06-14-13 LETTING ITEM 187

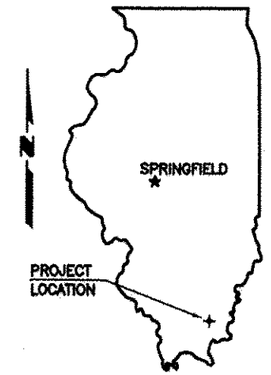
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 239	06-06117-00-BR	SALINE	14	1
PROJECT NO. BROS-165(30)		CONTRACT NO. 99488		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED
HIGHWAY BRIDGE PROGRAM

TOWNSHIP ROUTE 239 (BRIER CREEK ROAD)
HARRISBURG TOWNSHIP
SECTION 06-06117-00-BR
PROJECT NO. BROS-165(30)
JOB NO. C-99-518-07
BRIER CREEK

SALINE COUNTY

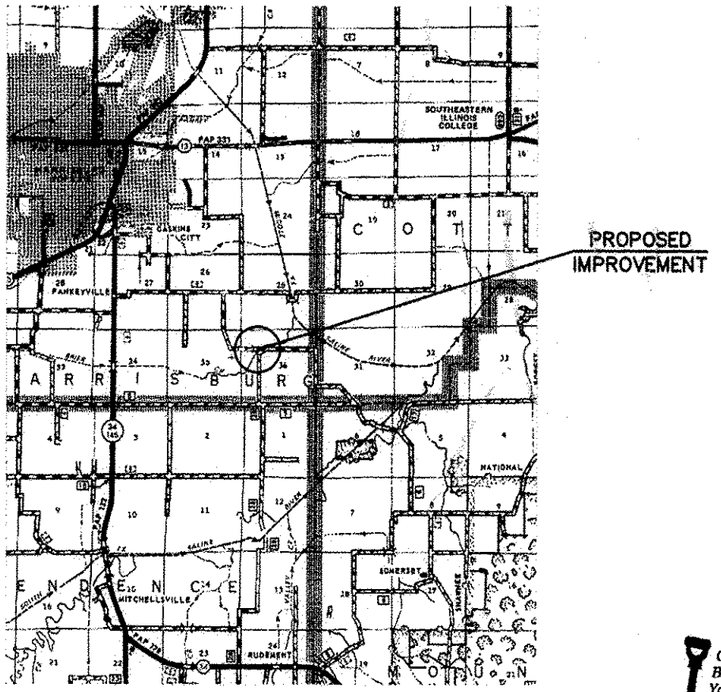


INDEX OF SHEETS

SUMMARY OF QUANTITIES

CODE NO.	PAY ITEM	UNIT	TOTAL
* X2501000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.5
20100110	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	43
20100210	TREE REMOVAL (OVER 15 UNITS DIAMETER)	UNIT	55
20200100	EARTH EXCAVATION	CU YD	554
* 20300100	CHANNEL EXCAVATION	CU YD	199
* 28100809	STONE DUMPED RIPRAP, CLASS A5	TON	223
* 40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	712
* 50100300	REMOVAL OF EXISTING STRUCTURE NO. 1	EACH	1
* 50100400	REMOVAL OF EXISTING STRUCTURE NO. 2	EACH	1
50200100	STRUCTURE EXCAVATION	CU YD	63
50300225	CONCRETE STRUCTURES	CU YD	19.4
50300280	CONCRETE ENCASEMENT	CU YD	2.7
50400405	PRECAST PRESTRESSED CONCRETE DECK BEAMS (21" DEPTH)	SQ FT	1224
50800105	REINFORCEMENT BARS	POUND	2300
Δ 50900205	STEEL RAILING, TYPE S1	FOOT	104
51201400	FURNISHING STEEL PILES HP10X42	FOOT	300
51202305	DRIVING PILES	FOOT	300
51500100	NAME PLATES	EACH	1
542A5503	PIPE CULVERTS, CLASS A, TYPE 1 EQUIVALENT ROUND-SIZE 48"	FOOT	42
67100100	MOBILIZATION	L SUM	1
Δ 78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4

* SEE SPECIAL PROVISIONS Δ SPECIALTY ITEMS



LOCATION MAP
SCALE: 1" = 2 MILES

NET LENGTH OF IMPROVEMENT = 590.62 FT. = 0.1119 MILES

CLASSIFICATION : LOCAL ROAD (RURAL)
ADT : 175
DESIGN SPEED : 30 MPH

CONTRACT NO. 99488

EDWARD W. MILLER, SR. 25277 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS 3-25-13

E. MILLER ENGINEERING, INC.
CONSULTING ENGINEERS
HARRISBURG, ILLINOIS

Edward W. Miller
PROFESSIONAL ENGINEER
#062-025277
EXPIRES NOV. 30, 2013

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JULIE ILLINOIS ONE-CALL SYSTEM
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ILLINOIS DEPARTMENT OF TRANSPORTATION

Approved 3-27-13
Ben Smith
Harrisburg Township Road Commissioner

Approved 03-27-13
Saline County Engineer

Passed 4/11/13
Dan W. Hall
District 9 Engineer of Local Roads and Streets

Releasing for Bid Based on Limited Review 4/11/13
Deputy Director of Highways, Region 5 Engineer
Illinois Department of Transportation

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 239	06-06117-00-BR	SALINE	14	2
PROJECT NO. BROS-165(30)			CONTRACT NO. 99488	

B.M. - RR Spike in TP
37' Lt. Sta. 5+44
Elev. 357.00

Structure No. 1 - Concrete deck on steel stringers with closed concrete abutments.
21.7' Wide x 42.8' Long.

Station 5+06.60 - Single span precast prestressed concrete deck beam bridge
52'-7" bk-bk Abutments

Structure No. 2 to be removed
4' x 3' concrete box culvert

Structure No. 1 to be removed

Begin Improvement - Station 32+02

Pipe Culvert, Class A, Type 1
Equivalent Round-Size 48" - 42 Ft.
US ℄ 21' Rt. Sta. 32+49 Elev. 350.3
DS ℄ 21' Lt. Sta. 32+49 Elev. 349.1

IP Sta. 34+73.32 = Sta. 4+36.86

End Improvement - Station 5+90

Exist. ROW
50' Transition
UTC
Woods
Crops
Rad. 223.52'
Rad. 408.55'
Rad. 413.55'
PT STA=32+71.31
PT STA=7+02.30
PC STA=5+96.00
PT STA=36+25.17
40' R
18'5"
25'
20'
38.82'Rt +99.82
28.69'Rt +39.78
34.68'Rt +39.43
30.97'Rt +91.58
25.97'Rt +91.59
24.07'Rt +80.74
30' Rt +79.42
30' Rt +28.88
+41.80 8"
31+00
32+00
33+00
34+00
35+00
36+00
9+00
8+00
7+00
6+00
5+00

Tree Removal

Sta.	Offset	Unit Dia.
34+53	24' Rt.	9
34+66	28' Rt.	6
34+81	27' Rt.	7
35+58	24' Rt.	7
35+65	18' Rt.	22
35+89	22' Rt.	14
35+97	17' Rt.	17
4+83	16' Rt.	16

Note: All trees listed are stumps.

EXISTING CURVE DATA

PI Sta = 16+51.23
Δ = 56°41'24" T = 61.23'
D = 50°28'51" L = 112.30'
R = 113.50' E = 15.46'
S.E. = 0.0075'/Ft.

CURVE DATA

PI Sta = 34+72.08
Δ = 67°34'54" T = 200.76'
D = 19°05'55" L = 353.86'
R = 300.00' E = 60.98'
S.E. = 0.040'/Ft.
Attain Sta. 32+02.0 to Sta. 32+94.4
Remove Sta. 36+02.1 to Sta. 36+94.5

