 12              | 2                        | 30                              |

| NUMBER | REVISION | DATE |
|--------|----------|------|
|        |          |      |
|        |          |      |
|        |          |      |

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**CANTILEVER SIGN STRUCTURES**  
**DRILLED SHAFT**  
**ALUMINUM TRUSS & STEEL POST**

MORGAN AVENUE INTERCHANGE  
 FAI ROUTE 57 WITH FAU ROUTE 9718  
 WILLIAMSON COUNTY

SHEET 9 OF 9

SCALE: N/A DATE: 3-19-2007

FILE NAME: 3-19-2007  
 PLOT SCALE: 1/4" = 1'-0"  
 USER NAME: dhaerter

|                       |             |                  |              |           |
|-----------------------|-------------|------------------|--------------|-----------|
| F.A.I. RTE.           | SECTION     | COUNTY           | TOTAL SHEETS | SHEET NO. |
| 57                    | 0X1-6-21HBK | WILLIAMSON       | 272          | 127       |
| STA.                  | TO STA.     |                  |              |           |
| FED. ROAD DIST. NO. 3 | ILLINOIS    | FED. AID PROJECT |              |           |

**GENERAL NOTES**

**SPECIFICATIONS:**

DESIGN: AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals. ("AASHTO Specifications") (2)

CONSTRUCTION: Current (at time of letting) Illinois Department of Transportation Standard Specifications for Road and Bridge Construction, Supplemental Specifications and Special Provisions. ("Standard Specifications")

LOADING: 90 M.P.H. WIND VELOCITY

WALKWAY LOADING: Dead load plus 500 lbs. concentrated live load.

MINIMUM CLEARANCE: 3" greater than bridge members at all locations. (All Obstructions)

WELDING: All welds to be continuous unless otherwise shown. All welding to be done in accordance with current AWS D.1.1 Structural Welding Code (Steel) and the Standard Specifications.

MATERIALS: All Structural Steel Pipe shall be ASTM A53 Grade B with a minimum yield of 35,000 p.s.i., or A500 Grade B or C with a minimum yield of 46,000 p.s.i. If A500 pipe is substituted for A53, then the outside diameter shall be as detailed and wall thickness greater than or equal to A53.  
All Structural Steel Plates and Shapes shall conform to AASHTO M270 Gr. 36, Gr. 50 (M183, M223 Gr. 50).

HIGH STRENGTH BOLTS: All bolts, washers, nuts and locknuts shall satisfy the requirements of ASTM designation A307 unless noted as "H.S." which shall require AASHTO M164 (A325), ASTM A449, or approved alternate. All fasteners shall be hot dip galvanized per AASHTO M232 unless otherwise specified.

GALVANIZING: All Steel Grating, Plates, Shapes and Pipe shall be Hot Dip Galvanized after fabrication in accordance with AASHTO M111. Painting is not permitted.

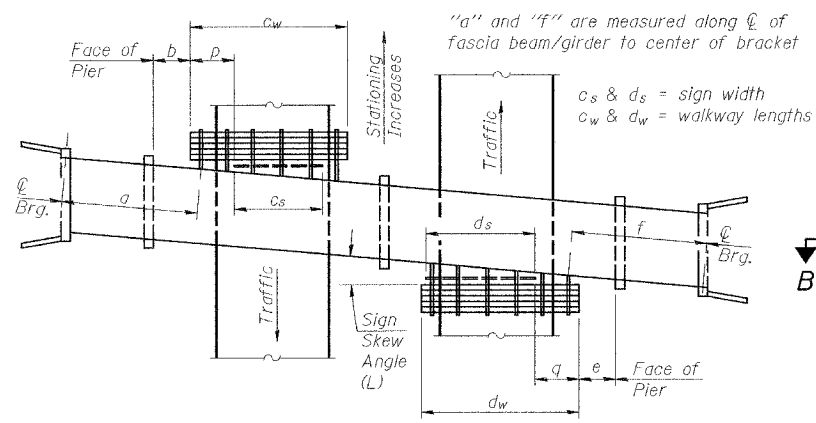
ANCHOR RODS: All threaded rod conforming to ASTM A307, 3/4"  $\phi$  x 12" long, each with one plate washer and locknut and be hot dip galvanized per AASHTO M232. They shall be either cast into the concrete or epoxy grouted in accordance with Section 584 of the Standard Specifications. Minimum embedment in concrete shall be 9".

- Bracket spacing  $g < 6'-0"$ , max. Spacing shall be uniform if possible but may vary  $\pm 6"$  to miss existing obstruction (rail post, light poles, web stiffeners, splice plates, etc.). Adjust bracket lengths accordingly on skewed structures. Any design modifications shall be based on the current version of applicable specifications and submitted for the Engineer's approval.
- Unit price includes grating, handrail, brackets, supports, anchor bolts, fasteners, fabrication, delivery, erection, field drilling and other necessary items. Limits of payment are based on grating length ( $c_w$ ,  $d_w$ ) unless otherwise specified. For Safety Chain Details and Details D, F and G, see Base Sheet BM-4.
- If walkway bracket at safety chain location is behind sign, add angle to bracket. See detail on Base Sheet BM-4.
- Dimension  $q$  measured on left side of  $d_s$  for Sign Structure 9B1001057L054.0 over left lane of Southbound Interstate 57. Dimensions  $e$  and  $f$  are measured as indicated on the Walkway and Handrail Sketch - Right Sign Skew  $> 15^\circ$ .

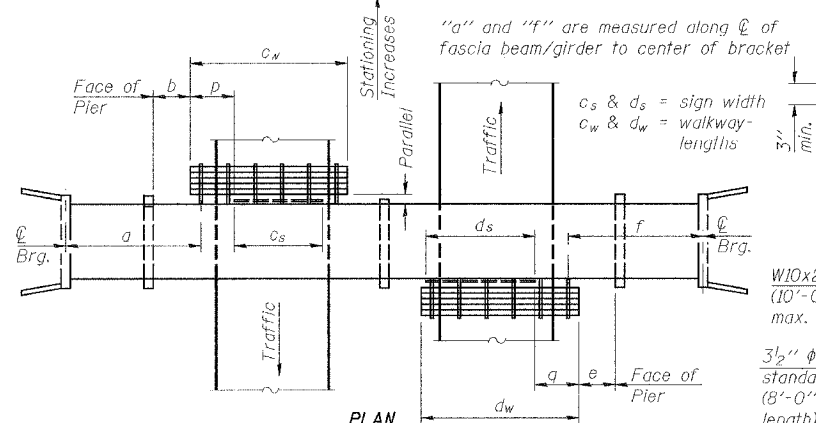
| NUMBER | REVISION           | DATE     |
|--------|--------------------|----------|
| 1      | TWM ADDED NOTE (5) | 10/17/06 |
|        |                    |          |
|        |                    |          |
|        |                    |          |

**TOTAL BILL OF MATERIAL**

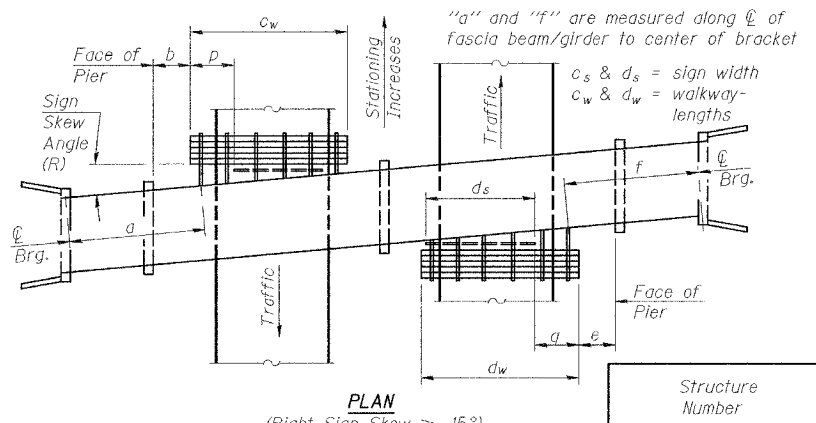
|  |      |      |
|--|------|------|
| (3) OVERHEAD SIGN STRUCTURE - BRIDGE MOUNTED | Foot | 32.5 |
|--|------|------|



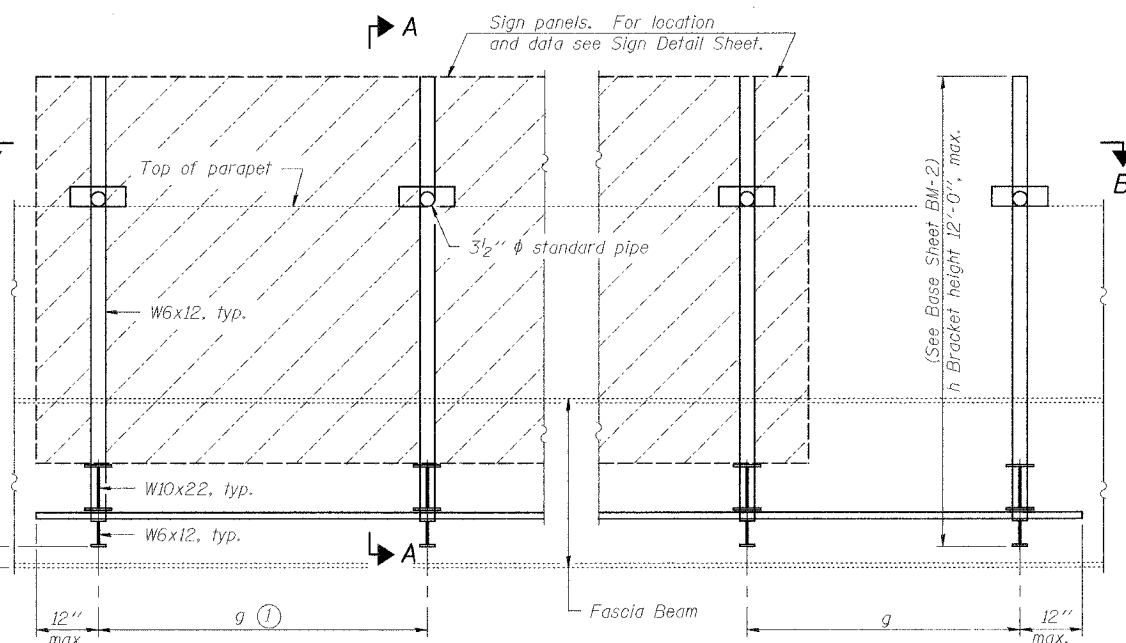
**PLAN**  
(Left Sign Skew  $> 15^\circ$ )  
**WALKWAY AND HANDRAIL SKETCH**  
(Road plan beneath structure varies.)



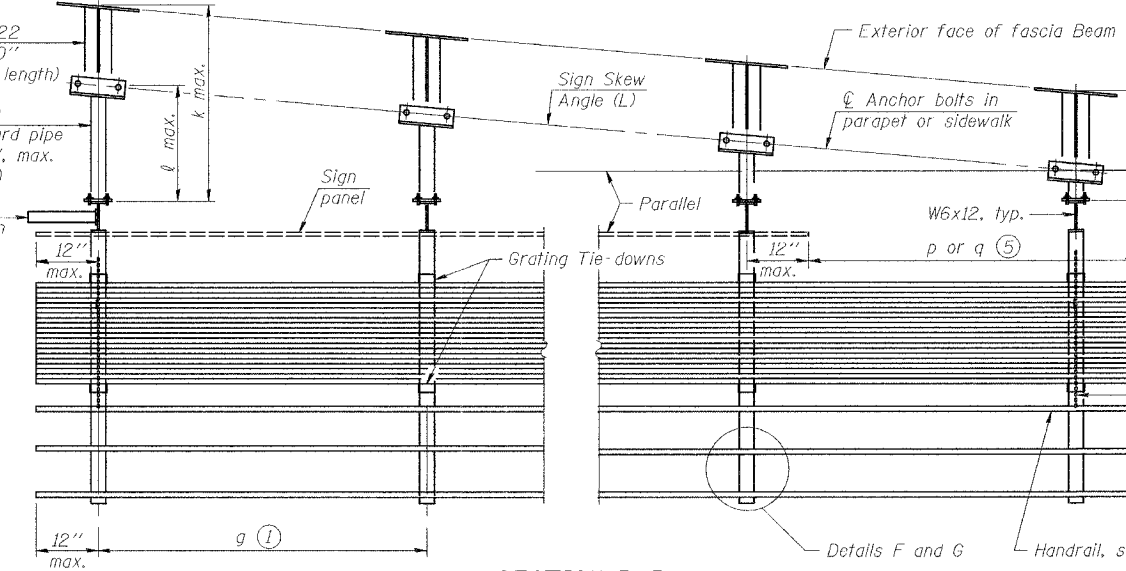
**PLAN**  
(For Sign Skew  $\leq 15^\circ$ , all brackets constant)  
**WALKWAY AND HANDRAIL SKETCH**  
(Road plan beneath structure varies.)



**PLAN**  
(Right Sign Skew  $> 15^\circ$ )  
**WALKWAY AND HANDRAIL SKETCH**  
(Road plan beneath structure varies.)



**TYPICAL FRONT ELEVATION**  
(With lights, safety chain and handrail omitted for clarity.)



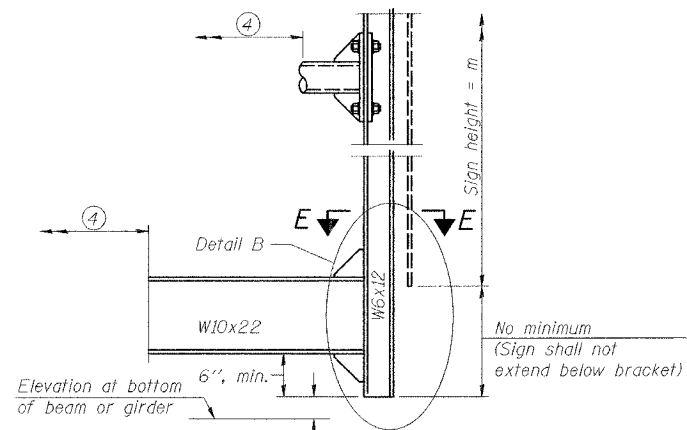
**SECTION B-B**  
(Shown: Left Sign Skew  $> 15^\circ$ )

| Structure Number | Sign Skew Angle (L) or (R) | Bridge Station | Bridge Structure Number | Contract Route Designation | a | b | c <sub>s</sub> | c <sub>w</sub> | d <sub>s</sub> | d <sub>w</sub> | e           | f            | g     | No. of Brackets (Total) | p | q (5) | Total Grating/Hndrl. Lengths (c <sub>w</sub> + d <sub>w</sub> ) |
|------------------|----------------------------|----------------|-------------------------|----------------------------|---|---|----------------|----------------|----------------|----------------|-------------|--------------|-------|-------------------------|---|-------|---|
| 9B1001057L054.0  | 16°58'26" R                | 1475+16.96     | 100-6023                | FAI 57                     | - | - | -              | -              | 16'-6"         | 16'-6"         | 36'-4 1/8"  | 134'-5 7/8"  | 5'-2" | 4                       | - | -     | 16'-6"  |
| 9B1001057R054.0  | 16°58'26" R                | 1475+16.96     | 100-6023                | FAI 57                     | - | - | -              | -              | 14'-0"         | 16'-0"         | 19'-10 1/8" | 117'-2 9/16" | 5'-0" | 4                       | - | 2'-0" | 16'-0"  |
|                  |                            |                |                         |                            |   |   |                |                |                |                |             |              |       |                         |   |       |   |
|                  |                            |                |                         |                            |   |   |                |                |                |                |             |              |       |                         |   |       |   |

Dimensions a, b, e, f & g may vary as approved by the Engineer, see (1).  
When  $c_w < c_s$  and/or  $d_w < d_s$ , use alternate brackets without walkway supports where applicable, see (3).

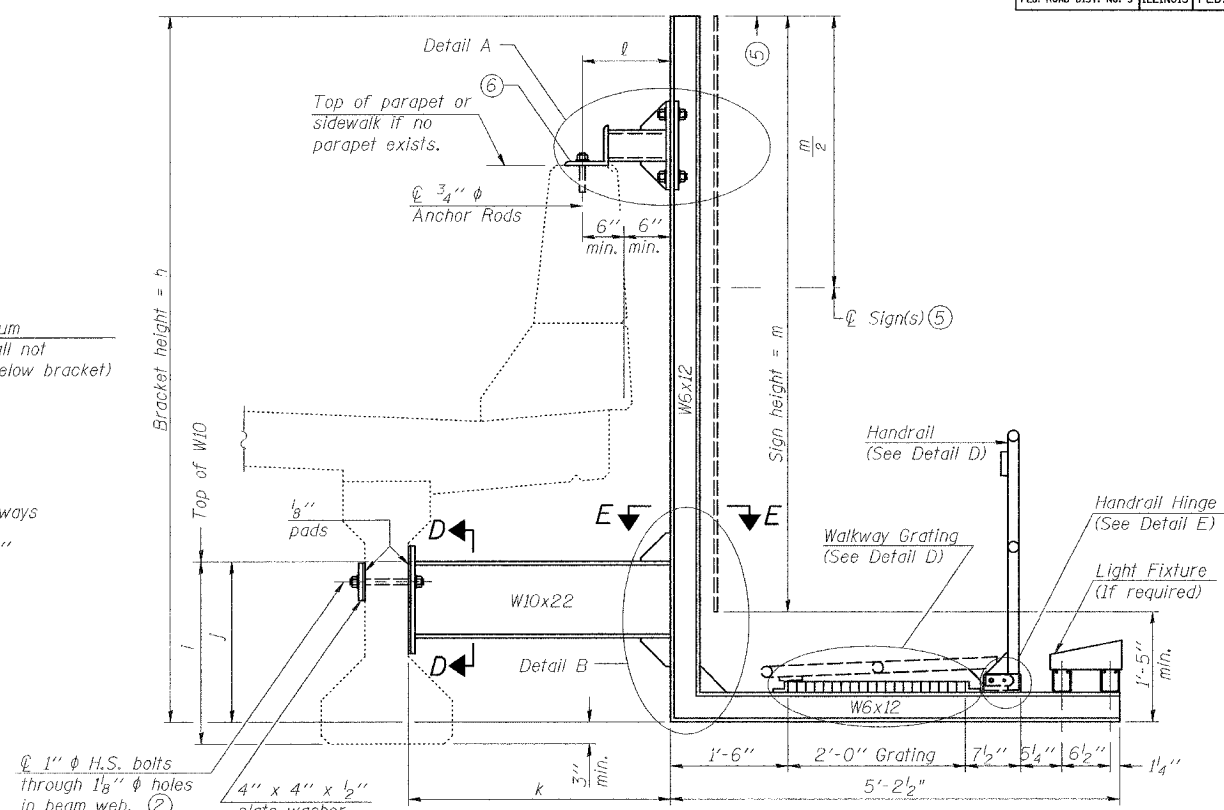
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|                       |            |                  |              |           |
|-----------------------|------------|------------------|--------------|-----------|
| F.A.I. RTE.           | SECTION    | COUNTY           | TOTAL SHEETS | SHEET NO. |
| 57                    | 0X1-6-2H8K | WILLIAMSON       | 272          | 128       |
| STA.                  | TO STA.    |                  |              |           |
| FED. ROAD DIST. NO. 9 | ILLINOIS   | FED. AID PROJECT |              |           |



**SECTION A-A**

Alternate with no lights or walkways  
 ④ For attachment details of 3 1/2" pipe and W10x22, see other sections as applicable.



**SECTION A-A**

Details for mounting to PPC I Beam or Bulb "T" & Details for mounting to parapet w/o rail

**Notes:**  
 Installations not within dimensional limits shown require special analysis for all components and must be submitted to the Bureau of Bridges and Structures for approval.  
 Contractor shall field check all pertinent existing bridge dimensions shown on plans before submitting shop drawings.  
 All holes in bridge beams or girders should be located in the middle half of the member. There shall be no holes drilled in the lower quarter of the member's depth. (For R.C. girder, depth = bottom of deck to bottom of the girder.) Proposed exceptions must be approved by the Bureau of Bridges and Structures.  
 The Engineer may adjust dimension "i" to meet the above condition and to keep the sign level.

- ⑤ Sign shall not extend more than 6" above top of bracket, and this dimension may vary to keep sign level if bridge is on grade or vertical curve. Multiple signs of various heights shall share a common horizontal centerline and use equal bracket heights. If no sign is attached to a W6x12 vertical (bracket only supporting walkway), dimension h shall be the same as an adjacent bracket with a sign attached, unless Engineer specifically directs shorter brackets due to locational restraints on future uses. (See Detail A for minimum bracket height.)
- ⑥ For bridge mounted sign structures installed on new bridges with railing, during design, bracket spacing must be coordinated with railing post spacing and the Contractor must install upper brackets prior to railing installation. For bridge mounted sign structures installed on existing bridges with railing, during design, brackets spacing must be coordinated with railing post spacing and the Contractor must temporarily remove sections of railing to facilitate upper bracket installation. If it is determined during design that existing railings can't be removed, alternate upper connection details must be developed for the contract plans and approved by the Bureau of Bridges and Structures.

| Structure Number | Station    | h      | i          | j           | k max. (10'-0" max.) | ℓ max. (8'-0" max.) | m (15'-0" max.) |
|------------------|------------|--------|------------|-------------|----------------------|---------------------|-----------------|
| 9B1001057L054.0  | 1474+93.98 | 16'-5" | 3'-1 1/16" | 2'-10 1/16" | 8'-2 3/4"            | 5'-8 3/4"           | 15'-0"          |
| 9B1001057R054.0  | 1474+99.02 | 16'-5" | 3'-1 1/16" | 2'-10 1/16" | 8'-0 15/16"          | 5'-6 15/16"         | 15'-0"          |
|                  |            |        |            |             |                      |                     |                 |
|                  |            |        |            |             |                      |                     |                 |
|                  |            |        |            |             |                      |                     |                 |
|                  |            |        |            |             |                      |                     |                 |

For Details A & B, Sections C-C, D-D and E-E, see Base Sheet BM-3.  
 For Details D & E, see Base Sheet BM-4.

- ① Holes in new steel members may be drilled in the fabrication shop or in the field. Field drill existing members.
- ② For new PPC I beams, holes shall be formed during casting. For existing PPC I beams, prestressing strand locations shall be determined and spaced to miss strands by 6", min. Minimize spalling during field drilling of existing beams.
- ③ For new construction, form holes. For existing RC beams, locate primary reinforcement and space holes to miss by 6", min. Minimize spalling and concrete fracturing/damage during field drilling of existing concrete. Spalls over 1/4" deep or beyond the coverage of the 4x4 plate washer shall be repaired with epoxy mortar before installing washer.

| NUMBER | REVISION | DATE |
|--------|----------|------|
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|        |          |      |

ILLINOIS DEPARTMENT OF TRANSPORTATION

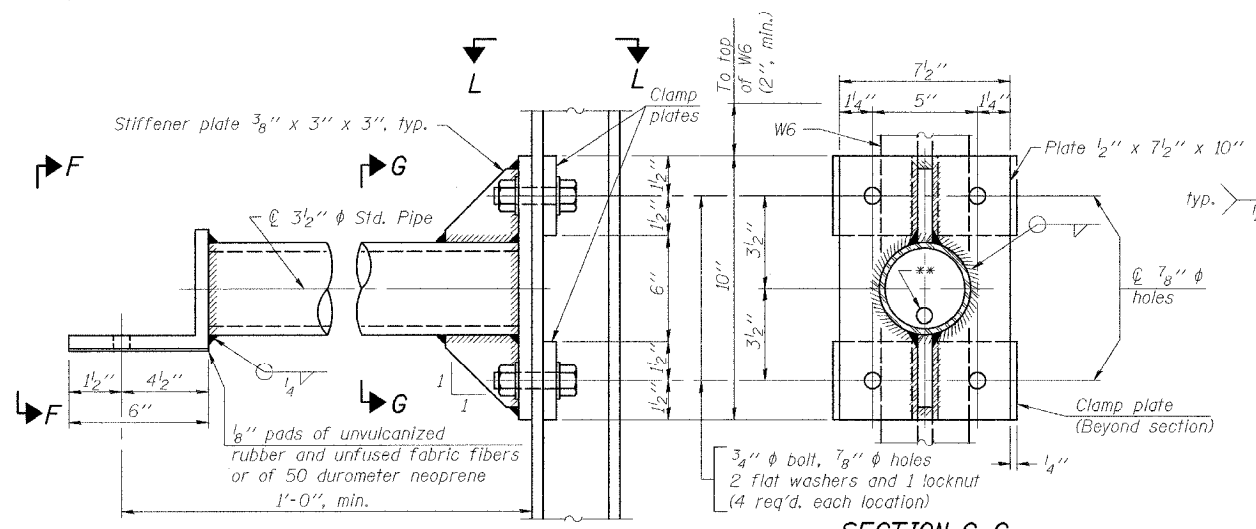
**BRIDGE MOUNT SIGN STRUCTURES  
 WALKWAY AND CONNECTION DETAILS**

MORGAN AVENUE INTERCHANGE  
 FAI ROUTE 57 WITH FAU ROUTE 9718  
 WILLIAMSON COUNTY

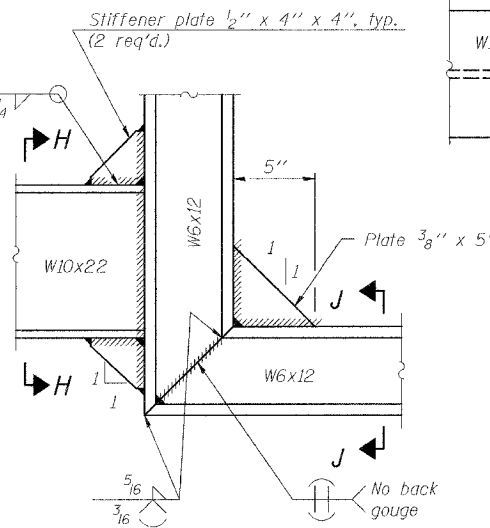
SHEET 2 OF 4

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 USER NAME = jhoerner

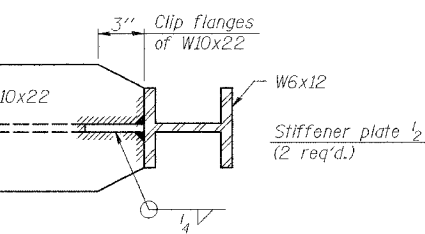
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|-----------------------|-------------|------------------|--------------|-----------|
| F.A.I. RTE.           | SECTION     | COUNTY           | TOTAL SHEETS | SHEET NO. |
| 57                    | OX1-6-2HBRK | WILLIAMSON       | 272          | 129       |
| STA.                  | TO STA.     |                  |              |           |
| FED. ROAD DIST. NO. 9 | ILLINOIS    | FED. AID PROJECT |              |           |



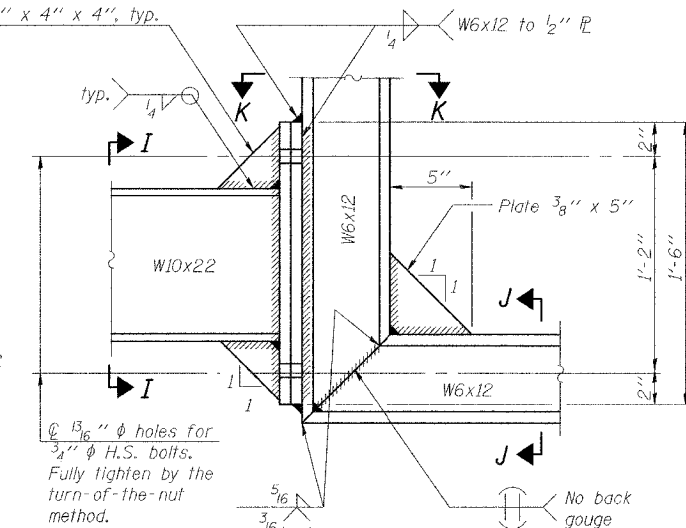
DETAIL A



DETAIL B - WELDED W10x22 TO W6x12 CONNECTION

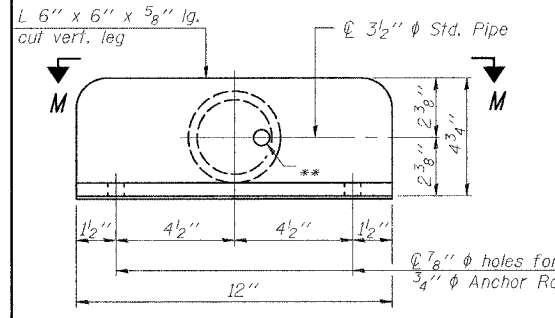


SECTION E-E



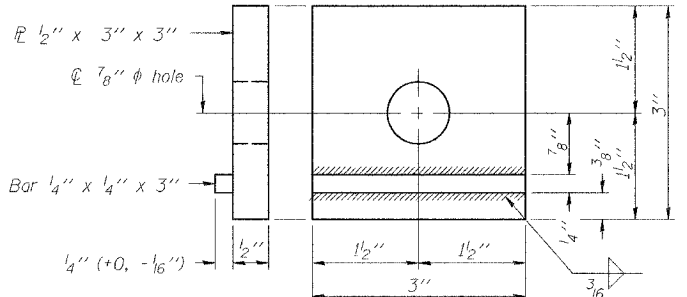
DETAIL B - ALTERNATE BOLTED W10x22 TO W6x12 CONNECTION

Alternate may be substituted by contractor to facilitate construction or galvanizing, especially on long struts for skewed bridges.

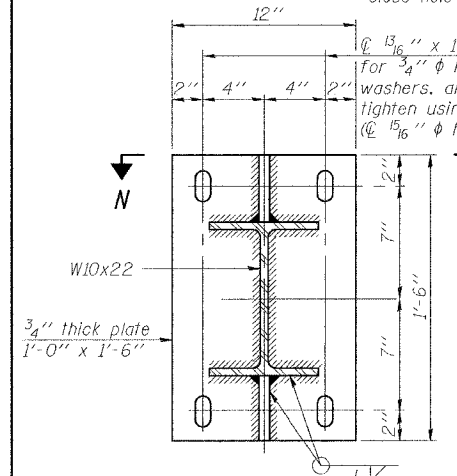


VIEW F-F

\*\* 13/16" holes for galvanizing. After galvanizing, install 7/8" A307 hot-dip galvanized bolt to close hole in angle. (No bolt required in 1/2" plate.)

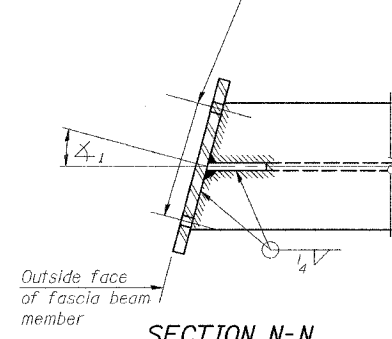


CLAMP PLATE DETAILS



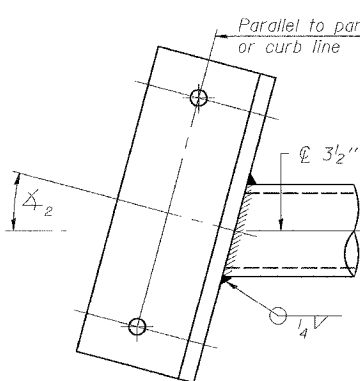
SECTION C-C

Steel beam or girder connection plate details



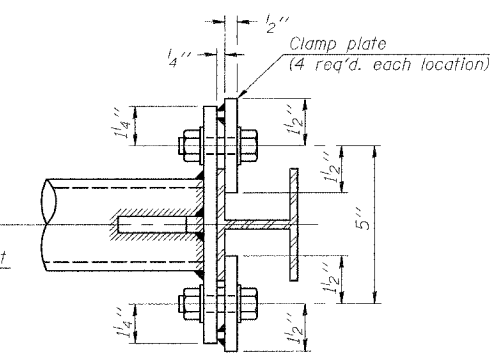
SECTION N-N

Skewed connection detail for W10x22 to fascia beam.

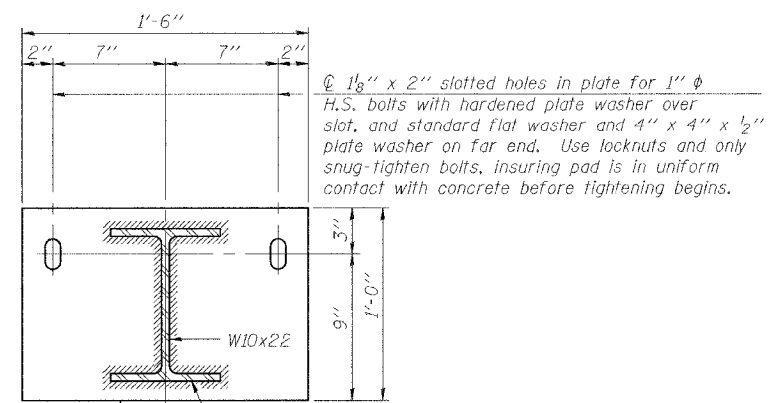


SECTION M-M

Skewed connection detail for 3/2" pipe to parapet.

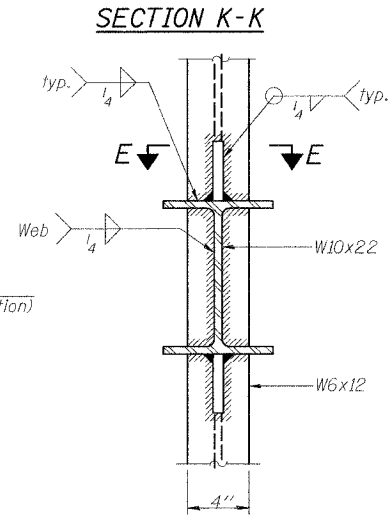


SECTION L-L

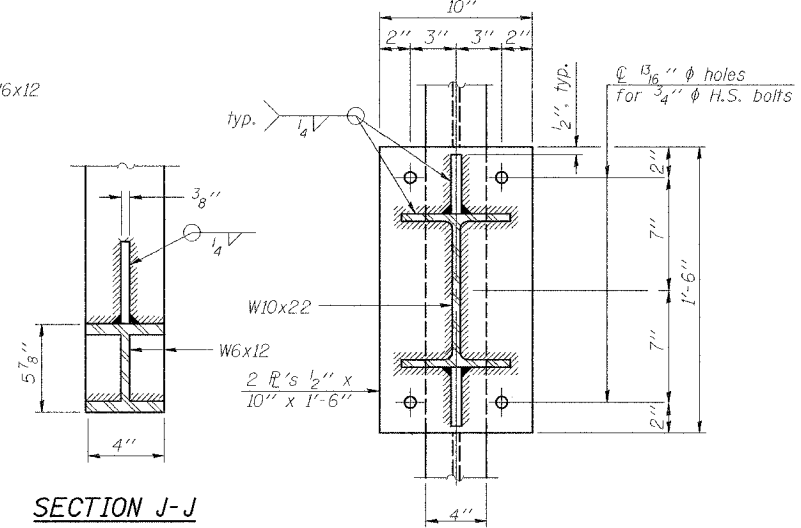


SECTION D-D

Concrete beam or girder connection plate details.



SECTION H-H



SECTION J-J

SECTION I-I

| NUMBER | REVISION | DATE |
|--------|----------|------|
|        |          |      |
|        |          |      |
|        |          |      |
|        |          |      |

ILLINOIS DEPARTMENT OF TRANSPORTATION

**BRIDGE MOUNT SIGN STRUCTURES CONNECTION DETAILS**

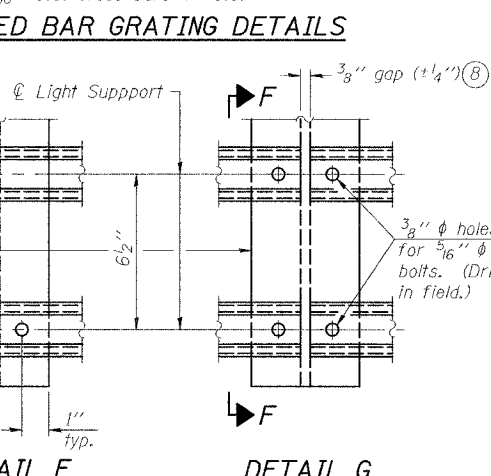
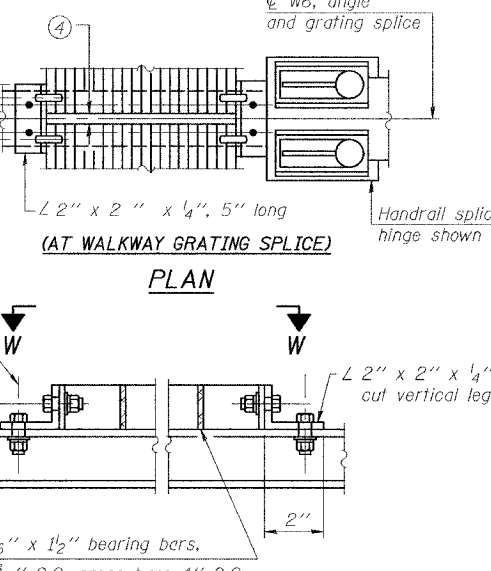
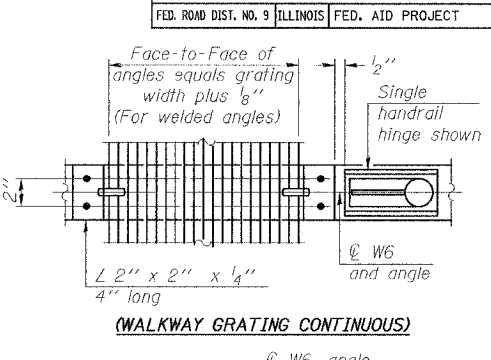
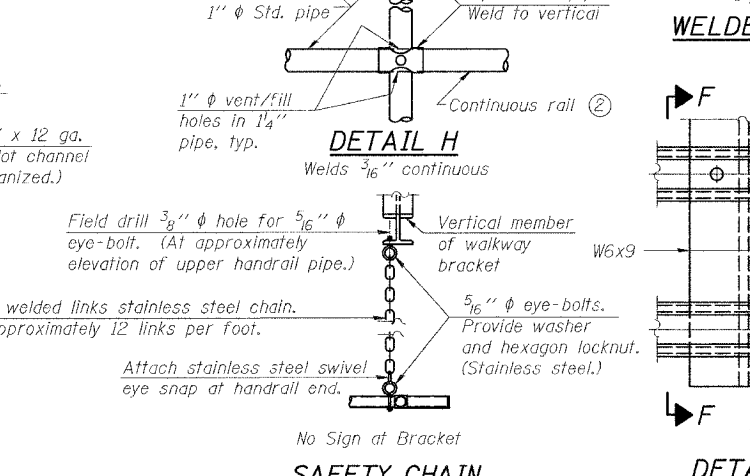
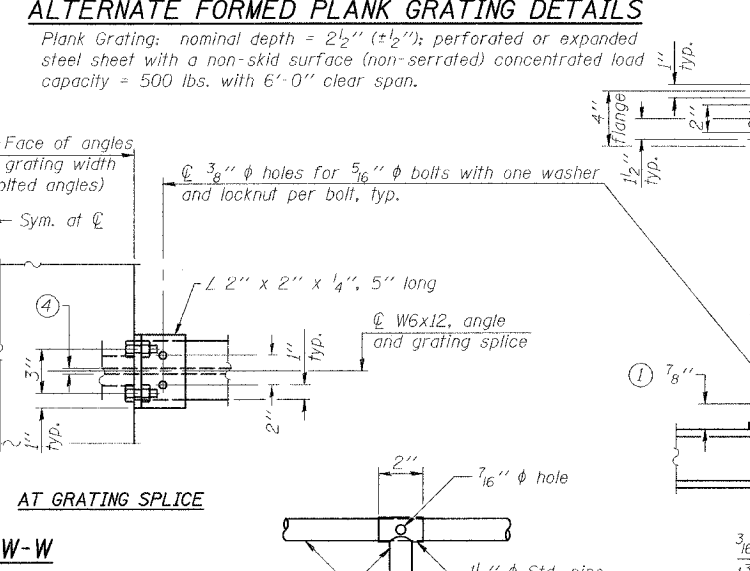
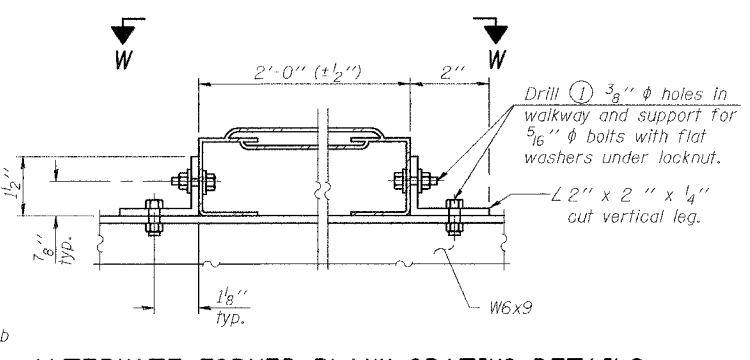
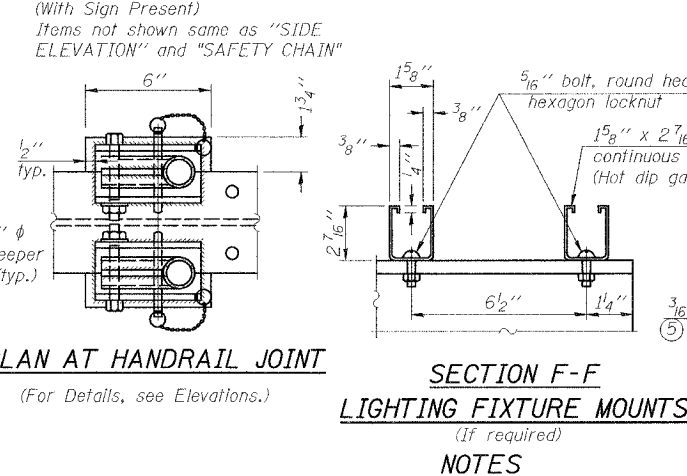
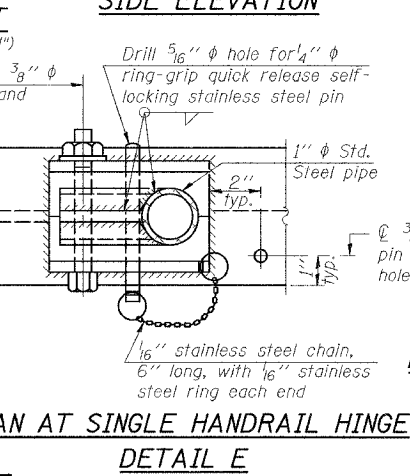
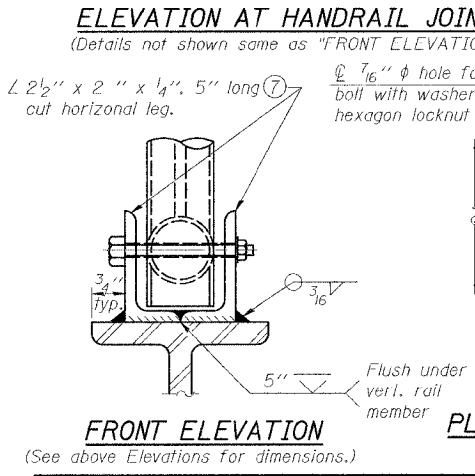
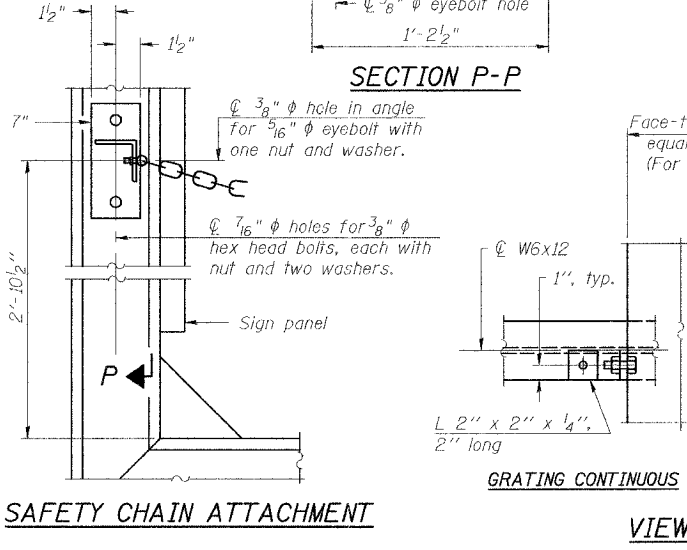
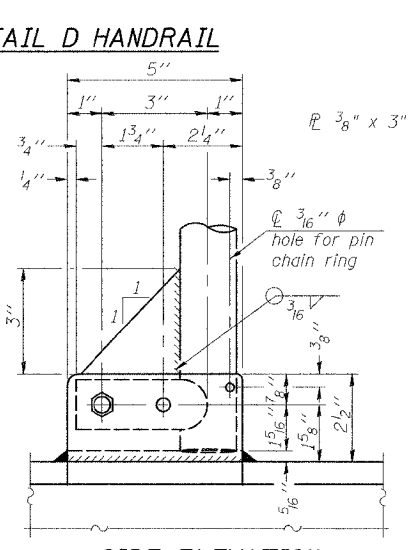
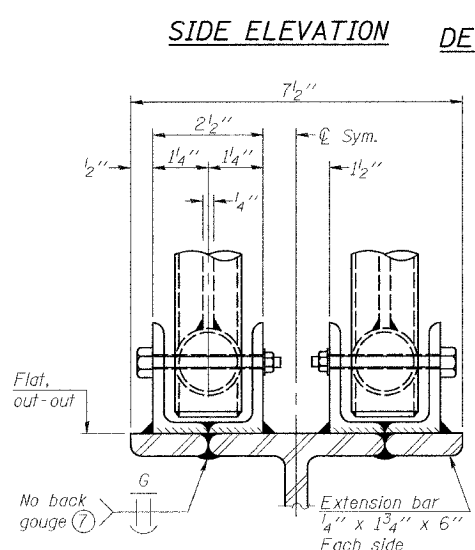
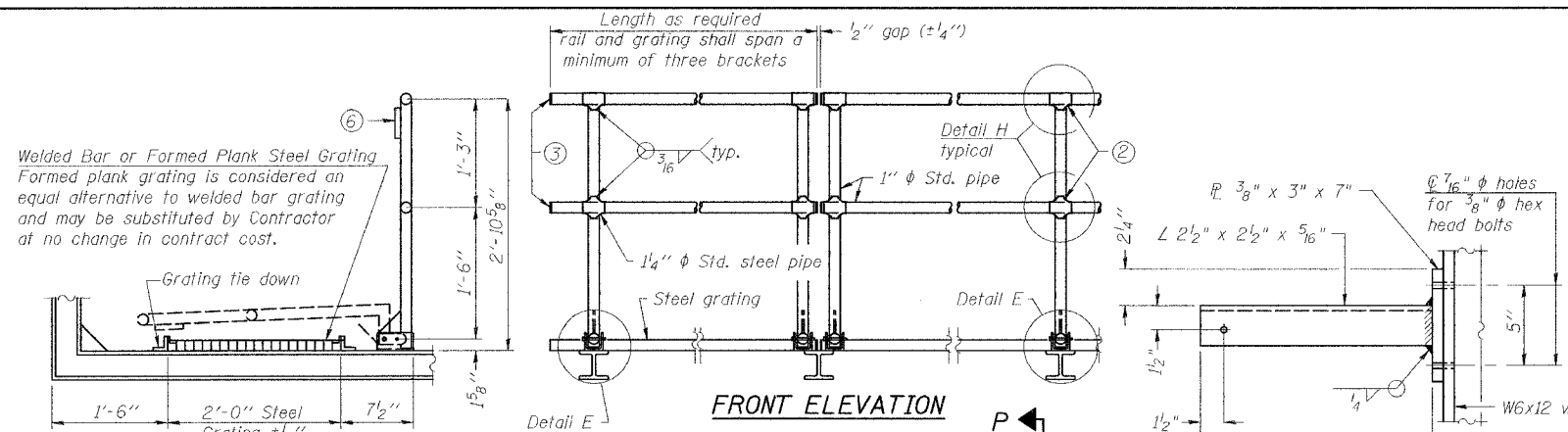
MORGAN AVENUE INTERCHANGE  
FAI ROUTE 57 WITH FAU ROUTE 9718  
WILLIAMSON COUNTY

SHEET 3 OF 4

SCALE: N/A DATE: 3-19-2007

PLOT DATE = 3/15/2007  
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 PLOT SCALE = 1/8" = 1'-0"  
 USER NAME = jg

| F.A.I. RTE.           | SECTION     | COUNTY     | TOTAL SHEETS | SHEET NO.        |
|-----------------------|-------------|------------|--------------|------------------|
| 57                    | 0X1-6-2HNBK | WILLIAMSON | 272          | 130              |
| STA.                  |             | TO STA.    |              |                  |
| FED. ROAD DIST. NO. 9 |             | ILLINOIS   |              | FED. AID PROJECT |



| NUMBER | REVISION | DATE |
|--------|----------|------|
|        |          |      |
|        |          |      |
|        |          |      |

- Drilling holes in grating may be done in shop or field, based on Contractor's preference and subject to accurate alignment. Field drilled holes must be touched up with galvanized paint.
- Horizontal rail member shall be continuous thru 1 1/4" diameter pipe. Provide 7/16" diameter hole in 1 1/4" diameter pipe for 3/8" diameter bolt. Field drill 7/16" diameter hole in horizontal rail member. Provide washer and locknut for bolt. (Use 5/16" eyebolts in 7/16" diameter holes on top rail at ends only.)
- Install standard force-tilt end caps or weld 1/8" end plates with 1/8" c.f.w. and grind smooth. (All rail ends.)
- 3/8" (+/- 1/4") gap between grating panels at splice.
- Chain to be type 304L stainless steel suitable for prolonged exterior exposure. Approximately 3'-6" long chain per location. Maximum sag with handrail erected = 4".
- 1/8" x 1/2" x 2" welded to handrail posts to protect locations that contact grating.
- Extrusions may be used in lieu of details shown, with approval by Engineer.
- Field cut ends of light support channels shall be free of burrs or hazardous projections and coated with zinc-rich primer or equivalent.

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 BRIDGE MOUNT SIGN STRUCTURES  
 WALKWAY DETAILS

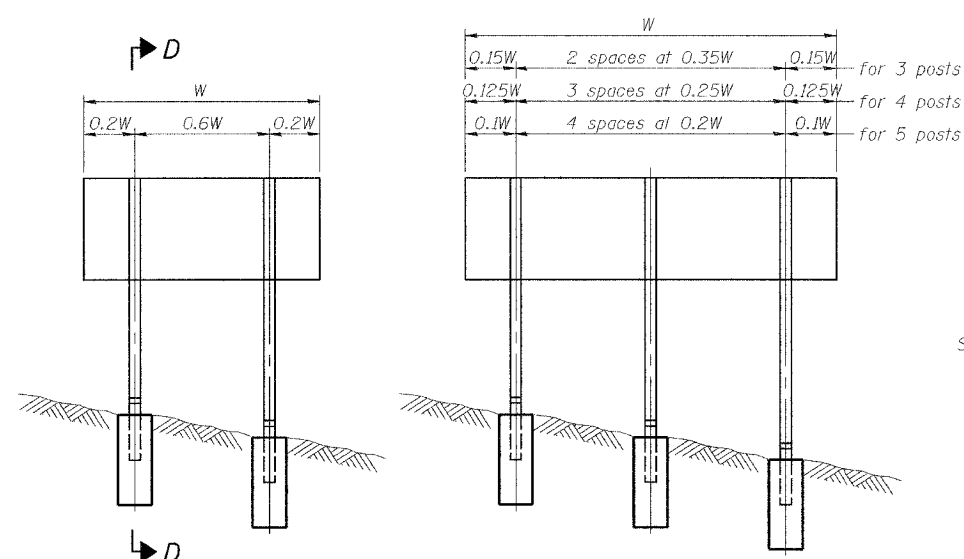
MORGAN AVENUE INTERCHANGE  
 FAI ROUTE 57 WITH FAU ROUTE 9718  
 WILLIAMSON COUNTY

SHEET 4 OF 4

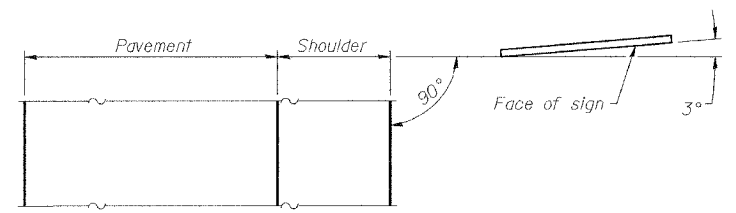
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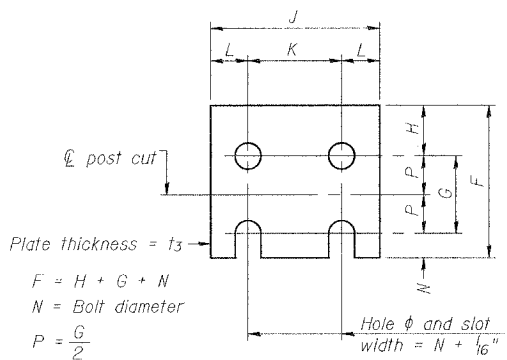
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|-----------------------|------------|------------------|--------------|-----------|
| F.A.I. RTE.           | SECTION    | COUNTY           | TOTAL SHEETS | SHEET NO. |
| 57                    | 0X1-6-2HMK | WILLIAMSON       | 272          | 131       |
| STA.                  | TO STA.    |                  |              |           |
| FED. ROAD DIST. NO. 9 | ILLINOIS   | FED. AID PROJECT |              |           |



ELEVATION



LOCATION SKETCH

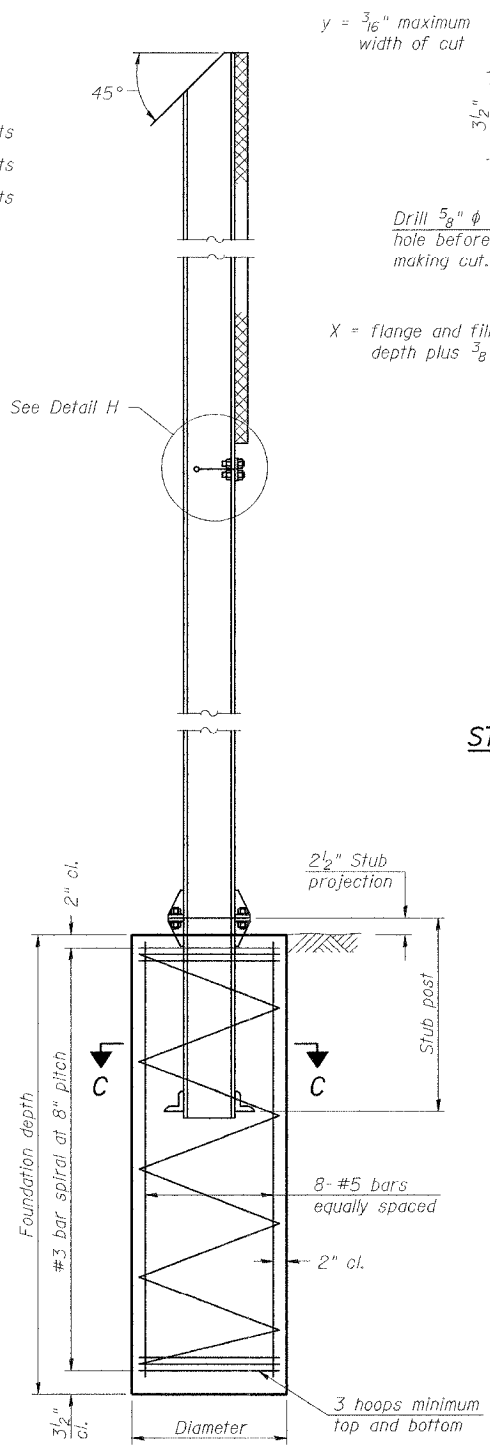


FUSE PLATE DETAIL

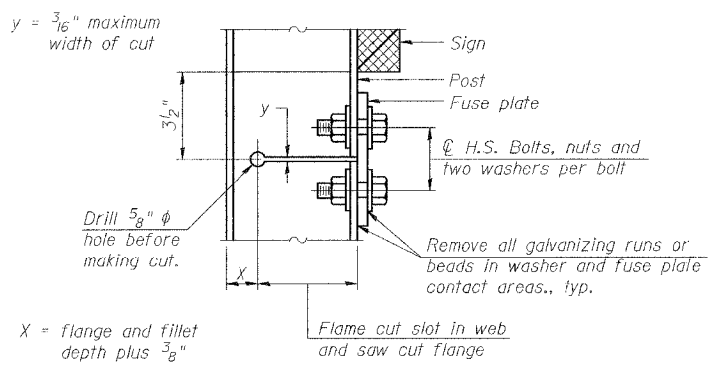
(Install with notches down.)

| FUSE PLATE DATA   |        |        |
|-------------------|--------|--------|
| N = Bolt Diameter | G      | H      |
| 1/2"              | 2"     | 1 1/8" |
| 5/8"              | 2 1/4" | 1 1/4" |
| 3/4"              | 2 1/2" | 1 3/8" |
| 7/8"              | 2 3/4" | 1 1/2" |
| 1"                | 3"     | 1 5/8" |
| 1 1/8"            | 3 1/4" | 1 3/4" |

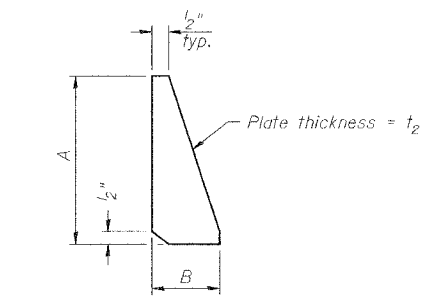
$F = H + G + N$   
 $N = \text{Bolt diameter}$   
 $P = \frac{G}{2}$



SECTION D-D

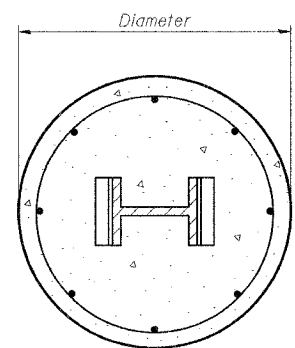


DETAIL H

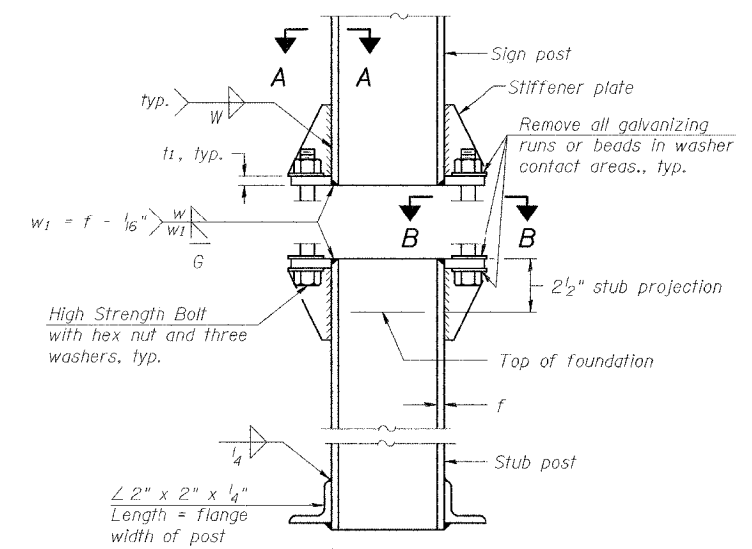


STIFFENER PLATE DETAIL

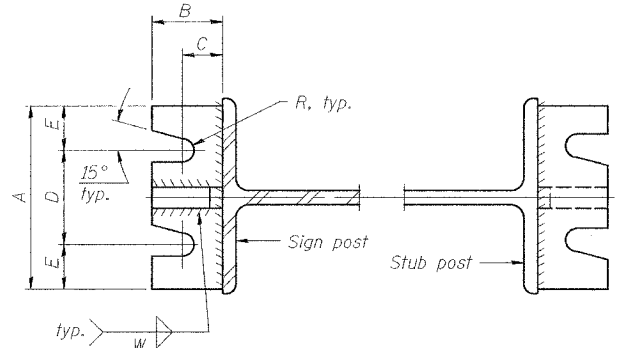
(See table for dimensions.)



