

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	TITLE SHEET & SUMMARY OF QUANTITIES
2	PLAN & PROFILE, TYPICAL SECTIONS & GENERAL NOTES
3	EROSION CONTROL PLAN & EARTHWORK SCHEDULE
4-5	ROADWAY CROSS SECTIONS
6-13	BRIDGE DESIGN
14	CURLED END SECTIONS & STONE RIPRAP DITCH DESIGN

THE FOLLOWING STANDARDS ARE A PART OF THESE PLANS AND ARE INCLUDED AFTER SHEET NO. 14

000001-04	STANDARD SYMBOLS, ABBREVIATIONS & PATTERNS
280001-02	TEMPORARY EROSION CONTROL SYSTEMS
630001-05	STEEL PLATE BEAM GUARDRAIL
631026-02	TRAFFIC BARRIER TERMINAL, TYPE 5 & 5A
635006-02	REFLECTOR AND TERMINAL MARKER PLACEMENT
666001	RIGHT OF WAY MARKERS
702001-05	TRAFFIC CONTROL DEVICES
B.L.R. 21-6	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS
B.L.R. 22-1	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. 23-1	TRAFFIC BARRIER TERMINAL TYPE 1

SUMMARY OF QUANTITIES

QUANTITY	UNIT	ITEM	X080-2A CODE NO.
176.00	UNIT	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	20100110
84.00	UNIT	TREE REMOVAL (OVER 15 UNITS DIAMETER)	20100210
1585.00	CU YD	EARTH EXCAVATION	20200100
139.00	CU YD	CHANNEL EXCAVATION	20300100
1.50	ACRE	SEEDING, CLASS 2 (SPECIAL)	25001000
8.00	EACH	TEMPORARY DITCH CHECKS	28000300
10.00	TON	AGGREGATE (EROSION CONTROL)	28001000
173.00	TON	STONE DUMPED RIPRAP, CLASS A4	28100807
38.00	TON	STONE RIPRAP DITCH	28102600
533.00	TON	AGGREGATE SURFACE COURSE, TYPE B	40200800
1.00	EACH	REMOVAL OF EXISTING STRUCTURES	50100100
17.20	CU YD	CONCRETE STRUCTURES	50300225
1200.00	SQ FT	PRECAST PRESTRESSED CONCRETE DECK BEAMS (21" DEPTH)	50400405
1840.00	POUND	REINFORCEMENT BARS	50800105
100.00	FOOT	STEEL RAILING, TYPE S1	50900205
574.00	FOOT	FURNISHING STEEL PILES HP10X42	51201400
574.00	FOOT	DRIVING STEEL PILES	51202700
1.00	EACH	TEST PILE STEEL HP10X42	51203400
2.10	CU YD	CONCRETE ENCASEMENT	51204315
1.00	EACH	NAME PLATES	51500100
24.00	FOOT	PIPE CULVERTS, CLASS D, TYPE 1 18"	54200223
32.00	FOOT	PIPE CULVERTS, CLASS D, TYPE 2 18"	54201063
2.00	EACH	FLAP GATE 18"	60801018
2.00	EACH	TRAFFIC BARRIER TERMINAL, TYPE 5A	63100075
16.00	EACH	FURNISHING AND ERECTING RIGHT-OF-WAY MARKERS	66600105
4.00	EACH	TERMINAL MARKER-DIRECT APPLIED	78201000
2.00	EACH	TRAFFIC BARRIER TERMINAL, TYPE 1	LR631020

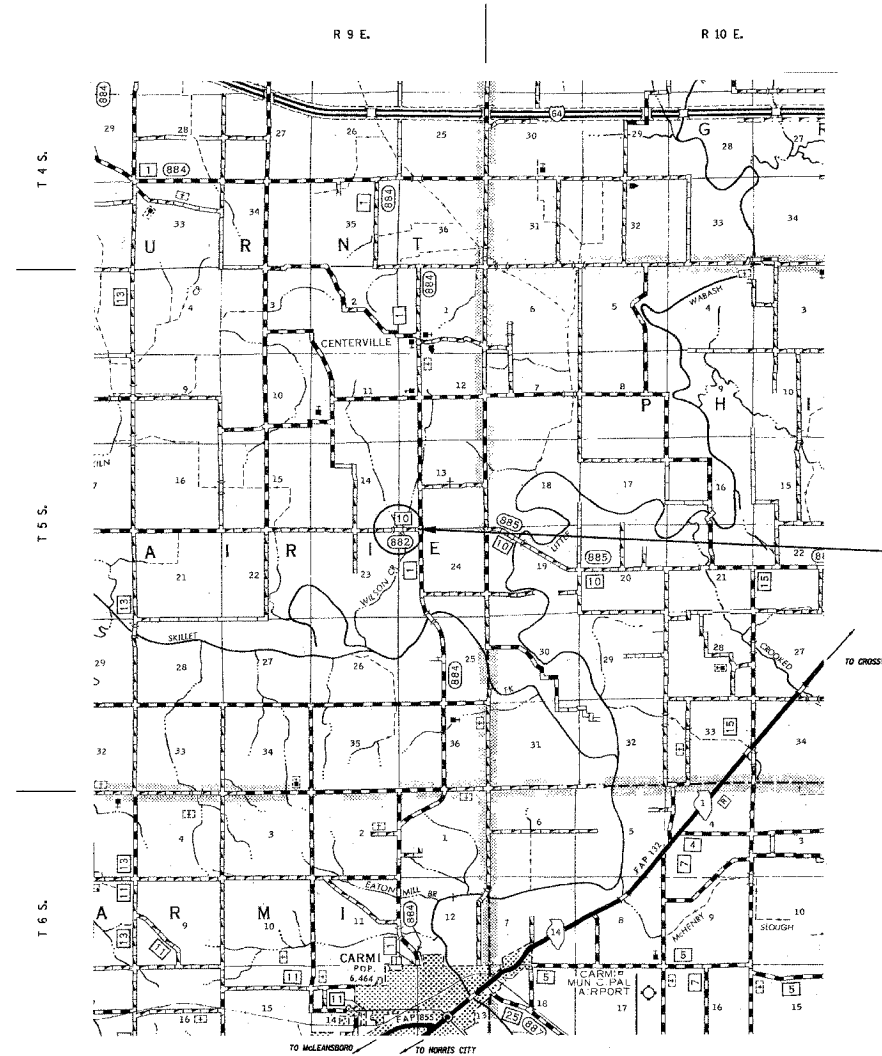
DESIGN DESIGNATION:
DESIGN SPEED: 40 MPH
HIGHWAY CLASS - COLLECTOR
EXISTING STRUCTURE NO.: 097-3005
PROPOSED STRUCTURE NO.: 097-3215
CURRENT A.D.T. = 200
CONTRACT NO. 95083

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 - B.R.R.P. PROJECT

FAS 882 (C.H. 10) WHITE COUNTY SECTION 91-00071-00-BR

PROJECT NO. BRS-882(115) JOB NO. C-97-023-91



SECTION 91-00071-00-BR
BEGINS STATION 0+00

STATION 6+21.75, STRUCTURE NO. 097-3215
A 50' SINGLE SPAN PRECAST PRESTRESSED
CONCRETE DECK BEAM BRIDGE (21" DEPTH),
24' ROADWAY, 0.00% GRADE, 0° SKEW.

SECTION 91-00071-00-BR
ENDS STATION 10+00

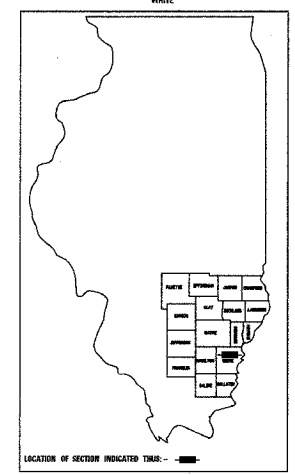
LAYOUT
APPROXIMATE SCALE 1 INCH = 1 MILE

GROSS LENGTH	1000.00 FT	0.189 MILES
OMISSIONS	0.00 FT	0.00 MILES
NET LENGTH	1000.00 FT	0.189 MILES

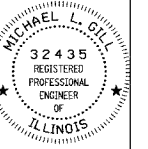
F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
882	91-00071-00-BR	WHITE	14	1

323 W. 3RD ST.
P.O. BOX 160
MT. CARMEL, IL
62863
PHONE:
(618)-262-8651
FAX:
(618)-263-3327

405 W. STATE ST.
SUITE 1
PRINCETON, IN
47670
PHONE:
(812)-386-7611
FAX:
(812)-386-2812



PROFESSIONAL
DESIGN FIRM
LAND SURVEY &
PROFESSIONAL
ENGINEERING
CORPORATION
184-000887
(62-032435)(35-002769)



MICHAEL L. GILL
NAME
Michael L. Gill
SIGNATURE
DATE
11-16-04
EXPIRES
11-30-05

F.A.S. ROUTE 882 (CH 10)
WILSON CREEK
WHITE COUNTY, ILLINOIS

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

Maureen K. Carl
DIST. ENGR. LOCAL RDS. & STS.

APPROVED	<i>Nov 16 2004</i>	2004
	<i>Maureen K. Carl</i>	COUNTY ENGINEER
PASSED	<i>Jan 4 2005</i>	2005
	<i>Maureen K. Carl</i>	DISTRICT ENGINEER OF LOCAL ROADS & STREETS
APPROVED	<i>Jan 4 2005</i>	2005
	<i>Christi H. Reed</i>	DISTRICT ENGINEER

SHEET TITLE:	TITLE SHEET
SCALE:	VARIABLE
BY:	DKB
DATE:	05/20/04
REV:	
1	OF 14
SHEETS	
SHEET NO.	1

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, 2002.

THE WORK INVOLVED ON THIS SECTION CONSISTS OF THE REMOVAL OF THE EXISTING STRUCTURE, THE CONSTRUCTION OF A 50 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.C.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 BE RESPONSIBLE FOR ALL FEES, PERMITS, LICENSES, COSTS, AND PAYMENTS TO GOVERNMENTAL AUTHORITIES FOR THE ISSUANCE OF PERMITS.

SCHEDULE OF STEEL RAILING T.Y. S1

STA	STA	LOCATION	QUANTITY
5+96.75	6+46.75	LT. & RT.	100 FOOT
			TOTAL 100 FOOT

SCHEDULE OF TRAFFIC BARRIER TERMINALS T.Y. 5A

STA	STA	LOCATION	QUANTITY
5+83.50	5+96.75	RT.	1 EACH
6+46.75	6+60.00	LT.	1 EACH
			TOTAL 2 EACH

SCHEDULE OF CURLED END SECTIONS

STA	LOCATION	QUANTITY
5+96.75	LT.	1 EACH
6+46.75	RT.	1 EACH
		TOTAL 2 EACH

F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
882	91-00071-00-BR	WHITE	14	2

WILSON CREEK
CONTRACT NO. 95038

323 W. 3RD ST.
P.O. BOX 160
MT. CARMEL, IL
62863
PHONE: (618)-262-8651
FAX: (618)-263-3327

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)



MICHAEL L. GILL
NAME
SIGNATURE
DATE: 11-16-09
11-30-05
EXPIRES

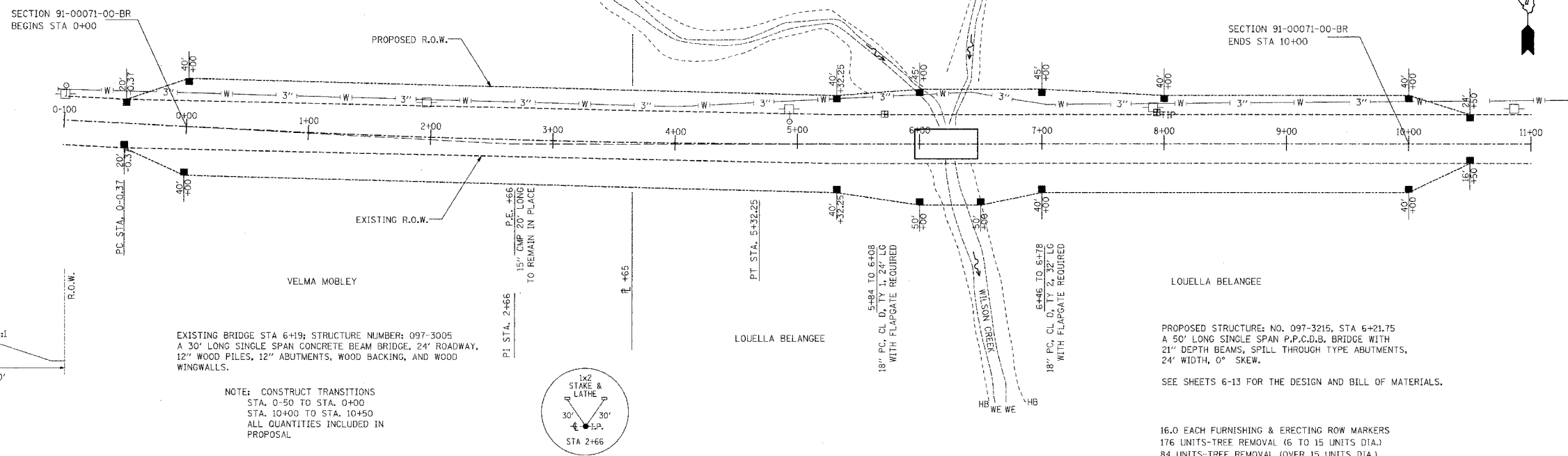
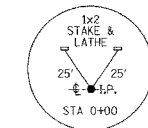
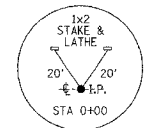
F.A.S. ROUTE 2821 (CH 15)
CROOKED CREEK
WHITE COUNTY, ILLINOIS

