

| | | | | |
|---|----------------|--------|--------------------|-----------|
| TR | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 237 | 06-02123-00-BR | WHITE | 12 | 1 |
| FED. ROAD DIST. NO. 9 ILLINOIS FED. AID PROJECT | | | | |
| PROJECT # BROS-193(29) | | | CONTRACT # 99364 | |
| JOB # C-99-541-06 | | | LITTLE WABASH TRIB | |

323 W. 3RD ST.
P.O. BOX 160
MT. CARMEL, IL
62863

PHONE:
(618)-262-8651
FAX:
(618)-263-3327

LEC JOB # H0811013WH

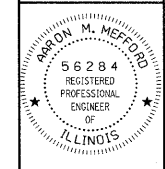
405 W. STATE ST
SUITE 1
PRINCETON, IN
47670

PHONE:
(812)-386-7611
FAX:
(812)-385-2812



PROFESSIONAL DESIGN FIRM
LAND SURVEY &
PROFESSIONAL
ENGINEERING
CORPORATION

184-00087
(62-032435)(35-002769)



AARON M. MEFFORD
NAME
Aaron Mefford
SIGNATURE
DATE
6/14/09
EXPIRES
11-30-09

TOWNSHIP ROUTE 237
OVER LITTLE WABASH TRIBUTARY
WHITE COUNTY, ILLINOIS

SHEET TITLE:
TITLE SHEET

SCALE: VARES

BY: AMM
DATE: 060909
REV:

1 OF 12 SHEETS

SHEET NO.
1

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION PLANS FOR PROPOSED FEDERAL AID – H.B.P. PROJECT

**T.R. 237 WHITE COUNTY SECTION 06-02123-00-BR
PROJECT NO. BROS-193(29) JOB NO. C-99-541-06
CONTRACT # 99364 LITTLE WABASH TRIBUTARY**

INDEX OF SHEETS

| SHEET NO. | DESCRIPTION |
|-----------|---|
| 1 | TITLE SHEET & SUMMARY OF QUANTITIES |
| 2 | PLAN & PROFILE, TYPICAL SECTIONS, GENERAL NOTES & STONE RIPRAP DITCH DESIGN |
| 3-4 | ROADWAY CROSS SECTIONS |
| 5-12 | BRIDGE DESIGN |

THE FOLLOWING STANDARDS ARE A PART OF THESE PLANS AND ARE INCLUDED IN THE PROPOSAL:

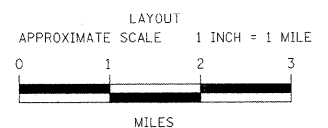
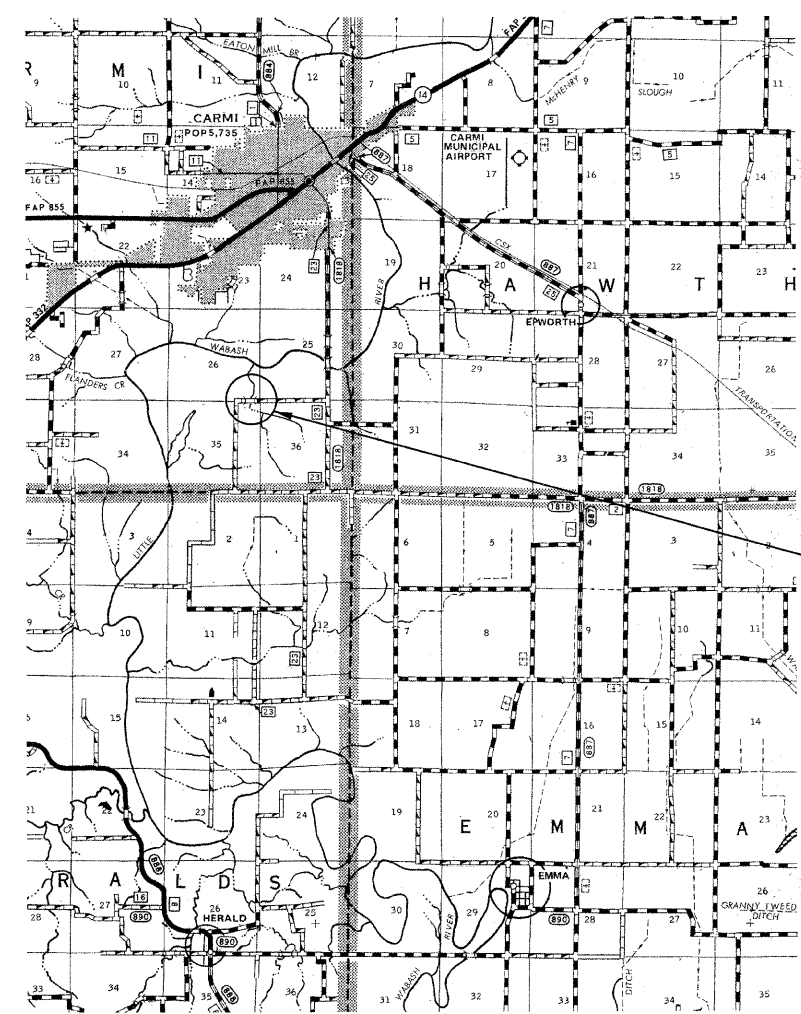
| | |
|-------------|--|
| 000001-05 | STANDARD SYMBOLS, ABBREVIATIONS & PATTERNS |
| 280001-04 | TEMPORARY EROSION CONTROL SYSTEMS |
| 701901-01 | TRAFFIC CONTROL DEVICES |
| B.L.R. 21-8 | TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS |
| B.L.R. 22-6 | TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS (TWO-LANE TWO-WAY RURAL TRAFFIC) (ROAD CLOSED TO THRU TRAFFIC) |

SUMMARY OF QUANTITIES

| CODE NO. | ITEM | UNIT | QUANTITY |
|-----------|---|-------|----------|
| 20100500 | TREE REMOVAL, ACRES | ACRE | 0.10 |
| 20200100 | EARTH EXCAVATION | CU YD | 649.00 |
| 20300100 | CHANNEL EXCAVATION | CU YD | 220.00 |
| 25001000 | SEEDING, CLASS 2 (SPECIAL) | ACRE | 0.30 |
| 28000300 | TEMPORARY DITCH CHECKS | EACH | 3.00 |
| 28001000 | AGGREGATE (EROSION CONTROL) | TON | 12.00 |
| 28100807 | STONE DUMPED RIPRAP, CLASS A4 | TON | 150.00 |
| 28102600 | STONE RIPRAP DITCH | TON | 29.00 |
| 40200800 | AGGREGATE SURFACE COURSE, TYPE B | TON | 365.00 |
| 50100100 | REMOVAL OF EXISTING STRUCTURES | EACH | 1.00 |
| 50300225 | CONCRETE STRUCTURES | CU YD | 23.60 |
| 50300280 | CONCRETE ENCASEMENT | CU YD | 2.80 |
| 50400405 | PRECAST PRESTRESSED CONCRETE DECK BEAMS (21" DEPTH) | SQ FT | 1368.00 |
| 50800105 | REINFORCEMENT BARS | POUND | 2620.00 |
| *50900205 | STEEL RAILING, TYPE S1 | FOOT | 110.00 |
| 51201600 | FURNISHING STEEL PILES 12X53 | FOOT | 344.00 |
| 51202305 | DRIVING PILES | FOOT | 344.00 |
| 51500100 | NAME PLATES | EACH | 1.00 |
| 67100100 | MOBILIZATION | L SUM | 1.00 |

* SPECIALTY ITEMS

DESIGN DESIGNATION:
DESIGN SPEED: 30 MPH
HIGHWAY CLASS - LOCAL ROAD
EXISTING STRUCTURE NO.: 097-3096
PROPOSED STRUCTURE NO.: 097-3255
CURRENT A.D.T. = 30
CONTRACT NO. 99364



| | | |
|--------------|-----------|-------------|
| GROSS LENGTH | 575.00 FT | 0.109 MILES |
| OMISSIONS | 0.00 FT | 0.000 MILES |
| NET LENGTH | 575.00 FT | 0.109 MILES |

| | | |
|---------------|----------|--|
| PLAN | 1" = 50' | |
| PROFILE | 1" = 50' | |
| PROFILE VERT. | 1" = 5' | |
| CROSS SECTION | 1" = 5' | |

SECTION 06-02123-00-BR
BEGINS STATION 2+25

STATION 5+00, STRUCTURE NO. 097-3255
A 57' LONG SINGLE SPAN PRECAST PRESTRESSED
CONCRETE DECK BEAM BRIDGE (21" DEPTH),
24' ROADWAY, 0.00% GRADE, 20° RT. FWD. SKEW.

SECTION 06-02123-00-BR
ENDS STATION 8+00

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

APPROVED 6/14/09
Brian A. Ray
COUNTY ENGINEER

PASSED 6/14/2009
Richard W. Melcher
ENGINEER OF LOCAL ROADS AND STREETS

RELEASING FOR BID
BASED ON LIMITED
REVIEW: June 9, 2009
Mary C. Lamie
MARY C. LAMIE, P.E.
DEPUTY DIRECTOR OF HIGHWAYS
REGION FIVE ENGINEER

GENERAL NOTES:

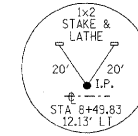
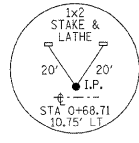
THIS SECTION SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PLANS, SPECIAL PROVISIONS AND "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", ADOPTED JANUARY 1, 2007.

THE WORK INVOLVED ON THIS SECTION CONSISTS OF THE REMOVAL OF THE EXISTING STRUCTURE, THE CONSTRUCTION OF A 57 FOOT LONG SINGLE SPAN PRECAST, PRESTRESSED CONCRETE DECK BEAM BRIDGE, EARTH APPROACHES, AGGREGATE SURFACE COURSE AND OTHER MISCELLANEOUS ITEMS NECESSARY TO COMPLETE THIS SECTION.

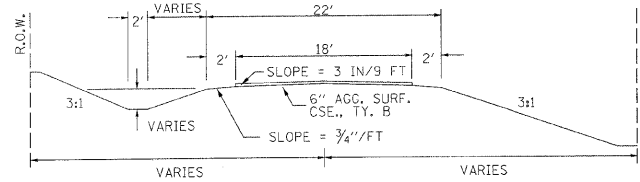
ALL ELEVATIONS ARE BASED ON U.S.G.S. MEAN SEA LEVEL DATUM.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT ALL THE UTILITIES, AFFECTING THE PROJECT, PRIOR TO CONSTRUCTION.

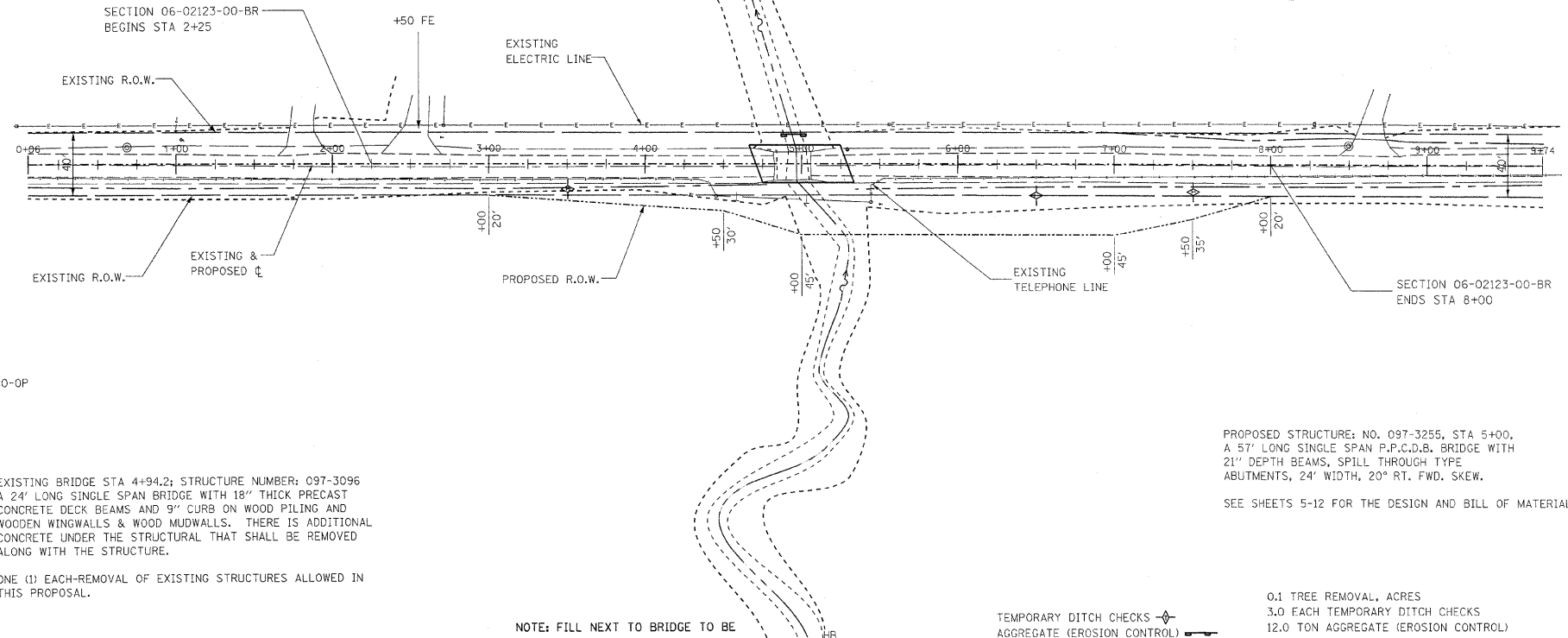
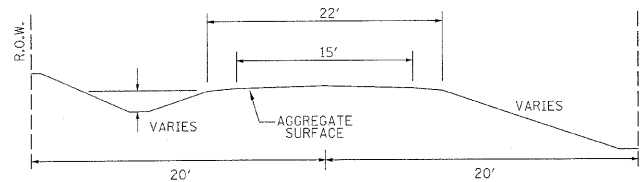
NOTE: CONSTRUCTION TRANSITIONS
 STA. 2+25 TO STA 2+75
 STA 7+50 TO STA 8+00
 ALL QUANTITIES ARE INCLUDED IN THE PROPOSAL



TYPICAL CROSS SECTION PROPOSED



TYPICAL CROSS SECTION EXISTING



UTILITIES:
 J.U.L.I.E. 1-800-892-0123
 WAYNE-WHITE ELECTRIC CO-OP
 1-618-842-2196
 VERIZON
 1-618-997-0707

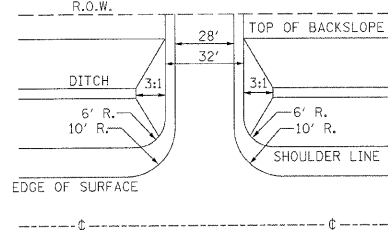
EXISTING BRIDGE STA 4+94.2; STRUCTURE NUMBER: 097-3096
 A 24' LONG SINGLE SPAN BRIDGE WITH 18" THICK PRECAST CONCRETE DECK BEAMS AND 9" CURB ON WOOD PILING AND WOODEN WINGWALLS & WOOD MUDWALLS. THERE IS ADDITIONAL CONCRETE UNDER THE STRUCTURAL THAT SHALL BE REMOVED ALONG WITH THE STRUCTURE.

