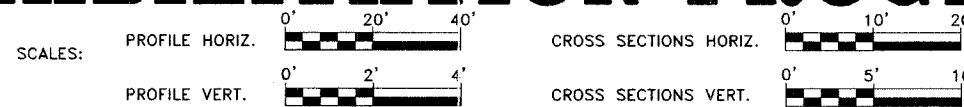
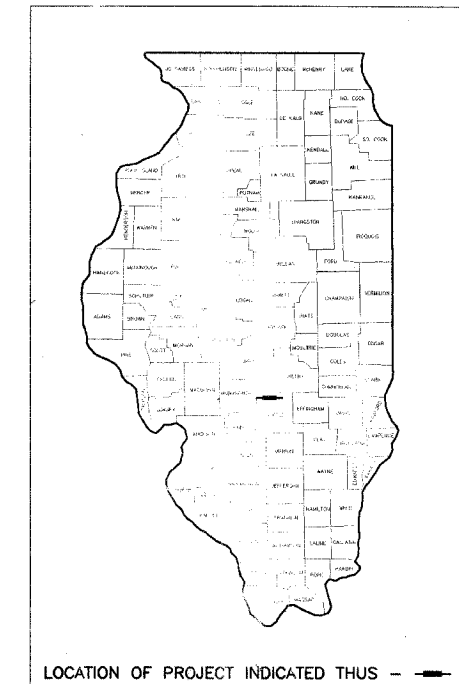


STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS PLANS FOR PROPOSED BRIDGE REPLACEMENT AND REHABILITATION PROGRAM

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 54	-09118-00-BR	FAYETTE	14	1
FED. ROAD DIST. NO.	ILLINOIS	PROJECT		

CONTRACT NO. 95429



SECTION 02-09118-00-BR PROJECT NO. BROS-051(63) FAYETTE COUNTY JOB NO. C-97-089-02

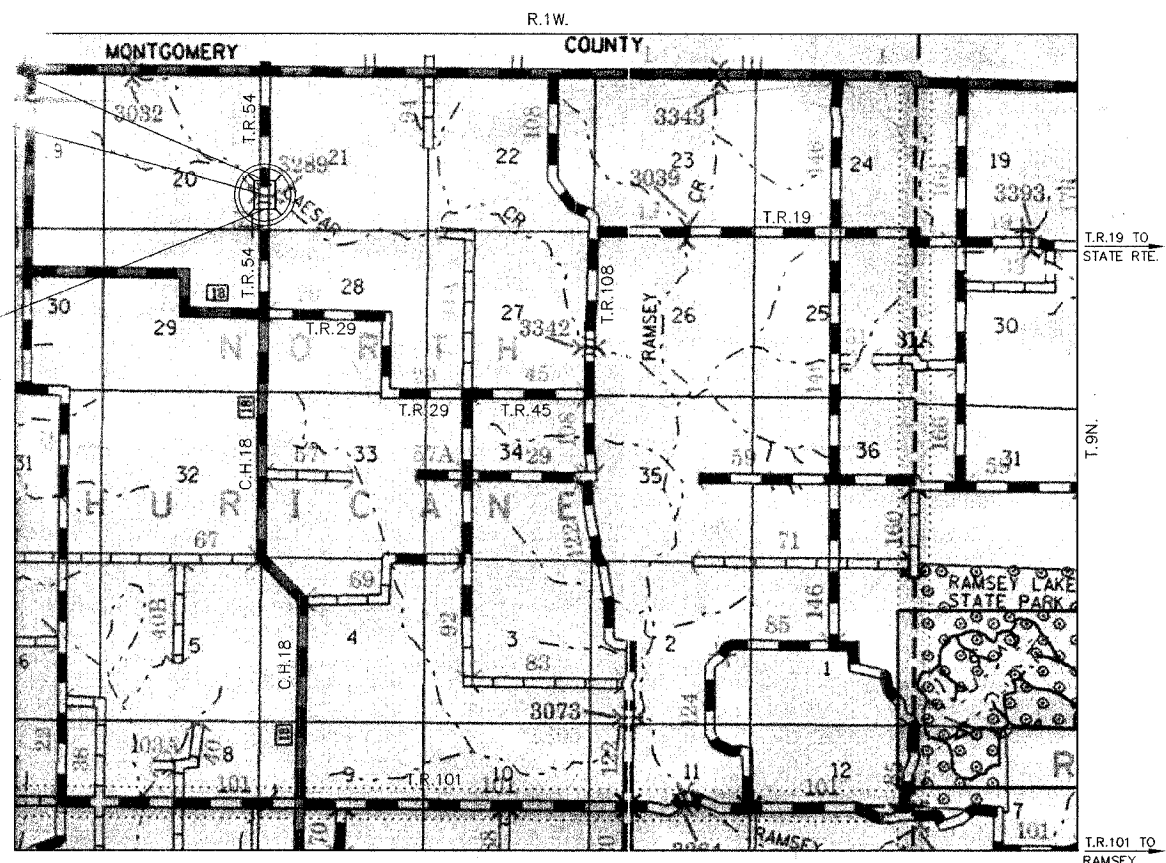
INDEX OF SHEETS

- 1 COVER SHEET
 - 2 TYPICAL CROSS SECTION, GENERAL NOTES AND SUMMARY OF QUANTITIES
 - 3 PLAN AND PROFILE SHEET
 - 4-13 BRIDGE PLANS
 - 14 CROSS SECTIONS
- STANDARD 000001-04 STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
- STANDARD 280001-02 TEMPORARY EROSION CONTROL SYSTEMS
- STANDARD 702001-05 TRAFFIC CONTROL DEVICES
- STANDARD P.L.R. 21-6 TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS

END SECTION 02-09118-00-BR
STA. 50+40.75

STA. 50+00 - CONSTRUCT THREE SPAN
PRECAST PRESTRESSED CONCRETE DECK BEAM
BRIDGE (81.50' I.K. 3 BK. ABUTMENTS) WITH
THRU ABUTMENT AND PILE BENT PIERS,
0° SKEW, 24' ROADWAY
EXISTING STRUCTURE NO. 026-3289
PROPOSED STRUCTURE NO. 026-3424

BEGIN SECTION 02-09118-00-BR
STA. 49+59.25



LOCATION MAP

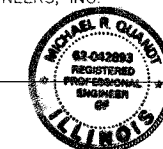
APPROXIMATE SCALE - 1" = 0.53 MILES
NET LENGTH OF IMPROVEMENTS = 81.50 FEET = 0.015 MILE

THE ACCEPTANCE OF THIS PROJECT IS BASED ON THE MINIMUM DESIGN CRITERIA FOR A FEDERAL-AID BRIDGE REPLACEMENT AND REHABILITATION PROGRAM

Maureen E. Kastl
DISTRICT ENGINEER OF LOCAL
ROADS AND STREETS

PLANS PREPARED BY CLARK ENGINEERS, INC.
DATE 3/1, 2005

Michael R. Quandt
MICHAEL R. QUANDT, P.E.



REVIEWED 3-4, 2005

BY *Michael A. May*
COUNTY ENGINEER
FAYETTE COUNTY, ILLINOIS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

APPROVED _____, 20__

LOCAL AGENCY REPRESENTATIVE

PASSED _____ 4-1, 2005

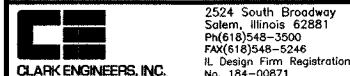
Maureen E. Kastl
DISTRICT ENGINEER OF LOCAL
ROADS AND STREETS

APPROVED _____ 4-1, 2005

Charles M. Readman
DEPUTY DIRECTOR OF HIGHWAYS
REGION FOUR ENGINEER

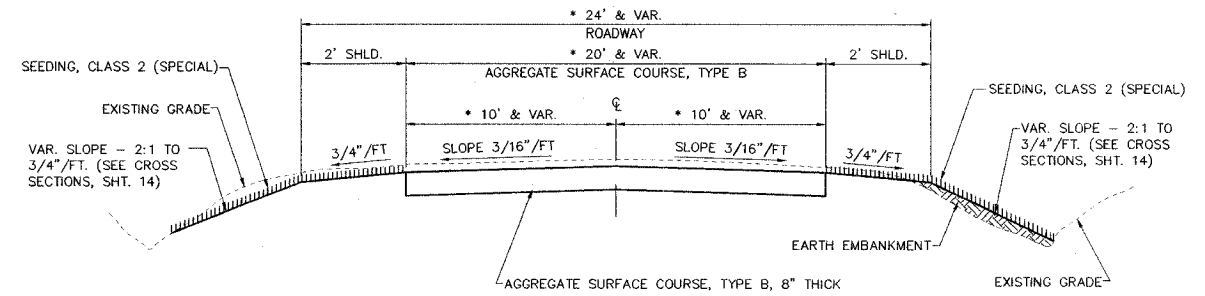
48 HOURS PRIOR TO EXCAVATION CALL J.U.L.I.E.: 1-800-892-0123

CLASS ROAD: MINOR COLLECTOR
A.D.T. = 100
40 M.P.H.



CE JOB NO. FAHD0030

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 54	02-09118-00-BR	FAYETTE	14	2
FED. ROAD DIST. NO.	ILLINOIS PROJECT		CONTRACT NO. 95429	



TYPICAL CROSS-SECTION (TRANSITION)

* TRANSITION FROM 13' EXISTING TO 20' PROPOSED PAVEMENT, STA. 49+00 TO STA. 49+59.25
 * TRANSITION FROM 20' PROPOSED TO 12' EXISTING PAVEMENT, STA. 50+40.75 TO STA. 51+00

GENERAL NOTES

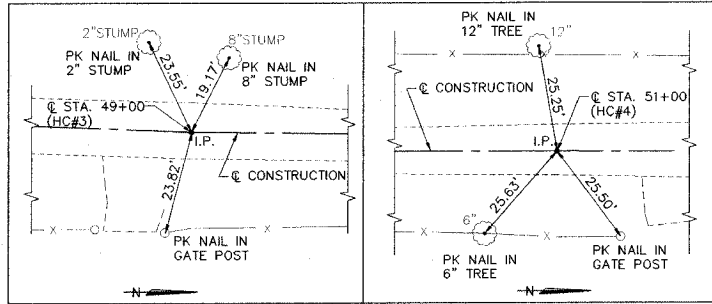
1. THIS SECTION SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PLANS, THE SPECIAL PROVISIONS AND THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" ADOPTED JANUARY 1, 2002.
2. IF SECTION OR SUBSECTION MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL PROPERTY MARKERS AND MONUMENTS UNTIL OWNER, AN AUTHORIZED SURVEYOR OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.
3. ALL EXISTING SIGNS AND SIGN POSTS SHALL BE SALVAGED TO THE COUNTY.
4. THE SHRINKAGE FACTOR FOR EMBANKMENT IS 25%.
5. ALL CLEARING AND GRUBBING IS TO BE INCLUDED IN THE UNIT PRICE BID FOR EARTH EXCAVATION.
6. BITUMINOUS SURFACE TREATMENT (A-2) WILL BE COMPLETED BY THE OWNER.

SUMMARY OF QUANTITIES

X080-2A

CODE NO.	ITEM	QUANTITY	UNIT
20200100	EARTH EXCAVATION	91	CU. YD.
20300100	CHANNEL EXCAVATION	307	CU. YD.
25001000	SEEDING, CLASS 2 (SPECIAL)	0.03	ACRE
28000300	TEMPORARY DITCH CHECKS	2	EACH
28100807	STONE DUMPED RIPRAP, CLASS A4	145	TON
40200800	AGGREGATE SURFACE COURSE, TYPE B	92	TON
50100100	REMOVAL OF EXISTING STRUCTURES	1	EACH
50300225	CONCRETE STRUCTURES	28.6	CU. YD.
50400305	PRECAST PRESTRESSED CONCRETE DECK BEAMS (17" DEPTH)	1920	SQ. FT.
50800105	REINFORCEMENT BARS	3040	POUND
50900205	STEEL RAILING, TYPE S1	160	FOOT
51201400	FURNISHING STEEL PILES HP 10x42	711	FOOT
51202700	DRIVING STEEL PILES	711	FOOT
51203400	TEST PILE STEEL HP 10x42	1	EACH
51204315	CONCRETE ENCASEMENT	9.4	CU. YD.
51500100	NAME PLATES	1	EACH

LOCAL TIES



HORIZONTAL CONTROL COORDINATES

POINT	LOCATION	N. COOR.	E. COOR.
HC#1 (IRON PIN)	2.81' LT., STA. 47+00.27	7302.88	7747.17
HC#2 (IRON PIN)	2.58' LT., STA. 47+50.05	7352.79	7744.05
HC#3 (IRON PIN)	Q. STA. 49+00	7502.58	7751.82
HC#4 (IRON PIN)	Q. STA. 51+00	7702.56	7754.69
HC#5 (IRON PIN)	8.95' RT., STA. 51+98.15	7800.76	7763.14
HC#6 (IRON PIN)	Q. STA. 53+00	7902.56	7753.67

BENCH MARK COORDINATES

POINT	LOCATION	ELEV.
BM#1 (R.R. SPIKE IN 15" OAK TREE)	33.55' LT., STA. 51+40.67	599.84
BM#2 (R.R. SPIKE IN 15" HICK TREE)	36.73' LT., STA. 48+84.91	603.26

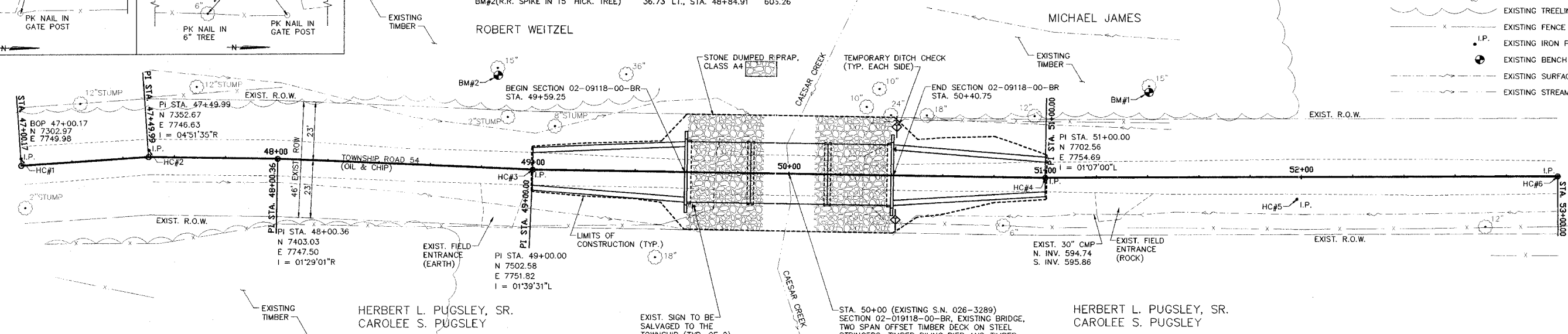
CONSTRUCT SEEDING, CLASS 2 (SPECIAL)
STA. 49+00 TO STA. 51+00 = 0.03 ACRE

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 54	02-09118-00-BR	FAYETTE	14	3

