

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	TITLE SHEET & SUMMARY OF QUANTITIES
2	PLAN & PROFILE, TYPICAL SECTIONS & GENERAL NOTES
3-4	ROADWAY CROSS SECTIONS
5-12	BRIDGE DESIGN
13	CURLED END SECTIONS & STONE RIPRAP DITCH DESIGN

THE FOLLOWING STANDARDS ARE A PART OF THESE PLANS AND ARE INCLUDED IN THE PROPOSAL:

000001-05	STANDARD SYMBOLS, ABBREVIATIONS & PATTERNS
280001-04	TEMPORARY EROSION CONTROL SYSTEMS
701001	TRAFFIC CONTROL DEVICES
B.L.R. 21-7	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS
B.L.R. 22-5	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS (TWO-LANE TWO-WAY RURAL TRAFFIC) (ROAD CLOSED TO THRU TRAFFIC)
B.L.R. 23-2	TRAFFIC BARRIER TERMINAL TYPE I
B.L.R. 27	TRAFFIC BARRIER TERMINAL TYPE 5A

SUMMARY OF QUANTITIES

CODE NO.	ITEM	UNIT	QUANTITY X0.50-2A
20100110	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	12.00
20100210	TREE REMOVAL (OVER 15 UNITS DIAMETER)	UNIT	18.00
20200100	EARTH EXCAVATION	CU YD	162.00
20300100	CHANNEL EXCAVATION	CU YD	102.00
20400800	FURNISHED EXCAVATION	CU YD	700.00
25001000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.50
28000300	TEMPORARY DITCH CHECKS	EACH	5.00
28001000	AGGREGATE (EROSION CONTROL)	TON	13.00
28100807	STONE DUMPED RIPRAP, CLASS A4	TON	215.00
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	450.00
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1.00
50300225	CONCRETE STRUCTURES	CU YD	17.20
50300280	CONCRETE ENCASEMENT	CU YD	2.10
50400405	PRECAST PRESTRESSED CONCRETE DECK BEAMS (21" DEPTH)	SO FT	1080.00
50800105	REINFORCEMENT BARS	POUND	2240.00
50900205	STEEL RAILING, TYPE S1	FOOT	90.00
51201400	FURNISHING STEEL PILES HP10X42	FOOT	464.00
51202305	DRIVING PILES	FOOT	464.00
51204650	PILE SHOES	EACH	8.00
51500100	NAME PLATES	EACH	1.00
* 63100075	TRAFFIC BARRIER TERMINAL, TYPE 5A	EACH	2.00
66600105	FURNISHING AND ERECTING RIGHT-OF-WAY MARKERS	EACH	7.00
67100100	MOBILIZATION	L SUM	1.00
* LR631020	TRAFFIC BARRIER TERMINAL, TYPE 1	EACH	2.00

* SPECIALTY ITEMS

DESIGN DESIGNATION:
DESIGN SPEED: 40 MPH
HIGHWAY CLASS - MINOR COLLECTOR
EXISTING STRUCTURE NO.: 097-3021
PROPOSED STRUCTURE NO.: 097-3251
CURRENT A.D.T. = 150
CONTRACT NO. 99305

**J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123**

STATE OF ILLINOIS

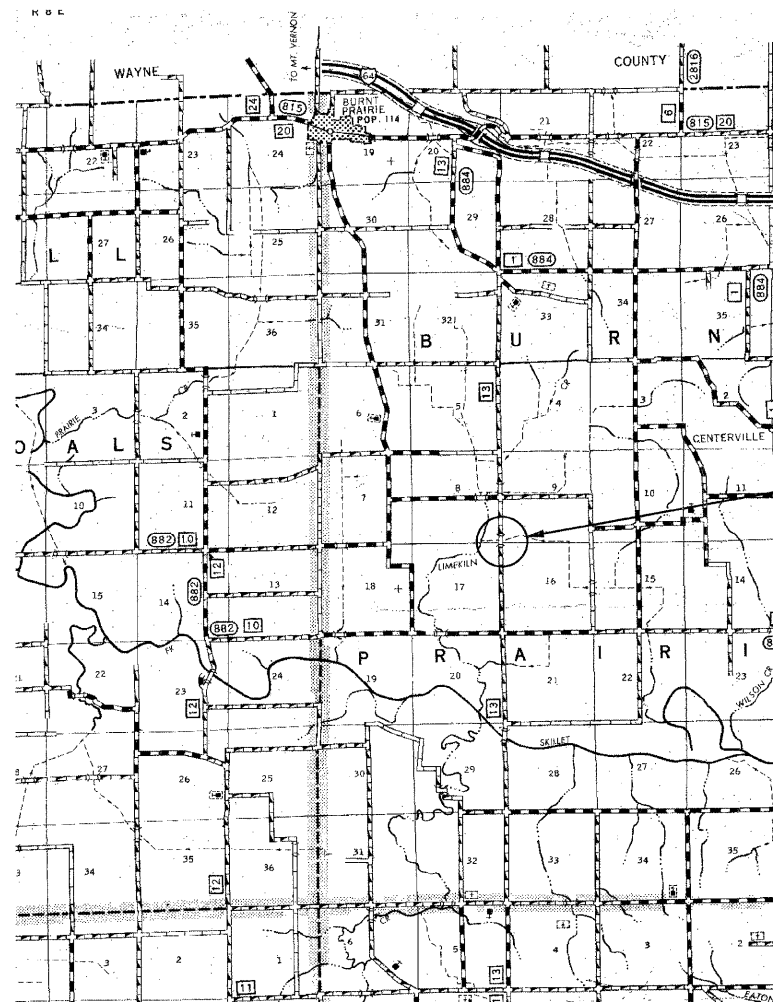
DEPARTMENT OF TRANSPORTATION

**PLANS FOR PROPOSED
FEDERAL AID - H.B.P. PROJECT**

C.H. 13 WHITE COUNTY SECTION 06-00100-00-BR

PROJECT NO. BROS-193(25) JOB NO. C-99-537-06

CONTRACT # 99305 LIMEKILN CREEK



LAYOUT
APPROXIMATE SCALE 1 INCH = 1 MILE



GROSS LENGTH	609.00 FT	0.12 MILES
OMISSIONS	0.00 FT	0.00 MILES
NET LENGTH	609.00 FT	0.12 MILES

PLAN	1" = 50'	
PROFILE	1" = 50'	
PROFILE VERT.	1" = 5'	
CROSS SECTION	1" = 5'	

SECTION 06-00100-00-BR
BEGINS STATION 1+65

STATION 5+00, STRUCTURE NO. 097-3251
A 45' LONG SINGLE SPAN PRECAST
PRESTRESSED CONCRETE DECK BEAM
BRIDGE (21" DEPTH), 24' ROADWAY, 0.00%
GRADE, 10° RT FWD SKEW.

SECTION 06-00100-00-BR
ENDS STATION 7+90

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

APPROVED 9/21/2007
Brian A. Lopez
COUNTY ENGINEER

PASSED 10/11/07
Dennis W. Hillebrand
ENGINEER OF LOCAL ROADS AND STREETS

RELEASING FOR BID
BASED ON LIMITED
REVIEW: 10-2-07
Mary C. Lamie
MARY C. LAMIE, P.E.
DEPUTY DIRECTOR OF HIGHWAY
REGION FIVE ENGINEER

C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
13	06-00100-00-BR	WHITE	13	1

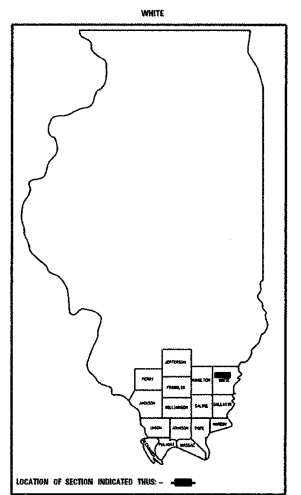
FED. ROAD DIST. NO. 9 ILLINOIS
PROJECT # BROS-193(25)
JOB # C-99-537-06

FED. AID PROJECT
CONTRACT # 99305
LIMEKILN CREEK

323 W. 3RD ST.
P.O. BOX 160
MT. CARMEL, IL
62863

PHONE:
(618)-262-8651
FAX:
(618)-263-3327

LEC JOB # H061025WH

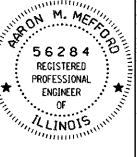


405 W. STATE ST.
SUITE 1
PRINCETON, IN
47670

PHONE:
(812)-386-7611
FAX:
(812)-385-2812

PROFESSIONAL DESIGN FIRM
LAND SURVEY &
PROFESSIONAL
ENGINEERING
CORPORATION

184-000887
(62-032435)(35-002769)



AARON M. MEFFORD
NAME
Aaron Mefford
SIGNATURE
DATE
9-27-07
11-30-09
EXPIRES

COUNTY HIGHWAY 13
OVER LIMEKILN CREEK
WHITE COUNTY, ILLINOIS

SHEET TITLE:

TITLE SHEET

SCALE: VARIES

BY: AMM

DATE: 9/20/07

REV:

1 OF 13

SHEETS

SHEET NO.

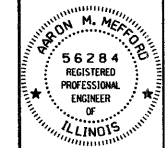
C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
13	06-00100-00-BR	WHITE	13	2
FED. ROAD DIST. NO. 9 ILLINOIS		LIMEKILN CREEK		
PROJECT # BR05-193251		CONTRACT # 99305		
LEC JOB # H061025WH				

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AARON M. MEFFORD
NAME
SIGNATURE
9-27-07
DATE
11-30-09
EXPIRES

COUNTY HIGHWAY 13
OVER LIMEKILN CREEK
WHITE COUNTY, ILLINOIS

SHEET TITLE:

PLAN & PROFILE

SCALE: Varies
BY: AMM
DATE: 9/27/07
REV:

2 OF 13
SHEETS

SHEET NO.
2

GENERAL NOTES:

THIS SECTION SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PLANS, SPECIAL PROVISIONS AND "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", ADOPTED JANUARY 1, 2007.

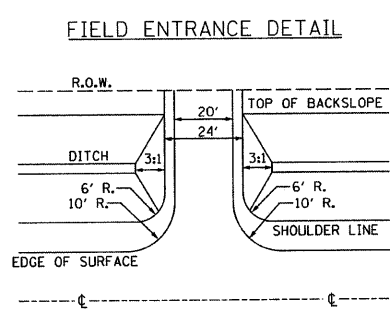
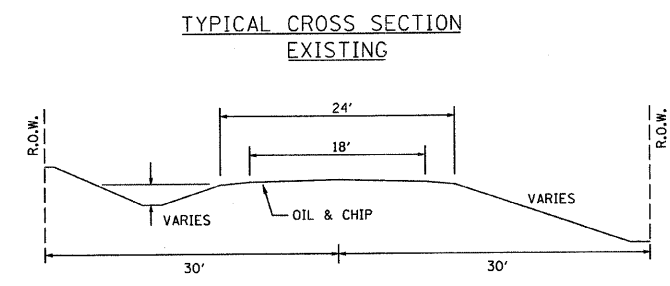
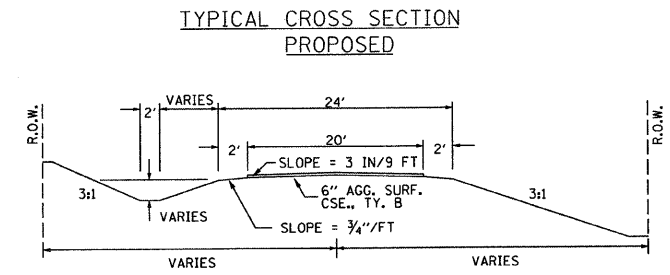
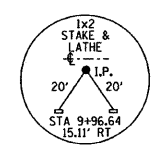
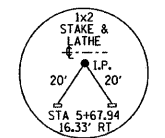
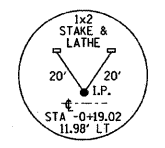
THE WORK INVOLVED ON THIS SECTION CONSISTS OF THE REMOVAL OF THE EXISTING STRUCTURE, THE CONSTRUCTION OF A 45 FOOT LONG SINGLE SPAN PRECAST, PRESTRESSED CONCRETE DECK BEAM BRIDGE, EARTH APPROACHES, AGGREGATE SURFACE COURSE AND OTHER MISCELLANEOUS ITEMS NECESSARY TO COMPLETE THIS SECTION.

ALL ELEVATIONS ARE BASED ON U.S.G.S. MEAN SEA LEVEL DATUM.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT ALL THE UTILITIES, AFFECTING THE PROJECT, PRIOR TO CONSTRUCTION.

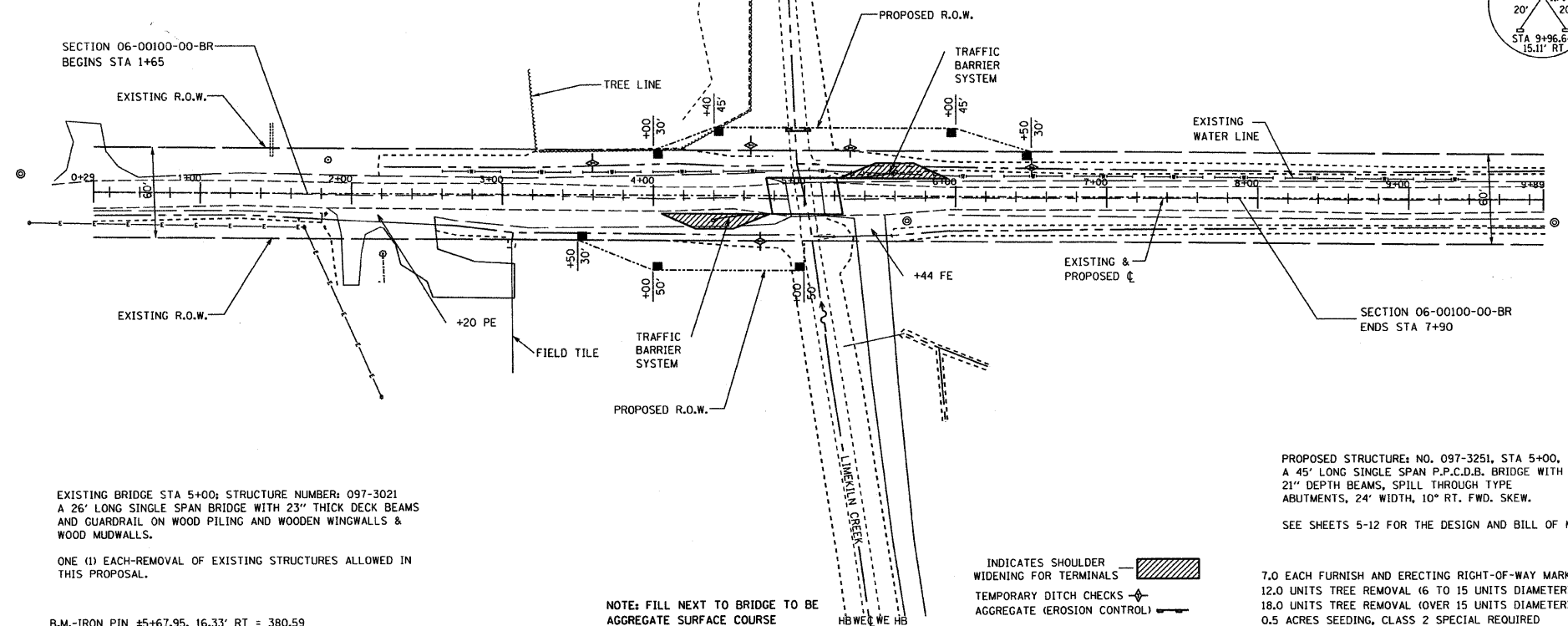
THE CONTRACTOR SHALL HAVE THE WATER LINE LOCATED AND ADJUST THE CHANNEL EXCAVATION AS NECESSARY.

