03-08-13 LETTING ITEM 050

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 44	11-01164-00-BR	ALEXANDER	12	1
PROJECT NO. BROS-0003(126)	CONTRACT NO. 99461			

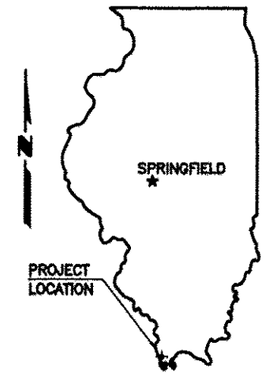
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED

HIGHWAY BRIDGE PROGRAM

TOWNSHIP ROUTE 44 (TWENTE CROSSING ROAD)
SECTION 11-01164-00-BR
PROJECT NO. BROS-0003(126)
JOB NO. C-99-544-11
TRIBUTARY TO CIRCLE DITCH

ALEXANDER COUNTY

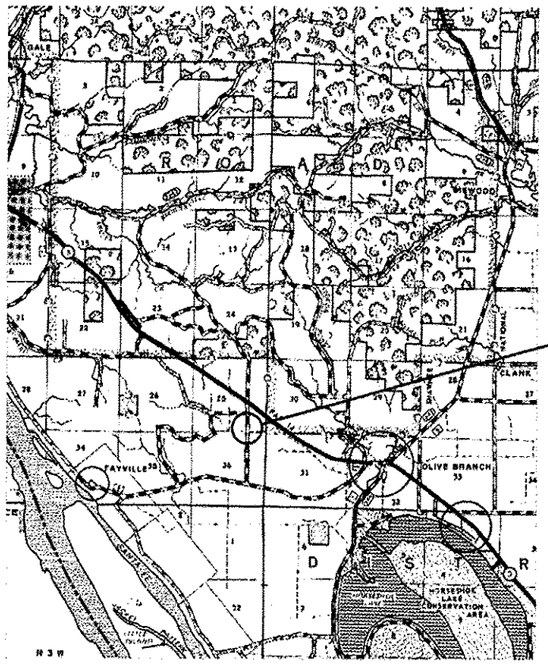


INDEX OF SHEETS

SUMMARY OF QUANTITIES

CODE NO.	PAY ITEM	UNIT	TOTAL
* X2501000	SEEDING, CLASS 2 (SPEL)	ACRE	0.2
20200100	EARTH EXCAVATION	CU YD	45
* 20300100	CHANNEL EXCAVATION	CU YD	117
* 28100807	STONE DUMPED RIPRAP, CLASS A4	TON	210
* 40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	139
* 50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50200100	STRUCTURE EXCAVATION	CU YD	68
50300225	CONCRETE STRUCTURES	CU YD	16.8
50300280	CONCRETE ENCASEMENT	CU YD	2.1
50400405	PRECAST PRESTRESSED CONCRETE DECK BEAMS (21" DEPTH)	SQ FT	1,224
50800105	REINFORCEMENT BARS	POUND	2,254
Δ 50900205	STEEL RAILING, TYPE S1	FOOT	104
51200957	FURNISHING METAL SHELL PILES 12" X 0.250"	FOOT	455
51202305	DRIVING PILES	FOOT	455
51203200	TEST PILE METAL SHELLS	EACH	1
51500100	NAME PLATES	EACH	1
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 = 280.00 FT. = 0.0530 MILES

CLASSIFICATION : LOCAL ROAD (RURAL)
ADT : 325
DESIGN SPEED : 40 MPH

CONTRACT NO. 99461

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

EDWARD W. MILLER SR. 25277 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS
12-5-12

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

Call Before You Dig
JULIE ILLINOIS ONE-CALL SYSTEM
1-800-892-0123

ILLINOIS DEPARTMENT OF TRANSPORTATION

Approved 12-6-12
Alexander County Engineer

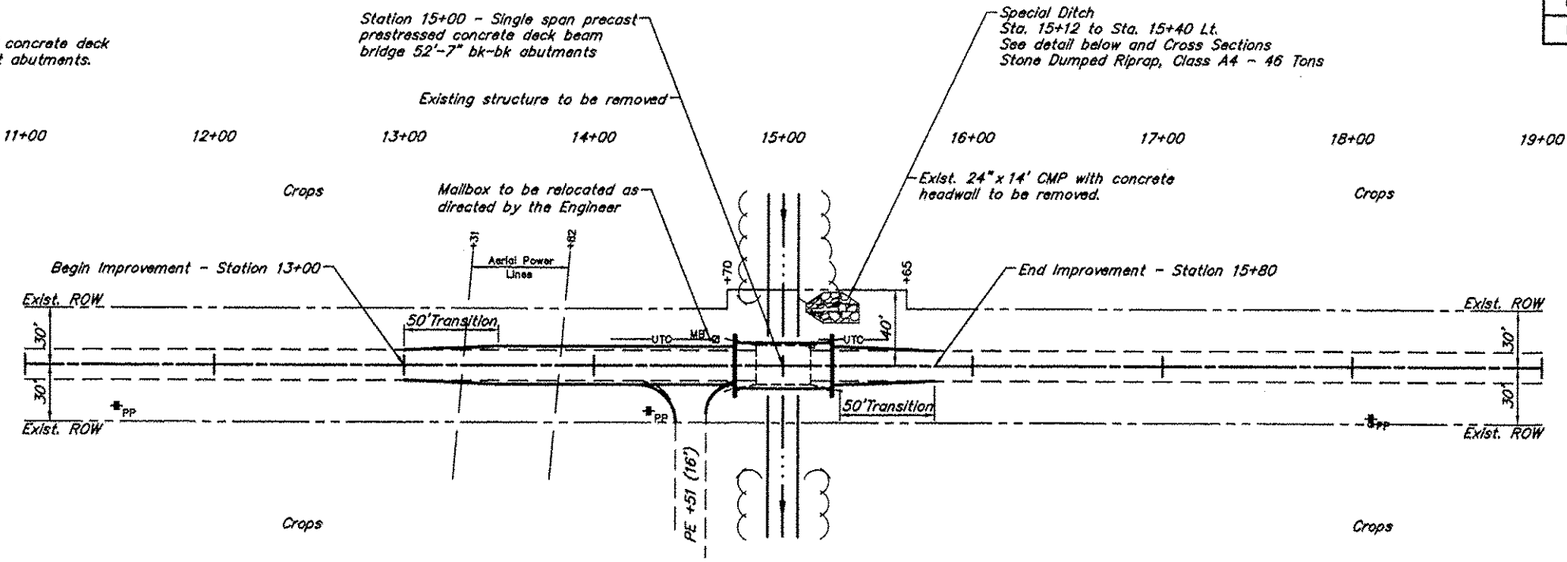
Passed 12-20-2012
Dan W. Hillel
District 9 Engineer of Local Roads and Streets

Releasing for Bid Based on Limited Review 12-20-2012
Omer Osman
Deputy Director of Highways, Region 5 Engineer
Illinois Department of Transportation

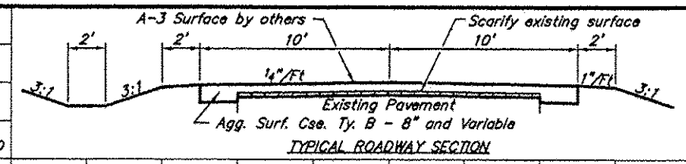
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 44	11-01164-00-BR	ALEXANDER	12	2
PROJECT NO. BROS-0003(126)			CONTRACT NO. 99461	

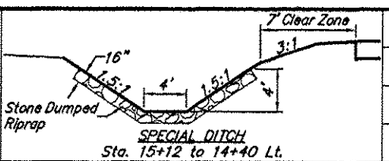
B.M. - RR Spike in PP
24' Lt. Sta. 14+29
Assumed Elev. 356.00

Existing Structure - Precast reinforced concrete deck beams on closed timber pile bent abutments.
20.7' W x 29.0' L.