FED. ROAD DIST. NO. ILLINOIS PROJECT CONTRACT NO. 95429

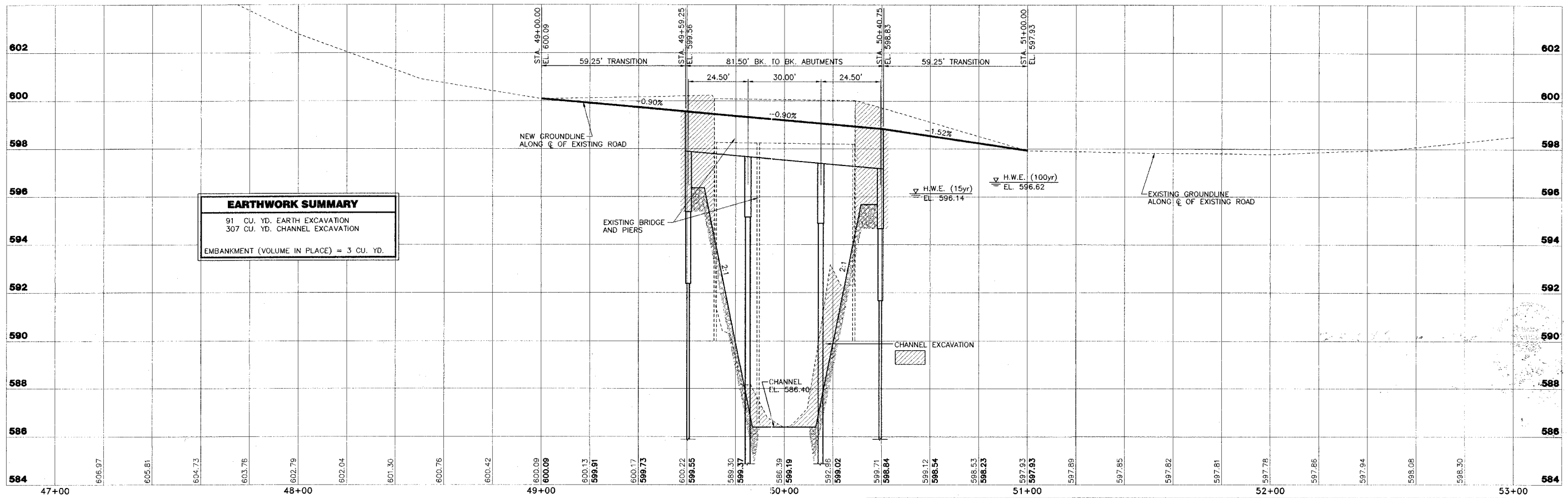
LEGEND

- EXISTING SIGN
- EXISTING TREE
- EXISTING STUMP
- EXISTING TREELINE
- EXISTING FENCE
- EXISTING IRON PIN
- EXISTING BENCH MARK
- EXISTING SURFACE DRAINAGE
- EXISTING STREAM



SCALES:
1" = 20' HOR
1" = 2' VER

0 SF	EXISTING AREA OF OVER THE ROAD FLOW BELOW HWE 15
0 SF	EXISTING AREA OF OVER THE ROAD FLOW BELOW HWE 100
0 SF	PROPOSED AREA OF OVER THE ROAD FLOW BELOW HWE 15
0 SF	PROPOSED AREA OF OVER THE ROAD FLOW BELOW HWE 100
389 SF	EXISTING BRIDGE OPENING (AT RIGHT ANGLES) BELOW HWE 15
416 SF	EXISTING BRIDGE OPENING (AT RIGHT ANGLES) BELOW HWE 100
408 SF	PROPOSED BRIDGE OPENING (AT RIGHT ANGLES) BELOW HWE 15
438 SF	PROPOSED BRIDGE OPENING (AT RIGHT ANGLES) BELOW HWE 100



EARTHWORK SUMMARY
91 CU. YD. EARTH EXCAVATION
307 CU. YD. CHANNEL EXCAVATION
EMBANKMENT (VOLUME IN PLACE) = 3 CU. YD.

CLARK ENGINEERS, INC.
2524 South Broadway
Salem, Illinois 62881
PH(618)548-3500
FAX(618)548-5246
IL Design Firm Registration
No. 184-00871

T.R. 54 SECTION 02-09118-00-BR
NORTH HURRICANE ROAD DISTRICT
FAYETTE COUNTY, ILLINOIS

PLAN AND PROFILE
STA. 47+00 TO STA. 53+00

DESIGN	CHECKED	DATE
JAS	JAS	02/24/05
DRAWN	APPROVED	REVISIONS
JMW, BLT	MRS	
JOB NO.	FAH00030	

L:\Projects\0305\ep\rc\p01001.dwg, 2/28/2005 1:05:52 PM

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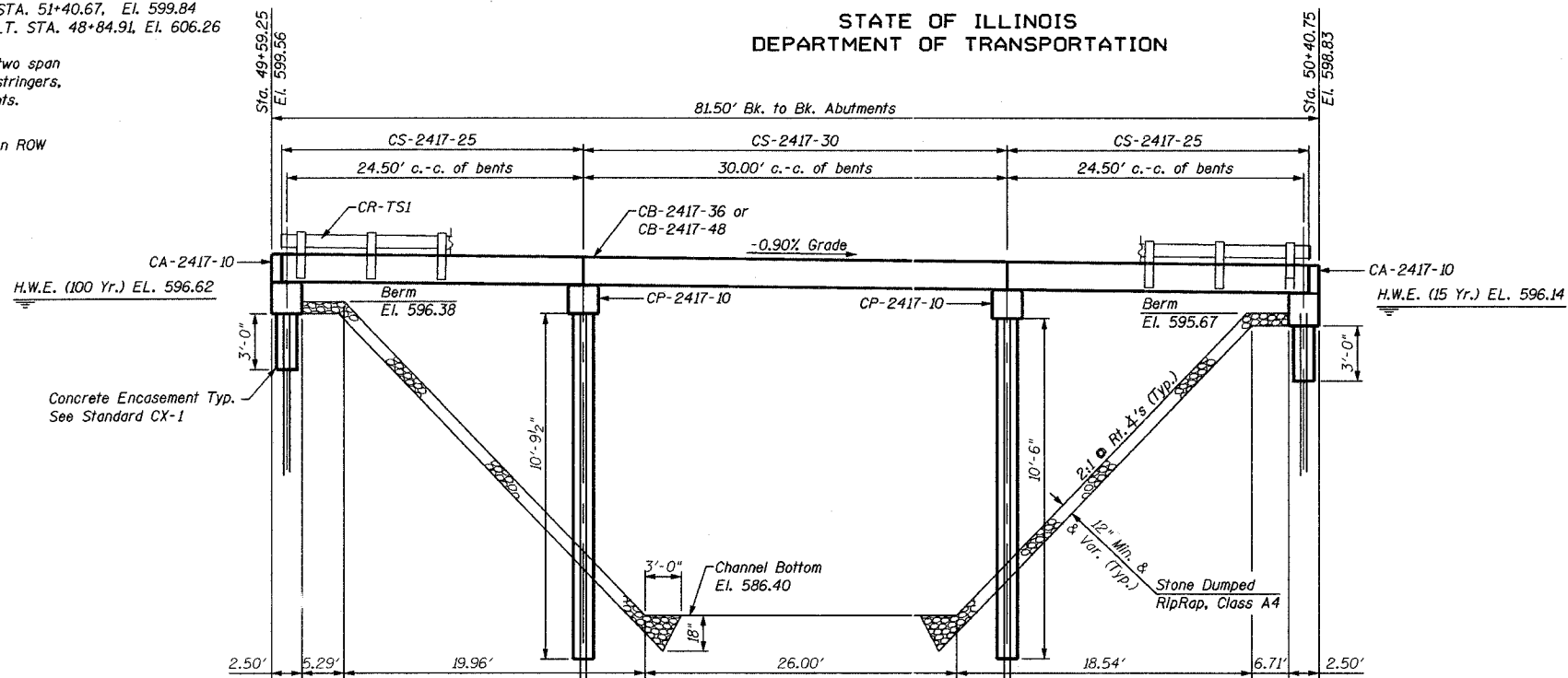
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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FED. ROAD DIST. NO.		ILLINOIS	PROJECT	
CONTRACT NO. 95429				

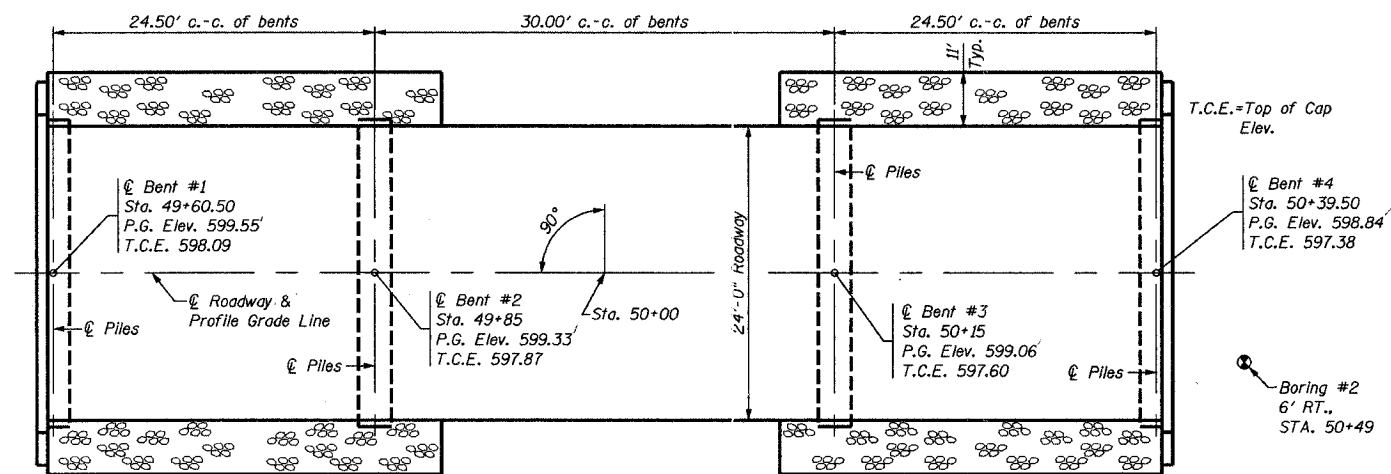
B.M. - B.M. #1, R.R. Spike in 15" Oak Tree, 33.55' LT. STA. 51+40.67, El. 599.84
B.M. #2, R.R. Spike in 15" Hickory Tree, 36.73' LT. STA. 48+84.91, El. 606.26

Existing Structure - The existing structure is an offset two span structure with timber deck on steel stringers, timber piling pier and timber abutments.

Salvage - Signs & Sign Posts
Timber Planking & Runners To Be Stockpiled on ROW



ELEVATION



PLAN

NOTE:
The Article or Section numbers referencing the Standard Specifications for Road and Bridge Construction as shown on the standard bridge plan sheets included with contract plans should be interpreted as referring to the current edition of the Standard Specification (Adopted January 1, 2002) as shown in the "Article/Section No. Reference Table".

ARTICLE/SECTION NO.	REFERENCE TABLE
Previous No.	Current No.
504.06	504.06
505.04	505.04
706.05	1006.05
706.32	1006.32
760.07	1060.07

PILE DATA (2-ABUTS.)

Type: Steel Piles, HP10x42
Capacity: 38 Tons (Includes 150% of Max. Pile Load for H-Pile In Friction)
Estimated Length: 32 Feet Bent #1, 33 Feet Bent #4
Number Required: 8 (Includes 1 Test Pile located in Bent #4)

PILE DATA (2-PIERS)

Type: Steel Piles, HP10x42
Capacity: 56 Tons (Includes 150% of Max. Pile Load for H-Pile In Friction)
Estimated Length: 58 Feet Bent #2, 63 Feet Bent #3
Number Required: 8

DESIGN SPECIFICATIONS

1996 AASHTO, 1997 Thru 2002 Interims
HS20-44 Loading. Load Factor Design.

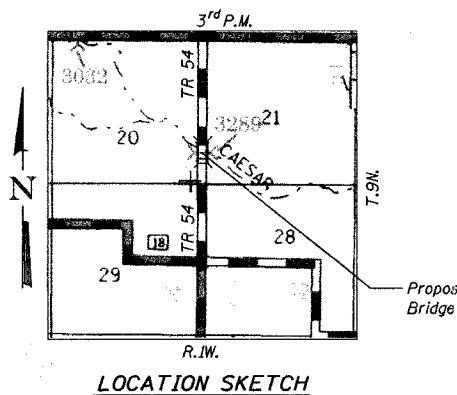
STATION 50+00
CAESAR CREEK
SEC. 02-09118-00-BR BUILT 20...
PROJECT NO. BRCS-051(63)
FAYETTE COUNTY
LOADING HS20
STR. NO. 026-3424

LETTERING FOR NAME PLATE

Locate Name Plate at Northeast Corner of Bridge (See Std. CN)

WATERWAY INFORMATION

Drainage Area = 9.11 Sq. Mi.		Low Grade Elev. 597.79 @ Sta. 52+00							
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E. Ft.		Headwater Elev. - Ft.		
			Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	
Design	15	2620	389	408	596.14	N/A	0.91	N/A	597.05
Base	100	3343	416	438	596.62	N/A	1.25	N/A	597.87
Overtopping									
Max. Calc.	500								



LOCATION SKETCH

GENERAL NOTES

- The contractor shall drive 1 test pile, as specified, in a permanent location as directed by the Engineer before ordering the remaining piles.
- See Special Provisions for boring logs.
- A Calcium Nitrite Corrosion Inhibitor, as covered in the Special Provisions, shall be used in the concrete for precast prestressed concrete deck beams.
- The Waterproofing Membrane System and Bituminous Concrete Surface Course Shown on the Standards Shall Not be Provided.

TOTAL BILL OF MATERIAL

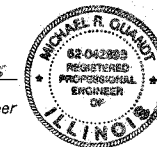
Item	Unit	Super	Sub.		Total
			Piers	Abuts.	
Removal of Existing Structures	Each	-	-	-	1
Concrete Structures	Cu. Yd.	-	12.0	16.6	28.6
Precast Prestressed Concrete Deck Beams (17" Depth)	Sq. Ft.	1920	-	-	1920
Steel Railing, Type S-1	Foot	160	-	-	160
Reinforcement Bars	Pound	-	1320	1720	3040
Furnishing Steel Piles HP10x42	Foot	-	484	227	711
Driving Steel Piles	Foot	-	484	227	711
Test Pile Steel HP10x42	Each	-	-	1	1
Name Plates	Each	-	-	1	1
Concrete Encasement	Cu. Yd.	-	7.3	2.1	9.4

INDEX OF SHEETS

- General Plan & Elevation
- Standard CS-2417-25
- Standard CS-2417-30
- Standard CB-2417-36
- Standard CB-2417-48
- Standard CA-2417-10
- Standard CP-2417-10
- Standard CR-TS1
- Standard CN
- Standard CX-1

These plans were prepared by me or by a full-time member of my staff working under my personal supervision.

