

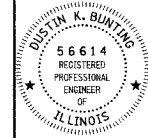
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
125	04-03111-00-BR	WABASH	13	1

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)-388-7611
FAX:
(812)-385-2812



PROFESSIONAL
DESIGN FIRM
LAND SURVEY &
PROFESSIONAL
ENGINEERING
CORPORATION
184-00087
(82-032435)(35-002769)



DUSTIN K. BUNTING
NAME
SIGNATURE
DATE
11-30-05
EXPIRES

TOWNSHIP ROUTE 125
GREATHOUSE CREEK
WABASH COUNTY, ILLINOIS

STATE OF ILLINOIS

DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED FEDERAL AID -- B.R.R.P. PROJECT

T.R. 125 WABASH COUNTY SECTION 04-03111-00-BR

PROJECT NO. BROS-185(19) JOB NO. C-97-018-05

INDEX OF SHEETS

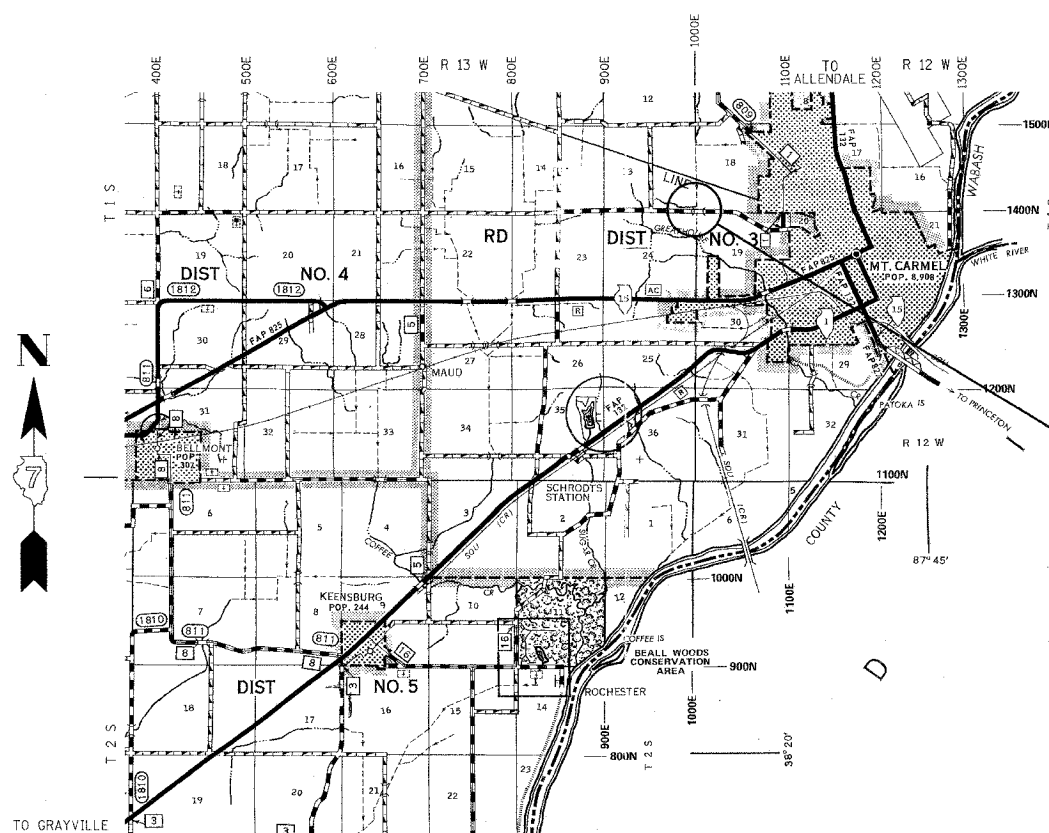
SHEET NO.	DESCRIPTION
1	TITLE SHEET & SUMMARY OF QUANTITIES
2	PLAN & PROFILE, TYPICAL SECTIONS & GENERAL NOTES
3-4	ROADWAY CROSS SECTIONS
5-12	BRIDGE DESIGN
13	CURLED END SECTIONS & STONE RIPRAP DITCH DESIGN

**THE FOLLOWING STANDARDS
ARE A PART OF THESE PLANS AND
ARE INCLUDED AFTER SHEET NO. 13**

000001-04	STANDARD SYMBOLS & ABBREVIATIONS
280001-02	TEMPORARY EROSION CONTROL SYSTEMS
702001-05	TRAFFIC CONTROL DEVICES
BLR 21-6	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS
BLR 22-4	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS (TWO-LANE TWO WAY RURAL TRAFFIC) (ROAD CLOSED TO THRU TRAFFIC)

SUMMARY OF QUANTITIES

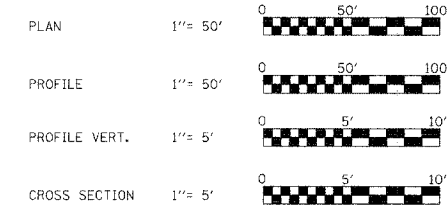
QUANTITY	UNIT	ITEM	X080-2A CODE NO.
177.00	UNIT	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	20100110
195.00	UNIT	TREE REMOVAL (OVER 15 UNITS DIAMETER)	20100210
935.00	CU YD	EARTH EXCAVATION	20200100
377.00	CU YD	CHANNEL EXCAVATION	20300100
1070.00	CU YD	FURNISHED EXCAVATION	20400800
0.74	ACRE	SEEDING, CLASS 2 (SPECIAL)	25001000
4.00	EACH	TEMPORARY DITCH CHECKS	28000300
20.00	TON	AGGREGATE (EROSION CONTROL)	28001000
189.00	TON	STONE DUMPED RIPRAP, CLASS A4	28100807
19.00	TON	STONE RIPRAP DITCH	28102600
256.00	TON	AGGREGATE SURFACE COURSE, TYPE B	40200800
1.00	EACH	REMOVAL OF EXISTING STRUCTURES	50100100
18.20	CU YD	CONCRETE STRUCTURES	50300225
1440.00	SO FT	PRECAST PRESTRESSED CONCRETE DECK BEAMS (27" DEPTH)	50400505
1980.00	POUND	REINFORCEMENT BARS	50800105
120.00	FOOT	STEEL RAILING, TYPE S1	50900205
490.00	FOOT	FURNISHING STEEL PILES HP10X42	51201400
490.00	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



SECTION 04-03111-00-BR
BEGINS STATION 2+15

STATION 5+00, STRUCTURE NO. 093-3127
A 60' SINGLE SPAN PRECAST PRESTRESSED
CONCRETE DECK BEAM BRIDGE, (27" DEPTH)
BEAMS, 24' ROADWAY, 0.00% GRADE, 0° SKEW.

SECTION 04-03111-00-BR
ENDS STATION 7+95



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

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.

Maurice Kastl
DIST. ENGR. LOCAL RDS. & STS.

APPROXIMATE SCALE: 1 INCH = 1 MILE



GROSS LENGTH	580.00 FT.	0.11 MILES
OMISSIONS	0.00 FT.	0.00 MILES
NET LENGTH	580.00 FT.	0.11 MILES

DESIGN DESIGNATION:
DESIGN SPEED: 30 MPH
HIGHWAY CLASS - LOCAL ROAD
EXISTING STRUCTURE NO.: 093-3056
PROPOSED STRUCTURE NO.: 093-3127
CURRENT A.D.T. = 100
CONTRACT NO. 95419

APPROVED	<i>February 8</i>	2005
	<i>David L. Liberman</i>	COUNTY ENGINEER
PASSED	<i>2-17</i>	2005
	<i>Maurice Kastl</i>	DISTRICT ENGINEER OF LOCAL ROADS & STREETS
APPROVED	<i>FEB. 24</i>	2005
	<i>Chris H. Reed</i>	DEPUTY DIRECTOR OF HIGHWAYS / REGION 4 ENGINEER

SHEET TITLE:
TITLE SHEET
SCALE: VARIES
BY: DKB
DATE: 11/24/04
REV:
1 OF 13
SHEETS
SHEET NO.
1

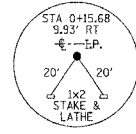
GENERAL NOTES:

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 60 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.



NOTE: CONSTRUCT TRANSITIONS:
STA 1+65 TO STA 2+15
STA 7+95 TO STA 8+45
ALL QUANTITIES ARE INCLUDED IN THE PROPOSAL.

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
125	04-03111-00-BR	WABASH	13	2
FED. ROAD DIST. NO. 7 ILLINOIS		GREATHOUSE CREEK		
LEC JOB # H031017WB		CONTRACT NO. 95419		

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

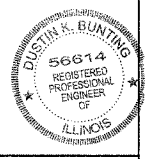
PHONE: (618)-262-8651
FAX: (618)-263-3327

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

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



PROFESSIONAL DESIGN FIRM
LAND SURVEY & PROFESSIONAL ENGINEERING CORPORATION
184-00887
(62-432435)(35-002769)



DUSTIN K. BUNTING
NAME
SIGNATURE

DATE: 02-04-05
11-30-05 EXPIRES

TOWNSHIP ROUTE 125
GREATHOUSE CREEK
WABASH COUNTY, ILLINOIS

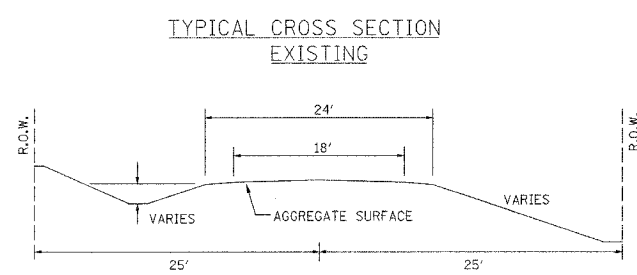
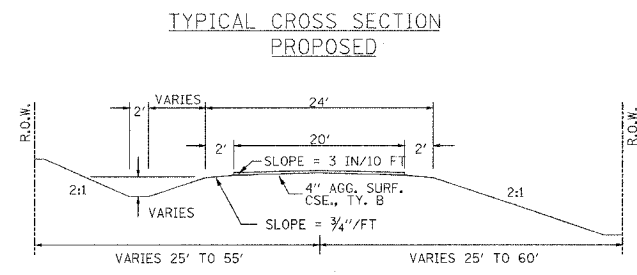
SHEET TITLE:

PLAN & PROFILE

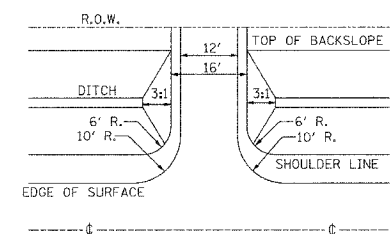
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BY: EKB
DATE: 08/2004
REV:

2 OF 13 SHEETS

SHEET NO. 2



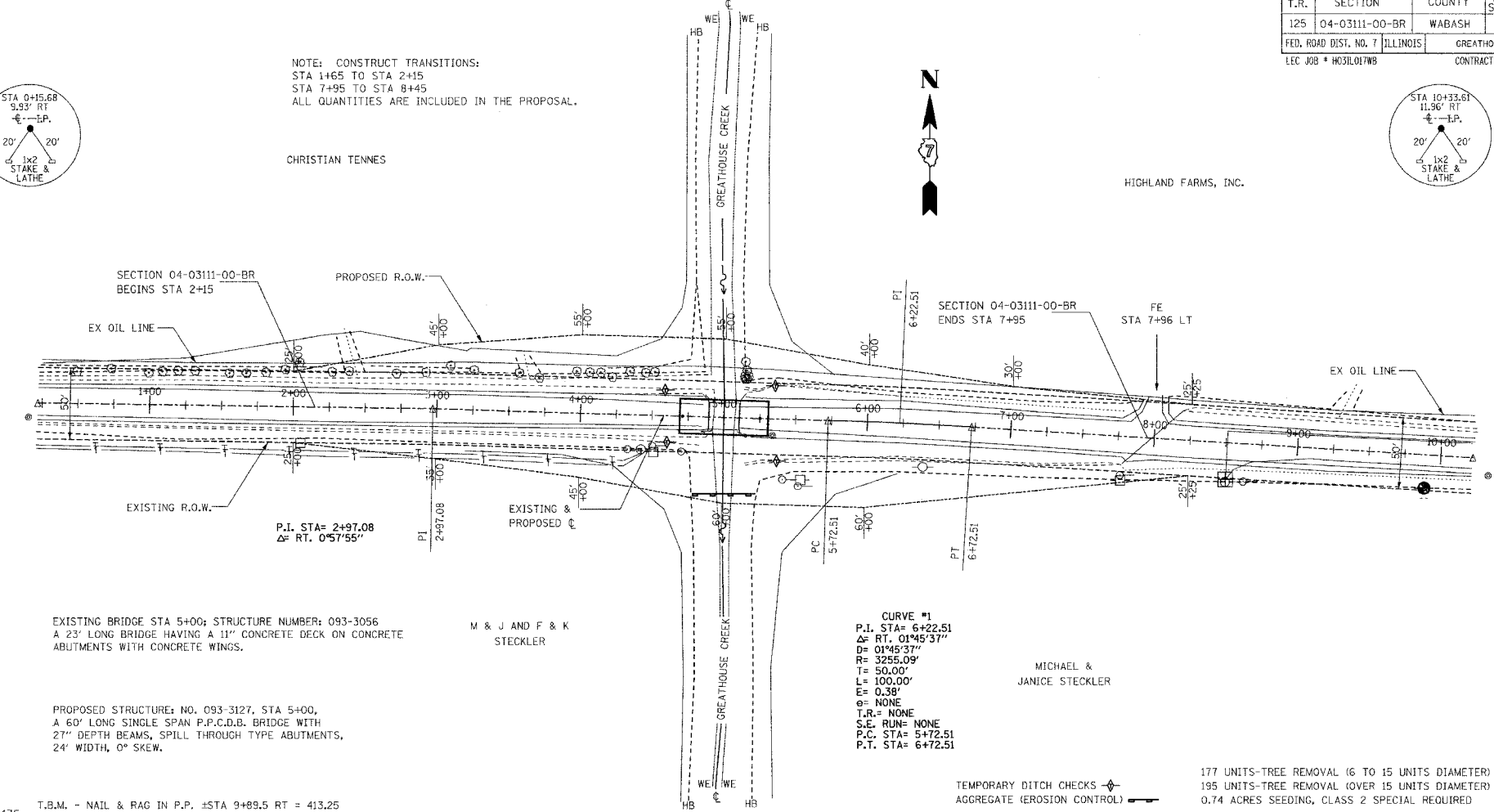
FIELD ENTRANCE DETAIL



UTILITIES:

- J.U.L.I.E. 1-800-892-0123
- VERIZON
225 E. CHESTNUT
OLNEY, IL 62450
618-395-6181
- MT. CARMEL PUBLIC UTILITY
316 MARKET STREET
MT. CARMEL, IL 62863
618-262-5151
- COUNTRY MARK COOP
812-838-8500

