

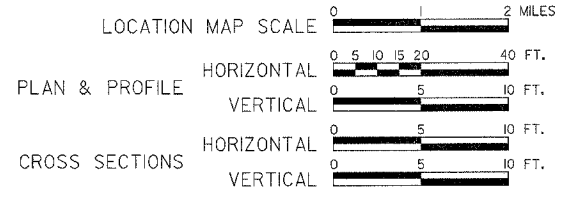
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION PLANS FOR PROPOSED LOCAL AGENCY IMPROVEMENT FEDERAL-AID BRRP PROJECT

INDEX OF SHEETS

- 1 = COVER SHEET
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- 6 = PRECAST CONCRETE BRIDGE SLAB DETAILS
- 7 = STEEL BRIDGE RAIL, TYPE SM
- 8 = PILING DETAILS
- 9-10 = CROSS SECTIONS

STANDARDS

- 000001-04 STANDARD SYMBOLS, ABBREVIATIONS & PATTERNS
- 515001-02 DETAIL OF NAME PLATE FOR BRIDGES
- 702001-05 TRAFFIC CONTROL DEVICES
- BLR-21-6 TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES
- BLR-22-4 TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES



BRIDGE REPLACEMENT & REHABILITATION PROGRAM

SECTION 03-08111-00-BR
OGLE COUNTY
PROJECT NO. BROS-141(60)
2005
TR122 (Anterior Road)

NET LENGTH 550.00 FEET = 0.104 MILES

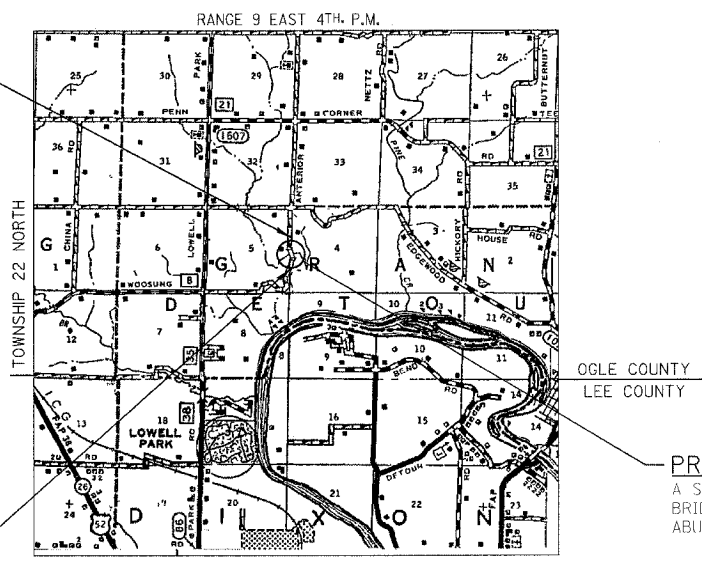
SUMMARY OF QUANTITIES

CODE NO.	QUANTITY	UNIT	PAY ITEM
20100110	34	UNIT	TREE REMOVAL (6 TO 15 UNITS DIA.)
20100210	51	UNIT	TREE REMOVAL (OVER 15 UNITS DIA.)
20200100	254	CU YD	EARTH EXCAVATION
20300100	51	CU YD	CHANNEL EXCAVATION
*20900110	143	CU YD	POROUS GRANULAR BACKFILL
*25001000	0.40	ACRE	SEEDING CLASS 2 (SPECIAL)
25100630	129	SO YD	EROSION CONTROL BLANKET
*35101400	510	TON	AGGREGATE BASE COURSE, TYPE B
*40200800	285	TON	AGGREGATE SURFACE COURSE, TYPE B
50100100	1	EACH	REMOVAL OF EXISTING STRUCTURES
50200100	105	CU YD	STRUCTURE EXCAVATION
50300225	21.7	CU YD	CONCRETE STRUCTURES
50400105	1077.5	SQ FT	PRECAST CONCRETE BRIDGE SLAB
50500405	5130	POUND	FURNISHING & ERECTING STRUCTURAL STEEL
50700305	1210	POUND	HARDWARE
50800105	2260	LB	REINFORCEMENT BARS
50901005	72	FOOT	STEEL BRIDGE RAIL, TYPE SM
51201000	264	FOOT	FURNISHING METAL PILE SHELLS 12"
51202600	264	FOOT	DRIVING AND FILLING SHELLS
51203200	2	EACH	TEST PILE METAL SHELLS
*51204900	2815	SQ FT	STEEL SHEET PILING
51500100	1	EACH	NAME PLATES

CONSTRUCTION TYPE CODE - X020-2A
*SEE SPECIAL PROVISIONS

SECTION ENDS
STA. 12+00

SECTION BEGINS
STA. 6+50



LOCATION MAP

PROPOSED STRUCTURE: S.N. 071-3328
A SINGLE SPAN (1 @ 35'-11") PRECAST CONCRETE BRIDGE SLAB STRUCTURE ON CLOSED SHEET PILE ABUTMENTS AT STA. 10+00; SKEWED 0°.

JOB NO. C-92-051-05
CONTRACT NO. 85349
ROAD CLASSIFICATION: RURAL, LOCAL ROAD
ADT 100 (2003), 100 (2023)
DESIGN SPEED: 30 MPH
RURAL (FAPLHI)

CALL J.U.L.I.E.
BEFORE YOU DIG
800-892-0123



Brian K. Conwers
DATE: 1/25/05
EXPIRES 11/30/05

APPROVED: *Chris D. [Signature]* 20 05
LOCAL AGENCY OFFICIAL

PASSED: *February 2, 2005*
DISTRICT ENGINEER OF LOCAL ROADS & STREETS

APPROVED: *February 2, 2005*
DISTRICT ENGINEER

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

Existing Structures (Including Foundations, Walls, Cisterns, Wells Or Other Underground Structures) Within The Right Of Way Shall Be Removed In Accordance With Article 501.02 And 501.03 Of The Standard Specifications, Without Additional Compensation, Unless Otherwise Noted In The Plans Or Special Provisions.

The Contractor Shall Seed All Disturbed Areas Within The Project Limits.

No Overhaul Has Been Computed And None Shall Be Paid For From Any Source.

The Final Top Four Inches Of Soil In Any Right-Of-Way Area Disturbed By The Contractor Must Be A Cohesive Soil Capable Of Supporting Vegetation.

The New Number For This Structure Will Be S.N. 071-332B

The Contractor Shall Be Responsible For Protecting Utility Property During Construction Operations As Outlined In Article 107.31 Of The Standard Specifications.

The Utilities Located Within The Project Limits Or Immediately Adjacent To The Project Construction Limits Include:

COMED	NICOR	Gallatin River Communications	Insight Communications
123 Energy Ave.	4651 Linden Road.	2296 N. Henderson St.	115 N. Galena Ave.
Rockford, IL 61109	Rockford, IL 61109	Galesburg, IL 61401	Dixon, IL 61021

A Minimum Of 48 Hours Advance Notice Is Required For Non-Emergency Work.

A Nationwide 404 Permit Has Been Issued For This Project And The Conditions Of That Permit Must Be Adhered To.

When Mulch With Emulsified Asphalt Is Applied, It Will Be The Contractor's Responsibility To Cover Or Protect All Traffic Signs, Guardrail And Curbs. Any Signs, Guardrail Or Curbs Which Become Covered With Asphaltic Material Shall Be Cleaned By The Contractor At His Own Expense.

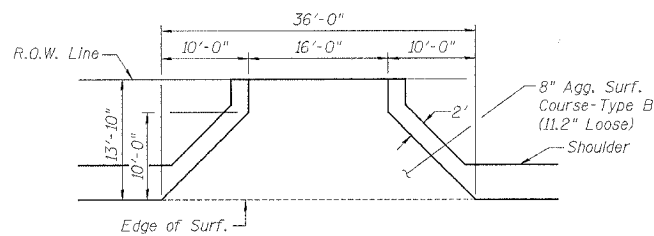
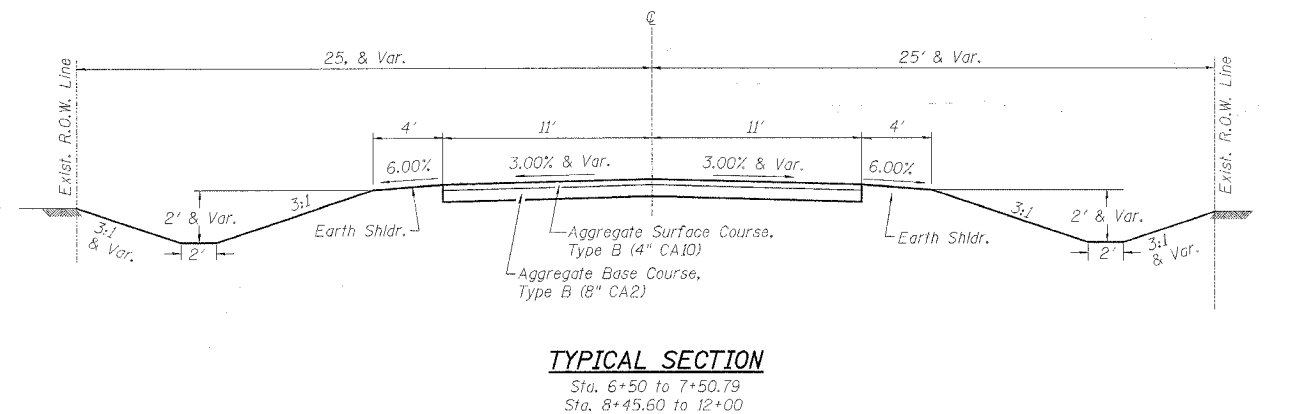
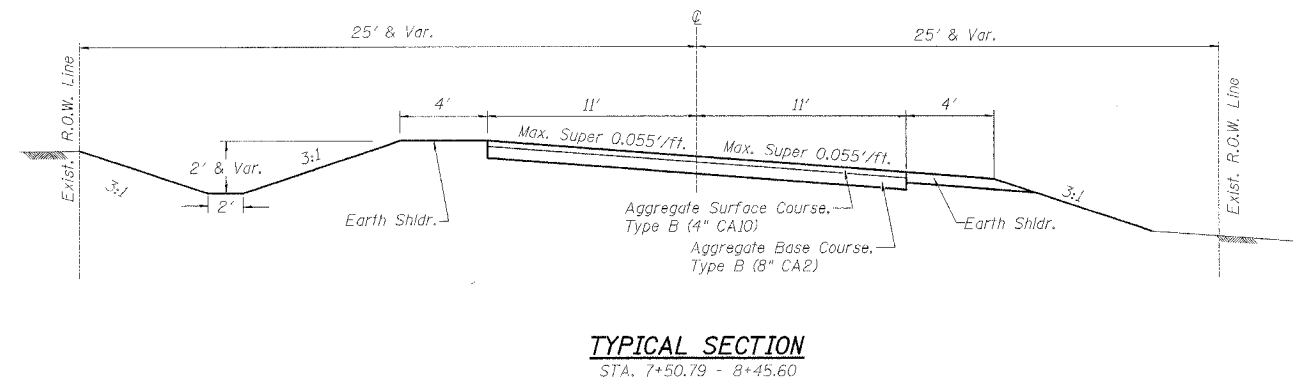
Where Section Or Subsection Monuments Are Encountered, The Engineer Shall Be Notified Before Such Monuments Are Removed. The Contractor Shall Protect And Carefully Preserve All Property Markers, Monuments And Right-Of-Way Pins Until The Owner, An Authorized Surveyor, Or Agent Has Witnessed Or Otherwise Referenced Their Location.