ONE (1) EACH-REMOVAL OF EXISTING STRUCTURES ALLOWED IN THIS PROPOSAL.

PROPOSED STRUCTURE: NO. 097-3255, STA 5+00, A 57' LONG SINGLE SPAN P.P.C.D.B. BRIDGE WITH 21" DEPTH BEAMS, SPILL THROUGH TYPE ABUTMENTS, 24' WIDTH, 20" RT. FWD. SKEW.

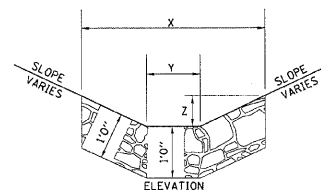
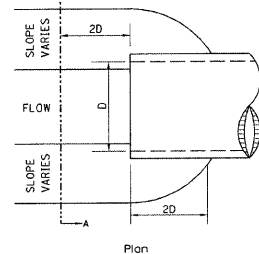
SEE SHEETS 5-12 FOR THE DESIGN AND BILL OF MATERIALS.

FIELD ENTRANCE DETAIL



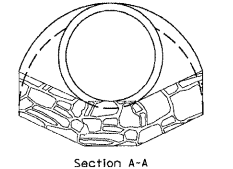
NOTE: CONSTRUCT SPECIAL DITCH
 STA 2+50 TO STA 4+73.5 RT
 STA 5+26.5 TO STA 8+00 RT
 NOTE: CONSTRUCT STONE RIPRAP DITCH
 STA 4+50 TO STA 4+73.5 RT (0.62 TON/LIN FT)
 STA 5+26.5 TO STA 5+50 RT (0.62 TON/LIN FT)
 29 TON STONE RIPRAP DITCH ALLOWED IN PROPOSAL.
 SEE STONE RIPRAP DITCH DETAIL.

STONE RIPRAP DITCH DESIGN

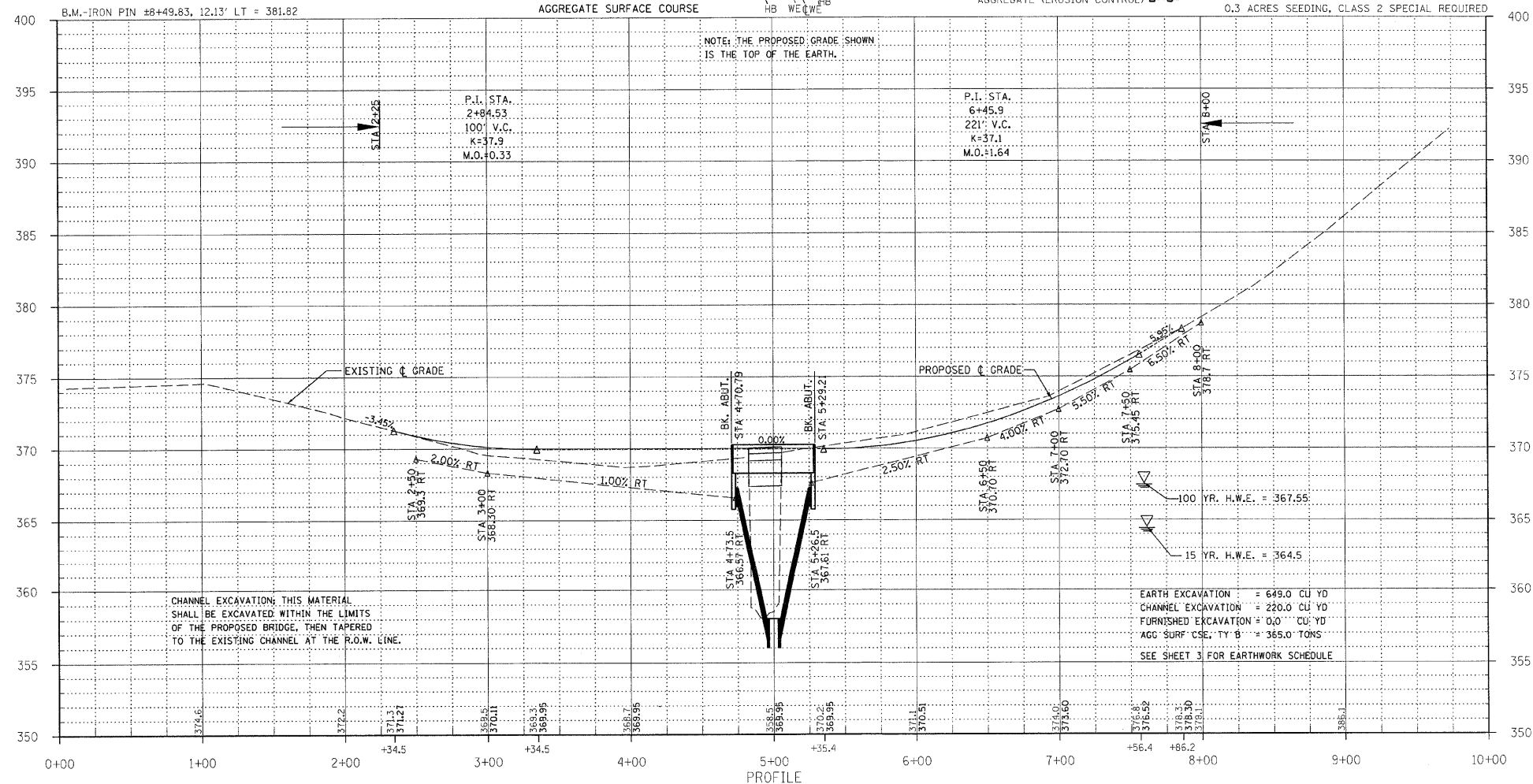


NOTE:

| BOTTOM OF DITCH | SLOPE | | |
|-----------------|-------------|------|------|
| | 1 1/2:1 | 2:1 | 3:1 |
| 2 FT | X= 5 FT | 6 FT | 8 FT |
| | Y= 2 FT | 2 FT | 2 FT |
| | Z= 1 FT | 1 FT | 1 FT |
| | 0.40 | 0.48 | 0.62 |
| | TON/LIN. FT | | |



NOTE: FOR PLACEMENT, QUALITY GRADATION AND OTHER MISCELLANEOUS REQUIREMENTS FOR STONE RIPRAP DITCH-SEE SPECIAL PROVISIONS.



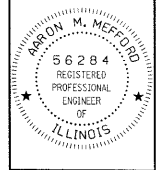
| TR | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|-----|----------------|--------|--------------|-----------|
| 237 | 06-02123-00-BR | WHITE | 12 | 2 |

323 W. 3RD ST.
 P.O. BOX 160
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 PRINCETON, IN 47670
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 FAX: (812)-385-2812



PROFESSIONAL DESIGN FIRM
 LAND SURVEY & PROFESSIONAL ENGINEERING CORPORATION
 184-00887
 (62-032435)(35-002769)



AARON M. MEFFORD
 NAME
 SIGNATURE
 DATE: 6/4/09
 11-30-09 EXPIRES

TOWNSHIP ROUTE 237
 OVER LITTLE WABASH TRIBUTARY
 WHITE COUNTY, ILLINOIS

SHEET TITLE:
 PLAN & PROFILE
 SCALE: VARIES
 BY: AMM
 DATE: 4/2008
 REV:
 2 OF 12 SHEETS
 SHEET NO. 2

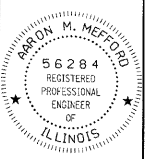
| | | | | |
|-----------------------|----------------|------------------|--------------------|-----------|
| TR | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 237 | 06-02123-00-BR | WHITE | 12 | 3 |
| FED. ROAD DIST. NO. 9 | | ILLINOIS | LITTLE WABASH TRIB | |
| PROJECT * BR05-19329 | | CONTRACT * 99364 | | |

423 W. 3RD ST.
P.O. BOX 160
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PROFESSIONAL
DESIGN FIRM
LAND SURVEY &
PROFESSIONAL
ENGINEERING
CORPORATION
184-000887
(62-032435)(95-002769)



AARON M. MEFFORD
NAME
Aaron Mefford
SIGNATURE
DATE
11-30-09
EXPIRES

TOWNSHIP ROUTE 237
OVER LITTLE WABASH TRIBUTARY
WHITE COUNTY, ILLINOIS

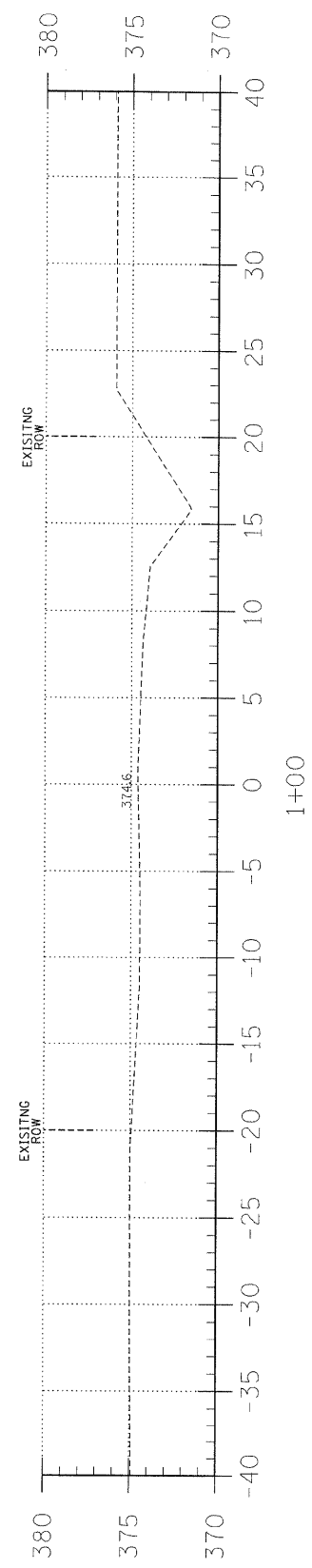
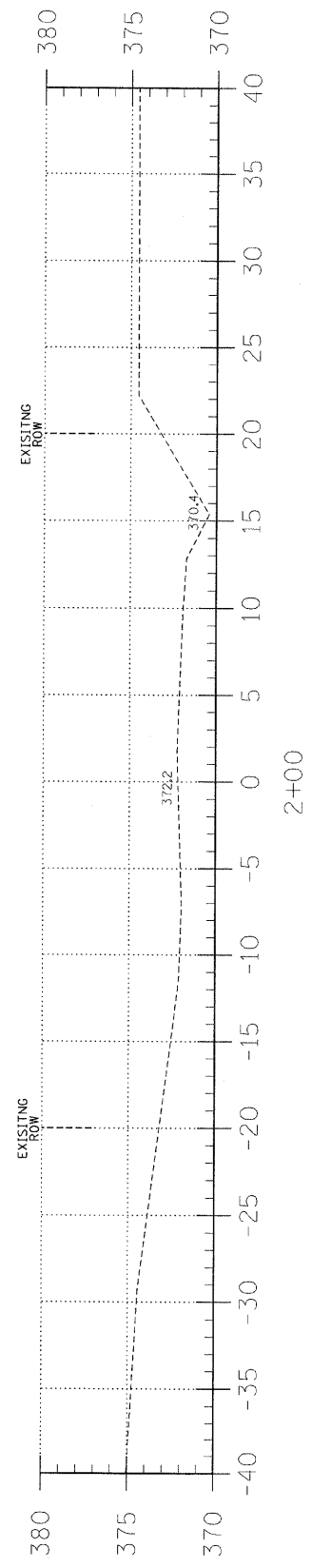
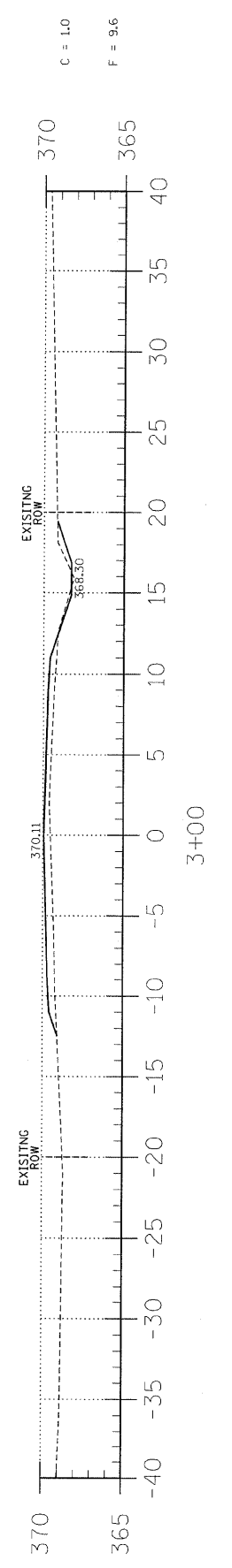
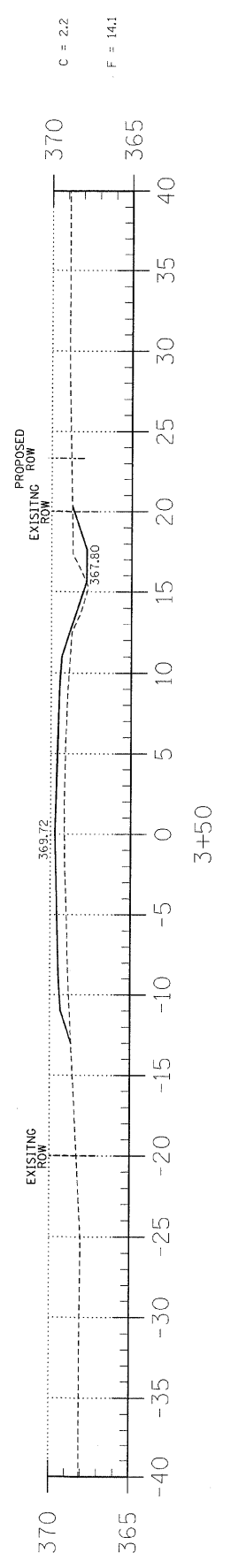
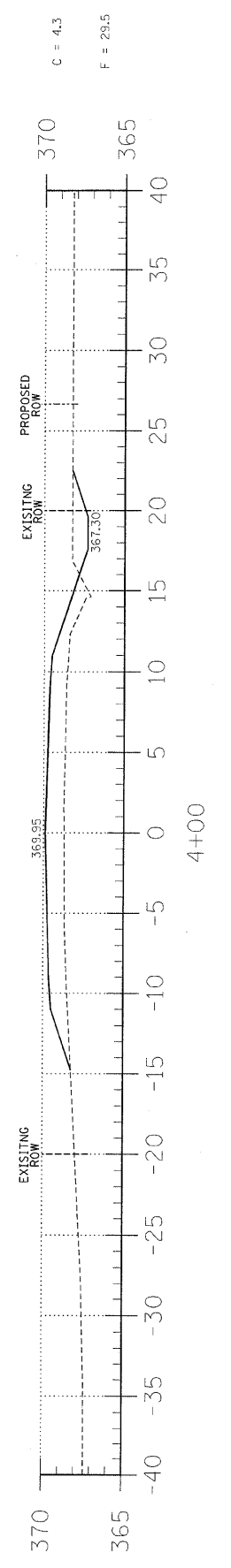
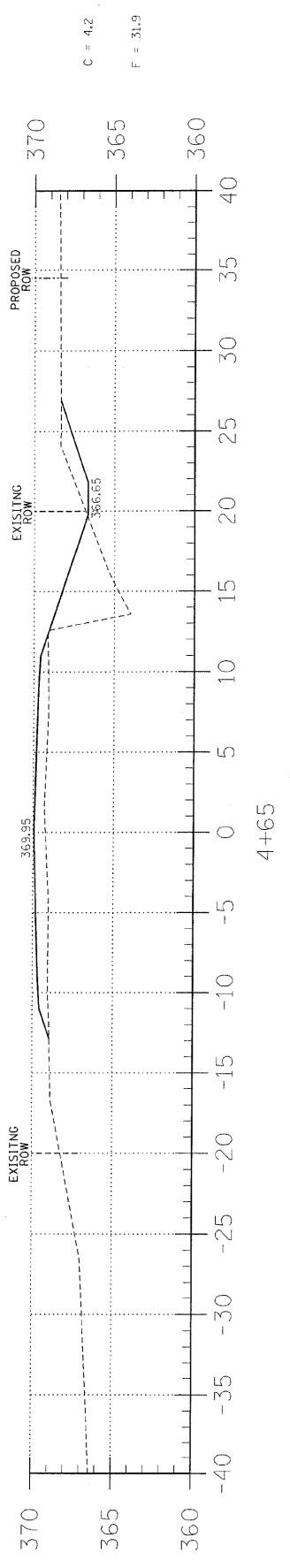
SHEET TITLE:

CROSS-SECTIONS

SCALE: 1" = 5'
BY: AMM
DATE: 4/20/09
REV:

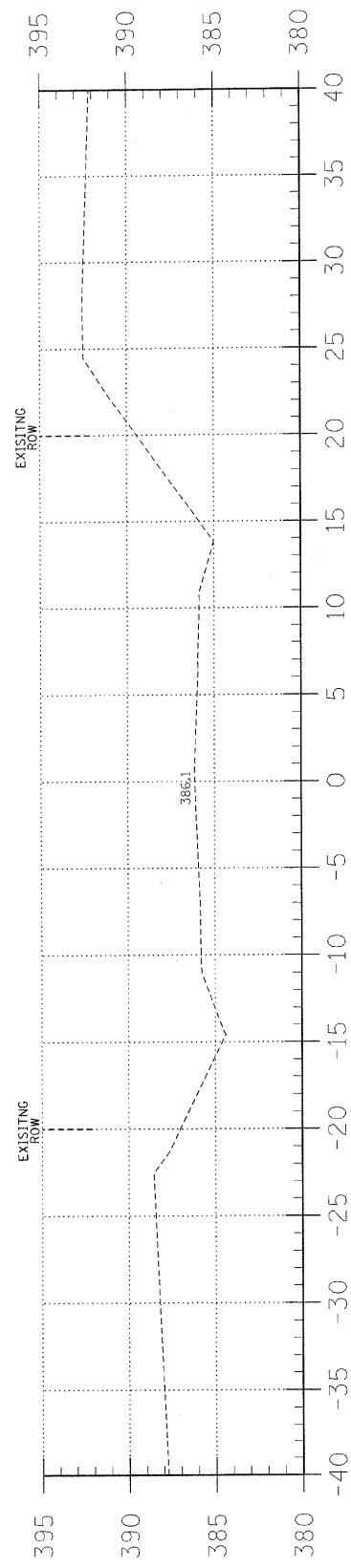
3 OF 12
SHEETS

SHEET NO.
3

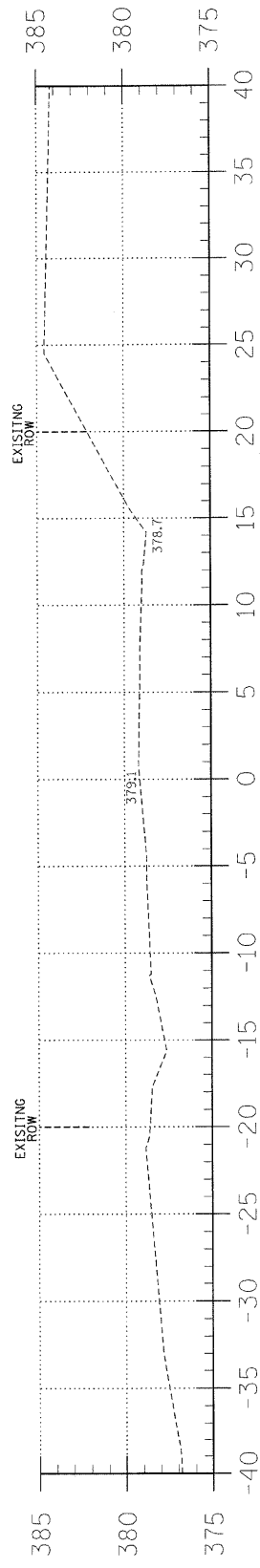


EARTHWORK SCHEDULE

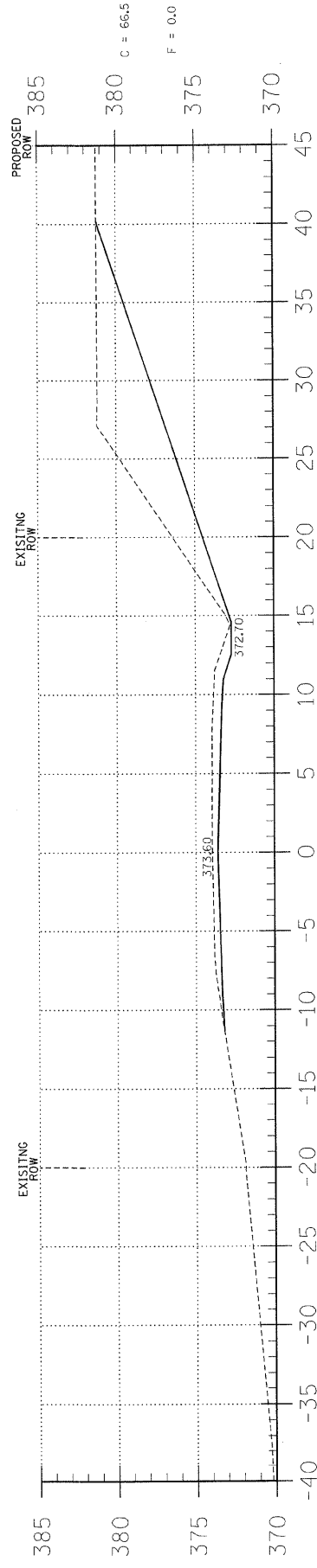
| LOCATION | EARTH EXCAVATION | CHANNEL EXCAVATION | ESTIMATED UNSUITABLE MATERIAL | SUITABLE MATERIAL ADJUSTED FOR SHRINKAGE | EMBANKMENT | EARTHWORK BALANCE WASTE (+) OR SHORTAGE (-) |
|----------------------|------------------|--------------------|-------------------------------|--|------------|---|
| | CUBIC YARD | CUBIC YARD | CUBIC YARD | CUBIC YARD | CUBIC YARD | CUBIC YARD |
| STA 0+00 TO 4+70.8 | 24.0 | 0.0 | 0.0 | 18.0 | 143.2 | -125.2 |
| STA 4+70.8 TO 5+29.2 | 0.0 | 220.0 | 110.0 | 82.5 | 0.0 | 82.5 |
| STA 5+29.2 TO 10+00 | 625.0 | 0.0 | 0.0 | 468.8 | 0.1 | 468.7 |
| 1 FIELD ENTRANCE | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| TOTAL | 649.0 | 220.0 | 110.0 | 569.3 | 143.3 | 426.0 |



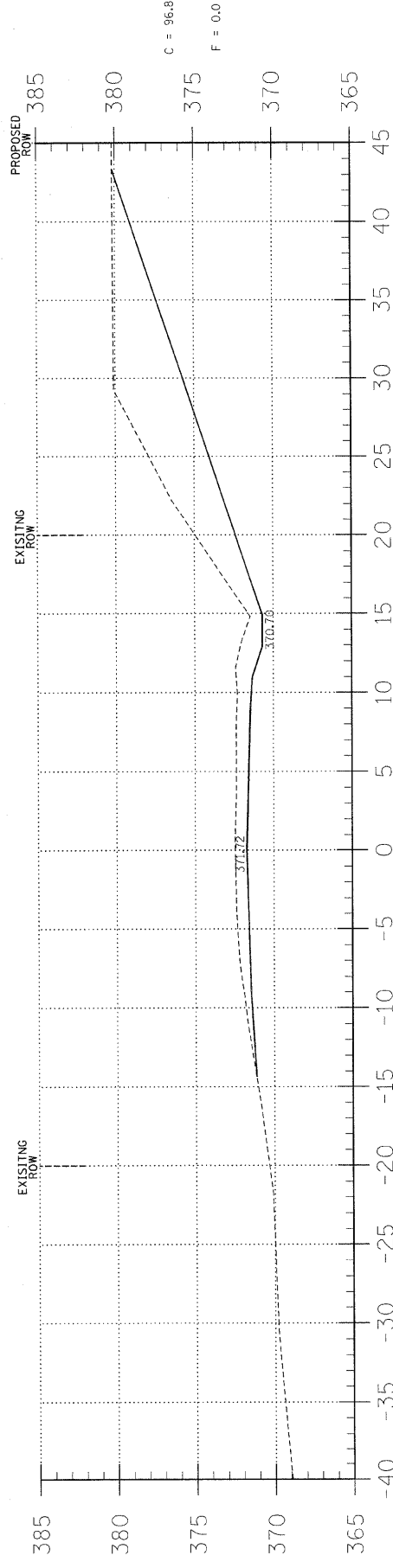
9+00



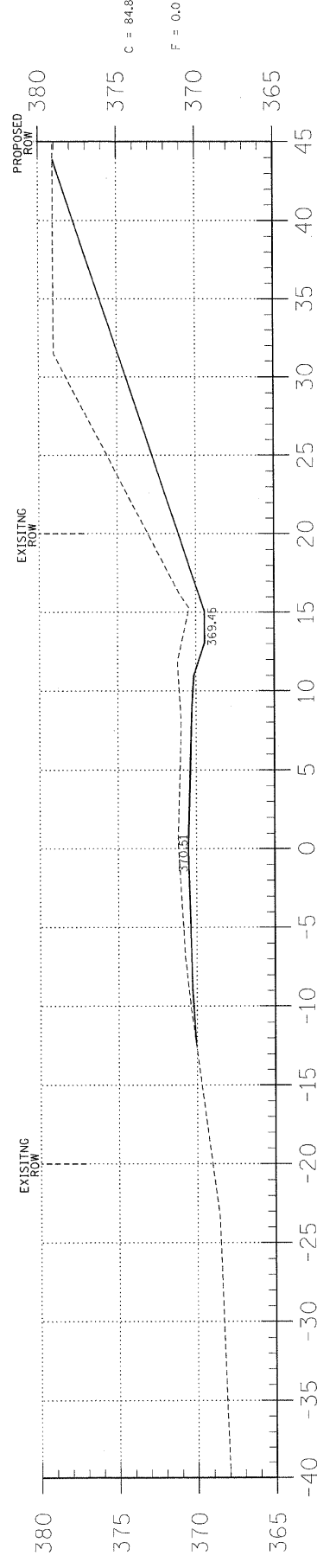
8+00



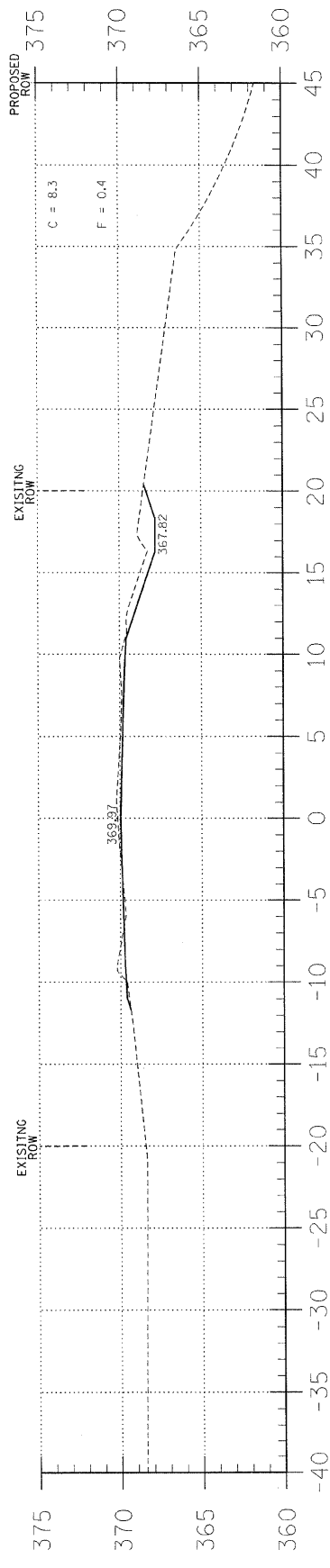
7+00



6+50



6+00



5+35

| TR | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|--------------------------------|----------------|--------|--------------------|-----------|
| 237 | 06-02123-00-BR | WHITE | 12 | 4 |
| FED. ROAD DIST. NO. 9 ILLINOIS | | | LITTLE WABASH TRIB | |
| PROJECT * BROS-193291 | | | CONTRACT * 99364 | |
| LEC JOB * H081013MH | | | | |

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(812)-385-2812



AARON M. MEFFORD
NAME
SIGNATURE
DATE
11-30-09
EXPIRES

TOWNSHIP ROUTE 237
OVER LITTLE WABASH TRIBUTARY
WHITE COUNTY, ILLINOIS

SHEET TITLE:
CROSS-SECTIONS

SCALE: 1" = 5'

BY: AMM

DATE: 4/20/09

REV:

4 OF 12 SHEETS

SHEET NO. 4

BENCHMARK: Iron Pin, 12' Lt., Sta. 8+50, Elev. 381.82

EXISTING STRUCTURE: Sta. 4+94.2, Single span Precast Concrete Deck Beam Bridge on timber piles and wingwalls.
24'-0" long.
Structure closed to traffic.