NOTE: CONSTRUCTION TRANSITIONS
STA. 1+65 TO STA 2+00
STA 7+50 TO STA 7+90
ALL QUANTITIES ARE INCLUDED IN THE PROPOSAL



UTILITIES:
J.U.L.I.E. 1-800-892-0123
WAYNE-WHITE ELECTRIC
1-618-842-2196
BROWNSVILLE WATER
1-618-265-3820

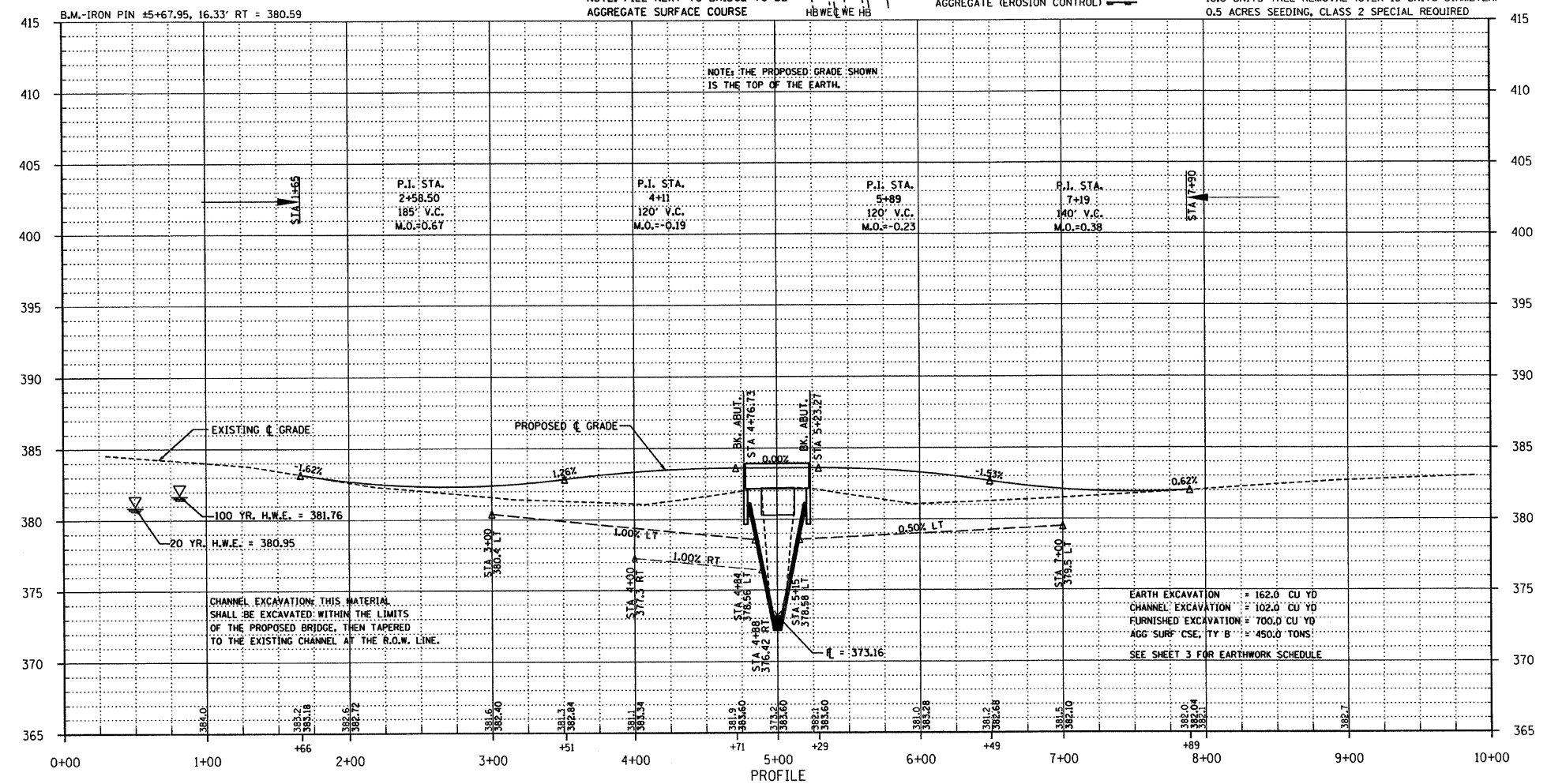
NOTE: CONSTRUCT SPECIAL DITCH
STA 3+00 TO STA 4+84 LT
STA 4+00 TO STA 4+84 RT
STA 5+15 TO STA 7+00 LT



EXISTING BRIDGE STA 5+00; STRUCTURE NUMBER: 097-3021
A 26' LONG SINGLE SPAN BRIDGE WITH 23" THICK DECK BEAMS AND GUARDRAIL ON WOOD PILING AND WOODEN WINGWALLS & WOOD MUDWALLS.
ONE (1) EACH-REMOVAL OF EXISTING STRUCTURES ALLOWED IN THIS PROPOSAL.

INDICATES SHOULDER WIDENING FOR TERMINALS
TEMPORARY DITCH CHECKS
AGGREGATE (EROSION CONTROL)

7.0 EACH FURNISH AND ERECTING RIGHT-OF-WAY MARKERS
12.0 UNITS TREE REMOVAL (6 TO 15 UNITS DIAMETER)
18.0 UNITS TREE REMOVAL (OVER 15 UNITS DIAMETER)
0.5 ACRES SEEDING, CLASS 2 SPECIAL REQUIRED



CHANNEL EXCAVATION: THIS MATERIAL SHALL BE EXCAVATED WITHIN THE LIMITS OF THE PROPOSED BRIDGE, THEN TAPERED TO THE EXISTING CHANNEL AT THE R.O.W. LINE.

EARTH EXCAVATION = 162.0 CU YD
CHANNEL EXCAVATION = 102.0 CU YD
FURNISHED EXCAVATION = 700.0 CU YD
AGG SURF CSE, TY B = 450.0 TONS
SEE SHEET 3 FOR EARTHWORK SCHEDULE

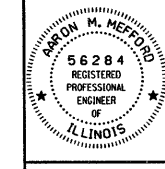
C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
13	06-00100-00-BR	WHITE	13	3
FED. ROAD DIST. NO. 9 ILLINOIS		LIMEKILN CREEK		
PROJECT * BROS-193253		CONTRACT * 99305		
LEC JOB * H061L025WH				

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AARON M. MEFFORD
NAME
Aaron M. Mefford
SIGNATURE
9-27-07
DATE
11-30-09
EXPIRES

COUNTY HIGHWAY 13
OVER LIMEKILN CREEK
WHITE COUNTY, ILLINOIS

SHEET TITLE:

CROSS-SECTIONS

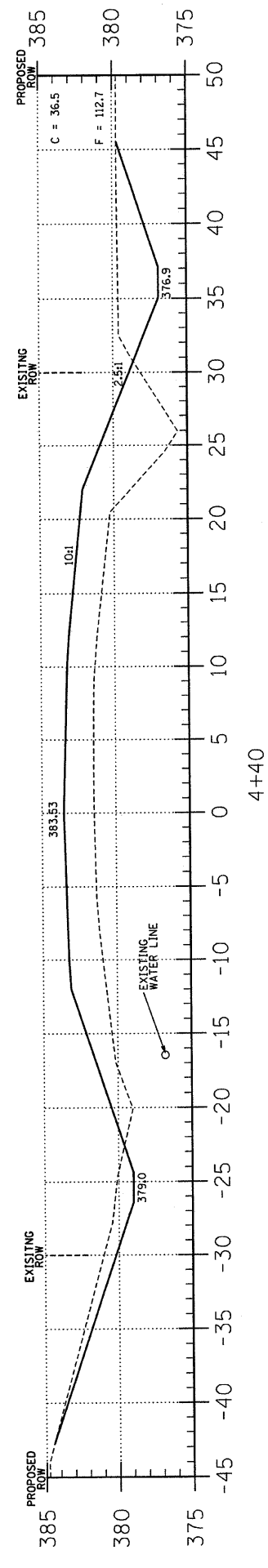
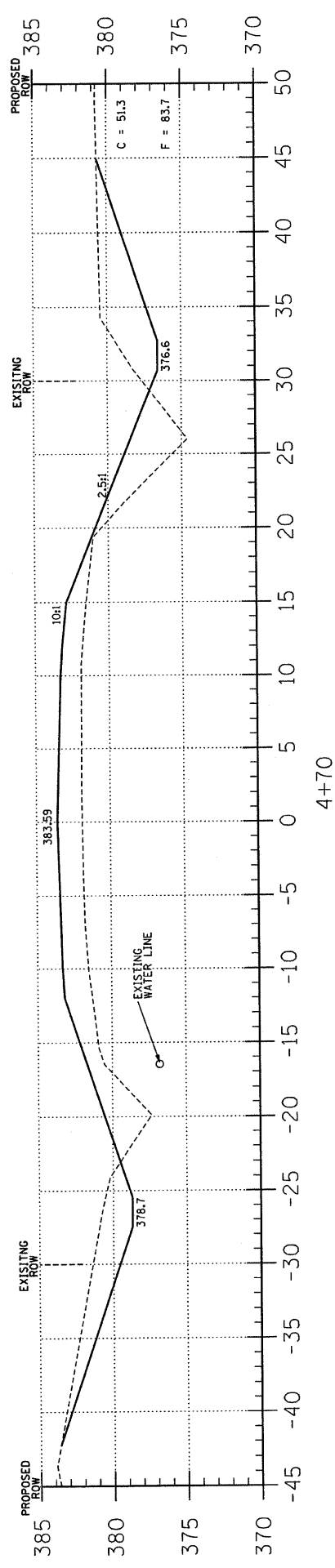
SCALE: 1" = 5'
BY: AMM
DATE: 9/20/07
REV:

3 OF 13 SHEETS

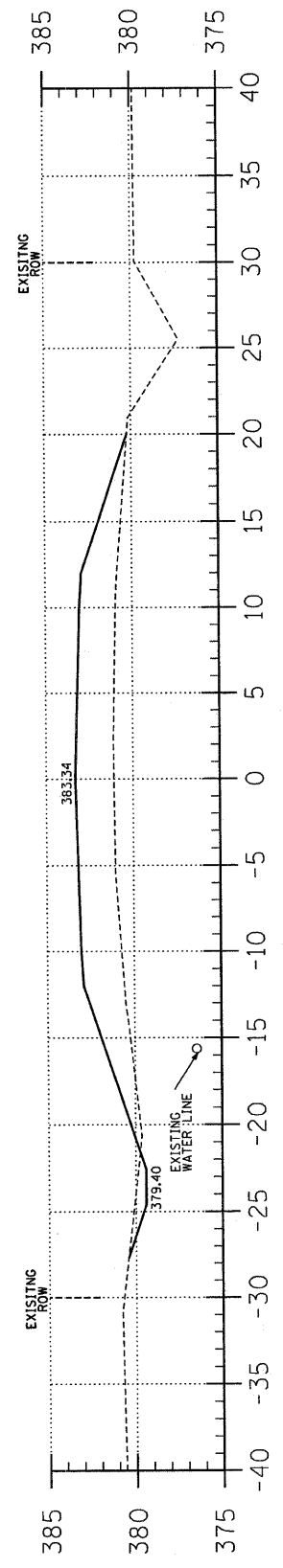
SHEET NO. 3

EARTHWORK SCHEDULE

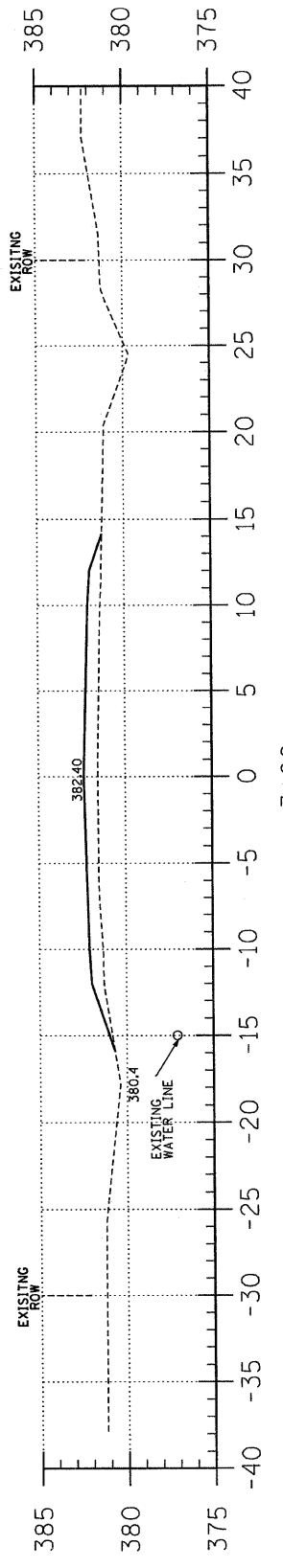
LOCATION	EARTH EXCAVATION		CHANNEL EXCAVATION		ESTIMATED UNSUITABLE MATERIAL		SUITABLE MATERIAL ADJUSTED FOR SHRINKAGE		EMBANKMENT		EARTHWORK BALANCE WASTE (+) OR SHORTAGE (-)	
	CUBIC YARD	CUBIC YARD	CUBIC YARD	CUBIC YARD	CUBIC YARD	CUBIC YARD	CUBIC YARD	CUBIC YARD	CUBIC YARD	CUBIC YARD	CUBIC YARD	CUBIC YARD
STA 0+00 TO 4+76.7	87.2	0.0	0.0	0.0	0.0	65.4	446.2	-380.8				
STA 4+76.7 TO 5+23.2	0.0	102.0	0.0	51.0	38.3	0.0	403.5	-347.4				
STA 5+23.2 TO 10+00	74.8	0.0	0.0	0.0	56.1	9.6						
2 PRIVATE & 1 FIELD ENTRANCES	0.0	0.0	0.0	0.0	0.0	9.6						
TOTAL	162.0	102.0	51.0	159.8	859.3	-699.5						



