

06-15-12 LETTING ITEM 061

INDEX OF SHEETS

- 1 - TITLE SHEET
- 2 - SUMMARY OF QUANTITIES, DETAILS, & TYPICAL SECTIONS
- 3 - ROADWAY DETAILS & SCHEDULES
- 4 - PLAN & PROFILE
- 5 - GRADING PLAN
- 6 - GENERAL PLAN & ELEVATION
- 7 & 8 - SUPERSTRUCTURE
- 9 - RAILING
- 10 - ABUTMENTS
- 11 - METAL SHELL PILE DETAILS
- 12 - 15 - CROSS SECTIONS

STANDARDS

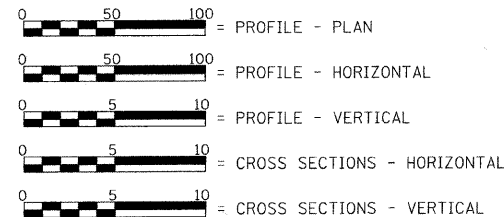
- STANDARD 515001-03
- STANDARD 630301-05
- STANDARD 701011-02
- STANDARD 701901-02
- STANDARD BLR 21-9
- STANDARD BLR 27-1

LIST OF UTILITIES

FRONTIER COMMUNICATIONS
1-800-921-8101

MENARD ELECTRIC COOPERATIVE
P.O. BOX 100
PETERSBURG, ILLINOIS 62675
1-217-632-7746

SCALE IN FEET



LAND SECTION - 22
 LAND QUARTER SECTION - N.E.
 FUNCTIONAL CLASSIFICATION: MAJOR COLLECTOR (NON-URBAN)
 A.D.T. - 400 (2010)
 A.D.T. - 553 (2020)
 50 M.P.H. DESIGN SPEED

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED HIGHWAY BRIDGE PROGRAM

F.A.S. 573 (C.H. 1) OVER PIKE CREEK TRIBUTARY

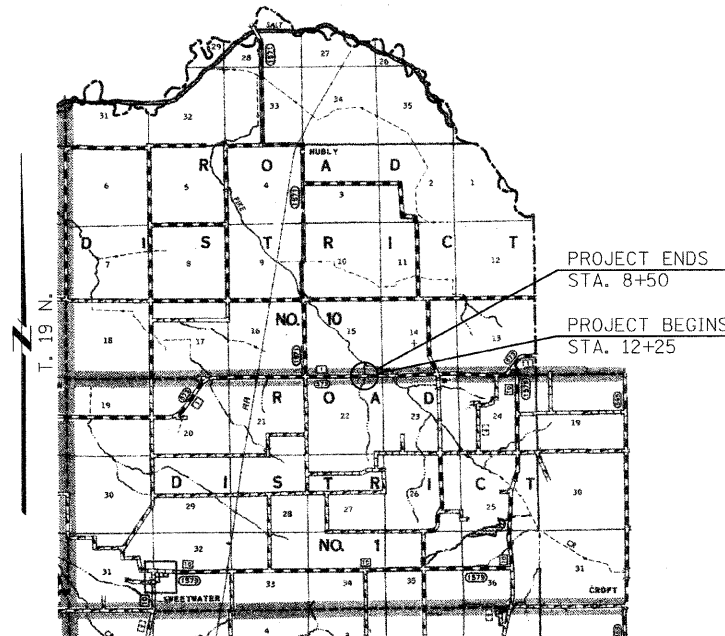
SECTION 11-00063-00-BR

PROJECT BRS-0573(320)

MENARD COUNTY

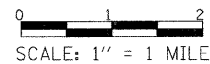
C-96-221-12

R. 5 W. 3rd P.M.



LOCATION PLAN

LENGTH OF SECTION - 375.00 FEET = 0.071 MILES



EXISTING STRUCTURE: SINGLE SPAN PRECAST CONCRETE DECK SUPPORTED BY CLOSED TIMBER ABUTMENTS WITH TIMBER WINGWALLS. ±24'-6" BK.-BK. ABUTMENTS, ±30'-0" OUT.-OUT. DECK. CONCRETE CURBS AND STEEL RAILING. ±0° SKEW. EXIST. S.N. 065-3003

PROPOSED STRUCTURE: SINGLE SPAN PRECAST PRESTRESSED CONCRETE DECK BEAM BRIDGE (27" DEPTH) ON OPEN CONCRETE ABUTMENTS. 30'-0" OUT.-OUT. DECK, 69'-0" BK.-BK. ABUTMENTS. STEEL RAILING TYPE S-1, 0° SKEW. PROP. S.N. 065-3127



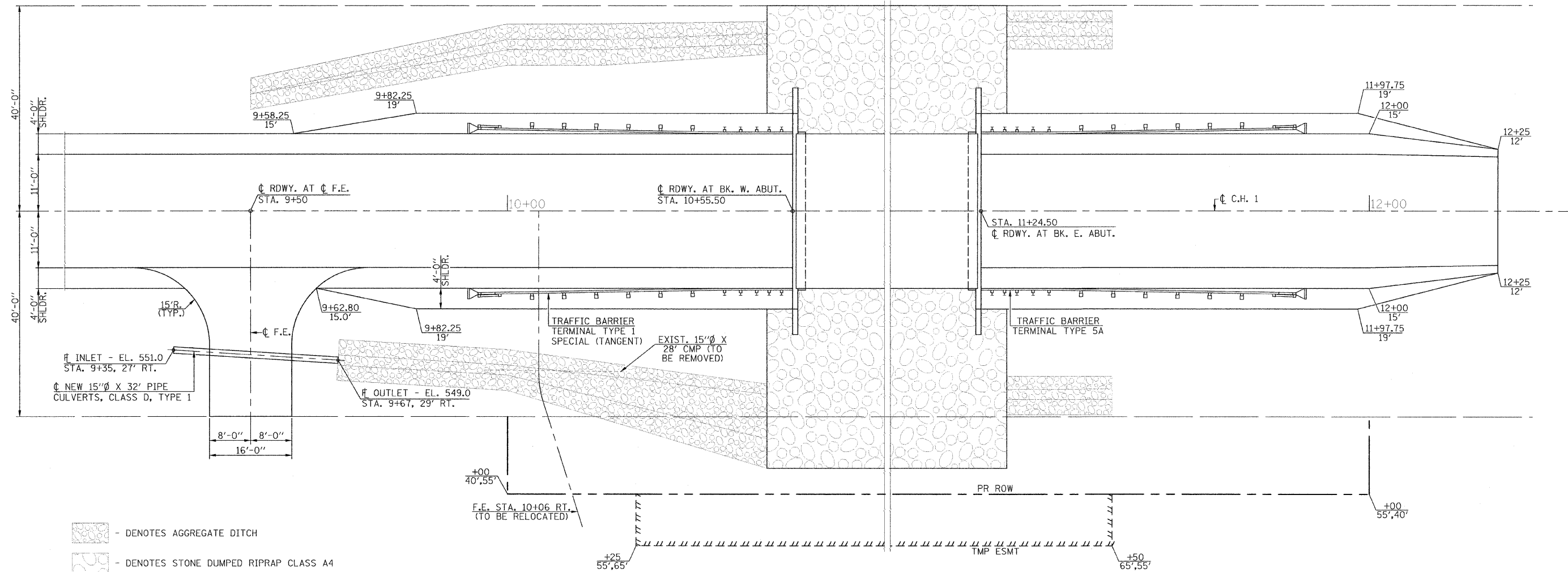
Christopher P. Kohr 3/6/12
 EXPIRATION: 11/30/2013

| |
|---|
| APPROVED <i>R. R.</i> , 2012 <i>Thomas R. Cass</i> COUNTY ENGINEER |
| PASSED <i>March 21, 2012</i> <i>Terrence H. Fountain</i> DISTRICT SIX ENGINEER OF LOCAL ROADS & STREETS |
| PASSED <i>March 21, 2012</i> <i>Ron Ashambeau</i> DISTRICT SIX CONSTRUCTION ENGINEER |
| Releasing For Bid Based on Limited Review <i>March 21, 2012</i> <i>Roger L. Driscoll</i> DEPUTY DIRECTOR OF HIGHWAYS, REGION FOUR ENGINEER STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION |

TOLL FREE
 "JOINT UTILITY LOCATION INFORMATION FOR EXCAVATORS"
 (J.U.L.I.E.) TELEPHONE NUMBER
 1-800-892-0123

CONTRACT NO. **93573**

| | | | | | | | | | | | |
|--------------------|----------------------|----------|---------|--|--|---|----------------|--------|--------------|-----------|--|
| FILE NAME = #BELLS | USER NAME = BUSERS | DESIGNED | REVISED | Allen Henderson & Associates, Inc. Civil and Structural Engineers Springfield, IL. 62703 Phone: (217)544-8033 IL Design Firm No. 184-001907 | TITLE SHEET SCALE: 1" = 1 MILE SHEET NO. 1 OF 15 SHEETS STA. TO STA. | C.H. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. | |
| | PLOT SCALE = #SCALE# | DRAWN | REVISED | | | 1 | 11-00063-00-BR | MENARD | 15 | 1 | |
| | PLOT DATE = #DATE# | CHECKED | REVISED | | | CONTRACT NO. 93573 | | | | | |
| | | DATE | REVISED | | | FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT | | | | | |



- DENOTES AGGREGATE DITCH
- DENOTES STONE DUMPED RIPRAP CLASS A4

ENTRANCE & GUARDRAIL PLAN

AGGREGATE DITCH

| LOCATION | QUANTITY (TON) |
|---|----------------|
| STA. 9+50 LT. & STA. 9+67 RT. TO STA. 10+50.5 LT. & RT. | 390 |
| STA. 11+29.5 TO STA. 11+75 LT. & RT. | 66 |
| TOTAL | 456 |

TEMPORARY DITCH CHECKS

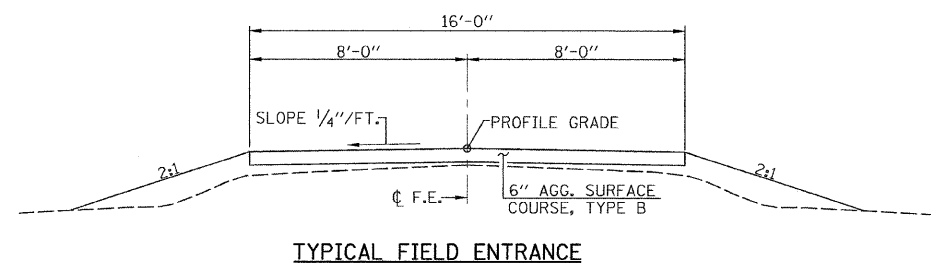
| LOCATION | QUANTITY (FOOT) |
|--------------------------|-----------------|
| STA. 10+50 38' RT. | 8 |
| STA. 10+50 40' RT. | 14 |
| STA. 11+50 35' LT. & RT. | 16 |
| TOTAL | 38 |

PAINT PAVEMENT MARKING - LINE 4"

| LOCATION | NO PASSING (YELLOW) FOOT | SKIP DASH (YELLOW) FOOT | EDGE LINE WHITE (FOOT) |
|-------------------------|--------------------------|-------------------------|------------------------|
| STA. 8+50 TO STA. 12+25 | 375' LT. | 100' RT. | 750 |
| SUB-TOTAL | 375 | 100 | 750 |
| TOTAL | 1225 | | |

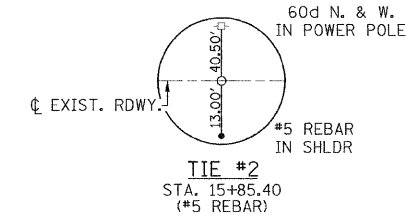
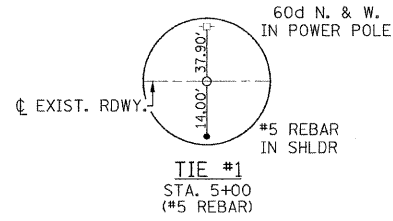
TREE REMOVAL, ACRES

| LOCATION | QUANTITY (ACRE) |
|---|-----------------|
| STA. 10+26 TO STA. 11+71 35' RT. TO 65' RT. | 0.1 |
| TOTAL | 0.1 |



TYPICAL FIELD ENTRANCE

SECTION 22, T. 19 N., R. 5 W. 3rd P.M.