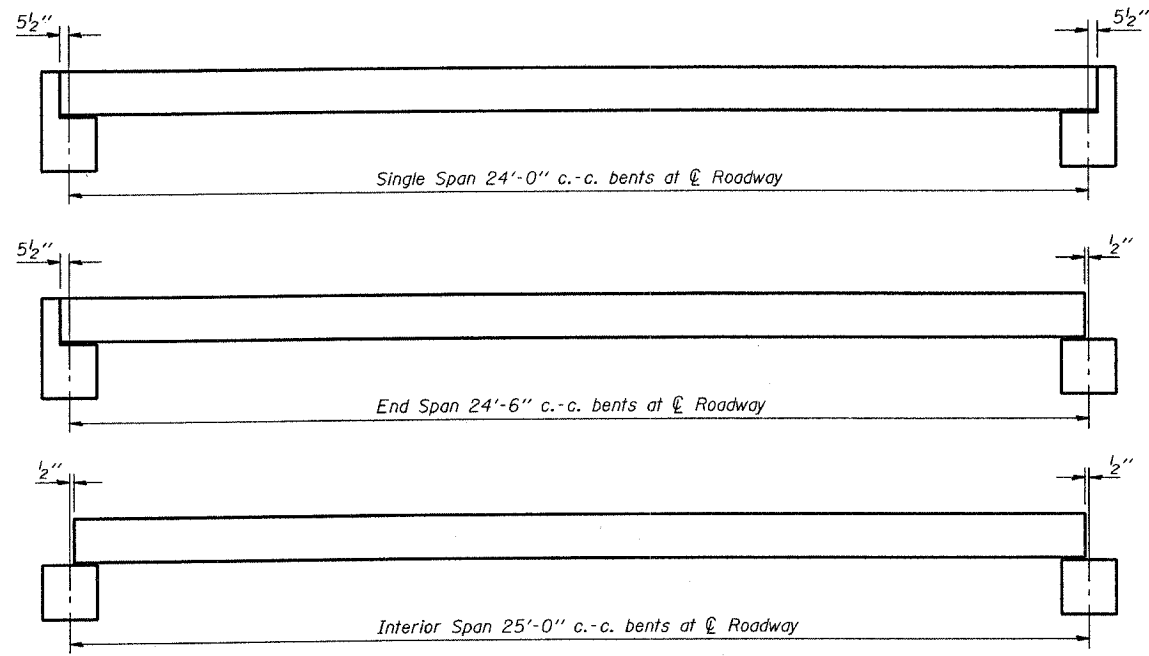
Michael R. Quandt 3/1/05
Michael R. Quandt, P.E.
Illinois Licensed Professional Engineer
License No. 062-042893
Expiration Date: 11/30/2005



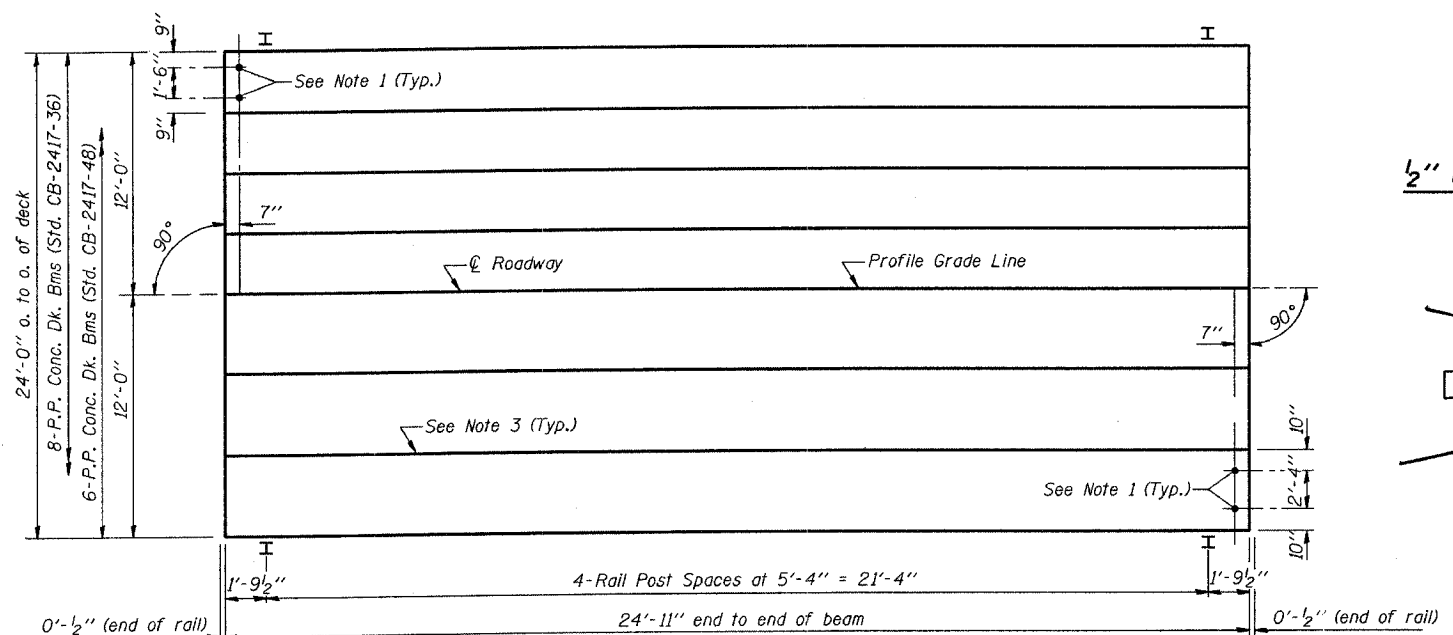
GENERAL PLAN & ELEVATION

T.R. 54
OVER CAESAR CREEK
SECTION 02-09118-00-BR
FAYETTE COUNTY
STATION 50+00

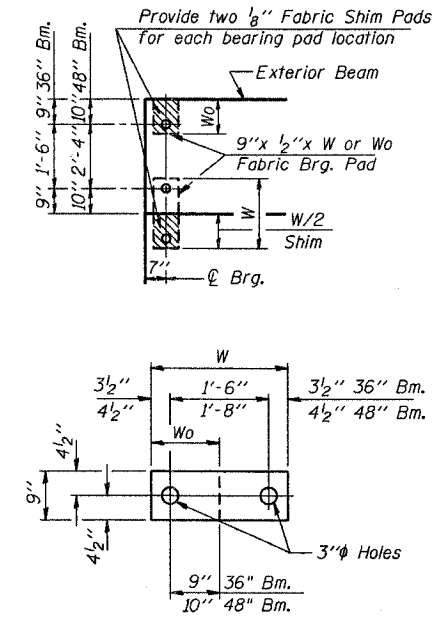
DIST.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 54	02-09118-00-BR	FAYETTE	14	5
FED. ROAD DIST. NO. 1	ALIANCES	FED. AID PROJECT NO.	CONTRACT NO. 95429	



TYPICAL ELEVATIONS

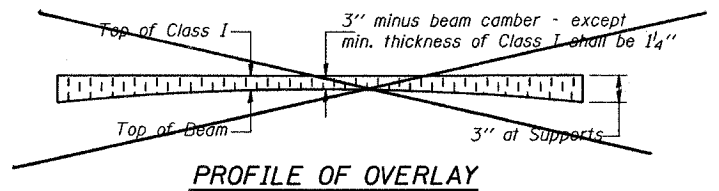


PLAN

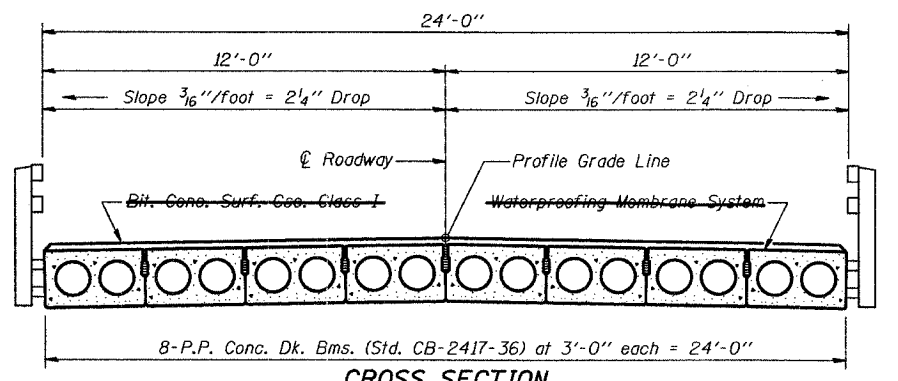


Beam	W	Wo
36"	2'-1"	1'-0 1/2"
48"	2'-5"	1'-2 1/2"

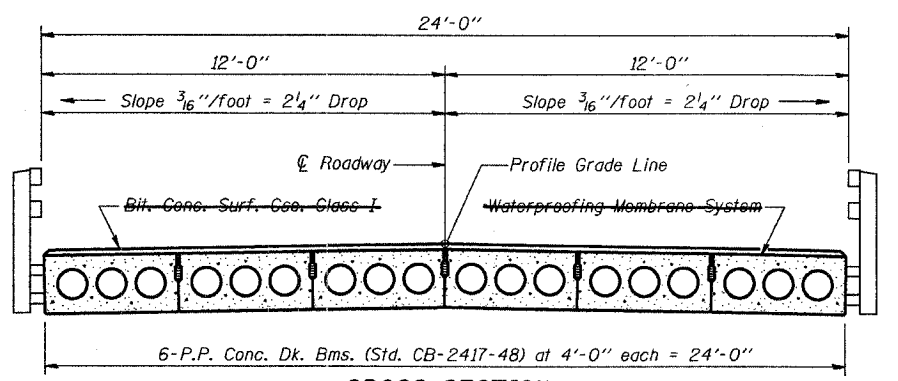
1/2" FABRIC BRG. PAD DETAILS



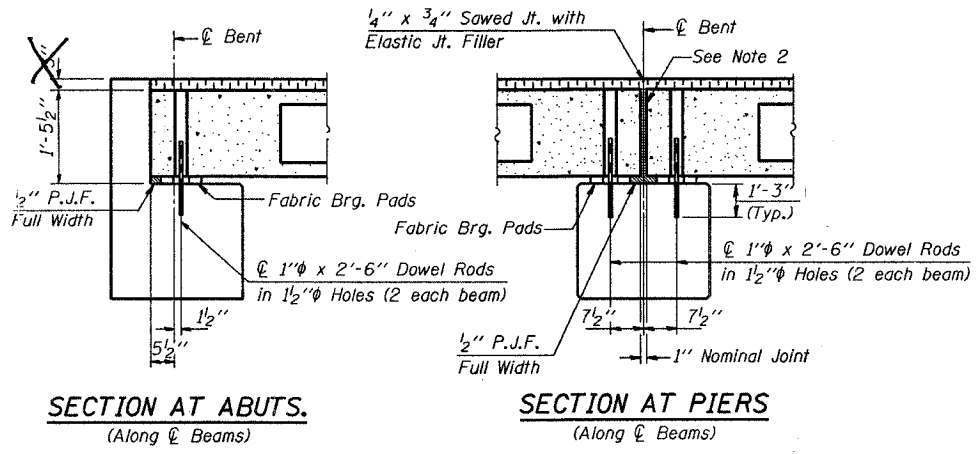
PROFILE OF OVERLAY



CROSS SECTION



CROSS SECTION



SECTION AT ABUTS.
(Along centerline of Beams)

SECTION AT PIERS
(Along centerline of Beams)

QUANTITIES FOR ONE SPAN

P.P. Conc. Dk. Bm. 17" Dp.	600 Sq. Ft.
Steel Railing	50 Ft.
Bit. Conc. Surf. Coe. Class I	10.6 Tons
Waterproofing Membrane System	66.7 Sq. Yds.

P.P.C. DECK BEAM
SUPERSTRUCTURE

24' RDWY.	17" BMS.	25' SPAN	0° SKEW
STANDARD CS-2417-25			

NOTES

- After beams have been erected, holes shall be drilled into substructure and anchor dowels placed. Dowel holes shall be filled with non-shrink grout to top of beam and allowed to cure min. 24 hrs. prior to grouting the shear keys.
- Nominal 1 inch joint at centerline of Pier shall be filled with non-shrink grout.
- Longitudinal keys shall be grouted.

Illinois Department of Transportation

PASSED NOVEMBER 1, 1995

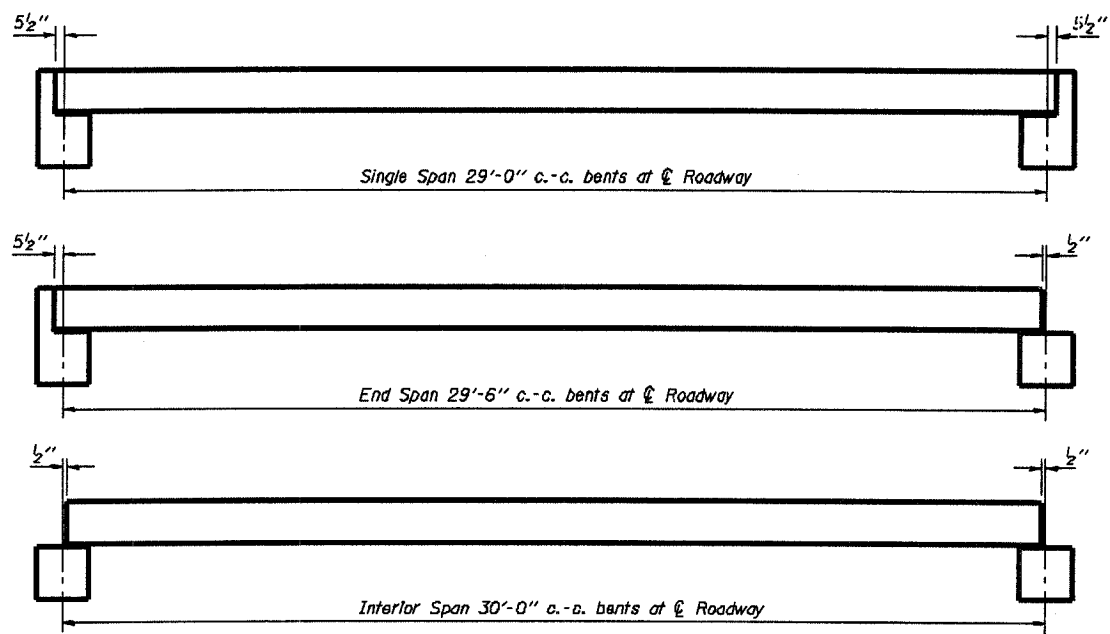
Ralph E. Anderson
Engineer of Bridge Design