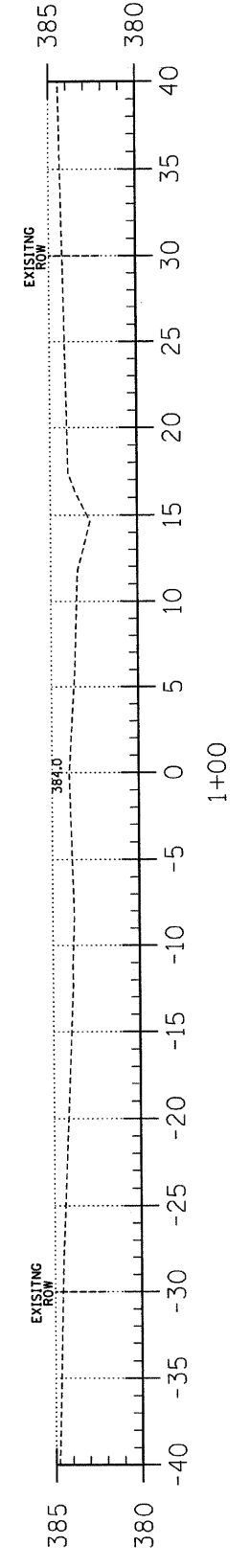
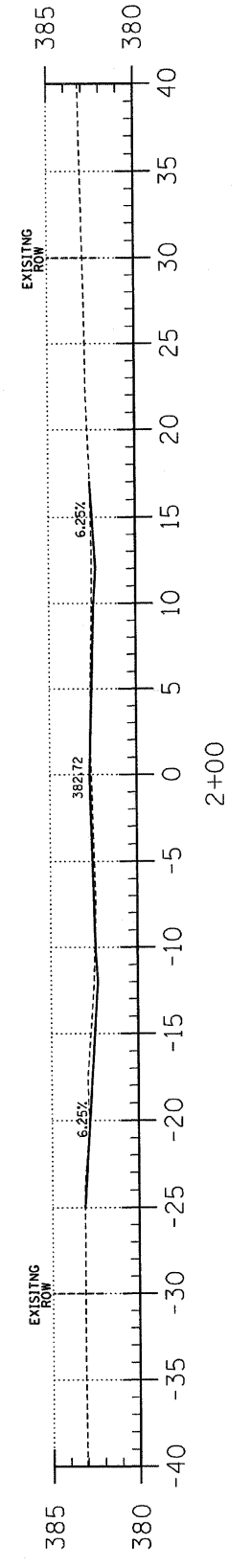
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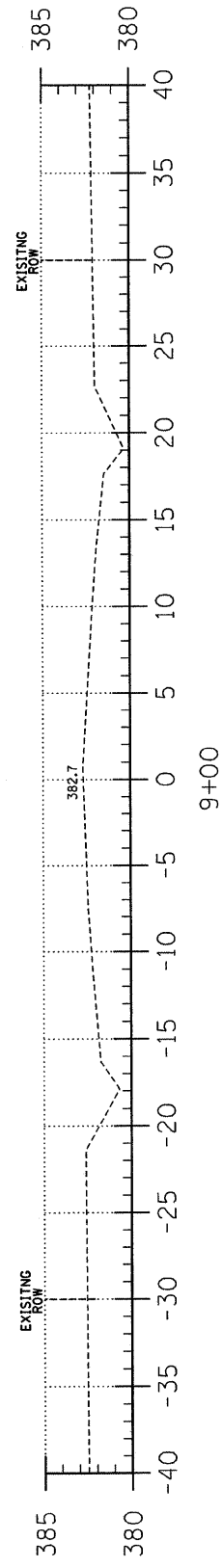


C = X.X
F = 19.9



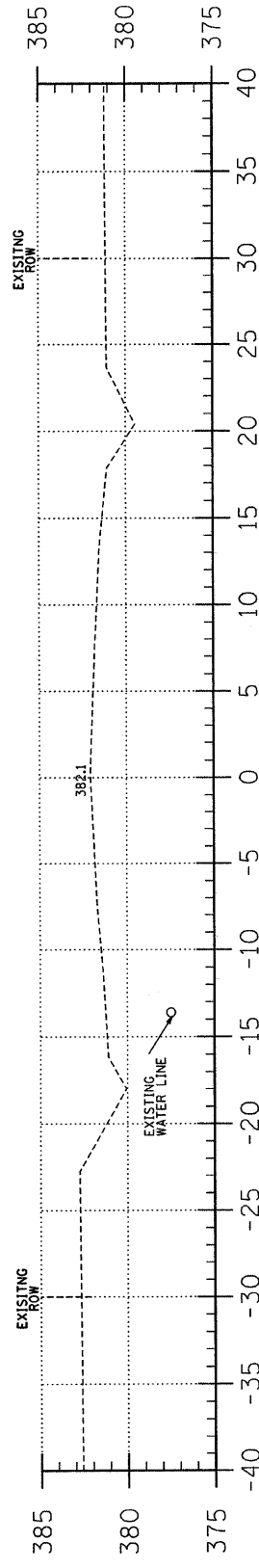
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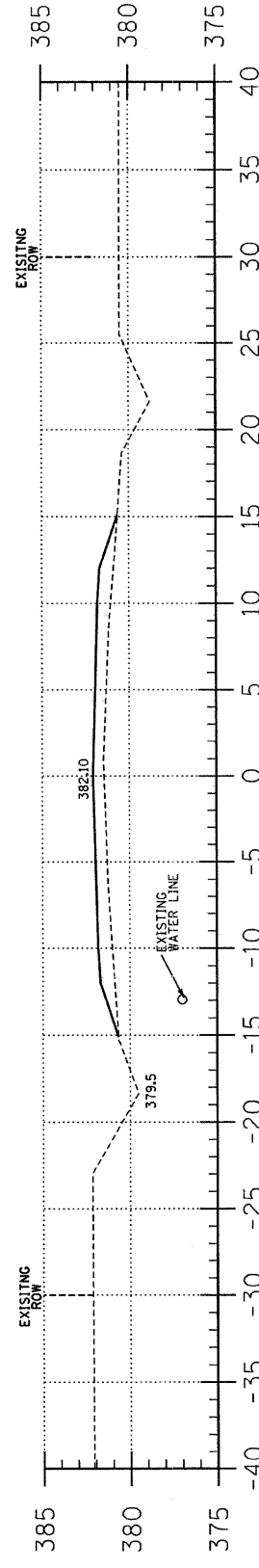


9+00

C = 0.0
F = 19.1

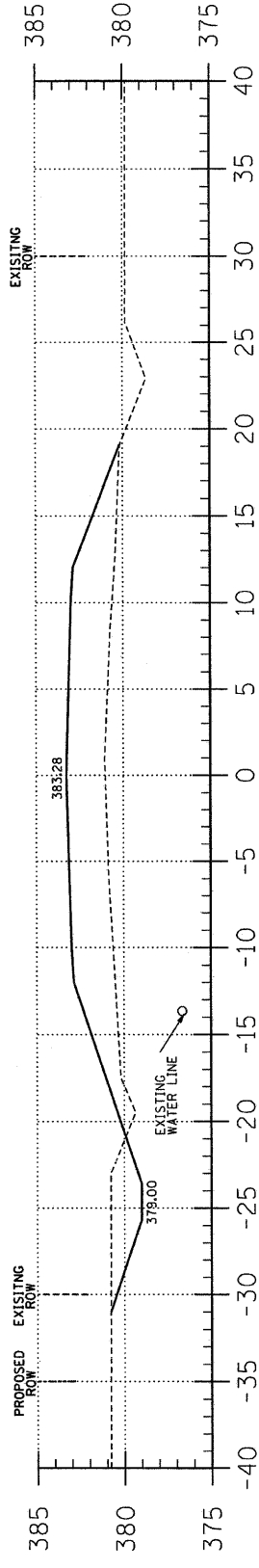


8+00



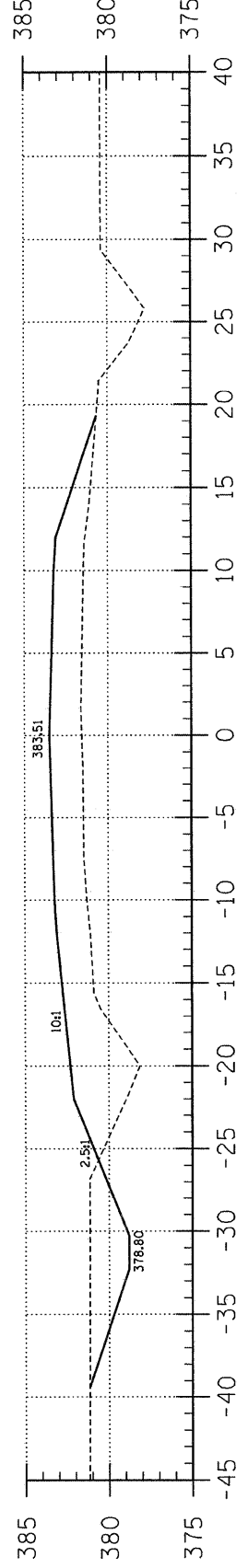
7+00

C = 11.0
F = 74.8



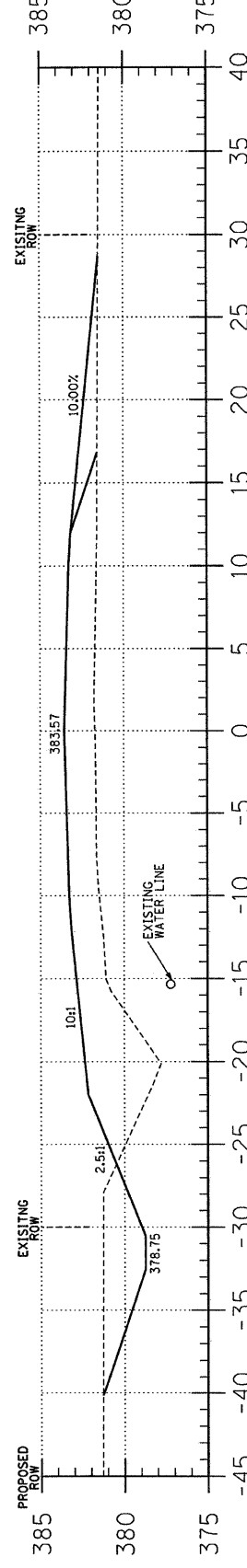
6+00

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F = 84.4



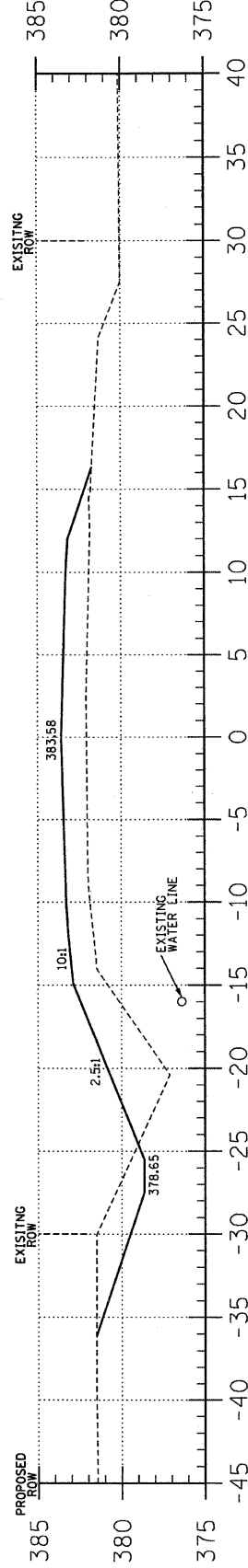
5+60

C = 21.2
F = 82.3



5+50

C = 13.6
F = 64.3



5+30

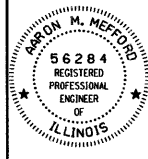
C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
13	06-00100-00-BR	WHITE	13	4
FED. ROAD DIST. NO. 9		ILLINOIS		LIMEKILN CREEK
PROJECT * BR05-19325J			CONTRACT * 99305	
LEC JOB * H061025MH				

323 W. 3RD ST.
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(62-032435)(35-002769)



AARON M. MEFFORD
NAME
Aaron M. Mefford
SIGNATURE
9-27-07
DATE
11-30-09
EXPIRES

COUNTY HIGHWAY 13
OVER LIMEKILN CREEK
WHITE COUNTY, ILLINOIS

SHEET TITLE:
CROSS-SECTIONS

SCALE:	1" = 5'
BY:	AMM
DATE:	06/07
REV:	

4	OF	13
SHEETS		
SHEET NO. 4		

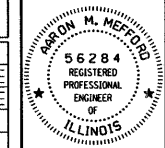
C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
13	06-00100-00-BR	WHITE	13	5
FED. ROAD DIST. NO. 9 ILLINOIS		LIMEKILN CREEK		
PROJECT # BROS-193(25)		CONTRACT NO. 99305		
LEC JOB # H061025MH				

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PROFESSIONAL
LAND SURVEYING
FIRM:
048-00082
PROFESSIONAL
ENGINEERING
CORPORATION:
184-00087



AARON M. MEFFORD
NAME
SIGNATURE
9-27-07
DATE
11-30-07
EXPIRES

COUNTY HIGHWAY 13
OVER LIMEKILN CREEK
WHITE COUNTY, ILLINOIS

SHEET TITLE:

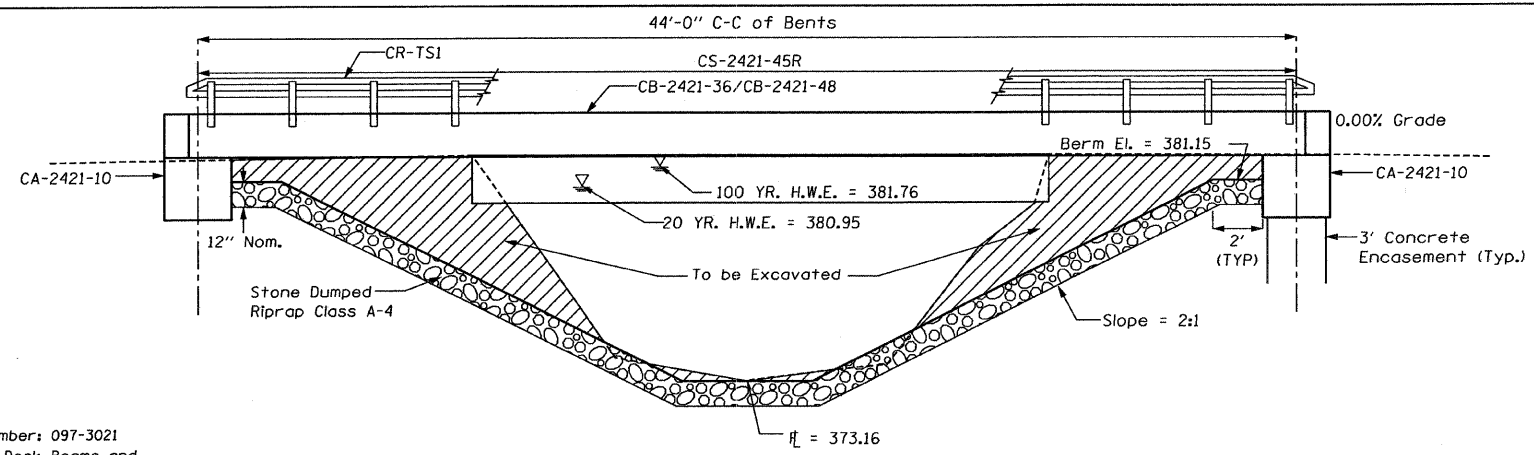
GENERAL PLAN
AND ELEVATION

SCALE: NONE
BY: A.M.M.
DATE: 06/07
REV:

5 OF 13
SHEETS

SHEET NO.
5

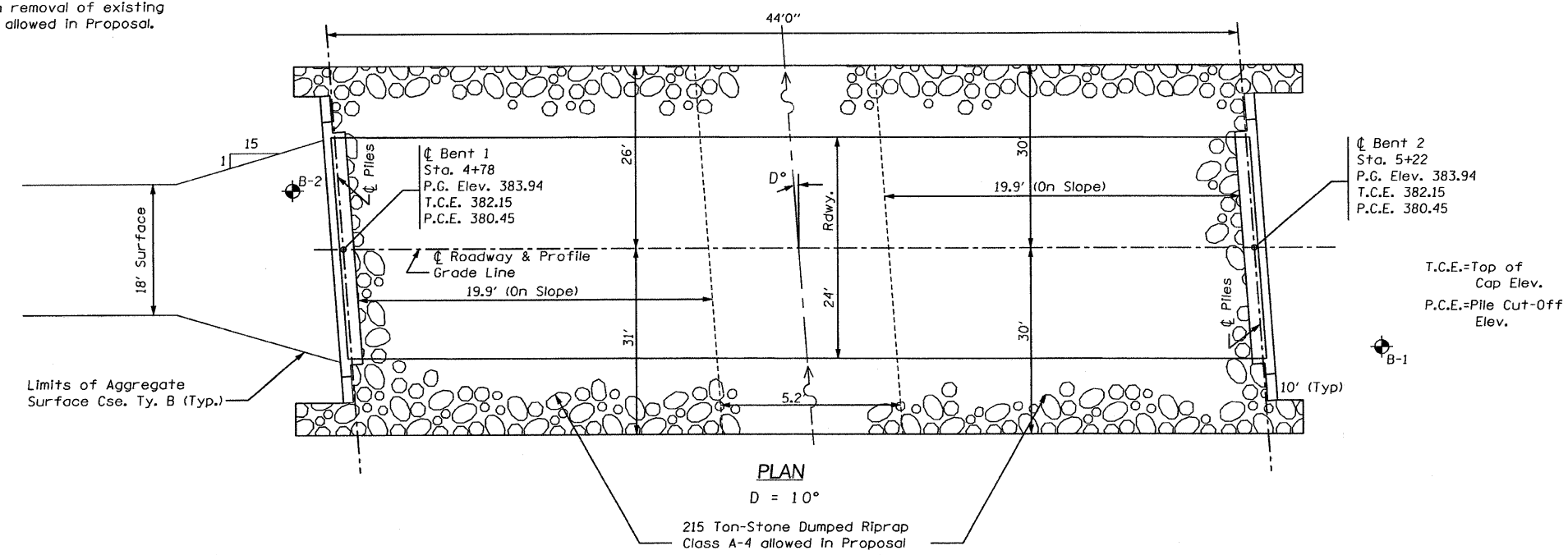
B.M. I.P. ±5+67.95, 16.33' RT.
Elev. = 380.59



ELEVATION

Existing Bridge Sta 5+00; Structure Number: 097-3021
A 26' Single Span Bridge with 23" Thick Deck Beams and
Guardrail on Wooden Piling, Wooden Wingwalls, & Wood Mudwalls.

One (1) each removal of existing
structures allowed in Proposal.



PLAN

NOTE: All items deemed fit for
use on other County projects
shall become the property of the
County. These items shall be stored
along the R.O.W. at no additional
cost to the project.

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 the
contract plans should be interpreted as referring to the
current edition of the Standard Specification (Adopted
January 1, 2007) as shown in the "Article/Section No.
Reference Table."

Previous No.	Current No.
504.06	504.06
505.04	505.04
1006.05	1006.05
1006.32	1006.32
1060.07	1060.07
STD 631026	STD 631026

NORTH ABUT. PILE DATA

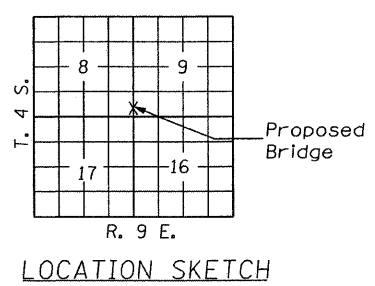
Type: Steel Piles HP10X42
Nominal Required Bearing: 335 Kips
Allowable Resistance Available: 68 Kips
Estimated Length: 62 Feet/Pile
Number Required: 4

SOUTH ABUT. PILE DATA

Type: Steel Piles HP10X42
Nominal Required Bearing: 335 Kips
Allowable Resistance Available: 68 Kips
Estimated Length: 54 Feet/Pile
Number Required: 4

STATION 5+00
LIMEKILN CREEK
SEC. 06-00100-00-BR BUILT 20
PROJECT NO. BROS-193(25)
WHITE COUNTY
LOADING HS 20-44
STR. NO. 097-3251

LETTERING FOR NAME PLATE
Locate Name Plate at the Southeast
Corner of the Bridge (See Sd. CN)



INDEX OF SHEETS

- General Plan & Elevation
- Standard CS-2421-45R
- Standard CB-2421-36
- Standard CB-2421-48
- Standard CA-2421-10
- Standard CR-TS1
- Standard CN
- Standard CX-1

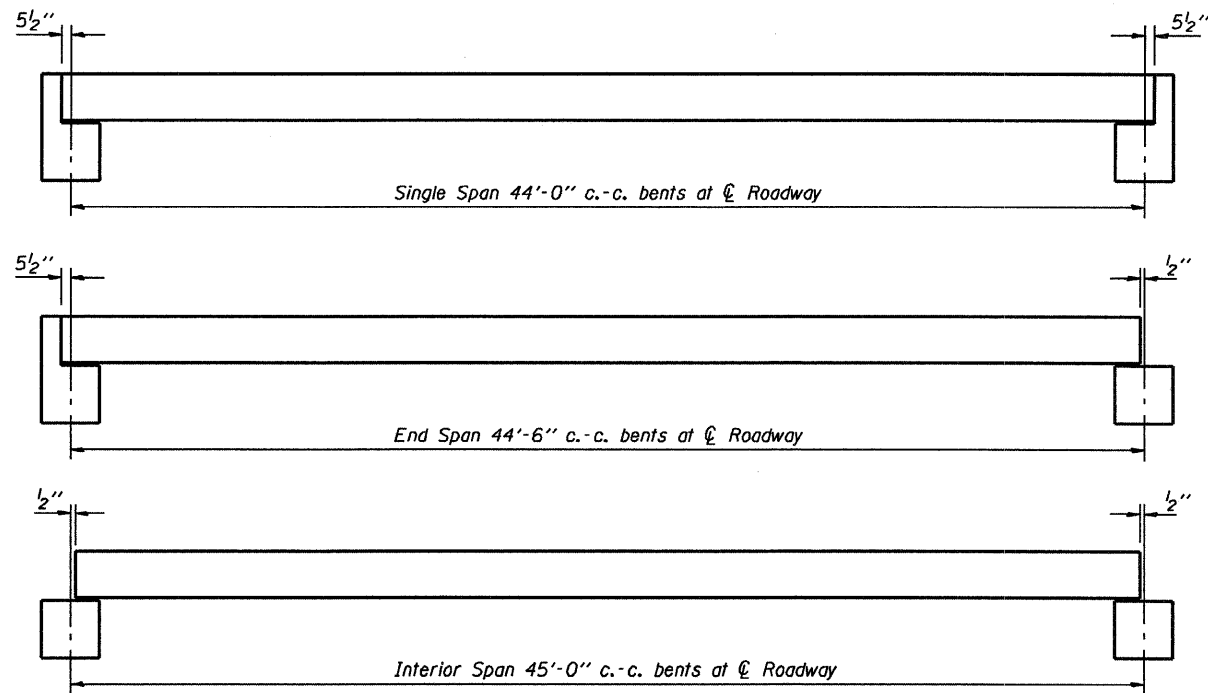
DESIGN SPECIFICATIONS

2002 AASHTO
HS 20-44 Loading, Load Factor Design

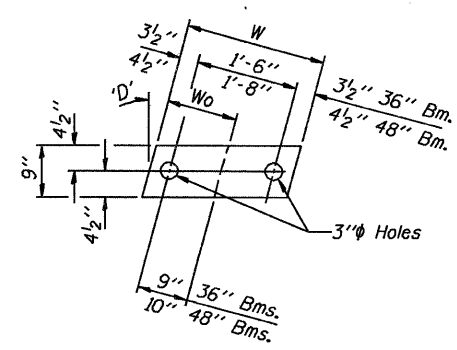
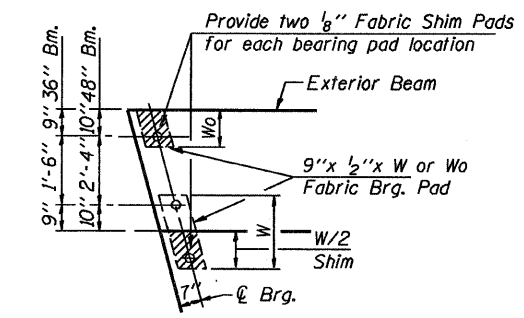
WATERWAY INFORMATION

Drainage Area = 2.4 Sq. Mi. Low Grade Elev. = 381.98 At Sta. 7+80									
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	679	102.1	159.3	380.95		0.09		381.04
Base	100	996	102.1	191.0	381.76	0.55	0.18	382.31	381.94
Max. Calc.	500	1299							

COUNTY	ROUTE	13
OVER	LIMEKILN CREEK	
SECTION	06-00100-00-BR	
WHITE	COUNTY	
STATION	5+00	

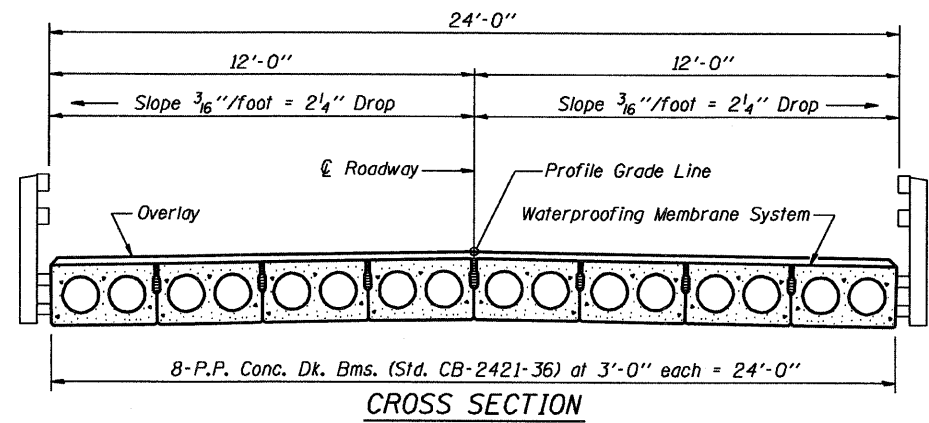


TYPICAL ELEVATIONS

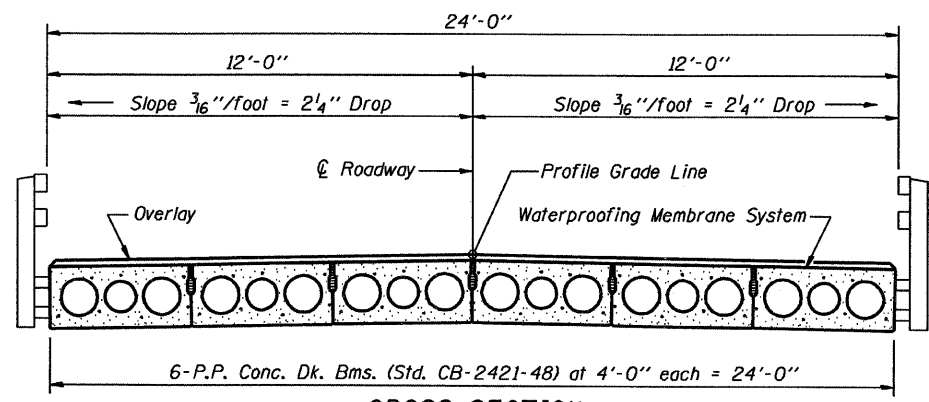


Beam	W	Wo
36"	2'-1"	1'-0 1/2"
48"	2'-5"	1'-2 1/2"