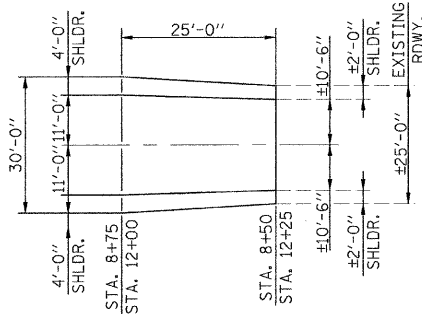
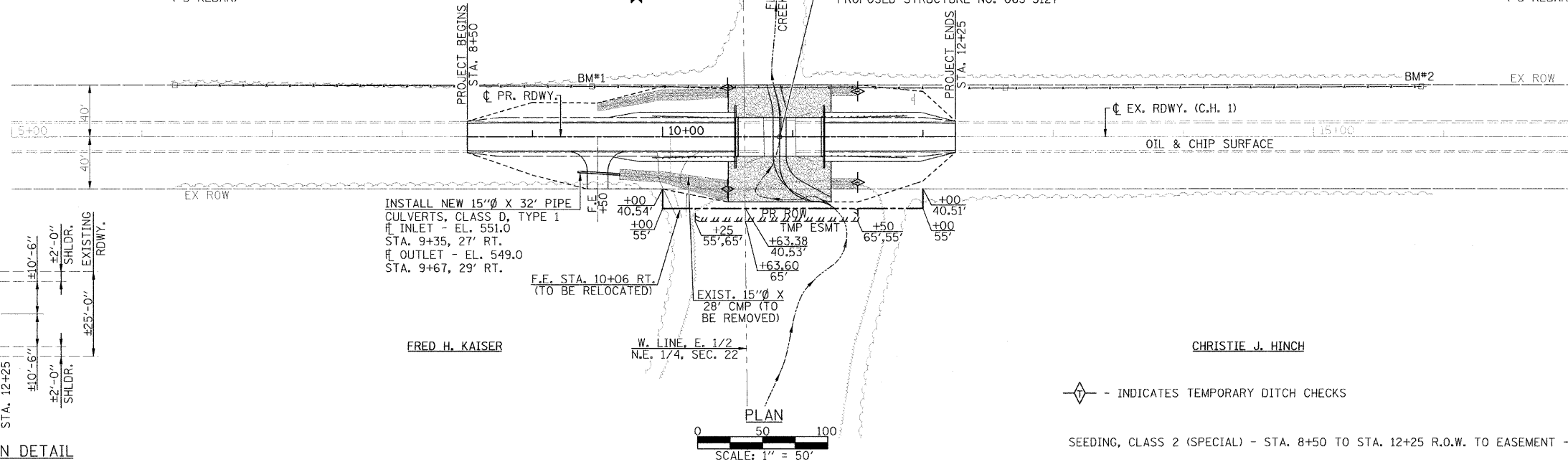
WILLIAM G. SHERMAN TRUSTEE

EVERETT LOREN CROWE

FRED H. KAISER

CHRISTIE J. HINCH

STA. 10+90.00 - ϕ RDWY. AT ϕ STRUCTURE
 PROPOSED STRUCTURE: SINGLE SPAN PRECAST
 PRESTRESSED CONCRETE DECK BEAM BRIDGE
 (27" DEPTH) ON OPEN CONCRETE ABUTMENTS.
 30'-0" OUT-OUT, DECK, 69'-0" BK.-BK. ABUTMENTS.
 STEEL RAILING TYPE S-1, 0° SKEW
 PROPOSED STRUCTURE NO. 065-3127



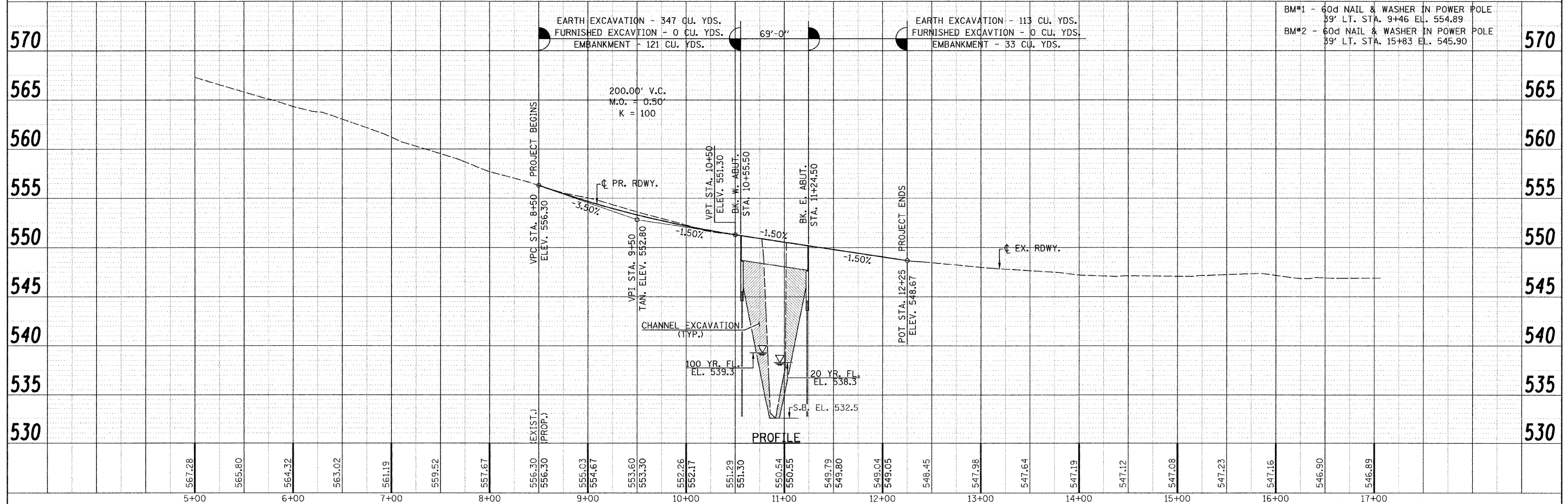
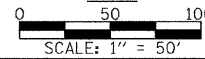
INSTALL NEW 15" ϕ X 32' PIPE
 CULVERTS, CLASS D, TYPE 1
 ϕ INLET - EL. 551.0
 STA. 9+35, 27' RT.
 ϕ OUTLET - EL. 549.0
 STA. 9+67, 29' RT.

F.E. STA. 10+06 RT.
 (TO BE RELOCATED)

W. LINE, E. 1/2
 N.E. 1/4, SEC. 22

\diamond - INDICATES TEMPORARY DITCH CHECKS

SEEDING, CLASS 2 (SPECIAL) - STA. 8+50 TO STA. 12+25 R.O.W. TO EASEMENT - 0.5 ACRE



EARTH EXCAVATION - 347 CU. YDS.
 FURNISHED EXCAVATION - 0 CU. YDS.
 EMBANKMENT - 121 CU. YDS.

EARTH EXCAVATION - 113 CU. YDS.
 FURNISHED EXCAVATION - 0 CU. YDS.
 EMBANKMENT - 33 CU. YDS.

BM#1 - 60d NAIL & WASHER IN POWER POLE
 39' LT. STA. 9+46 EL. 554.89
 BM#2 - 60d NAIL & WASHER IN POWER POLE
 39' LT. STA. 15+83 EL. 545.90

PROFILE

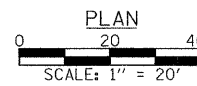
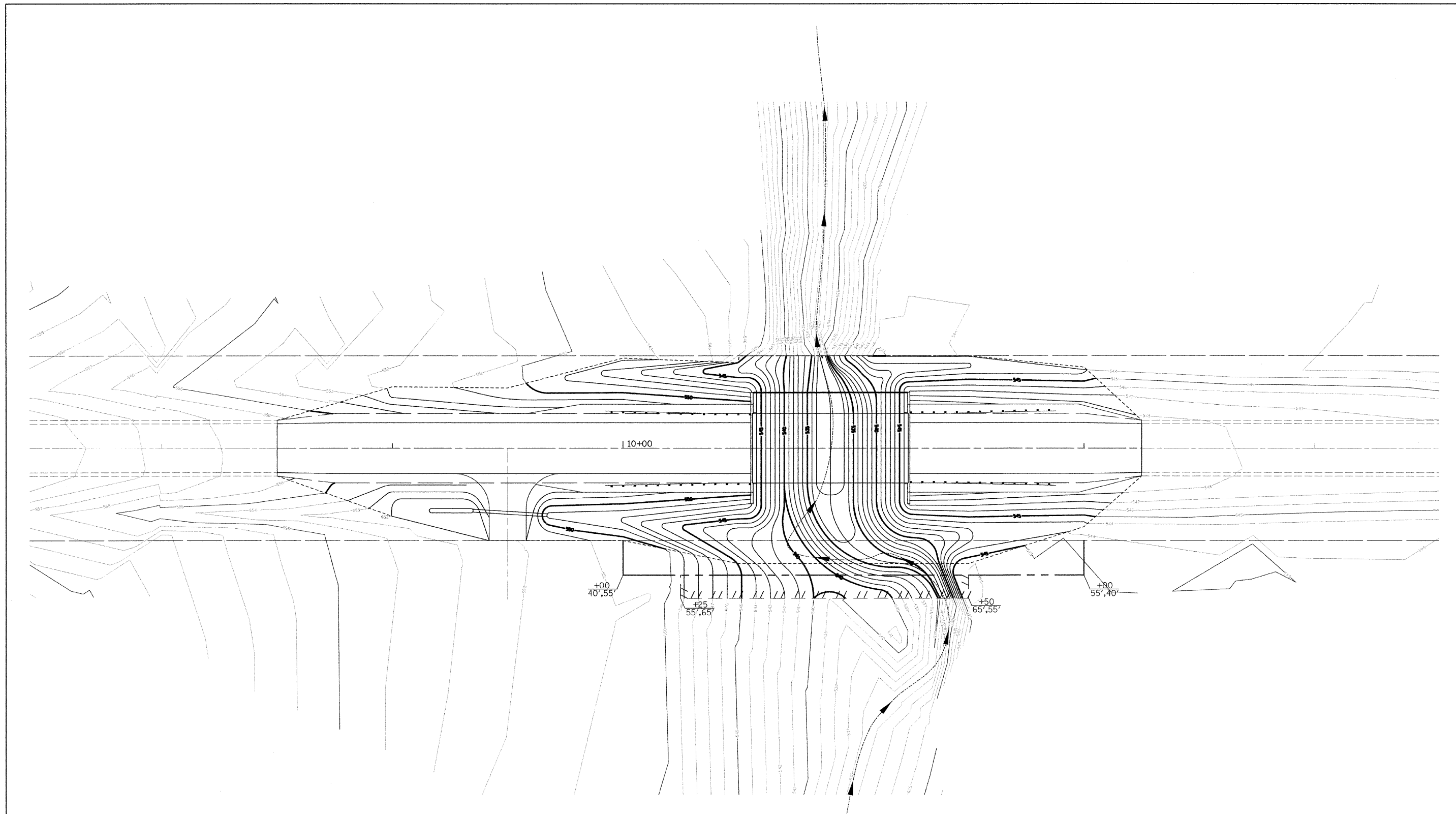
PLAN

| | |
|--------------------|--|
| DATE | |
| BY | |
| SURVEYED | |
| ALIGNED | |
| CHECKED | |
| NOTE BOOK | |
| NO. OF WAY CHECKED | |
| NO. | |
| FILE NAME | |

PROFILE

| | |
|---------------------|--|
| DATE | |
| BY | |
| SURVEYED | |
| GRADES CHECKED | |
| BAL. NOTED | |
| STRUCTURE NOTATIONS | |
| NO. | |

| | | | | | | | | | | | | |
|----------------------|--------------------|------------|-----------|---|---|--|--------------------------|----------------|-------------------------|--------------|--------------------|--|
| FILE NAME = | USER NAME = #USER# | DESIGNED - | REVISED - | <p>Allen Henderson & Associates, Inc. Civil and Structural Engineers Springfield, IL 62703 Phone: (217)544-8033 IL Design Firm No. 184-001907</p> | <p>PLAN & PROFILE</p> | | C.H. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. | |
| #FILE# | | CHECKED - | REVISED - | | | | 1 | 11-00063-00-BR | MENARD | 15 | 4 | |
| PLOT SCALE = #SCALE# | | DRAWN - | REVISED - | | SCALE: 1" = 50' | | SHEET NO. 5 OF 15 SHEETS | | STA. 8+50 TO STA. 12+25 | | CONTRACT NO. 93573 | |
| PLOT DATE = #DATE# | | CHECKED - | REVISED - | | FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT | | | | | | | |



| | | | |
|-------------|------------------------|------------|-----------|
| FILE NAME = | USER NAME = \$USER\$ | DESIGNED - | REVISED - |
| \$FILEL\$ | | DRAWN | REVISED |
| | PLOT SCALE = \$SCALE\$ | CHECKED - | REVISED - |
| | PLOT DATE = \$DATE\$ | DATE - | REVISED - |



Allen Henderson & Associates, Inc.
 Civil and Structural Engineers Springfield, IL.
 62703 Phone: (217)544-8033 IL. Design Firm
 No. 184-001907