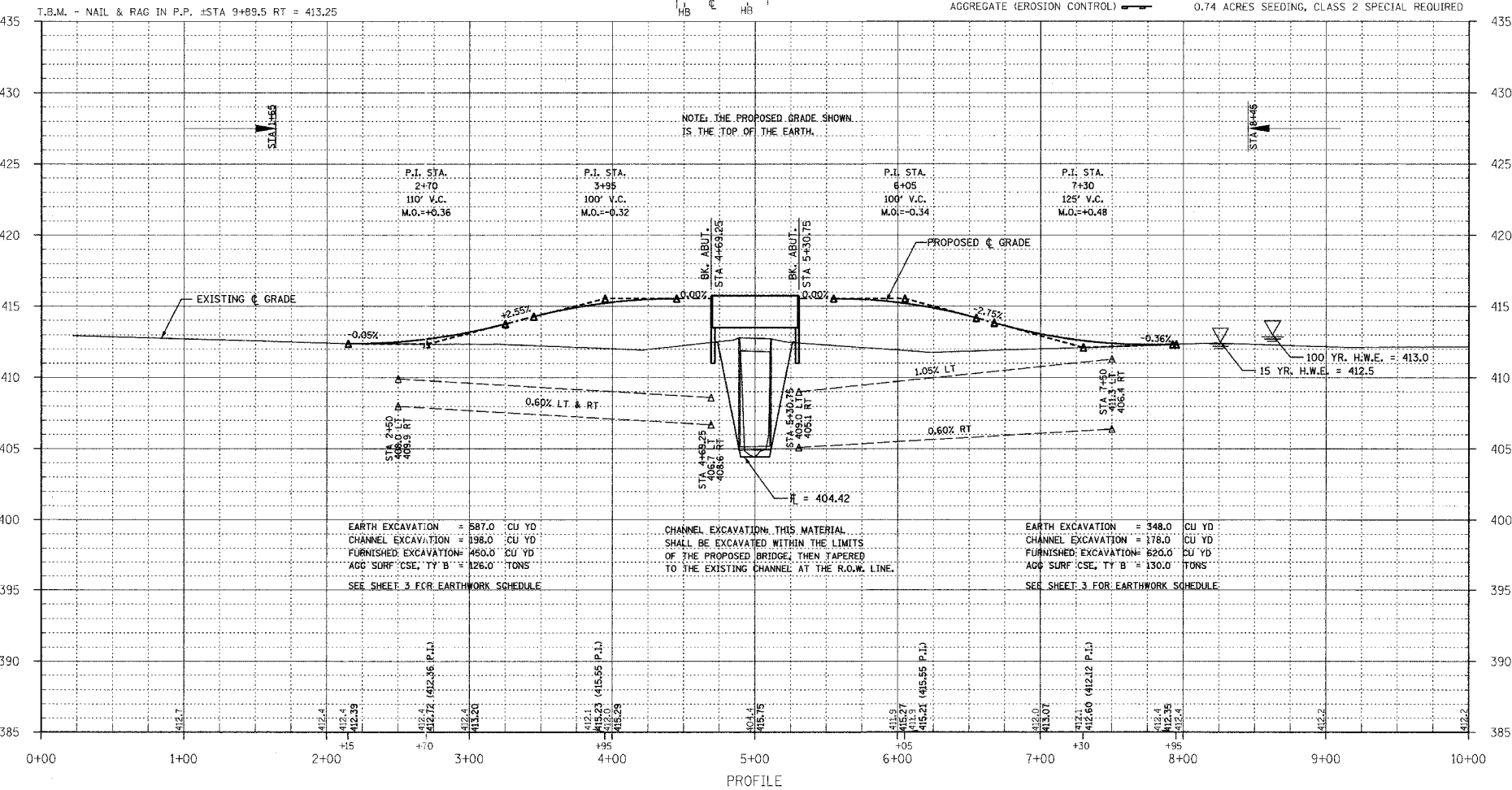
- NOTE: CONSTRUCT SPECIAL DITCH
STA 2+50 TO STA 4+69.25 LT & RT
STA 5+30.75 TO STA 7+50 LT & RT
- NOTE: CONSTRUCT STONE RIPRAP DITCH
STA 4+60 TO STA 4+70 LT & RT (0.48 TON/LIN FT)
STA 5+31 TO STA 5+41 LT & RT (0.48 TON/LIN FT)
19 TON STONE RIPRAP DITCH ALLOWED IN PROPOSAL.
- SEE SHEET NO. 13 FOR STONE RIPRAP DITCH DETAIL.



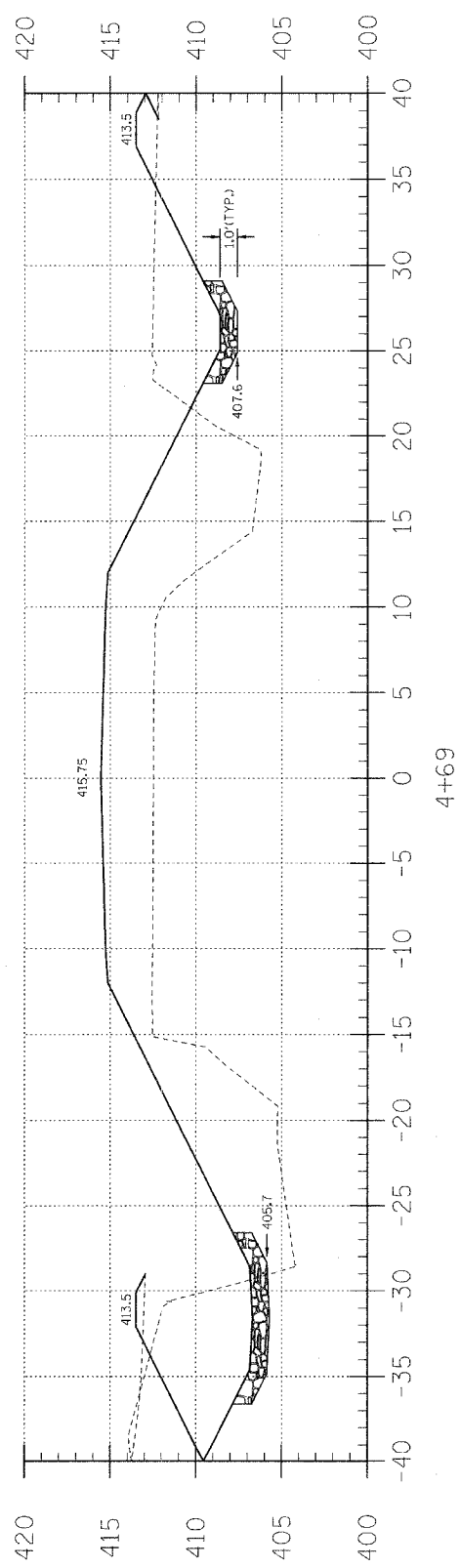
EXISTING BRIDGE STA 5+00; STRUCTURE NUMBER: 093-3056
A 23' LONG BRIDGE HAVING A 11" CONCRETE DECK ON CONCRETE ABUTMENTS WITH CONCRETE WINGS.

PROPOSED STRUCTURE: NO. 093-3127, STA 5+00,
A 60' LONG SINGLE SPAN P.P.C.D.B. BRIDGE WITH
27" DEPTH BEAMS, SPILL THROUGH TYPE ABUTMENTS,
24' WIDTH, 0° SKEW.

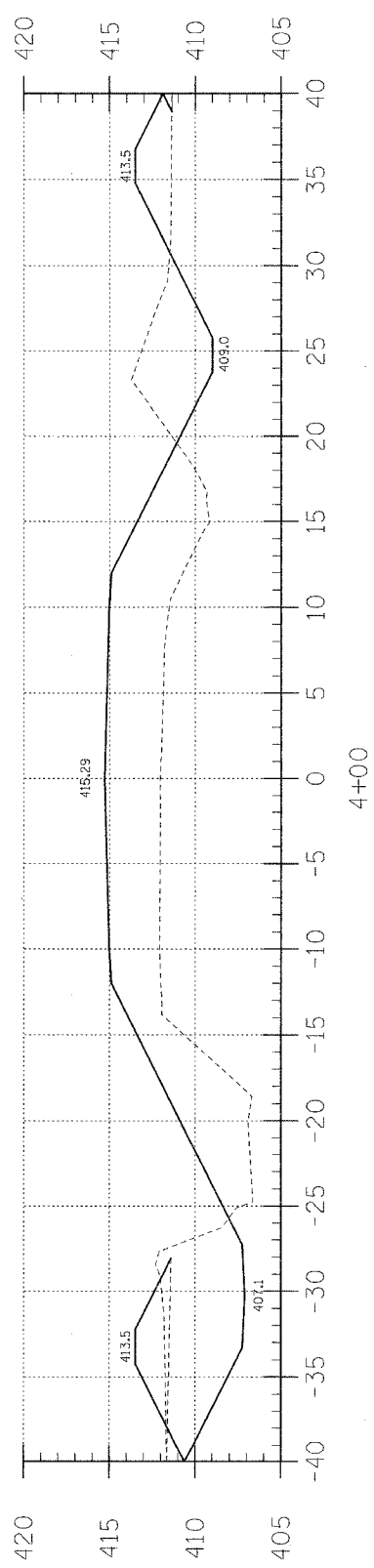
CURVE #1
P.I. STA= 6+22.51
A= RT. 01'45"37"
D= 01'45"37"
R= 3255.09'
T= 50.00'
L= 100.00'
E= 0.38'
e= NONE
T.R.= NONE
S.E. RUN= NONE
P.C. STA= 5+72.51
P.T. STA= 6+72.51



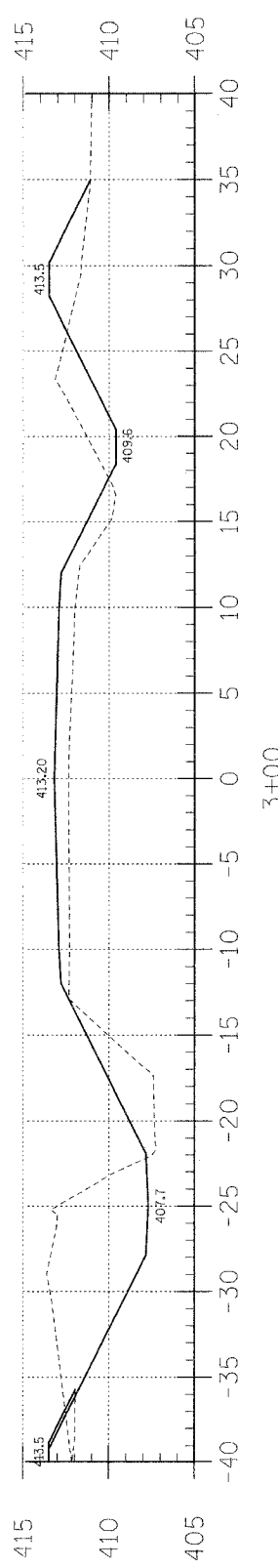
177 UNITS-TREE REMOVAL (6 TO 15 UNITS DIAMETER)
195 UNITS-TREE REMOVAL (OVER 15 UNITS DIAMETER)
0.74 ACRES SEEDING, CLASS 2 SPECIAL REQUIRED



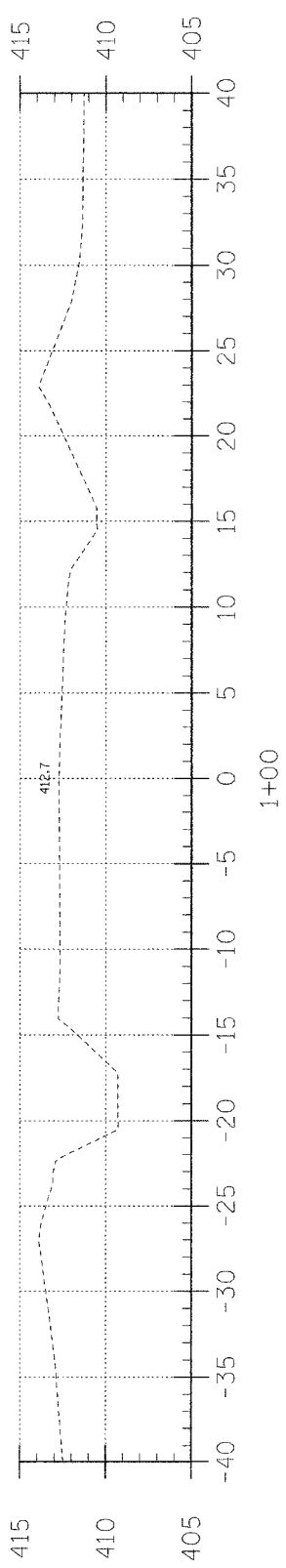
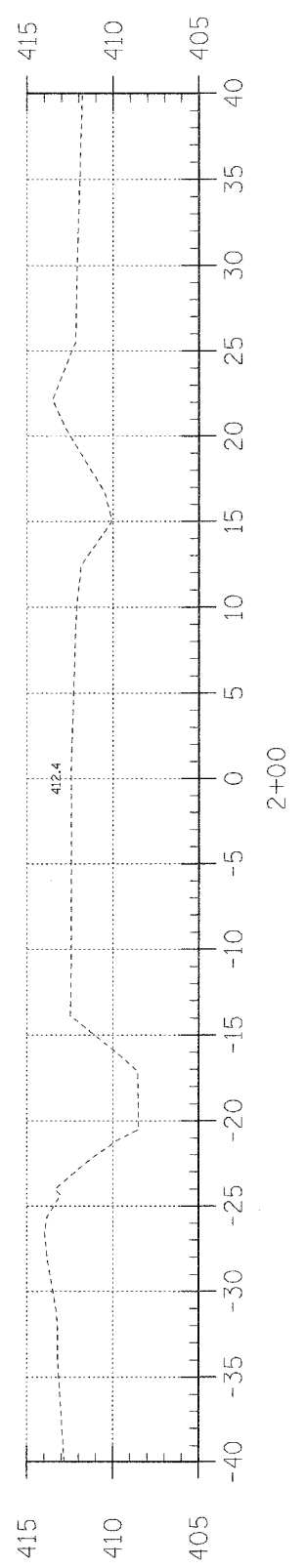
C = 99.9
F = 196.6



C = 78.4
F = 167.9



C = 62.2
F = 54.5



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+69.25	586.6	0.0	0.0	0.0	0.0	440.0	964.4	-524.4				
STA 4+69.2 TO 5+30.8	0.0	376.6	188.3	0.0	141.2	0.0	947.7	-686.6				
STA 5+30.8 TO 9+00	348.1	0.0	0.0	0.0	261.1							
TOTAL	934.7	376.6	188.3	842.3	1912.0	-1069.8						

TOWNSHIP ROUTE 125
GREATHOUSE CREEK
WABASH COUNTY, ILLINOIS

SHEET TITLE:

CROSS-SECTIONS

SCALE: 1" = 5'
BY: DKB
DATE: 11/30/05
REV: MLG

3 OF 13 SHEETS

SHEET NO. 3

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
125	04-03111-00-BR	WABASH	13	3
FED. ROAD DIST. NO. 7	ILLINOIS	GREATHOUSE CREEK		
LEC JOB # 1031017WB		CONTRACT NO. 95419		