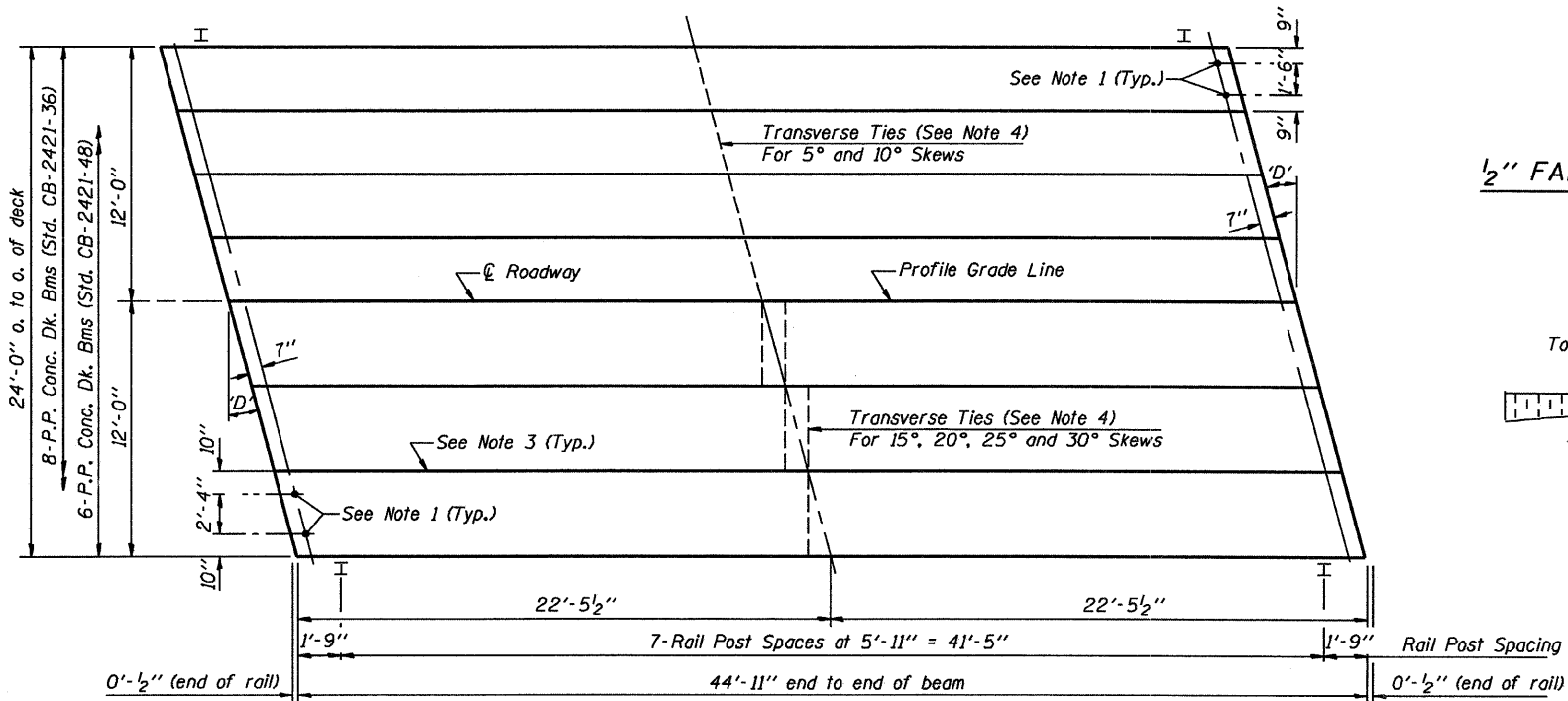
1/2" FABRIC BRG. PAD DETAILS



CROSS SECTION

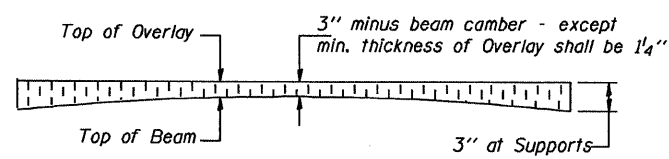


CROSS SECTION



PLAN

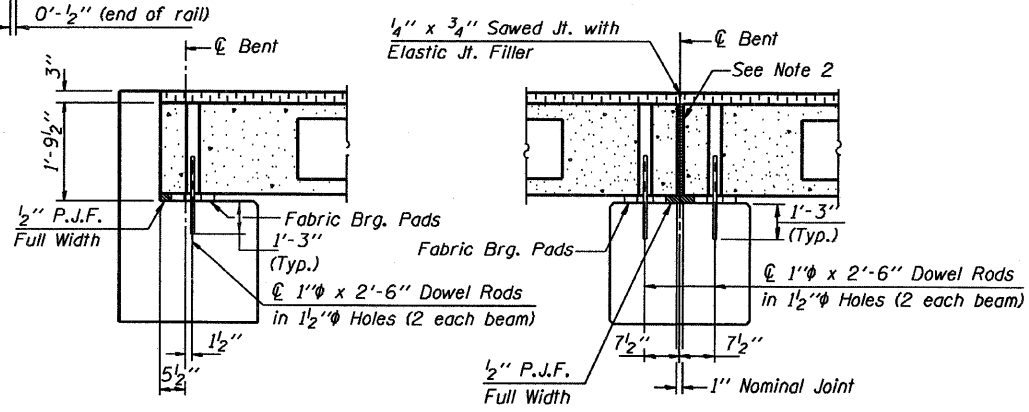
('D' = Designated Skew Angle)



PROFILE OF OVERLAY

DIMENSIONS 'A' AND 'B'

'D'	5°	10°	15°	20°	25°	30°
A	1 1/2"	1 5/8"	1 3/4"	1 7/8"	2 1/4"	2 5/8"
B	7 1/2"	7 3/8"	7 3/4"	8"	8 1/4"	8 3/8"



SECTION AT ABUTS.
(Along centerline of Beams)

SECTION AT PIERS
(Along centerline of Beams)

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 centerline of Pier shall be filled with non-shrink grout.
3. Longitudinal keys shall be grouted.
4. 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 outside shall be filled with grout after transverse tie assembly is in place.

QUANTITIES FOR ONE SPAN

P.P. Conc. Dk. Bm. 21" Dp.	1080 Sq. Ft.
Steel Railing	90 Ft.
Waterproofing Membrane System	120.0 Sq. Yds.
Portland Cement Mortar	315 Ft. 36"
Fairing Course	225 Ft. 48"

Note: Quantity of overlay for one span = 15.3 Tons

P.P.C. DECK BEAM SUPERSTRUCTURE			
24' RDWY.	21" BMS.	45' SPAN	RIGHT
STANDARD CS-2421-45R			

Illinois Department of Transportation

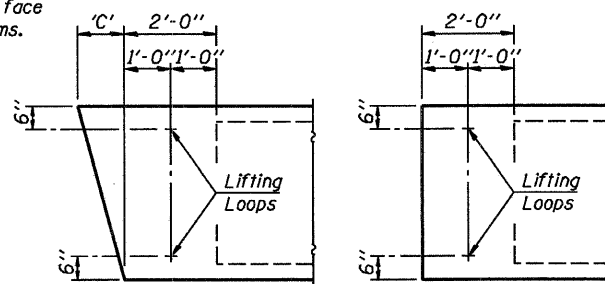
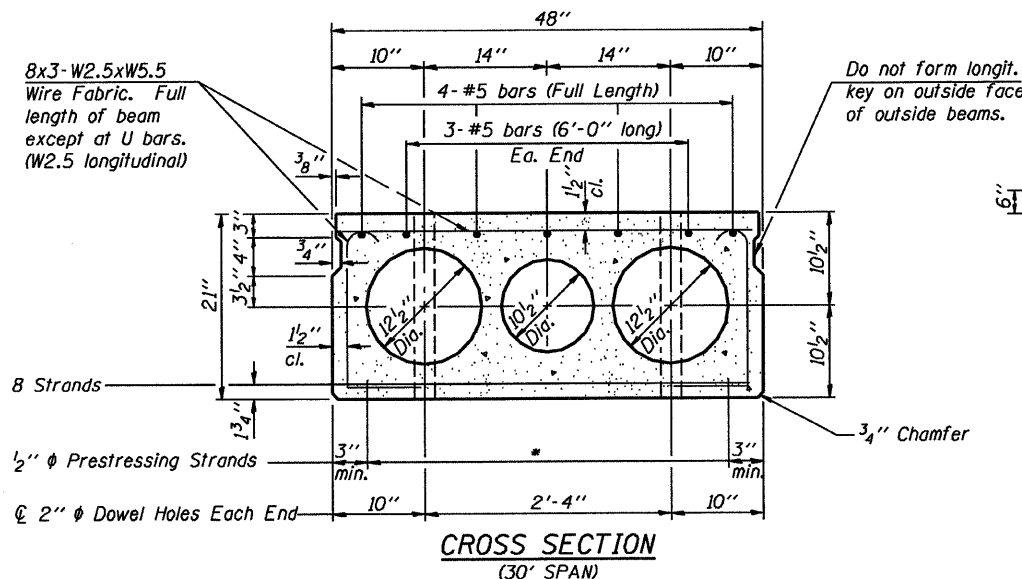
PASSED APRIL 4, 2005

Thames S. Romo, Engineer of Bridge Design

APPROVED APRIL 4, 2005

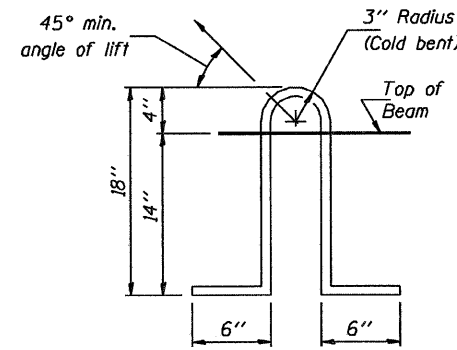
Ralph E. Anderson, Engineer of Bridges and Structures

ISSUED 1-1-1981



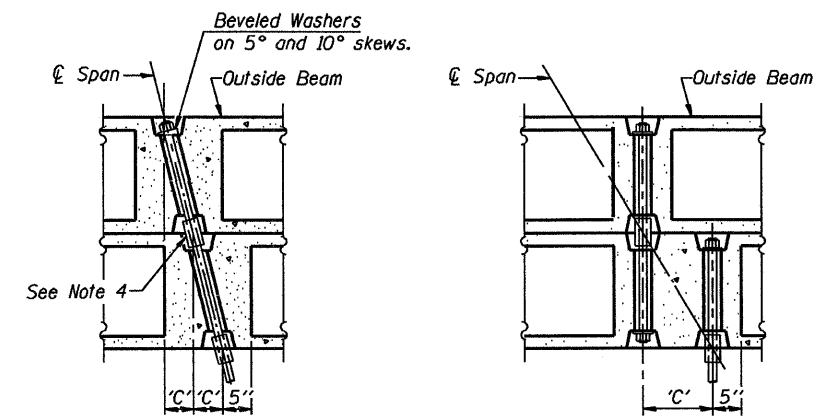
END BLOCK DETAILS

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



LIFTING LOOP DETAIL

Lifting loops shall be 2. 1/2" phi -270 ksi strands, as shown. Alternate approved lifting devices are also acceptable.

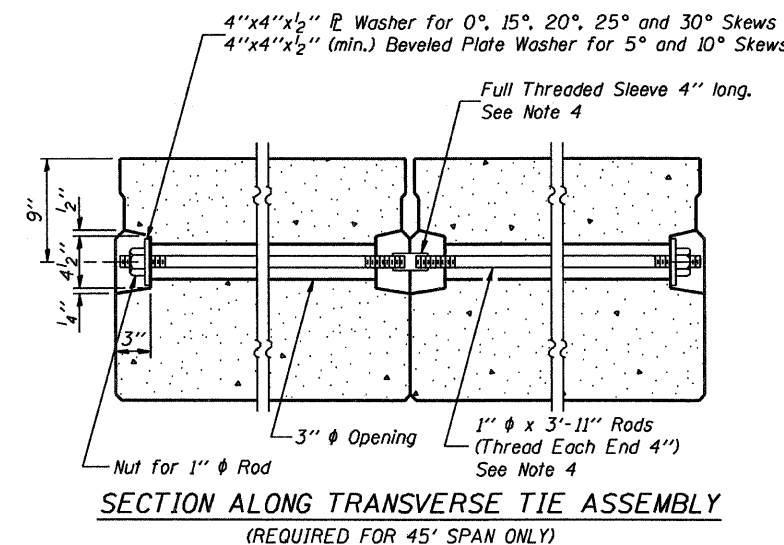
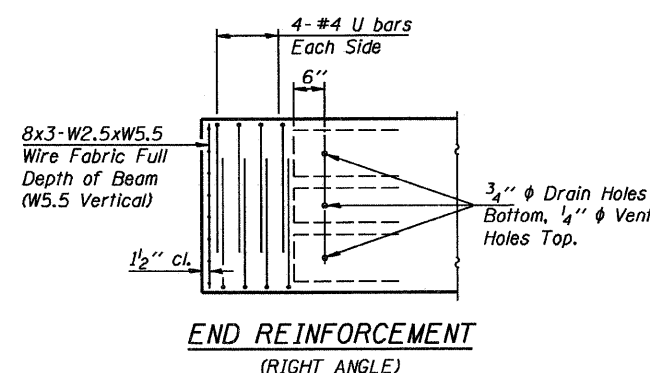
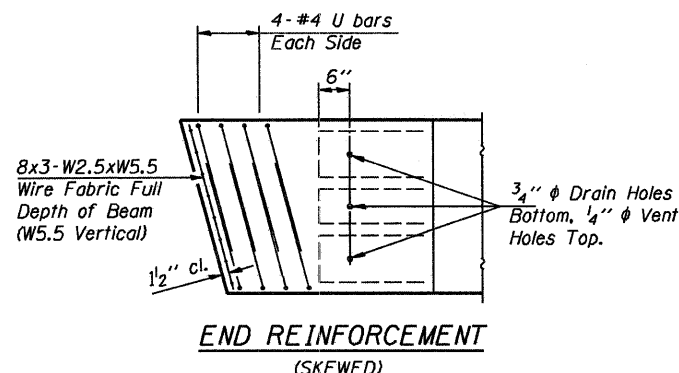
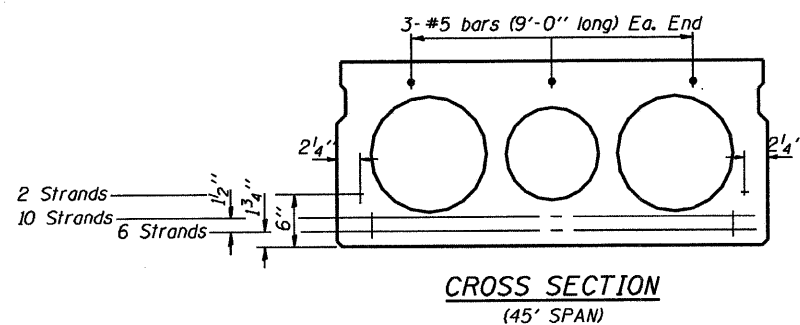
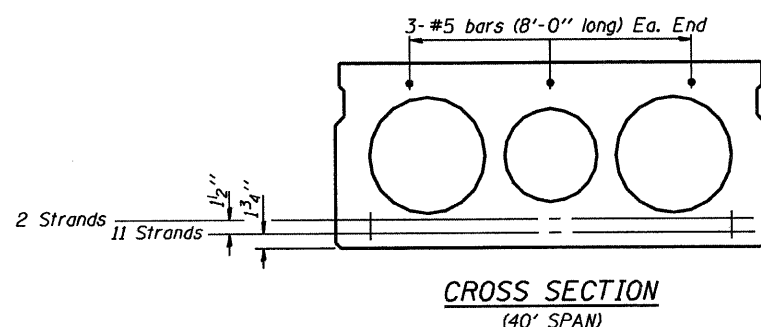
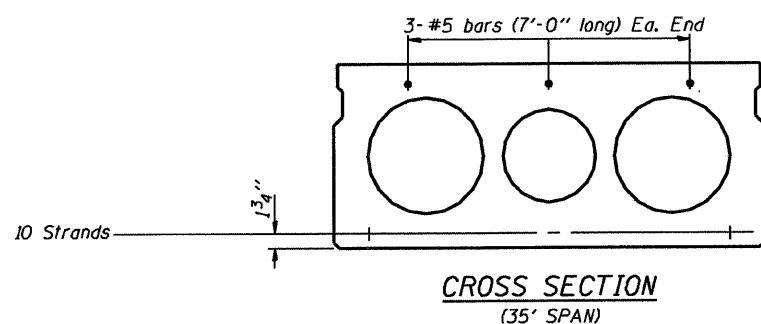


PARTIAL PLAN TRANSVERSE TIE ASSEMBLY (D'=0°, 5° and 10°)

PARTIAL PLAN TRANSVERSE TIE ASSEMBLY (D'=15°, 20°, 25° and 30°)

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



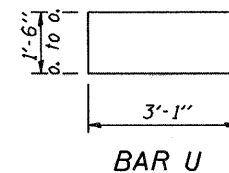
*** TRANSVERSE STRAND PLACEMENT GUIDELINES**

- Place strands symmetrically about centerline of beam.
- The minimum distance from center to center of strands in all directions shall be 2".
- The minimum clearance from strand to dowel hole shall be 1/2".
- The minimum clearance from strand to void shall be 1 1/2".

