

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED
HIGHWAY BRIDGE PROGRAM

TR 175A OVER LAMOTTE CREEK
SECTION 07-03123-00-BR
CRAWFORD COUNTY
PROJECT NO. BROS-033(049)
JOB NO. C-97-076-08

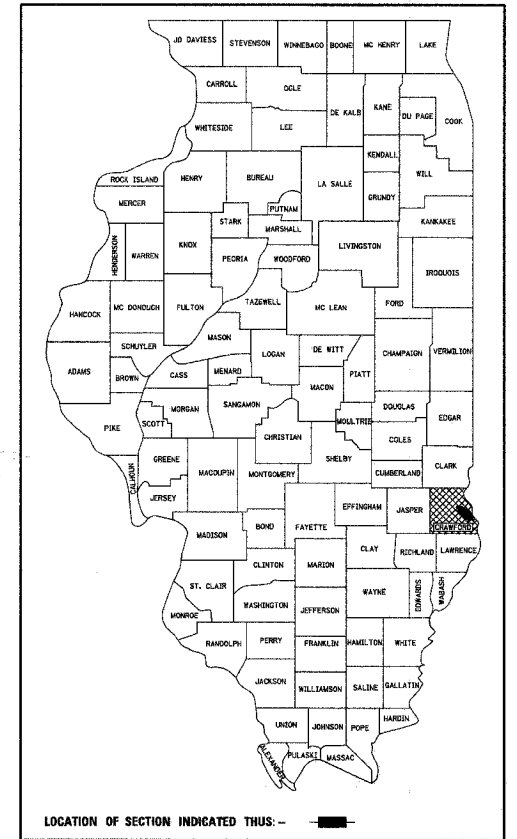
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 175A	07-03123-00-BR	CRAWFORD	11	1
		ILLINOIS	FEDERAL AID PROJECT	
CONTRACT NO. 95556				

INDEX OF SHEETS

- COVER SHEET
- SUMMARY OF QUANTITIES AND TYPICAL SECTIONS
- PLAN AND PROFILE OF ROADWAY
- CROSS SECTIONS OF ROADWAY
- GENERAL PLAN AND ELEVATION
- 7.-8. PRECAST PRESTRESSED CONCRETE DECK BEAM DETAILS
- STEEL RAILING, TYPE SM DETAILS
- ABUTMENT DETAILS
- PIER DETAILS

- 000001-05 STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
 515001-02 NAME PLATE FOR BRIDGES
 630301-04 SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
 631032-03 TRAFFIC BARRIER TERMINAL, TYPE 6A
 635006-02 REFLECTOR AND TERMINAL MARKER PLACEMENT
 701901 TRAFFIC CONTROL DEVICES
 BLR 21-7 TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS

SOIL BORINGS (SEE SPECIFICATIONS)



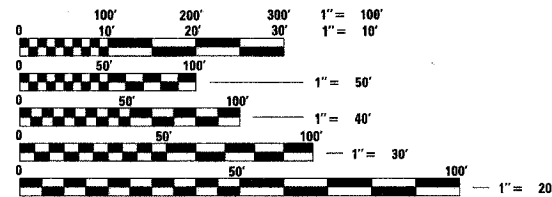
CRAWFORD COUNTY
HIGHWAY DEPARTMENT

APPROVED April 9, 20 08
Justin R. Hill
CRAWFORD COUNTY, COUNTY ENGINEER

PASSED 4-11, 20 08
Maureen E. Kestel
DISTRICT SEVEN ENGINEER OF LOCAL ROADS & STREETS

RELEASING FOR BID
BASED ON LIMITED
REVIEW 4-11, 20 08
Christen M. Keenan
DEPUTY DIRECTOR OF HIGHWAYS, REGION FOUR ENGINEER

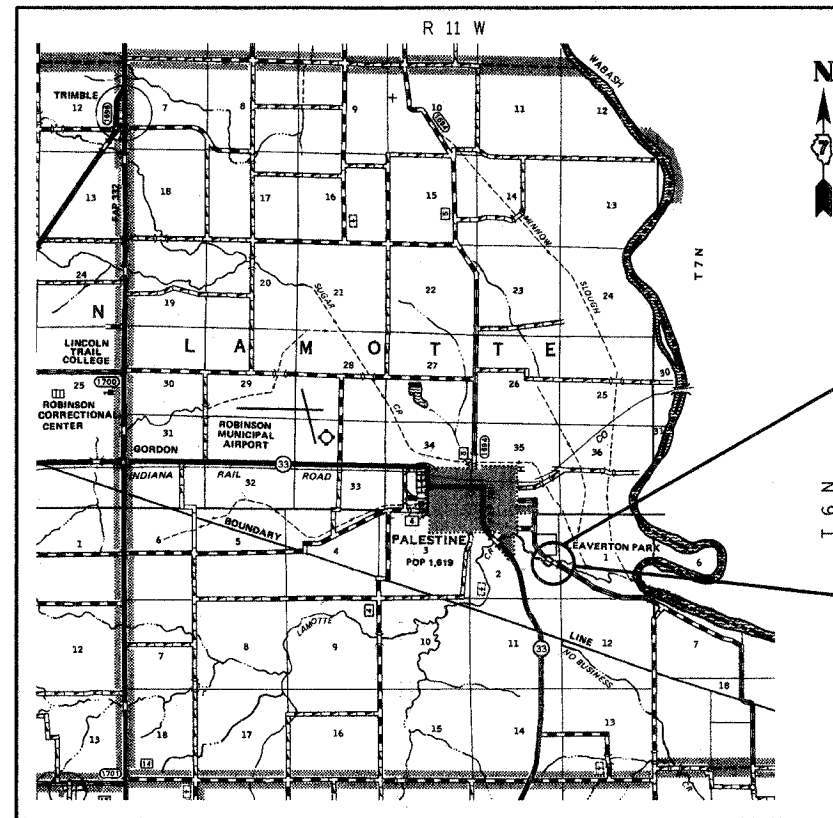
DESIGN CLASSIFICATION: RURAL LOCAL ROAD
 ADT₂₀₀₈ : 350
 ADT₂₀₂₈ : 400
 DESIGN SPEED - 40 MPH



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES, REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES, IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.
JOINT UTILITY LOCATING INFORMATION FOR EXCAVATORS
1-800-892-0123 Website: <http://www.illinois1call.com>

CONTRACT NO. 95556



SECTION BEGINS
STA. 11+66.78

SECTION 07-03123-00-BR

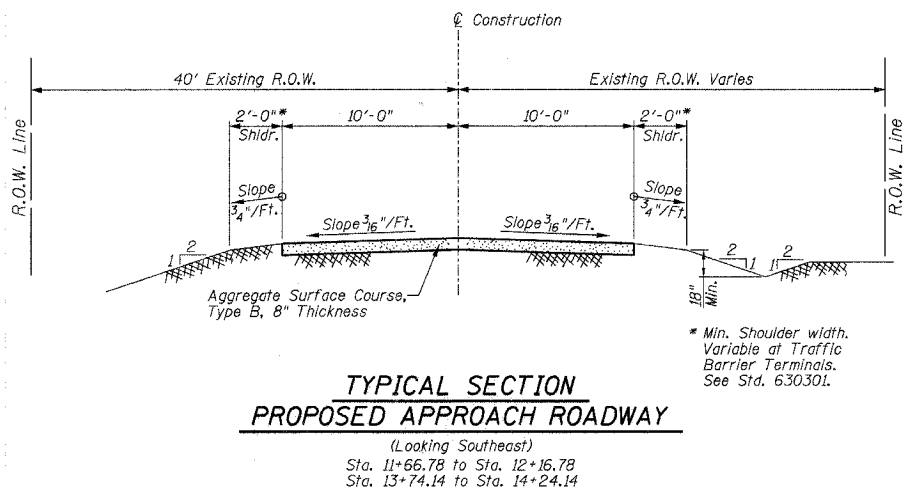
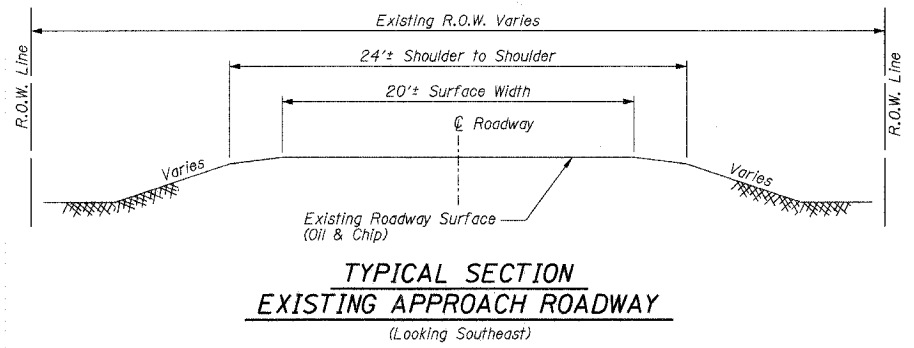
INCLUDES THE CONSTRUCTION OF A THREE SPAN PRECAST PRESTRESSED CONCRETE DECK BEAM BRIDGE CARRYING TR 175A OVER LAMOTTE CREEK, 157'-4 1/2" BK. TO BK. ABUTMENTS, 45° AHEAD LEFT SKEW. EXISTING STRUCTURE NO. 017-3314 PROPOSED STRUCTURE NO. 017-3325

SECTION ENDS
STA. 14+24.14

LOCATION: NEAR THE NE CORNER, SE 1/4, SECTION 2, T6N, R11W, 2ND P.M.
NET LENGTH OF PROJECT: 257.36 FT = 0.049 MI



Gary L. Hahn 04-09-08
GARY L. HAHN
CENTRALIA, ILLINOIS
ILLINOIS LICENSED PROFESSIONAL
ENGINEER NO. 62-42606
EXPIRES NOV. 30, 2009



GENERAL NOTES

1. This section shall be constructed according to the plans, the Special Provisions, and the "Standard Specifications for Road and Bridge Construction", adopted January 1, 2007.
2. Any reference to a Standard in these plans shall be interpreted to mean the edition as indicated by the sub-number listed in the Index of Sheets or the copy of the Standard included in these plans.
3. Roadway Centerline profiles refer to the finished surface.
4. Existing utilities shown are located from surface observations or information provided by the respective utilities and must be considered approximate. There may be others, the exact location of which are unknown and not shown. The Contractor will be responsible for notifying the respective utilities before work is begun. Field marking of underground utilities may be obtained by providing a minimum of 48 hours advance notice through the J.U.L.I.E. system by calling 1-800-892-0123, or by direct contact with non-members of J.U.L.I.E.
5. The nominal thickness for surface course is shown on the Typical Sections, Standards, Schedules, or Special Details. The constructed thickness of the above item shall not be less than 90 percent of the nominal thickness at any location.
6. Factors used for quantity calculations are as follows:
 Porous Granular Embankment 2.1 tons/cu. yd.
 Stone Dumped Riprap 130 pounds/cu. ft.
7. Existing Name Plate attached to the steel bridge rail shall be saved and shall become the property of the Local Agency.
8. Commitments: None as of April 1, 2008.

SUMMARY OF QUANTITIES

Code No.	Item	Unit	Quantity	Location		Work to be performed by Local Agency. NOT PART OF THIS CONTRACT
				X081-2A	E000	
20100210	TREE REMOVAL, OVER 15 UNITS DIAMETER	UNITS	-	-	-	88
20200100	EARTH EXCAVATION	CU YD	-	-	-	34
* 20300100	CHANNEL EXCAVATION	CU YD	570	570	-	-
20400800	FURNISHED EXCAVATION	CU YD	-	-	-	393
* 20700110	POROUS GRANULAR EMBANKMENT	TON	84	84	-	-
25001000	SEEDING, CLASS 2 (SPECIAL)	ACRE	-	-	-	0.2
* 28100807	STONE DUMPED RIPRAP, CLASS A4	TON	760	760	-	-
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	-	-	-	104
* 50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1	1	-	-
50300225	CONCRETE STRUCTURES	CU YD	65.2	65.2	-	-
50300280	CONCRETE ENCASEMENT	CU YD	37.4	37.4	-	-
* 50400505	PRECAST PRESTRESSED CONCRETE DECK BEAMS (27" DEPTH)	SQ FT	4340	4340	-	-
50800105	REINFORCEMENT BARS	POUND	8160	8160	-	-
50901050	STEEL RAILING, TYPE SM	FOOT	315	315	-	-
51201600	FURNISHING STEEL PILES HP12X53	FOOT	642	642	-	-
51202305	DRIVING PILES	FOOT	234	234	-	-
** 51203600	TEST PILE STEEL HP12X53	EACH	1	1	-	-
51500100	NAME PLATES	EACH	1	1	-	-
Δ 63100087	TRAFFIC BARRIER TERMINAL, TYPE 6A	EACH	4	-	4	-
Δ 63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	4	-	4	-
67100100	MOBILIZATION	L SUM	1	-	-	-
Δ 78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4	-	4	-
* X5020501	UNDERWATER STRUCTURE EXCAVATION PROTECTION - LOCATION 1	EACH	1	1	-	-
* X5020502	UNDERWATER STRUCTURE EXCAVATION PROTECTION - LOCATION 2	EACH	1	1	-	-
* Z0065000	SETTING PILES IN ROCK	EACH	12	12	-	-

* See Special Provisions.

