3-5-10 Letting, Item 037

INDEX OF SHEETS

1 - TITLE SHEET
2 - SUMMARY OF QUANTITIES & TYPICAL SECTIONS
3 - ROADWAY DETAILS & SCHEDULES
4 - PLAN & PROFILE
5&6 - GENERAL PLAN & ELEVATION
7-10 - SUPERSTRUCTURE
11 - RAILING
12 - ABUTMENTS
13 - PIERS
14 - METAL SHELL PILE DETAILS
15-18 - CROSS SECTIONS

STANDARDS

STANDARD 515001-03
STANDARD 701006-03
STANDARD 701301-03
STANDARD 701901-01
STANDARD BLR 21-8
STANDARD BLR 26-2
STANDARD BLR 27-1
STANDARD 280001-05

UTILITIES

RURAL ELECTRIC
CONVENIENCE COOPERATIVE
3973 W. STATE RT. 104
P.O. BOX 19
AUBURN, ILLINOIS 62615
217-438-6197

CASS COMMUNICATIONS
100 REDBUD RD.
VIRGINIA, ILLINOIS 62691
217-452-7725

SCALE IN FEET

0 50 100 = PROFILE - PLAN
0 50 100 = PROFILE - HORIZONTAL
0 5 10 = PROFILE - VERTICAL
0 5 10 = CROSS SECTIONS - HORIZONTAL
0 5 10 = CROSS SECTIONS - VERTICAL

LAND SECTION - 30
LAND QUARTER SECTION - S.W.
FUNCTIONAL CLASSIFICATION: MAJOR COLLECTOR (NON-URBAN)
A.D.T. - 450 (2006)
A.D.T. - 650 (2019)
50 M.P.H. DESIGN SPEED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED HIGHWAY BRIDGE PROGRAM w/ ARRA

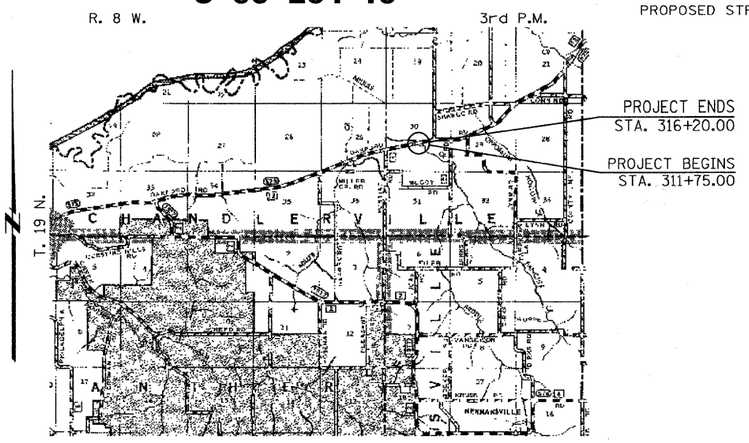
PROJECT ARA-BRS-0575(312)

F.A.S. 575 (C.H. 12) OVER MIDDLE CREEK

SECTION 09-00074-00-BR

CASS COUNTY

C-96-204-10



LOCATION PLAN

LENGTH OF SECTION - 445.00 FEET = 0.084 MILES

0 1 2
SCALE: 1" = 1 MILE

EXISTING STRUCTURE: THREE SPAN CAST IN PLACE CONCRETE DECK BRIDGE ON STEEL STRINGERS SUPPORTED BY CONCRETE ABUTMENTS AND PIERS FOUNDED ON TIMBER PILING. 24'-0" CLEAR DECK WIDTH, 84'-11" BK.-BK. ABUTMENTS AND STEEL RAILING. 20° SKEW RT. FWD. EXIST. S.N. 009-3004

PROPOSED STRUCTURE: THREE SPAN PRECAST PRESTRESSED CONCRETE DECK BEAMS (17") ON OPEN ABUTMENTS AND SOLID CONCRETE PIERS. 95'-0" BK.-BK. ABUTMENTS, 30'-0" OUT.-OUT. DECK, 28'-8" (SPANS 1 & 3), 35'-0" (SPAN 2). STEEL RAILING TYPE S-1. 20° SKEW RT. FWD. PROP. S.N. 009-3005

APPROVED OCT 23, 2009
Timothy L Gough
COUNTY ENGINEER

PASSED Nov 23, 2009
DISTRICT SIX ENGINEER OF LOCAL ROADS & STREETS

PASSED November 23, 2009
Ron Achambeau
DISTRICT SIX CONSTRUCTION ENGINEER

Releasing For Bid Based on Limited Review Nov 23, 2009
Roger K Driskell THE
DEPUTY DIRECTOR OF HIGHWAYS, REGION FOUR ENGINEER

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CHRISTOPHER P. KOHLRUS
062-046558
LICENSED PROFESSIONAL ENGINEER OF
STATE OF ILLINOIS

Christopher P. Kohlrus 10/27/09
EXPIRATION: 11/30/2009

TOLL FREE
"JOINT UTILITY LOCATION INFORMATION FOR EXCAVATORS"
(J.U.L.I.E.) TELEPHONE NUMBER
1-800-892-0123

CONTRACT NO. 93508

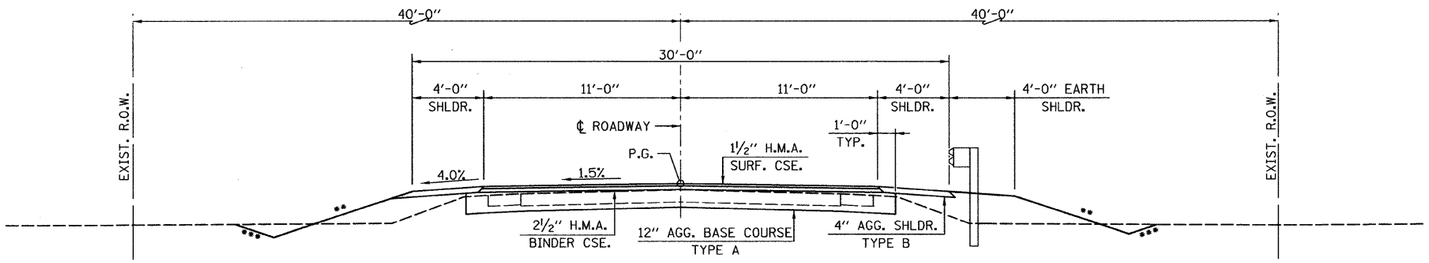
FILE NAME = $FILEL$	USER NAME = $USER$	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = $SCALE$	CHECKED -	REVISED -
	PLOT DATE = $DATE$	DATE -	REVISED -

Allen Henderson & Associates, Inc.
Civil and Structural Engineers Springfield, IL.
62703 Phone: (217)544-8033 IL. Design Firm
No. 184-001907

TITLE SHEET

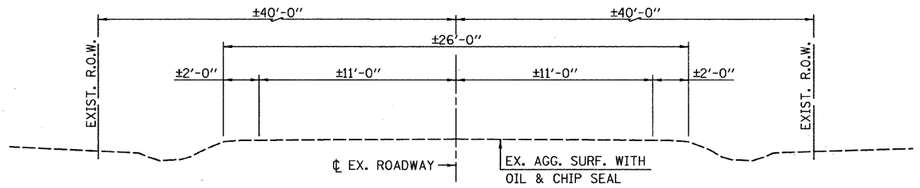
SCALE: 1" = 1 MILE | SHEET NO. 1 OF 18 SHEETS | STA. 311+75.00 TO STA. 316+20.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
575	09-00074-00-BR	CASS	18	1
		CONTRACT NO. 93508		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



PROPOSED ROADWAY CROSS SECTION

•• 3:1 ≤ 10'
2:1 > 10' OR AT GUARDRAIL LOCATIONS
••• 3:1 ≤ 10'
2:1 > 10'