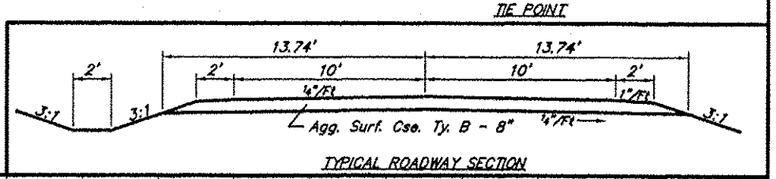
SCALES:
1" = 80' HOR
1" = 10' VER

N&C in TP
56.72'
21.78'
41.12'
℄
Inside Corner Parapet Wall
Sta. 14+50
60d Spike

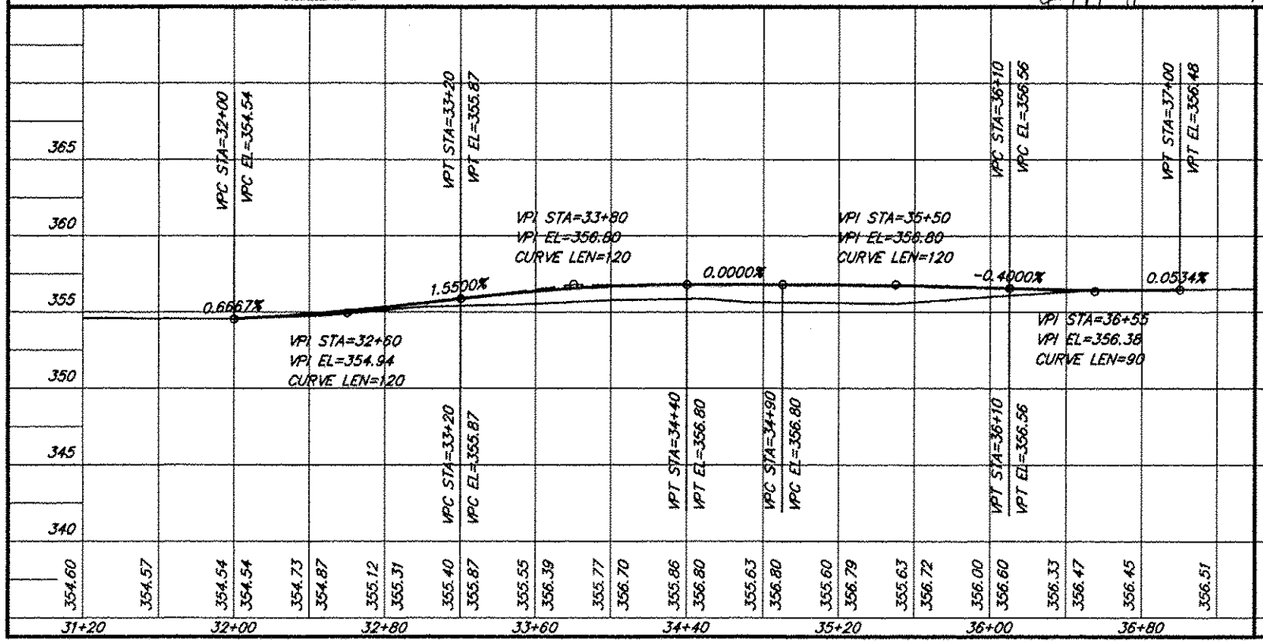
TIE POINT

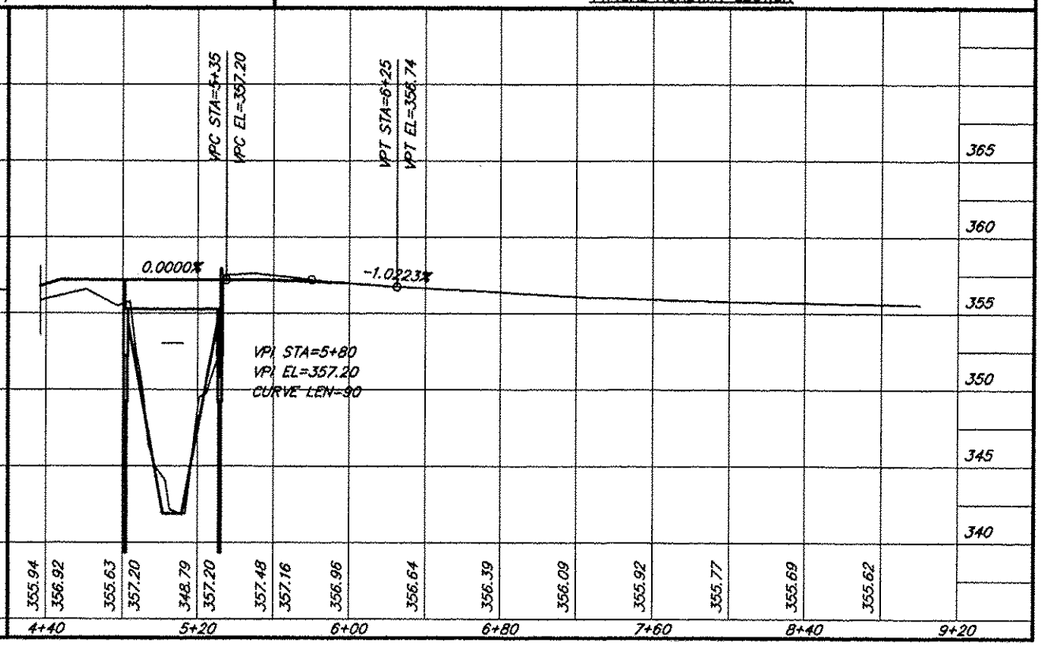
N&C in PP
25.06'
23.26'
9.14'
℄
Inside Corner Parapet Wall
Sta. 15+31
60d Spike

TIE POINT



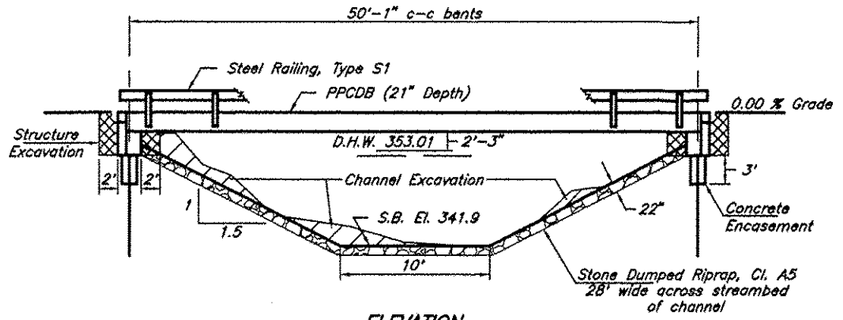
TYPICAL ROADWAY SECTION





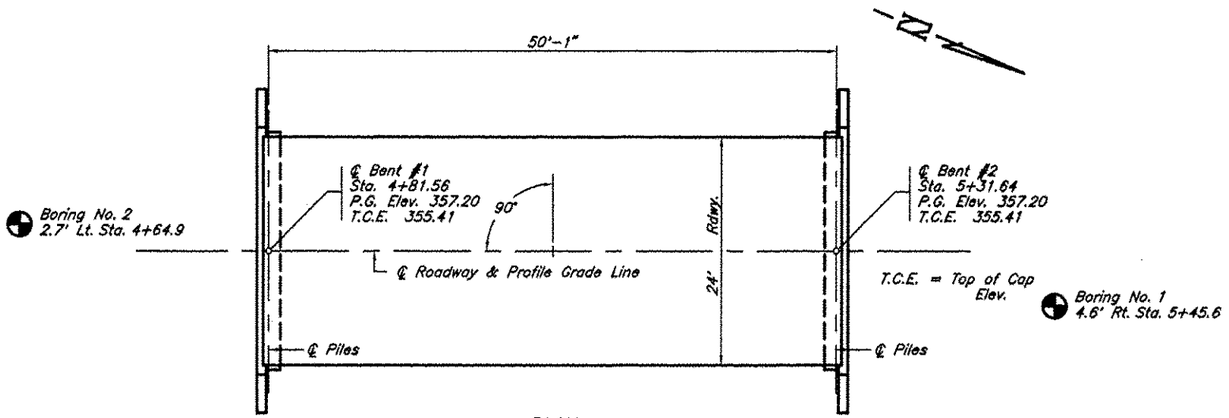
B.M. – RR Spike in Telephone Pole
37' Lt. Station 5+44
Assumed Elev. 357.00

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 239	06-06117-00-BR	SALINE	14	3
PROJECT NO. BROS-165(30)		CONTRACT NO. 99488		



ELEVATION

Structure No. 1 – Concrete deck on steel stringers with closed concrete abutments.
21.7' wide x 42.8' long



PLAN

GENERAL NOTES

1. Steel H piles shall meet AASHTO M270 Grade 50 specifications.
2. See special provisions for boring logs.
3. A Corrosion inhibitor, as covered in the Standard Specifications, shall be used in the precast prestressed concrete deck beams.

TOTAL BILL OF MATERIAL

Item	Unit	Super	Sub. Piers	Sub. Abuts.	Total
Channel Excavation	Cu. Yds.			199	199
Stone Dumped Riprap, Cl. A5	Tons			223	223
Removal of Existing Structure No. 1	Each				1
Structure Excavation	Cu. Yds.			63	63
Concrete Structures	Cu. Yds.			19.4	19.4
Concrete Encasement	Cu. Yds.			2.7	2.7
P.P. Conc. Dk. Bm. 21" Dp.	Sq. Ft.	1224			1224
Reinforcement Bars	Pound			2300	2300
Steel Railing, Type S1	Foot	104			104
Furnishing Steel Piles HP10X42	Foot			300	300
Driving Piles	Foot			300	300
Name Plates	Each			1	1

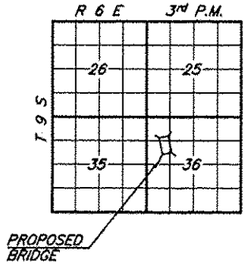
PILE DATA (2-ABUTS.)

Type & Size : HP10X42
Nominal Required Bearing : 260 kips
Factored Resistance Available : 143 kips
Estimated Length : 37 Feet Bent #1, 38 Feet Bent #2
Number Required : 8

BRIER CREEK
SEC. 06-06117-00-BR BUILT 20___
HARRISBURG TOWNSHIP
SALINE COUNTY
LOADING HL-93
STR. NO. 083-3237

LETTERING FOR NAME PLATE

Locate Name Plate at southeast Corner of Bridge (See Sheet 10)



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 type of structure and complies with the requirements of the current AASHTO LRFD Specifications.

