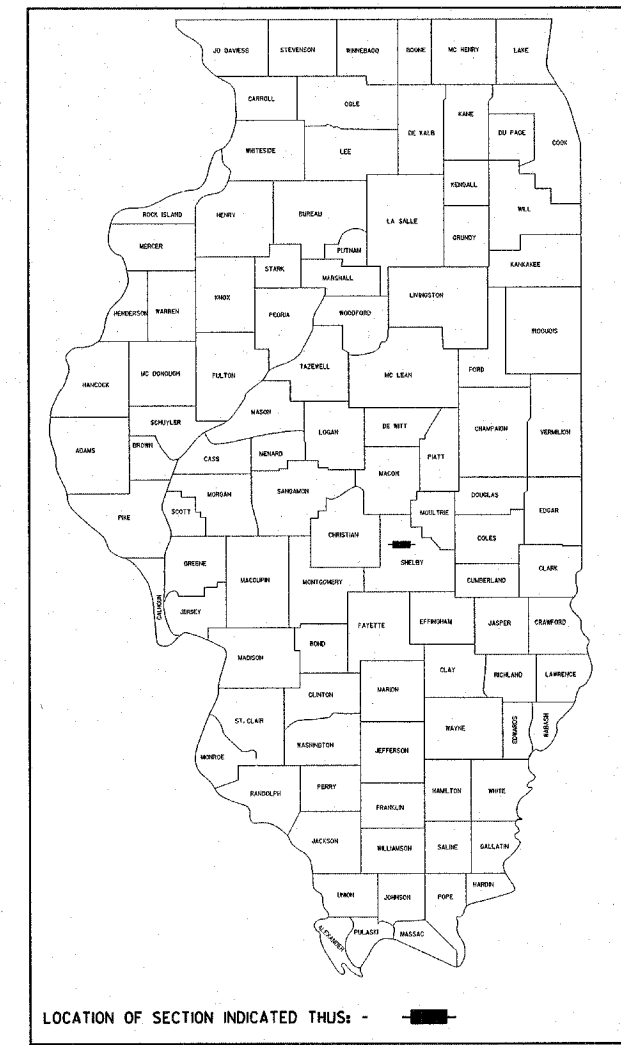


STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS PLANS FOR PROPOSED BRIDGE REPLACEMENT AND REHABILITATION PROGRAM

ROUTE NO. T.R. 57	SECTION 03-17116 -00-BR	COUNTY SHELBY	TOTAL SHEETS 16	SHEET NO. 1
FED. ROAD DIST. NO.		ILL. ROAD DIST. NO.	FED. AID PROJECT - 6909-173140	

CONTRACT NO. 91354



- INDEX OF SHEETS**
- COVER SHEET
 - SUMMARY OF QUANTITIES AND SCHEDULE OF QUANTITIES
 - TYPICAL CROSS SECTIONS AND ENTRANCE DETAILS
 - PLAN AND PROFILE
 - 7. STATION CROSS SECTIONS
 - 15. BRIDGE PLANS
 - BORINGS

SCALES

PLAN	0' = 50'
PROFILE HORIZ.	0' = 50'
PROFILE VERT.	0' = 5'
CROSS SECTIONS	0' = 5'

PROJECT BROS-173(140) SECTION 03-17116-00-BR RIDGE ROAD DISTRICT SHELBY COUNTY T.R. 57 C-95-343-05

- HIGHWAY STANDARDS:**
- 000001-04 STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
 - 280001-02 TEMPORARY EROSION CONTROL SYSTEMS
 - 515001-02 NAME PLATE FOR BRIDGES
 - 602301-01 INLET, TYPE A
 - 604036-01 GRATE, TYPE B
 - 635006-02 REFLECTOR AND TERMINAL MARKER PLACEMENT
 - 702001-06 TRAFFIC CONTROL DEVICES
 - BLR 21-6 TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS

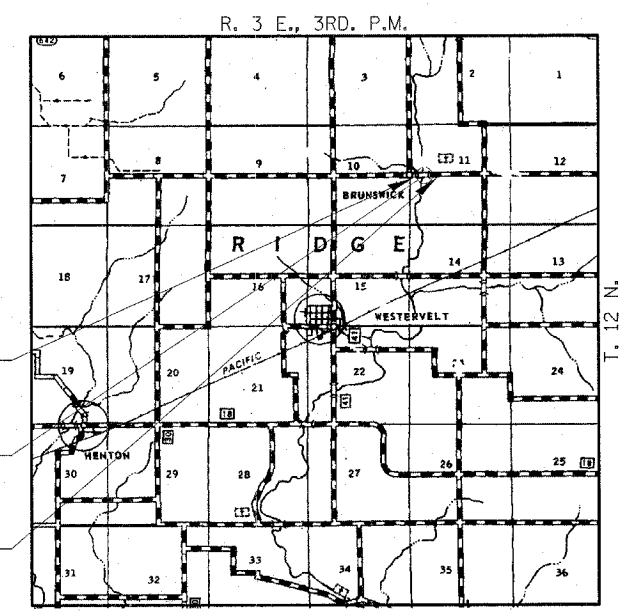
UTILITIES

CONSOLIDATED COMMUNICATIONS
121 SOUTH 17TH STREET
MATTOON, ILLINOIS 61938

SHELBY CO-OP
PO BOX 560
SHELBYVILLE, ILLINOIS 62565
(217) 774-3986
ATTN: JIM MATLOCK

DESIGN FUNCTIONAL CLASSIFICATION:
LOCAL ROAD 0-250 ADT
DESIGN TRAFFIC: 75 ADT
DESIGN SPEED: 30 M.P.H.

CONTRACT NO. 91354



IMPROVEMENT BEGINS
STATION 75+00

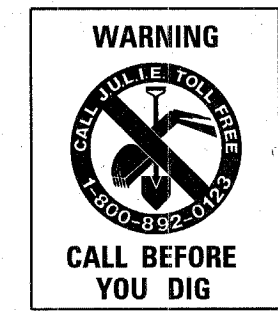
STATION 79+80 - SPECIAL BRIDGE DESIGN
PRECAST PRESTRESSED CONCRETE DECK BEAM
BRIDGE. THREE SPANS @ 42'-0", 61'-0", 42'-0"
24'-0" RDWY.; SKEW = 15°
PROPOSED STRUCTURE NO. 087-3541

IMPROVEMENT ENDS
STATION 83+00

LAYOUT

APPROXIMATE SCALE: 0 = 1 MILE

NET LENGTH OF SECTION = 800 FEET = 0.152 MILES



APPROVED 02-02 20 06
[Signature]
COUNT ENGINEER

APPROVED 02-02 20 06
[Signature]
ROAD COMMISSIONER

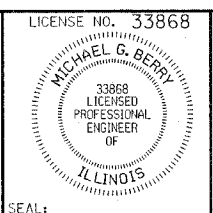
PASSED 2/6 20 06
[Signature]
DISTRICT FIVE ENGINEER OF
LOCAL ROADS & STREETS

Releasing For
Bid Based on
Limited Review Feb 7 20 06
[Signature]
DEPUTY DIRECTOR OF HIGHWAYS
REGION THREE ENGINEER
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DATE: 1/31/06

BY: Michael M. Berry

LICENSE EXPIRES: NOVEMBER 30, 2007



HLR

Rice, Berry and Associates
A Division of Hampton,
Lenzini and Renwick, Inc.
Civil & Structural Engineers
3085 Stevenson Drive
Suite 201
Springfield, Illinois 62703
217-546-3400

Account Number
12-87-0014-1

P.O. Box 1036
DuQuoin, Illinois 62832
618-790-4637

SUMMARY OF QUANTITIES

CODE NO	ITEM	CONSTRUCTION CODE	
		UNIT	QUANTITY
		X080-2A	
20100500	TREE REMOVAL, ACRES	ACRE	0.8
20200100	EARTH EXCAVATION	CU YD	790
20300100	CHANNEL EXCAVATION	CU YD	890
20400800	FURNISHED EXCAVATION	CU YD	1,000
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	72
25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	72
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	72
> 25000200	SEEDING, CLASS 2	ACRE	0.8
> 25100115	MULCH, METHOD 2	ACRE	0.8
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	200
28000300	TEMPORARY DITCH CHECKS	EACH	11
> 28100207	STONE RIPRAP, CLASS A4	TON	1,000
> 28102600	STONE RIPRAP DITCH	TON	85
28200200	FILTER FABRIC	SQ YD	1,190
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	700
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50300225	CONCRETE STRUCTURES	CU YD	78.1
50400305	PRECAST PRESTRESSED CONCRETE DECK BEAMS (17" DEPTH)	SQ FT	2,016
50400505	PRECAST PRESTRESSED CONCRETE DECK BEAMS (27" DEPTH)	SQ FT	1,464
50800105	REINFORCEMENT BARS	POUND	5,740
50900205	STEEL RAILING, TYPE S1	FOOT	286
51201400	FURNISHING STEEL PILES HP10X42	FOOT	720
51202700	DRIVING STEEL PILES	FOOT	720
51203400	TEST PILE STEEL HP10X42	EACH	4
51204315	CONCRETE ENCASEMENT	CU YD	4.6
51500100	NAME PLATES	EACH	1
542D0220	PIPE CULVERTS, CLASS D, TYPE 1 15"	FOOT	190
542D0223	PIPE CULVERTS, CLASS D, TYPE 1 18"	FOOT	36
542D0229	PIPE CULVERTS, CLASS D, TYPE 1 24"	FOOT	70
60236200	INLETS, TYPE A, TYPE 8 GRATE	EACH	2
67100100	MOBILIZATION	L SUM	1
78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4
X5020501	UNDERWATER STRUCTURE EXCAVATION PROTECTION, LOCATION 1	EACH	1
X5020502	UNDERWATER STRUCTURE EXCAVATION PROTECTION, LOCATION 2	EACH	1

GENERAL NOTES

- ALL CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE STATE OF ILLINOIS "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, ADOPTED JANUARY 1, 2002," THESE PLANS AND THE SPECIAL PROVISIONS INCLUDED IN THE CONTRACT DOCUMENTS.
- ALL CLEARING AND GRUBBING AND REMOVAL OF EXISTING DRAINAGE STRUCTURES SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
- THE LOCATIONS OF EXISTING ELECTRIC POWER LINES, TELEPHONE LINES AND OTHER UTILITIES AS SHOWN ON THE PLANS ARE BASED ON CAREFUL FIELD INVESTIGATION AND THE BEST INFORMATION AVAILABLE, BUT THE LOCATIONS ARE NOT GUARANTEED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ASCERTAIN THEIR EXACT LOCATION FROM THE INDIVIDUAL UTILITY COMPANIES AND BY FIELD INSPECTION.
- THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL SECTION OR SUBSECTION MONUMENTS UNTIL THE OWNER, HIS AGENT, PROFESSIONAL LAND SURVEYOR HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.
- THE REVISION NUMBER INDICATED FOR THE STANDARDS LISTED IN THE INDEX OF SHEETS SHALL BE USED IN THE CONSTRUCTION OF THIS SECTION.
- THE FOLLOWING RATES OF APPLICATION HAVE BEEN USED IN CALCULATING PLAN QUANTITIES

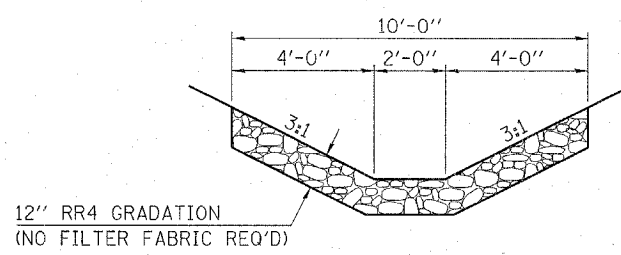
AGGREGATE SURFACE CSE.	2.05 TON/CU YD	
STONE RIPRAP, CL. A4	1.75 TON/CU YD	0.67 TON/SQ YD
STONE RIPRAP DITCH	1.75 TON/CU YD	0.5 TON/SQ YD
- THE AREA TO BE SEEDED SHALL CONSIST OF ALL EARTH SURFACES DISTURBED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER. **ESTIMATED QUANTITY = 0.8 ACRES.**
- TREES WITHIN THE RIGHT-OF-WAY WHICH INTERFERE WITH CONSTRUCTION SHALL BE REMOVED ONLY AT THE DIRECTION OF THE ENGINEER.

> SEE SPECIAL PROVISIONS

EARTHWORK SCHEDULE

LOCATION	EARTH EXCAVATION (CU YD)	SHRINKAGE FACTOR	PERCENT USED	AVAILABLE* EXCAVATION (CU YD)	EMBANKMENT REQUIRED (CU YD)	EARTHWORK BALANCE (CU YD)
STA. 75+00 TO STA. 79+86.73	638	25%	100%	478	1,827	-1,349
STA. 79+86.73 TO STA. 79+53.27	-	25%	100%	-	-	-
STA. 79+53.27 TO STA. 83+00	150	25%	100%	112	188	-75
CHANNEL EXCAVATION ENTRANCES	890	25%	70%	467	40	467
TOTAL	787			1,056	2,054	-997
USE:	790					1,000

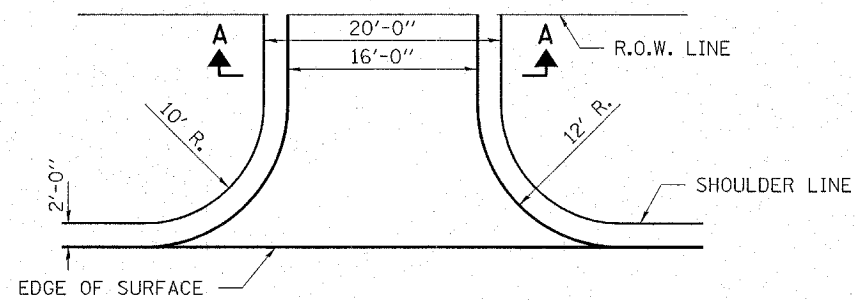
* AVAILABLE EXCAVATION = EXC. x (1-SHRINKAGE FACTOR) x % USED (FURN. EXC.)



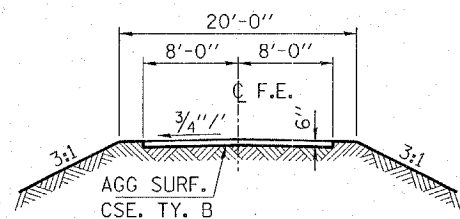
STONE RIPRAP DITCH
 LT. STA. 77+50 TO STA. 78+25
 RT. STA. 81+05 TO STA. 81+50
 ESTIMATED QUANTITY = 85 TON

HLR
 Rice, Berry and Associates
 A Division of Hampton, Lenzini and Renwick, Inc.
 Civil & Structural Engineers
 3085 Stevenson Drive
 Suite 201
 Springfield, Illinois 62703
 217-546-3400
 P.O. Box 1036
 DuQuoin, Illinois 62832
 618-790-4637
 Account Number 12-87-0014-1
 Date: 01/31/06
 DESIGNED: S.W.M. CHECKED: M.G.B. DRAWN: D.T.M.

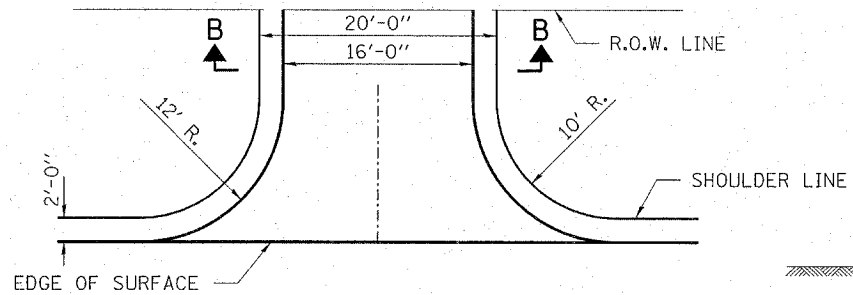
SUMMARY OF QUANTITIES AND SCHEDULE OF QUANTITIES
SECTION 03-17116-00-BR
RIDGE ROAD DISTRICT
SHELBY COUNTY



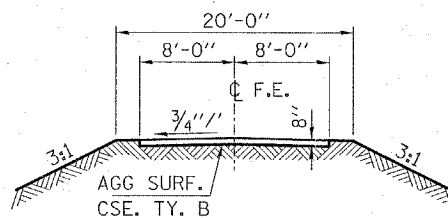
FIELD ENTRANCE DETAIL
RT. STA. 80+80



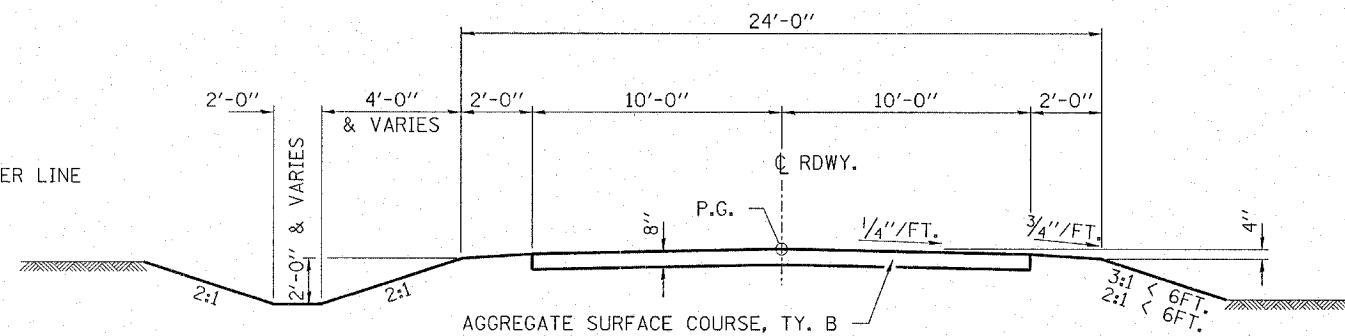
SECTION A-A



PRIVATE ENTRANCE DETAIL
LT. STA. 80+80
LT. STA. 82+16



SECTION B-B



SUGGESTED CUT SECTION
CONSTRUCT AS SHOWN IN
STATION CROSS SECTIONS

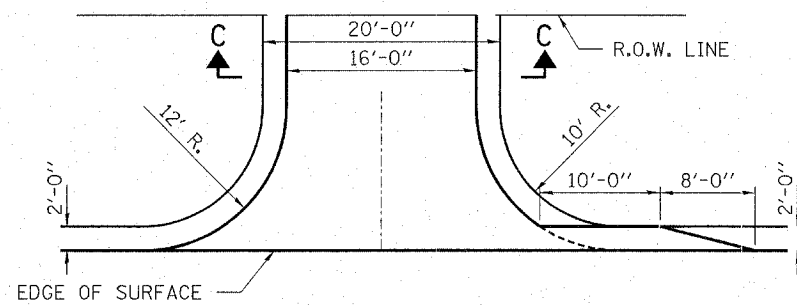
ROAD CLASSIFICATION - LOCAL ROAD UNDER 250 ADT
CURRENT ADT 59
DESIGN SPEED: 30 M.P.H.