Existing Mail Boxes, Street Signs And Traffic Signs That Are Within The Construction Limits Shall Be Removed And Reset By The Contractor. Cost Of Removing And Resetting To Be Included In The Contract Unit Price Bid Per Cubic Yard For Earth Excavation.

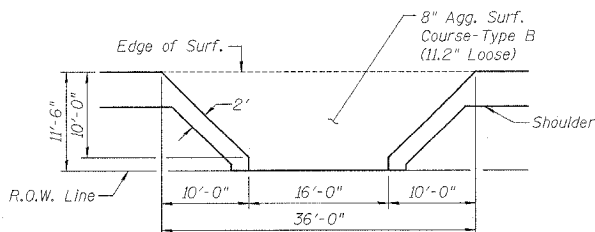
SCHEDULE OF QUANTITIES

AGGREGATE SURFACE COURSE, TYPE B		
LOCATION	TON	REMARKS
STA. 6+50 - STA. 8+11	72	4" DEPTH, TAPER
STA. 8+11 - STA. 9+81	94	4" DEPTH
STA. 10+19 - STA. 12+00	89	4" DEPTH, TAPER
F.E.L. STA. 9+26	16	8" DEPTH
F.E.R. STA. 8+74	14	8" DEPTH
TOTAL	285 TON	
AGGREGATE BASE COURSE, TYPE B		
LOCATION	TON	REMARKS
STA. 6+50 - STA. 8+11	143	8" DEPTH, TAPER
STA. 8+11 - STA. 9+81	189	8" DEPTH
STA. 10+19 - STA. 12+00	178	8" DEPTH, TAPER
TOTAL	510 TON	
SEEDING CLASS II, (SPECIAL)		
LOCATION	ACRES	REMARKS
LT. & RT. STA. 6+50 - STA. 12+00	0.40	
TOTAL	0.40 ACRES	
EROSION CONTROL BLANKET		
LOCATION	SQ YD	REMARKS
LT. & RT. STA. 9+66 - STA. 9+85	53	AROUND WINGWALLS
LT. & RT. STA. 10+15 - STA. 10+35	76	AROUND WINGWALLS
TOTAL	129 SQ YD	
TREE REMOVAL (6 TO 15 UNITS DIAMETER)		
LOCATION	UNITS	REMARKS
LT. STA. 6+77	24	10 1/4", 10 10"
LT. STA. 6+93	10	10 10"
TOTAL	34 UNITS	
TREE REMOVAL (OVER 15 UNITS DIAMETER)		
LOCATION	UNITS	REMARKS
LT. STA. 6+81	17	10 17"
LT. STA. 6+84	34	20 17"
TOTAL	51 UNITS	

ROUTE NO.	SECTION 03-08111-00-BR	SHEET NO.	2
COUNTY	OGLE	JOB NO.	10
ILLINOIS PROJECT BR05-14160			



FIELD ENTRANCE LEFT STA. 8+74



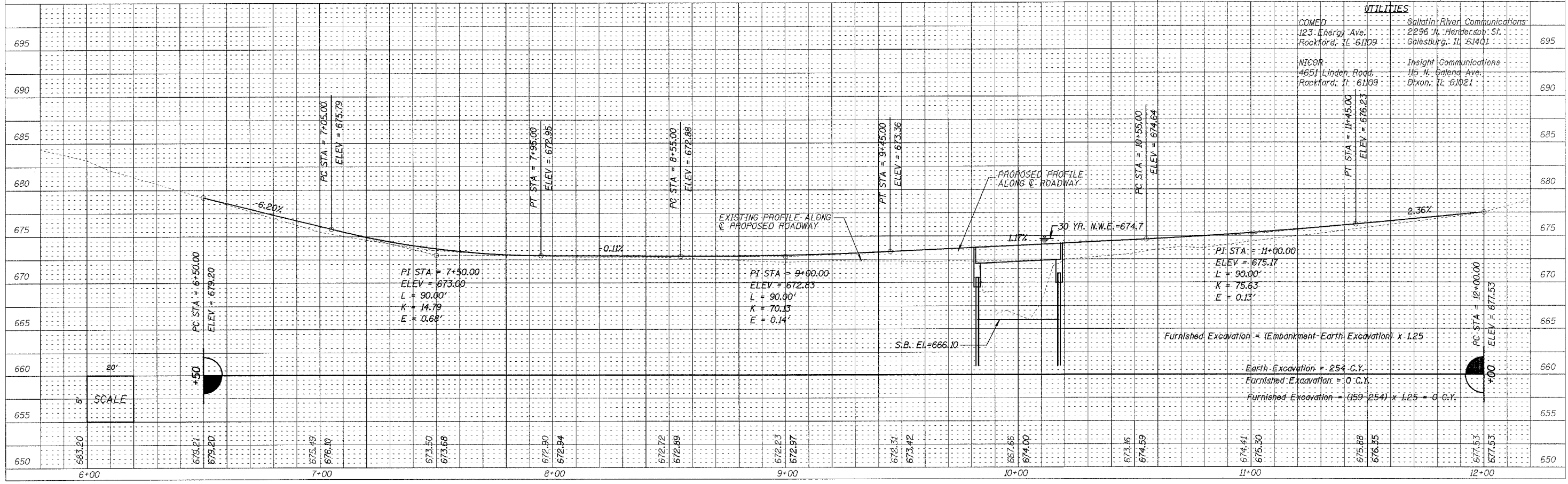
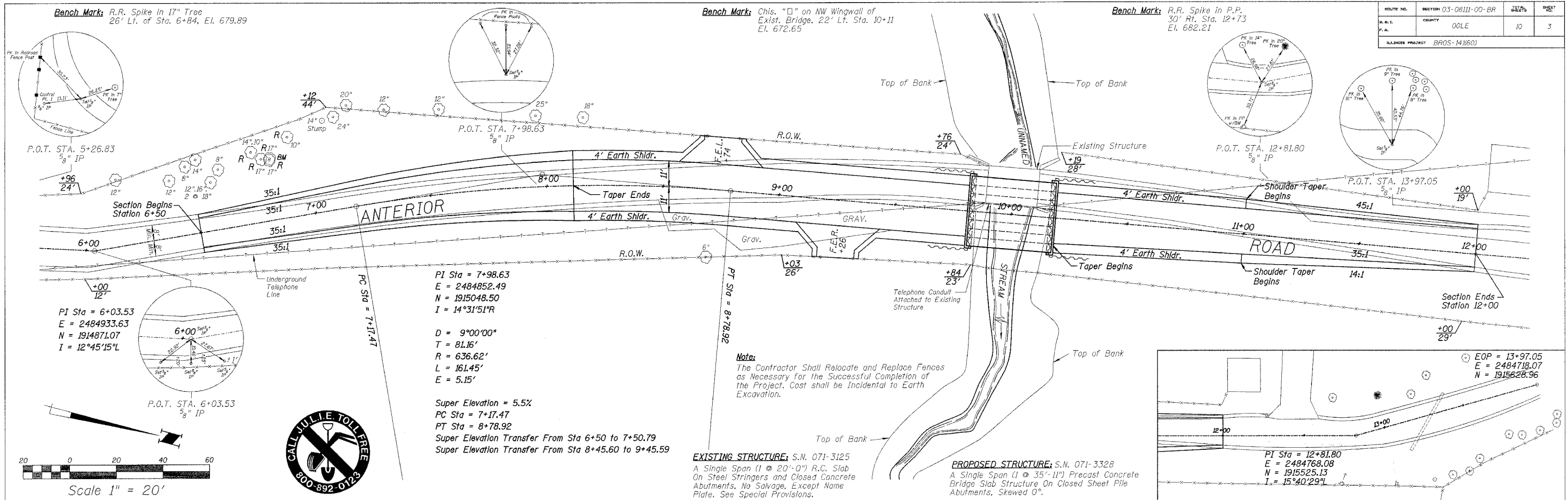
FIELD ENTRANCE RIGHT STA. 9+26

PAVEMENT STRUCTURAL DESIGN

Structural Design Traffic (S.D.T.) = Year 2013 P.V. 90
 S.U. 5 > 100 ADT
 M.U. 5
 Class IV Road
 Ogle County Soil Survey: AASHTO Soil Type A-6 & 7.
 $E_{R1} = 3.0$ KSI
 Use 12" Aggregate Base (Ogle Co. Standard)
 Pavement Design Procedures Memorandum #95-11 To County Engineers/Superintendents Of Highways, Municipal Engineers /Directors Of Public Works, Consulting Engineers Was Used.

GENERAL NOTES, SCHEDULES, AND TYPICAL SECTIONS
 ANTERIOR ROAD OVER UNNAMED STREAM
 SECTION 03-08111-00-BR
 OGLE COUNTY
 WHA # 1024003

ROUTE NO.	SECTION 03-08111-00-BR	SHEET NO.	10	TOTAL SHEETS	3
R.M.L.	COUNTY	00LE			
BLINDERS PROJECT BR05-14180					



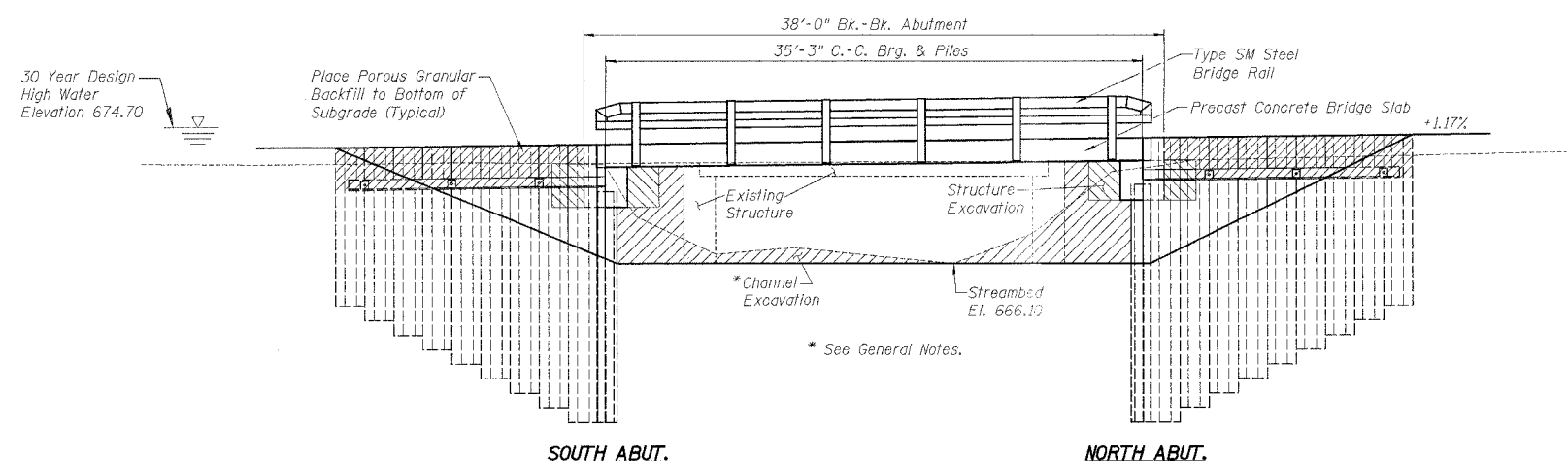
EXISTING STRUCTURE, S.N. 071-3125
 A Single Span (1 @ 20'-0") R.C. Slab
 On Steel Stringers and Closed Concrete
 Abutments. To Be Removed. No Salvage.