** The Contractor shall drive one (1) Steel HP12x53 Test Pile in a permanent location at the North Abutment as directed by the Engineer before ordering the remainder of the piles.

Δ SPECIALTY ITEMS

UTILITIES

Telephone: Verizon
 108 W. Grand Prairie
 Palestine, IL 62451
 Charlie Vennard

Electric: AmerenCIPS
 888-789-2477

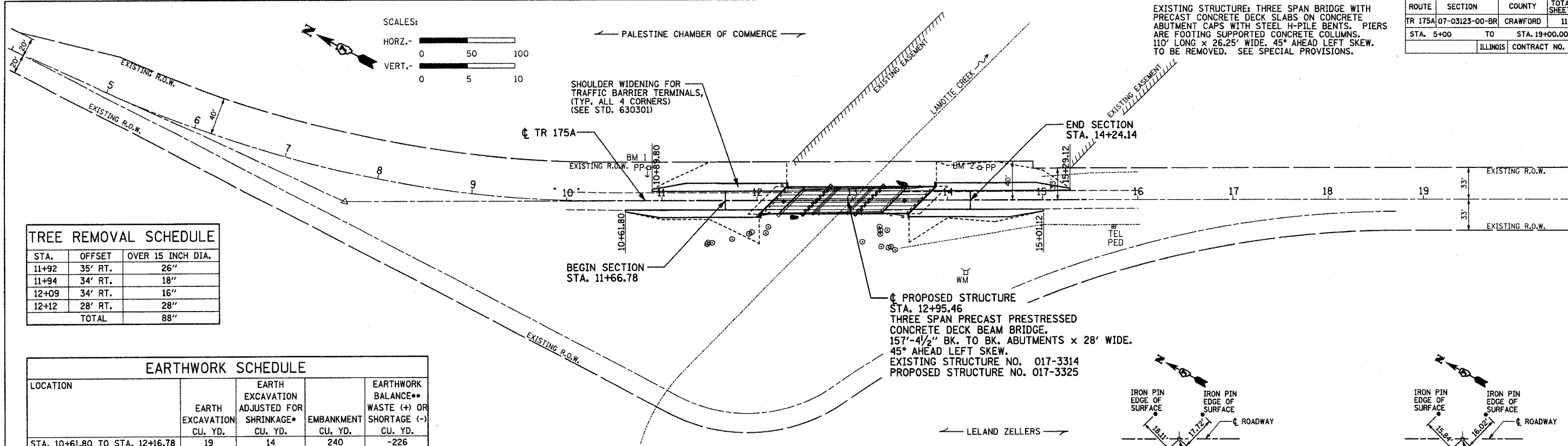
Water: Robinson-Palestine Water Commission
 108 E. Poplar
 Robinson, IL 62454
 618-544-3188

SUMMARY OF QUANTITIES AND
 TYPICAL SECTIONS
 PROPOSED BRIDGE OVER
 LAMOTTE CREEK
 TR 175A
 SECTION 07-03123-00-BR
 CRAWFORD COUNTY, ILLINOIS

04/09/2008

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 175A	07-03123-00-BR	CRAWFORD	11	3
STA. 5+00 TO STA. 19+00.00		ILLINOIS CONTRACT NO. 95556		

EXISTING STRUCTURE: THREE SPAN BRIDGE WITH PRECAST CONCRETE DECK SLABS ON CONCRETE ABUTMENT CAPS WITH STEEL H-PILE BENTS. PIERS ARE FOOTING SUPPORTED CONCRETE COLUMNS. 110' LONG x 26.25' WIDE, 45° AHEAD LEFT SKEW. TO BE REMOVED. SEE SPECIAL PROVISIONS.

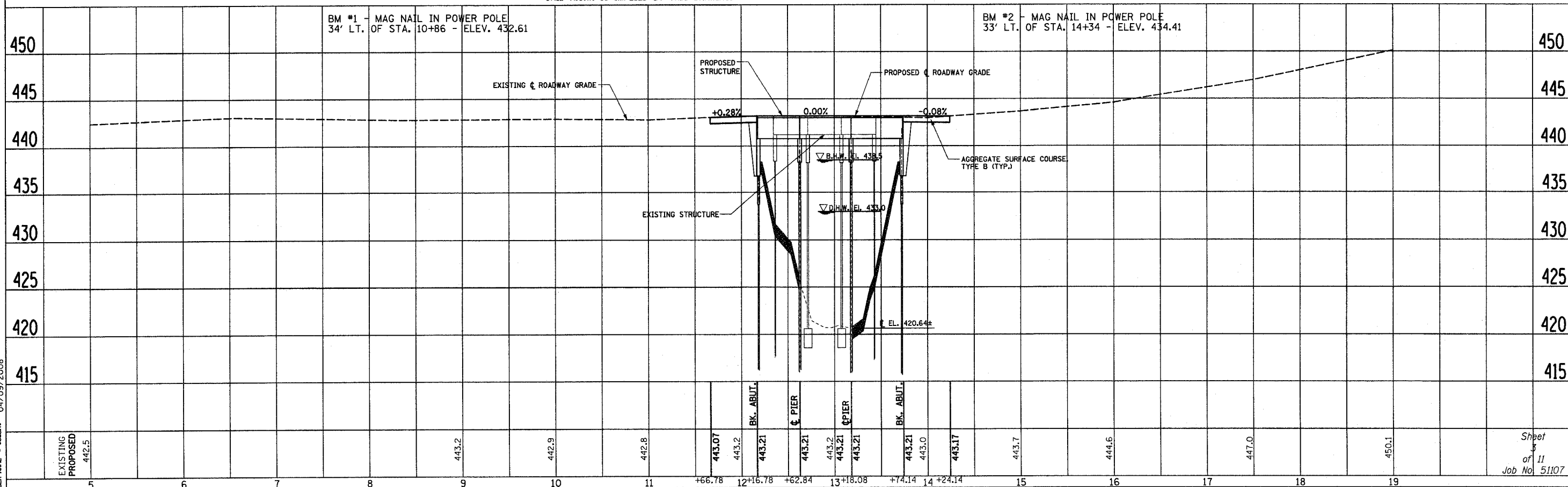


STA.	OFFSET	OVER 15 INCH DIA.
11+92	35' RT.	26"
11+94	34' RT.	18"
12+09	34' RT.	16"
12+12	28' RT.	28"
TOTAL		88"

LOCATION	EARTH EXCAVATION CU. YD.	EARTH EXCAVATION ADJUSTED FOR SHRINKAGE* CU. YD.	EMBANKMENT CU. YD.	EARTHWORK BALANCE** WASTE (+) OR SHORTAGE (-) CU. YD.
STA. 10+61.80 TO STA. 12+16.78	19	14	240	-226
STA. 13+74.14 TO STA. 15+29.12	15	11	178	-167
TOTAL	34	25	418	-393

*25% SHRINKAGE **FURNISHED EXCAVATION

THE EXISTING RIGHT OF WAY SHOWN HEREON HAS BEEN PROTRACTED FROM EXISTING RECORDS AND IS TO BE USED FOR REFERENCE PURPOSES ONLY. FURTHERMORE, NO COMPLETE SURVEY OF SAID R.O.W. IS IMPLIED BY THIS DRAWING.



PLAN & PROFILE OF ROADWAY PROPOSED BRIDGE OVER LAMOTTE CREEK TR 175A SECTION 07-03123-00-BR CRAWFORD COUNTY, ILLINOIS

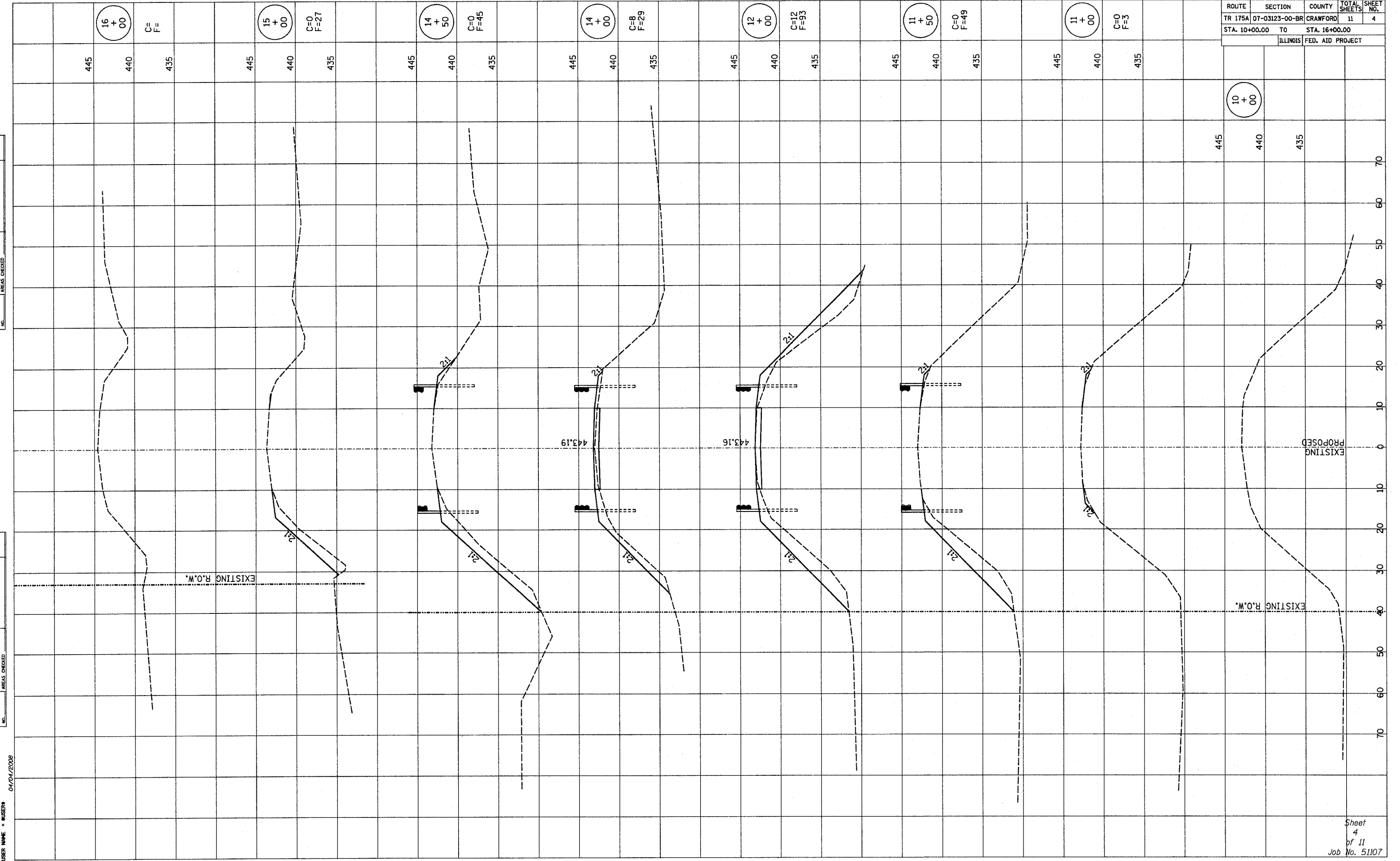
Sheet of 11 Job No. 51107

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 175A	07-03123-00-BR	CRAWFORD	11	4
STA. 10+00.00 TO		STA. 16+00.00		
ILLINOIS		FED. AID PROJECT		