SUGGESTED FILL SECTION
CONSTRUCT AS SHOWN IN
STATION CROSS SECTIONS

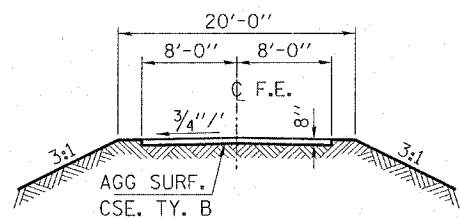
TYPICAL CROSS SECTION

STA. 75+50 TO 82+50

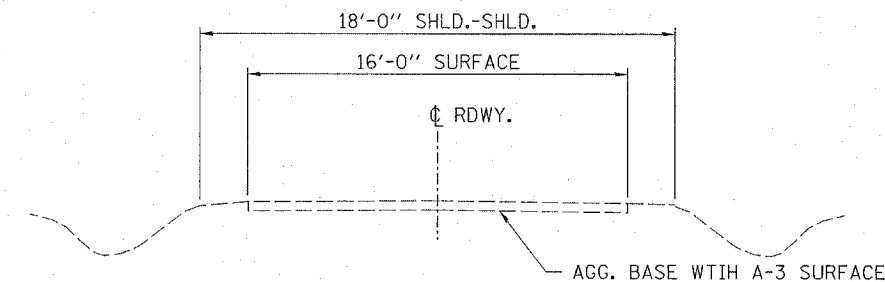
TRANSITION FROM THE PROPOSED ROADWAY TO THE EXISTING
ROADWAY IS TO BE CONSTRUCTED FROM STA. 75+00 TO 75+50 AND
STA. 82+50 TO 83+00. SEE SHEET 8 FOR TRANSITION AT BRIDGE.



PRIVATE ENTRANCE WITH M.B.T. DETAIL
LT. STA. 81+69



SECTION C-C



EXISTING CROSS SECTION

HLR
Rice, Berry and Associates
A Division of Hampton,
Lenzini and Renwick, Inc.
Civil & Structural Engineers
3085 Stevenson Drive
Suite 201
Springfield, Illinois 62703
217-546-3400
P.O. Box 1036
DuQuoin, Illinois 62832
618-790-4637

Account Number
12-87-0014-1
Date: 01/20/06
DESIGNED: S.W.M. CHECKED: M.G.B. DRAWN: D.T.M.

**TYPICAL CROSS SECTIONS
AND ENTRANCE DETAILS**

SECTION 03-17116-00-BR

RIDGE ROAD DISTRICT
SHELBY COUNTY

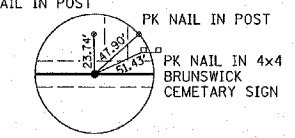
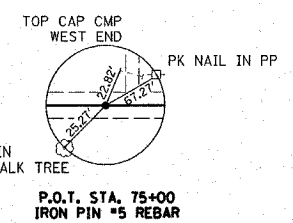
T.R.	SECTION	COUNTY	TOTAL SHEETS	SH
57	03-17116-00-BR	SHELBY	16	N
STA. TO STA.			CONTRACT NO. 91354	
FED. ROAD DIST. NO.			ILLINOIS	
			RIDGE ROAD DISTRICT	

LINDA S. WAGNER
JUDY A. KNIERIM
DAVID L. RODMAN
LARRY D. RODMAN
PARCEL NO. 1

SW 1/4, NW 1/4, SEC 11, T. 12 N., R. 3 E., 3RD P.M.

ORVILLE B. ROBERTSON &
JANET KAY ROBERTSON
PARCEL NO. 2

PK NAIL IN POST
PK NAIL IN 4x4
BRUNSWICK
CEMETARY SIGN



STATION 75+28 P.E.
PIPE CULVERTS, CLASS D, TYPE 1 18"
36 FOOT LONG
EXISTING 18" CMP TO BE REMOVED (INCIDENTAL)
17.5' LT. STA. 75+10 U.S.F.L. 638.88
17.5' LT. STA. 75+46 D.S.F.L. 637.68

EXISTING 4" CLAY TILE
TO BE ADJUSTED TO FIT BACKSLOPE.
COST INCLUDED WITH EARTH EXCAVATION

STATION 79+80 - SPECIAL BRIDGE DESIGN
PRECAST PRESTRESSED CONCRETE DECK BEAM
BRIDGE. 3 SPANS: 42'-0", 61'-0", 42'-0"
24'-0" RDWY.; SKEW = 15°

LT. STA. 81+25
INLET TY. A, TY 8, F & G
INV. = 638.9
T.G. = 641.5

PIPE CULVERTS, CLASS D, TYPE 1 15"
190 FOOT LONG
20' LT. STA. 80+46 D.S.F.L. 636.00
20' LT. STA. 82+36 U.S.F.L. 643.32
EXISTING 15" CMP TO BE REMOVED (INCIDENTAL)

LT. STA. 81+93
INLET TY. A, TY 8, F & G
INV. = 641.4
T.G. = 643.5

P.O.T. STA. 83+82.17
IRON PIN #5 REBAR

STATION 80+80 F.E.
PIPE CULVERTS, CLASS D, TYPE 1 24"
70 FOOT LONG
23' RT. STA. 80+35 D.S.F.L. 636.00
23' RT. STA. 81+05 U.S.F.L. 638.53

STATION 80+56
EXISTING 24" CMP TO BE REMOVED
(INCIDENTAL)

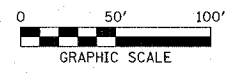
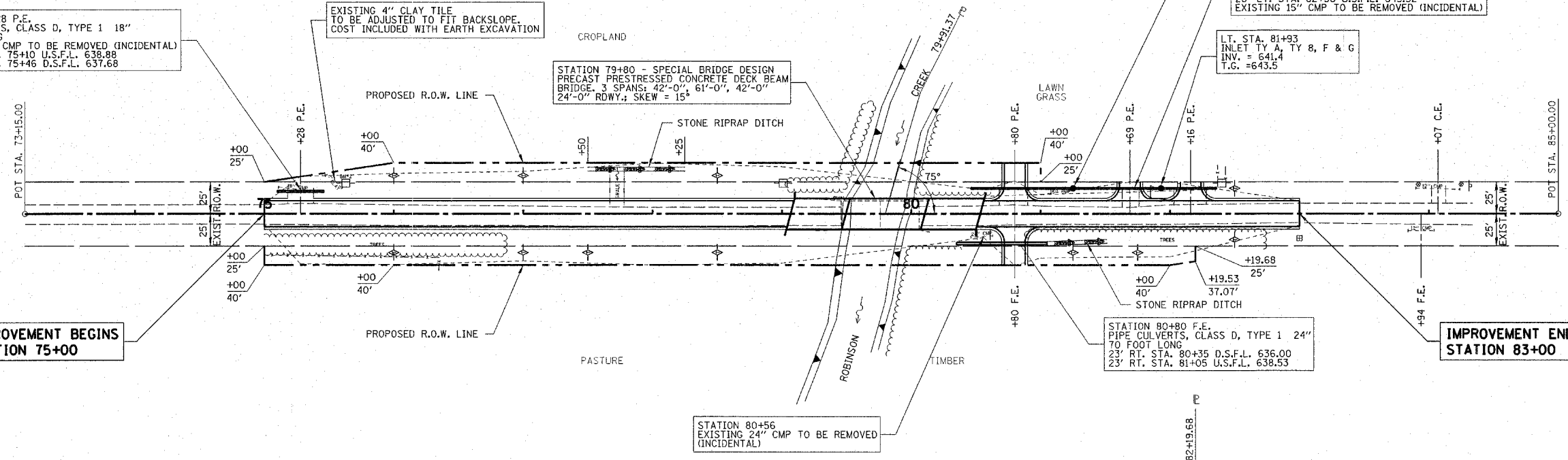
TREE REMOVAL, ACRES
RT. STA. 75+00 TO 77+00 = 0.2
LT. STA. 79+00 TO 80+70 = 0.2
RT. STA. 79+00 TO 83+00 = 0.4
TOTAL = 0.8 ACRE

TEMPORARY DITCH CHECKS
DITCH CHECK SHALL BE CONSTRUCTED AS DIRECTED
BY THE ENGINEER IF EARTH SLOPES TO BE EXPOSED
MORE THAN 7 DAYS.

ENTRANCES TO BE BUILT
LT. STA. 75+28 P.E. +10.76% 16' SURF.
RT. STA. 80+80 F.E. -2.85% 24' SURF.
LT. STA. 80+80 P.E. -1.50% 24' SURF.
LT. STA. 81+69 P.E. W/M.B.T. +4.20% 16' SURF.
LT. STA. 82+16 P.E. +5.40% 20' SURF.

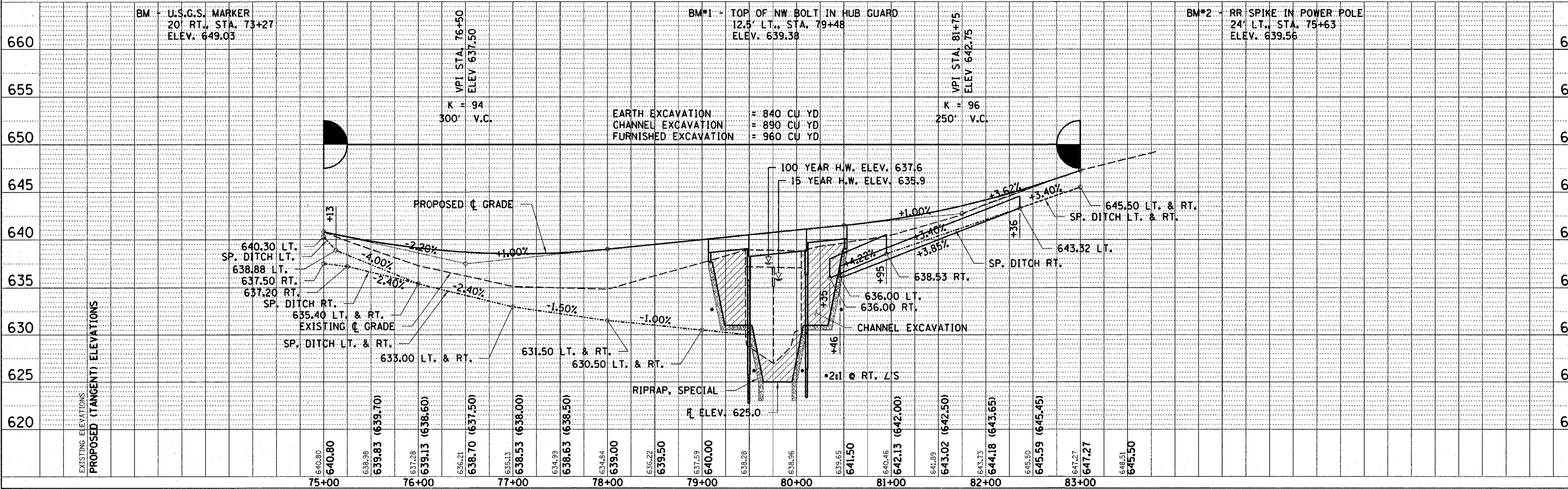
CHANNEL EXCAVATION
THE CHANNEL SHALL BE EXCAVATED AS SHOWN IN
THE PLANS WITH 2:1 SIDE SLOPES WITHIN THE LIMITS
OF THE PROPOSED STRUCTURE, THEN TAPER TO THE
EXISTING CHANNEL AT THE R.O.W. LINES. ONLY
SUITABLE EXCAVATED MATERIAL SHALL BE USED IN
THE EMBANKMENT.

EXISTING STRUCTURE NO. 087-3075
STATION 79+76 - 2 SPAN PRECAST CONCRETE
SLAB BRIDGE WITH CONCRETE CURB & STEEL
PLATE RAILING ON CLOSED TIMBER ABUTMENTS
AND TIMBER PILE BENT PIER
59'-10" BK. TO BK. ABUTS; 22'-6" o-o. DECK.
REMOVAL OF EXISTING STRUCTURES = 1 EACH



LORN & MARSHA GROVES
PARCEL NO. 3
NW 1/4, SW 1/4, SEC 11, T. 12 N., R. 3 E., 3RD P.M.

JOANNE M. COURTNEY

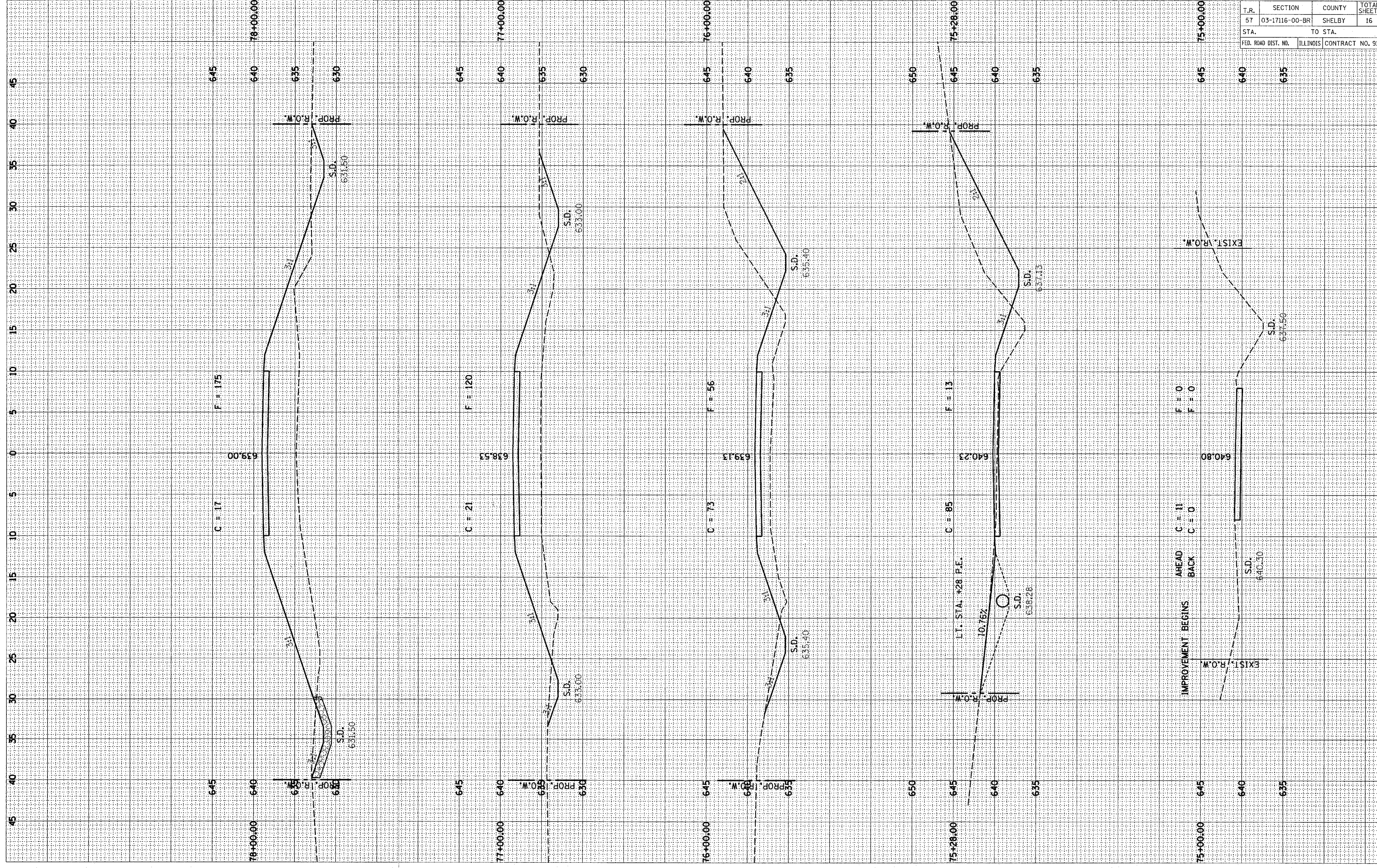


STATION	ELEVATION	DESCRIPTION
75+00	640.80	EXISTING ELEVATIONS
75+00	640.80	PROPOSED (TANGENT) ELEVATIONS
76+00	639.83 (639.70)	
77+00	638.70 (637.50)	
78+00	639.00	
79+00	640.00	
80+00	642.00	
81+00	643.02 (642.50)	
82+00	644.18 (643.65)	
83+00	645.59 (645.45)	
83+00	647.27	
83+00	648.51	
83+00	645.50	