BENCH MARK: Chisled "□" on N.W. Wingwall of Exist. Bridge,
 22' Lt. Sta. 10+11, El. 672.65

ROUTE NO.	SECTION 03-08111-00-BR	SHEETS	SHEET NO.
P.A.	COUNTY OGLE	10	4
ILLINOIS PROJECT BROS-14(60)			

BILL OF MATERIAL - BRIDGE

ITEM	UNIT	SUB	SUPER	TOTAL
Porous Granular Backfill	Cu. Yd.		143	143
Removal Of Existing Structures	Each			1
Channel Excavation	Cu. Yd.	51		51
Structure Excavation	Cu. Yd.	105		105
Concrete Structures	Cu. Yd.	21.7		21.7
Precast Concrete Bridge Slab	Sq. Ft.		1077.5	1077.5
Furnishing & Erecting Structural Steel	Pound	5130		5130
Steel Rail, Type SM	Foot		72	72
Hardware	Pound	1210		1210
Reinforcement Bars	Pound	2260		2260
Furnishing Metal Pile Shells-12"	Foot	264		264
Driving & Filling Shells	Foot	264		264
Test Piles - Metal Shell	Each	2		2
Steel Sheet Piling	Sq. Ft	2815		2815
Name Plates	Each		1	1



GENERAL NOTES

See Proposal For Boring Data.
 Reinforcement Bars Shall Conform To The Requirements Of AASHTO M-31, M-42, Or M-53 Grade 60.
 Backfill Shall Be Placed Behind Abutments After Deck Beams Are Set And Grouted And Tie-Rods In Place. Refer To Article 502.10 Of The Standard Specifications.
 Contractor Shall Drive One Metal Shell Test Pile In A Permanent Location At The North And South Abutments As Directed By Engineer Before Ordering The Remainder Of Piles.
 Steel Sheet Piling For Abutments Is Based On The Use Of PZ-22 Sheet Piling. The Substitution Of An Alternate Type Of Steel Sheet Piles Must Be Approved By The Engineer And Must Have Equal Or Greater Section Properties. (Minimum Sx = 18.1 Cubic Inches Per Foot Of Wall) No Additional Compensation For Alternate Will Be Allowed.

UNNAMED STREAM
 BUILT 2005 BY
 GRAND DETOUR TOWNSHIP
 & OGLE COUNTY
 SECTION 03-08111-00-BR
 F.A. PROJ. BROS-14(60)
 LOADING HS20 STR. 071-3328

NAME PLATE LETTERING
 Refer To Std. 515001

DESIGN STRESSES
FIELD (LOAD FACTOR)
 $f_c = 3,500$ P.S.I.
 $f_y = 60,000$ P.S.I. (Reinf.)
 $f_y = 36,000$ P.S.I. (Struct. Steel)

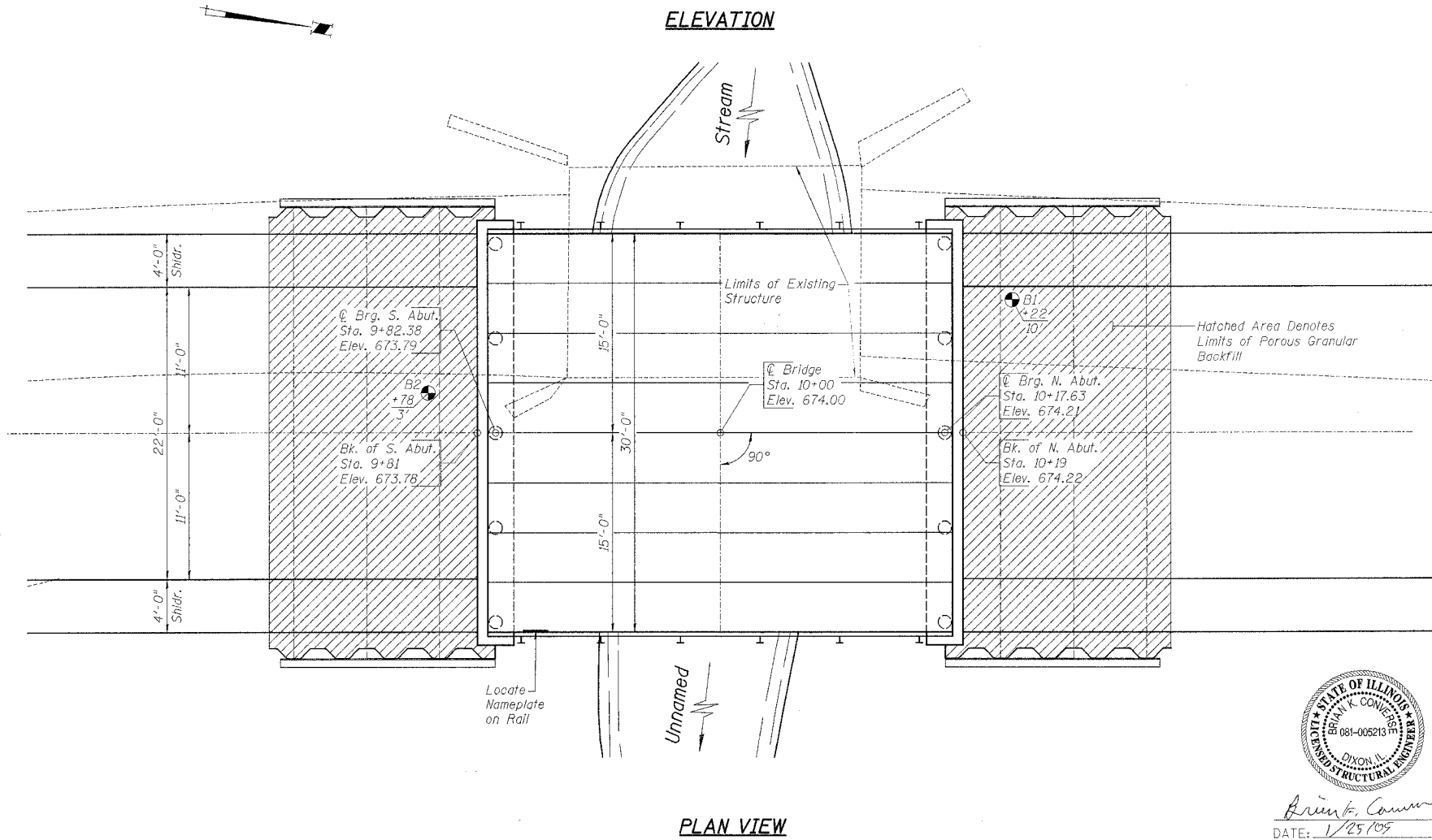
PRECAST BRIDGE SLAB
 $f_c = 4,500$ psi.
 $f_c = 1,800$ psi.
 $f_y = 60,000$ psi.
 $n = 8$

DESIGN SPECIFICATIONS
 Designed in accordance with
 A.A.S.H.T.O. Spec. dated 2002

LOADING HS20-44
 Allow 50#/Sq. Ft. for future
 wearing surface.

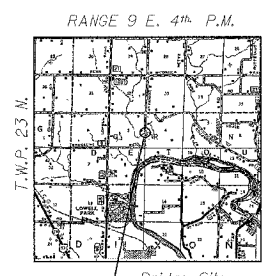
WATERWAY INFORMATION

DRAINAGE AREA 4.5 Sq. Mi.
 DESIGN DISCHARGE (30 YR.) 1600 C.F.S.
 EXISTING OPENING 96 Sq. Ft.
 REQUIRED OPENING 192 Sq. Ft.
 PROPOSED OPENING 192 Sq. Ft.
 CREATED HEAD (30 YR.) < 0.5'
 100 YR. DISCHARGE 2130 C.F.S.
 CREATED HEAD (100 YR.) < 1.0'
 HIGH WATER ELEV. (100 YR.) 675.2 Ft.



Brian K. Converse
 DATE: 1/25/09
 EXPIRES 11/30/06

"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 Complies With Requirements Of The Current "AASHTO Standard Specifications For Highway Bridges."