APPROVED NOVEMBER 1, 1995

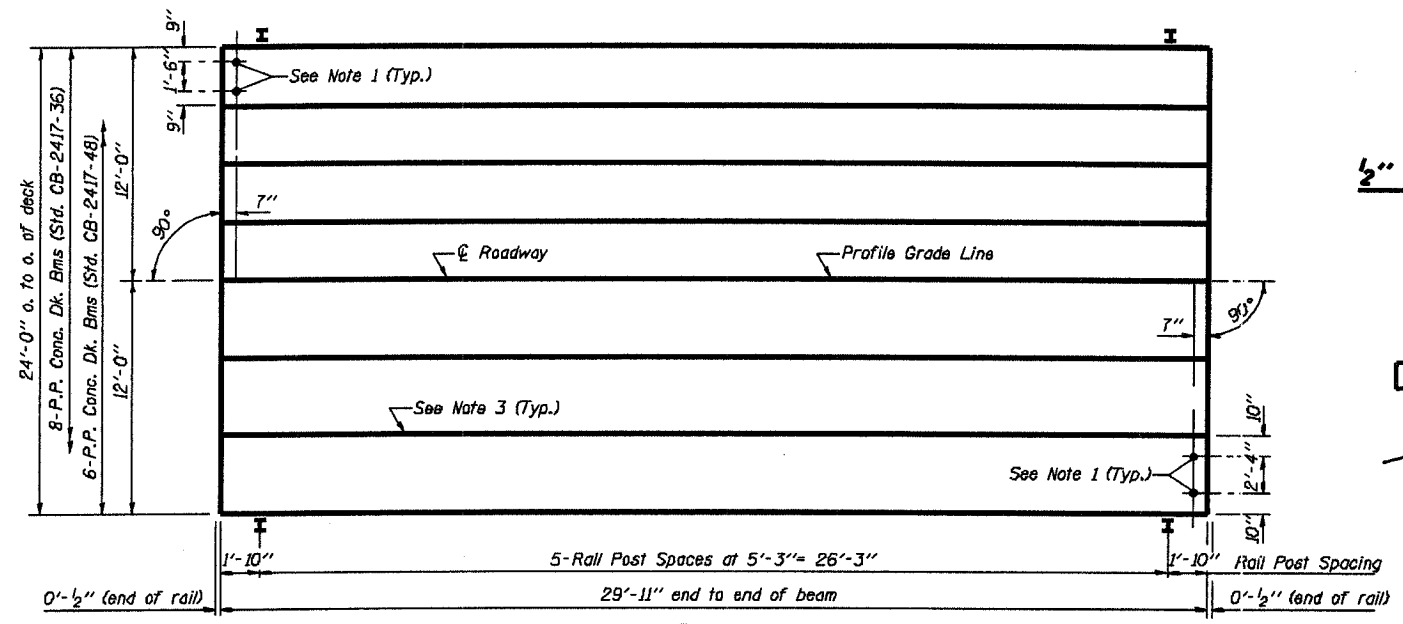
Ralph E. Anderson
Engineer of Bridges and Structures

ISSUED 11-1

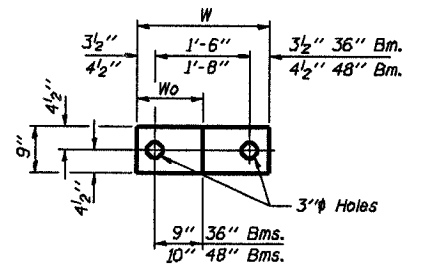
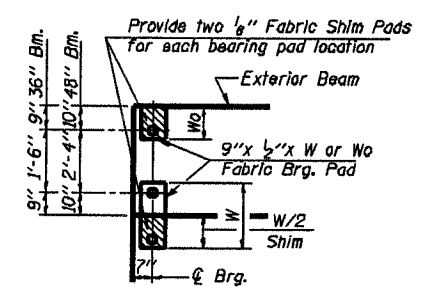
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 54	02-09118-00-BR	FAYETTE	14	6
FED. ROAD DIST. NO.	ILLINOIS PROJECT	CONTRACT NO. 95429		



TYPICAL ELEVATIONS

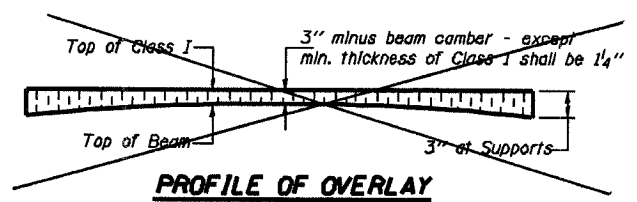


PLAN

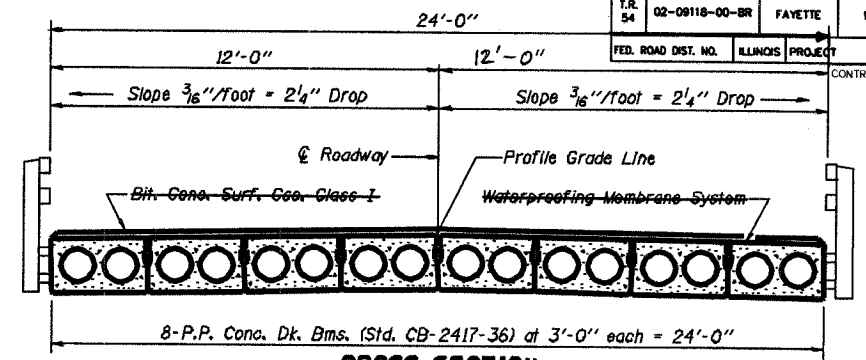


Beam	W	Wo
36"	2'-1"	1'-0 1/2"
48"	2'-5"	1'-2 1/2"

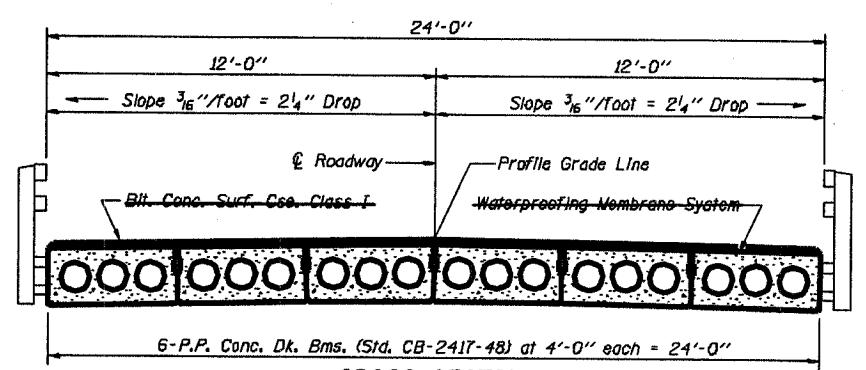
1/2" FABRIC BRG. PAD DETAILS



PROFILE OF OVERLAY

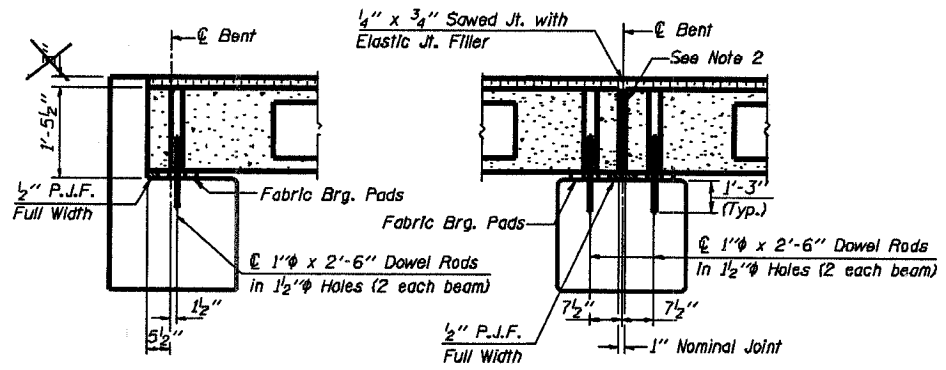


CROSS SECTION



CROSS SECTION

- NOTES**
1. After beams have been erected, holes shall be drilled into substructure and anchor dowels placed. Dowel holes shall be filled with non-shrink grout to top of beam and allowed to cure min. 24 hrs. prior to grouting the shear keys.
 2. Nominal 1" joint at Pier shall be filled with non-shrink grout.
 3. Longitudinal keys shall be grouted.



SECTION AT ABUTS.
(Along Roadway)

SECTION AT PIERS
(Along Roadway)

QUANTITIES FOR ONE SPAN

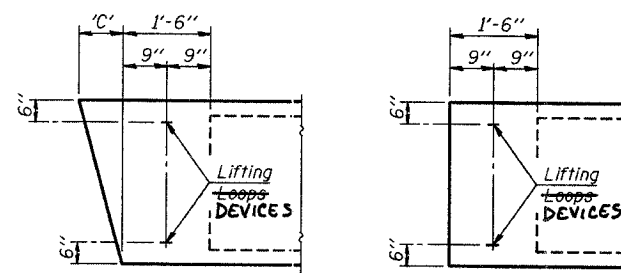
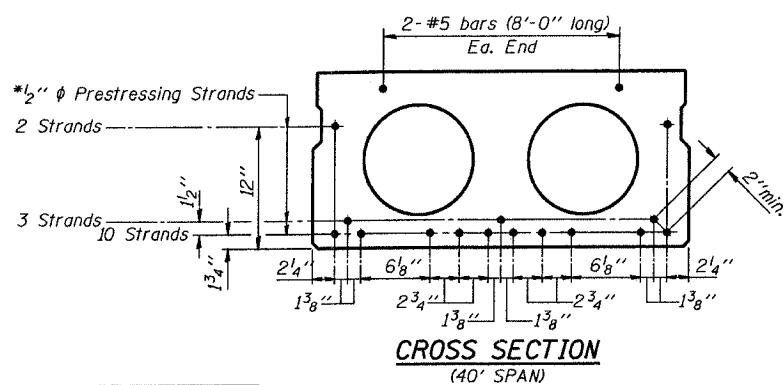
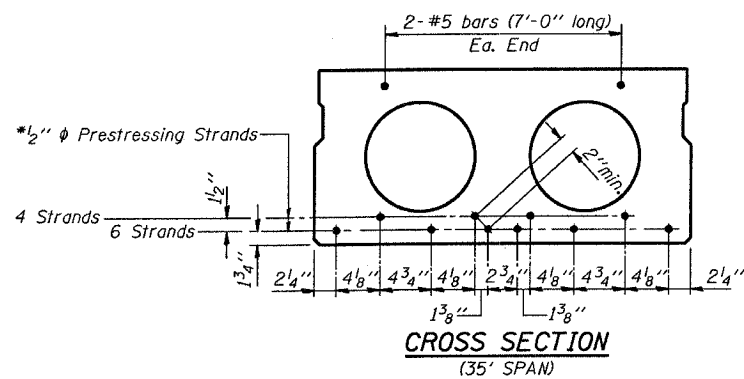
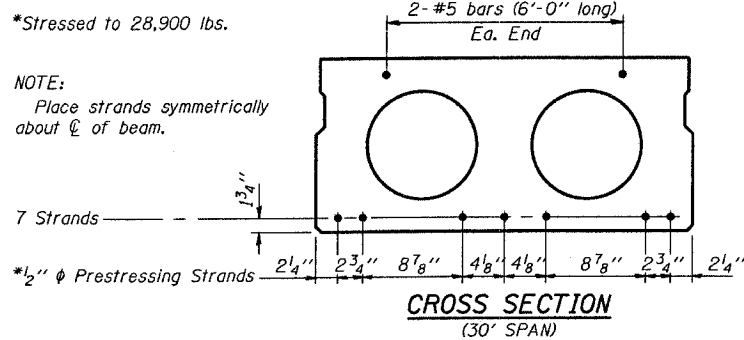
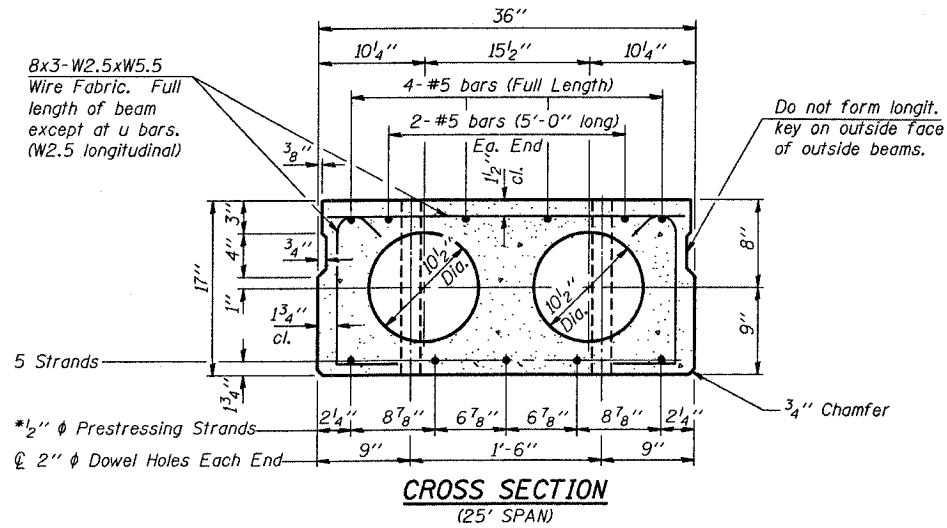
P.P. Conc. Dk. Bm. 17" Dp.	720 Sq. Ft.
Steel Railing	60 Ft.
Bit. Conc. Surf. Cse. Class I	12.0 Tons
Waterproofing Membrane System	60.0 Sq. Yds.

Illinois Department of Transportation
 PASSED NOVEMBER 1, 1995
 Engineer of Bridge Design
 APPROVED NOVEMBER 1, 1995
 Engineer of Bridges and Structures

P.P.C. DECK BEAM SUPERSTRUCTURE
 24' RDWY. 17" BMS. 30' SPAN 0° SKEW
 STANDARD CS-2417-30

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
02-09118-00-BR	FAYETTE	14	7

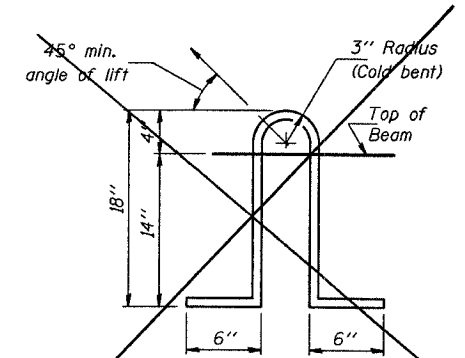
CONTRACT NO. 95429



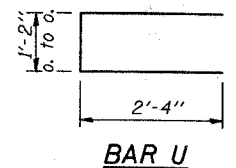
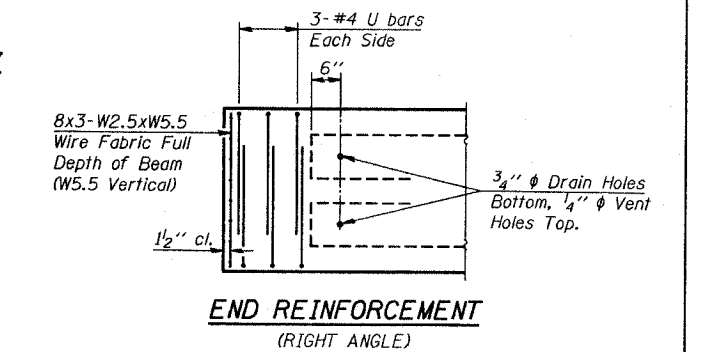
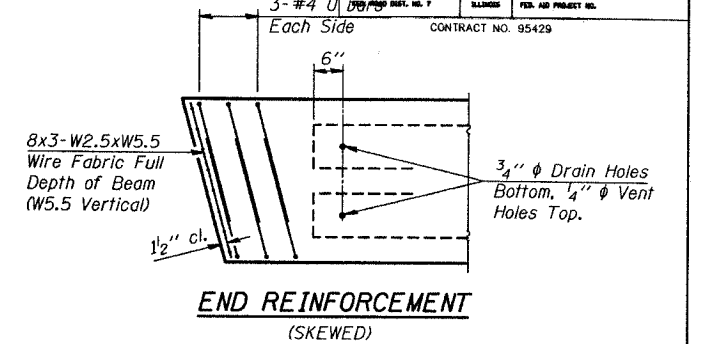
Each beam shall have four Lifting Loops, DEVICES two at each end of beam cast in locations shown above. Loops shall be burned off after beams have been erected.