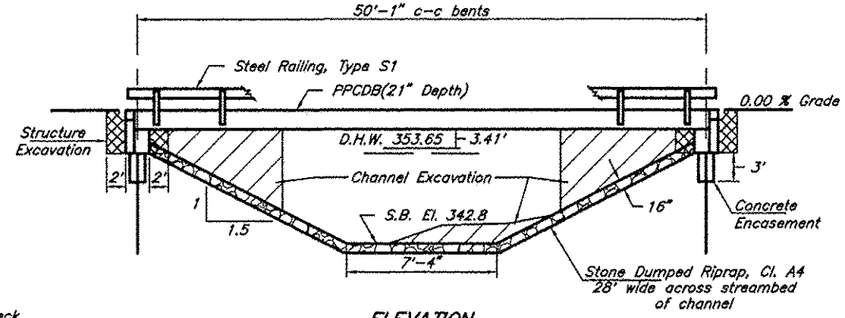
SCALES:
1" = 80' HOR
1" = 10' VER





ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 44	11-01164-00-BR	ALEXANDER	12	3
PROJECT NO. BROS-0003(126)	CONTRACT NO. 99461			

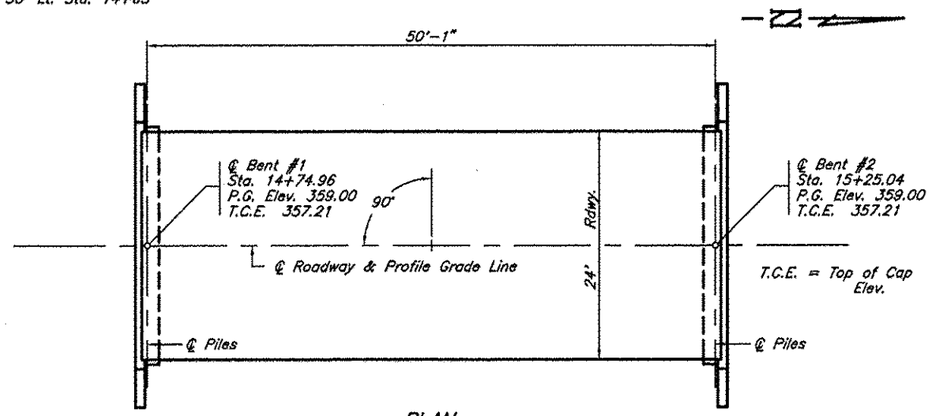
B.M.– RR Spike in Power Pole
24' Lt. Station 14+29
Assumed Elev. 356.00



ELEVATION

Existing Structure – Precast reinforced concrete deck beams on closed timber pile bent abutments.
20.7' W x 29.0' L

Boring 1
30' Lt. Sta. 14+63



PLAN

Boring 2
7' Rt. Sta. 15+57

GENERAL NOTES

1. Metal Shell piles shall meet ASTM A 252 Grade 3 specifications.
2. Test Piles shall be driven to 110% of the Nominal Required Bearing indicated in the pile data.
3. The Contractor shall drive one test pile, as specified, in a permanent location as directed by the Engineer before ordering the remaining piles.
4. See special provisions for boring logs.
5. 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.			117	117
Stone Dumped Riprap, Cl. A4	Tons			164	164
Removal of Existing Structures	Each				1
Structure Excavation	Cu. Yds.			68	68
Concrete Structures	Cu. Yds.			16.8	16.8
Concrete Encasement	Cu. Yds.			2.1	2.1
P.P. Conc. Dk. Bm. 21" Dp.	Sq. Ft.	1224			1224
Reinforcement Bars	Pound			2254	2254
Steel Railing, Type S1	Foot	104			104
Furnishing Metal Shell Piles 12" x 0.250"	Foot			455	455
Driving Piles	Foot			455	455
Test Pile Metal Shells	Each			1	1
Name Plates	Each			1	1

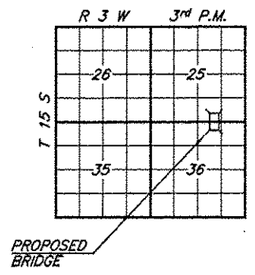
PILE DATA (2-ABUTS.)

Type & Size : Metal Shell 12" x 0.250"
Nominal Required Bearing : 255 kips
Factored Resistance Available : 140 kips
Estimated Length : 69 Ft. Bent #1, 62 Ft. Bent #2
Number Required : 8 (Includes 1 Test Pile located in Bent #1)

TRIBUTARY TO CIRCLE DITCH
SEC. 11-01164-00-BR BUILT 20___
COUNTY UNIT ROAD DISTRICT
ALEXANDER COUNTY
LOADING HL-93
STR. NO. 002-3110

LETTERING FOR NAME PLATE

Locate Name Plate at Southeast Corner of Bridge (See Sheet 8)



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 comply with the requirements of the current AASHTO LRFD Specifications.

9/4/12

Zeyn B. Uzman
S.E. 081-4745
Expires Nov. 30, 2012

LICENSED STRUCTURAL ENGINEER
ZEYN UZMAN 4745
STATE OF ILLINOIS

DESIGN SPECIFICATIONS

2012 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 = E
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 1.360
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.969
Seismic Performance Zone (SPZ) = 4

WATERWAY INFORMATION

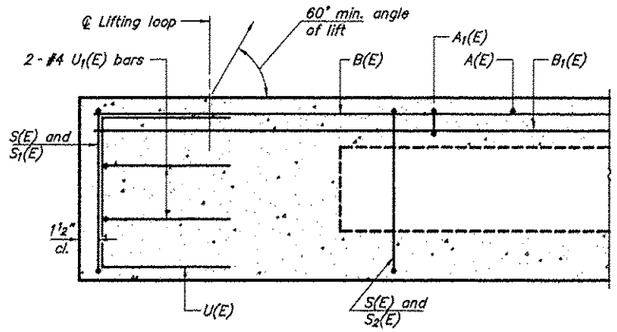
Drainage Area = 1.73 Sq. Mi. Low Grade Elev. = 354.54 At Sta. 8+50

Flood	Freq.	Q	Opening Sq. Ft.		Natural	Head-Ft.		Headwater El.	
	Yr.	C.F.S.	Exist.	Prop.	H.W.E.	Exist.	Prop.	Exist.	Prop.
Design	20	1410	207.2	256.2	353.65	1.06	0.00	354.71	353.65
Base	100	2080	223.7	284.4	354.34	1.13	0.85	355.47	355.19
Overtopping	±19	1373	206.0		353.60	0.94		354.54	
Max. Calc.	500	2830		305.3	354.83		2.91		357.74

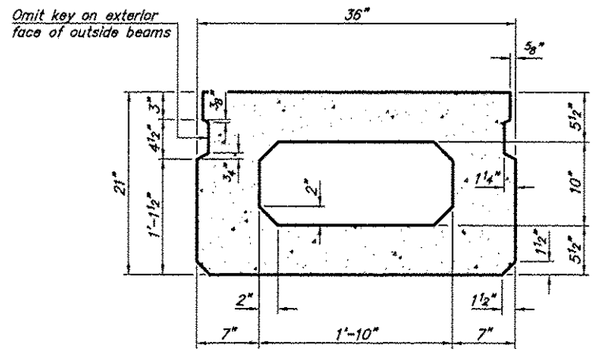
Over Road Flow (Sq Ft): Exist. $Q_{(20)}$ 18.5 $Q_{(100)}$ 326.1
Note: No over road flow used with proposed structure to allow for future raising of the approaches.