Zeyn B. Uzman
S.E. #81-4745
Expires Nov. 30, 2014

LICENSED STRUCTURAL ENGINEER
ZEYN UZMAN 4745
STATE OF ILLINOIS

DESIGN SPECIFICATIONS

2007 AASHTO LRFD Bridge Design Specifications and all applicable interims.

LOADING HL-93

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

SEISMIC DATA

Soil Site Class = C
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.706
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.255
Seismic Performance Zone (SPZ) = 2

WATERWAY INFORMATION

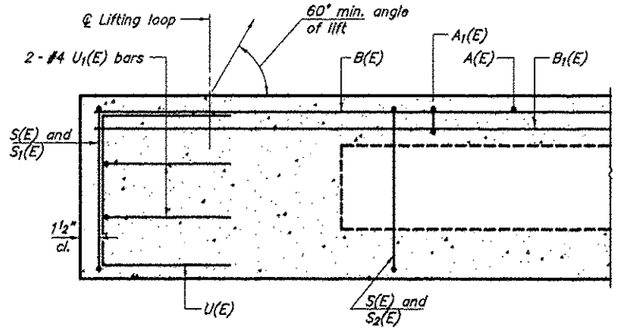
Drainage Area = 7.25 Sq. Mi. Low Grade Elev. = 354.54 At Sta. 32+00

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Natural H.W.E. Exist.	Natural H.W.E. Prop.	Head-Ft. Exist.	Head-Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
Design	15	1810	227.5	296.7	353.07	353.01	0.70	0.00	353.77	353.01
Base	100	2950	271.2	368.9	354.66	354.59	0.81	0.91	355.47	355.50
Overtopping	±242	3548		387.9		355.06		2.14		357.20
Max. Calc.	500									

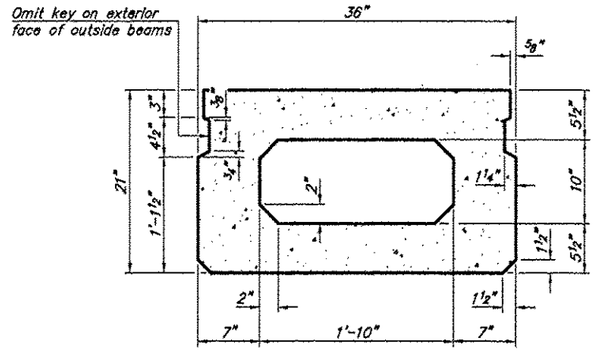
$Q_{(100)}$
Over Road Flow (Sq Ft): Exist. 289.7
Note: Deck elevation used for overtopping to allow for future raising of the approaches

GENERAL PLAN & ELEVATION
TOWNSHIP ROUTE 239 (BRIER CREEK ROAD)
BRIER CREEK
SECTION 06-06117-00-BR
SALINE COUNTY
STRUCTURE NO. 083-3237

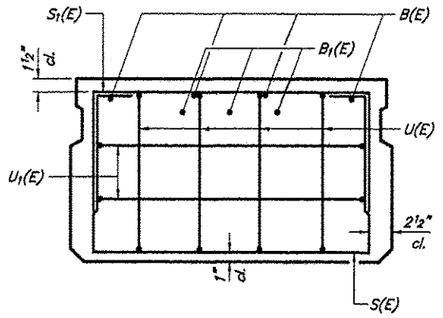
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
TR 239	06-06117-00-BR	SALINE	14	4
PROJECT NO. BROS-165(30)		CONTRACT NO. 99488		



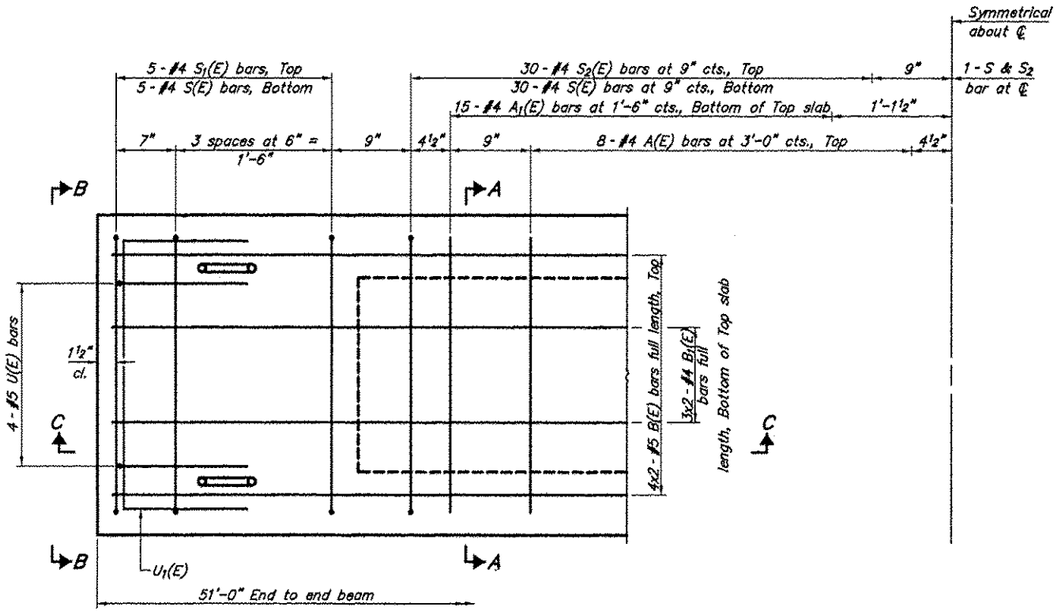
SECTION C-C



SECTION A-A
(Showing dimensions)

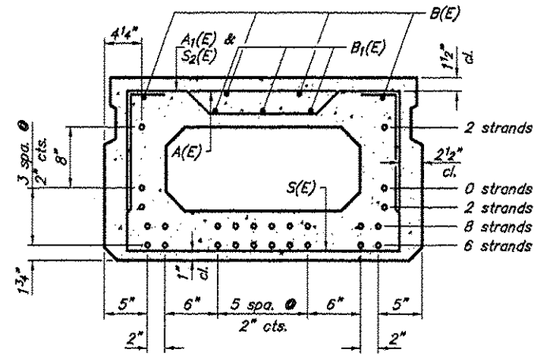


VIEW B-B



PLAN VIEW

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 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.

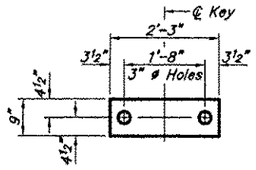
BAR LIST
ONE BEAM ONLY
(For information only)

Bar	No.	Size	Length	Shape
A(E)	16	#4	2'-7"	
A1(E)	30	#4	2'-10"	
B(E)	8	#5	26'-5"	
B1(E)	6	#4	26'-2"	
S(E)	71	#4	6'-5"	
S1(E)	10	#4	4'-11"	
S2(E)	61	#4	5'-2"	
U(E)	8	#5	4'-0"	
U1(E)	4	#4	5'-0"	

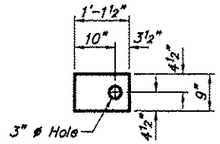
Bar Laps #4 bars = 1'-8"
#5 bars = 2'-2"

21" X 36" PPC DECK BEAM
TOWNSHIP ROUTE 239 (BRIER CREEK ROAD)
BRIER CREEK
SECTION 06-06117-00-BR
SALINE COUNTY
STRUCTURE NO. 083-3237

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
TR 239	06-06117-00-BR	SALINE	14	5
PROJECT NO. BROS-165(30)		CONTRACT NO. 99488		



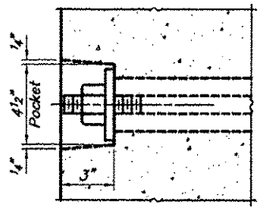
FABRIC BEARING PAD
(Interior)



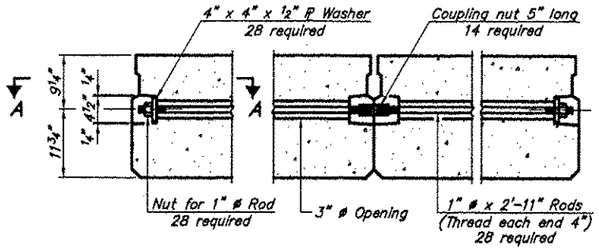
FABRIC BEARING PAD
(Exterior)

FIXED

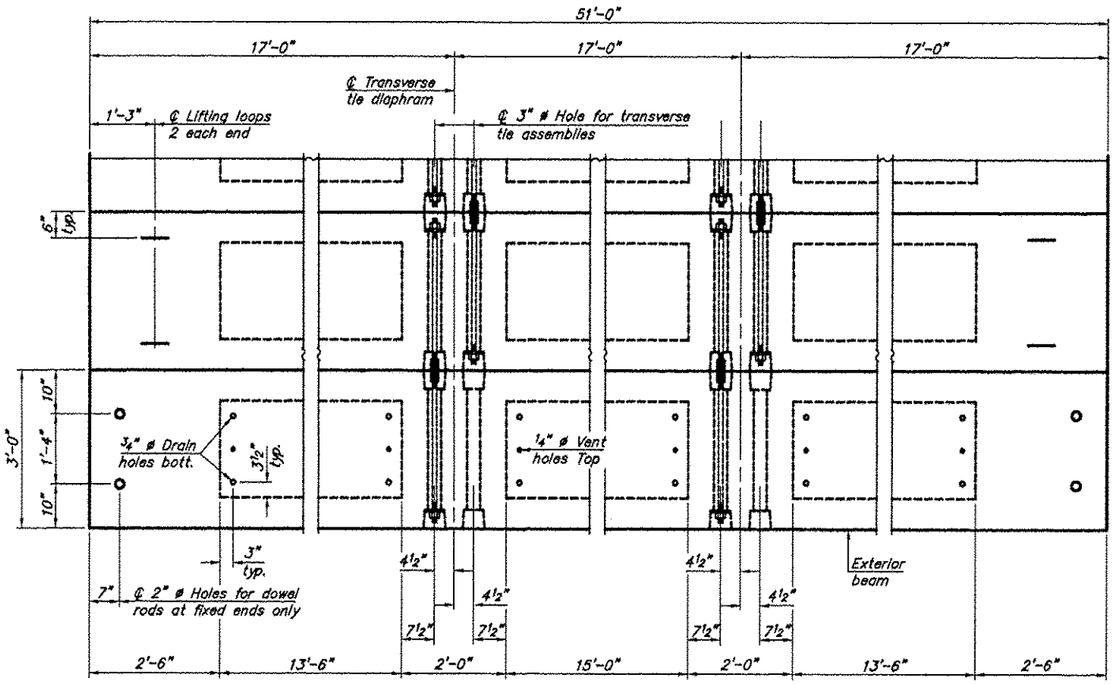
Note: Omit holes when using expansion bearings.