NOTE BOOK TEMPLATE
AREAS CHECKED

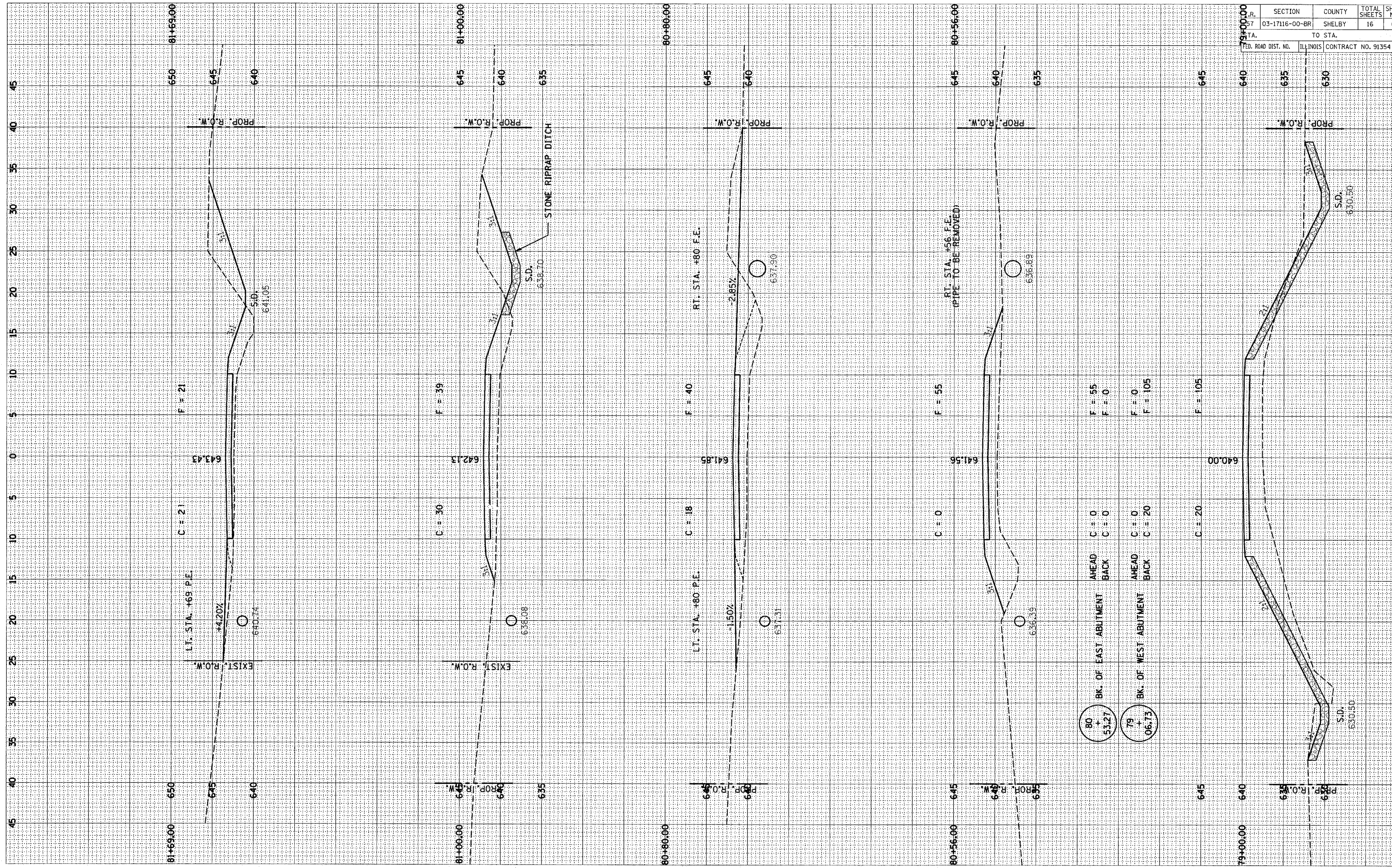
NOTE BOOK TEMPLATE
AREAS CHECKED

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	03-17116-00-BR	SHELBY	16	5
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS CONTRACT NO. 91354		



NOTE BOOK TEMPLATE AREAS CHECKED

NOTE BOOK TEMPLATE AREAS CHECKED



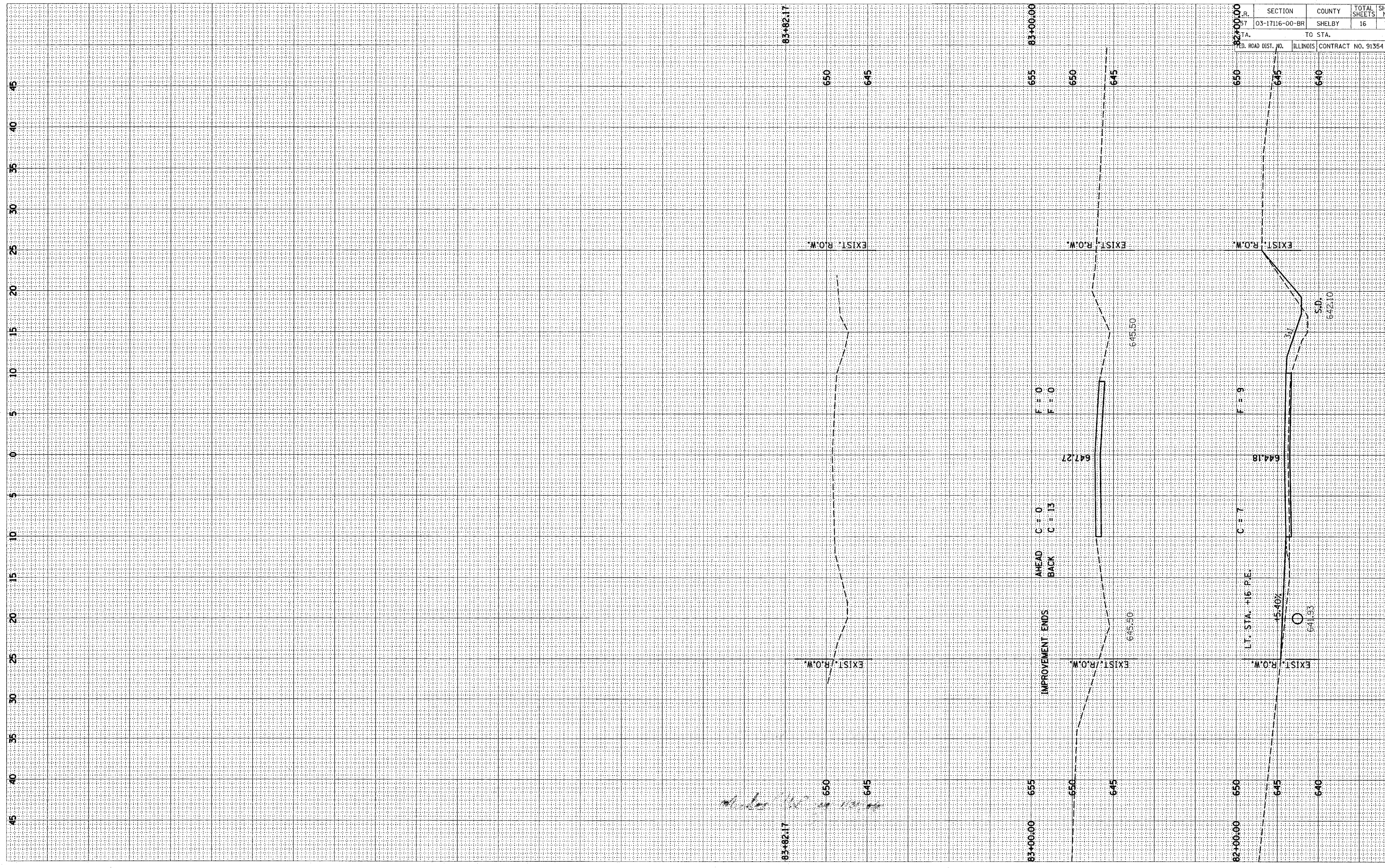
SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
03-17116-00-BR	SHELBY	16	6
TO STA.		CONTRACT NO. 91354	
FED. ROAD DIST. NO.		ILLINOIS	

80
+
53.27
BK. OF EAST ABUTMENT
AHEAD C = 0
BACK C = 0

79
+
06.73
BK. OF WEST ABUTMENT
AHEAD C = 0
BACK C = 20

NOTE BOOK TEMPLATE
AREAS CHECKED

NOTE BOOK TEMPLATE
AREAS CHECKED

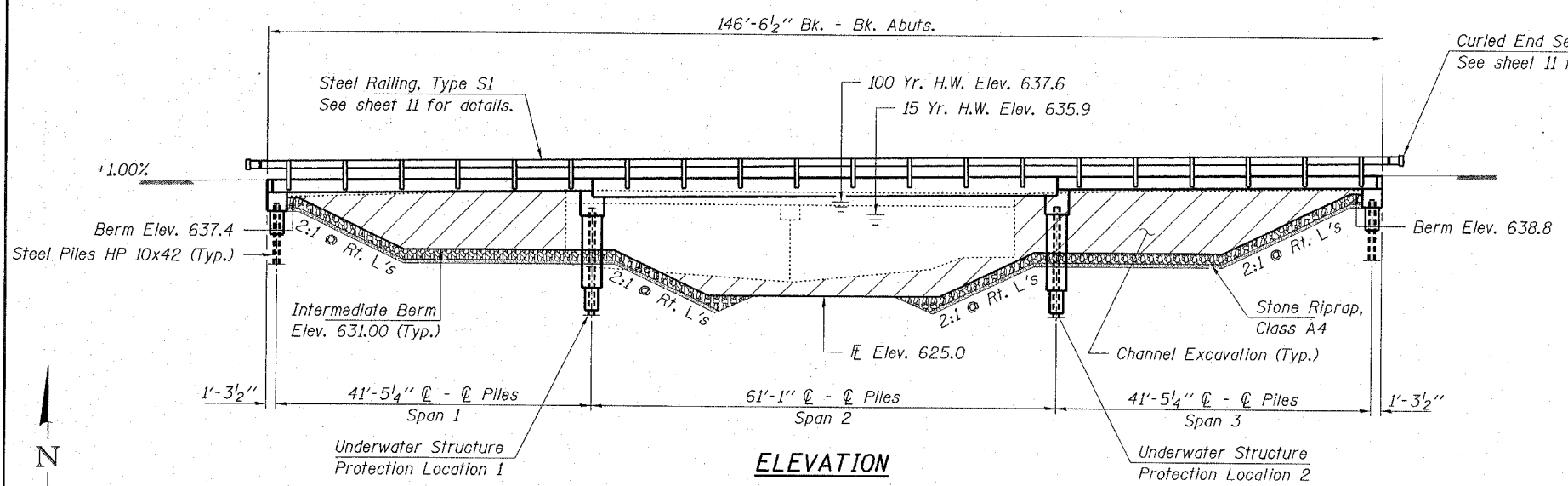
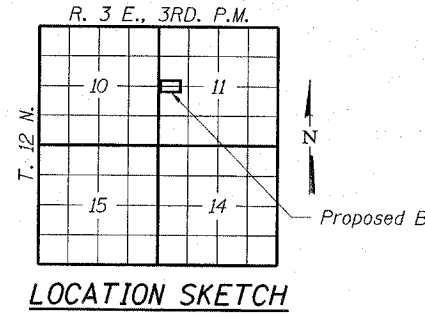


SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
03-17116-00-BR	SHELBY	16	7

TO STA. ILLINOIS CONTRACT NO. 91354

ROBINSON CREEK
 BUILT 200_ BY
 RIDGE ROAD DISTRICT
 SHELBY COUNTY
 SEC. 03-17116-00-BR
 F.A. PROJ. BROS-173(140)
 STR. NO. 087-3541 LOADING HS 20

NAME PLATE
 See Std. 515001



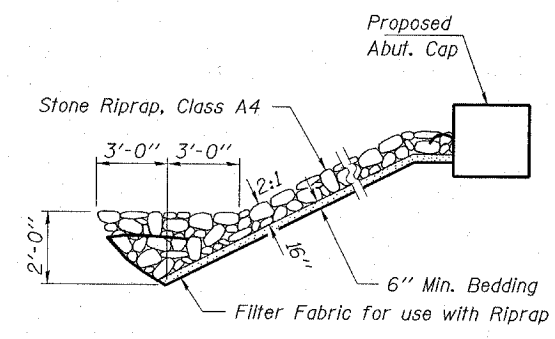
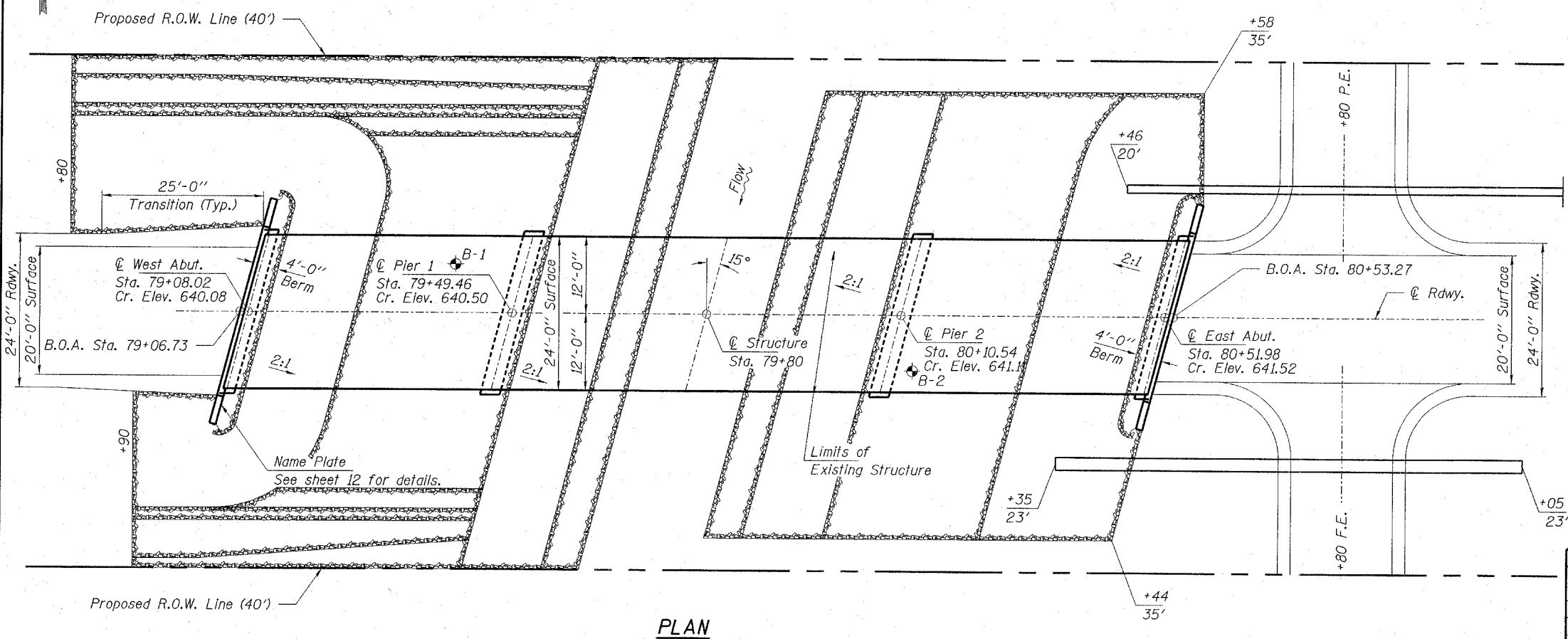
GENERAL NOTES

Layout of riprap may be varied in the field to suit ground conditions as directed by the Engineer.

The Contractor shall drive one steel test pile in a permanent location, one at each Abutment and one at each Pier, as directed by the Engineer before ordering the remainder of the piles.

Excavation required to construct the Abutments shall be included in the cost of Concrete Structures. No additional compensation will be allowed for Structure Excavation.

All proposed construction activities shall be in accordance with Nationwide Permit number 14 of the Department of the Army authorized under Section 404 of the Clean Water Act. The IEPA has issued Section 401 Water Quality Certification for this activity. See Special Provisions for conditions. See Sheet 16 for Borings.



SECTION A-A
 Note: See Special Provisions for Riprap, Special.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Precast Prestressed Concrete Deck Beams (17" Depth)	Sq. Ft.	2,016		2,016
Precast Prestressed Concrete Deck Beams (27" Depth)	Sq. Ft.	1,464		1,464
Concrete Structures	Cu. Yd.		78.1	78.1
Reinforcement Bars	Pound		5,740	5,740
Steel Railing, Type S1	Foot	286		286
Name Plates	Each		1	1
Concrete Encasement	Cu. Yd.		4.6	4.6
Steel Piles HP10x42	Foot		720	720
Test Pile Steel HP10x42	Each		4	4
Stone Riprap, Class A4	Ton			1,000
Filter Fabric for use with Riprap	Sq. Yd.			1,190
Underwater Structure Excavation Protection, Location 1	Each		1	1
Underwater Structure Excavation Protection, Location 2	Each		1	1

DESIGN STRESSES

FIELD UNITS

$f'_c = 3,500$ psi
 $f_y = 60,000$ psi (Reinf.)

PRECAST PRESTRESSED UNITS

$f'_c = 5,000$ psi
 $f'_{ci} = 4,000$ psi
 $f'_s = 270,000$ psi ($\frac{1}{2}$ " low lax. strands)
 $f'_{si} = 201,960$ psi ($\frac{1}{2}$ " low lax. strands)
 $f_y = 60,000$ psi (Reinf.)

Loading HS 20-44
 Design Specifications: 2002 AASHTO & all applicable Interims.
 25#/Sq. Ft. included in dead load for future wearing surface.

SEISMIC DATA

Seismic Performance Category (SPC) = B
 Bedrock Acceleration Coefficient (A) = 0.10g
 Site Coefficient (S) = 1.5

WATERWAY INFORMATION

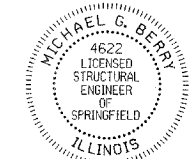
Drainage Area = 28.9 Sq. Mi. Low Grade Elev. 638.5 @ Sta. 77+00

Flood	Freq. Yr.	Q C.F.S.	Opening	Sq. Ft.	Natural H.W.E.	Head - Ft. Exist.	Headwater El. Prop.
Design	15	3,860	450 ①	780	635.9	1.0	637.0
Base	100	6,150	520 ②	990	637.6	1.3	638.9
Overtopping							
Max. Calc.	500	8,010	520 ③	1,110	638.7	1.6	640.3

Approach Opening: ① 90 sq. ft., ② 450 sq. ft., ③ 820 sq. ft.