GENERAL PLAN & ELEVATION
TOWNSHIP ROUTE 44 (TWENTE CROSSING ROAD)
TRIBUTARY TO CIRCLE DITCH
SECTION 11-01164-00-BR
ALEXANDER COUNTY
STRUCTURE NO. 002-3110

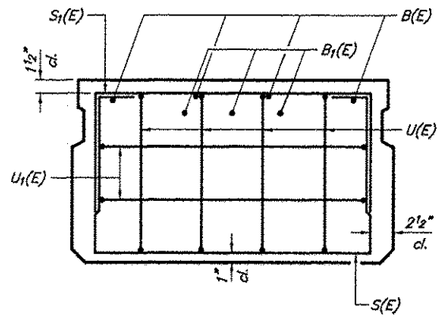
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
TR 44	11-01164-00-BR	ALEXANDER	12	4
PROJECT NO. BROS-0003(126)		CONTRACT NO. 99461		



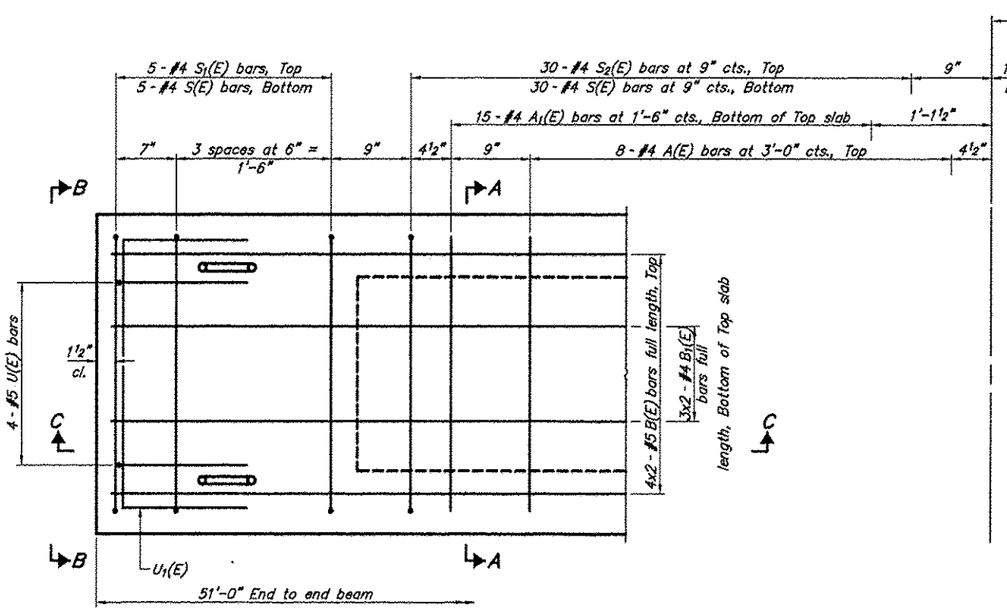
SECTION C-C



SECTION A-A
(Showing dimensions)

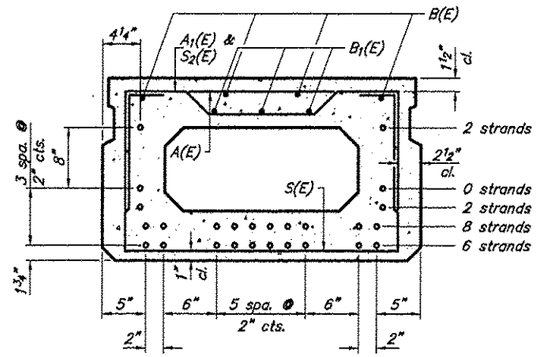


VIEW B-B



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.

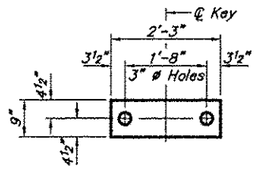
BAR LIST
ONE BEAM ONLY
(For information only)

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"	

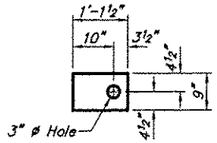
Bar Laps #4 bars = 1'-8"
#5 bars = 2'-2"

21" X 36" PPC DECK BEAM
TOWNSHIP ROUTE 44 (TWENTE CROSSING ROAD)
TRIBUTARY TO CIRCLE DITCH
SECTION 11-01164-00-BR
ALEXANDER COUNTY
STRUCTURE NO. 002-3110

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 44	11-01164-00-BR	ALEXANDER	12	5
PROJECT NO. BROS-0003(126)		CONTRACT NO. 99461		



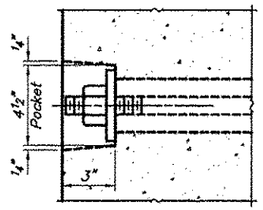
FABRIC BEARING PAD
(Interior)



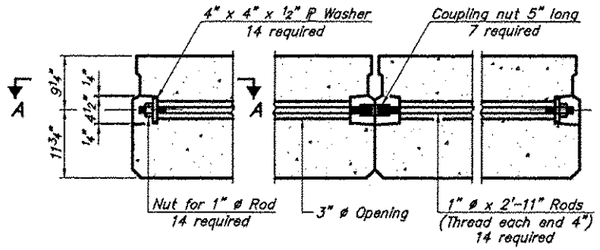
FABRIC BEARING PAD
(Exterior)

FIXED

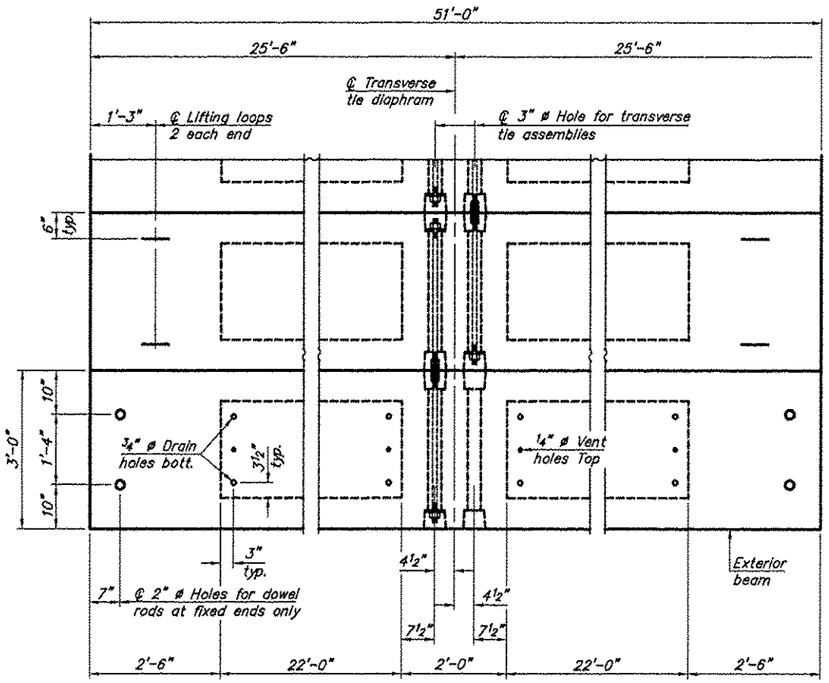
Note: Omit holes when using expansion bearings.



SECTION A-A

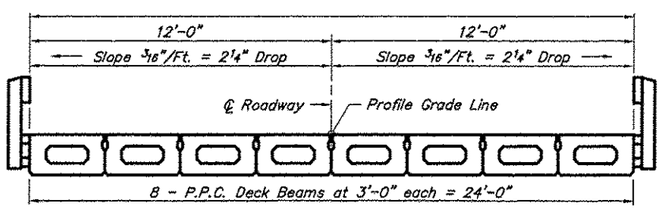


TYPICAL TRANSVERSE TIE ASSEMBLY

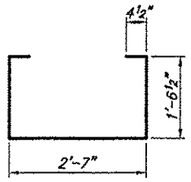


PLAN VIEW

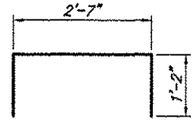
Note: Connect beams in pairs with the transverse tie configuration shown.