SECTION A-A

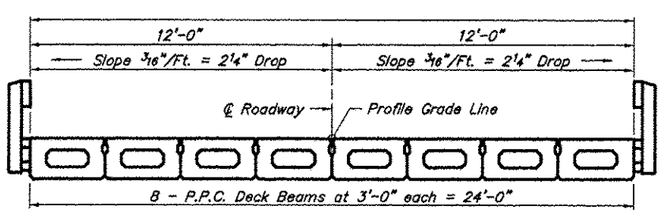


TYPICAL TRANSVERSE TIE ASSEMBLY

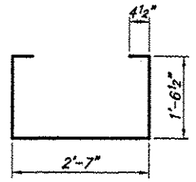


PLAN VIEW

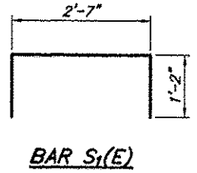
Note: Connect beams in pairs with the transverse tie configuration shown.



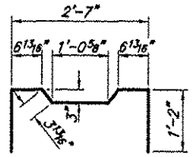
CROSS SECTION



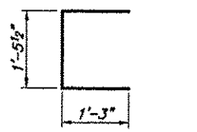
BAR S(E)



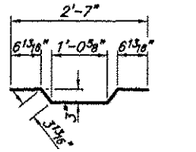
BAR S1(E)



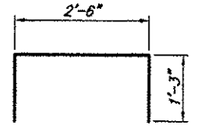
BAR S2(E)



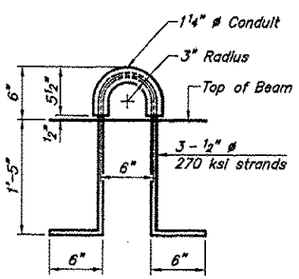
BAR U(E)



BAR A1(E)



BAR U1(E)



LIFTING LOOP DETAIL

NOTES

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be ½" and the nominal cross-sectional area shall be 0.153 sq. in.

The 1" ø 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 ⅛" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.

A minimum 2½" ø 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.

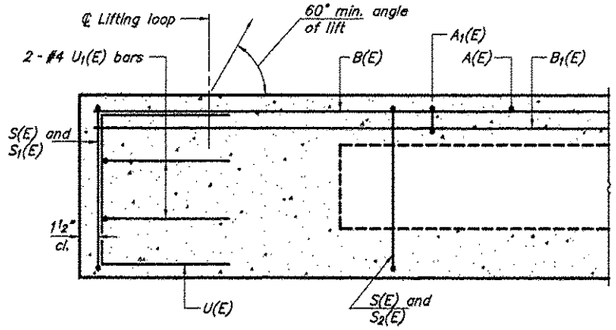
Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi.

BILL OF MATERIAL

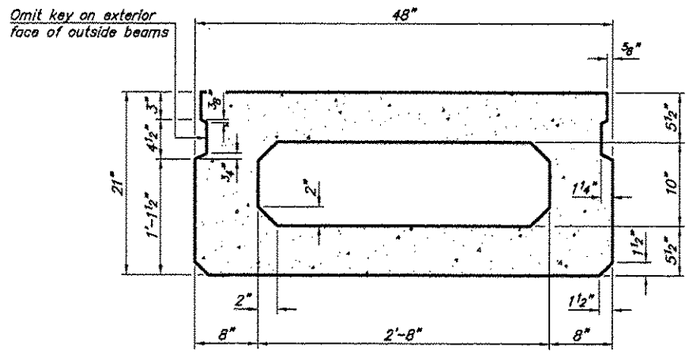
Precast Prestressed Conc. Deck Bms. (21" depth)	Sq. Ft.	1224

21" X 36" PPC DECK BEAM DETAILS
TOWNSHIP ROUTE 239 (BRIER CREEK ROAD)
BRIER CREEK
SECTION 06-06117-00-BR
SALINE COUNTY
STRUCTURE NO. 083-3237

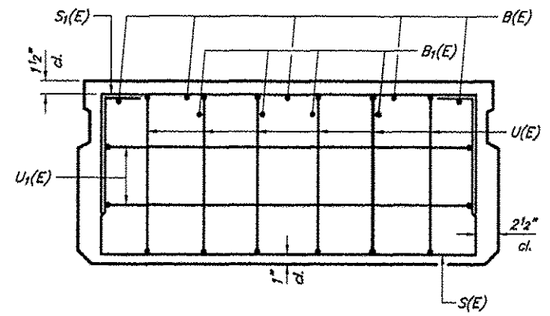
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
TR 239	06-06117-00-BR	SALINE	14	6
PROJECT NO. BROS-165(30)		CONTRACT NO. 99488		



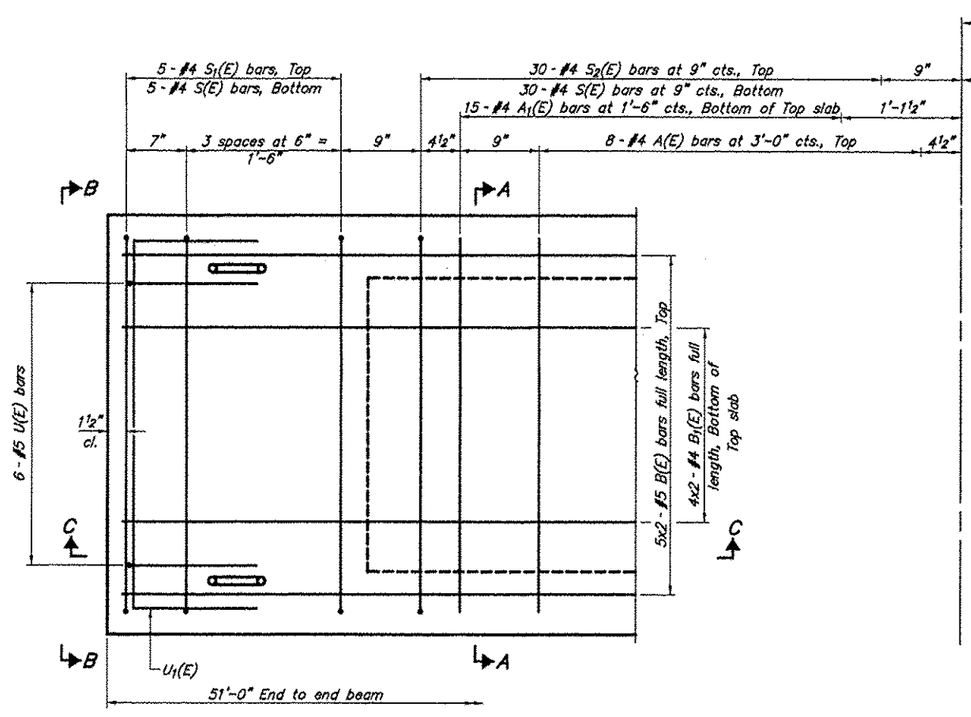
SECTION C-C



SECTION A-A
(Showing dimensions)

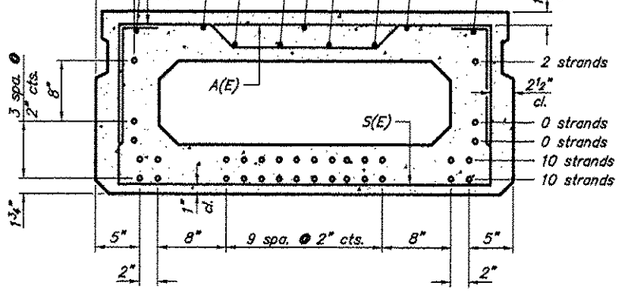


VIEW B-B



PLAN VIEW

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 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.

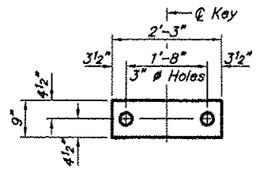
BAR LIST
ONE BEAM ONLY
(For information only)

Bar	No.	Size	Length	Shape
A(E)	16	#4	3'-7"	
A1(E)	30	#4	3'-10"	
B(E)	10	#5	26'-5"	
B1(E)	8	#4	26'-2"	
S(E)	71	#4	7'-5"	
S1(E)	10	#4	5'-11"	
S2(E)	61	#4	6'-2"	
U(E)	12	#5	4'-0"	
U1(E)	4	#4	6'-0"	

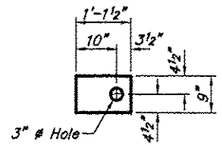
Bar Laps #4 bars = 1'-8"
#5 bars = 2'-2"

21" X 48" PPC DECK BEAM
TOWNSHIP ROUTE 239 (BRIER CREEK ROAD)
BRIER CREEK
SECTION 06-06117-00-BR
SALINE COUNTY
STRUCTURE NO. 083-3237

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
TR 239	06-06117-00-BR	SALINE	14	7
PROJECT NO. BROS-165(30)		CONTRACT NO. 99488		



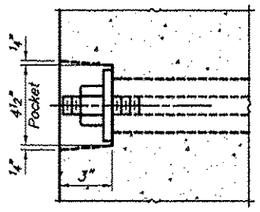
FABRIC BEARING PAD
(Interior)



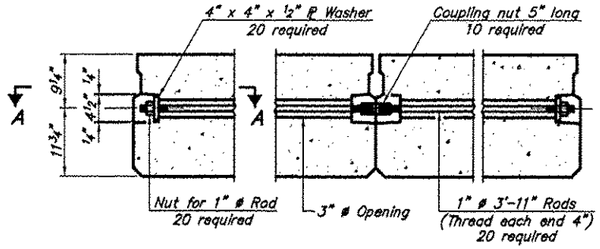
FABRIC BEARING PAD
(Exterior)