LOCATION SKETCH

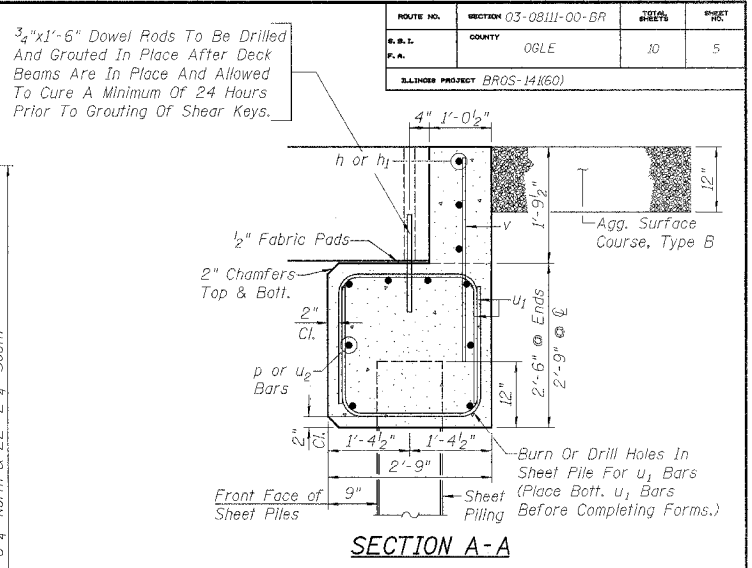
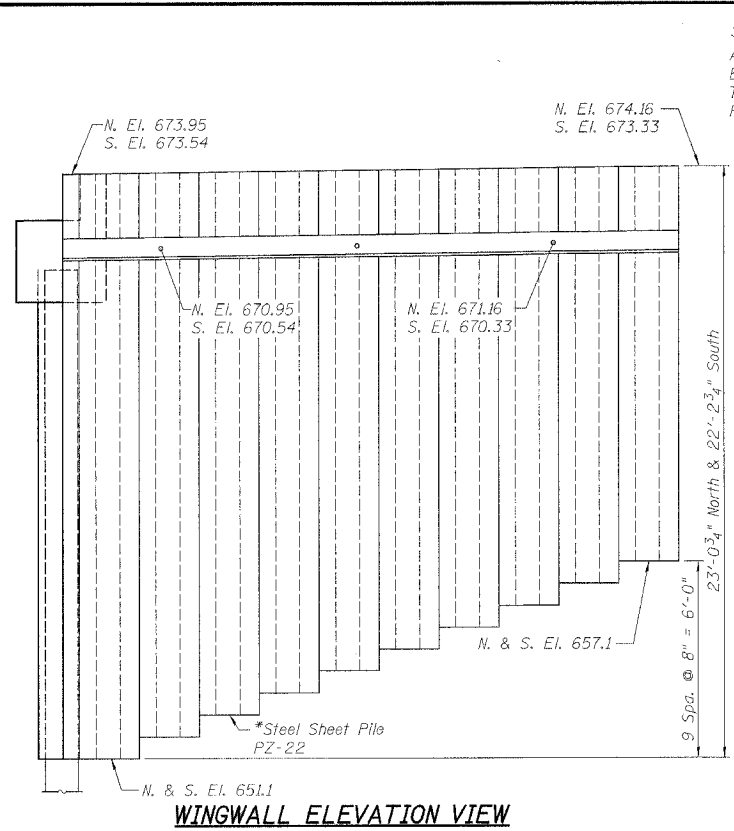
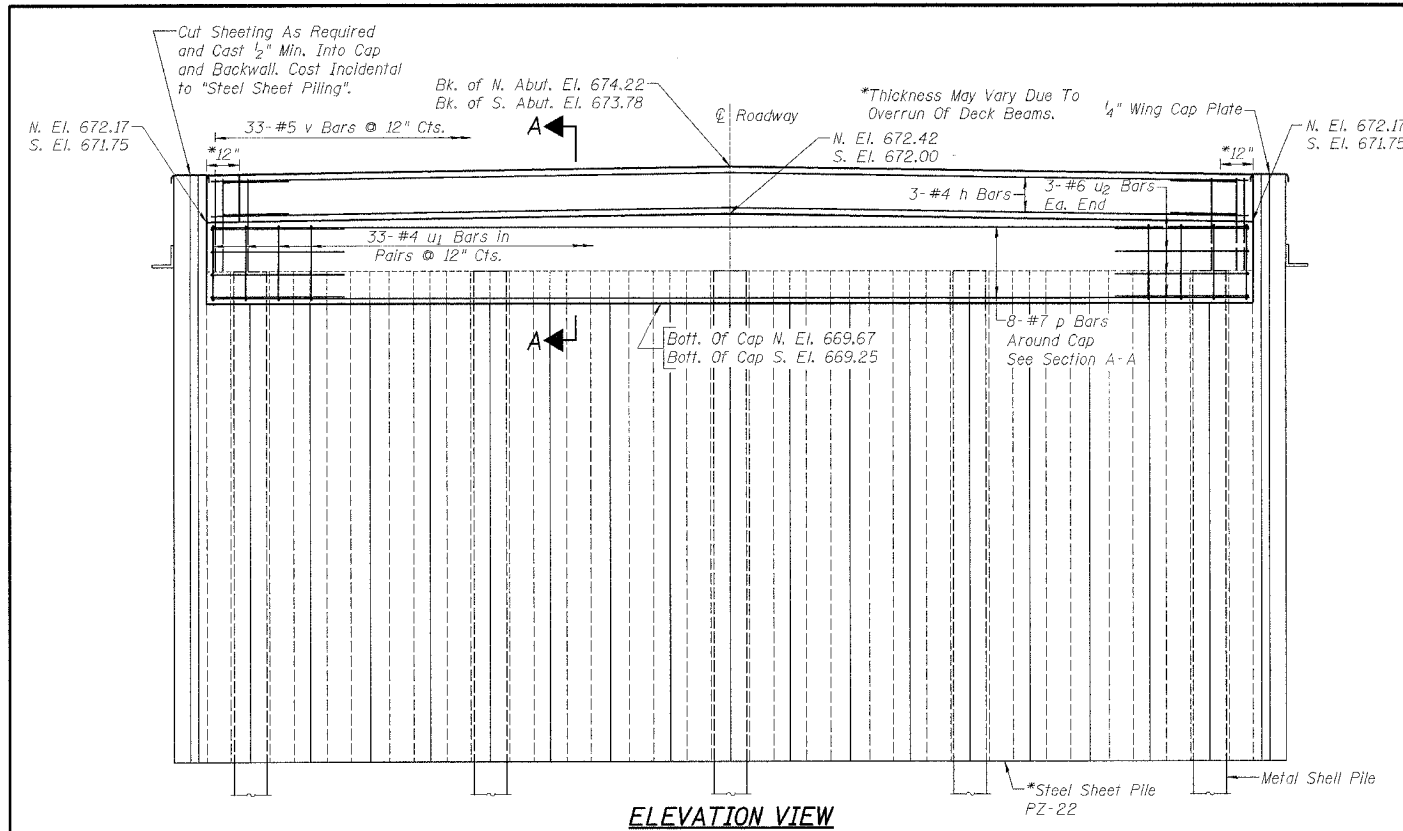
GENERAL PLAN AND ELEVATION
ANTERIOR ROAD OVER UNNAMED STREAM
 SECTION 03-08111-00-BR
 STA. 10+00 (S.N. 071-3328)
 OGLE COUNTY

**WILLET
 HOFMANN &
 ASSOCIATES, Inc.**
 Consulting Engineers

DESIGNED BY:
 B.K. Converse
 DATE: 5/03
 CHECKED BY:
 M.R. Leslie
 DATE: 5/03
 DRAWN BY:
 F.D. Lachat
 DATE: 5/03

WHA #102403

ROUTE NO.	SECTION 03-08111-00-BR	SHEETS	5
S.B.L.	COUNTY OGLE	NO.	30
BALANCE PROJECT BROS-14860			



PILE DATA (NORTH & SOUTH ABUTS.)

Type	12" Metal Shell
Capacity	35 Ton
No. Required	4 + 1 Test - North & South
	5 - South
Est. Length	33' N. & S. Abut.

*Pile Shall Penetrate Stiff Sand and Gravel Layer at Elev. 662, as Shown in Borings.

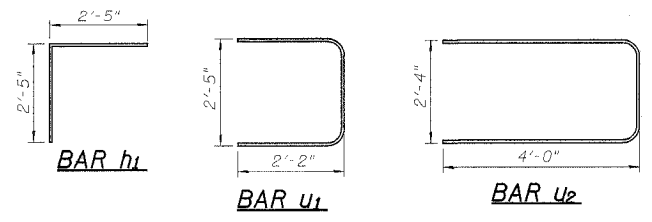
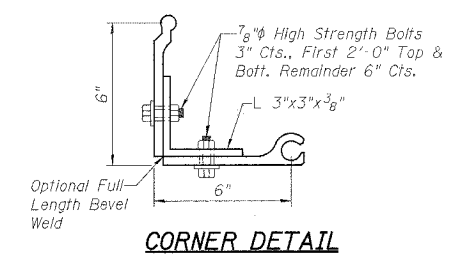
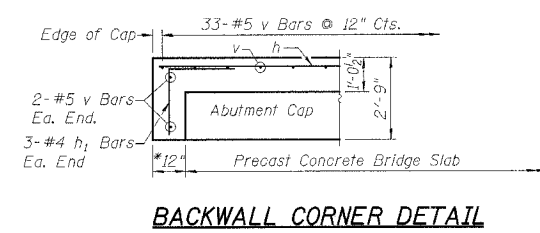
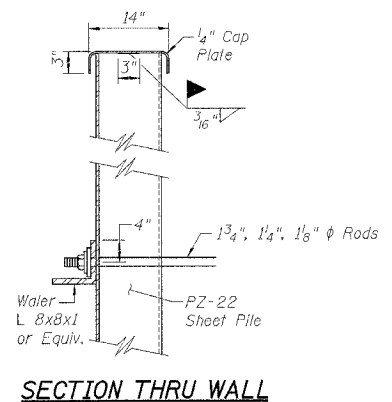
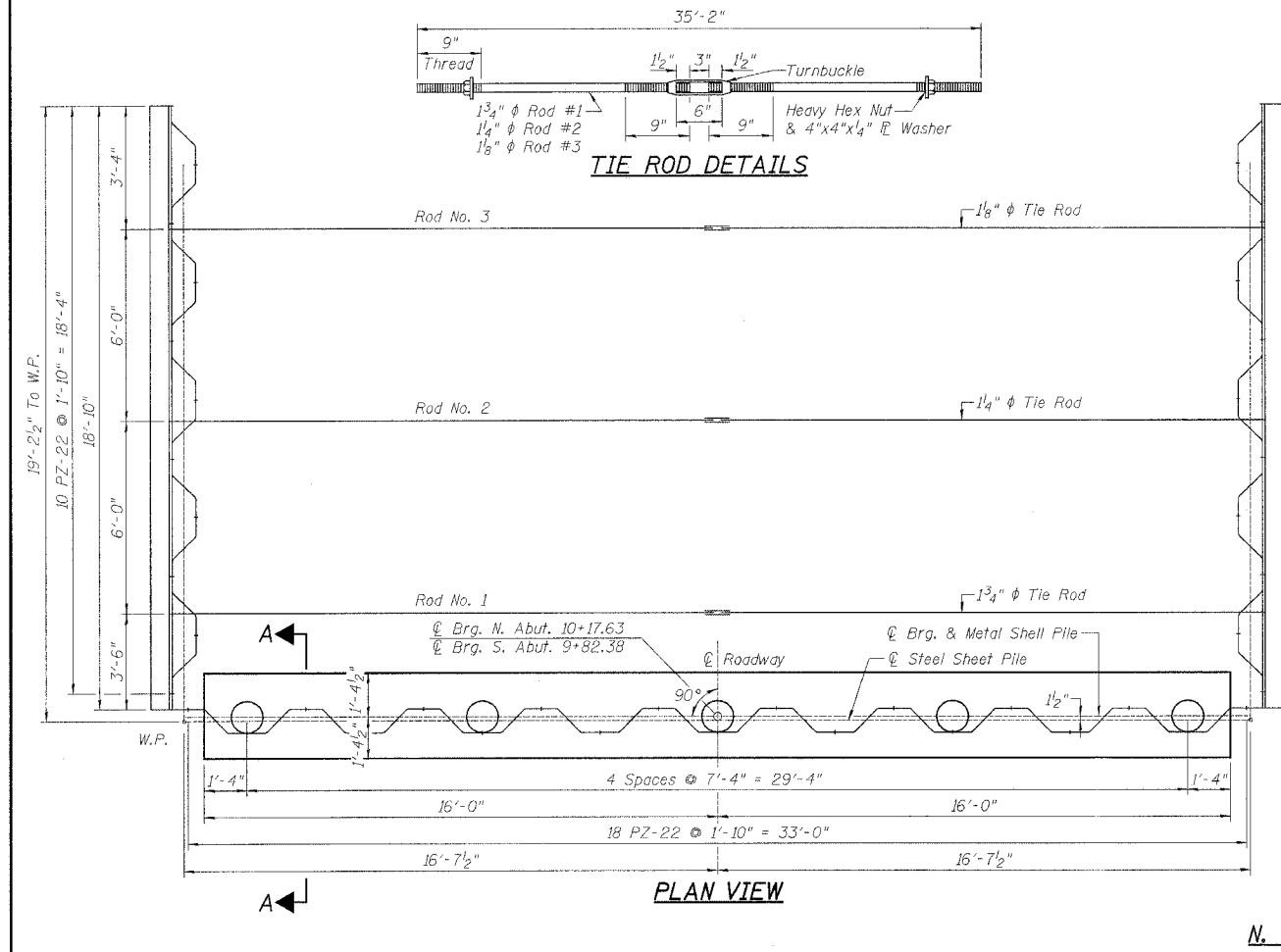
NOTES:

All Hardware Shall Be Hot Dipped Galvanized In Accordance With A.A.S.H.T.O. M-232.