SHEET TITLE:
PLAN & PROFILE

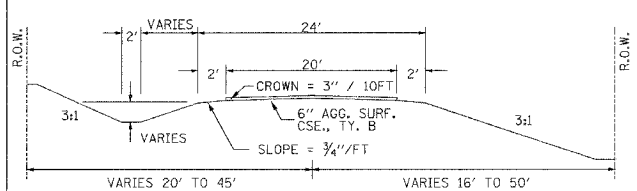
SCALE: VARIES
BY: DKB
DATE: 12/5/00
REV:

2 OF 14 SHEETS
SHEET NO. 2

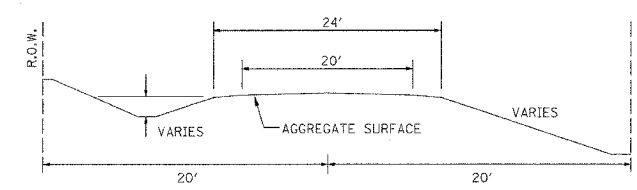
CURVE DATA
P.I. STA= 2+66
Δ= 3°01' LT.
D= 0°34'
R= 10116.03
T= 266.37
L= 532.62
E= 3.51
P.C. STA= 0-0.37
P.T. STA= 5+32.25



TYPICAL CROSS SECTION PROPOSED



TYPICAL CROSS SECTION EXISTING



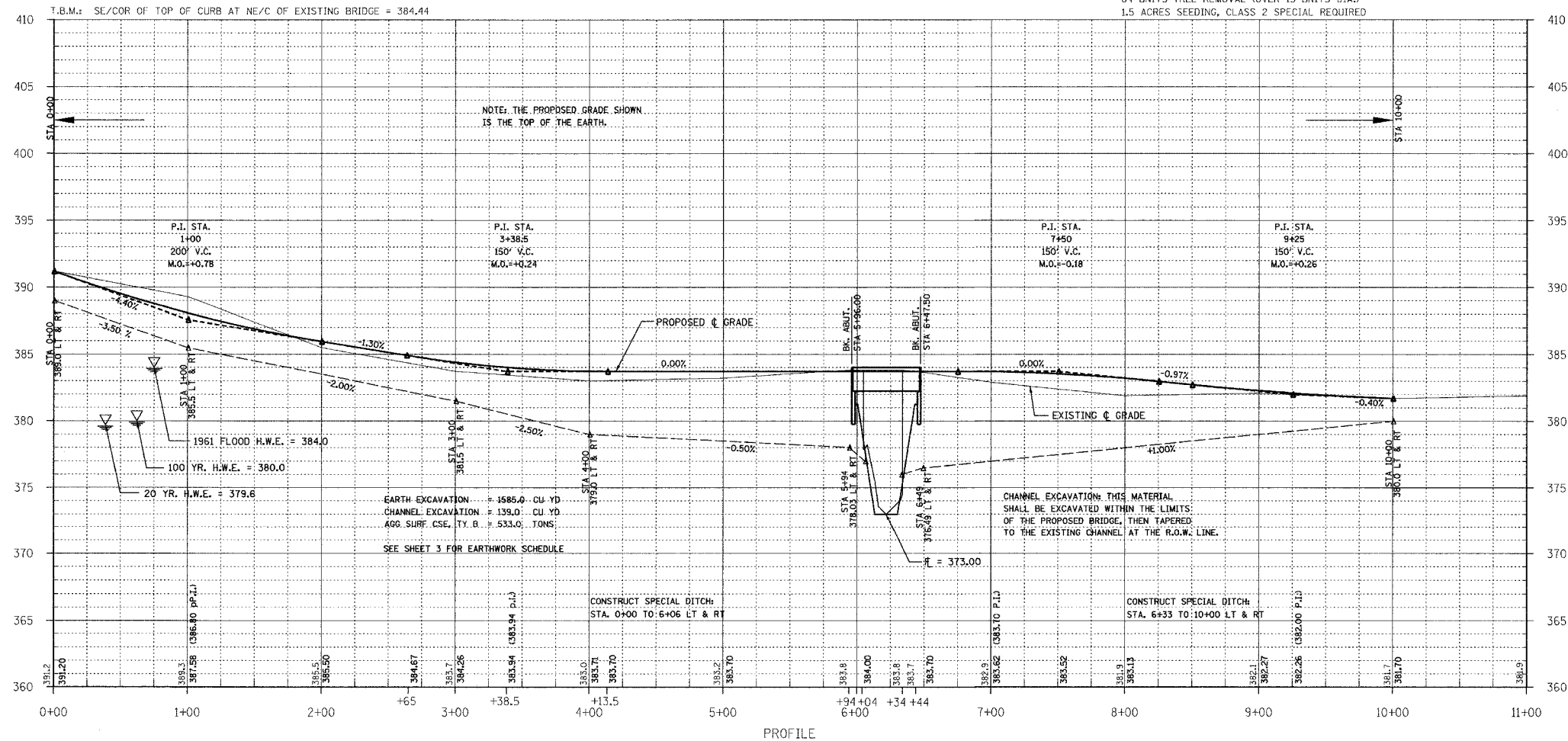
EXISTING BRIDGE STA 6+19; STRUCTURE NUMBER: 097-3005
A 30' LONG SINGLE SPAN CONCRETE BEAM BRIDGE, 24' ROADWAY, 12" WOOD PILES, 12" ABUTMENTS, WOOD BACKING, AND WOOD WINGWALLS.

NOTE: CONSTRUCT TRANSITIONS
STA. 0+50 TO STA. 0+00
STA. 10+00 TO STA. 10+50
ALL QUANTITIES INCLUDED IN PROPOSAL

UTILITIES:

- JULI.L.E. 1-800-892-0123
- VERIZON
225 E. CHESTNUT
OLNEY, IL 62450
618-395-6181
- GENERAL TELEPHONE
800-231-3700
- WAYNE-WHITE ELECTRIC CO-OP
ROUTE 45 WEST
FAIRFIELD, IL 62837
618-842-1296
- VILLAGE OF BURNT PRAIRIE
618-896-2211

- NOTE: CONSTRUCT SPECIAL DITCH
STA 0+00 TO STA 6+06 LT & RT
STA 6+33 TO STA 10+00 LT & RT
- NOTE: CONSTRUCT STONE RIPRAP DITCH
STA 5+83 TO STA 6+13 LT (0.62 TON/LIN FT)
STA 6+30 TO STA 6+60 LT (0.62 TON/LIN FT)
- 38 TON STONE RIPRAP DITCH ALLOWED IN PROPOSAL.
- SEE SHEET NO. 14 FOR STONE RIPRAP DITCH DETAIL.



NOTE: THE PROPOSED GRADE SHOWN IS THE TOP OF THE EARTH.

EARTH EXCAVATION = 1585.0 CU YD
CHANNEL EXCAVATION = 139.0 CU YD
AGG. SURF. CSE., T.Y. B = 533.0 TONS
SEE SHEET 3 FOR EARTHWORK SCHEDULE

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.

CONSTRUCT SPECIAL DITCH STA. 0+00 TO 6+06 LT & RT

CONSTRUCT SPECIAL DITCH STA. 6+33 TO 10+00 LT & RT

STA	LOCATION	QUANTITY
5+96.75	LT.	1 EACH
6+46.75	RT.	1 EACH
		TOTAL 2 EACH

F.A.S.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
882	91-00071-00-BR	WHITE	14	3

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

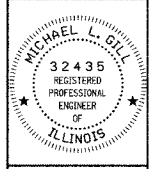
PHONE: (618)-262-8651
FAX: (618)-263-3327

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
184-00987
(62-032435)(35-002769)



MICHAEL L. GILL
NAME

Michael L. Gill
SIGNATURE

11-16-09
DATE

11-30-05
EXPIRES

F.A.S. ROUTE 2821 (CH 15)
CROOKED CREEK
WHITE COUNTY, ILLINOIS

SHEET TITLE:

EROSION CONTROL PLAN

SCALE: VARIES

BY: DKB

DATE: 12/5/00

REV:

3 OF 14 SHEETS

SHEET NO. 3

SCHEDULE FOR TEMPORARY DITCH CHECKS

STATION	LOCATION	QUANTITY
2+50	LT & RT	2.0
5+84	LT & RT	2.0
6+78	LT & RT	2.0
8+50	LT & RT	2.0
		TOTAL = 8.0 EACH

NOTE: CONSTRUCT STONE RIPRAP DITCH

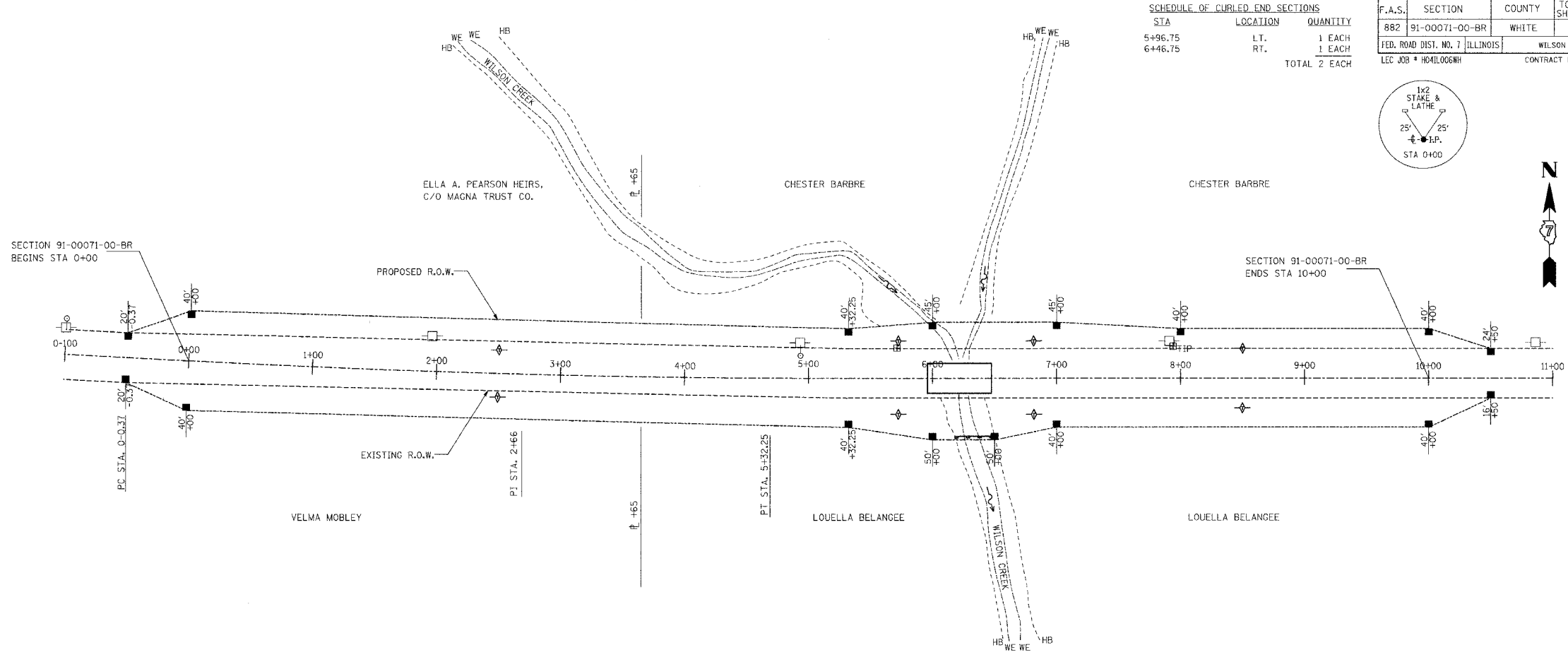
STA 5+83 TO STA 6+13 LT (0.62 TON/LIN FT)
STA 6+30 TO STA 6+60 LT (0.62 TON/LIN FT)

38 TON STONE RIPRAP DITCH ALLOWED IN PROPOSAL.

SEE SHEET NO. 14 FOR STONE RIPRAP DITCH DETAIL.