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

Michael G. Berry 1/31/06
 ILLINOIS STRUCTURAL No. 4622



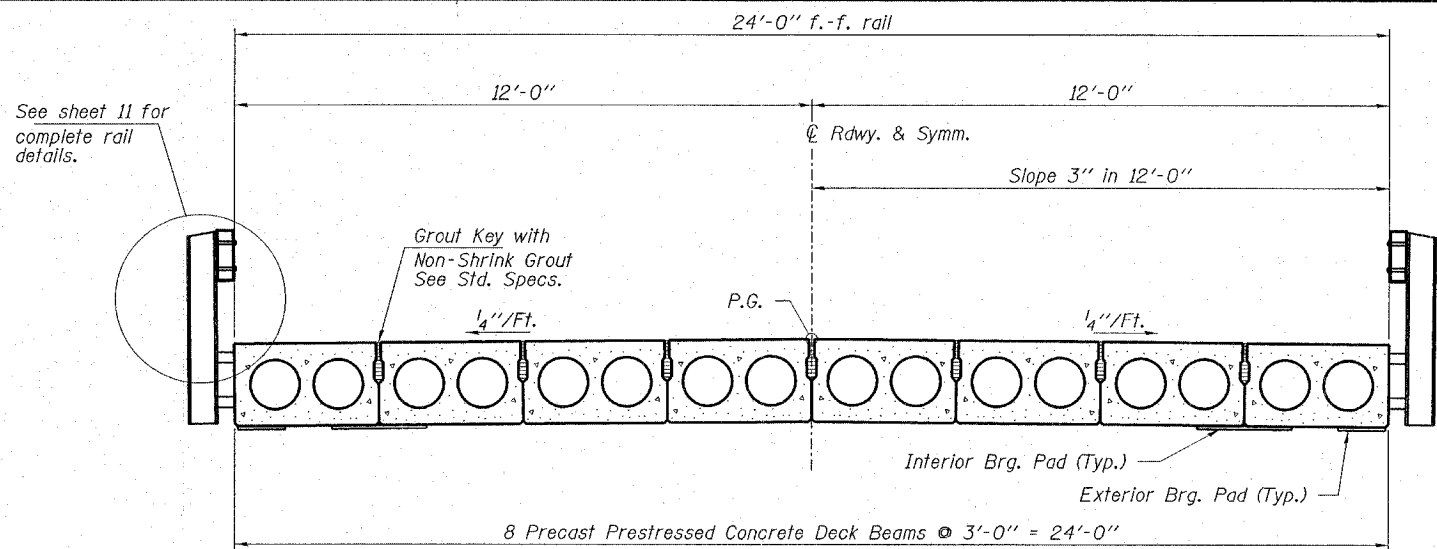
Expires 11-30-06

HLR
 Roe, Berry and Associates
 A Division of Hampton, Lenzini and Renwick, Inc.
 Civil & Structural Engineers
 3085 Stevenson Drive
 Suite 201
 Springfield, Illinois 62703
 217-546-3400
 P.O. Box 1036
 DuQuoin, Illinois 62832
 618-790-4637
 Account Number 12-87-0014-1
 Date: 01/30/06
 DESIGNED: T.P.L. CHECKED: S.W.M. DRAWN: D.T.M.

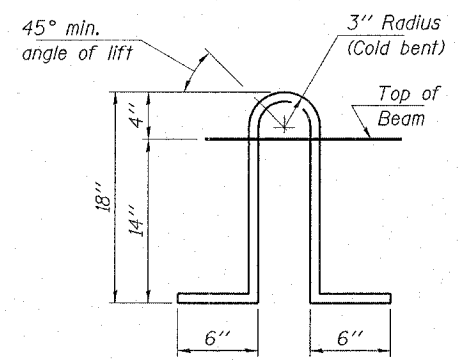
GENERAL PLAN AND ELEVATION
SECTION 03-17116-00-BR
RIDGE ROAD DISTRICT
SHELBY COUNTY
STRUCTURE NO. 087-3541 / STATION 79+80

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 57	03-17116-00-BR	SHELBY	16	9
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT: BR03-173140	

CONTRACT NO. 91354



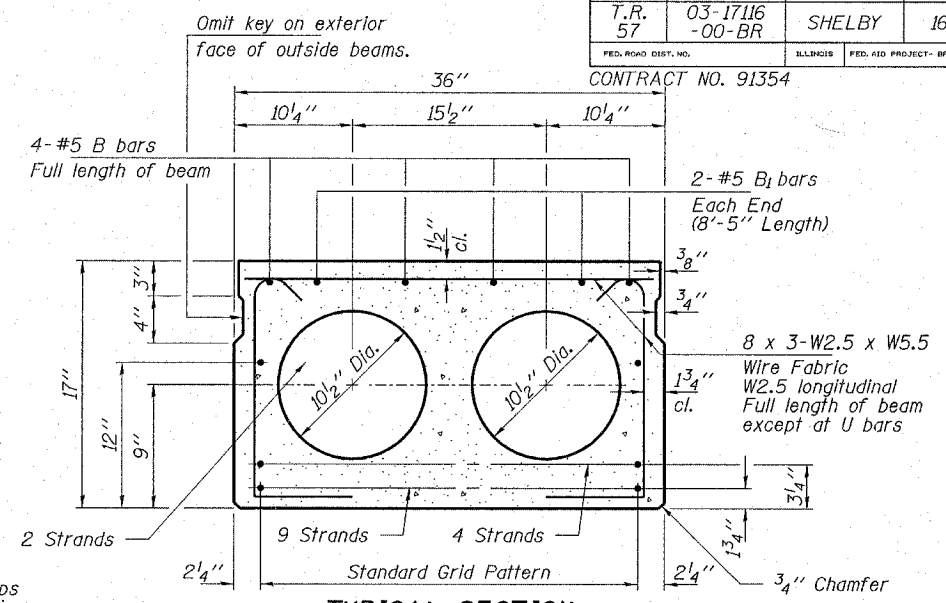
CROSS SECTION



LIFTING LOOP DETAIL

Approved alternate may be substituted for the above.

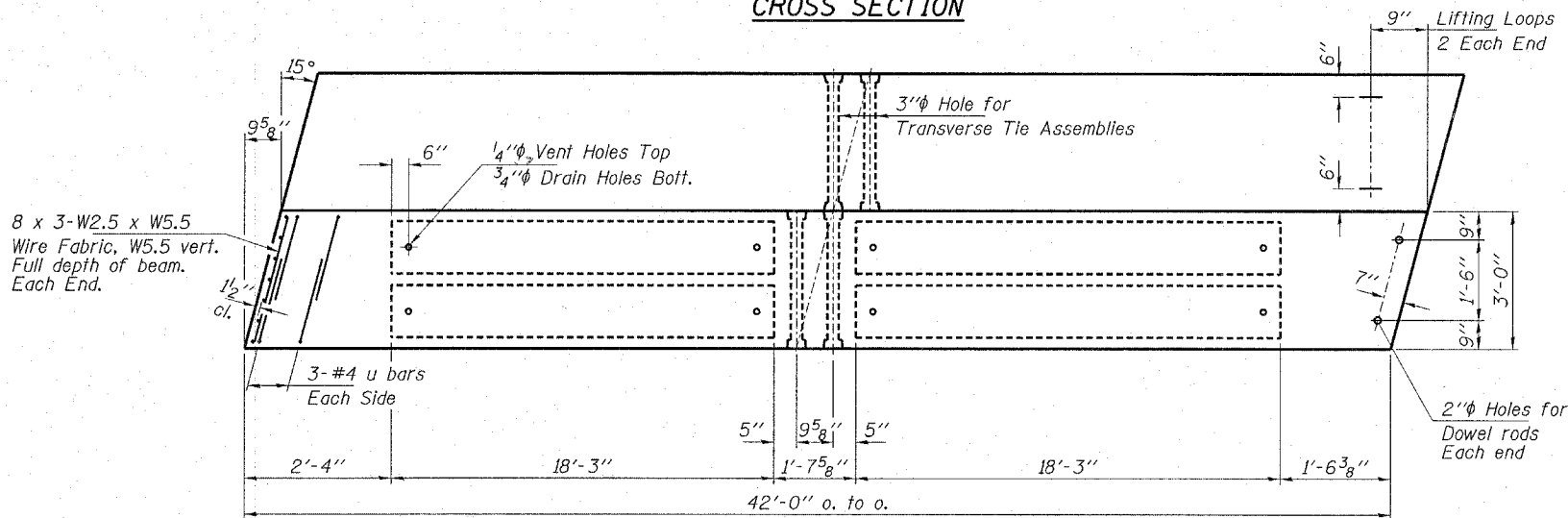
Note:
The loop shall be formed in a manner such that all strands are engaged during lifting. Lifting Loops shall be cut and ground off. Burning of the Lifting Loops will not be allowed. Lifting Loops shall be ground off level with the surface of the deck beams and protected with a two-compound epoxy in accordance with Article 1025.03



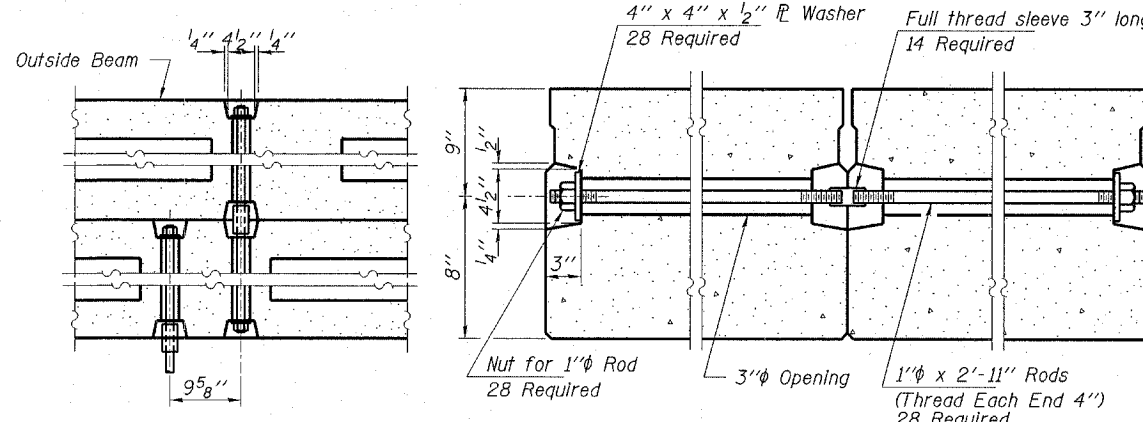
TYPICAL SECTION

15-1/2"φ Strands, Each Strand Stressed to 30,900 lbs.
9-Strands 1-3/4" up, 4-Strands 3/4" up, 2-Strands 12"
Expected Camber = 1/4"

Note: Place strands symmetrically about center of beam.



PLAN



TYPICAL TRANSVERSE TIE ASSEMBLY

NOTES

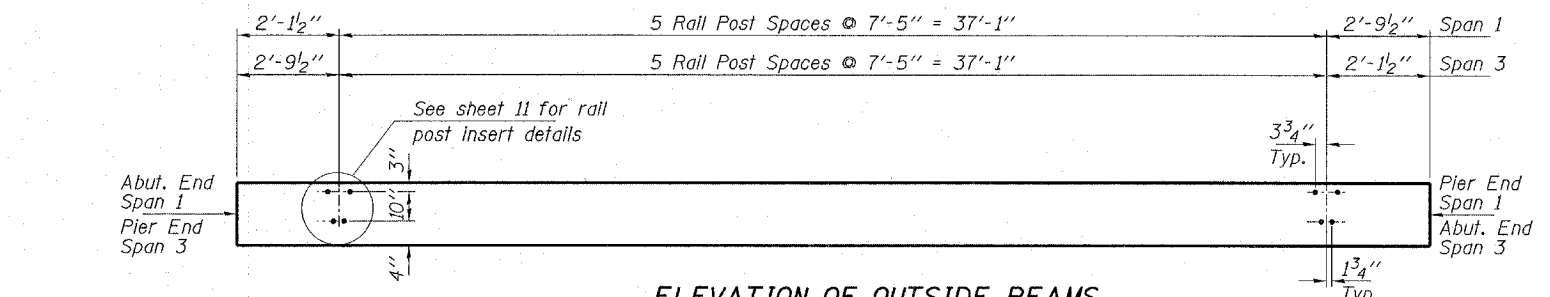
Prestressing steel shall be uncoated high strength, low-relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in. Lifting loops shall be 2-1/2"φ-270 ksi strands, as shown. The 1"φ rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets that receive transverse tie bar on outside shall be filled with grout after transverse tie assembly is in place. Reinforcement bars shall conform to the requirements of AASHTO M-31 or M-322 Grade 60. The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two 1/8" fabric adjusting shims of the dimensions of the Exterior Bearing Pad shall be provided for each bearing. Keyway surfaces shall be cleaned to remove form oil or other bond breaking material prior to shipment of the beams. Cleaning shall be done by sandblasting the keyway areas between top of the beam and the bottom edge of the key. Required Release Strength, f'ci, shall be 4,000 p.s.i.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Precast Prestressed Concrete Deck Beams (17" Depth)	Sq. Ft.	2,016

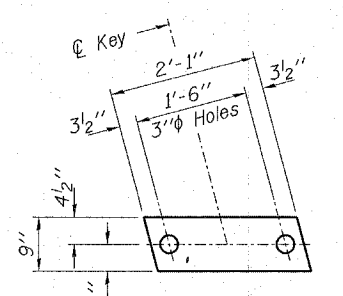
SUPERSTRUCTURE SPANS 1 & 3
SECTION 03-17116-00-BR
RIDGE ROAD DISTRICT
SHELBY COUNTY
STRUCTURE NO. 087-3541 / STATION 79+80

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Rice, Berry and Associates
A Division of Hampton, Lenzini and Renwick, Inc.
Civil & Structural Engineers
3085 Stevenson Drive
Suite 201
Springfield, Illinois 62703
217-546-3400
P.O. Box 1036
DuQuoin, Illinois 62832
618-790-4637
Account Number 12-87-0014-1
Date: 01/20/06
DESIGNED: T.P.L. CHECKED: S.W.M. DRAWN: D.T.M.

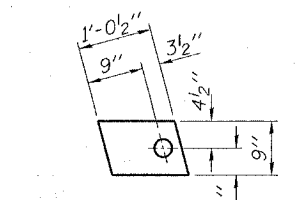


ELEVATION OF OUTSIDE BEAMS

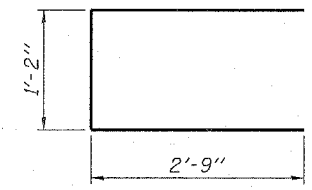
Showing Rail Post Spacing



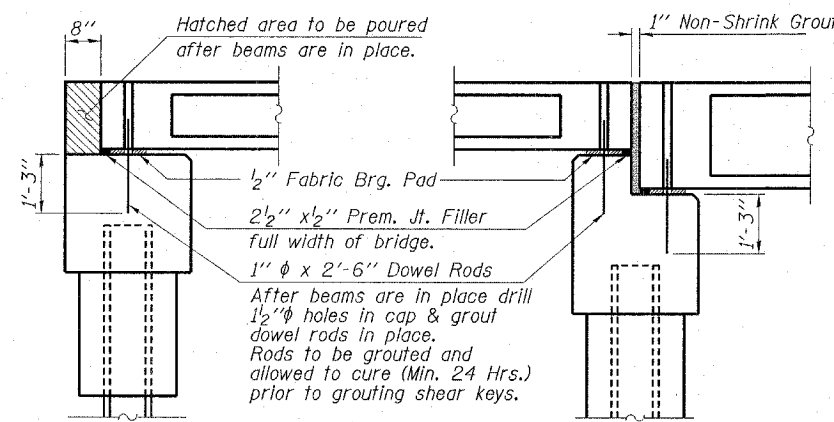
FABRIC BEARING PAD
(Interior - 28 Req'd)



FABRIC BEARING PAD
(Exterior - 8 Req'd)