FINAL SURVEY	DATE
NOTE BOOK	BY
NO.	
REVISED	DATE
PLOTTED	BY
TEMPLATE	
AREAS	
CHECKED	

ORIGINAL SURVEY	DATE
NOTE BOOK	BY
NO.	
REVISED	DATE
PLOTTED	BY
TEMPLATE	
AREAS	
CHECKED	

PLOT DATE = #DATE#
 FILE NAME = #FILE#
 PLOT SCALE = #SCALE#
 USER NAME = #USER#

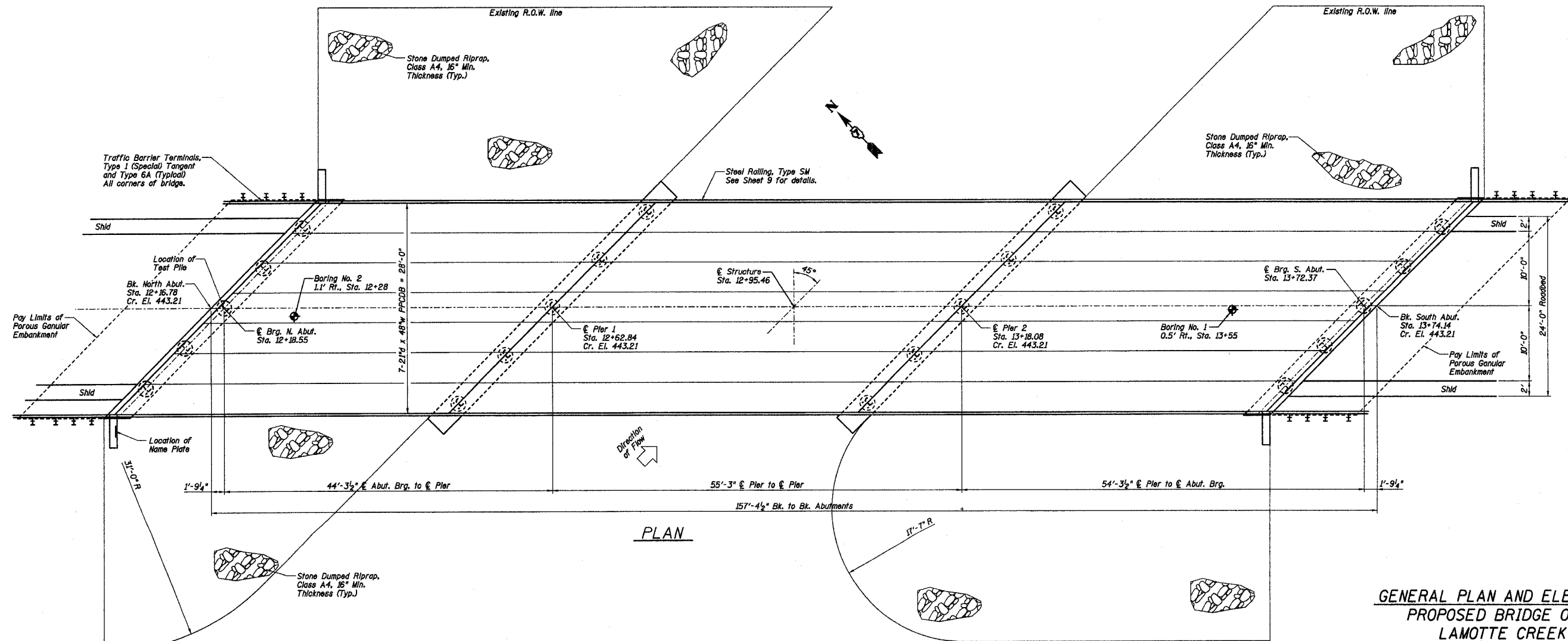
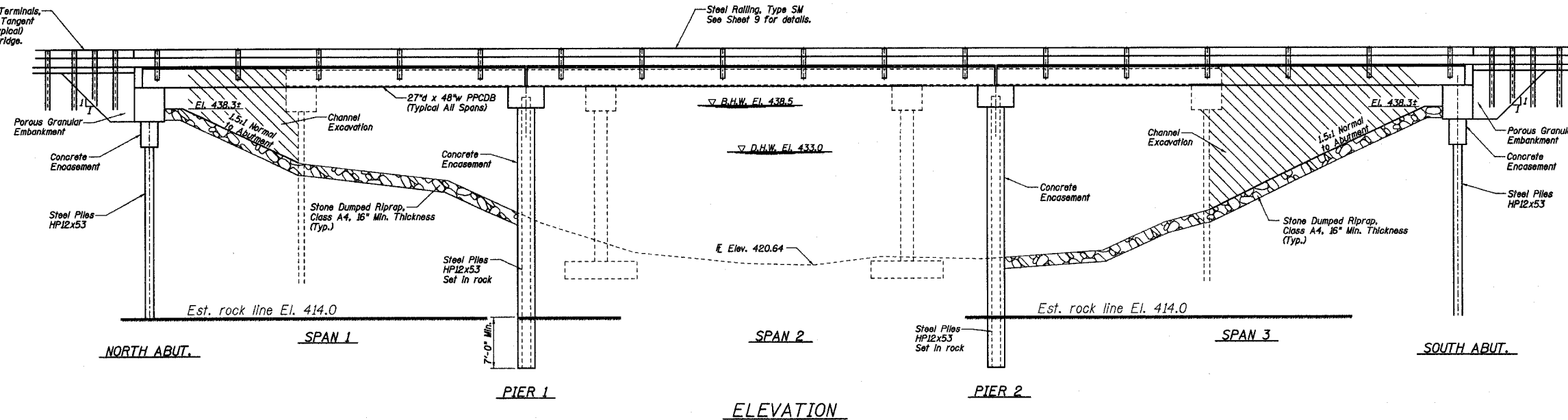


BM #1 - Mag nail in power pole
34' Lt. of Sta. 10+86 - Elev. 432.61

BM #2 - Mag nail in power pole
33' Lt. of Sta. 14+34 - Elev. 434.41

Existing Structure: Three (3) span bridge with Precast Concrete deck slabs on concrete abutment caps with steel H-pile bents. Piers are footing supported concrete columns. 110'L x 26.25'W. 45° Ahead left skew. Salvage name plate for County. See Special Provisions.

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 175A	07-03123-00-BR	CRAWFORD	11	5
		ILLINOIS	FEDERAL AID PROJECT	
CONTRACT NO. 95556				



**GENERAL PLAN AND ELEVATION
PROPOSED BRIDGE OVER
LAMOTTE CREEK
TR 175A
SECTION 07-03123-00-BR
CRAWFORD COUNTY, ILLINOIS**

Sheet
5
of 11
Job No. 51107

04/04/2008

Existing Structure: Three (3) span bridge with Precast Concrete deck slabs on concrete abutment caps with steel H-pile bents. Piers are footing supported concrete columns. 110'L x 26.25'W. 45° Ahead left skew. Salvage name plate for County. See Special Provisions.

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 175A	07-03123-00-BR	CRAWFORD	11	6
		ILLINOIS	FEDERAL AID PROJECT	
CONTRACT NO. 95556				

GENERAL NOTES

See Section 502 of the Standard Specifications for Structural Excavation.

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

The existing Name Plate attached to the steel bridge rail shall be salvaged and shall become the property of the Local Agency.

Channel excavation shall be excavated as shown within the limits of the proposed bridge, then tapered to the existing channel at the ROW line. See Special Provisions.

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

The Contractor shall drive one (1) Steel HP12x53 Test Pile in a permanent location at the North Abutment as directed by the Engineer before ordering the remainder of the piles.

In addition to all other requirements of Section 512 of the Standard Specifications, splices for Steel H-piles shall develop the full capacity of the steel's cross sectional area of the pile for tension, shear and bending forces. One approved method of achieving this requirement is full penetration butt welding of the entire cross section. Other types of splices meeting the full capacity requirement may be allowed subject to the approval of the Engineer. Any proposal by the Contractor to use an alternate splice method must include adequate documentation demonstrating that the full tension, shear and bending capacities will be met. Appropriate welder certifications will be required for the positions and processes used in splicing all piles. Nondestructive testing of completed welds will be limited to visual inspection.

A Corrosion Inhibitor, as covered in the Special Provisions, shall be used in the concrete for Precast Prestressed Concrete Deck Beams.

The abutment and pier bearing seat surfaces for the precast prestressed concrete deck beams shall be adjusted by shimming to assure firm and even bearing. As required, 1/8" fabric adjusting shims of the dimensions of the Exterior Bearing Pad shall be provided for each bearing.

See Specifications for Soil Borings.

Do not scale these drawings.

LAMOTTE CREEK
BUILT 200 BY
CRAWFORD COUNTY
PROJECT NO. BROS-033(049)
SEC. 07-03123-00-BR
LOADING HS-20
STRUCTURE NO. 017-3325

NAME PLATE

(See State Standard 515001 for details)

SEISMIC

Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = 0.08g
Site Coefficient (S) = 1.0

DESIGN SPECIFICATIONS

AASHTO - 2002 17th Edition

LOADING HS 20-44

Allow 25#/sq. ft. for future wearing surface.

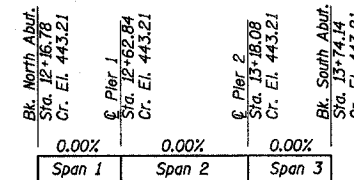
DESIGN STRESSES

FIELD UNITS

$f'_c = 3,500$ psi
 $f_y = 60,000$ psi

PRECAST PRESTRESSED UNITS

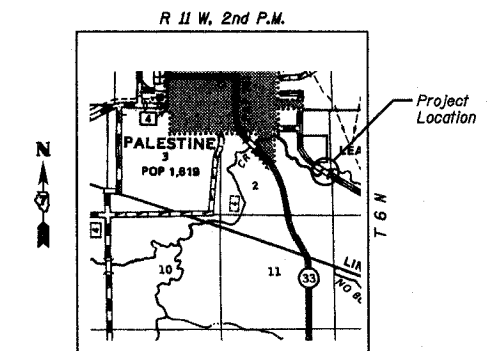
$f'_c = 5,000$ psi
 $f'_{ci} = 4,000$ psi
 $f'_s = 270,000$ psi ($\frac{1}{2}$ % strands-Low relaxation)
 $f'_{si} = 201,960$ psi ($\frac{1}{2}$ % strands-Low relaxation)



GRADE ON STRUCTURE

BILL OF MATERIALS (BRIDGE ONLY)

ITEM	UNIT	SUB	SUPER	TOTAL
CHANNEL EXCAVATION	CU YD	570	-	570
POROUS GRANULAR EMBANKMENT	TON	84	-	84
STONE DUMPED RIPRAP, CLASS A4	TON	760	-	760
REMOVAL OF EXISTING STRUCTURES	EACH	-	-	1
CONCRETE STRUCTURES	CU YD	65.2	-	65.2
CONCRETE ENCASEMENT	CU YD	37.4	-	37.4
PRECAST PRESTRESSED CONCRETE DECK BEAMS (27" DEPTH)	SQ FT	-	4340	4340
REINFORCEMENT BARS	POUND	8160	-	8160
STEEL RAILING, TYPE SM	FOOT	-	315	315
FURNISHING STEEL PILES HP 12x53	FOOT	642	-	642
DRIVING STEEL PILES	FOOT	234	-	234
SETTING PILES IN ROCK	EACH	12	-	12
TEST PILE STEEL HP12x53	EACH	1	-	1
NAME PLATES	EACH	1	-	1
UNDERWATER STRUCTURE EXCAVATION PROTECTION-LOC. 1	EACH	1	-	1
UNDERWATER STRUCTURE EXCAVATION PROTECTION-LOC. 2	EACH	1	-	1



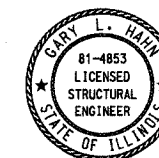
LOCATION SKETCH

WATERWAY DATA

Drainage Area = 28.16 Sq. Mi. Low Grade Elev. 443.21 @ Sta. 12+90

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Natural H.W.E.		Head - Ft.		Headwater El.	
			Exist.	Prop.	Exist.	Prop.	Exist.	Prop.		
Design	20	3110	990	1043	433.0					
Backwater	100	-	1570	1788	438.5					
Max. Calc.										