1.5 ACRES SEEDING, CLASS 2 SPECIAL REQUIRED

TEMPORARY DITCH CHECKS
 AGGREGATE (EROSION CONTROL)



EARTHWORK SCHEDULE

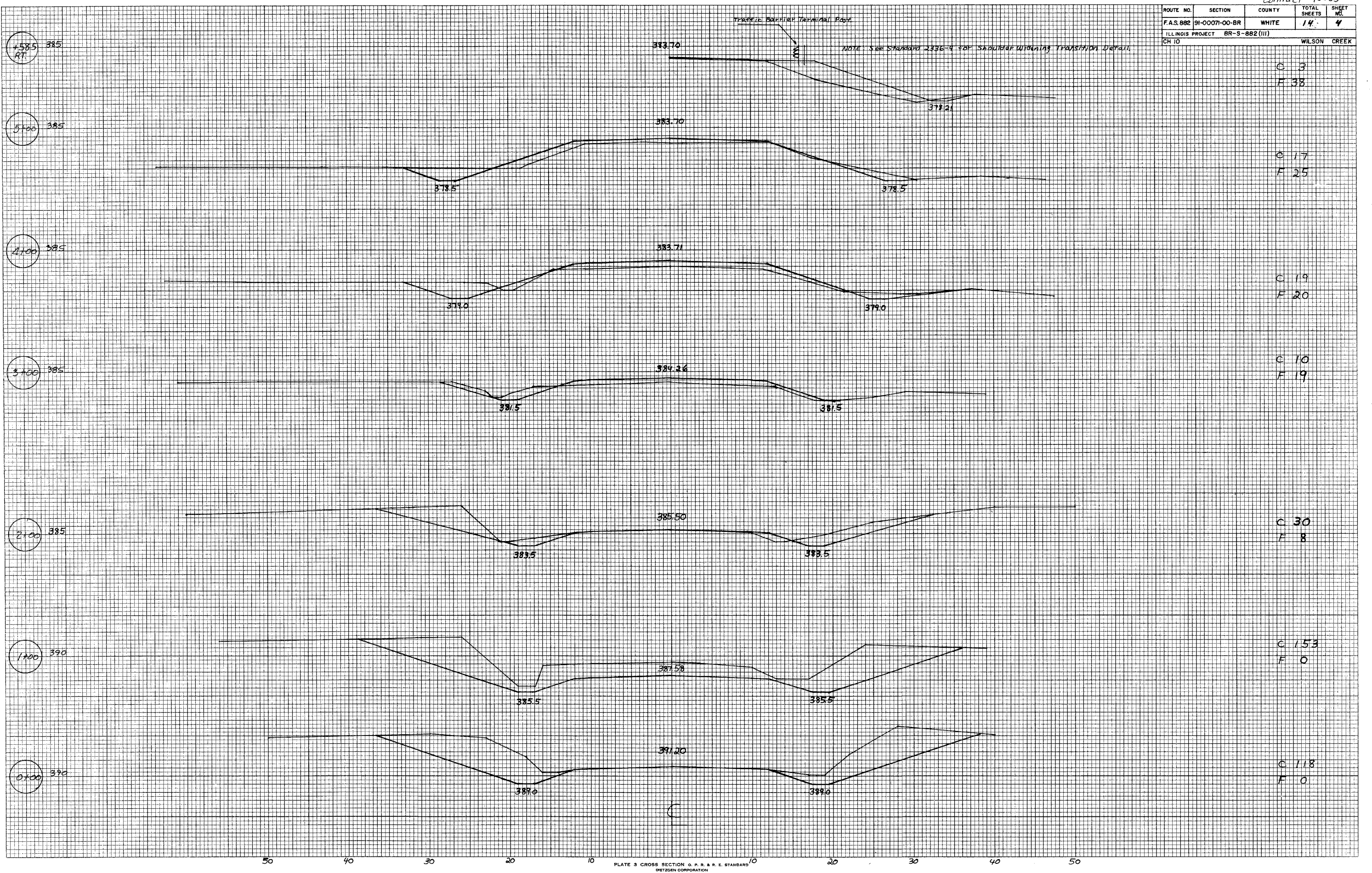
LOCATION	EARTH EXCAVATION CUBIC YARD	CHANNEL EXCAVATION CUBIC YARD	ESTIMATED UNSUITABLE MATERIAL CUBIC YARD	SUITABLE MATERIAL ADJUSTED FOR SHRINKAGE CUBIC YARD	EMBANKMENT CUBIC YARD	EARTHWORK BALANCE WASTE (+) OR SHORTAGE (-) CUBIC YARD
STA 0-50 TO 5+94	1199.7	0.0	0.0	899.8	321.5	578.3
STA 5+94 TO 6+49	0.0	138.8	69.4	52.1	0.0	52.1
STA 6+49 TO 10+50	384.1	0.0	0.0	288.1	401.3	-113.2
TOTAL	1583.8	138.8	69.4	1240.0	722.8	517.2

Contract #95083

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 882	91-00071-00-BR	WHITE	14	4
ILLINOIS PROJECT BR-S-882 (III)				WILSON CREEK
CH 10				

TRAFFIC BARRIER TERMINAL POST

NOTE: See STANDARD 2396-4 for SHOULDER WIDENING TRANSITION Detail.



REVISIONS
 DATE
 BY
 NO.

REVISIONS
 DATE
 BY
 NO.

323 W. 3RD. ST.
P.O. BOX 160
MT. CARMEL, IL
62863
PHONE: (618)-262-8651
FAX: (618)-263-3327

405 W. STATE ST
SUITE 1
PRINCETON, IN
47670
PHONE: (812)-386-7611
FAX: (812)-385-2812



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



MICHAEL L. GILL
NAME
SIGNATURE
DATE 11-16-09
11-30-05
EXPIRES

F.A.S. ROUTE 882 (CH 10)
WILSON CREEK
WHITE COUNTY, ILLINOIS

SHEET TITLE:

GENERAL PLAN AND ELEVATION

SCALE: NONE

BY: DKB

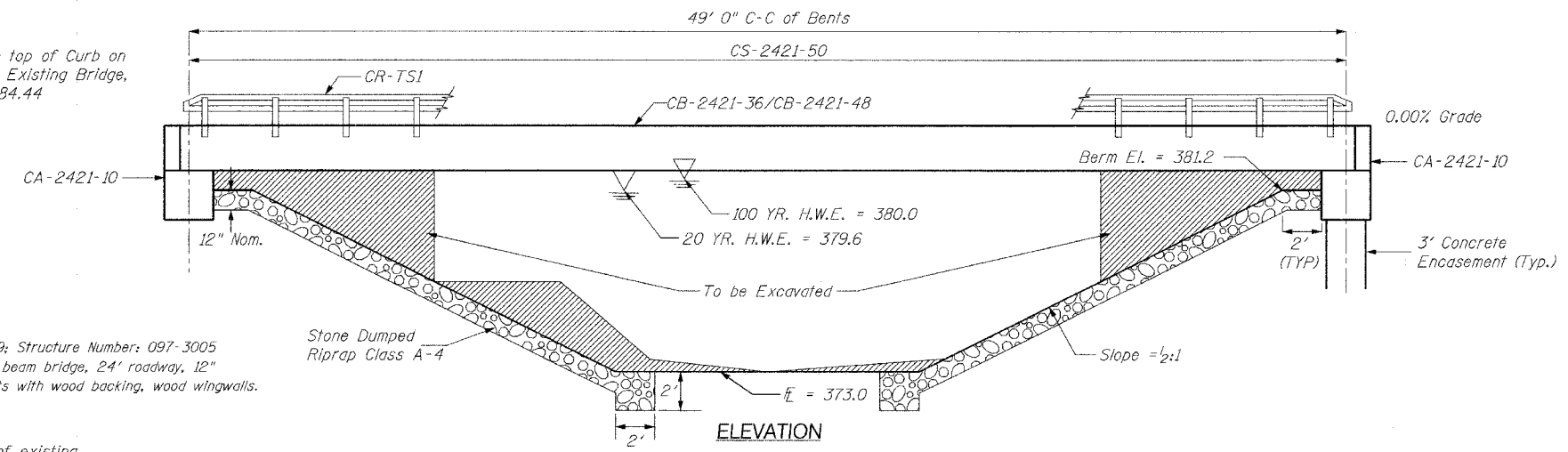
DATE: 08/20/11

REV:

6 OF 14 SHEETS

SHEET NO. 6

B.M. - SE Corner on top of Curb on NE Corner of Existing Bridge, Elevation = 384.44



Existing Bridge Sta 6+19; Structure Number: 097-3005
A 30' precast concrete beam bridge, 24' roadway, 12" wood piles, 12" abutments with wood backing, wood wingwalls.

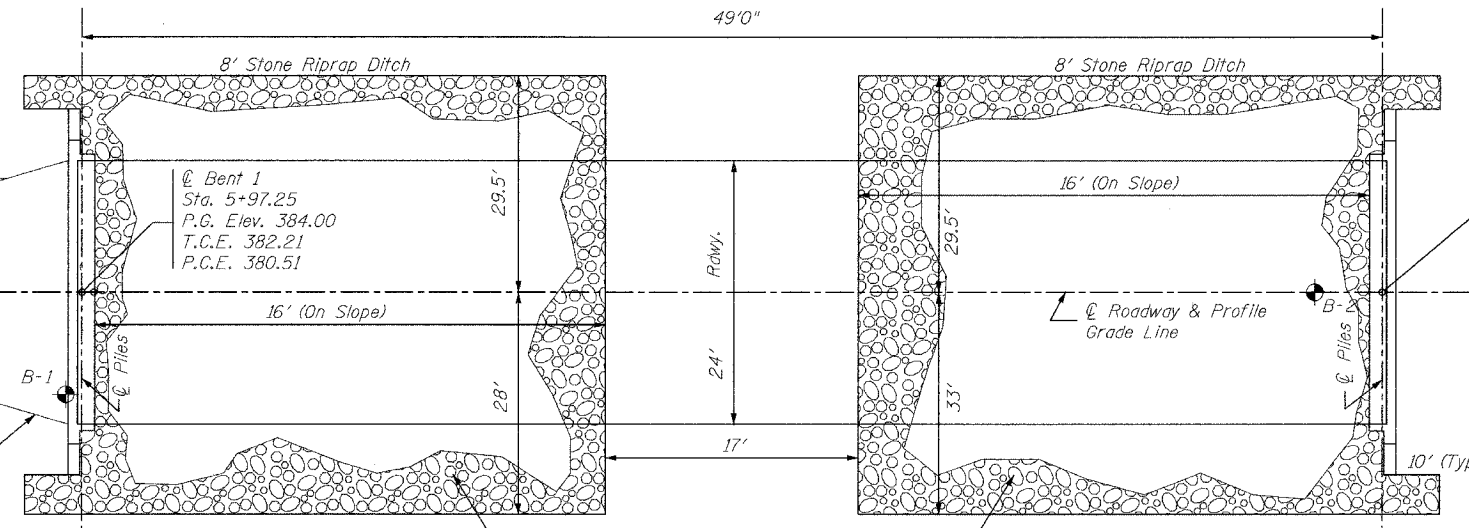
One (1) each removal of existing structures allowed in Proposal.

GENERAL NOTES

- The Contractor shall drive one test pile, as specified, in a permanent location as directed by the Engineer before ordering the remaining piles.
- Class SI Concrete shall be used throughout except in the deck beams.
- 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 Blt. Conc. Surf. Cse. Class I and the Waterproofing Membrane System shown in these Plans shall not be provided.

Item	Unit	Super	Sub.		Total
			Piers	Abuts.	
Removal of Existing Structures	L. Sum				1
Bit. Conc. Surf. Cse. Class I	Lans				
Waterproofing Membrane System	Sq.Yds.				
Concrete Structures	Cu.Yds.			17.2	17.2
P.P. Conc. Dk. Bm. 21" Dp.	Sq.Ft.	1200			1200
Steel Railing, Type S1	Lin.Ft.	100			100
Reinforcement Bars	Lbs.			1840	1840
Furnishing Steel Piles HP10X42	Lin.Ft.			574	574
Driving Steel Piles	Lin.Ft.			574	574
Test Pile Steel HP10X42	Each			1	1
Name Plates	Each			1	1
Concrete Encasement	Cu.Yds.			2.1	2.1

NOTE: See sheet two (2) of these plans for the Schedules of Traffic Barriers and Curled End Sections required on this Section.



Cent Bent 2
Sta. 6+46.25
P.G. Elev. 384.00
T.C.E. 382.21
P.C.E. 380.51
T.C.E. = Top of Cap Elev.
P.C.E. = Pile Cut-Off Elev.

Limits of Aggregate Surface Cse. Ty. B (Typ.)

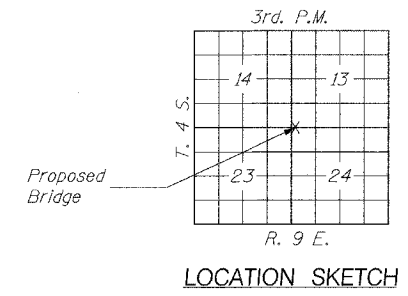
173 Ton- Stone Dumped Riprap Class A-4 allowed in Proposal

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.

PILE DATA (2-ABUTS.)