SECTION C-C

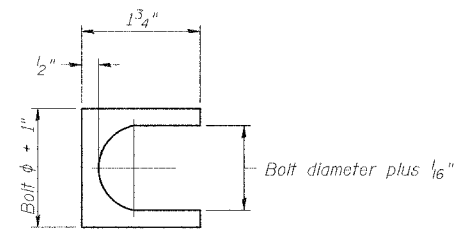


ELEVATION SIGN POST & STUB POST



SECTION A-A

SECTION B-B



SHIM DETAIL

Furnish two 0.01" thick and two 0.03" thick stainless steel or brass (ASTM B36) shims per post.

GENERAL NOTES

Posts shall be plumbed by using shims with post-to-stub post connection bolts snug tight only. Final tightening of all High Strength Bolts shall be in accordance with Article T27.05 and threads at the junction of the bolt and nut shall be burred or center punched to prevent the nut from loosening.

LOADING: 80 m.p.h. wind with 30% gust factor, normal to sign.

DESIGN STRESSES:  
 Structural steel - 20,000 p.s.i.  
 Reinforcing steel - 20,000 p.s.i.  
 Concrete - 1,400 p.s.i.  
 Footing soil pressure - 2,000 p.s.f.

After fabrication, the post, fuse plate and upper 6", min. of the stub post shall be hot-dip galvanized in accordance with AASHTO M111. All bolts, nuts and washers shall be hot-dip galvanized in accordance with AASHTO M232.

Work this sheet with Base Sheet BAW-A-2.

| NUMBER | REVISION | DATE |
|--------|----------|------|
|        |          |      |
|        |          |      |
|        |          |      |

ILLINOIS DEPARTMENT OF TRANSPORTATION

**BREAK-AWAY WIDE FLANGE STEEL SIGN POST DETAILS**

MORGAN AVENUE INTERCHANGE  
 FAI ROUTE 57 WITH FAU ROUTE 9718  
 WILLIAMSON COUNTY

SHEET 1 OF 2

SCALE: N/A DATE: 3-19-2007

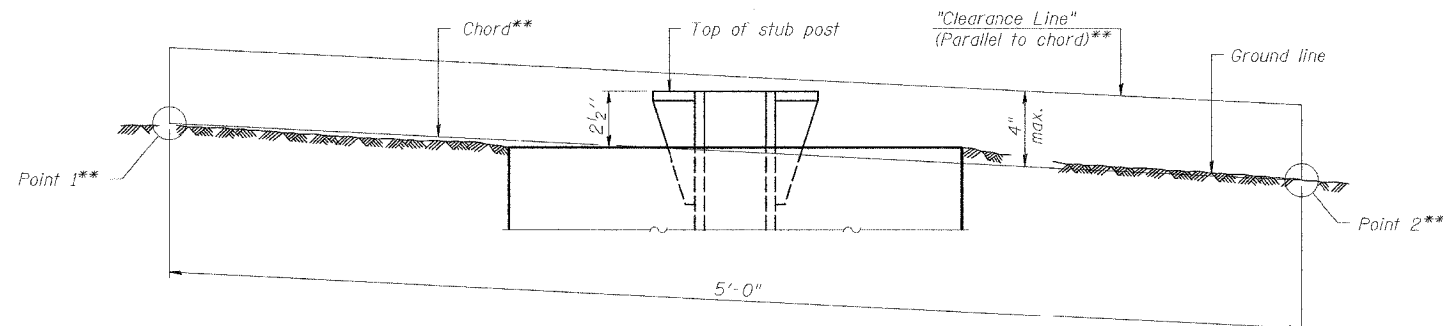
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 USER NAME = ghearn

|                       |             |                  |              |           |
|-----------------------|-------------|------------------|--------------|-----------|
| F.A.I. RTE.           | SECTION     | COUNTY           | TOTAL SHEETS | SHEET NO. |
| 57                    | 0X1-6-21HBK | WILLIAMSON       | 272          | 132       |
| STA.                  | TO STA.     |                  |              |           |
| FED. ROAD DIST. NO. 9 | ILLINOIS    | FED. AID PROJECT |              |           |

| POST   | CONCRETE FOUNDATION TABLE |                 |                           |                      |              |                |                     |           | POST TO STUB POST CONNECTION DATA |        |        |        |        |                |                |      |        |       | FUSE PLATE DATA |        |                |          |  |
|--------|---------------------------|-----------------|---------------------------|----------------------|--------------|----------------|---------------------|-----------|-----------------------------------|--------|--------|--------|--------|----------------|----------------|------|--------|-------|-----------------|--------|----------------|----------|--|
|        | Foundation                |                 | Concrete (1)<br>cu. yds.) | Reinforcement        |              |                | Stub Post<br>Length | Bolt Size | A                                 | B      | C      | D      | E      | t <sub>1</sub> | t <sub>2</sub> | R    | W      | J     | K               | L      | t <sub>3</sub> |          |  |
|        | Diameter                  | * Minimum Depth |                           | Vertical Bars Length | Bar Diameter | Spirals Length |                     |           |                                   |        |        |        |        |                |                |      |        |       |                 |        |                | lbs. (2) |  |
| W6x9   | 2'-0"                     | 6'-0"           | 0.70                      | 5'-9"                | 1'-8 1/2"    | 79'-0"         | 78                  | 2'-3"     | 5/8" x 3/4"                       | 6"     | 2 1/4" | 1 1/4" | 3 1/2" | 1 1/4"         | 3/4"           | 1/2" | 1 1/2" | 1/4"  | 4"              | 2 1/4" | 7/8"           | 1/4"     |  |
| W6x15  | 2'-0"                     | 6'-0"           | 0.70                      | 5'-9"                | 1'-8 1/2"    | 79'-0"         | 78                  | 2'-6"     | 5/8" x 3/4"                       | 6"     | 2 1/4" | 1 1/4" | 3 1/2" | 1 1/4"         | 3/4"           | 1/2" | 1 1/2" | 1/4"  | 6"              | 3 1/2" | 1 1/4"         | 3/8"     |  |
| W8x18  | 2'-0"                     | 6'-0"           | 0.70                      | 5'-9"                | 1'-8 1/2"    | 79'-0"         | 78                  | 2'-6"     | 3/4" x 3/4"                       | 6"     | 2 1/2" | 1 3/8" | 3 1/4" | 1 3/8"         | 1"             | 1/2" | 1 1/2" | 5/16" | 5 1/4"          | 2 3/4" | 1 1/4"         | 3/8"     |  |
| W10x22 | 2'-6"                     | 6'-6"           | 1.18                      | 6'-3"                | 2'-2 1/2"    | 105'-0"        | 92                  | 3'-0"     | 3/4" x 3/4"                       | 6"     | 2 1/2" | 1 3/8" | 3 1/4" | 1 3/8"         | 1"             | 1/2" | 1 1/2" | 5/16" | 5 3/4"          | 2 3/4" | 1 1/2"         | 1/2"     |  |
| W10x26 | 2'-6"                     | 7'-0"           | 1.27                      | 6'-9"                | 2'-2 1/2"    | 112'-0"        | 98                  | 3'-0"     | 7/8" x 4"                         | 7"     | 2 3/4" | 1 1/2" | 4"     | 1 1/2"         | 1"             | 3/4" | 1 1/2" | 3/8"  | 5 3/4"          | 2 3/4" | 1 1/2"         | 5/8"     |  |
| W12x26 | 2'-6"                     | 7'-9"           | 1.41                      | 7'-6"                | 2'-2 1/2"    | 119'-0"        | 107                 | 3'-0"     | 7/8" x 4"                         | 7"     | 2 3/4" | 1 1/2" | 4"     | 1 1/2"         | 1"             | 3/4" | 1 1/2" | 3/8"  | 6 1/2"          | 3 1/2" | 1 1/2"         | 5/8"     |  |
| W14x30 | 3'-0"                     | 7'-3"           | 1.90                      | 7'-0"                | 2'-8 1/2"    | 145'-0"        | 113                 | 3'-0"     | 7/8" x 4"                         | 7"     | 2 3/4" | 1 1/2" | 4"     | 1 1/2"         | 1"             | 3/4" | 1 1/2" | 3/8"  | 6 3/4"          | 3 1/2" | 1 5/8"         | 1/2"     |  |
| W14x38 | 3'-0"                     | 8'-0"           | 2.09                      | 7'-9"                | 2'-8 1/2"    | 153'-0"        | 122                 | 3'-6"     | 1" x 4 1/2"                       | 7 1/2" | 3"     | 1 3/4" | 4"     | 1 3/4"         | 1 1/4"         | 3/4" | 1 1/2" | 3/8"  | 6 3/4"          | 3 1/2" | 1 5/8"         | 1/2"     |  |
| W16x45 | 3'-0"                     | 8'-6"           | 2.23                      | 8'-3"                | 2'-8 1/2"    | 162'-0"        | 130                 | 3'-6"     | 1" x 4 1/2"                       | 7 1/2" | 3"     | 1 3/4" | 4"     | 1 3/4"         | 1 1/4"         | 3/4" | 1 1/2" | 3/8"  | 7"              | 3 1/2" | 1 3/4"         | 1/2"     |  |

\*Dimensional changes required for varying site conditions shall be approved by the Engineer.

| POST   | FUSE PLATE BOLT SIZE |               |               |               |               |               |               |               |               |               |               |               |               |
|--------|----------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
|        | Sign Depth           |               |               |               |               |               |               |               |               |               |               |               |               |
|        | 4'-0"                | 5'-0"         | 6'-0"         | 7'-0"         | 8'-0"         | 9'-0"         | 10'-0"        | 11'-0"        | 12'-0"        | 13'-0"        | 14'-0"        | 15'-0"        | 16'-0"        |
| W6x9   | 1/2" x 1 1/2"        | 1/2" x 1 1/2" | 1/2" x 1 1/2" | 5/8" x 1 3/4" | 5/8" x 1 3/4" | 5/8" x 1 3/4" | 5/8" x 1 3/4" | ---           | ---           | ---           | ---           | ---           | ---           |
| W6x15  | 1/2" x 1 3/4"        | 1/2" x 1 3/4" | 5/8" x 2"     | 5/8" x 2"     | 3/4" x 2"     | 3/4" x 2"     | 3/4" x 2"     | 3/4" x 2"     | 7/8" x 2"     | 7/8" x 2"     | 7/8" x 2"     | ---           | ---           |
| W8x18  | 1/2" x 1 3/4"        | 1/2" x 1 3/4" | 1/2" x 1 3/4" | 5/8" x 2"     | 5/8" x 2"     | 3/4" x 2"     | 3/4" x 2"     | 7/8" x 2 1/4" | 7/8" x 2 1/4" | 7/8" x 2 1/4" | 7/8" x 2 1/4" | 7/8" x 2 1/4" | 7/8" x 2 1/4" |
| W10x22 | 1/2" x 2"            | 1/2" x 2"     | 1/2" x 2"     | 5/8" x 2"     | 5/8" x 2"     | 3/4" x 2 1/4" | 3/4" x 2 1/4" | 7/8" x 2 1/4" | 7/8" x 2 1/4" | 7/8" x 2 1/2" | 1" x 2 1/2"   | 1" x 2 3/4"   | 1" x 2 3/4"   |
| W10x26 | 1/2" x 2"            | 1/2" x 2"     | 1/2" x 2"     | 5/8" x 2 1/4" | 5/8" x 2 1/4" | 3/4" x 2 1/2" | 3/4" x 2 1/2" | 7/8" x 2 1/2" | 7/8" x 2 1/2" | 1" x 2 3/4"   | 1" x 2 3/4"   | 1" x 2 3/4"   | 1 1/8" x 3"   |
| W12x26 | ---                  | ---           | ---           | ---           | ---           | 5/8" x 2 1/4" | ---           | ---           | 7/8" x 2 1/2" | 7/8" x 2 1/2" | 1" x 2 1/2"   | 1" x 2 3/4"   | 1" x 2 3/4"   |
| W14x30 | 1/2" x 2"            | 1/2" x 2"     | 1/2" x 2"     | 1/2" x 2"     | 1/2" x 2"     | 5/8" x 2"     | 3/4" x 2 1/4" | 3/4" x 2 1/4" | 3/4" x 2 1/4" | 7/8" x 2 1/2" | 1" x 2 1/2"   | 1" x 2 3/4"   | 1" x 2 3/4"   |
| W14x38 | ---                  | 1/2" x 2"     | 1/2" x 2"     | 1/2" x 2"     | 1/2" x 2"     | 5/8" x 2 1/4" | 3/4" x 2 1/4" | 3/4" x 2 1/2" | 3/4" x 2 1/2" | 7/8" x 2 1/2" | 7/8" x 2 1/2" | 1" x 2 1/2"   | 1" x 2 3/4"   |
| W16x45 | ---                  | ---           | ---           | 1/2" x 2"     | 1/2" x 2"     | 5/8" x 2 1/4" | 5/8" x 2 1/4" | 3/4" x 2 1/4" | 3/4" x 2 1/2" | 3/4" x 2 1/2" | 7/8" x 2 1/2" | 7/8" x 2 1/2" | 1" x 2 3/4"   |



**ELEVATION  
GROUND LINE & STUB POST**

\*\* For all "Point 1" and "Point 2" locations, "Clearance Line" must be at or above top of stub post.

- (1) Quantity includes all concrete necessary for one foundation.
- (2) Includes reinforcement bars and spiral hooping for one foundation.

| NUMBER | REVISION | DATE |
|--------|----------|------|
|        |          |      |
|        |          |      |
|        |          |      |
|        |          |      |

ILLINOIS DEPARTMENT OF TRANSPORTATION

**BREAK-AWAY WIDE FLANGE  
STEEL SIGN POST TABLES**

MORGAN AVENUE INTERCHANGE  
FAI ROUTE 57 WITH FAU ROUTE 9718  
WILLIAMSON COUNTY

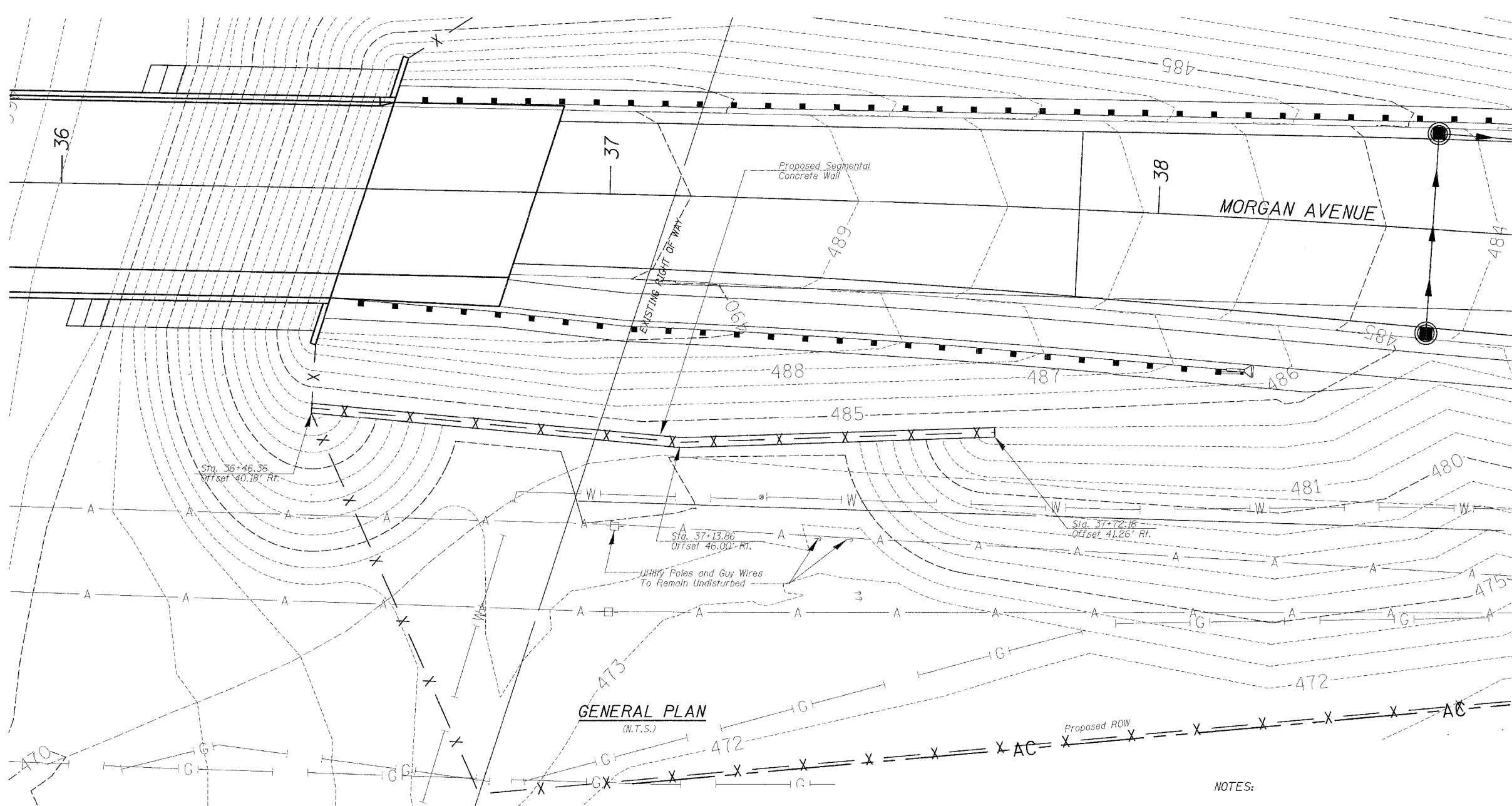
SHEET 2 OF 2

SCALE: N/A      DATE: 3-19-2007

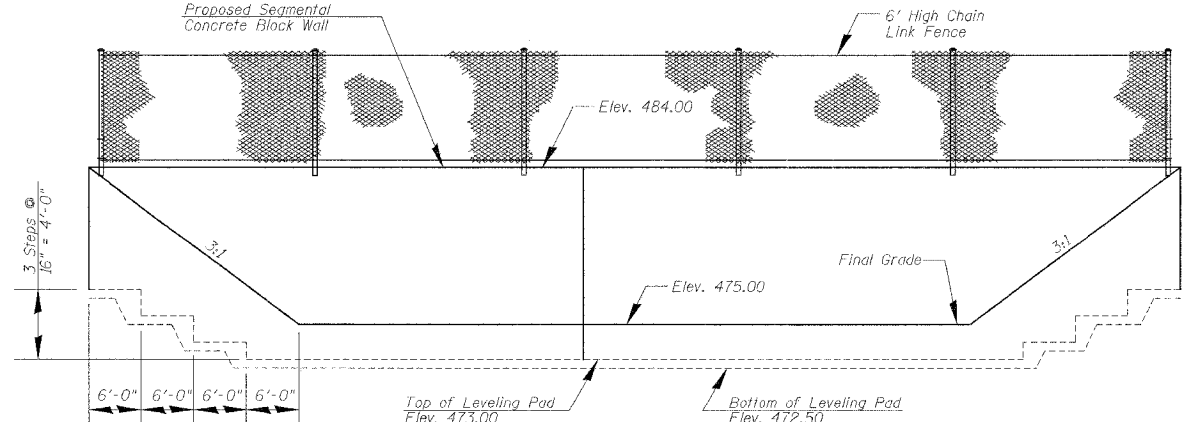
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 USER NAME = dhoerner



| F.A.I. RTE.           | SECTION     | COUNTY     | TOTAL SHEETS     | SHEET NO. |
|-----------------------|-------------|------------|------------------|-----------|
| 57                    | (X1-6-2)HBK | WILLIAMSON | 272              | 133       |
| STA.                  |             | TO STA.    |                  |           |
| FED. ROAD DIST. NO. 9 |             | ILLINOIS   | FED. AID PROJECT |           |



GENERAL PLAN  
(N.T.S.)



ELEVATION

NOTES:

1. THE LEVELING PAD ELEVATIONS SHOWN ARE THE MINIMUM REQUIREMENTS. THE FINAL ELEVATIONS MAY BE DIFFERENT AS DETERMINED BY THE RETAINING WALL ENGINEER IN ACCORDANCE WITH THE REQUIREMENTS ON SHEET 2 OF 2 AND IN THE SPECIAL PROVISIONS.
2. THE AS-BUILT BOTTOM OF WALL STEPS MAY VARY FROM THOSE SHOWN ON THE ELEVATION AND SHALL BE AS DETAILED ON THE SRW CONSTRUCTION DRAWINGS AND IN ACCORDANCE WITH THE REQUIREMENTS ON SHEET 2 OF 2 AND THE REQUIREMENTS OF THE SPECIAL PROVISIONS. PAYMENT WILL BE MADE FOR THE CONTRACT QUANTITY, NOT THE AS-BUILT QUANTITY.
3. THE PROPOSED ROW IS APPROXIMATELY 105' RT. OF MORGAN AVENUE @ (SEE ROW PLANS)

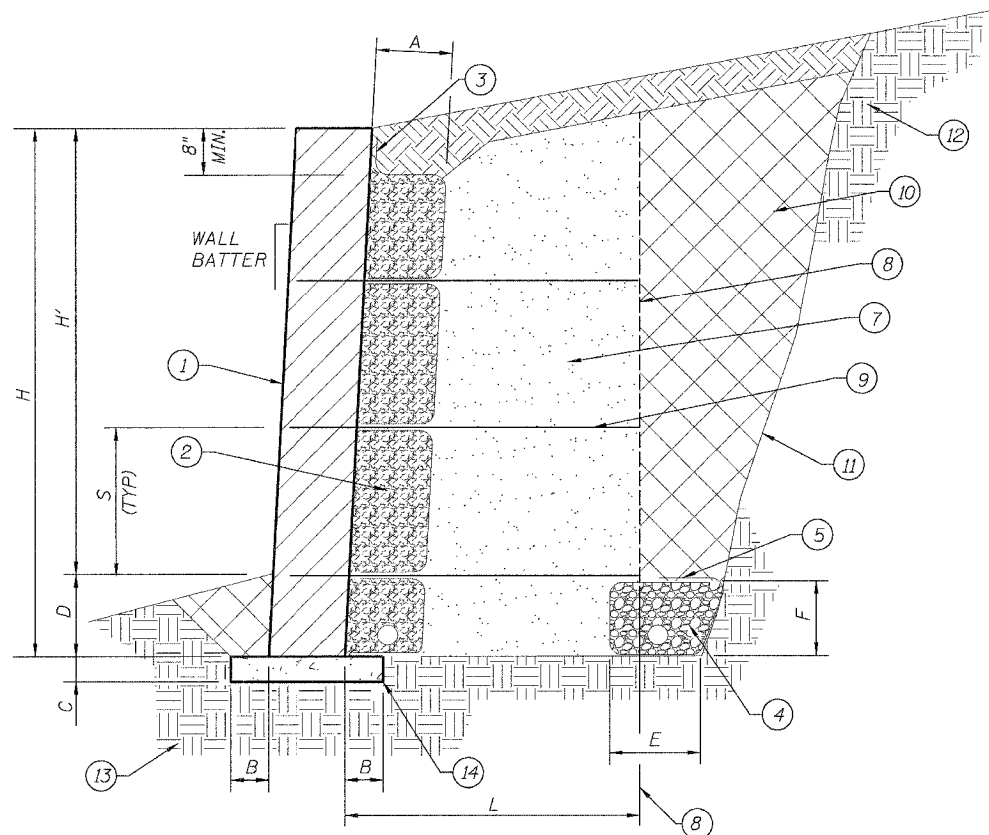
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|-----------|------|
| NAME      | DATE |
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ILLINOIS DEPARTMENT OF TRANSPORTATION  
**SEGMENTAL CONCRETE BLOCK WALL**  
**PLAN AND ELEVATION**  
 MORGAN AVENUE INTERCHANGE  
 F&P ROUTE 57 WITH FAJ ROUTE 9718  
 WILLIAMSON COUNTY  
 SHEET 1 OF 2  
 SCALE: NONE  
 DATE: 3-19-2007  
 DRAWN BY: KBF  
 CHECKED BY: ALN

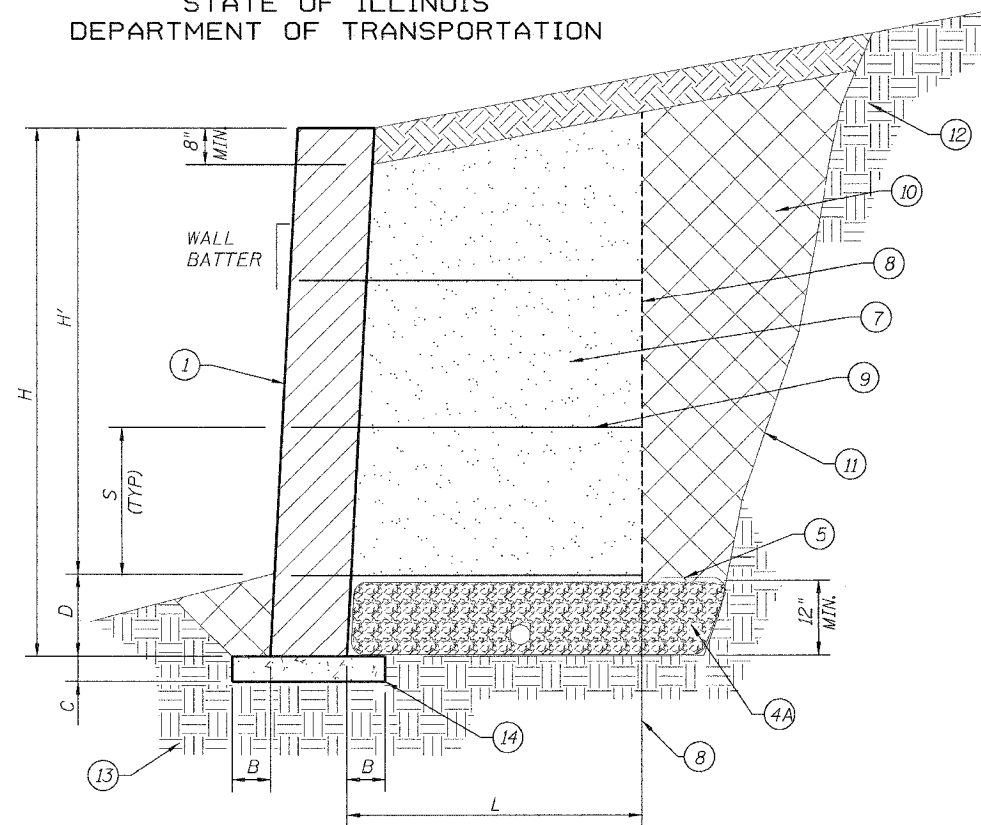
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 FILE NAME = F:\046600\46600.dgn  
 PLOT SCALE = 1/8" = 1'-0"  
 USER NAME = chester

| F.A.I. RTE.           | SECTION     | COUNTY           | TOTAL SHEETS | SHEET NO. |
|-----------------------|-------------|------------------|--------------|-----------|
| 57                    | (X1-6-2)HBK | WILLIAMSON       | 272          | 134       |
| STA. TO STA.          |             | FED. AID PROJECT |              |           |
| FED. ROAD DIST. NO. 9 |             | ILLINOIS         |              |           |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

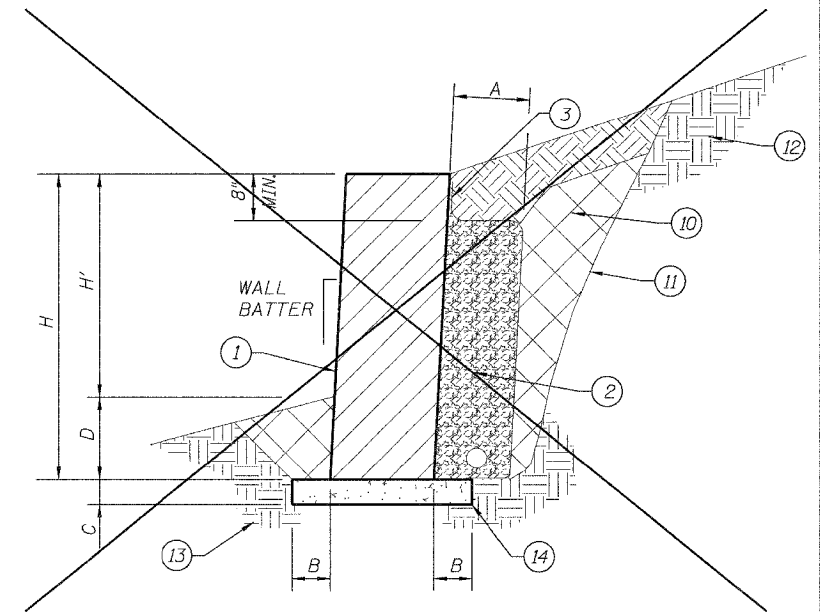


MSE SRW DRAINAGE ALTERNATIVE 1



MSE SRW DRAINAGE ALTERNATIVE 2

GENERIC MSE SRW SECTIONS



~~GENERIC SRW GRAVITY WALL SECTION~~

~~- GRAVITY WALL NOT PERMITTED -~~

GENERIC WALL SECTION DIMENSIONS

|             |   |
|-------------|---|
| A           | 12" MINIMUM, GREATER IF REQUIRED BY THE RETAINING WALL ENGINEER               |
| B           | 6" MINIMUM, GREATER IF REQUIRED BY THE RETAINING WALL ENGINEER                |
| C           | 6" MINIMUM, GREATER IF REQUIRED BY THE RETAINING WALL ENGINEER                |
| D           | WHICHEVER IS GREATER: 24"<br>OR THAT SPECIFIED BY THE RETAINING WALL ENGINEER |
| E           | 18" MINIMUM, GREATER IF REQUIRED BY THE RETAINING WALL ENGINEER               |
| F           | 18" MINIMUM, GREATER IF REQUIRED BY THE RETAINING WALL ENGINEER               |
| L           | 13' FEET MINUS THE SRW UNIT THICKNESS   |
| S           | 24" MAXIMUM   |
| WALL BATTER | AS REQUIRED BY THE RETAINING WALL ENGINEER                                    |

SOIL DESIGN PARAMETERS

| SOIL                | ANGLE OF INTERNAL FRICTION | UNIT WEIGHT (pcf) | BEARING CAPACITY (tsf) |
|---------------------|----------------------------|-------------------|------------------------|
| REINFORCED BACKFILL | 34°                        | 120               | N A                    |
| RETAINED FILL       | 28°                        | 120               | N A                    |
| FOUNDATION SOIL     | 26°                        | N A               | 2500                   |

NOTE: COHESION SHALL BE ASSUMED TO BE 0 FOR RETAINED FILL AND FOUNDATION SOIL.

WALL SECTION NOTES

- ① CONCRETE SRW UNITS.
- ② SRW UNIT DRAINAGE SYSTEM SHALL CONSIST OF DRAINAGE FILL ENTIRELY WRAPPED IN FILTER FABRIC AND A 4" PERFORATED PIPE AS SHOWN.
- ③ LAP FILTER FABRIC FIRMLY AGAINST SRW UNITS AND 6" ABOVE THE DRAINAGE FILL.
- ④ MINIMUM RETAINED FILL DRAINAGE SHALL BE A 4" PERFORATED PIPE WITHIN 18"x18" DRAINAGE FILL CONTINUOUS THE ENTIRE LENGTH OF THE WALL AND ENTIRELY WRAPPED WITH FILTER FABRIC.
- ④A ALTERNATIVE 2 DRAINAGE SYSTEM SHALL CONSIST OF DRAINAGE FILL WRAPPED ENTIRELY IN FILTER FABRIC AND A 4" PERFORATED PIPE AND SHALL EXTEND FROM THE BACK OF THE SRW UNITS TO THE EXCAVATION LIMIT.
- ⑤ LAP THE FILTER FABRIC 8" MINIMUM OVER THE TOP AND AT ENDS OF ADJACENT SHEETS.
- 6 THE DRAINAGE DETAILS ARE MINIMUM REQUIREMENTS. THE RETAINING WALL ENGINEER SHALL APPROVE THE USE OF THESE MINIMUMS, OR SHALL SPECIFY DRAINAGE OF GREATER EXTENT AND CAPACITY, OR SPECIFY ITEMS IN ADDITION TO THE MINIMUMS SUCH AS DRAINAGE GEO. COMPOSITES BEHIND THE REINFORCED BACKFILL. MSE WALL DRAINAGE ALTERNATIVES MAY BE OMITTED FROM MSE WALLS WHEN THE REINFORCED BACKFILL IS DRAINAGE FILL, IS ENTIRELY WRAPPED IN FILTER FABRIC, AND CONTAINS A 4" PERFORATED DRAIN PIPE.
- ⑦ REINFORCED BACKFILL
- ⑧ LIMIT OF REINFORCED BACKFILL. ENTIRELY WRAP THE REINFORCED BACKFILL WITH FILTER FABRIC WHEN THE REINFORCED BACKFILL IS A GAP GRADED COURSE AGGREGATE AND HAS LESS THAN 30% PASSING THE NO. 4 SIEVE.
- ⑨ BACKFILL REINFORCEMENT. THE BACKFILL REINFORCEMENT SHALL BE CONTINUOUS WITHOUT GAP ALONG THE LENGTH OF WALL THAT REQUIRES BACKFILL REINFORCEMENT. THE BACKFILL REINFORCEMENT SHALL BE ONE PIECE FULL LENGTH (NO SPLICES) FROM THE POINT OF CONNECTION TO THE SRW UNITS TO THE LIMIT OF THE REINFORCED FILL BEHIND THE WALL.
- ⑩ COMPACTED EMBANKMENT, WHERE SPECIFIED BY THE RETAINING WALL ENGINEER.
- ⑪ EXCAVATION LIMITS.
- ⑫ EXISTING EMBANKMENT.
- ⑬ FOUNDATION SOIL.
- ⑭ LEVELING PAD.
- 15 ALL VOIDS IN OR BETWEEN SRW UNITS SHALL BE FILLED WITH DRAINAGE BACKFILL MATERIAL.
- 16 DRAIN PIPES SHALL BE SLOPED 1/8" PER FOOT MINIMUM AND SHALL BE DISCHARGED EVERY 100 FEET MAXIMUM AT LOW POINTS ALONG THE TOE OF THE WALL.

| REVISIONS |      |
|-----------|------|
| NAME      | DATE |
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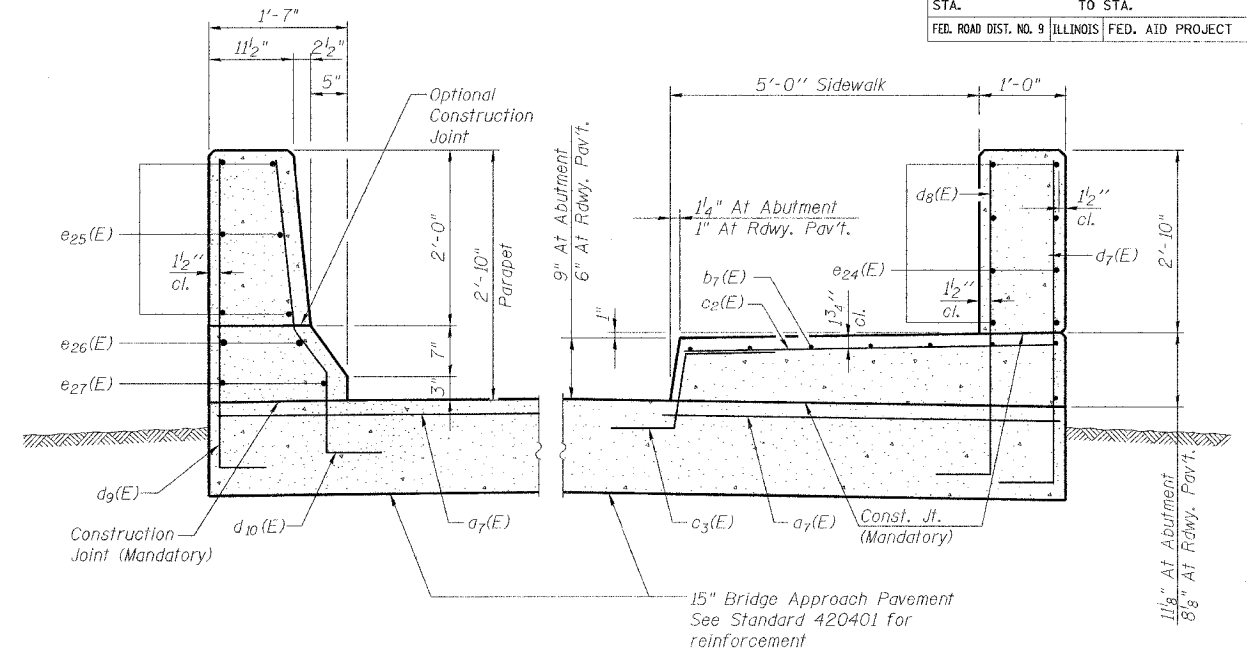
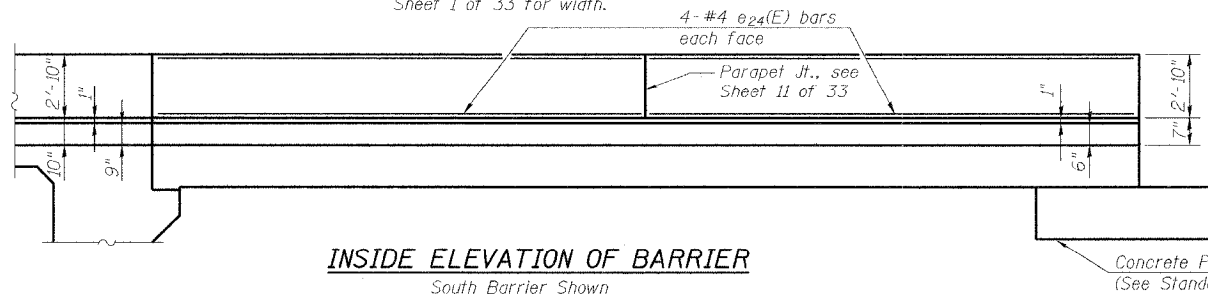
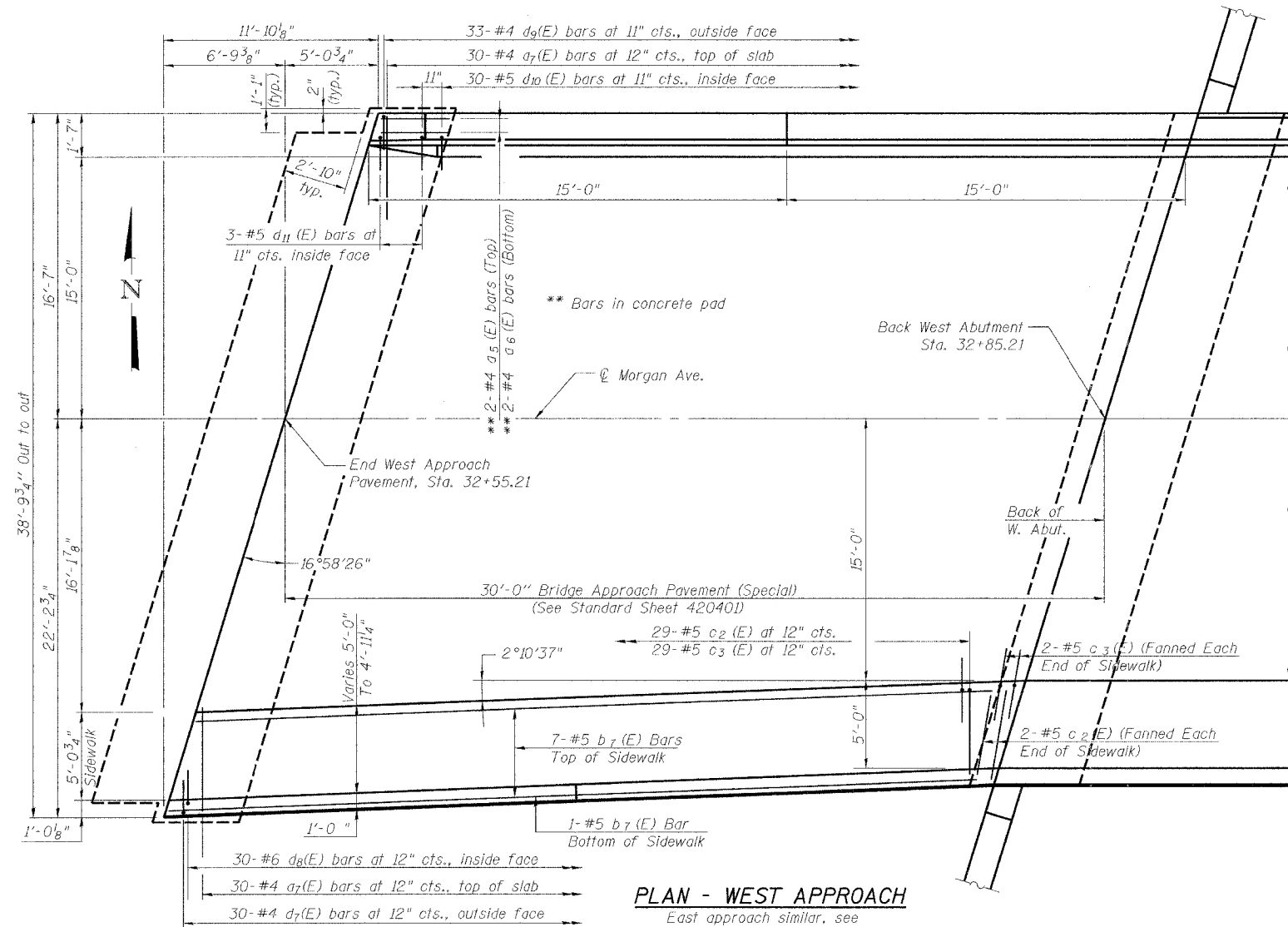
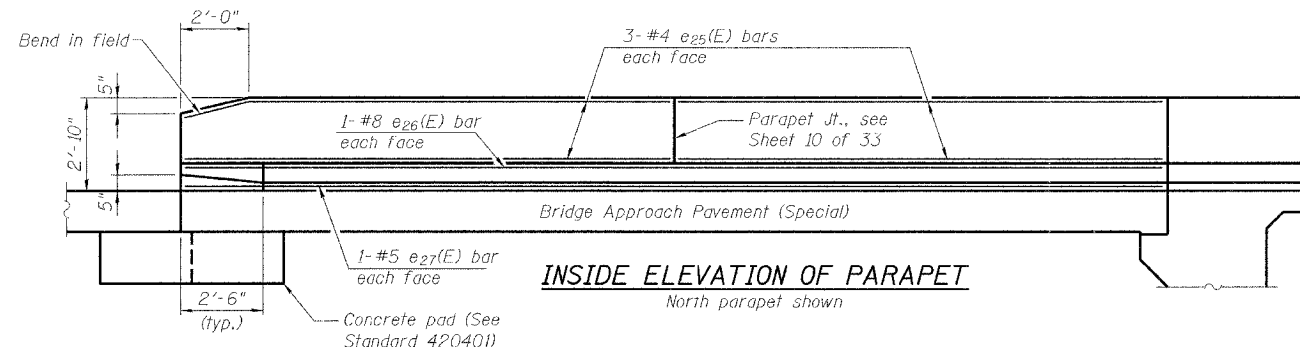
ILLINOIS DEPARTMENT OF TRANSPORTATION  
SEGMENTAL CONCRETE BLOCK WALL  
SECTIONS AND NOTES  
MORGAN AVENUE INTERCHANGE  
FAP ROUTE 57 WITH FAU ROUTE 9718  
WILLIAMSON COUNTY

SHEET 2 OF 2

SCALE: NONE  
DATE: 3-19-2007

DRAWN BY: KBF  
CHECKED BY: ALN

|                       |             |                  |              |           |
|-----------------------|-------------|------------------|--------------|-----------|
| F.A.I. RTE.           | SECTION     | COUNTY           | TOTAL SHEETS | SHEET NO. |
| 57                    | (X1-6-2)HBK | WILLIAMSON       | 272          | 135       |
| STA.                  | TO STA.     |                  |              |           |
| FED. ROAD DIST. NO. 9 | ILLINOIS    | FED. AID PROJECT |              |           |

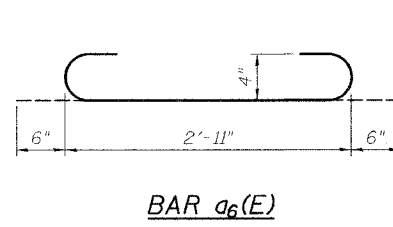


SECTION THRU APPROACH PARAPETS  
East approach similar

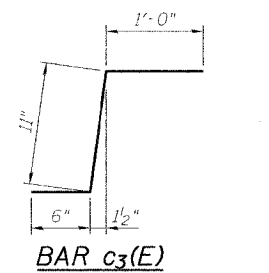
TWO APPROACH PAVEMENTS  
BILL OF MATERIAL \*

| Bar                              | No. | Size | Length | Shape |
|----------------------------------|-----|------|--------|-------|
| a5(E)                            | 8   | #4   | 2'-11" |       |
| a6(E)                            | 8   | #4   | 3'-11" |       |
| a7(E)                            | 120 | #4   | 6'-0"  |       |
| b7(E)                            | 16  | #5   | 29'-8" |       |
| c2(E)                            | 66  | #5   | 5'-9"  |       |
| c3(E)                            | 66  | #5   | 2'-5"  |       |
| d7(E)                            | 60  | #4   | 5'-3"  |       |
| d8(E)                            | 60  | #6   | 5'-3"  |       |
| d9(E)                            | 66  | #4   | 4'-4"  |       |
| d10(E)                           | 60  | #5   | 4'-4"  |       |
| d11(E)                           | 6   | #5   | 4'-1"  |       |
| e24(E)                           | 32  | #4   | 14'-9" |       |
| e25(E)                           | 24  | #4   | 14'-9" |       |
| e26(E)                           | 4   | #8   | 29'-9" |       |
| e27(E)                           | 4   | #5   | 29'-9" |       |
| Reinforcement Bars, Epoxy Coated |     |      | Lbs.   | 3740  |

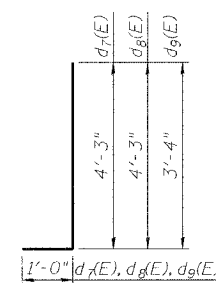
\* Only materials in addition to those shown on Std. 420401



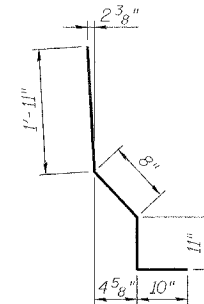
BAR a6(E)



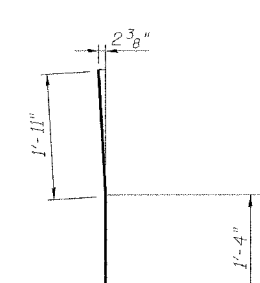
BAR c3(E)



BARS d7(E), d8(E) & d9(E)



BAR d10(E)



BAR d11(E)

Notes:  
Quantities are shown for information only. Cost is included with Bridge Approach Pavement (Special). See roadway plans.  
For quantity of Bridge Approach Pavement (Special), see roadway plans.  
Reinforcement bars designated (E) shall be epoxy coated.  
For additional approach pavement details, see roadway plans and Standard 420401

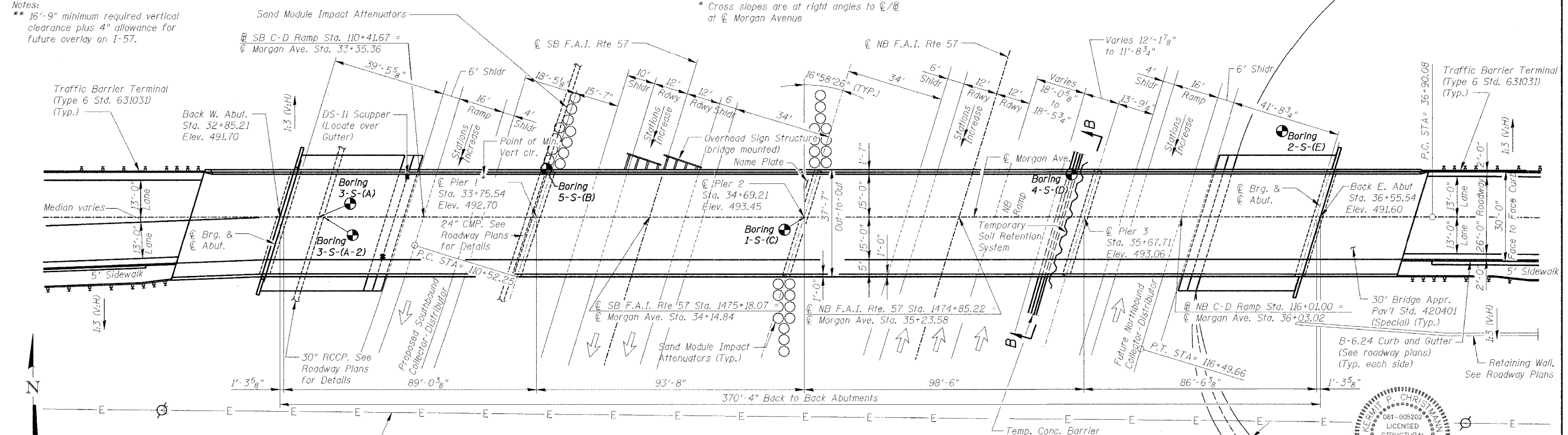
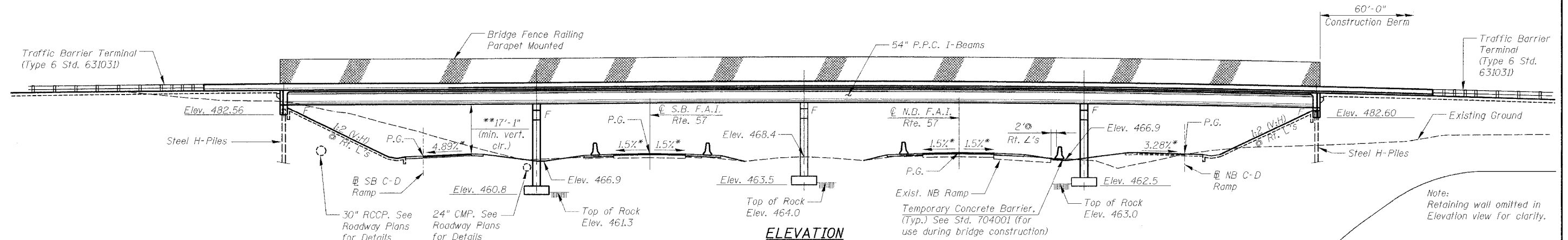
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|-----------|------|---|
| NAME      | DATE |   |
|           |      | <b>BRIDGE APPROACH PAVEMENT (SPECIAL)</b><br>MORGAN AVENUE INTERCHANGE<br>FAI ROUTE 57 WITH FAU ROUTE 9718<br>WILLIAMSON COUNTY |
|           |      |   |
|           |      |   |
|           |      |   |
|           |      |   |
|           |      |   |

SCALE: NONE  
DATE: 3-19-2007  
DRAWN BY: KBF  
CHECKED BY: ALN

Bench Mark: 1/2" Rebar SW Quad Morgan Ave./FAI 57 - Elev. 485.29  
 Existing Structure: None

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

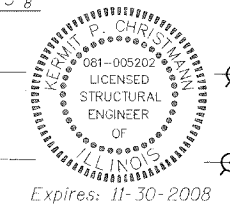
| ROUTE NO.        | SECTION    | COUNTY     | TOTAL SHEETS | SHEET NO. | SHEET NO. 1 |
|------------------|------------|------------|--------------|-----------|-------------|
| FAI 57           | XI-6-2/HBK | Williamson | 272          | 136       | 33 SHEETS   |
| Contract # 98994 |            |            |              |           |             |



THOUVENOT, WADE & MOERCHEN, INC.