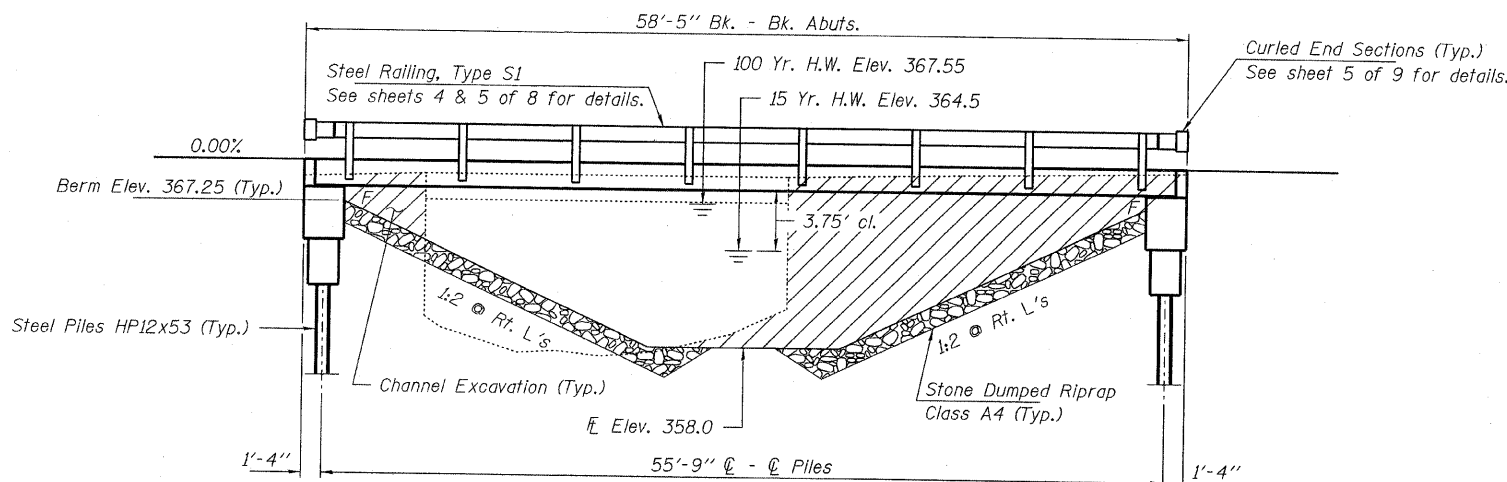
No Salvage

GENERAL NOTES

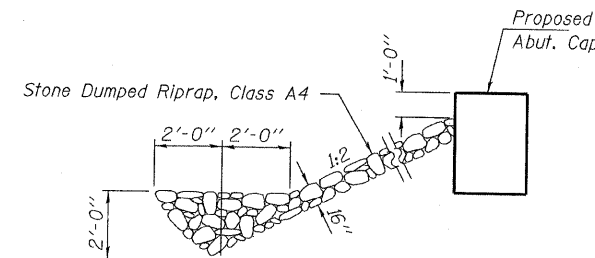
Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60 (IL Modified). See Special Provisions.
Excavation required to construct the Abutments shall be included in the cost of Concrete Structures. No additional compensation will be allowed for Structure Excavation.
All proposed construction activities shall be in accordance with Nationwide Permit number 14 of the Department of the Army authorized under Section 404 of the Clean Water Act. The IEPA has issued Section 401 Water Quality Certification for this activity. See Special Provisions for conditions. See Sheets 8 of 8 for Borings.

BUILT 200_ BY
WHITE COUNTY
SEC. 06-02123-00-BR
CARMi ROAD DISTRICT
STR. NO. 097-3255
LOADING HL-93

NAME PLATE
See Std. 515001

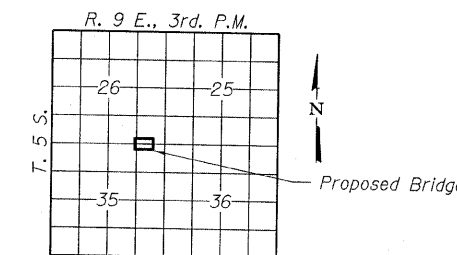


ELEVATION

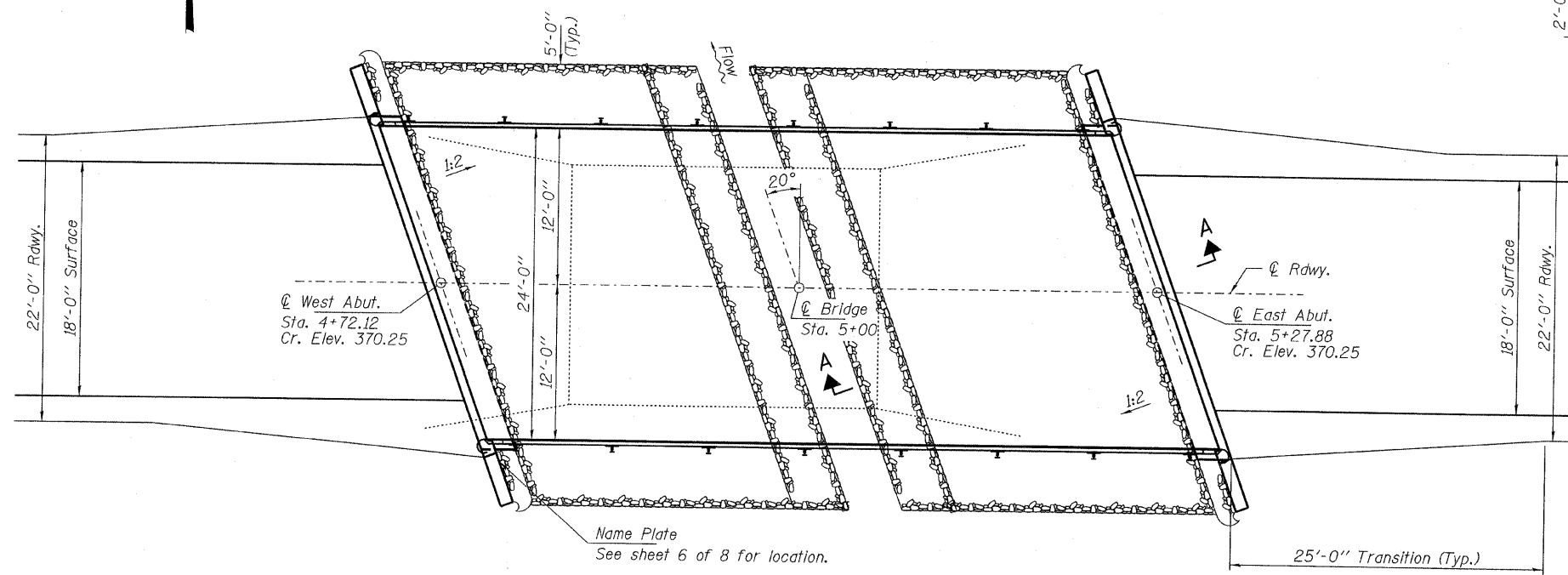


SECTION A-A

Note: See Special Provisions for Stone Dumped Riprap, Class A4



LOCATION SKETCH



PLAN

TOTAL BILL OF MATERIAL

| ITEM | UNIT | SUPER | SUB | TOTAL |
|---|---------|-------|-------|-------|
| Channel Excavation | Cu. Yd. | | | 220 |
| Stone Dumped Riprap, Class A4 | Ton | | | 150 |
| Removal of Existing Structures | Each | | | 1 |
| Concrete Structures | Cu. Yd. | | 23.6 | 23.6 |
| Concrete Encasement | Cu. Yd. | | 2.8 | 2.8 |
| Precast Prestressed Concrete Deck Beams (21" Depth) | Sq. Ft. | 1,368 | | 1,368 |
| Reinforcement Bars | Pound | | 2,620 | 2,620 |
| Steel Railing, Type S1 | Foot | 110 | | 110 |
| Furnishing Steel Piles HP12x53 | Foot | | 344 | 344 |
| Driving Piles | Foot | | 344 | 344 |
| Name Plates | Each | | 1 | 1 |

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi
fy = 60,000 psi (Reinf.)

PRECAST PRESTRESSED UNITS

f'c = 6,000 psi
f'ci = 5,000 psi
fpu = 270,000 psi (1/2" low lax. strands)
fpbt = 201,960 psi (1/2" low lax. strands)
fy = 60,000 psi (Reinf.)

LOADING HL-93

Design Specifications: 2007 AASHTO LRFD with all applicable interims.
50#/Sq. Ft. included in dead load for future wearing surface.

SEISMIC DATA

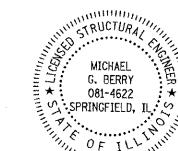
Seismic Performance Zone (SPZ) = 3
Design Spectral Acceleration at 1.0 sec. (S_{p1}) = 0.448g
Design Spectral Acceleration at 0.2 sec. (S_{p5}) = 0.858g
Soil Site Class = E

WATERWAY INFORMATION

| | | Drainage Area = 0.70 Sq. Mi. | | Existing Low Grade Elev. 368.70 @ Sta. 4+00 | | Proposed Low Grade Elev. 370.25 @ Sta. 5+00 | |
|------------|-----------|------------------------------|------------------------------|---|-------------------------|---|---------------------|
| Flood | Freq. Yr. | Q C.F.S. | Opening Sq. Ft. Exist. Prop. | Natural H.W.E. | Head - Ft. Exist. Prop. | Headwater EL. Exist. Prop. | Headwater EL. Prop. |
| Design | 15 | 543 | 122 167.3 | 364.5 | 0.07 0.05 | 364.57 | 364.55 |
| Base | 100 | 986 | 184 304.5 | 367.6 | 0.29 0.03 | 367.89 | 367.63 |
| Max. Calc. | 500 | 1400 | | 369.0 | | | |

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 "AASHTO LRFD Specifications."

Michael G. Berry 6/6/09
ILLINOIS STRUCTURAL NO. 081-4622

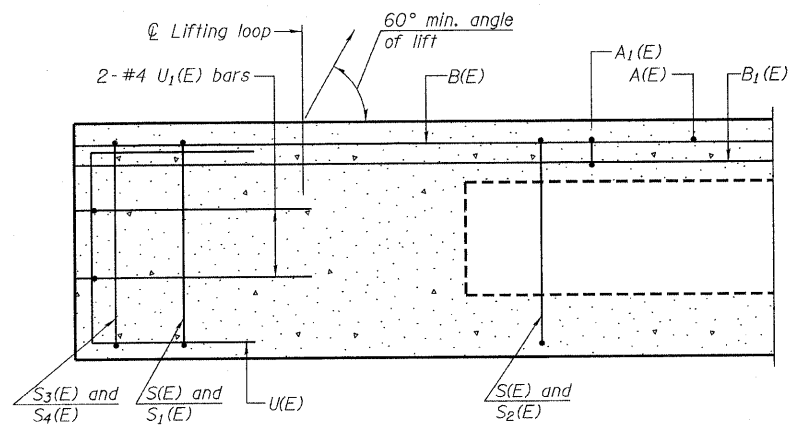


Expires 11-30-2010

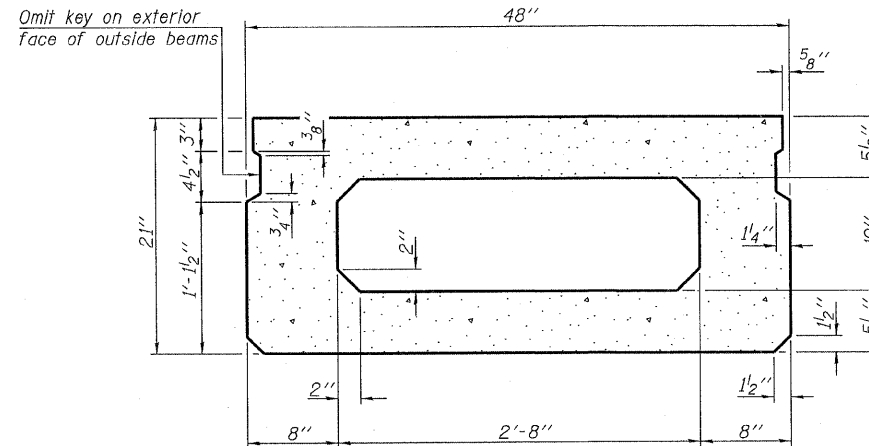
STRUCTURE NO. 097-3255

| |
|-------------------|
| DESIGNED - S.M.S. |
| CHECKED - M.G.B. |
| DRAWN - D.T.M. |
| CHECKED - D.A.B. |

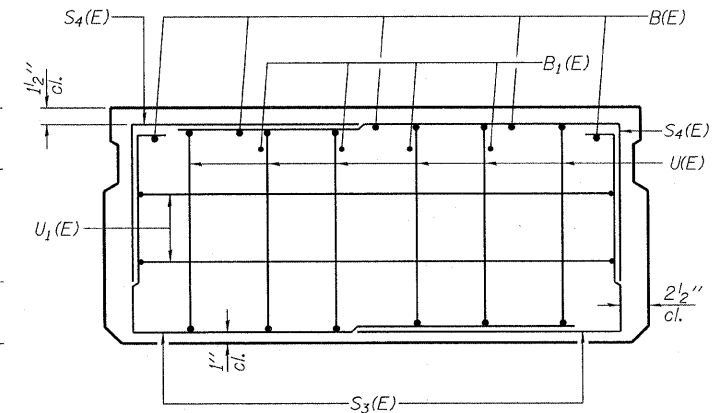
| | | | | | | |
|---|-------------|---------------------------|--------------------|--------|--------------|-----------|
| HAMPTON, LENZINI & RENWICK, INC. CIVIL & STRUCTURAL ENGINEERS LAND SURVEYORS HLR 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 (217) 546-3400 PROJECT NUMBER: 08.0262.130 DATE: 05/26/09 | SHEET NO. 1 | T.R. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| | 8 SHEETS | 237 | 06-02123-00-BR | WHITE | 12 | 5 |
| | | | CONTRACT NO. 99364 | | | |
| FED. ROAD DIST. NO. | | ILLINOIS FED. AID PROJECT | | | | |