FIXED

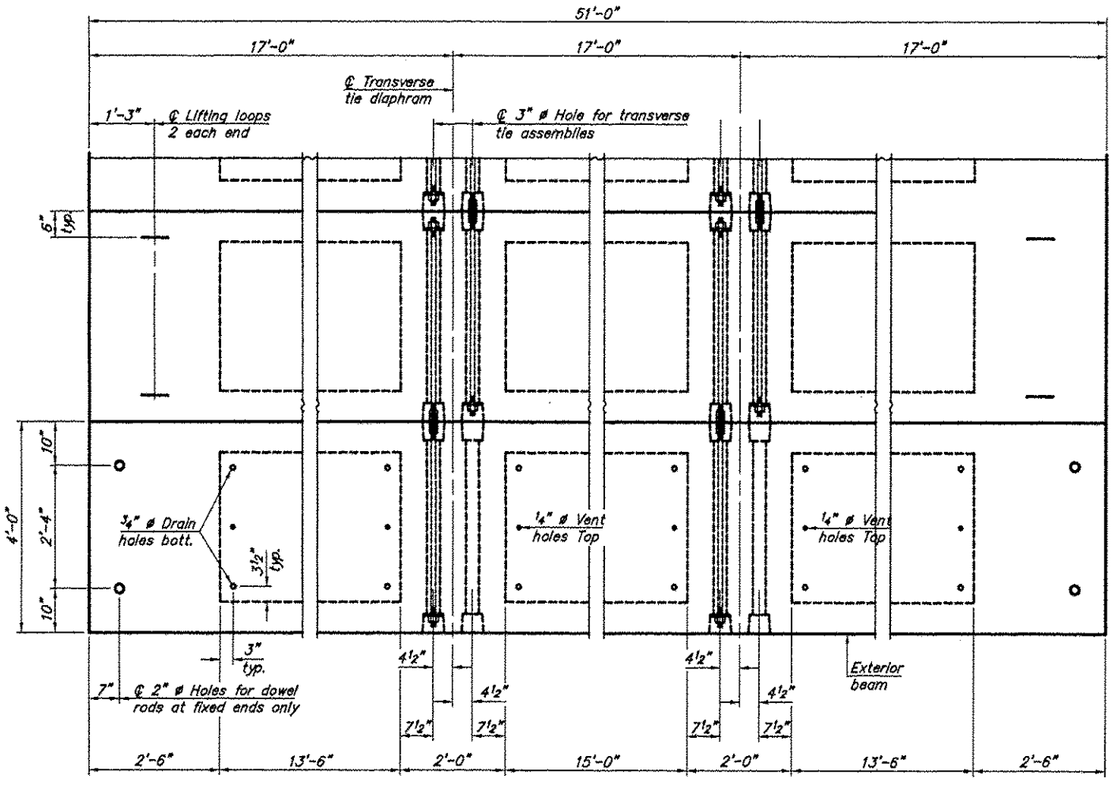
Note: Omit holes when using expansion bearings.



SECTION A-A

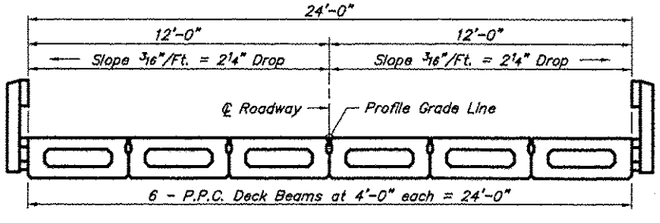


TYPICAL TRANSVERSE TIE ASSEMBLY

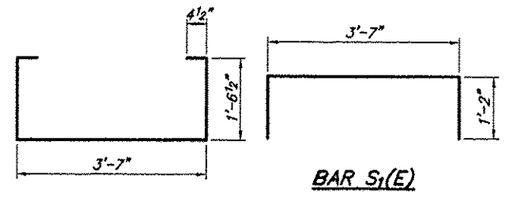


Note: Connect beams in pairs with the transverse tie configuration shown.

PLAN VIEW

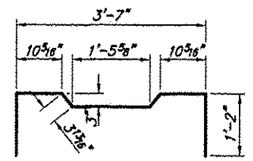


CROSS SECTION

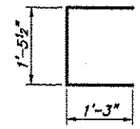


BAR S(E)

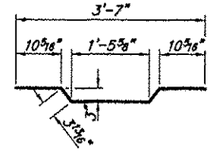
BAR S1(E)



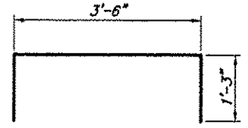
BAR S2(E)



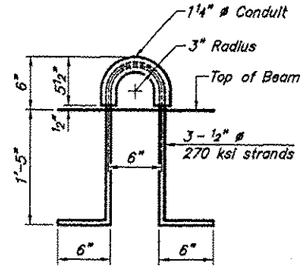
BAR U(E)



BAR A1(E)



BAR U1(E)



LIFTING LOOP DETAIL

NOTES

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be ½" and the nominal cross-sectional area shall be 0.153 sq. in.

The 1" ø 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 ⅛" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.

A minimum 2½" ø 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.

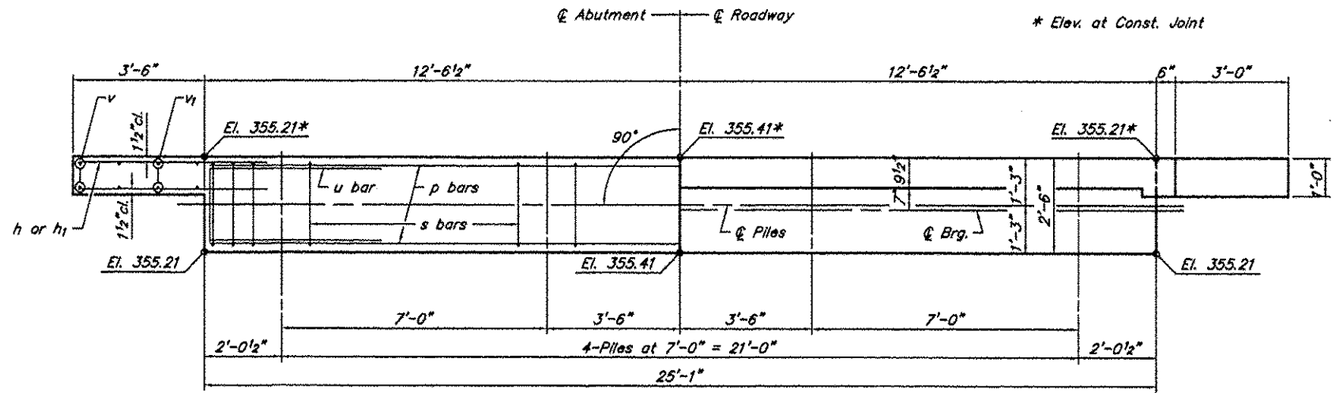
Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi.

BILL OF MATERIAL

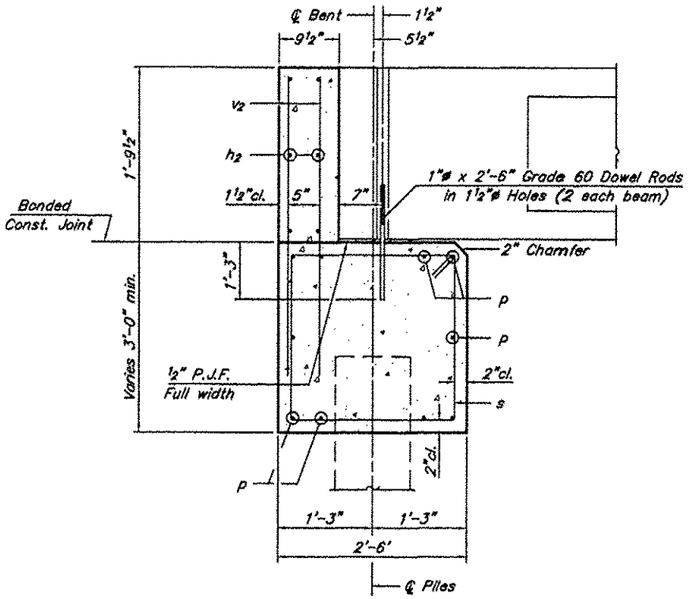
Precast Prestressed Concrete Deck Beams (21" depth)	Sq. Ft.	1224

21" X 48" PPC DECK BEAM DETAILS
TOWNSHIP ROUTE 239 (BRIER CREEK ROAD)
BRIER CREEK
SECTION 06-06117-00-BR
SALINE COUNTY
STRUCTURE NO. 083-3237