Vertical placement of strands shall not be adjusted to satisfy the above guidelines.

MIN. BAR LAP

#5 bars = 1'-8"



DESIGN STRESSES

- f_c = 5,000 p.s.i.
- f_{ci} = 4,000 p.s.i.
- f_s = 270,000 p.s.i. (1/2" phi Strand)
- f_{st} = 201,960 p.s.i. (1/2" phi Strand)
- f_y = 60,000 p.s.i.

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 square inches.
- Reinforcement bars shall conform to the requirements of AASHTO M-31 or M-322, Grade 60.
- On 0°, 5° and 10° skew, alternate approved transverse tie rods of increased segmental length are acceptable.
- Rail Post anchor devices shall be cast into outside beam as elsewhere specified.
- When a Waterproofing Membrane System is specified, the top surface of the beams shall be screeded with a straightedge and finished with a hand float. 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".
- 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.

Illinois Department of Transportation

PASSED APRIL 4, 2005

Theresa J. Romagosa
Engineer of Bridge Design

APPROVED APRIL 4, 2005

Rudolph E. Anderson
Engineer of Bridges and Structures

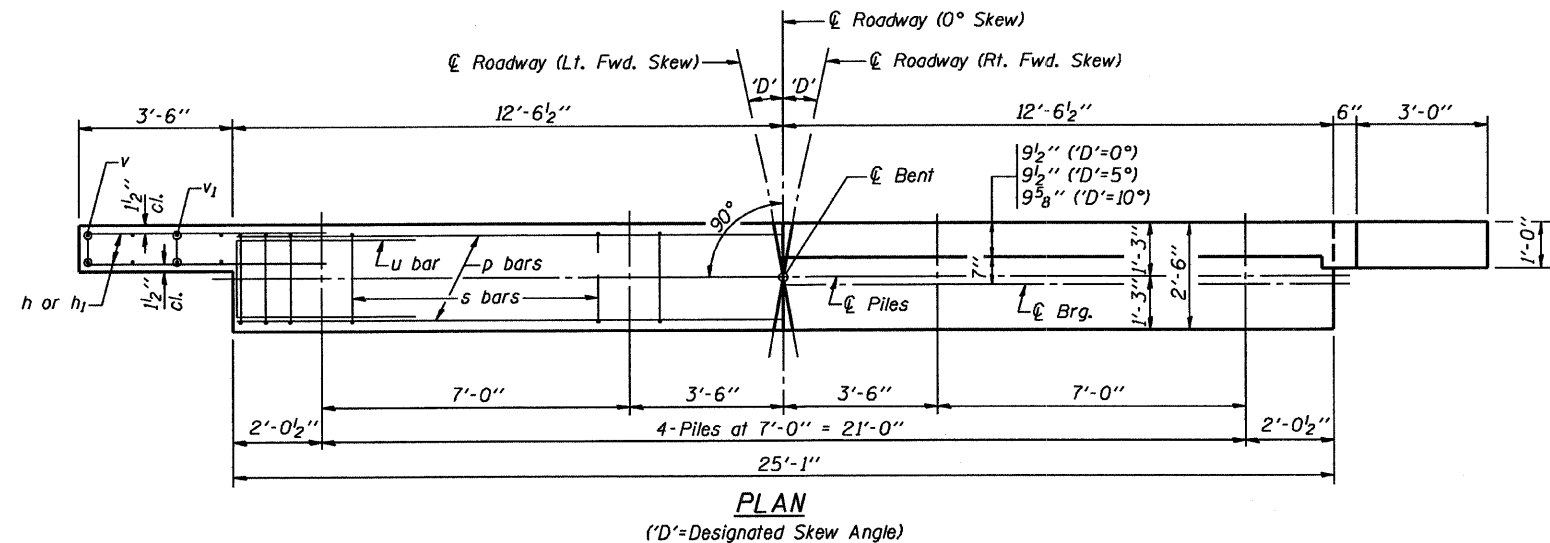
186-1-1 GBRSS1

NOTE
The std. reinf. and dimensions shown on the 30' span cross section is typical for all spans, except as shown.

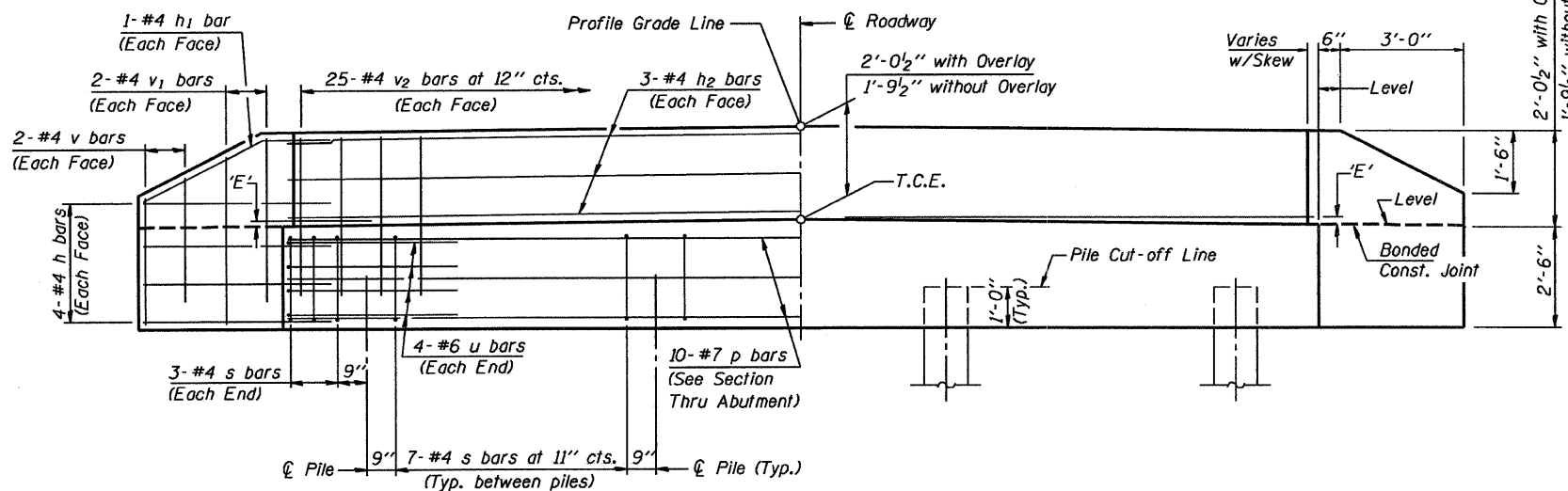
P.P.C. DECK BEAM DETAILS

24' ROADWAY | 21" x 48" BEAMS

STANDARD CB-2421-48



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 1/8"	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

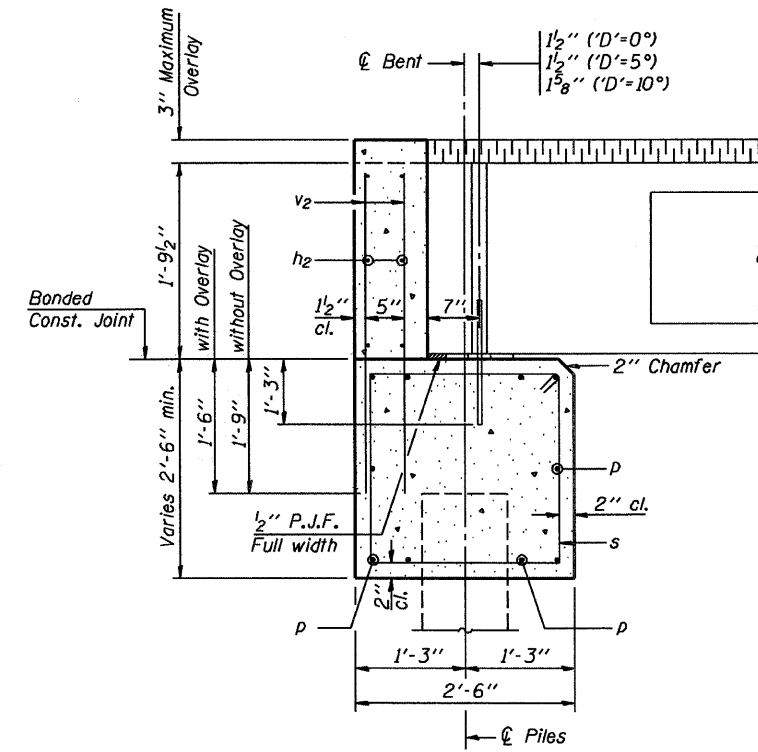
- The Backwall and the portion of the Wingwalls above the bonded construction joint shall be cast against the in-place beam.
- Reinforcement bars shall conform to the requirements of A.A.S.H.T.O. M-31 or M-322, Grade 60.
- Space reinforcement in cap to miss anchor bolts.

MAXIMUM PILE LOADS

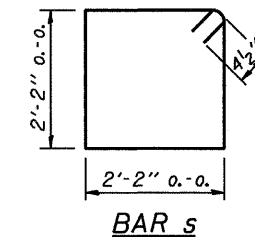
SPAN	TONS
30'	27
35'	30
40'	32
45'	34

DESIGN STRESSES

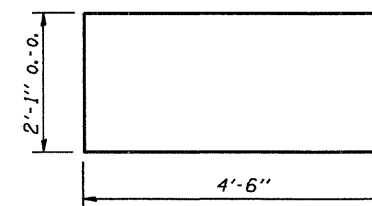
f'c = 3,500 psi
fy = 60,000 psi



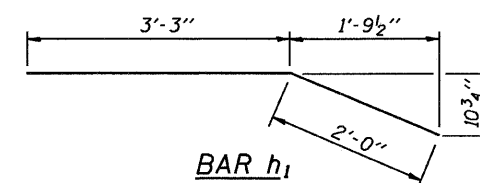
SECTION THRU ABUTMENT
(At Right Angles)



BAR s



BAR u



BAR h1

BILL OF MATERIAL FOR ONE ABUTMENT

Bar	No.	Size	Length	Shape
h	16	#4	5'-0"	—
h1	4	#4	5'-3"	—
h2	6	#4	24'-9"	—
p	10	#7	24'-9"	—
s	27	#4	9'-5"	□
u	8	#6	11'-1"	□
v	8	#4	2'-8"	—
v1	8	#4	3'-8"	—
v2	50	#4	3'-5"	—
Concrete Structures			8.6 Cu. Yds.	
Reinforcement Bars			1120 Lb.	

Illinois Department of Transportation
 PASSED APRIL 4, 2005
 Thomas J. Damagala
 Engineer of Bridge Design
 APPROVED APRIL 4, 2005
 Ralph E. Anderson
 Engineer of Bridges and Structures

P.P.C. DECK BEAMS
 PILE BENT ABUTMENT
 24' RDWY. 21" BMS. 'D'=0°, 5° OR 10°
 STANDARD CA-2421-10

NOTES

Hollow structural steel tubing shall conform to the requirements of ASTM designation A500 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 A307 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 according to AASHTO M 232.

All posts, railing, rail splices, anchor devices and angles shall be galvanized after shop fabrication according to AASHTO M-111 and ASTM A 385. Galvanized rail shall not be painted.

Railing shall be according to Section 509 of the Standard Specifications, except as noted, and will be paid for at the contract unit price per foot for STEEL RAILING, TYPE S-1.

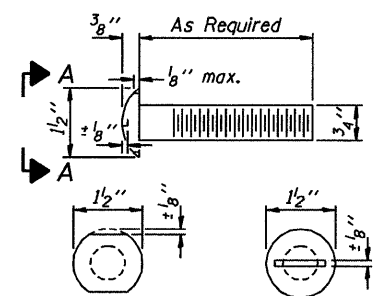
For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with STEEL RAILING, TYPE S-1.

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

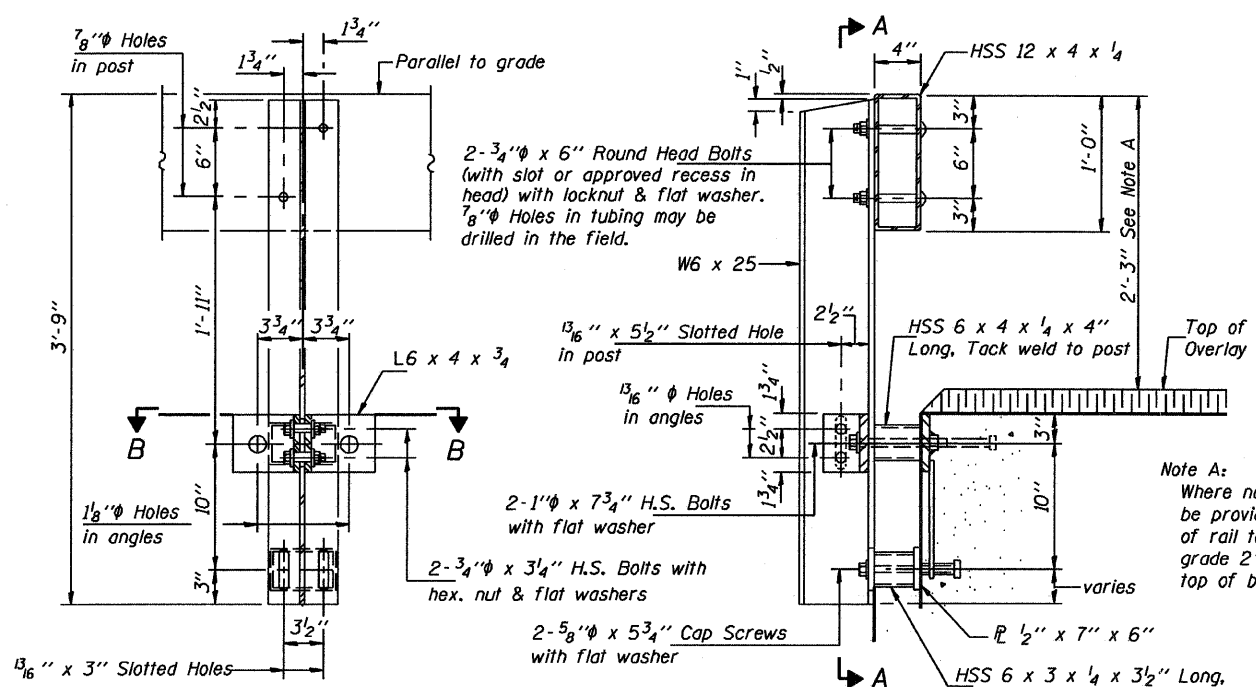
The 1/2" x 7" x 6" plates that come in contact with concrete shall either receive two coats of asphalt paint conforming to Section 1060.07 Type II, or 1/8" fabric bearing pads shall be placed between the plates and concrete.