Bent #1:
Type: Steel Piles HP10X42
Capacity: 84 Tons (Refusal)
Estimated Length: 82 Feet
Number Required: 8 (Includes 1 Test Pile in Bent #1)

STATION 6+21.75
WILSON CREEK
SEC. 91-00071-00-BR BUILT 20
PROJECT NO. BRS-882(115)
WHITE COUNTY
LOADING HS 20-44
STR. NO. 097-3215



LETTERING FOR NAME PLATE

Locate Name Plate at the Southwest Corner of the Bridge (See Sd. CN)

WATERWAY INFORMATION

Drainage Area = 3.3 Sq. Mi. Low Grade Elev. = 381.70 At Sta. 10+00

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	1140	140	178	379.60	0.55	0.35	381.15	379.95
Base	100	1715		194	380.00		0.93		380.93
Overtopping									
Max. Calc.	500								

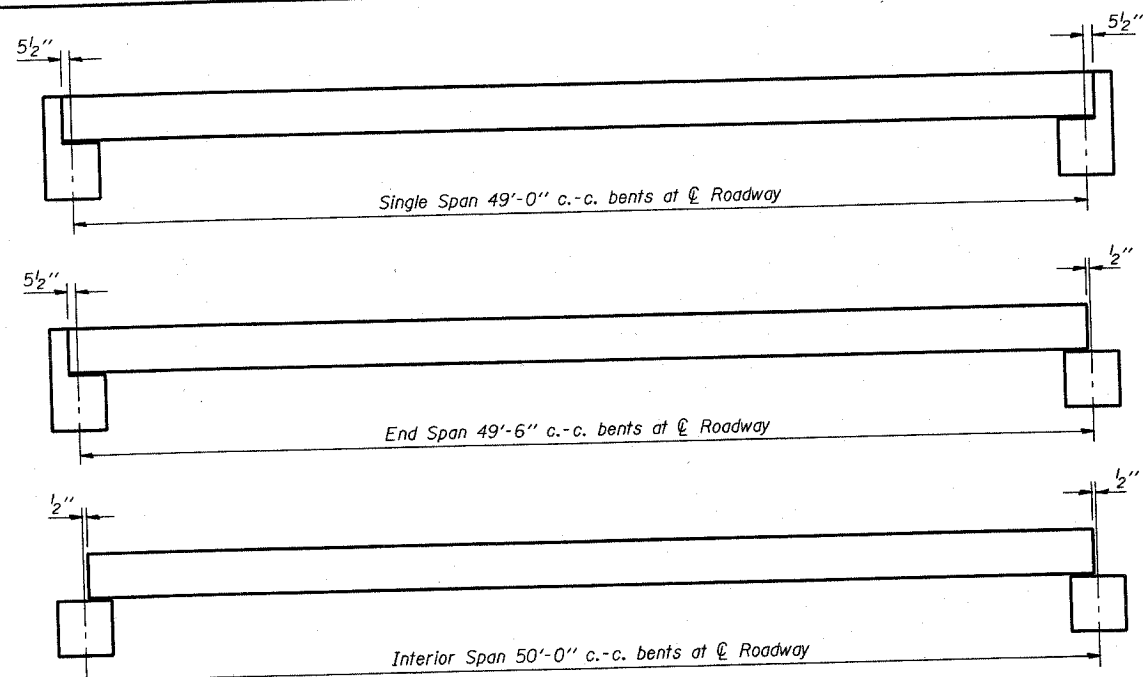
DESIGN SPECIFICATIONS

1996 AASHTO
HS 20-44 Loading, Load Factor Design

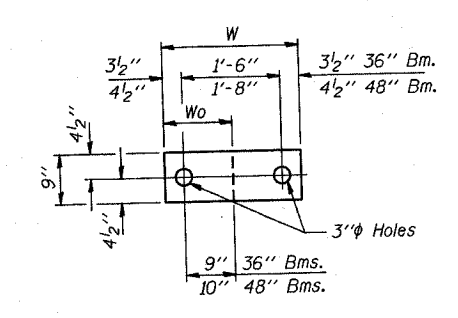
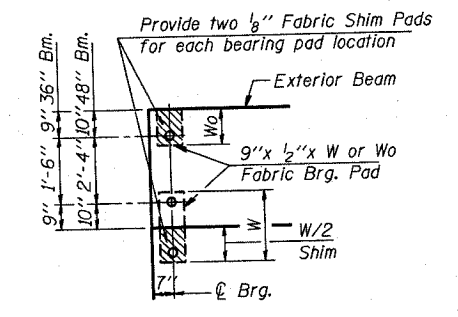
ARTICLE/SECTION NO. REFERENCE TABLE

Previous No.	Current No.
504.06	504.06
505.04	505.04
706.05	1006.05
706.32	1006.32
760.07	1060.07
STD 2340	STD 631026

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, 2002) as shown in the "Article/Section No. Reference Table."

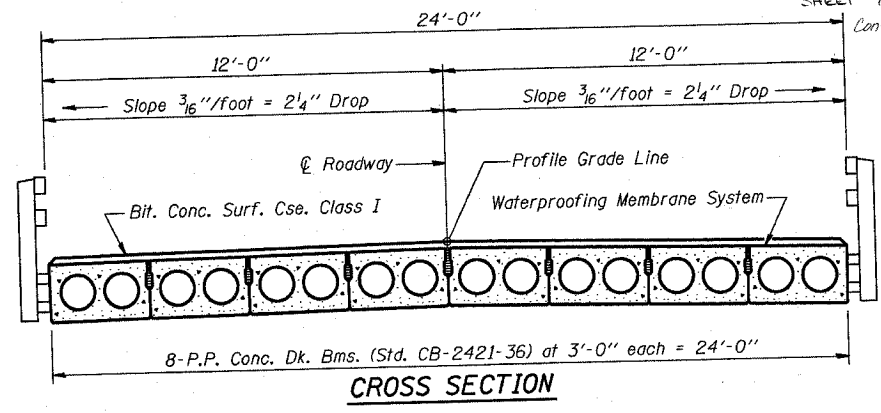


TYPICAL ELEVATIONS

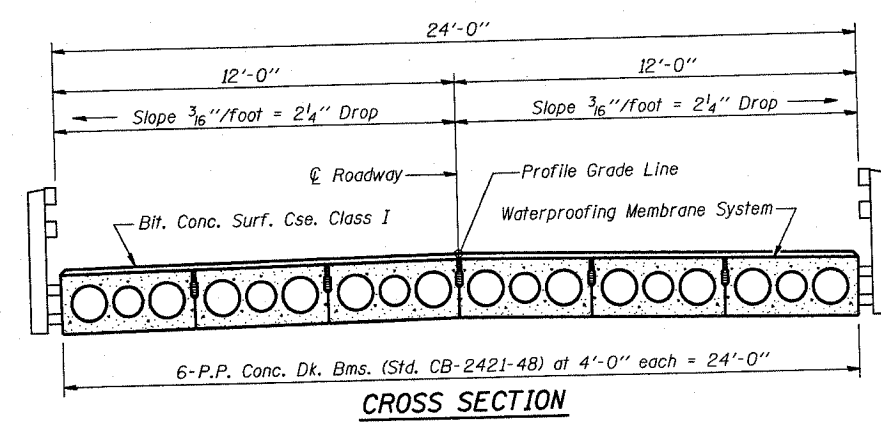


Beam	W	Wo
36"	2'-1"	1'-0 1/2"
48"	2'-5"	1'-2 1/2"

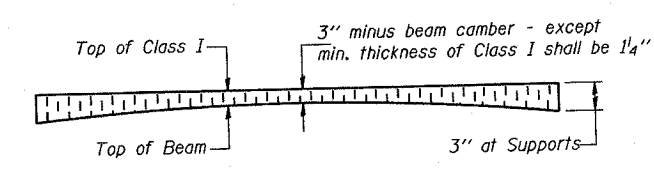
1/2" FABRIC BRG. PAD DETAILS



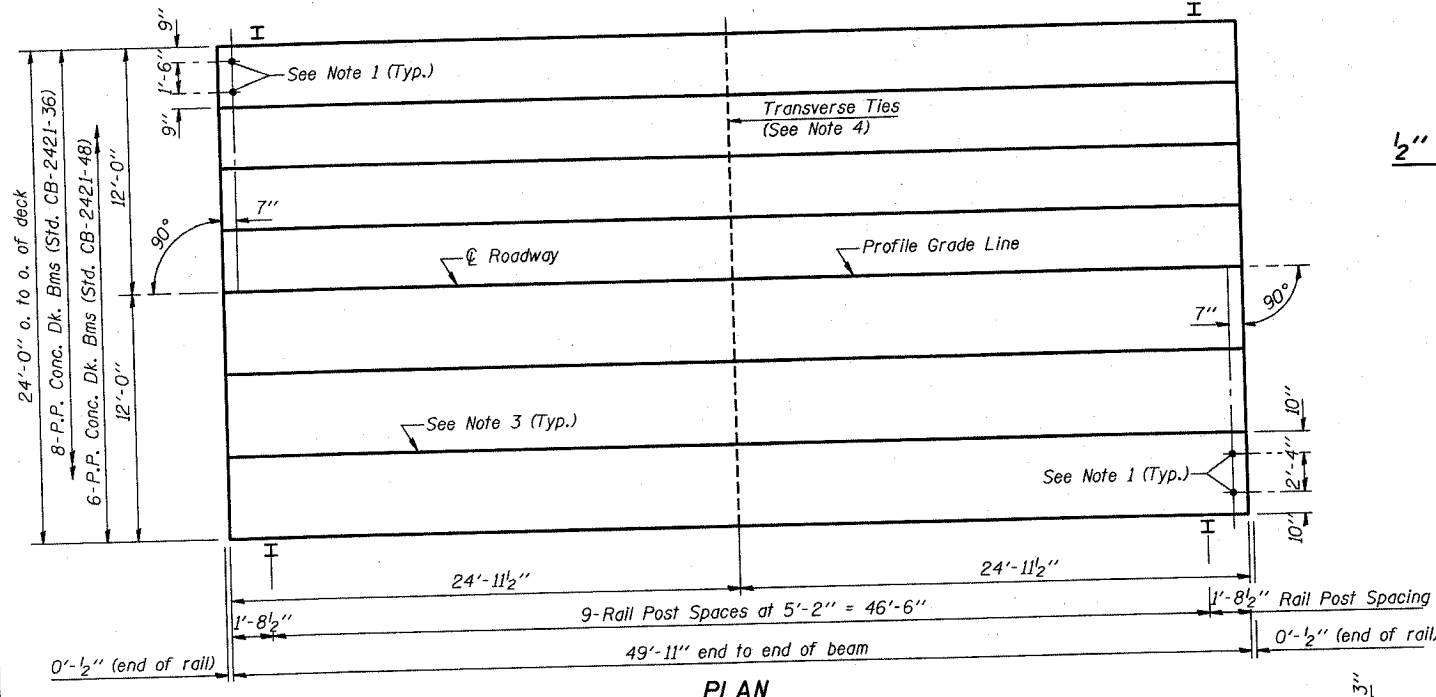
CROSS SECTION



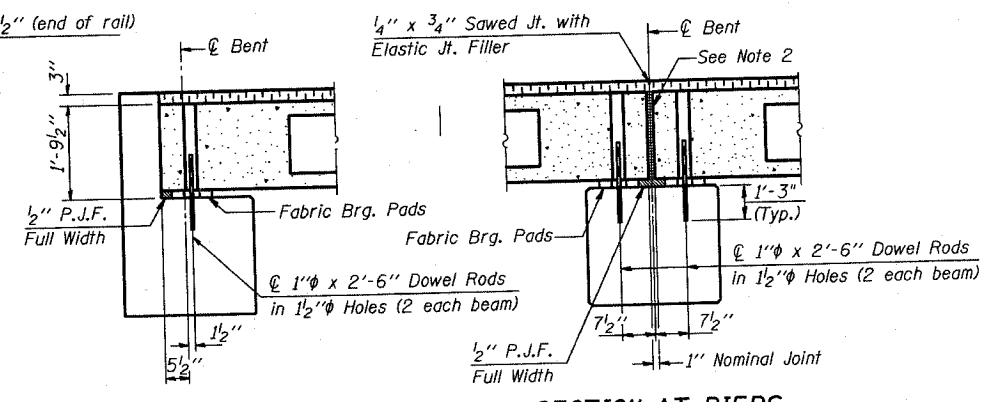
CROSS SECTION



PROFILE OF OVERLAY



PLAN



SECTION AT ABUTS.
(Along centerline of Beams)

SECTION AT PIERS
(Along centerline of Beams)

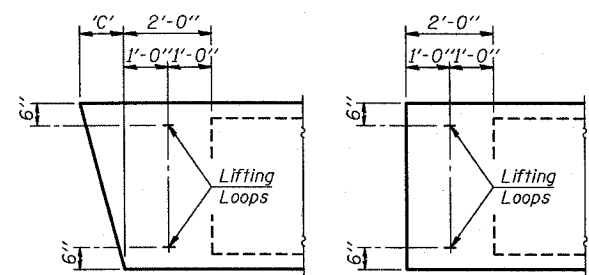
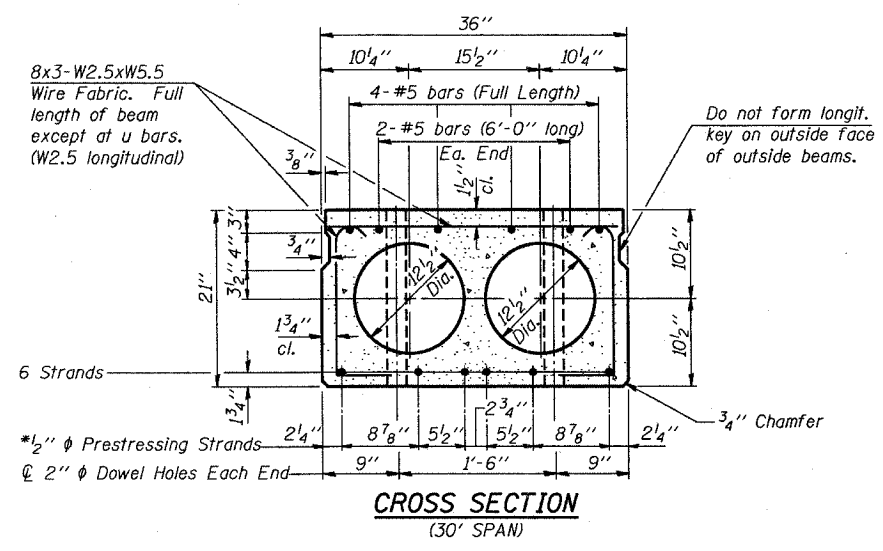
QUANTITIES FOR ONE SPAN

P.P. Conc. Dk. Bm. 21" Dp.	1200 Sq. Ft.
Steel Railing	100 Ft.
Bit. Conc. Surf. Cse. Class I	15.0 Tons
Waterproofing Membrane System	133.3 Sq. Yds.