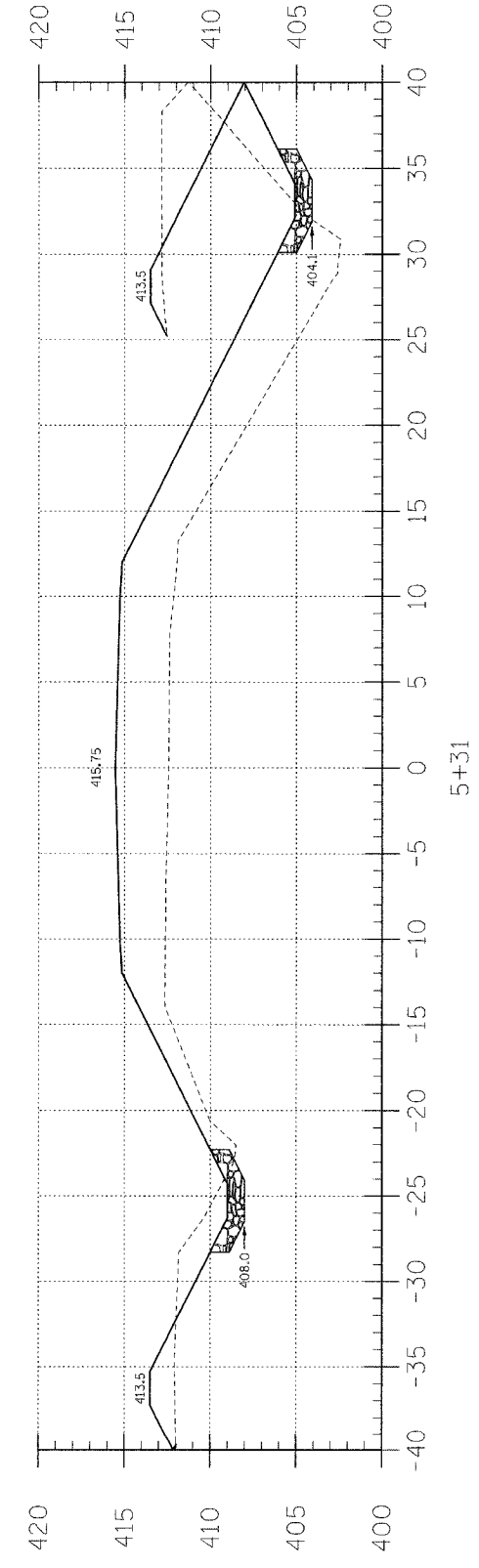
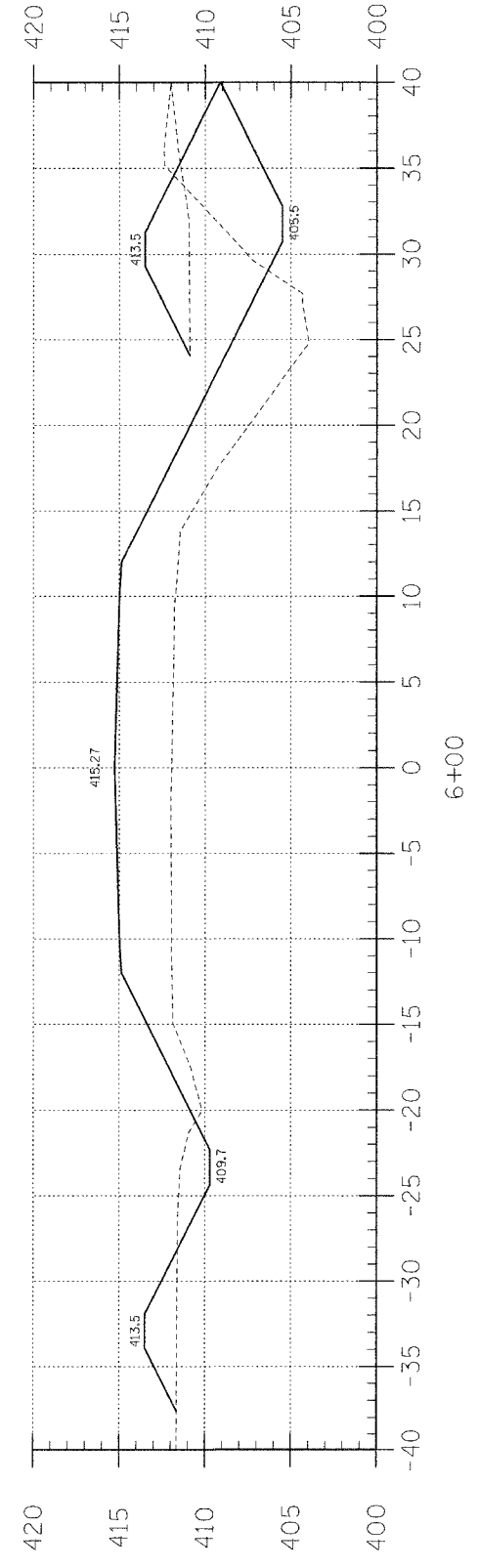
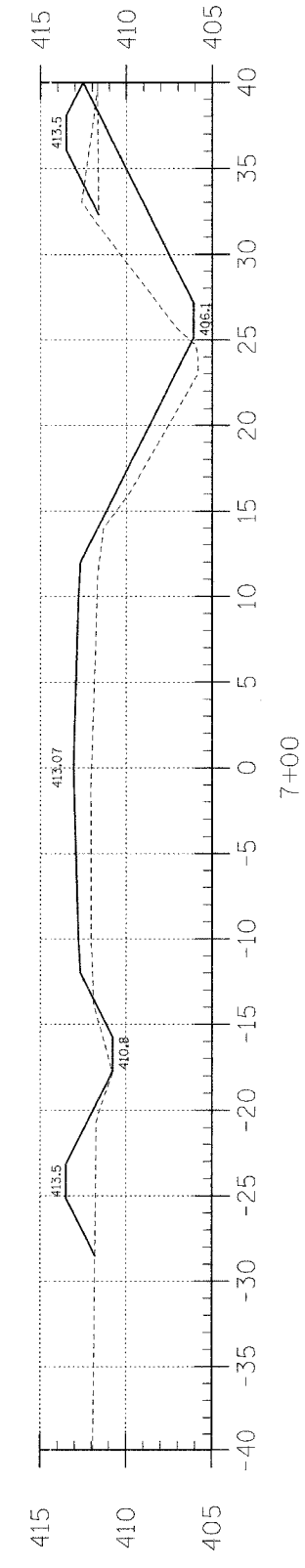
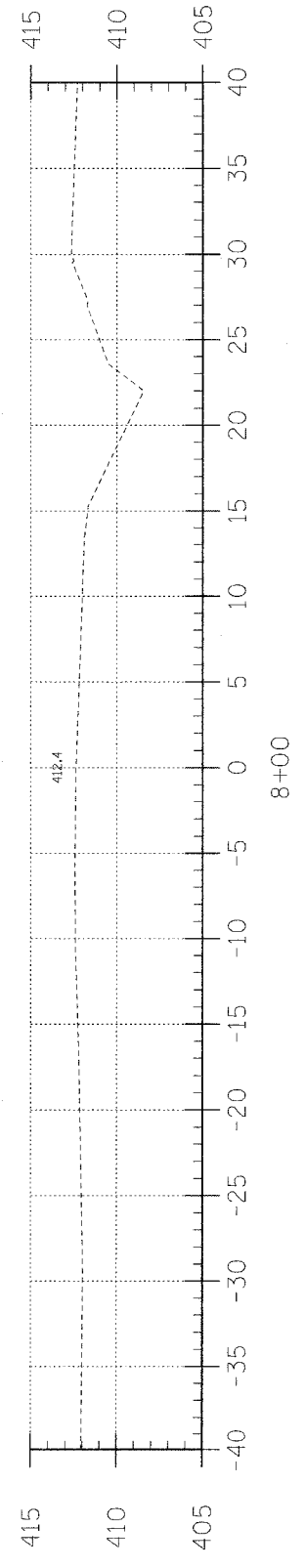
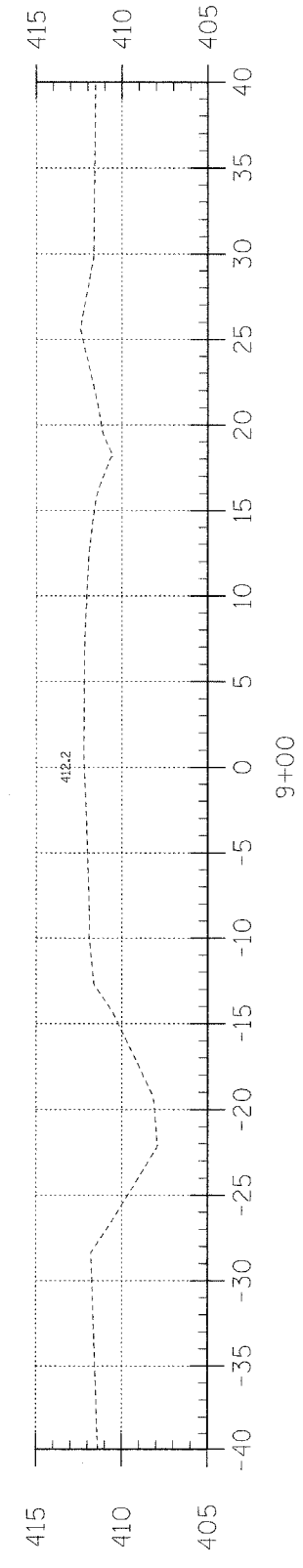
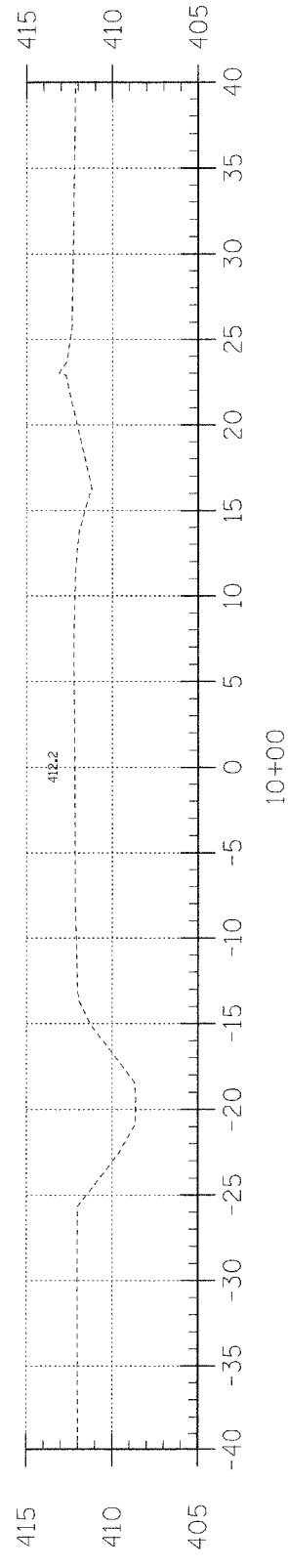
323 W. 3RD ST.
P.O. BOX 160
MT. CARMEL, IL
62868
PHONE: (618)-262-8651
FAX: (618)-263-3327
405 W. STATE ST.
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47670
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PROFESSIONAL DESIGN FIRM
LAND SURVEY & PROFESSIONAL ENGINEERING CORPORATION
184-00087
(62-032435)(35-002769)



DUSTIN K. BUNTING
NAME: *Dustin K. Bunting*
SIGNATURE: *[Signature]*
DATE: 02-04-05
11-30-05 EXPIRES



C = 30.5
F = 55.7

C = 58.1
F = 172.0

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
125	04-03111-00-BR	WABASH	13	4

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
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PROFESSIONAL
DESIGN FIRM
LAND SURVEY &
PROFESSIONAL
ENGINEERING
CORPORATION
184-00087
(62-032435)(35-002769)



DUSTIN K. BUNTING
NAME
SIGNATURE
DATE: 12-04-05
11-30-05
EXPIRES

TOWNSHIP ROUTE 125
GREATHOUSE CREEK
WABASH COUNTY, ILLINOIS

SHEET TITLE:

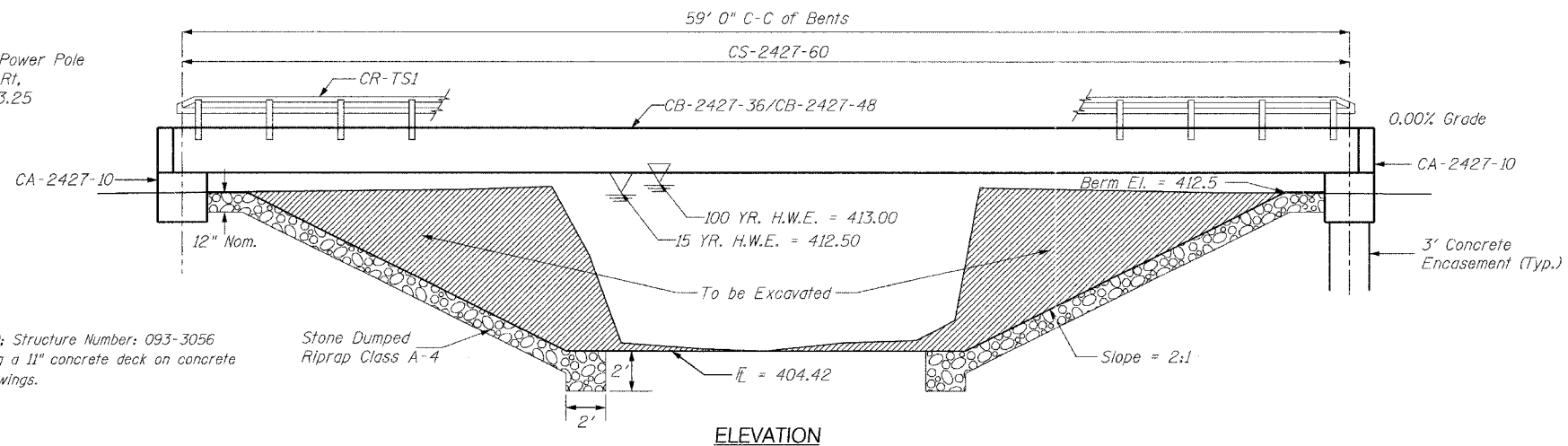
CROSS-SECTIONS

SCALE:	1" = 5'
BY:	DKB
DATE:	11/30/04
REV:	MLG

4 OF 13
SHEETS

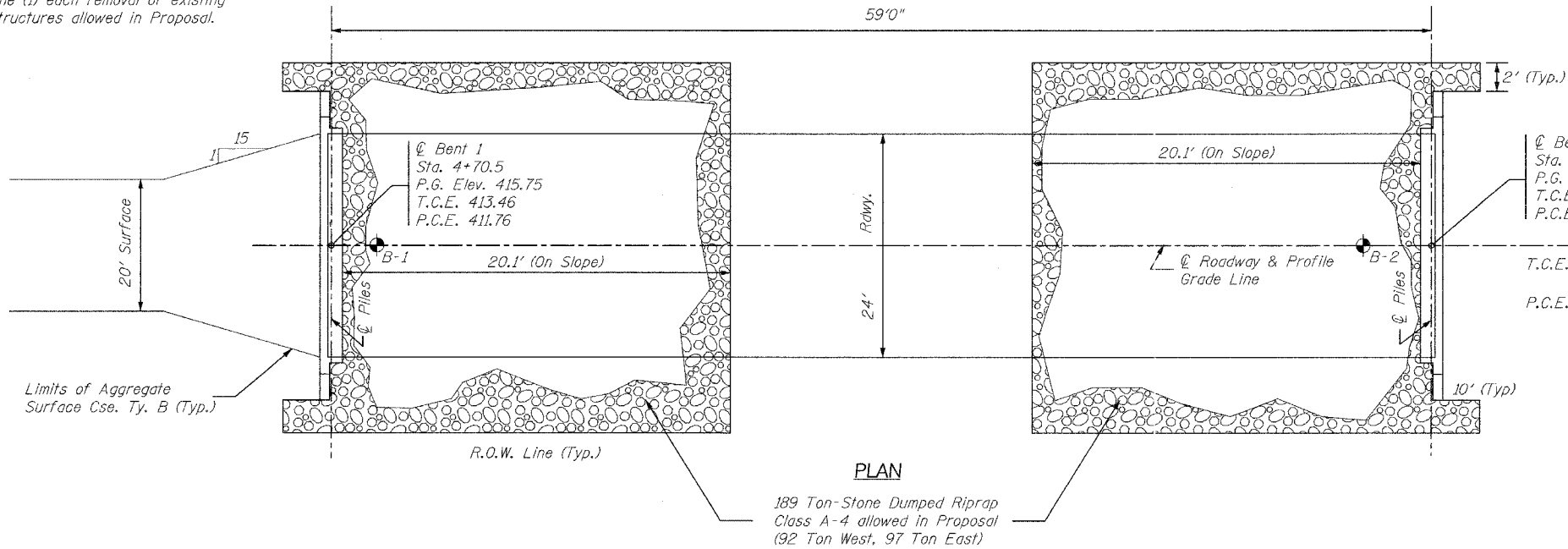
SHEET NO.
4

B.M. - Nail & Rag in Power Pole
±Sta 9+89.5 RT,
Elevation = 413.25



Existing Bridge Sta 5+00; Structure Number: 093-3056
A 23' Long Bridge having a 11" concrete deck on concrete abutments with concrete wings.