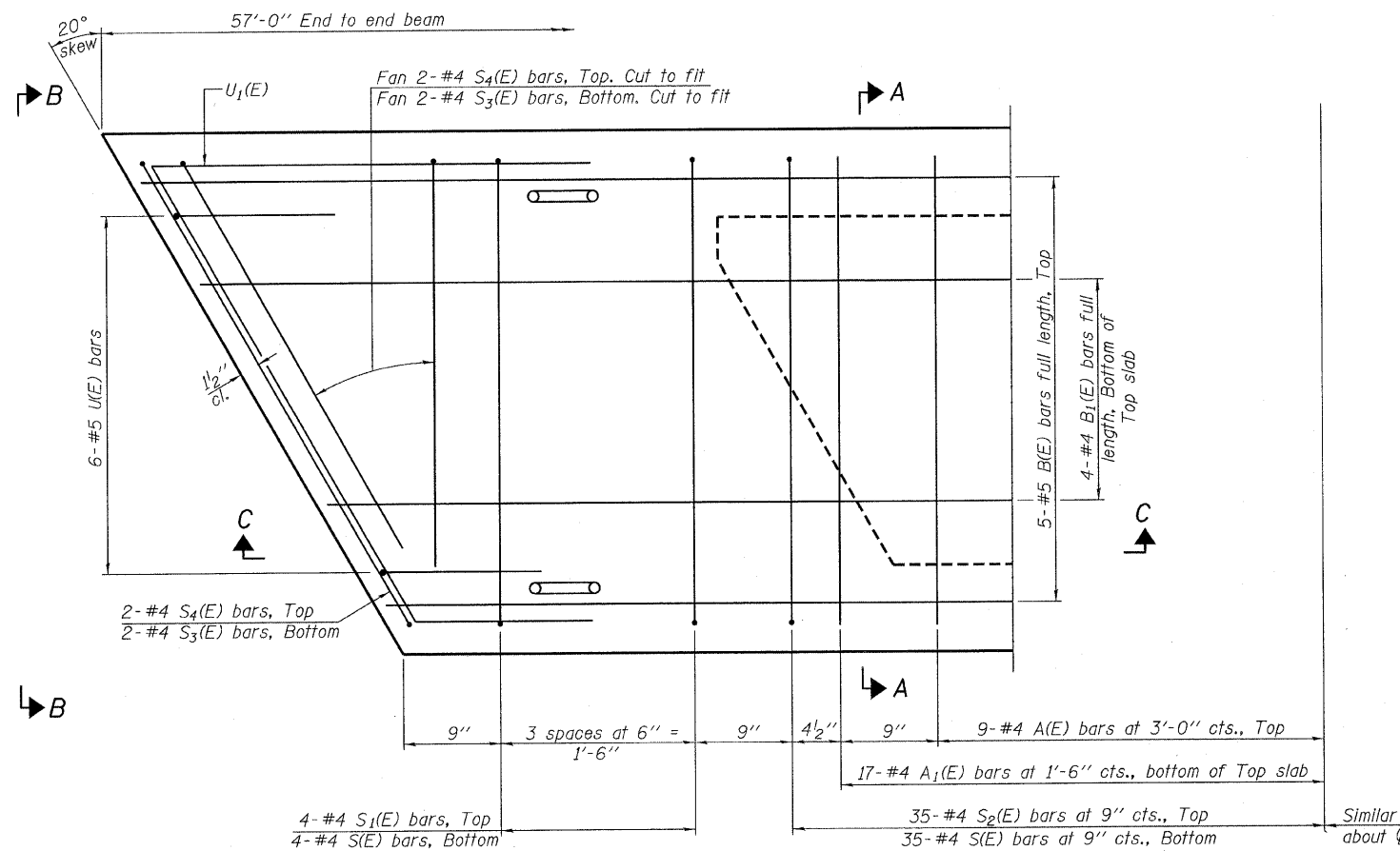
SECTION C-C



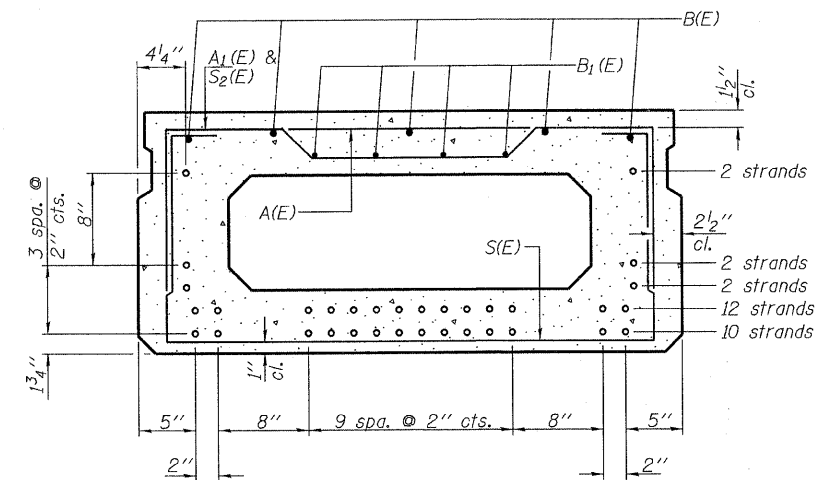
SECTION A-A
(Showing dimensions)



VIEW B-B



PLAN VIEW



SECTION A-A
(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.

BAR LIST
ONE BEAM ONLY
(For information only)

| Bar | No. | Size | Length | Shape |
|-------|-----|------|--------|-------|
| A(E) | 18 | #4 | 3'-7" | — |
| A1(E) | 34 | #4 | 3'-10" | ~ |
| B(E) | 5 | #5 | 56'-8" | — |
| B1(E) | 4 | #4 | 56'-8" | — |
| S(E) | 78 | #4 | 7'-5" | □ |
| S1(E) | 8 | #4 | 5'-11" | □ |
| S2(E) | 70 | #4 | 6'-2" | □ |
| S3(E) | 8 | #4 | 4'-9" | □ |
| S4(E) | 8 | #4 | 4'-0" | □ |
| U(E) | 12 | #5 | 4'-0" | □ |
| U1(E) | 4 | #4 | 7'-6" | □ |

Note: See sheets 3 & 4 of 8 for additional details and Bill of Material.

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.

| |
|-------------------|
| DESIGNED - S.M.S. |
| CHECKED - M.G.B. |
| DRAWN - D.T.M. |
| CHECKED - D.A.B. |

PD-2148-R

10-1-08

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS

HLR

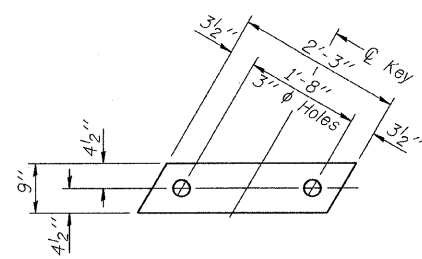
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 548-3400

PROJECT NUMBER: 08-0262-130 DATE: 05/26/09

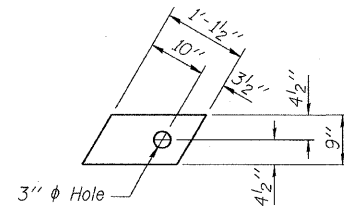
SHEET NO. 2
8 SHEETS

| | | | | |
|---------------------|---------------------------|--------|--------------|-----------|
| T.R. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 237 | 06-02123-00-BR | WHITE | 12 | 6 |
| CONTRACT NO. 99364 | | | | |
| FED. ROAD DIST. NO. | ILLINOIS FED. AID PROJECT | | | |

SUPERSTRUCTURE
21" X 48" PPC DECK BEAM
STRUCTURE NO. 097-3255



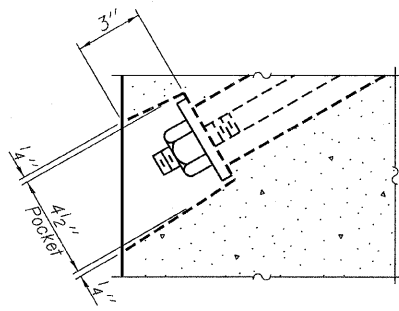
FABRIC BEARING PAD
(Interior)



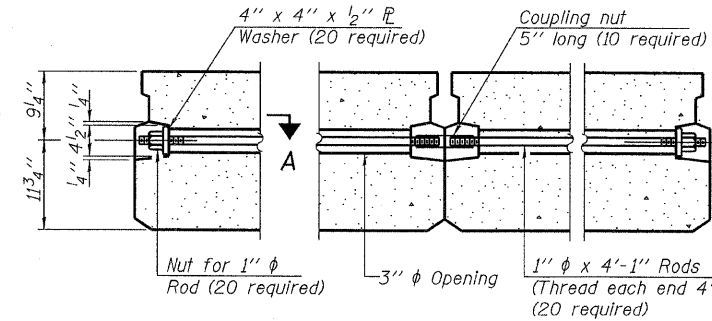
FABRIC BEARING PAD
(Exterior)

FIXED

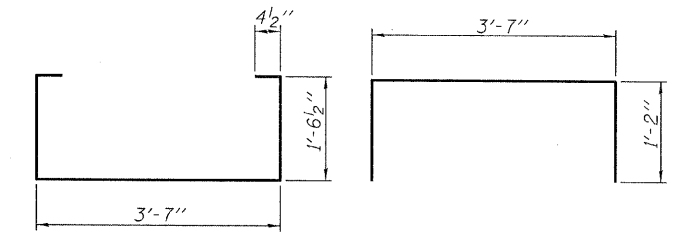
Note: Omit holes when using expansion bearings.



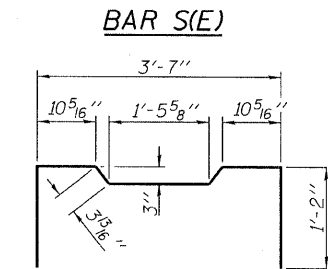
SECTION A-A



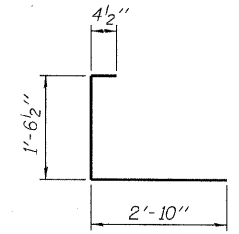
TYPICAL TRANSVERSE TIE ASSEMBLY



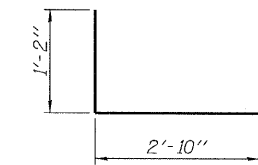
BAR S₁(E)



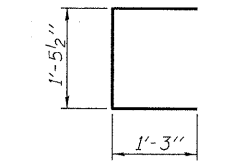
BAR S₂(E)



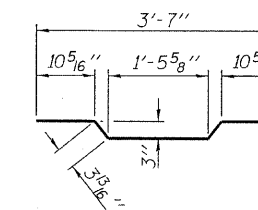
BAR S₃(E)



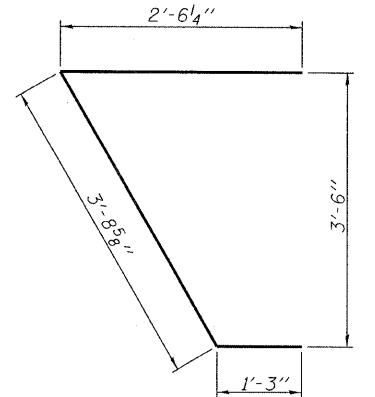
BAR S₄(E)