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



Gary L. Hahn 04-09-08

GARY L. HAHN
CENTRALIA, ILLINOIS
ILLINOIS LICENSED STRUCTURAL
ENGINEER NO. 81-4853
EXPIRES NOV. 30, 2008

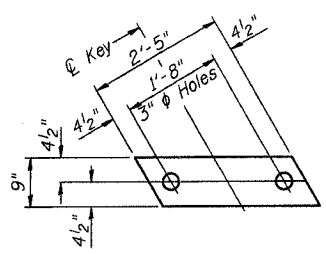
GENERAL PLAN AND ELEVATION DATA

PROPOSED BRIDGE OVER
LAMOTTE CREEK

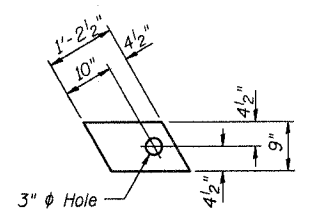
TR 175A
SECTION 07-03123-00-BR
CRAWFORD COUNTY, ILLINOIS

Sheet
6
of 11
Job No. 51107

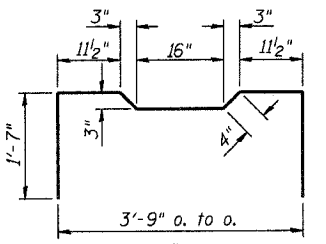
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 175A	07-03123-00-BR	CRAWFORD	11	7
		ILLINOIS	FEDERAL AID PROJECT	
		CONTRACT NO. 95556		



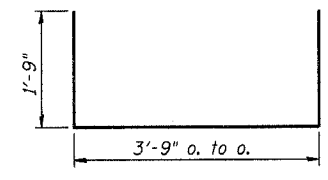
FABRIC BEARING PAD
(Interior)



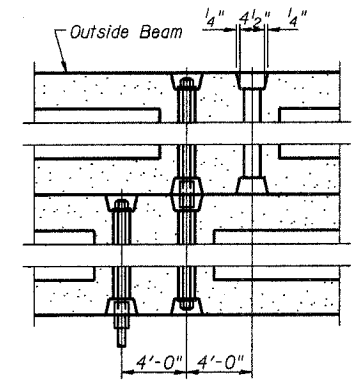
FABRIC BEARING PAD
(Exterior)



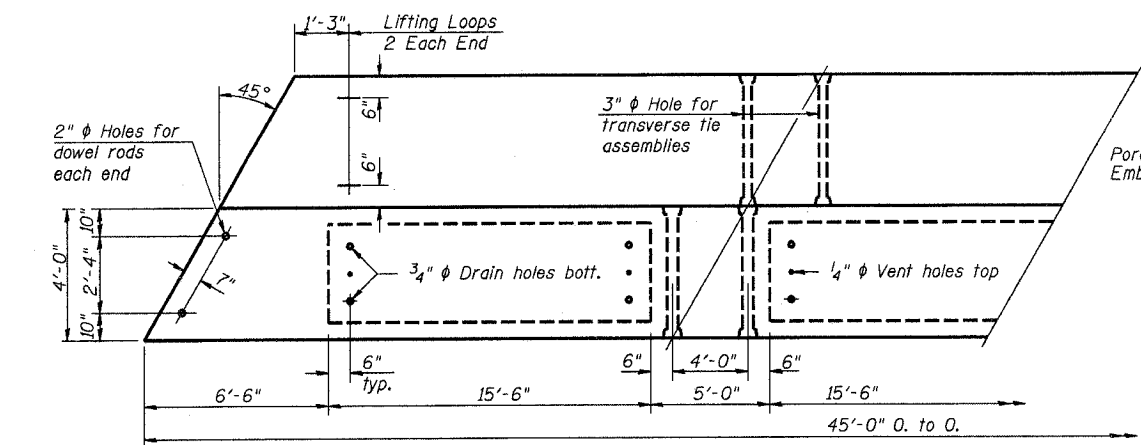
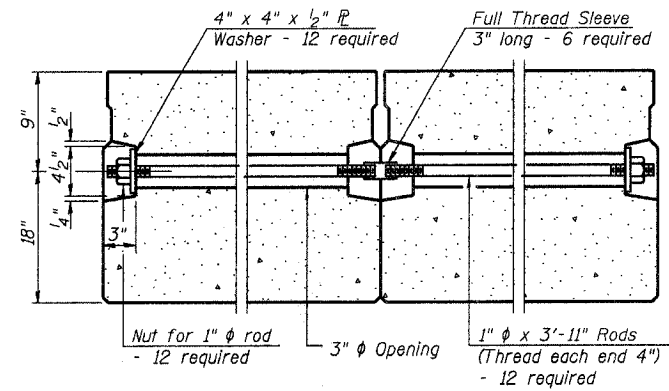
BAR A1



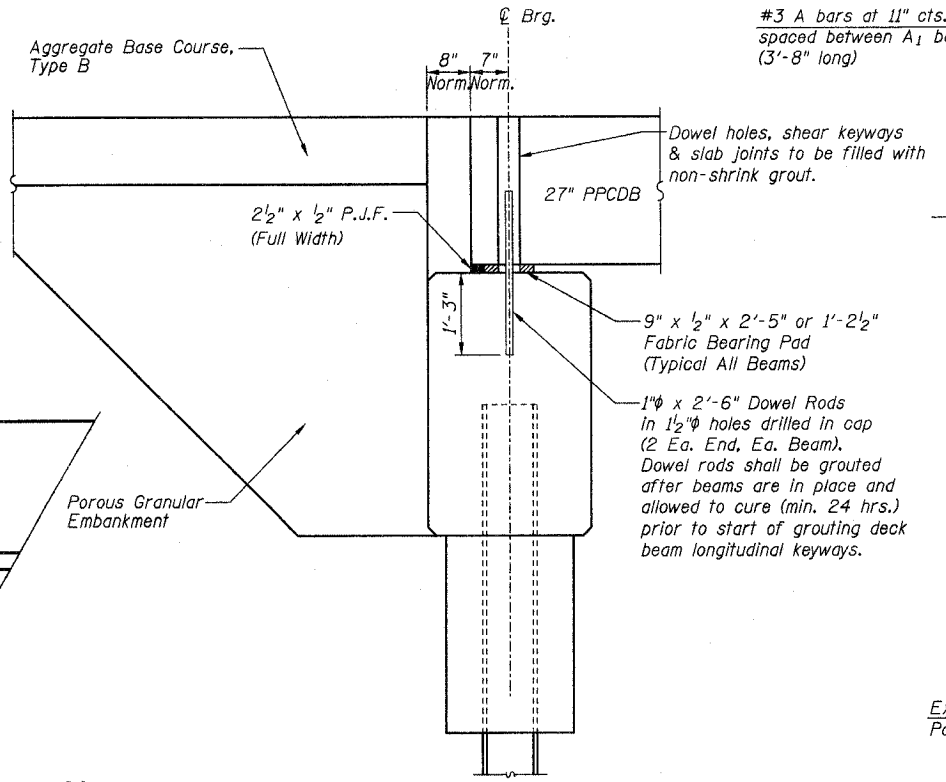
BARS U & U1



TYPICAL TRANSVERSE TIE ASSEMBLY



PLAN



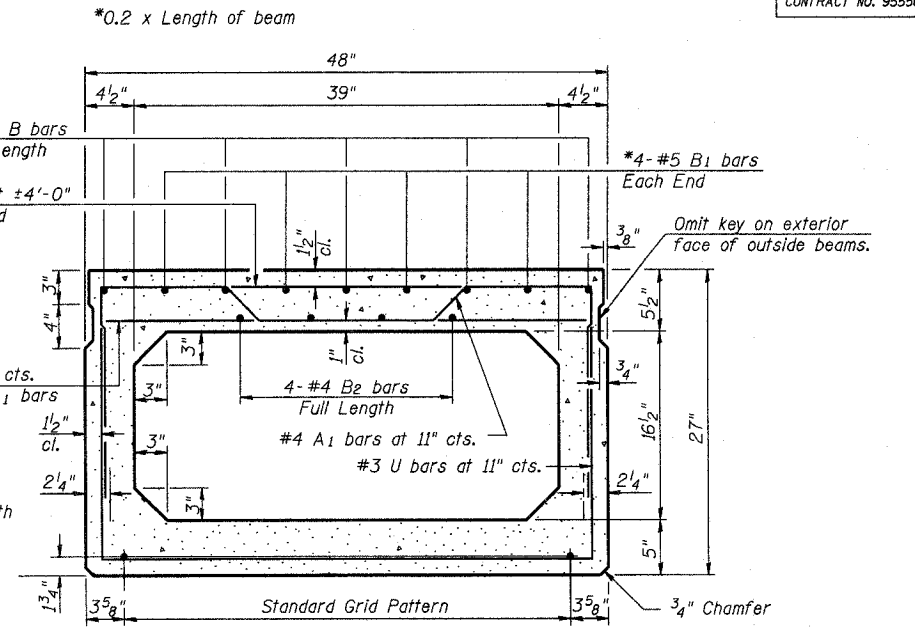
RESTRAINED BEARING ABUTMENT

#3 A bars at 11" cts. spaced between A1 bars (3'-8" long)

Dowel holes, shear keyways & slab joints to be filled with non-shrink grout.

9" x 1/2" x 2'-5" or 1'-2 1/2" Fabric Bearing Pad (Typical All Beams)

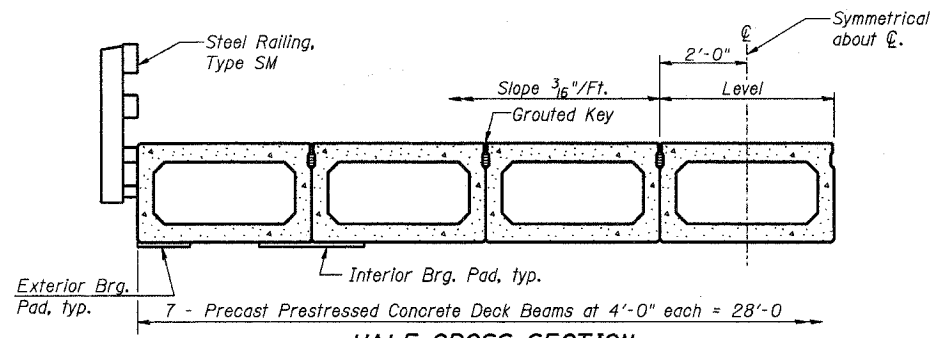
1" x 2'-6" Dowel Rods in 1/2" holes drilled in cap (2 Ea. End, Ea. Beam). Dowel rods shall be grouted after beams are in place and allowed to cure (min. 24 hrs.) prior to start of grouting deck beam longitudinal keyways.



TYPICAL SECTION

11-1/2" diameter Strands, Each Strand Stressed to 30,900 Lbs.
11-Strands 1 3/4" up

Note: Place strands symmetrically about centerline of beam.



HALF CROSS SECTION

See Sheet 9 for the details showing the spacing and mounting of posts and rails to the PPCDB.

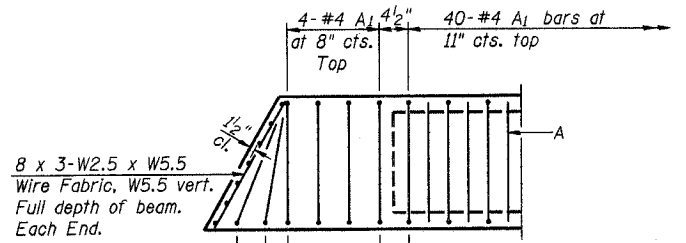
NOTES

- Prestressing steel shall be uncoated high strength, Low-relaxation 7-wire strand, Grade 270.
- Corrosion Inhibitor, as per Article 1020.05(b)(12) of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.
- The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in.
- Lifting loops shall be 3 - 1/2" diameter - 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 the outside shall be filled with grout after transverse tie assembly is in place.
- Non prestressing steel shall conform to ASTM A706 (IL Mod), Grade 60.
- The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two 1/2" 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.
- Low-relaxation strands are required.

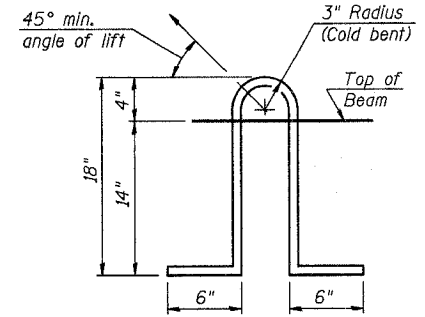
BILL OF MATERIAL ONE DECK BEAM

Precast Prestressed Conc. Deck Bms.	Sq. Ft.	180

Consult Precaster for deck beam handling weight.