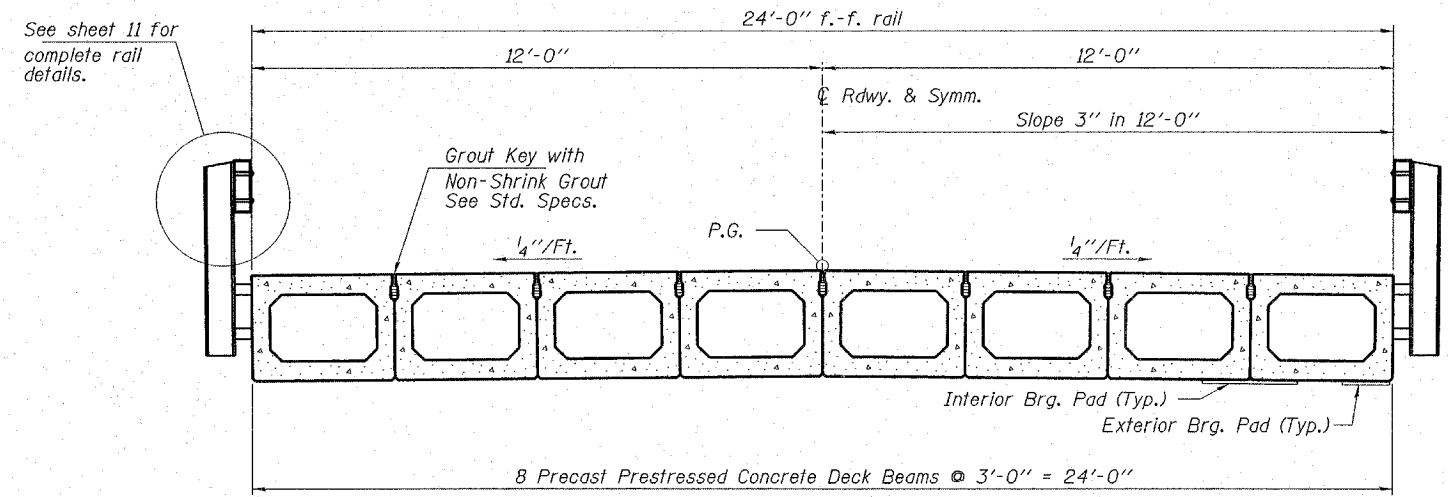
BAR U



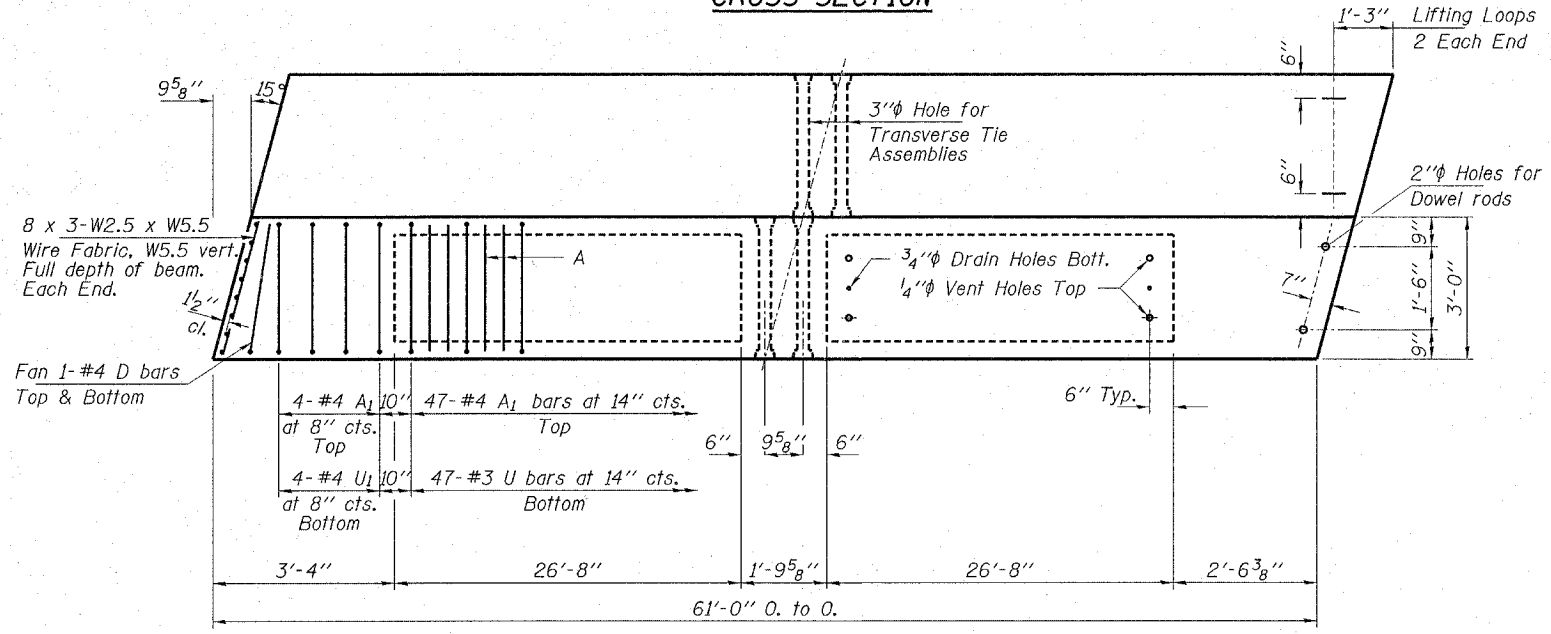
SECTION AT ABUTMENTS

SECTION AT PIERS

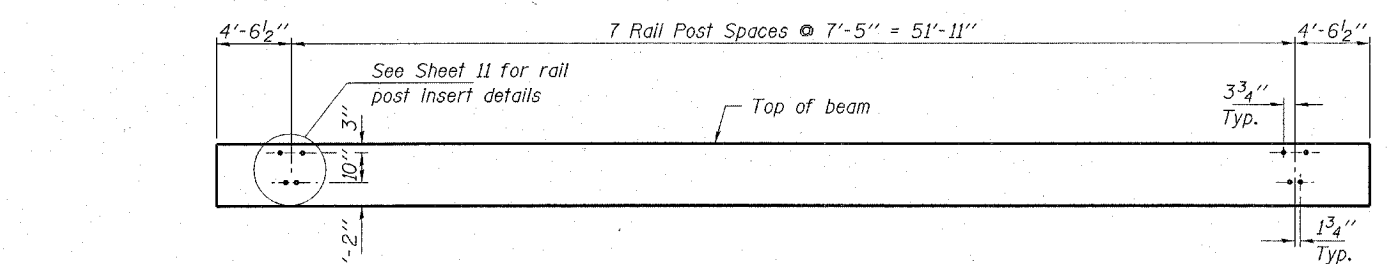
CONTRACT NO. 91354



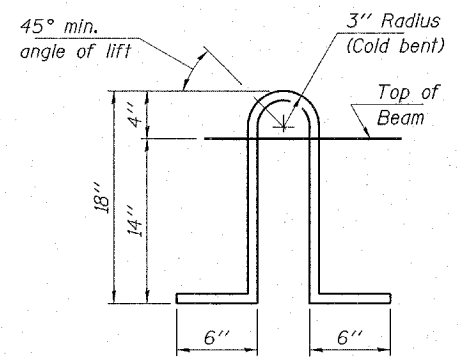
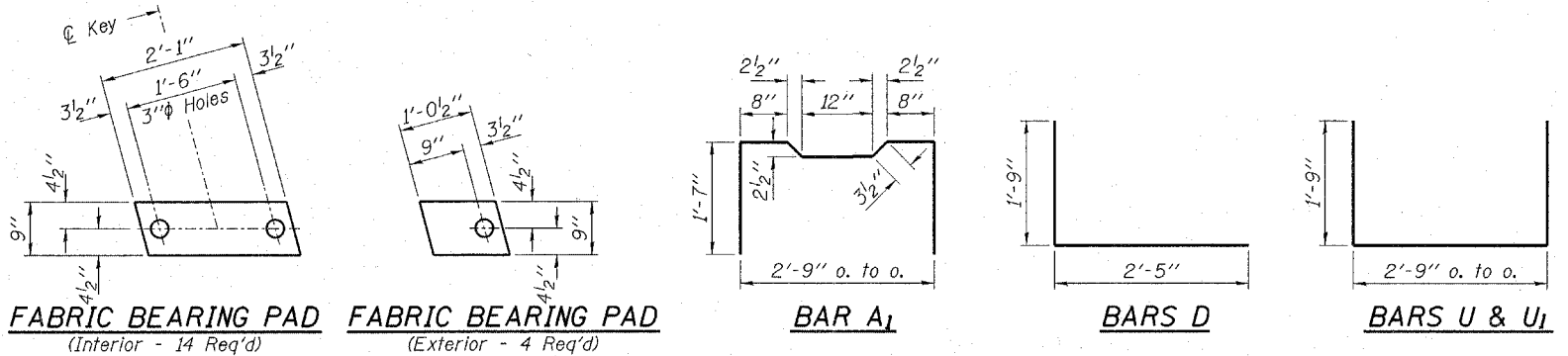
CROSS SECTION



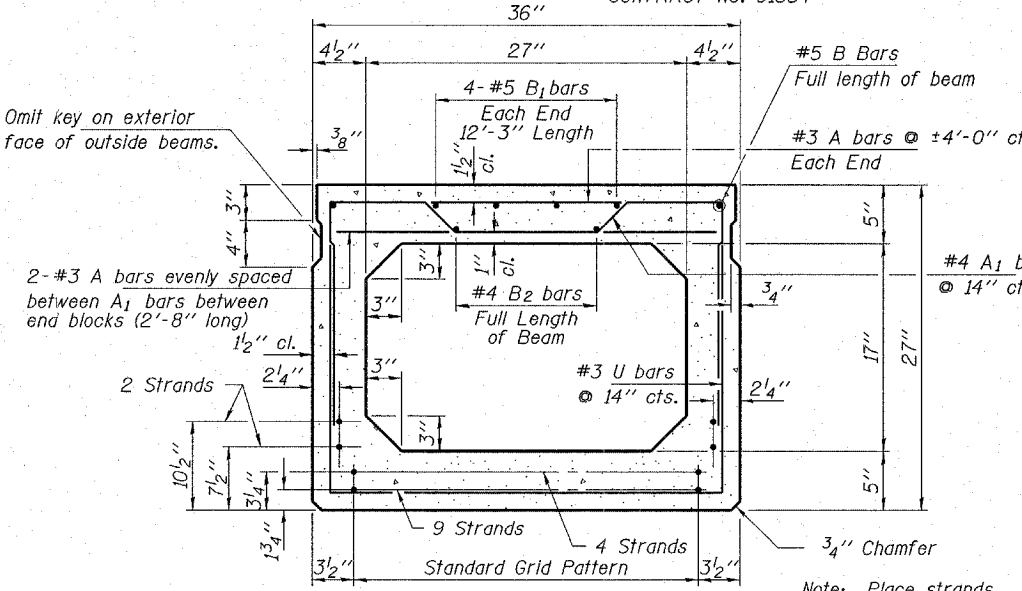
PLAN



ELEVATION OF OUTSIDE BEAMS
Showing Rail Post Spacing



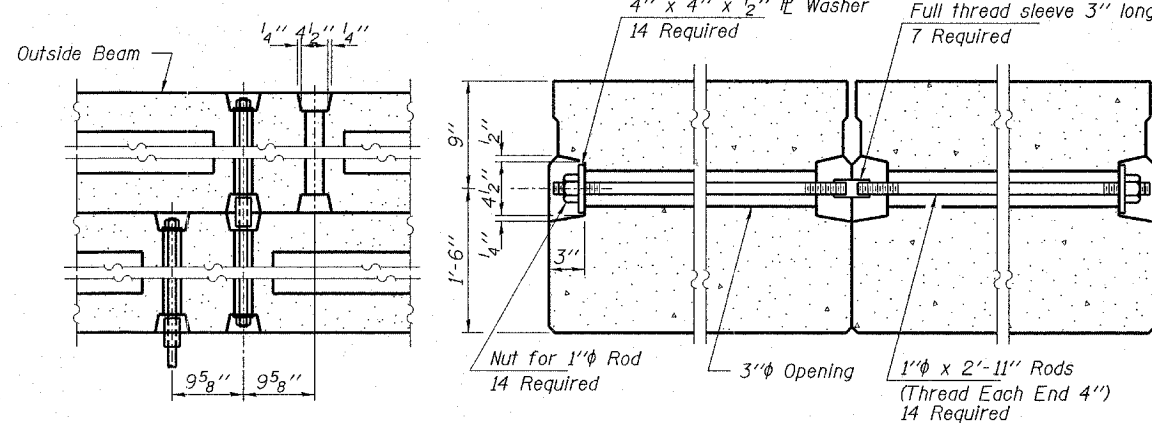
LIFTING LOOP DETAIL



TYPICAL SECTION

Note:
The loop shall be formed in a manner such that all strands are engaged during lifting. Lifting Loops shall be cut and ground off. Burning of the Lifting Loops will not be allowed. Lifting Loops shall be ground off level with the surface of the deck beams and protected with a two-compound epoxy in accordance with Article 1025.03

17-1/2" Strands Each Strand Stressed to 30,900 Lbs.
9-Strands 1 3/4" up, 4-Strands 3/4" up,
2-Strands 7/2" up, 2-Strands 10/2" up
Expected Camber = 1/2"
4" x 4" x 1/2" Washer
Full thread sleeve 3" long



TYPICAL TRANSVERSE TIE ASSEMBLY

NOTES

Prestressing steel shall be uncoated high strength, low-relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in. Lifting loops shall be 2-1/2" 270 ksi strands, as shown. The 1" rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets that receive transverse tie bar on outside shall be filled with grout after transverse tie assembly is in place. Reinforcement bars shall conform to the requirements of AASHTO M-31 or M-322 Grade 60. The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two 3/8" fabric adjusting shims of the dimensions of the Exterior Bearing Pad shall be provided for each bearing. Keyway surfaces shall be cleaned to remove form oil or other bond breaking material prior to shipment of the beams. Cleaning shall be done by sandblasting the keyway areas between top of the beam and the bottom edge of the key. Required Release Strength, f'ci, shall be 4,000 p.s.i.

BILL OF MATERIAL

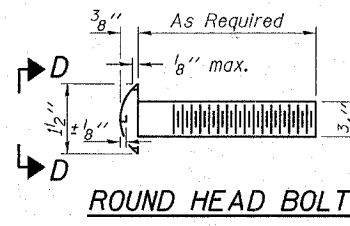
ITEM	UNIT	QUANTITY
Precast Prestressed Concrete Deck Beams (27" Depth)	Sq. Ft.	1,464

HLR
Rice, Berry and Associates
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Civil & Structural Engineers
3085 Stevenson Drive
Suite 201
Springfield, Illinois 62703
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618-790-4637
Account Number 12-87-0014-1
Date: 01/20/06
DESIGNED: T.P.L. CHECKED: S.W.M. DRAWN: D.T.M.

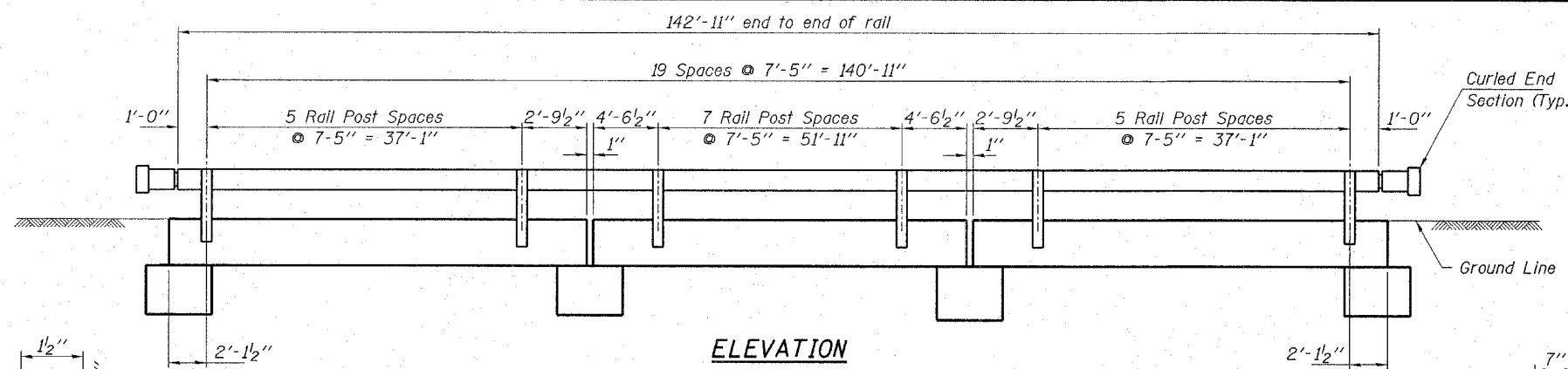
SUPERSTRUCTURE SPAN 2
SECTION 03-17116-00-BR
RIDGE ROAD DISTRICT
SHELBY COUNTY
STRUCTURE NO. 087-3541 / STATION 79+80

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 57	03-17116-00-BR	SHELBY	16	1

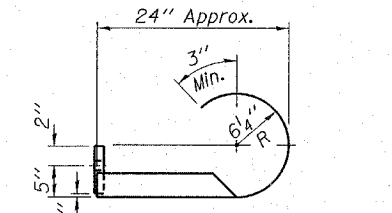
CONTRACT NO. 91354
 Note: Cost of curled end sections shall be included with the Steel Railing. (4 Required)



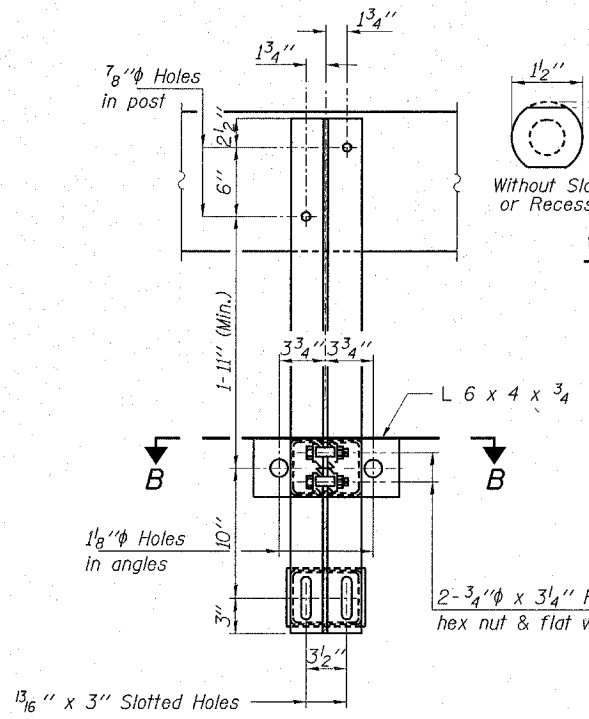
ROUND HEAD BOLT



ELEVATION

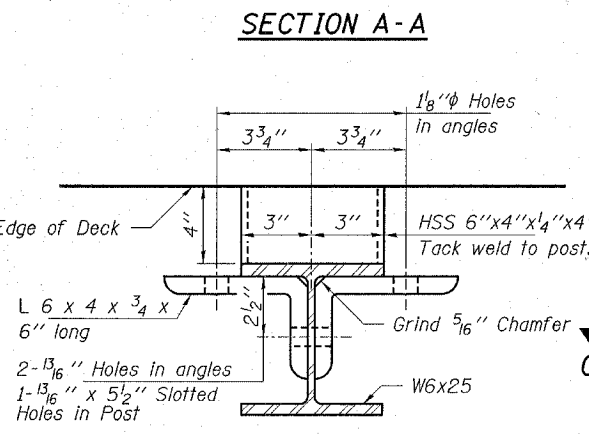


SECTION E-E CURLED END SECTION DETAILS

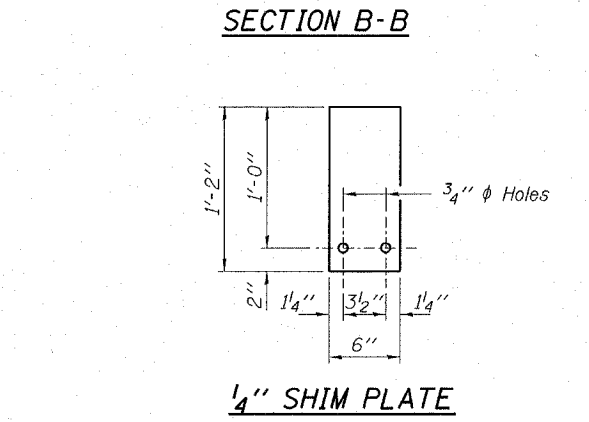


VIEW D-D

2-3/4" ϕ x 6" Round Head Bolts (With slot or approved recess in head) with locknut & flat washer. 7/8" ϕ Holes in hollow structural section may be drilled in the field.