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



NOTE: All items deemed fit for use on other Road District projects shall become the property of the said Road District. 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, 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
STD 2340	STD 631026

DESIGN SPECIFICATIONS
1996 AASHTO
HS 20-44 Loading, Load Factor Design

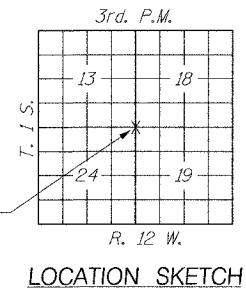
PILE DATA (2-ABUTS.)
Type: Steel Piles HP 10X42
Capacity: 84 tons (Refusal)
Estimated Length: 70 Feet
Number Required: 8 (Includes 1 Test Pile in Bent #1)

STATION 5+00
GREATHOUSE CREEK
SEC. 04-03111-00-BR BUILT 20
PROJECT NO. BROS-185(19)
WABASH COUNTY
LOADING HS 20-44
STR. NO. 093-3127

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

WATERWAY INFORMATION

Drainage Area = 2.9 Sq. Mi. Low Grade Elev. = 412.31 At Sta. 7+78.21									
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	15	935	125	294	412.50	1.64	0.30	414.14	412.80
Base	100	1515	125	322	413.00	4.74	0.69	417.74	413.69
Overtopping									
Max. Calc.	500	1995							



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 S1 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 Bit. Conc. Surf. Cse. Class I and the Waterproofing Membrane System shown in these Plans shall not be provided.

Item	Unit	Super	Sub. Piers	Abuts.	Total
Removal of Existing Structures	L. Sum				1
Bit. Conc. Surf. Cse. Class I	Lans				
Waterproofing Membrane System	Sq.Yds.				
Concrete Structures				18.2	18.2
P.P. Conc. Dk. Bm. 27" Dp.	Sq.Ft.	1440			1440
Steel Railing, Type S1	Lin.Ft.	120			120
Reinforcement Bars	Lbs.			1980	1980
Furnishing Steel Piles HP10X42	Lin.Ft.			490	490
Driving Steel Piles	Lin.Ft.			490	490
Test Pile Steel HP10X42	Each			1	1
Name Plates	Each			1	1
Concrete Encasement	Cu.Yds.			2.1	2.1

NOTE: Four (4) Each Curled End Sections required. Item to be incidental to the Steel Railing

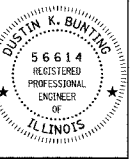
INDEX OF SHEETS

- General Plan & Elevation
- Standard CS-2427-60
- Standard CB-2427-36
- Standard CB-2427-48
- Standard CA-2427-10
- Standard CR-TS1
- Standard CN
- Standard CX-1

GENERAL PLAN & ELEVATION	
T.R.	ROUTE 125
OVER GREATHOUSE CREEK	
SECTION	04-03111-00-BR
WABASH COUNTY	
STATION	5+00



PROFESSIONAL LAND SURVEYING FIRM
048-000082
PROFESSIONAL ENGINEERING CORPORATION
184-000887

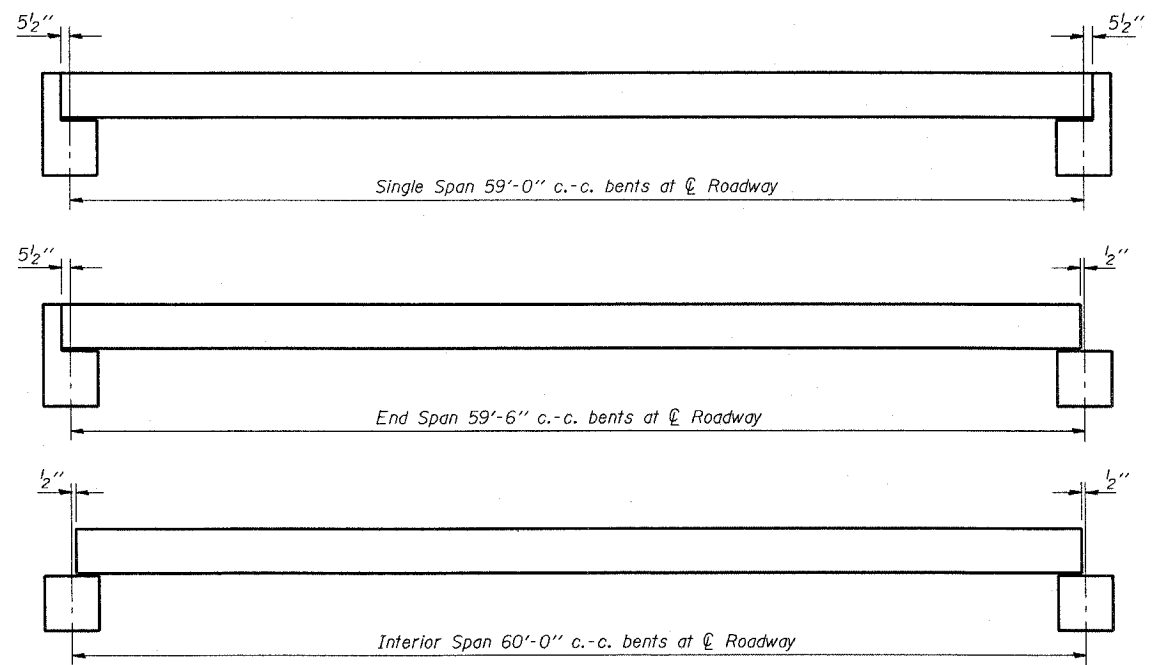


DUSTIN K. BUNTING
NAME
SIGNATURE
DATE 02-04-05
EXPIRES 11-30-05

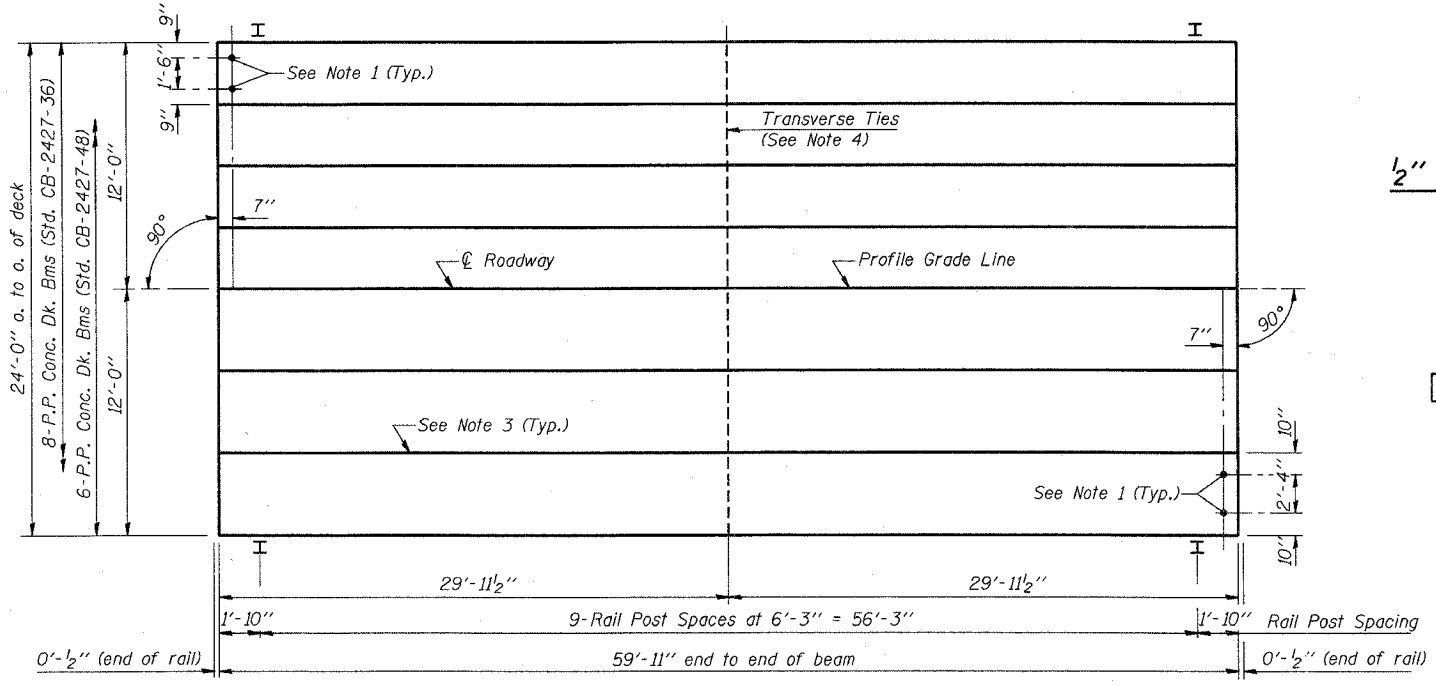
TOWNSHIP ROUTE 125
GREATHOUSE CREEK
WABASH COUNTY, ILLINOIS

SHEET TITLE:
GENERAL PLAN AND ELEVATION
SCALE: NONE
BY: DKB
DATE: 11/20/04
REV:
5 OF 13 SHEETS
SHEET NO. 5

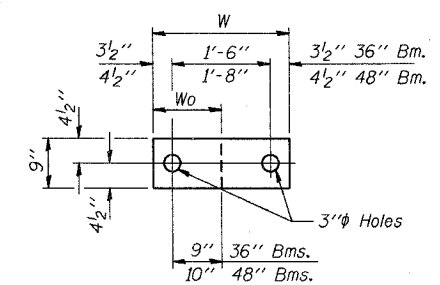
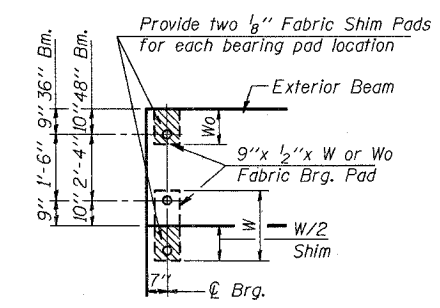
DATE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 1/25	04-68111-00-BK	WABASH	13	6
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT NO.	95419	



TYPICAL ELEVATIONS

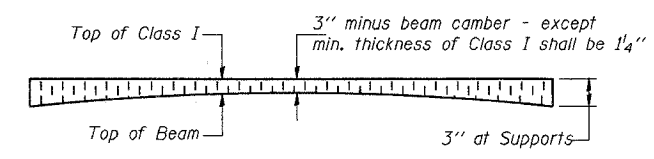


PLAN

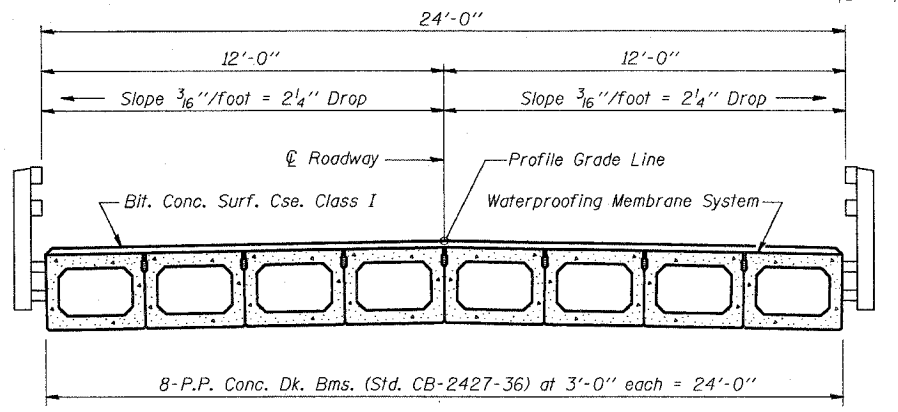


Beam	W	Wo
36"	2'-1"	1'-0 1/2"
48"	2'-5"	1'-2 1/2"

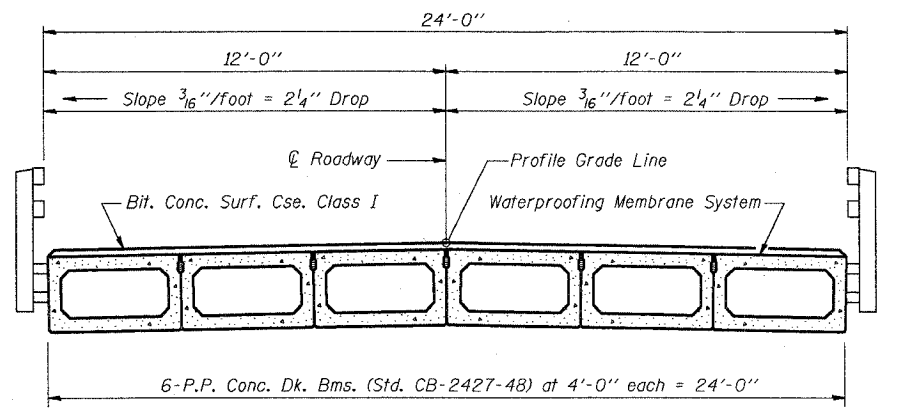
1/2" FABRIC BRG. PAD DETAILS



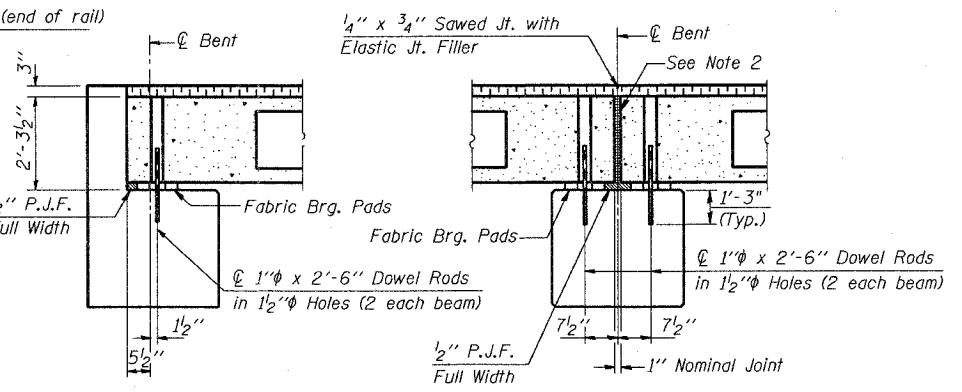
PROFILE OF OVERLAY



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. 27" Dp.	1440 Sq. Ft.
Steel Railing	120 Ft.
Bit. Conc. Surf. Cse. Class I	18.8 Tons
Waterproofing Membrane System	160.0 Sq. Yds.

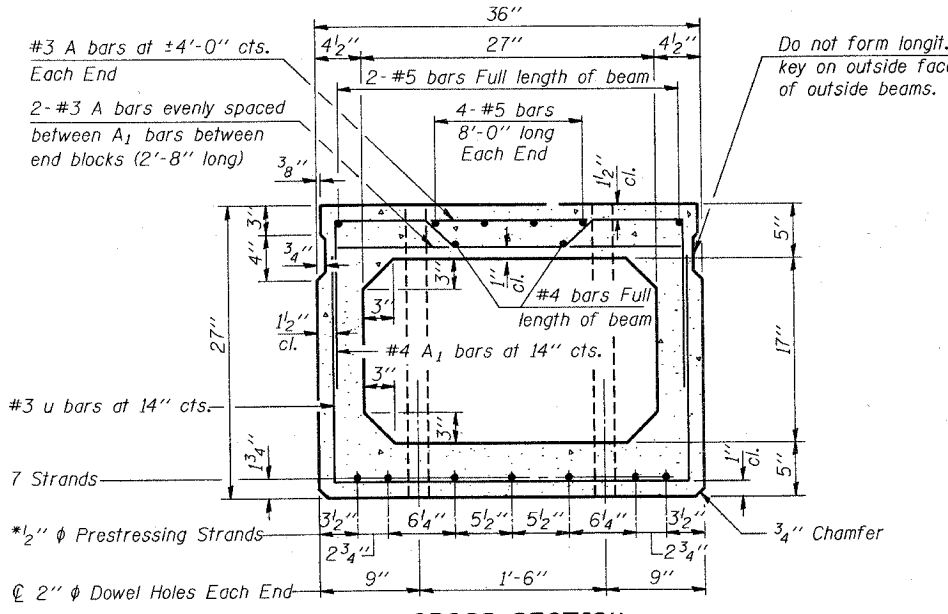
NOTES

- 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" diameter 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.