END PLAN



LIFTING LOOP DETAIL

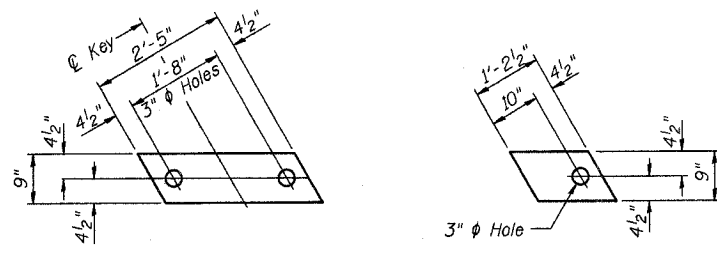
SPAN 1

PRECAST PRESTRESSED CONCRETE DECK BEAM DETAILS
PROPOSED BRIDGE OVER LAMOTTE CREEK
TR 175A
SECTION 07-03123-00-BR
CRAWFORD COUNTY, ILLINOIS

Sheet 7 of 11
Job No. 51107

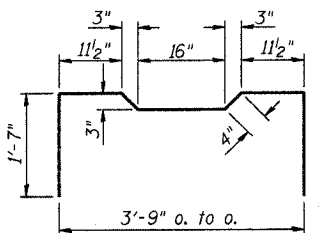
04/04/2008

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 175A	07-03123-00-BR	CRAWFORD	11	8
		ILLINOIS	FEDERAL AID PROJECT	
CONTRACT NO. 95556				

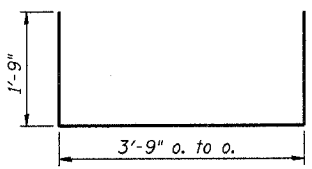


FABRIC BEARING PAD
(Interior)

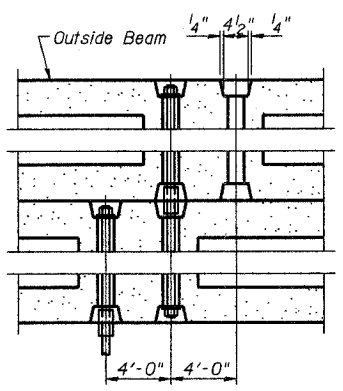
FABRIC BEARING PAD
(Exterior)



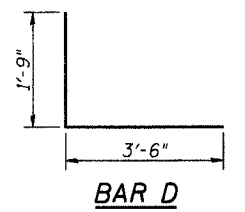
BAR A1



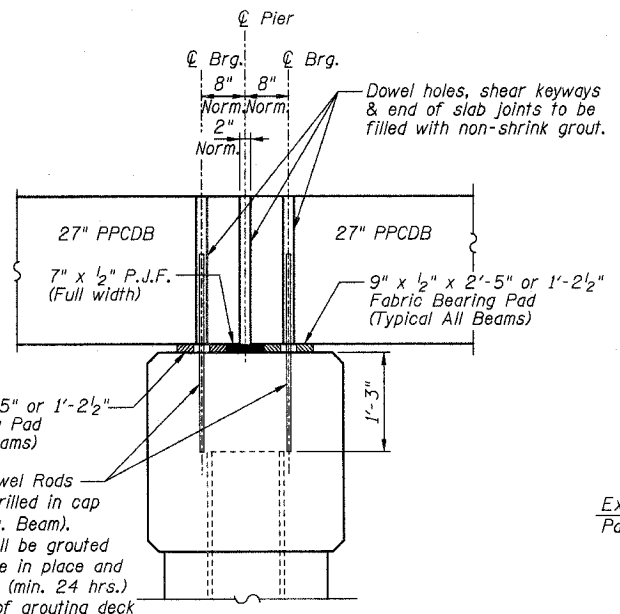
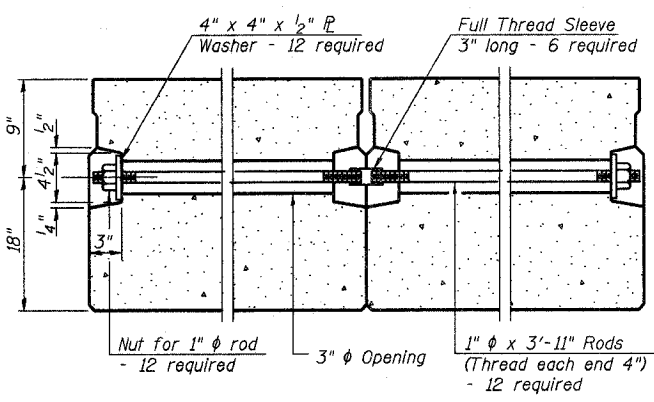
BARS U & U1



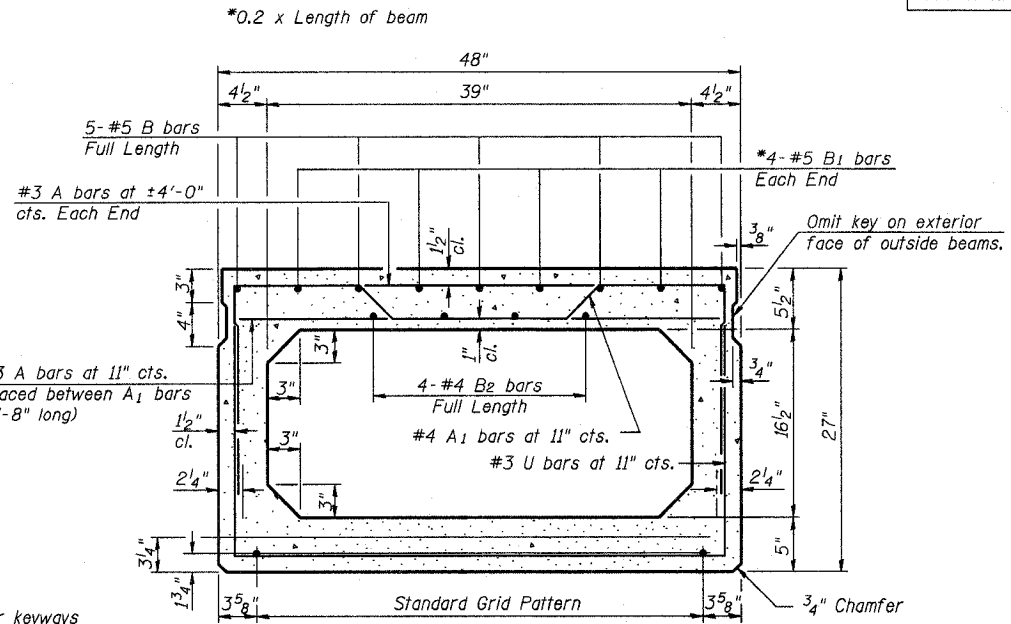
TYPICAL TRANSVERSE TIE ASSEMBLY



BAR D



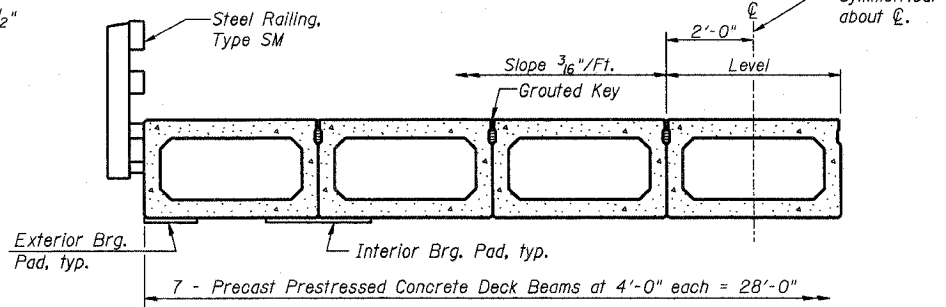
RESTRAINED BEARING PIER



TYPICAL SECTION

16-1/2" ϕ Strands, Each Strand Stressed to 30,900 Lbs.
14-Strands 1 3/4" up, 2-Strands 3/4" up

Note:
Place strands symmetrically about ϕ of beam.



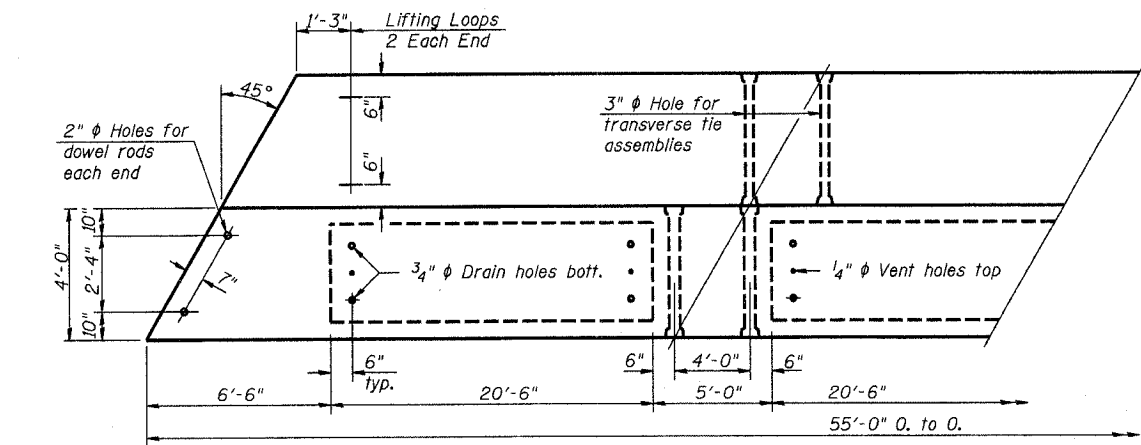
HALF CROSS SECTION

See Sheet 9 for the details showing the spacing and mounting of posts and rails to the PPCDB.

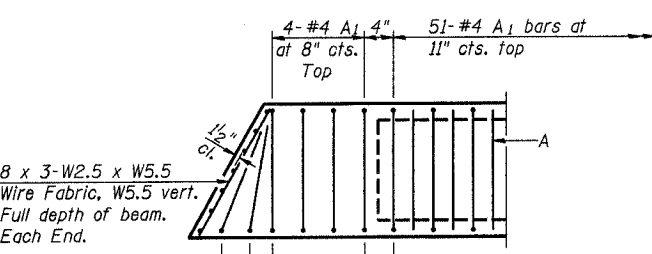
BILL OF MATERIAL
ONE DECK BEAM

Precast Prestressed Conc. Deck Bms.	Sq. Ft.	220

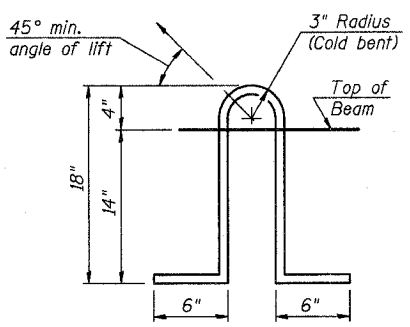
Consult Precaster for deck beam handling weight.



PLAN



END PLAN



LIFTING LOOP DETAIL

NOTES

- Prestressing steel shall be uncoated high strength, Low-relaxation 7-wire strand, Grade 270.
- Corrosion Inhibitor, as per Article 1020.05(b)(12) of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.
- The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in.
- Lifting loops shall be 3 - 1/2" ϕ -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 the outside shall be filled with grout after transverse tie assembly is in place.
- Non prestressing steel shall conform to ASTM A706 (IL Mod), 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.
- Low-relaxation strands are required.