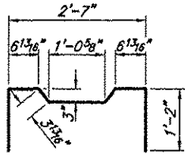
CROSS SECTION



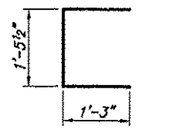
BAR S(E)



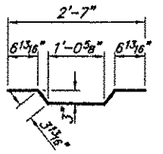
BAR S1(E)



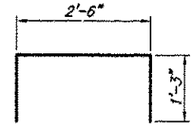
BAR S2(E)



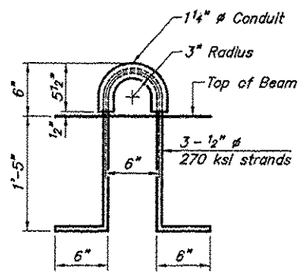
BAR U(E)



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.

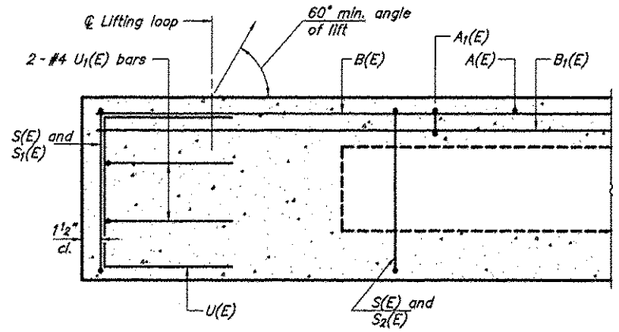
Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi.

BILL OF MATERIAL

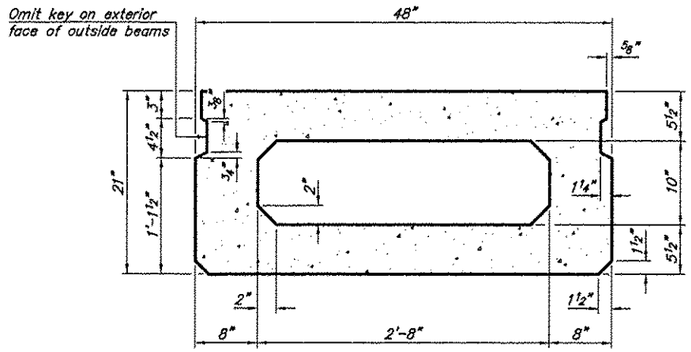
Precast Prestressed Conc. Deck Bms. (21" depth)	Sq. Ft.	1224

21" X 36" PPC DECK BEAM DETAILS
TOWNSHIP ROUTE 44 (TWENTE CROSSING ROAD)
TRIBUTARY TO CIRCLE DITCH
SECTION 11-01164-00-BR
ALEXANDER COUNTY
STRUCTURE NO. 002-3110

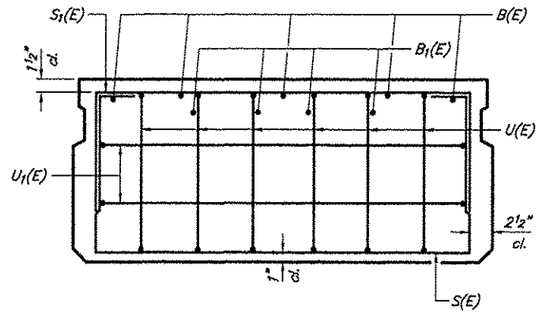
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
TR 44	11-01164-00-BR	ALEXANDER	12	6
PROJECT NO. BROS-0003(128)		CONTRACT NO. 99461		



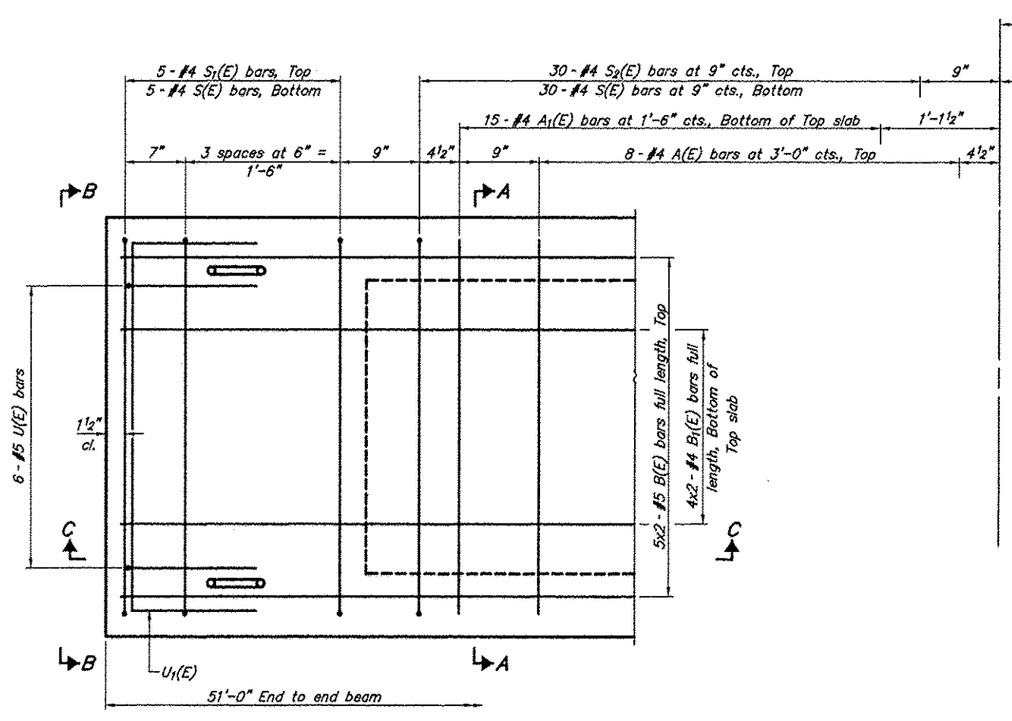
SECTION C-C



SECTION A-A
(Showing dimensions)

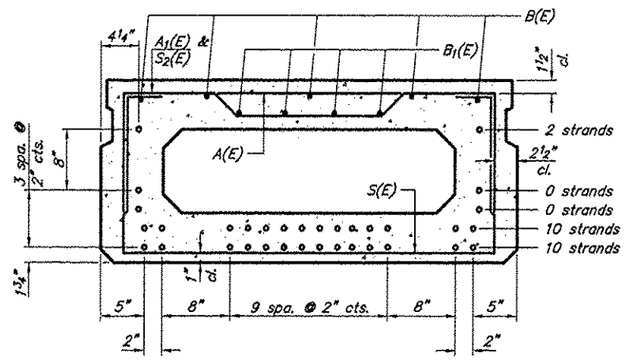


VIEW B-B



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.