The 3/4" high strength bolts used to connect the 6 x 4 x 3/4 angles to the post shall be tightened according to Article 505.04 (f)(2) 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.

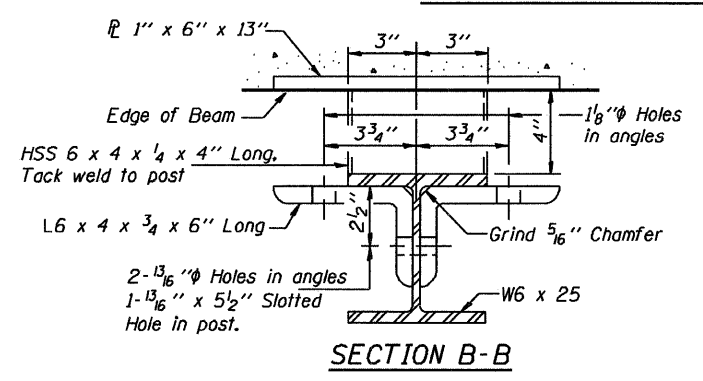


VIEW A-A
ROUND HEAD BOLT

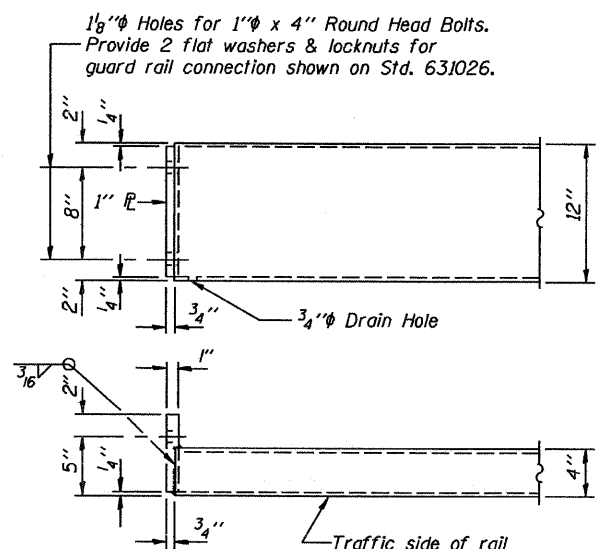


SECTION A-A

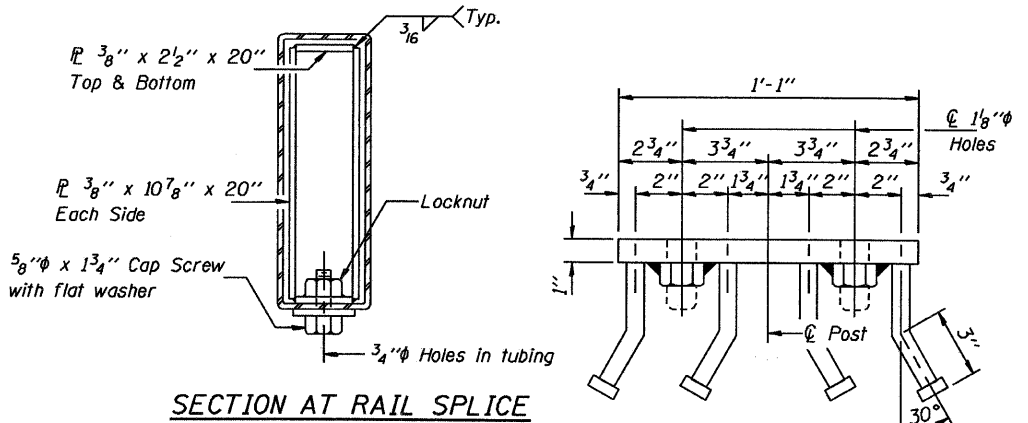
SECTION AT RAIL POST



SECTION B-B

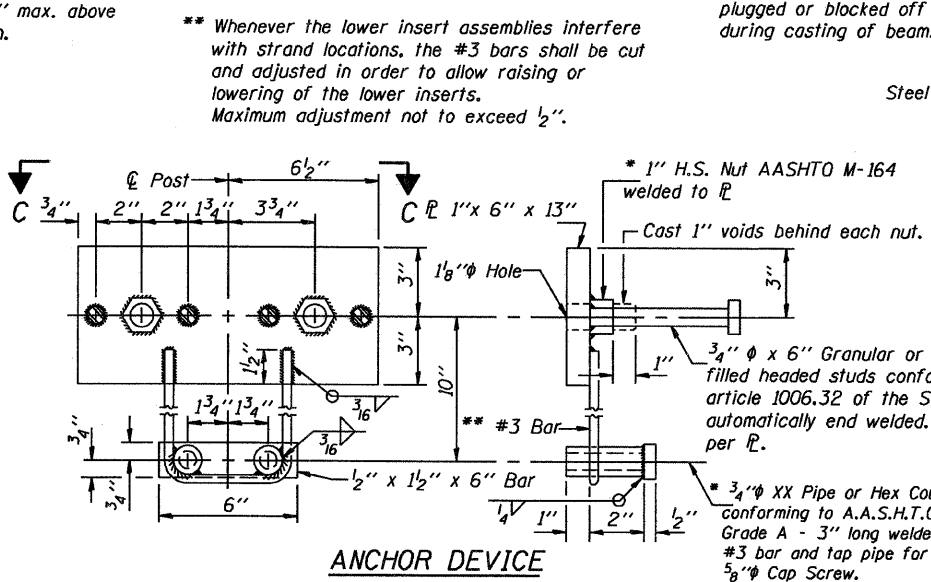


END OF RAIL DETAILS

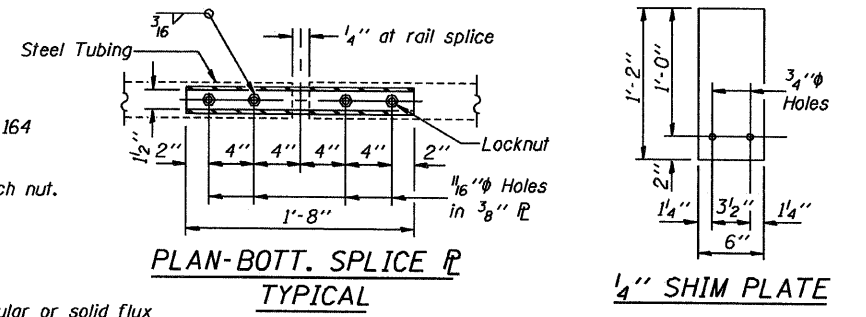


SECTION AT RAIL SPLICE

VIEW C-C



ANCHOR DEVICE

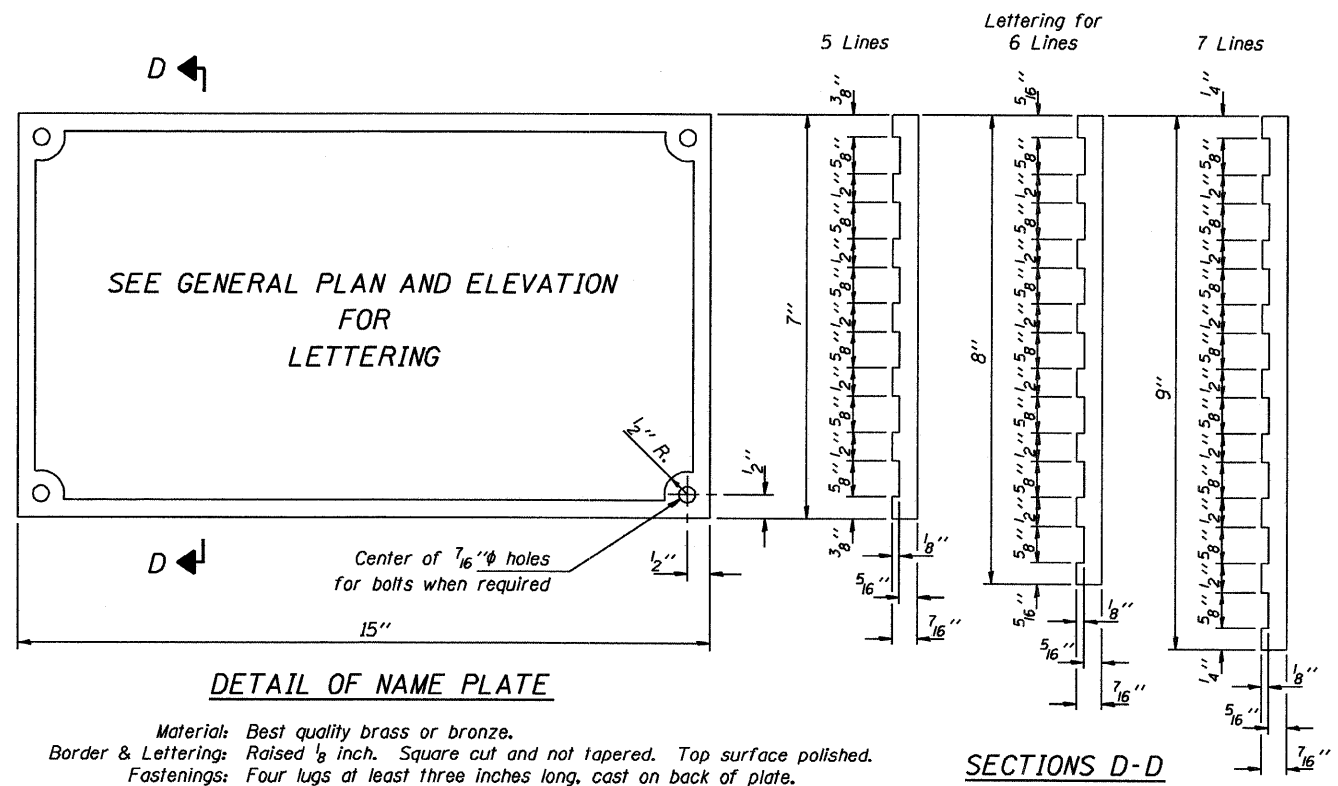


PLAN-BOTT. SPLICE TYPICAL

1/4" SHIM PLATE

Illinois Department of Transportation
 PASSED APRIL 4, 2005
 Thomas J. (Name) [Signature]
 Engineer of Bridge Design
 APPROVED APRIL 4, 2005
 Ralph E. (Name) [Signature]
 Engineer of Bridges and Structures