GRADING PLAN

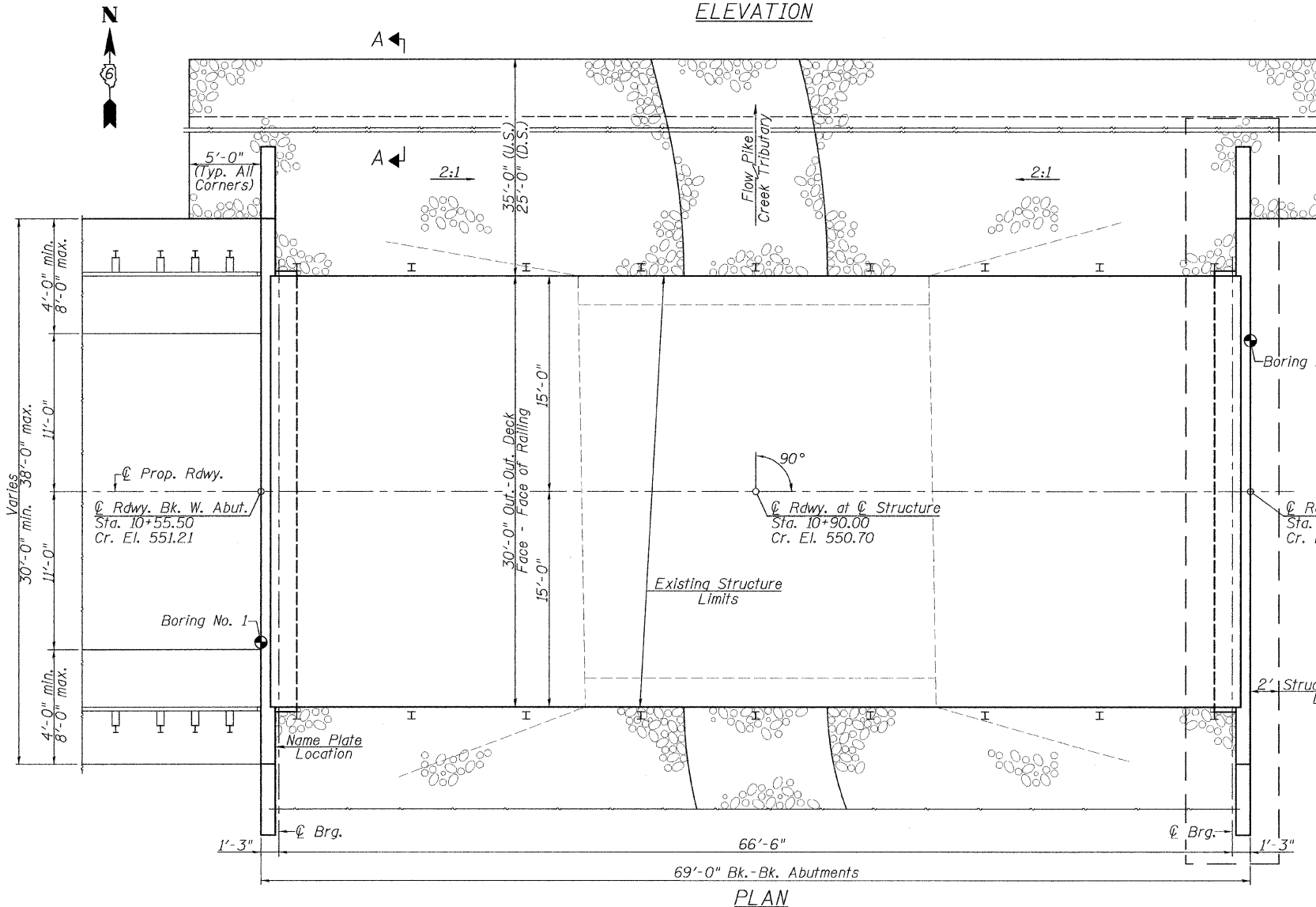
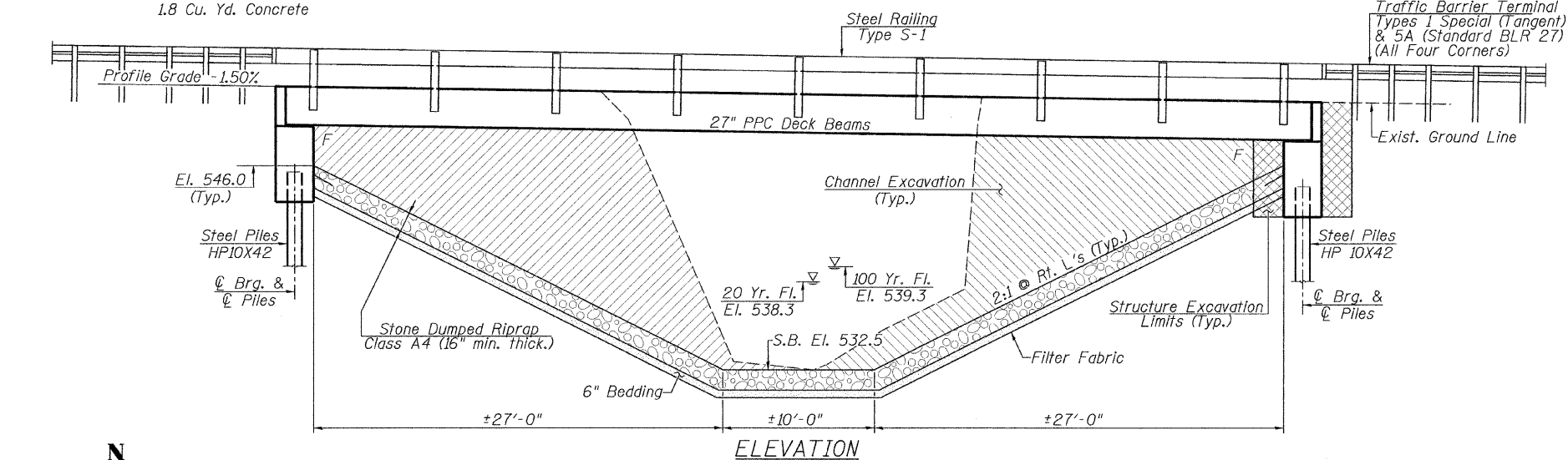
SCALE: 1" = 20' SHEET NO. 4 OF 15 SHEETS

| C.H. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|----------------|--------|---------------------------|-----------|
| 1 | 11-00063-00-BR | MENARD | 15 | 5 |
| FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT | | | CONTRACT NO. 93573 | |

Existing Structure: Single span precast prestressed concrete deck beams supported by closed timber abutments with timber wingwalls. ±24'-6" Bk.-Bk. Abutments, ±30'-0" Out.-Out. Deck. Concrete Curbs and Steel Railing. ±0° Skew. Existing Structure No. 065-3003

BM#1 - 60d Nail & Washer In Power Pole
39' Lt. Sta. 9+46 El. 554.89 (Assumed)
BM#2 - 60d Nail & Washer In Power Pole
39' Lt. Sta. 15+83 El. 545.90

Est. Quantity: 735 Sq. Ft. Deck Beams
1.8 Cu. Yd. Concrete



TOTAL BILL OF MATERIAL

| ITEM | UNIT | SUPER | SUB | TOTAL |
|---|---------|-------|------|-------|
| Channel Excavation | Cu. Yd. | | | 1012 |
| Stone Dumped Riprap, Class A4 | Ton | | 565 | 565 |
| Filter Fabric | Sq. Yd. | | 801 | 801 |
| Removal of Existing Structures | Each | | | 1 |
| Structure Excavation | Cu. Yd. | | 200 | 200 |
| Concrete Structures | Cu. Yd. | | 41.9 | 41.9 |
| Precast Prestressed Concrete Deck Beams (27" Depth) | Sq. Ft. | 2030 | | 2030 |
| Reinforcement Bars | Pound | | 5385 | 5385 |
| Steel Railing, Type S-1 | Foot | 138 | | 138 |
| Furnishing Steel Piles HP10X42 | Foot | | 500 | 500 |
| Driving Piles | Foot | | 500 | 500 |
| Test Pile Steel HP10X42 | Each | | 2 | 2 |
| Name Plates | Each | | 1 | 1 |

WATERWAY INFORMATION

Drainage Area = 0.74 Sq. Mi. Pr. Low Grade Elev. 546.9 Sta. 17+00

| Flood | Freq. Yr. | Q C.F.S. | Opening Sq. Ft. | | Natural H.W.E. | Head - Ft. | | Headwater El. | |
|--------|-----------|----------|-----------------|-------|----------------|------------|-------|---------------|-------|
| | | | Exist. | Prop. | | Exist. | Prop. | Exist. | Prop. |
| Design | 20 | 405 | 66 | 125 | 538.3 | 2.3 | 0.0 | 540.6 | 538.3 |
| Base | 100 | 630 | 84 | 160 | 539.3 | 2.5 | 0.0 | 541.8 | 539.3 |

Exist. Overtop. Greater than 500 years
Prop. Overtop. Greater than 500 years

| Max. Calc. | 500 | 860 | 99 | 192 | 540.1 | 2.6 | 0.0 | 542.7 | 540.1 |
|------------|-----|-----|----|-----|-------|-----|-----|-------|-------|
|------------|-----|-----|----|-----|-------|-----|-----|-------|-------|

DESIGN SCOUR ELEVATION TABLE

| Design Scour Elevation (Ft.) | W. Abut. | E. Abut. |
|------------------------------|----------|----------|
| | 543.53 | 542.53 |

DESIGN STRESSES

FIELD UNITS
 $f'_c = 3500$ psi
 $f_y = 60000$ psi (Reinforcement)

PRECAST PRESTRESSED UNITS
 $f'_c = 6000$ psi
 $f'_ci = 5000$ psi
 $f_{pu} = 270000$ psi ($\frac{1}{2}$ " low lax strands)
 $f_{pbt} = 201960$ psi ($\frac{1}{2}$ " low lax strands)

GENERAL NOTES

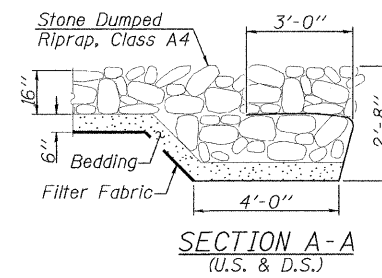
See Proposal for Boring Data.
 Reinforcement bars shall conform to the requirements of ASTM A706, Grade 60.
 Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
 Excavation behind existing abutment walls shall be performed to balance front and back soil pressure before removing the existing superstructure.
 The Contractor shall drive test piles to 110% of the nominal required bearing specified in production locations at each abutment (location specified by the Engineer) before ordering the remainder of piles.

DESIGN SPECIFICATIONS

2010 AASHTO LRFD Bridge Design Specifications
 5th Edition with 2010 Interims.

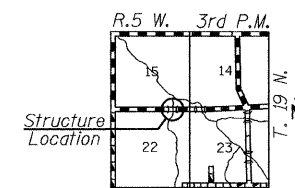
LOADING HL-93

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

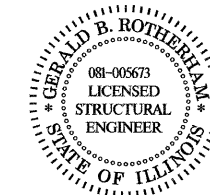


PIKE CREEK TRIBUTARY
 BUILT 20 BY
 MENARD COUNTY
 SECTION 11-00063-00-BR
 F.A.S. RT. 573 STA. 10+90.00
 STR. NO. 065-3127 LOADING HL-93

NAME PLATE
 (Standard 515001)

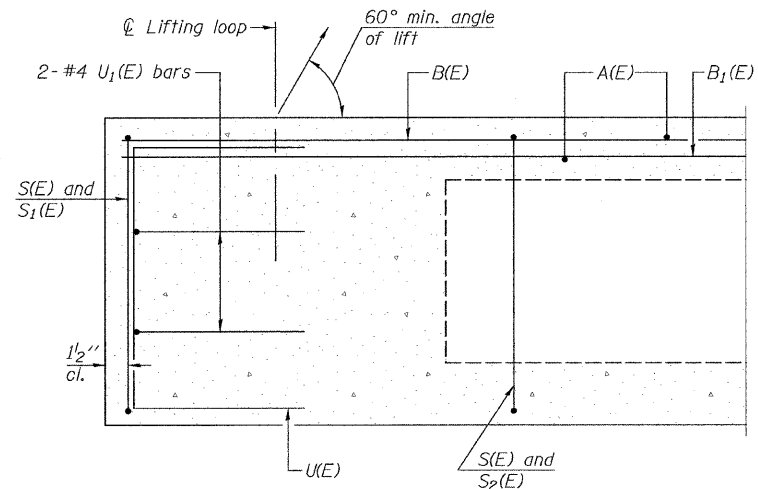


LOCATION SKETCH



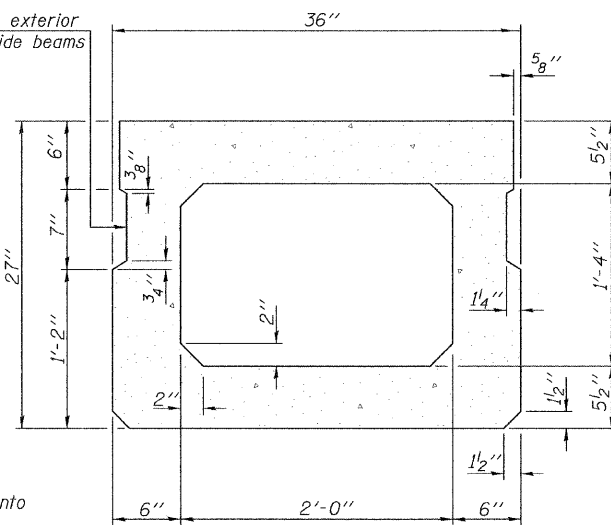
I certify that to the best of my knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with requirements of the current "A.A.S.H.T.O. Standard Specifications For Highway Bridges".

Gerald B. Rotherham 3/16/12
 Expiration Date 11/30/2012



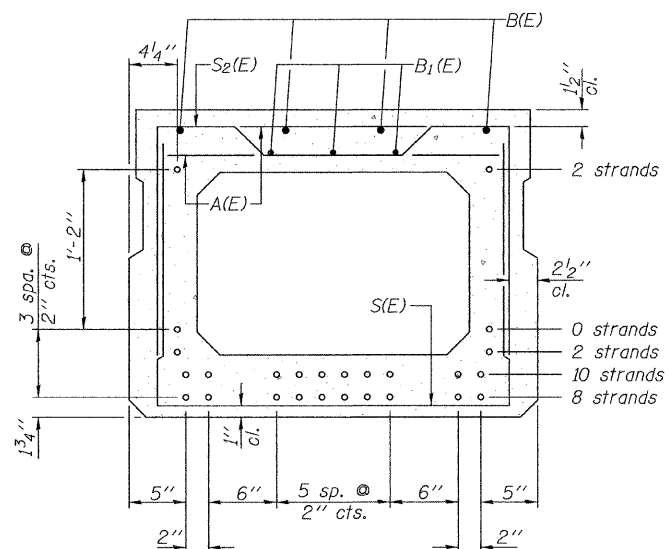
SECTION A-A

*Omit key on exterior face of outside beams



SECTION B-B
(Showing dimensions)

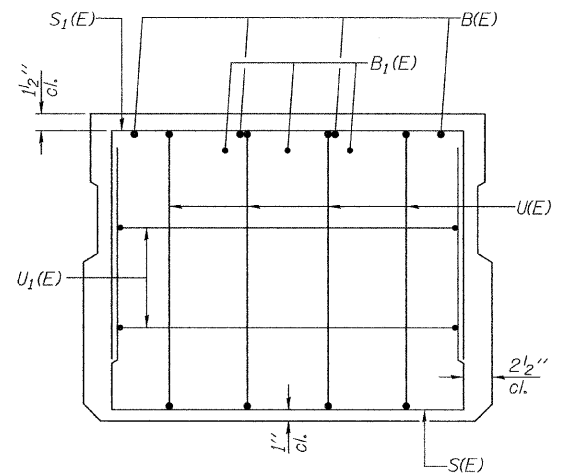
* Rail Post Anchors to be cast into exterior face of outside beams per Sheet 4 of 6.