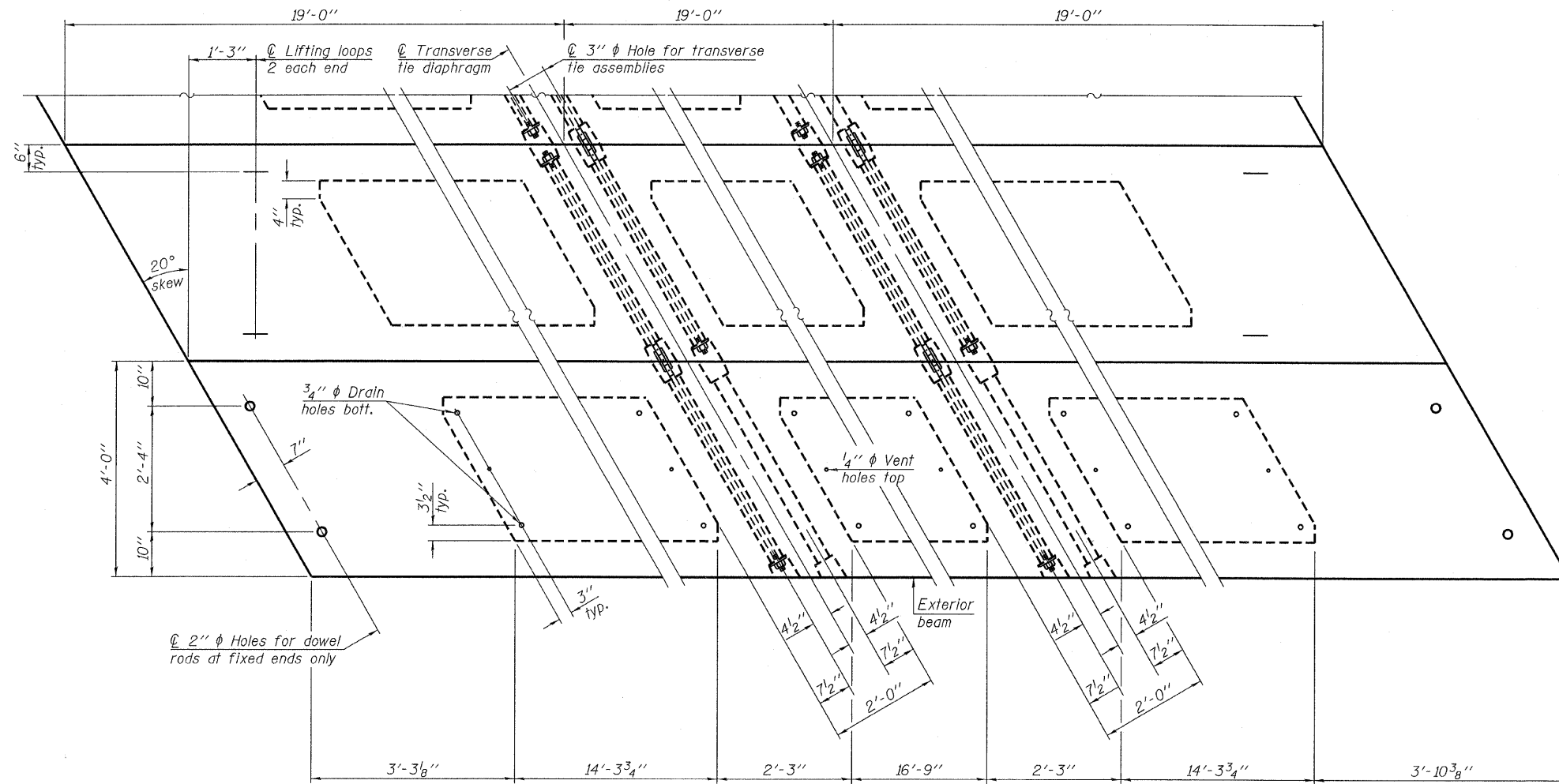
BAR U(E)



BAR A₁(E)



BAR U₁(E)

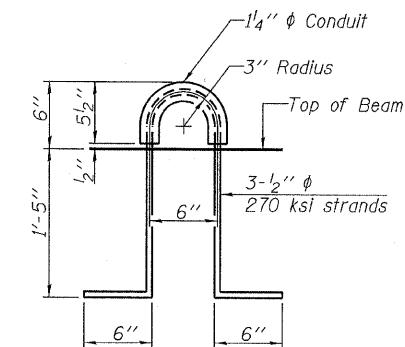


PLAN VIEW

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

NOTES

- Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in.
- The 1" rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place.
- Reinforcement bars shall conform to ASTM A 706, Grade 60. (See Special Provisions).
- 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'cl, shall be 5000 psi.



LIFTING LOOP DETAIL

BILL OF MATERIAL

| | | |
|---|---------|-------|
| Precast Prestressed Conc. Deck Bms. (21" depth) | Sq. Ft. | 1,368 |
|---|---------|-------|

**21" X 48" PPC DECK BEAM DETAILS
STRUCTURE NO. 097-3255**

| |
|-------------------|
| DESIGNED - S.M.S. |
| CHECKED - M.G.B. |
| DRAWN - D.T.M. |
| CHECKED - D.A.B. |

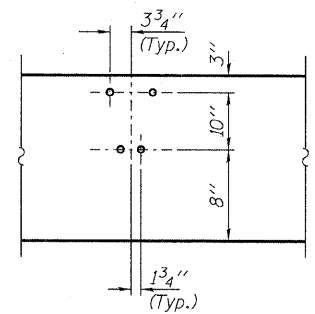
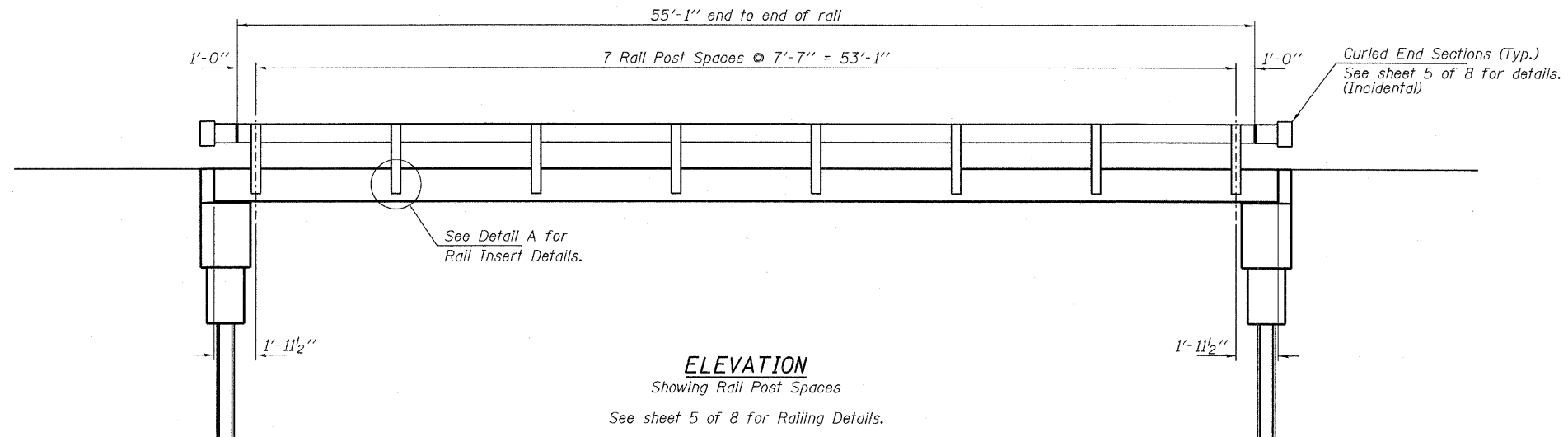
PD-2148-RD 10-1-08

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS

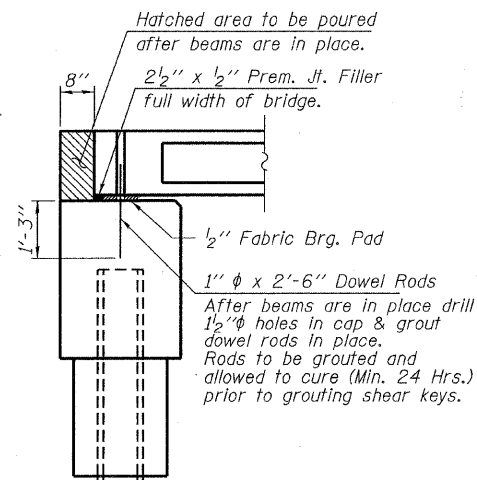
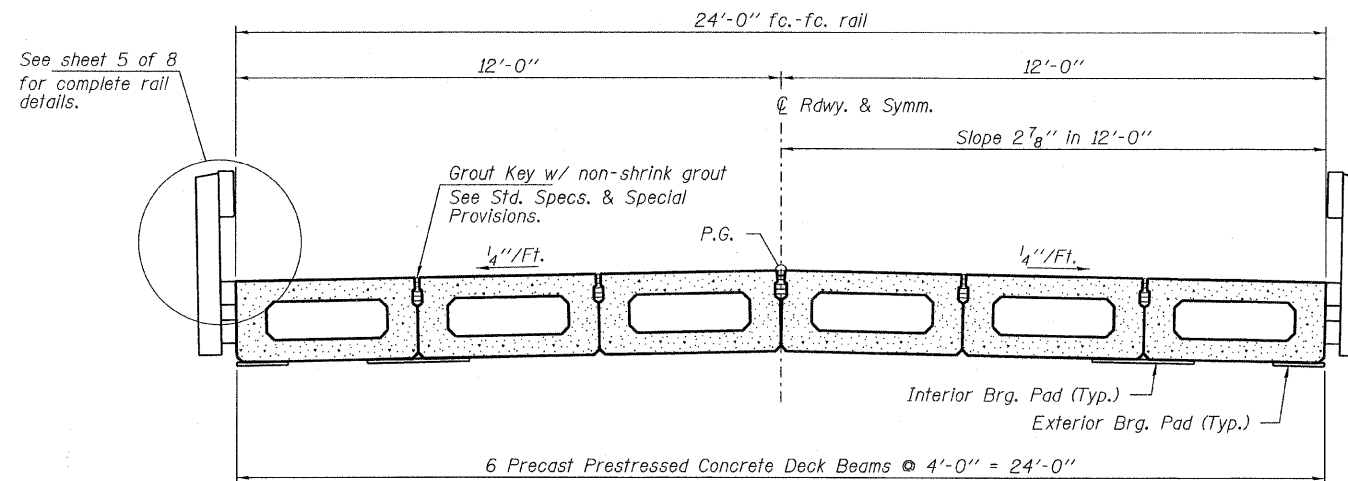
HLR 3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 548-3400

PROJECT NUMBER: 08.0262.130 DATE: 05/26/09

| | | | | | |
|---------------------|------|----------------|---------------------------|--------------|-----------|
| SHEET NO. 3 | T.R. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 8 SHEETS | 237 | 06-02123-00-BR | WHITE | 12 | 7 |
| FED. ROAD DIST. NO. | | | ILLINOIS FED. AID PROJECT | | |
| CONTRACT NO. 99364 | | | | | |



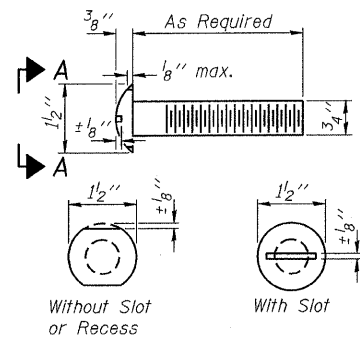
DETAIL A



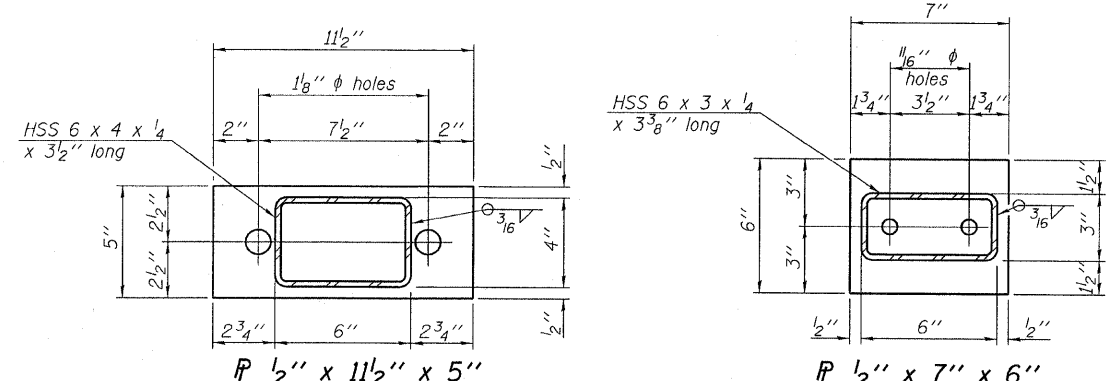
| |
|-------------------|
| DESIGNED - S.M.S. |
| CHECKED - M.G.B. |
| DRAWN - D.T.M. |
| CHECKED - D.A.B. |

SUPERSTRUCTURE DETAILS
STRUCTURE NO. 097-3255

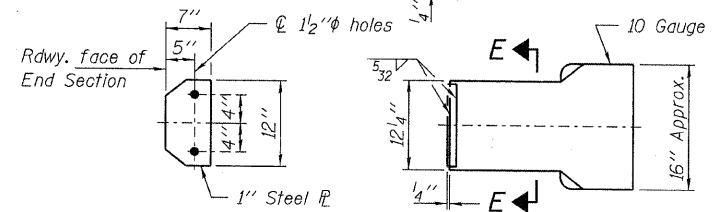
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|---|---|-------------|--|---------------------|----------------|------------------|--------------|-----------|
| HAMPTON, LENZINI & RENWICK, INC. CIVIL & STRUCTURAL ENGINEERS LAND SURVEYORS HLR 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 (217) 546-3400 | PROJECT NUMBER: 08.0262.130 DATE: 05/26/09 | SHEET NO. 4 | | T.R. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| | | 8 SHEETS | | 237 | 06-02123-00-BR | WHITE | 12 | 8 |
| | | | | CONTRACT NO. 99364 | | | | |
| | | | | FED. ROAD DIST. NO. | ILLINOIS | FED. AID PROJECT | | |