The Exposed Portion Of The Steel Sheet Piling, Cap Plate And Waler Shall Be Painted As Specified In The Special Provisions.

Cost Of Fabricating Corner Detail, 3x3x3/8" & 7/8" φ Bolts Shall Be Included In The Cost Per Sq. Ft. For Steel Sheet Piling.

L 8"x8"x1" Waler, & 1/4" Cap Plate Shall Be Included For Payment As Furnishing & Erecting Structural Steel.

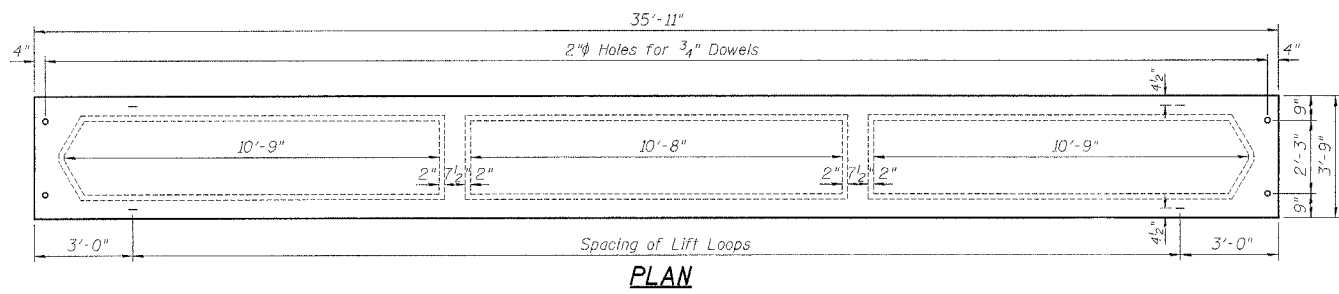


BILL OF MATERIAL - N. & S. ABUTMENTS

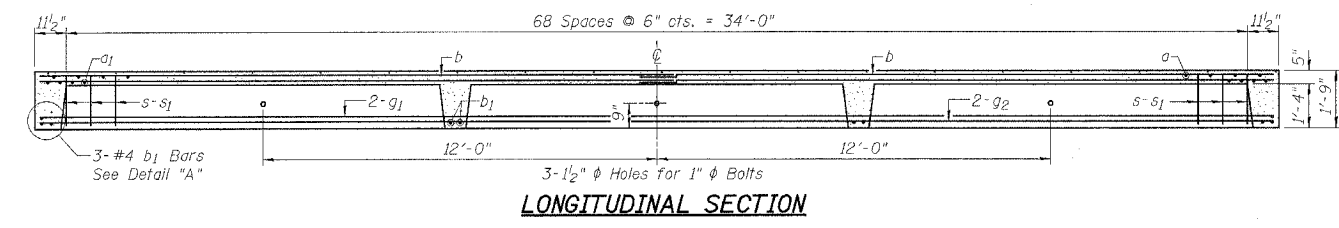
Bar	No.	Size	Length	Shape
h	6	#4	31'-8"	—
h ₁	12	#4	4'-10"	┌
p	16	#7	31'-8"	—
u ₁	132	#4	6'-9"	┌
u ₂	12	#6	10'-4"	┌
v	74	#5	3'-6"	—
Concrete Structures			Cu. Yd.	21.7
Reinforcement Bars			Pound	2260
Steel Sheet Piling			Sq. Ft.	2815
Hardware			Pound	1210
Furnishing & Erecting Structural Steel			Pound	5130
Structure Excavation			Cu. Yd.	105
Porous Granular Backfill			Cu. Yd.	143
Test Pile - Metal Shell			Each	2
Furnishing Metal Pile Shells-12"			Foot	264
Driving & Filling Shells			Foot	264

NORTH & SOUTH ABUTMENT DETAILS
ANTERIOR ROAD OVER UNNAMED STREAM
SECTION 03-08111-00-BR
OGLE COUNTY
 WHA # 1024D03

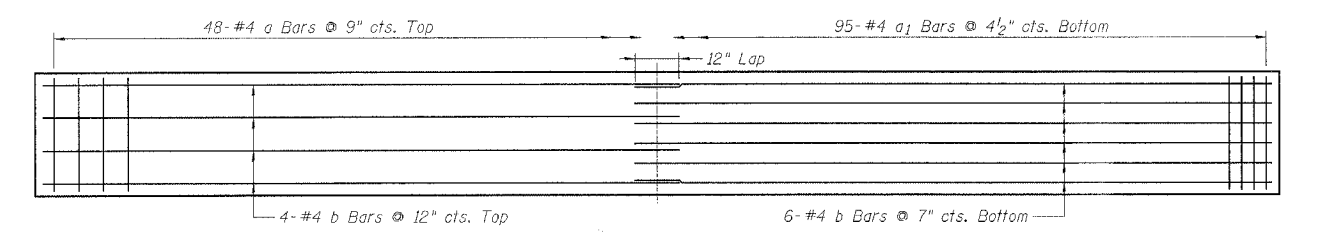
ROUTE NO.	SECTION 03-08111-00-BR	SHEET	6
N.B.S.	COUNTY OGLE	JO	
P.L.			
ILLINOIS PROJECT BRGS-141160			



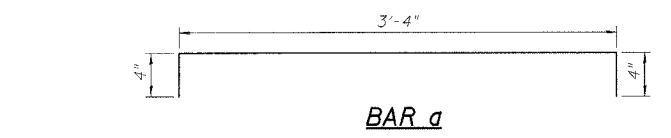
PLAN



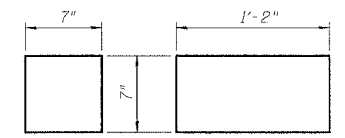
LONGITUDINAL SECTION



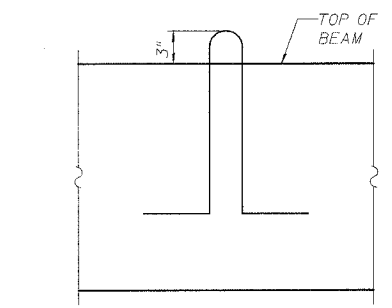
SLAB REINFORCEMENT



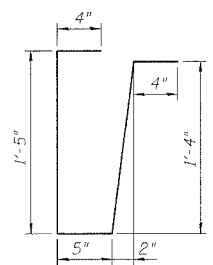
BAR a



CURB INTERIOR FABRIC BEARING PADS
1/2" Thick



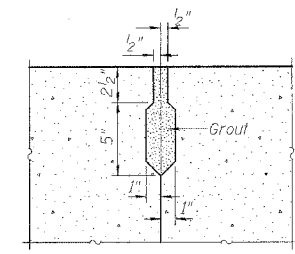
LIFTING LOOP



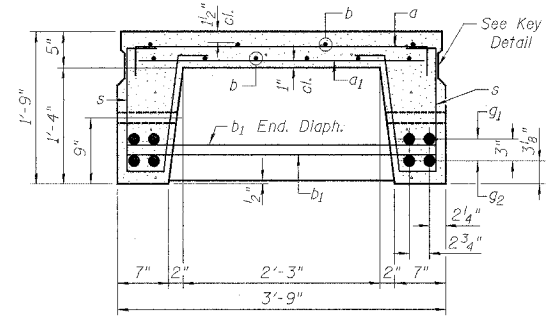
BAR s

DESIGN STRESSES
f'c = 4,500 psi.
fc = 1,800 psi.
fy = 60,000 psi.
n = 8

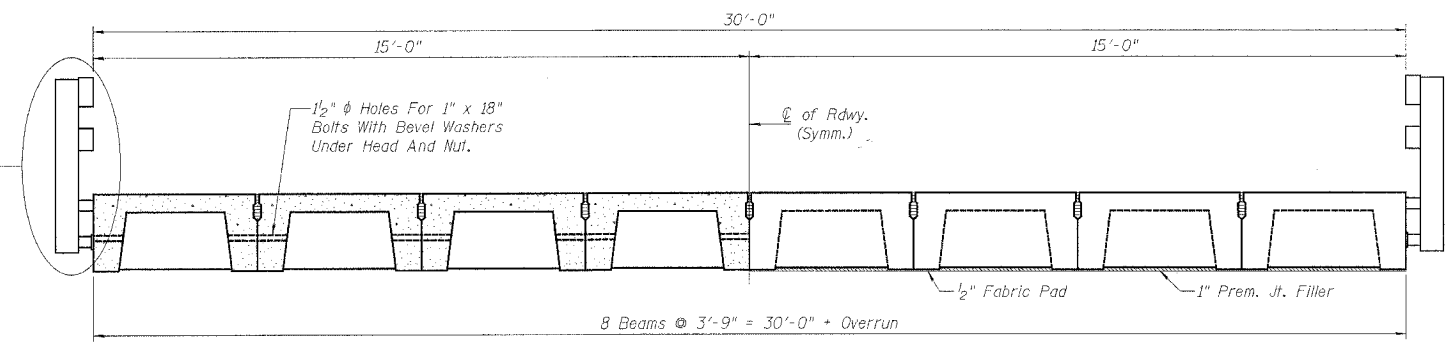
LOADING HS20-44



KEY DETAIL

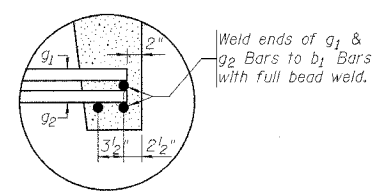


SECTION THRU INTERIOR UNIT



HALF SECTION

HALF END VIEW



DETAIL "A"

MATERIAL LIST - ONE BEAM

Bars	No.	Size	Length	Weight
a	48	#4	4'-0"	128
a ₁	95	#4	3'-3"	206
b	20	#4	18'-4"	245
b ₁	10	#4	3'-6"	23
g ₁	4	#11	35'-7"	756
g ₂	4	#11	35'-7"	756
s	138	#3	3'-10"	199
Class SI Concrete			Cu. Yds.	4.9
Reinforcement Bars			Lbs.	2,314
Total Weight			Lbs.	19,724

BILL OF MATERIAL

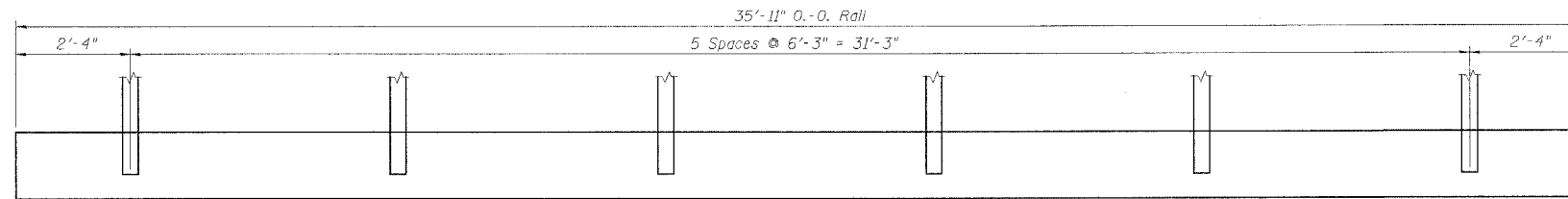
Precast Concrete Bridge Slab	Sq. Ft.	1077.5
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PRECAST NOTES