DIMENSION 'C'

Skew Angle 'D'	0°	5°	10°	15°	20°	25°	30°
Dimension 'C' (Inches)	0	3 3/8	6 3/8	9 3/8	13 3/8	16 3/4	20 3/4



Lifting loops shall be 2-1/2" ϕ 270 ksi strands as shown. Alternate approved lifting devices are also acceptable. SEE SPECIAL PROVISIONS.



NOTES

1. Prestressing steel shall be uncoated high strength, stress relieved 7-wire strand, Grade 270.
2. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 square inches.
3. Reinforcement bars shall conform to AASHTO M-31, M-42 or M-53, Grade 60.
4. Rail Post anchor devices shall be cast into outside beam as elsewhere specified.
5. When Waterproofing Membrane System is specified, the top surface of the beams shall be finished in accordance with Article 504.06 of the Standard Specifications except that the surface shall not be roughened by brooming. The finished surface shall be free of depressions or high spots with sharp corners, and the top edge of keys shall be rounded or chamfered a minimum of 1/4".
6. Low relaxation strands may be substituted for the stress relieved strands. The initial prestressing force applied to each strand shall be the same as for the stress relieved strands (28,900 lbs.).
7. 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 the top of the beam and the bottom edge of the key.

DESIGN STRESSES

$f'_c = 5,000$ p.s.i.
 f'_{ci} = (See Required Release Strength Table)
 $f'_s = 270,000$ p.s.i. (1/2" ϕ Strand)
 $f_{si} = 189,000$ p.s.i. (1/2" ϕ Strand)
 $f_y = 60,000$ p.s.i.

REQUIRED RELEASE STRENGTH

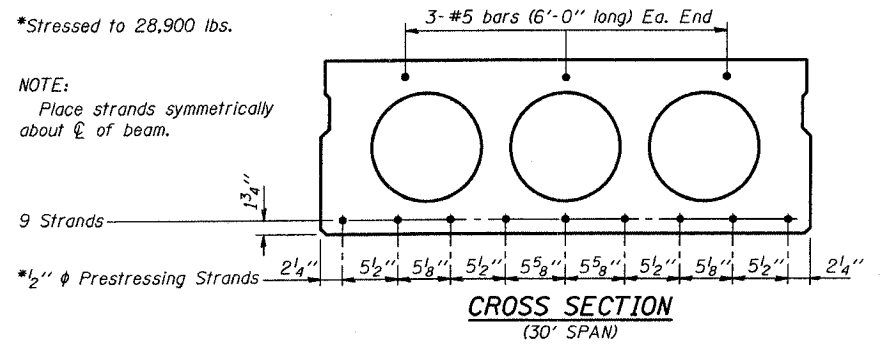
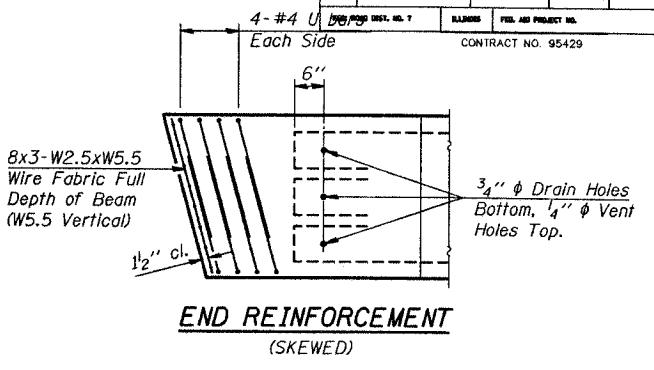
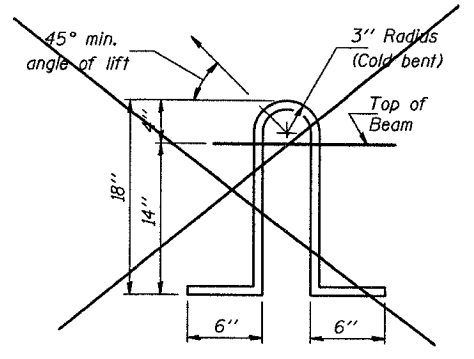
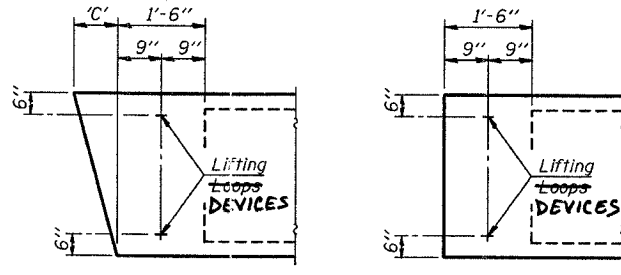
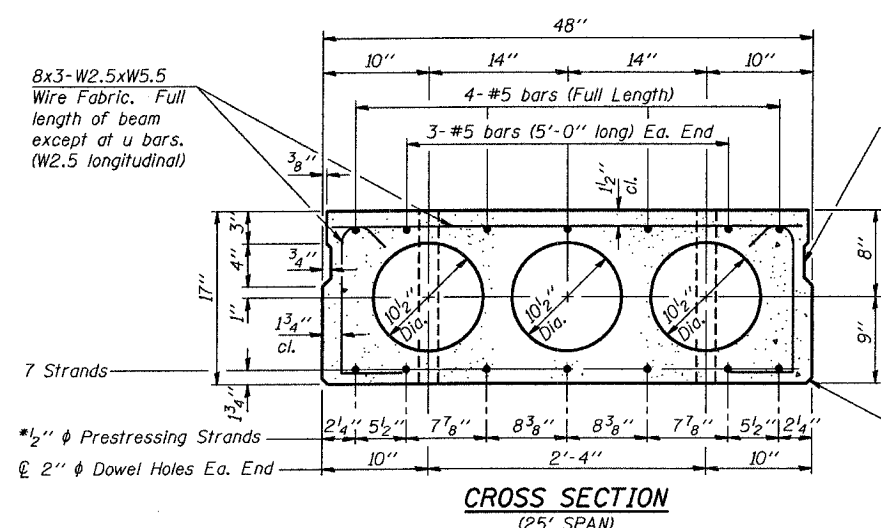
Span	f'_{ci} (psi)
25'	4,000
30'	4,000
35'	4,000
40'	4,000

NOTE
 The std. reinf. shown on the 25' span cross section is typical for all spans, except as shown.

Illinois Department of Transportation
 PASSED NOVEMBER 1, 1995
 Approved by: [Signature]
 Engineer of Bridge Design
 APPROVED NOVEMBER 1, 1995
 Approved by: [Signature]
 Engineer of Bridges and Structures

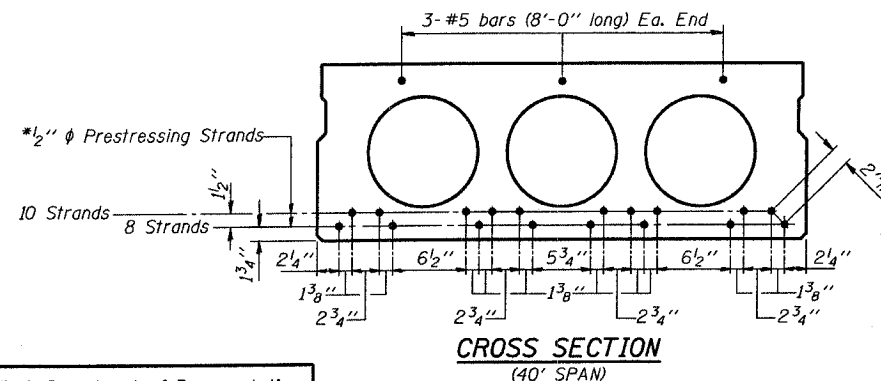
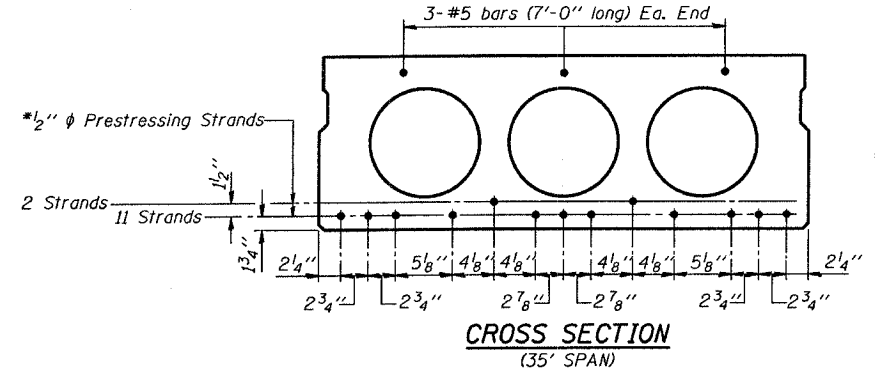
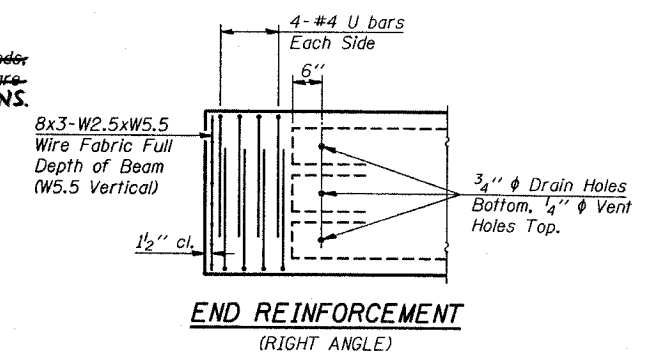
P.P.C. DECK BEAM DETAILS
 24' ROADWAY | 17" x 36" BEAMS
 STANDARD CB-2417-36

SECTION	COUNTY	SHEET NO.	TOTAL SHEETS
G2-09118-00-BR	FAYETTE	14	8
CONTRACT NO. 95429			



DIMENSION 'C'

Skew Angle 'D'	0°	5°	10°	15°	20°	25°	30°
Dimension 'C' (Inches)	0	4 1/4	8 1/2	12 7/8	17 1/2	22 3/8	27 3/4



- NOTES**
- Prestressing steel shall be uncoated high strength, stress relieved 7-wire strand, Grade 270.
 - The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 square inches.
 - Reinforcement bars shall conform to AASHTO M-31, M-42 or M-53, Grade 60.
 - Rail Post anchor devices shall be cast into outside beam as elsewhere specified.
 - When Waterproofing Membrane System is specified, the top surface of the beams shall be finished in accordance with Article 504.06 of the Standard Specifications except that the surface shall not be roughened by brooming. The finished surface shall be free of depressions or high spots with sharp corners, and the top edge of keys shall be rounded or chamfered a minimum of 1/4".
 - Low-relaxation strands may be substituted for the stress relieved strands. The initial prestressing force applied to each strand shall be the same as for the stress relieved strands (28,900 lbs.).
 - 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 the top of the beam and the bottom edge of the key.

DESIGN STRESSES

$f'_c = 5,000$ p.s.i.

f'_{ci} = (See Required Release Strength Table)

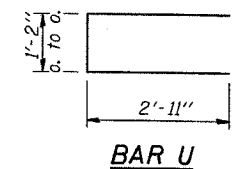
$f'_s = 270,000$ p.s.i. (1/2" φ Strand)

$f'_{si} = 189,000$ p.s.i. (1/2" φ Strand)

$f_y = 60,000$ p.s.i.

REQUIRED RELEASE STRENGTH

Span	f'_{ci} (psi)
25'	4,000
30'	4,000
35'	4,200
40'	4,700



Illinois Department of Transportation

PASSED NOVEMBER 1, 1995

Engineer of Bridge Design

APPROVED NOVEMBER 1, 1995

Engineer of Bridges and Structures

NOTE

The std. reinf. shown on the 25' span cross section is typical for all spans, except as shown.

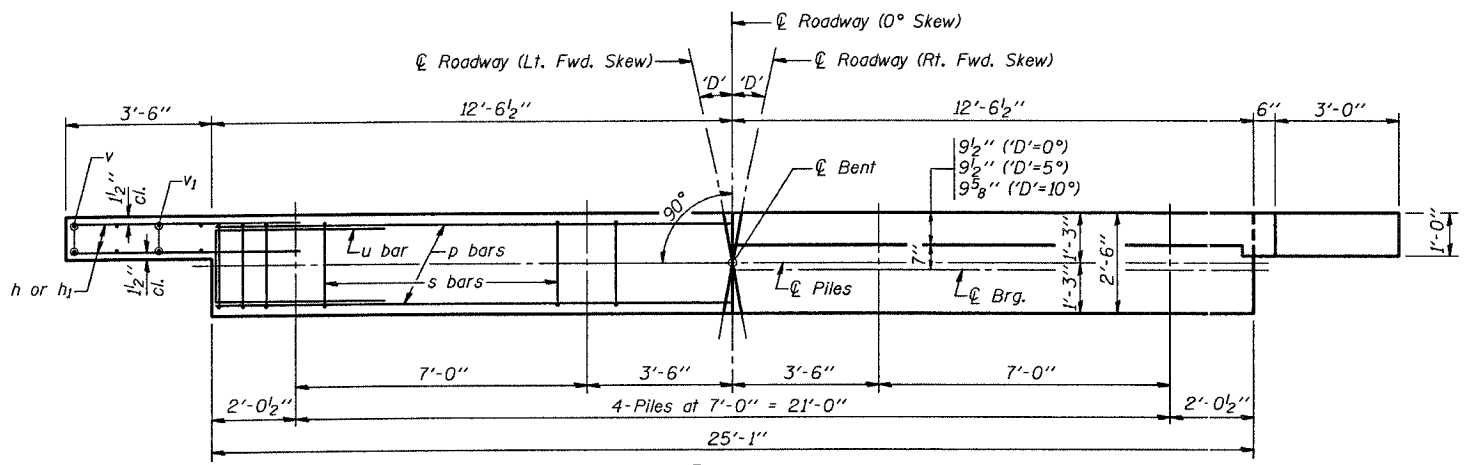
P.P.C. DECK BEAM DETAILS

24' ROADWAY | 17" x 48" BEAMS

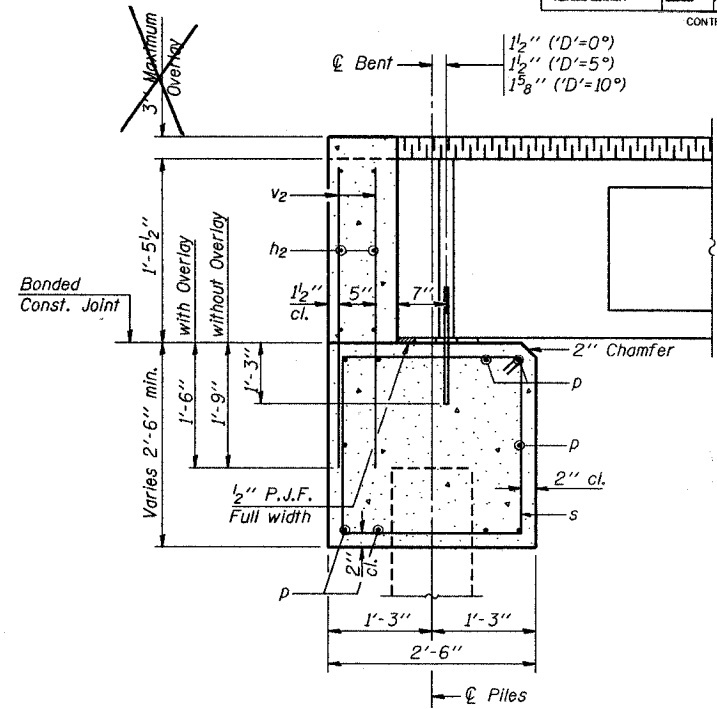
STANDARD CB-2417-48

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
02-0911B-00-BR	FAYETTE	14	9