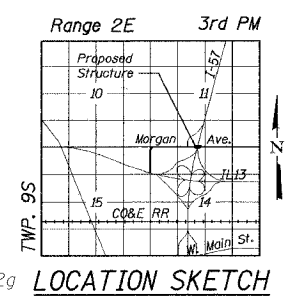
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| CHECKED  | BWP     |
| DRAWN    | KBF     |
| CHECKED  | ALN/BWP |



Signature: Permitt P. Christman Date: 5/23/2007

**GENERAL PLAN AND ELEVATION**  
**MORGAN AVE. OVER I-57**  
**FAI ROUTE 57 - SECTION (XI-6-2)/HBK**  
**WILLIAMSON COUNTY**  
**STATION 34+69.21**  
**STRUCTURE NO. 100-0092**

**APPROVED**  
 FOR STRUCTURAL ADEQUACY ONLY  
 Signature: [Name] Date: [Date]  
 ENGINEER OF BRIDGES AND STRUCTURES



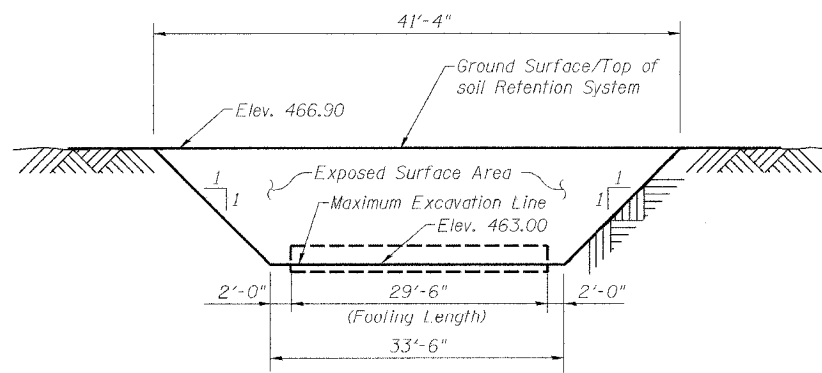
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

|                       |             |                   |              |           |             |
|-----------------------|-------------|-------------------|--------------|-----------|-------------|
| ROUTE NO.             | SECTION     | COUNTY            | TOTAL SHEETS | SHEET NO. | SHEET NO. 2 |
| FAI 57                | (X1-6-2)HBK | Williamson        | 272          | 137       | 33 SHEETS   |
| FED. ROAD DIST. NO. 7 | ILLINOIS    | FED. AID PROJECT- |              |           |             |

Contract # 98994

**GENERAL NOTES**

- The Contractor shall drive 1 test pile at each abutment, as specified, in a permanent location as directed by the Engineer before ordering the remaining piles.
- The Contractor shall drive test piles to 110% of the nominal required bearing specified in permanent locations at substructures specified or approved by the Engineer before ordering the remainder of piles.
- The Steel H-piles shall be according to AASHTO M270 Grade 50.
- Reinforcement bars shall conform to the requirements of ASTM A706 Gr. 60 (IL Modified) See Special Provisions.
- The embankment configuration shown shall be the minimum embankment that must be constructed prior to construction of the abutments.
- Slope wall shall be reinforced with welded wire fabric, 6"x6"-W4.0xW4.0, weighing 58 lbs. per 100 sq. ft.
- In addition to all other requirements of Section 512 of the Standard Specifications, splices for HP12x63 piles shall develop the full capacity of the steel cross sectional area of the pile for tension, shear and bending forces. One approved method of achieving this requirement is full penetration butt welding of the entire cross section. Other types of splices meeting full capacity requirements may be allowed subject to the approval of the Engineer. Any proposal by the Contractor to use an alternate splice method must include adequate documentation that the full tension, shear and bending capacities will be met. Appropriate welder qualifications will be required for the positions and processes used in splicing all piles. Nondestructive testing of completed welds will be limited to visual inspection.

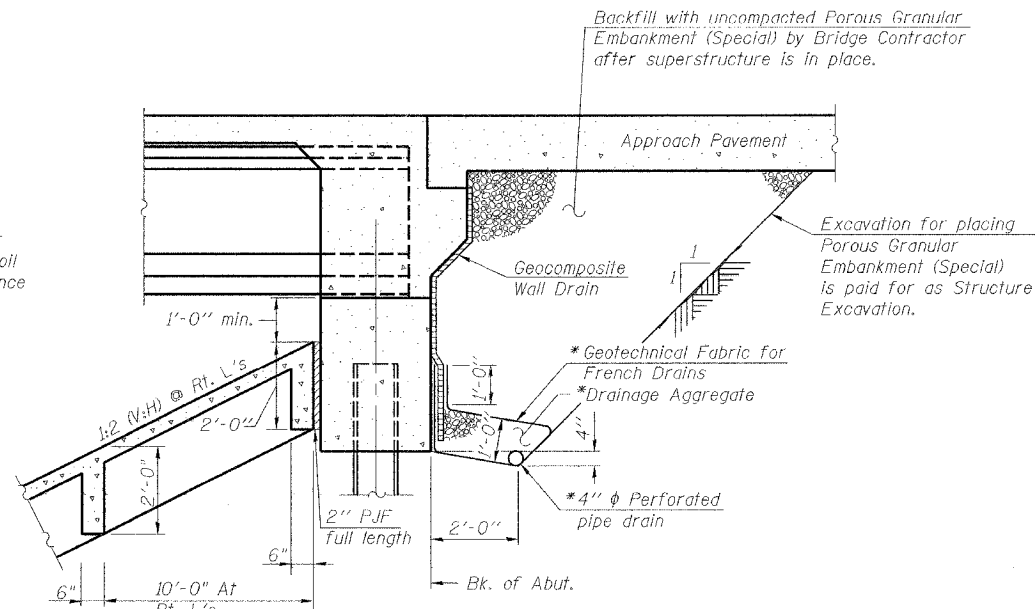


**SECTION B-B**

**TEMPORARY SOIL RETENTION SYSTEM**

Top of Rock Approx. Elev. 463.00

A cantilevered sheet piling design does not appear feasible and additional members or other retention systems may be necessary. The contractor shall submit a temporary soil retention system design including plan details and calculations for review and acceptance by the Engineer.



**SECTION THRU INTEGRAL ABUTMENT**

(Horiz. dim. @ Rt. L's)

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

Note:

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).

STATION 34+69.21  
BUILT 200\_ BY  
STATE OF ILLINOIS  
F.A.I. 57 SEC. (X1-6-2)HBK  
LOADING HS20  
STR. NO. 100-0092

**NAME PLATE**

See Std. 515001  
See Sheets 1 and 26  
of 33 for location.

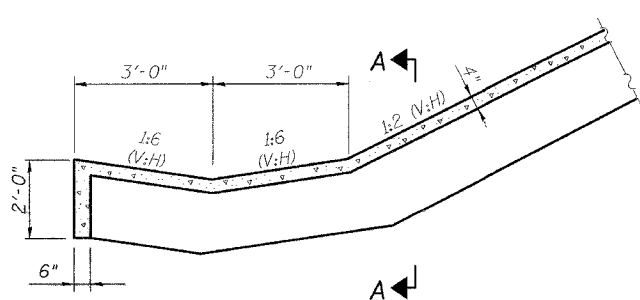
**INDEX OF SHEETS**

- 1 General Plan & Elevation
- 2-3 General Data
- 4-8 Top of Slab Elevations
- 9 Superstructure
- 10-11 Superstructure Details
- 12-13 Diaphragm Details
- 14 Bridge Fence Rail Details
- 15 Drainage Scupper
- 16 Framing Plan
- 17-21 54" PPC I-Beam Details
- 22 West Abutment
- 23 East Abutment
- 24-25 Pier 1
- 26-27 Pier 2
- 28-29 Pier 3
- 30 Bar Splicer Assembly Details
- 31-33 Soil Boring Logs

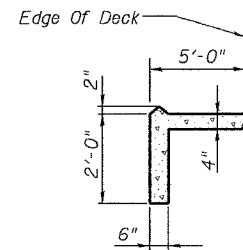
**TOTAL BILL OF MATERIAL**

| Item   | Unit    | Super   | Sub.   | Total   |
|--|---------|---------|--------|---------|
| Porous Granular Embankment (Special)                             | Cu. Yd. |         | 203.2  | 203.2   |
| Structure Excavation   | Cu. Yd. |         | 442.9  | 442.9   |
| Driving Piles  | Foot    |         | 210    | 210     |
| Concrete Structures  | Cu. Yd. |         | 268.7  | 268.7   |
| Concrete Superstructure  | Cu. Yd. | 547.4   |        | 547.4   |
| Bridge Deck Grooving   | Sq. Yd. | 1152    |        | 1152    |
| Protective Coat  | Sq. Yd. | 1773    |        | 1773    |
| Furnishing and Erecting Precast Prestressed Concrete I-Beams 54" | Foot    | 2204    |        | 2204    |
| Reinforcement Bars, Epoxy Coated                                 | Pound   | 112,850 | 53,830 | 166,680 |
| Slopedwall 4 Inch  | Sq. Yd. |         | 502    | 502     |
| Furnishing Steel Piles HP 12x63                                  | Foot    |         | 210    | 210     |
| Name Plates  | Each    |         | 1      | 1       |
| Geocomposite Wall Drain  | Sq. Yd. |         | 98.3   | 98.3    |
| Pipe Underdrains for Structures 4"                               | Foot    |         | 221    | 221     |
| Bar Splicers   | Each    | 72      |        | 72      |
| Test Piles, Steel HP 12x63                                       | Each    |         | 2      | 2       |
| Temporary Soil Retention System                                  | Sq. Ft. |         | 146    | 146     |
| Bridge Fence Railing   | Foot    | 369     |        | 369     |
| Drainage Scuppers, DS-11   | Each    |         | 2      | 2       |
| Rock Excavation for Structures                                   | Cu. Yd. |         | 14.7   | 14.7    |
| Mechanical Splice  | Each    |         | 180    | 180     |
| Concrete Encasement  | Cu. Yd. |         | 4.0    | 4.0     |

GENERAL DATA  
MORGAN AVE. OVER I-57  
FAI ROUTE 57 - SECTION (X1-6-2)HBK  
WILLIAMSON COUNTY  
STATION 34+69.21  
STRUCTURE NO. 100-0092



**SECTION A-A**



THOUVENOT, WADE & MOERCHEN, INC.



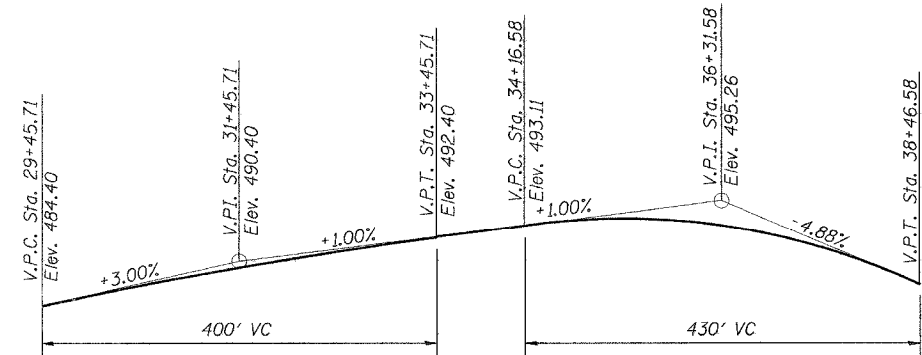
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| DESIGNED | ALN     |
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| DRAWN    | KPF     |
| CHECKED  | ALN/BWP |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

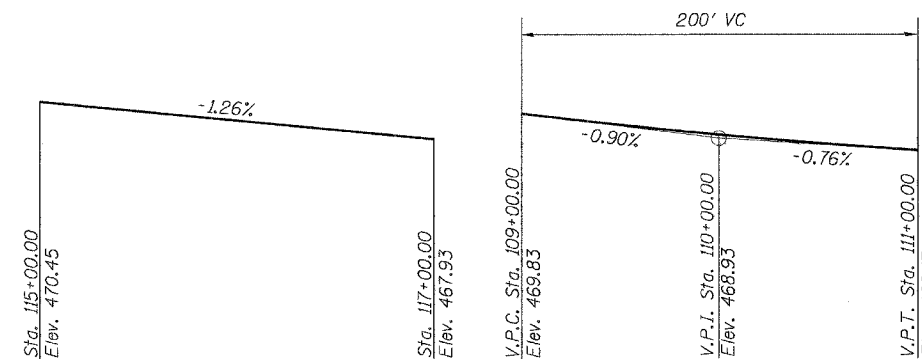
| ROUTE NO. | SECTION     | COUNTY     | TOTAL SHEETS | SHEET NO. |
|-----------|-------------|------------|--------------|-----------|
| FAI 57    | (X-6-2) HBK | Williamson | 272          | 138       |

33 SHEETS

Contract # 98994



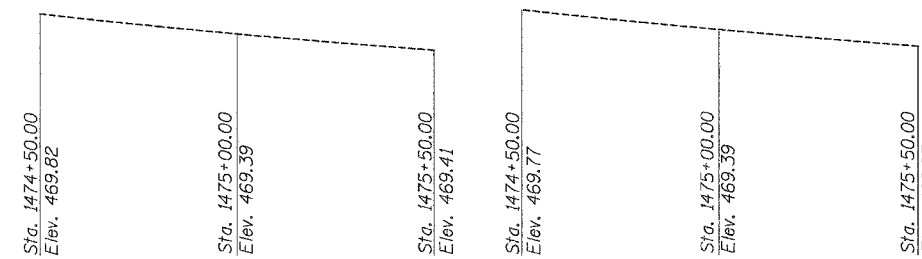
PROFILE GRADE MORGAN AVE.



NORTHBOUND

SOUTHBOUND

PROFILE GRADE COLLECTOR/DISTRIBUTORS



NORTHBOUND

SOUTHBOUND

F.A.I. RTE. 57 PROFILE GRADE

(Existing elevations shown)

THOUVENOT, WADE & MOERCHEN, INC.



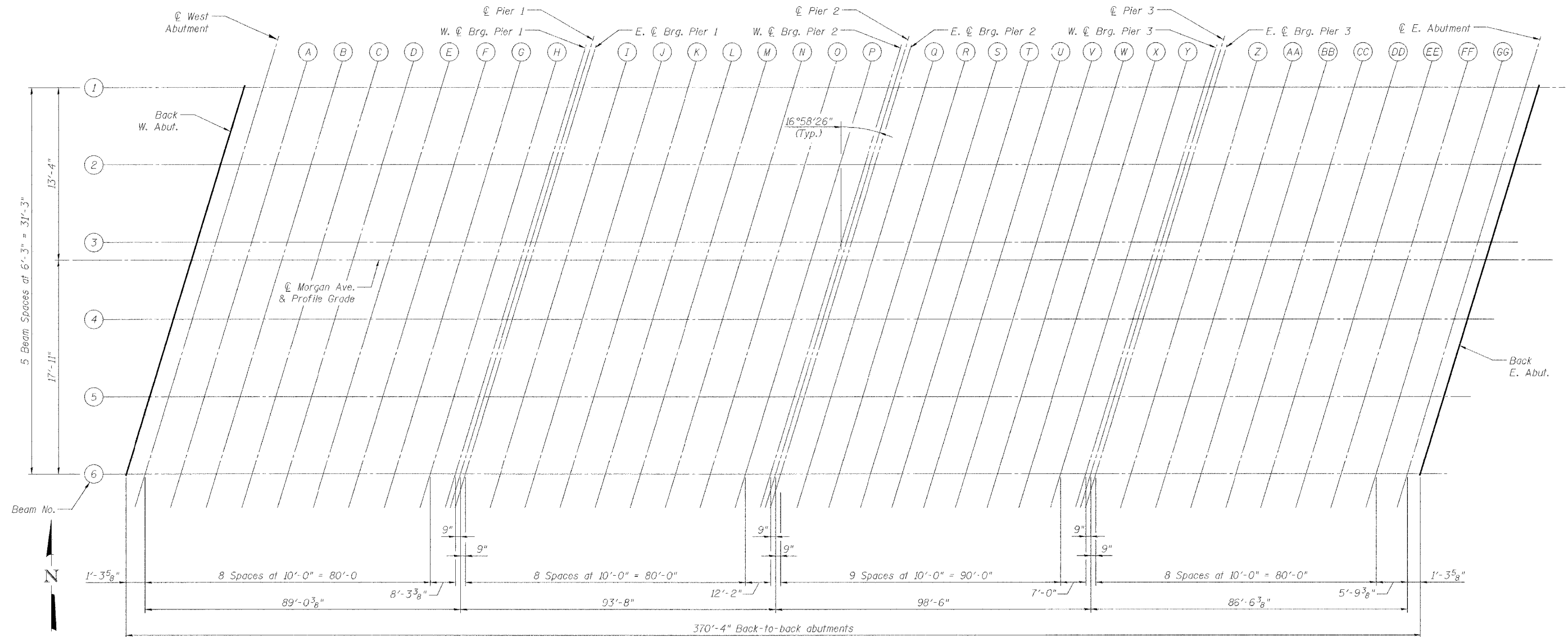
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| DRAWN    | RLW     |
| CHECKED  | ALN/BWP |

PROFILE GRADE  
MORGAN AVE. OVER I-57  
FAI ROUTE 57 - SECTION (X1-6-2)HBK  
WILLIAMSON COUNTY  
STATION 34+69.21  
STRUCTURE NO. 100-0092

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

|                       |             |            |                   |       |           |
|-----------------------|-------------|------------|-------------------|-------|-----------|
| ROUTE NO.             | SECTION     | COUNTY     | SHEET NO.         | SHEET | SHEET NO. |
| FAI 57                | (X1-6-2)HBK | Williamson | 272               | 139   | 33 SHEETS |
| FED. ROAD DIST. NO. 7 |             | ILLINOIS   | FED. AID PROJECT: |       |           |

Contract # 98994



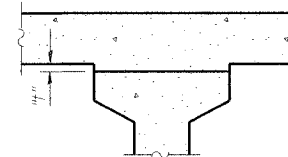
THOUVENOT, WADE & MOERCHEN, INC.



|          |         |
|----------|---------|
| DESIGNED | ALN     |
| CHECKED  | BWP     |
| DRAWN    | KBF     |
| CHECKED  | ALN/BWP |

TOP OF SLAB ELEVATIONS  
MORGAN AVE. OVER I-57  
FAI ROUTE 57 - SECTION (X1-6-2)HBK  
WILLIAMSON COUNTY  
STATION 34+69.21  
STRUCTURE NO. 100-0092

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



|                       |                        |                      |                     |                  |
|-----------------------|------------------------|----------------------|---------------------|------------------|
| ROUTE NO.<br>FAI 57   | SECTION<br>(X1-6-2)HBK | COUNTY<br>Williamson | TOTAL SHEETS<br>272 | SHEET NO.<br>140 |
| FED. ROAD DIST. NO. 7 |                        |                      |                     | FED. PROJ. NO.   |

SHEET NO. 5  
33 SHEETS

Contract # 98994

To determine "t": After all precast prestressed beams have been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflections" shown below, minus slab thickness, equals the fillet heights "t" above top flanges of beams.

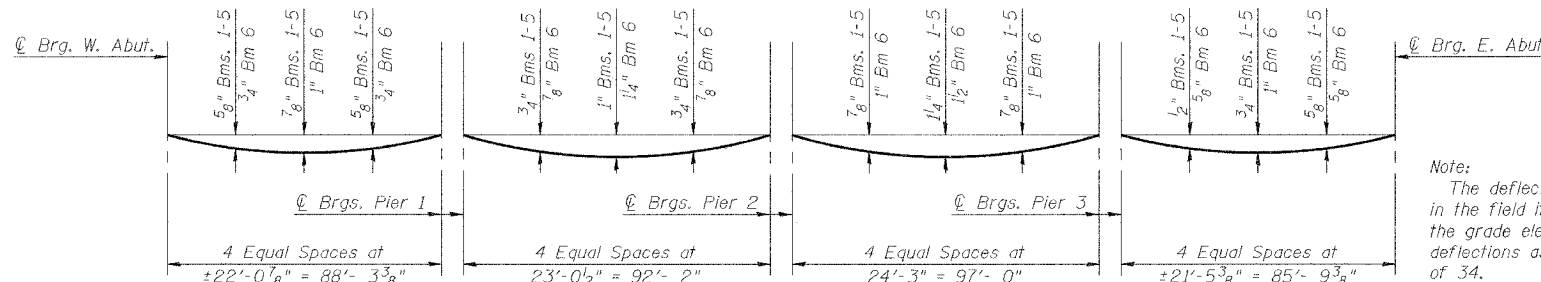
FILLET HEIGHTS

| BEAM 1           |          |         |                              |  | BEAM 2           |          |        |                              |  | BEAM 3           |          |        |                              |  | ROADWAY AND PROFILE GRADE |          |        |                              |  |
|------------------|----------|---------|------------------------------|--|------------------|----------|--------|------------------------------|--|------------------|----------|--------|------------------------------|--|---------------------------|----------|--------|------------------------------|--|
| Location         | Station  | Offset  | Theoretical Grade Elevations | Theoretical Grade Elevations Adjusted For Dead Load Deflection | Location         | Station  | Offset | Theoretical Grade Elevations | Theoretical Grade Elevations Adjusted For Dead Load Deflection | Location         | Station  | Offset | Theoretical Grade Elevations | Theoretical Grade Elevations Adjusted For Dead Load Deflection | Location                  | Station  | Offset | Theoretical Grade Elevations | Theoretical Grade Elevations Adjusted For Dead Load Deflection |
| BK. W. ABUT.     | 32+89.28 | -13.333 | 491.548                      | 491.548  | BK. W. ABUT.     | 32+87.37 | -7.083 | 491.621                      | 491.621  | BK. W. ABUT.     | 32+85.46 | -0.833 | 491.694                      | 491.694  | BK. W. ABUT.              | 32+85.21 | 0.000  | 491.703                      | 491.703  |
| Q BRG W ABUT     | 32+90.58 | -13.333 | 491.564                      | 491.564  | Q BRG W ABUT     | 32+88.67 | -7.083 | 491.638                      | 491.638  | Q BRG W ABUT     | 32+86.77 | -0.833 | 491.711                      | 491.711  | Q BRG W ABUT              | 32+86.51 | 0.000  | 491.720                      | 491.720  |
| A                | 33+00.58 | -13.333 | 491.689                      | 491.717  | A                | 32+98.67 | -7.083 | 491.764                      | 491.791  | A                | 32+96.77 | -0.833 | 491.838                      | 491.865  | A                         | 32+96.51 | 0.000  | 491.848                      | 491.875  |
| B                | 33+10.58 | -13.333 | 491.810                      | 491.860  | B                | 33+08.67 | -7.083 | 491.885                      | 491.935  | B                | 33+06.77 | -0.833 | 491.960                      | 492.010  | B                         | 33+06.51 | 0.000  | 491.970                      | 492.020  |
| C                | 33+20.58 | -13.333 | 491.925                      | 491.992  | C                | 33+18.67 | -7.083 | 492.001                      | 492.068  | C                | 33+16.77 | -0.833 | 492.077                      | 492.144  | C                         | 33+16.51 | 0.000  | 492.087                      | 492.154  |
| D                | 33+30.58 | -13.333 | 492.035                      | 492.110  | D                | 33+28.67 | -7.083 | 492.112                      | 492.187  | D                | 33+26.77 | -0.833 | 492.189                      | 492.264  | D                         | 33+26.51 | 0.000  | 492.199                      | 492.274  |
| E                | 33+40.58 | -13.333 | 492.140                      | 492.214  | E                | 33+38.67 | -7.083 | 492.218                      | 492.292  | E                | 33+36.77 | -0.833 | 492.296                      | 492.370  | E                         | 33+36.51 | 0.000  | 492.306                      | 492.380  |
| F                | 33+50.58 | -13.333 | 492.240                      | 492.304  | F                | 33+48.67 | -7.083 | 492.319                      | 492.382  | F                | 33+46.77 | -0.833 | 492.398                      | 492.461  | F                         | 33+46.51 | 0.000  | 492.408                      | 492.471  |
| G                | 33+60.58 | -13.333 | 492.340                      | 492.385  | G                | 33+58.67 | -7.083 | 492.419                      | 492.464  | G                | 33+56.77 | -0.833 | 492.498                      | 492.543  | G                         | 33+56.51 | 0.000  | 492.508                      | 492.553  |
| H                | 33+70.58 | -13.333 | 492.440                      | 492.462  | H                | 33+68.67 | -7.083 | 492.519                      | 492.541  | H                | 33+66.77 | -0.833 | 492.598                      | 492.619  | H                         | 33+66.51 | 0.000  | 492.608                      | 492.630  |
| W. Q BRG. PIER 1 | 33+78.86 | -13.333 | 492.523                      | 492.523  | W. Q BRG. PIER 1 | 33+76.96 | -7.083 | 492.602                      | 492.602  | W. Q BRG. PIER 1 | 33+75.05 | -0.833 | 492.680                      | 492.680  | W. Q BRG. PIER 1          | 33+74.79 | 0.000  | 492.691                      | 492.691  |
| Q PIER 1         | 33+79.61 | -13.333 | 492.531                      | 492.531  | Q PIER 1         | 33+77.71 | -7.083 | 492.609                      | 492.609  | Q PIER 1         | 33+75.80 | -0.833 | 492.688                      | 492.688  | Q PIER 1                  | 33+75.54 | 0.000  | 492.698                      | 492.698  |
| E. Q BRG. PIER 1 | 33+80.36 | -13.333 | 492.538                      | 492.538  | E. Q BRG. PIER 1 | 33+78.46 | -7.083 | 492.617                      | 492.617  | E. Q BRG. PIER 1 | 33+76.55 | -0.833 | 492.695                      | 492.695  | E. Q BRG. PIER 1          | 33+76.29 | 0.000  | 492.706                      | 492.706  |
| I                | 33+90.36 | -13.333 | 492.638                      | 492.667  | I                | 33+88.46 | -7.083 | 492.717                      | 492.745  | I                | 33+86.55 | -0.833 | 492.795                      | 492.824  | I                         | 33+86.29 | 0.000  | 492.806                      | 492.834  |
| J                | 34+00.36 | -13.333 | 492.738                      | 492.792  | J                | 33+98.46 | -7.083 | 492.817                      | 492.870  | J                | 33+96.55 | -0.833 | 492.895                      | 492.949  | J                         | 33+96.29 | 0.000  | 492.906                      | 492.959  |
| K                | 34+10.36 | -13.333 | 492.838                      | 492.911  | K                | 34+08.46 | -7.083 | 492.917                      | 492.989  | K                | 34+06.55 | -0.833 | 492.995                      | 493.068  | K                         | 34+06.29 | 0.000  | 493.006                      | 493.078  |
| L                | 34+20.36 | -13.333 | 492.939                      | 493.022  | L                | 34+18.46 | -7.083 | 493.018                      | 493.101  | L                | 34+16.55 | -0.833 | 493.095                      | 493.179  | L                         | 34+16.29 | 0.000  | 493.106                      | 493.189  |
| M                | 34+30.36 | -13.333 | 493.027                      | 493.111  | M                | 34+28.46 | -7.083 | 493.108                      | 493.193  | M                | 34+26.55 | -0.833 | 493.190                      | 493.274  | M                         | 34+26.29 | 0.000  | 493.201                      | 493.285  |
| N                | 34+40.36 | -13.333 | 493.101                      | 493.177  | N                | 34+38.46 | -7.083 | 493.185                      | 493.261  | N                | 34+36.55 | -0.833 | 493.269                      | 493.345  | N                         | 34+36.29 | 0.000  | 493.281                      | 493.356  |
| O                | 34+50.36 | -13.333 | 493.161                      | 493.220  | O                | 34+48.46 | -7.083 | 493.249                      | 493.307  | O                | 34+46.55 | -0.833 | 493.335                      | 493.394  | O                         | 34+46.29 | 0.000  | 493.347                      | 493.405  |
| P                | 34+60.36 | -13.333 | 493.208                      | 493.243  | P                | 34+58.46 | -7.083 | 493.298                      | 493.332  | P                | 34+56.55 | -0.833 | 493.387                      | 493.422  | P                         | 34+56.29 | 0.000  | 493.399                      | 493.433  |
| W. Q BRG. PIER 2 | 34+72.53 | -13.333 | 493.247                      | 493.247  | W. Q BRG. PIER 2 | 34+70.62 | -7.083 | 493.340                      | 493.340  | W. Q BRG. PIER 2 | 34+68.71 | -0.833 | 493.432                      | 493.432  | W. Q BRG. PIER 2          | 34+68.46 | 0.000  | 493.445                      | 493.445  |
| Q PIER 2         | 34+73.28 | -13.333 | 493.249                      | 493.249  | Q PIER 2         | 34+71.37 | -7.083 | 493.342                      | 493.342  | Q PIER 2         | 34+69.46 | -0.833 | 493.435                      | 493.435  | Q PIER 2                  | 34+69.21 | 0.000  | 493.447                      | 493.447  |
| E. Q BRG. PIER 2 | 34+74.03 | -13.333 | 493.251                      | 493.251  | E. Q BRG. PIER 2 | 34+72.12 | -7.083 | 493.344                      | 493.344  | E. Q BRG. PIER 2 | 34+70.21 | -0.833 | 493.437                      | 493.437  | E. Q BRG. PIER 2          | 34+69.96 | 0.000  | 493.449                      | 493.449  |
| Q                | 34+84.03 | -13.333 | 493.265                      | 493.299  | Q                | 34+82.12 | -7.083 | 493.361                      | 493.395  | Q                | 34+80.21 | -0.833 | 493.456                      | 493.491  | Q                         | 34+79.96 | 0.000  | 493.469                      | 493.503  |
| R                | 34+94.03 | -13.333 | 493.266                      | 493.331  | R                | 34+92.12 | -7.083 | 493.365                      | 493.430  | R                | 34+90.21 | -0.833 | 493.463                      | 493.528  | R                         | 34+89.96 | 0.000  | 493.476                      | 493.541  |
| S                | 35+04.03 | -13.333 | 493.342                      | 493.342  | S                | 35+02.12 | -7.083 | 493.354                      | 493.444  | S                | 35+00.21 | -0.833 | 493.455                      | 493.544  | S                         | 34+99.96 | 0.000  | 493.468                      | 493.558  |
| T                | 35+14.03 | -13.333 | 493.227                      | 493.330  | T                | 35+12.12 | -7.083 | 493.331                      | 493.434  | T                | 35+10.21 | -0.833 | 493.434                      | 493.537  | T                         | 35+09.96 | 0.000  | 493.448                      | 493.551  |
| U                | 35+24.03 | -13.333 | 493.187                      | 493.294  | U                | 35+22.12 | -7.083 | 493.293                      | 493.401  | U                | 35+20.21 | -0.833 | 493.399                      | 493.507  | U                         | 35+19.96 | 0.000  | 493.413                      | 493.521  |
| V                | 35+34.03 | -13.333 | 493.133                      | 493.233  | V                | 35+32.12 | -7.083 | 493.242                      | 493.342  | V                | 35+30.21 | -0.833 | 493.350                      | 493.450  | V                         | 35+29.96 | 0.000  | 493.365                      | 493.465  |
| W                | 35+44.03 | -13.333 | 493.066                      | 493.148  | W                | 35+42.12 | -7.083 | 493.177                      | 493.260  | W                | 35+40.21 | -0.833 | 493.288                      | 493.371  | W                         | 35+39.96 | 0.000  | 493.303                      | 493.385  |
| X                | 35+54.03 | -13.333 | 492.984                      | 493.040  | X                | 35+52.12 | -7.083 | 493.099                      | 493.154  | X                | 35+50.21 | -0.833 | 493.212                      | 493.268  | X                         | 35+49.96 | 0.000  | 493.227                      | 493.283  |
| Y                | 35+64.03 | -13.333 | 492.890                      | 492.913  | Y                | 35+62.12 | -7.083 | 493.006                      | 493.030  | Y                | 35+60.21 | -0.833 | 493.123                      | 493.146  | Y                         | 35+59.96 | 0.000  | 493.138                      | 493.162  |
| W. Q BRG. PIER 3 | 35+71.03 | -13.333 | 492.815                      | 492.815  | W. Q BRG. PIER 3 | 35+69.12 | -7.083 | 492.934                      | 492.934  | W. Q BRG. PIER 3 | 35+67.21 | -0.833 | 493.052                      | 493.052  | W. Q BRG. PIER 3          | 35+66.96 | 0.000  | 493.068                      | 493.068  |
| Q PIER 3         | 35+71.78 | -13.333 | 492.807                      | 492.807  | Q PIER 3         | 35+69.87 | -7.083 | 492.926                      | 492.926  | Q PIER 3         | 35+67.96 | -0.833 | 493.044                      | 493.044  | Q PIER 3                  | 35+67.71 | 0.000  | 493.060                      | 493.060  |
| E. Q BRG. PIER 3 | 35+72.53 | -13.333 | 492.798                      | 492.798  | E. Q BRG. PIER 3 | 35+70.62 | -7.083 | 492.917                      | 492.917  | E. Q BRG. PIER 3 | 35+68.71 | -0.833 | 493.036                      | 493.036  | E. Q BRG. PIER 3          | 35+68.46 | 0.000  | 493.052                      | 493.052  |
| Z                | 35+82.53 | -13.333 | 492.678                      | 492.702  | Z                | 35+80.62 | -7.083 | 492.800                      | 492.823  | Z                | 35+78.71 | -0.833 | 492.921                      | 492.944  | Z                         | 35+78.46 | 0.000  | 492.937                      | 492.960  |
| AA               | 35+92.53 | -13.333 | 492.544                      | 492.589  | AA               | 35+90.62 | -7.083 | 492.669                      | 492.713  | AA               | 35+88.71 | -0.833 | 492.792                      | 492.837  | AA                        | 35+88.46 | 0.000  | 492.809                      | 492.853  |
| BB               | 36+02.53 | -13.333 | 492.397                      | 492.456  | BB               | 36+00.62 | -7.083 | 492.524                      | 492.583  | BB               | 35+98.71 | -0.833 | 492.650                      | 492.709  | BB                        | 35+98.46 | 0.000  | 492.667                      | 492.726  |
| CC               | 36+12.53 | -13.333 | 492.236                      | 492.303  | CC               | 36+10.62 | -7.083 | 492.365                      | 492.432  | CC               | 36+08.71 | -0.833 | 492.494                      | 492.561  | CC                        | 36+08.46 | 0.000  | 492.511                      | 492.578  |
| DD               | 36+22.53 | -13.333 | 492.061                      | 492.126  | DD               | 36+20.62 | -7.083 | 492.193                      | 492.258  | DD               | 36+18.71 | -0.833 | 492.325                      | 492.390  | DD                        | 36+18.46 | 0.000  | 492.342                      | 492.407  |
| EE               | 36+32.53 | -13.333 | 491.873                      | 491.928  | EE               | 36+30.62 | -7.083 | 492.007                      | 492.062  | EE               | 36+28.71 | -0.833 | 492.142                      | 492.197  | EE                        | 36+28.46 | 0.000  | 492.159                      | 492.214  |
| FF               | 36+42.53 | -13.333 | 491.671                      | 491.708  | FF               | 36+40.62 | -7.083 | 491.808                      | 491.845  | FF               | 36+38.71 | -0.833 | 491.945                      | 491.982  | FF                        | 36+38.46 | 0.000  | 491.963                      | 492.000  |
| GG               | 36+52.53 | -13.333 | 491.455                      | 491.469  | GG               | 36+50.62 | -7.083 | 491.595                      | 491.609  | GG               | 36+48.71 | -0.833 | 491.734                      | 491.748  | GG                        | 36+48.46 | 0.000  | 491.753                      | 491.767  |
| Q BRG E. ABUT.   | 36+58.31 | -13.333 | 491.324                      | 491.324  | Q BRG E. ABUT.   | 36+56.40 | -7.083 | 491.465                      | 491.465  | Q BRG E. ABUT.   | 36+54.50 | -0.833 | 491.606                      | 491.606  | Q BRG E. ABUT.            | 36+54.24 | 0.000  | 491.625                      | 491.625  |
| BK. E. ABUT.     | 36+59.61 | -13.333 | 491.294                      | 491.294  | BK. E. ABUT.     | 36+57.71 | -7.083 | 491.435                      | 491.435  | BK. E. ABUT.     | 36+55.80 | -0.833 | 491.577                      | 491.577  | BK. E. ABUT.              | 36+55.54 | 0.000  | 491.595                      | 491.595  |

THOUVENOT, WADE & MOERCHEN, INC.



|                 |
|-----------------|
| DESIGNED ALN    |
| CHECKED BWP     |
| DRAWN KBF       |
| CHECKED ALN/BWP |



Note:  
The deflections at left are not to be used in the field if the engineer is working from the grade elevations adjusted for



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

|                       |             |            |                   |           |
|-----------------------|-------------|------------|-------------------|-----------|
| ROUTE NO.             | SECTION     | COUNTY     | SHEET NO.         | SHEET NO. |
| FAU 57                | (X1-6-2)HBK | Williamson | 272               | 141       |
| FED. ROAD DIST. NO. 7 |             | ILLINOIS   | FED. AID PROJECT- |           |
| Contract # 98994      |             |            |                   |           |

BEAM 4

| Location         | Station  | Offset | Theoretical Grade Elevations | Theoretical Grade Elevations Adjusted For Dead Load Deflection |
|------------------|----------|--------|------------------------------|--|
| BK. W. ABUT.     | 32+83.56 | 5.417  | 491.597                      | 491.597  |
| @ BRG W ABUT     | 32+84.86 | 5.417  | 491.614                      | 491.614  |
| A                | 32+94.86 | 5.417  | 491.742                      | 491.770  |
| B                | 33+04.86 | 5.417  | 491.865                      | 491.915  |
| C                | 33+14.86 | 5.417  | 491.983                      | 492.051  |
| D                | 33+24.86 | 5.417  | 492.096                      | 492.171  |
| E                | 33+34.86 | 5.417  | 492.204                      | 492.278  |
| F                | 33+44.86 | 5.417  | 492.307                      | 492.370  |
| G                | 33+54.86 | 5.417  | 492.407                      | 492.452  |
| H                | 33+64.86 | 5.417  | 492.507                      | 492.529  |
| W. @ BRG. PIER 1 | 33+73.14 | 5.417  | 492.590                      | 492.590  |
| @ PIER 1         | 33+73.89 | 5.417  | 492.597                      | 492.597  |
| E. @ BRG. PIER 1 | 33+74.64 | 5.417  | 492.605                      | 492.605  |
| I                | 33+84.64 | 5.417  | 492.705                      | 492.733  |
| J                | 33+94.64 | 5.417  | 492.805                      | 492.858  |
| K                | 34+04.64 | 5.417  | 492.905                      | 492.977  |
| L                | 34+14.64 | 5.417  | 493.005                      | 493.088  |
| M                | 34+24.64 | 5.417  | 493.102                      | 493.186  |
| N                | 34+34.64 | 5.417  | 493.184                      | 493.259  |
| O                | 34+44.64 | 5.417  | 493.252                      | 493.310  |
| P                | 34+54.64 | 5.417  | 493.307                      | 493.341  |
| W. @ BRG. PIER 2 | 34+66.81 | 5.417  | 493.355                      | 493.355  |
| @ PIER 2         | 34+67.56 | 5.417  | 493.357                      | 493.357  |
| E. @ BRG. PIER 2 | 34+68.31 | 5.417  | 493.360                      | 493.360  |
| Q                | 34+78.31 | 5.417  | 493.382                      | 493.416  |
| R                | 34+88.31 | 5.417  | 493.391                      | 493.456  |
| S                | 34+98.31 | 5.417  | 493.386                      | 493.475  |
| T                | 35+08.31 | 5.417  | 493.367                      | 493.471  |
| U                | 35+18.31 | 5.417  | 493.335                      | 493.443  |
| V                | 35+28.31 | 5.417  | 493.289                      | 493.389  |
| W                | 35+38.31 | 5.417  | 493.230                      | 493.312  |
| X                | 35+48.31 | 5.417  | 493.156                      | 493.212  |
| Y                | 35+58.31 | 5.417  | 493.069                      | 493.093  |
| W. @ BRG. PIER 3 | 35+65.31 | 5.417  | 493.000                      | 493.000  |
| @ PIER 3         | 35+66.06 | 5.417  | 492.992                      | 492.992  |
| E. @ BRG. PIER 3 | 35+66.81 | 5.417  | 492.985                      | 492.985  |
| Z                | 35+76.81 | 5.417  | 492.872                      | 492.896  |
| AA               | 35+86.81 | 5.417  | 492.746                      | 492.791  |
| BB               | 35+96.81 | 5.417  | 492.607                      | 492.666  |
| CC               | 36+06.81 | 5.417  | 492.454                      | 492.520  |
| DD               | 36+16.81 | 5.417  | 492.287                      | 492.352  |
| EE               | 36+26.81 | 5.417  | 492.106                      | 492.161  |
| FF               | 36+36.81 | 5.417  | 491.912                      | 491.949  |
| GG               | 36+46.81 | 5.417  | 491.704                      | 491.718  |
| @ BRG E. ABUT.   | 36+52.59 | 5.417  | 491.577                      | 491.577  |
| BK. E. ABUT.     | 36+53.89 | 5.417  | 491.548                      | 491.548  |

BEAM 5

| Location         | Station  | Offset | Theoretical Grade Elevations | Theoretical Grade Elevations Adjusted For Dead Load Deflection |
|------------------|----------|--------|------------------------------|--|
| BK. W. ABUT.     | 32+81.65 | 11.667 | 491.475                      | 491.475  |
| @ BRG W ABUT     | 32+82.95 | 11.667 | 491.492                      | 491.492  |
| A                | 32+92.95 | 11.667 | 491.621                      | 491.648  |
| B                | 33+02.95 | 11.667 | 491.744                      | 491.794  |
| C                | 33+12.95 | 11.667 | 491.863                      | 491.931  |
| D                | 33+22.95 | 11.667 | 491.977                      | 492.052  |
| E                | 33+32.95 | 11.667 | 492.086                      | 492.160  |
| F                | 33+42.95 | 11.667 | 492.190                      | 492.253  |
| G                | 33+52.95 | 11.667 | 492.290                      | 492.335  |
| H                | 33+62.95 | 11.667 | 492.390                      | 492.412  |
| W. @ BRG. PIER 1 | 33+71.23 | 11.667 | 492.473                      | 492.473  |
| @ PIER 1         | 33+71.98 | 11.667 | 492.480                      | 492.480  |
| E. @ BRG. PIER 1 | 33+72.73 | 11.667 | 492.488                      | 492.488  |
| I                | 33+82.73 | 11.667 | 492.588                      | 492.616  |
| J                | 33+92.73 | 11.667 | 492.688                      | 492.741  |
| K                | 34+02.73 | 11.667 | 492.788                      | 492.860  |
| L                | 34+12.73 | 11.667 | 492.888                      | 492.971  |
| M                | 34+22.73 | 11.667 | 492.987                      | 493.071  |
| N                | 34+32.73 | 11.667 | 493.071                      | 493.147  |
| O                | 34+42.73 | 11.667 | 493.142                      | 493.201  |
| P                | 34+52.73 | 11.667 | 493.200                      | 493.234  |
| W. @ BRG. PIER 2 | 34+64.90 | 11.667 | 493.251                      | 493.251  |
| @ PIER 2         | 34+65.65 | 11.667 | 493.254                      | 493.254  |
| E. @ BRG. PIER 2 | 34+66.40 | 11.667 | 493.256                      | 493.256  |
| Q                | 34+76.40 | 11.667 | 493.281                      | 493.315  |
| R                | 34+86.40 | 11.667 | 493.293                      | 493.358  |
| S                | 34+96.40 | 11.667 | 493.290                      | 493.379  |
| T                | 35+06.40 | 11.667 | 493.274                      | 493.378  |
| U                | 35+16.40 | 11.667 | 493.245                      | 493.352  |
| V                | 35+26.40 | 11.667 | 493.201                      | 493.301  |
| W                | 35+36.40 | 11.667 | 493.144                      | 493.227  |
| X                | 35+46.40 | 11.667 | 493.074                      | 493.129  |
| Y                | 35+56.40 | 11.667 | 492.989                      | 493.013  |
| W. @ BRG. PIER 3 | 35+63.40 | 11.667 | 492.922                      | 492.922  |
| @ PIER 3         | 35+64.15 | 11.667 | 492.914                      | 492.914  |
| E. @ BRG. PIER 3 | 35+64.90 | 11.667 | 492.907                      | 492.907  |
| Z                | 35+74.90 | 11.667 | 492.797                      | 492.820  |
| AA               | 35+84.90 | 11.667 | 492.674                      | 492.718  |
| BB               | 35+94.90 | 11.667 | 492.537                      | 492.596  |
| CC               | 36+04.90 | 11.667 | 492.386                      | 492.453  |
| DD               | 36+14.90 | 11.667 | 492.222                      | 492.287  |
| EE               | 36+24.90 | 11.667 | 492.044                      | 492.099  |
| FF               | 36+34.90 | 11.667 | 491.852                      | 491.890  |
| GG               | 36+44.90 | 11.667 | 491.647                      | 491.661  |
| @ BRG E. ABUT.   | 36+50.68 | 11.667 | 491.522                      | 491.522  |
| BK. E. ABUT.     | 36+51.98 | 11.667 | 491.493                      | 491.493  |

BEAM 6

| Location         | Station  | Offset | Theoretical Grade Elevations | Theoretical Grade Elevations Adjusted For Dead Load Deflection |
|------------------|----------|--------|------------------------------|--|
| BK. W. ABUT.     | 32+79.74 | 17.917 | 491.352                      | 491.352  |
| @ BRG W ABUT     | 32+81.04 | 17.917 | 491.369                      | 491.369  |
| A                | 32+91.04 | 17.917 | 491.499                      | 491.530  |
| B                | 33+01.04 | 17.917 | 491.624                      | 491.682  |
| C                | 33+11.04 | 17.917 | 491.743                      | 491.822  |
| D                | 33+21.04 | 17.917 | 491.858                      | 491.946  |
| E                | 33+31.04 | 17.917 | 491.968                      | 492.055  |
| F                | 33+41.04 | 17.917 | 492.073                      | 492.147  |
| G                | 33+51.04 | 17.917 | 492.173                      | 492.226  |
| H                | 33+61.04 | 17.917 | 492.273                      | 492.298  |
| W. @ BRG. PIER 1 | 33+69.32 | 17.917 | 492.356                      | 492.356  |
| @ PIER 1         | 33+70.07 | 17.917 | 492.364                      | 492.364  |
| E. @ BRG. PIER 1 | 33+70.82 | 17.917 | 492.371                      | 492.371  |
| I                | 33+80.82 | 17.917 | 492.471                      | 492.505  |
| J                | 33+90.82 | 17.917 | 492.571                      | 492.635  |
| K                | 34+00.82 | 17.917 | 492.671                      | 492.757  |
| L                | 34+10.82 | 17.917 | 492.771                      | 492.869  |
| M                | 34+20.82 | 17.917 | 492.871                      | 492.970  |
| N                | 34+30.82 | 17.917 | 492.959                      | 493.048  |
| O                | 34+40.82 | 17.917 | 493.032                      | 493.101  |
| P                | 34+50.82 | 17.917 | 493.092                      | 493.132  |
| W. @ BRG. PIER 2 | 34+62.99 | 17.917 | 493.147                      | 493.147  |
| @ PIER 2         | 34+63.74 | 17.917 | 493.150                      | 493.150  |
| E. @ BRG. PIER 2 | 34+64.49 | 17.917 | 493.152                      | 493.152  |
| Q                | 34+74.49 | 17.917 | 493.180                      | 493.220  |
| R                | 34+84.49 | 17.917 | 493.194                      | 493.269  |
| S                | 34+94.49 | 17.917 | 493.194                      | 493.297  |
| T                | 35+04.49 | 17.917 | 493.181                      | 493.300  |
| U                | 35+14.49 | 17.917 | 493.154                      | 493.278  |
| V                | 35+24.49 | 17.917 | 493.113                      | 493.228  |
| W                | 35+34.49 | 17.917 | 493.059                      | 493.154  |
| X                | 35+44.49 | 17.917 | 492.991                      | 493.055  |
| Y                | 35+54.49 | 17.917 | 492.909                      | 492.936  |
| W. @ BRG. PIER 3 | 35+61.49 | 17.917 | 492.843                      | 492.843  |
| @ PIER 3         | 35+62.24 | 17.917 | 492.836                      | 492.836  |
| E. @ BRG. PIER 3 | 35+62.99 | 17.917 | 492.829                      | 492.829  |
| Z                | 35+72.99 | 17.917 | 492.721                      | 492.749  |
| AA               | 35+82.99 | 17.917 | 492.601                      | 492.652  |
| BB               | 35+92.99 | 17.917 | 492.466                      | 492.536  |
| CC               | 36+02.99 | 17.917 | 492.318                      | 492.397  |
| DD               | 36+12.99 | 17.917 | 492.157                      | 492.232  |
| EE               | 36+22.99 | 17.917 | 491.981                      | 492.045  |
| FF               | 36+32.99 | 17.917 | 491.792                      | 491.836  |
| GG               | 36+42.99 | 17.917 | 491.589                      | 491.606  |
| @ BRG E. ABUT.   | 36+48.77 | 17.917 | 491.466                      | 491.466  |
| BK. E. ABUT.     | 36+50.07 | 17.917 | 491.437                      | 491.437  |

THOUVENOT, WADE & MOERCHEN, INC.



|          |         |
|----------|---------|
| DESIGNED | ALN     |
| CHECKED  | BWP     |
| DRAWN    | KBF     |
| CHECKED  | ALN/BWP |

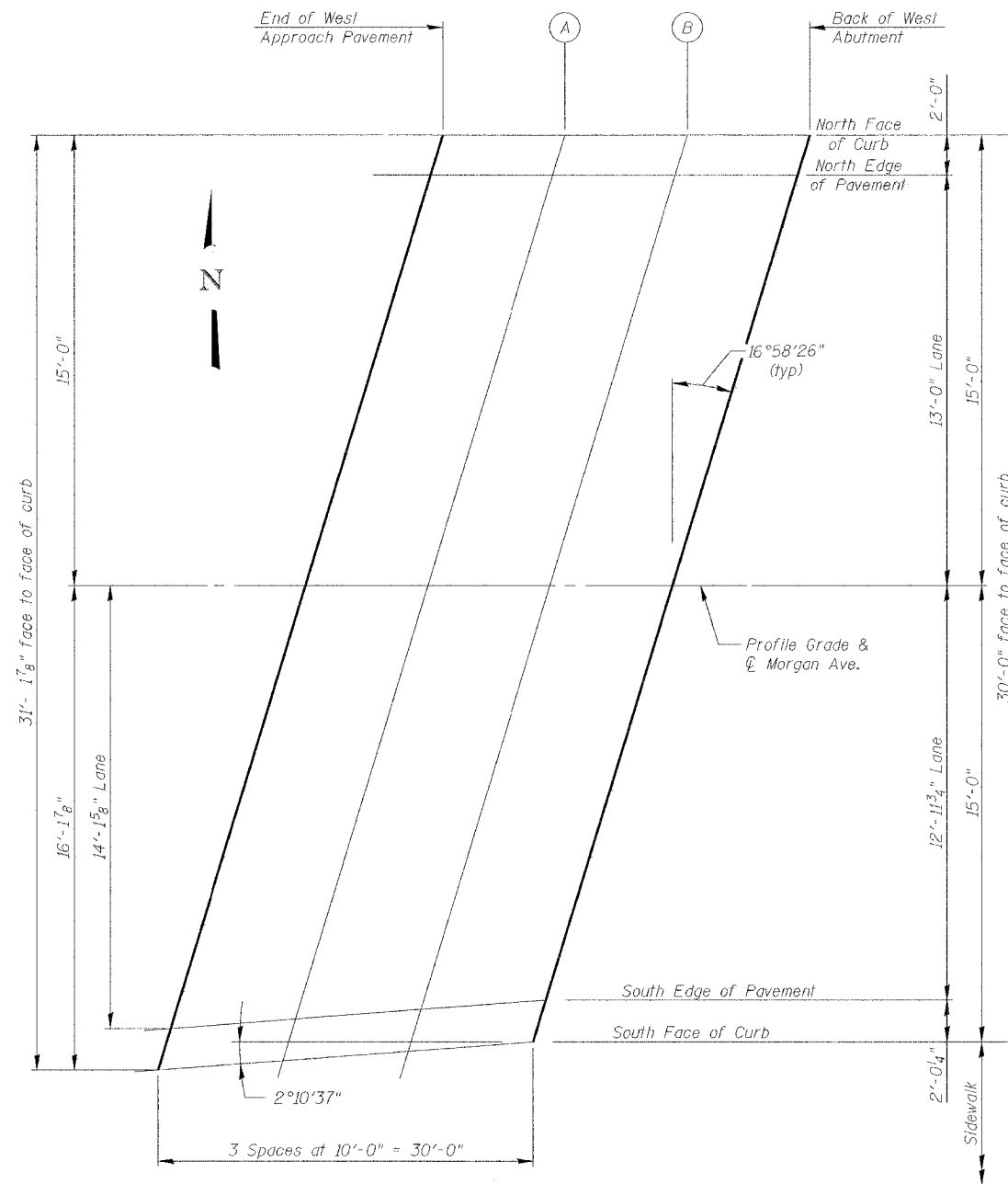
TOP OF SLAB ELEVATIONS  
MORGAN AVE. OVER I-57  
FAI ROUTE 57 - SECTION (X1-6-2)HBK  
WILLIAMSON COUNTY  
STATION 34+69.21  
STRUCTURE NO. 100-0092

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

|                       |             |            |                   |           |
|-----------------------|-------------|------------|-------------------|-----------|
| ROUTE NO.             | SECTION     | COUNTY     | TOTAL SHEETS      | SHEET NO. |
| FAI 57                | (X1-6-2)HBK | Williamson | 272               | 142       |
| FED. ROAD DIST. NO. 7 |             | ILLINOIS   | FED. AID PROJECT: |           |

Contract # 98994

SHEET NO. 7  
33 SHEETS



PLAN

THOUVENOT, WADE & MOERCHEN, INC.



|          |         |
|----------|---------|
| DESIGNED | ALN     |
| CHECKED  | BWP     |
| DRAWN    | KBF     |
| CHECKED  | ALN/BWP |

NORTH FACE OF CURB

| Location            | Station  | Offset  | Theoretical Grade Elevations |
|---------------------|----------|---------|------------------------------|
| END W. APPR. PAV'T. | 32+59.79 | -15.000 | 491.122                      |
| A                   | 32+69.79 | -15.000 | 491.262                      |
| B                   | 32+79.79 | -15.000 | 491.398                      |
| BK. W. ABUT.        | 32+89.79 | -15.000 | 491.528                      |

NORTH EDGE OF PAVEMENT

| Location            | Station  | Offset  | Theoretical Grade Elevations |
|---------------------|----------|---------|------------------------------|
| END W. APPR. PAV'T. | 32+59.18 | -13.000 | 491.144                      |
| A                   | 32+69.18 | -13.000 | 491.285                      |
| B                   | 32+79.18 | -13.000 | 491.421                      |
| BK. W. ABUT.        | 32+89.18 | -13.000 | 491.552                      |

☉ & PROFILE GRADE

| Location            | Station   | Offset | Theoretical Grade Elevations |
|---------------------|-----------|--------|------------------------------|
| END W. APPR. PAV'T. | 32+55.210 | 0.000  | 491.290                      |
| A                   | 32+65.210 | 0.000  | 491.433                      |
| B                   | 32+75.210 | 0.000  | 491.571                      |
| BK. W. ABUT.        | 32+85.210 | 0.000  | 491.703                      |

SOUTH EDGE OF PAVEMENT

| Location            | Station   | Offset | Theoretical Grade Elevations |
|---------------------|-----------|--------|------------------------------|
| END W. APPR. PAV'T. | 32+50.896 | 14.135 | 491.006                      |
| A                   | 32+61.014 | 13.750 | 491.159                      |
| B                   | 32+71.132 | 13.365 | 491.306                      |
| BK. W. ABUT.        | 32+81.249 | 12.979 | 491.449                      |