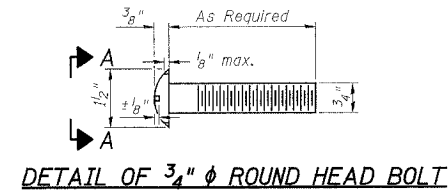
All Transverse Tie Assemblies (Nuts, Bolts, And Washers) Shall Be Hot Dipped Galvanized In Accordance With AASHTO Designation M-232.
Cost Of Reinforcement Bars And Accessories Cast Into Slab Unit, Of Bearing Pads, Furnishing, Drilling For, Placing And Grouting Anchor Dowels, Of Furnishing And Assembling Of 1" Bolts And Of Grouting Longitudinal Shear Key Is Included In The Unit Bid Price For "Precast Concrete Bridge Slab."
Tack Welding Of Stirrups To The Bottom Longitudinal Reinforcement Bars Will Not Be Permitted Except As Otherwise Authorized In Writing By The Engineer.
Reinforcement Bars Shall Conform To The Requirements Of AASHTO M-31, M-42 Or M-53 Grade 60.
Unless Otherwise Noted by Engineer, Lifting Loops Shall Be 1/2" 6x19 Class Wire Rope With Fiber Core And Shall Have A Minimum Ultimate Tensile Strength Of 18,700 Lbs. Loops Shall Be Burned Off After Slab/Cap Have Been Erected.

PRECAST CONCRETE BRIDGE SLAB
ANTERIOR ROAD OVER UNNAMED STREAM
SECTION 03-08111-00-BR
OGLE COUNTY
WHA # 1024D03

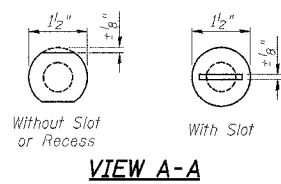
ROUTE NO.	SECTION 03-08111-00-BR	SHEET	7
COUNTY	OGLE	NO.	
ILLINOIS PROJECT BROS-14160			



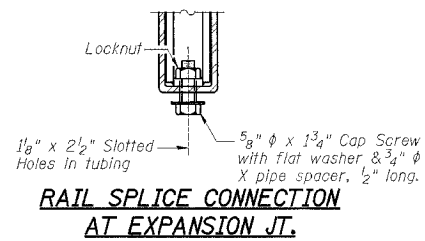
ELEVATION VIEW



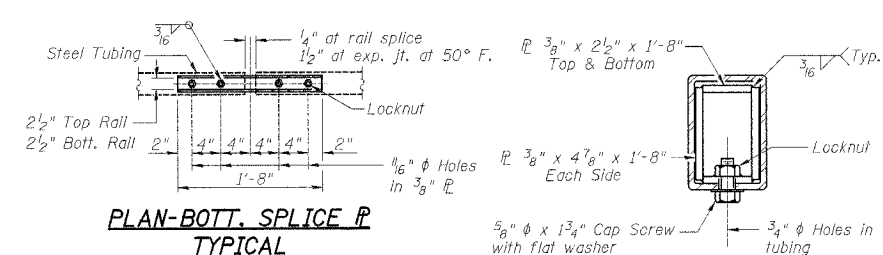
DETAIL OF 3/4" ϕ ROUND HEAD BOLT



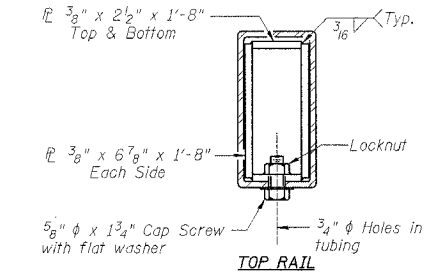
VIEW A-A



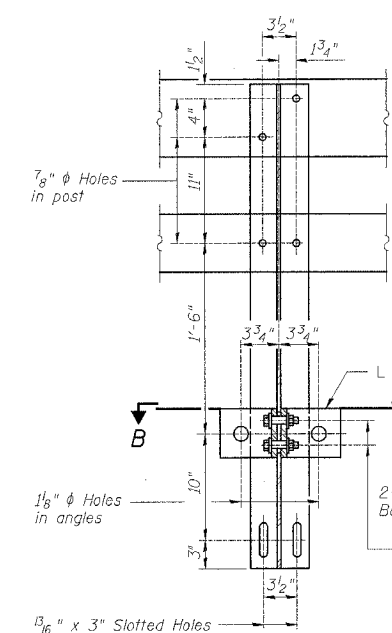
RAIL SPLICE CONNECTION AT EXPANSION JT.



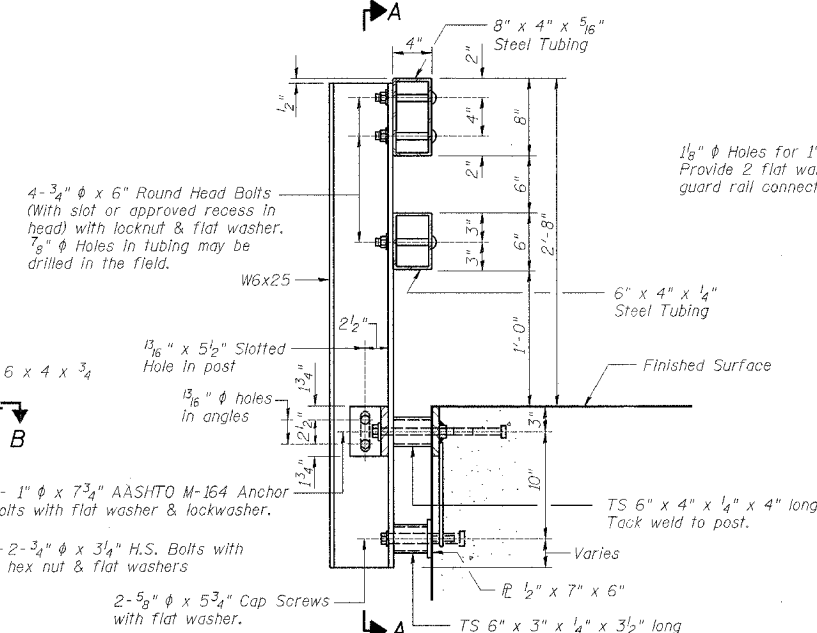
PLAN-BOTT. SPLICE P TYPICAL



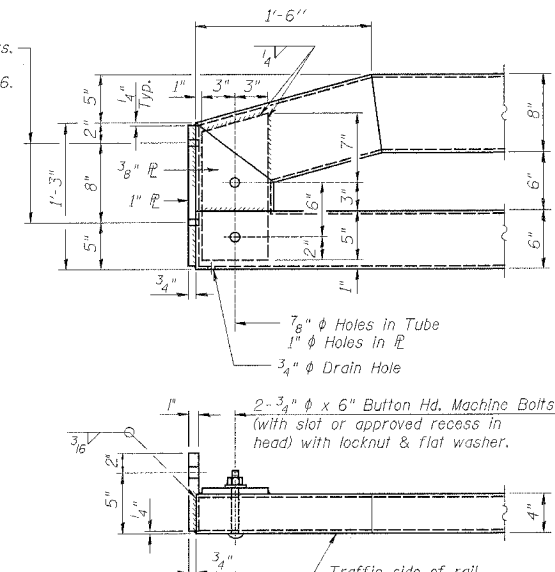
SECTIONS AT RAIL SPLICE



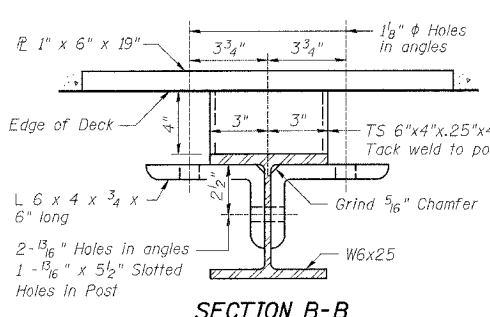
SECTION A-A



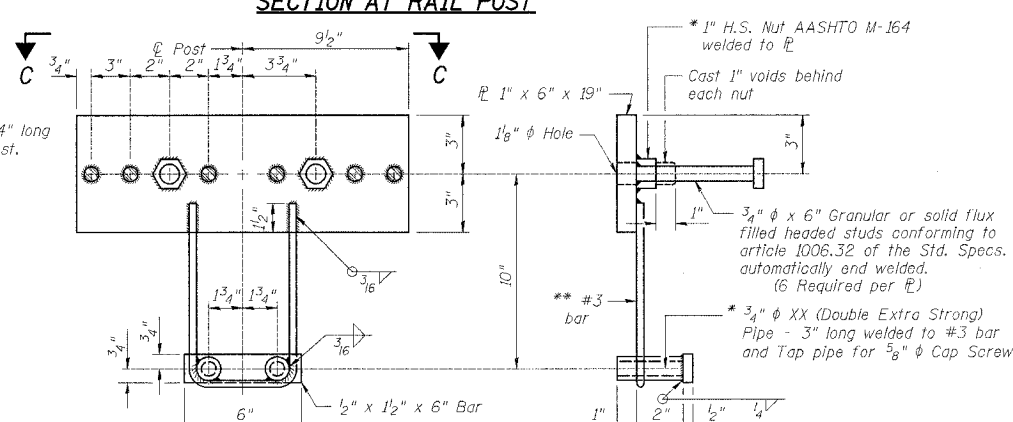
SECTION AT RAIL POST



END OF RAIL DETAILS



SECTION B-B



ANCHOR DEVICE

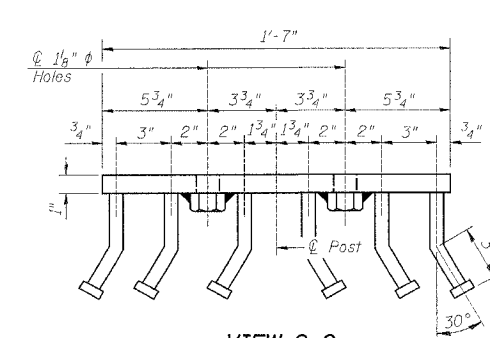
* Threaded areas shall be plugged or blocked off during casting of beam. Galvanized after fabrication.
 ** Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed 1/2".