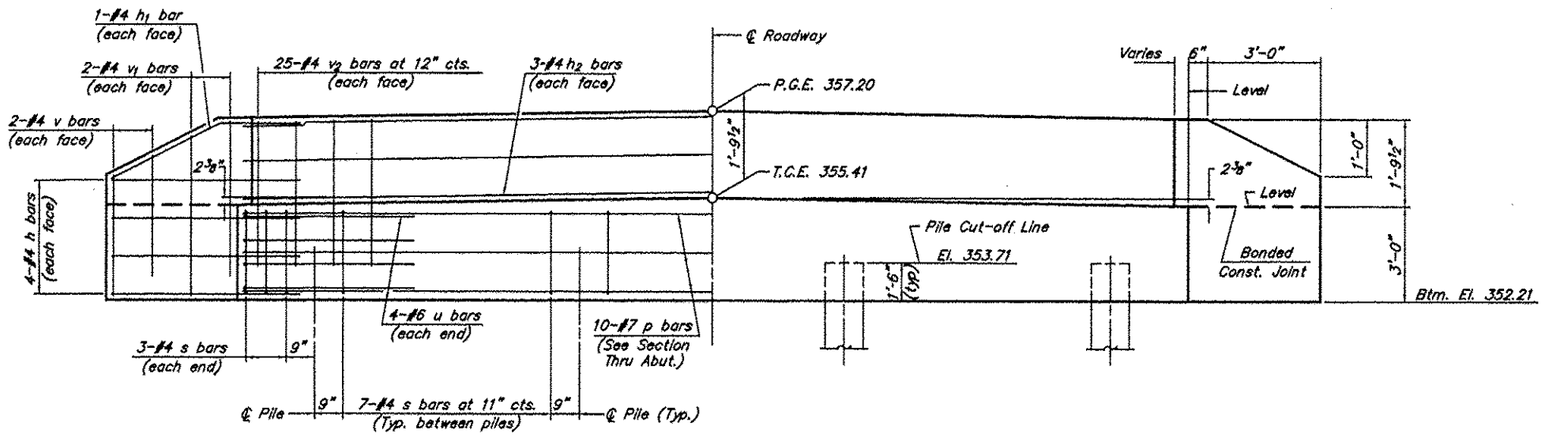
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
TR 239	06-06117-00-BR	SALINE	14	8
PROJECT NO. BROS-165(30)		CONTRACT NO. 99488		



PLAN



SECTION THRU ABUT.
(At Right Angles)



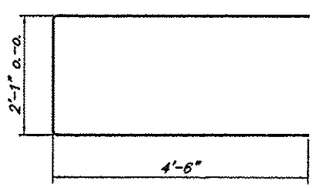
ELEVATION

NOTES

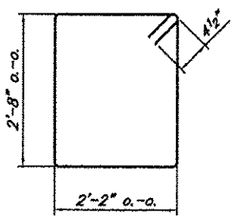
1. The Backwall and the portion of the Wingwalls above the bonded construction joint shall be cast against the in-place beam.
2. Reinforcement bars shall conform to A.A.S.H.T.O. M-31, M-42 or M-53, Grade 60.

DESIGN STRESSES

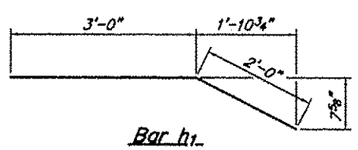
f'c = 3,500 psi
fy = 60,000 psi



Bar u



Bar s



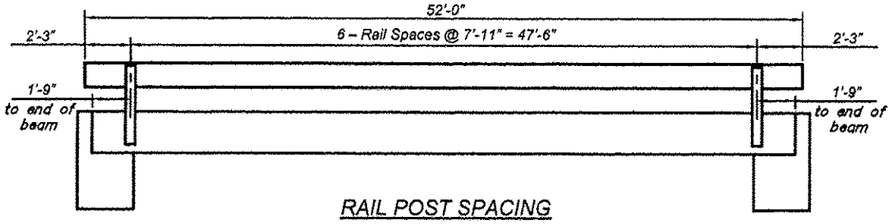
Bar h1

BILL OF MATERIAL FOR ONE ABUTMENT

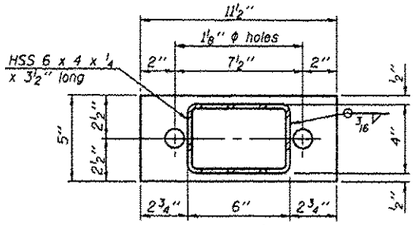
Bar	No.	Size	Length	Shape
h	16	#4	5'-0"	
h1	4	#4	5'-0"	
h2	6	#4	24'-9"	
p	10	#7	24'-9"	
s	27	#4	10'-5"	
u	8	#6	11'-1"	
v	8	#4	3'-8"	
v1	8	#4	4'-5"	
v2	50	#4	3'-5"	
Concrete Structures			9.7	Cu. Yds.
Reinforcement Bars			1150	Lbs.

ABUTMENT
TOWNSHIP ROUTE 239 (BRIER CREEK ROAD)
BRIER CREEK
SECTION 06-06117-00-BR
SALINE COUNTY
STRUCTURE NO. 083-3237

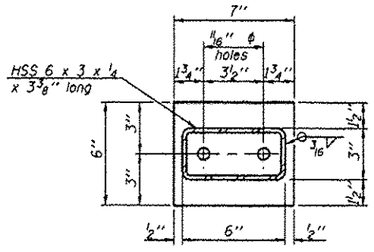
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 239	06-06117-00-BR	SALINE	14	9
PROJECT NO. BROS-165(30)		CONTRACT NO. 99488		



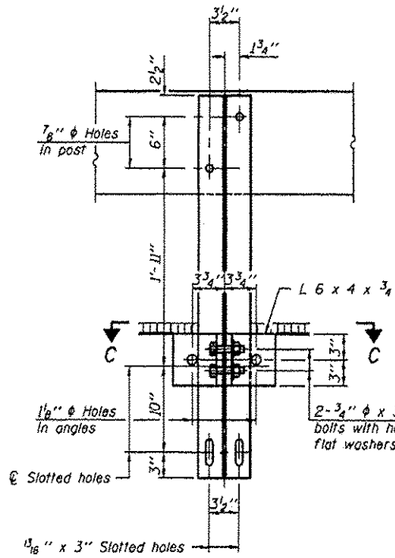
RAIL POST SPACING



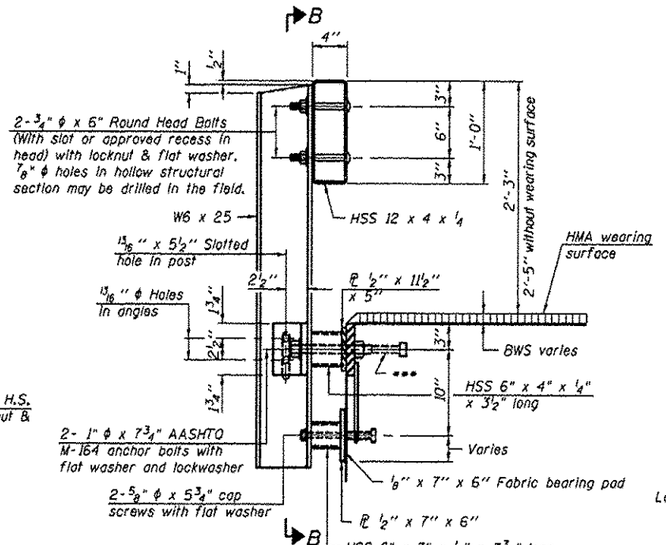
℄ ½" x 11½" x 5"



℄ ½" x 7" x 6"

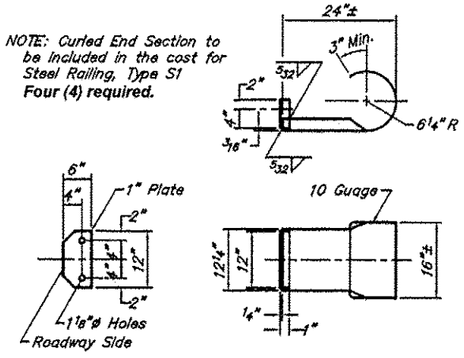


SECTION B-B

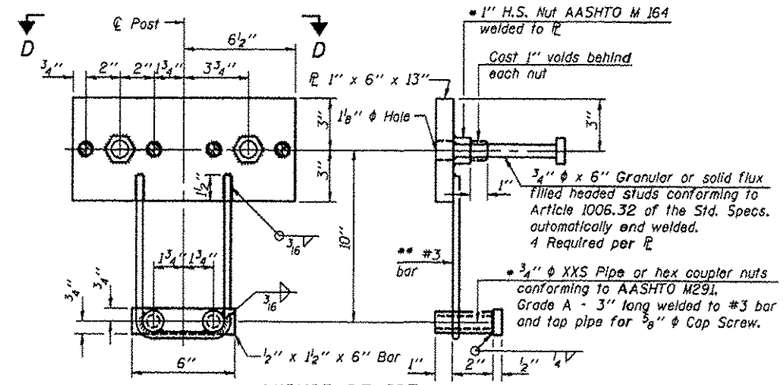


SECTION AT RAILING POST

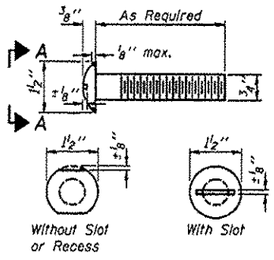
NOTE: Curled End Section to be included in the cost for Steel Railing, Type S1 Four (4) required.