- 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" joint at centerline of Pier shall be filled with non-shrink grout.
 - Longitudinal keys shall be grouted.
 - The 1" phi 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.

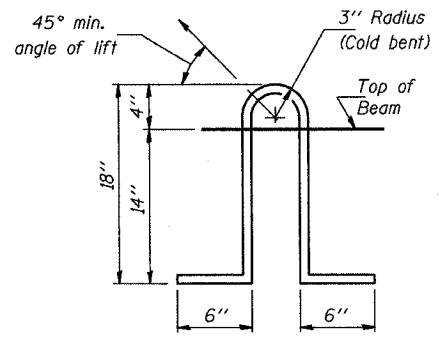
Illinois Department of Transportation
PASSED NOVEMBER 1, 1995
Engineer of Bridge Design
APPROVED NOVEMBER 1, 1995
Inspector of Bridges and Structures

P.P.C. DECK BEAM
SUPERSTRUCTURE
24' RDWY. 21" BMS. 50' SPAN 0° SKEW
STANDARD CS-2421-50

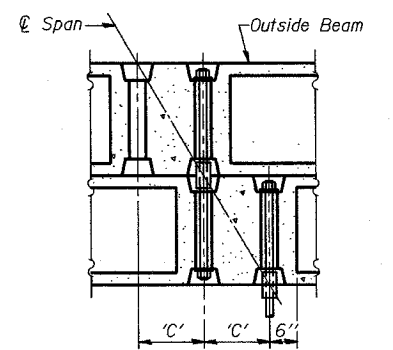
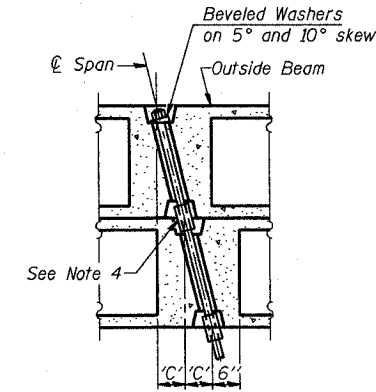


END BLOCK DETAILS

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.

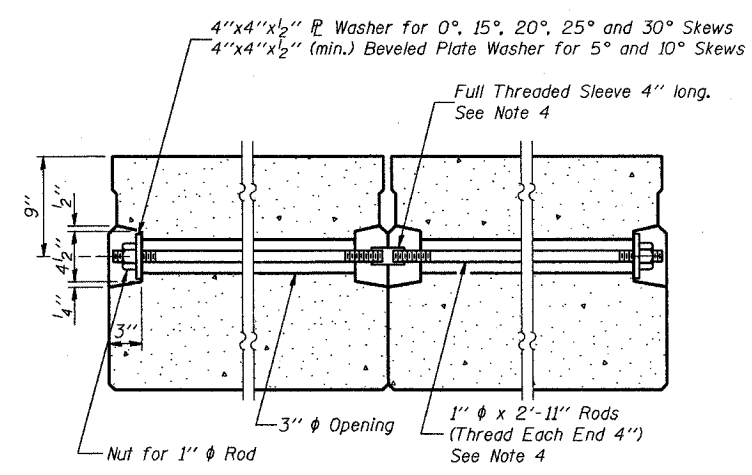
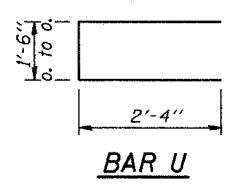
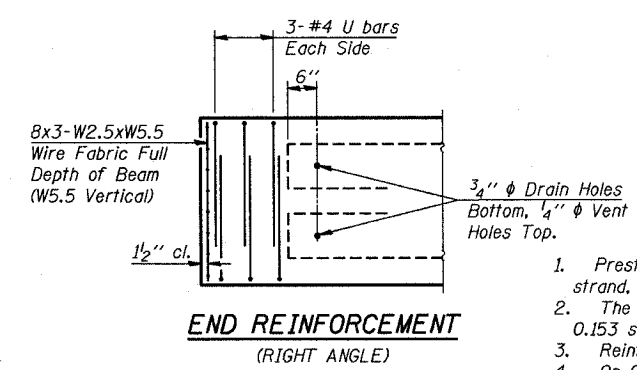
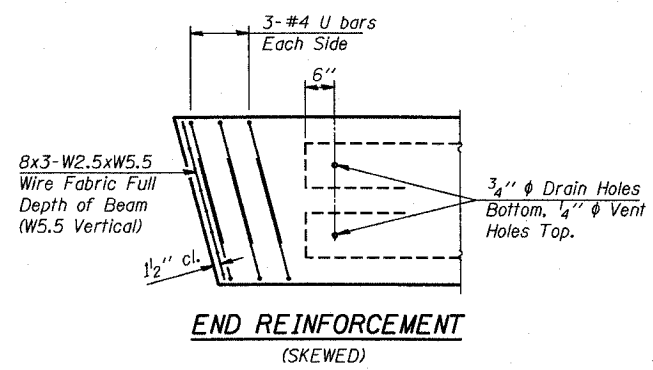
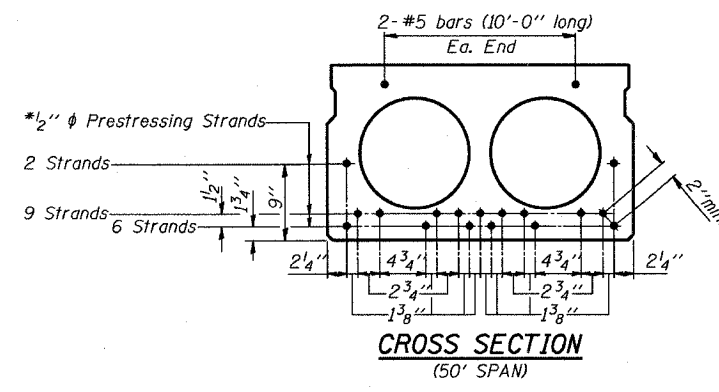
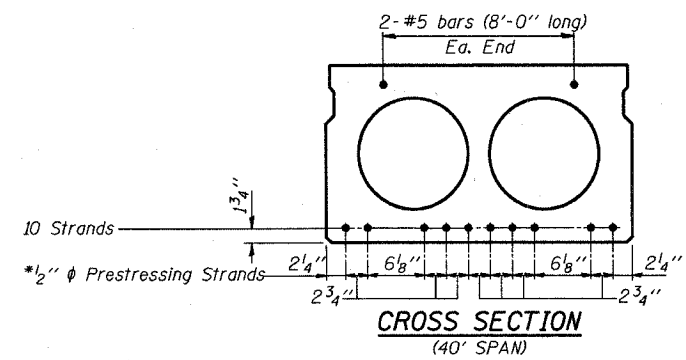
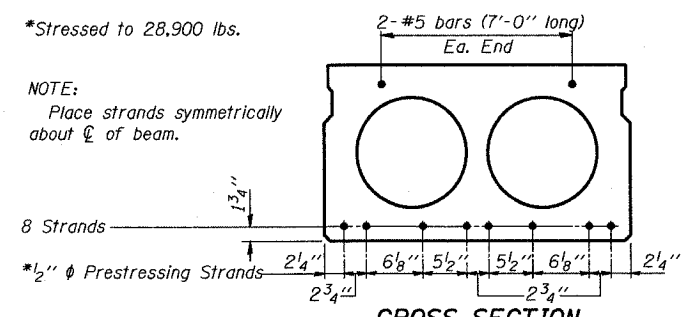


Lifting loops shall be 2. 1/2" ϕ 270 ksi strands, as shown. Alternate approved lifting devices are also acceptable.



DIMENSION 'C'

Skew Angle 'D'	0°	5°	10°	15°	20°	25°	30°
Dimension 'C' (Inches)	0	3 3/8	6 3/8	9 5/8	13 3/8	16 3/4	20 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.
- 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 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)
30'	4,000
35'	4,000
40'	4,200
50'	4,100

Illinois Department of Transportation

PASSED NOVEMBER 1, 1995

Dr. O. Kasper
Engineer of Bridge Design

APPROVED NOVEMBER 1, 1995

Robert E. Anderson
Engineer of Bridges and Structures

10-11 DEISS

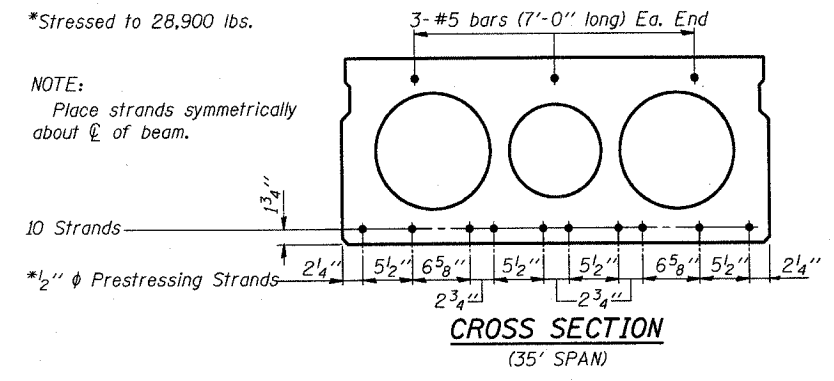
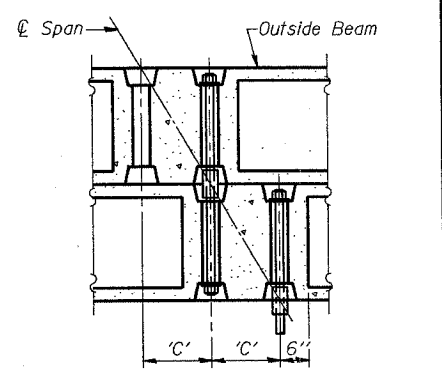
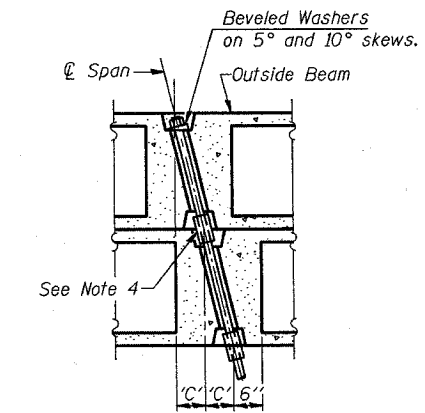
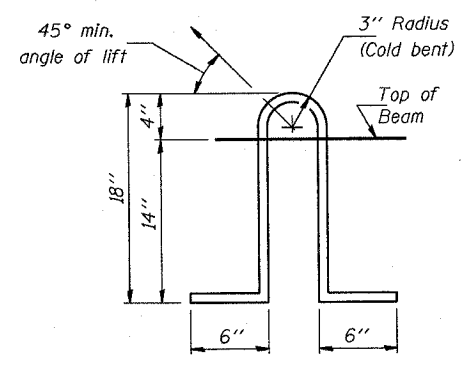
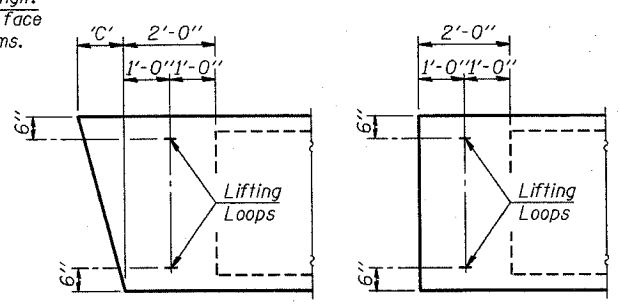
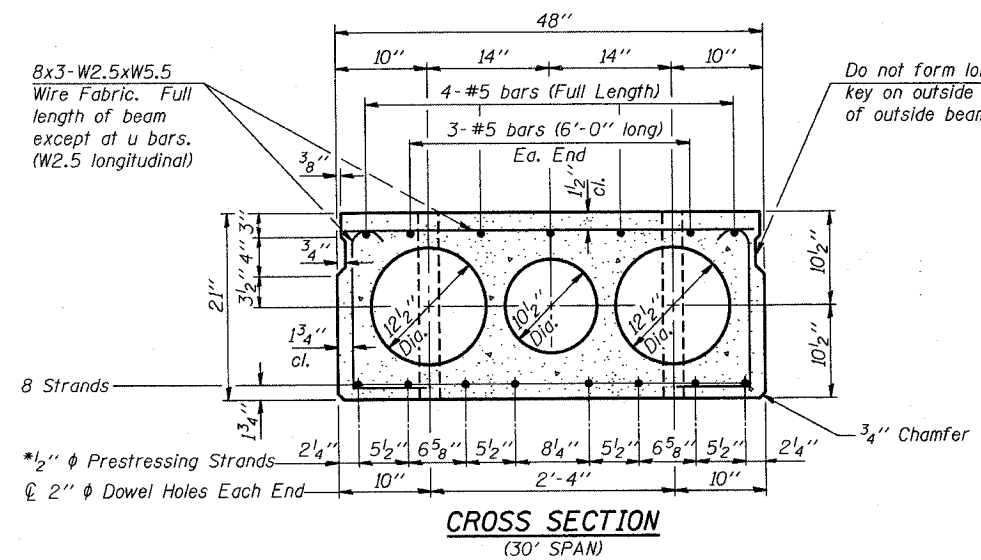
NOTE
The std. reinf. shown on the 30' span cross section is typical for all spans, except as shown.