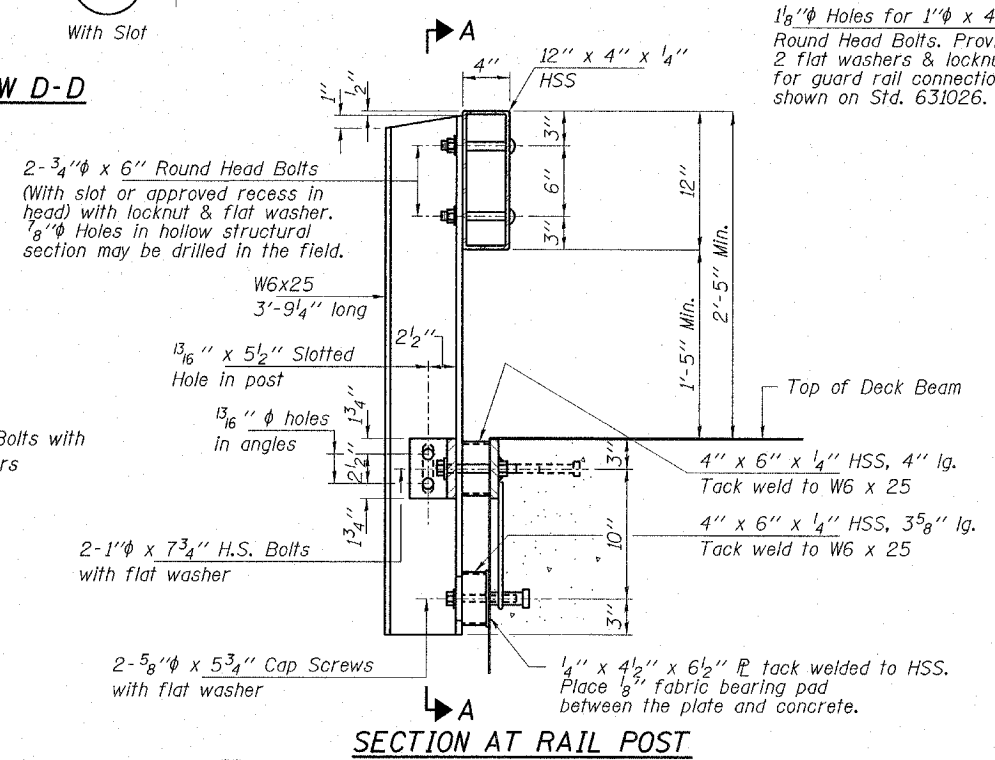


SECTION A-A



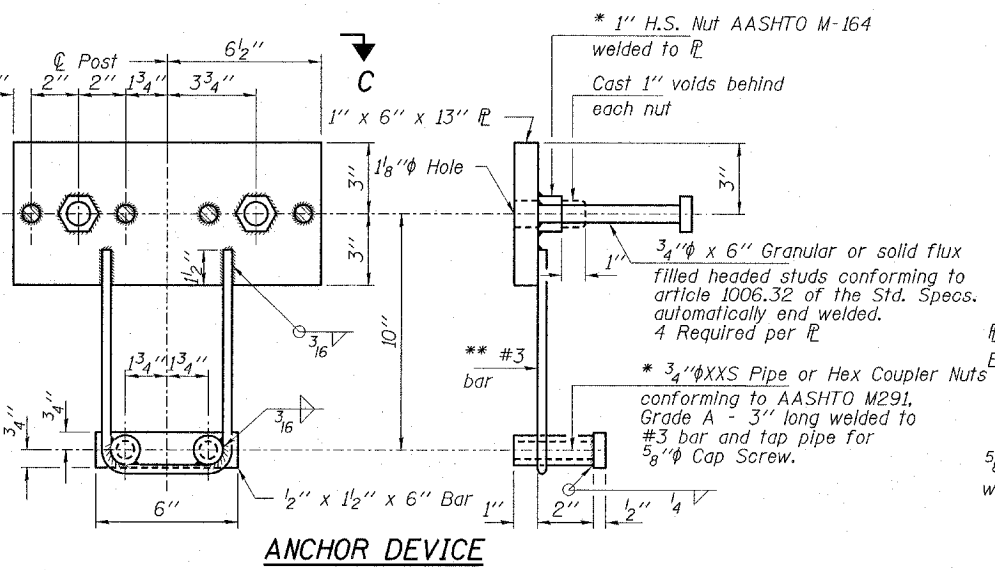
SECTION B-B

1/4" SHIM PLATE



SECTION AT RAIL POST

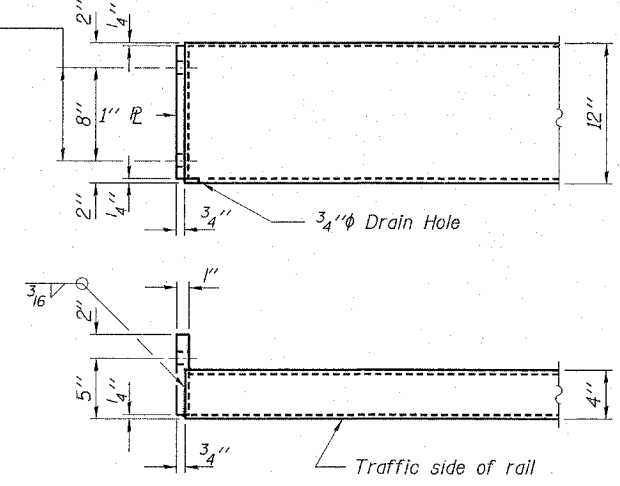
** Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed 2".



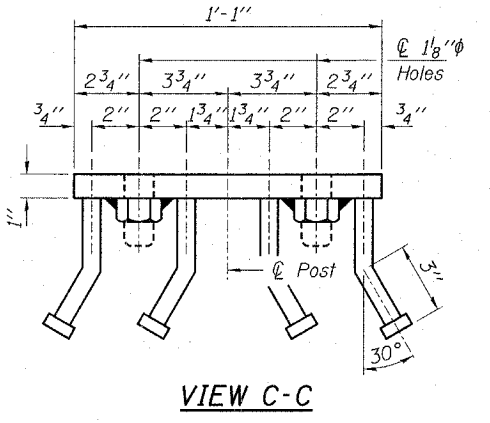
ANCHOR DEVICE

* Threaded areas shall be plugged or blocked off during casting of beam.

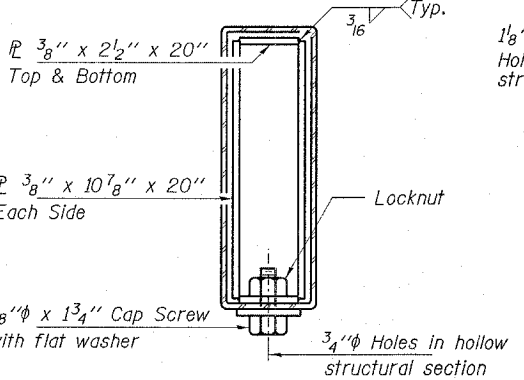
1 1/8" ϕ Holes for 1" ϕ x 4" Round Head Bolts. Provide 2 flat washers & locknuts for guard rail connection shown on Std. 631026.



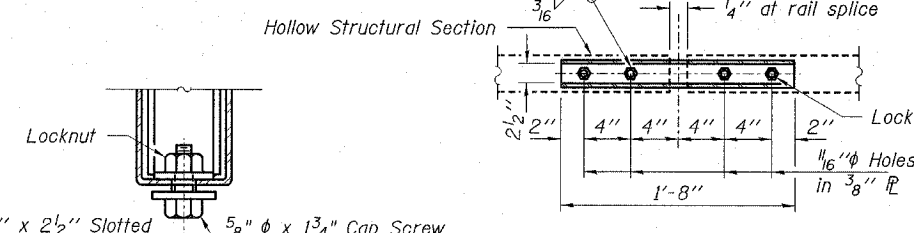
END OF RAIL DETAILS



VIEW C-C



SECTION AT RAIL SPLICE



RAIL SPLICE CONNECTION AT EXPANSION JT.

PLAN-BOTT. SPLICE PIPE TYPICAL

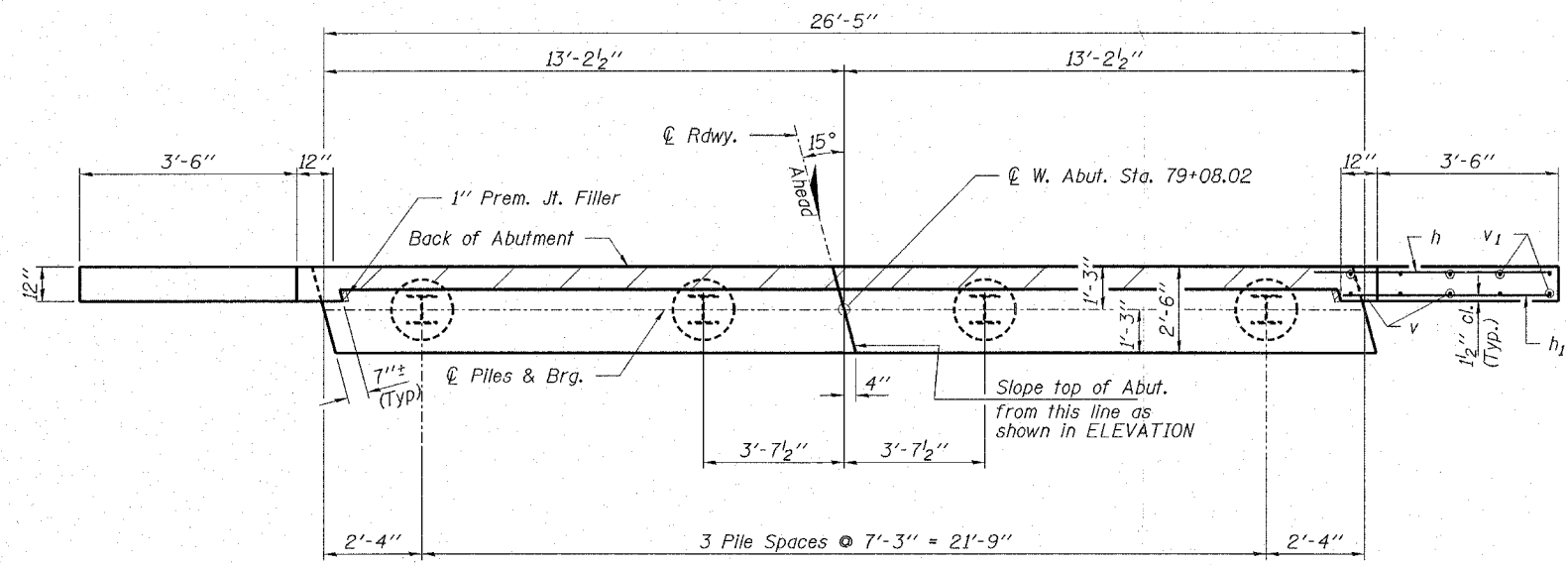
BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S1	Foot	286

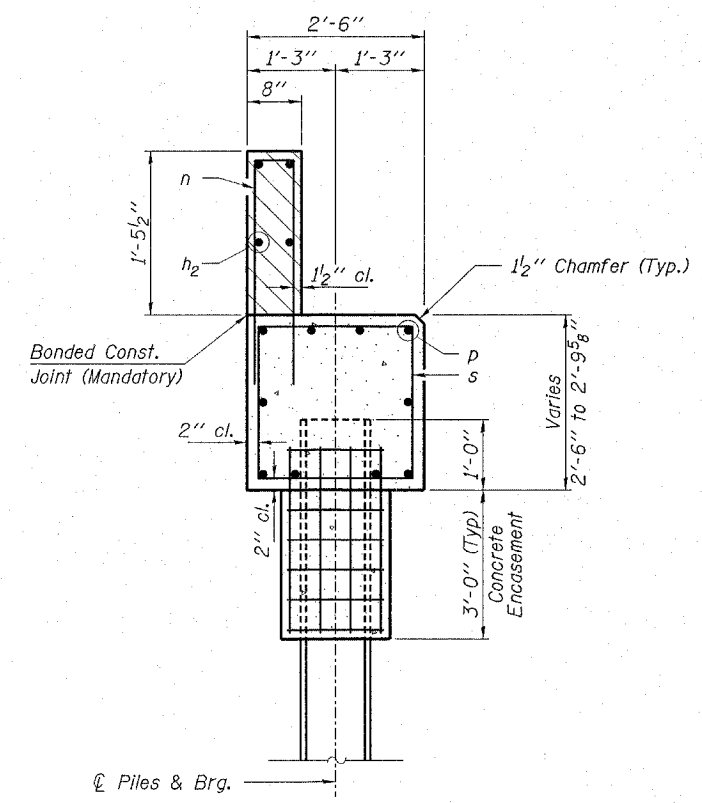
HLR
 Rice, Berry and Associates
 A Division of Hampton, Lenzini and Renwick, Inc.
 CIVIL & Structural Engineers
 3085 Stevenson Drive
 Suite 201
 Springfield, Illinois 62703
 217-546-3400
 P.O. Box 1036
 DuQuoin, Illinois 62832
 618-790-4637
 Account Number 12-87-0014-1
 Date: 01/20/06
 DESIGNED: T.P.L. CHECKED: S.W.M. DRAWN: D.T.M.

RAILING DETAILS
SECTION 03-17116-00-BR
RIDGE ROAD DISTRICT
SHELBY COUNTY
STRUCTURE NO. 087-3541 / STATION 79+80

CONTRACT NO. 91354

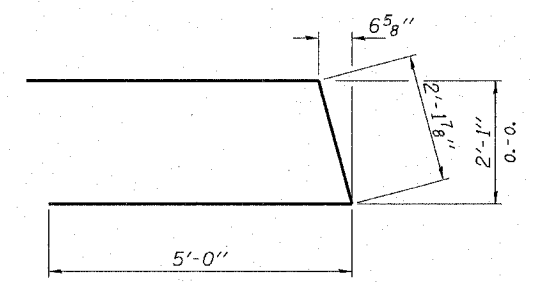


PLAN

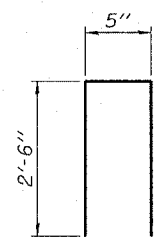


SECTION A-A

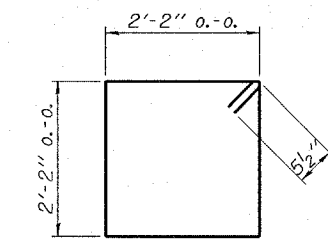
Hatched area to be poured after beams are in place.



BAR u

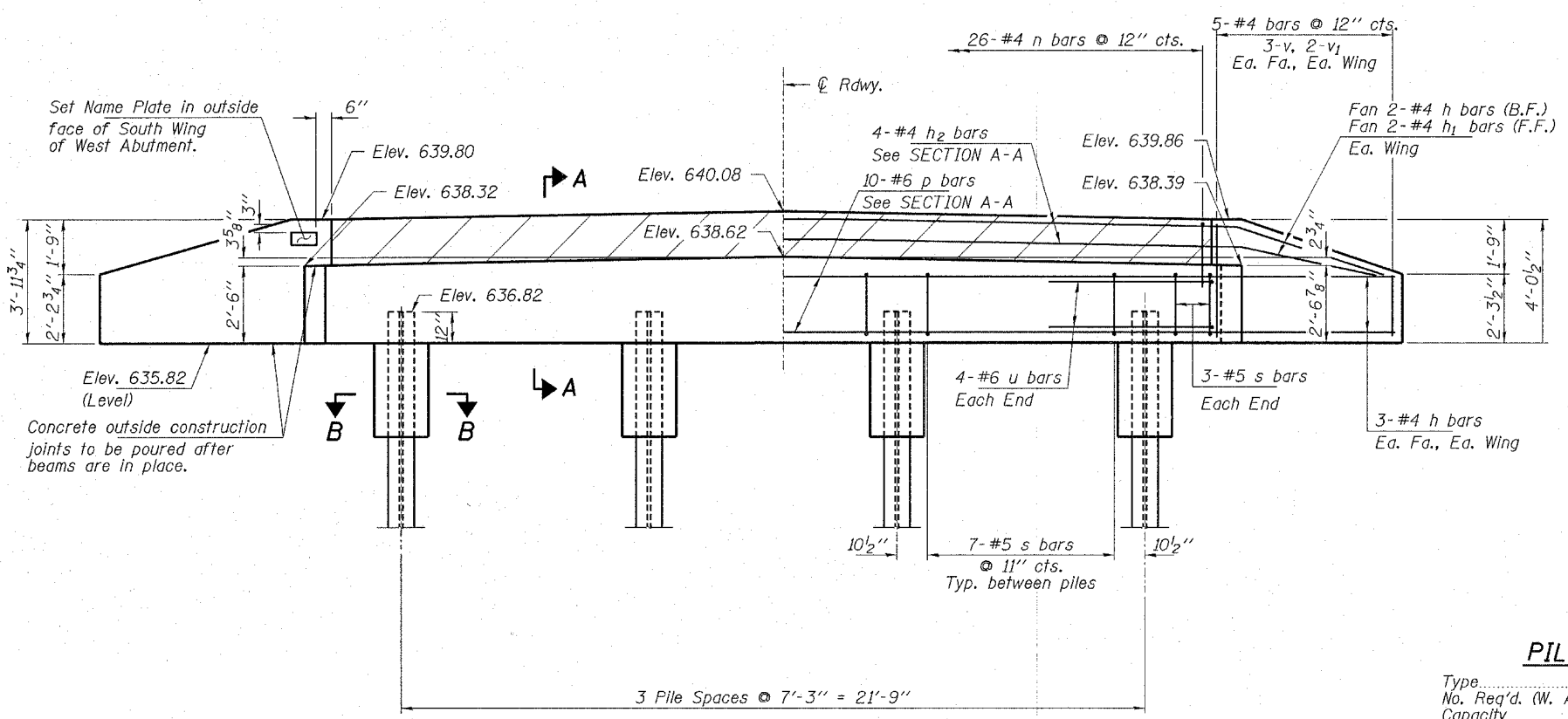


BAR n

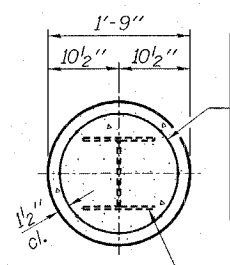


BAR s

Note: Extend h bars into abut. cap.



ELEVATION



SECTION B-B

Welded wire fabric 6 x 6-W4.0 x W4.0 weighing 58#/100 sq. ft. The cost of Excavation and Reinforcement is included in the cost of Concrete Encasement. Forms for Encasement may be omitted when soil conditions will permit.

BILL OF MATERIAL - WEST ABUT.