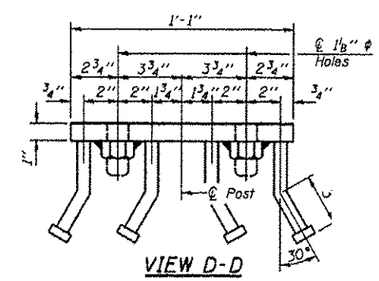
CURLED END SECTION DETAILS



ANCHOR DEVICE

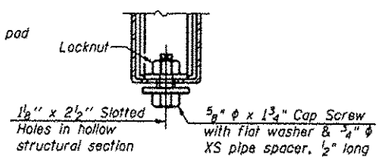


VIEW A-A
ROUND HEAD BOLT

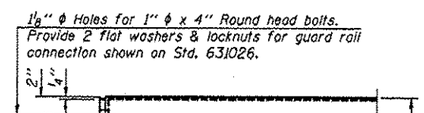


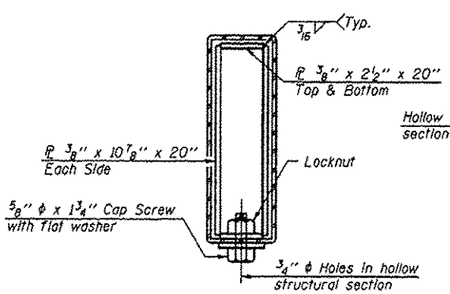
VIEW D-D

Notes:
All field drilled holes shall be coated with an approved zinc rich paint before erection.
For multi-span bridges, sufficient ¼" 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.
* Threaded areas shall be plugged or blocked off during casting of beam.
** 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 ½".
*** 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.
10'-9" Maximum Post Spacing

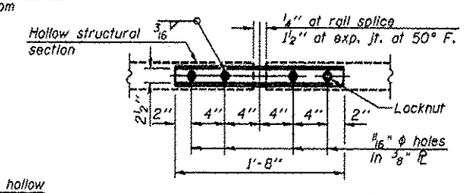


RAIL SPLICE CONNECTION AT EXPANSION JT.

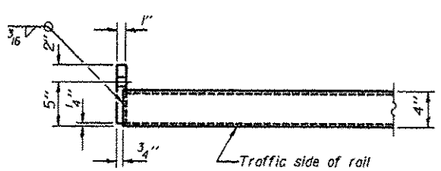




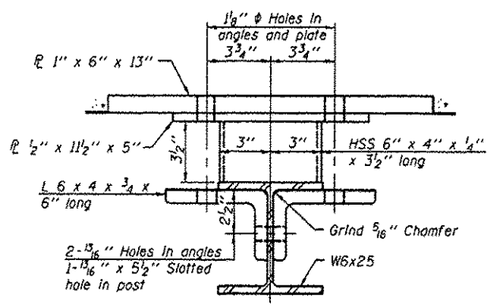
SECTIONS AT RAIL SPLICE



PLAN-BOTT. SPLICE ℄ TYPICAL



END OF RAIL DETAILS



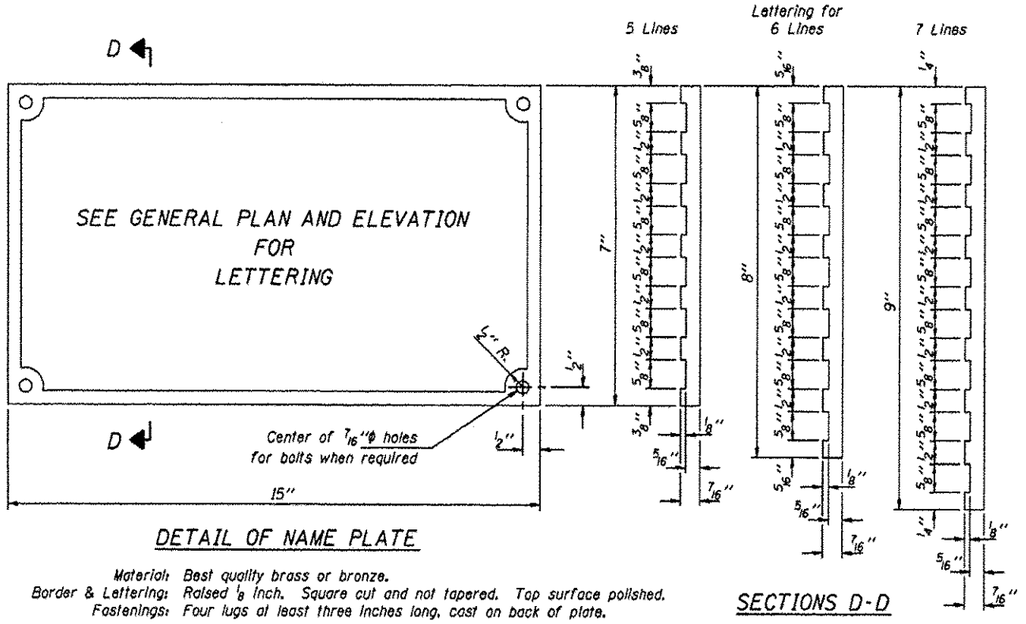
SECTION C-C

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S-1	Foot	104

STEEL RAILING, TYPE S-1
TOWNSHIP ROUTE 239 (BRIER CREEK ROAD)
BRIER CREEK
SECTION 06-06117-00-BR
SALINE COUNTY
STRUCTURE NO. 083-3237

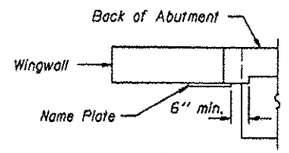
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 239	06-06117-00-BR	SALINE	14	10
PROJECT NO. BROS-165(30)			CONTRACT NO. 99488	



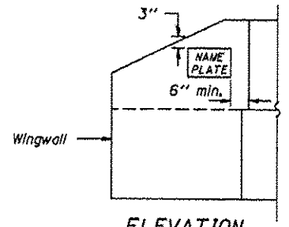
DETAIL OF NAME PLATE

Material: Best quality brass or bronze.
Border & Lettering: Raised 1/8 inch. Square cut and not tapered. Top surface polished.
Fastenings: Four lugs at least three inches long, cast on back of plate.

SECTIONS D-D



PLAN

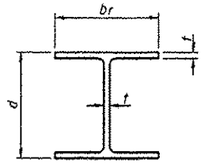


ELEVATION

LOCATION OF NAME PLATE

NAME PLATES
TOWNSHIP ROUTE 239 (BRIER CREEK ROAD)
BRIER CREEK
SECTION 06-06117-00-BR
SALINE COUNTY
STRUCTURE NO. 083-3237

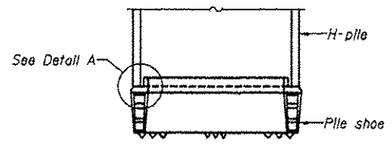
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 239	06-06117-00-BR	SALINE	14	11
PROJECT NO. BROS-165(30)		CONTRACT NO. 99488		



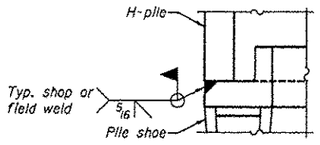
STEEL PILE TABLE

Designation	Depth d	Flange width b_f	Web and Flange thickness t	Encasement diameter A	Encasement Quantity/Ft. C.Y.
HP 14x117	$14\frac{1}{4}$"	$14\frac{7}{8}$"	$\frac{13}{16}$"	30"	0.173
x102	14"	$14\frac{3}{4}$"	$\frac{11}{16}$"	30"	0.174
x89	$13\frac{7}{8}$"	$14\frac{3}{4}$"	$\frac{5}{8}$"	30"	0.175
x73	$13\frac{5}{8}$"	$14\frac{5}{8}$"	$\frac{1}{2}$"	30"	0.176
HP 12x84	$12\frac{1}{4}$"	$12\frac{1}{4}$"	$\frac{11}{16}$"	24"	0.110
x74	$12\frac{1}{8}$"	$12\frac{1}{4}$"	$\frac{5}{8}$"	24"	0.111
x63	12"	$12\frac{1}{8}$"	$\frac{1}{2}$"	24"	0.112
x53	$11\frac{3}{4}$"	12"	$\frac{7}{16}$"	24"	0.112
HP 10x57	10"	$10\frac{1}{4}$"	$\frac{9}{16}$"	24"	0.112
x42	$9\frac{3}{4}$"	$10\frac{1}{8}$"	$\frac{7}{16}$"	24"	0.113
HP 8x36	8"	$8\frac{1}{8}$"	$\frac{7}{16}$"	18"	0.063

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

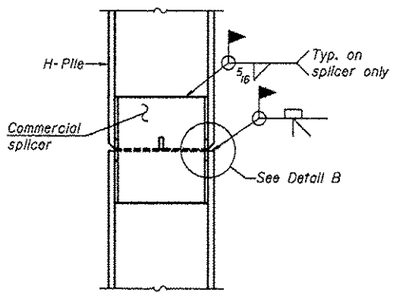


ELEVATION

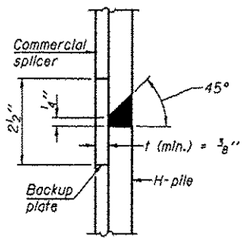


DETAIL A

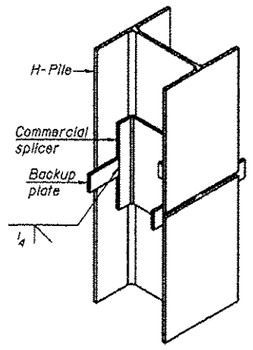
H-PILE SHOE ATTACHMENT



ELEVATION

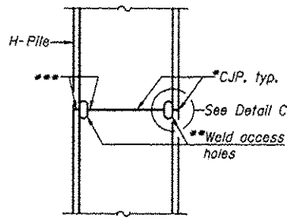


DETAIL "B"

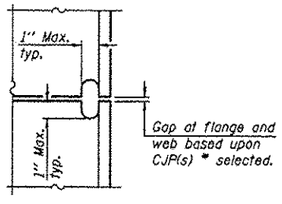


ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



ELEVATION



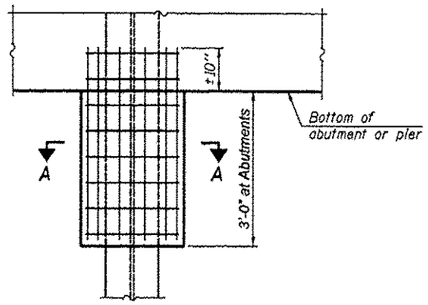
DETAIL C

COMPLETE PENETRATION WELD SPLICE

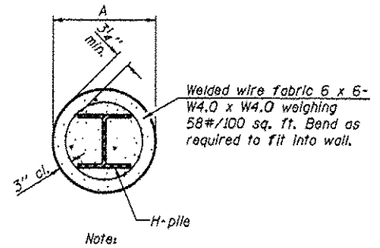
*Use joint conforming to Figure 3.4 in AWS D1.1, Structure Welding Code - Steel.