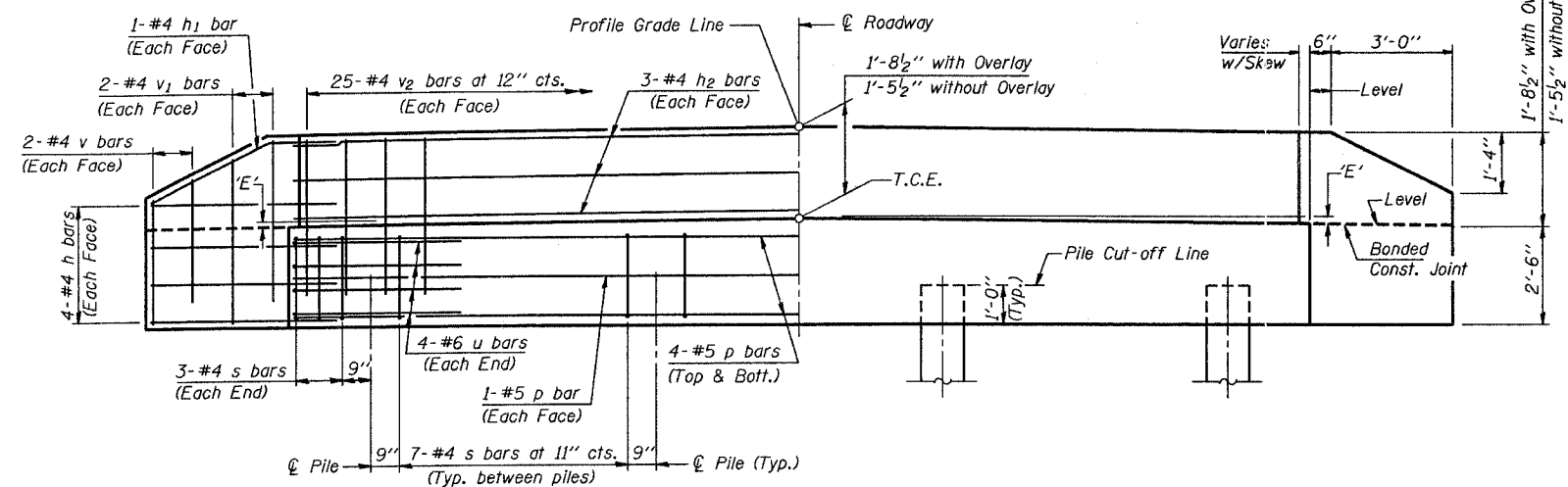
CONTRACT NO. 95429



PLAN
(D'=Designated Skew Angle)



SECTION THRU ABUTMENT
(At Right Angles)



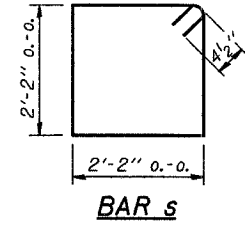
ELEVATION

DIMENSION 'E'

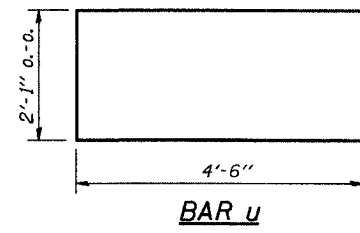
GRADE	D'=0°		D'=5°		D'=10°	
	UPGRADE END	DOWNGRADE END	UPGRADE END	DOWNGRADE END	UPGRADE END	DOWNGRADE END
0%	2 3/8"	2 3/8"	2 3/8"	2 3/8"	2 3/8"	2 3/8"
Over 0% to 1%	2 3/8"	2 3/8"	2 1/4"	2 3/8"	2 3/8"	2 1/2"
Over 1% to 2%	2 3/8"	2 3/8"	2 1/8"	2 1/2"	1 7/8"	2 3/4"
Over 2% to 3%	2 3/8"	2 3/8"	2"	2 5/8"	1 5/8"	3"
Over 3% to 4%	2 3/8"	2 3/8"	1 7/8"	2 3/4"	1 3/8"	3 1/4"

NOTES

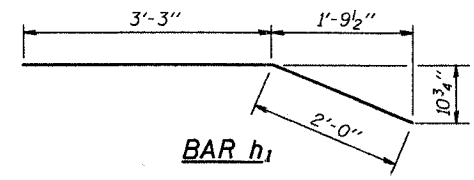
- The Backwall and the portion of the Wingwalls above the bonded construction joint shall be cast against the in-place beam.
- Reinforcement bars shall conform to A.A.S.H.T.O. M-31, M-42 or M-53, Grade 60.



BAR s



BAR u



BAR h1

BILL OF MATERIAL FOR ONE ABUTMENT

Bar No.	Size	Length	Shape
h	#4	5'-0"	—
h1	#4	5'-3"	—
h2	#4	24'-9"	—
p	#5	24'-9"	—
s	#4	9'-5"	□
u	#6	11'-1"	□
v	#4	2'-6"	—
v1	#4	3'-5"	—
v2	#4	3'-1"	—
Concrete Structures		8.3 Cu. Yds.	
Reinforcement Bars		860 Lbs.	

MAXIMUM PILE LOADS

SPAN	TONS
25'	25
30'	26
35'	28
40'	30

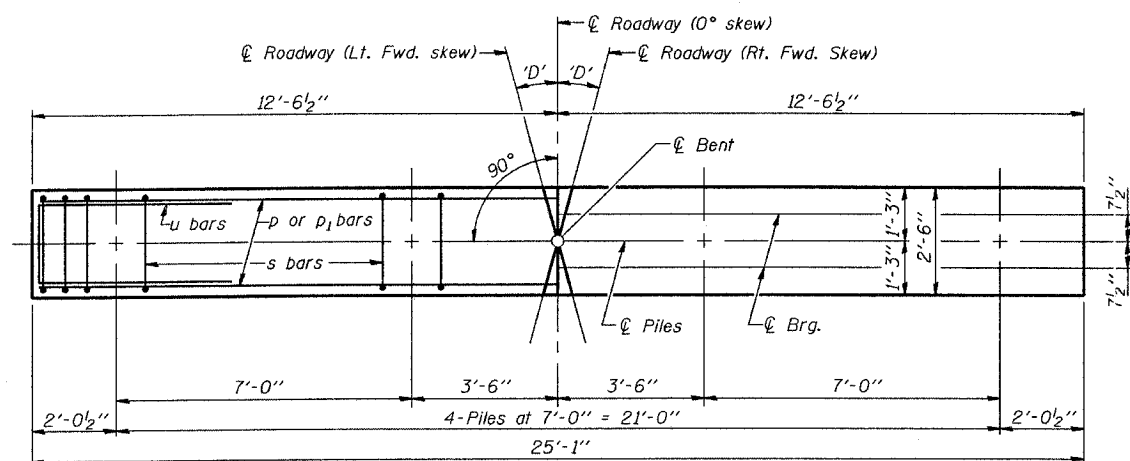
DESIGN STRESSES

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

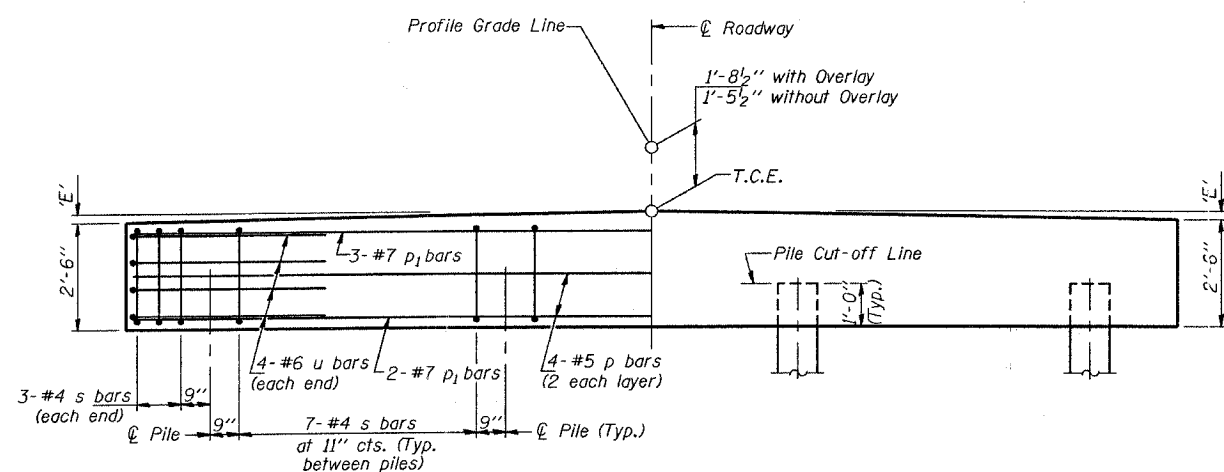
P.P.C. DECK BEAMS PILE BENT ABUTMENT		
24' RDWY.	17" BMS.	D'=0°, 5° OR 10°
STANDARD CA-2417-10		

Illinois Department of Transportation
 PASSED November 1, 1995
 Engineer of Bridge Design
 APPROVED November 1, 1995
 Engineer of Bridges and Structures

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
02-0811B-00-BR	FAYETTE	14	10
CONTRACT NO. 95429			



PLAN
('D' = Designated Skew Angle)



ELEVATION

DIMENSION 'E'

GRADE	'D'=0°		'D'=5°		'D'=10°	
	UPGRADE END	DOWNGRADE END	UPGRADE END	DOWNGRADE END	UPGRADE END	DOWNGRADE END
0%	2 3/8"	2 3/8"	2 3/8"	2 3/8"	2 3/8"	2 3/8"
Over 0% to 1%	2 3/8"	2 3/8"	2 1/4"	2 3/8"	2 3/8"	2 1/2"
Over 1% to 2%	2 3/8"	2 3/8"	2 1/2"	2 3/8"	1 7/8"	2 3/4"
Over 2% to 3%	2 3/8"	2 3/8"	2"	2 5/8"	1 5/8"	3"
Over 3% to 4%	2 3/8"	2 3/8"	1 7/8"	2 3/4"	1 3/8"	3 1/4"

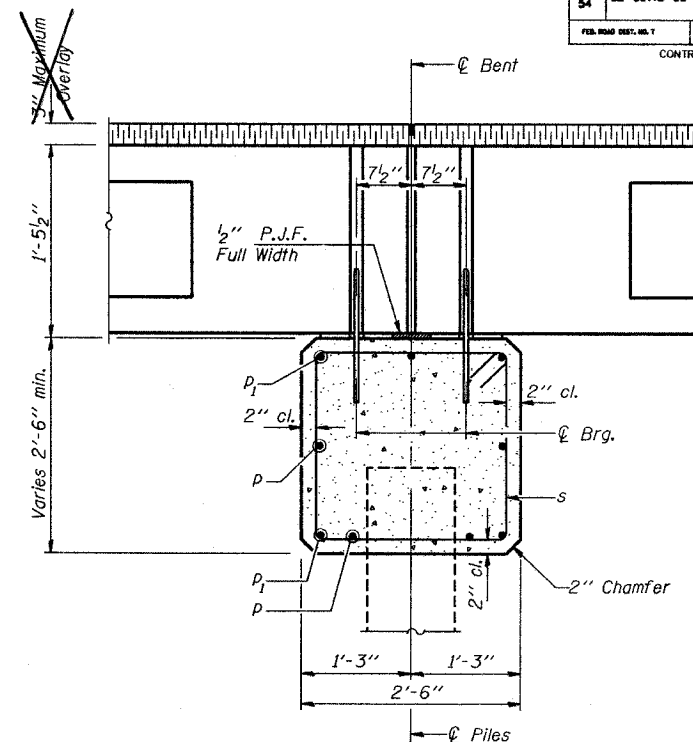
MAXIMUM PILE LOADS

SPAN	TONS
25'	35
30'	37
35'	41
40'	44

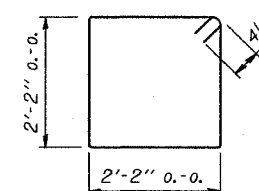
Longer of Either Span Supported by Pier.

DESIGN STRESSES

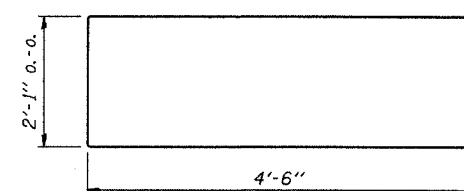
f'c = 3,500 psi
fy = 60,000 psi



SECTION THRU PIER
(At Right Angles)



Bar s



Bar u

BILL OF MATERIAL FOR ONE PIER

Bar	No.	Size	Length	Shape
p	4	#5	24'-9"	—
p1	5	#7	24'-9"	—
s	27	#4	9'-5"	□
u	8	#6	11'-1"	—
Concrete Structures			6.0	Cu. Yds.
Reinforcement Bars			660	Lbs.

NOTE

Reinforcement bars shall conform to A.A.S.H.T.O. M-31, M-42 or M-53, Grade 60.

Illinois Department of Transportation
 PASSED November 1, 1995
 Prof. J. Kasper
 Engineer of Bridge Design
 APPROVED November 1, 1995
 Ralph E. Anderson
 Engineer of Bridges and Structures

**P.P.C. DECK BEAMS
 PILE BENT PIER**
 24' RDWY. 17" BMS. 'D'=0°, 5° OR 10°
 STANDARD CP-2417-10

REL.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 54	02-09118-00-BR	FAYETTE	14	11
REL. AND PROJ. NO. 7	CLASS	REL. AND PROJECT NO.	CONTRACT NO. 95429	

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.

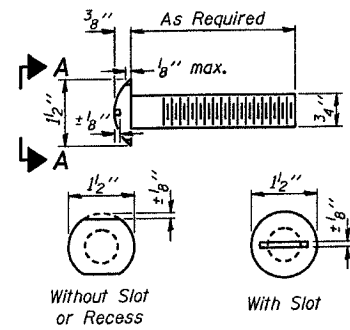
For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost incidental to Steel Railing, Type S-1.

All field drilled holes shall be coated with an approved zinc rich paint before erection.