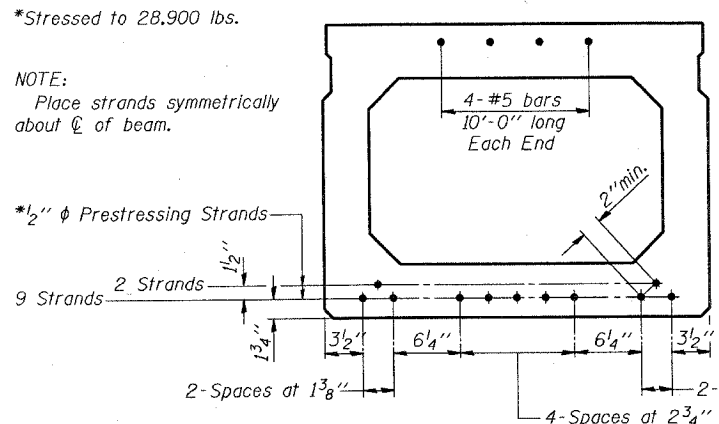
Illinois Department of Transportation
 PASSED NOVEMBER 1, 1995
 Engineer of Bridge Design
 APPROVED NOVEMBER 1, 1995
 Engineer of Bridges and Structures

P.P.C. DECK BEAM SUPERSTRUCTURE
 24' RDWY. 27" BMS. 60' SPAN 0° SKEW
 STANDARD CS-2427-60

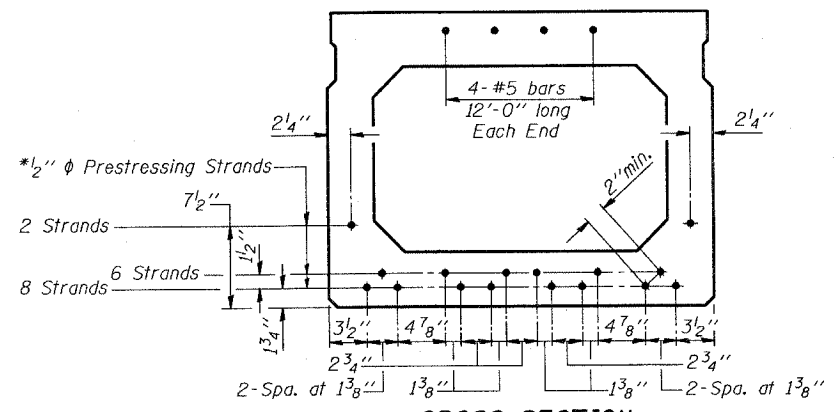
95419



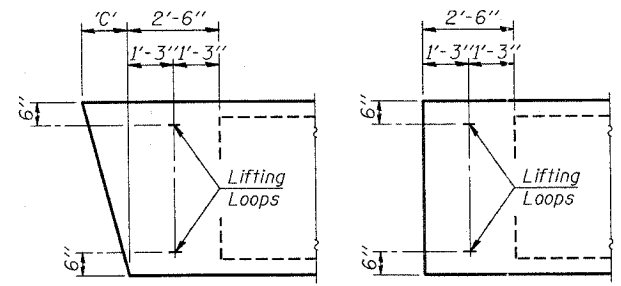
CROSS SECTION
(40' SPAN)



CROSS SECTION
(50' SPAN)

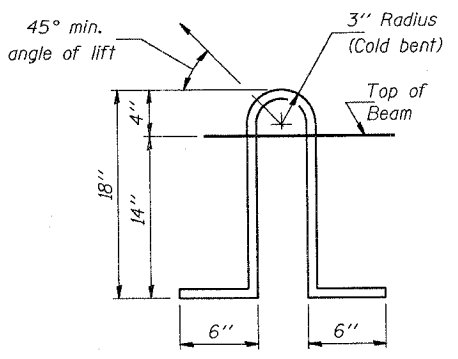


CROSS SECTION
(60' SPAN)



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.

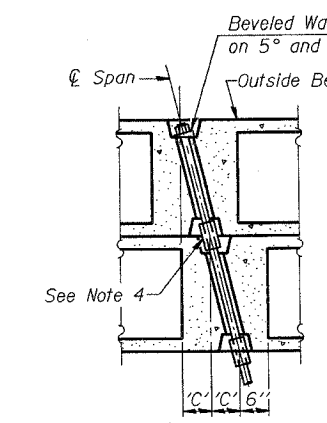


LIFTING LOOP DETAIL

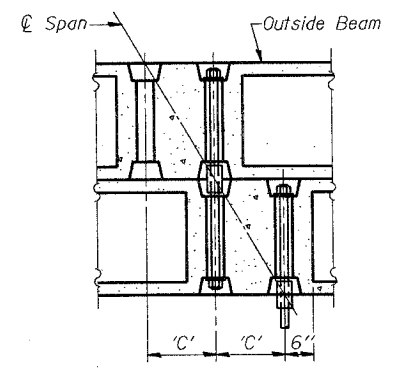
Lifting loops shall be 2, 1/2 inch diameter 270 ksi strands, as shown. Alternate approved lifting devices are also acceptable.

DIMENSION 'C'

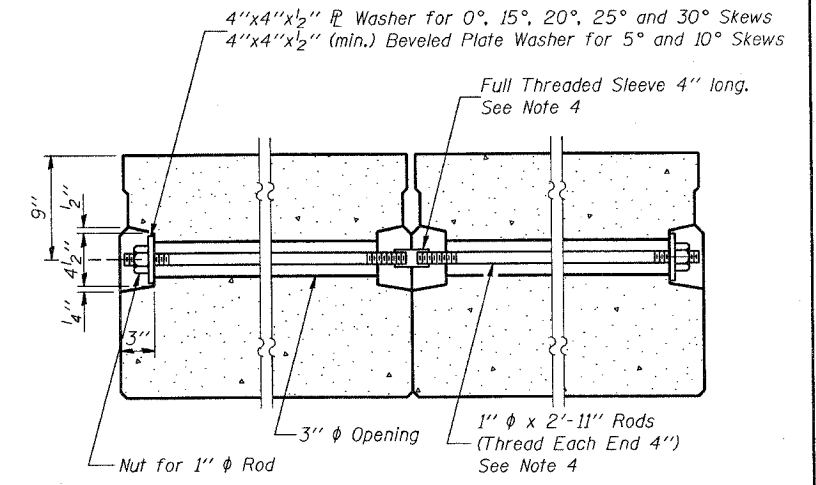
Skew Angle 'D'	0°	5°	10°	15°	20°	25°	30°
Dimension 'C' (Inches)	0	3 3/8	6 3/8	9 5/8	13 3/8	16 3/4	20 3/4



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



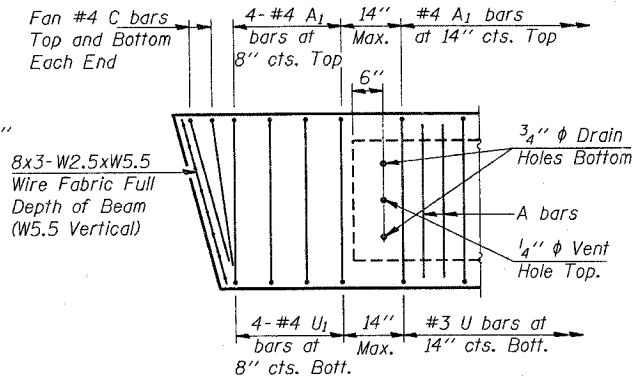
PARTIAL PLAN TRANSVERSE TIE ASSEMBLY
(D=15°, 20°, 25° and 30°)



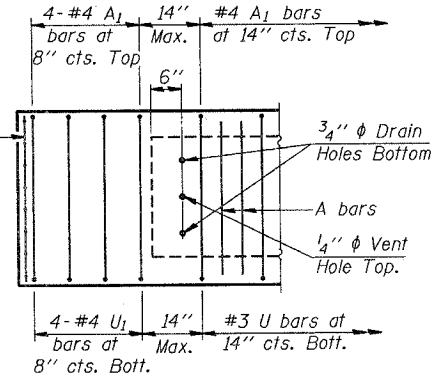
SECTION ALONG TRANSVERSE TIE ASSEMBLY
(REQUIRED FOR 50' & 60' SPANS ONLY)

NOTES

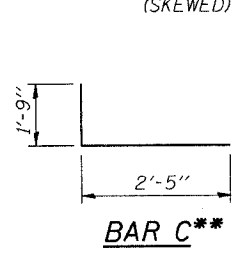
1. Prestressing steel shall be uncoated high strength, stress relieved 7-wire strand, Grade 270.
2. The nominal diameter shall be 1/2 inch and the nominal cross-sectional area shall be 0.153 square inches.
3. Reinforcement bars shall conform to AASHTO M-31, M-42 or M-53, Grade 60.
4. On 0°, 5° and 10° skews, alternate approved transverse tie rods of increased segmental length are acceptable.
5. Rail Post anchor devices shall be cast into outside beam as elsewhere specified.
6. 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 inch.
7. 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.).
8. 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.



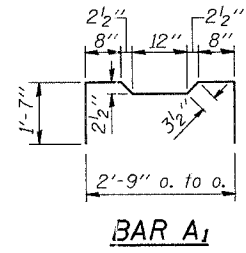
END REINFORCEMENT
(SKEWED)



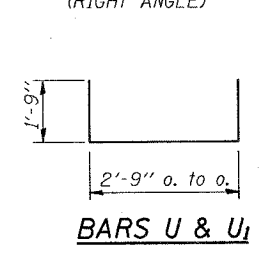
END REINFORCEMENT
(RIGHT ANGLE)



BAR C**



BAR A1



BARS U & U1

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 inch diameter Strand)
 $f_{si} = 189,000$ p.s.i. (1/2 inch diameter Strand)
 $f_y = 60,000$ p.s.i.

REQUIRED RELEASE STRENGTH

Span	f_{ci} (psi)
40'	4,000
50'	4,000
60'	4,000

NOTE:
 The std. reinf. shown on the 40' span cross section is typical for all spans, except as shown.

**NOTE:
 The following number of C bars shall be used:
 Skew No.
 5° and 10° — 1
 15° and 20° — 2
 25° and 30° — 3

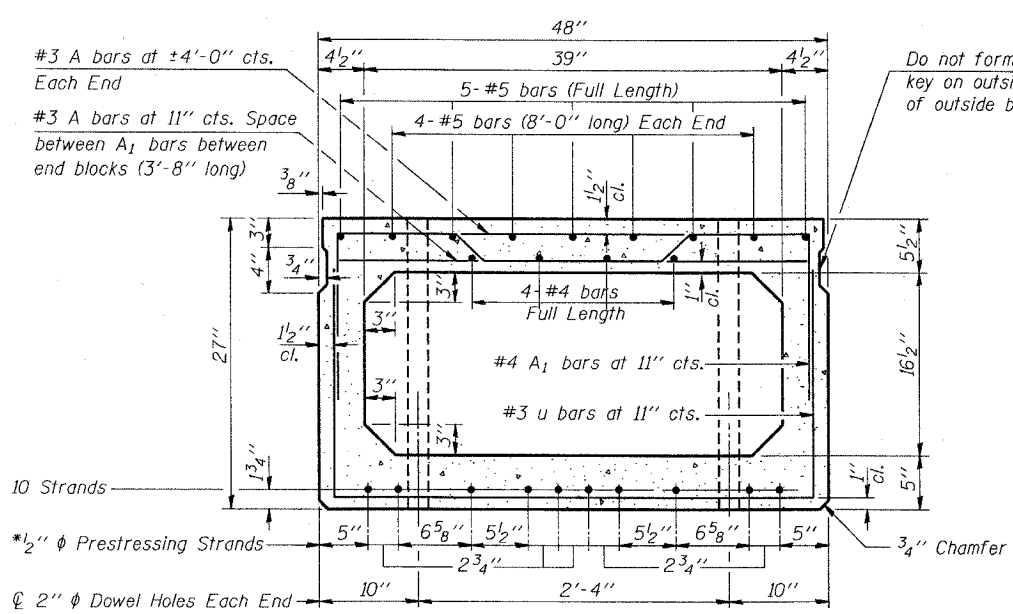
Illinois Department of Transportation
 PASSED NOVEMBER 1, 1995
 Approved by: *Raj D. Kuper*
 Engineer of Bridge Design
 APPROVED NOVEMBER 1, 1995
 Approved by: *Ralph E. Anderson*
 Engineer of Bridges and Structures

P.P.C. DECK BEAM DETAILS

24' ROADWAY	27" x 36" BEAMS
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STANDARD CB-2427-36

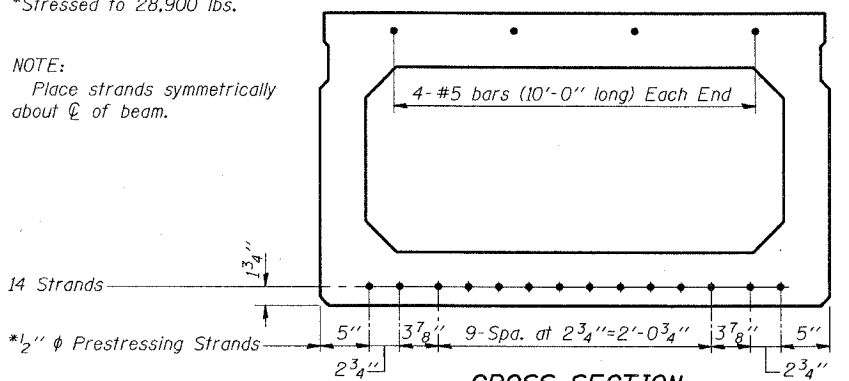
95419



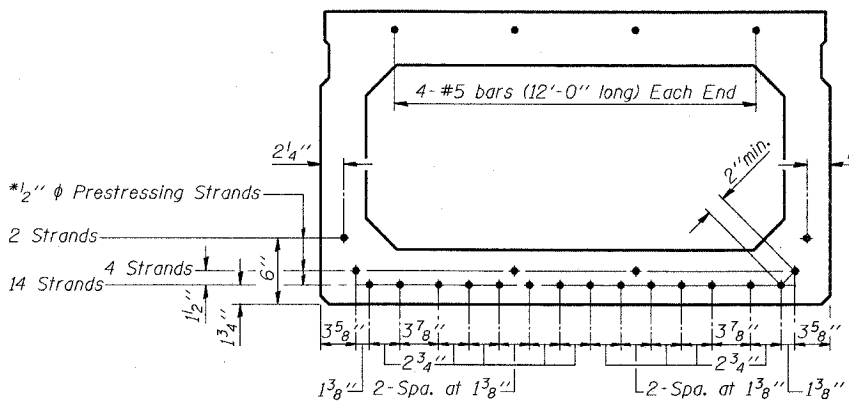
CROSS SECTION
(40' SPAN)

*Stressed to 28,900 lbs.

NOTE:
Place strands symmetrically about \bar{C} of beam.