**Preparation per Fig. 5.2 in AWS D1.1, Structure Welding Code - Steel.

***Interrupt welds ¼" from end of each pile.



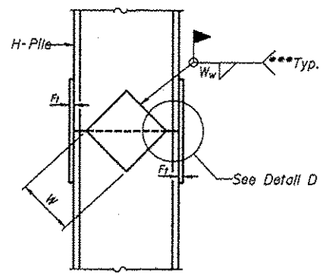
ELEVATION



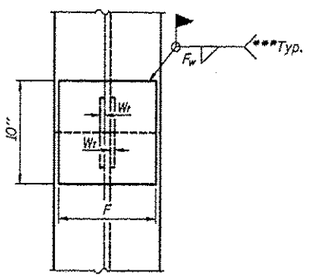
Note:
Forms for encasement may be omitted when soil conditions permit.

SECTION A-A

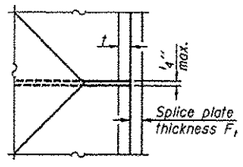
PILE ENCASEMENT



ELEVATION



END VIEW



DETAIL D

Designation	F	F_t	F_w	W	W_f	W_w
HP 14x117	$12\frac{1}{2}$"	1"	$\frac{7}{8}$"	$7\frac{3}{4}$"	$\frac{5}{8}$"	$\frac{1}{2}$"
x102	$12\frac{1}{2}$"	$\frac{7}{8}$"	$\frac{3}{4}$"	$7\frac{3}{4}$"	$\frac{5}{8}$"	$\frac{1}{2}$"
x89	$12\frac{1}{2}$"	$\frac{3}{4}$"	$\frac{11}{16}$"	$7\frac{3}{4}$"	$\frac{5}{8}$"	$\frac{1}{2}$"
x73	$12\frac{1}{2}$"	$\frac{5}{8}$"	$\frac{9}{16}$"	$7\frac{3}{4}$"	$\frac{5}{8}$"	$\frac{1}{2}$"
HP 12x84	10"	$\frac{7}{8}$"	$\frac{11}{16}$"	$6\frac{1}{2}$"	$\frac{5}{8}$"	$\frac{1}{2}$"
x74	10"	$\frac{7}{8}$"	$\frac{11}{16}$"	$6\frac{1}{2}$"	$\frac{5}{8}$"	$\frac{1}{2}$"
x63	10"	$\frac{5}{8}$"	$\frac{1}{2}$"	$6\frac{1}{2}$"	$\frac{1}{2}$"	$\frac{3}{8}$"
x53	10"	$\frac{5}{8}$"	$\frac{1}{2}$"	$6\frac{1}{2}$"	$\frac{1}{2}$"	$\frac{3}{8}$"
HP 10x57	8"	$\frac{3}{4}$"	$\frac{9}{16}$"	$5\frac{1}{4}$"	$\frac{1}{2}$"	$\frac{3}{8}$"
x42	8"	$\frac{5}{8}$"	$\frac{9}{16}$"	$5\frac{1}{4}$"	$\frac{1}{2}$"	$\frac{3}{8}$"
HP 8x36	7"	$\frac{5}{8}$"	$\frac{7}{16}$"	$4\frac{1}{4}$"	$\frac{1}{2}$"	$\frac{3}{8}$"

WELDED PLATE FIELD SPLICE

PILING DETAILS
TOWNSHIP ROUTE 239 (BRIER CREEK ROAD)
BRIER CREEK
SECTION 06-06117-00-BR
SALINE COUNTY
STRUCTURE NO. 083-3237

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 239	06-06117-00-BR	SALINE	14	12
PROJECT NO. BROS-165(30)			CONTRACT NO. 99488	

35+50
Exist. ROW
354.4
F - 19
356.74
C - 19
354.9
Exist. ROW

35+25
354.0
F - 21
356.78
C - 9
354.75

35+00
353.7
F - 0
356.80
C - 33
Structure Excavation
Match Line Sta. 4+80

34+73
353.5
F - 2
356.80
C - 26
Structure Excavation
Match Line Sta. 4+80

34+50
Exist. ROW
353.35
F - 11
356.80
C - 49
352.8

34+00
353.2
F - 17
356.70
C - 51
353.0

33+50
353.05
F - 13
356.28
C - 59
353.2
Exist. ROW

33+00
352.8
F - 7
355.57
C - 14
351.4

32+50
Exist. ROW
350.3
Structure No. 2 to be removed
4' x 3' concrete box culvert
P. Cul. Dr. A, Ty. 1 EQR-S 48" - 42 Ft.
F - 7
354.97
C - 49

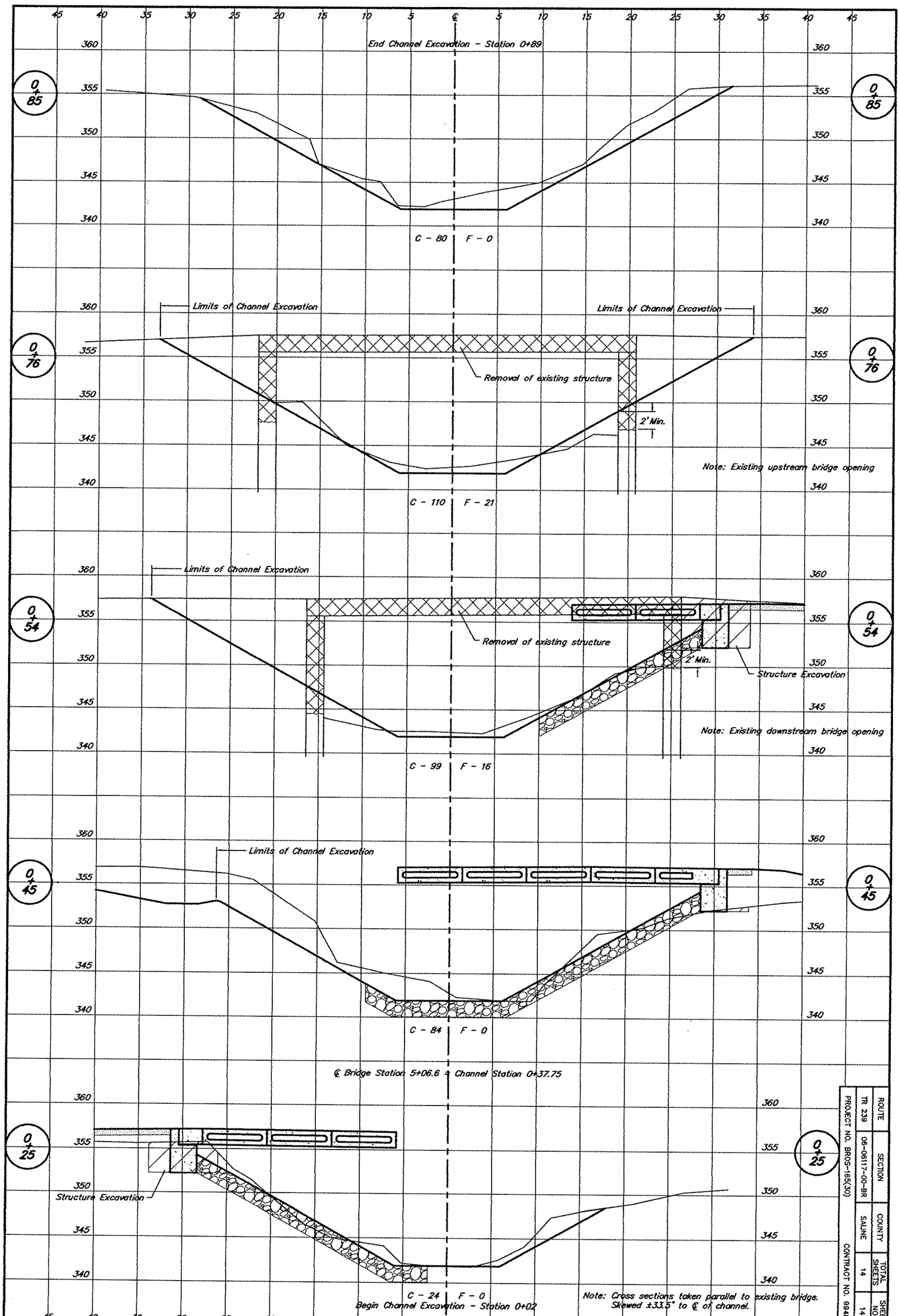
32+00
Begin Improvement - Station 32+02

31+00
Exist. ROW

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 239	06-06117-00-BR	SALINE	14	13
PROJECT NO. BROS-165(30)		CONTRACT NO. 99488		

7+00
6+00
5+75
5+50
5+35
4+80
37+00
36+50
36+00

Exist. ROW
End Improvement - Station 5+90
355.2
354.8
354.0
Structure Excavation
F - 0
F - 3
F - 39
F - 18
Sta. 4+36.86 = Sta. 43.32
Intersection Sta. 34+43.32
Station 36+50
355.1
F - 5
C - 31
C - 43
C - 44
C - 56
C - 0
C - 12
357.11
357.19
357.20
356.62
355.7
355.0
355.2
355.1
Exist. ROW



ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 239	06-08117-00-BR	SALINE	14	14

PROJECT NO. BROS-165(30) CONTRACT NO. 88488