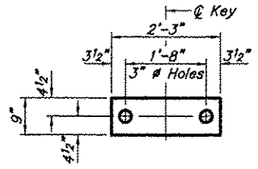
BAR LIST
ONE BEAM ONLY
(For information only)

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"	⊓

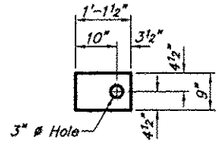
Bar Laps #4 bars = 1'-8"
#5 bars = 2'-2"

21" X 48" PPC DECK BEAM
TOWNSHIP ROUTE 44 (TWENTE CROSSING ROAD)
TRIBUTARY TO CIRCLE DITCH
SECTION 11-01164-00-BR
ALEXANDER COUNTY
STRUCTURE NO. 002-3110

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
TR 44	11-01164-00-BR	ALEXANDER	12	7
PROJECT NO. BROS-0003(126)		CONTRACT NO. 99461		



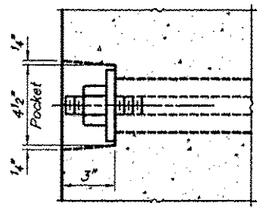
FABRIC BEARING PAD
(Interior)



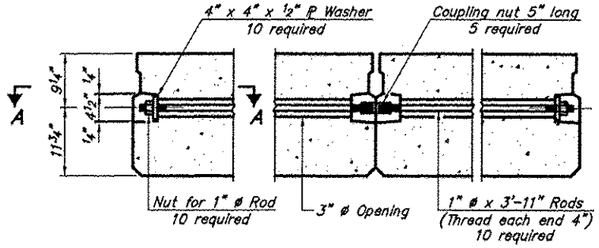
FABRIC BEARING PAD
(Exterior)

FIXED

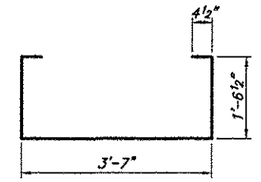
Note: Omit holes when using expansion bearings.



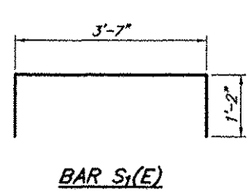
SECTION A-A



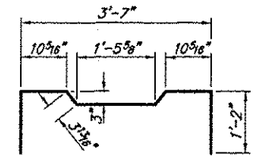
TYPICAL TRANSVERSE TIE ASSEMBLY



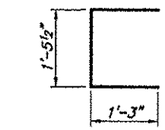
BAR S(E)



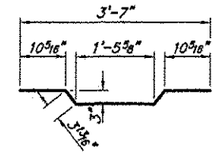
BAR S1(E)



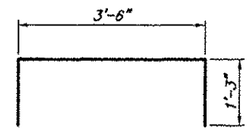
BAR S2(E)



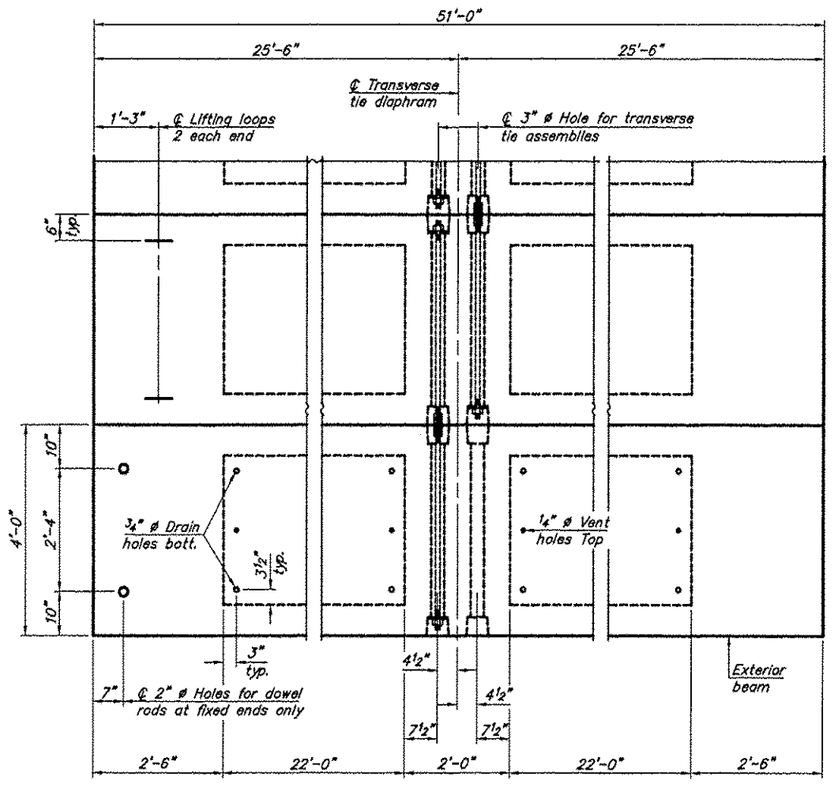
BAR U(E)



BAR A1(E)

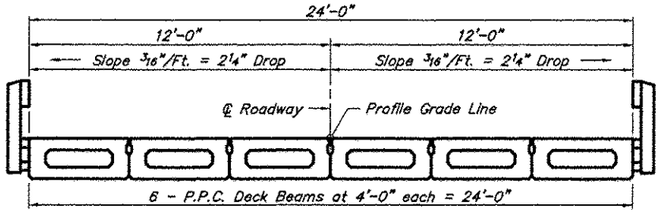


BAR U1(E)



PLAN VIEW

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



CROSS SECTION

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).

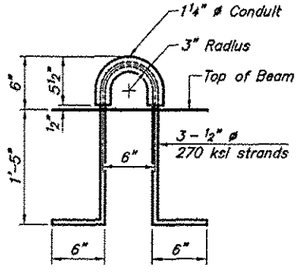
Two ⅛" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.

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.



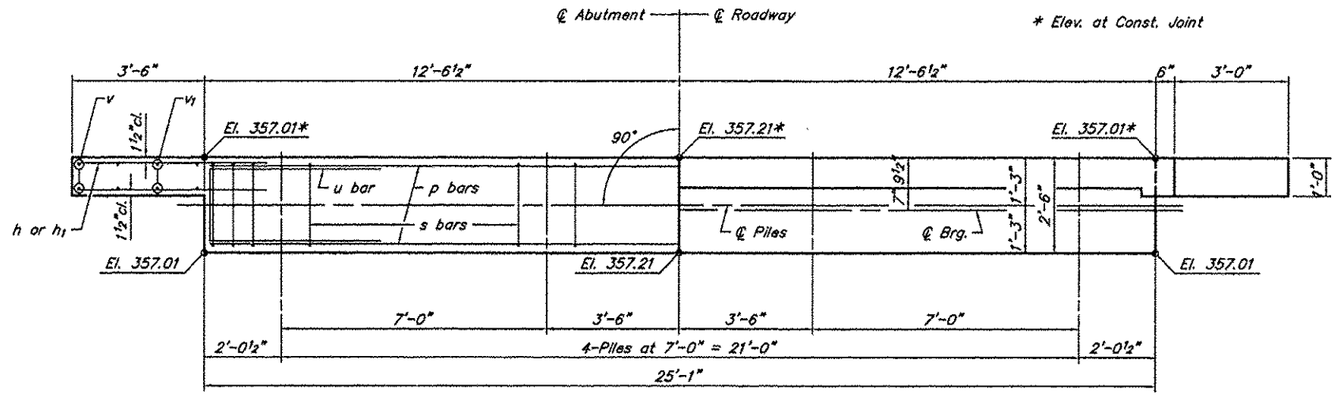
LIFTING LOOP DETAIL

BILL OF MATERIAL

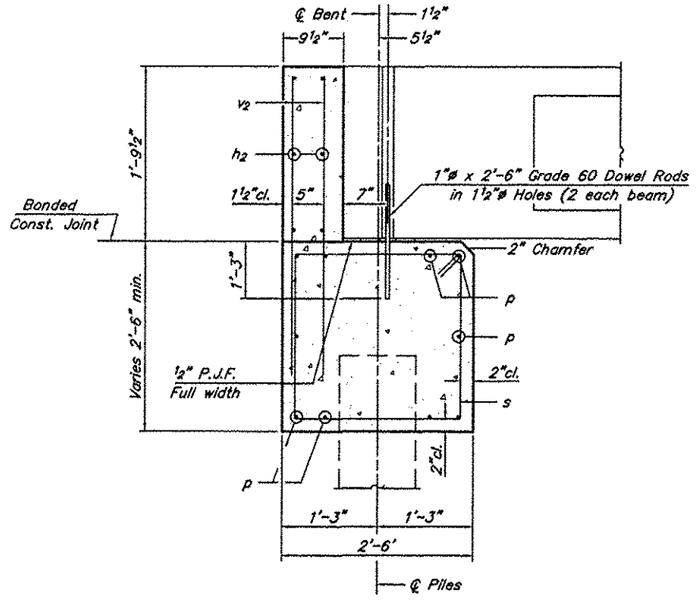
Precast Prestressed Concrete Deck Beams (21" depth)	Sq. Ft.	1224