P.P.C. DECK BEAM DETAILS

24' ROADWAY	21" x 36" BEAMS
-------------	-----------------

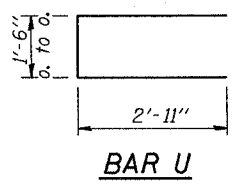
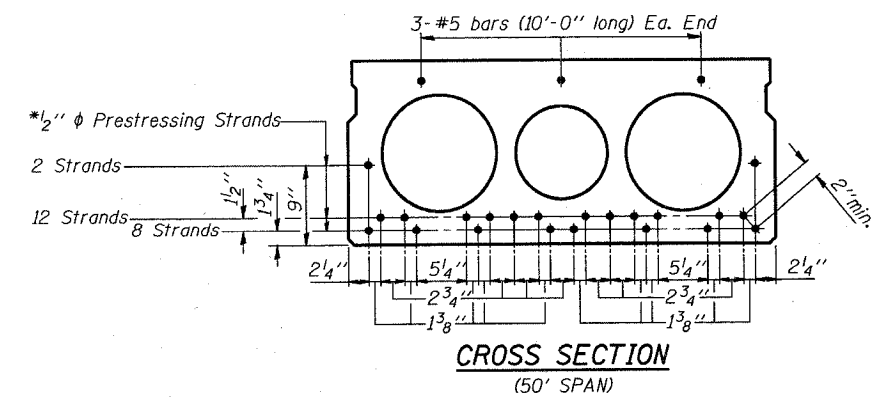
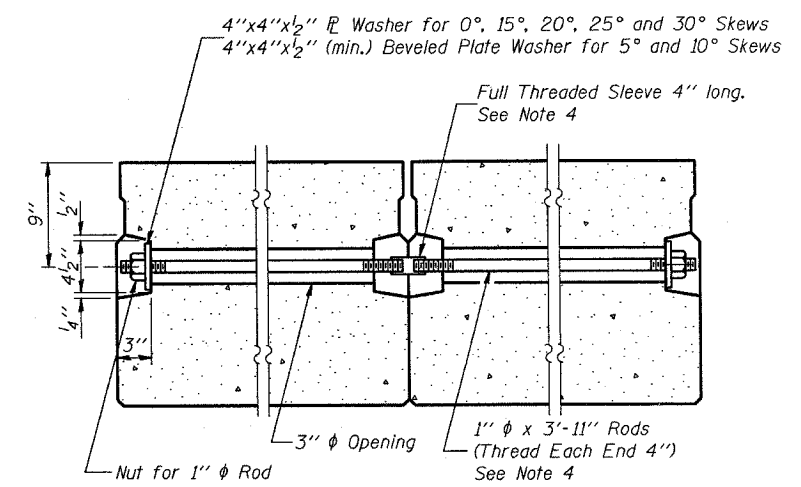
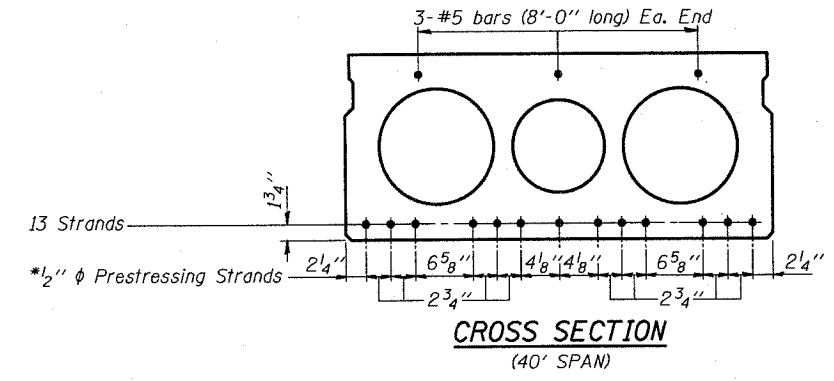
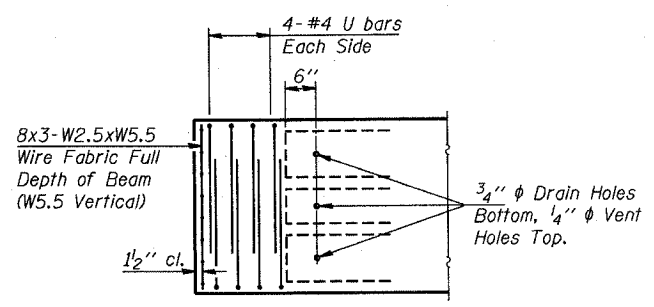
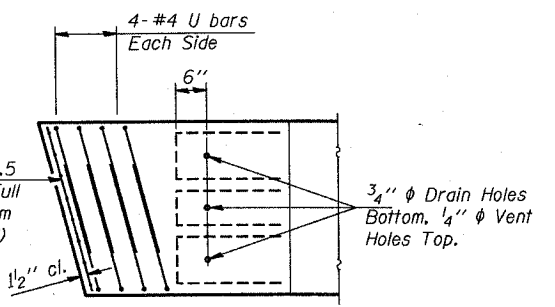
STANDARD CB-2421-36

Nov 12 09:01:42 1995 C:\PLOT\queue\DT7C66401.dcf ray /usr/prc3/sect/bststde/engbmdt.prf



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



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)
30'	4,000
35'	4,000
40'	4,000
50'	4,200

- 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.
 - On 0°, 5° and 10° skews, 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 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.

Illinois Department of Transportation

PASSED NOVEMBER 1, 1995

Orsi D. Kasper
 Engineer of Bridge Design

APPROVED NOVEMBER 1, 1995

Ralph E. Anderson
 Engineer of Bridges and Structures

ISSUED 1-1-81

NOTE

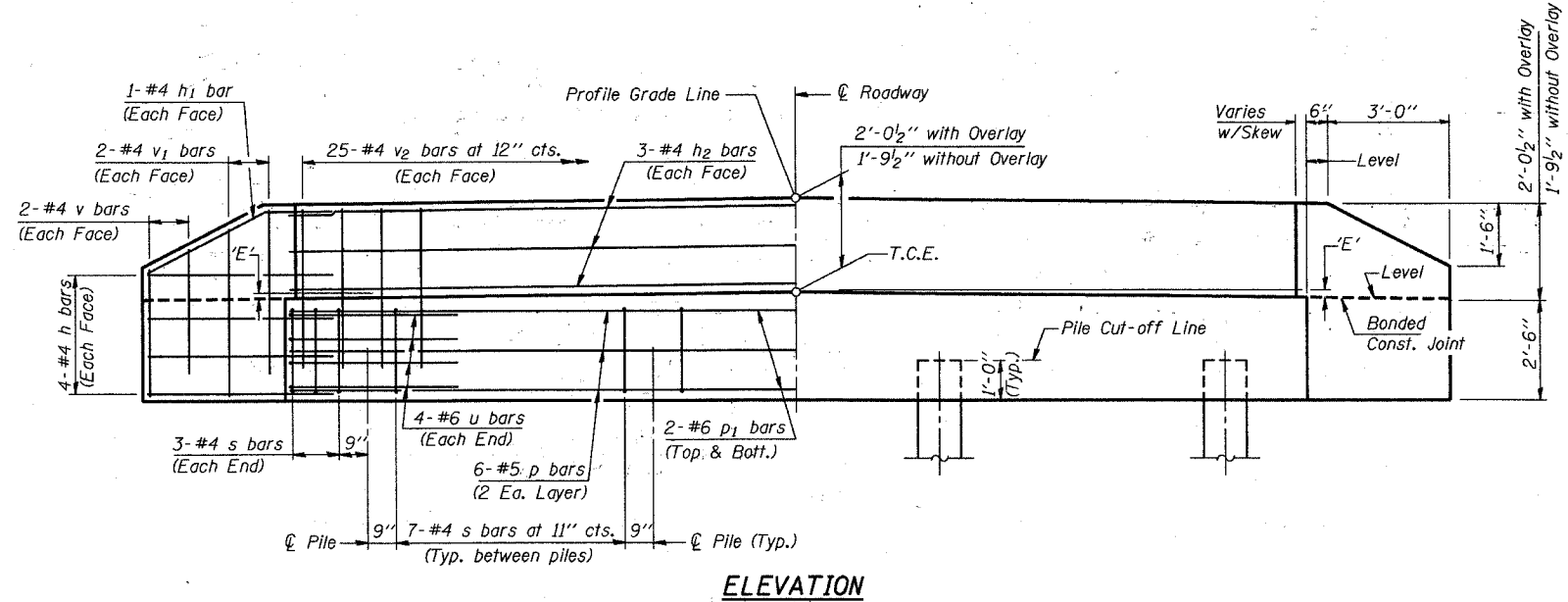
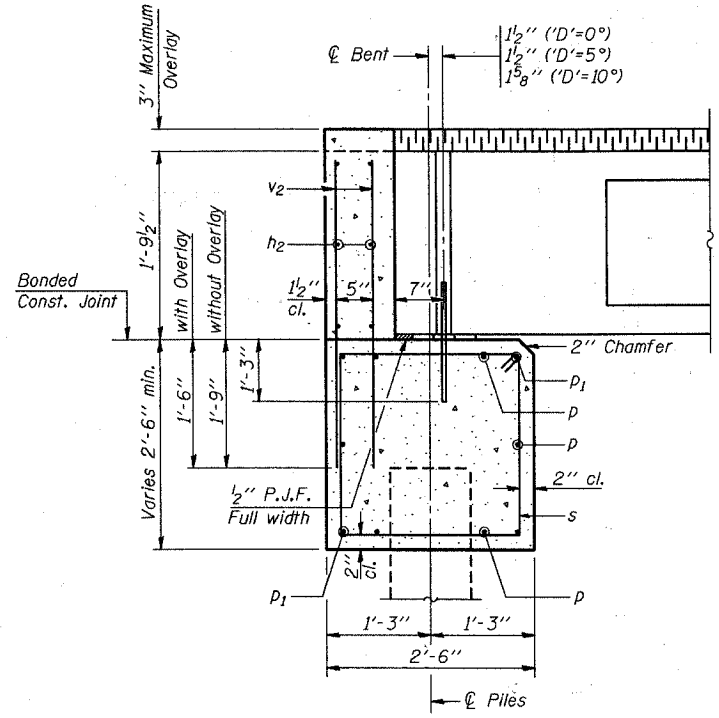
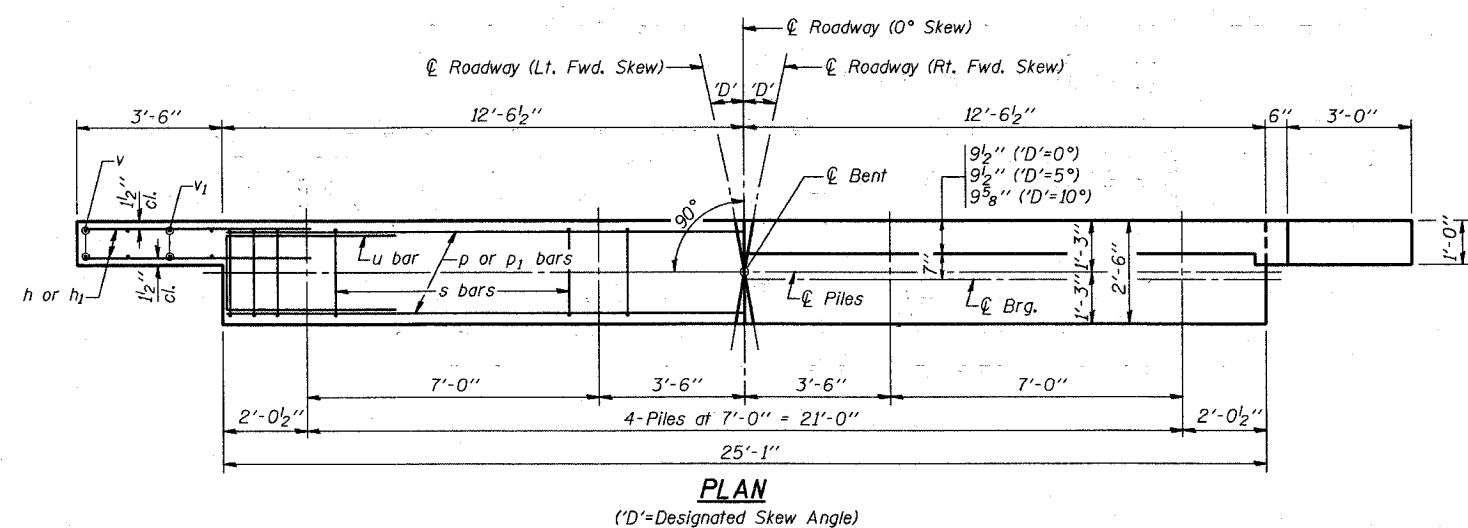
The std. reinf. shown on the 30' span cross section is typical for all spans, except as shown.