EXISTING ROADWAY CROSS SECTION

SUMMARY OF QUANTITIES

	ITEM	UNIT	QUANTITY
20200100	EARTH EXCAVATION	CU. YD.	443
20300100	CHANNEL EXCAVATION	CU. YD.	385
• 25001000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.4
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	100
28000315	AGGREGATE DITCH CHECKS	TON	10
28100809	STONE DUMPED RIPRAP, CLASS A5	TON	763
28200200	FILTER FABRIC	SQ. YD.	855
35100100	AGGREGATE BASE COURSE, TYPE A	TON	631
40600100	BITUMINOUS MATERIALS (PRIME COAT)	GALLON	346
40603080	HOT MIX ASPHALT BINDER COURSE, IL-19.0 N50	TON	120
40603310	HOT MIX ASPHALT SURFACE COURSE, MIX C N50	TON	104
48101200	AGGREGATE SHOULDERS, TYPE B	TON	138
• 50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50200100	STRUCTURE EXCAVATION	CU. YD.	179
50300225	CONCRETE STRUCTURES	CU. YD.	125.2
50400305	PRECAST PRESTRESSED CONCRETE DECK BEAMS (17" DEPTH)	SQ. FT.	2803
50800105	REINFORCEMENT BARS	POUND	11500
Δ 50900205	STEEL RAILING, TYPE S-1	FOOT	190
51200957	FURNISHING METAL SHELL PILES 12" X 0.250"	FOOT	897
51202305	DRIVING PILES	FOOT	897
51203200	TEST PILE METAL SHELLS	EACH	4
51500100	NAME PLATES	EACH	1
542D0223	PIPE CULVERTS, CLASS D, TYPE 1 18"	FOOT	26
58100200	WATERPROOFING MEMBRANE SYSTEM	SQ. YD.	317
58300100	PORTLAND CEMENT MORTAR FAIRING COURSE	FOOT	210
59300100	CONTROLLED LOW-STRENGTH MATERIAL	CU. YD.	20.2
Δ 63100075	TRAFFIC BARRIER TERMINAL, TYPE 5A	EACH	2
Δ 63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 SPECIAL (TANGENT)	EACH	2
67100100	MOBILIZATION	L. SUM	1
• 70101700	TRAFFIC CONTROL AND PROTECTION	L. SUM	1
Δ 78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	120
Δ• 78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4
• X5020501	UNDERWATER STRUCTURE EXCAVATION PROTECTION - LOCATION 1	EACH	1
• X5020502	UNDERWATER STRUCTURE EXCAVATION PROTECTION - LOCATION 2	EACH	1

• SEE SPECIAL PROVISIONS
CONSTRUCTION TYPE CODE: X080-2A
Δ SPECIALTY ITEMS

GENERAL NOTES

WHERE SECTION OR SUBSECTION STONES ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH STONES ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND PRESERVE ALL PROPERTY MARKERS AND MONUMENTS UNTIL THE OWNER, AUTHORIZED SURVEYOR, OR AGENT HAS WITNESSED OR REFERENCED THEIR LOCATION.

SEEDING: FERTILIZER NUTRIENTS SHALL BE APPLIED AT A RATIO OF 1:1:1 AND AT A RATE OF 90 POUNDS PER ACRE FOR EACH NUTRIENT.

MULCH SHALL BE APPLIED AT THE RATE OF 2 TONS PER ACRE.

AREAS TO BE SEEDED SHALL CONSIST OF ALL DISTURBED EARTH SURFACES WITHIN THE RIGHT OF WAY AS DIRECTED BY THE ENGINEER.

NO COMMITMENTS.

BITUMINOUS MATERIALS (PRIME COAT)	0.10 GAL/SQ.YD. (ON PAVEMENT)
BITUMINOUS MATERIALS (PRIME COAT)	0.375 GAL/SQ.YD. (ON AGG)
HOT MIX ASPHALT SURFACE / BINDER	0.056 TON/SQ. YD. PER 1"
AGGREGATE MATERIAL	2.05 TON/CU. YD.
RIPRAP	1.5 TON/CU. YD.
NITROGEN FERTILIZER NUTRIENT	90 LBS./ACRE
PHOSPHOROUS FERTILIZER NUTRIENT	90 LBS./ACRE
POTASSIUM FERTILIZER NUTRIENT	90 LBS./ACRE
AGGREGATE PRIME COAT	0.002 TON/SQ. YD.
AGRICULTURAL GROUND LIMESTONE	2.0 TON/ACRE

PAVEMENT DESIGN

STRUCTURAL DESIGN TRAFFIC (S.D.T.) YEAR 2020
P.V.=637 S.U. = 13 M.U. = 7
CLASS III ROAD
T.F. = 0.042
DESIGN TEMP. = 77°
HMA MOD. E_{AC} = 625
8" (MIN.) AGG. BASE TYPE A
4" HMA BINDER & SURFACE

MIXTURE REQUIREMENTS

MIXTURE USE(S)	HOT MIX ASPHALT SURFACE COURSE	HOT MIX ASPHALT BINDER COURSE
AC/PG	PG 64-22	PG 64-22
DESIGN AIR VOIDS	4.0% @ N DESIGN = 50	4.0% @ N DESIGN = 50
MIXTURE COMPOSITION	IL 9.5 OR 12.5	IL 19.0
FRICTION AGGREGATE	MIX C	N/A

FILE NAME = $FILE$	USER NAME = $USER$	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = $SCALE$	CHECKED -	REVISED -
	PLOT DATE = $DATE$	DATE -	REVISED -

Allen Henderson & Associates, Inc.
Civil and Structural Engineers Springfield, IL.
62703 Phone: (217)544-8033 IL. Design Firm No. 184-001907

SUMMARY OF QUANTITIES & TYPICAL SECTIONS

SCALE: NONE | SHEET NO. 2 OF 18 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
575	09-00074-00-BR	CASS	18	2
		CONTRACT NO. 93508		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

EARTHWORK SCHEDULE

LOCATION	EARTH EXCAVATION	EARTH EXCAVATION ADJUSTED FOR SHRINKAGE *	EMBANKMENT	EARTHWORK BALANCE WASTE (+) OR SHORTAGE (-)
	CU. YD.	CU. YD.	CU. YD.	CU. YD.
STA. 311+75 TO STA. 312+00	19	14	0	14
STA. 312+00 TO STA. 312+50	88	66	2	64
STA. 312+50 TO STA. 313+00	103	77	2	75
STA. 313+00 TO STA. 313+50	81	61	3	58
STA. 313+50 TO STA. 313+70.5	24	18	2	16
BRIDGE OMISSION STA. 313+70.5 TO STA. 314+65.5				
STA. 314+65.5 TO STA. 315+00	23	17	13	4
STA. 315+00 TO STA. 315+50	43	32	19	13
STA. 315+50 TO STA. 316+00	52	39	13	26
STA. 316+00 TO STA. 316+20	10	8	1	7
TOTAL	443	332	55	277/ 370 *

• NOTE: NO FURNISHED EXCAVATION WILL BE REQUIRED. THE COST OF DISPOSING EXCESS EARTH, CHANNEL OR STRUCTURE EXCAVATION SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR EARTH EXCAVATION.

SCHEDULE
HOT MIX ASPHALT

LOCATION	BITUMINOUS MATERIALS	HOT MIX ASPHALT BINDER COURSE	HOT MIX ASPHALT SURFACE COURSE
	GALLON	TON	TON
STA. 311+75 TO STA. 313+70.50	193	67	40
STA. 313+70.50 TO STA. 314+65.50			32
STA. 314+65.50 TO STA. 316+20	153	53	32
TOTAL	346	120	104

SCHEDULE
PAINT PAVEMENT MARKING LINE 4"

LOCATION	YELLOW SKIP DASH
	FOOT
STA. 311+75 TO STA. 316+20	120
SUB-TOTAL	120
TOTAL	120

SCHEDULE
CONTROLLED LOW STRENGTH MATERIAL

LOCATION	QUANTITY
	CU. YD.
STA. 313+68.50 TO STA. 313+70.50	9.65
STA. 314+65.50 TO STA. 314+67.50	9.65
TOTAL	19.3

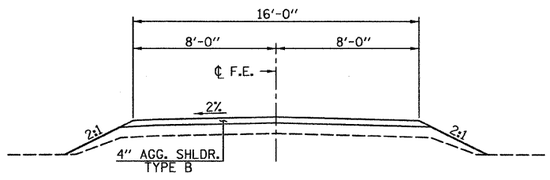
SCHEDULE
AGGREGATE SHOULDERS, TYPE B

LOCATION	QUANTITY
	TON
STA. 311+75 TO STA. 313+70.50 LT. & RT.	35
STA. 314+65.5 TO STA. 316+20 LT. & RT.	35
F.E. STA. 312+90 RT.	13
F.E. STA. 315+45 LT.	55
TOTAL	138

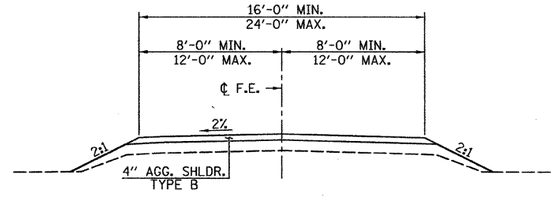
SCHEDULE
AGGREGATE DITCH CHECKS

LOCATION	QUANTITY
	EACH
STA. 313+50 27' RT.	1
STA. 313+50 40' LT.	1
TOTAL	2 *

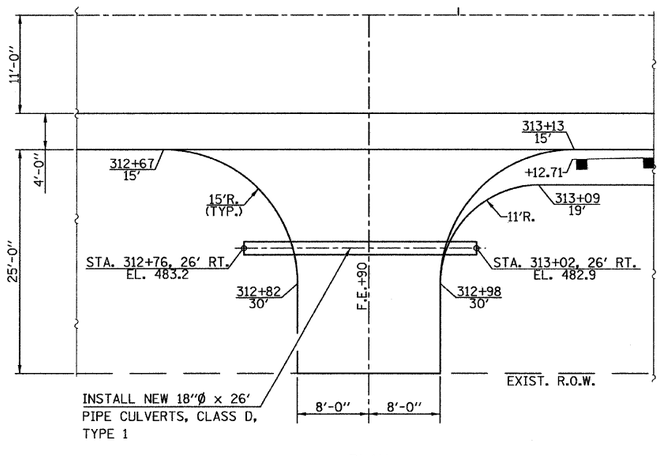
* ESTIMATE 5 TONS / EA.