21" X 48" PPC DECK BEAM DETAILS
TOWNSHIP ROUTE 44 (TWENTE CROSSING ROAD)
TRIBUTARY TO CIRCLE DITCH
SECTION 11-01164-00-BR
ALEXANDER COUNTY
STRUCTURE NO. 002-3110

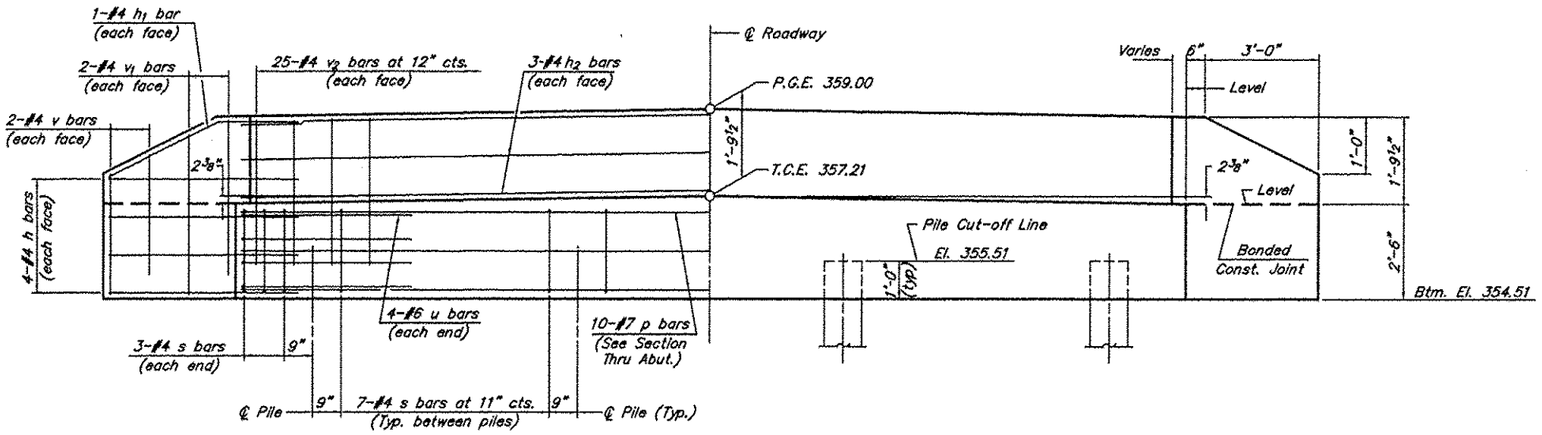
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
TR 44	11-01164-00-BR	ALEXANDER	12	8
PROJECT NO. BROS-0003(126)		CONTRACT NO. 99461		



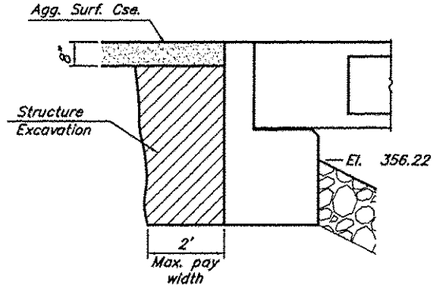
PLAN



SECTION THRU ABUT.
(At Right Angles)



ELEVATION



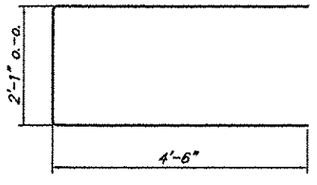
BACKFILL & BERM DETAIL

NOTES

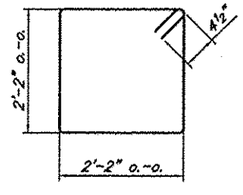
1. The Backwall and the portion of the Wingwalls above the bonded construction joint shall be cast against the in-place beam.
2. Reinforcement bars shall conform to A.A.S.H.T.O. M-31, M-42 or M-53, Grade 60.

DESIGN STRESSES

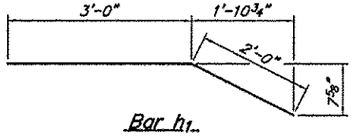
f'c = 3,500 psi
fy = 60,000 psi



Bar u



Bar s



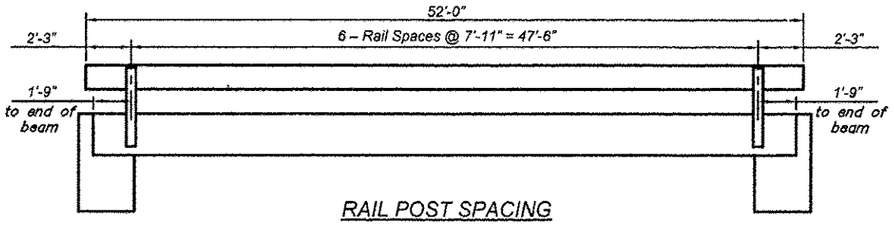
Bar h1

BILL OF MATERIAL FOR ONE ABUTMENT

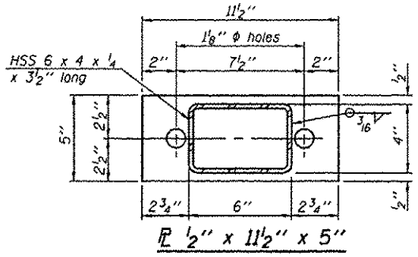
Bar	No.	Size	Length	Shape
h	16	#4	5'-0"	
h1	4	#4	5'-0"	
h2	6	#4	24'-9"	
P	10	#7	24'-9"	
s	27	#4	9'-5"	
u	8	#6	11'-1"	
v	8	#4	3'-2"	
v1	8	#4	3'-11"	
v2	50	#4	3'-5"	
Concrete Structures			8.4	Cu. Yds.
Reinforcement Bars			1127	Lbs.

ABUTMENT
TOWNSHIP ROUTE 44 (TWENTE CROSSING ROAD)
TRIBUTARY TO CIRCLE DITCH
SECTION 11-01164-00-BR
ALEXANDER COUNTY
STRUCTURE NO. 002-3110

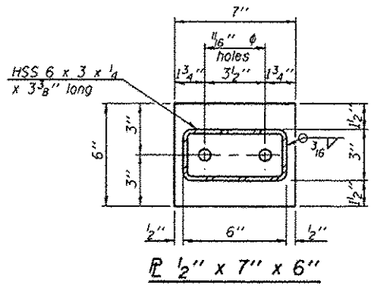
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 44	11-01164-00-BR	ALEXANDER	12	9
PROJECT NO. BROS-0003(126)		CONTRACT NO. 99461		