BAR	NO.	SIZE	LENGTH	SHAPE
h	16	#4	5'-3"	—
h1	4	#4	4'-3"	—
h2	4	#4	26'-1"	—
n	26	#4	5'-5"	□
p	10	#6	26'-1"	—
s	27	#5	9'-7"	□
u	8	#6	12'-2"	—
v	12	#4	3'-1"	—
v1	8	#4	2'-1"	—
Concrete Structures			Cu. Yd.	8.5
Reinforcement Bars			Pound	1,080
Steel Piles HP10x42			Foot	135
Test Pile Steel HP10x42			Each	2
Name Plates			Each	1
Concrete Encasement			Cu. Yd.	1.0

PILE DATA

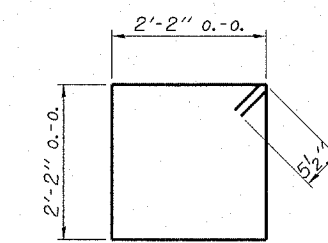
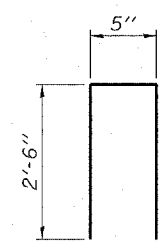
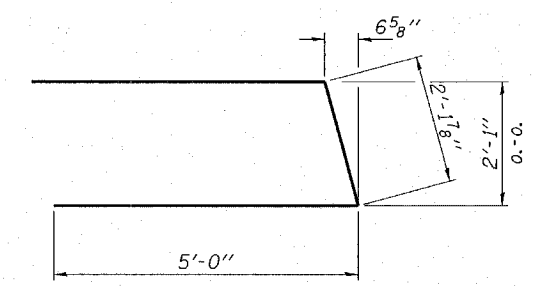
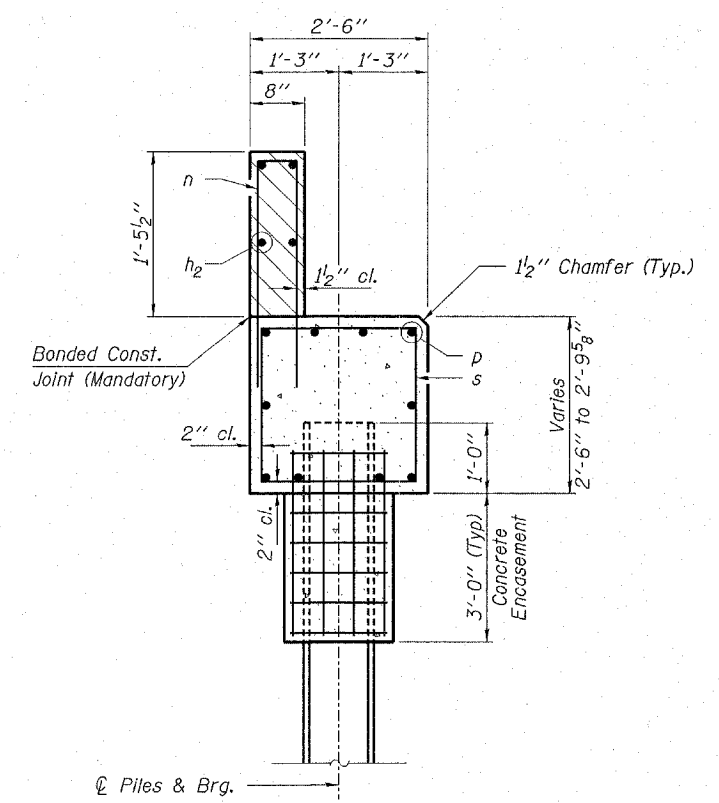
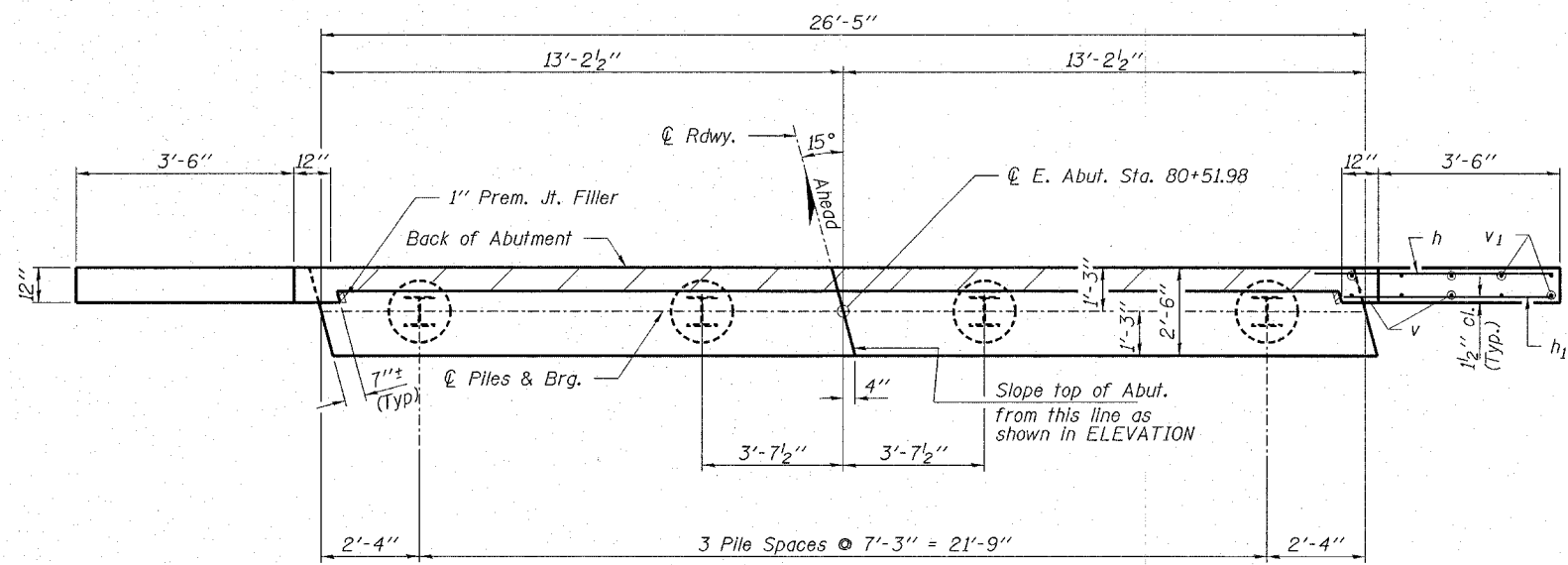
Type.....Steel HP10x42
 No. Req'd. (W. Abut.).....4*
 Capacity.....31 Ton/Pile
 Est. Length.....45 Feet/Pile

* Includes one test pile to be driven in a permanent location at each Abutment.

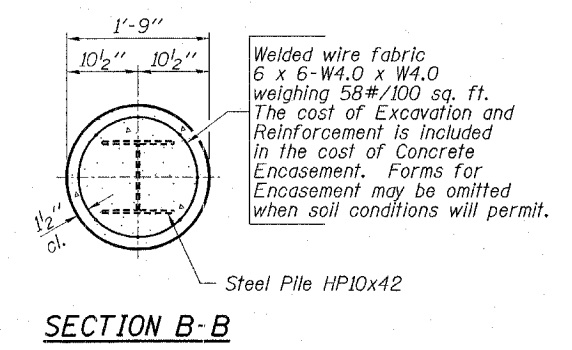
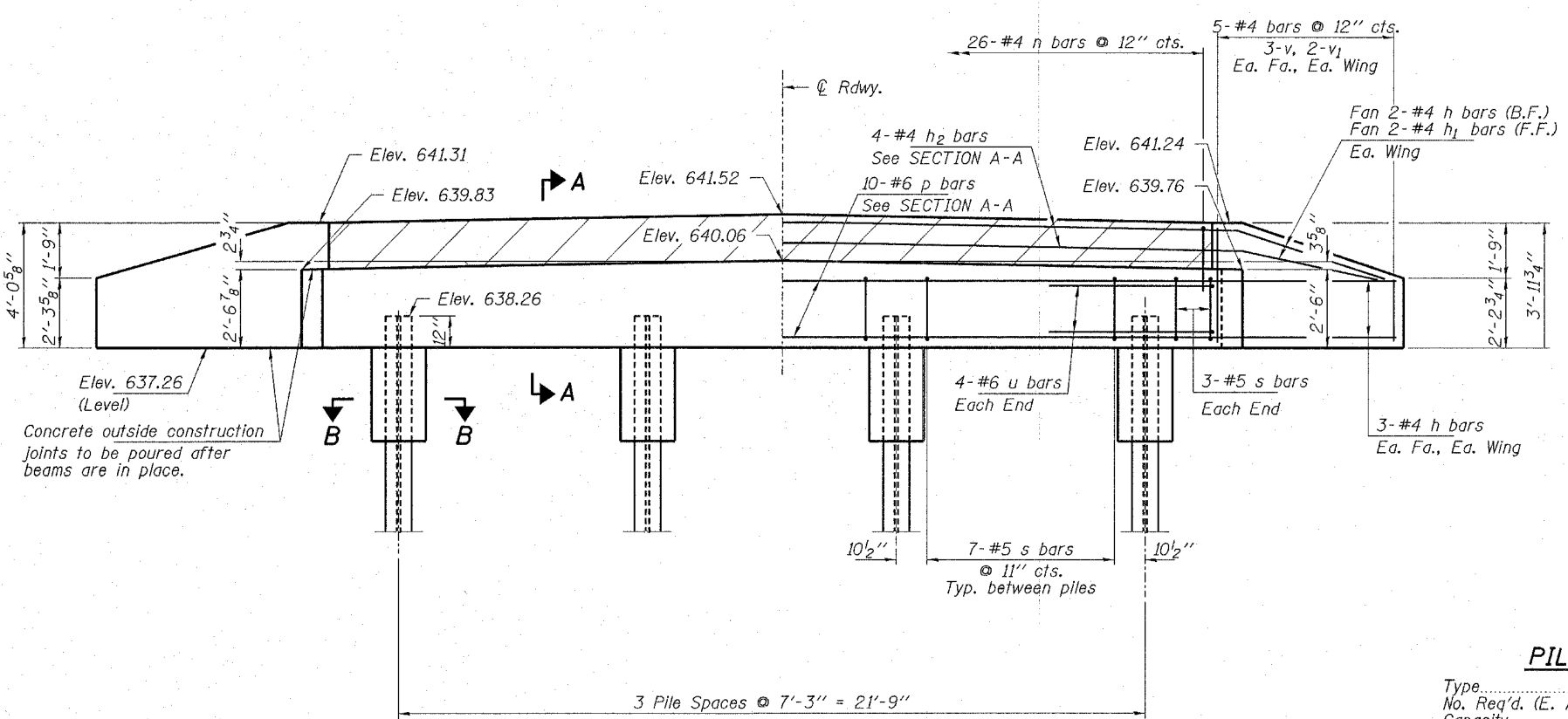
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 Account Number 12-87-0014-1
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 DESIGNED: T.F.L. CHECKED: S.W.M. DRAWN: D.T.M.

WEST ABUTMENT
SECTION 03-17116-00-BR
RIDGE ROAD DISTRICT
SHELBY COUNTY

STRUCTURE NO. 087-3541 / STATION 79+80



Note: Extend h bars into abut. cap.



PILE DATA

Type.....Steel HP10x42
 No. Req'd. (E. Abut.).....4*
 Capacity.....31 Ton/Pile
 Est. Length.....35 Feet/Pile

BILL OF MATERIAL - EAST ABUT.

BAR	NO.	SIZE	LENGTH	SHAPE
h	16	#4	5'-3"	—
h ₁	4	#4	4'-3"	—
h ₂	4	#4	26'-1"	—
n	26	#4	5'-5"	□
p	10	#6	26'-1"	—
s	27	#5	9'-7"	□
u	8	#6	12'-2"	—
v	12	#4	3'-1"	—
v ₁	8	#4	2'-1"	—
Concrete Structures			Cu. Yd.	8.5
Reinforcement Bars			Pound	1,080
Steel Piles HP10x42			Foot	105
Test Pile Steel HP10x42			Each	1
Concrete Encasement			Cu. Yd.	1.0

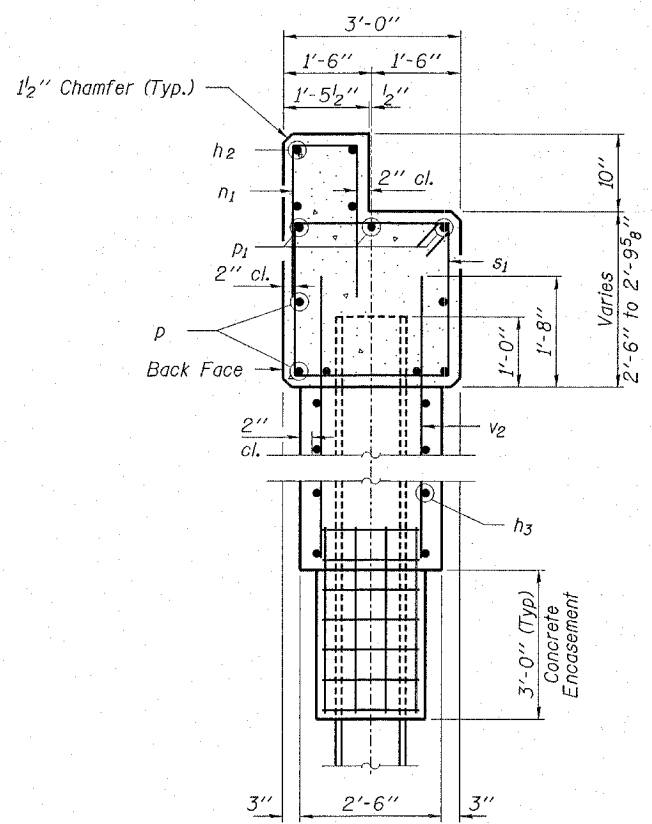
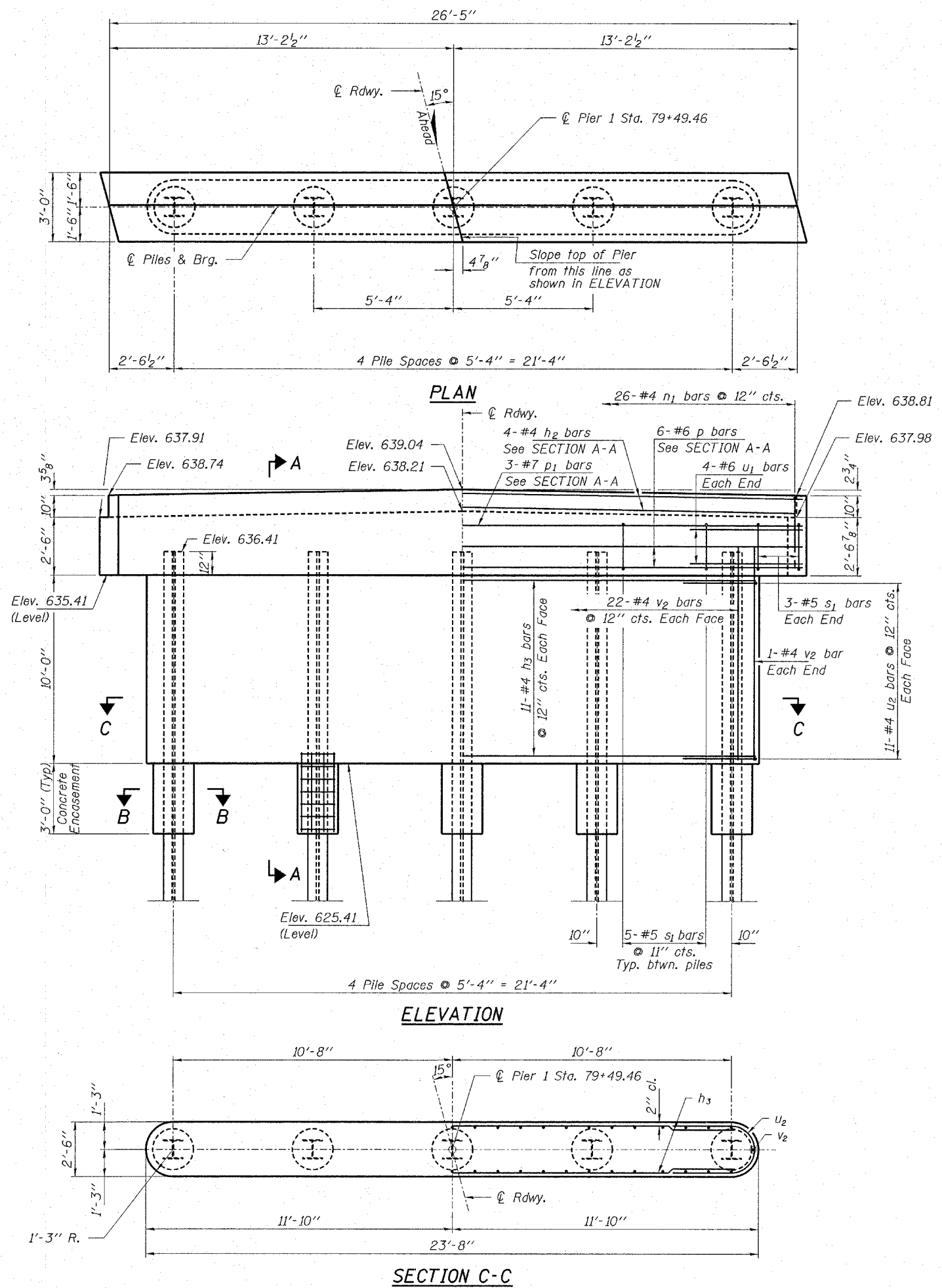
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EAST ABUTMENT
SECTION 03-17116-00-BR
RIDGE ROAD DISTRICT
SHELBY COUNTY
STRUCTURE NO. 087-3541 / STATION 79+80

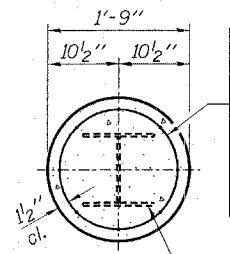
* Includes one test pile to be driven in a permanent location at each Abutment.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 57	03-17116-00-BR	SHELBY	16	14
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT - BPO8-17314M		

CONTRACT NO. 91354



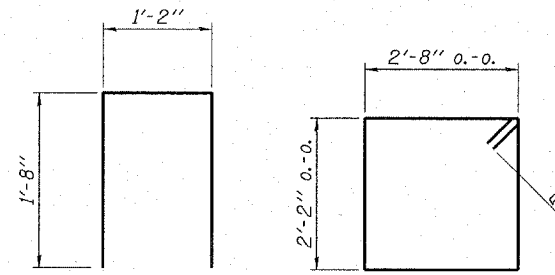
SECTION A-A



SECTION B-B

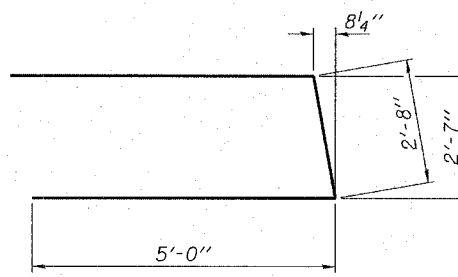
Welded wire fabric 6 x 6-W4.0 x W4.0 weighing 58#/100 sq. ft. The cost of Excavation and Reinforcement is included in the cost of Concrete Encasement. Forms for Encasement may be omitted when soil conditions will permit.