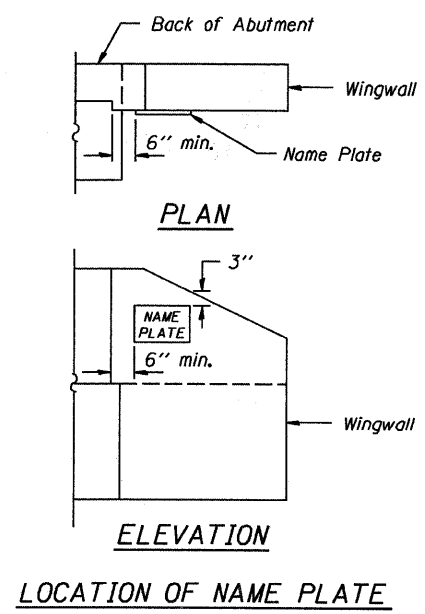
STEEL RAILING, TYPE S-1
STANDARD CR-TS1



DETAIL OF NAME PLATE

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

SECTIONS D-D



LOCATION OF NAME PLATE

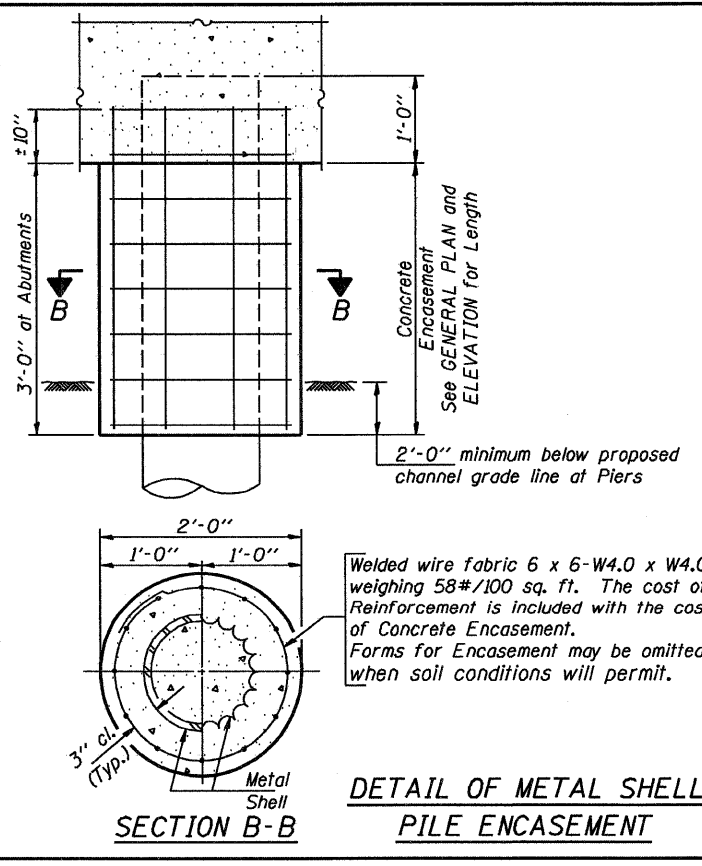
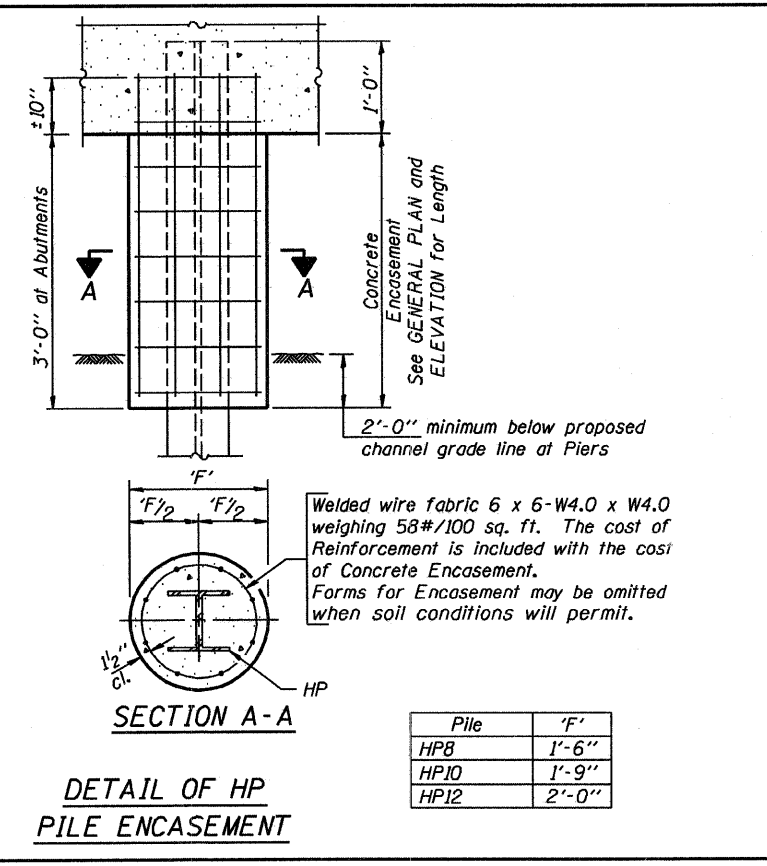
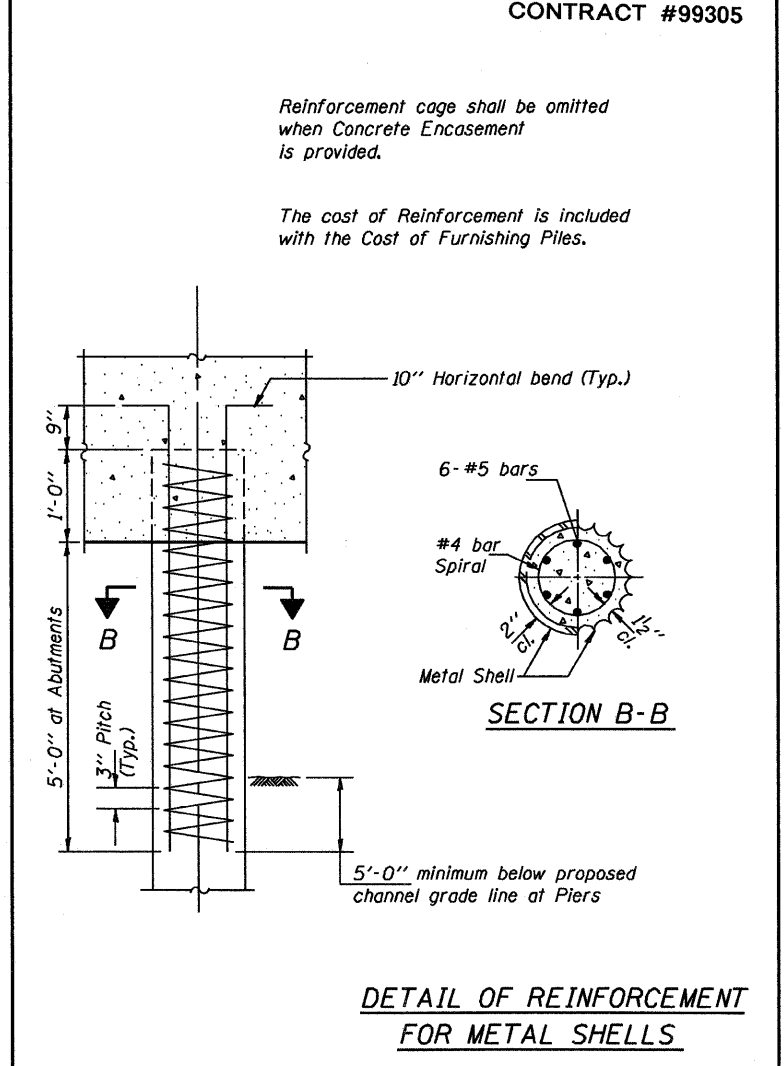
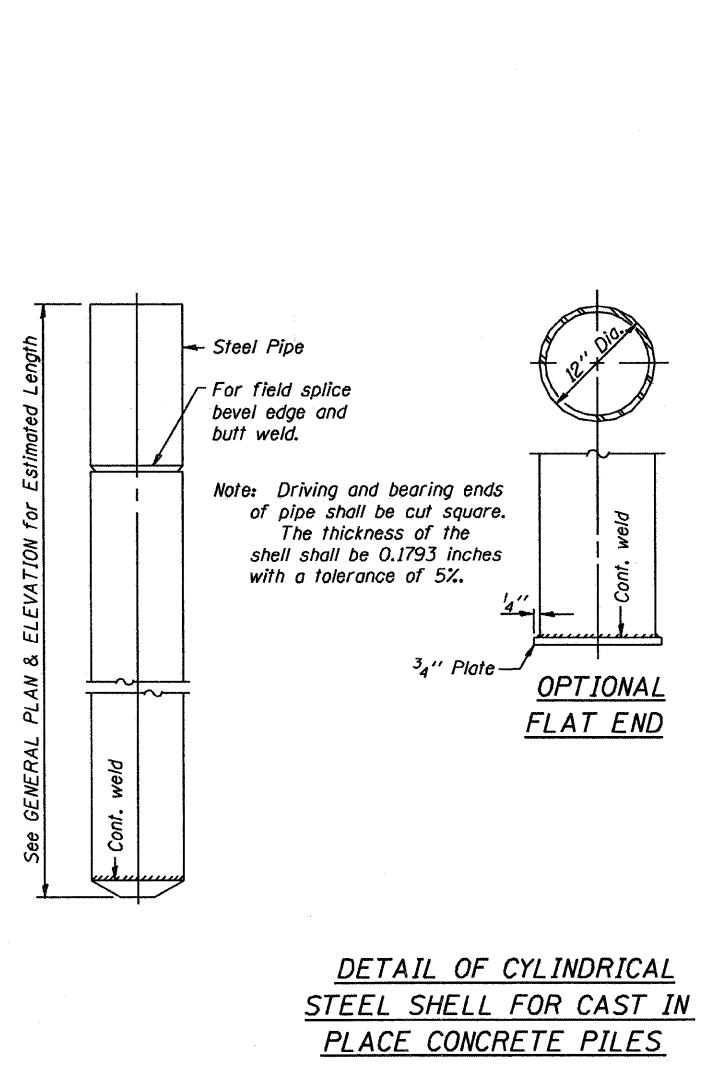
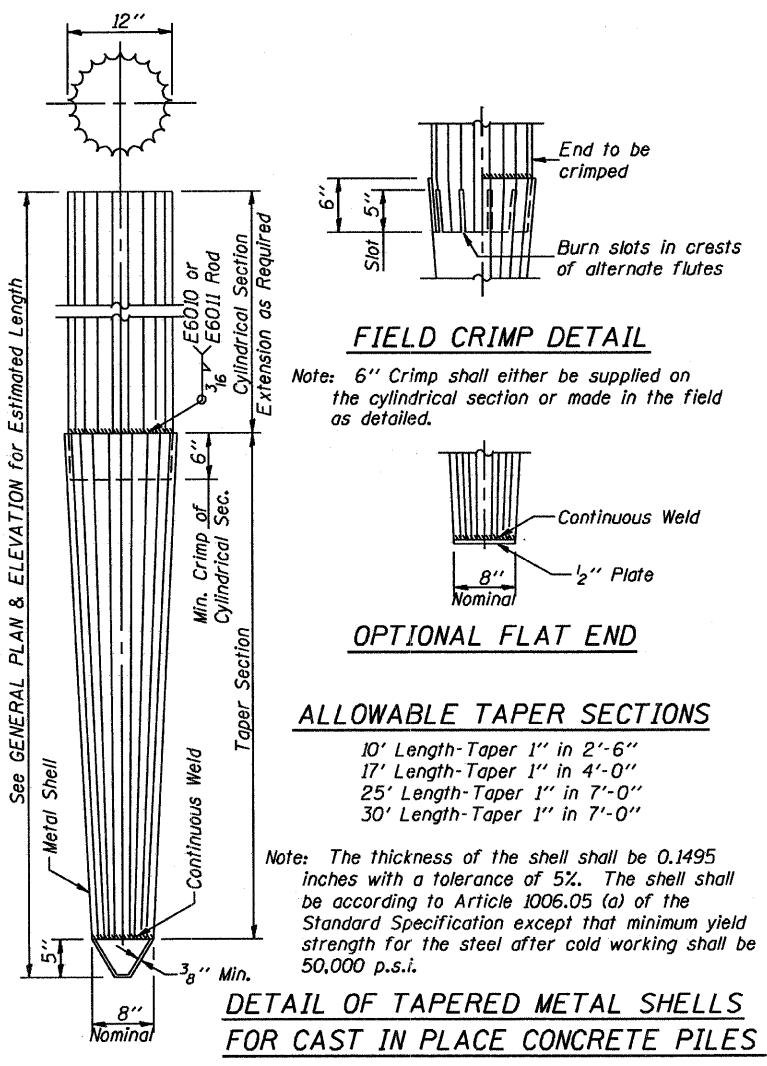
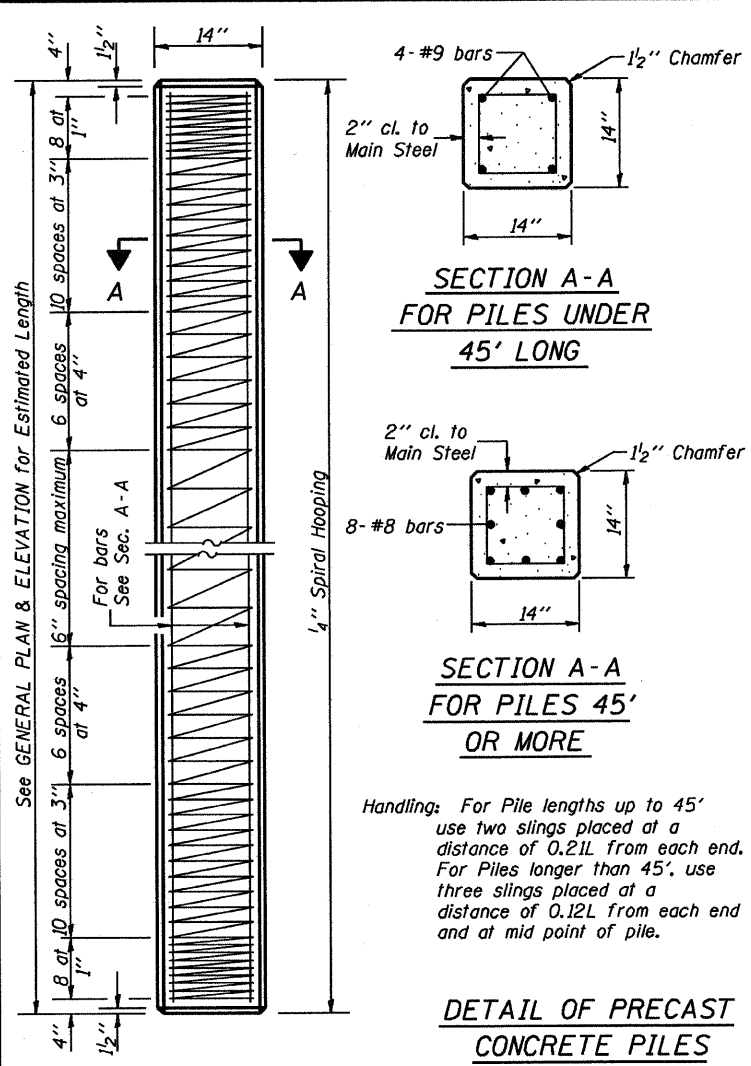
Illinois Department of Transportation

PASSED APRIL 4, 2005
Thomas J. Kamgaokbi
 Engineer of Bridge Design

APPROVED APRIL 4, 2005
Ralph E. Anderson
 Engineer of Bridges and Structures

ISSUED 7-1-895

NAME PLATE
STANDARD CN



QUANTITIES/FT. OF ENCASEMENT (STEEL PILES)

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

(METAL SHELL PILES)

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

PILE DETAILS

STANDARD CX-1

Illinois Department of Transportation

PASSED FEBRUARY 1, 2000

Theresa J. Romagosa
Engineer of Bridge Design

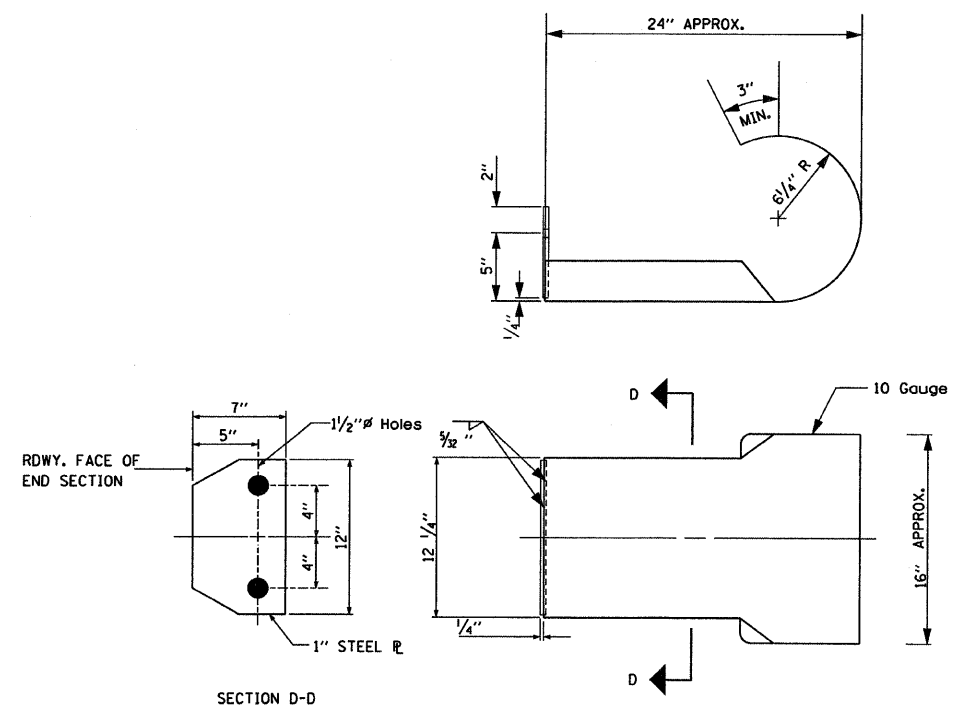
APPROVED FEBRUARY 1, 2000

Ralph E. Anderson
Engineer of Bridges and Structures

186-H-03155

C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
13	06-00100-00-BR	WHITE	13	13
FED. ROAD DIST. NO. 9		ILLINOIS	LIMEKILN CREEK	
PROJECT # BR05-193(25)		CONTRACT # 99305		
LEC JOB # H061025MH				

CURLED END SECTION DETAIL



ALL OTHER STEEL SHAPES AND PLATES SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. DESIGNATION M-183 EXCEPT POSTS AND ANGLES SHALL CONFORM TO A.A.S.H.T.O. M-223, GRADE 50.

BOLTS, CAP SCREWS, AND NUTS SHALL CONFORM TO THE REQUIREMENT OF A.S.T.M. DESIGNATION A-307 EXCEPT FOR HIGH STRENGTH BOLTS, NUTS, AND WASHERS NOTED WHICH SHALL CONFORM TO A.A.S.H.T.O. DESIGNATION M-164.

ALL BOLTS, NUTS, CAP SCREWS, WASHERS, AND LOCK WASHERS SHALL BE GALVINIZED IN ACCORDANCE WITH A.A.S.H.T.O. DESIGNATION M-232.

ALL FIELD DRILLED HOLES SHALL BE COATED WITH AN APPROVED ZINC RICH PAINT BEFORE ERRECTION.