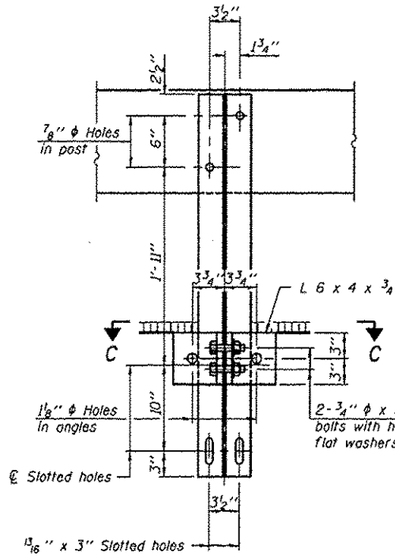
RAIL POST SPACING



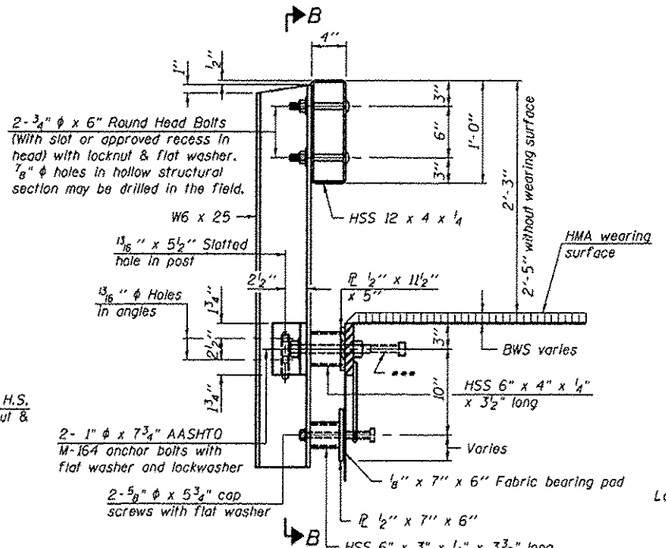
℄ ½" x 11½" x 5"



℄ ½" x 7" x 6"

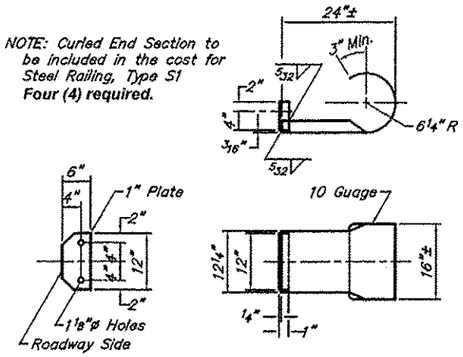


SECTION B-B

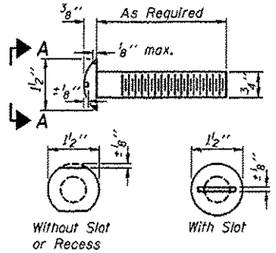


SECTION AT RAILING POST

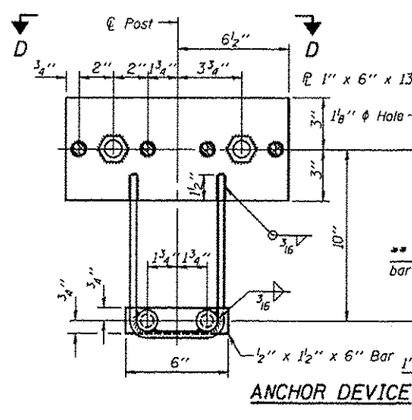
NOTE: Curled End Section to be included in the cost for Steel Railing, Type S1 **Four (4) required.**



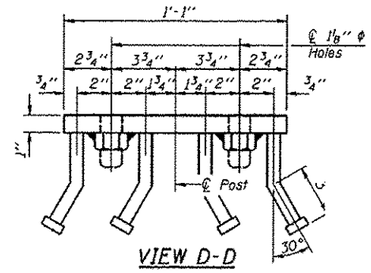
CURLED END SECTION DETAILS



VIEW A-A ROUND HEAD BOLT



ANCHOR DEVICE

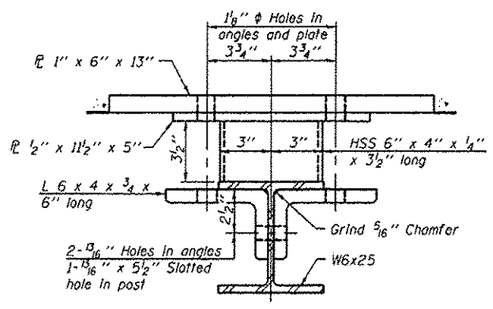


VIEW D-D

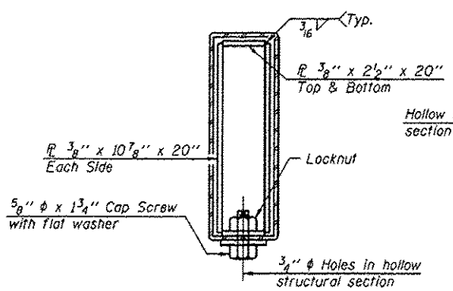
Notes:
All field drilled holes shall be coated with an approved zinc rich paint before erection.
For multi-span bridges, sufficient ¼" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Railing, Type S-1.
All steel rail elements shall 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

BILL OF MATERIAL

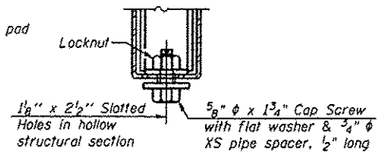
Item	Unit	Quantity
Steel Railing, Type S-1	Foot	104



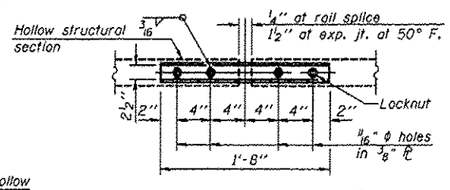
SECTION C-C



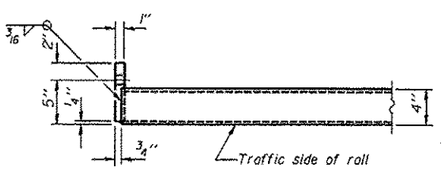
SECTIONS AT RAIL SPLICE



RAIL SPLICE CONNECTION AT EXPANSION JT.



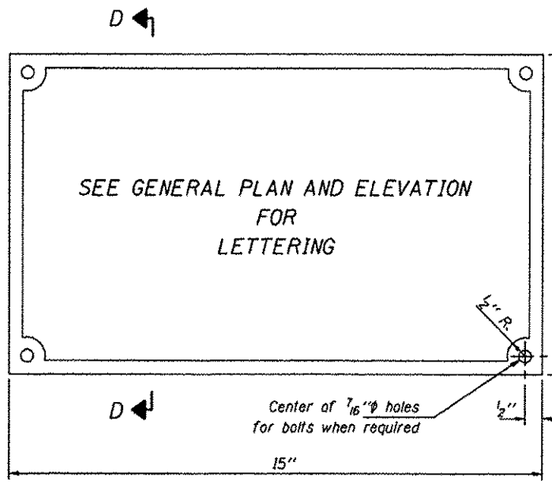
PLAN-BOTT. SPLICE ℄ TYPICAL



END OF RAIL DETAILS

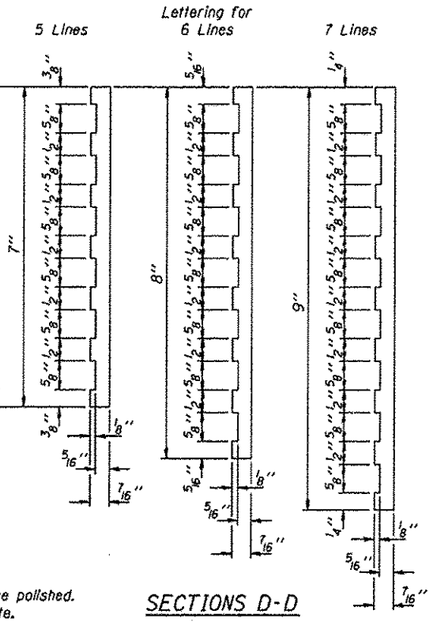
STEEL RAILING, TYPE S-1
TOWNSHIP ROUTE 44 (TWENTE CROSSING ROAD)
TRIBUTARY TO CIRCLE DITCH
SECTION 11-01164-00-BR
ALEXANDER COUNTY
STRUCTURE NO. 002-3110

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 44	11-01164-00-BR	ALEXANDER	12	10
PROJECT NO. BROS-0003(126)			CONTRACT NO. 99481	

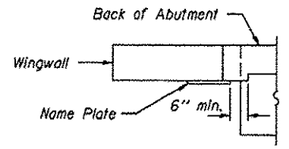


DETAIL OF NAME PLATE

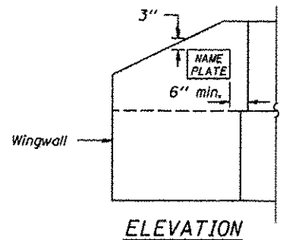
Material: Best quality brass or bronze.
Border & Lettering: Raised 1/8 inch. Square cut and not tapered. Top surface polished.
Fastenings: Four lugs at least three inches long, cast on back of plate.