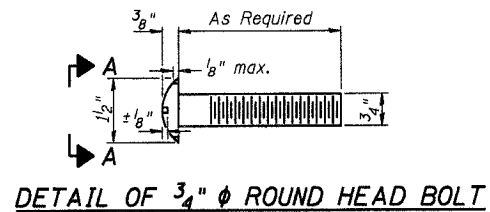
SPAN 2 OR 3

PRECAST PRESTRESSED CONCRETE DECK BEAM DETAILS
PROPOSED BRIDGE OVER LAMOTTE CREEK
TR 175A
SECTION 07-03123-00-BR
CRAWFORD COUNTY, ILLINOIS

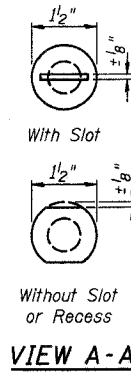
Sheet 8 of 11
Job No. 51107

04/04/2008

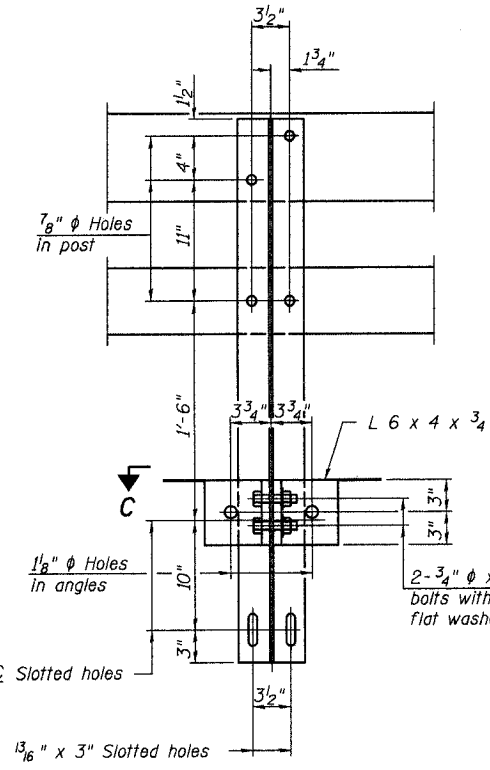
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 175A	07-03123-00-BR	CRAWFORD	11	9
		ILLINOIS	FED. AID PROJECT	
CONTRACT NO. 95556				



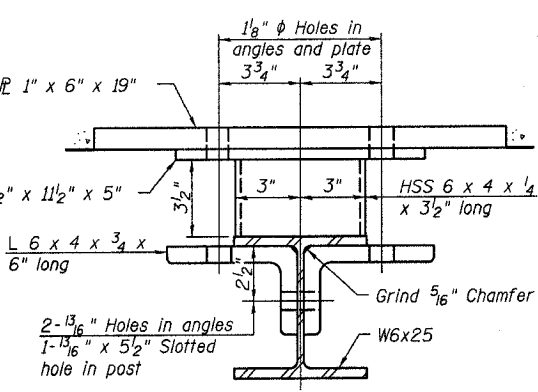
DETAIL OF 3/4" ϕ ROUND HEAD BOLT



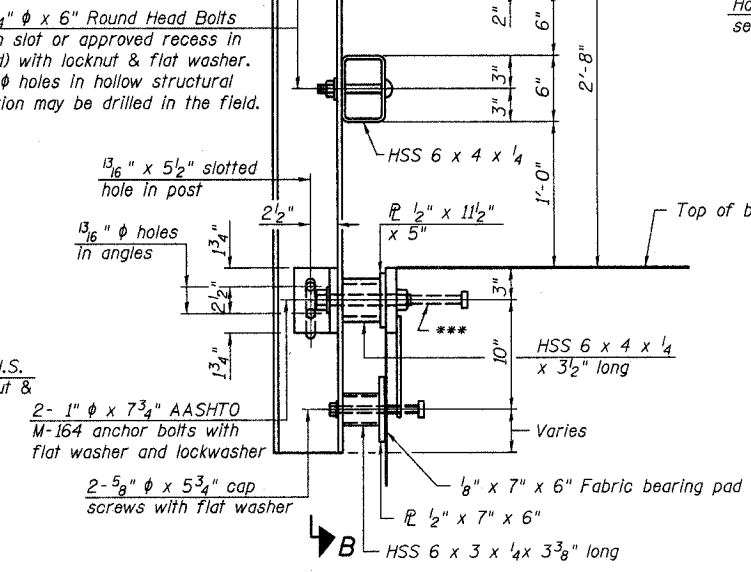
VIEW A-A



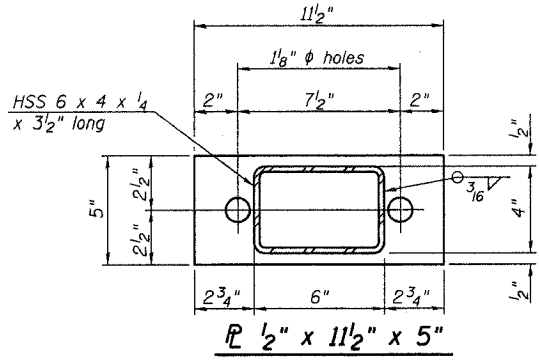
SECTION B-B



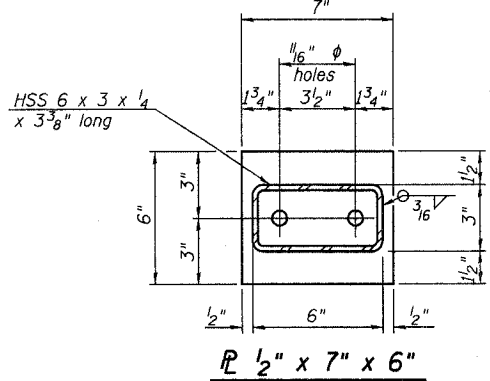
SECTION C-C



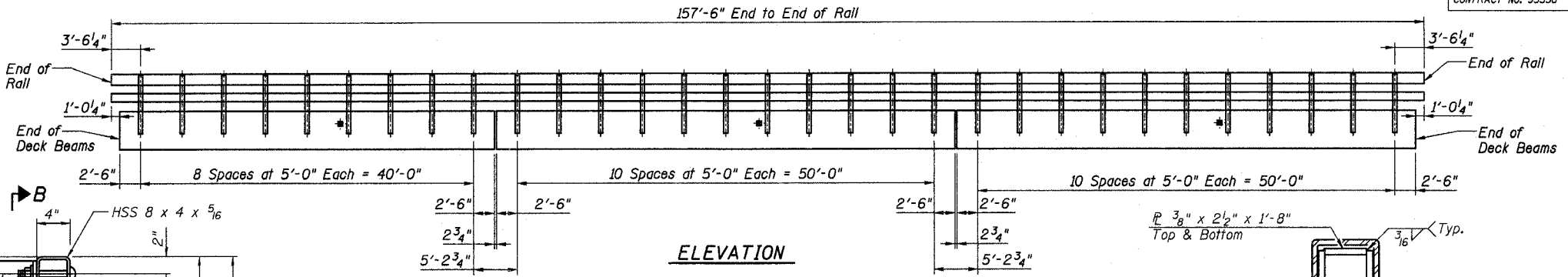
SECTION AT RAIL POST



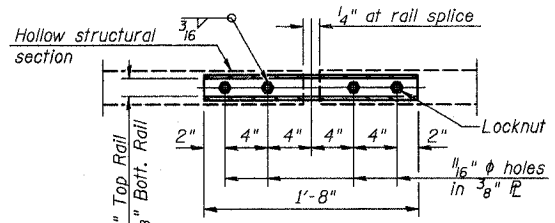
SECTION AT RAIL POST



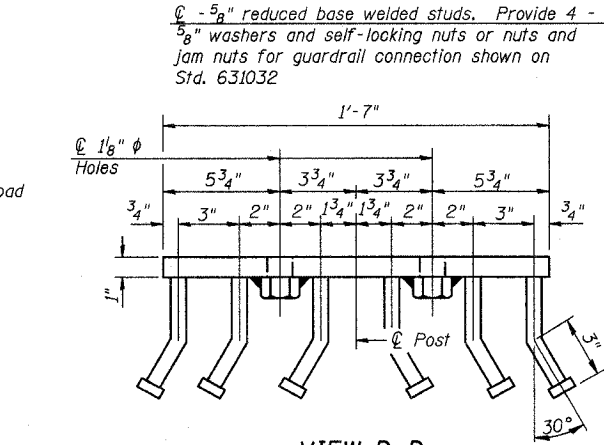
SECTION AT RAIL POST



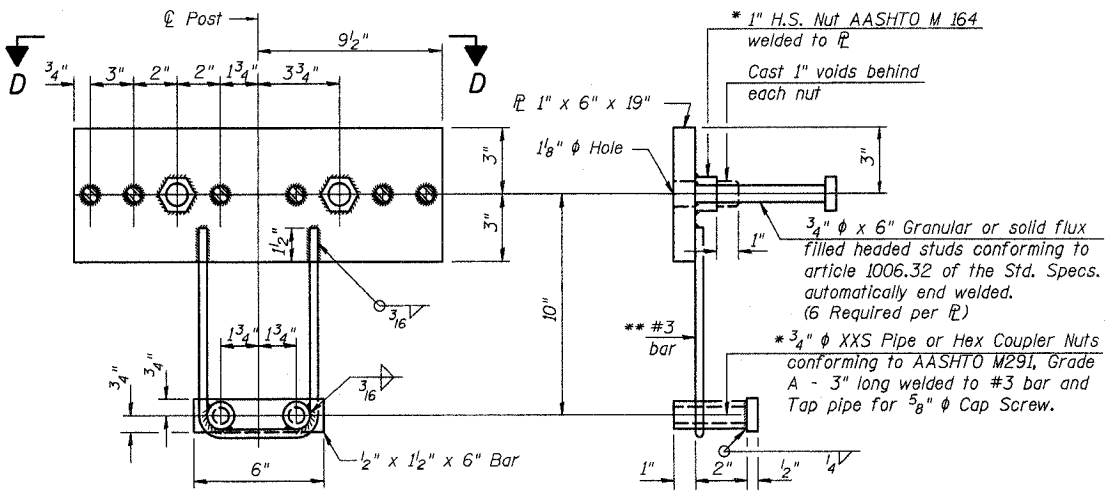
ELEVATION



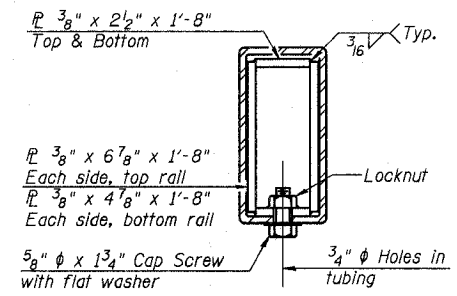
PLAN-BOTT. SPLICE P TYPICAL



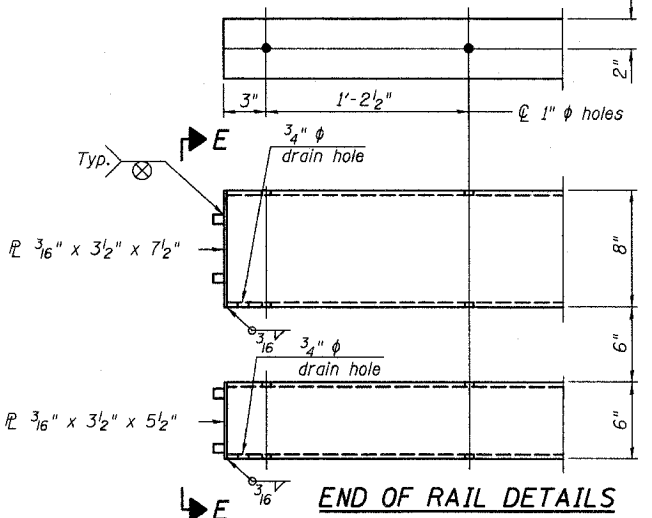
VIEW D-D



ANCHOR DEVICE



SECTION AT RAIL SPLICE



END OF RAIL DETAILS

Notes:
 All field drilled holes shall be coated with an approved zinc rich paint before erection.
 For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Bridge Rail, Type SM.
 All steel rail members shall be galvanized according to Article 509.05 of the Standard Specifications.
 *** The studs of the anchor devices shall be placed below the top reinforcement bars and the outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchor device.