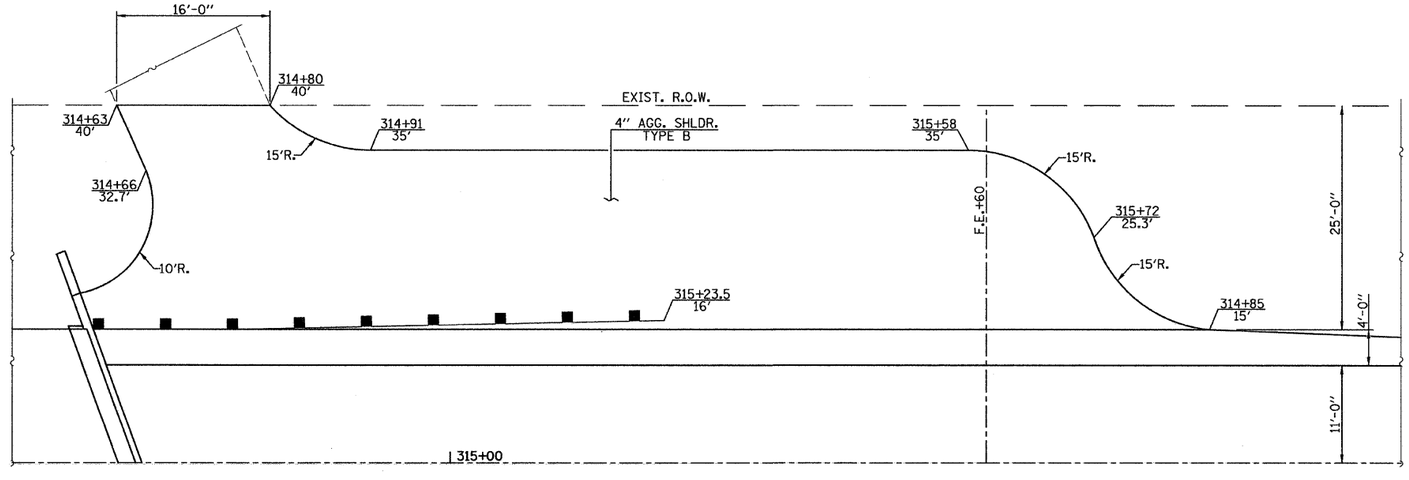
CROSS SECTION
(F.E. STA. 312+90 RT.)



CROSS SECTION
(F.E. STA. 315+45 LT.)



PLAN
(F.E. STA. 312+90 RT.)



PLAN
(NORTHEAST CORNER)

FILE NAME = $FILEL$	USER NAME = $USER$	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = $SCALE$	CHECKED -	REVISED -
	PLOT DATE = $DATE$	DATE -	REVISED -

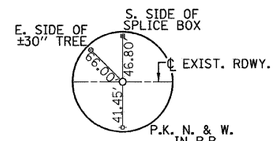
Allen Henderson & Associates, Inc.
Civil and Structural Engineers Springfield, IL.
62703 Phone: (217)544-8033 IL. Design Firm
No. 184-001907

ROADWAY DETAILS & SCHEDULES

SCALE: NONE | SHEET NO. 3 OF 18 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
575	09-00074-00-BR	CASS	18	3
		CONTRACT NO. 93508		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

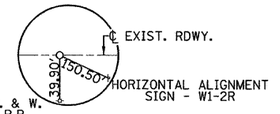
SECTION 30 T. 19 N., R. 8 W., 3rd P.M.



TIE #1
STA. 308+20.50
(#5 REBAR)

ROBERT E. SEVERNES

HOBBS MARJORIE (LIFE EST.) ETAL



TIE #2
STA. 321+17.48
(#5 REBAR)

PROJECT BEGINS STA. 311+75

TRAFFIC BARRIER TERMINAL TYPES I & 5A (S.W. & N.E. CORNERS)

F.E. +60

PROJECT ENDS STA. 316+20

EXIST. R.O.W.

CONST. LIMITS

TIE #1

310+00

315+00

℄ C.H. 12

40'

OIL & CHIP SURFACE

320+00

TIE #2

CONST. LIMITS

EXIST. R.O.W.

BM#1

INSTALL NEW 18"ø X 26' PIPE CULVERTS, CLASS D, TYPE 1
FL INLET - EL. 483.2
FL OUTLET - EL. 482.9

F.E. +90

EXIST. 72"ø DRAINAGE STRUCTURE (TO REMAIN IN PLACE)

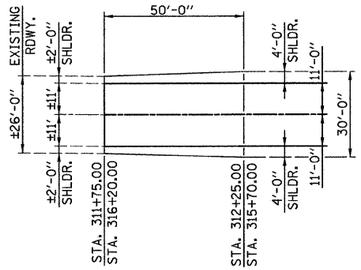
STA. 314+18.00 - ℄ RDWY. AT ℄ STRUCTURE
PROPOSED STRUCTURE: THREE SPAN PRECAST PRESTRESSED CONCRETE DECK BEAMS (17") ON OPEN CONCRETE ABUTMENTS AND SOLID CONCRETE PIERS. 95'-0" BK.-BK. ABUTMENTS, 30'-0" OUT.-OUT. DECK, 28'-8" (SPANS 1 & 3), 35'-0" (SPAN 2). STEEL RAILING TYPE S-1. 20° SKEW.

FLOW MIDDLE CREEK

TONY LEE & CECELIA ANTONACCI

TONY LEE & CECELIA ANTONACCI

PLAN
0 50 100
SCALE: 1" = 50'



ROADWAY TRANSITION DETAIL

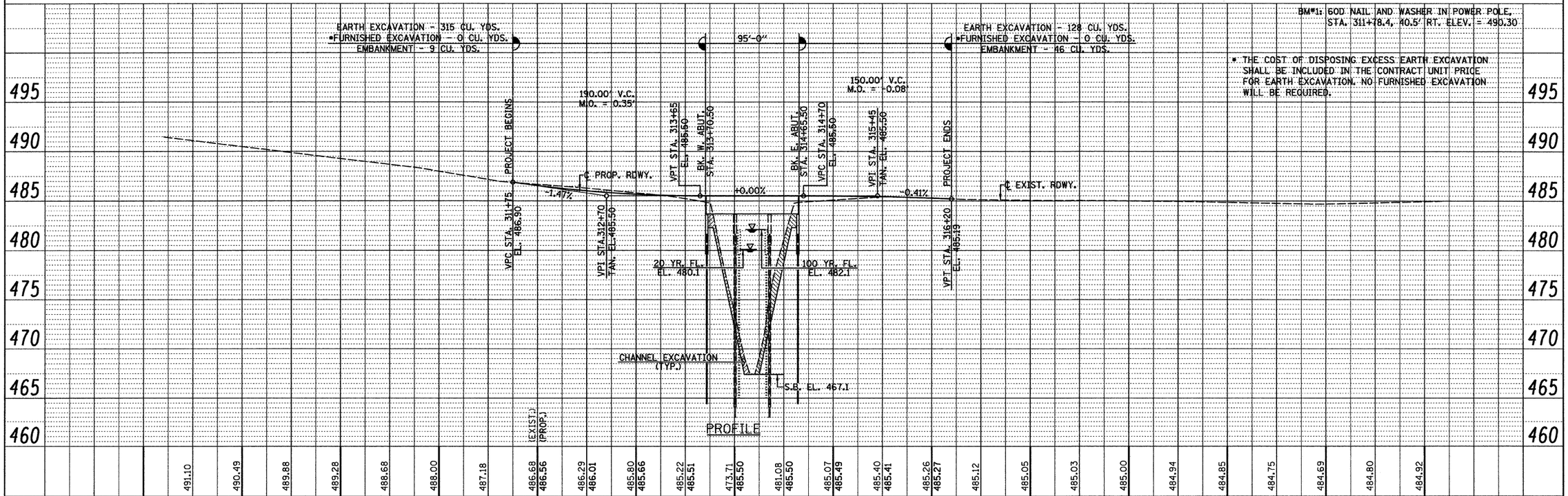
BM#1: 60D NAIL AND WASHER IN POWER POLE, STA. 311+78.4, 40.5' RT. ELEV. = 490.30

EARTH EXCAVATION - 315 CU. YDS.
*FURNISHED EXCAVATION - 0 CU. YDS.
EMBANKMENT - 9 CU. YDS.