SECTIONS D-D



PLAN



ELEVATION

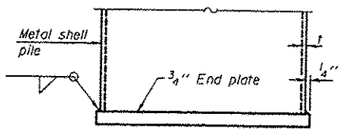
LOCATION OF NAME PLATE

NAME PLATES
TOWNSHIP ROUTE 44 (TWENTE CROSSING ROAD)
TRIBUTARY TO CIRCLE DITCH
SECTION 11-01164-00-BR
ALEXANDER COUNTY
STRUCTURE NO. 002-3110

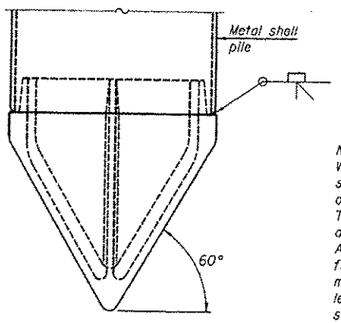
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 44	11-01164-00-BR	ALEXANDER	12	11
PROJECT NO. BROS-0003(126)		CONTRACT NO. 99461		

METAL SHELL PILE TABLE

Designation and outside diameter	Wall thickness t	Weight per foot (Lbs./ft.)	Inside volume (yd^3/ft.)
PP12	0.179"	22.60	0.0274
PP12	0.250"	31.37	0.0267
PP14	0.250"	36.71	0.0368
PP14	0.312"	45.61	0.0361



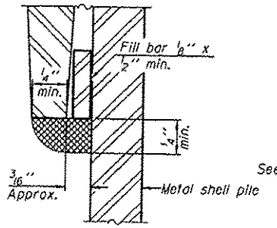
END PLATE ATTACHMENT



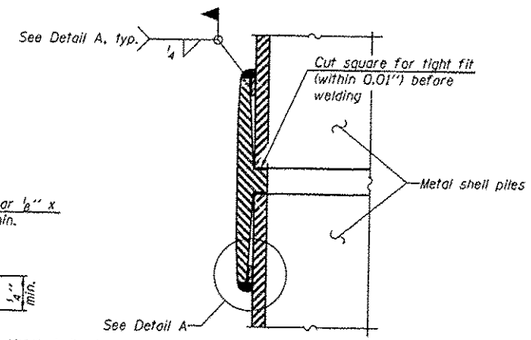
Note A:
When called for on the plans, the Contractor shall furnish metal shell pile shoes consisting of a single piece conical pile point as shown. The pile shoes shall be cast in one piece steel according to either ASTM A 148 Grade 90-60 or AASHTO M 103 Grade 65-35 and shall provide full bearing over the full circumference of the metal shell pile. The pile shoe shall have tapered leads to assure proper alignment and fitting and shall be secured to the pile with a circumferential weld.

METAL SHELL PILE SHOE ATTACHMENT

(See Note A)

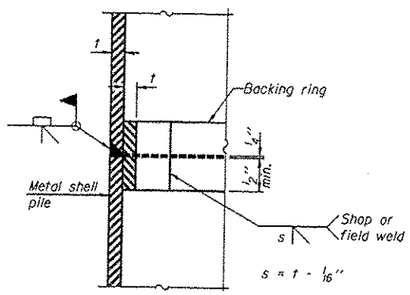


DETAIL A



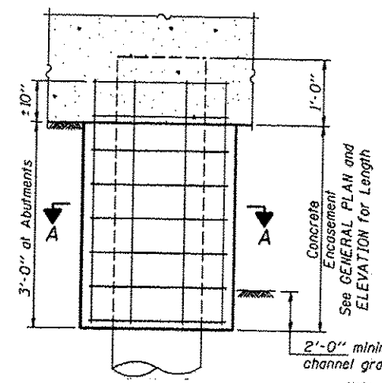
Notes:
The 1/8" x 1/2" min. fill bar may be constructed of 2 bars with a 1/8" max. gap between them.
Pile segments shall be driven to solid contact with splicer before welding.

WELDED COMMERCIAL SPLICE

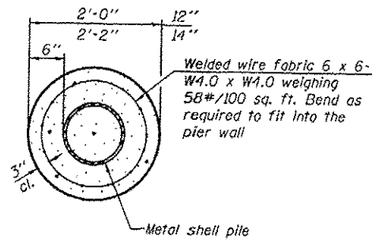


COMPLETE PENETRATION WELD SPLICE

Backing ring made from pile shell. Remove segment to allow reducing circumference and vertically rejoin with partial joint penetration weld.



ELEVATION

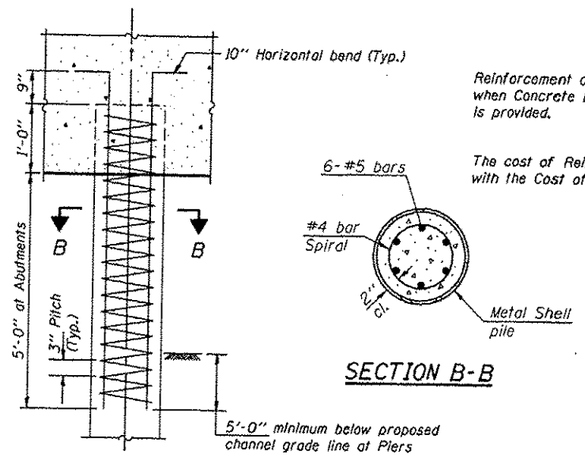


SECTION A-A

Concrete Encasement	
Pile Size	Quantity / Ft.
12" Dia.	0.087 C.Y.
14" Dia.	0.107 C.Y.

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

CONCRETE ENCASEMENT



ELEVATION

Reinforcement cage shall be omitted when Concrete Encasement is provided.

The cost of Reinforcement is included with the Cost of Furnishing Piles.

SECTION B-B

METAL SHELL REINFORCEMENT

Note:
The metal shell piles shall be according to ASTM A 252 Grade 3.

PILING DETAILS
TOWNSHIP ROUTE 44 (TWENTE CROSSING ROAD)
TRIBUTARY TO CIRCLE DITCH
SECTION 11-01164-00-BR
ALEXANDER COUNTY
STRUCTURE NO. 002-3110

ALEXANDER COUNTY SHEET 12 OF 12
SECTION 11-01164-00-BR
PROJ NO BROS-0003(126) CONT NO 99461
TOWNSHIP ROUTE 44 (TWENTE CROSSING ROAD)
TRIBUTARY TO CIRCLE DITCH

17+00 | 16+00 | 15+50 | 15+27 | 14+73 | 14+50 | 14+00 | 13+00 | 12+00

Exist. ROW

End Improvement - Station 15+80

Station 15+65

F - 9

C - 4

358.98

F - 28

C - 34

359.00

Special Ditch
Sta. 15+12 to Sta. 15+40 Lt.

1.5:1

349.4

Exist. ROW

PE +51

F - 40

C - 4

359.00

Station 14+70

F - 0

C - 4

358.98

F - 15

C - 3

358.75

F - 0

C - 0

Begin Improvement - Station 13+00

Exist. ROW