SOUTH FACE OF CURB

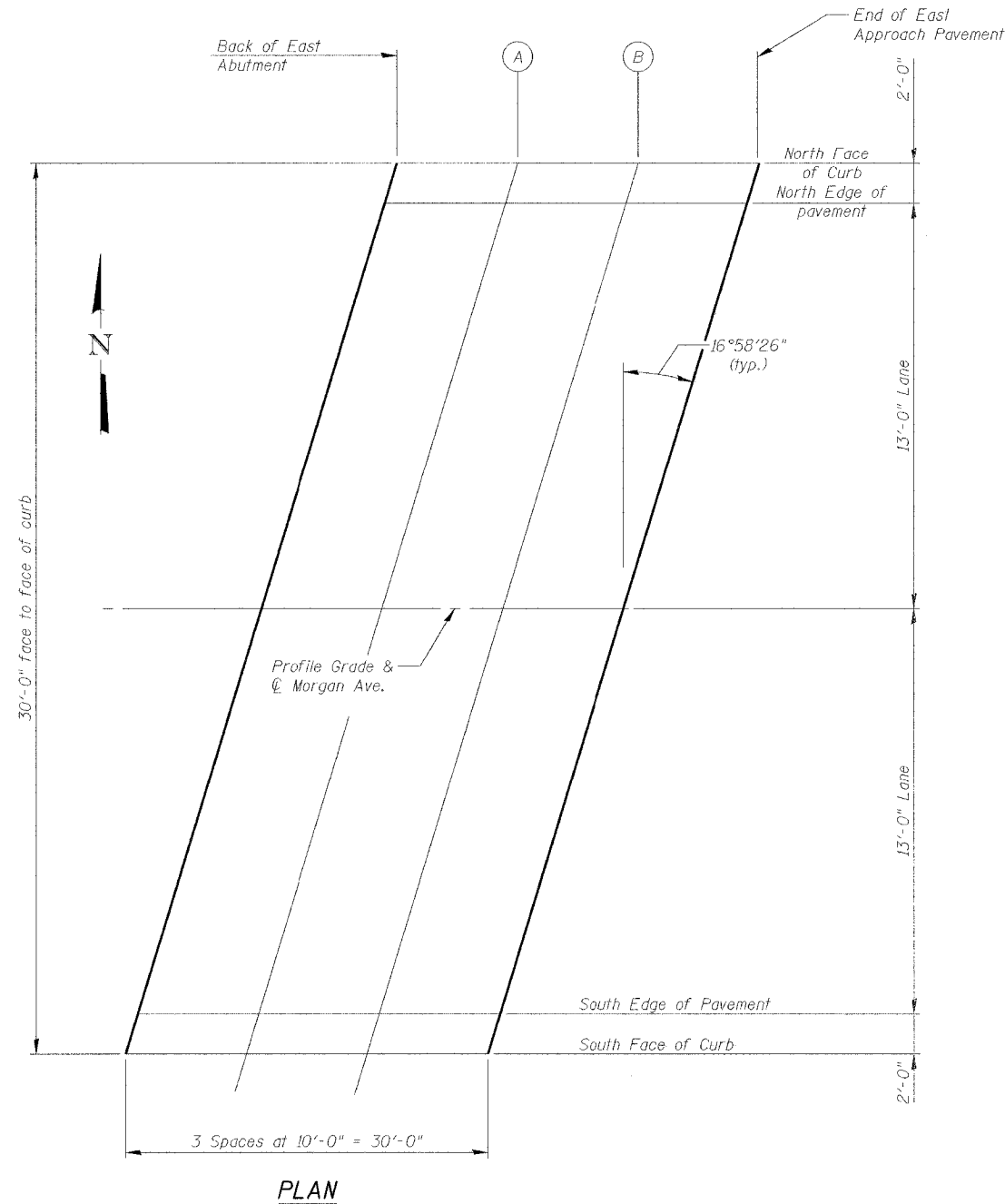
| Location            | Station   | Offset | Theoretical Grade Elevations |
|---------------------|-----------|--------|------------------------------|
| END W. APPR. PAV'T. | 32+50.279 | 16.156 | 490.966                      |
| A                   | 32+60.397 | 15.769 | 491.115                      |
| B                   | 32+70.514 | 15.385 | 491.266                      |
| BK. W. ABUT.        | 32+80.632 | 15.000 | 491.409                      |

TOP OF WEST APPROACH  
MORGAN AVE. OVER I-57  
FAI ROUTE 57- SECTION (X1-6-2)HBK  
WILLIAMSON COUNTY  
STATION 34+69.21  
STRUCTURE NO. 100-0092

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

|                       |             |            |                   |       |
|-----------------------|-------------|------------|-------------------|-------|
| ROUTE NO.             | SECTION     | COUNTY     | SHEET NO.         | SHEET |
| FAI 57                | (X1-6-2)HBK | Williamson | 272               | 143   |
| FED. ROAD DIST. NO. 7 |             | ILLINOIS   | FED. AID PROJECT- |       |

SHEET NO. 8  
33 SHEETS  
Contract # 98994



NORTH FACE OF CURB

| Location          | Station  | Offset  | Theoretical Grade Elevations |
|-------------------|----------|---------|------------------------------|
| BK. E ABUT.       | 36+60.12 | -15.000 | 491.256                      |
| A                 | 36+70.12 | -15.000 | 491.016                      |
| B                 | 36+80.12 | -15.000 | 490.762                      |
| END E APPR. PAV'T | 36+90.12 | -15.000 | 490.495                      |

NORTH EDGE OF PAVEMENT

| Location          | Station  | Offset  | Theoretical Grade Elevations |
|-------------------|----------|---------|------------------------------|
| BK. E ABUT.       | 36+59.51 | -13.000 | 491.301                      |
| A                 | 36+69.51 | -13.000 | 491.062                      |
| B                 | 36+79.51 | -13.000 | 490.810                      |
| END E APPR. PAV'T | 36+89.51 | -13.000 | 490.543                      |

☉ AND PROFILE GRADE

| Location          | Station   | Offset | Theoretical Grade Elevations |
|-------------------|-----------|--------|------------------------------|
| BK. E ABUT.       | 36+55.540 | 0.000  | 491.595                      |
| A                 | 36+65.540 | 0.000  | 491.362                      |
| B                 | 36+75.540 | 0.000  | 491.115                      |
| END E APPR. PAV'T | 36+85.540 | 0.000  | 490.854                      |

SOUTH EDGE OF PAVEMENT

| Location          | Station  | Offset | Theoretical Grade Elevations |
|-------------------|----------|--------|------------------------------|
| BK. E ABUT.       | 36+51.57 | 13.000 | 491.481                      |
| A                 | 36+61.57 | 13.000 | 491.253                      |
| B                 | 36+71.57 | 13.000 | 491.011                      |
| END E APPR. PAV'T | 36+81.57 | 13.000 | 490.756                      |

SOUTH FACE OF CURB

| Location          | Station  | Offset | Theoretical Grade Elevations |
|-------------------|----------|--------|------------------------------|
| BK. E ABUT.       | 36+50.96 | 15.000 | 491.463                      |
| A                 | 36+60.96 | 15.000 | 491.236                      |
| B                 | 36+70.96 | 15.000 | 490.995                      |
| END E APPR. PAV'T | 36+80.96 | 15.000 | 490.740                      |

THOUVENOT, WADE & MOERCHEN, INC.



|          |         |
|----------|---------|
| DESIGNED | ALN     |
| CHECKED  | BWP     |
| DRAWN    | KBF     |
| CHECKED  | ALN/BWP |

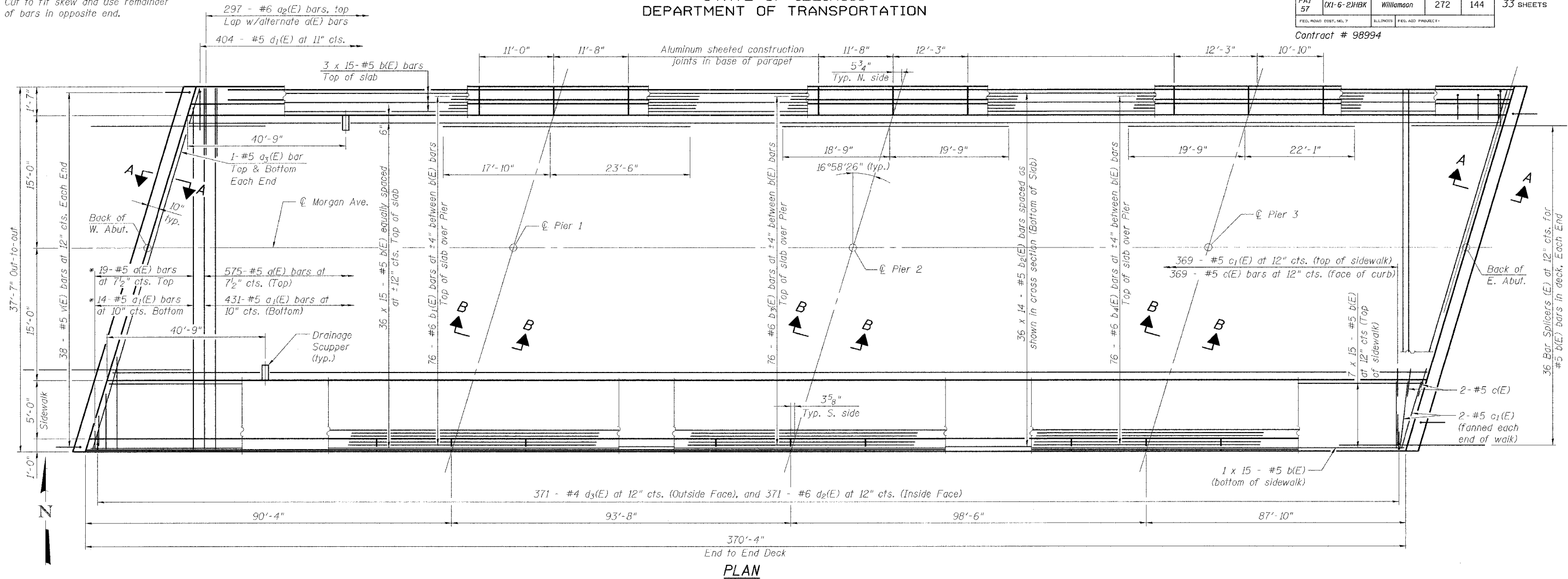
TOP OF EAST APPROACH  
MORGAN AVE. OVER I-57  
FAI ROUTE 57 - SECTION (X1-6-2)HBK  
WILLIAMSON COUNTY  
STATION 34+69.21  
STRUCTURE NO. 100-0092

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

|                       |             |            |                  |           |
|-----------------------|-------------|------------|------------------|-----------|
| ROUTE NO.             | SECTION     | COUNTY     | SHEET NO.        | SHEET NO. |
| FAI 57                | (X1-6-2)HBK | Williamson | 272              | 144       |
| FED. ROAD DIST. NO. 7 |             | ILLINOIS   | FED. AID PROJECT |           |

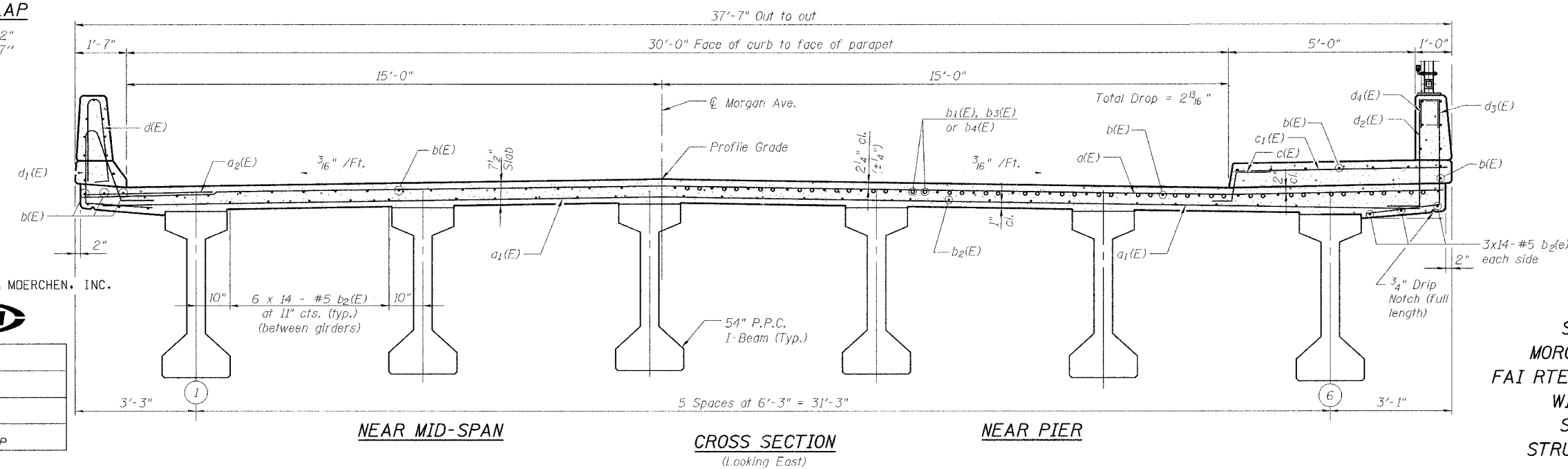
Contract # 98994

\* Order a(E) & a<sub>1</sub>(E) bars full length.  
Cut to fit skew and use remainder  
of bars in opposite end.



MIN. BAR LAP

#5 bar = 2'-2"  
#6 bar = 2'-7"



Notes:  
See Sheets 10 and 11 of 33 for  
superstructure details and Bill of Material.  
Reinforcement bars designated (E) shall  
be epoxy coated.  
Bars indicated thus 20 x 3 - #5 etc.  
indicates 20 lines of bars with 3 lengths  
per line.  
For Sections A-A and B-B see Sheet 13  
of 33.  
See Sheet 10 of 33 for Parapet  
reinforcement.  
See Sheet 11 of 33 for sidewalk and  
barrier reinforcement.

SUPERSTRUCTURE  
MORGAN AVE. OVER I-57  
FAI RTE. 57 - SEC. (X1-6-2)HBK  
WILLIAMSON COUNTY  
STATION 34+69.21  
STRUCTURE NO. 100-0092

THOUVENOT, WADE & MOERCHEN, INC.



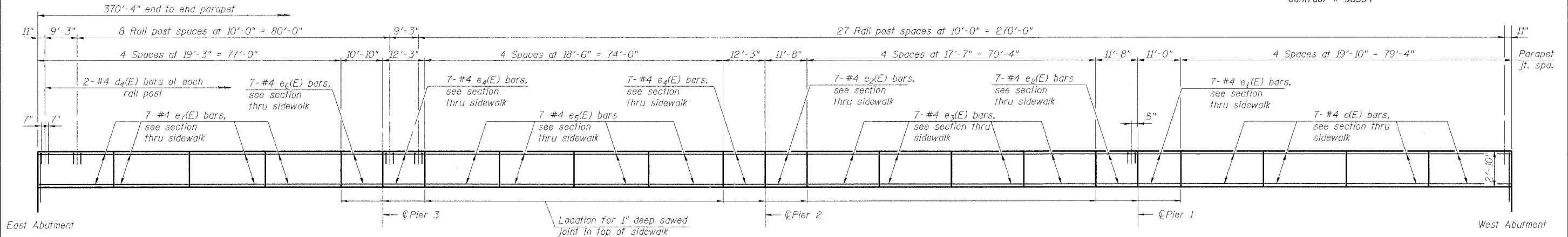
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|----------|---------|
| DESIGNED | ALN     |
| CHECKED  | BWP     |
| DRAWN    | KBF     |
| CHECKED  | ALN/BWP |



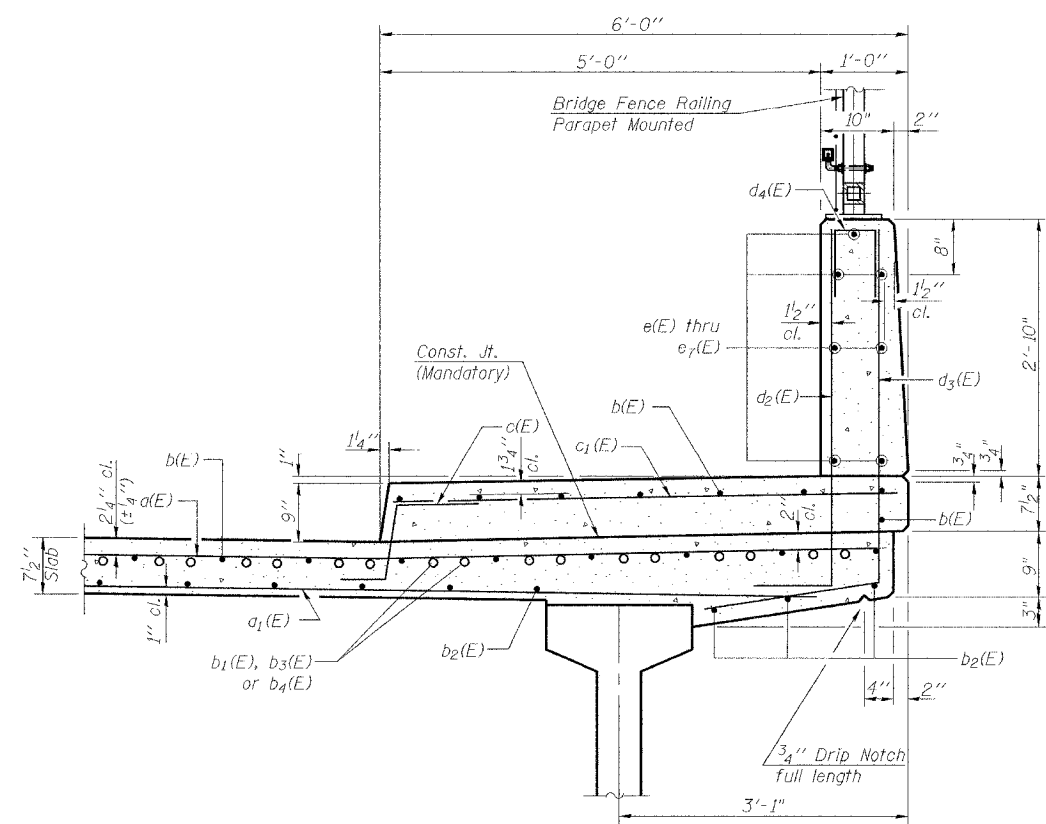
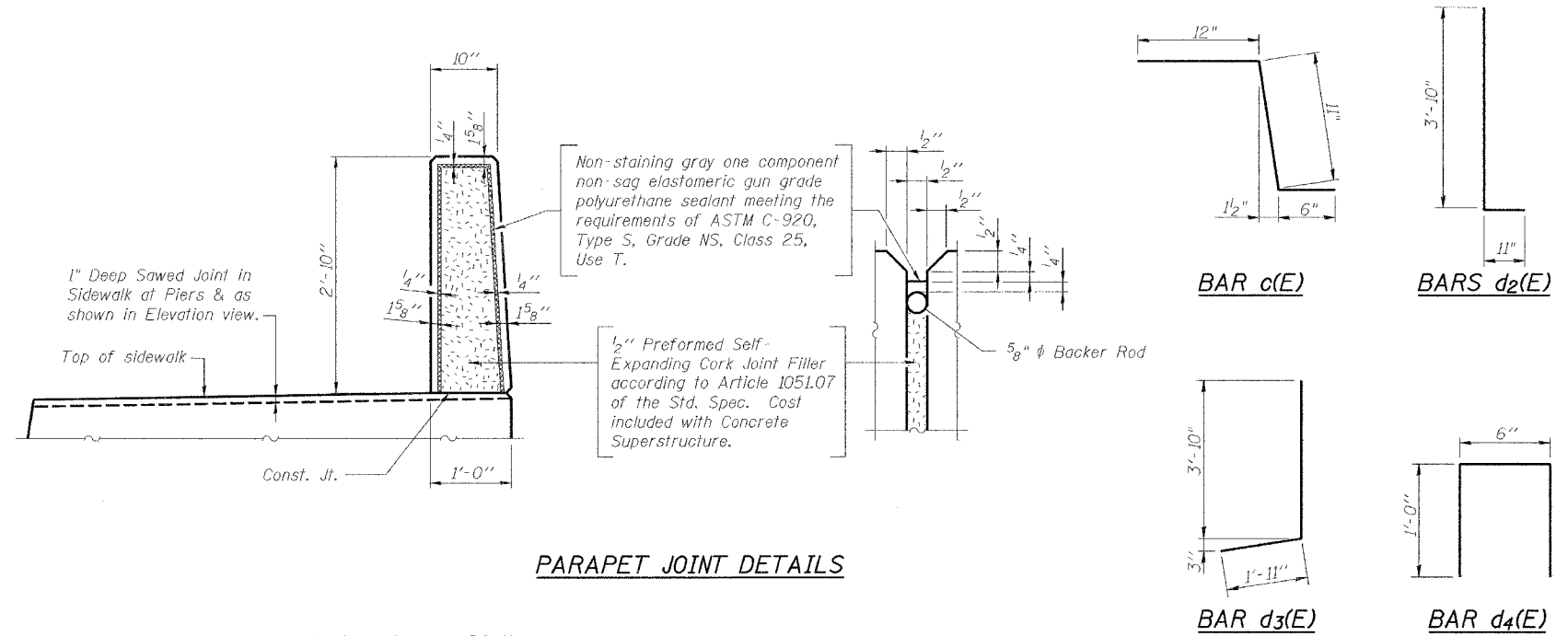
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

|                       |             |            |                  |           |
|-----------------------|-------------|------------|------------------|-----------|
| ROUTE NO.             | SECTION     | COUNTY     | TOTAL SHEETS     | SHEET NO. |
| FAI 57                | (X1-6-2)HBK | Williamson | 272              | 146       |
| FED. ROAD DIST. NO. 7 |             | ILLINOIS   | FED. AID PROJECT |           |

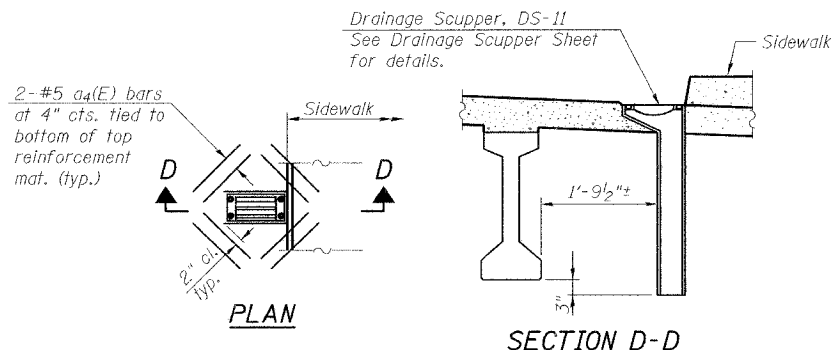
SHEET NO. 11  
33 SHEETS  
Contract # 98994



INSIDE ELEVATION OF SOUTH PARAPET



SECTION THRU SIDEWALK



SCUPPER DETAILS

Note:  
Cut longitudinal reinforcement to clear drainage scuppers

SUPERSTRUCTURE  
MORGAN AVE. OVER I-57  
FAI ROUTE 57 - SECTION (X1-6-2)HBK  
WILLIAMSON COUNTY  
STATION 34+69.21  
STRUCTURE NO. 100-0092

THOUVENOT, WADE & MOERCHEN, INC.

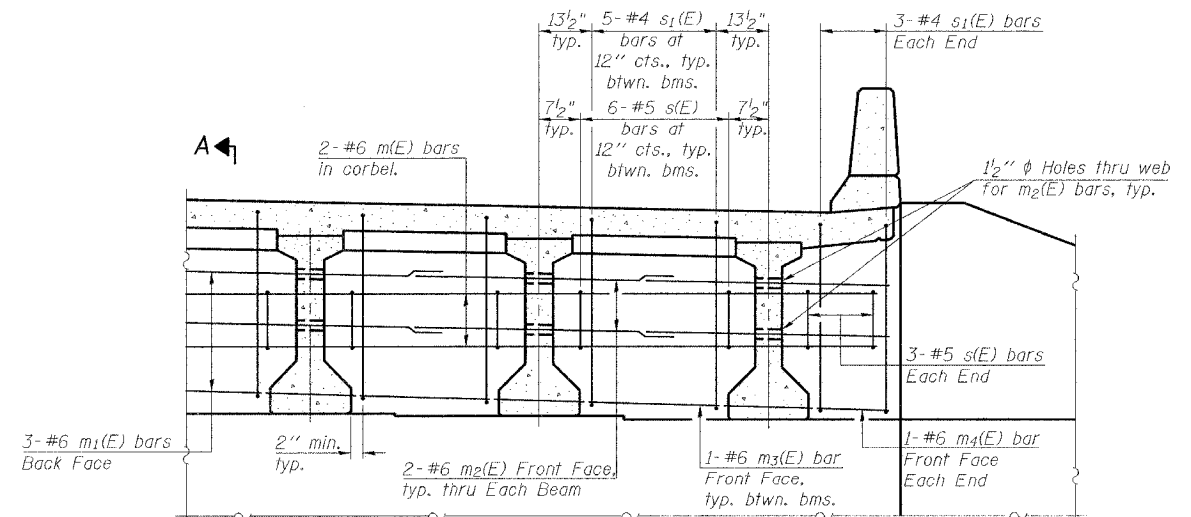
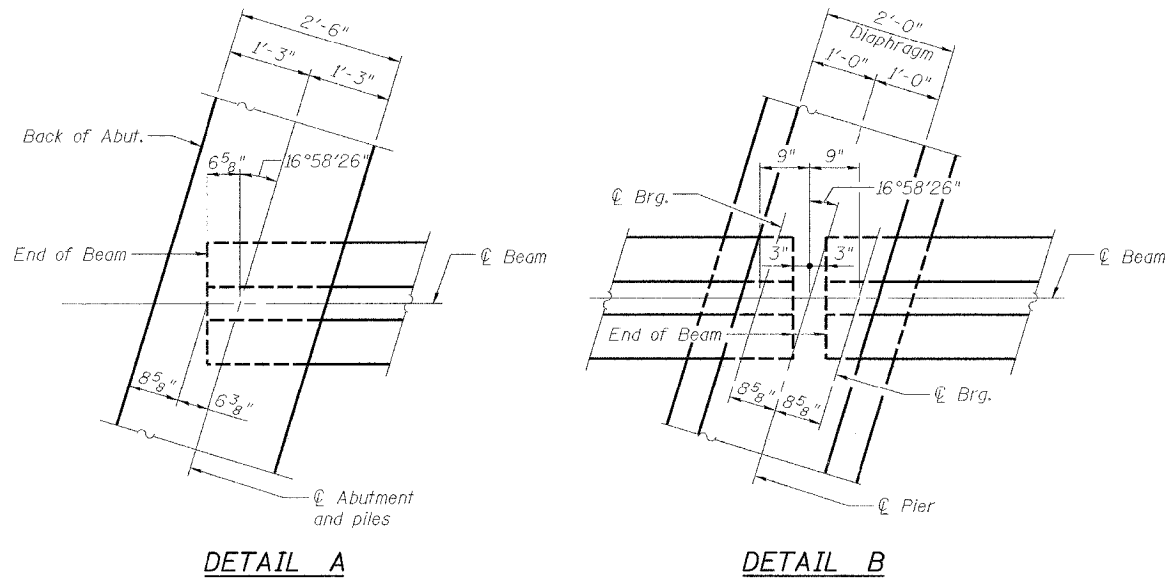


|          |         |
|----------|---------|
| DESIGNED | ALN     |
| CHECKED  | BWP     |
| DRAWN    | KBF     |
| CHECKED  | ALN/BWP |

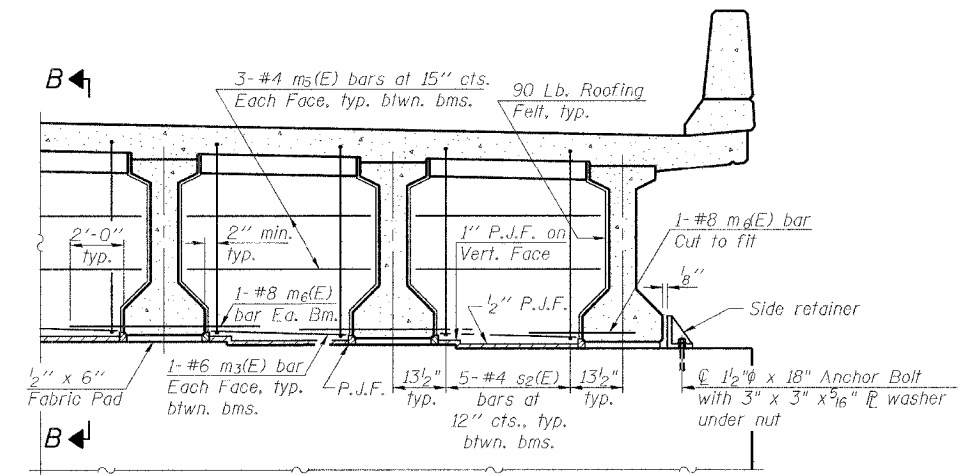
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

|                       |             |                            |              |           |                           |
|-----------------------|-------------|----------------------------|--------------|-----------|---------------------------|
| ROUTE NO.             | SECTION     | COUNTY                     | STATE SHEETS | SHEET NO. | SHEET NO. 12<br>33 SHEETS |
| FAI 57                | (X1-6-2)HBK | Williamson                 | 272          | 147       |                           |
| FED. ROAD DIST. NO. 7 |             | ILLINOIS FED. AID PROJECT- |              |           |                           |

Contract # 98994



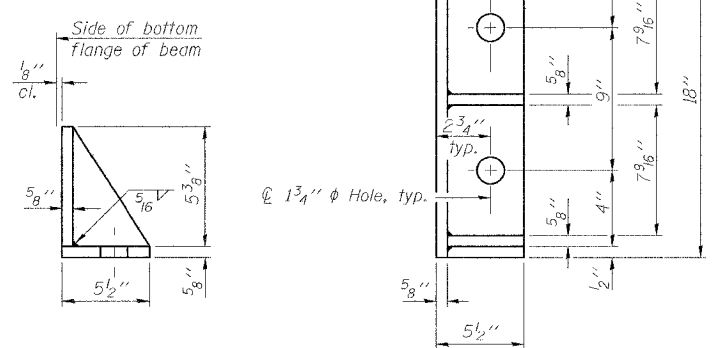
DIAPHRAGM ELEVATION AT ABUTMENT



DIAPHRAGM AT PIERS

MIN. BAR LAP  
#5 bar = 2'-2"  
#6 bar = 2'-9"

Notes:  
Reinforcement bars in diaphragm are billed with superstructure on sheet 10 of 33.  
Concrete in diaphragm is included with Concrete Superstructure on sheet 10 of 33.  
For details of bars s(E), s1(E) and s2(E) see sheet 10 of 33.  
The s(E), s1(E) and s2(E) bars shall be placed parallel to the beams. Spacing for these bars shall be at right angles to the beams.  
See sheet 13 of 33 for Sections A-A and B-B.  
Cost of 90 Lb. roofing felt is included with Concrete Superstructure.  
The side retainer shall be galvanized after shop fabrication according to AASHTO M 111 and ASTM A 385. Cost of side retainer and anchor bolts shall be included with Concrete Structures.



SIDE RETAINER  
Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.

THOUVENOT, WADE & MOERCHEN, INC.



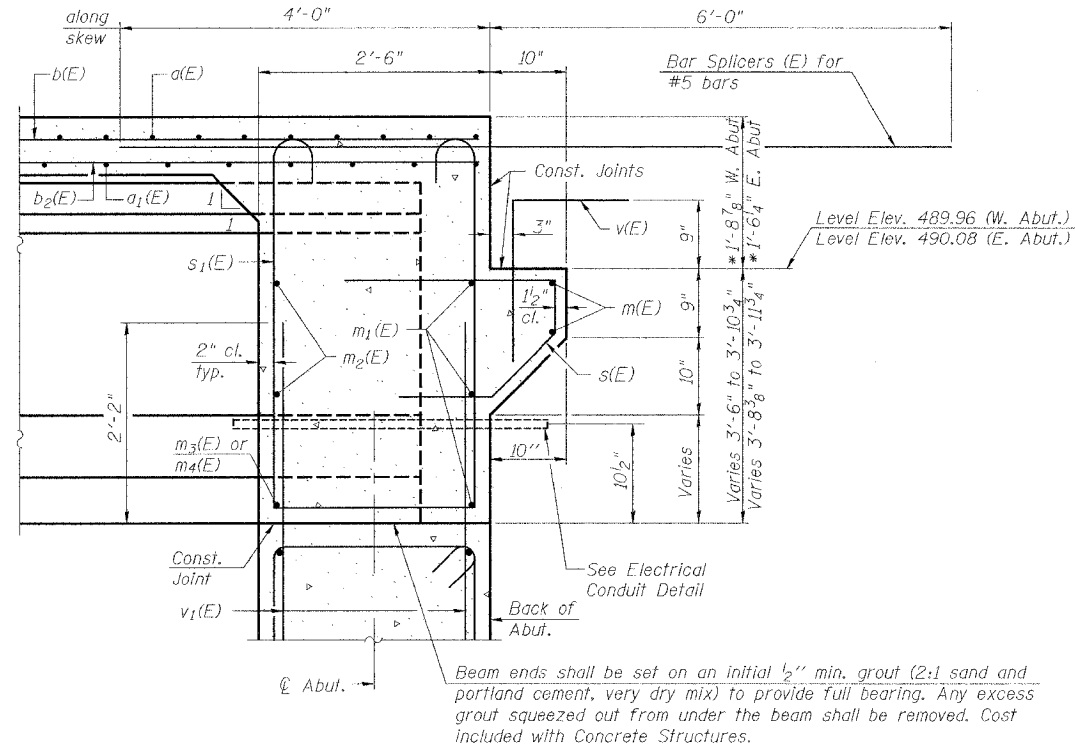
|          |         |
|----------|---------|
| DESIGNED | ALN     |
| CHECKED  | BWP     |
| DRAWN    | KBF     |
| CHECKED  | ALN/BWP |

DIAPHRAGM DETAILS  
MORGAN AVE. OVER I-57  
FAI ROUTE 57 - SEC. (X1-6-2)HBK  
WILLIAMSON COUNTY  
STATION 34+69.21  
STRUCTURE NO. 100-0092

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

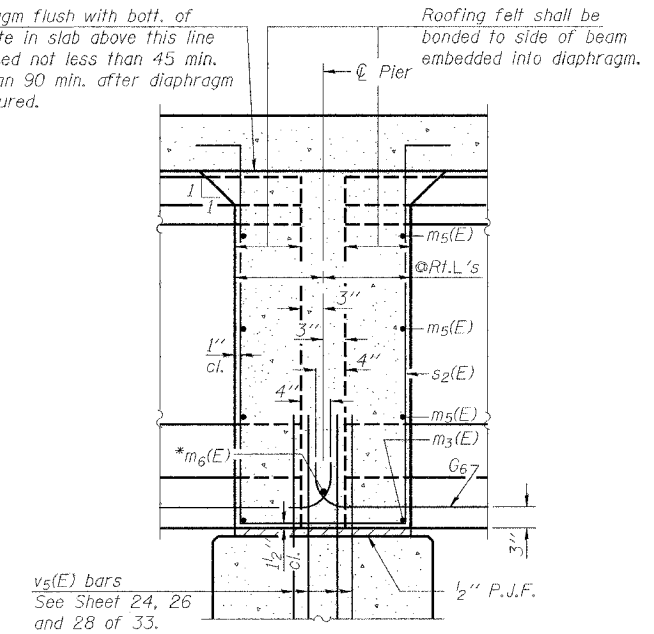
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|-----------------------|-------------|---------------------------|---------|-------|---------------------------|
| ROUTE NO.             | SECTION     | COUNTY                    | PROJECT | SHEET | SHEET NO. 13<br>33 SHEETS |
| FAI 57                | (X1-6-2)HBK | Williamson                | 272     | 148   |                           |
| FED. ROAD DIST. NO. 7 |             | ILLINOIS FED. AID PROJECT |         |       |                           |

Contract # 98994



**SECTION A-A**

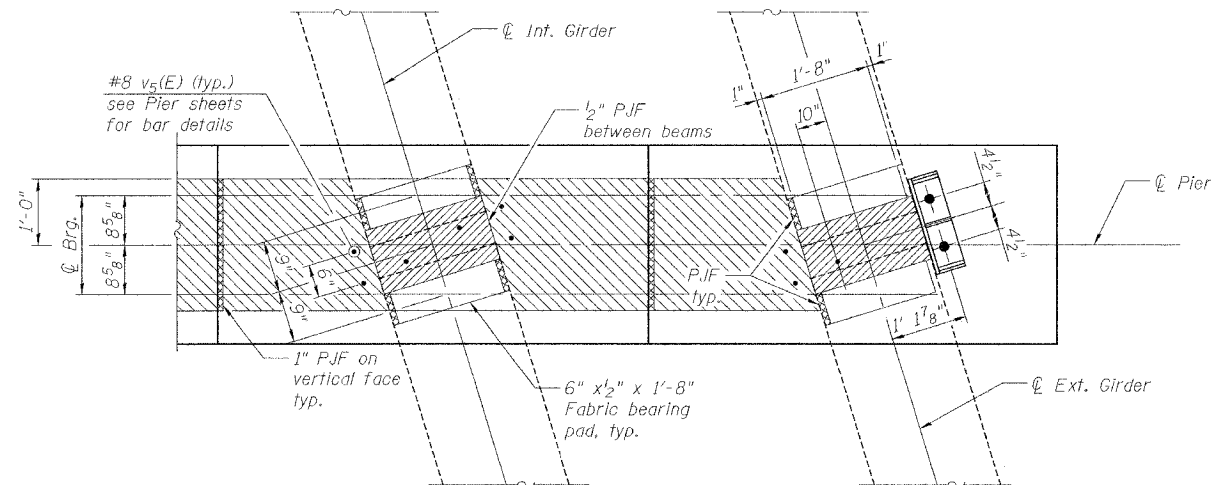
Dimensions at right angles to abutment, except as shown.  
\* at  $\perp$  Roadway



**SECTION B-B**

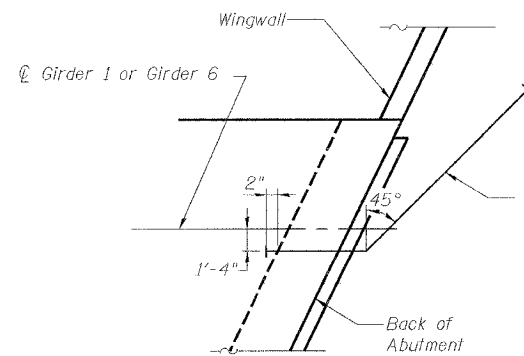
Dimensions along  $\perp$  of beam, except as shown.

\* Tightly fasten the #8 bars together with No. 9 wire ties.



**PLAN AT PIER**

(Showing bearing pad and P.J.F. details)



**PLAN - ELECTRICAL CONDUIT**

(Showing Typical Outside Corner)

Note:  
See sheet 9 of 33 for location of Sections A-A and B-B.

Locate 2" galvanized conduit (Sch. 40) pipe  $\pm 12"$  inside of fascia beam web, parallel to beam line, and 10 1/2" above beam seat through diaphragm. Extend to clear the wingwall and terminate at a point outside of shoulder. Thread and cap each end. Cost included with Concrete Structures.

THOUVENOT, WADE & MOERCHEN, INC.



|          |         |
|----------|---------|
| DESIGNED | ALN     |
| CHECKED  | BWP     |
| DRAWN    | KBF     |
| CHECKED  | BWP/ALN |

DIAPHRAGM DETAILS  
MORGAN AVE. OVER I-57  
FAI ROUTE 57 - SECTION (X1-6-2)HBK  
WILLIAMSON COUNTY  
STATION 34+69.21  
STRUCTURE NO. 100-0092



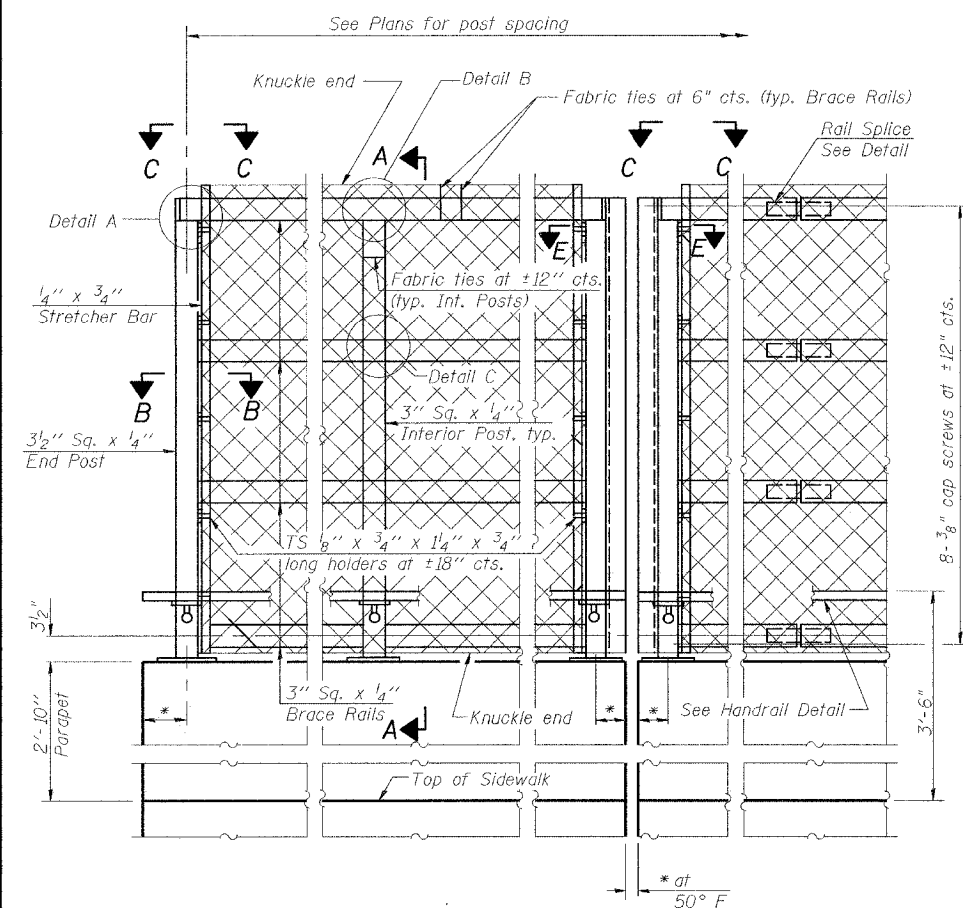
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

|                       |             |                           |           |           |
|-----------------------|-------------|---------------------------|-----------|-----------|
| ROUTE NO.             | SECTION     | COUNTY                    | SHEET NO. | SHEET NO. |
| FAJ 57                | (X1-6-2)HBK | Williamson                | 272       | 149       |
| FED. ROAD DIST. NO. 7 |             | ILLINOIS FED. AID PROJECT |           |           |

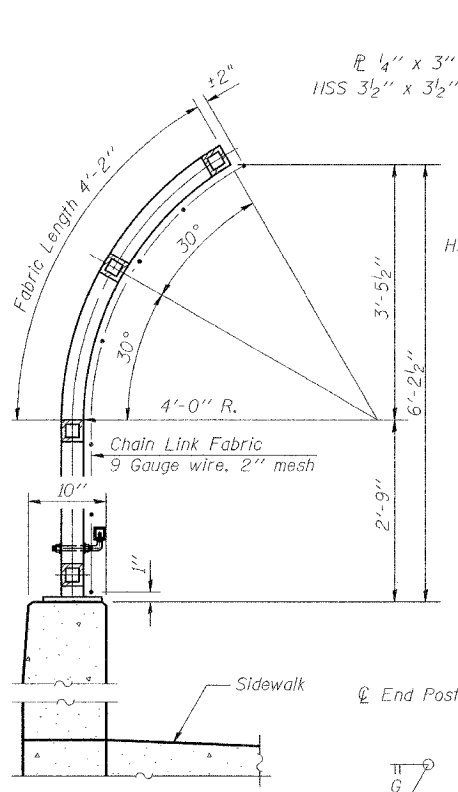
Contract # 98994

**NOTES**

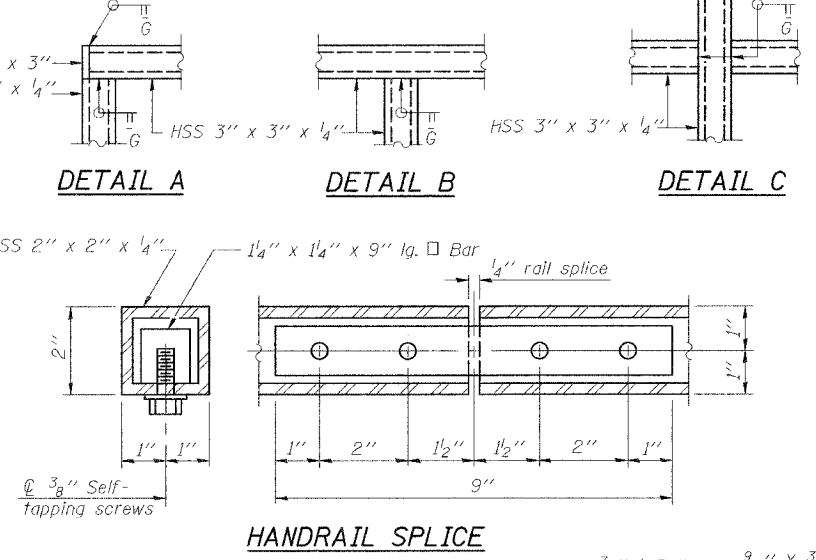
Railing shall be according to Section 509 of the Standard Specifications, except as noted, and will be paid for at the Contract Unit Price per foot for Bridge Fence Railing.  
The 9 gauge fabric ties shall be according to Article 1006.27(d) of the Standard Specifications.  
Installation of the chain link fabric shall be according to Section 664 of the Standard Specifications.  
Hollow structural sections shall conform to the requirements of ASTM designation A 500, Grade B, structural steel tubing.  
All other steel shapes and plates shall conform to the requirements of AASHTO M 270 Grade 36.  
The chain link fabric shall be placed along Pedestrian Side as shown on Section A-A.  
Stretcher bars shall be used at each end of fabric.  
A minimum of one complete turn is required at ends of all fabric ties.  
If the option of drilling and epoxy grouting the anchor rods is chosen, the Contractor shall use the capsule or the adhesive cartridge type anchor rods that have been previously tested and given a prior approval by the Department. The Contractor shall install these anchor rods in pre-drilled holes according to the manufacturer's recommendations and procedures. The capsule or the adhesive cartridge shall be sealed with pre-measured amounts of the adhesive chemical.  
Space reinforcement to miss anchor rods.  
All posts, railing, splices, anchor devices, and plates shall be galvanized after shop fabrication according to AASHTO M 111 and ASTM A 385. All bolts, nuts, washers, and anchor rods shall be galvanized according to AASHTO M 232 except stainless steel bolts as noted.  
Vent holes for galvanizing shall be placed in the posts and rails at locations that will not allow the accumulation of moisture in the members.  
The chain link fabric shall conform to the requirements of Article 1006.27(a)(1), b or c of the Standard Specifications.



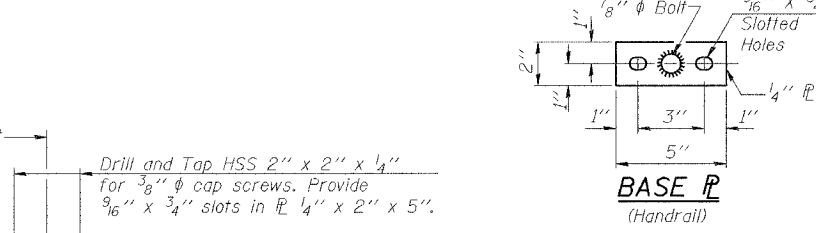
**ELEVATION**  
(Inside Face)



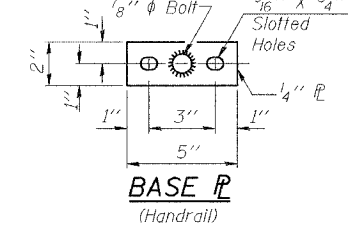
**SECTION A-A**



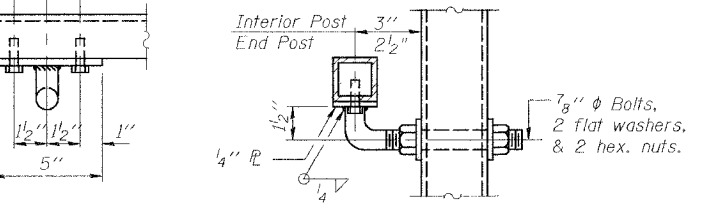
**DETAIL A DETAIL B DETAIL C**



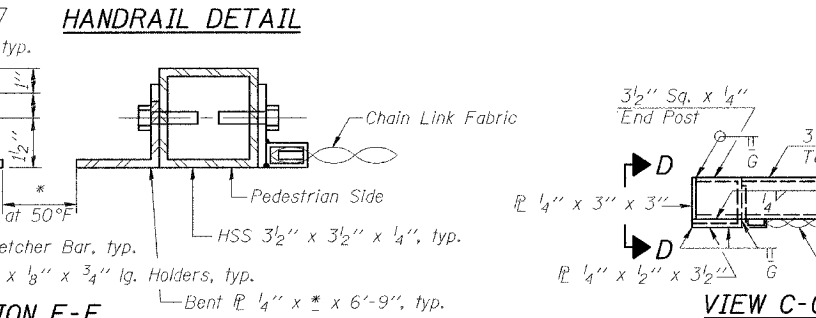
**HANDRAIL SPLICE**



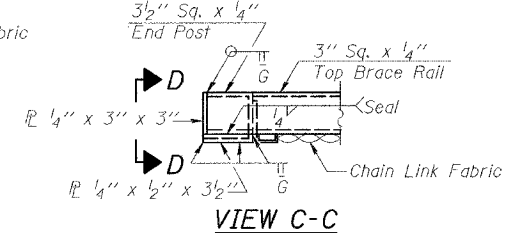
**BASE P**  
(Handrail)



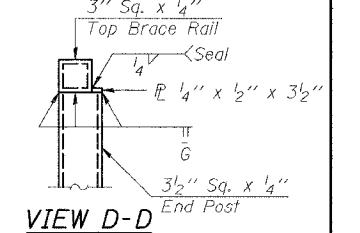
**HANDRAIL DETAIL**



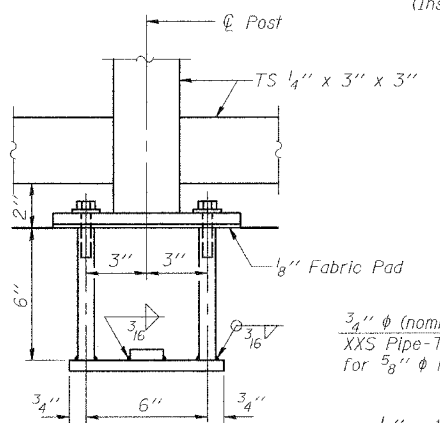
**SECTION E-E**  
(At Expansion Joint)



**VIEW C-C**



**VIEW D-D**



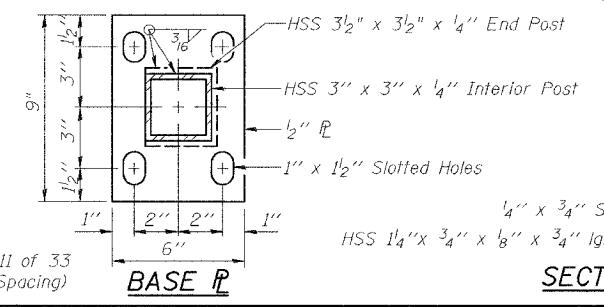
**ANCHOR BOLT DETAILS**

In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and epoxy grouting 3/8" anchor rods. Embedment shall be according to the manufacturer's specifications.

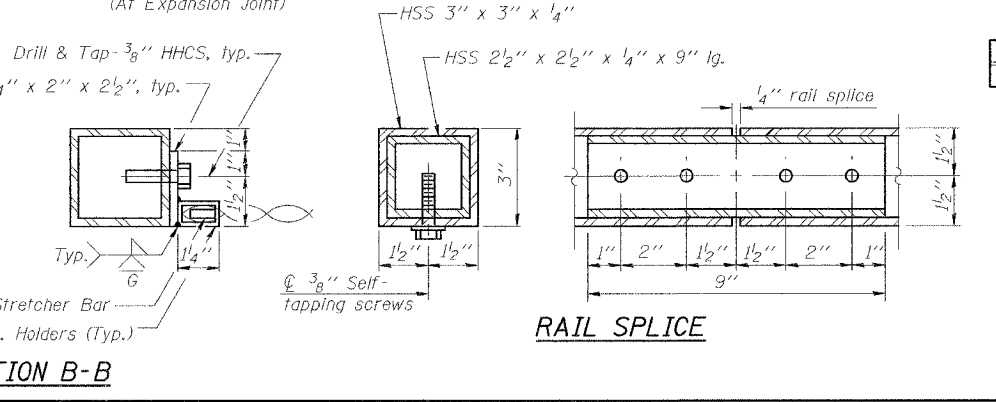
THOUVENOT, WADE & MOERCHEN, INC.