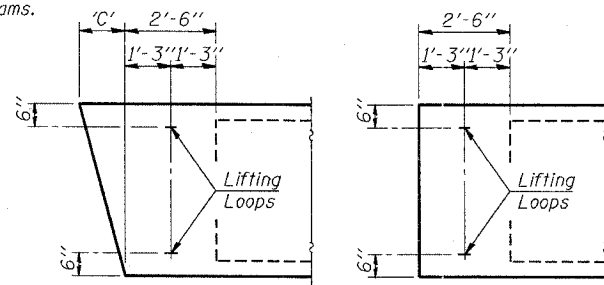


CROSS SECTION
(50' SPAN)



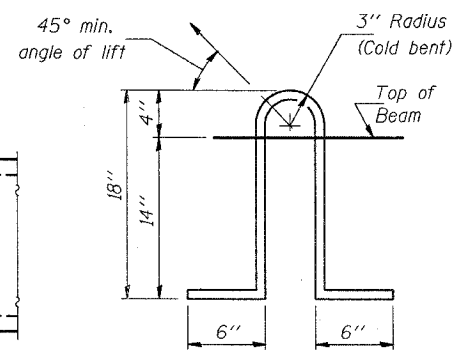
CROSS SECTION
(60' SPAN)

Do not form longit. key on outside face of outside beams.



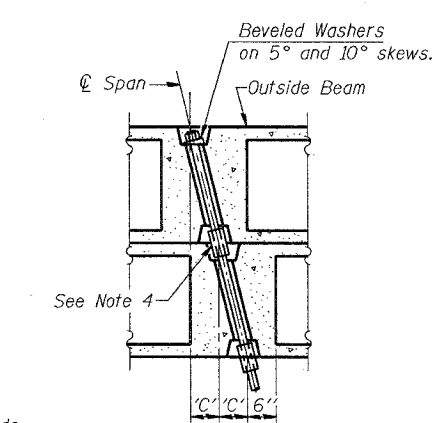
END BLOCK DETAILS

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.

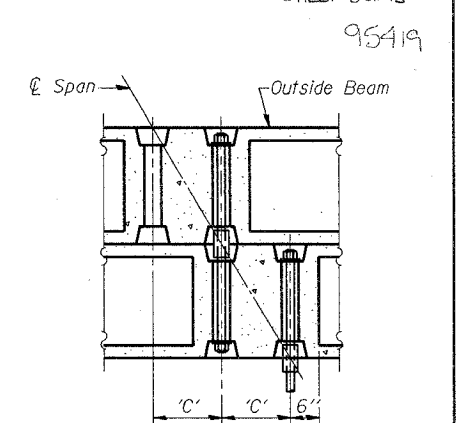


LIFTING LOOP DETAIL

Lifting loops shall be 3/2" ϕ 270 ksi strands, as shown. Alternate approved lifting devices are also acceptable.



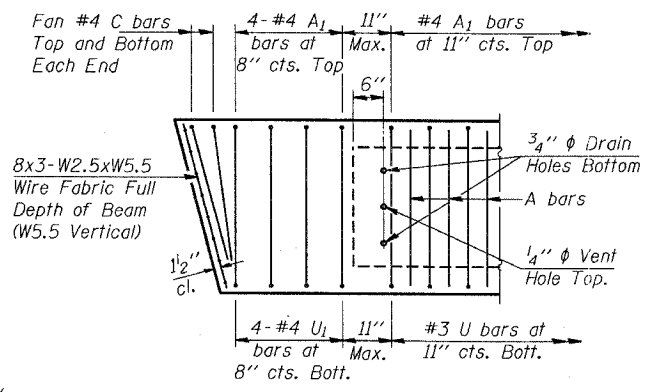
PARTIAL PLAN TRANSVERSE TIE ASSEMBLY
(D=0°, 5° and 10°)



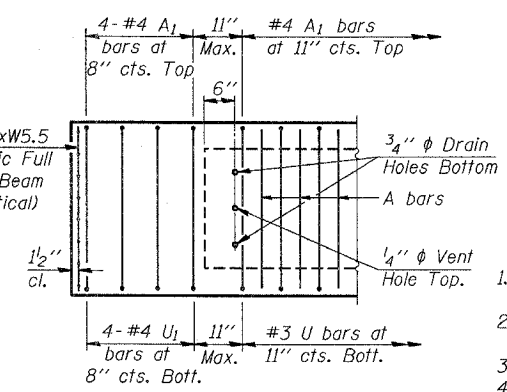
PARTIAL PLAN TRANSVERSE TIE ASSEMBLY
(D=15°, 20°, 25° and 30°)

DIMENSION 'C'

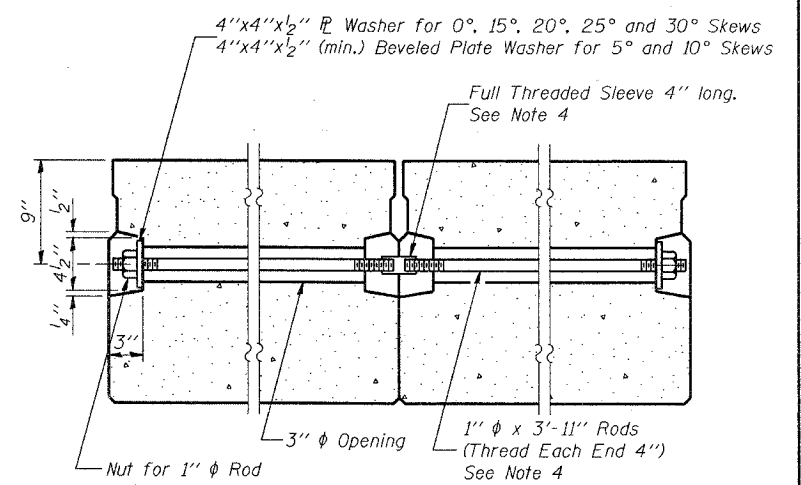
Skew Angle 'D'	0°	5°	10°	15°	20°	25°	30°
Dimension 'C' (Inches)	0	4 1/4	8 1/2	12 7/8	17 1/2	22 3/8	27 3/4



END REINFORCEMENT
(SKEWED)



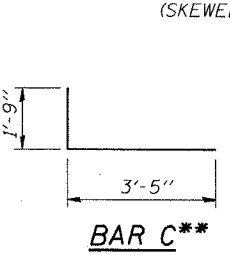
END REINFORCEMENT
(RIGHT ANGLE)



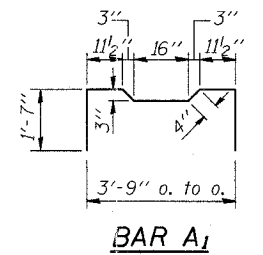
SECTION ALONG TRANSVERSE TIE ASSEMBLY
(REQUIRED FOR 50' & 60' SPANS ONLY)

NOTES

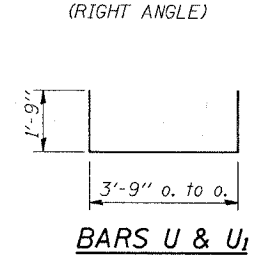
- Prestressing steel shall be uncoated high strength, stress relieved 7-wire strand, Grade 270.
- The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 square inches.
- Reinforcement bars shall conform to AASHTO M-31, M-42 or M-53, Grade 60.
- On 0°, 5° and 10° skew angles, 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.



BAR C**



BAR A1



BARS U & U1

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)
40'	4,000
50'	4,000
60'	4,000

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

NOTE
The std. reinf. shown on the 40' span cross section is typical for all spans, except as shown.

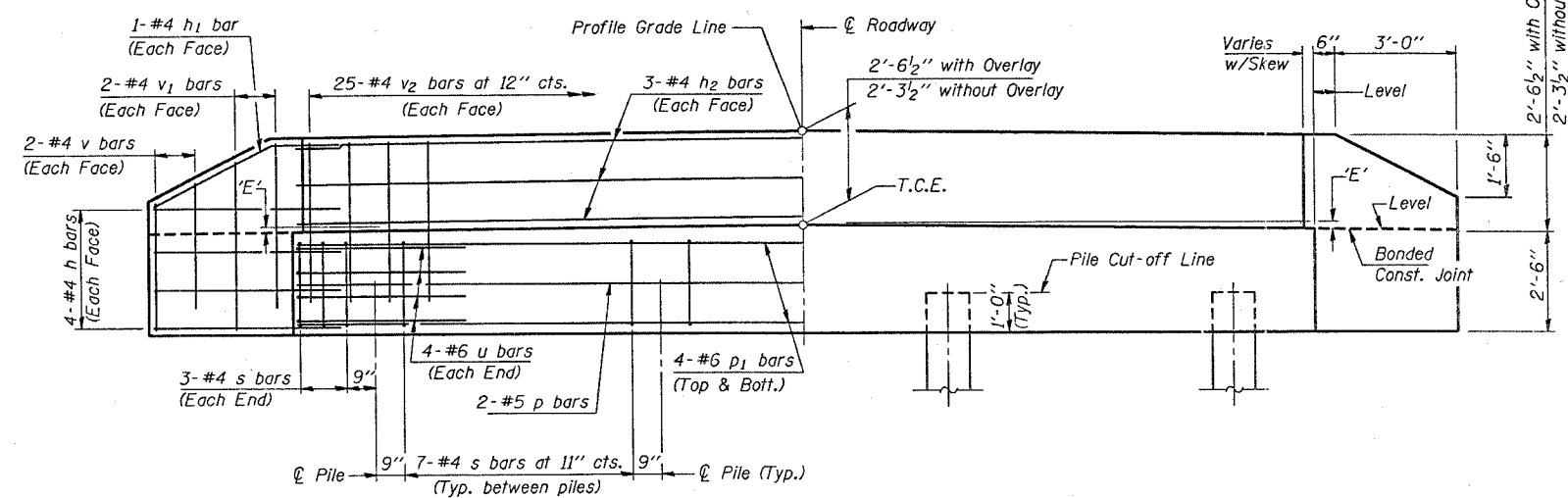
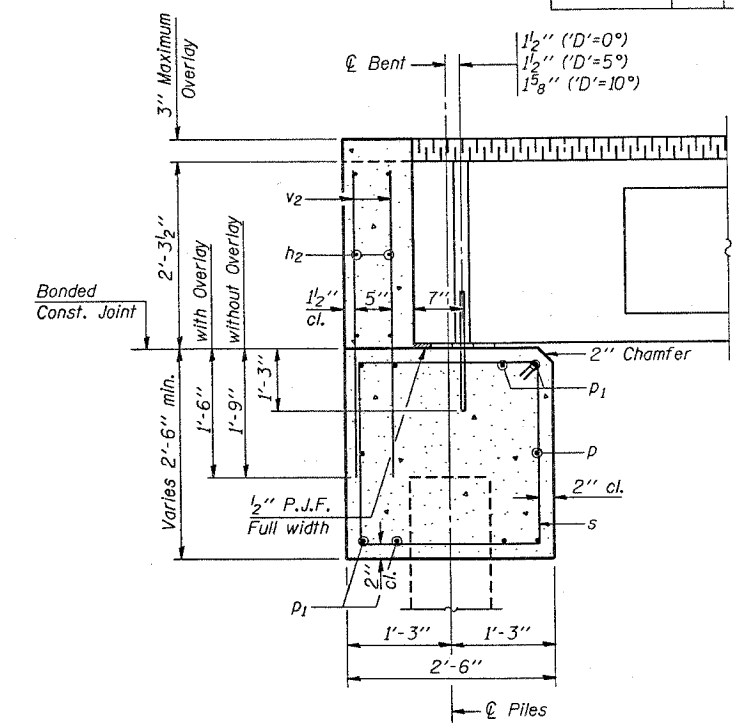
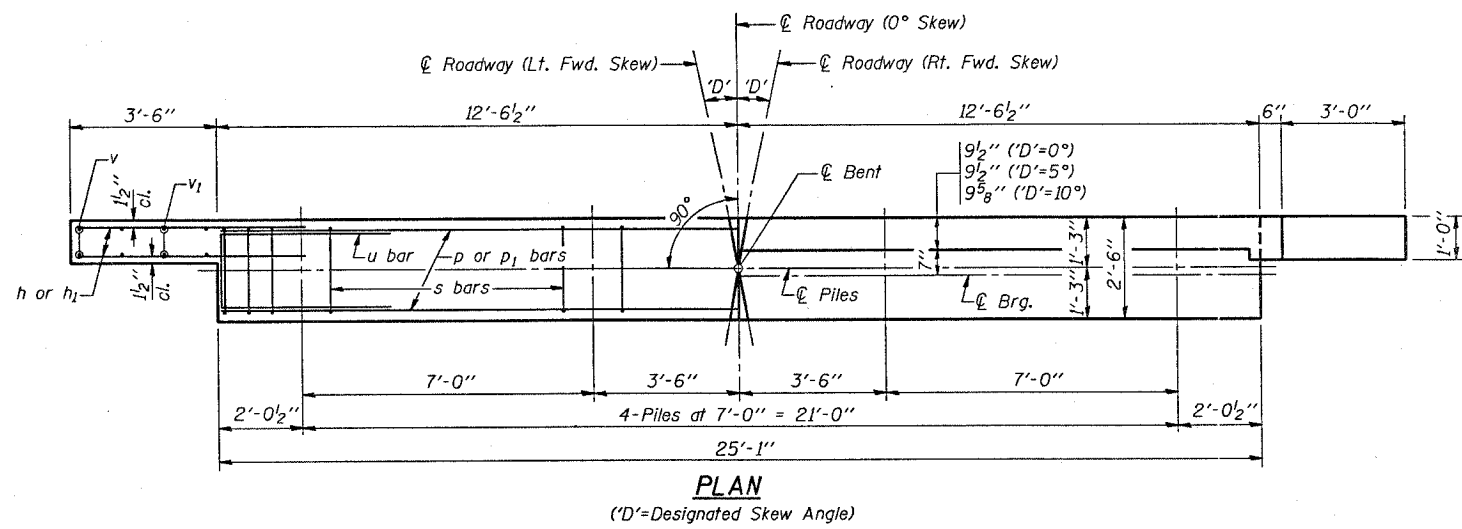
**NOTE:
The following number of C bars shall be used:
 Skew No.
 5° and 10° — 1
 15° and 20° — 2
 25° and 30° — 3

P.P.C. DECK BEAM DETAILS

24' ROADWAY	27" x 48" BEAMS
-------------	-----------------

STANDARD CB-2427-48

FILE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
12.5	04-03111-00-BR	WARSAW	13	9
FILE NO. DIST. NO. 7		DESIGNED	FILE AND PROJECT NO.	

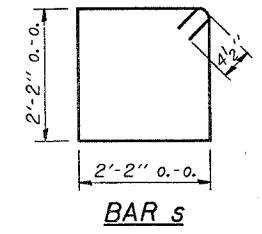


DIMENSION 'E'

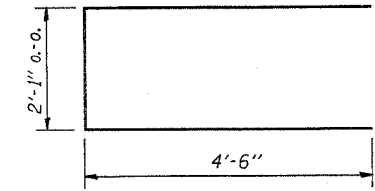
GRADE	'D'=0°		'D'=5°		'D'=10°	
	UPGRADE END	DOWNGRADE END	UPGRADE END	DOWNGRADE END	UPGRADE END	DOWNGRADE END
0%	2 ³ / ₈ "	2 ³ / ₈ "	2 ³ / ₈ "	2 ³ / ₈ "	2 ³ / ₈ "	2 ³ / ₈ "
Over 0% to 1%	2 ³ / ₈ "	2 ³ / ₈ "	2 ¹ / ₄ "	2 ³ / ₈ "	2 ⁵ / ₈ "	2 ¹ / ₂ "
Over 1% to 2%	2 ³ / ₈ "	2 ³ / ₈ "	2 ¹ / ₈ "	2 ¹ / ₂ "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

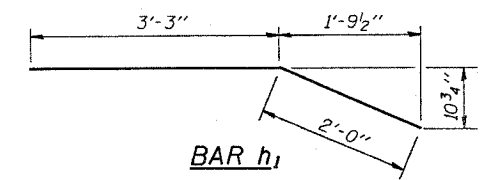
- The Backwall and the portion of the Wingwalls above the bonded construction joint shall be cast against the in-place beam.
- Reinforcement bars shall conform to A.A.S.H.T.O. M-31, M-42 or M-53, Grade 60.