Steel Pile HP10x42

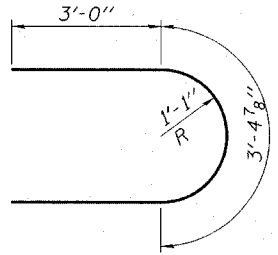


BAR n1

BAR s1



BAR u1



BAR u2

BILL OF MATERIAL - PIER 1

BAR NO.	NO.	SIZE	LENGTH	SHAPE
h2	4	#4	26'-1"	—
h3	22	#4	21'-4"	—
n1	26	#4	4'-6"	□
p	6	#6	26'-1"	—
p1	3	#7	26'-1"	—
s1	26	#5	10'-7"	□
u1	8	#6	12'-8"	—
u2	22	#4	9'-5"	—
v2	46	#4	11'-6"	—
Concrete Structures			Cu. Yd.	30.5
Reinforcement Bars			Pound	1,790
Steel Piles HP10x42			Foot	220
Test Pile Steel HP10x42			Each	1
Concrete Encasement			Cu. Yd.	1.3
Underwater Structure Exc. Protection, Location 1			Each	1

PILE DATA

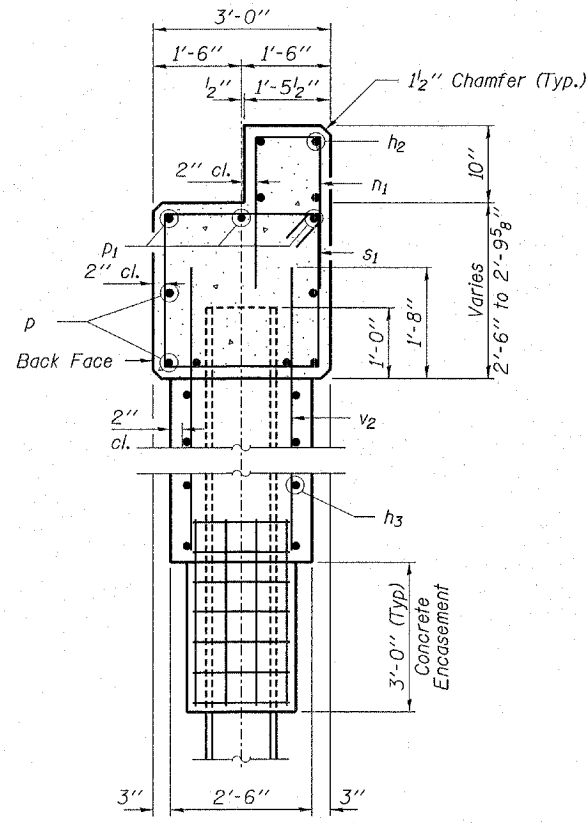
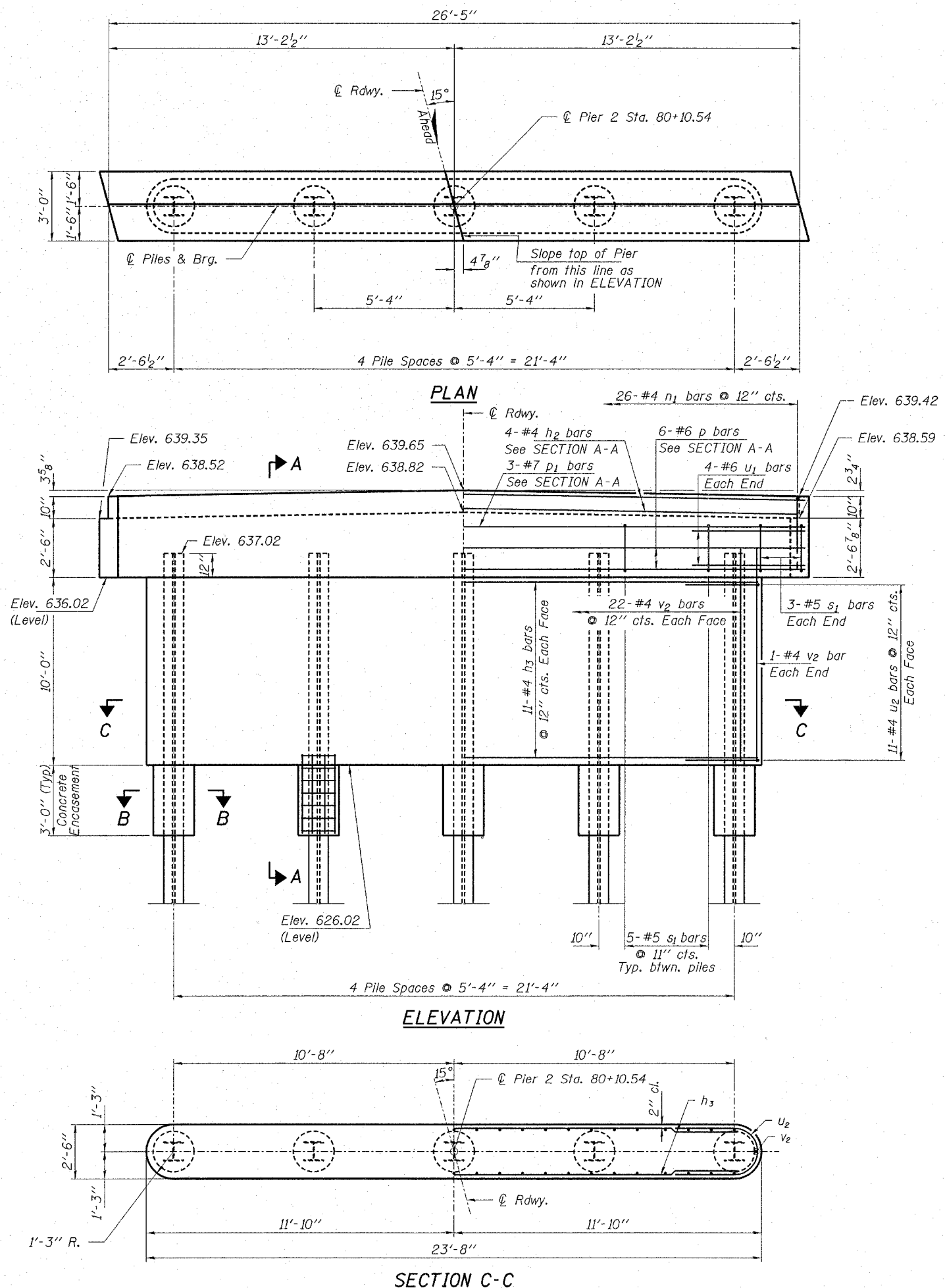
Type..... Steel HP10x42
 No. Req'd. (Pier 1)..... 5*
 Capacity..... 49 T/Pile
 Est. Length..... 55 Feet/Pile

* Includes one test pile to be driven in a permanent location at each Pier.

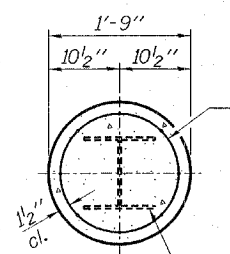
ILR
 Rice, Berry and Associates
 A Division of Hampton, Lenzini and Renwick, Inc.
 Civil & Structural Engineers
 3085 Stevenson Drive
 Suite 201
 Springfield, Illinois 62703
 217-546-3400
 P.O. Box 1036
 DuQuoin, Illinois 62832
 618-790-4637
 Account Number: 12-87-0014-1
 Date: 01/20/06
 DESIGNED: T.P.L. CHECKED: S.W.M. DRAWN: D.T.M.

PIER 1
SECTION 03-17116-00-BR
RIDGE ROAD DISTRICT
SHELBY COUNTY
STRUCTURE NO. 087-3541 / STATION 79+80

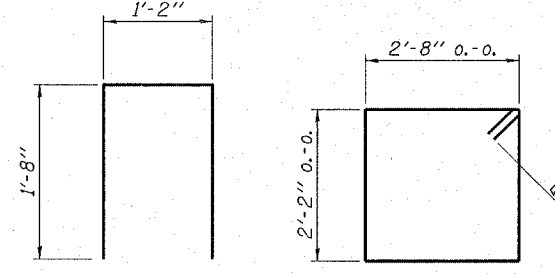
CONTRACT NO. 91354



SECTION A-A

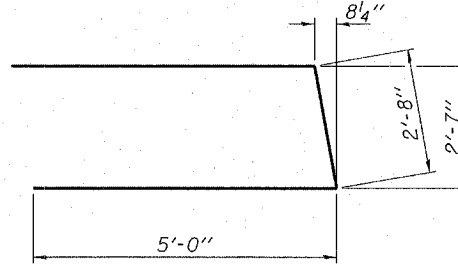


SECTION B-B



BAR n1

BAR s1



BAR u1

BAR u2

BILL OF MATERIAL - PIER 2

BAR NO.	NO.	SIZE	LENGTH	SHAPE
h2	4	#4	26'-1"	—
h3	22	#4	21'-4"	—
n1	26	#4	4'-6"	□
p	6	#6	26'-1"	—
p1	3	#7	26'-1"	—
s1	26	#5	10'-7"	□
u1	8	#6	12'-8"	U
u2	22	#4	9'-5"	U
v2	46	#4	11'-6"	—
Concrete Structures			Cu. Yd.	30.6
Reinforcement Bars			Pound	1,790
Steel Piles HP10x42			Foot	260
Test Pile Steel HP10x42			Each	1
Concrete Encasement			Cu. Yd.	1.3
Underwater Structure Exc. Protection, Location 2			Each	1

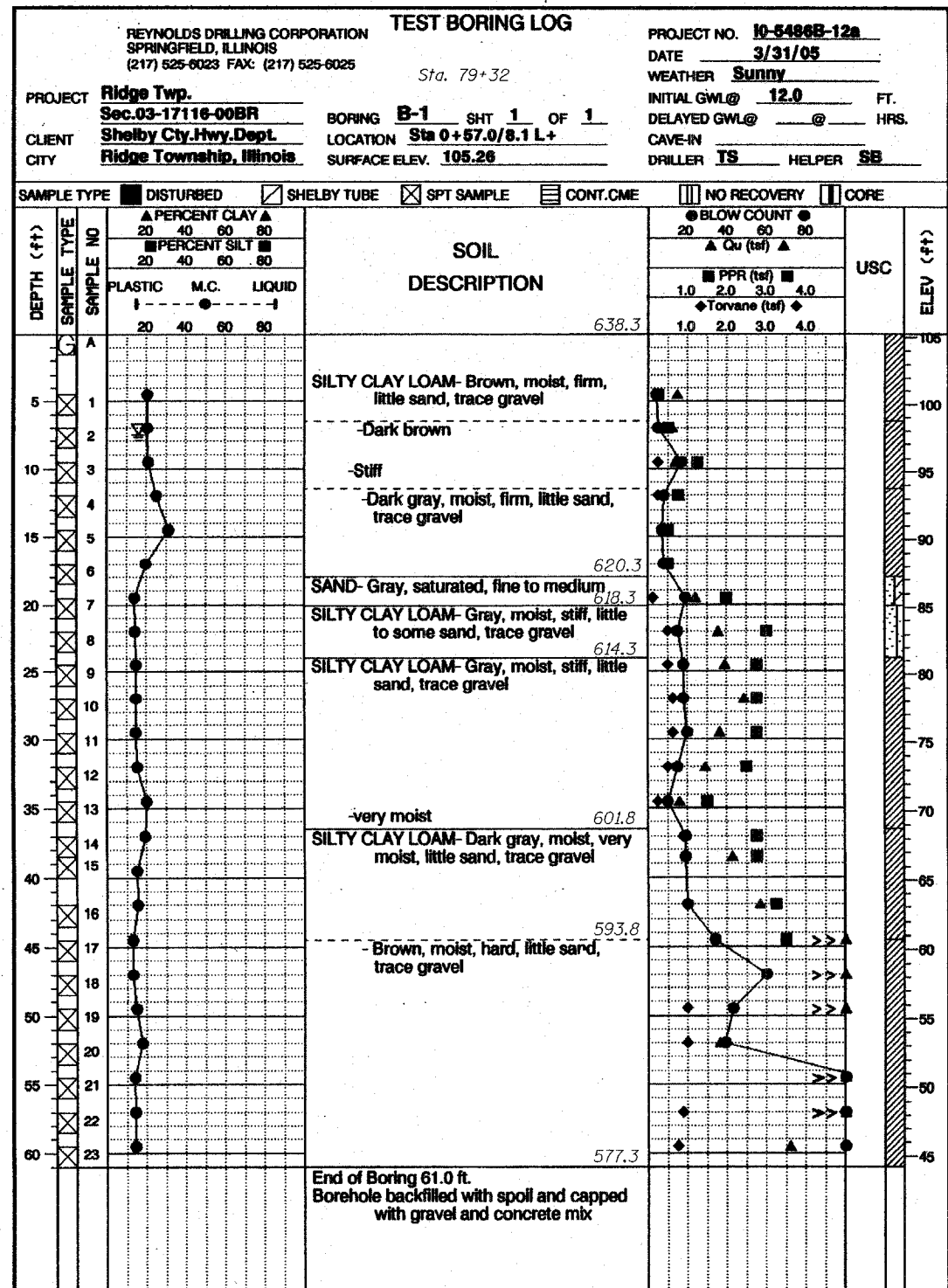
PILE DATA

Type..... Steel HP10x42
 No. Req'd. (Pier 2)..... 5*
 Capacity..... 49 T/Pile
 Est. Length..... 65 Feet/Pile

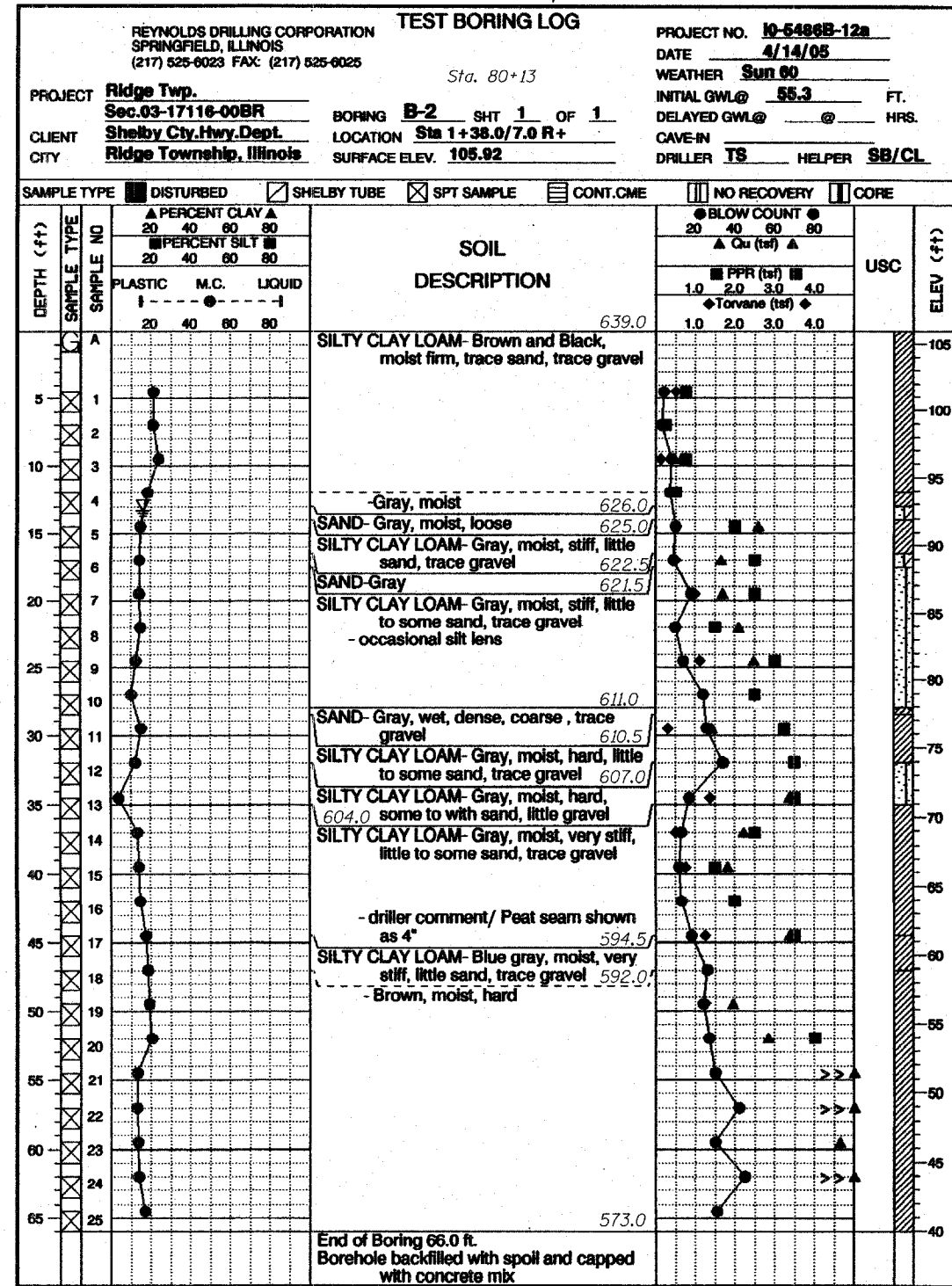
* Includes one test pile to be driven in a permanent location at each Pier.

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PIER 2
 SECTION 03-17116-00-BR
 RIDGE ROAD DISTRICT
 SHELBY COUNTY
 STRUCTURE NO. 087-3541 / STATION 79+80



BORING 1



BORING 2

	Rice, Berry and Associates A Division of Hampton, Lenzini and Renwick, Inc. Civil & Structural Engineers 3085 Stevenson Drive Suite 201 Springfield, Illinois 62703 217-546-3400		
	Account Number 12-87-0014-1 Date: 01/20/06	P.O. Box 1036 DuQuoin, Illinois 62832 618-790-4637	DESIGNED: T.P.L. CHECKED: S.W.M. DRAWN: D.T.M.

BORINGS
 SECTION 03-17116-00-BR
 RIDGE ROAD DISTRICT
 SHELBY COUNTY
 STR. NO. 087-3541 / STATION 79+80