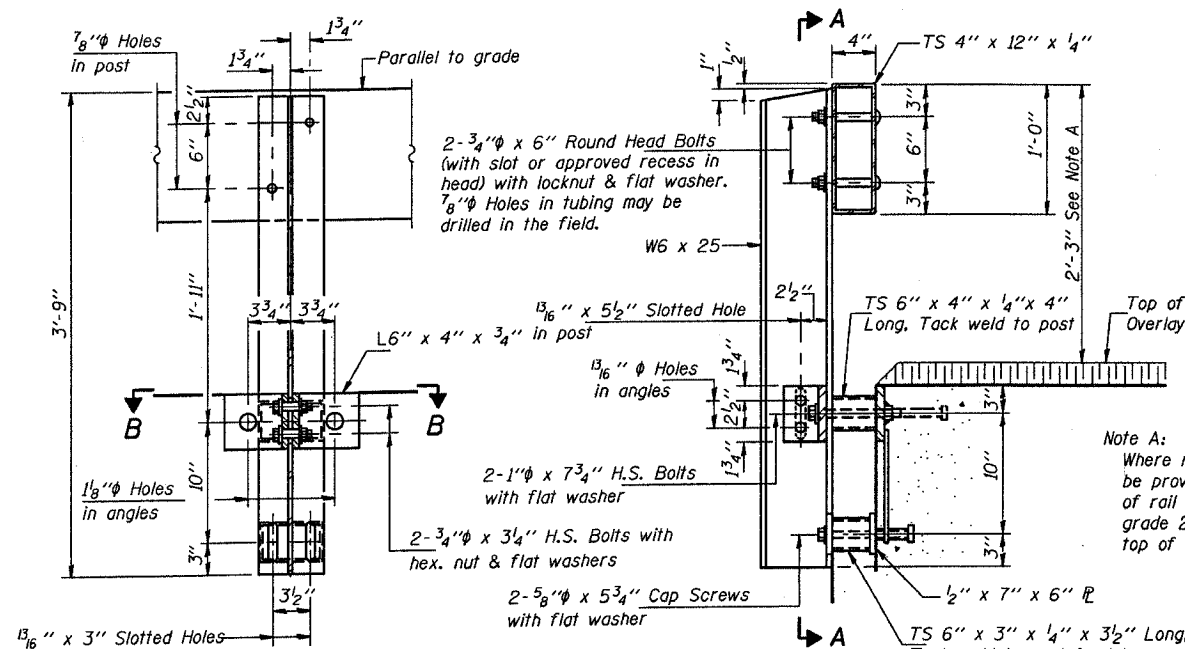
The 1/2" x 7" x 6" plates that come in contact with concrete shall receive two coats of asphalt paint conforming to Section 760.07 Type II or place 1/8" fabric bearing pads between the plates and concrete.

The 3/4" 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" 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" cap screws in bottom of posts shall be tightened to a snug fit only.

The maximum allowable rail post spacing shall be 10'-6". The rail post spacing shown elsewhere in the plans is based on the allowable spacing for another type of rail. When this type of rail is used, the number of posts may be decreased and the post spacing increased to provide equal post spaces of 10'-6" or less.

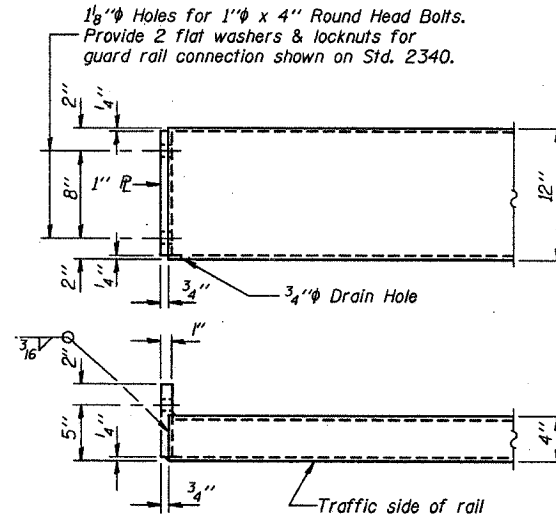


**VIEW A-A
ROUND HEAD BOLT**

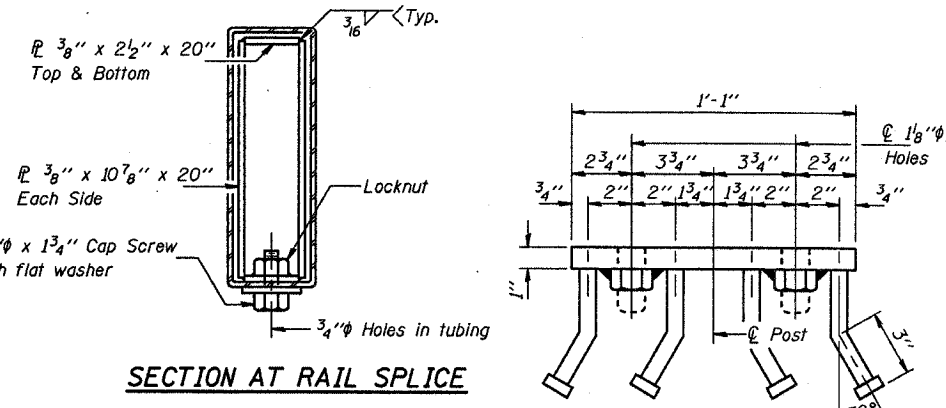


SECTION A-A

SECTION AT RAIL POST

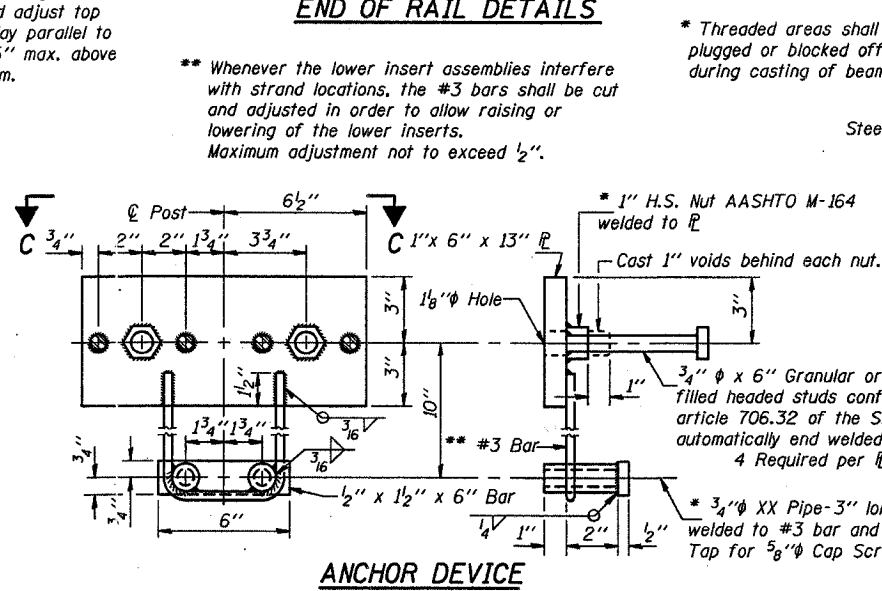


END OF RAIL DETAILS

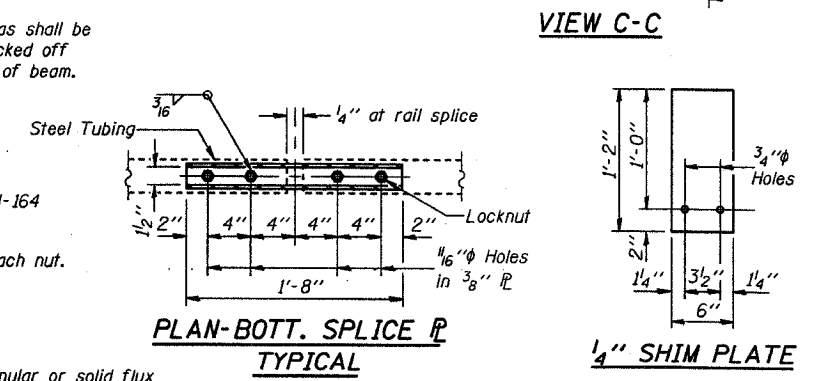


SECTION AT RAIL SPLICE

VIEW C-C



ANCHOR DEVICE



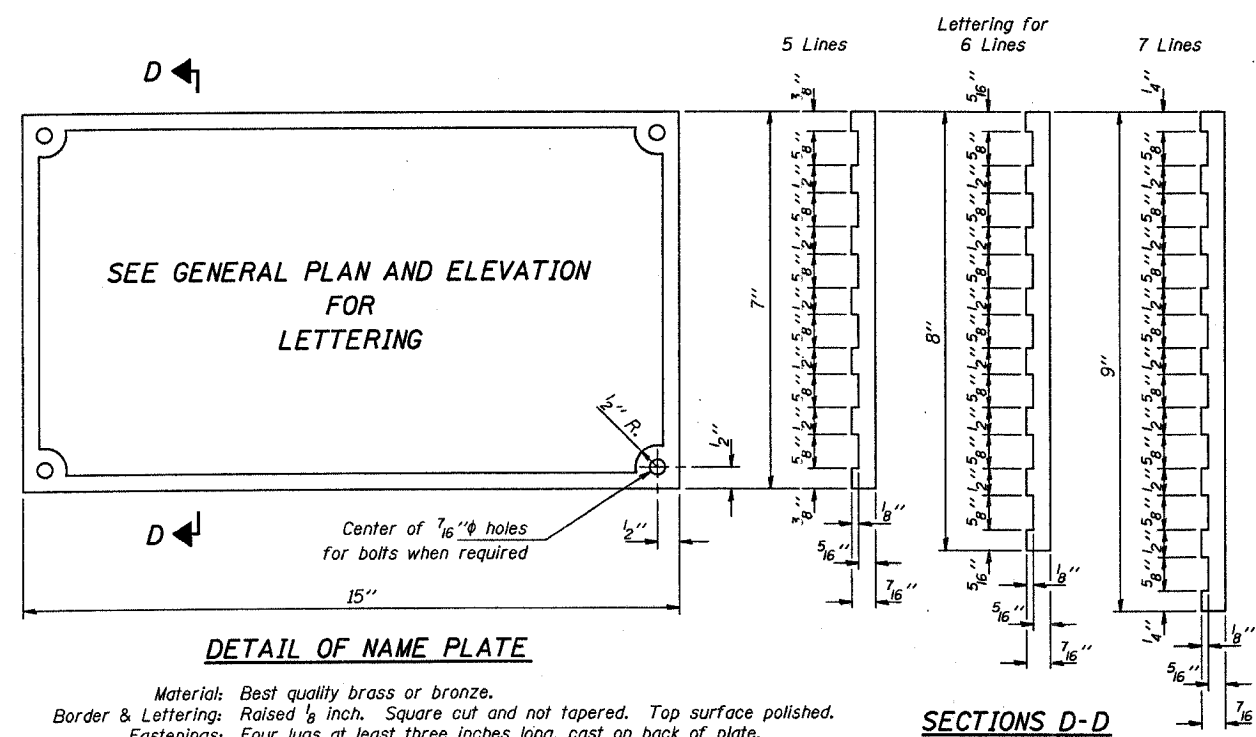
PLAN-BOTT. SPLICE TYPICAL

1/4\"/>

Illinois Department of Transportation
 PASSED November 1, 1995
 Engineer of Bridge Design
 APPROVED November 1, 1995
 Engineer of Bridges and Structures

**STEEL RAILING, TYPE S-1
STANDARD CR-TS1**

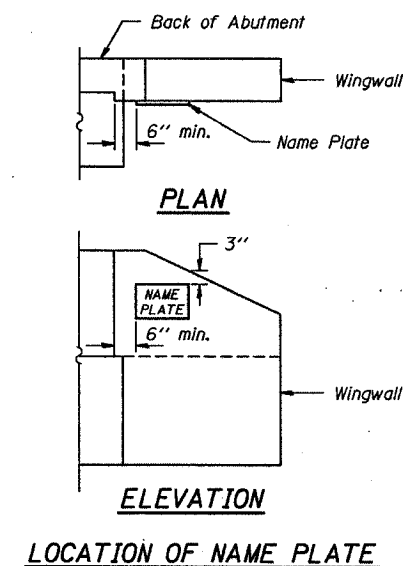
NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 54	02-00118-00-BR	FAYETTE	14	12
FED. ROAD DIST. NO. 7		BLINDS	FED. AID PROJECT NO.	
CONTRACT NO. 95429				



DETAIL OF NAME PLATE

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

SECTIONS D-D



LOCATION OF NAME PLATE

Illinois Department of Transportation

PASSED November 1, 1995
Greg J. Kasper
 Engineer of Bridge Design

APPROVED November 1, 1995
Ralph E. Anderson
 Engineer of Bridges and Structures

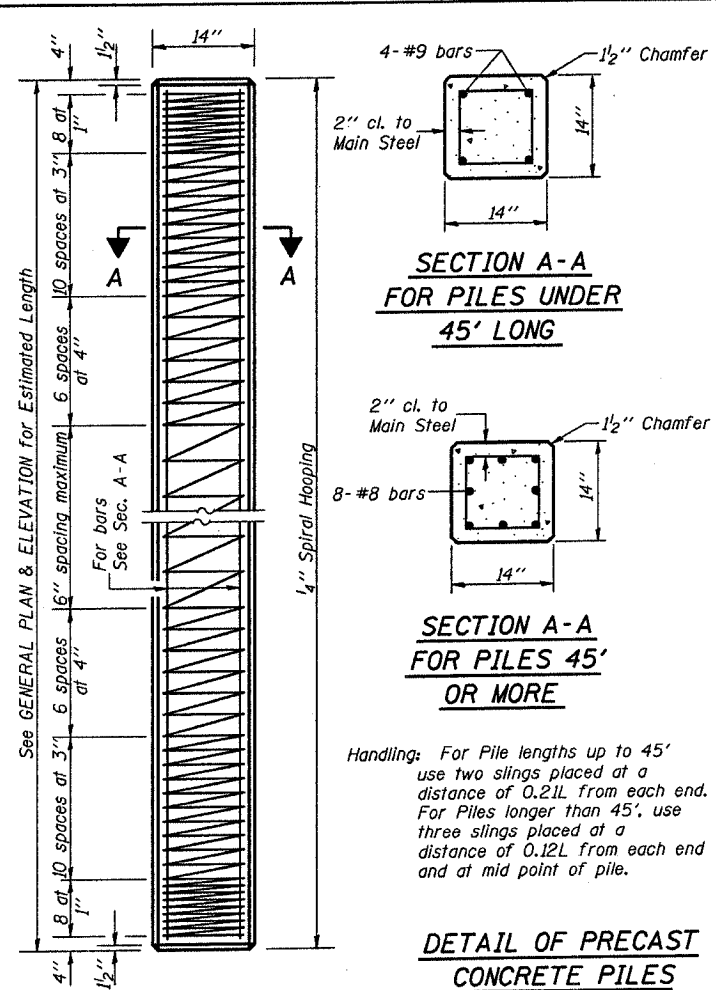
ISSUED 7-1-95

NAME PLATE
STANDARD CN

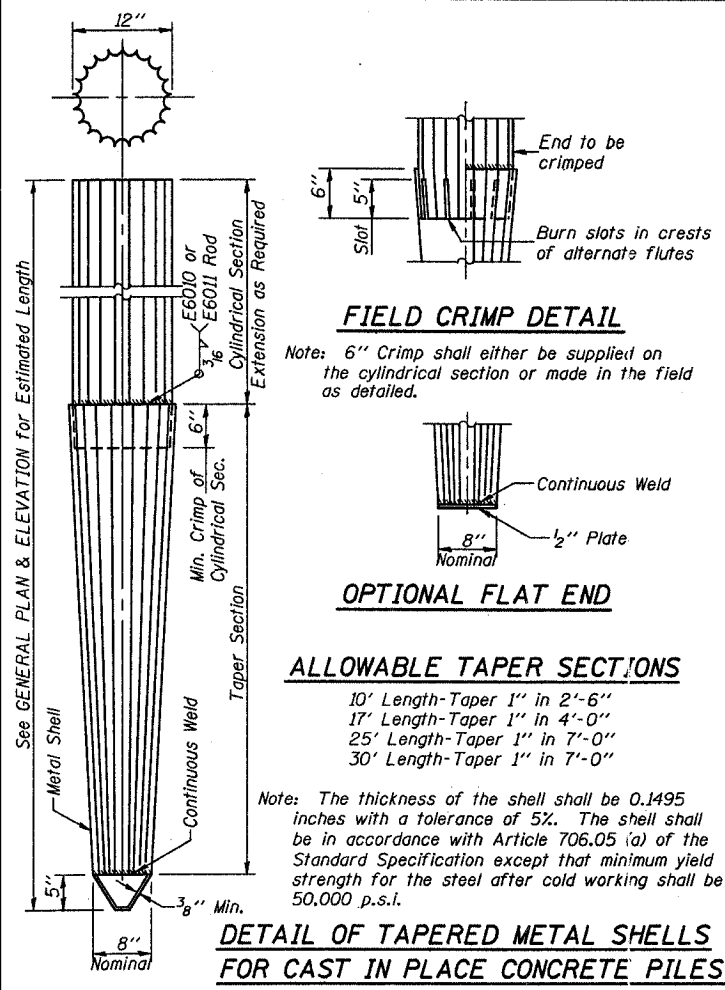
SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
02-08/116-00-BR	FAYETTE	14	13
CONTRACT NO. 95429			

Reinforcement cage shall be omitted when Class ~~SI~~ Concrete Encasement is provided.