95'-0"

EARTH EXCAVATION - 128 CU. YDS.
*FURNISHED EXCAVATION - 0 CU. YDS.
EMBANKMENT - 46 CU. YDS.

* THE COST OF DISPOSING EXCESS EARTH EXCAVATION SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR EARTH EXCAVATION. NO FURNISHED EXCAVATION WILL BE REQUIRED.



FILE NAME = $FILEL$	USER NAME = $USER$	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE = $SCALE$	DRAWN -	REVISED -
	PLOT DATE = $DATE$	CHECKED -	REVISED -

Allen Henderson & Associates, Inc.
Civil and Structural Engineers Springfield, IL.
62703 Phone: (217)544-8033 IL. Design Firm
No. 184-001907

PLAN & PROFILE

SCALE: 1" = 50' | SHEET NO. 4 OF 18 SHEETS | STA. 311+75.00 TO STA. 316+20.00

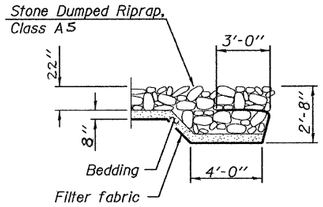
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
575	09-00074-00-BR	CASS	18	4
		CONTRACT NO. 93508		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

Existing Structure: Three span cast in place concrete deck bridge on steel stringers supported by concrete abutments and piers founded on timber piling. 24'-0" clear deck width, 84'-11" Bk.-Bk. abutments and steel railing. 20° Skew Exist. S.N. 009-3004

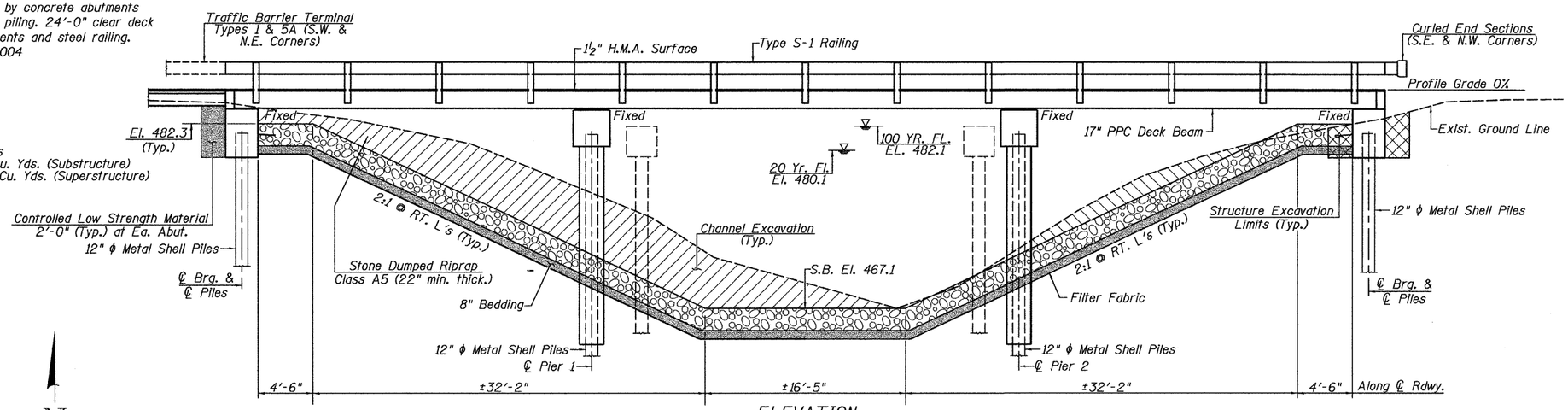
Benchmark: BM#1: 60D Nail and Washer in Power Pole. Sta. 311+78.4, 40.5' Rt. Elev. 490.30

Salvage: Steel beams to Cass County

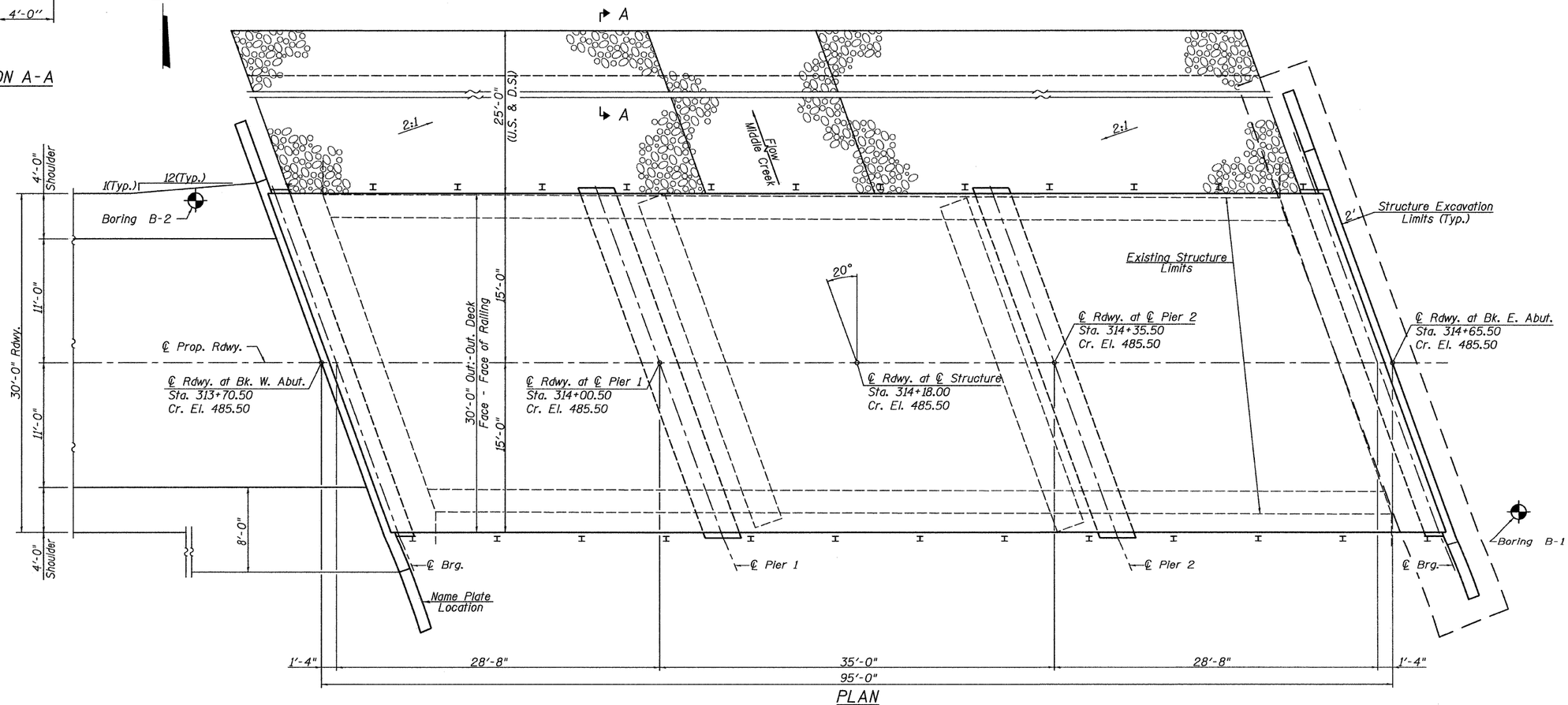
Estimated Quantity to be Removed: Structural Steel - 30,000 Lbs
Concrete Structures - 43.3 Cu. Yds. (Substructure)
58.2 Cu. Yds. (Superstructure)



SECTION A-A



ELEVATION



PLAN

FILE NAME = ⊕FILEL⊕	USER NAME = ⊕USER⊕	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = ⊕SCALE⊕	CHECKED -	REVISED -
	PLOT DATE = ⊕DATE⊕	DATE -	REVISED -