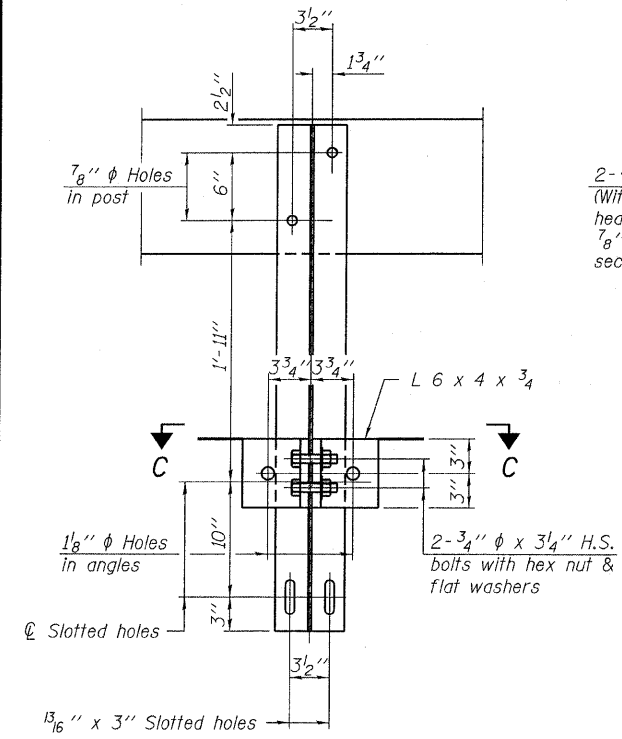
VIEW A-A
ROUND HEAD BOLT



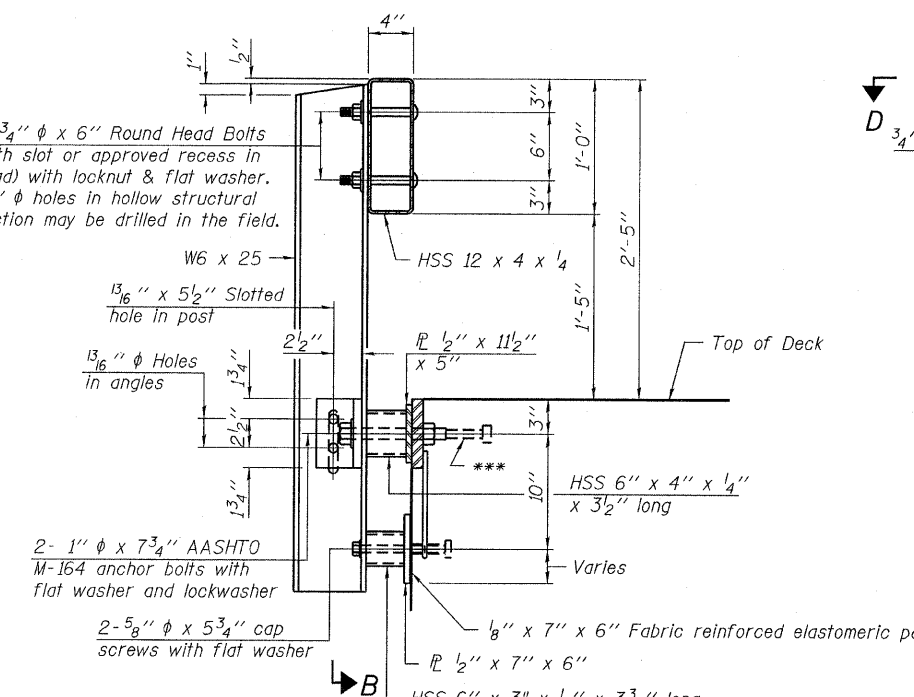
Note: Cost of curled end sections shall be included with the Steel Railing. (4 Required)



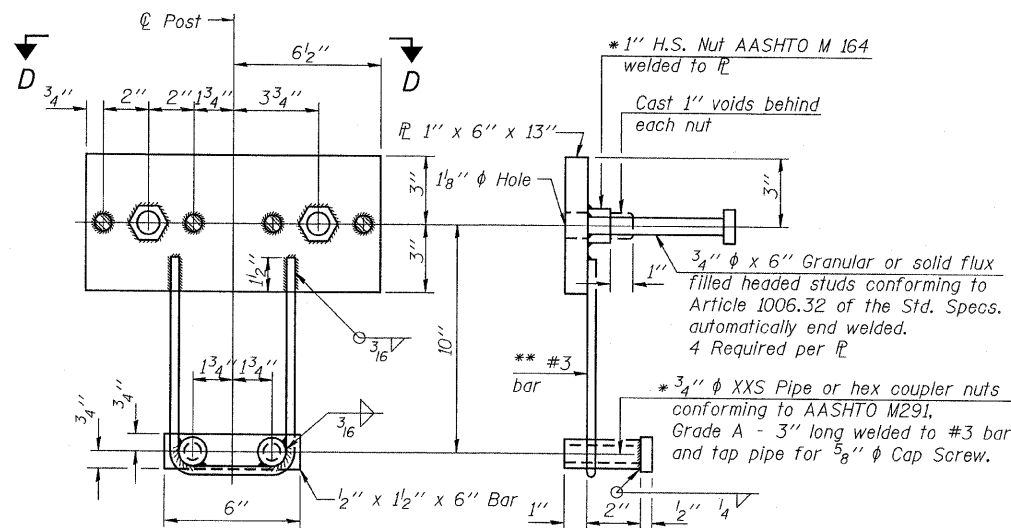
SECTION E-E CURLED END SECTION DETAILS



SECTION B-B

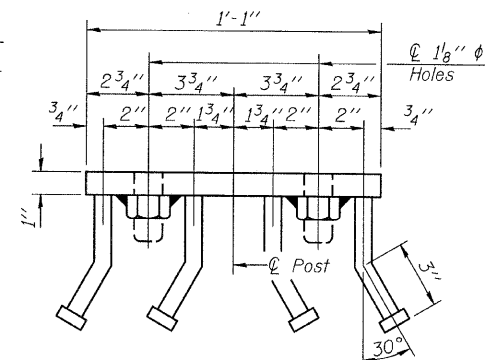


SECTION AT RAILING POST

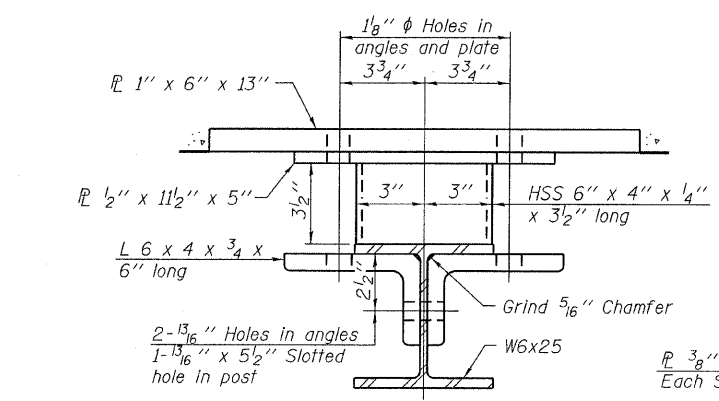


ANCHOR DEVICE

Notes:
All field drilled holes shall be coated with an approved zinc rich paint before erection.
For multi-span bridges, sufficient 1/4 inch x 6 inch x 1-2 inch 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.

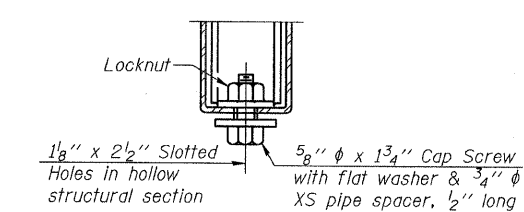


VIEW D-D

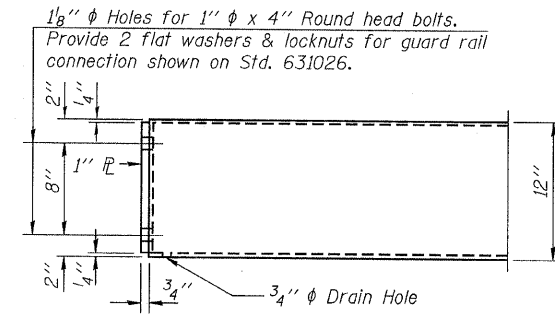


SECTION C-C

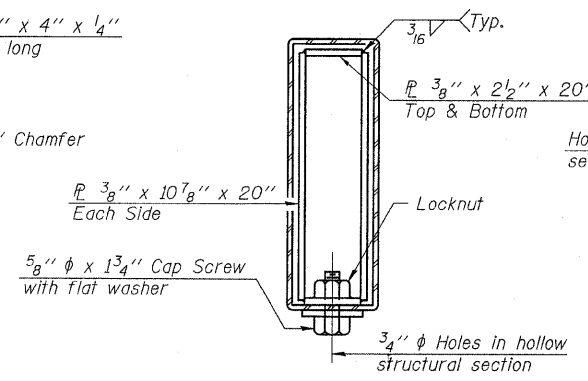
** Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed 1/2 inch.



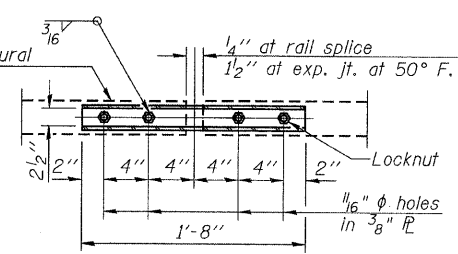
RAIL SPLICE CONNECTION AT EXPANSION JT.



END OF RAIL DETAILS



SECTIONS AT RAIL SPLICE



PLAN-BOTT. SPLICE TYPICAL

BILL OF MATERIAL

| Item | Unit | Quantity |
|-------------------------|------|----------|
| Steel Railing, Type S-1 | Foot | 110 |

STEEL RAILING, TYPE S-1
STRUCTURE NO. 097-3255

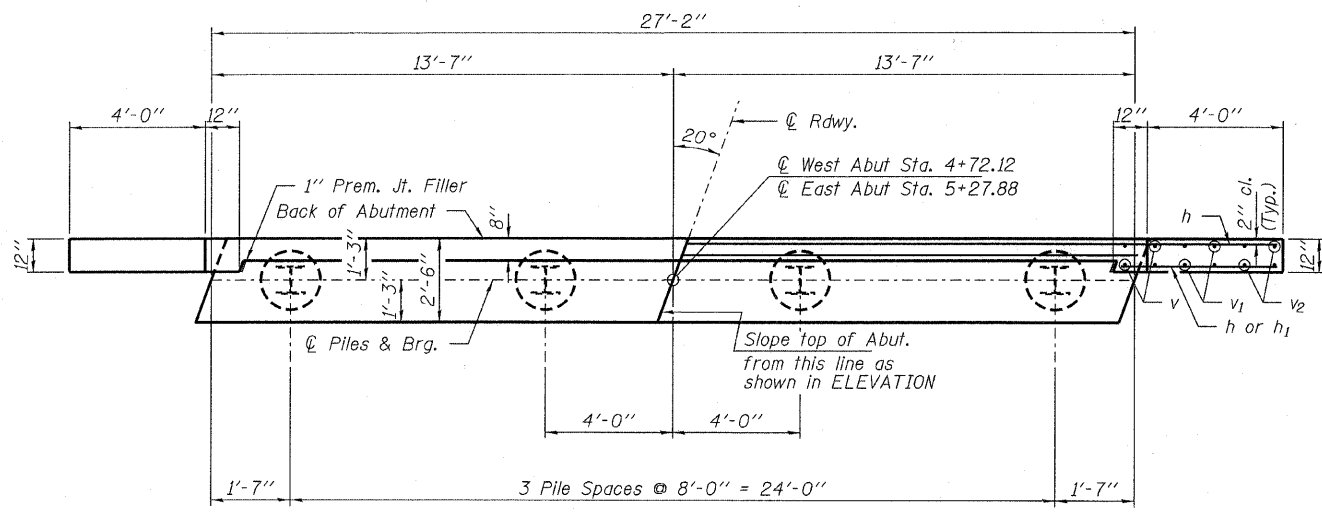
| |
|-------------------|
| DESIGNED - S.M.S. |
| CHECKED - M.G.B. |
| DRAWN - D.T.M. |
| CHECKED - D.A.B. |

R-23A

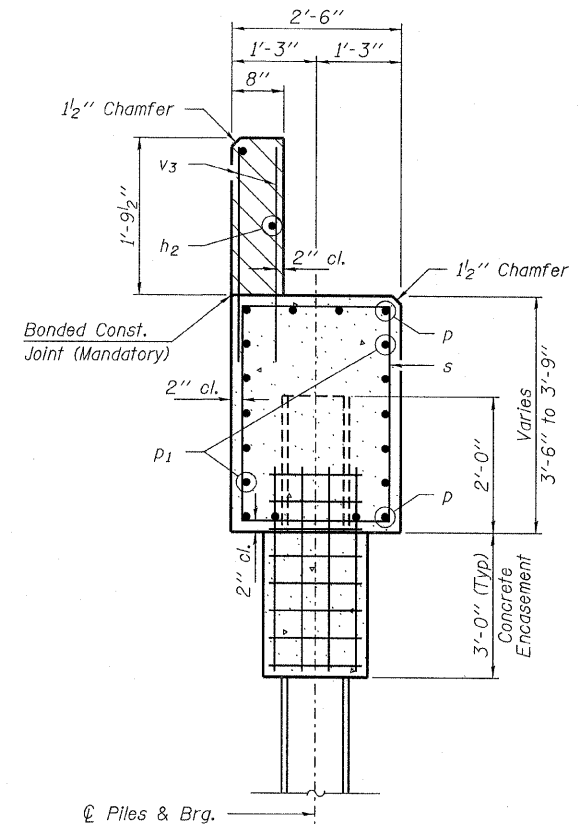
10-1-08 (10'-9" Maximum Post Spacing)

HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400

| | | | | | |
|-----------------------------|------|----------------|----------------|------------------|-----------|
| SHEET NO. 5 | T.R. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| 8 SHEETS | 237 | 06-02123-00-BR | WHITE | 12 | 9 |
| PROJECT NUMBER: 08 0282 130 | | | DATE: 05/26/99 | | |
| FED. ROAD DIST. NO. | | ILLINOIS | | FED. AID PROJECT | |
| CONTRACT NO. 99364 | | | | | |