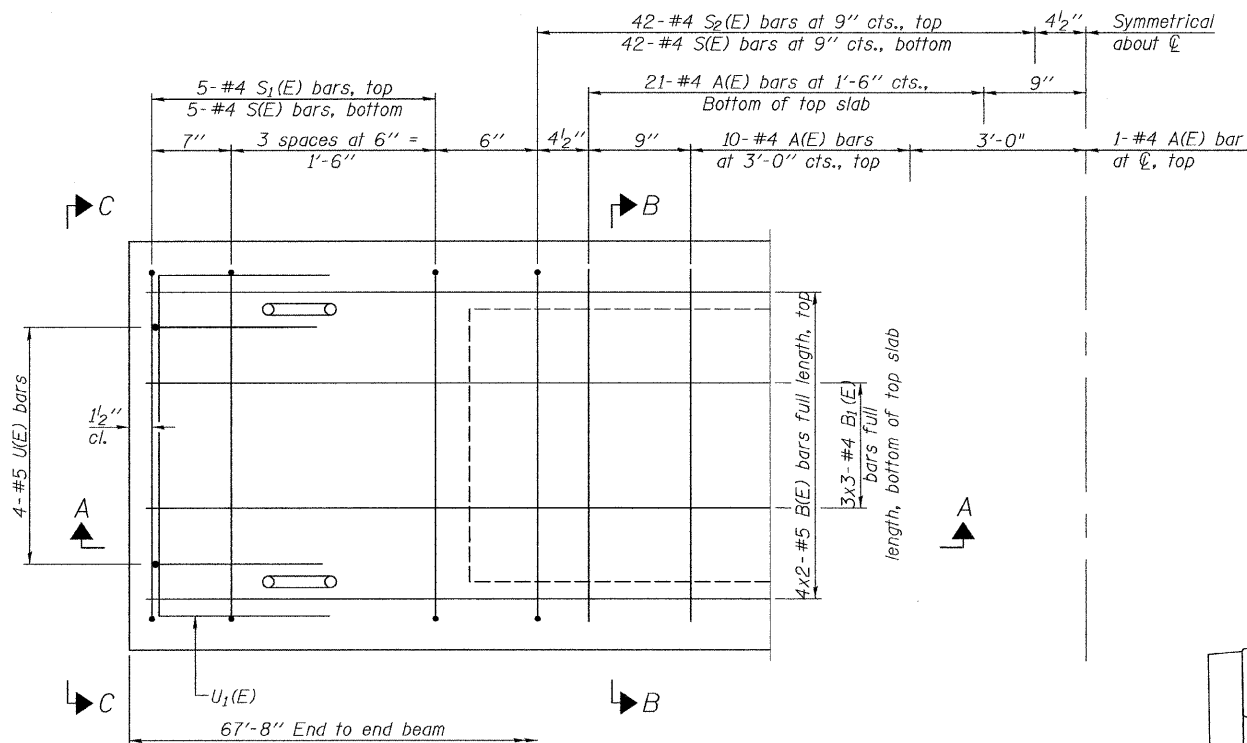
SECTION B-B

(Showing reinforcement and permissible strand locations)

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



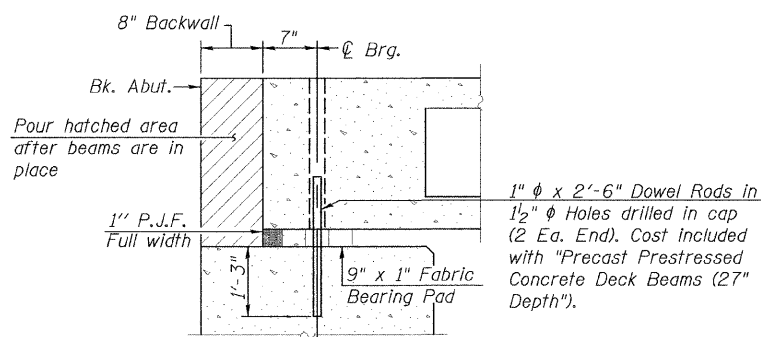
VIEW C-C



PLAN VIEW

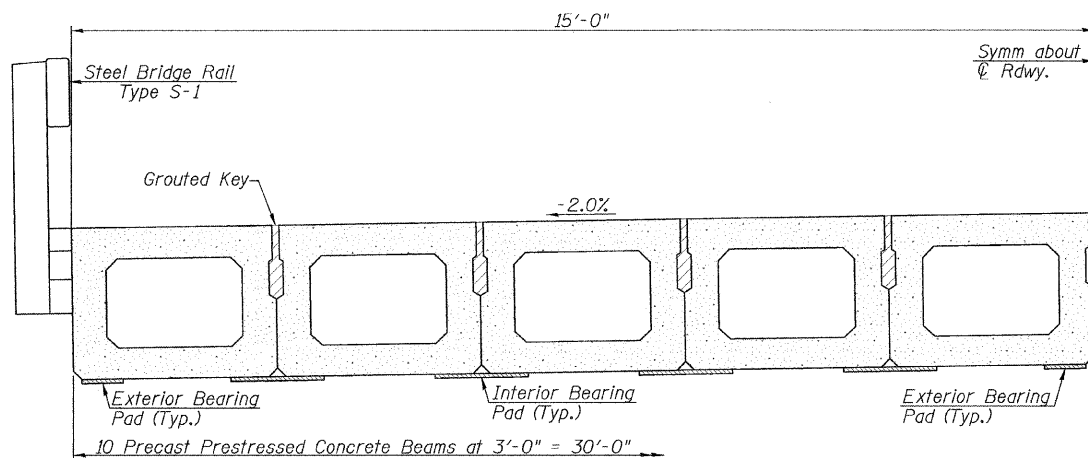
MINIMUM BAR LAP
#4 bar = 2'-0"
#5 bar = 2'-6"

Note: Spacing of S(E) and S2(E) bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.



SECTION THRU ABUTMENT
(At Right Angles)

Notes: After beams have been erected, holes shall be drilled into substructure and anchor dowels placed. Dowel holes shall be filled with non-shrink grout to top of beam and allowed to cure min. 24 hrs. prior to grouting the shear keys. All horizontal dimensions are at right angles to beam ends.



HALF CROSS SECTION

BAR LIST
ONE BEAM ONLY
(For information only)

| Bar | No. | Size | Length | Shape |
|-------|-----|------|--------|-------|
| A(E) | 63 | #4 | 2'-7" | — |
| B(E) | 8 | #5 | 35'-1" | — |
| B1(E) | 9 | #4 | 24'-6" | — |
| S(E) | 94 | #4 | 6'-5" | ┌ |
| S1(E) | 10 | #4 | 5'-11" | ┌ |
| S2(E) | 84 | #4 | 6'-2" | ┌ |
| U(E) | 8 | #5 | 4'-6" | ┌ |
| U1(E) | 4 | #4 | 5'-0" | ┌ |

Note: See sheet 8 of 15 for additional details and Bill of Material. Bars indicated thus 4x2-#5 etc. indicates 4 lines of bars with 2 lengths per line. Reinforcement designated (E) to be epoxy coated.

PD-2736-0

7-1-10

| | | | |
|-------------|-------------|------------|-----------|
| FILE NAME = | USER NAME = | DESIGNED - | REVISED - |
| | | CHECKED - | REVISED - |
| | | DRAWN - | REVISED - |
| | | CHECKED - | REVISED - |



Allen Henderson & Associates, Inc.
Civil and Structural Engineers Springfield, IL
62703 Phone: (217)544-8033 IL Design Firm
No. 184-001907

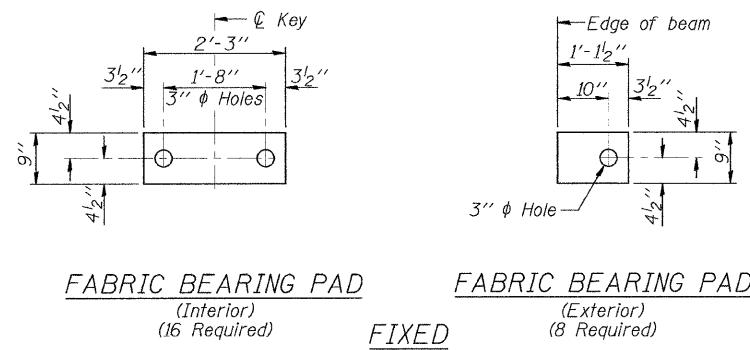
27" x 36" PPC DECK BEAM
STRUCTURE NO. 065-3127

SHEET NO. 2 OF 6 SHEETS

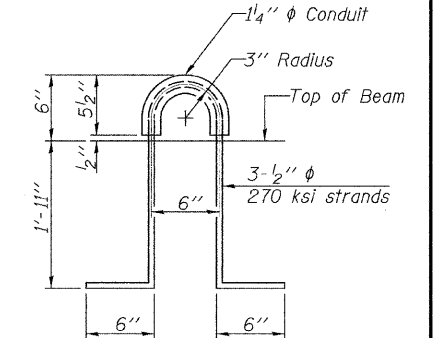
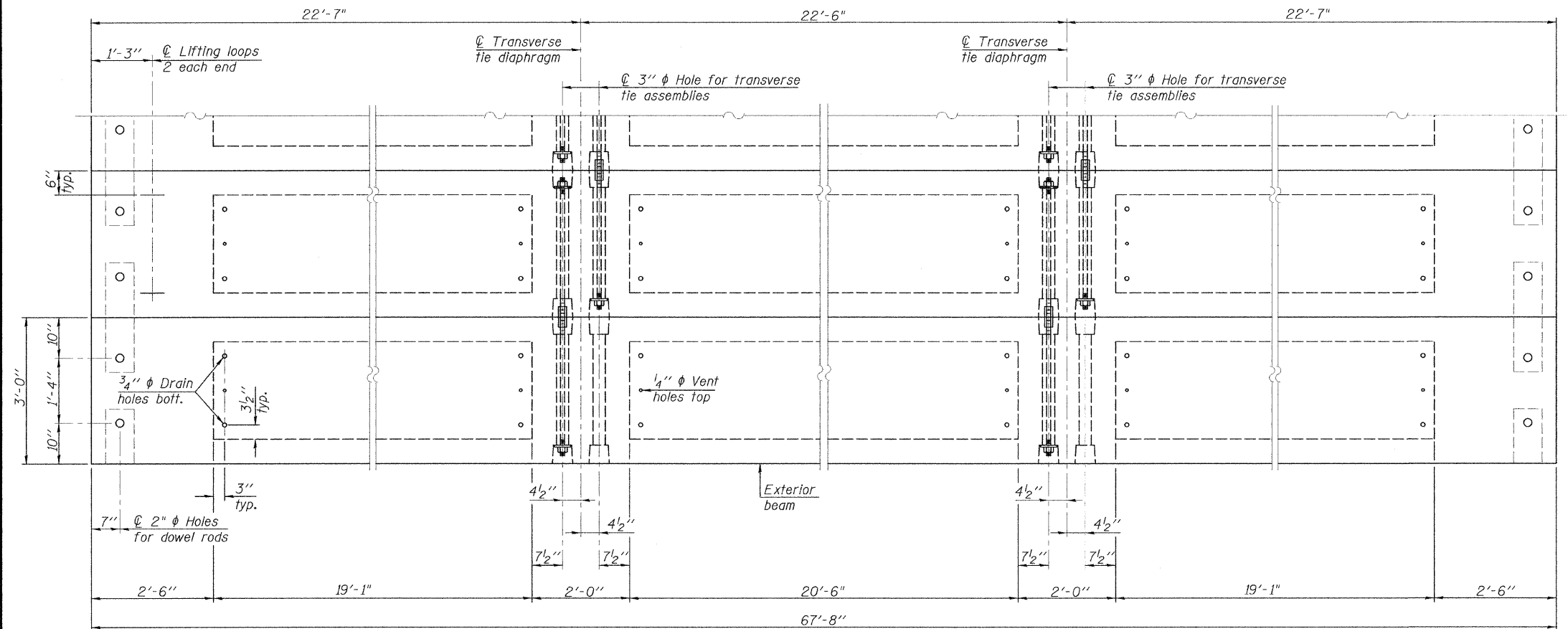
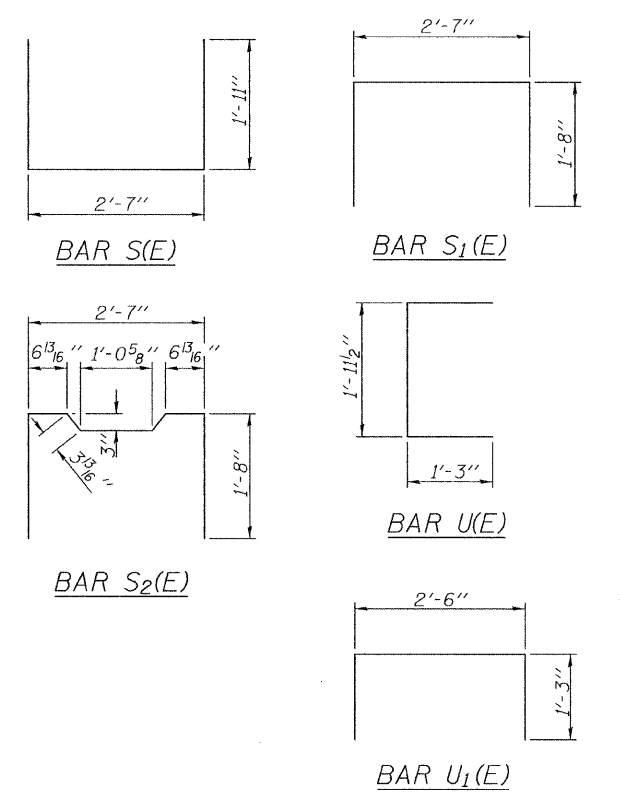
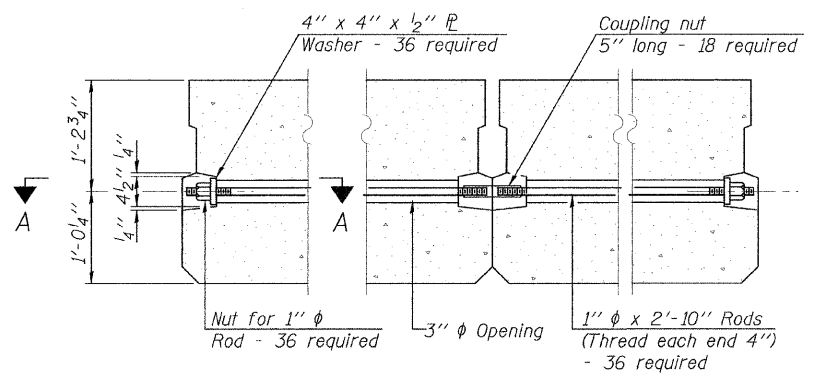
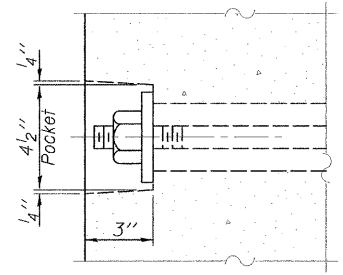
| | | | | |
|-----------|----------------|--------|--------------|-----------|
| C.H. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 1 | 11-00063-00-BR | MENARD | 15 | 7 |