Allen Henderson & Associates, Inc.
Civil and Structural Engineers Springfield, IL.
62703 Phone: (217)544-8033 IL. Design Firm No. 184-001907

GENERAL PLAN & ELEVATION

SCALE: 1" = 10' | SHEET NO. 5 OF 18 SHEETS | STA. 313+70.50 TO STA. 314+65.50

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
575	09-00074-00-BR	CASS	18	5
		CONTRACT NO. 93508		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.			385
Stone Dumped Riprap, Class A5	Ton			763
Filter Fabric	Sq. Yd.			855
Removal of Existing Structures	Each			1
Structure Excavation	Cu. Yd.		179	179
Concrete Structures	Cu. Yd.		125.2	125.2
Precast Prestressed Concrete Deck Beams (17" Depth)	Sq. Ft.	2803		2803
Reinforcement Bars	Pound		11500	11500
Steel Railing, Type S-1	Foot	190		190
Furnishing Metal Shell Piles 12"x0.250"	Foot		897	897
Driving Piles	Foot		897	897
Test Pile Metal Shells	Each		4	4
Name Plates	Each	1		1
Waterproofing Membrane System	Sq. Yd.			317
Hot Mix Asphalt Surface Course, Mix C N50	Ton			32
Underwater Structure Excavation Protection - Location 1 (Pier 1)	Each		1	1
Underwater Structure Excavation Protection - Location 2 (Pier 2)	Each		1	1

WATERWAY INFORMATION

Drainage Area = 13.30 Sq. Mi. Pr. Low Grade Elev. 485.2 @ Sta. 316+20

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Natural H.W.E.	Head - ft. Exist.	Head - ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
Design	20	2234	375	520	480.1	0.0	0.0	480.1	480.1
Base	100	3494	504	665	482.1	0.1	0.1	482.2	482.2
Exist. Overtop.	Greater than 500 years								
Prop. Overtop.	Greater than 500 years								
Max. Calc.	500	4784	519	759	483.4	0.7	0.4	484.1	483.8

Construction Permits: The Requirements of the IDNR - Office of Water Resources have been fulfilled in accordance with Statewide Permit No. 2.

DESIGN SCOUR ELEVATION TABLE			
N. Abutment	S. Abutment	Pier 1	Pier 2
479.6	479.6	462.04	462.04

DESIGN STRESSES

FIELD UNITS

f'c = 3500 psi
fy = 60000 psi (Reinforcement)

PRECAST PRESTRESSED UNITS

f'c = 6000 psi
f'ci = 5000 psi
½"ϕ (low lax) Strands < fpu = 270000 psi
fpbt = 201960 psi

GENERAL NOTES

See Proposal for Boring Data.

Reinforcement bars shall conform to the requirements of ASTM A706, Grade 60. See Special Provision.

The layout of the riprap slopewall may be varied to suit conditions in the field as determined by the Engineer.

The contractor shall drive one test pile in a permanent location at the East Abutment and at Pier 1 as directed by the Engineer in the field prior to ordering the remainder of piles. Protective coat shall not be applied to surfaces to which Waterproofing Membrane System is applied.

REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED.

DESIGN SPECIFICATIONS

2007 AASHTO LRFD Bridge Design Specifications, 4th Edition with 2008 Interims

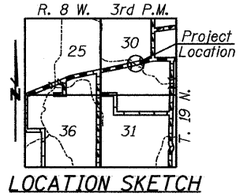
LOADING HL-93

Allow 50#/sq. ft. for future wearing surface.

MIDDLE CREEK
BUILT 20 BY
CASS COUNTY
SECTION 09-00074-00-BR
F.A.S. RTE. 575
STA. 314+18.00
STR. NO. 009-3005 LOADING HL-93

NAME PLATE

(Standard 515001)
(S.W. Wing)



LOCATION SKETCH

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

Mark A Henderson 10-27-09
Expiration Date 11/30/2010

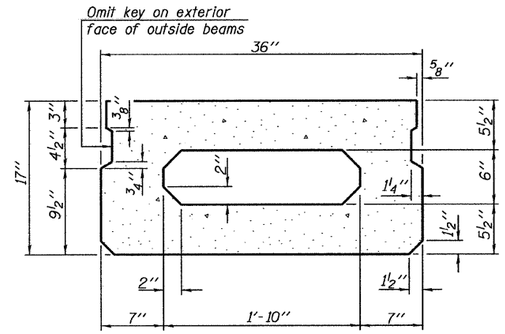
FILE NAME = $FILEL$	USER NAME = $USER$	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = $SCALE$	CHECKED -	REVISED -
	PLOT DATE = $DATE$	DATE -	REVISED -

Allen Henderson & Associates, Inc.
Civil and Structural Engineers Springfield, IL.
62703 Phone: (217)544-8033 IL. Design Firm No. 184-001907

GENERAL PLAN & ELEVATION

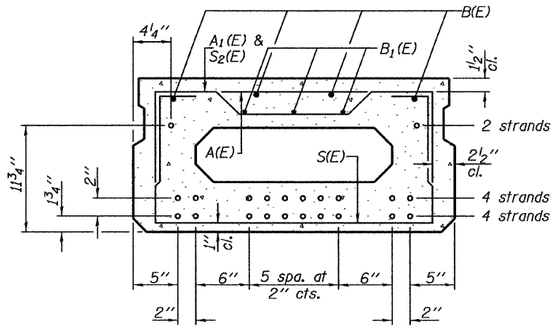
SCALE: | SHEET NO. 6 OF 18 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
575	09-00074-00-BR	CASS	18	6
		CONTRACT NO. 93508		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

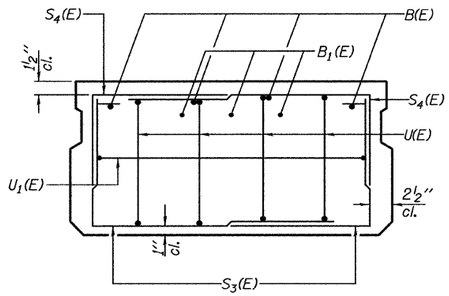


SECTION A-A
(Showing dimensions)

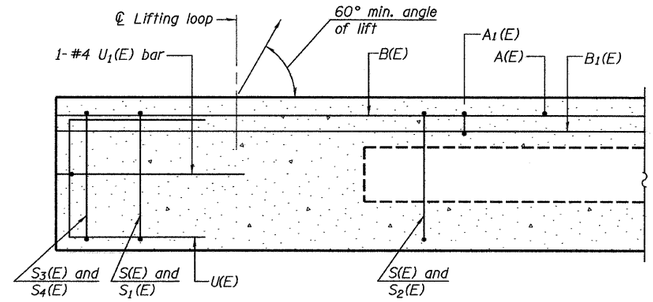
Note: Place the number of strands specified in each row symmetrically about the centerline of beam in the permissible strand locations shown.



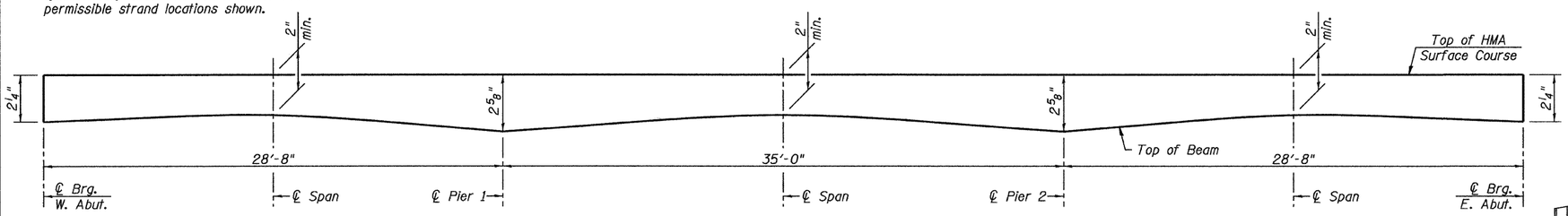
SECTION A-A
(Showing reinforcement and permissible strand locations)