BAR s



BAR u



BAR h1

BILL OF MATERIAL FOR ONE ABUTMENT

Bar	No.	Size	Length	Shape
h	16	#4	5'-0"	—
h1	4	#4	5'-3"	—
h2	6	#4	24'-9"	—
p	2	#5	24'-9"	—
p1	8	#6	24'-9"	—
s	27	#4	9'-5"	□
u	8	#6	11'-1"	—
v	8	#4	3'-2"	—
v1	8	#4	4'-2"	—
v2	50	#4	3'-11"	—
Concrete Structures			9.1 Cu. Yds.	
Reinforcement Bars			990 Lbs.	

MAXIMUM PILE LOADS

SPAN	TONS
40'	34
50'	38
60'	43

DESIGN STRESSES

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

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

24' RDWY.	27" BMS. 'D'=0°, 5° OR 10°
STANDARD CA-2427-10	

Illinois Department of Transportation
PASSED November 1, 1995
Raj D. Kaper
Engineer of Bridge Design
APPROVED November 1, 1995
Ralph E. Anderson
Engineer of Bridges and Structures

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.

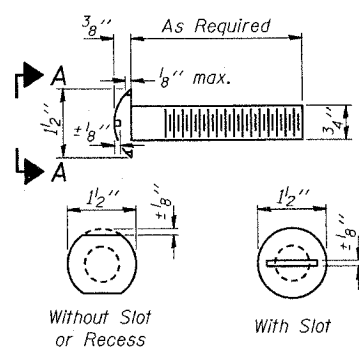
For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost incidental to Steel Railing, Type S-1.

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

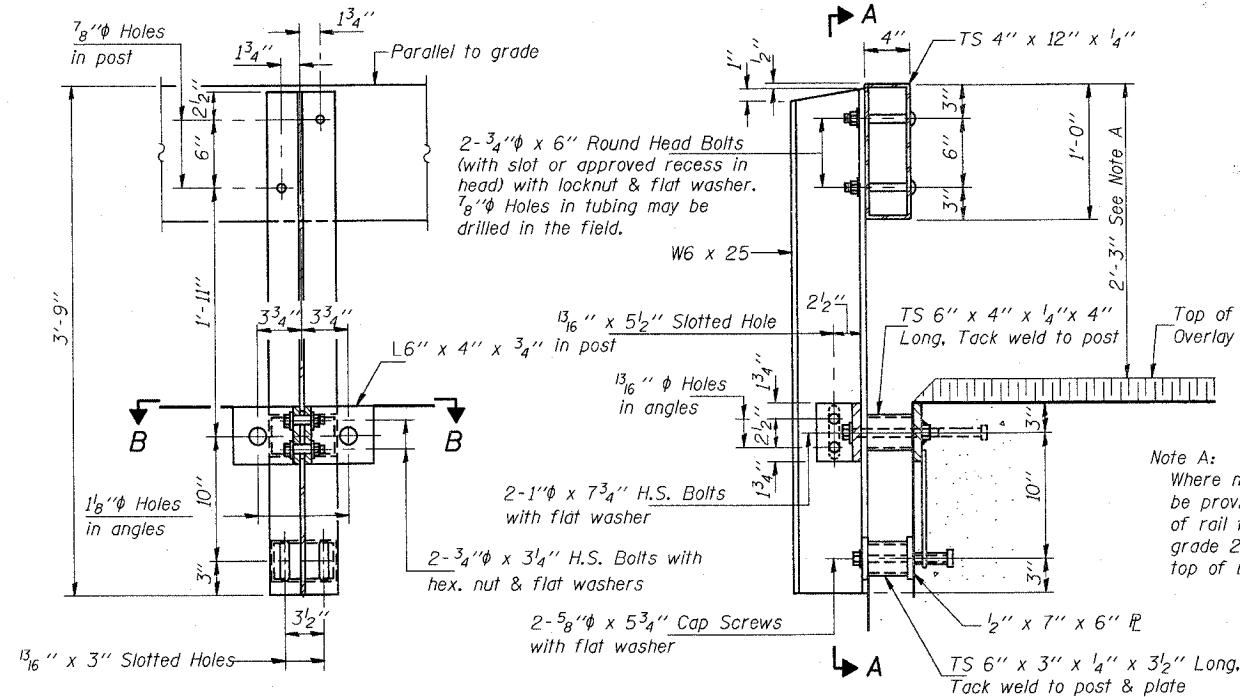
The 1/2" x 7" x 6" plates that come in contact with concrete shall receive two coats of asphalt paint conforming to Section 760.07 Type II or place 1/8" fabric bearing pads between the plates and concrete.

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.

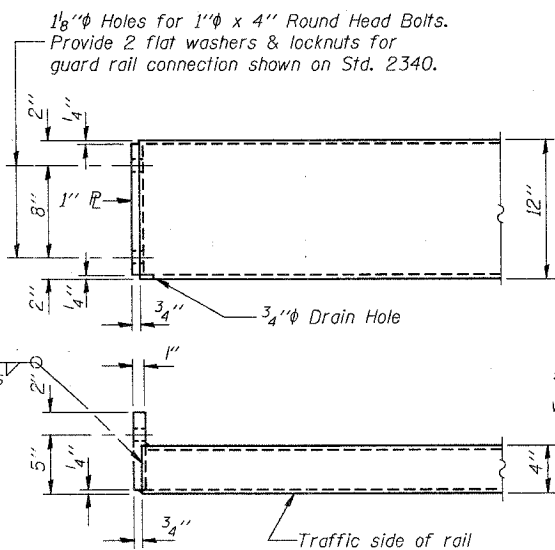


**VIEW A-A
 ROUND HEAD BOLT**

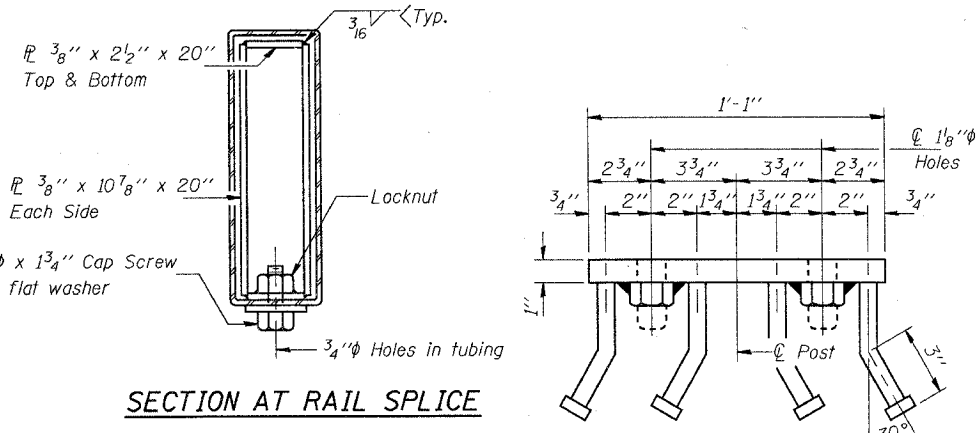


SECTION A-A

SECTION AT RAIL POST

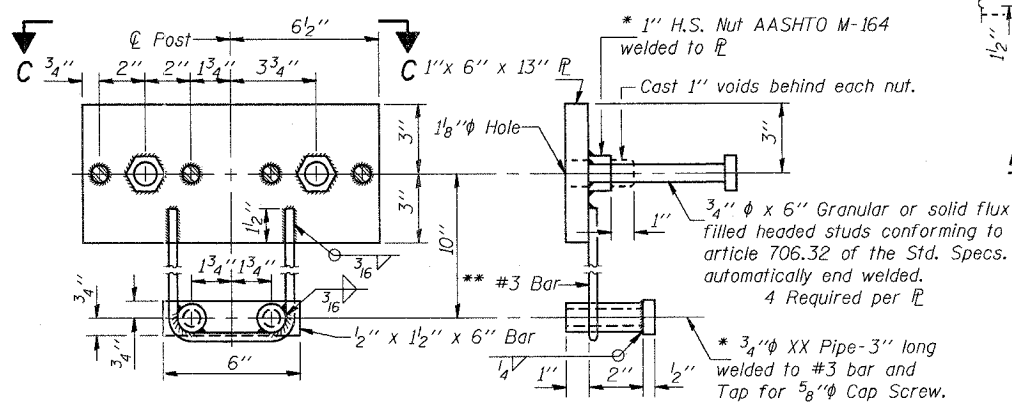


END OF RAIL DETAILS

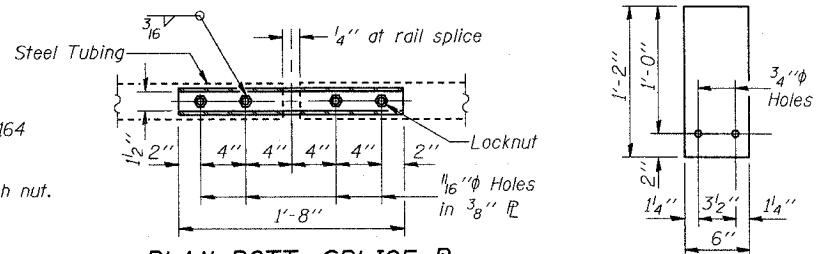


SECTION AT RAIL SPLICE

VIEW C-C



ANCHOR DEVICE



PLAN-BOTT. SPLICE TYPICAL

1/4\"/>

Note A:
 Where no overlay is to be provided adjust top of rail to lay parallel to grade 2'-5" max. above top of beam.

** Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed 1/2".

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

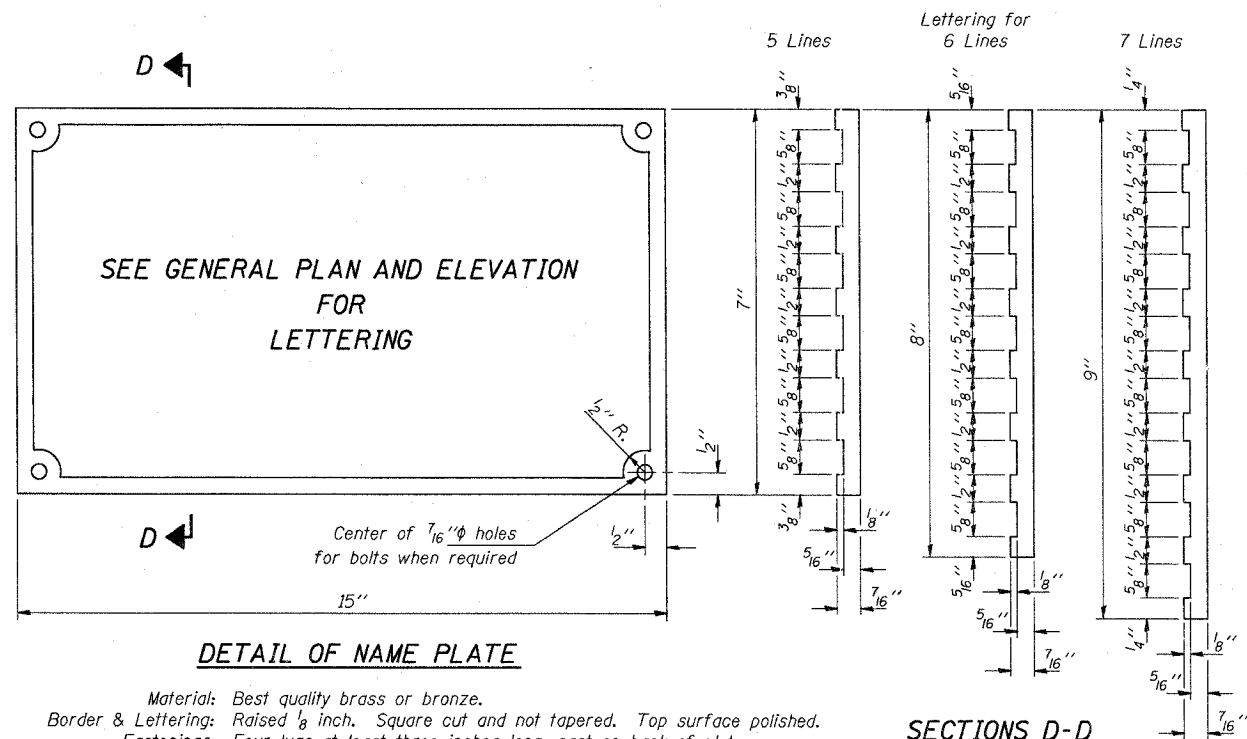
* 1" H.S. Nut AASHTO M-164 welded to PL
 Cast 1" voids behind each nut.
 * 3/4" x 6" Granular or solid flux filled headed studs conforming to article 706.32 of the Std. Specs. automatically end welded. 4 Required per PL
 * 3/4" XX Pipe-3" long welded to #3 bar and Tap for 5/8" Cap Screw.

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. Carlson*
 Engineer of Bridges and Structures