CONTRACT NO. 93573

ILLINOIS FED. AID PROJECT



Note:
All bearing pads shall be 1" thick.



NOTES

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

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in.
The 1" rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place.
Reinforcement bars shall conform to ASTM A 706, Grade 60.
Two 1/8" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.
A minimum 2 1/2" diameter lifting pin shall be used to engage the lifting loops during handling.
Corrosion Inhibitor, per Article 1020.05(b)(12) and 1021.06 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.
Compressive strength of prestressed concrete, f'c, shall be 6000 psi.
Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi.

BILL OF MATERIAL

| | | |
|---|---------|------|
| Precast Prestressed Conc. Deck Bms. (27" depth) | Sq. Ft. | 2030 |
|---|---------|------|

PD-2736-0D 7-1-10

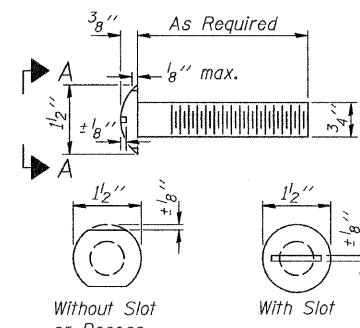
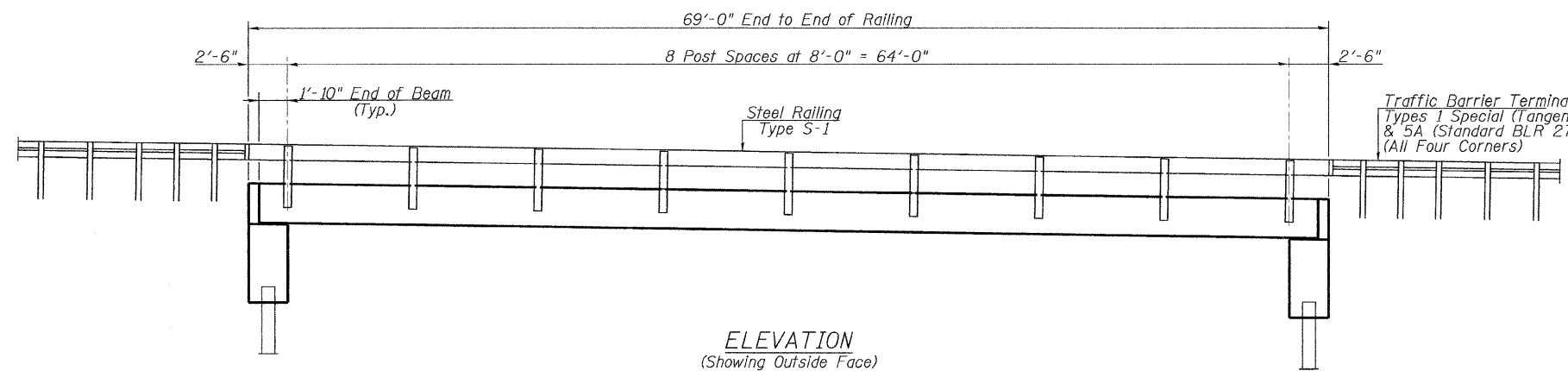
| | | | |
|-------------|--------------|------------|----------|
| FILE NAME = | USER NAME = | DESIGNED - | REVISD - |
| | | CHECKED - | REVISD - |
| | PLOT SCALE = | DRAWN - | REVISD - |
| | | CHECKED - | REVISD - |
| | PLOT DATE = | | |

Allen Henderson & Associates, Inc.
Civil and Structural Engineers Springfield, IL.
62703 Phone: (217)544-8033 ILL. Design Firm
No. 184-001907

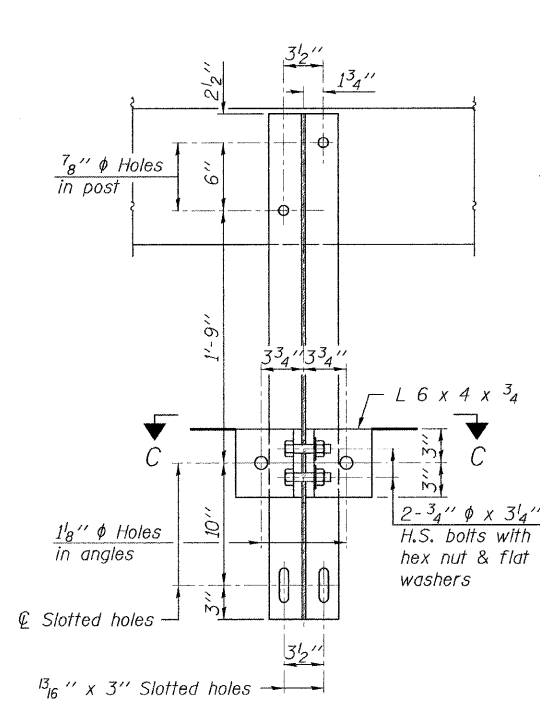
27" x 36" PPC DECK BEAM DETAILS
STRUCTURE NO. 065-3127
SHEET NO. 3 OF 6 SHEETS

| C.H. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|-----------|----------------|--------|--------------|-----------|
| 1 | 11-00063-00-BR | MENARD | 15 | 8 |

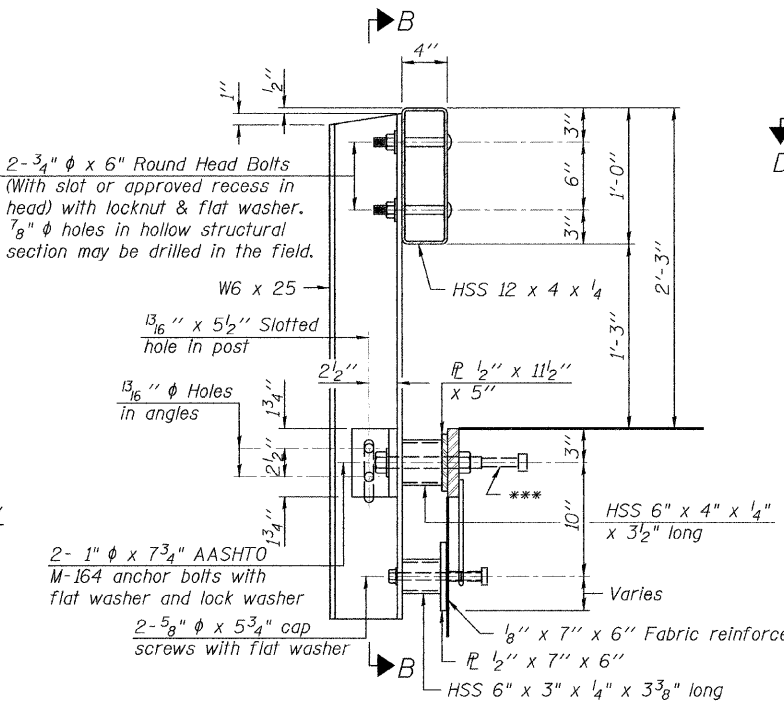
CONTRACT NO. 93573
ILLINOIS FED. AID PROJECT