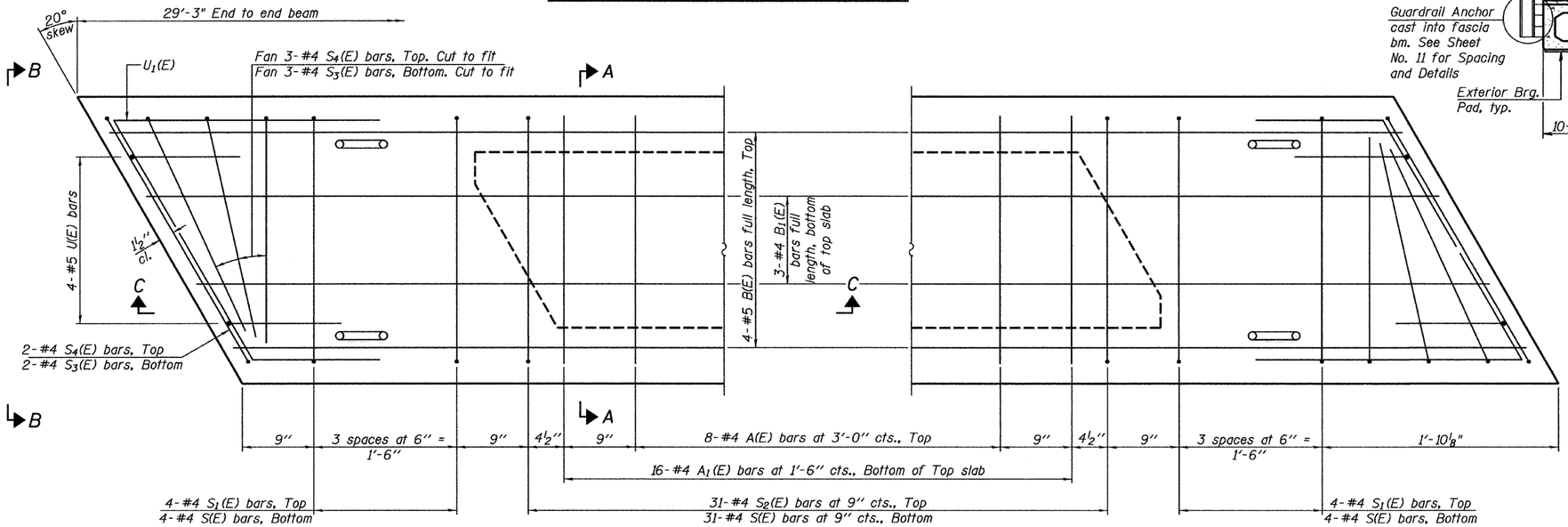
VIEW B-B



SECTION C-C

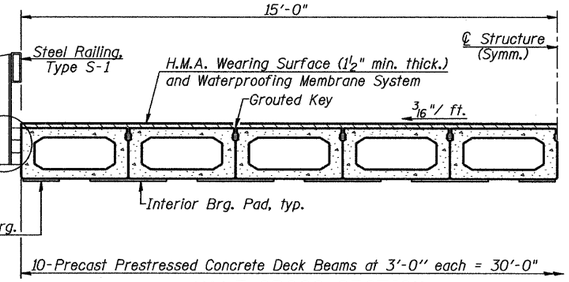


HMA SURFACE COURSE PROFILE &
ANTICIPATED CAMBER DIAGRAM SPAN



PLAN VIEW

Note: Spacing of S(E) and S_2(E) bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.



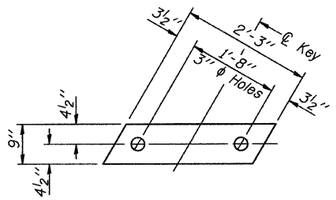
HALF CROSS SECTION

BAR LIST
ONE BEAM ONLY
(For information only)

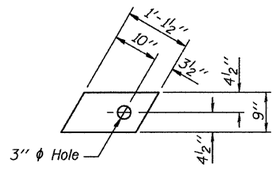
Bar	No.	Size	Length	Shape
A(E)	8	#4	2'-7"	—
A_1(E)	16	#4	2'-10"	~
B(E)	4	#5	29'-0"	—
B_1(E)	3	#4	29'-0"	—
S(E)	39	#4	5'-9"	⌴
S_1(E)	8	#4	4'-3"	⌐¬
S_2(E)	31	#4	4'-6"	⌐¬
S_3(E)	10	#4	4'-2"	⌐
S_4(E)	10	#4	3'-5"	⌐
U(E)	8	#5	3'-8"	⊏
U_1(E)	2	#4	6'-1"	⊏

Note: See sheet 8 of 18 for additional details and Bill of Material.

FILE NAME = $FILEL$	USER NAME = $USER$	DESIGNED -	REVISED -	Allen Henderson & Associates, Inc. Civil and Structural Engineers Springfield, IL. 62703 Phone: (217)544-8033 IL. Design Firm No. 184-001907	17" X 36" PPC DECK BEAM SPANS 1 & 3	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN -	REVISED -			575	09-00074-00-BR	CASS	18	7
	PLOT SCALE = $SCALE$	CHECKED -	REVISED -					CONTRACT NO. 93508		
	PLOT DATE = $DATE$	DATE -	REVISED -		SCALE: NONE SHEET NO. 7 OF 18 SHEETS	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

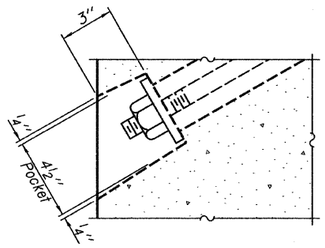


FABRIC BEARING PAD
(Interior)
(32 Required)

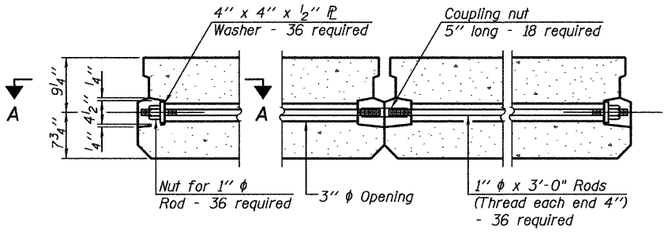


FABRIC BEARING PAD
(Exterior)
(16 Required)