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

t: 21-084354, 1996 CAPLOT:queue07C6046...qcf m /usr/project/bratdpe/...rail.prf

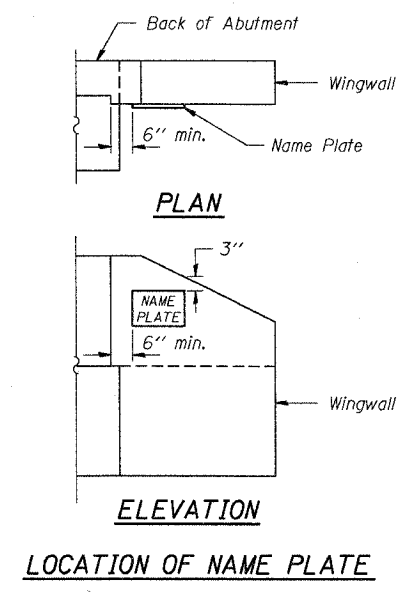
95A19



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

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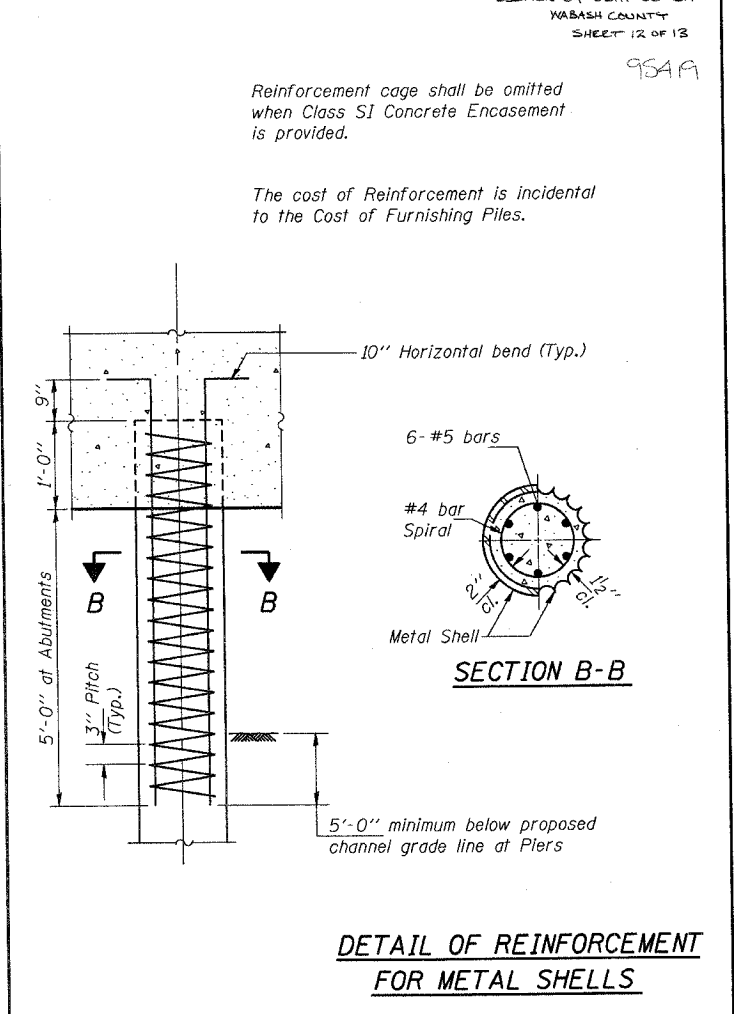
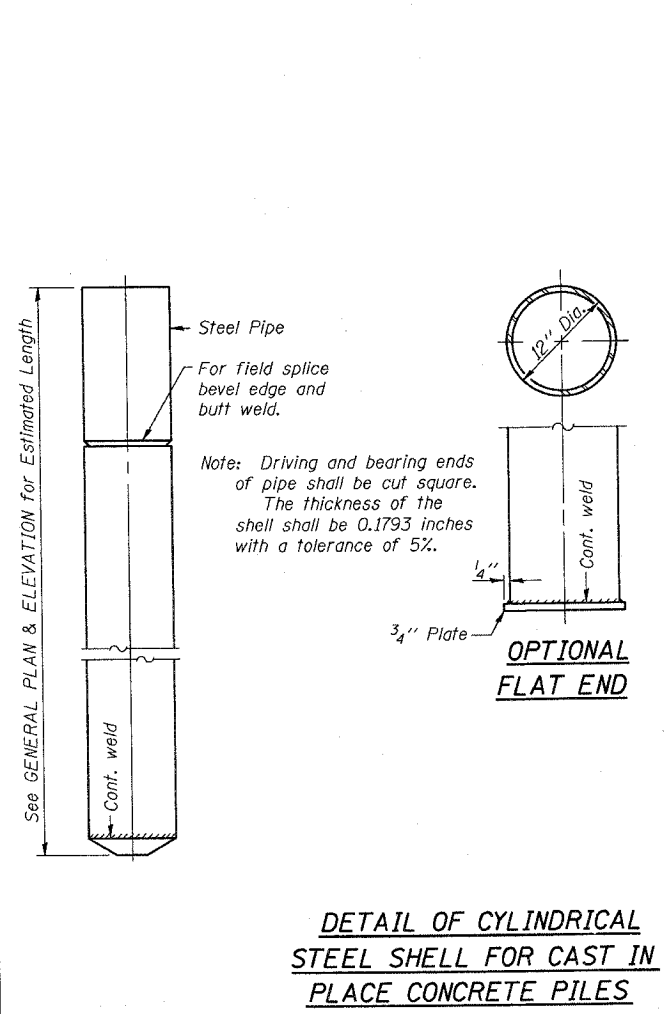
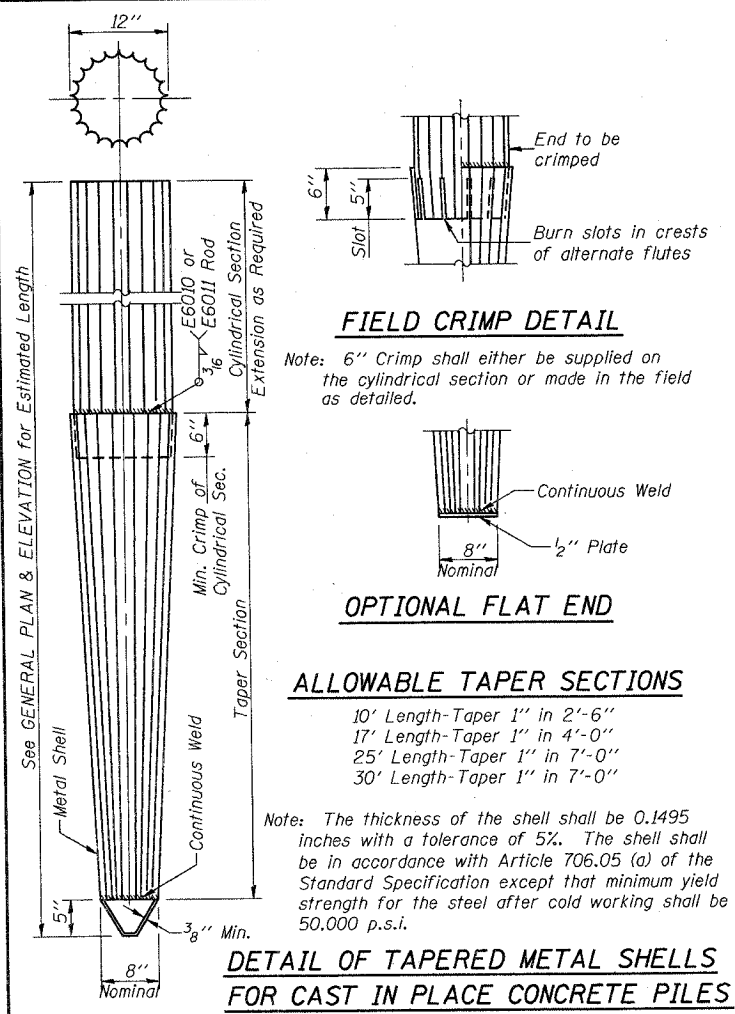
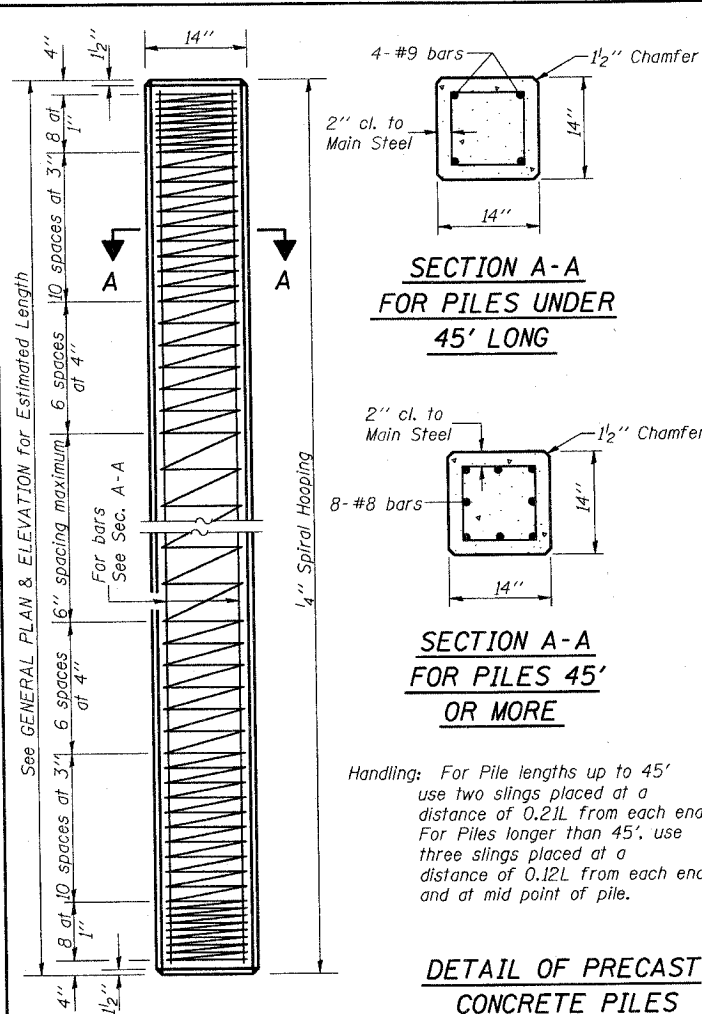
PASSED November 1, 1995 <i>Greg J. Kasper</i> Engineer of Bridge Design	
APPROVED November 1, 1995 <i>Ralph E. Anderson</i> Engineer of Bridges and Structures	
56-H-1 (REV. 5/81)	

NAME PLATE
STANDARD CN

954A

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

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



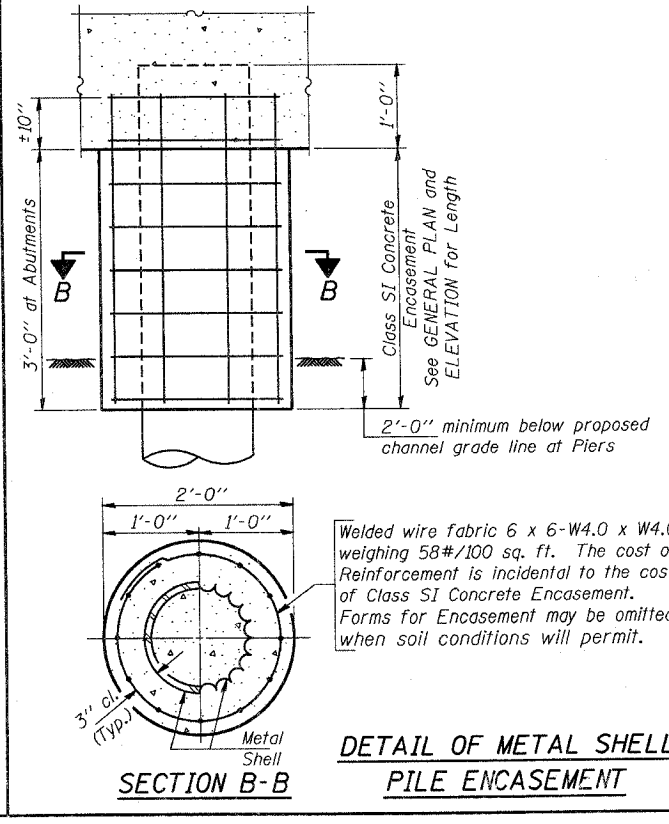
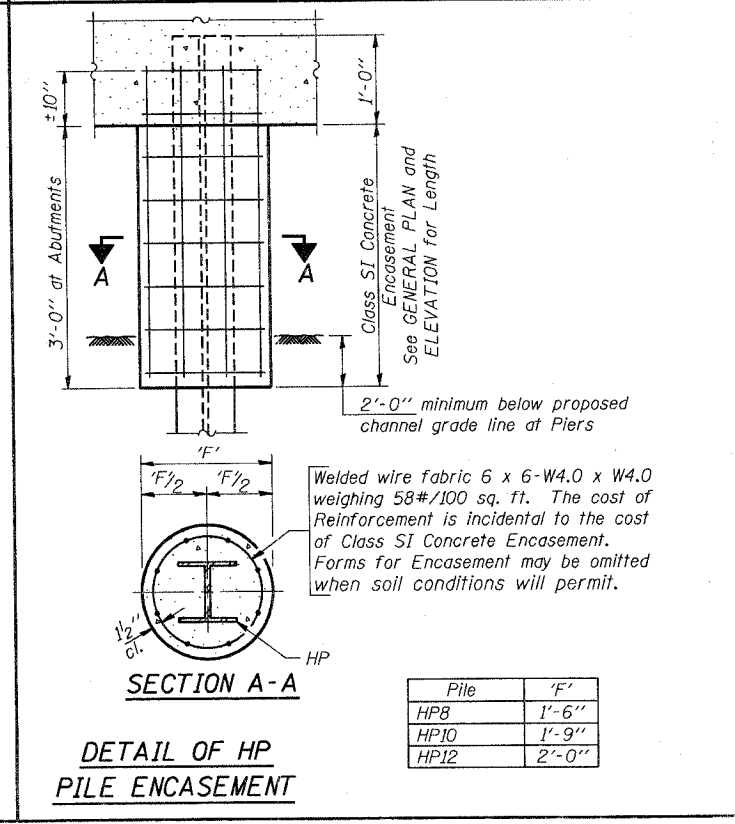
Illinois Department of Transportation

PASSED November 1, 1995

Approved by: *Gregory J. Kasper*
Engineer of Bridge Design

APPROVED November 1, 1995

Approved by: *Ralph E. Anderson*
Engineer of Bridges and Structures



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

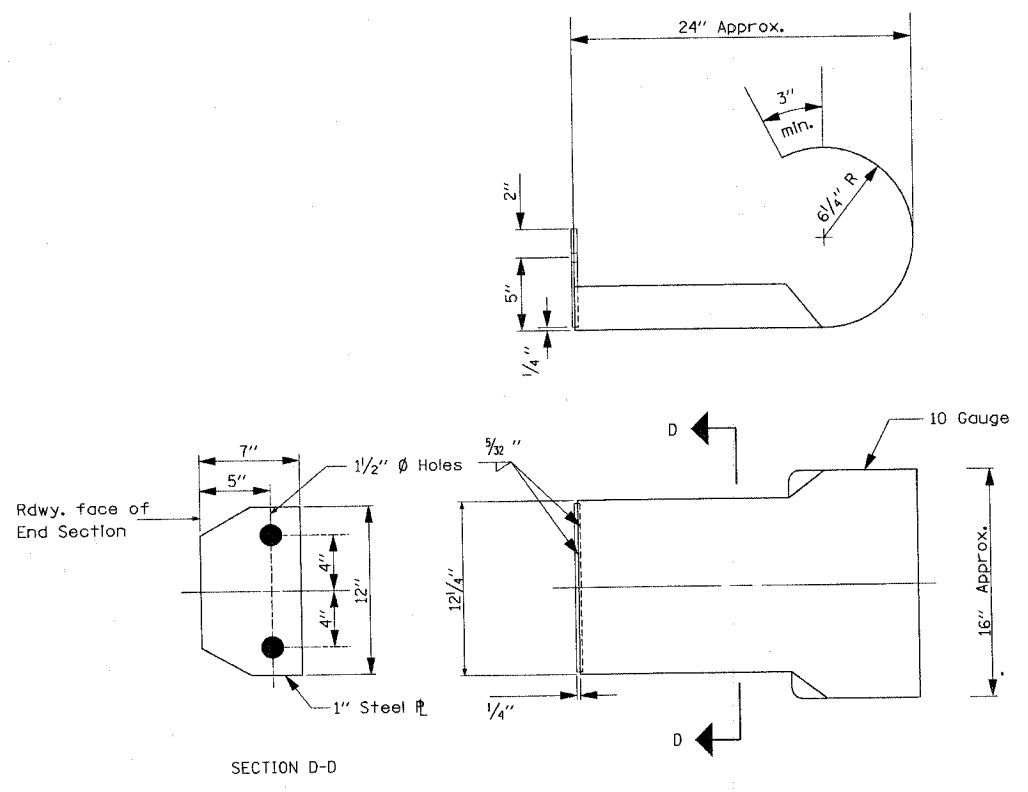
STANDARD CX-1

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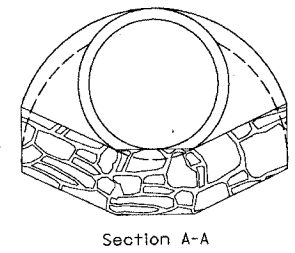
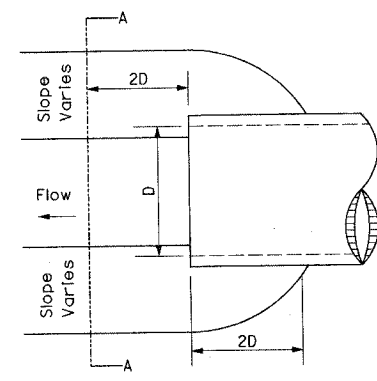
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 125	04-0311-00-BR	WABASH	13	13
FED. ROAD DIST. NO. 7			ILLINOIS	FED. AID PROJECT

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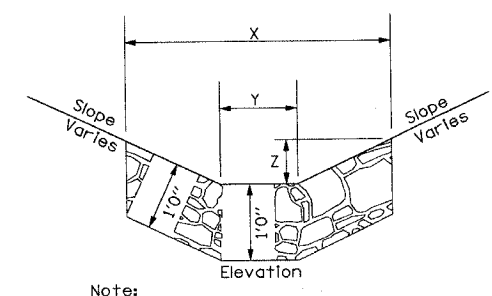
CURLED END SECTION DETAIL



STONE RIPRAP DITCH DESIGN



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.

	Slope		
	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.

	Slope		
	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.