P.P.C. DECK BEAM DETAILS

24' ROADWAY | 21" x 48" BEAMS

STANDARD CB-2421-48

21 091401 1996 C:\PLOT\queue\10700\104.dwg m / user/project/brst- /engmdetuprf



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

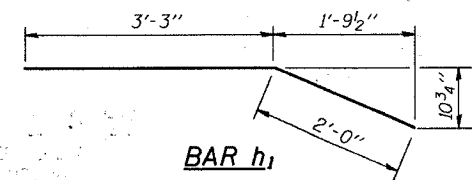
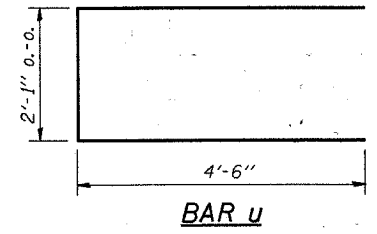
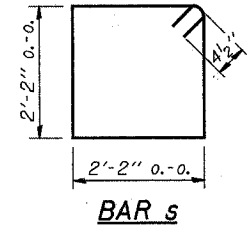
- The Backwall and the portion of the Wingwalls above the bonded construction joint shall be cast against the in-place beam.
- Reinforcement bars shall conform to A.A.S.H.T.O. M-31, M-42 or M-53, Grade 60.

MAXIMUM PILE LOADS

SPAN	TONS
30'	27
35'	30
40'	32
50'	37

DESIGN STRESSES

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



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	6	#5	24'-9"	—
p1	4	#6	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			920 Lbs.	

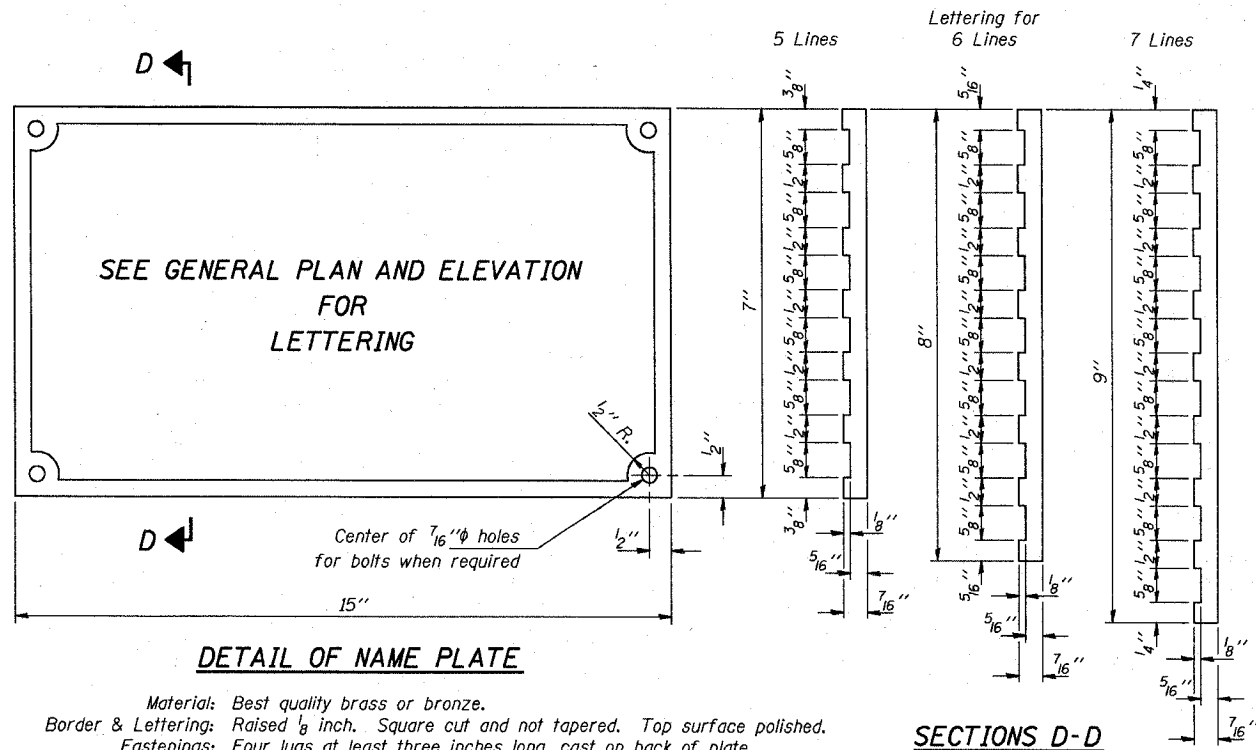
**P.P.C. DECK BEAMS
 PILE BENT ABUTMENT**

24' RDWY. 21' BMS. 'D'=0°, 5° OR 10°

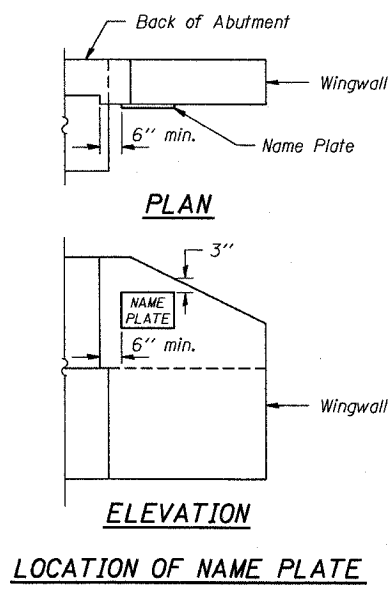
STANDARD CA-2421-10

Illinois Department of Transportation
 PASSED November 1, 1995
 Approved by: *Raj D. Kasper*
 Engineer of Bridge Design
 APPROVED November 1, 1995
 Approved by: *Ralph E. Anderson*
 Engineer of Bridges and Structures

Nov 12 09:12:25 1995 CAPL01\pave\07266401\capf raj /user/project/brstdepe/engabut.prf



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.



Jul. 1 1995 15:19 1995 c:\plot\queue\queue3.saf res /usr/projects/bratdps/engr1.prf

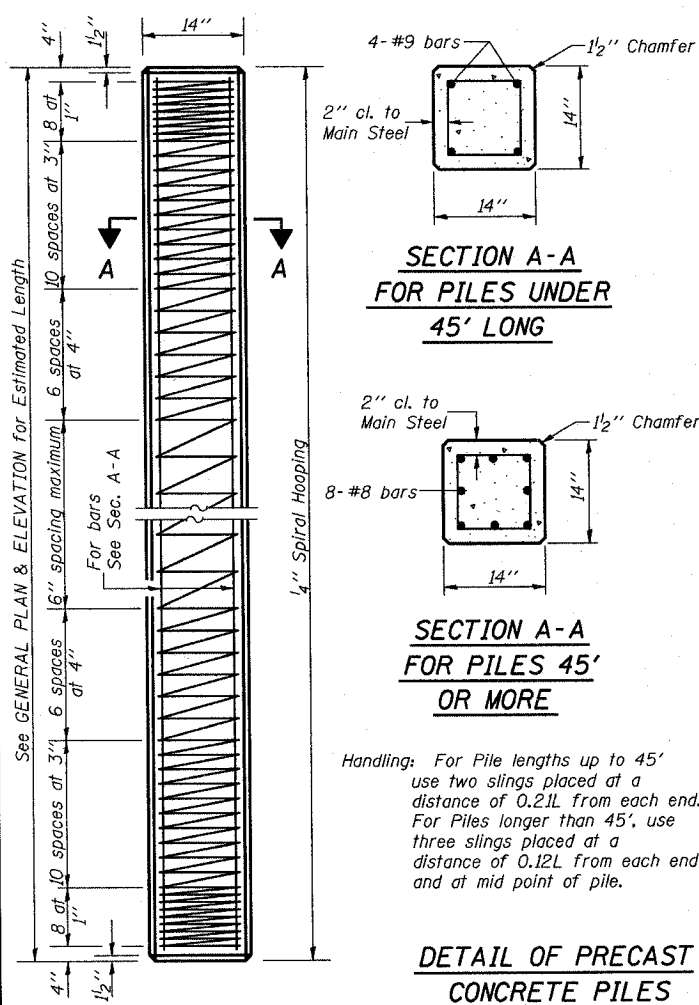
Illinois Department of Transportation

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

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

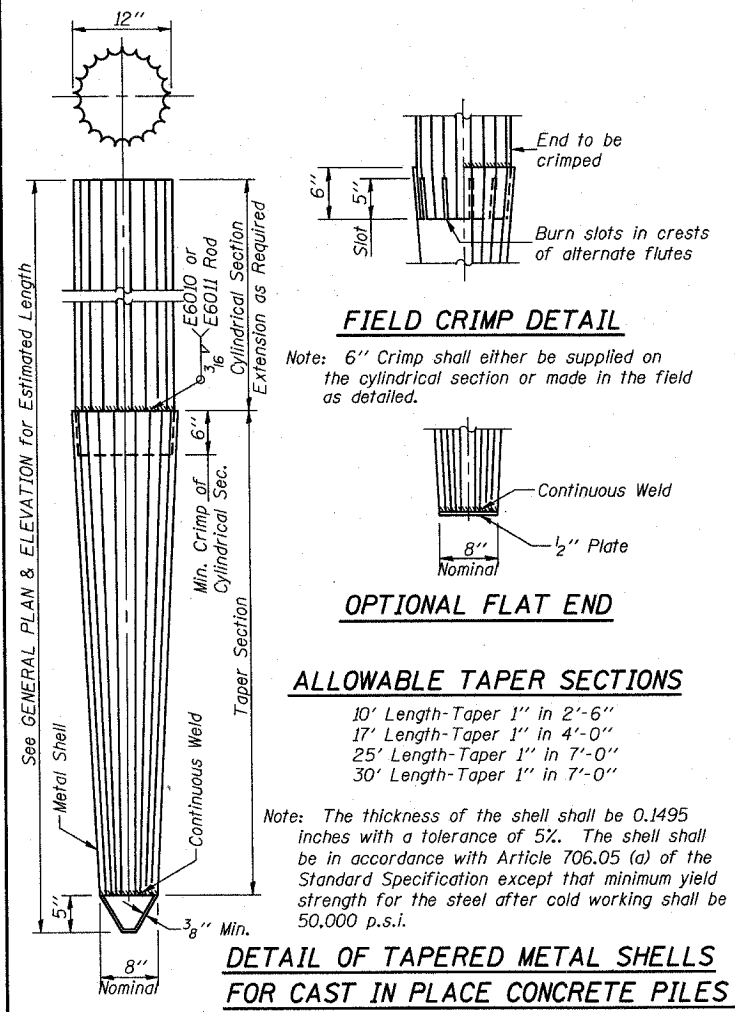
ISSUED 7-4-95

NAME PLATE
STANDARD CN



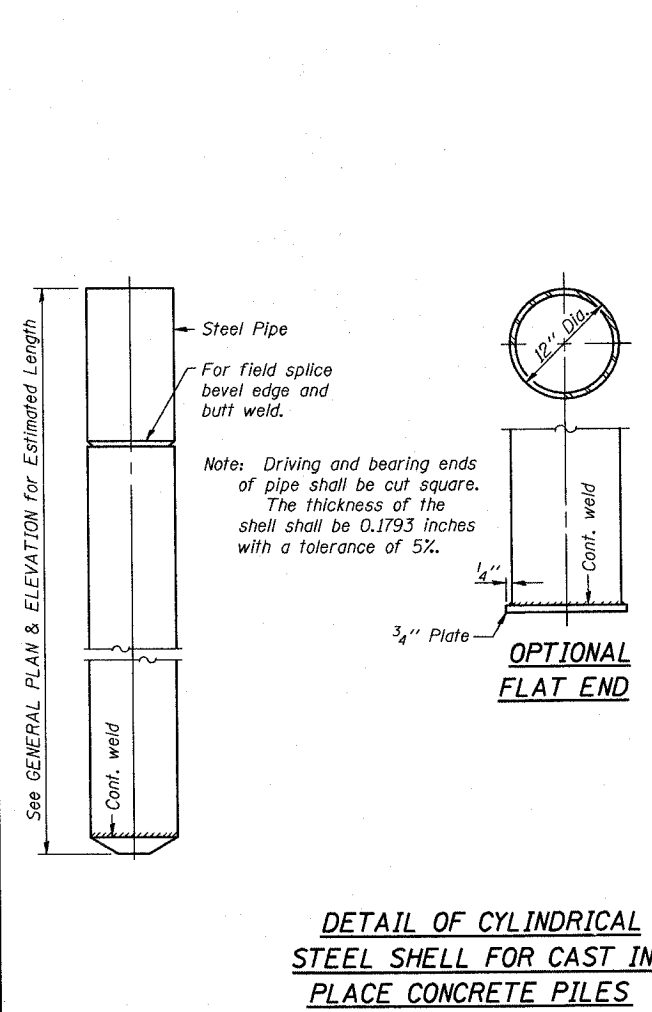
Handling: For Pile lengths up to 45' use two slings placed at a distance of 0.21L from each end. For Piles longer than 45', use three slings placed at a distance of 0.12L from each end and at mid point of pile.