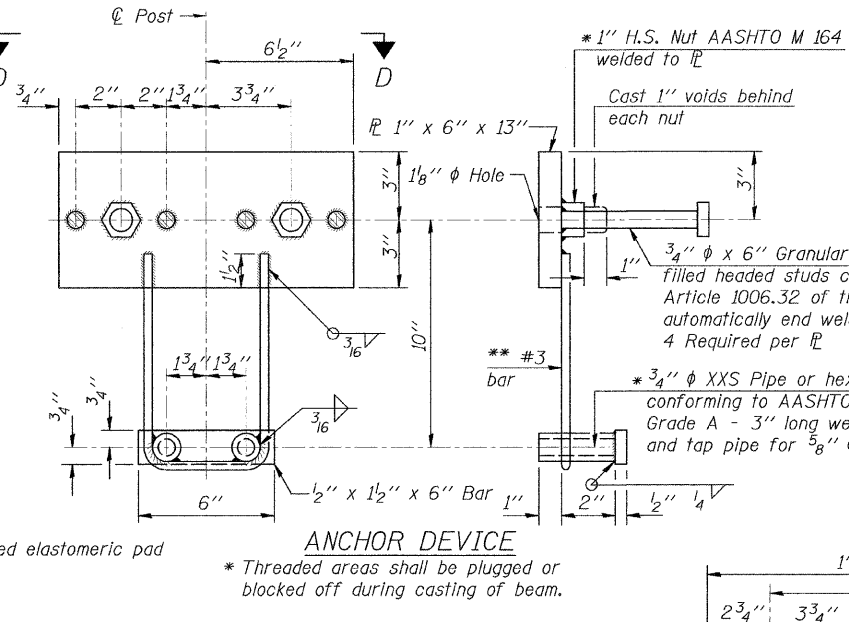
VIEW A-A
ROUND HEAD BOLT



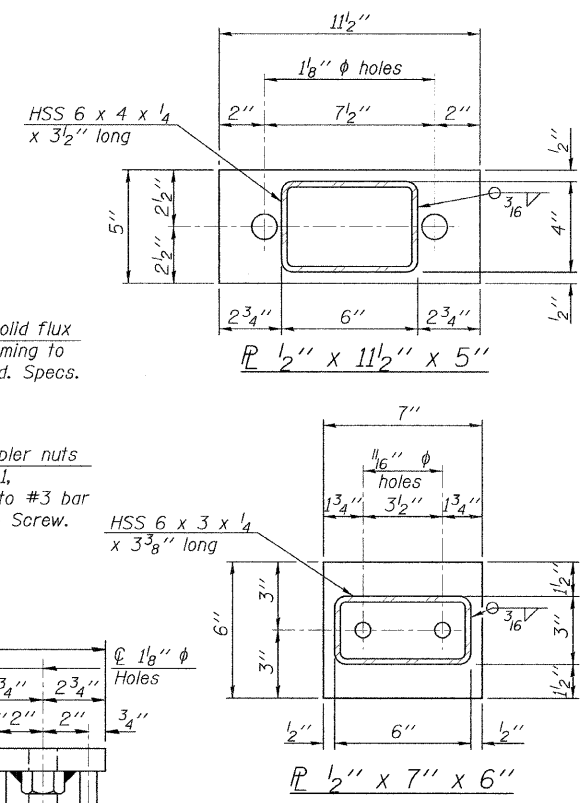
SECTION B-B



SECTION AT RAILING POST

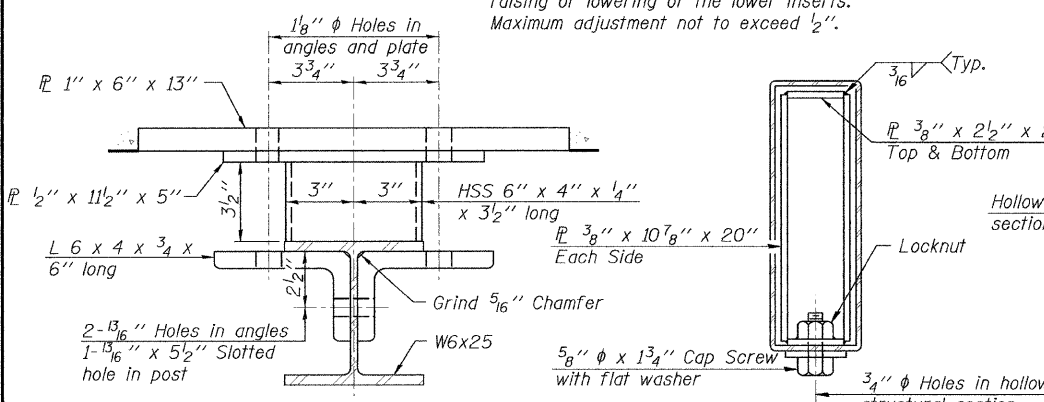


ANCHOR DEVICE



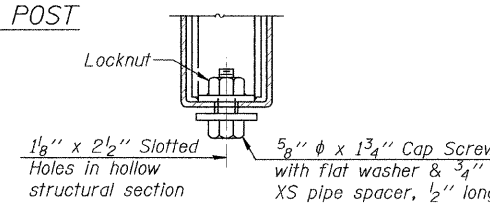
VIEW D-D

** Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed 1/2".

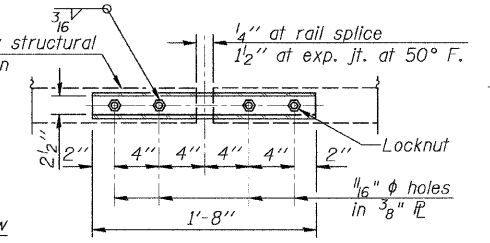


SECTION C-C

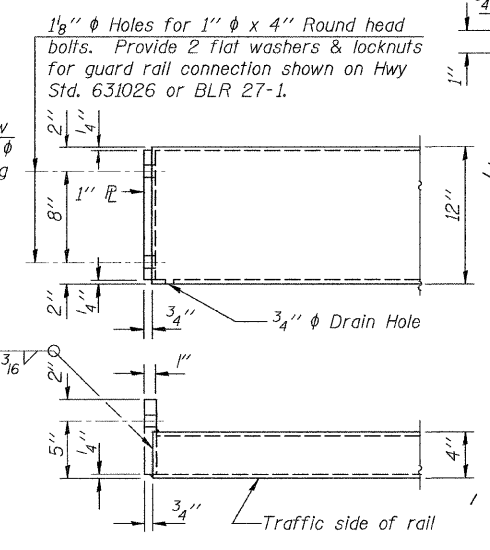
SECTIONS AT RAIL SPLICE



RAIL SPLICE CONNECTION AT EXPANSION JT. TYPICAL



PLAN-BOTT. SPLICE TYPICAL



END OF RAIL DETAILS

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

BILL OF MATERIAL

| Item | Unit | Quantity |
|-------------------------|------|----------|
| Steel Railing, Type S-1 | Foot | 138 |

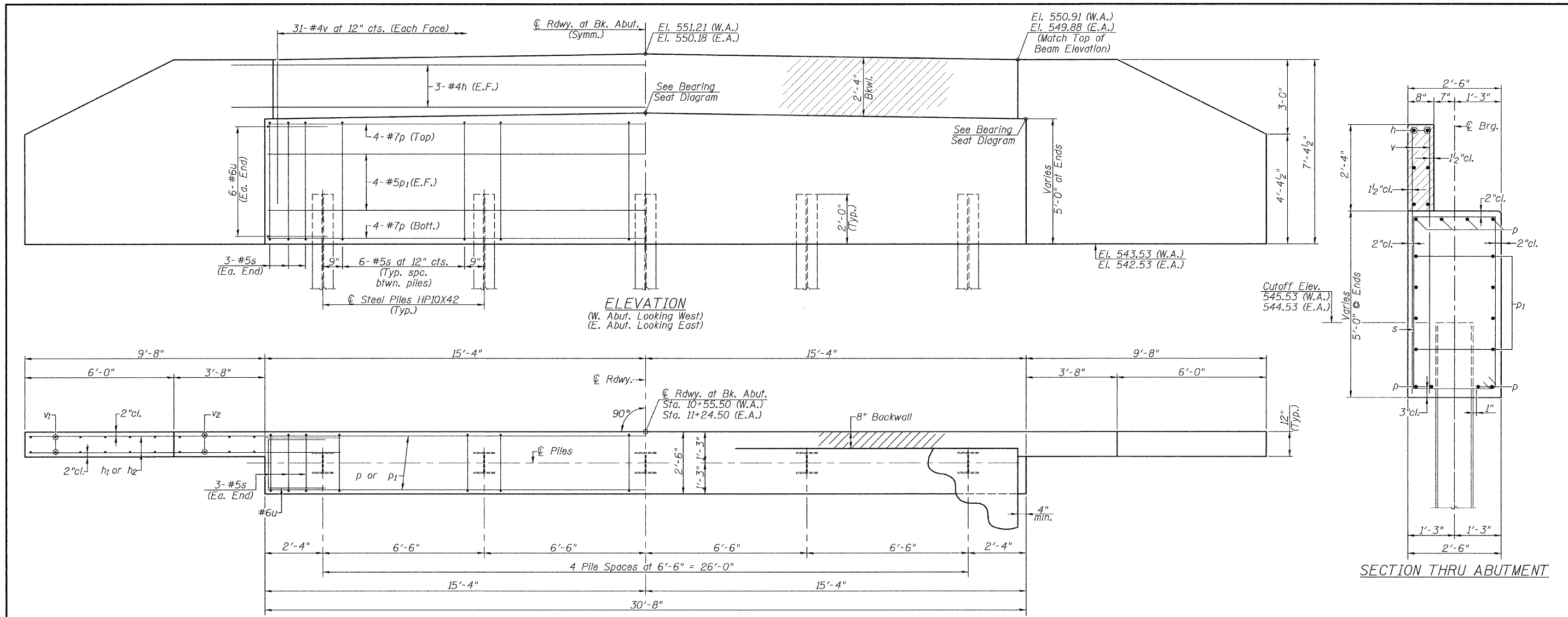
R-23A 7-1-10 (10'-9" Maximum Post Spacing)

| | | | |
|-------------|-------------|------------|----------|
| FILE NAME = | USER NAME = | DESIGNED - | REVISD - |
| | | CHECKED - | REVISD - |
| | | DRAWN - | REVISD - |
| | | CHECKED - | REVISD - |

Allen Henderson & Associates, Inc.
Civil and Structural Engineers Springfield, IL
62703 Phone: (217)544-8033 IL Design Firm
No. 184-001907

STEEL RAILING, TYPE S-1
STRUCTURE NO. 065-3127
SHEET NO. 4 OF 6 SHEETS

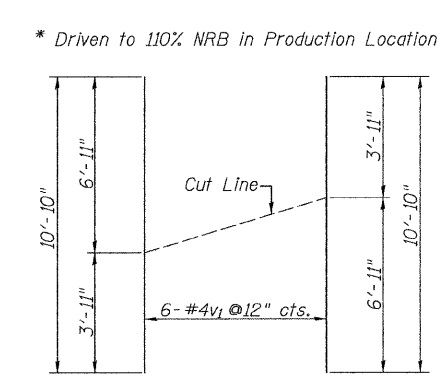
| C.H. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|----------------|--------|--------------|-----------|
| 1 | 11-00063-00-BR | MENARD | 15 | 9 |
| CONTRACT NO. 9 3 5 7 3 | | | | |
| ILLINOIS FED. AID PROJECT | | | | |



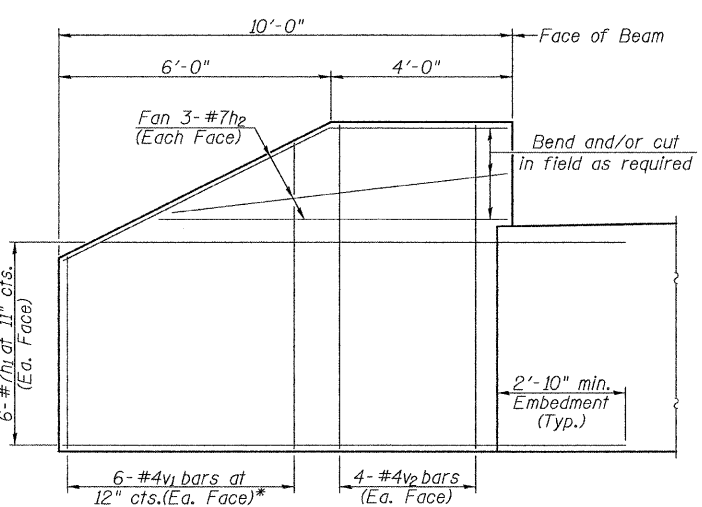
PILE DATA

| | W. Abut. | E. Abut. |
|--------------------------------|---------------|---------------|
| Type: | Steel HP10X42 | Steel HP10X42 |
| Nominal Required Bearing: | 335 K | 335 K |
| Factored Resistance Available: | 184 K | 184 K |
| Estimated Pile Length: | 66' | 59' |
| Number of Production: | 4 | 4 |
| Number of Test Piles: | 1* | 1* |

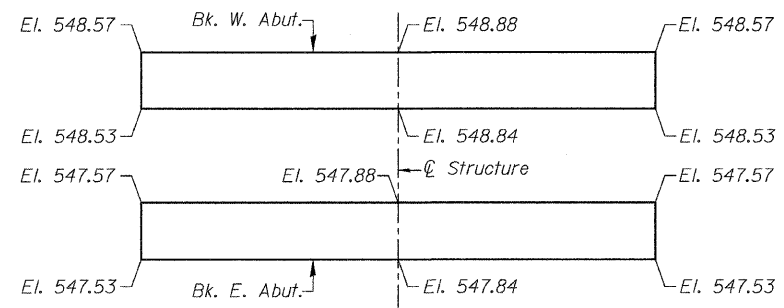
* Driven to 110% NRB in Production Location



v1 - BAR CUT DIAGRAM
Order v1 bars full length. Layout in field according to diagram. Cut v1 bars along cut line. Use remainder of each bar in opposite face.



WINGWALL ELEVATION
(Showing Reinforcement)
* See v1 bar cut diagram



BEARING SEAT DIAGRAM

NOTES

All exposed edges shall have standard 3/4" chamfer.
Space reinforcement in cap to miss beam anchor dowels.
Wingwalls and Backwalls may, at the contractor's option, be cast monolithically.
Hatched area and wingwalls shall be poured after deck beams are anchored in place.

BILL OF MATERIAL TWO ABUTMENTS

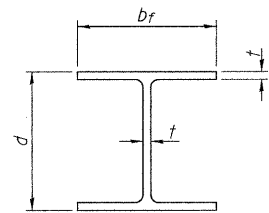
| BAR | NO. | SIZE | LENGTH | SHAPE |
|--------------------------------|-----|------|---------|-------|
| h | 12 | #4 | 34'-0" | — |
| h1 | 48 | #7 | 12'-6" | — |
| h2 | 24 | #7 | 10'-4" | — |
| p | 16 | #7 | 30'-4" | — |
| p1 | 16 | #5 | 30'-4" | — |
| s | 60 | #5 | 14'-5" | □ |
| u | 24 | #6 | 10'-1" | □ |
| v | 124 | #4 | 3'-6" | — |
| v1 | 24 | #4 | 10'-10" | — |
| v2 | 32 | #4 | 6'-11" | — |
| Concrete Structures | | | Cu. Yd. | 41.9 |
| Reinforcement Bars | | | Pound | 5385 |
| Structure Excavation | | | Cu. Yd. | 200 |
| Furnishing Steel Piles HP10X42 | | | Foot | 500 |
| Driving Piles | | | Foot | 500 |
| Test Pile Steel HP10X42 | | | Each | 2 |

| | | | |
|-------------|-------------|------------|----------|
| FILE NAME = | USER NAME = | DESIGNED - | REVISD - |
| | | CHECKED - | REVISD - |
| | | DRAWN - | REVISD - |
| | | CHECKED - | REVISD - |

Allen Henderson & Associates, Inc.
Civil and Structural Engineers Springfield, IL.
62703 Phone: (217)544-8033 IL Design Firm
No. 184-001907

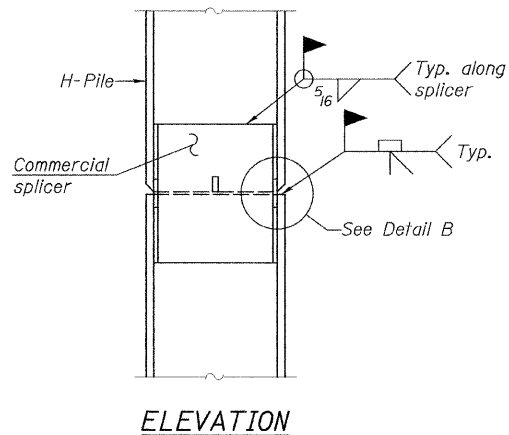
ABUTMENTS
STRUCTURE NO. 065-3127
SHEET NO. 5 OF 6 SHEETS

| C.H. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|----------------|--------|--------------|--------------------|
| 1 | 11-00063-00-BR | MENARD | 15 | 10 |
| | | | | CONTRACT NO. 93573 |
| ILLINOIS FED. AID PROJECT | | | | |