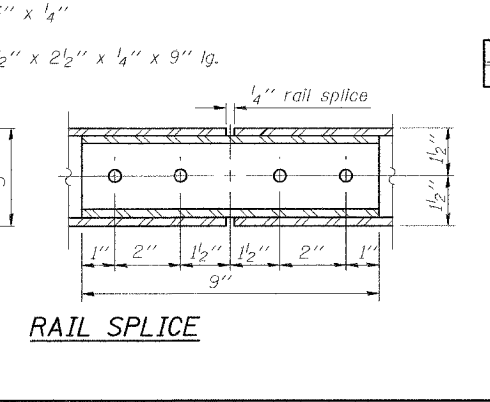
|          |         |
|----------|---------|
| DESIGNED | ALN     |
| CHECKED  | BWP     |
| DRAWN    | KBF     |
| CHECKED  | ALN/BWP |



**BASE P**



**SECTION B-B**



**RAIL SPLICE**

**BILL OF MATERIAL**

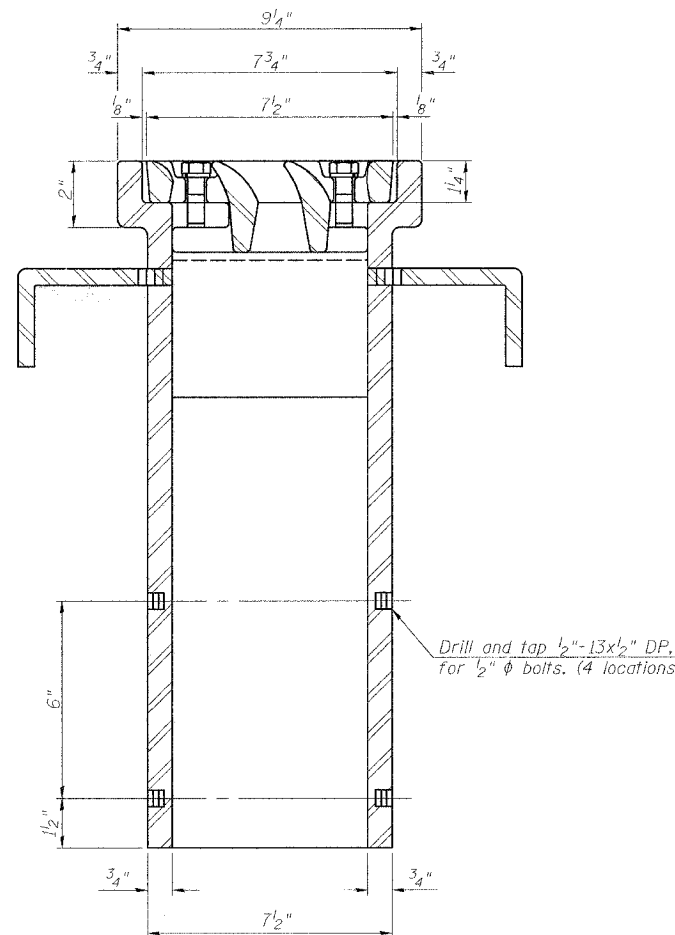
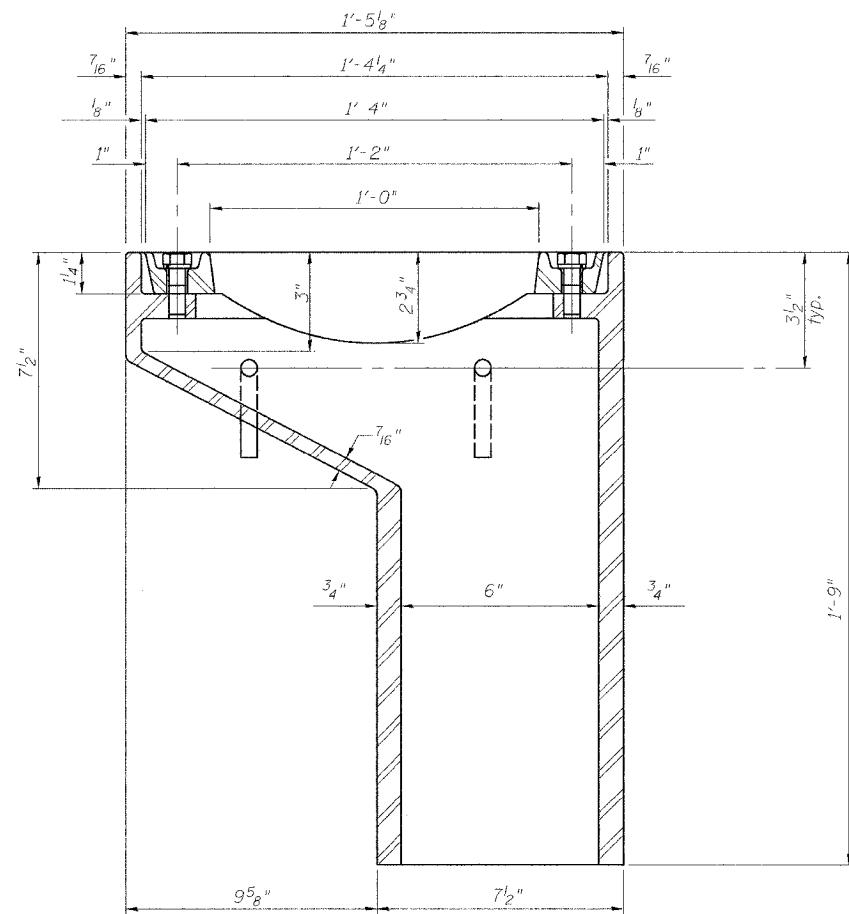
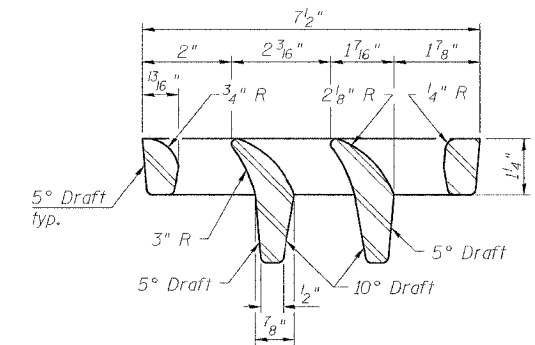
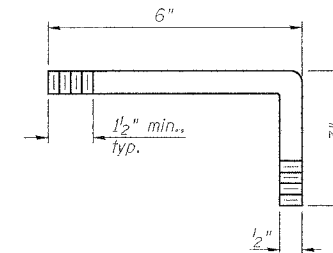
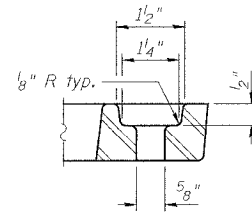
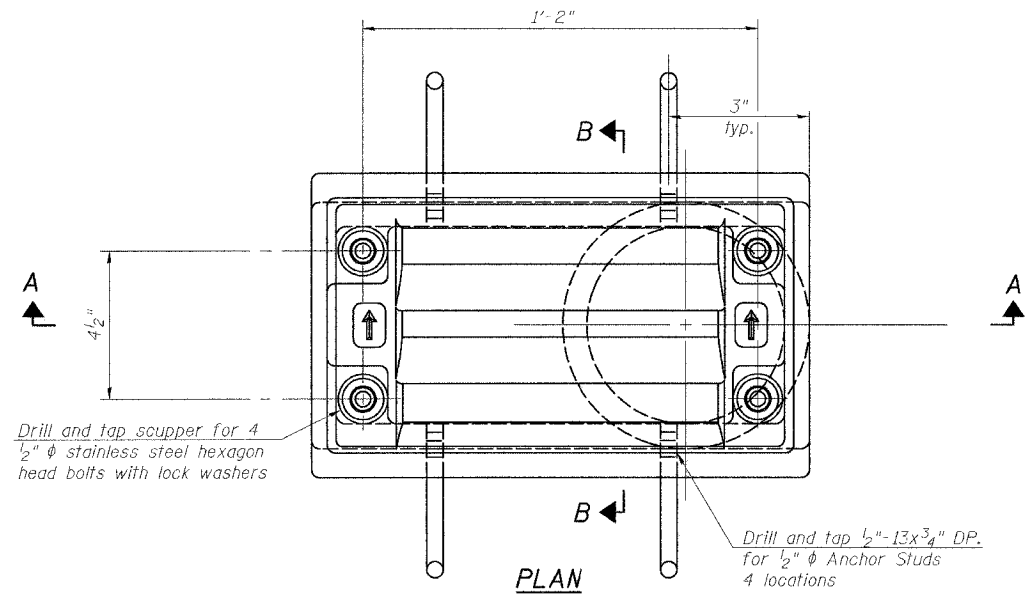
| Item                 | Unit | Quantity |
|----------------------|------|----------|
| Bridge Fence Railing | Foot | 369      |

BRIDGE FENCE RAILING (PARAPET MOUNTED)  
MORGAN AVE. OVER I-57  
FAI ROUTE 57 - SECTION (X1-76-2)HBK  
WILLIAMSON COUNTY  
STATION 34+69.21  
STRUCTURE NO. 100-0092

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

|                       |             |                  |         |           |              |
|-----------------------|-------------|------------------|---------|-----------|--------------|
| ROUTE NO.             | SECTION     | COUNTY           | STATION | SHEET NO. | SHEET NO. 15 |
| FAI 57                | (X1-6-2)HBK | Williamson       | 272     | 150       | 33 SHEETS    |
| FED. ROAD DIST. NO. 7 | ALLNOTES    | FED. AID PROJECT |         |           |              |

Contract # 98994



Notes:

- All cast iron parts shall be gray iron conforming to the requirements of AASHTO M 105, Class 35B.
- Bolts, anchor studs, washers and nuts shall conform to the requirements of ASTM A 307 and shall be galvanized according to AASHTO M 232.
- The grate, frame and downspout shall be galvanized according to AASHTO M 111 and ASTM A 385. Downspouts located on the exterior side of a painted steel fascia beam shall be painted with the finish coat specified for the exterior side of the fascia beam.
- As an alternate, bolts, anchor studs, washers and nuts may be stainless steel according to Article 1006.29(d) of the Standard Specifications.
- Structural steel weldments of equal sections and of the same configuration may be substituted for cast iron. Fillet or full penetration welds shall be used for the weldments. Details shall be submitted to the Engineer for approval.
- The Contractor shall take appropriate measures to assure that Protective Coat is not applied to the scupper.
- Cost of the Grate, Frame, Downspout, Anchor Studs, Bolts, Washers and Nuts including complete installation of the scupper shall be paid for at the contract unit price each for Drainage Scupper, DS-11.

**BILL OF MATERIAL**

| ITEM                    | UNIT | QUANTITY |
|-------------------------|------|----------|
| Drainage Scupper, DS-11 | Each | 2        |

THOUVENOT, WADE & MOERCHEN, INC.



|          |         |
|----------|---------|
| DESIGNED | ALN     |
| CHECKED  | BWP     |
| DRAWN    | KBF     |
| CHECKED  | ALN/BWP |

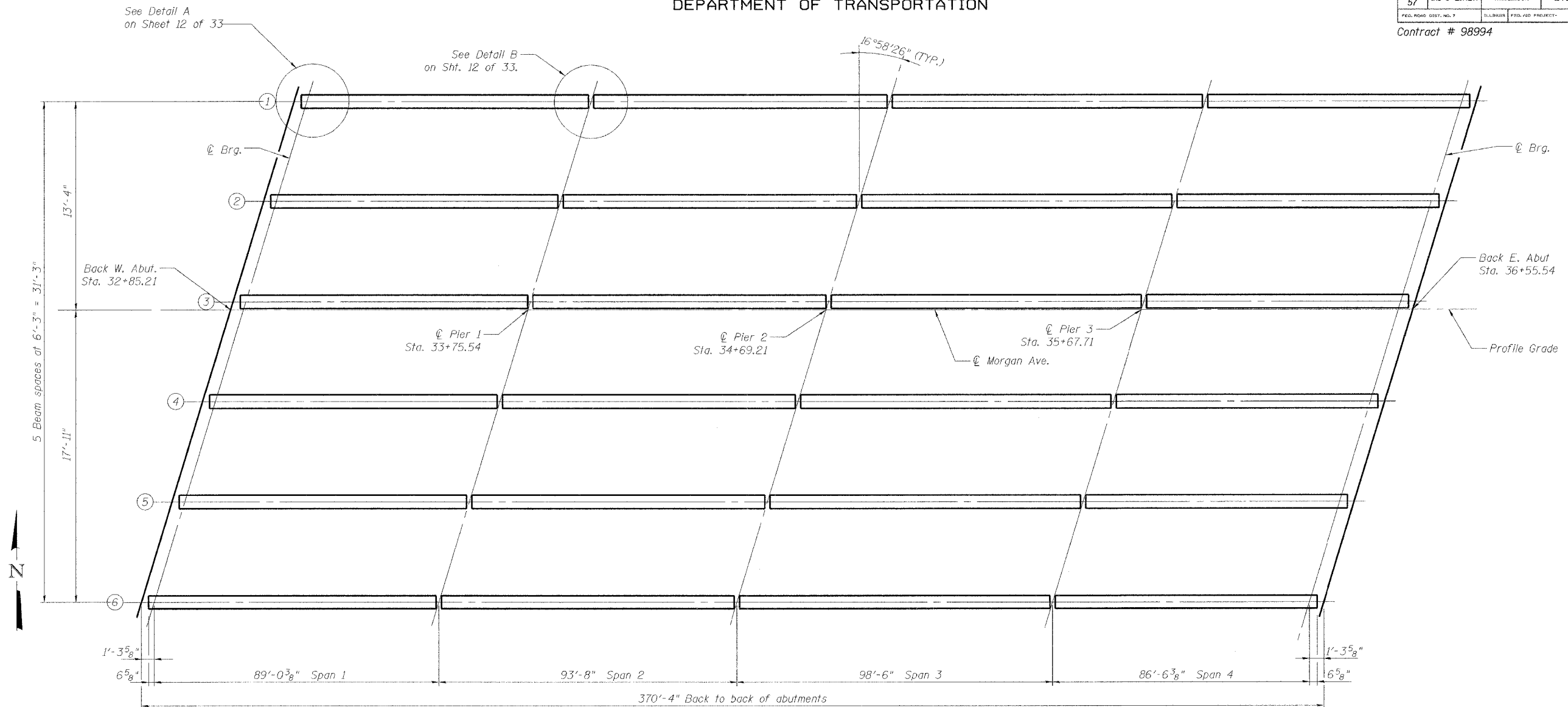
**SECTION A-A**  
See sheet 1, 10, & 11 of 33 for scupper location.

**SECTION B-B**

**DRAINAGE SCUPPER**  
MORGAN AVE. OVER I-57  
FAI ROUTE 57 - SECTION (X1-6-2)HBK  
WILLIAMSON COUNTY  
STATION 34+69.21  
STRUCTURE NO. 100-0092

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

|                       |             |                  |                  |              |              |
|-----------------------|-------------|------------------|------------------|--------------|--------------|
| ROUTE NO.             | SECTION     | COUNTY           | LENG.<br>FEET    | SHEET<br>NO. | SHEET NO. 16 |
| FAI<br>57             | (X1-6-2)HBK | Williamson       | 272              | 151          | 33 SHEETS    |
| FED. ROAD DIST. NO. 7 | ILLINOIS    | FED. AID PROJECT | Contract # 98994 |              |              |



GENERAL PLAN

|                   | .4 Span 1 | .5 Span 2 | .5 Span 3 | .6 Span 4 | Pier 1 | Pier 2 | Pier 3 |
|-------------------|-----------|-----------|-----------|-----------|--------|--------|--------|
| $I$ ( $in^4$ )    | 213,715   | 213,715   | 213,715   | 213,715   |        |        |        |
| $I'$ ( $in^4$ )   | 492,012   | 492,012   | 492,012   | 492,012   |        |        |        |
| $S_b$ ( $in^3$ )  | 8559      | 8559      | 8559      | 8559      |        |        |        |
| $S_b'$ ( $in^3$ ) | 12,761    | 12,761    | 12,761    | 12,761    |        |        |        |
| $S_t$ ( $in^3$ )  | 7362      | 7362      | 7362      | 7362      |        |        |        |
| $S_t'$ ( $in^3$ ) | 32,433    | 32,433    | 32,433    | 32,433    |        |        |        |
| $Q$ ( $k/'$ )     | 1.24      | 1.24      | 1.24      | 1.24      |        |        |        |
| $M_p$ ( $k$ )     | 1179      | 1360      | 1504      | 1114      |        |        |        |
| $s_p$ ( $k/'$ )   | .503      | .503      | .503      | .503      | .503   | .503   | .503   |
| $M_{s_p}$ ( $k$ ) | 305.2     | 154.6     | 205.1     | 272.4     | 433.1  | 361.0  | 448.8  |
| $M_t$ ( $k$ )     | 602.5     | 517.9     | 541.6     | 586.2     | 531.1  | 524.4  | 538.7  |
| $M$ (Imp) ( $k$ ) | 138.6     | 119.1     | 119.2     | 140.7     | 122.2  | 120.6  | 123.9  |

|                     | W. Abut. | Pier 1 |        | Pier 2 |        | Pier 3 |        | E. Abut. |
|---------------------|----------|--------|--------|--------|--------|--------|--------|----------|
|                     |          | Span 1 | Span 2 | Span 2 | Span 3 | Span 3 | Span 4 |          |
| $R_p$ ( $k$ )       | 55.2     | 55.2   | 58.1   | 58.1   | 61.1   | 61.1   | 53.6   | 53.6     |
| $R_{s_p}$ ( $k$ )   | 17.5     | 25.8   | 25.8   | 23.3   | 23.3   | 26.3   | 26.3   | 16.6     |
| $R_t$ ( $k$ )       | 35.5     | 26.0   | 26.0   | 25.7   | 25.7   | 26.1   | 26.1   | 35.4     |
| Imp. ( $k$ )        | 8.2      | 6.0    | 6.0    | 5.9    | 5.9    | 6.0    | 6.0    | 8.5      |
| $R$ (Total) ( $k$ ) | 116.4    | 113.0  | 115.9  | 113.0  | 116.0  | 119.5  | 112.0  | 114.1    |

$I$  and  $I'$  are the moment of inertia and composite moment of inertia of the beam section.  
 $S_b$  and  $S_b'$  are the non-composite and composite section modulus for the bottom fiber of the prestressed beam.  
 $S_t$  and  $S_t'$  are the non-composite and composite section modulus for the top fiber of the prestressed beam.

FRAMING PLAN  
MORGAN AVE. OVER I-57  
FAI ROUTE 57 - SECTION (X1-6-2)HBK  
WILLIAMSON COUNTY  
STATION 34+69.21  
STRUCTURE NO. 100-0092

THOUVENOT, WADE & MOERCHEN, INC.

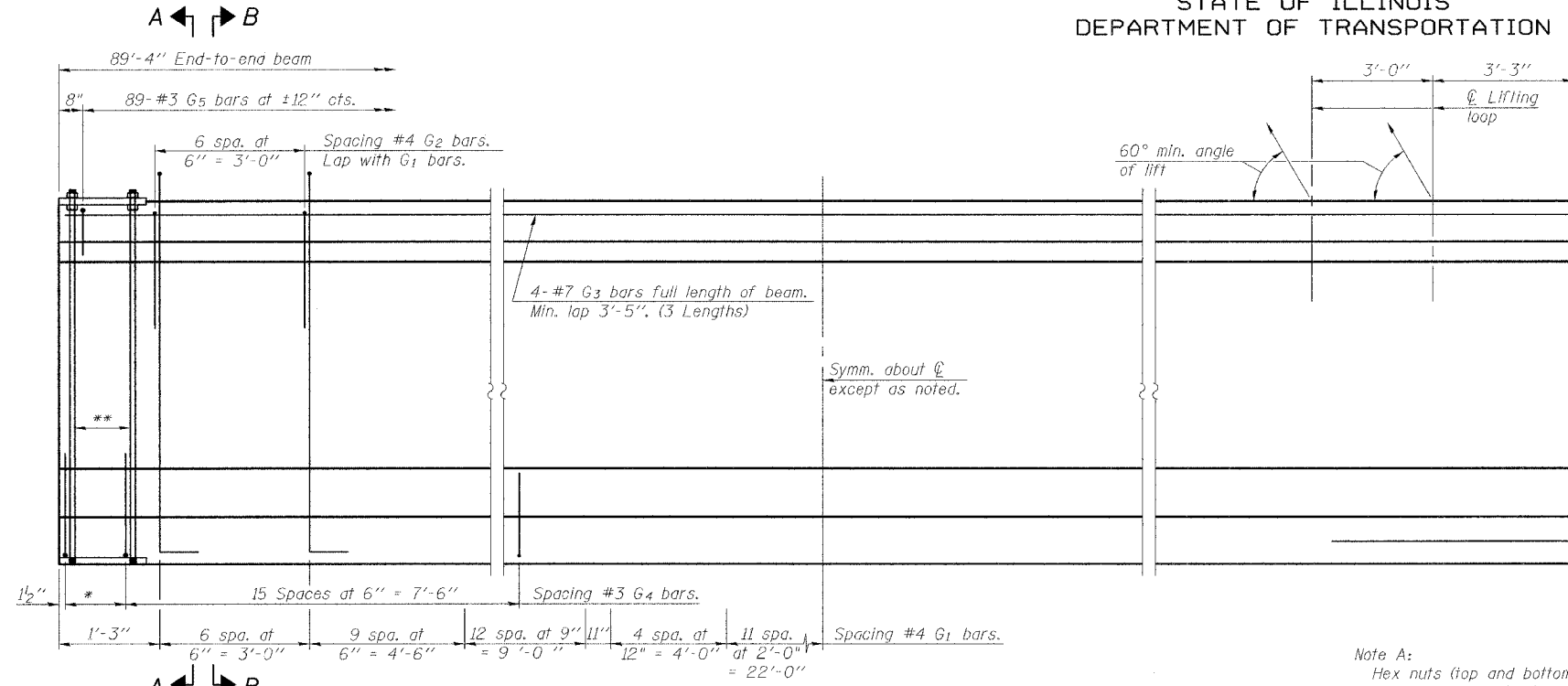


|          |         |
|----------|---------|
| DESIGNED | ALN     |
| CHECKED  | BWP     |
| DRAWN    | KPF     |
| CHECKED  | ALN/BWP |

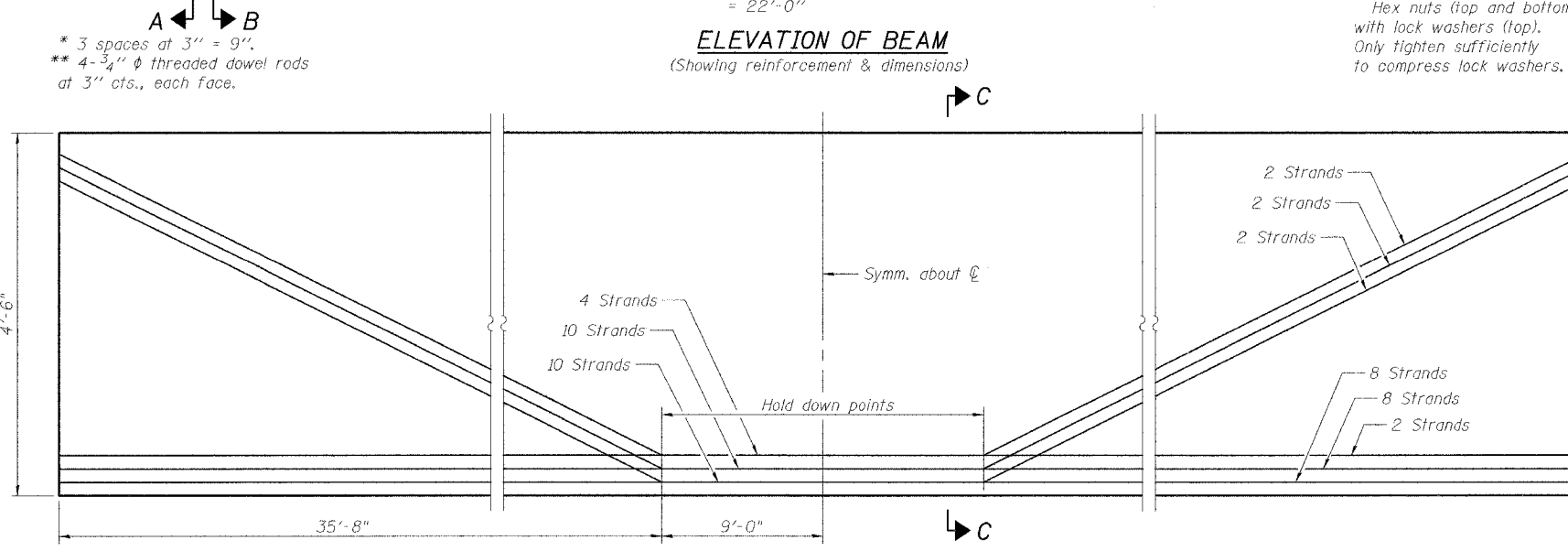
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

|                       |             |            |                    |           |              |
|-----------------------|-------------|------------|--------------------|-----------|--------------|
| ROUTE NO.             | SECTION     | COUNTY     | PIERS              | SHEET NO. | SHEET NO. 17 |
| FAI 57                | (X1-6-2)HBK | Williamson | 272                | 152       | 33 SHEETS    |
| FED. ROAD DIST. NO. 7 |             | ILLINOIS   | FED. AID PROJECT - |           |              |

Contract # 98994



**ELEVATION OF BEAM**  
(Showing reinforcement & dimensions)

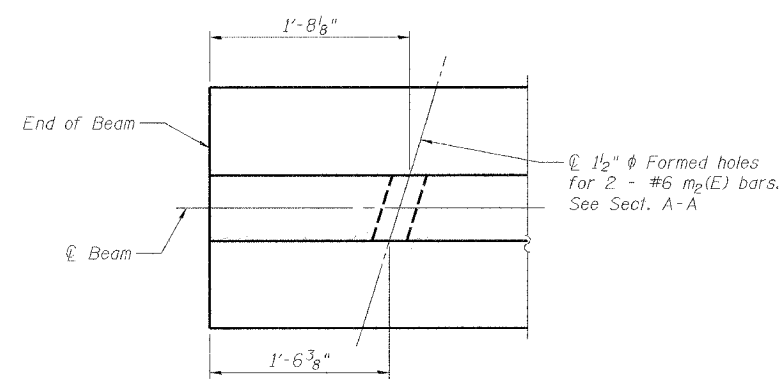


**ELEVATION OF BEAM**  
(Showing prestressing steel)

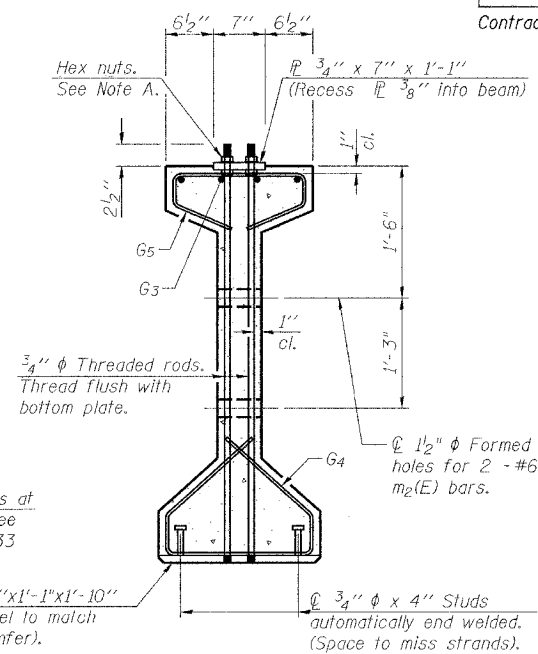
THOUVENOT, WADE & MOERCHEN, INC.



|          |         |
|----------|---------|
| DESIGNED | ALN     |
| CHECKED  | BWP     |
| DRAWN    | KBF     |
| CHECKED  | ALN/BWP |

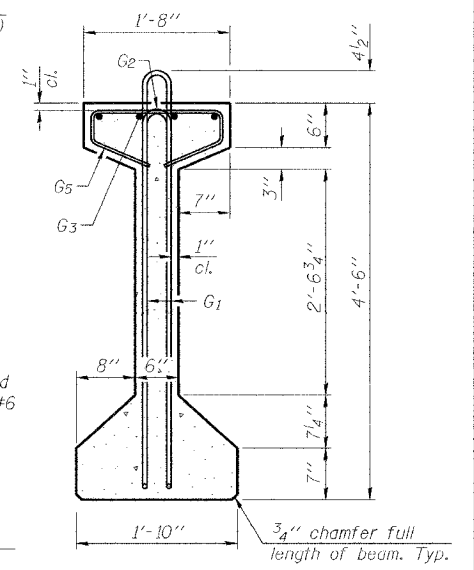


**PLAN - WEST ABUTMENT**

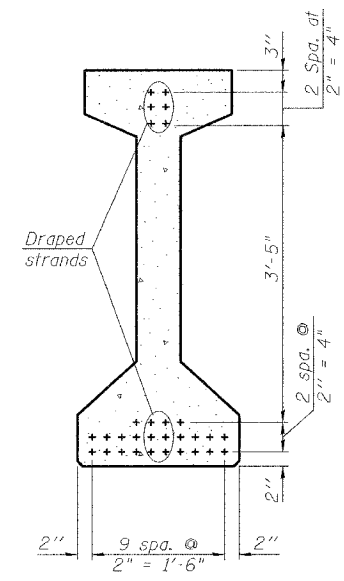


**SECTION A-A**

G<sub>1</sub> bars not shown for clarity



**SECTION B-B**



**SECTION C-C**

**BAR LIST**  
**ONE BEAM ONLY**

| Bar            | No. | Size | Length | Shape |
|----------------|-----|------|--------|-------|
| G <sub>1</sub> | 89  | #4   | 10'-5" | ⌈     |
| G <sub>2</sub> | 14  | #4   | 5'-4"  | ⌈     |
| G <sub>3</sub> | 12  | #7   | 32'-0" | ⌈     |
| G <sub>4</sub> | 38  | #3   | 4'-11" | ⌈     |
| G <sub>5</sub> | 89  | #3   | 3'-5"  | ⌈     |
| G <sub>6</sub> | 2   | #8   | 3'-9"  | ⌈     |

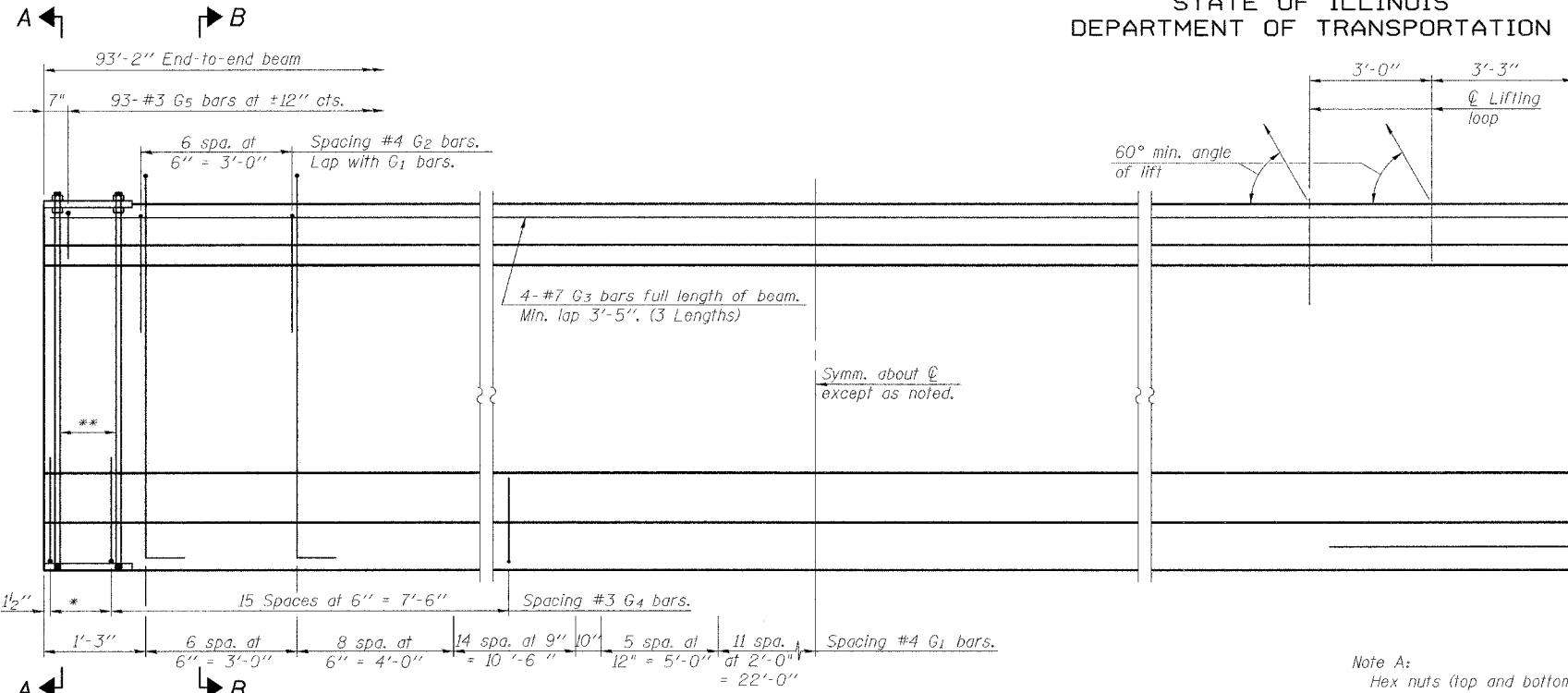
Notes:  
See sheet 21 of 33 for additional details and Bill of Material.  
Required release strength, f'ci, shall be 5000 psi.

54" PPC I-BEAM - SPAN 1  
MORGAN AVE. OVER I-57  
FAI ROUTE 57 - SECTION (X1-6-2)HBK  
WILLIAMSON COUNTY  
STATION 34+69.21  
STRUCTURE NO. 100-0092

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

|                       |             |                  |              |           |              |
|-----------------------|-------------|------------------|--------------|-----------|--------------|
| ROUTE NO.             | SECTION     | COUNTY           | TOTAL SHEETS | SHEET NO. | SHEET NO. 18 |
| FAI 57                | (X1-6-2)HBK | Williamson       | 272          | 153       | 33 SHEETS    |
| FED. ROAD DIST. NO. 7 | ILLINOIS    | FED. AID PROJECT |              |           |              |

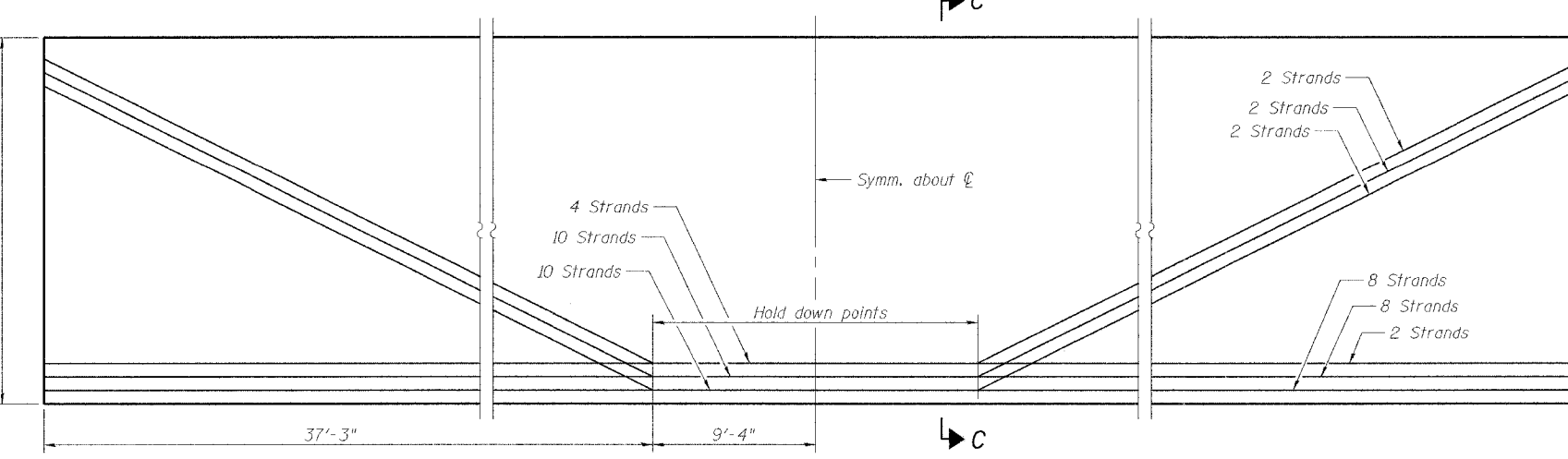
Contract # 98994



\* 3 spaces at 3" = 9".  
\*\* 4-3/4"  $\phi$  threaded dowel rods at 3" cts., each face.

**ELEVATION OF BEAM**  
(Showing reinforcement & dimensions)

Note A:  
Hex nuts (top and bottom) with lock washers (top). Only tighten sufficiently to compress lock washers.

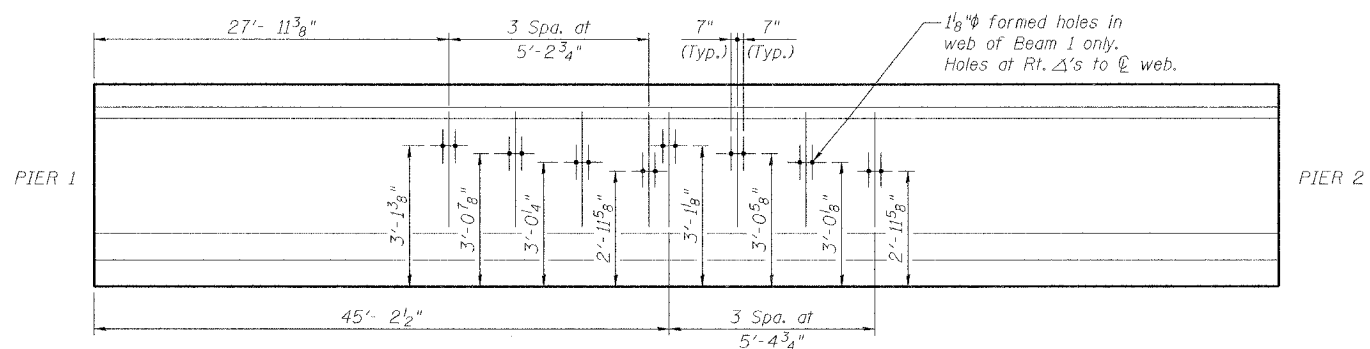


**ELEVATION OF BEAM**  
(Showing prestressing steel)

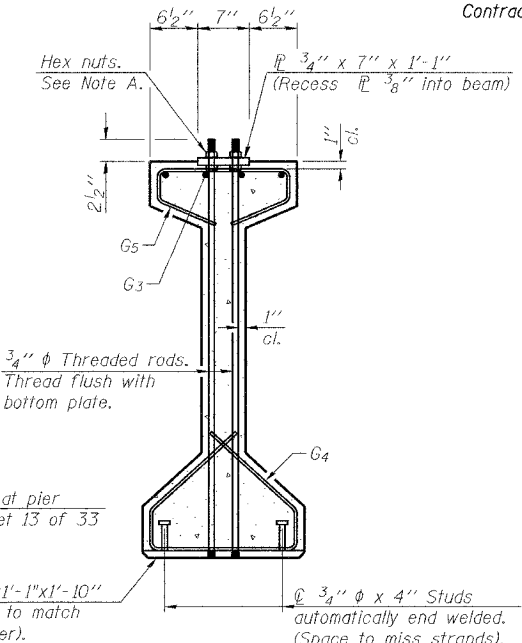
THOUVENOT, WADE & MOERCHEN, INC.



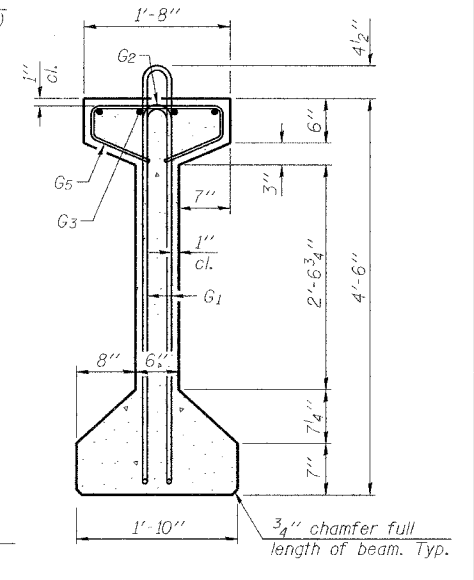
|          |         |
|----------|---------|
| DESIGNED | ALN     |
| CHECKED  | BWP     |
| DRAWN    | KBF     |
| CHECKED  | ALN/BWP |



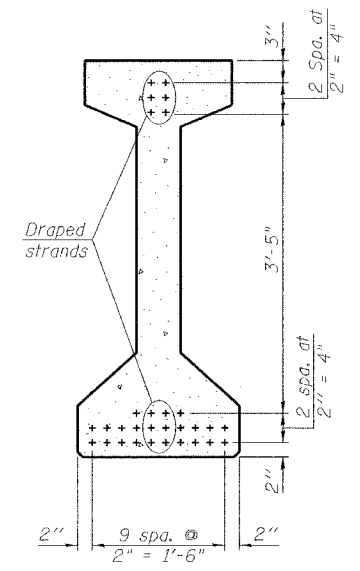
**ELEVATION - BEAM 1**



**SECTION A-A**



**SECTION B-B**



**SECTION C-C**

**BAR LIST**  
**ONE BEAM ONLY**

| Bar | No. | Size | Length | Shape |
|-----|-----|------|--------|-------|
| G1  | 93  | #4   | 10'-5" | NL    |
| G2  | 14  | #4   | 5'-4"  | n     |
| G3  | 12  | #7   | 33'-3" | —     |
| G4  | 38  | #3   | 4'-11" | —     |
| G5  | 93  | #3   | 3'-5"  | —     |
| G6  | 4   | #8   | 3'-9"  | —     |

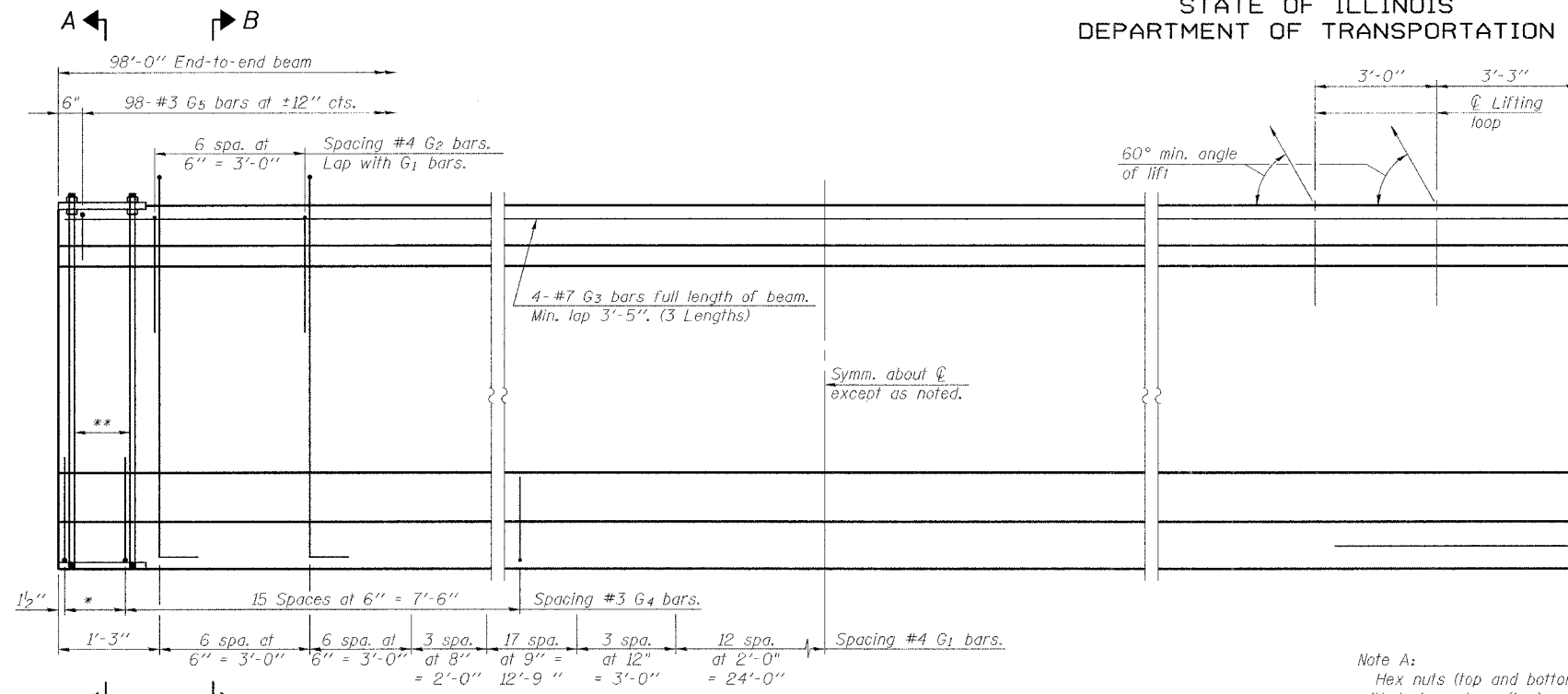
Notes:  
See sheet 21 of 33 for additional details and Bill of Material.  
Required release strength,  $f'ci$ , shall be 5000 psi.

54" PPC I-BEAM - SPAN 2  
MORGAN AVE. OVER I-57  
FAI ROUTE 57 - SECTION (X1-6-2)HBK  
WILLIAMSON COUNTY  
STATION 34+69.21  
STRUCTURE NO. 100-0092

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

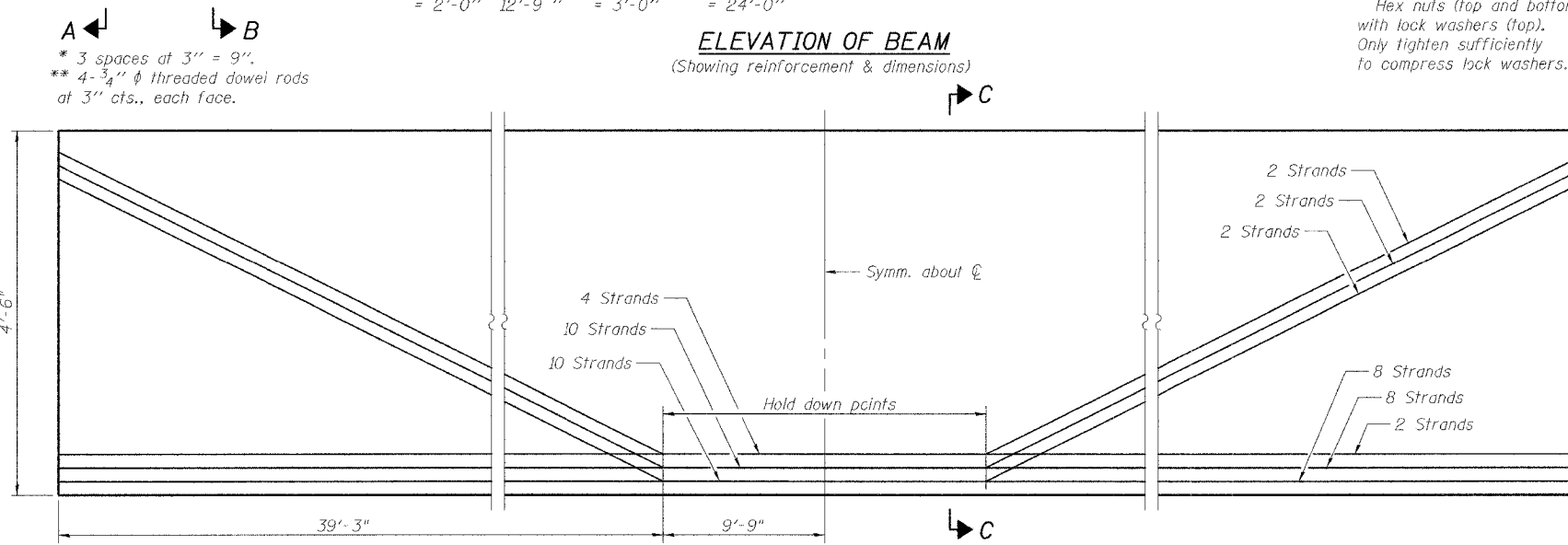
|                       |             |                  |         |           |           |
|-----------------------|-------------|------------------|---------|-----------|-----------|
| ROUTE NO.             | SECTION     | COUNTY           | STATION | SHEET NO. | SHEET NO. |
| FAI 57                | (X1-6-2)HBK | Williamson       | 272     | 154       | 33 SHEETS |
| FED. ROAD DIST. NO. 7 | ILLINOIS    | FED. AID PROJECT |         |           |           |

Contract # 98994



**ELEVATION OF BEAM**  
(Showing reinforcement & dimensions)

Note A:  
Hex nuts (top and bottom) with lock washers (top). Only tighten sufficiently to compress lock washers.

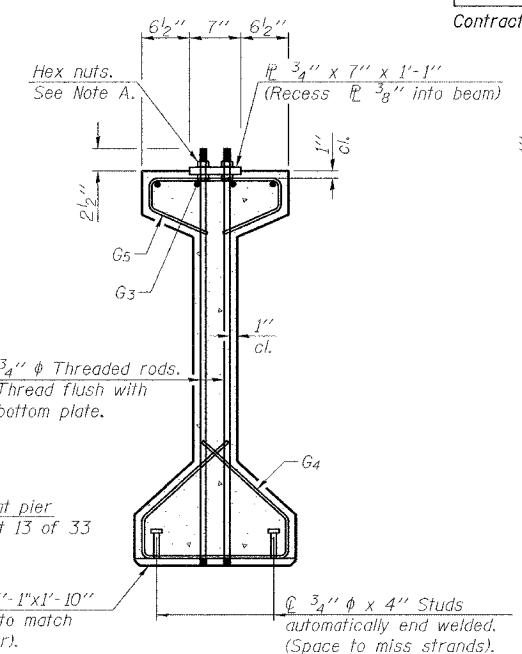


**ELEVATION OF BEAM**  
(Showing prestressing steel)

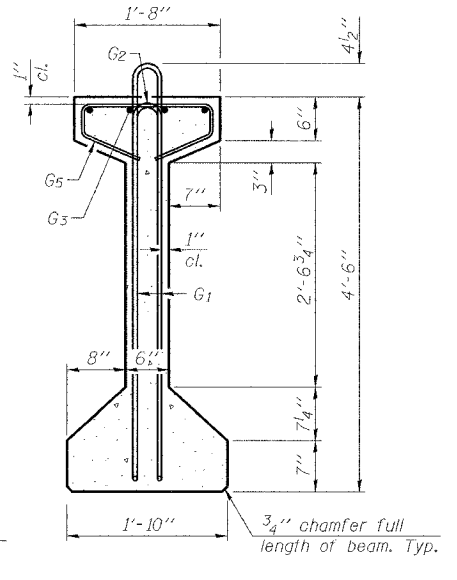
THOUVENOT, WADE & MOERCHEN, INC.



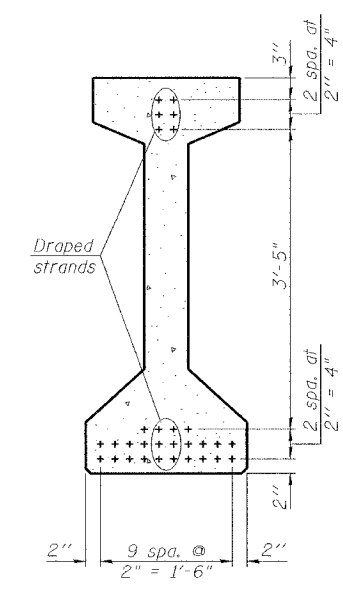
|          |         |
|----------|---------|
| DESIGNED | ALN     |
| CHECKED  | BWP     |
| DRAWN    | KBF     |
| CHECKED  | ALN/BWP |



**SECTION A-A**



**SECTION B-B**



**SECTION C-C**

**BAR LIST**  
**ONE BEAM ONLY**

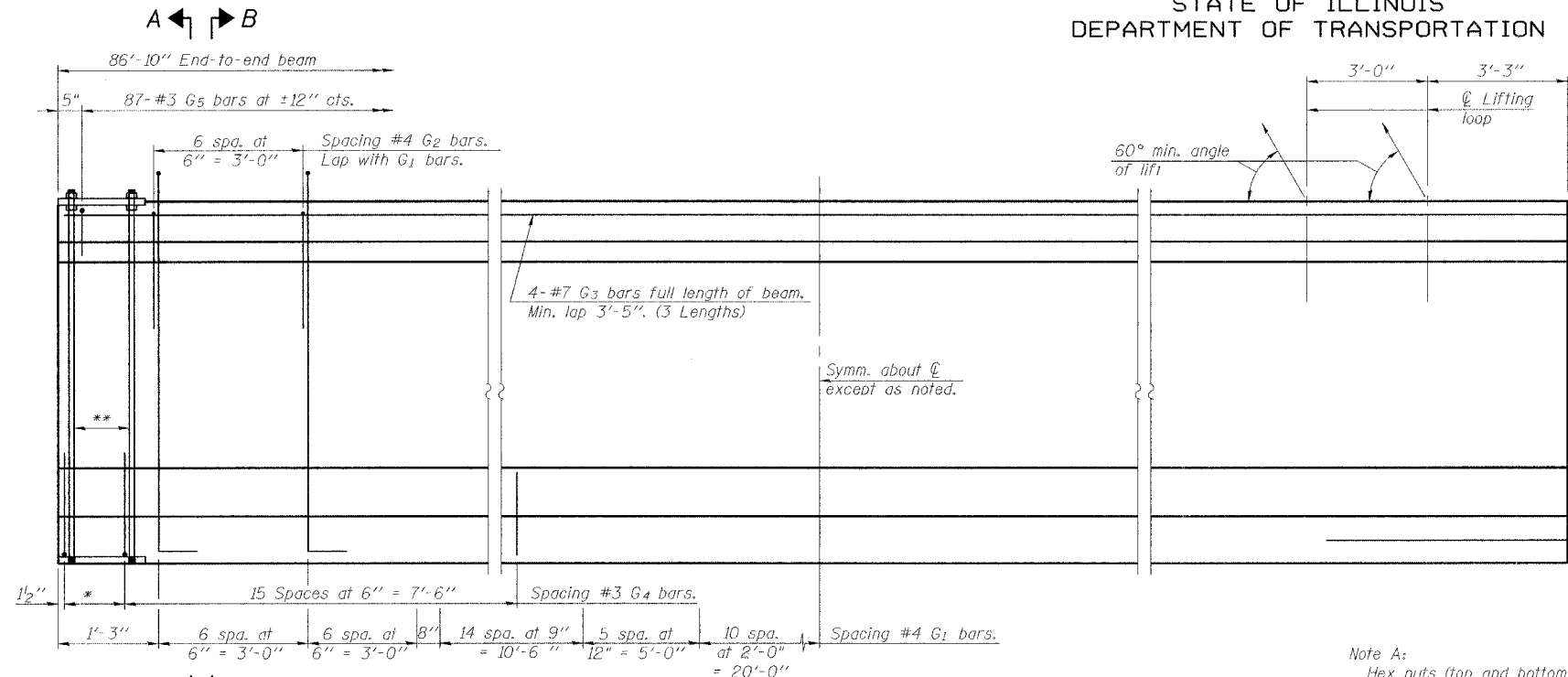
| Bar | No. | Size | Length  | Shape |
|-----|-----|------|---------|-------|
| G1  | 97  | #4   | 10'-5"  | ⊏     |
| G2  | 14  | #4   | 5'-4"   | ⊏     |
| G3  | 12  | #7   | 34'-10" | —     |
| G4  | 38  | #3   | 4'-11"  | ⊏     |
| G5  | 98  | #3   | 3'-5"   | ⊏     |
| G6  | 4   | #8   | 3'-9"   | ⊏     |

Notes:  
See sheet 21 of 33 for additional details and Bill of Material.  
Required release strength, f'ci, shall be 5000 psi.

54" PPC I-BEAM - SPAN 3  
MORGAN AVE. OVER I-57  
FAI ROUTE 57 - SECTION (X1-6-2)HBK  
WILLIAMSON COUNTY  
STATION 34+69.21  
STRUCTURE NO. 100-0092

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

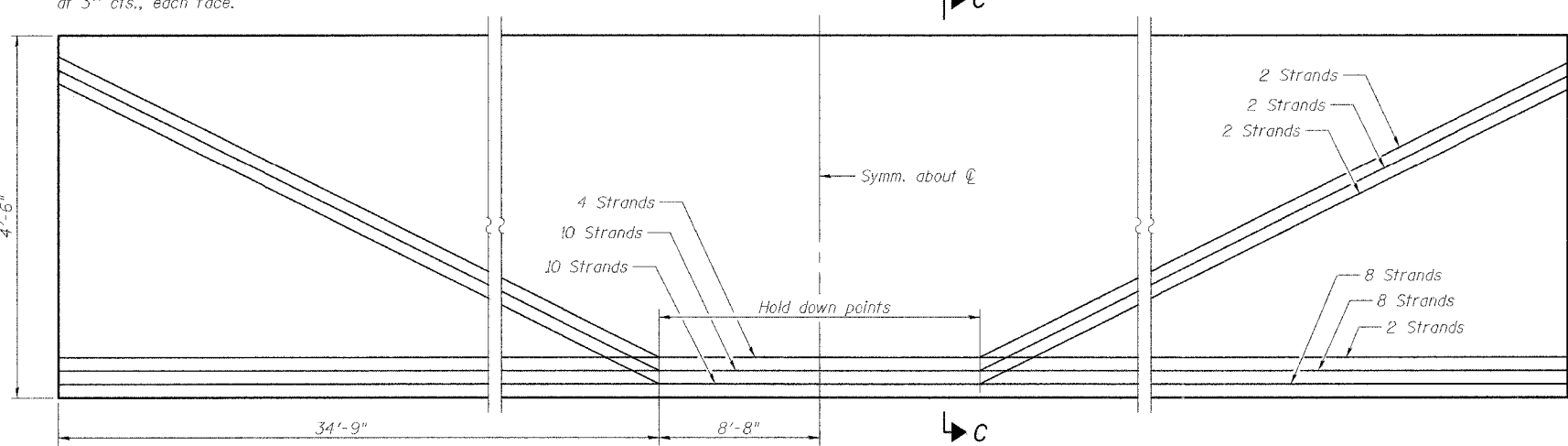
|                       |             |            |                   |                  |                           |
|-----------------------|-------------|------------|-------------------|------------------|---------------------------|
| ROUTE NO.             | SECTION     | COUNTY     | STATION           | SHEET            | SHEET NO. 20<br>33 SHEETS |
| FAI 57                | (X1-6-2)HBK | Williamson | 2T2               | 155              |                           |
| FED. ROAD DIST. NO. 7 |             | ILLINOIS   | FED. AID PROJECT- | Contract # 98994 |                           |



**ELEVATION OF BEAM**  
(Showing reinforcement & dimensions)

\* 3 spaces at 3" = 9"  
\*\* 4-3/4" φ threaded dowel rods at 3" cts., each face.

Note A:  
Hex nuts (top and bottom) with lock washers (top). Only tighten sufficiently to compress lock washers.