DETAIL OF PRECAST CONCRETE PILES



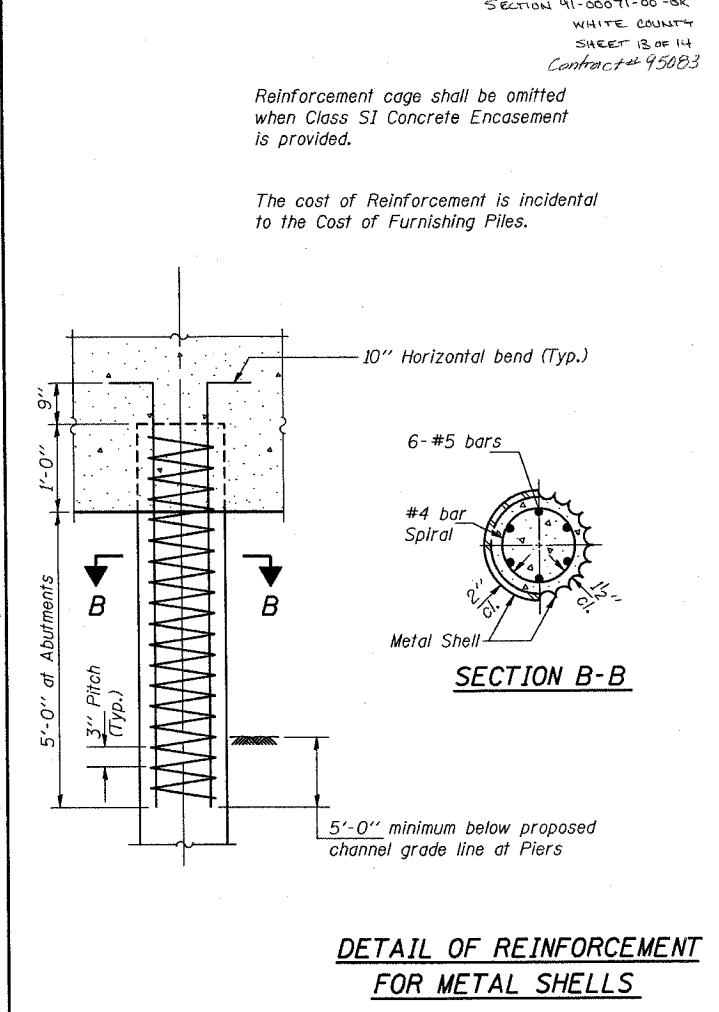
Note: The thickness of the shell shall be 0.1495 inches with a tolerance of 5%. The shell shall be in accordance with Article 706.05 (a) of the Standard Specification except that minimum yield strength for the steel after cold working shall be 50,000 p.s.i.

DETAIL OF TAPERED METAL SHELLS FOR CAST IN PLACE CONCRETE PILES



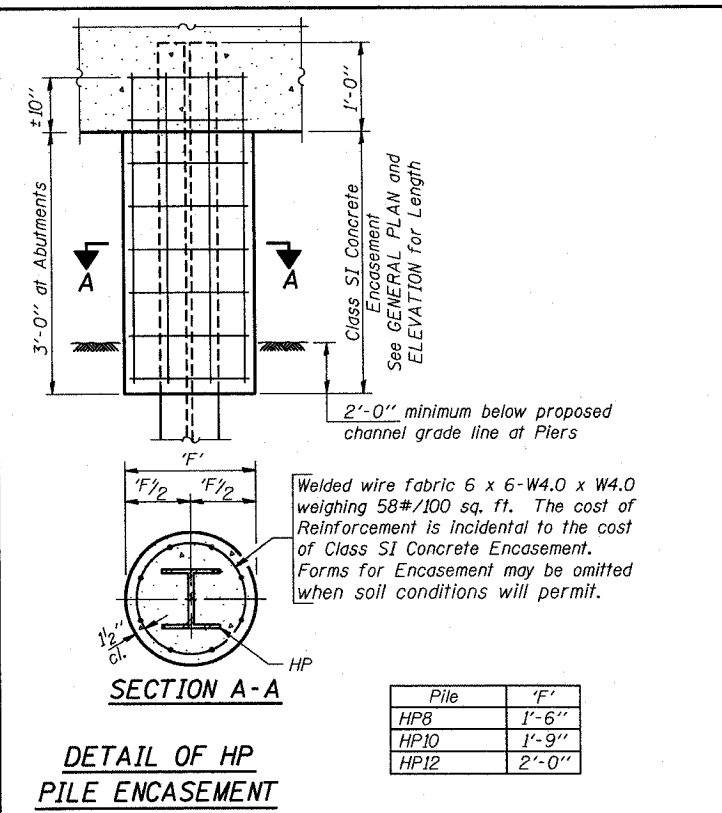
Note: Driving and bearing ends of pipe shall be cut square. The thickness of the shell shall be 0.1793 inches with a tolerance of 5%.

DETAIL OF CYLINDRICAL STEEL SHELL FOR CAST IN PLACE CONCRETE PILES



Reinforcement cage shall be omitted when Class SI Concrete Encasement is provided.
The cost of Reinforcement is incidental to the Cost of Furnishing Piles.

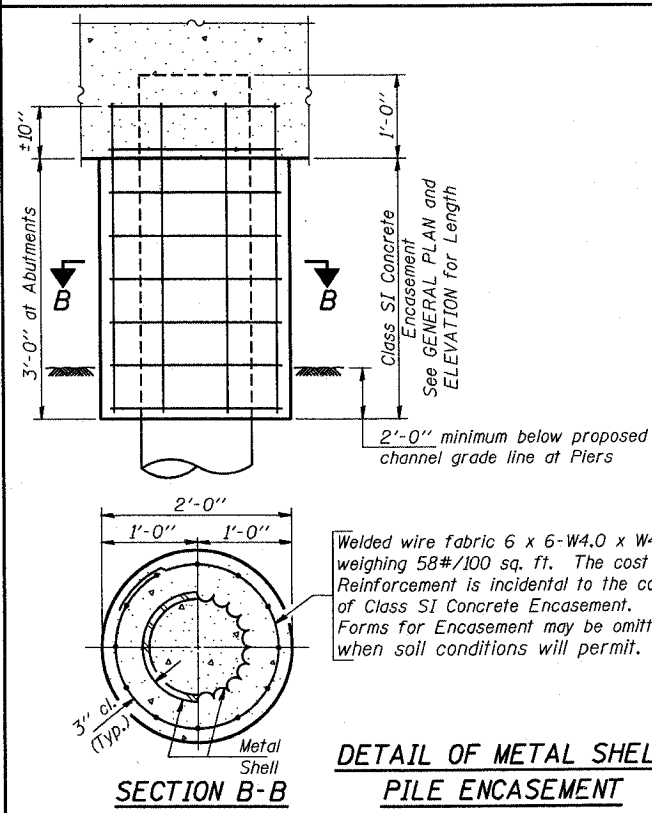
DETAIL OF REINFORCEMENT FOR METAL SHELLS



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

Pile	'F'
HP8	1'-6"
HP10	1'-9"
HP12	2'-0"

DETAIL OF HP PILE ENCASEMENT



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

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.

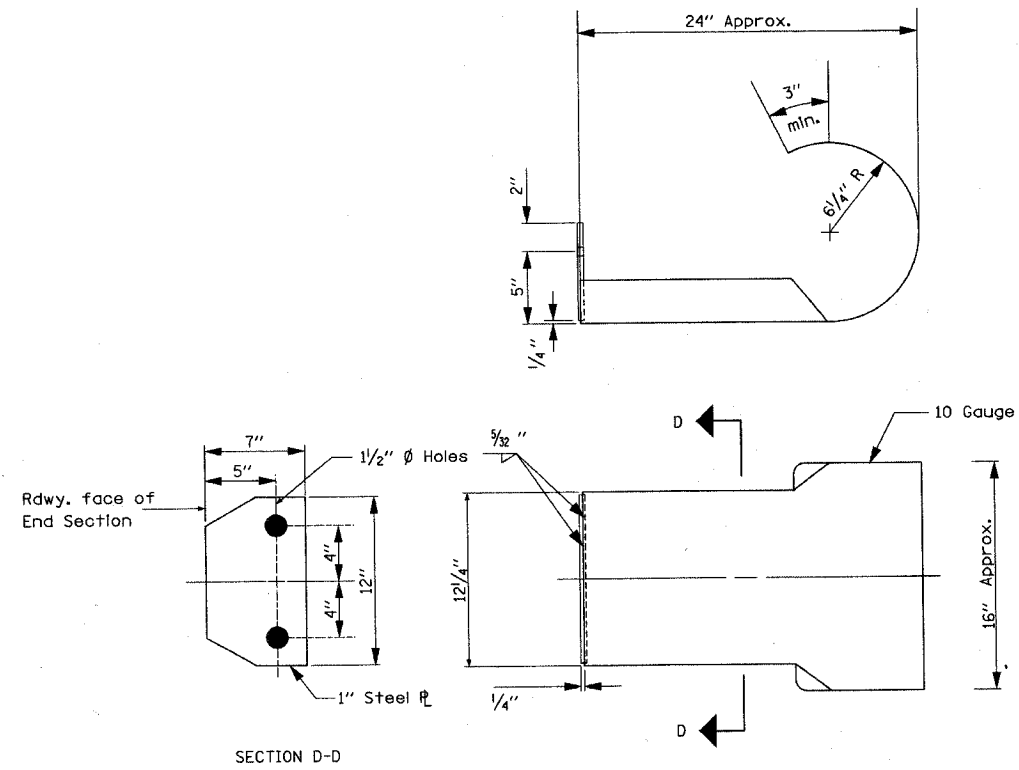
PILE DETAILS
STANDARD CX-1

Illinois Department of Transportation
 PASSED November 1, 1995
 Approved November 1, 1995
 Engineer of Bridges and Structures

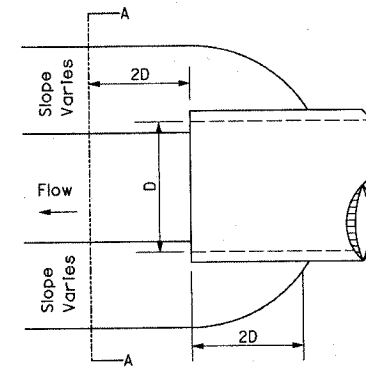
7 0910218 1995 c:\p\lot\queue\queue3.qcf ray /usr/project/bst0pde/engfile.prf

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA 882	91-00071-00-8R	WHITE	14	14
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	
CONTRACT NO. 95083				

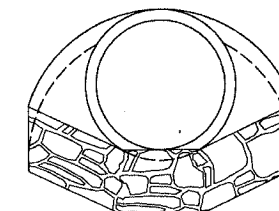
CURLED END SECTION DETAIL



STONE RIPRAP DITCH DESIGN

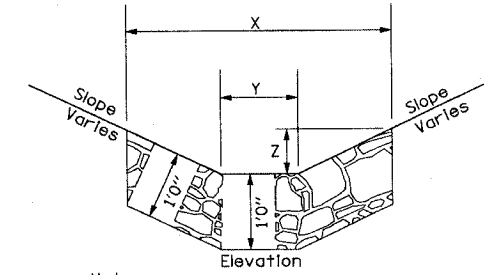


Plan



Section A-A

Note: For placement, quality gradation and other miscellaneous requirements for stone riprap ditch-see special provisions.



Note:

Bottom of Ditch	Slope		
	1/2:1	2:1	3:1
2 ft.	X= 5 ft	6 ft	8 ft
	Y= 2 ft	2 ft	2 ft
	Z= 1 ft	1 ft	1 ft
	0.40	0.48	0.62 ton/lin. ft.

	1/2:1	2:1	3:1
3 ft.	X= 6 ft	7 ft	9 ft
	Y= 3 ft	3 ft	3 ft
	Z= 1 ft	1 ft	1 ft
	0.48	0.56	0.70 ton/lin. ft.

	1/2:1	2:1	3:1
4 ft.	X= 7 ft	8 ft	10 ft
	Y= 3 ft	3 ft	3 ft
	Z= 1 ft	1 ft	1 ft
	0.56	0.64	0.78 ton/lin. ft.