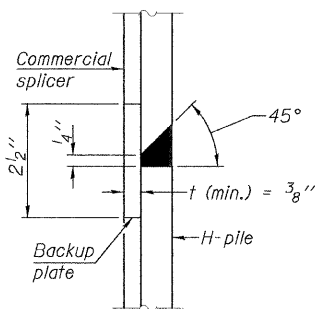


STEEL PILE TABLE

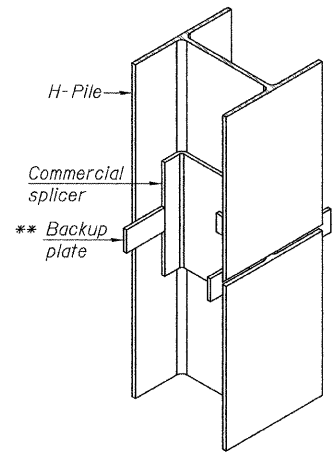
| Designation | Depth d | Flange width b _f | Web and Flange thickness t | Encasement diameter A |
|-------------|---------|-----------------------------|----------------------------|-----------------------|
| HP 14x117 | 14 1/4" | 14 7/8" | 1 3/16" | 30" |
| x102 | 14" | 14 3/4" | 1 1/16" | 30" |
| x89 | 13 7/8" | 14 3/4" | 5/8" | 30" |
| x73 | 13 5/8" | 14 5/8" | 1/2" | 30" |
| HP 12x84 | 12 1/4" | 12 1/4" | 1 1/16" | 24" |
| x74 | 12 1/8" | 12 1/4" | 5/8" | 24" |
| x63 | 12" | 12 1/8" | 1/2" | 24" |
| x53 | 11 3/4" | 12" | 7/16" | 24" |
| HP 10x57 | 10" | 10 1/4" | 9/16" | 24" |
| x42 | 9 3/4" | 10 1/8" | 7/16" | 24" |
| HP 8x36 | 8" | 8 1/8" | 7/16" | 18" |



ELEVATION

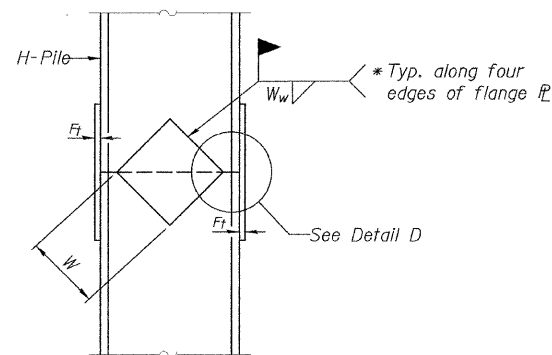


DETAIL "B"

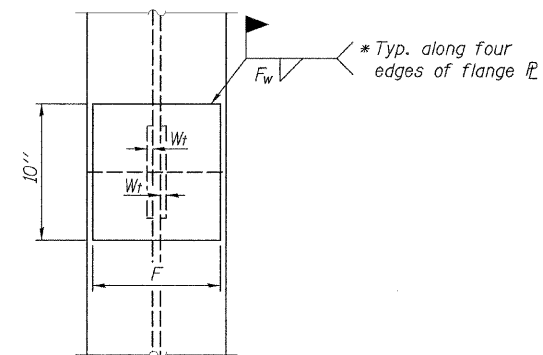


ISOMETRIC VIEW

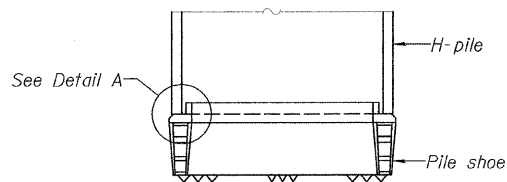
WELDED COMMERCIAL SPLICE



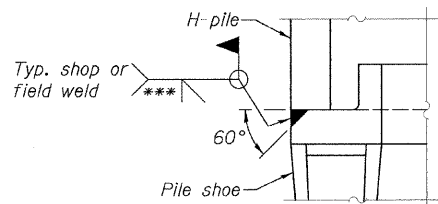
ELEVATION



END VIEW

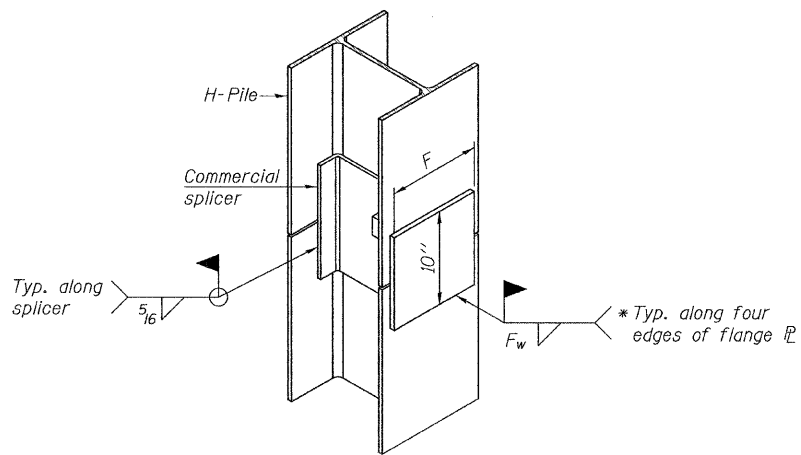


ELEVATION



DETAIL A

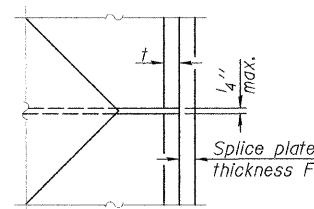
H-PILE SHOE ATTACHMENT



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

- * Interrupt welds 1/4" from end of web and/or each flange.
- ** Remove portions of backup plates that extend outside the flanges.
- *** Weld size per pile shoe manufacturer (5/16" min.).



DETAIL D

WELDED PLATE FIELD SPLICE

| Designation | F | F _t | F _w | W | W _t | W _w |
|-------------|---------|----------------|----------------|--------|----------------|----------------|
| HP 14x117 | 12 1/2" | 1" | 7/8" | 7 3/4" | 5/8" | 1/2" |
| x102 | 12 1/2" | 7/8" | 3/4" | 7 3/4" | 5/8" | 1/2" |
| x89 | 12 1/2" | 3/4" | 1 1/16" | 7 3/4" | 5/8" | 1/2" |
| x73 | 12 1/2" | 5/8" | 9/16" | 7 3/4" | 5/8" | 1/2" |
| HP 12x84 | 10" | 7/8" | 1 1/16" | 6 1/2" | 5/8" | 1/2" |
| x74 | 10" | 7/8" | 1 1/16" | 6 1/2" | 5/8" | 1/2" |
| x63 | 10" | 5/8" | 1/2" | 6 1/2" | 1/2" | 3/8" |
| x53 | 10" | 5/8" | 1/2" | 6 1/2" | 1/2" | 3/8" |
| HP 10x57 | 8" | 3/4" | 9/16" | 5 1/4" | 1/2" | 3/8" |
| x42 | 8" | 5/8" | 9/16" | 5 1/4" | 1/2" | 3/8" |
| HP 8x36 | 7" | 5/8" | 7/16" | 4 1/4" | 1/2" | 3/8" |

Note:
The steel H-piles shall be according to AASHTO M270 Grade 50.

F-HP

7-1-10

| | | | |
|-------------|-------------|------------|-----------|
| FILE NAME = | USER NAME = | DESIGNED - | REVISED - |
| | | CHECKED - | REVISED - |
| | | DRAWN - | REVISED - |
| | | CHECKED - | REVISED - |



Allen Henderson & Associates, Inc.
Civil and Structural Engineers Springfield, IL.
62703 Phone: (217)544-8033 IL Design Firm
No. 184-001907

HP PILE DETAILS
STRUCTURE NO.

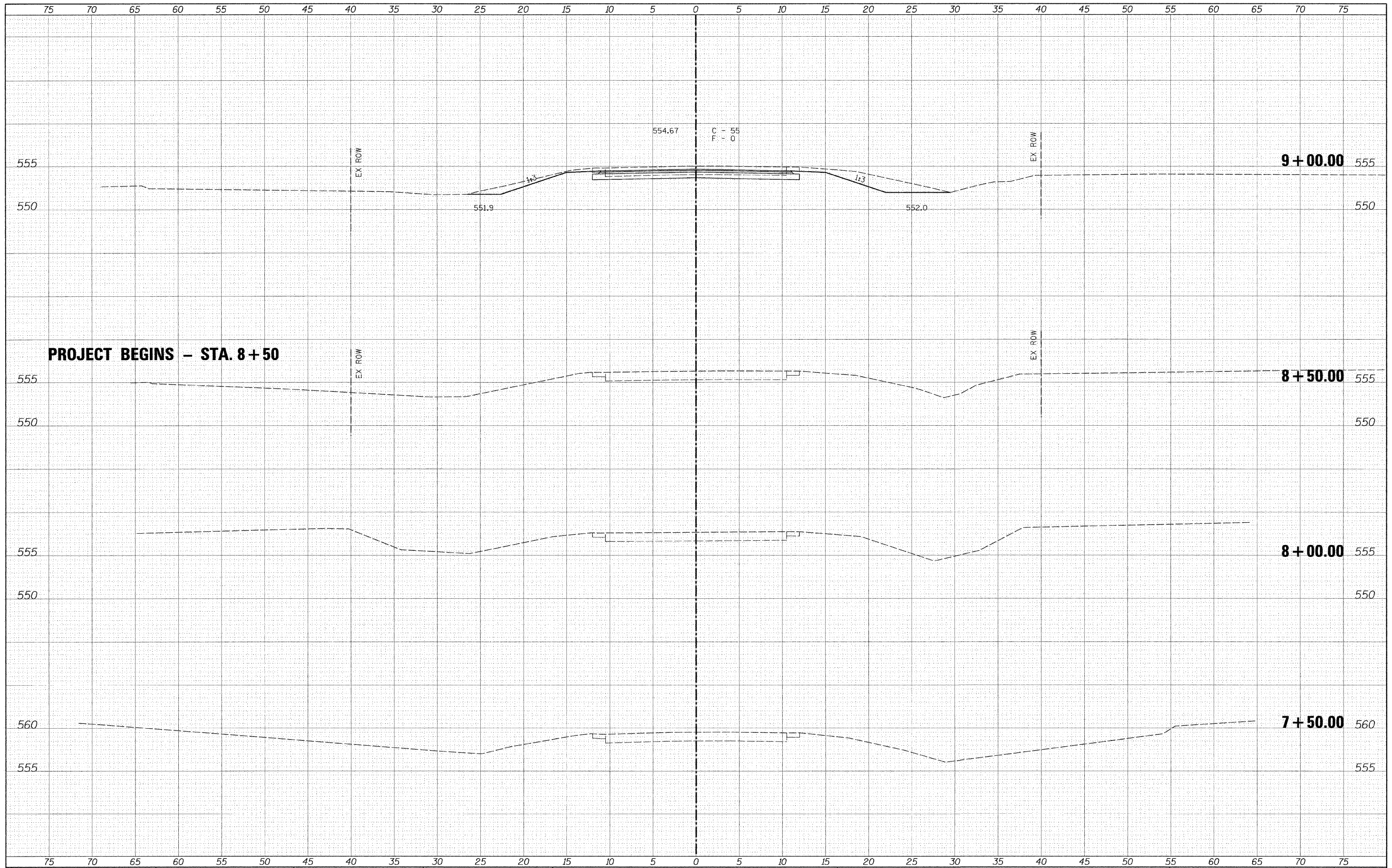
SHEET NO. 6 OF 6 SHEETS

| C.H. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|-----------|----------------|--------|--------------|-----------|
| 1 | 11-00063-00-BR | MENARD | 15 | 11 |

CONTRACT NO. 93579
ILLINOIS FED. AID PROJECT

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

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



FILE NAME -
#FILE#

USER NAME = #USER#
PLOT SCALE = #SCALE#
PLU/ DATE = #DATE#

DESIGNED -
DRAWN -
CHECKED -
DATE -

REVISED -
REVISED -
REVISED -
REVISED -



Allen Henderson & Associates, Inc.
Civil and Structural Engineers Springfield, IL.
62703 Phone: (217)544-8033 IL. Design Firm
No. 184-001907

CROSS SECTIONS
SCALE: 1" = 5'
SHEET NO. 1 OF 4 SHEETS
STA. 7+50.00 TO STA. 9+00.00

| C.H. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---|----------------|--------|--------------|-----------|
| 1 | 11-00063-00-BR | MENARD | 15 | 12 |
| FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT | | | | |