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type SM	Foot	315

STEEL RAILING, TYPE SM DETAILS
 PROPOSED BRIDGE OVER
 LAMOTTE CREEK
 TR 175A
 SECTION 07-03123-00-BR
 CRAWFORD COUNTY, ILLINOIS

Sheet
 9
 of 11
 Job No. 51107

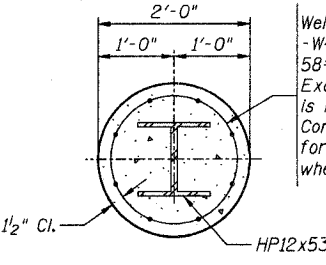
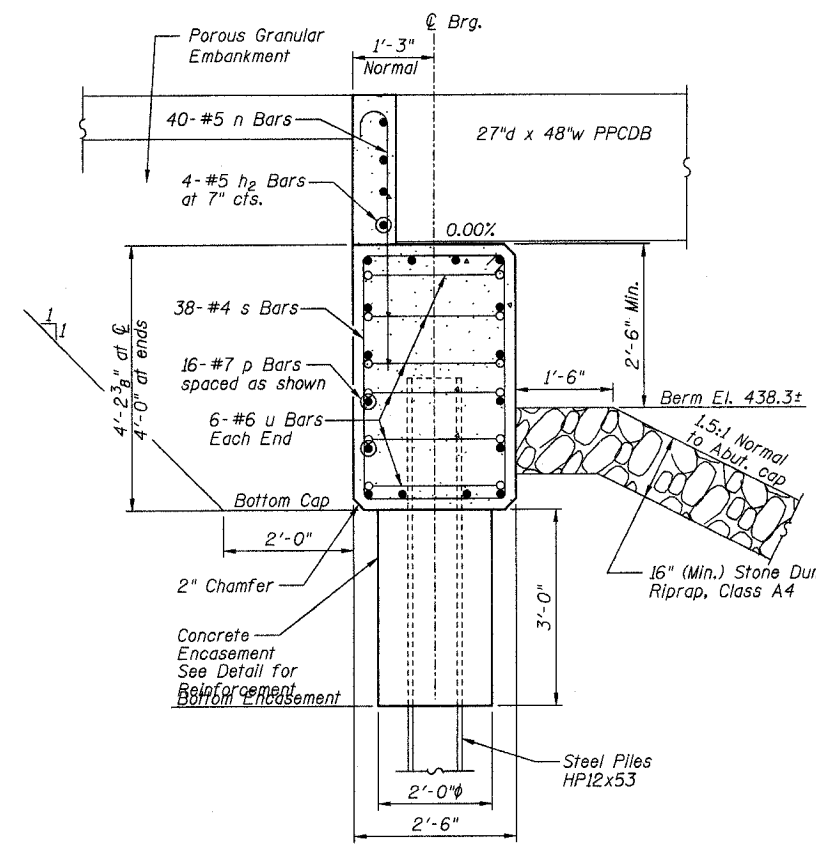
* Threaded areas shall be plugged or blocked off during casting of beam. Galvanized after fabrication.
 ** Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to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

04/04/2008

ROUTE	SECTION	COUNTY	TOTAL SHEET NO.
TR 175A	07-03123-00-BR	CRAWFORD	11 10
		ILLINOIS	FED. AID PROJECT
CONTRACT NO. 95556			

PILE DATA

Type and Size: Steel HP12x53
 Nominal Required Bearing: 418 kips
 Allowable Resistance Available: 139 kips
 Estimated Length:
 North Abutment: 26 Foot
 South Abutment: 26 Foot
 Number of Production Piles:
 North Abutment: 4 Each
 South Abutment: 5 Each
 Number of Test Piles:
 North Abutment: 1 Each
 South Abutment: None

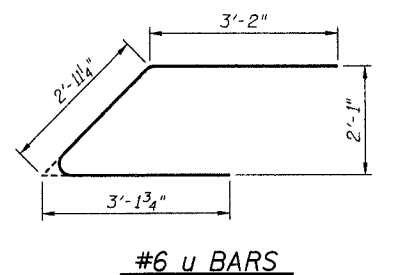
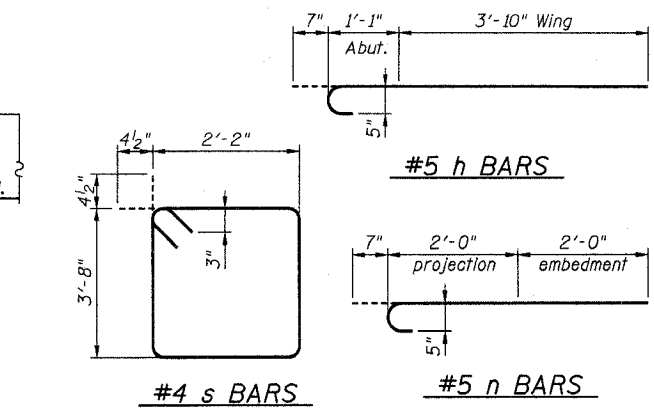


Welded wire fabric 6 x 6 - W4.0 x W4.0 weighing 58#/100 sq. ft. The cost of Excavation and Reinforcement is incidental to the cost of Concrete Encasement. Forms for Encasement may be omitted when soil conditions permit.

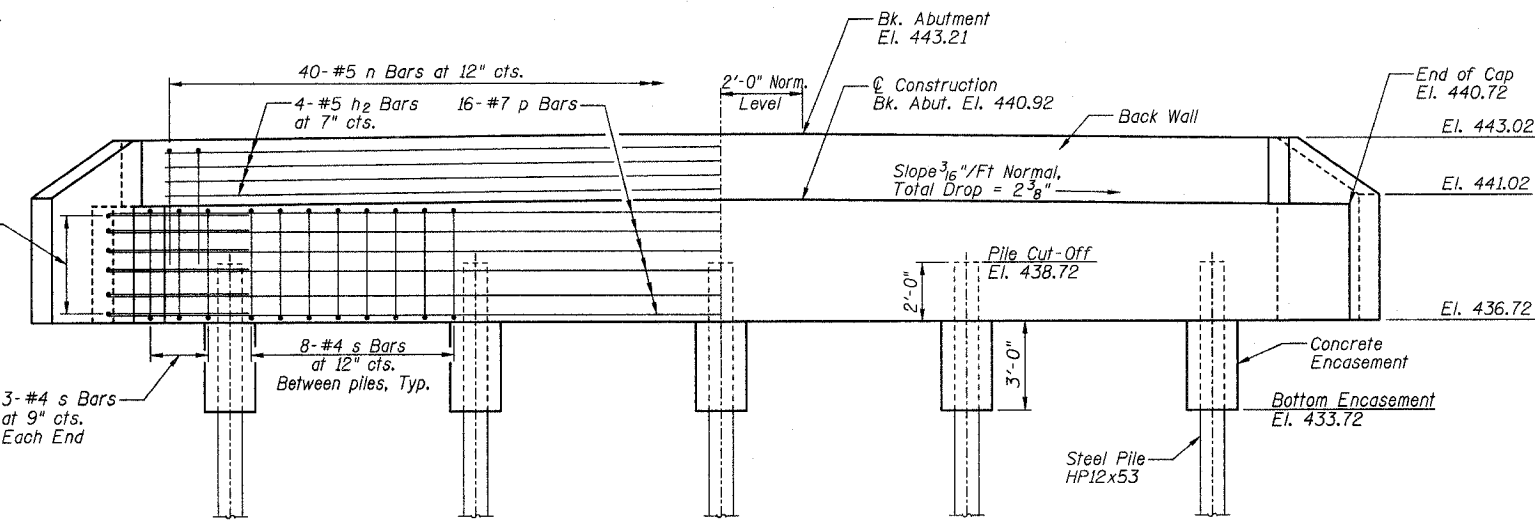
SECTION A-A
PILE ENCASEMENT DETAIL

GENERAL NOTES

All exposed edges shall have standard 3/4" chamfer, unless otherwise noted.
 All clearances between rebar and form surface shall be 2", unless otherwise noted.
 Space reinforcement in cap to miss PPCDB dowel rods.
 The steel H-piles shall be according to AASHTO M270, Grade 50.



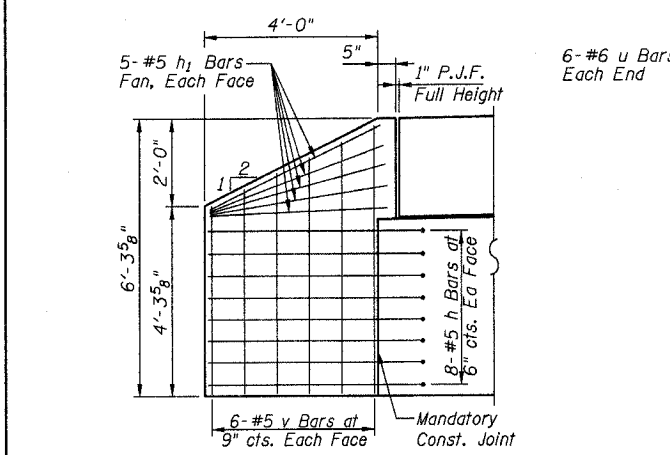
SECTION THRU ABUTMENT



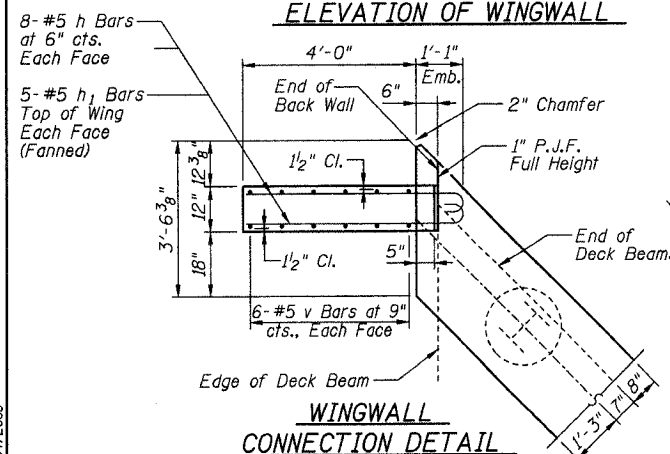
ELEVATION

BILL OF MATERIALS
ONE ABUTMENT w/ WINGWALLS

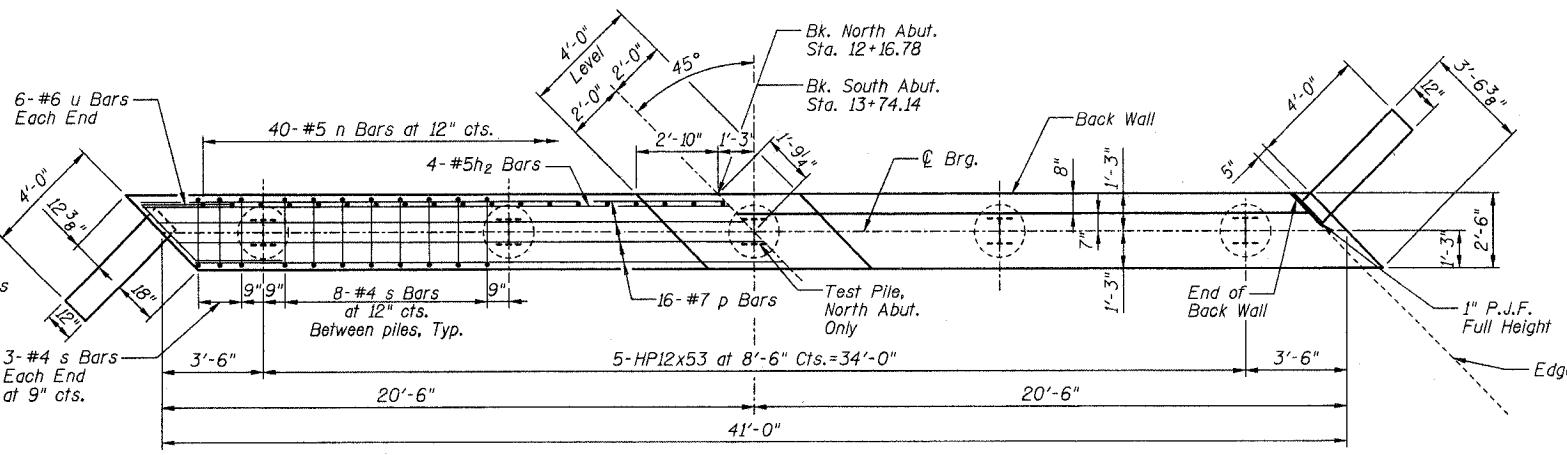
Bar	No.	Size	Length	Shape
h	32	#5	5'-6"	
h1	20	#5	4'-6"	CUT IN FIELD
h2	4	#5	39'-0"	
n	40	#5	4'-7"	
p	16	#7	40'-8"	
s	38	#4	12'-5"	
u	12	#6	9'-3"	
v	24	#5	6'-0"	CUT IN FIELD
Concrete Structures			Cu. Yd.	19.6
Reinforcement Bars			Pound	2590
Concrete Encasement			Cu. Yd.	1.8