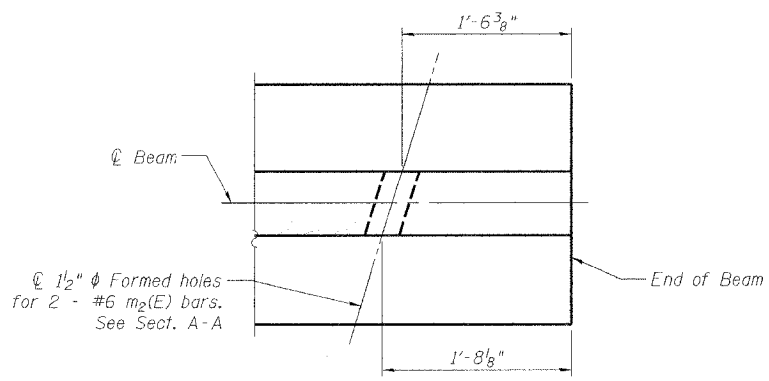


**ELEVATION OF BEAM**  
(Showing prestressing steel)

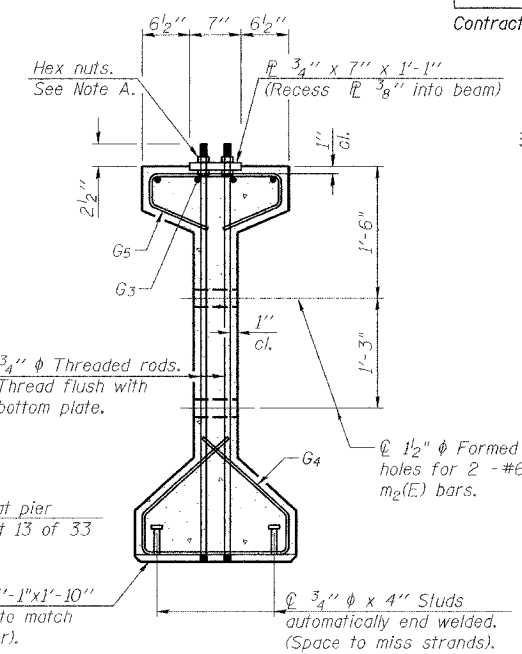
THOUVENOT, WADE & MOERCHEN, INC.



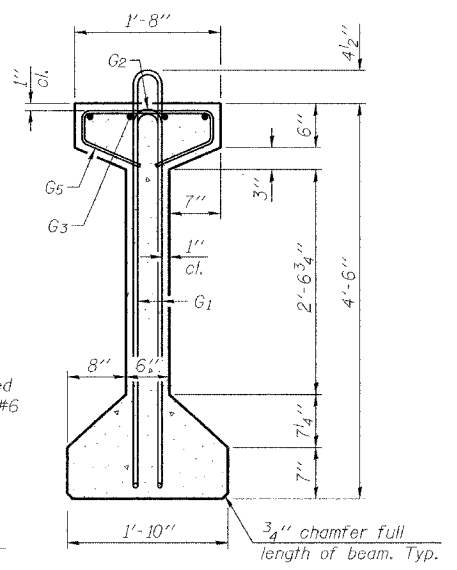
|          |         |
|----------|---------|
| DESIGNED | ALN     |
| CHECKED  | BWP     |
| DRAWN    | KBF     |
| CHECKED  | ALN/BWP |



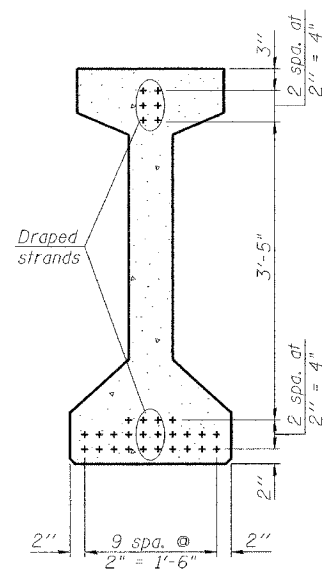
**PLAN - EAST ABUTMENT**



**SECTION A-A**  
G1 bars not shown for clarity



**SECTION B-B**



**SECTION C-C**

**BAR LIST  
ONE BEAM ONLY**

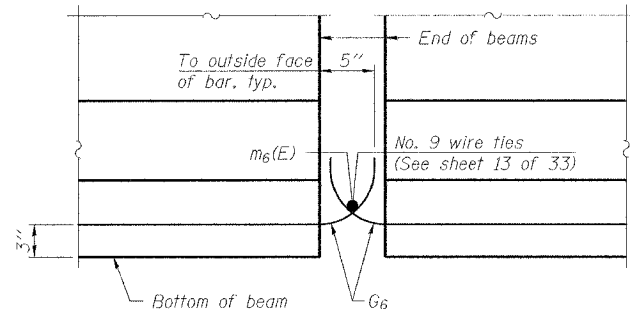
| Bar | No. | Size | Length | Shape |
|-----|-----|------|--------|-------|
| G1  | 87  | #4   | 10'-5" | NL    |
| G2  | 14  | #4   | 5'-4"  | U     |
| G3  | 12  | #7   | 3'-2"  | —     |
| G4  | 38  | #3   | 4'-11" | U     |
| G5  | 87  | #3   | 3'-5"  | U     |
| G6  | 2   | #8   | 3'-9"  | U     |

Notes:  
See sheet 21 of 33 for additional details and Bill of Material.  
Required release strength, f'ci, shall be 5000 psi.

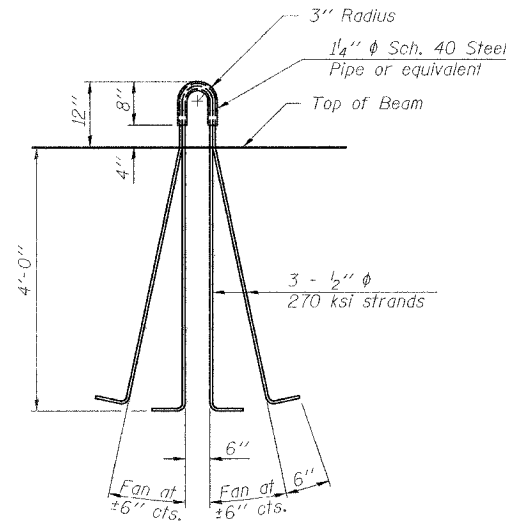
54" PPC I-BEAM - SPAN 4  
MORGAN AVE. OVER I-57  
FAI ROUTE 57 - SECTION (X1-6-2)HBK  
WILLIAMSON COUNTY  
STATION 34+69.21  
STRUCTURE NO. 100-0092

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

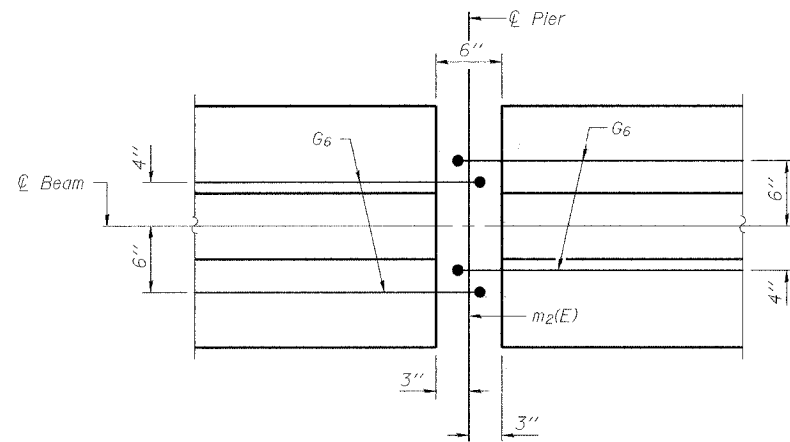
|                       |             |                   |                  |           |                           |
|-----------------------|-------------|-------------------|------------------|-----------|---------------------------|
| ROUTE NO.             | SECTION     | COUNTY            | SHEETS           | SHEET NO. | SHEET NO. 21<br>33 SHEETS |
| FAI 57                | (X1-6-2)HBK | Williamson        | 272              | 156       |                           |
| FED. ROAD DIST. NO. 7 | ILLINOIS    | FED. AID PROJECT- | Contract # 98994 |           |                           |



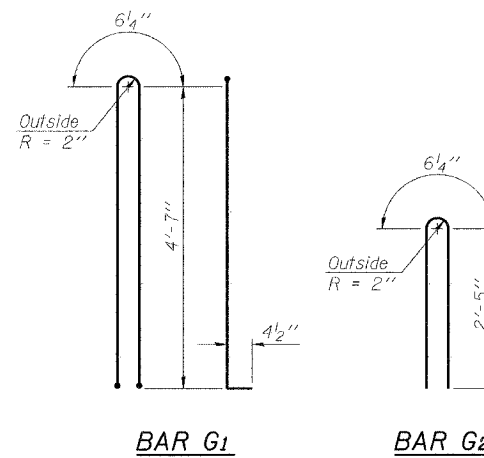
ELEVATION OF BEAM AT PIER



LIFTING LOOP DETAIL

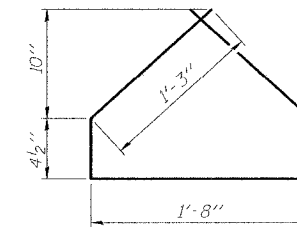


PLAN OF BEAM AT PIER

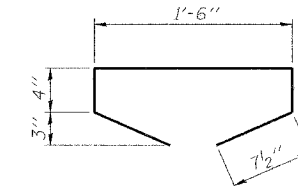


BAR G1

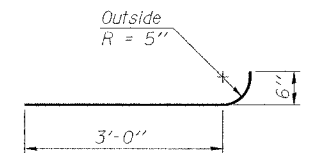
BAR G2



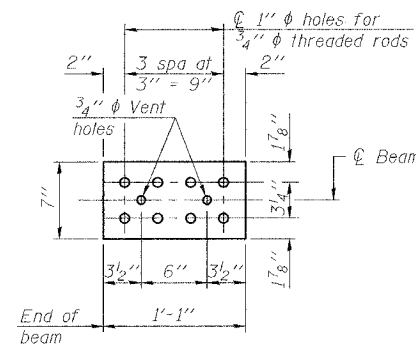
BAR G4



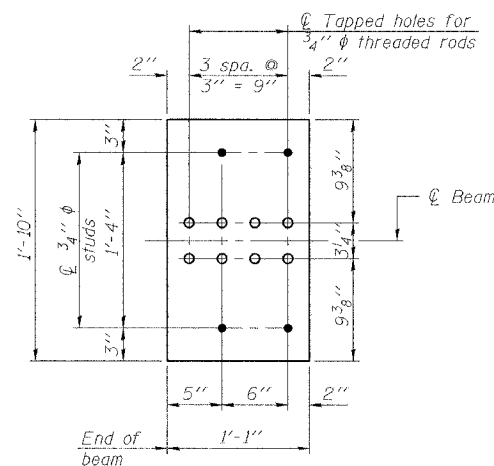
BAR G5



BAR G6



TOP PLATE



BOTTOM PLATE

See bearing details for pintle hole locations when required.

NOTES

- Inserts for 3/4"  $\phi$  threaded dowel rods, when specified, are to be two strut, coil type for interior beams and single coil, flared loop type for exterior beams.
- 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.
- Non-prestressing steel shall conform to the requirements of ASTM A706, Gr 60 (IL modified). See Special Provisions.
- A minimum 2 1/2"  $\phi$  lifting pin shall be used to engage the lifting loops during handling.
- Reinforcement bars designated (E) shall be epoxy coated.
- Cut G6 bars when necessary to maintain 1 1/2" clearance.
- The bottom plates and studs shall be galvanized according to AASHTO M111 and ASTM A385.
- Threaded rods shall be ASTM F 1554 Grade 55.
- The cut strands at each beam end shall be given two coats of zinc dust spray or paint meeting the requirements of ASTM A 780. The zinc dust spray or paint shall be applied before corrosion appears and allowed to dry according to the manufacturer's specifications prior to another coat of zinc. A concrete sealer meeting the requirements of Section 587 of the Standard Specifications shall be applied to all portions of the I-beam or Bulb-T beam, except the top surface of the top flange and the bottom surface of the bottom flange, starting at each beam end and extending out a distance of 54 inches. The sealer shall be applied after visible crack growth has subsided. This work shall be performed by the producer and included with the cost of the beam.

BILL OF MATERIAL

| Item  | Unit | Total    |
|---|------|----------|
| Furnishing and Erecting Precast Prestressed Concrete I-Beams, 54" | Ft.  | 2204 Ft. |

THOUVENOT, WADE & MOERCHEN, INC.



|          |         |
|----------|---------|
| DESIGNED | ALN     |
| CHECKED  | BWP     |
| DRAWN    | KBF     |
| CHECKED  | ALN/BWP |

PI-4-54D

7-15-05

54" PPC I-BEAM DETAILS  
MORGAN AVE. OVER I-57  
FAI ROUTE 57 - SECTION (X1-6-2)HBK  
WILLIAMSON COUNTY  
STATION 34+69.21  
STRUCTURE NO. 100-0092

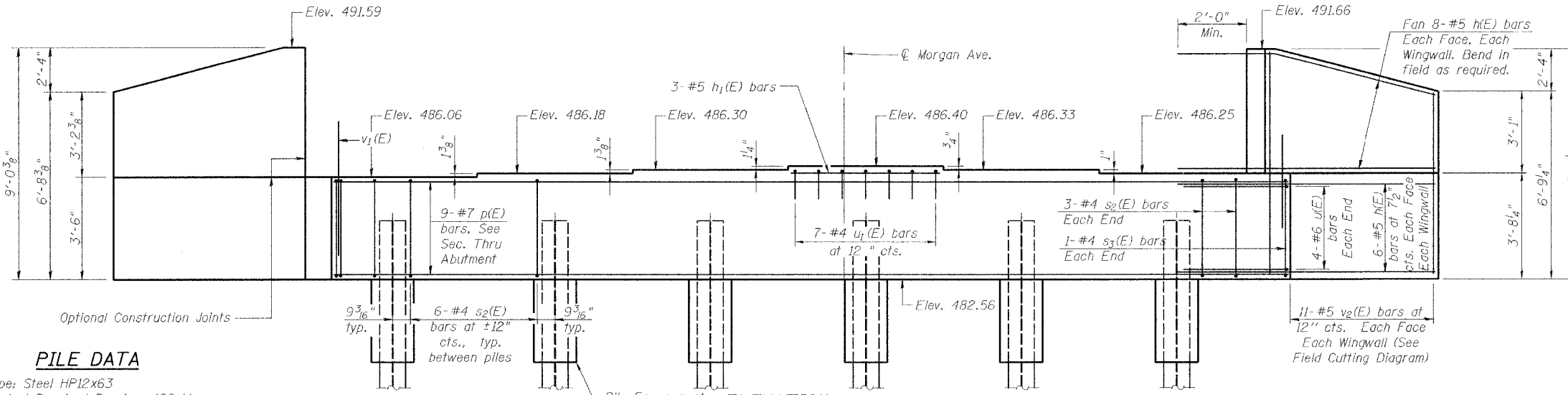


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

|                       |             |            |                   |              |
|-----------------------|-------------|------------|-------------------|--------------|
| ROUTE NO.             | SECTION     | COUNTY     | SHEET NO.         | SHEET NO. 22 |
| FAI 57                | (X1-6-2)HBK | Williamson | 272               | 157          |
| FED. ROAD DIST. NO. 7 |             | ILLINOIS   | FED. AID PROJECT- |              |

Contract # 98994

Notes: Four steps monolithically with cap.  
Reinforcement bars designated (E)  
shall be epoxy coated.

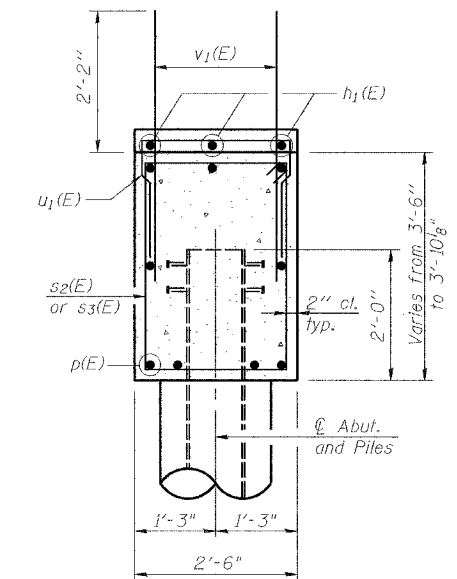


**PILE DATA**

Type: Steel HP12x63  
Nominal Required Bearing: 496 kips  
Allowable Resistance Available: 166 kips  
Est. Length: 21 Feet  
No. Production Piles: 5  
No. Test Piles: 1

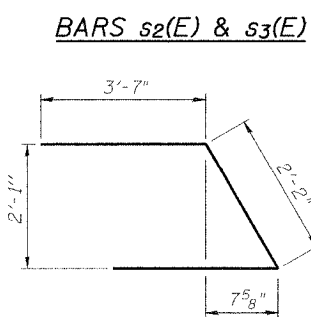
Predrill 18"  $\phi$  holes for the piles through the coal seam to the shale layer at Elev. 463.7'. Place pile in hole and backfill to the top of hole with dry, loose sand. Drive piles, and top-off hole with sand. The cost of predrilling holes, and backfilling with sand shall be included in the unit price bid for driving piles.

**ELEVATION**  
(Looking West)

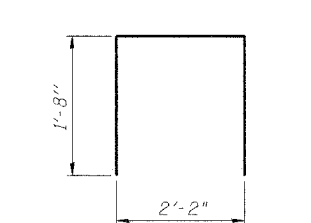


SEC. THRU ABUT.

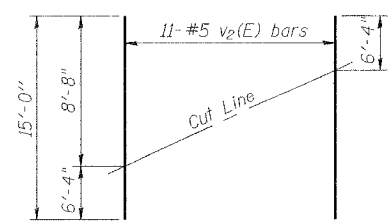
**BARS s2(E) & s3(E)**



**BAR u(E)**



**BARS u1(E)**

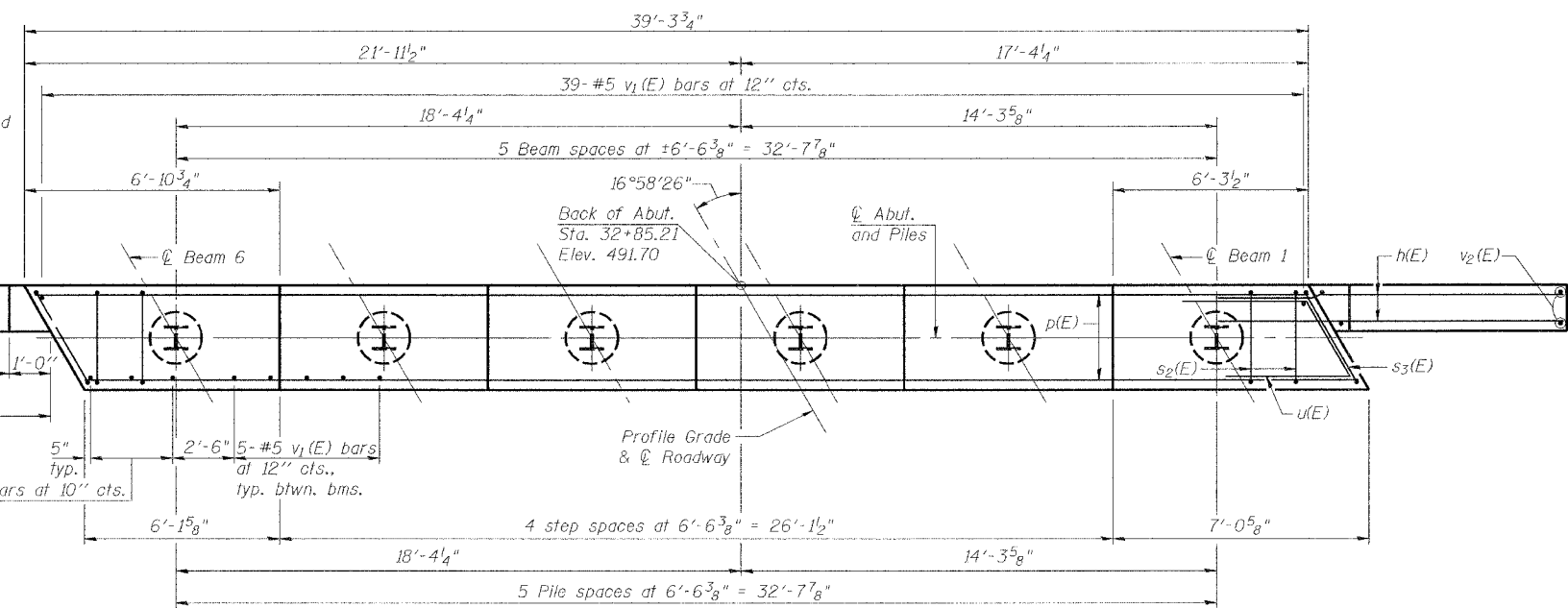


**FIELD CUTTING DIAGRAM**

Order v2(E) full length. Cut as shown and use remainder of bars in opposite face.

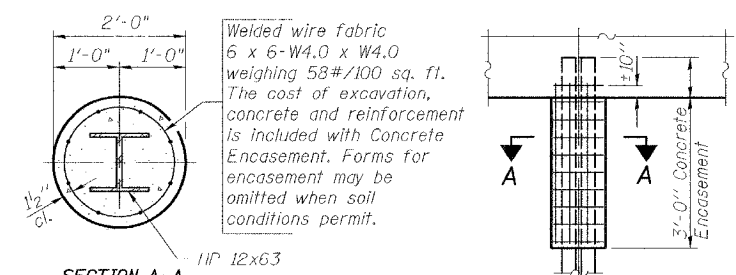
**BILL OF MATERIAL**

| Bar                              | No. | Size    | Length  | Shape |
|----------------------------------|-----|---------|---------|-------|
| h(E)                             | 56  | #5      | 12'-0"  | —     |
| h1(E)                            | 3   | #5      | 6'-2"   | —     |
| p(E)                             | 9   | #7      | 38'-11" | —     |
| s2(E)                            | 36  | #4      | 11'-5"  | □     |
| s3(E)                            | 2   | #4      | 11'-7"  | □     |
| u(E)                             | 8   | #6      | 9'-4"   | —     |
| u1(E)                            | 7   | #4      | 5'-6"   | —     |
| v1(E)                            | 70  | #5      | 4'-4"   | —     |
| v2(E)                            | 22  | #5      | 15'-0"  | —     |
| Concrete Structures              |     | Cu. Yd. | 19.3    |       |
| Reinforcement Bars, Epoxy Coated |     | Pound   | 2160    |       |
| Structure Excavation             |     | Cu. Yd. | 98.9    |       |
| Furnishing Steel Piles, HP12x63  |     | Foot    | 105     |       |
| Test Piles, Steel HP12x63        |     | Each    | 1       |       |
| Driving Piles                    |     | Foot    | 105     |       |
| Concrete Encasement              |     | Cu. Yd. | 2.0     |       |

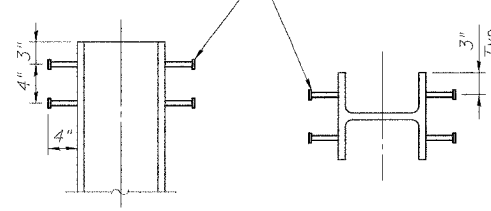


**PLAN**

3/4"  $\phi$  Granular or solid flux filled headed studs automatically end welded to flange. See Article 505.08 of the Standard Specifications. Cost of studs included in cost of Furnishing Steel Piles HP 12x63 (48 total each abutment)



**PILE ENCASUREMENT DETAIL**



**PILE ANCHORAGE DETAIL**

THOUVENOT, WADE & MOERCHEN, INC.

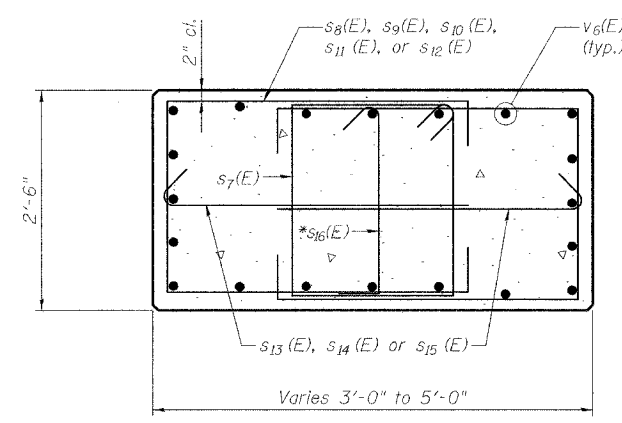


|          |         |
|----------|---------|
| DESIGNED | BWP     |
| CHECKED  | ALN     |
| DRAWN    | KBF     |
| CHECKED  | ALN/BWP |

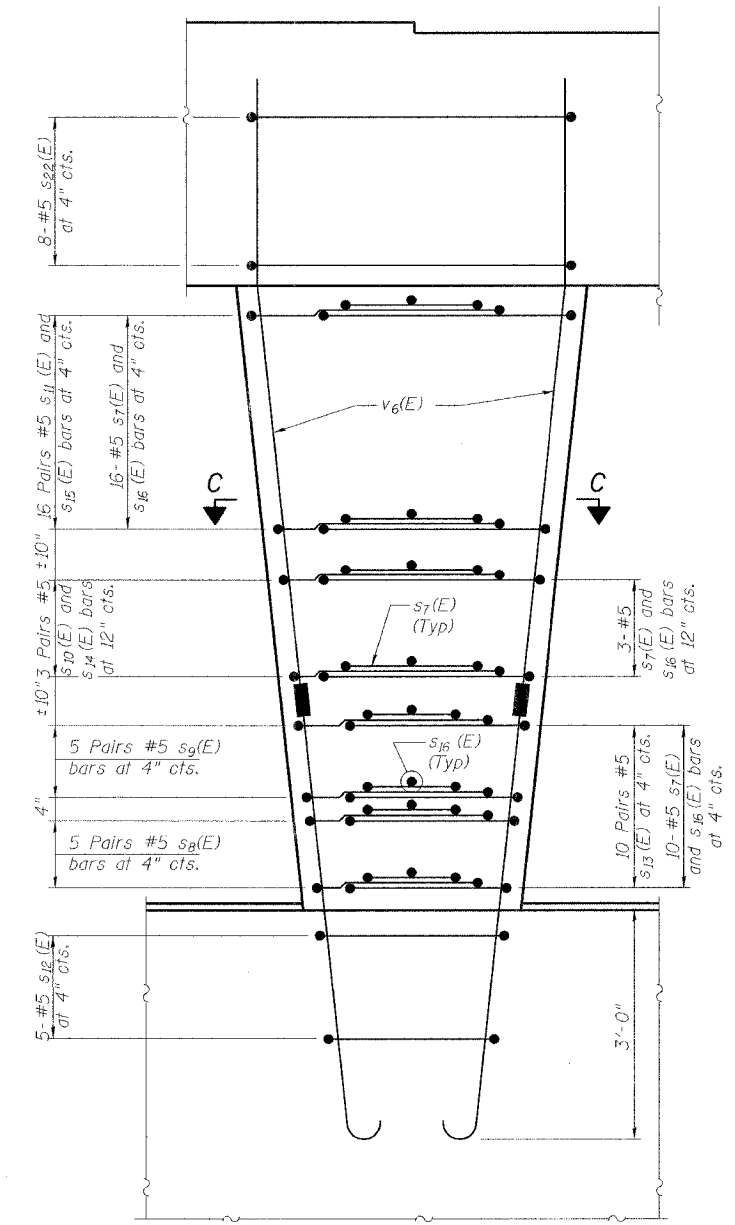
WEST ABUTMENT  
MORGAN AVE. OVER I-57  
FAI ROUTE 57 - SECTION (X1-6-2)HBK  
WILLIAMSON COUNTY  
STATION 34+69.21  
STRUCTURE NO. 100-0092







**SECTION C-C**  
 \* Alternate 90° hook of  $s_{16}(E)$  bar. Place 90° hook in opposite face every other bar.



**COLUMN REINFORCING**

**MIN. BAR LAPS**  
 #5 - 2'-2"  
 #6 - 2'-7"  
 #7 - 3'-5"

**BILL OF MATERIAL**

| Bar                              | No. | Size    | Length  | Shape |
|----------------------------------|-----|---------|---------|-------|
| $h_1(E)$                         | 3   | #5      | 6'-2"   | —     |
| $h_2(E)$                         | 4   | #5      | 38'-2"  | —     |
| $h_3(E)$                         | 5   | #6      | 28'-2"  | —     |
| $h_4(E)$                         | 30  | #5      | 28'-2"  | —     |
| $n(E)$                           | 60  | #9      | 8'-3"   | U     |
| $p_1(E)$                         | 7   | #10     | 38'-2"  | —     |
| $p_2(E)$                         | 14  | #10     | 15'-10" | —     |
| $p_3(E)$                         | 6   | #6      | 38'-4"  | —     |
| $s_4(E)$                         | 21  | #5      | 13'-1"  | □     |
| $s_5(E)$                         | 32  | #5      | 7'-5"   | □     |
| $s_6(E)$                         | 12  | #5      | 6'-8"   | □     |
| $s_7(E)$                         | 87  | #5      | 8'-11"  | □     |
| $s_8(E)$                         | 30  | #5      | 8'-0"   | □     |
| $s_9(E)$                         | 30  | #5      | 8'-6"   | □     |
| $s_{10}(E)$                      | 18  | #5      | 9'-0"   | □     |
| $s_{11}(E)$                      | 96  | #5      | 10'-0"  | □     |
| $s_{12}(E)$                      | 15  | #5      | 10'-7"  | □     |
| $s_{13}(E)$                      | 60  | #5      | 3'-2"   | └     |
| $s_{14}(E)$                      | 18  | #5      | 3'-6"   | └     |
| $s_{15}(E)$                      | 96  | #5      | 3'-11"  | └     |
| $s_{16}(E)$                      | 87  | #5      | 3'-2"   | └     |
| $s_{17}(E)$                      | 32  | #5      | 8'-6"   | □     |
| $s_{18}(E)$                      | 38  | #6      | 7'-10"  | □     |
| $s_{19}(E)$                      | 38  | #7      | 22'-6"  | □     |
| $s_{22}(E)$                      | 24  | #5      | 14'-7"  | □     |
| $t(E)$                           | 36  | #7      | 8'-8"   | —     |
| $t_1(E)$                         | 30  | #5      | 8'-8"   | —     |
| $u_2(E)$                         | 6   | #6      | 9'-8"   | □     |
| $u_3(E)$                         | 7   | #4      | 6'-0"   | □     |
| $v_5(E)$                         | 30  | #8      | 4'-2"   | U     |
| $v_6(E)$                         | 60  | #9      | 11'-2"  | —     |
| $w(E)$                           | 20  | #5      | 29'-2"  | —     |
| Structure Excavation             |     | Cu. Yd. | 100.0   |       |
| Rock Excavation for Structures   |     | Cu. Yd. | 4.9     |       |
| Concrete Structures              |     | Cu. Yd. | 79      |       |
| Reinforcement Bars, Epoxy Coated |     | Pound   | 16,710  |       |
| Mechanical Splice                |     | Each    | 60      |       |

Reinforcement Bars designated (E) shall be epoxy coated.

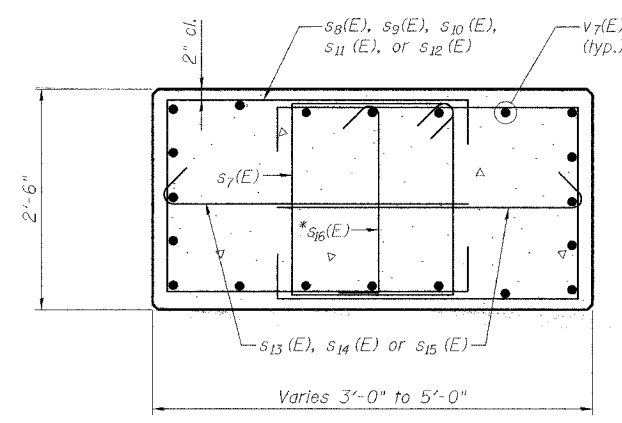
THOUVENOT, WADE & MOERCHEN, INC.



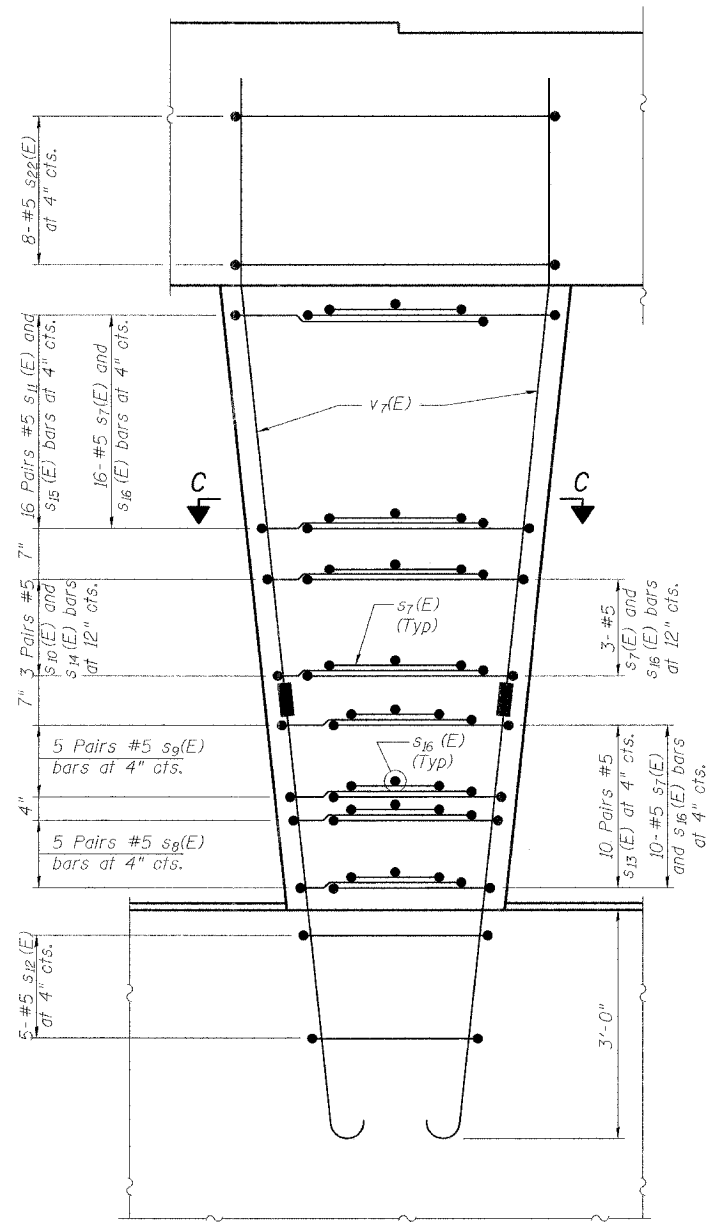
|          |         |
|----------|---------|
| DESIGNED | BWP     |
| CHECKED  | ALN     |
| DRAWN    | KBF     |
| CHECKED  | ALN/BWP |

PIER 1 DETAILS  
 MORGAN AVE. OVER I-57  
 FAI ROUTE 57 - SECTION (X1-6-2)HBK  
 WILLIAMSON COUNTY  
 STATION 34+69.21  
 STRUCTURE NO. 100-0092





**SECTION C-C**  
 \* Alternate 90° hook of s<sub>16</sub>(E) bar. Place 90° hook in opposite face every other bar.



**COLUMN REINFORCING**

**MIN. BAR LAPS**  
 #5 - 2'-2"  
 #6 - 2'-7"  
 #7 - 3'-5"

**BILL OF MATERIAL**

| Bar                              | No. | Size    | Length  | Shape  |
|----------------------------------|-----|---------|---------|--------|
| h <sub>1</sub> (E)               | 3   | #5      | 6'-2"   | —      |
| h <sub>2</sub> (E)               | 4   | #5      | 38'-2"  | —      |
| h <sub>3</sub> (E)               | 5   | #6      | 28'-2"  | —      |
| h <sub>4</sub> (E)               | 30  | #5      | 28'-2"  | —      |
| n(E)                             | 60  | #9      | 8'-3"   | U      |
| p <sub>1</sub> (E)               | 7   | #10     | 38'-2"  | —      |
| p <sub>2</sub> (E)               | 14  | #10     | 15'-10" | —      |
| p <sub>3</sub> (E)               | 6   | #6      | 38'-4"  | —      |
| s <sub>4</sub> (E)               | 21  | #5      | 13'-1"  | □      |
| s <sub>5</sub> (E)               | 32  | #5      | 7'-5"   | □      |
| s <sub>6</sub> (E)               | 12  | #5      | 6'-8"   | □      |
| s <sub>7</sub> (E)               | 87  | #5      | 8'-11"  | □      |
| s <sub>8</sub> (E)               | 30  | #5      | 8'-0"   | □      |
| s <sub>9</sub> (E)               | 30  | #5      | 8'-6"   | □      |
| s <sub>10</sub> (E)              | 18  | #5      | 9'-0"   | □      |
| s <sub>11</sub> (E)              | 96  | #5      | 10'-0"  | □      |
| s <sub>12</sub> (E)              | 15  | #5      | 10'-7"  | □      |
| s <sub>13</sub> (E)              | 60  | #5      | 3'-2"   | └      |
| s <sub>14</sub> (E)              | 18  | #5      | 3'-6"   | └      |
| s <sub>15</sub> (E)              | 96  | #5      | 3'-11"  | └      |
| s <sub>16</sub> (E)              | 87  | #5      | 3'-2"   | └      |
| s <sub>17</sub> (E)              | 32  | #5      | 8'-6"   | □      |
| s <sub>18</sub> (E)              | 38  | #6      | 7'-10"  | □      |
| s <sub>20</sub> (E)              | 38  | #7      | 19'-10" | □      |
| s <sub>22</sub> (E)              | 24  | #5      | 14'-7"  | □      |
| t(E)                             | 36  | #7      | 8'-8"   | —      |
| t <sub>1</sub> (E)               | 30  | #5      | 8'-8"   | —      |
| u <sub>2</sub> (E)               | 6   | #6      | 9'-8"   | └      |
| u <sub>3</sub> (E)               | 7   | #4      | 6'-0"   | └      |
| v <sub>5</sub> (E)               | 30  | #8      | 4'-2"   | U      |
| v <sub>7</sub> (E)               | 60  | #9      | 10'-8"  | —      |
| w(E)                             | 20  | #5      | 29'-2"  | —      |
| Structure Excavation             |     | Cu. Yd. |         | 66.1   |
| Rock Excavation for Structures   |     | Cu. Yd. |         | 4.9    |
| Concrete Structures              |     | Cu. Yd. |         | 74.1   |
| Reinforcement Bars, Epoxy Coated |     | Pound   |         | 16,400 |
| Mechanical Splice                |     | Each    |         | 60     |

Reinforcement Bars designated (E) shall be epoxy coated.

THOUVENOT, WADE & MOERCHEN, INC.



|          |         |
|----------|---------|
| DESIGNED | BWP     |
| CHECKED  | ALN     |
| DRAWN    | KBF     |
| CHECKED  | BWP/ALN |

**PIER 2 DETAILS**  
 MORGAN AVE. OVER I-57  
 FAI ROUTE 57 - SECTION (X1-6-2)HBK  
 WILLIAMSON COUNTY  
 STATION 34+69.21  
 STRUCTURE NO. 100-0092

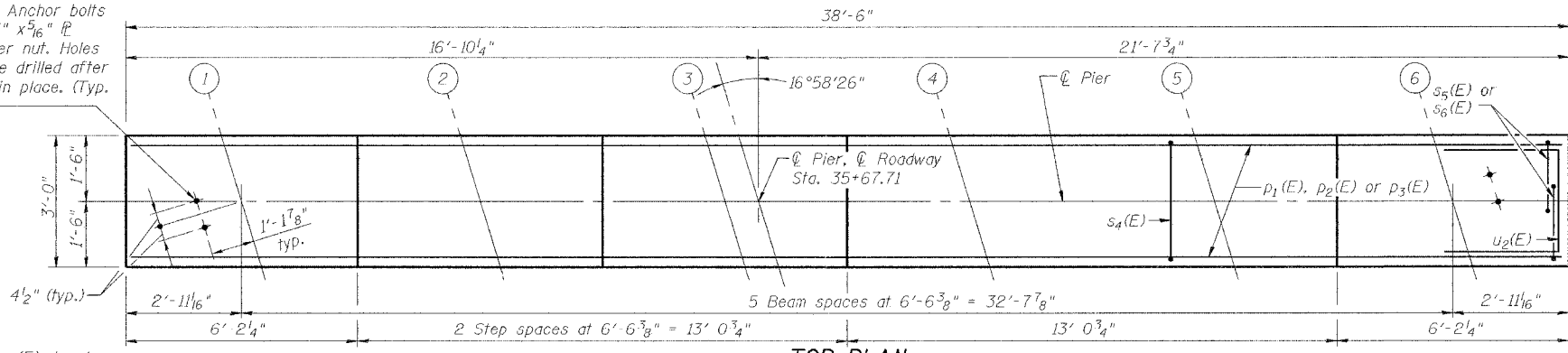
Note:  
Space reinforcement in cap to miss anchor bolts.  
Four steps monolithically with cap.

1/2" φ x 18" Anchor bolts with 3" x 3" x 5/16" fl washer under nut. Holes in cap to be drilled after beams are in place. (Typ. each end)

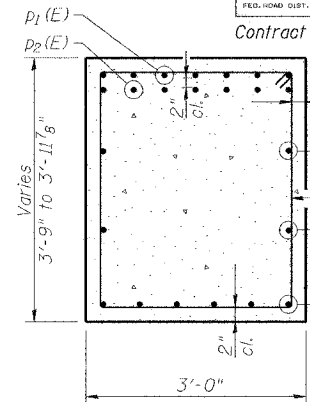
**A & B DIMENSIONS**

| Bar                 | A      | B         |
|---------------------|--------|-----------|
| S <sub>5</sub> (E)  | 1'-10" | 2'-9 1/2" |
| S <sub>6</sub> (E)  | 1'-10" | 2'-5"     |
| S <sub>8</sub> (E)  | 2'-2"  | 2'-5"     |
| S <sub>9</sub> (E)  | 2'-2"  | 2'-8"     |
| S <sub>10</sub> (E) | 2'-2"  | 2'-11"    |
| S <sub>11</sub> (E) | 2'-2"  | 3'-5"     |
| S <sub>12</sub> (E) | 2'-2"  | 2'-4"     |
| S <sub>17</sub> (E) | 2'-6"  | 3'-0"     |
| S <sub>18</sub> (E) | 2'-8"  | 2'-7"     |
| S <sub>21</sub> (E) | 2'-8"  | 9'-2"     |

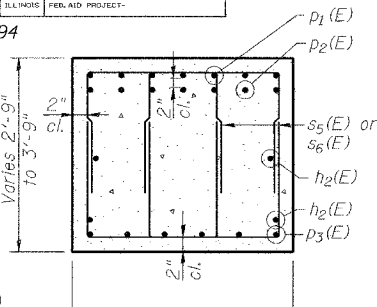
30-#8 v<sub>5</sub>(E) dowel bars See Diaphragm Details Sheet 13 of 33 for location



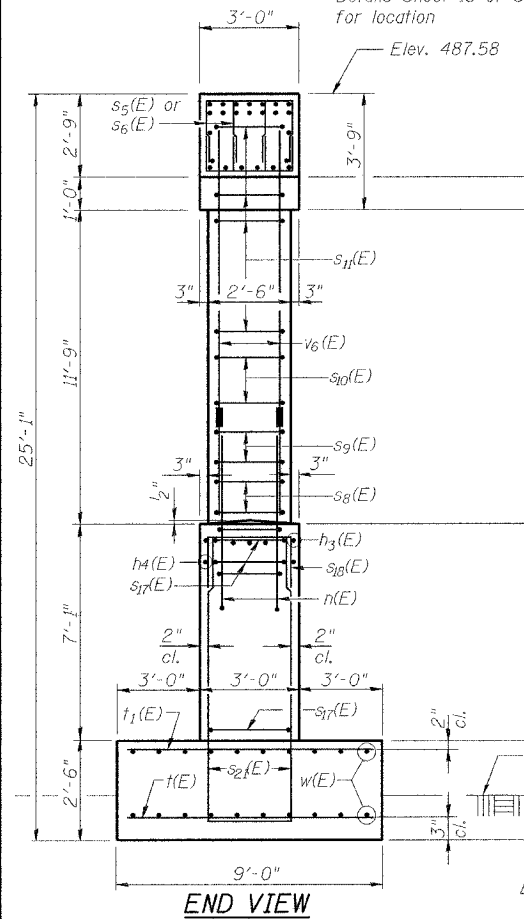
**TOP PLAN**



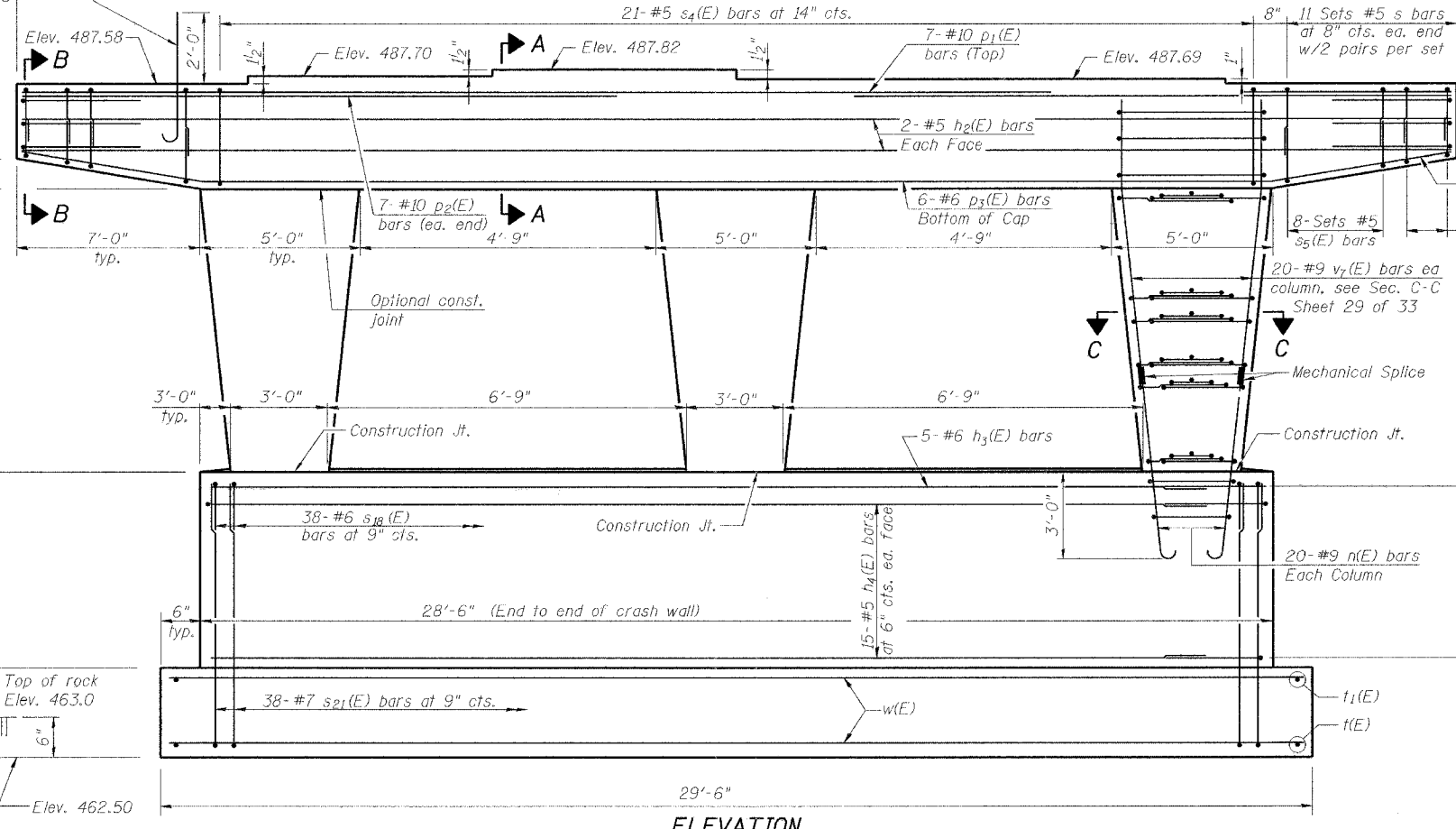
**SECTION A-A**



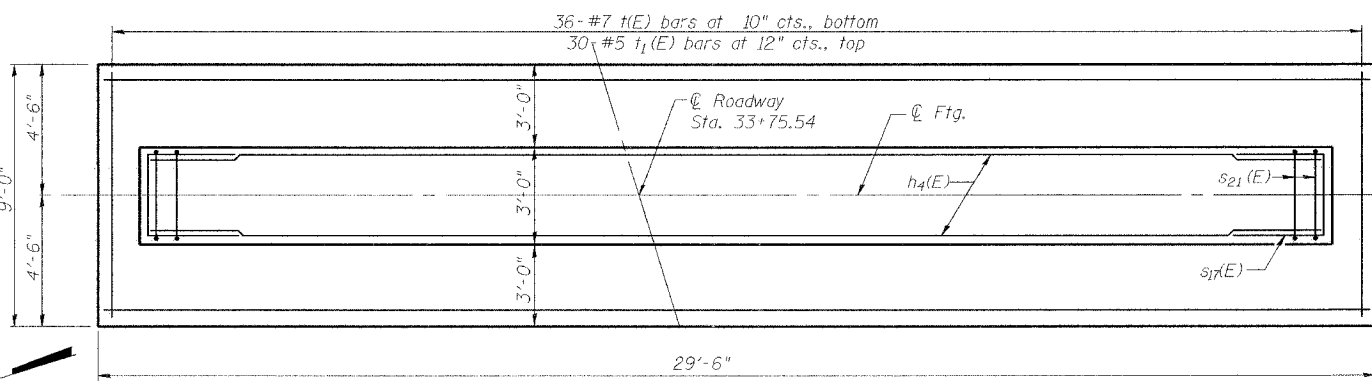
**SECTION B-B**



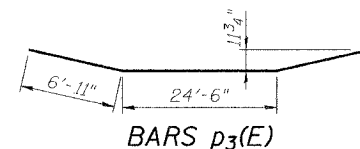
**END VIEW**



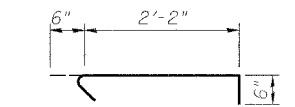
**ELEVATION**  
(Looking East)



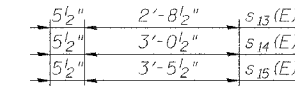
**FOOTING PLAN**



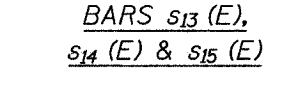
**BARS p<sub>3</sub>(E)**



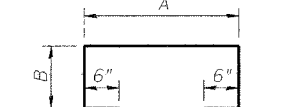
**BARS u<sub>2</sub>(E), u<sub>3</sub>(E)**



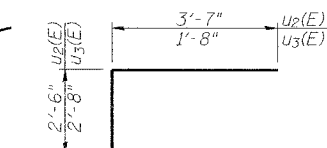
**BARS s<sub>16</sub>(E)**



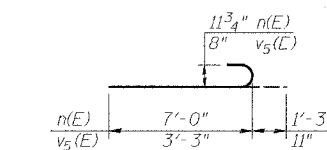
**BARS s<sub>13</sub>(E), s<sub>14</sub>(E) & s<sub>15</sub>(E)**



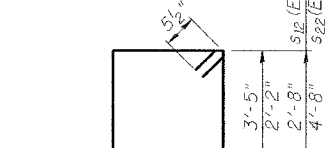
**BARS s<sub>8</sub>(E) thru s<sub>12</sub>(E)**



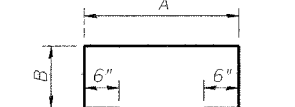
**BARS n(E), v<sub>5</sub>(E)**



**BAR n(E) & v<sub>5</sub>(E)**



**BARS s<sub>12</sub>(E) & s<sub>22</sub>(E)**



**BARS s<sub>4</sub>(E), s<sub>7</sub>(E), s<sub>12</sub>(E) & s<sub>22</sub>(E)**

|              |            |            |        |           |
|--------------|------------|------------|--------|-----------|
| ROUTE NO.    | SECTION    | COUNTY     | SHEETS | SHEET NO. |
| FAI 57       | X1-6-2)HBK | Williamson | 272    | 163       |
| SHEET NO. 28 |            |            |        |           |
| 33 SHEETS    |            |            |        |           |

Contract # 98994

THOUVENOT, WADE & MOERCHEN, INC.



|                 |            |
|-----------------|------------|
| DESIGNED BWP    | #5 - 2'-2" |
| CHECKED ALN     | #6 - 2'-7" |
| DRAWN KBF       | #7 - 3'-5" |
| CHECKED BWP/ALN |            |

**MIN. BAR LAPS**

|    |         |
|----|---------|
| #5 | - 2'-2" |
| #6 | - 2'-7" |
| #7 | - 3'-5" |

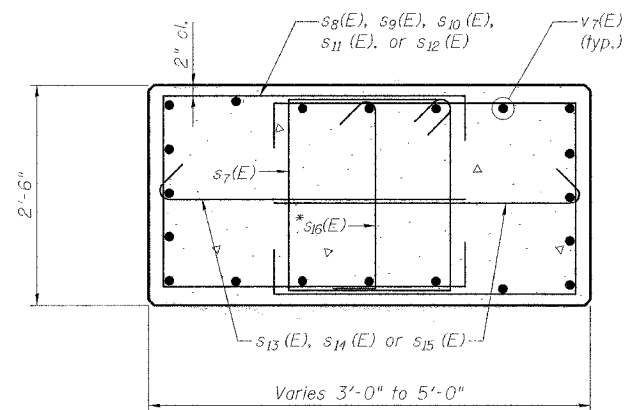


Maximum applied soil bearing pressure = 18,140 psf

PIER 3  
MORGAN AVE. OVER I-57  
FAI ROUTE 57 - SECTION (X1-6-2)HBK  
WILLIAMSON COUNTY  
STATION 34+69.21  
STRUCTURE NO. 100-0092

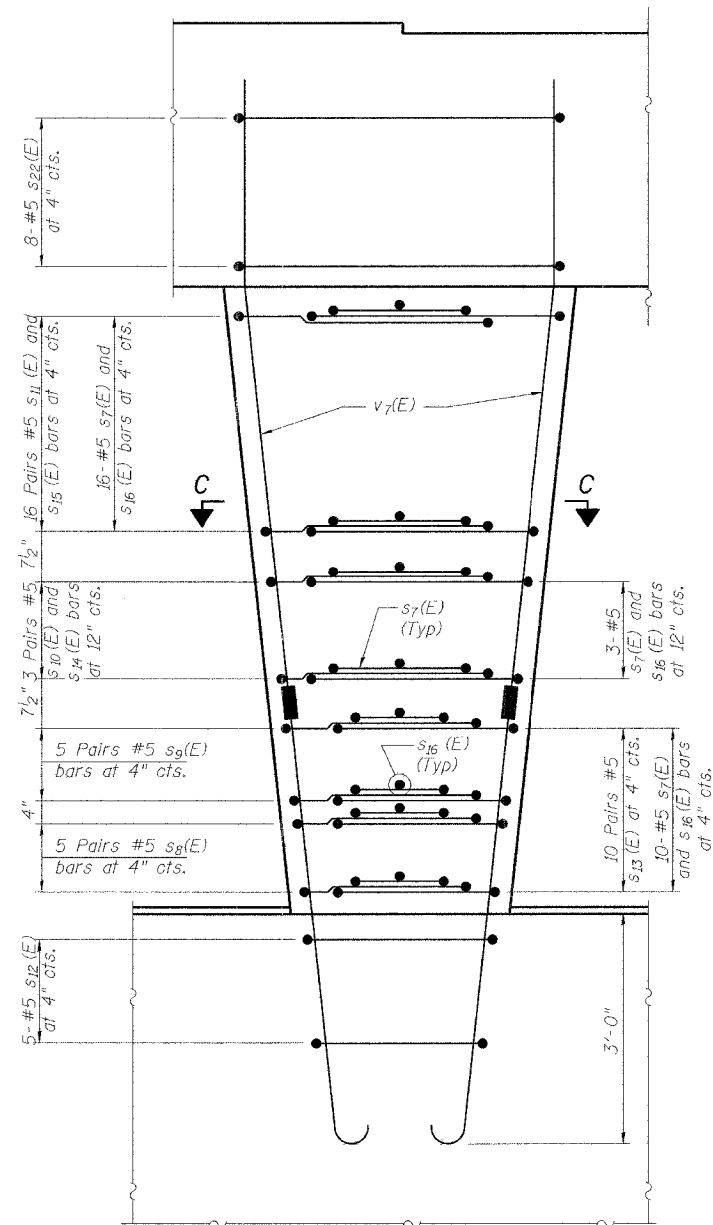
Contract # 98994

SHEET NO. 29  
33 SHEETS



**SECTION C-C**

\* Alternate 90° hook of  $s_{16}(E)$  bar. Place 90° hook in opposite face every other bar.