NOTES

Hollow structural steel tubing shall conform to the requirements of ASTM designation A-500 Grade B Structural Steel Tubing and shall meet the longitudinal CVN requirements of 15 ft-lbs at 0° F.
 All other steel shapes and plates shall conform to the requirements of AASHTO M-270 Grade 36 except posts and angles shall conform to AASHTO M-270, Grade 50.
 Bolts, cap screws, and nuts shall conform to the requirement of ASTM designation A-307 except for high strength bolts, nuts and washers noted which shall conform to AASHTO M-164.
 All bolts, nuts, cap screws, washers, and lock washers shall be galvanized in accordance with AASHTO M-232.
 All posts, railing, rail splices, anchor devices, and angles shall be galvanized after shop fabrication in accordance with AASHTO M-111 and ASTM A-385. Galvanized rail shall not be painted.
 Railing shall be in accordance with Section 509 of the Standard Specifications, except as noted, and will be paid for at the contract unit price per foot for STEEL BRIDGE RAIL, TYPE SM.
 All field drilled holes shall be coated with an approved zinc rich paint before erection.
 For multi-span PPC Deck bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost incidental to STEEL BRIDGE RAIL, TYPE SM.
 Bolts located at expansion joint shall be provided with locknuts and shall be tightened only to a point that will allow railing movement.
 The 3/4" ϕ high strength bolts used to connect the 6" x 4" x 3/4" angles to the post shall be tightened in accordance with Article 505.04(f)(3) of the Standard Specifications. The 1" ϕ high strength bolts connecting the angles to the concrete shall be tightened to a snug fit and given an additional 1/8 turn. The 5/8" ϕ cap screws in bottom of posts shall be tightened to a snug fit only.

BILL OF MATERIAL

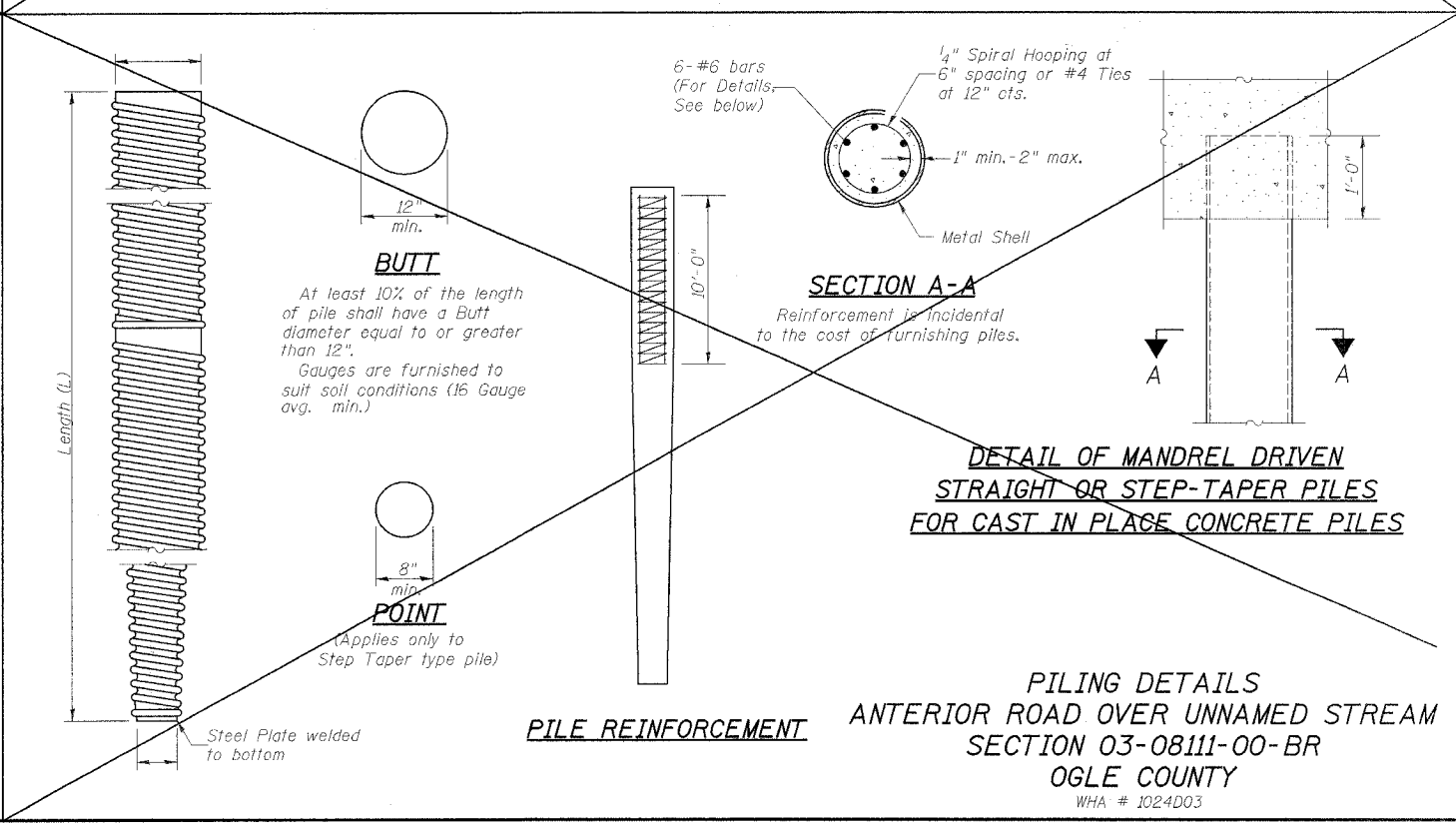
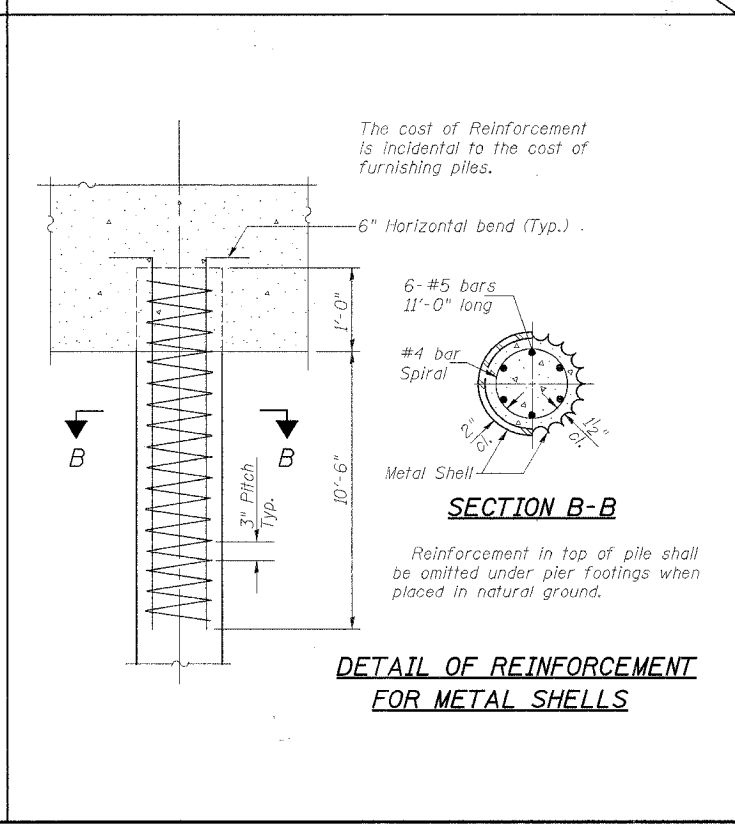
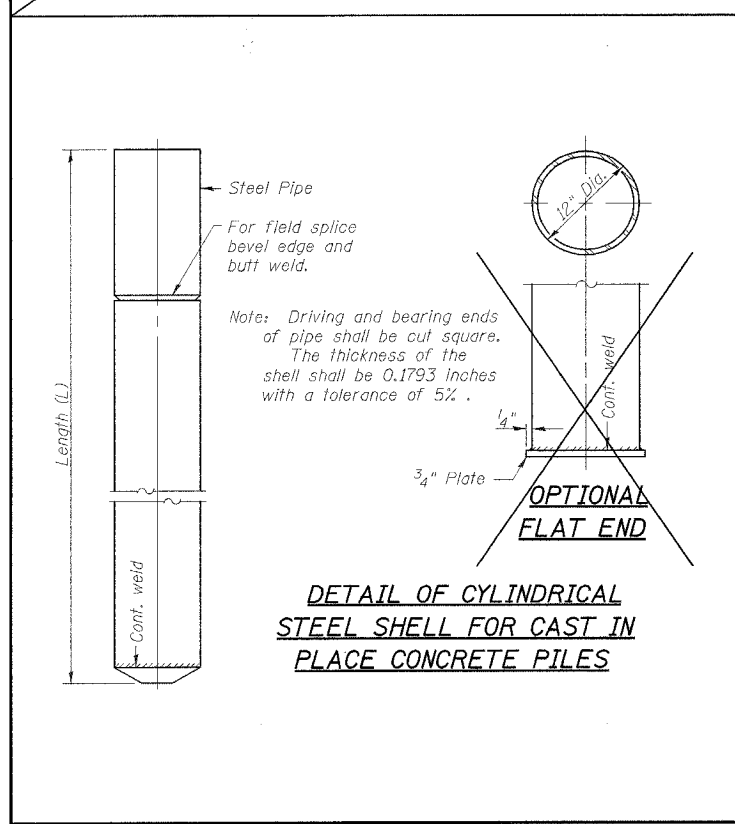
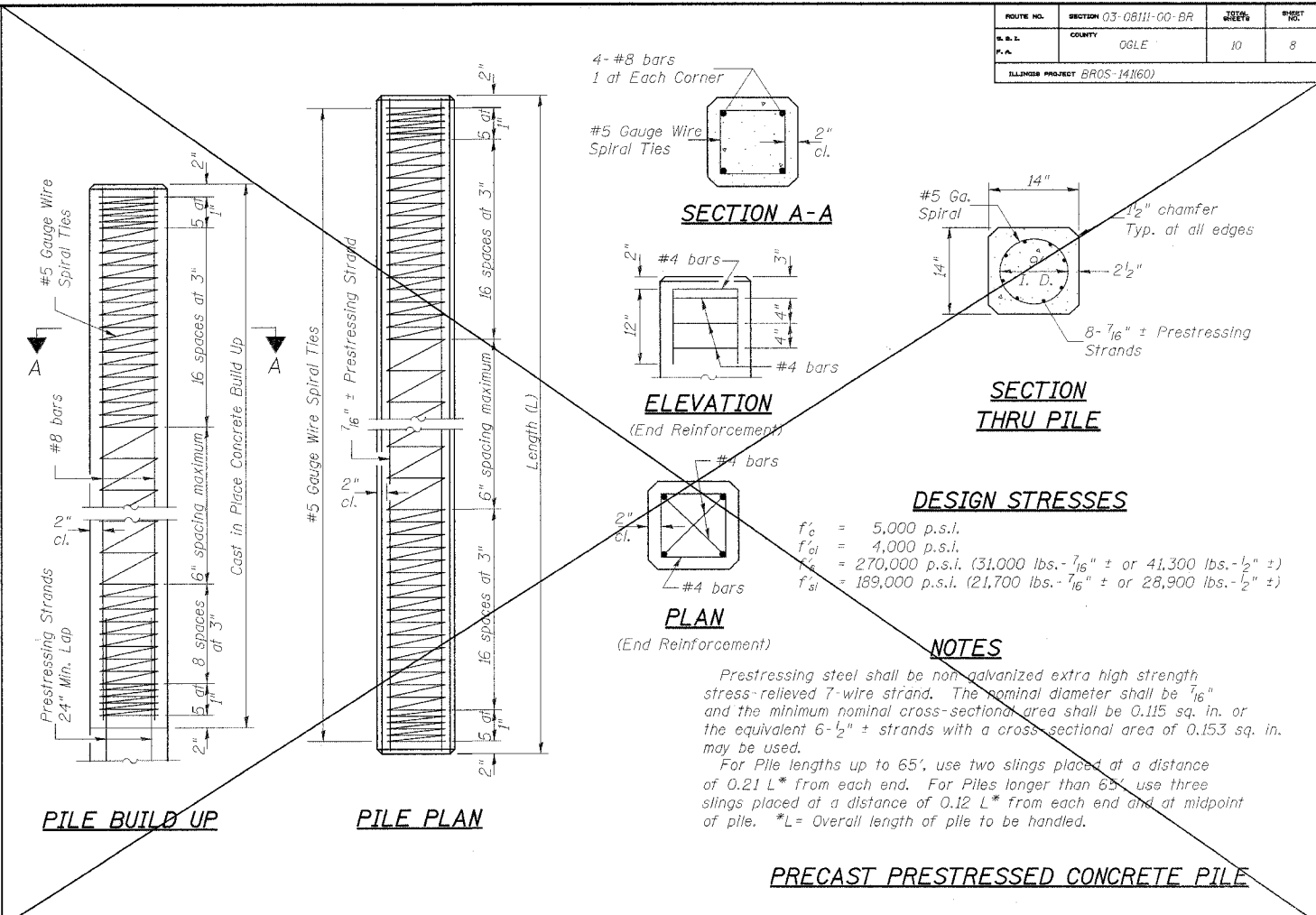
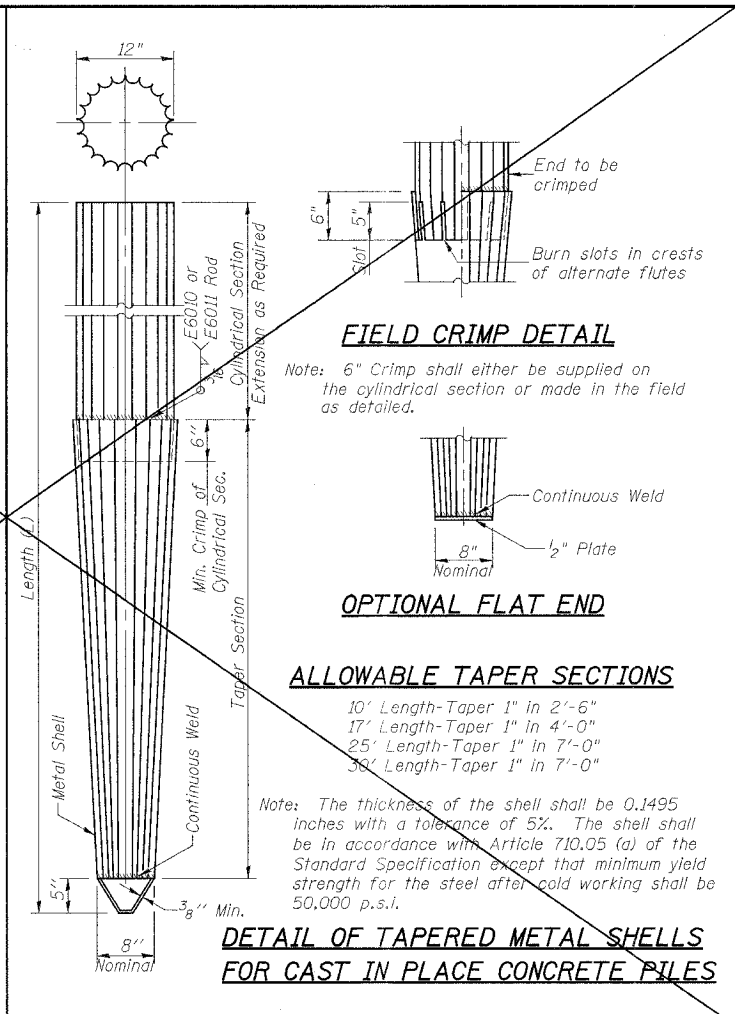
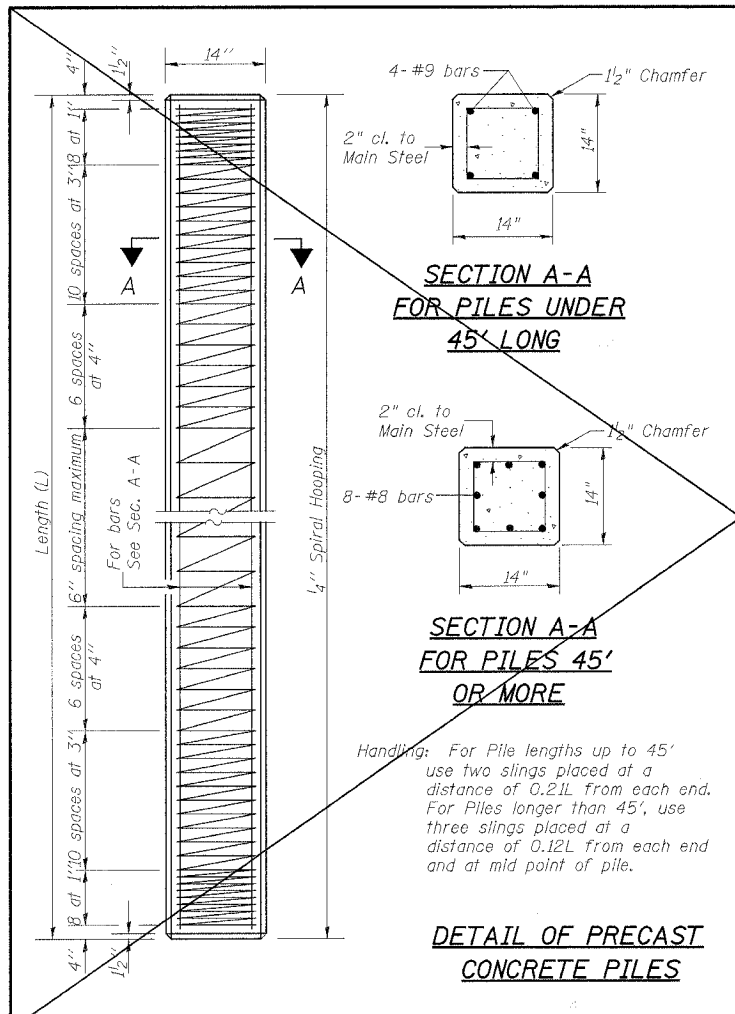
Item	Unit	Quantity
Steel Bridge Rail, Type SM	Foot	72