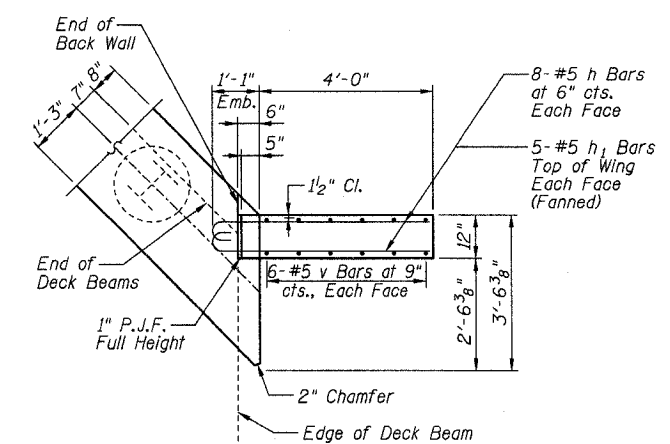
ELEVATION OF WINGWALL



WINGWALL CONNECTION DETAIL



PLAN

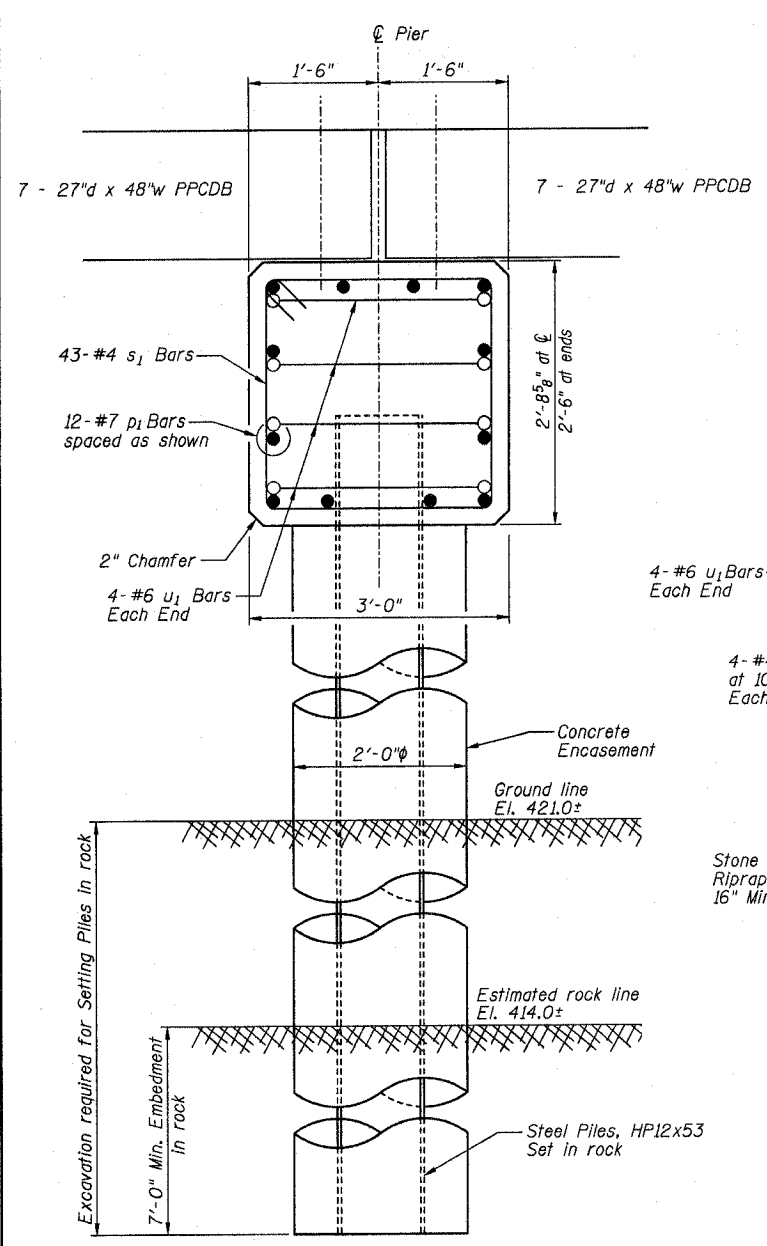


WINGWALL CONNECTION DETAIL

ABUTMENT DETAILS
PROPOSED BRIDGE OVER
LAMOTTE CREEK
 TR 175A
 SECTION 07-03123-00-BR
 CRAWFORD COUNTY, ILLINOIS

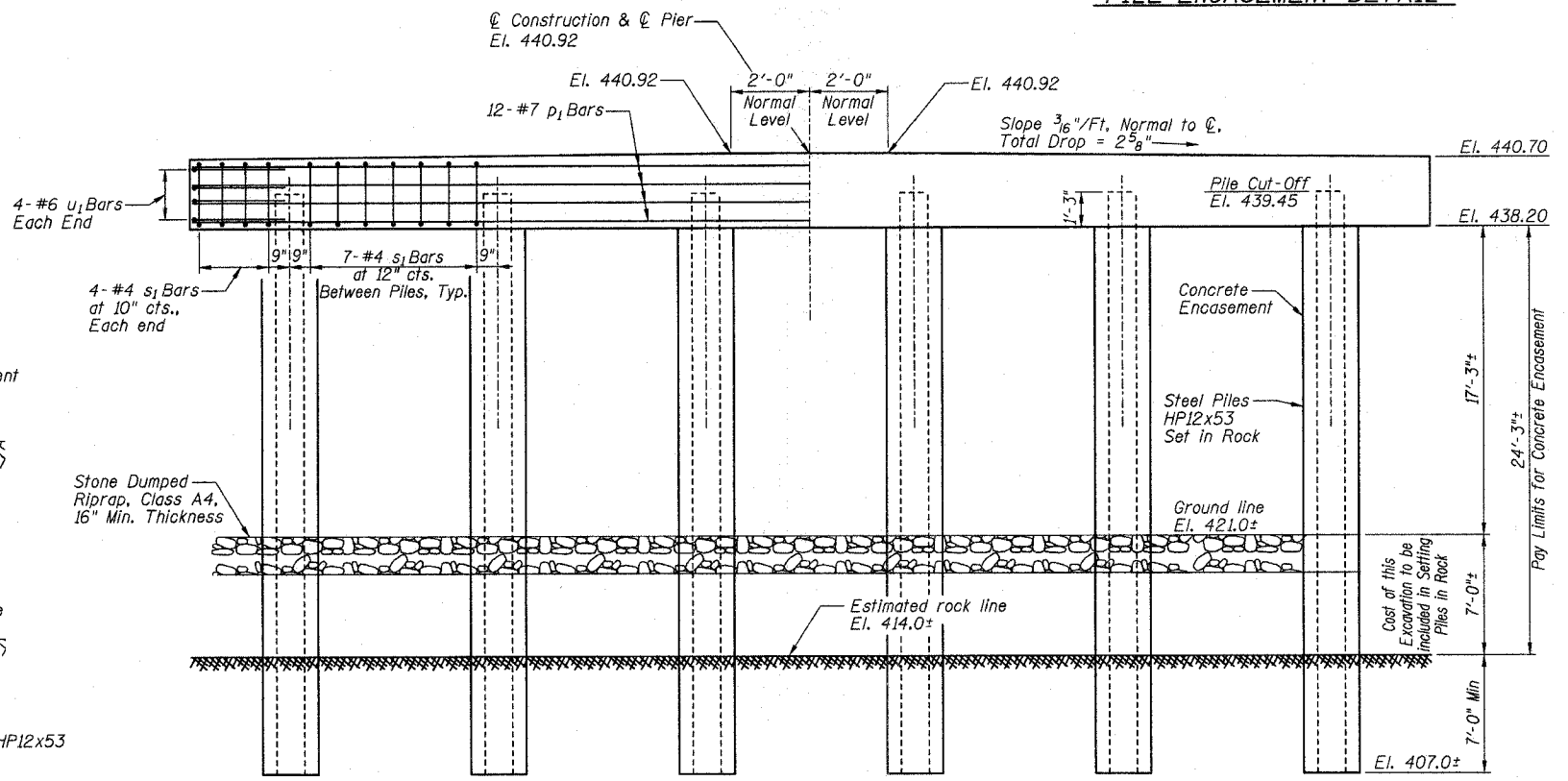
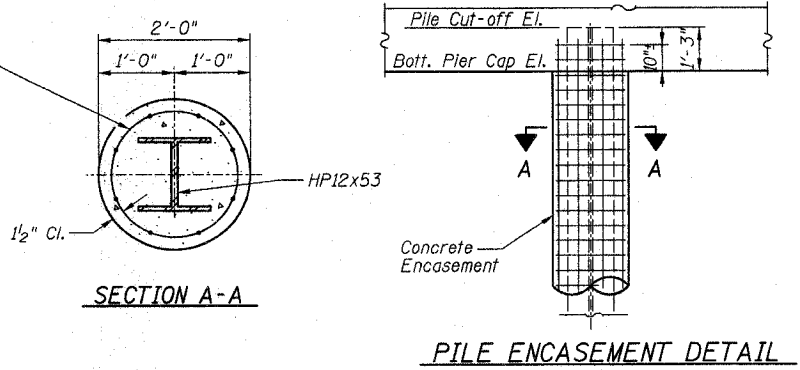
04/04/2008

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 175A	07-03123-00-BR	CRAWFORD	11	11
		ILLINOIS	FED. AID PROJECT	
CONTRACT NO. 95556				

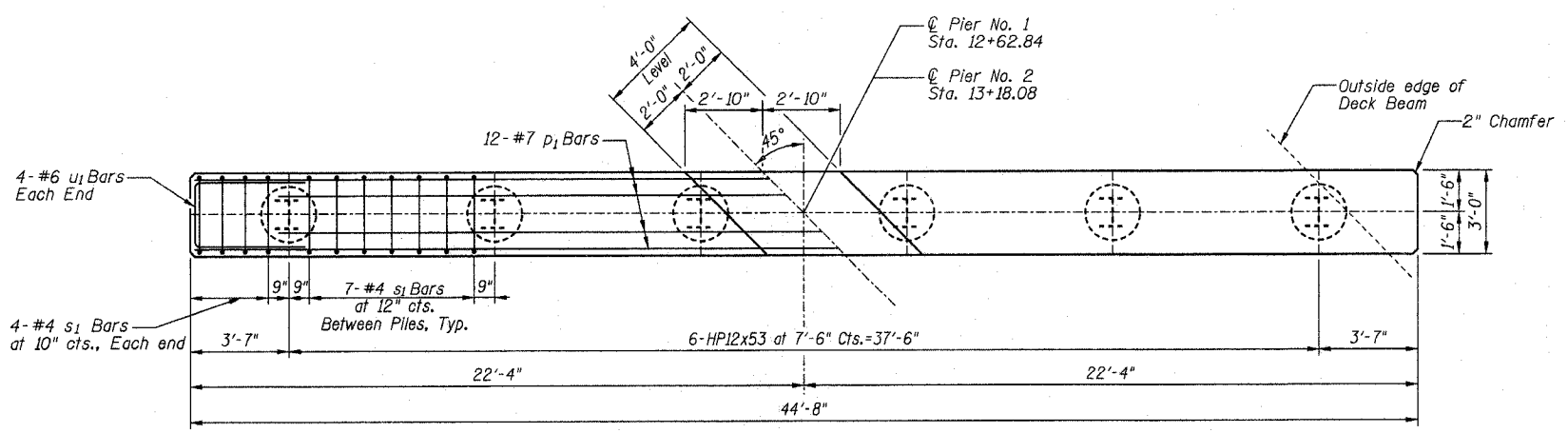


SECTION THRU PIER

Welded wire fabric 6 x 6 - W4.0 x W4.0 weighing 58#/100 sq. ft. The cost of soil and rock excavation, reinforcement, and Class SI Concrete Encasement shall be included in the contract unit price per Each for Setting Piles in Rock and the contract unit price per Cu. Yd. for Concrete Encasement and no additional compensation will be allowed. Forms for Concrete Encasement may be omitted when soil conditions permit.



ELEVATION



PLAN



PILE DATA

Type and Size:	Steel HP12x53
Nominal Required Bearing:	419 kips
Allowable Resistance Available:	139 kips
Estimated Length:	
Pier No. 1:	34 Foot
Pier No. 2:	34 Foot
Number of Production Piles:	
Pier No. 1:	6 Each
Pier No. 2:	6 Each
Number of Test Piles:	
Pier No. 1:	None
Pier No. 2:	None

BILL OF MATERIALS ONE PIER

Bar	No.	Size	Length	Shape
p ₁	12	#7	44'-4"	—
s ₁	43	#4	10'-5"	□
u ₁	8	#6	9'-0"	□
Concrete Structures		Cu. Yd.	13.0	
Reinforcement Bars		Pound	1490	
Concrete Encasement		Cu. Yd.	16.9	
Setting Piles in Rock		Each	6	
Underwater Structure Excavation		Each	1	
Protection - Location 1				
Underwater Structure Excavation		Each	1	
Protection - Location 2				

Location 1 = Pier 1. Location 2 = Pier 2.

GENERAL NOTES

All exposed edges shall have 2" chamfer, unless otherwise noted.

All clearances between rebar and form surface shall be 2", unless otherwise noted.

Space reinforcement in cap to miss PPCDB dowel rods.

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

PIER DETAILS
PROPOSED BRIDGE OVER
LAMOTTE CREEK
 TR 175A
 SECTION 07-03123-00-BR
 CRAWFORD COUNTY, ILLINOIS

04/04/2008