**COLUMN REINFORCING**

**MIN. BAR LAPS**

- #5 - 2'-2"
- #6 - 2'-7"
- #7 - 3'-5"

**BILL OF MATERIAL**

| Bar                              | No. | Size | Length  | Shape  |
|----------------------------------|-----|------|---------|--------|
| $h_2(E)$                         | 4   | #5   | 38'-2"  | —      |
| $h_3(E)$                         | 5   | #6   | 28'-2"  | —      |
| $h_4(E)$                         | 30  | #5   | 28'-2"  | —      |
| $n(E)$                           | 60  | #9   | 8'-3"   | C      |
| $p_1(E)$                         | 7   | #10  | 38'-2"  | —      |
| $p_2(E)$                         | 14  | #10  | 15'-10" | —      |
| $p_3(E)$                         | 6   | #6   | 38'-4"  | —      |
| $s_4(E)$                         | 21  | #5   | 13'-1"  | □      |
| $s_5(E)$                         | 32  | #5   | 7'-5"   | □      |
| $s_6(E)$                         | 12  | #5   | 6'-8"   | □      |
| $s_7(E)$                         | 87  | #5   | 8'-11"  | □      |
| $s_8(E)$                         | 30  | #5   | 8'-0"   | □      |
| $s_9(E)$                         | 30  | #5   | 8'-6"   | □      |
| $s_{10}(E)$                      | 18  | #5   | 9'-0"   | □      |
| $s_{11}(E)$                      | 96  | #5   | 10'-0"  | □      |
| $s_{12}(E)$                      | 15  | #5   | 10'-7"  | □      |
| $s_{13}(E)$                      | 60  | #5   | 3'-2"   | └      |
| $s_{14}(E)$                      | 18  | #5   | 3'-6"   | └      |
| $s_{15}(E)$                      | 96  | #5   | 3'-11"  | └      |
| $s_{16}(E)$                      | 87  | #5   | 3'-2"   | └      |
| $s_{17}(E)$                      | 32  | #5   | 8'-6"   | □      |
| $s_{18}(E)$                      | 38  | #6   | 7'-10"  | □      |
| $s_{21}(E)$                      | 38  | #7   | 21'-0"  | □      |
| $s_{22}(E)$                      | 24  | #5   | 14'-7"  | □      |
| $T(E)$                           | 36  | #7   | 8'-8"   | —      |
| $T_1(E)$                         | 30  | #5   | 8'-8"   | —      |
| $u_2(E)$                         | 6   | #6   | 9'-8"   | —      |
| $v_5(E)$                         | 30  | #8   | 4'-2"   | C      |
| $v_7(E)$                         | 60  | #9   | 10'-8"  | —      |
| $w(E)$                           | 20  | #5   | 29'-2"  | —      |
| Structure Excavation             |     |      | Cu. Yd. | 79.8   |
| Rock Excavation for Structures   |     |      | Cu. Yd. | 4.9    |
| Concrete Structures              |     |      | Cu. Yd. | 75.8   |
| Reinforcement Bars, Epoxy Coated |     |      | Pound   | 16,450 |
| Mechanical Splice                |     |      | Each    | 60     |

Reinforcement Bars designated (E) shall be epoxy coated.

THOUVENOT, WADE & MOERCHEN, INC.



|          |         |
|----------|---------|
| DESIGNED | BWP     |
| CHECKED  | ALN     |
| DRAWN    | KBF     |
| CHECKED  | BWP/ALN |

PIER 3 DETAILS  
MORGAN AVE. OVER I-57  
FAI ROUTE 57 - SECTION (X1-6-2)HBK  
WILLIAMSON COUNTY  
STATION 34+69.21  
STRUCTURE NO. 100-0092



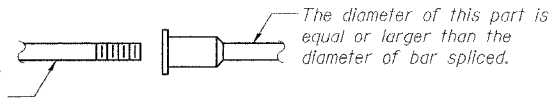
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

|                       |            |            |                   |           |
|-----------------------|------------|------------|-------------------|-----------|
| ROUTE NO.             | SECTION    | COUNTY     | SHEET NO.         | SHEET NO. |
| FAI 57                | 01-6-2)HBK | Williamson | 272               | 165       |
| FED. ROAD DIST. NO. 7 |            | ILLINOIS   | FED. ROAD PROJECT |           |

Contract # 98994

SHEET NO. 30  
33 SHEETS

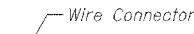
The diameter of this part is the same as the diameter of the bar spliced.



ROLLED THREAD DOWEL BAR



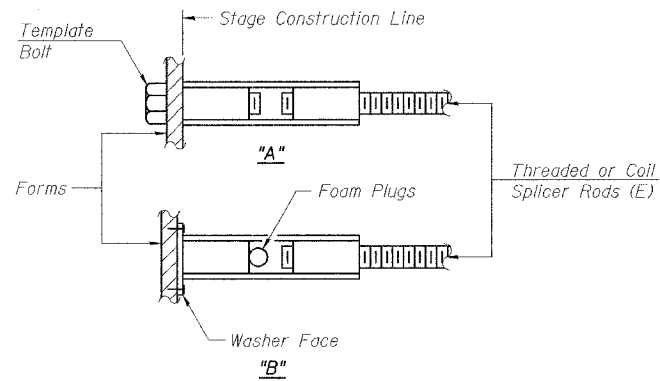
\*\* ONE PIECE



WELDED SECTIONS

BAR SPLICER ASSEMBLY ALTERNATIVES

\*\* Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used.



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.

NOTES

Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.  
Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.  
All reinforcement bars shall be lapped and tied to the splicer rods or dowel bars.  
Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars.

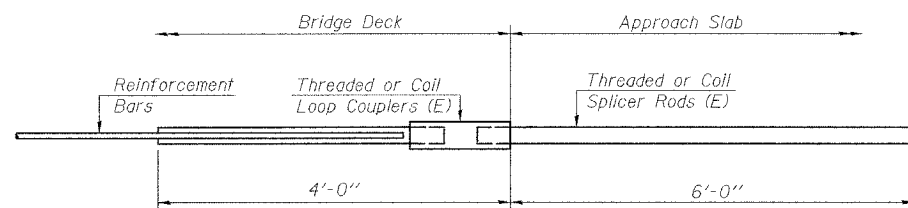
Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

- Minimum Capacity (Tension in kips) =  $1.25 \times f_y \times A_t$
- Minimum \*Pull-out Strength (Tension in kips) =  $1.25 \times f_{s,allow} \times A_t$

Where  $f_y$  = Yield strength of lapped reinforcement bars in ksi.  
 $f_{s,allow}$  = Allowable tensile stress in lapped reinforcement bars in ksi (Service Load)  
 $A_t$  = Tensile stress area of lapped reinforcement bars.  
\* = 28 day concrete

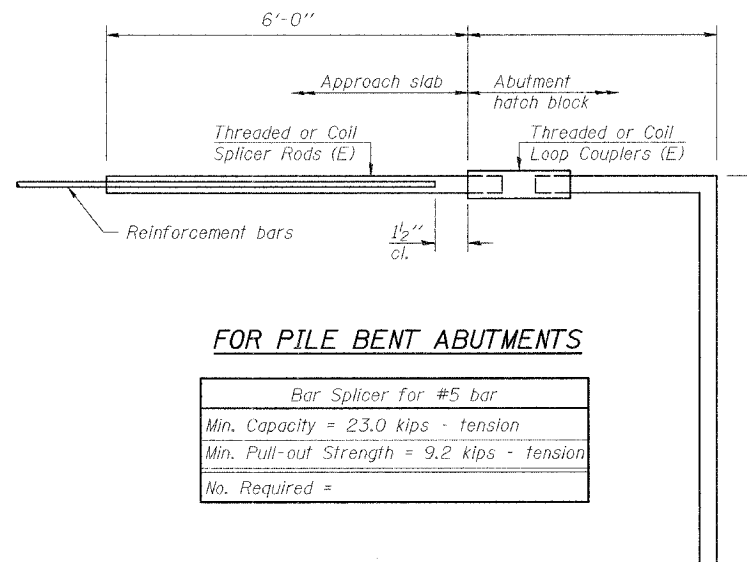
| Bar Size to be Spliced | Splicer Rod or Dowel Bar Length | Strength Requirements        |                                       |
|------------------------|---------------------------------|------------------------------|---------------------------------------|
|                        |                                 | Min. Capacity kips - tension | Min. Pull-Out Strength kips - tension |
| #4                     | 1'-8"                           | 14.7                         | 5.9                                   |
| #5                     | 2'-0"                           | 23.0                         | 9.2                                   |
| #6                     | 2'-7"                           | 33.1                         | 13.3                                  |
| #7                     | 3'-5"                           | 45.1                         | 18.0                                  |
| #8                     | 4'-6"                           | 58.9                         | 23.6                                  |
| #9                     | 5'-9"                           | 75.0                         | 30.0                                  |
| #10                    | 7'-3"                           | 95.0                         | 38.0                                  |
| #11                    | 9'-0"                           | 117.4                        | 46.8                                  |

Bar splicer assemblies shall be according to Section 508 of the Standard Specifications, except as noted. The furnishing and installation of bar splicer assemblies will be measured and paid for at the contract unit price each for "BAR SPLICERS."



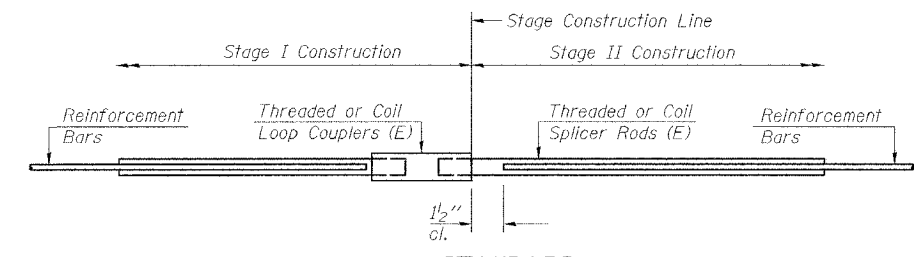
FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

|   |
|---|
| Bar Splicer for #5 bar                      |
| Min. Capacity = 23.0 kips - tension         |
| Min. Pull-out Strength = 9.2 kips - tension |
| No. Required = 72                           |



FOR PILE BENT ABUTMENTS

|   |
|---|
| Bar Splicer for #5 bar                      |
| Min. Capacity = 23.0 kips - tension         |
| Min. Pull-out Strength = 9.2 kips - tension |
| No. Required =                              |



STANDARD

| Bar Size | No. Assemblies Required | Location |
|----------|-------------------------|----------|
|          |                         |          |
|          |                         |          |
|          |                         |          |
|          |                         |          |

THOUVENOT, WADE & MOERCHEN, INC.



|          |         |
|----------|---------|
| DESIGNED | ALN     |
| CHECKED  | BWP     |
| DRAWN    | KBF     |
| CHECKED  | ALN/BWP |

BSD-1 10-22-04

BAR SPLICER ASSEMBLY DETAILS  
MORGAN AVE. OVER I-57  
FAI ROUTE 57 - SECTION (X1-6-2)HBK  
WILLIAMSON COUNTY  
STATION 34+69.21  
STRUCTURE NO. 100-0092





STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

|                       |             |                  |           |           |
|-----------------------|-------------|------------------|-----------|-----------|
| ROUTE NO.             | SECTION     | COUNTY           | POST MILE | SHEET NO. |
| FAI 57                | (X1-6-2)HBL | Williamson       | 272       | 168       |
| FED. ROAD DIST. NO. 7 | ILLINOIS    | FED. AID PROJECT |           |           |

SHEET NO. 33  
33 SHEETS

Contract # 98994

| ILLINOIS DEPARTMENT OF TRANSPORTATION<br>District Nine Materials |     |    |      |    | Bridge Foundation<br>Boring Log  |      |   |     |    |
|--|-----|----|------|----|--|------|---|-----|----|
| Morgan Avenue Over Interstate 57                                 |     |    |      |    | Sheet 1 of 1   |      |   |     |    |
| Route: Morgan Avenue Structure Number: 100-6023                  |     |    |      |    | Date: 3/8/2006   |      |   |     |    |
| Section  |     |    |      |    | Bored By: Bryan Keller   |      |   |     |    |
| County: Williamson Location: .3 MI. N. Route 13                  |     |    |      |    | Checked By: R Moberly  |      |   |     |    |
| Boring No. 4-S-(D)   | D   | B  |      |    | Surf Wat Elev:   | D    | B |     |    |
| Station 35+65  | E   | L  |      |    | Ground Water Elevation   | E    | L |     |    |
| Offset 15' LT CL   | P   | O  |      |    | when Drilling  | P    | O |     |    |
| Ground Surface 468.0 Ft  | T   | W  | Qu   | W% | At Completion  | T    | W | Qu  | W% |
|  | H   |    | tsf  |    | At: Hrs:   | H    |   | tsf |    |
| Crushed Aggregate with Cinders                                   |     |    |      |    |  |      |   |     |    |
| 467.0  |     |    |      |    |  |      |   |     |    |
| Hard, damp, brown, Silty Clay                                    |     | 12 |      |    | Elevation referenced to<br>pavement elev at CL of I-57 SB<br>Station 1475+00 |      |   |     |    |
| Loam A-6   |     | 18 | 4.0B | 10 |  |      |   |     |    |
|  |     | 11 |      |    |  |      |   |     |    |
| 463.0  | 5.0 | 9  |      |    |  | 30.0 |   |     |    |
| Hard, dry, brown, Sandstone                                      |     |    | 100% |    | To convert "N" values to "N60"<br>value multiply by 1.25.                    |      |   |     |    |
| 462.0  |     |    |      |    |  |      |   |     |    |
| Cored from 8.0 ft to 11.0 ft.                                    |     |    |      |    |  |      |   |     |    |
| Hard, dry, brown to grey,<br>Sandstone                           |     |    |      |    |  |      |   |     |    |
| 77 % Recovery  |     |    |      |    |  |      |   |     |    |
| 56 % RQD   |     |    |      |    |  |      |   |     |    |
| 457.0  |     |    |      |    |  | 35.0 |   |     |    |
| Cored from 11.0 ft to 16.0 ft                                    |     |    |      |    |  |      |   |     |    |
| Hard, dry, grey to brown<br>Sandstone                            |     |    |      |    |  |      |   |     |    |
| 100 % Recovery   |     |    |      |    |  |      |   |     |    |
| 27 % RQD   |     |    |      |    |  |      |   |     |    |
| 452.0  |     |    |      |    |  | 40.0 |   |     |    |
| Cored from 16.0 ft to 21.0 ft.                                   |     |    |      |    |  |      |   |     |    |
| Hard, dry, grey, Sandstone                                       |     |    |      |    |  |      |   |     |    |
| 93 % Recovery  |     |    |      |    |  |      |   |     |    |
| 84 % RQD   |     |    |      |    |  |      |   |     |    |
| 447.0  |     |    |      |    |  | 45.0 |   |     |    |
| Bottom of hole = 21.0 ft.  |     |    |      |    |  |      |   |     |    |
| No free water observed.  |     |    |      |    |  |      |   |     |    |
| 25.0   |     |    |      |    |  | 50.0 |   |     |    |

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

| ILLINOIS DEPARTMENT OF TRANSPORTATION<br>District Nine Materials |     |    |      |    | Bridge Foundation<br>Boring Log  |      |   |     |    |
|--|-----|----|------|----|--|------|---|-----|----|
| Morgan Avenue Over Interstate 57                                 |     |    |      |    | Sheet 1 of 1   |      |   |     |    |
| Route: Morgan Avenue Structure Number: 100-6023                  |     |    |      |    | Date: 3/8/2006   |      |   |     |    |
| Section  |     |    |      |    | Bored By: Bryan Keller   |      |   |     |    |
| County: Williamson Location: .3 MI. N. Route 13                  |     |    |      |    | Checked By: R Moberly  |      |   |     |    |
| Boring No. 5-S-(B)   | D   | B  |      |    | Surf Wat Elev:   | D    | B |     |    |
| Station 1475+07 Mainline 33                                      | E   | L  |      |    | Ground Water Elevation   | E    | L |     |    |
| Offset 17' LT Morgan Ave   | P   | O  |      |    | when Drilling  | P    | O |     |    |
| Ground Surface 468.3 Ft  | T   | W  | Qu   | W% | At Completion  | T    | W | Qu  | W% |
|  | H   |    | tsf  |    | At: Hrs:   | H    |   | tsf |    |
| Crushed Aggregate with Cinders                                   |     |    |      |    |  |      |   |     |    |
| 467.3  |     |    |      |    |  |      |   |     |    |
| Very stiff, damp, grey, Clay                                     |     | 4  |      |    | Elevation referenced to<br>pavement elev at CL of I-57 SB<br>Station 1475+00 |      |   |     |    |
| A7-6   |     | 8  | 3.1B | 19 |  |      |   |     |    |
|  |     | 19 |      |    |  |      |   |     |    |
| 463.8  | 5.0 | 10 |      |    |  | 30.0 |   |     |    |
| Hard, damp, grey, Clay   |     |    |      |    | To convert "N" values to "N60"<br>value multiply by 1.25.                    |      |   |     |    |
| A7-6   |     |    |      |    |  |      |   |     |    |
|  |     | 21 | 4.5B | 15 |  |      |   |     |    |
|  |     | 32 |      |    |  |      |   |     |    |
| 461.3  |     |    |      |    |  |      |   |     |    |
| Hard, dry, grey, Sandstone                                       |     |    | 100% |    |  |      |   |     |    |
| 460.3  |     |    |      |    |  |      |   |     |    |
| Cored from 8.0 ft to 13.0 ft.                                    |     |    |      |    |  |      |   |     |    |
| Hard, dry, grey Sandstone  |     |    |      |    |  |      |   |     |    |
| with Clay Shale Seams  |     |    |      |    |  |      |   |     |    |
| 83 % Recovery  |     |    |      |    |  |      |   |     |    |
| 53 % RQD   |     |    |      |    |  |      |   |     |    |
| 455.3  |     |    |      |    |  | 35.0 |   |     |    |
| Cored from 13.0 ft to 18.0 ft.                                   |     |    |      |    |  |      |   |     |    |
| Hard, dry, grey, Sandstone                                       |     |    |      |    |  |      |   |     |    |
| with Clay Shale seams  |     |    |      |    |  |      |   |     |    |
| 100 % Recovery   |     |    |      |    |  |      |   |     |    |
| 76 % RQD   |     |    |      |    |  |      |   |     |    |
| 450.3  |     |    |      |    |  | 40.0 |   |     |    |
| Cored from 18.0 ft to 23.0 ft.                                   |     |    |      |    |  |      |   |     |    |
| Hard, dry, grey, Sandstone                                       |     |    |      |    |  |      |   |     |    |
| 100% Recovery  |     |    |      |    |  |      |   |     |    |
| 93% RQD  |     |    |      |    |  |      |   |     |    |
| 445.3  |     |    |      |    |  | 45.0 |   |     |    |
| Bottom of hole = 23.0 ft.  |     |    |      |    |  |      |   |     |    |
| No free water observed.  |     |    |      |    |  |      |   |     |    |
| 25.0   |     |    |      |    |  | 50.0 |   |     |    |

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

THOUVENOT, WADE & MOERCHEN, INC.



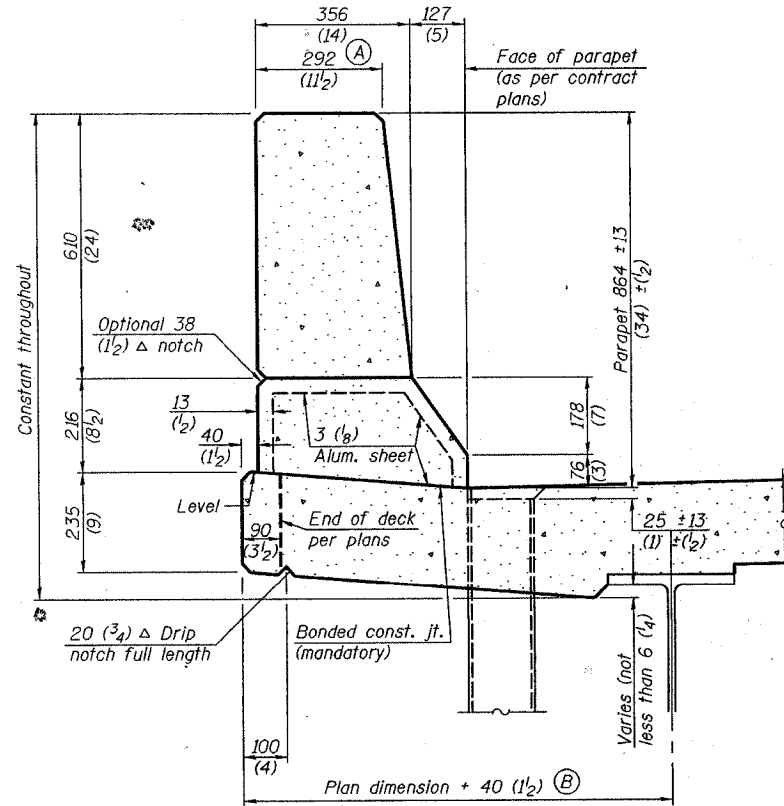
|          |     |
|----------|-----|
| DESIGNED |     |
| CHECKED  |     |
| DRAWN    | KBF |
| CHECKED  |     |

SOIL BORING LOGS  
MORGAN AVE. OVER I-57  
FAI ROUTE 57 - SECTION (X-1-6-2)HBL  
WILLIAMSON COUNTY  
STATION 34+69.21  
STRUCTURE NO. 100-0092

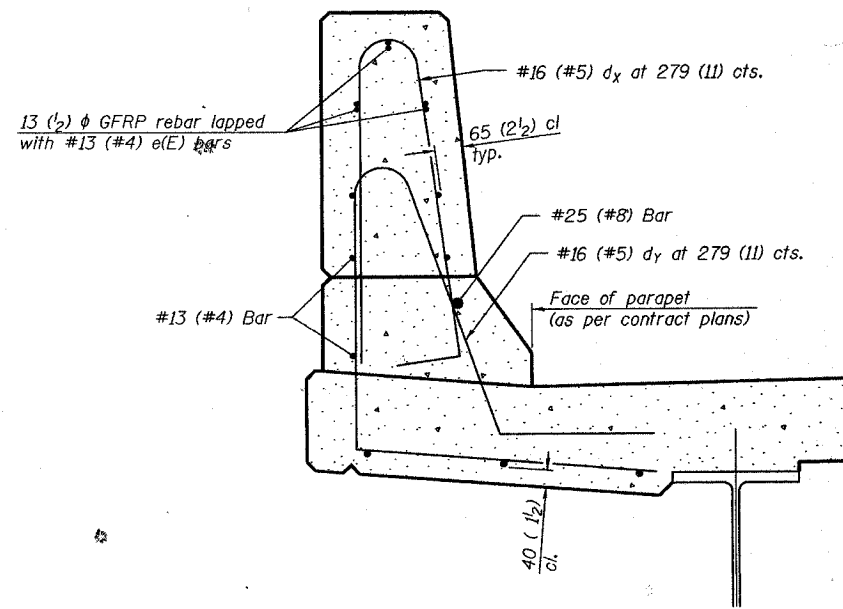
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

| ROUTE NO.             | SECTION        | COUNTY           | TOTAL SHEETS | SHEET NO. | SHEET NO. |
|-----------------------|----------------|------------------|--------------|-----------|-----------|
| F.A.I.<br>57          | (X1-6-<br>2... | Williamson       | 272          | 168A      |           |
| FED. ROAD DIST. NO. 7 | ILLINOIS       | FED. AID PROJECT |              |           |           |

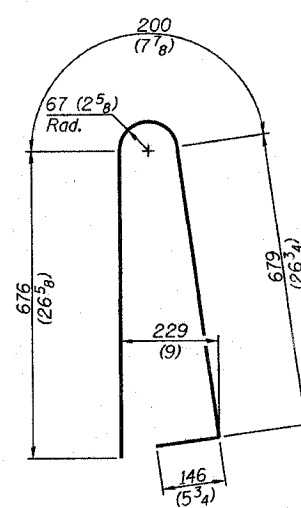
Contract # 98994



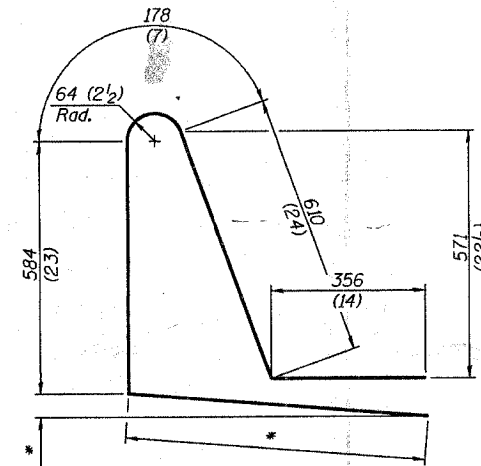
**SECTION**  
(Showing dimensions)



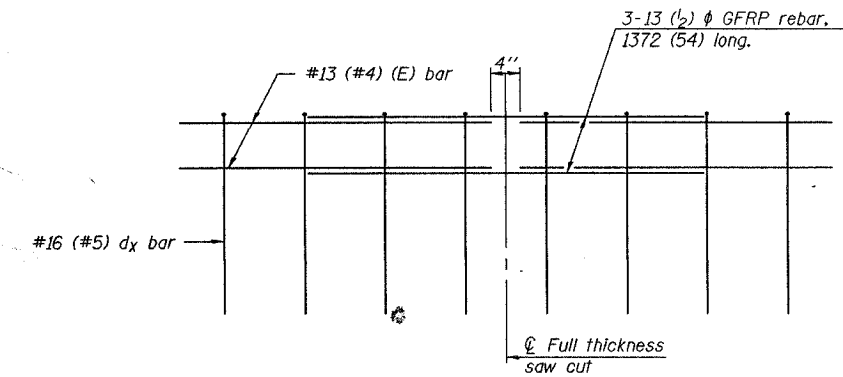
**SECTION**  
(Showing required reinforcement)



**BAR dx(e)**



**BAR dx(e)**  
\* Per contract plans

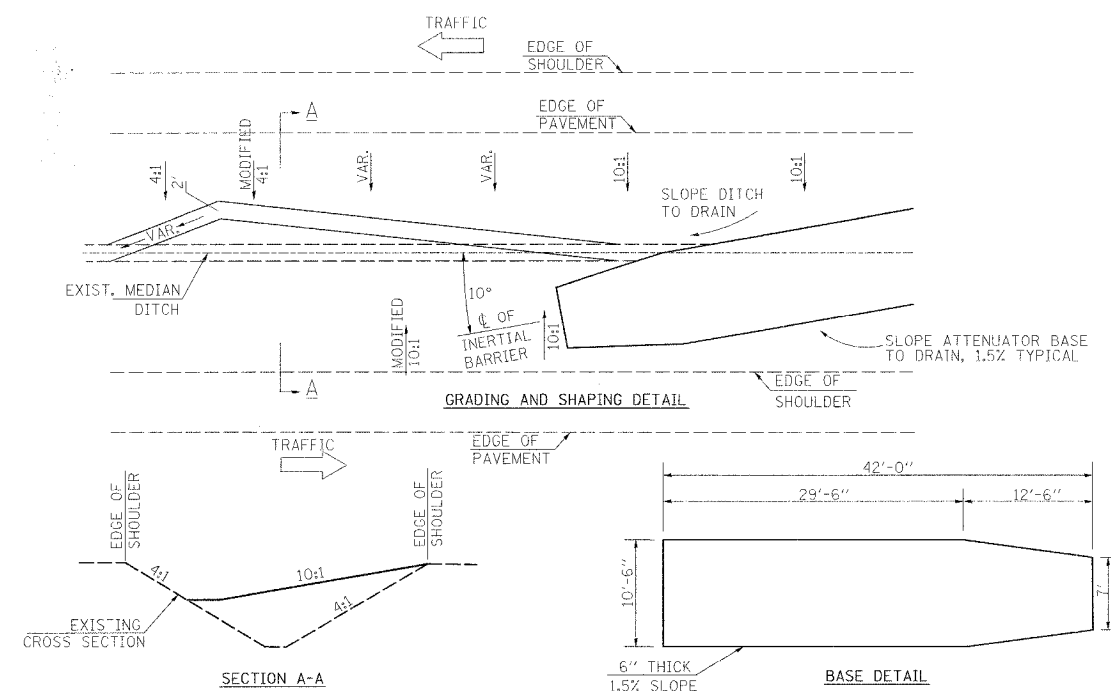


**GFRP REBAR STIFFENING DETAIL**  
(Place as shown in parapet section)

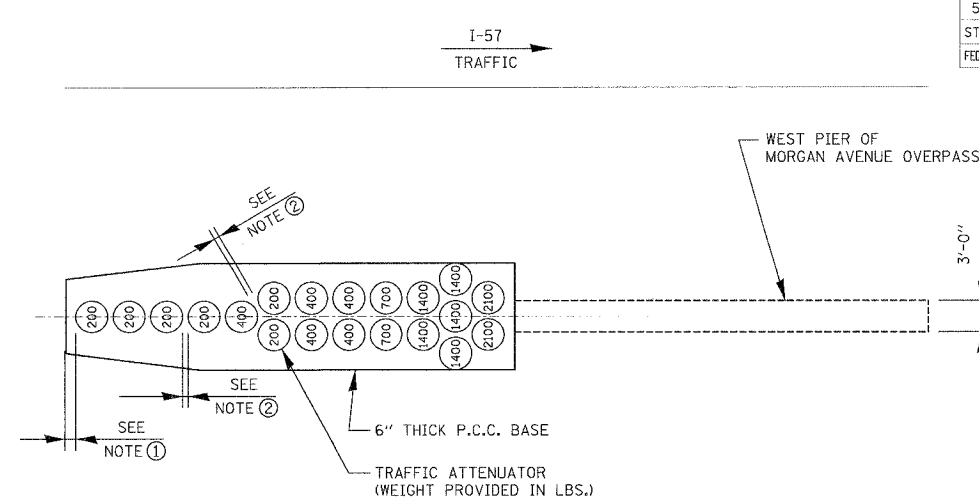
**GENERAL NOTES**  
All dimensions shall remain the same as shown on contract plans, except dimensions A and B which are to be revised as shown to provide additional clearance. Additional concrete needed to revise dimension A and B = 0.0422 m<sup>3</sup>/m (.0165 cu. yds./ft.) of parapet. Place aluminum sheet in curb portion at and near piers. Full thickness saw cut at all other locations. Adjust/add joint locations to maintain 3 to 6 meter (10 to 20 foot) spacing.

**CONCRETE PARAPET  
SLIPFORMING OPTION**

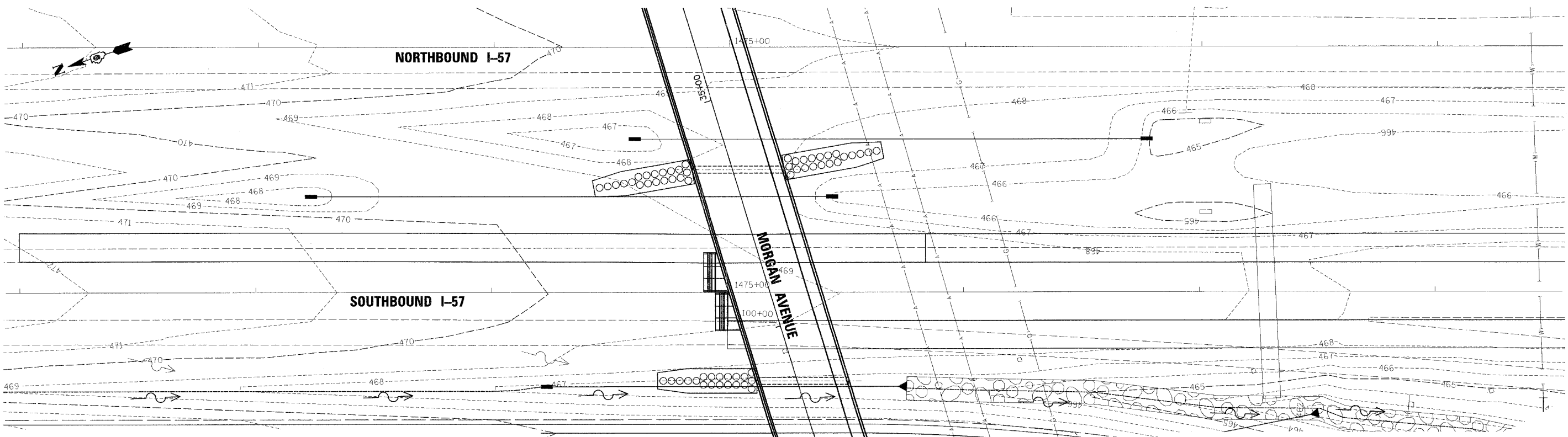
| F.A.I. RTE.           | SECTION     | COUNTY                    | TOTAL SHEETS | SHEET NO. |
|-----------------------|-------------|---------------------------|--------------|-----------|
| 57                    | (X1-6-2)HBK | WILLIAMSON                | 272          | 169       |
| STA. N/A              |             | TO STA. N/A               |              |           |
| FED. ROAD DIST. NO. 9 |             | ILLINOIS FED. AID PROJECT |              |           |



SLOPES APPLICABLE TO INERTIAL BARRIERS



- NOTES:**
- ① ALL SPACES BETWEEN EDGE-OF-BASE AND TRAFFIC ATTENUATORS SHALL BE 1'-0".
  - ② ALL SPACES BETWEEN TRAFFIC ATTENUATORS SHALL BE 6".



- GENERAL NOTES**
- ALL 10:1 SLOPES SHOWN ON THIS DETAIL SHALL BE CONSTRUCTED 10:1 OR FLATTER.
  - THE SLOPES AS SHOWN ON THIS DETAIL SHALL APPLY TO BOTH ENDS OF THE BRIDGE PIERS.
  - THE MATERIAL FOR THE BASE SHALL BE CLASS SI CONCRETE. THE BASE SHALL BE POURED, THIS WILL BE INCLUDED IN THE COST OF IMPACT ATTENUATORS-NON-REDIRECTIVE. TEST LEVEL 3 (EACH).
  - THE EXISTING GROUND HAS A @ 8:1 SLOPE AND STEEPER. THEREFORE THE PROPOSED 10:1 SLOPE WILL NEED FURNISHED EXCAVATION TO COMPLETE.

**IMPACT ATTENUATOR LOCATIONS AND PROPOSED GRADING: I-57 AND RAMP 'D' (MORGAN AVENUE OVERPASS)**

SCALE: 1"=20'

| REVISIONS |      |
|-----------|------|
| NAME      | DATE |
|           |      |
|           |      |
|           |      |
|           |      |
|           |      |

ILLINOIS DEPARTMENT OF TRANSPORTATION

**IMPACT ATTENUATOR DETAIL SHEET**

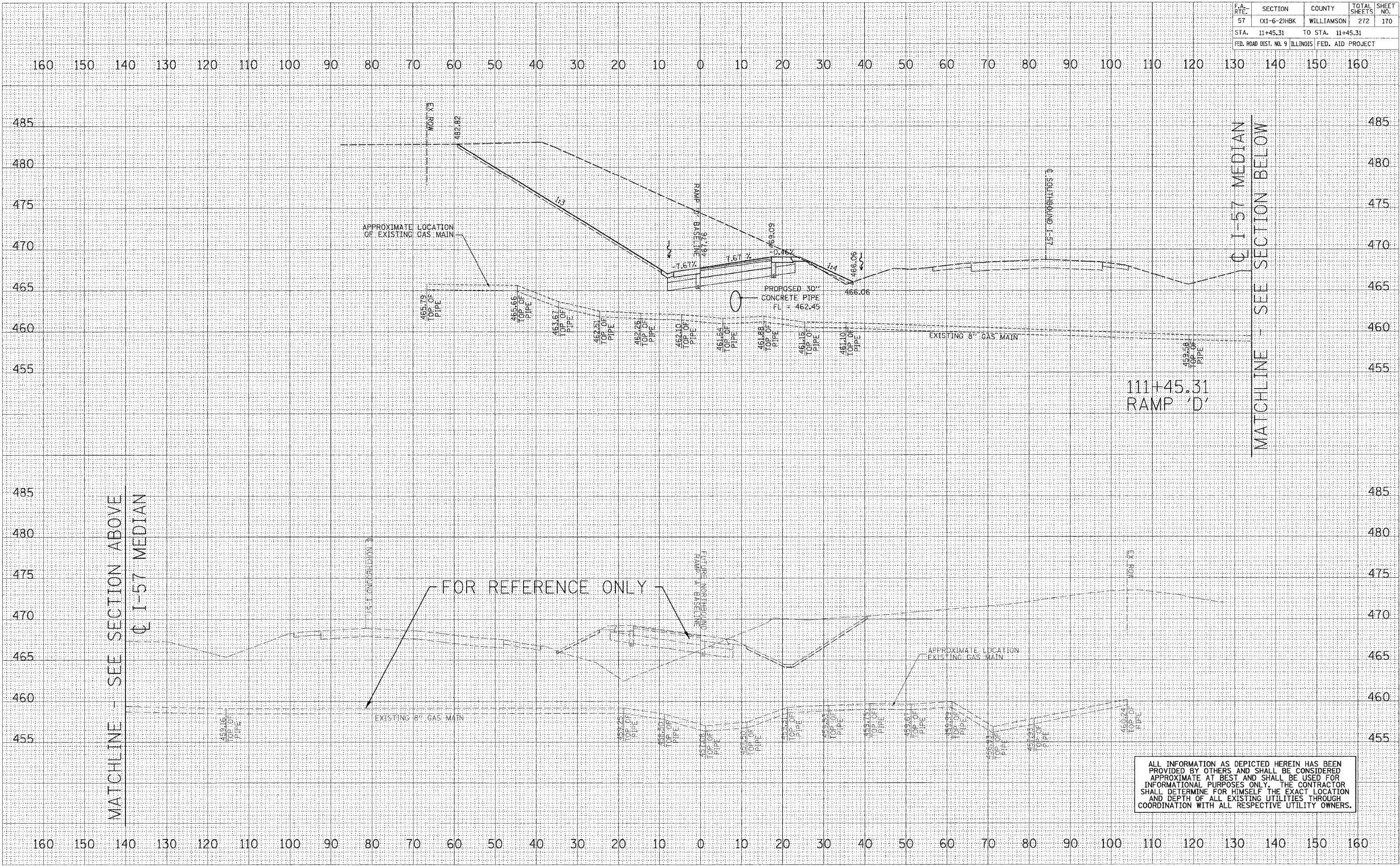
MORGAN AVENUE INTERCHANGE  
FAU ROUTE 57 WITH FAU ROUTE 9718  
WILLIAMSON COUNTY

SCALE: N/A  
DATE: 5-04-2007

DRAWN BY: DH  
CHECKED BY: RD

PLOT DATE = 5/4/2007  
FILE NAME = P:\98994\98994.dgn  
SCALE = 20.0000 / 1" = 20.0000  
USER NAME = gbarber

| F.A. RT#                       | SECTION    | COUNTY                    | TOTAL SHEETS | SHEET NO. |
|--------------------------------|------------|---------------------------|--------------|-----------|
| 57                             | 0X1-6-2HBK | WILLIAMSON                | 272          | 170       |
| STA. 11+45.31 TO STA. 11+45.31 |            | ILLINOIS FED. AID PROJECT |              |           |



| BY | DATE |
|----|------|
|    |      |

| BY | DATE |
|----|------|
|    |      |

ORIGINAL SURVEYED PLOTTED  
 SURVEY PLOTTED PLOTTED  
 DATE DATE DATE  
 USER NAME = phanmer

ALL INFORMATION AS DEPICTED HEREIN HAS BEEN PROVIDED BY OTHERS AND SHALL BE CONSIDERED APPROXIMATE AT BEST AND SHALL BE USED FOR INFORMATIONAL PURPOSES ONLY. THE CONTRACTOR SHALL DETERMINE FOR HIMSELF THE EXACT LOCATION AND DEPTH OF ALL EXISTING UTILITIES THROUGH COORDINATION WITH ALL RESPECTIVE UTILITY OWNERS.

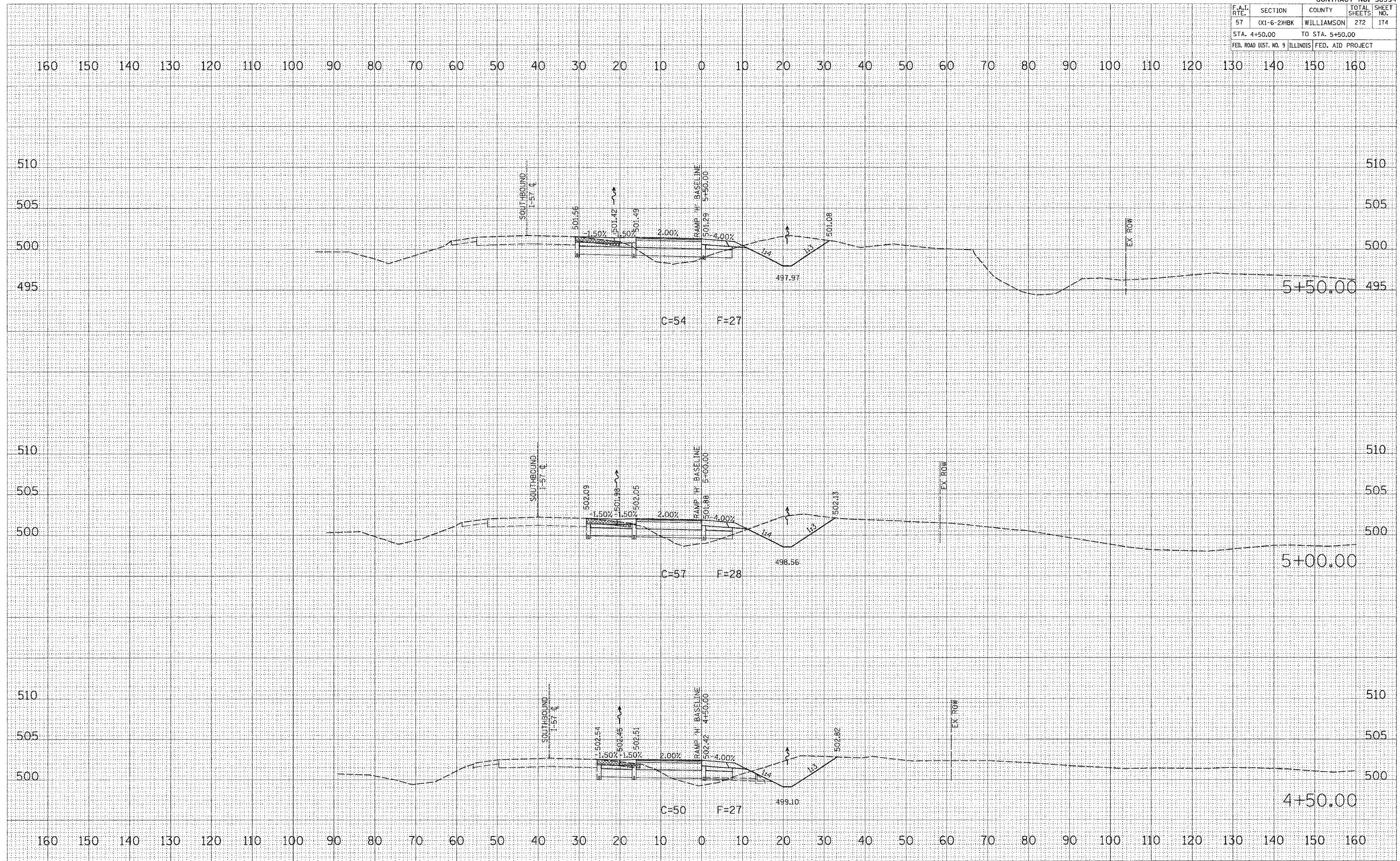








| CONTRACT NO. 98994             |             |            |                  |           |
|--------------------------------|-------------|------------|------------------|-----------|
| F.A.I. RTE.                    | SECTION     | COUNTY     | TOTAL SHEETS     | SHEET NO. |
| 57                             | (X1-6-2)HBK | WILLIAMSON | 272              | 174       |
| STA. 4+50.00 TO STA. 5+50.00   |             |            |                  |           |
| FED. ROAD DIST. NO. 9 ILLINOIS |             |            | FED. AID PROJECT |           |



|               |  |
|---------------|--|
| DATE          |  |
| BY            |  |
| FINAL SURVEY  |  |
| NOTE BOOK     |  |
| TEMP. PLATE   |  |
| AREAS         |  |
| AREAS CHECKED |  |

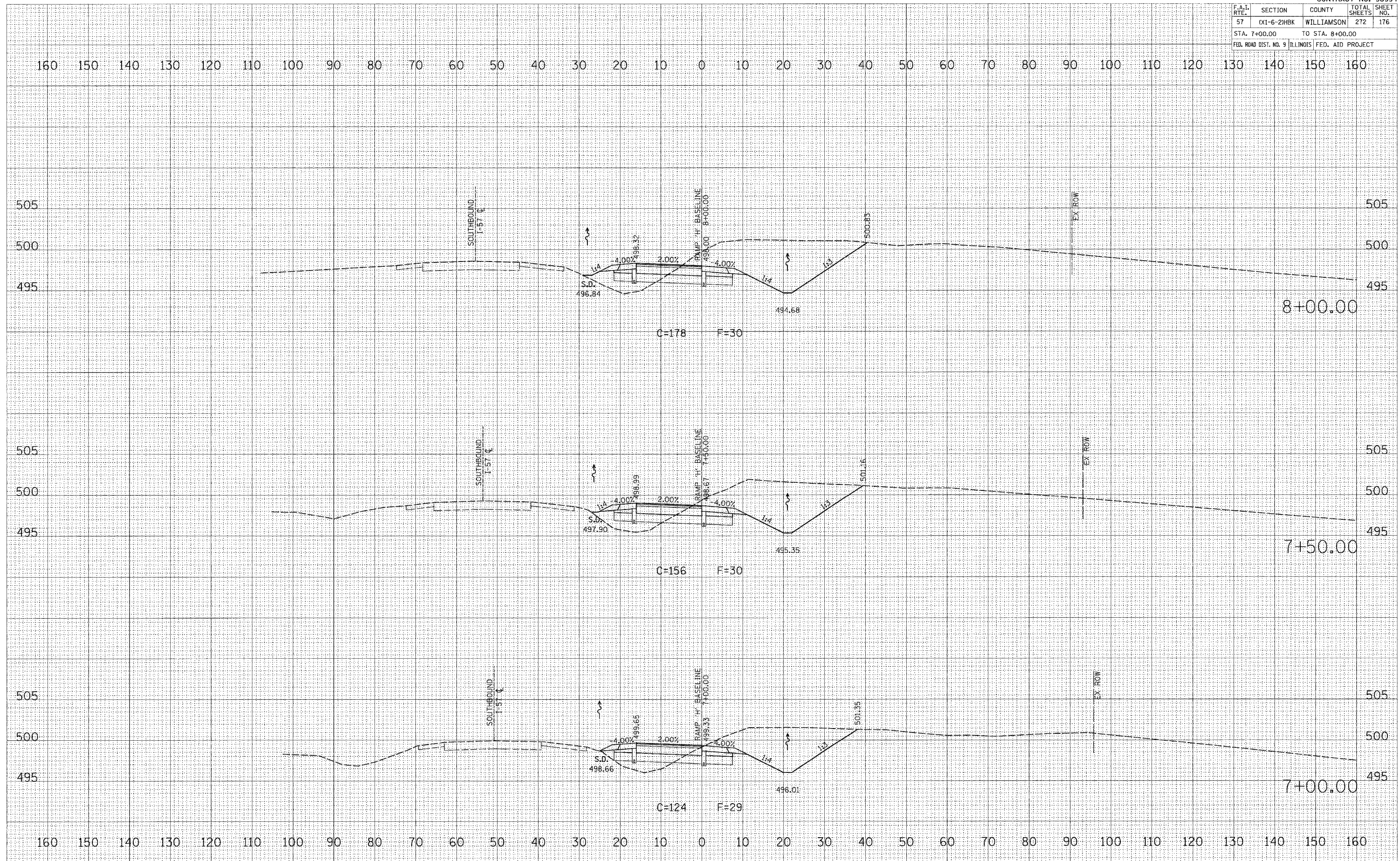
|                 |  |
|-----------------|--|
| DATE            |  |
| BY              |  |
| ORIGINAL SURVEY |  |
| NOTE BOOK       |  |
| TEMP. PLATE     |  |
| AREAS           |  |
| AREAS CHECKED   |  |

PLOT DATE = 9/29/2007  
 FILE NAME = P:\166800\166800.dgn  
 PLOT SCALE = 0.0000 / IN  
 USER NAME = jsharmer

RAMP "H" CROSS SECTIONS



| F.A.I. RTE.           | SECTION   | COUNTY          | TOTAL SHEETS | SHEET NO.        |
|-----------------------|-----------|-----------------|--------------|------------------|
| 57                    | 01-6-2HBK | WILLIAMSON      | 272          | 176              |
| STA. 7+00.00          |           | TO STA. 8+00.00 |              |                  |
| FED. ROAD DIST. NO. 9 |           | ILLINOIS        |              | FED. AID PROJECT |



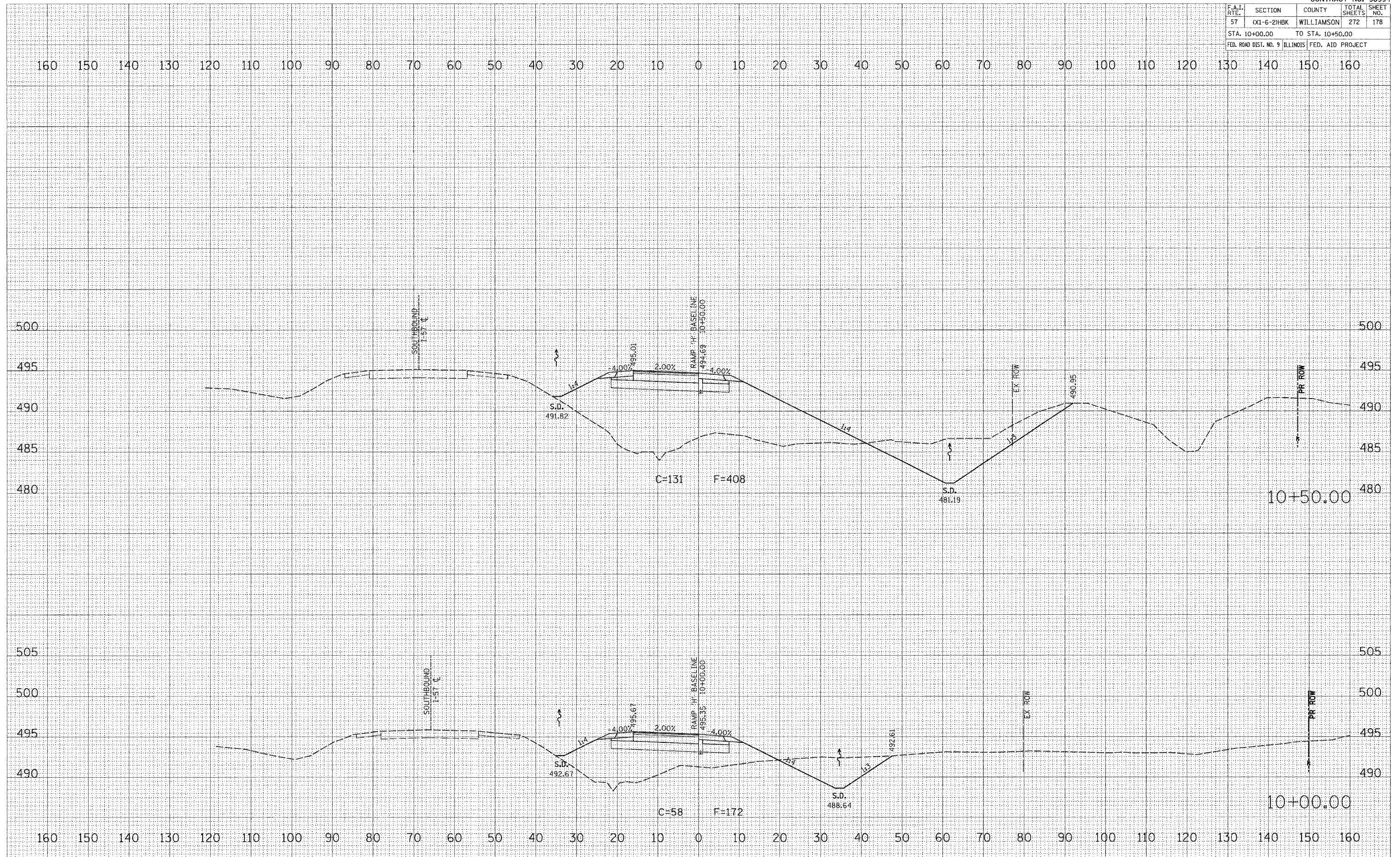
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 BY: \_\_\_\_\_  
 SURVEYED: \_\_\_\_\_  
 CHECKED: \_\_\_\_\_  
 TEMPLATE: \_\_\_\_\_  
 AREAS: \_\_\_\_\_  
 REVISIONS: \_\_\_\_\_

DATE: \_\_\_\_\_  
 BY: \_\_\_\_\_  
 SURVEYED: \_\_\_\_\_  
 CHECKED: \_\_\_\_\_  
 TEMPLATE: \_\_\_\_\_  
 AREAS: \_\_\_\_\_  
 REVISIONS: \_\_\_\_\_

DATE: 3/20/2007  
 FILE NAME: P:\040600\040600.dwg  
 PLOT SCALE: 1/8" = 1'-0"  
 USER NAME: dbarner



|                       |            |                           |              |           |
|-----------------------|------------|---------------------------|--------------|-----------|
| CONTRACT NO. 98994    |            |                           |              |           |
| F.A.I. RTE.           | SECTION    | COUNTY                    | TOTAL SHEETS | SHEET NO. |
| 57                    | 0X1-6-2HBK | WILLIAMSON                | 272          | 178       |
| STA. 10+00.00         |            | TO STA. 10+50.00          |              |           |
| FED. ROAD DIST. NO. 9 |            | ILLINOIS FED. AID PROJECT |              |           |



|               |    |      |
|---------------|----|------|
| FINAL SURVEY  | BY | DATE |
| SURVEYED      |    |      |
| TEMPLATE      |    |      |
| AREAS         |    |      |
| AREAS CHECKED |    |      |

|                 |    |      |
|-----------------|----|------|
| ORIGINAL SURVEY | BY | DATE |
| SURVEYED        |    |      |
| TEMPLATE        |    |      |
| AREAS           |    |      |
| AREAS CHECKED   |    |      |