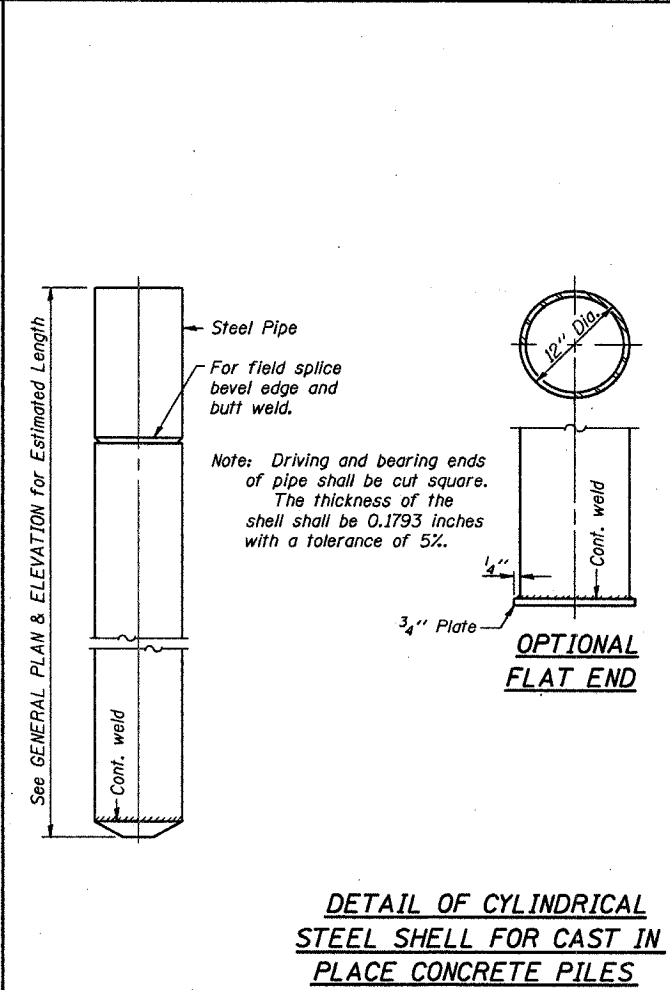
The cost of Reinforcement is incidental to the Cost of Furnishing Piles.



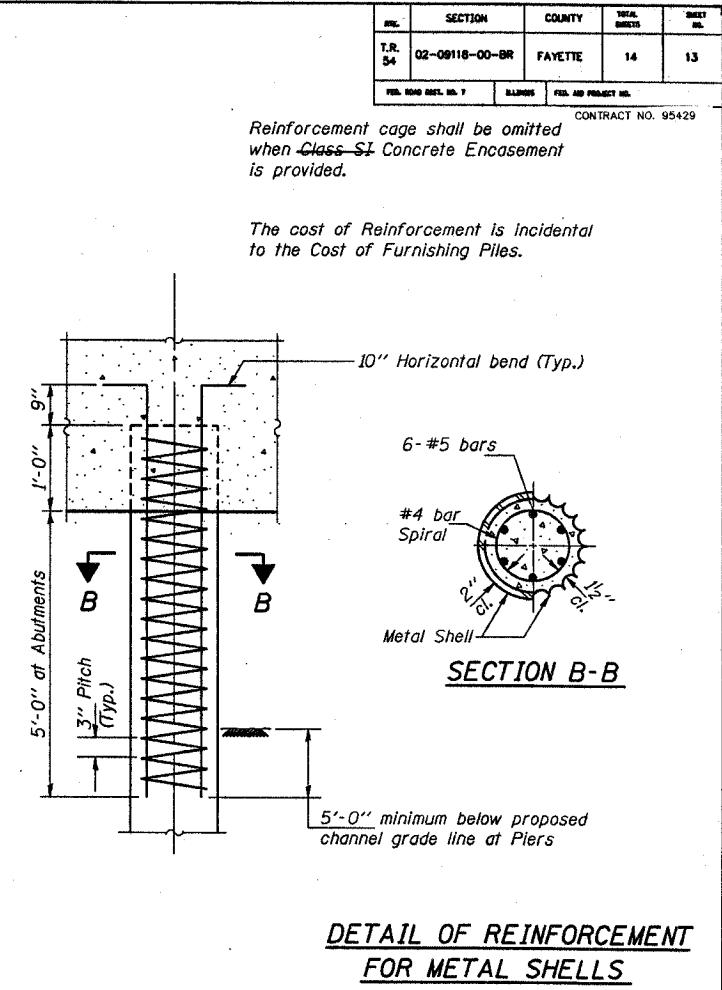
DETAIL OF PRECAST CONCRETE PILES



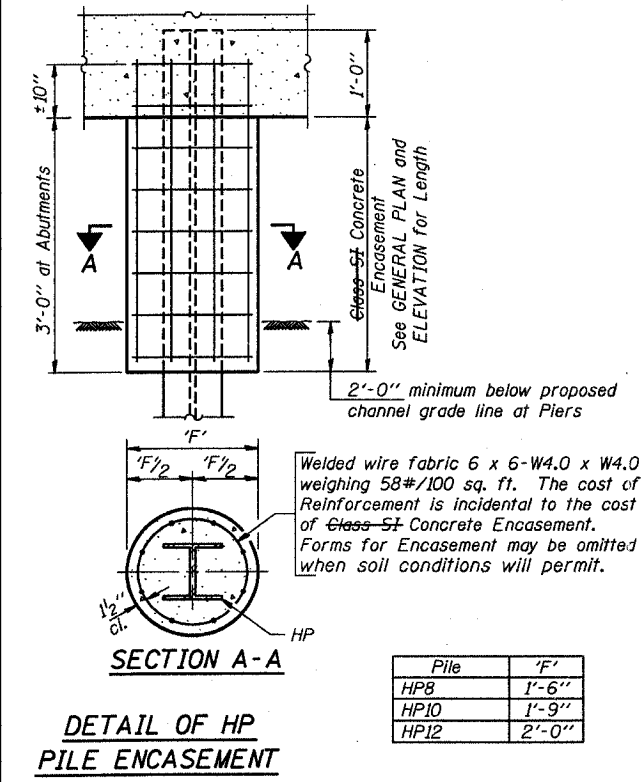
DETAIL OF TAPERED METAL SHELLS FOR CAST IN PLACE CONCRETE PILES



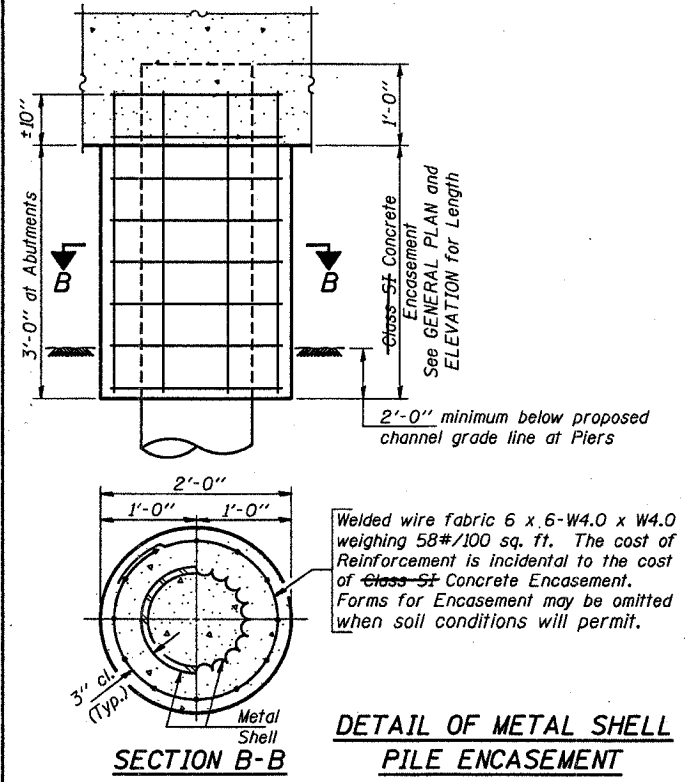
DETAIL OF CYLINDRICAL STEEL SHELL FOR CAST IN PLACE CONCRETE PILES



DETAIL OF REINFORCEMENT FOR METAL SHELLS



DETAIL OF HP PILE ENCASEMENT



DETAIL OF METAL SHELL PILE ENCASEMENT

QUANTITIES/LIN. FT. OF ENCASEMENT (STEEL PILES)

Pile Size	Item	Quantity
HP8	Class SI Concrete Encasement	0.063 C.Y.
HP10	Class SI Concrete Encasement	0.086 C.Y.
HP12	Class SI Concrete Encasement	0.112 C.Y.

(METAL SHELL PILES)

Pile Size	Item	Quantity
12" Dia.	Class SI Concrete Encasement	0.087 C.Y.

PILE DETAILS

STANDARD CX-1

Illinois Department of Transportation

PASSED November 1, 1995

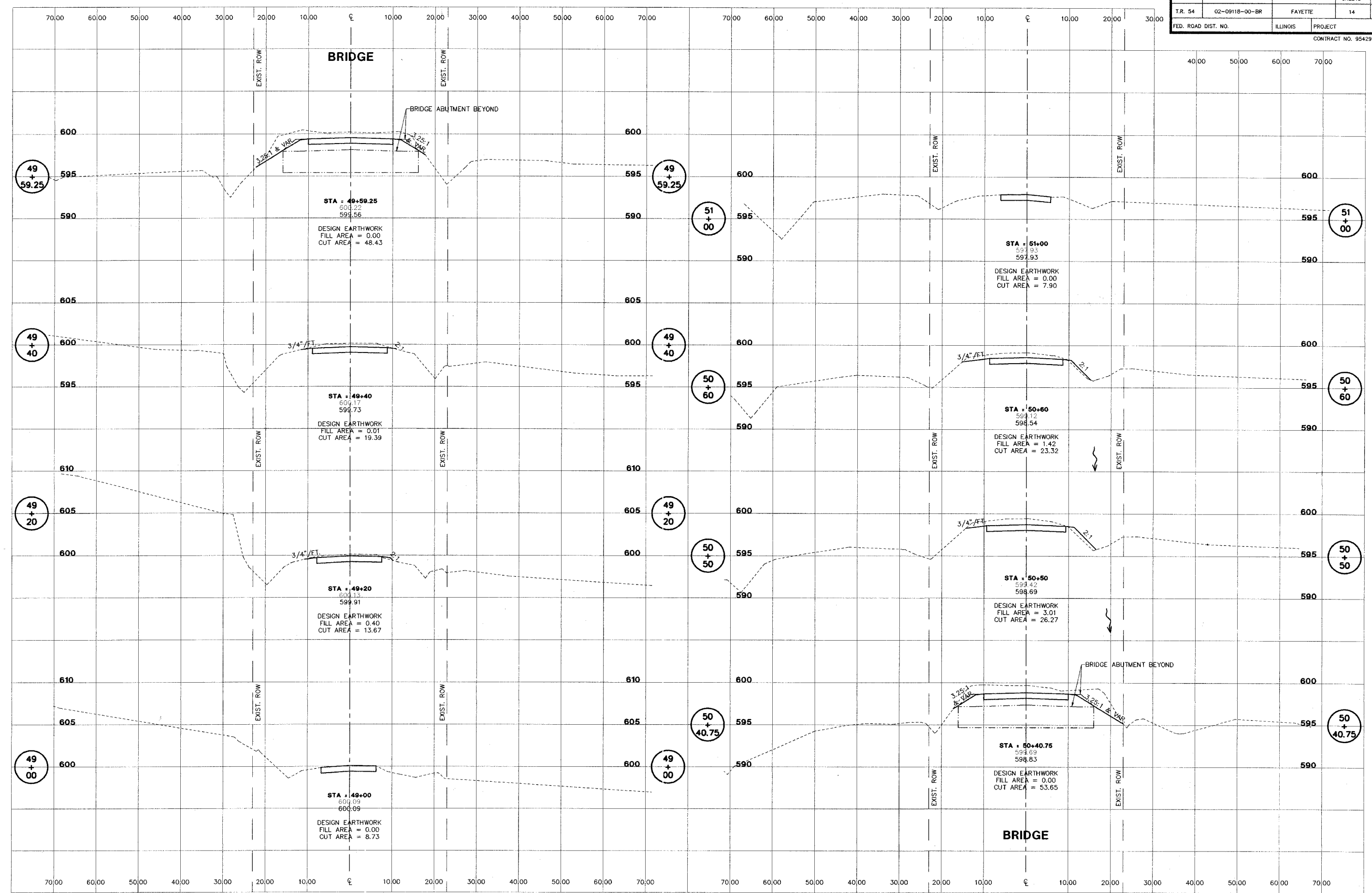
Gregory J. Kasper
 Engineer of Bridge Design

APPROVED November 1, 1995

Ralph E. Anderson
 Engineer of Bridges and Structures

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 54	02-09118-00-BR	FAYETTE	14	14
FED. ROAD DIST. NO.	ILLINOIS		PROJECT	

CONTRACT NO. 95429



CE
CLARK ENGINEERS, INC.
2524 South Broadway
Salem, Illinois 62881
PH (618) 548-3500
FAX (618) 548-5246
IL Design Firm Registration
No. 184-00871

**T.R. 54 SECTION 02-09118-00-BR
NORTH HURRICANE ROAD DISTRICT
FAYETTE COUNTY, ILLINOIS**

**CROSS SECTIONS
STA. 49+00 TO STA. 51+00**

SURVEY	JAS	CHECKED	DATE
DESIGN	MRQ	APPROVED	02/24/05
DRAWN	JMW, BLT	REVIS	
JOB NO.			FAHD0030

LL\FHD0030\EP1\RC091001 1-1 02/24/05