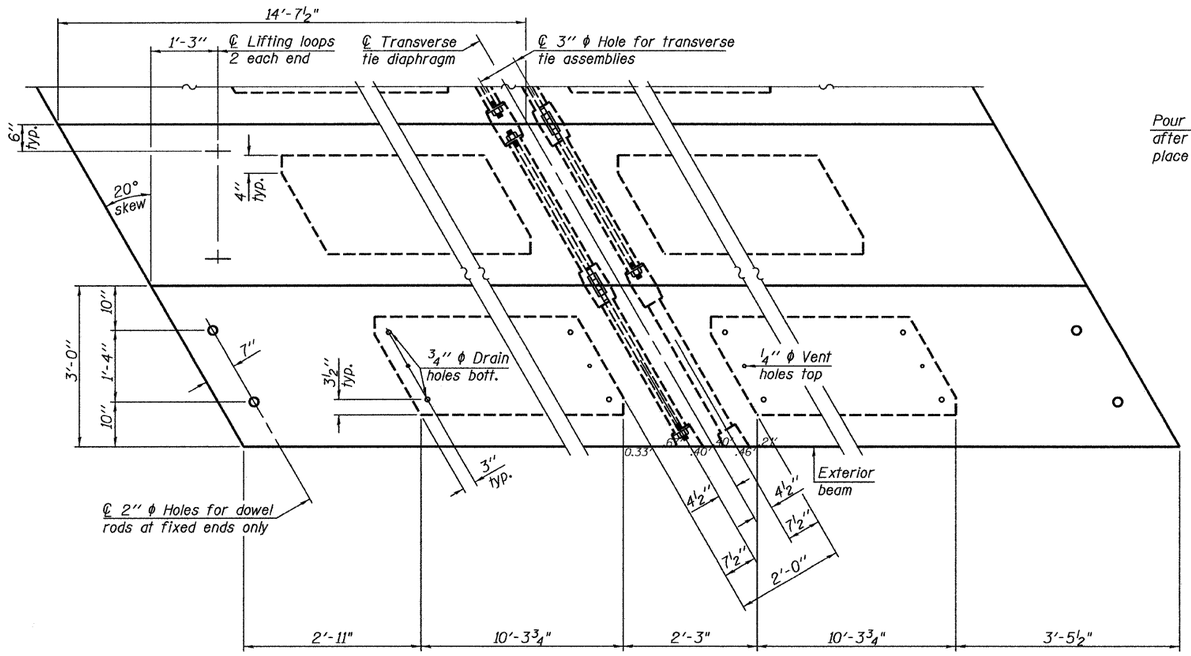
FIXED



SECTION A-A

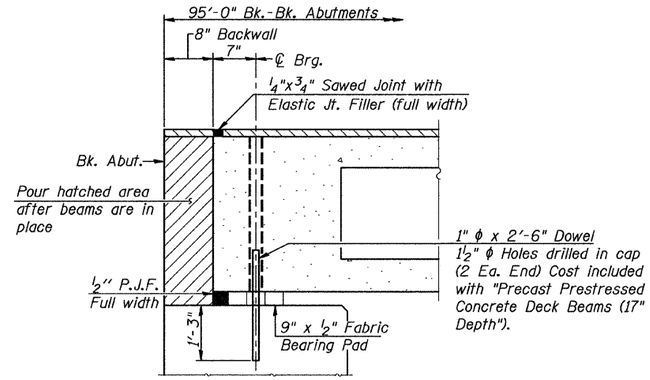


TYPICAL TRANSVERSE TIE ASSEMBLY

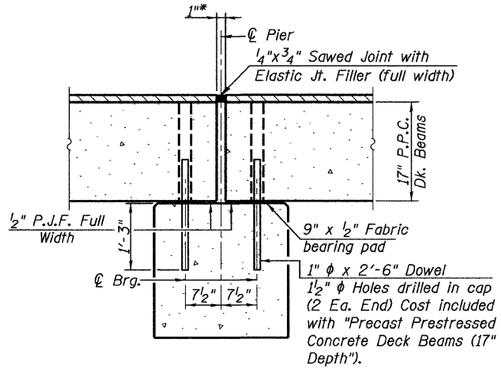


PLAN VIEW

Note: Connect beams in pairs with the transverse tie configuration shown.



SECTION THRU ABUTMENT
(At Right Angles)



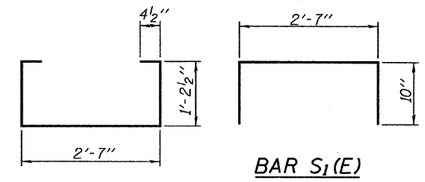
SECTION THRU PIER

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.

All horizontal dimensions are at right angles to beam ends.

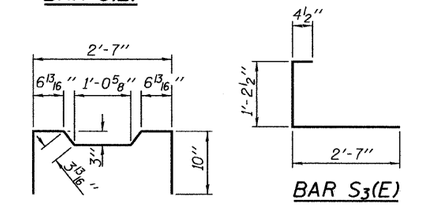
Hatched area to be poured after beams are in place.

* 1" joint shall be filled with non-shrink grout. 1" dimension may vary to accommodate tolerance in beam lengths.



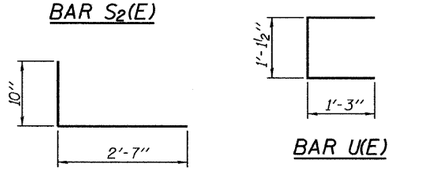
BAR S(E)

BAR S1(E)



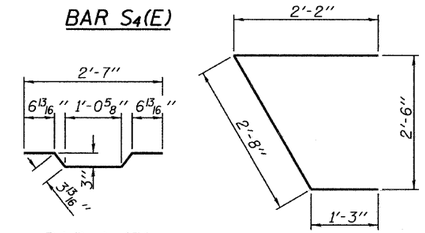
BAR S2(E)

BAR S3(E)



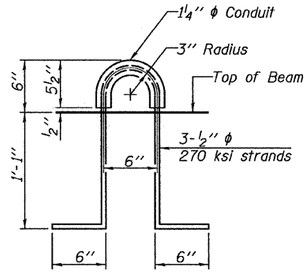
BAR S4(E)

BAR U(E)



BAR A1(E)

BAR U1(E)



LIFTING LOOP DETAIL

BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (17" depth)	Sq. Ft.	1755

NOTES

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be ½" and the nominal cross-sectional area shall be 0.153 sq. in.

The 1" ϕ rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place.

Reinforcement bars shall conform to ASTM A 706, Grade 60. (See Special Provisions).

Two ⅛" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.

A minimum 2½" ϕ lifting pin shall be used to engage the lifting loops during handling.

Corrosion Inhibitor, per Article 1020.05(b)(12) and 1021.06 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.

Compressive strength of prestressed concrete, f'c, shall be 6000 psi.

Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi.

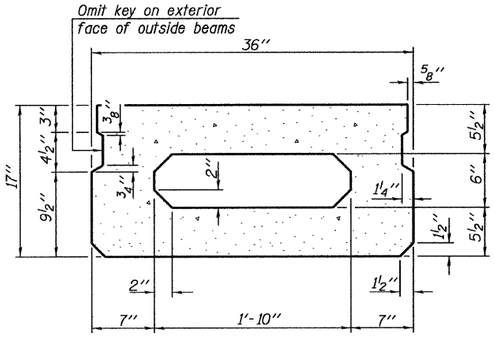
FILE NAME = ⊕FILE⊕	USER NAME = ⊕USER⊕	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = ⊕SCALE⊕	CHECKED -	REVISED -
	PLOT DATE = ⊕DATE⊕	DATE -	REVISED -

Allen Henderson & Associates, Inc.
Civil and Structural Engineers Springfield, IL.
62703 Phone: (217)544-8033 IL. Design Firm
No. 184-001907

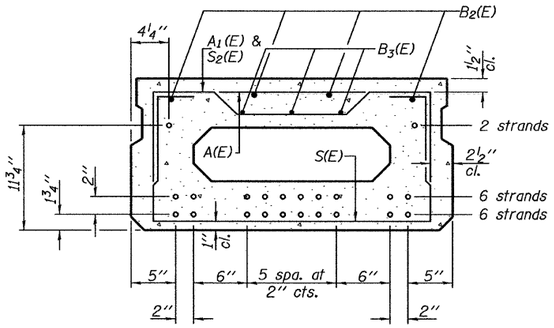
17" X 36" PPC DECK BEAM SPANS 1 & 3

SCALE: NONE | SHEET NO. 8 OF 18 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
575	09-00074-00-BR	CASS	18	8
		CONTRACT NO. 93508		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

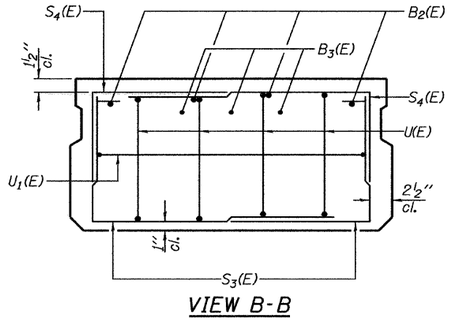


SECTION A-A
(Showing dimensions)

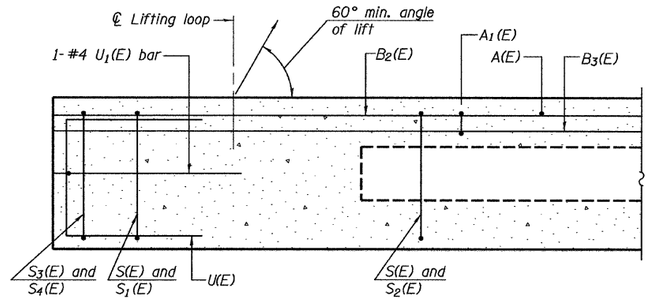


SECTION A-A
(Showing reinforcement and permissible strand locations)

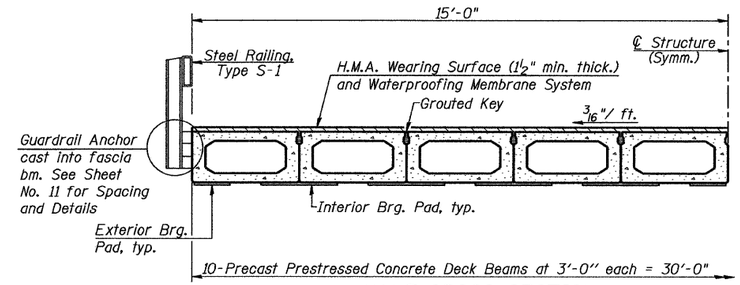
Note: Place the number of strands specified in each row symmetrically about the centerline of beam in the permissible strand locations shown.