9 + 00.00

8 + 50.00

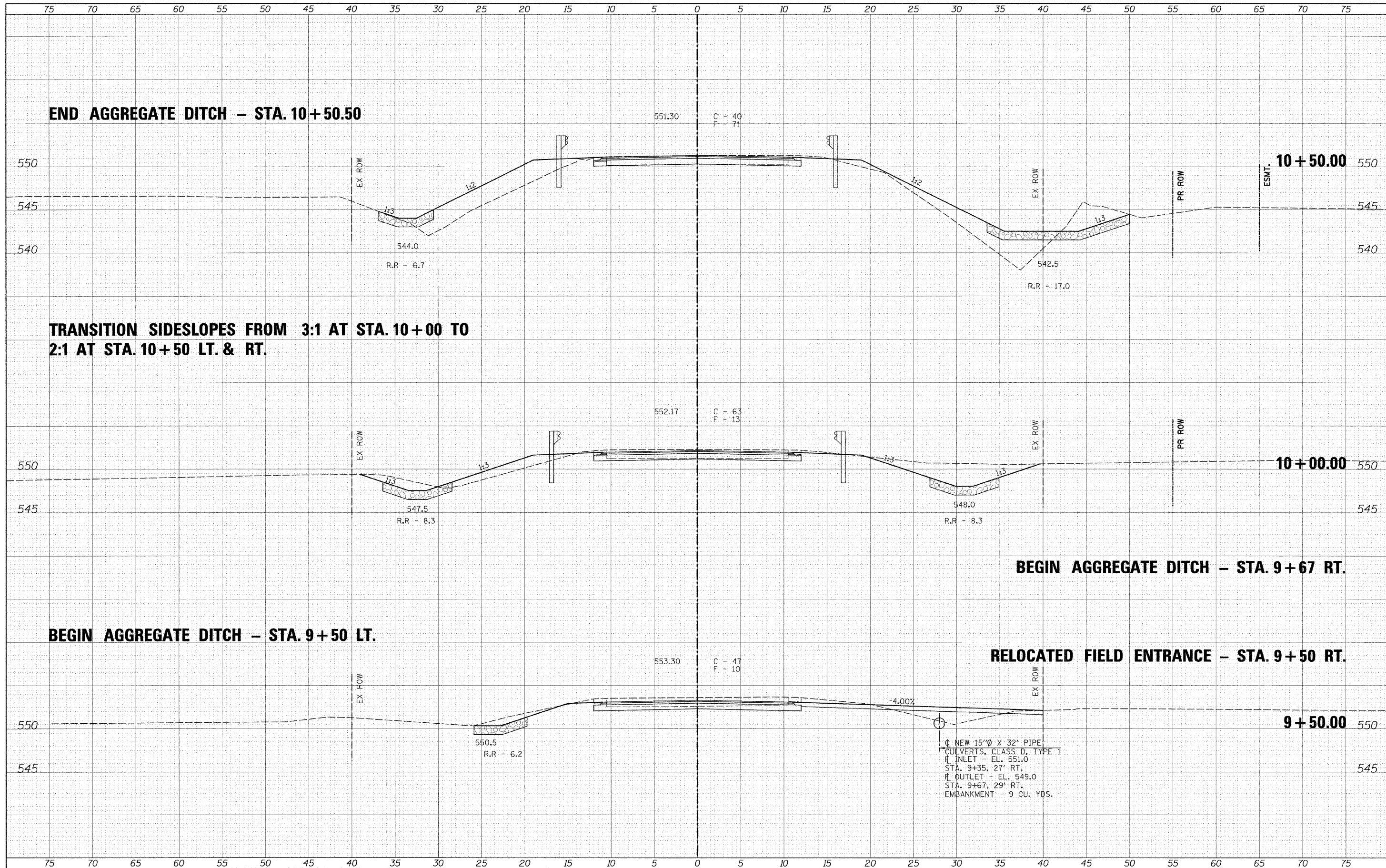
8 + 00.00

7 + 50.00

CONTRACT NO. 93573

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

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



FILE NAME = #FILE#

USER NAME = #USER#

DESIGNED -
DRAWN -
CHECKED -
DATE -

REVISED -
REVISED -
REVISED -
REVISED -

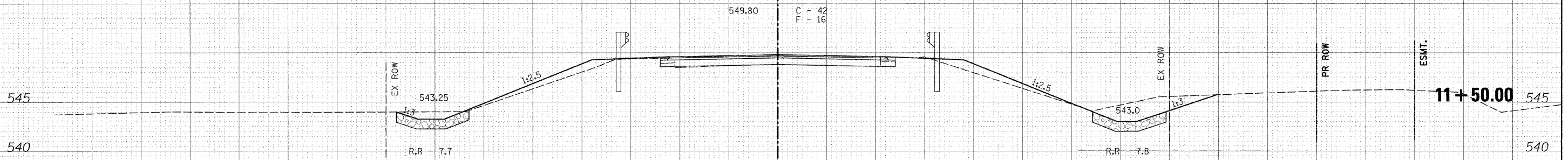


Allen Henderson & Associates, Inc.
Civil and Structural Engineers Springfield, IL.
62703 Phone: (217)544-8033 IL Design Firm
No. 184-001907

CROSS SECTIONS
SCALE: 1" = 5'
SHEET NO. 2 OF 4 SHEETS
STA. 9+50.00 TO STA. 10+50.00

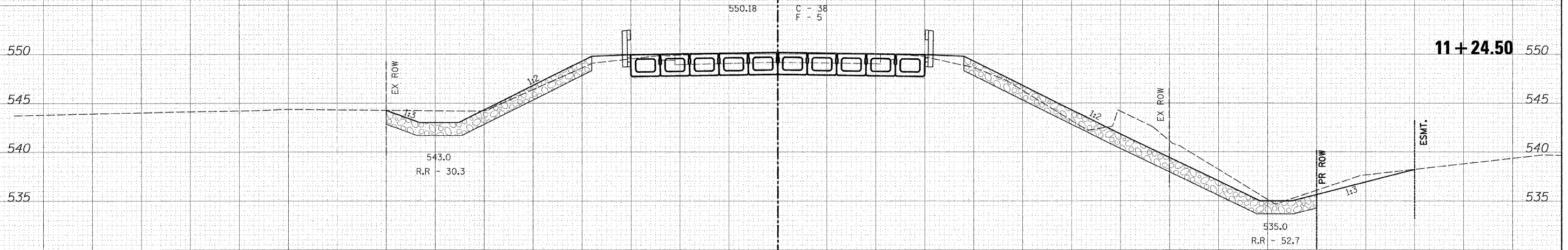
| C.H. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------|----------------|--------|--------------|---------------------------|
| 1 | 11-00063-00-BR | MENARD | 15 | 13 |
| FED. ROAD DIST. NO. | | | | ILLINOIS FED. AID PROJECT |
| CONTRACT NO. 93579 | | | | |

END AGGREGATE DITCH - STA. 11+75 LT. & RT.

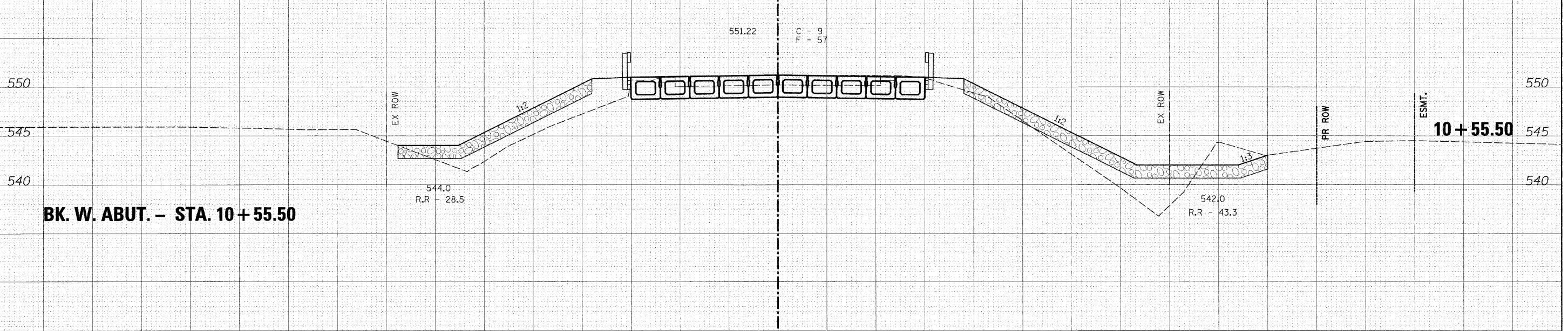


TRANSITION SIDESLOPES FROM 2:1 AT STA. 11+25 TO 3:1 AT STA. 11+75 LT. & RT.

**BEGIN AGGREGATE DITCH - STA. 11+29.50
BK. E. ABUT. - STA. 11+24.50**



BK. W. ABUT. - STA. 10+55.50



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

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

FILE NAME =
#FILE#

USER NAME = #USER#
DESIGNED -
DRAWN -
CHECKED -
DATE -

REVISÉ -
REVISÉ -
REVISÉ -
REVISÉ -

DESIGNED -
DRAWN -
CHECKED -
DATE -



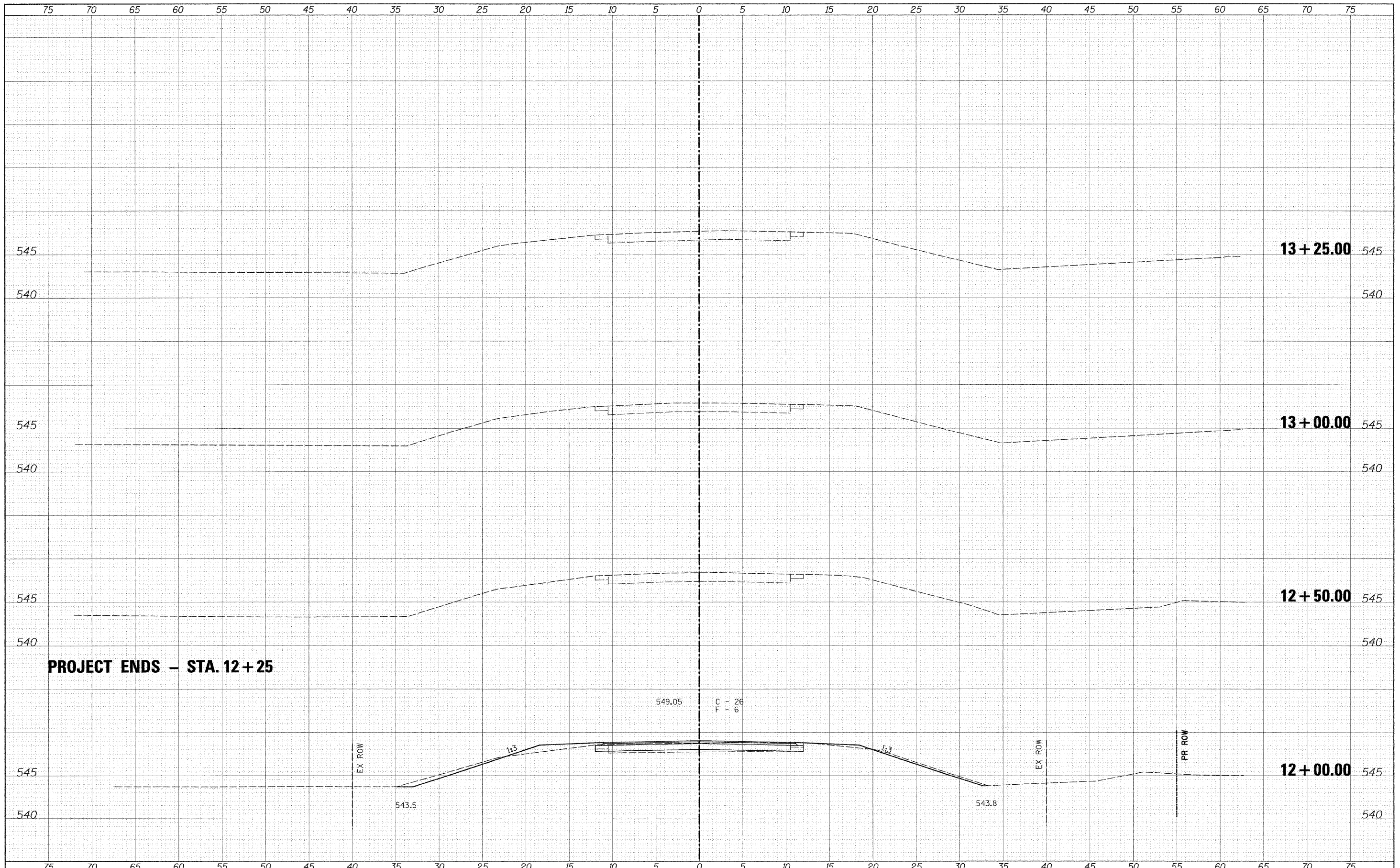
Allen Henderson & Associates, Inc.
Civil and Structural Engineers Springfield, IL.
62703 Phone: (217)544-8033 IL. Design Firm
No. 184-001907


CROSS SECTIONS
SCALE: 1" = 5'
SHEET NO. 3 OF 4 SHEETS
STA. 10+55.50 TO STA. 11+50.00

| C.H. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------|----------------|--------|---------------------------|-----------|
| 1 | 11-00063-00-BR | MENARD | 15 | 14 |
| FED. ROAD DIST. NO. | | | ILLINOIS FED. AID PROJECT | |
| | | | CONTRACT NO. 93579 | |

DATE _____
 BY _____
 SURVEYED _____
 CHECKED _____
 FINAL SURVEY _____
 NOTE BOOK _____
 NO. _____

DATE _____
 BY _____
 SURVEYED _____
 CHECKED _____
 ORIGINAL SURVEY _____
 NOTE BOOK _____
 NO. _____



| | | | | | | | | | | | | |
|-------------|----------------------|------------|-----------|--|-----------------------|--|-------------------------|----------------|--------------------------------|--------------|--------------------|--|
| FILE NAME = | USER NAME = #USER# | DESIGNED - | REVISED - |  Allen Henderson & Associates, Inc. Civil and Structural Engineers Springfield, IL. 62703 Phone: (217)544-8033 IL. Design Firm No. 184-001907 | CROSS SECTIONS | | C.H. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. | |
| #PT. EL# | PLOT SCALE = #SCALE# | DRAWN - | REVISED - | | | | 1 | 11-00063-00-BR | MENARD | 15 | 15 | |
| | PLOT DATE = #DATE# | CHECKED - | REVISED - | | SCALE: 1" = 5' | | SHEET NO. 4 OF 4 SHEETS | | STA. 12+00.00 TO STA. 13+25.00 | | CONTRACT NO. 93573 | |
| | | DATE - | REVISED - | | | | FED. ROAD DIST. NO. | | ILLINOIS FED. AID PROJECT | | | |