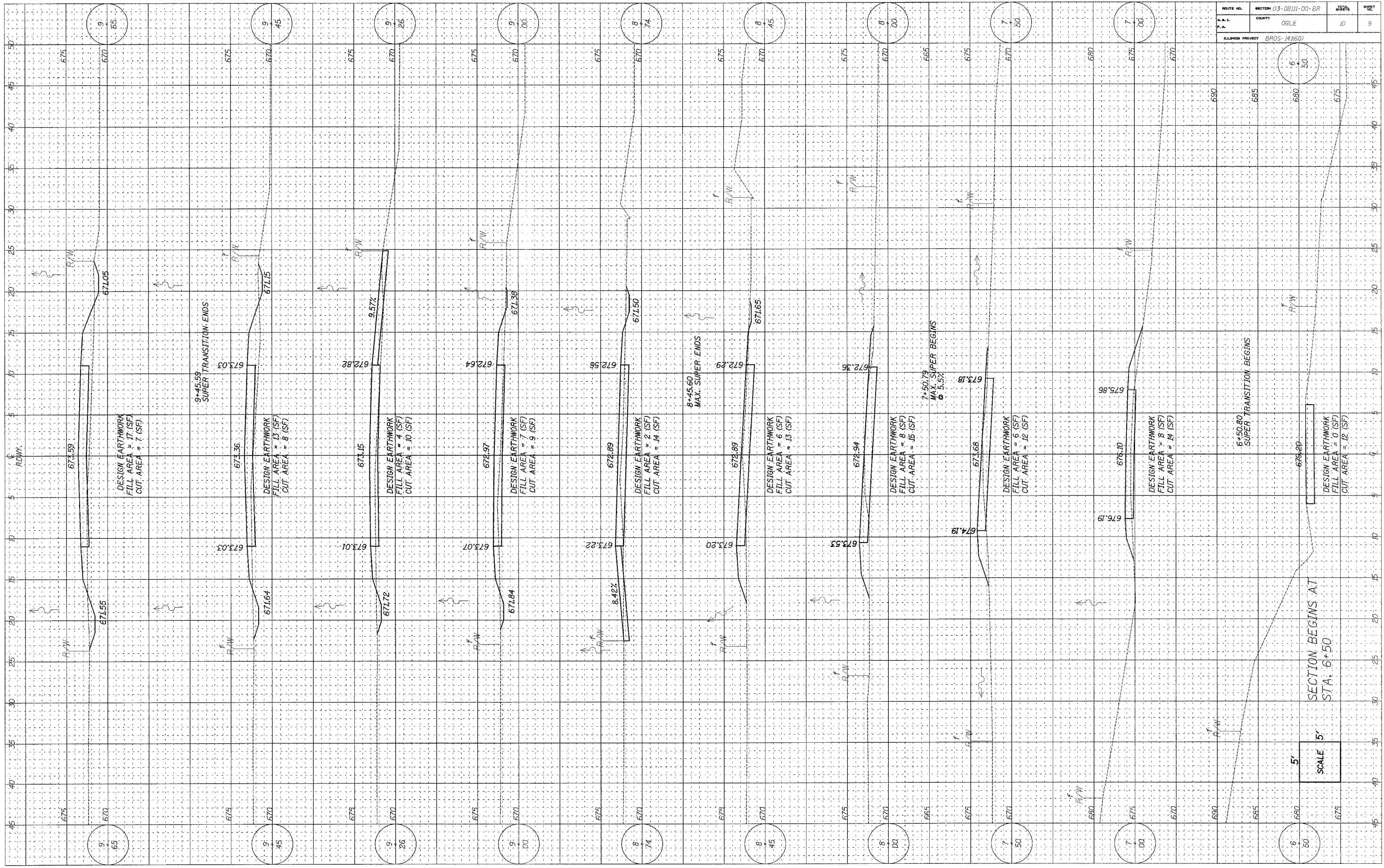


VIEW C-C

STEEL BRIDGE RAIL, TYPE SM
 ANTERIOR ROAD OVER UNNAMED STREAM
 SECTION 03-08111-00-BR
 OGLE COUNTY
 WHA # 1024D03

ROUTE NO.	SECTION 03-08111-00-BR	SHEET	8
COUNTY	OGLE	NO. OF SHEETS	10
ILLINOIS PROJECT BROS-14160			





ROUTE NO.	SECTION 03-08111-00-BR	TOWNSHIP	RANGE
COUNTY	08LE	10	9
ILLINOIS PROJECT BR05-14(60)			

SECTION BEGINS AT
STA. 6+50

SCALE 5'