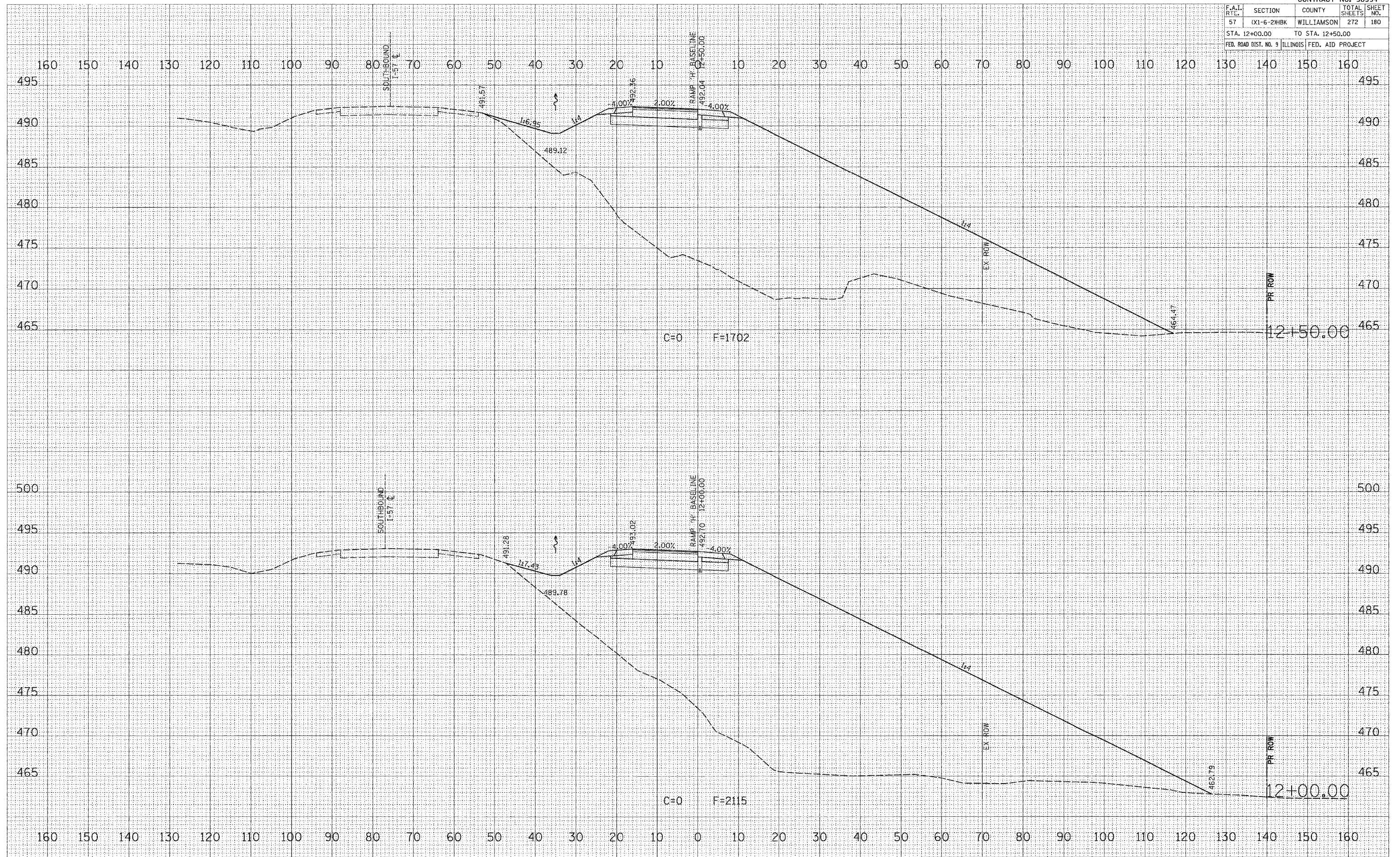
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 USER NAME = dhanan

RAMP "H" CROSS SECTIONS





| CONTRACT NO. 98994             |             |            |                  |           |
|--------------------------------|-------------|------------|------------------|-----------|
| F.A.I. RTE.                    | SECTION     | COUNTY     | TOTAL SHEETS     | SHEET NO. |
| 57                             | (X1-6-2)HBK | WILLIAMSON | 272              | 180       |
| STA. 12+00.00 TO STA. 12+50.00 |             |            |                  |           |
| FED. ROAD DIST. NO. 9 ILLINOIS |             |            | FED. AID PROJECT |           |



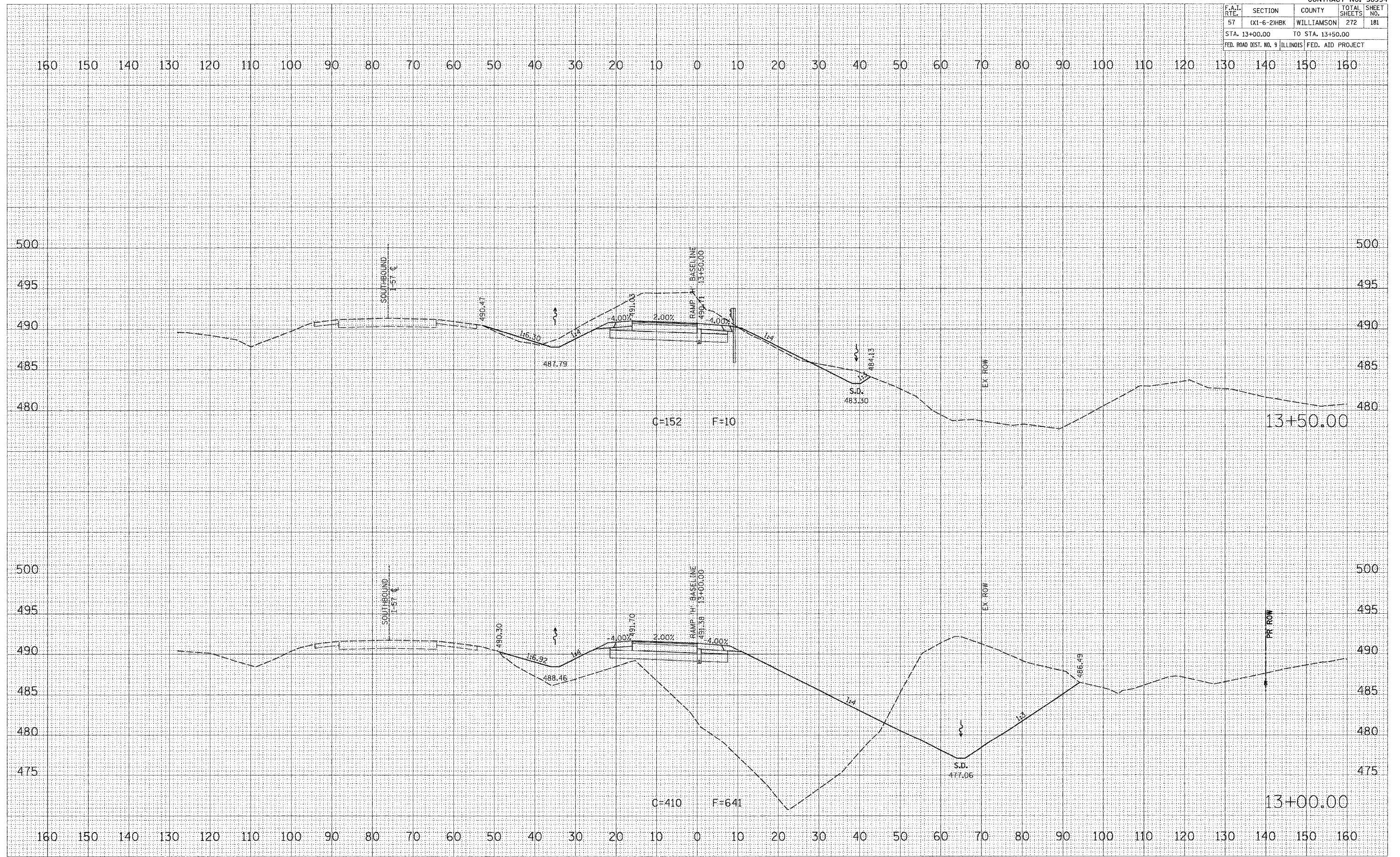
FINAL SURVEYED BY DATE  
 SURVEYED BY DATE  
 NOTE BOOK NO.  
 TEMPLATE AREAS CHECKED

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

PLOT DATE = 5/28/2007  
 FILE NAME = P:\46880A.dgn  
 PLOT SCALE = 1/8" = 1' / IN  
 USER NAME = channer

RAMP "H" CROSS SECTIONS

| CONTRACT NO. 98994                              |             |                  |              |           |
|---|-------------|------------------|--------------|-----------|
| F.A.I. RTE.                                     | SECTION     | COUNTY           | TOTAL SHEETS | SHEET NO. |
| 57  | (X1-6-2)HBK | WILLIAMSON       | 272          | 181       |
| STA. 13+00.00                                   |             | TO STA. 13+50.00 |              |           |
| FED. ROAD DIST. NO. 9 ILLINOIS FED. AID PROJECT |             |                  |              |           |



|               |      |
|---------------|------|
| FINAL SURVEY  | DATE |
| NOTED BOOK    | BY   |
| AREAS CHECKED |      |

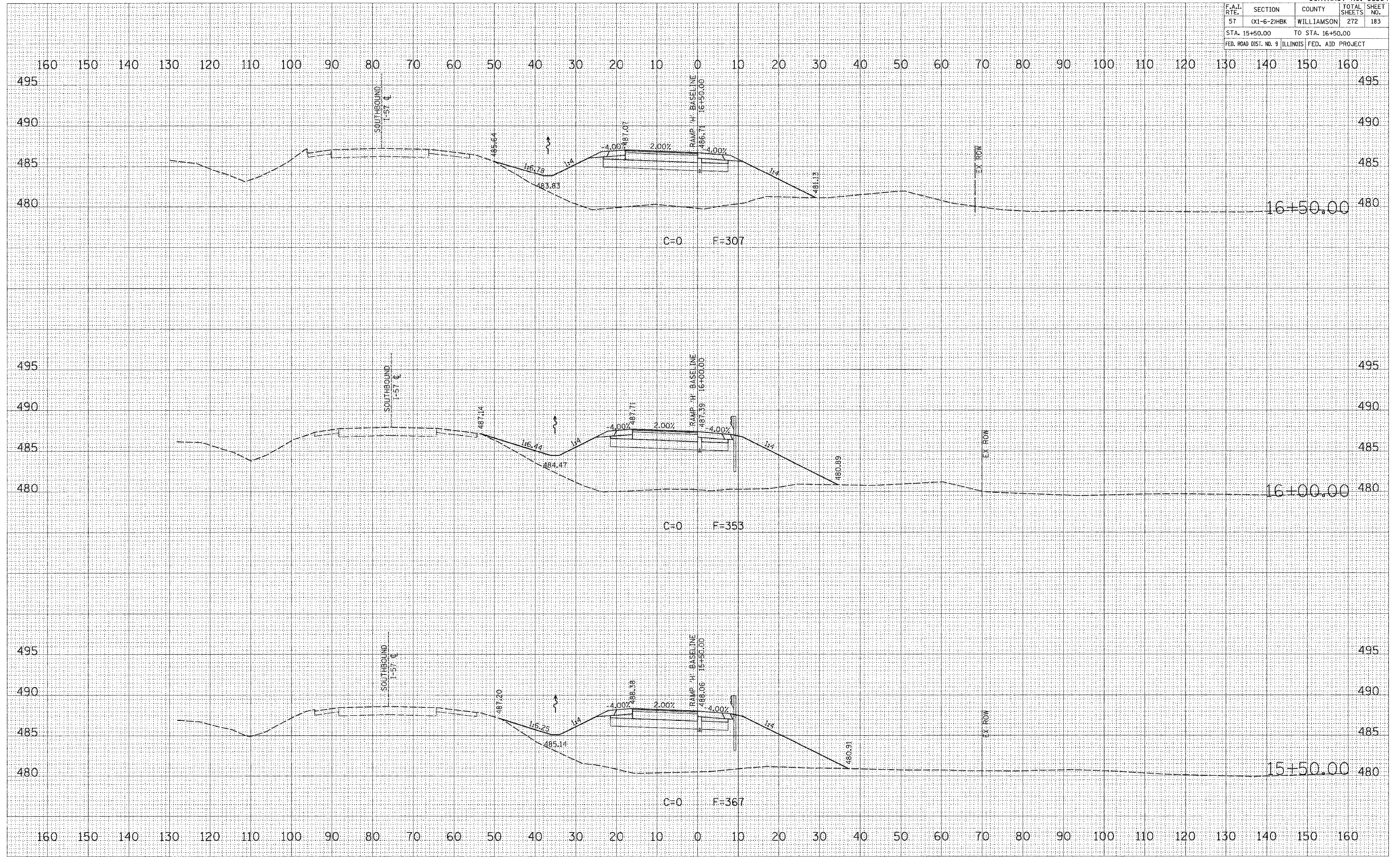
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|-----------------|------|
| ORIGINAL SURVEY | DATE |
| NOTED BOOK      | BY   |
| AREAS CHECKED   |      |

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 PLOT SCALE = 1/8" = 1' IN.  
 USER NAME = jsharper

RAMP "H" CROSS SECTIONS



| CONTRACT NO. 98994                                |             |            |              |           |
|---|-------------|------------|--------------|-----------|
| F.A.I. RTE.                                       | SECTION     | COUNTY     | TOTAL SHEETS | SHEET NO. |
| 57  | (X1-6-2)HBK | WILLIAMSON | 272          | 183       |
| STA. 15+50.00 TO STA. 16+50.00                    |             |            |              |           |
| FED. ROAD DIST. NO. 9 [ILLINOIS] FED. AID PROJECT |             |            |              |           |



DATE: \_\_\_\_\_ BY: \_\_\_\_\_  
 SURVEYED: \_\_\_\_\_  
 SURVEY: \_\_\_\_\_  
 NOTE BOOK: \_\_\_\_\_  
 AREAS: \_\_\_\_\_  
 AREAS CHECKED: \_\_\_\_\_

DATE: \_\_\_\_\_ BY: \_\_\_\_\_  
 ORIGINAL SURVEY: \_\_\_\_\_  
 SURVEY: \_\_\_\_\_  
 NOTE BOOK: \_\_\_\_\_  
 AREAS: \_\_\_\_\_  
 AREAS CHECKED: \_\_\_\_\_

PLOT DATE = 3/29/2007  
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 PLOT SCALE = 1/8" = 1'-0"  
 USER NAME = jhanner

RAMP "H" CROSS SECTIONS





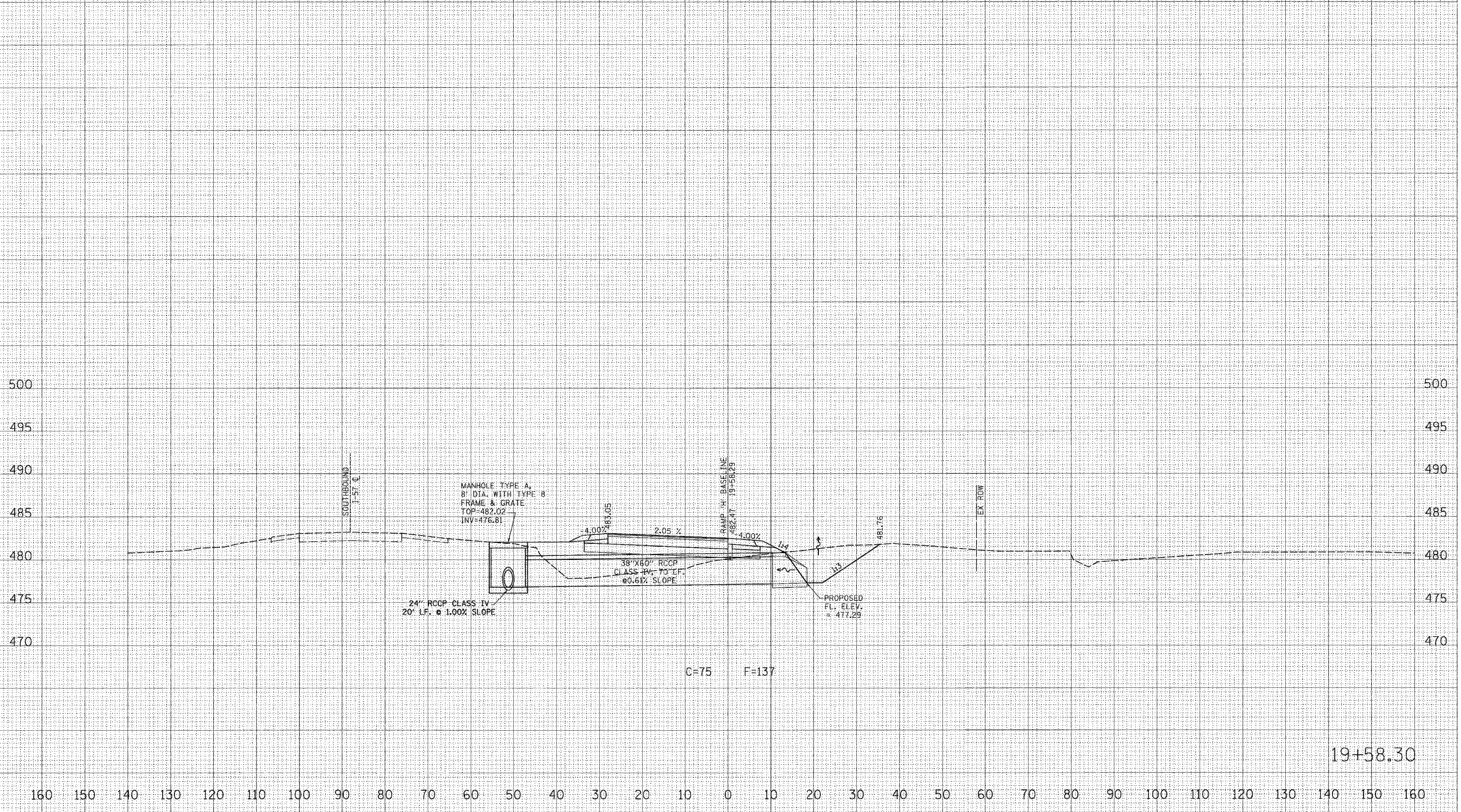
| CONTRACT NO. 98994               |             |                  |              |           |
|----------------------------------|-------------|------------------|--------------|-----------|
| F.A.I. RTE.                      | SECTION     | COUNTY           | TOTAL SHEETS | SHEET NO. |
| 57                               | (X1-6-2)HBK | WILLIAMSON       | 272          | 186       |
| STA. 19+58.30                    |             | TO STA. 19+58.30 |              |           |
| FED. ROAD DIST. NO. 9 (ILLINOIS) |             | FED. AID PROJECT |              |           |

160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160

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| DATE | BY |
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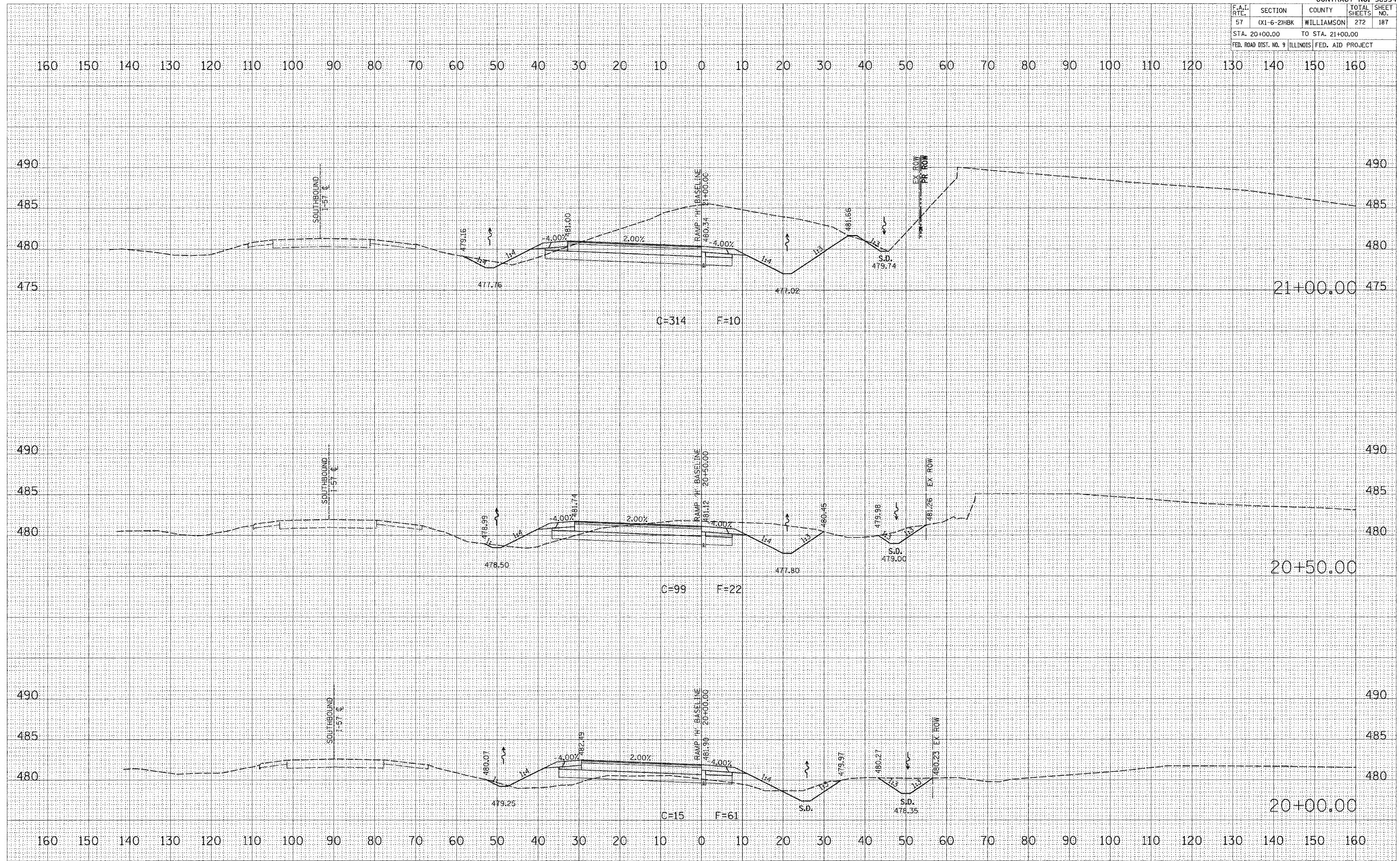
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 PLOT SCALE = 10.0000' / 1"  
 USER NAME = jhormer



19+58.30

160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160

| CONTRACT NO. 98994             |             |            |                  |           |
|--------------------------------|-------------|------------|------------------|-----------|
| F.A.I. RTE.                    | SECTION     | COUNTY     | TOTAL SHEETS     | SHEET NO. |
| 57                             | (X1-6-2)HBK | WILLIAMSON | 272              | 187       |
| STA. 20+00.00 TO STA. 21+00.00 |             |            |                  |           |
| FED. ROAD DIST. NO. 9 ILLINOIS |             |            | FED. AID PROJECT |           |



BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 SURVEYED: \_\_\_\_\_  
 SURVEY: \_\_\_\_\_  
 TEMPLATE: \_\_\_\_\_  
 AREAS: \_\_\_\_\_  
 CHECKED: \_\_\_\_\_  
 NO. \_\_\_\_\_

BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 SURVEYED: \_\_\_\_\_  
 SURVEY: \_\_\_\_\_  
 TEMPLATE: \_\_\_\_\_  
 AREAS: \_\_\_\_\_  
 CHECKED: \_\_\_\_\_  
 NO. \_\_\_\_\_

BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 SURVEYED: \_\_\_\_\_  
 SURVEY: \_\_\_\_\_  
 TEMPLATE: \_\_\_\_\_  
 AREAS: \_\_\_\_\_  
 CHECKED: \_\_\_\_\_  
 NO. \_\_\_\_\_

PLOT DATE = 3/29/2007  
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 USER NAME = dhammer

RAMP "H" CROSS SECTIONS

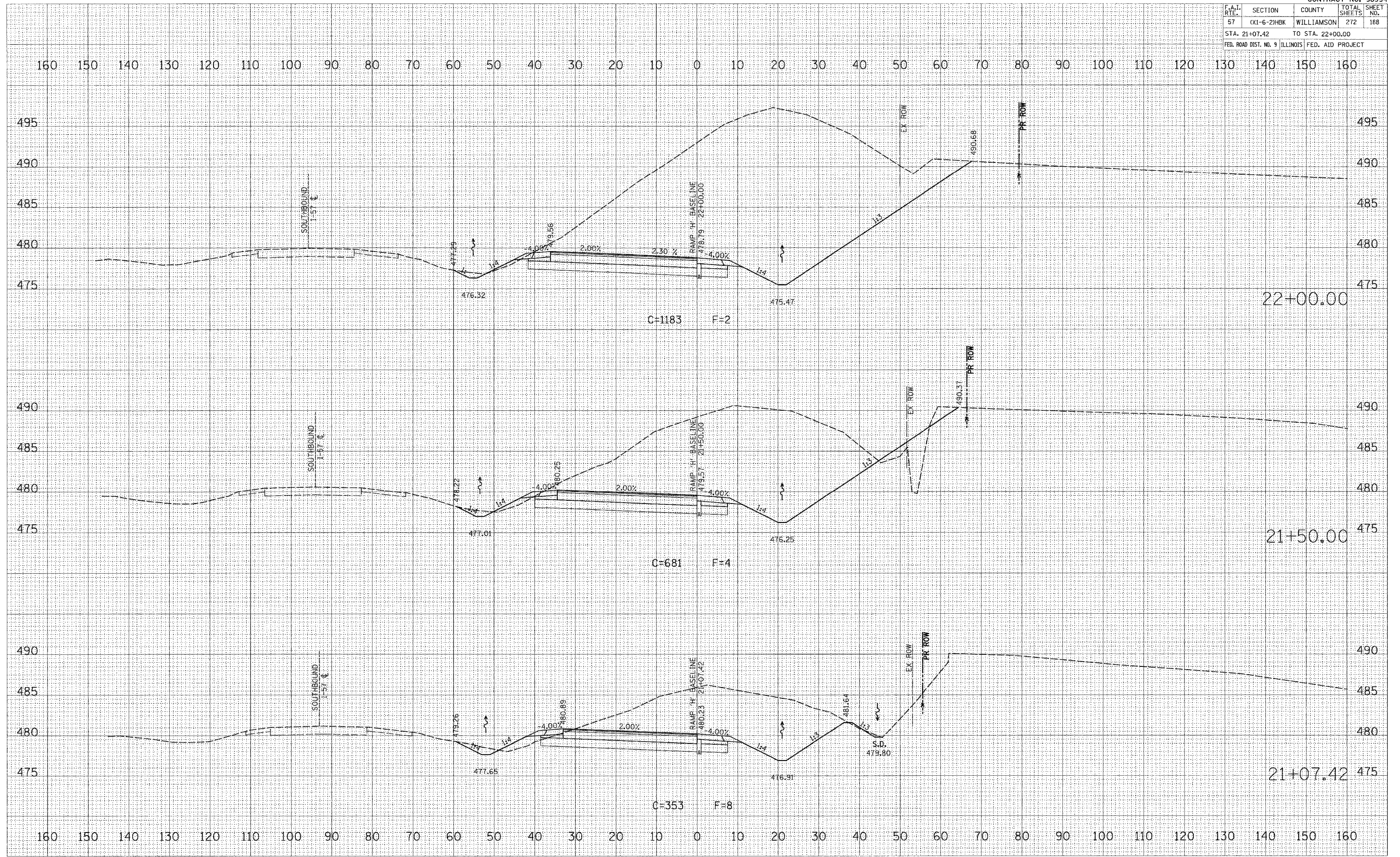


| CONTRACT NO. 98994                              |             |            |              |           |
|---|-------------|------------|--------------|-----------|
| F.A.I. RTE.                                     | SECTION     | COUNTY     | TOTAL SHEETS | SHEET NO. |
| 57  | (X1-6-2)H&K | WILLIAMSON | 272          | 188       |
| STA. 21+07.42 TO STA. 22+00.00                  |             |            |              |           |
| FED. ROAD DIST. NO. 9 ILLINOIS FED. AID PROJECT |             |            |              |           |

BY \_\_\_\_\_ DATE \_\_\_\_\_  
 SURVEYED \_\_\_\_\_  
 SURVEY \_\_\_\_\_  
 TEMPLATE \_\_\_\_\_  
 NOTE BOOK \_\_\_\_\_  
 AREAS CHECKED \_\_\_\_\_

BY \_\_\_\_\_ DATE \_\_\_\_\_  
 SURVEYED \_\_\_\_\_  
 SURVEY \_\_\_\_\_  
 TEMPLATE \_\_\_\_\_  
 NOTE BOOK \_\_\_\_\_  
 AREAS CHECKED \_\_\_\_\_

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 PLOT SCALE = 1/8" = 100'-0"  
 USER NAME = jhanner



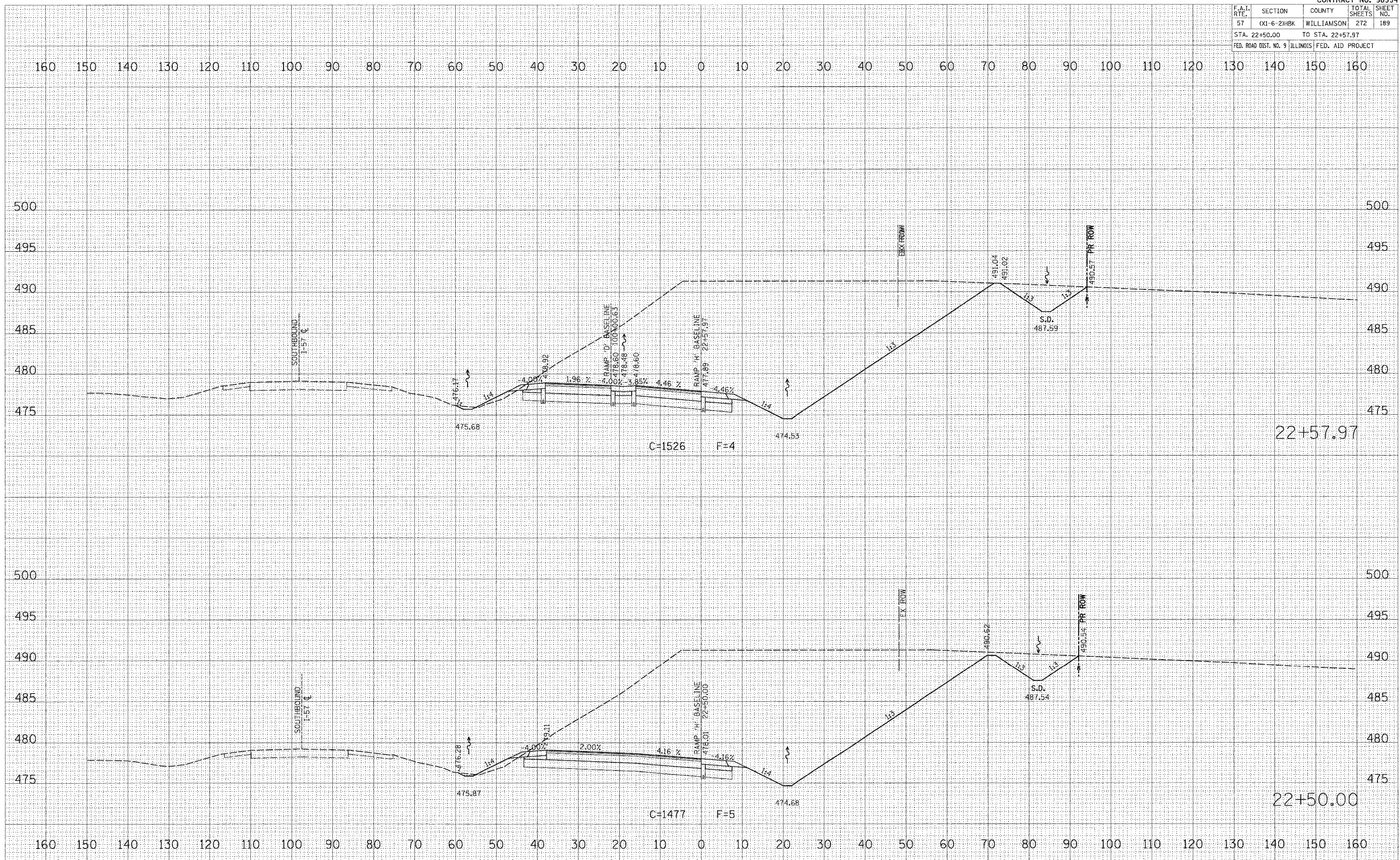
RAMP "H" CROSS SECTIONS

|   |            |                  |              |
|---|------------|------------------|--------------|
| CONTRACT NO. 98994                              |            |                  |              |
| F.A.I. RTE.                                     | SECTION    | COUNTY           | TOTAL SHEETS |
| 57  | OXI-6-2HKB | WILLIAMSON       | 272          |
| STA. 22+50.00                                   |            | TO STA. 22+57.97 |              |
| FED. ROAD DIST. NO. 9 ILLINOIS FED. AID PROJECT |            |                  |              |

|               |      |
|---------------|------|
| BY            | DATE |
|               |      |
| DESIGNED      |      |
| PLOTTED       |      |
| TEMPLATE      |      |
| NOTE BOOK     |      |
| AREAS CHECKED |      |
| NO.           |      |

|               |      |
|---------------|------|
| BY            | DATE |
|               |      |
| DESIGNED      |      |
| PLOTTED       |      |
| TEMPLATE      |      |
| NOTE BOOK     |      |
| AREAS CHECKED |      |
| NO.           |      |

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 USER NAME = gshomer

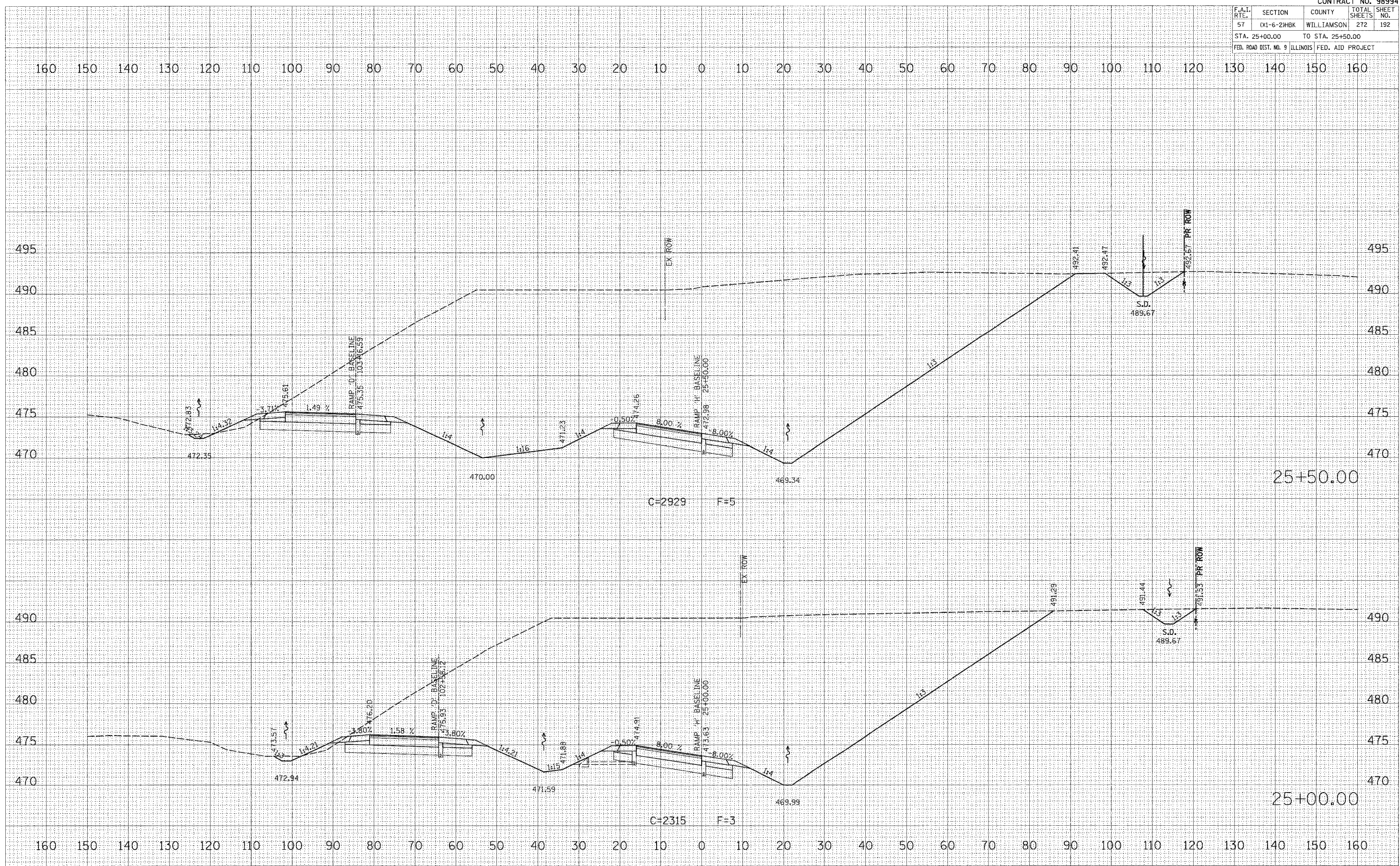


RAMP 'H' CROSS SECTIONS





|   |             |                  |                 |
|---|-------------|------------------|-----------------|
| CONTRACT NO. 98994                              |             |                  |                 |
| F.A.I. RTE.                                     | SECTION     | COUNTY           | TOTAL SHEET NO. |
| 57  | (X1-6-2)HBK | WILLIAMSON       | 272 192         |
| STA. 25+00.00                                   |             | TO STA. 25+50.00 |                 |
| FED. ROAD DIST. NO. 9 ILLINOIS FED. AID PROJECT |             |                  |                 |



|               |      |
|---------------|------|
| FINAL SURVEY  | DATE |
| SURVEYED      | BY   |
| TEMPLATE      |      |
| NOTE BOOK     |      |
| AREAS         |      |
| AREAS CHECKED |      |

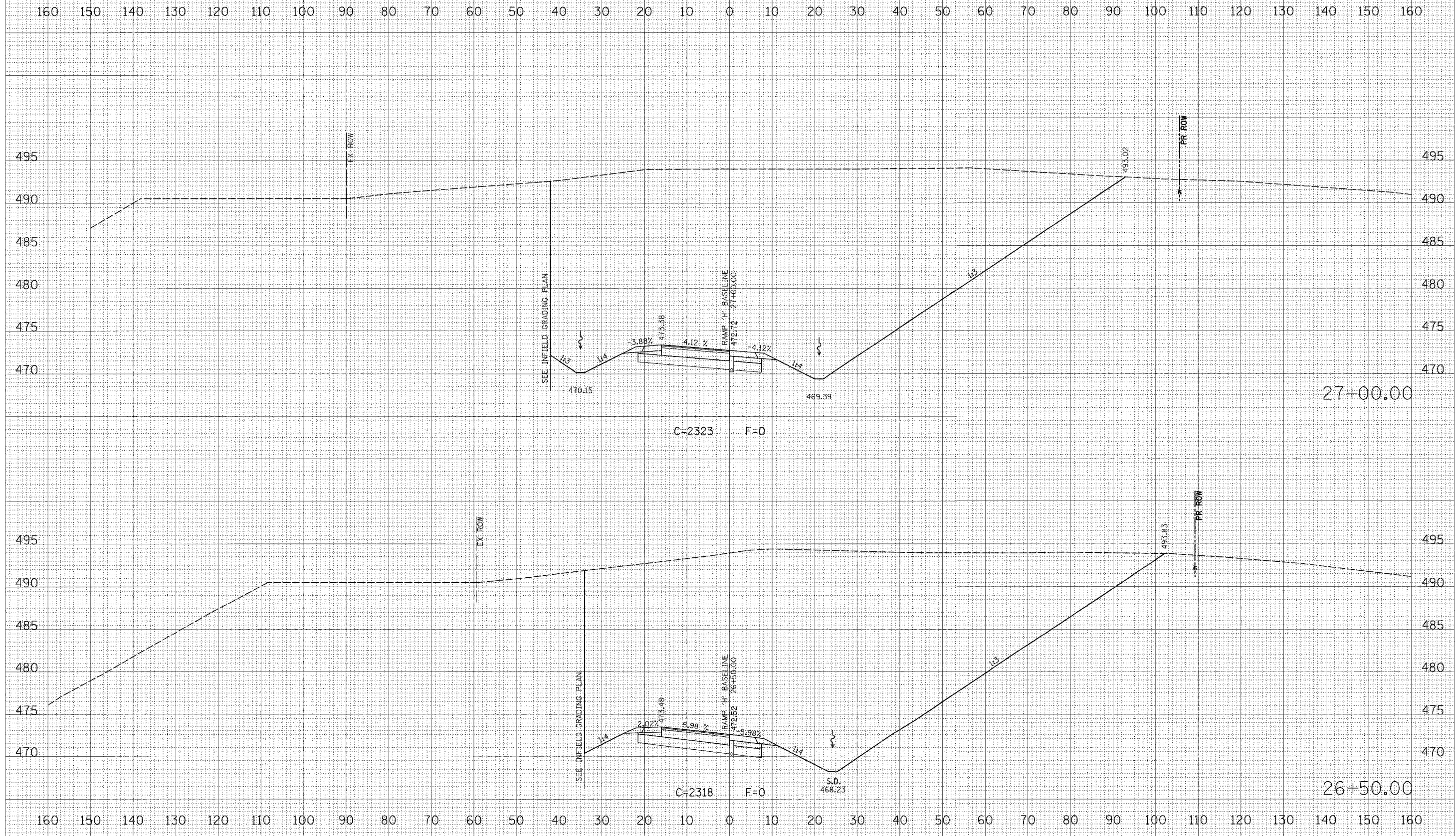
|                 |      |
|-----------------|------|
| ORIGINAL SURVEY | DATE |
| SURVEYED        | BY   |
| TEMPLATE        |      |
| NOTE BOOK       |      |
| AREAS           |      |
| AREAS CHECKED   |      |

PLOT DATE = 4/26/2007  
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 PLOT SCALE = 1/8"=1'-0"  
 USER NAME = dromer

RAMP "H" CROSS SECTIONS



|   |           |                  |              |           |
|---|-----------|------------------|--------------|-----------|
| CONTRACT NO. 98994                              |           |                  |              |           |
| F.A.I. RTE.                                     | SECTION   | COUNTY           | TOTAL SHEETS | SHEET NO. |
| 57  | XI-6-2HBK | WILLIAMSON       | 272          | 194       |
| STA. 26+50.00                                   |           | TO STA. 27+00.00 |              |           |
| FED. ROAD DIST. NO. 9 ILLINOIS FED. AID PROJECT |           |                  |              |           |



BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 SURVEYED: \_\_\_\_\_  
 SURVEY: \_\_\_\_\_  
 NOTE BOOK: \_\_\_\_\_  
 AREA: \_\_\_\_\_  
 AREA: \_\_\_\_\_

BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 ORIGINAL SURVEY: \_\_\_\_\_  
 SURVEY: \_\_\_\_\_  
 NOTE BOOK: \_\_\_\_\_  
 AREA: \_\_\_\_\_  
 AREA: \_\_\_\_\_

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 SCALE = 1/8" = 1' IN.

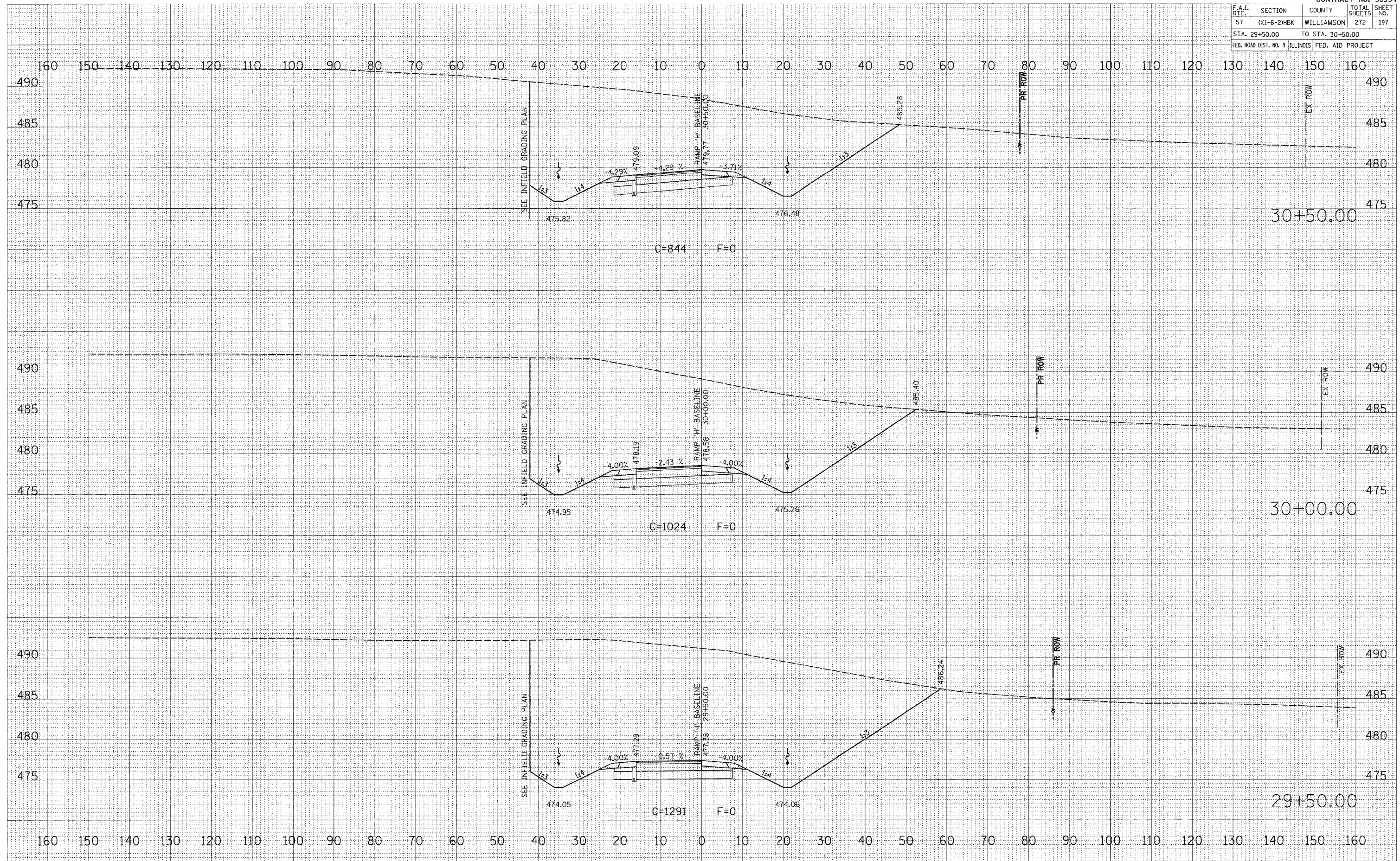
RAMP "H" CROSS SECTIONS







| CONTRACT NO. 98994             |             |            |                  |           |
|--------------------------------|-------------|------------|------------------|-----------|
| F.A.I. RTE.                    | SECTION     | COUNTY     | TOTAL SHEETS     | SHEET NO. |
| 57                             | (X1-6-2)HKB | WILLIAMSON | 272              | 197       |
| STA. 29+50.00 TO STA. 30+50.00 |             |            |                  |           |
| FED. ROAD DIST. NO. 9 ILLINOIS |             |            | FED. AID PROJECT |           |



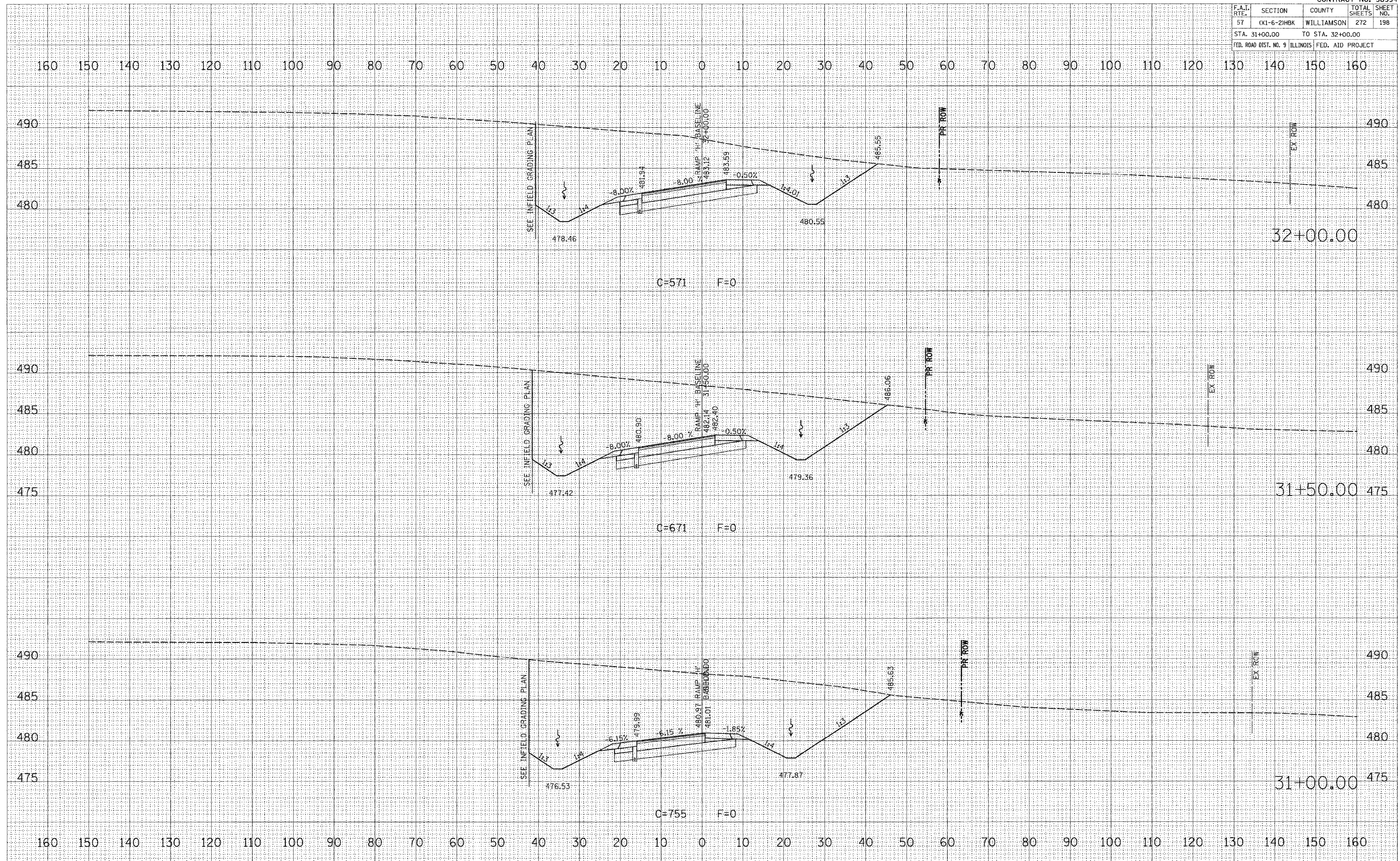
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 SURVEYED BY DATE  
 NOTE BOOK NO.  
 TEMPLATE AREAS CHECKED

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

PLOT DATE = 9/29/2007  
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 PLOT SCALE = 0.0000 / IN  
 USER NAME = jboerner

RAMP "H" CROSS SECTIONS

| F.A.I. RTE.           | SECTION   | COUNTY           | TOTAL SHEETS | SHEET NO.        |
|-----------------------|-----------|------------------|--------------|------------------|
| 57                    | 01-6-21BK | WILLIAMSON       | 272          | 198              |
| STA. 31+00.00         |           | TO STA. 32+00.00 |              |                  |
| FED. ROAD DIST. NO. 9 |           | ILLINOIS         |              | FED. AID PROJECT |



FINAL SURVEY

|               |  |
|---------------|--|
| DATE          |  |
| BY            |  |
| SURVEYED      |  |
| TEMPLATE      |  |
| NOTE BOOK     |  |
| AREAS         |  |
| AREAS CHECKED |  |
| NO.           |  |

ORIGINAL SURVEY

|               |  |
|---------------|--|
| DATE          |  |
| BY            |  |
| SURVEYED      |  |
| TEMPLATE      |  |
| NOTE BOOK     |  |
| AREAS         |  |
| AREAS CHECKED |  |
| NO.           |  |

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 USER NAME = dgreen

RAMP "H" CROSS SECTIONS



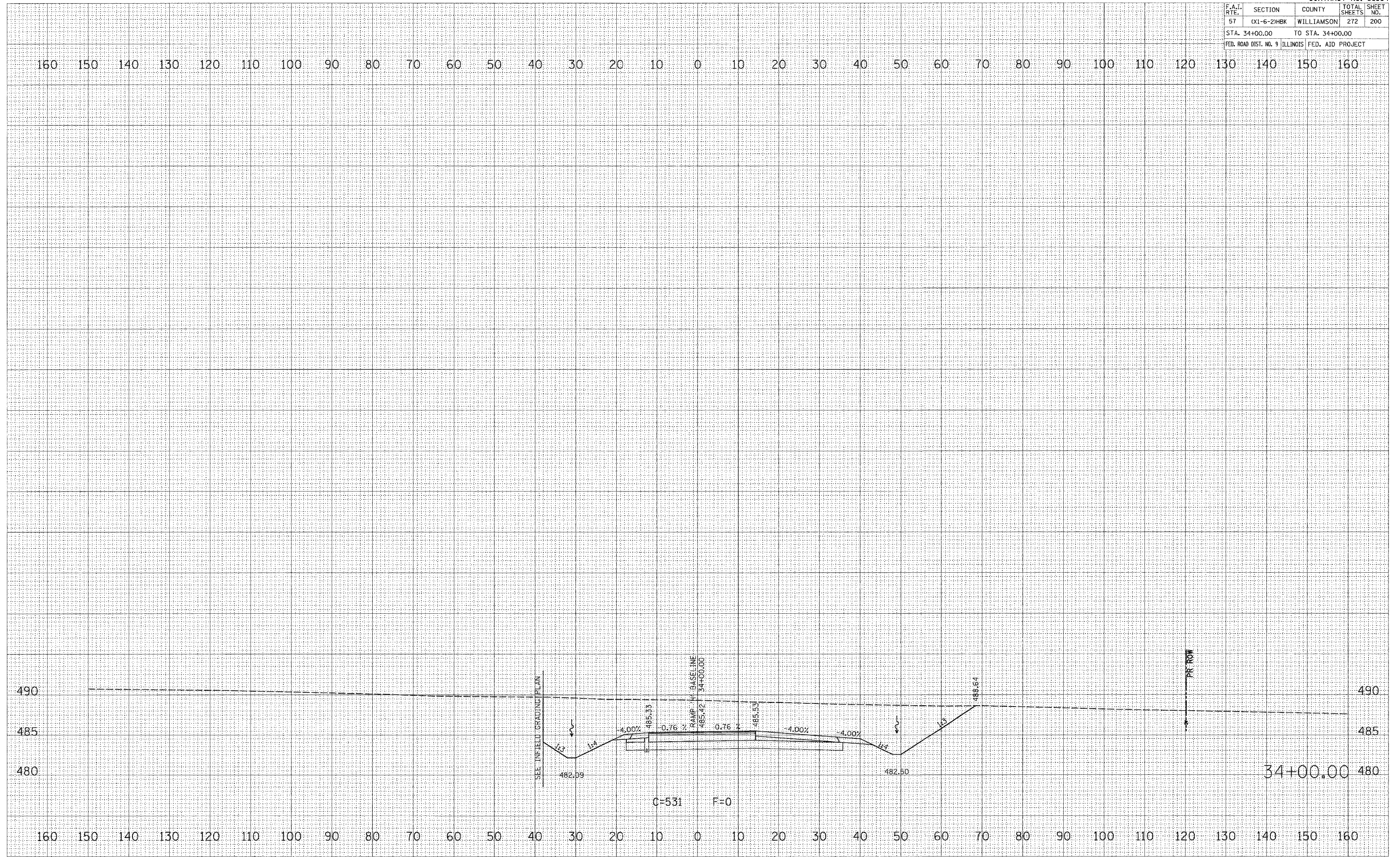
| CONTRACT NO. 98994                              |             |                  |              |           |
|---|-------------|------------------|--------------|-----------|
| F.A.I. RTE.                                     | SECTION     | COUNTY           | TOTAL SHEETS | SHEET NO. |
| 57  | (X1-6-2)HBK | WILLIAMSON       | 272          | 200       |
| STA. 34+00.00                                   |             | TO STA. 34+00.00 |              |           |
| FED. ROAD DIST. NO. 9 ILLINOIS FED. AID PROJECT |             |                  |              |           |

160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160

|       |               |    |      |
|-------|---------------|----|------|
| FINAL | SURVEYED      | BY | DATE |
|       | BOOK          |    |      |
|       | NO.           |    |      |
|       | AREAS CHECKED |    |      |

|          |               |    |      |
|----------|---------------|----|------|
| ORIGINAL | SURVEYED      | BY | DATE |
|          | BOOK          |    |      |
|          | NO.           |    |      |
|          | AREAS CHECKED |    |      |

PLOT DATE = 3/28/2007  
 FILE NAME = P:\446600\sign\0408000\mph\h\h1-h\h1-h.dwg  
 PLOT SCALE = 1/8" = 1'-0"  
 USER NAME = jhewner



RAMP "H" CROSS SECTIONS