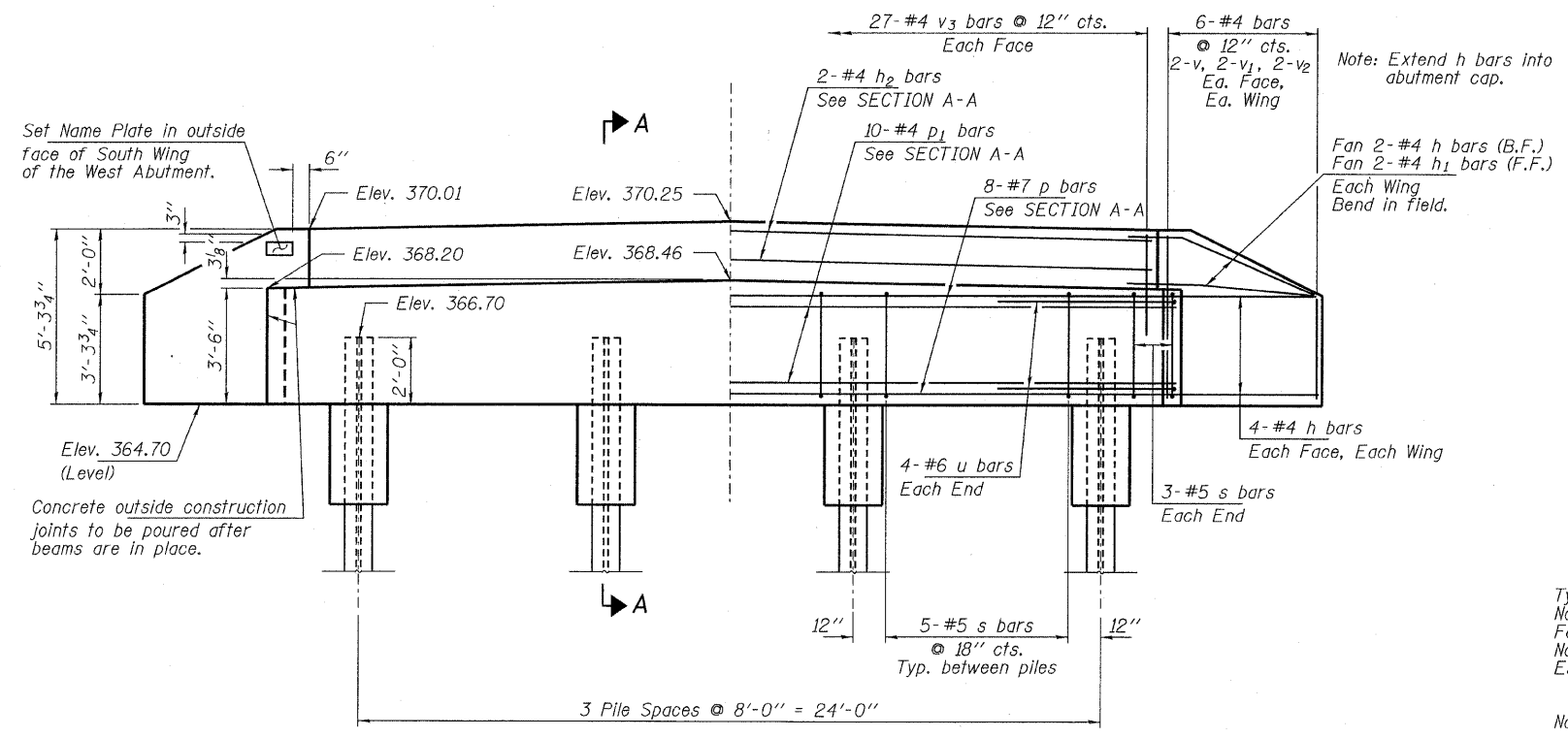
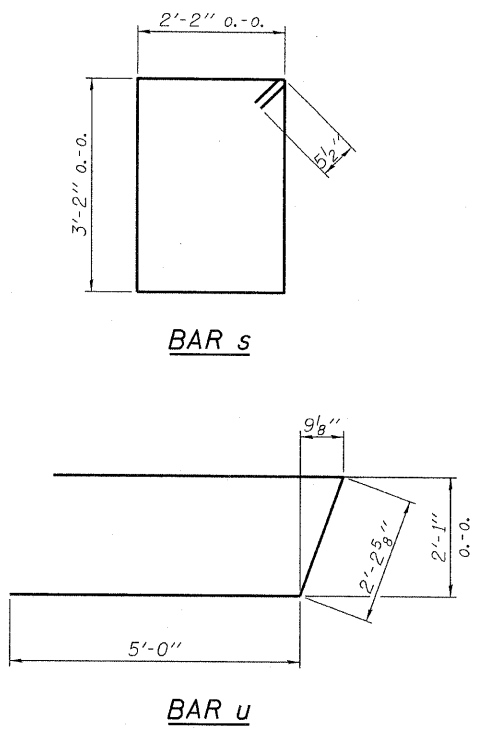


PLAN



SECTION A-A

Hatched area to be poured after beams are in place.



ELEVATION

PILE DATA

Type ----- Steel HP12x53
 No. Req'd. (2 Abut.) ----- 8
 Factored Resistance Available (Rf) ----- 209 Kips/Pile
 Nominal Required Bearing (Rn) ----- 419 Kips/Pile
 Est. Length ----- 40 Ft./Pile (W. Abut.)
 46 Ft./Pile (E. Abut.)

Notes: The Steel H-Piles shall be according to AASHTO M270 Grade 50.

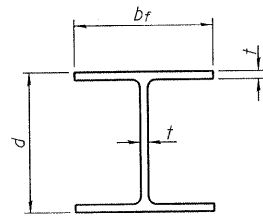
BILL OF MATERIAL - 2 ABUTS.

| BAR | NO. | SIZE | LENGTH | SHAPE |
|---------------------|-----|------|---------|-------|
| h | 40 | #4 | 6'-3" | — |
| h ₁ | 8 | #4 | 4'-9" | — |
| h ₂ | 4 | #4 | 26'-10" | — |
| p | 16 | #7 | 26'-10" | — |
| p ₁ | 20 | #4 | 26'-10" | — |
| s | 42 | #5 | 11'-7" | □ |
| u | 16 | #6 | 12'-3" | — |
| v | 16 | #4 | 4'-11" | — |
| v ₁ | 16 | #4 | 3'-11" | — |
| v ₂ | 16 | #4 | 2'-11" | — |
| v ₃ | 108 | #4 | 2'-8" | — |
| Concrete Structures | | | Cu. Yd. | 23.6 |
| Concrete Encasement | | | Cu. Yd. | 2.8 |
| Reinforcement Bars | | | Pound | 2,620 |
| Steel Piles HP12x53 | | | Foot | 344 |
| Name Plates | | | Each | 1 |

| |
|-------------------|
| DESIGNED - S.M.S. |
| CHECKED - M.G.B. |
| DRAWN - D.T.M. |
| CHECKED - D.A.B. |

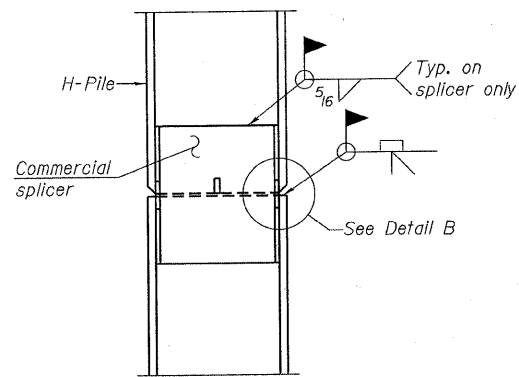
ABUTMENTS
 STRUCTURE NO. 097-3255

| | | | | | | |
|--|-----------------------------|---------------------------|----------------|--------------------|--------------|-----------|
| HAMPTON, LENZINI & RENWICK, INC. CIVIL & STRUCTURAL ENGINEERS LAND SURVEYORS 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 (217) 546-3400 | SHEET NO. 6 8 SHEETS | T.R. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| | | 237 | 06-02123-00-BR | WHITE | 12 | 10 |
| PROJECT NUMBER: 08.0262.130 | | DATE: 05/26/08 | | CONTRACT NO. 99364 | | |
| FED. ROAD DIST. NO. | | ILLINOIS FED. AID PROJECT | | | | |

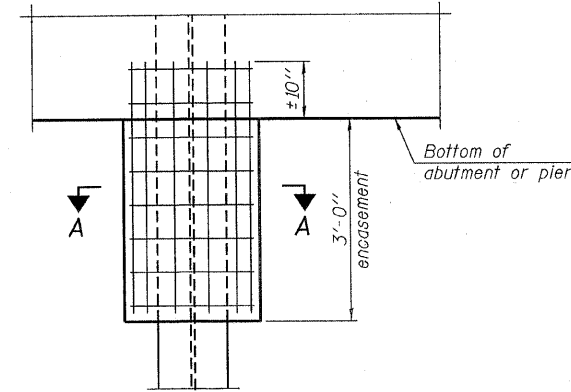


STEEL PILE TABLE

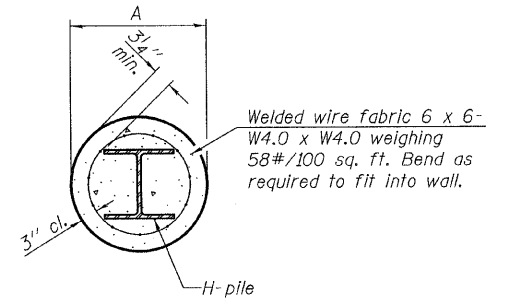
| Designation | Depth d | Flange width bf | Web and Flange thickness t | Encasement diameter A |
|-------------|---------|-----------------|----------------------------|-----------------------|
| HP 14x117 | 14 1/4" | 14 7/8" | 1 3/16" | 30" |
| x102 | 14" | 14 3/4" | 1 1/16" | 30" |
| x89 | 13 7/8" | 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



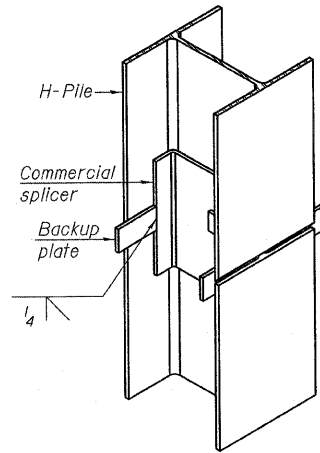
ELEVATION



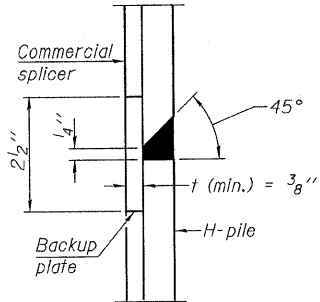
SECTION A-A

Note:
Forms for encasement may be omitted when soil conditions permit.

PILE ENCASUREMENT

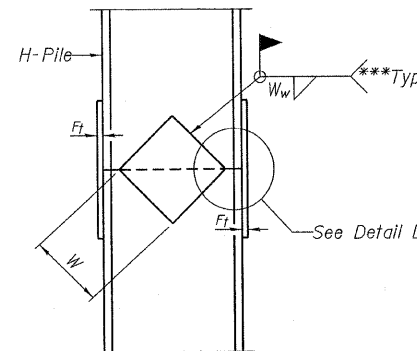


ISOMETRIC VIEW

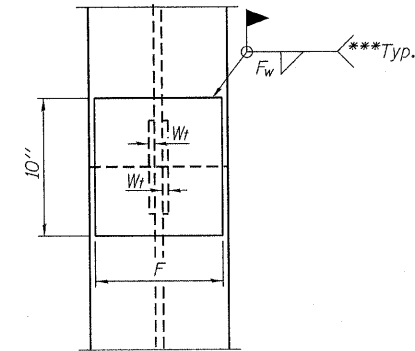


DETAIL "B"

WELDED COMMERCIAL SPLICE

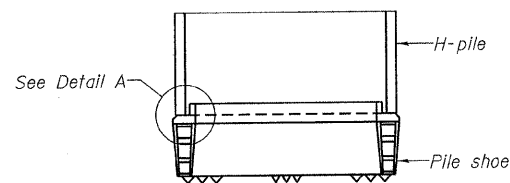


ELEVATION

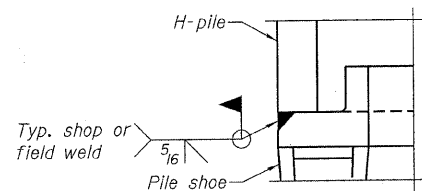


END VIEW

WELDED PLATE FIELD SPLICE

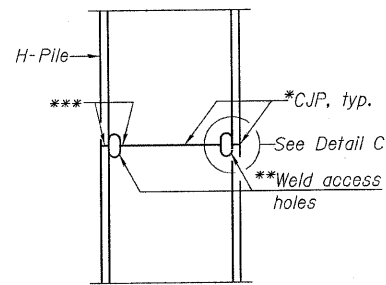


ELEVATION



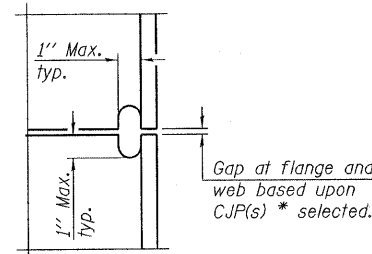
DETAIL A

H-PILE SHOE ATTACHMENT

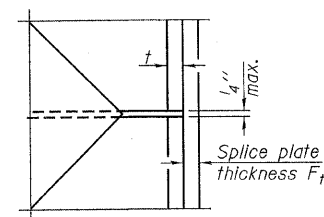


ELEVATION

COMPLETE PENETRATION WELD SPLICE



DETAIL C



DETAIL D

| Designation | F | Ft | Fw | W | Wt | Ww |
|-------------|---------|------|---------|--------|--------|------|
| HP 14x117 | 12 1/2" | 1" | 7/8" | 7 3/4" | 5 3/8" | 1/2" |
| x102 | 12 1/2" | 7/8" | 3/4" | 7 3/4" | 5 3/8" | 1/2" |
| x89 | 12 1/2" | 3/4" | 1 1/16" | 7 3/4" | 5 3/8" | 1/2" |
| x73 | 12 1/2" | 5/8" | 9/16" | 7 3/4" | 5 3/8" | 1/2" |
| HP 12x84 | 10" | 7/8" | 1 1/16" | 6 1/2" | 5 3/8" | 1/2" |
| x74 | 10" | 7/8" | 1 1/16" | 6 1/2" | 5 3/8" | 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" |

**HP PILE DETAILS
STRUCTURE NO. 097-3255**

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

- * Use joint conforming to Figure 3.4 in AWS D1.1, Structure Welding Code - Steel.
- ** Preparation per Fig. 5.2 in AWS D1.1, Structure Welding Code - Steel.
- *** Interrupt welds 1/4" from end of each pile.

| |
|-------------------|
| DESIGNED - S.M.S. |
| CHECKED - M.G.B. |
| DRAWN - D.T.M. |
| CHECKED - D.A.B. |

F-HP 10-1-08

HLR
HAMPTON, LENZINI & RENWICK, INC.
CIVIL & STRUCTURAL ENGINEERS
LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
(217) 546-3400
PROJECT NUMBER: 09.0262.130 DATE: 05/26/09

| | | | | | |
|-------------------------|------|----------------|----------|------------------|-----------|
| SHEET NO. 7 8 SHEETS | T.R. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| | 237 | 06-02123-00-BR | WHITE | 12 | 11 |
| FED. ROAD DIST. NO. | | | ILLINOIS | FED. AID PROJECT | |
| CONTRACT NO. 99364 | | | | | |