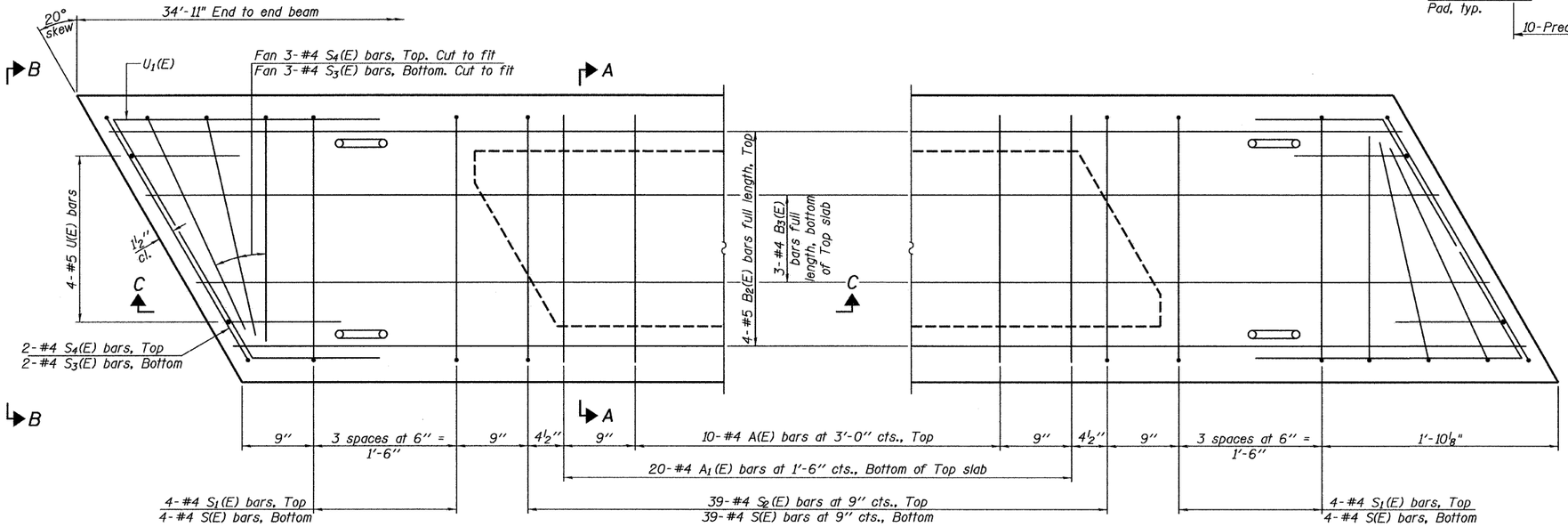
VIEW B-B



SECTION C-C



HALF CROSS SECTION



PLAN VIEW

Note: Spacing of S(E) and S2(E) bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.

BAR LIST
ONE BEAM ONLY
(For information only)

Bar	No.	Size	Length	Shape
A(E)	10	#4	2'-7"	—
A1(E)	20	#4	2'-10"	⌒
B2(E)	4	#5	34'-8"	—
B3(E)	3	#4	34'-8"	—
S(E)	47	#4	5'-9"	⊔
S1(E)	8	#4	4'-3"	⊓
S2(E)	39	#4	4'-6"	⊓
S3(E)	10	#4	4'-2"	⌋
S4(E)	10	#4	3'-5"	⌋
U(E)	8	#5	3'-8"	⊏
U1(E)	2	#4	6'-1"	◹

Note: See sheet 10 of 18 for additional details and Bill of Material.

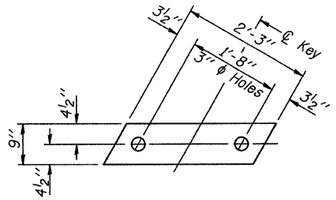
FILE NAME = ℗FILEL℗	USER NAME = ℗USER℗	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = ℗SCALE℗	CHECKED -	REVISED -
	PLOT DATE = ℗DATE℗	DATE -	REVISED -

Allen Henderson & Associates, Inc.
Civil and Structural Engineers Springfield, IL.
62703 Phone: (217)544-8033 IL. Design Firm
No. 184-001907

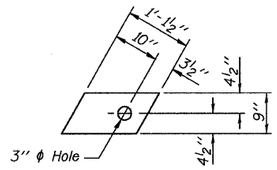
17" X 36" PPC DECK BEAM
SPAN 2

SCALE: NONE | SHEET NO. 9 OF 18 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
575	09-00074-00-BR	CASS	18	9
		CONTRACT NO. 93508		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

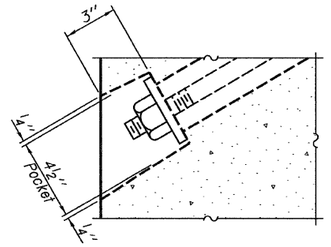


FABRIC BEARING PAD
(Interior)
(16 Required)

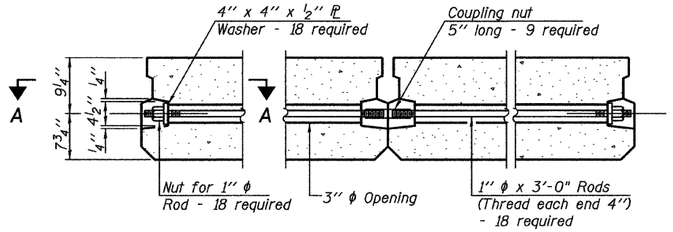


FABRIC BEARING PAD
(Exterior)
(8 Required)

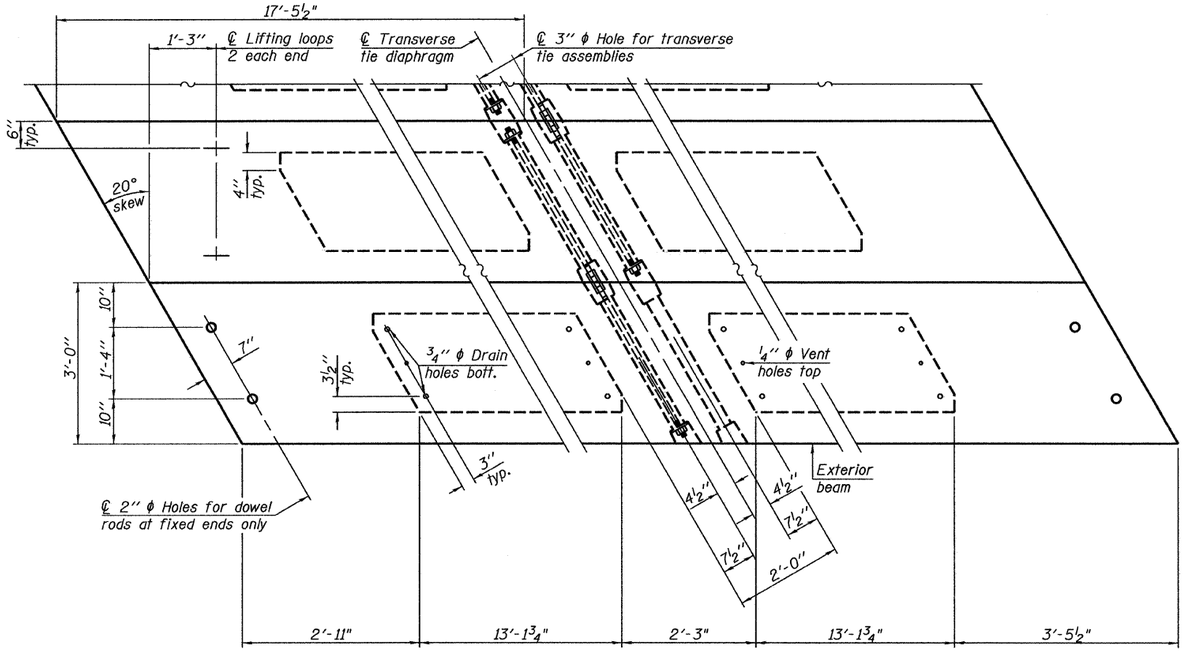
FIXED



SECTION A-A

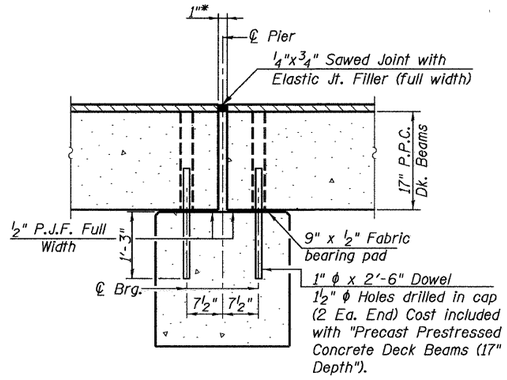


TYPICAL TRANSVERSE TIE ASSEMBLY



PLAN VIEW

Note: Connect beams in pairs with the transverse tie configuration shown.



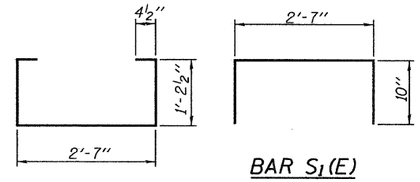
SECTION THRU PIER

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.

All horizontal dimensions are at right angles to beam ends.

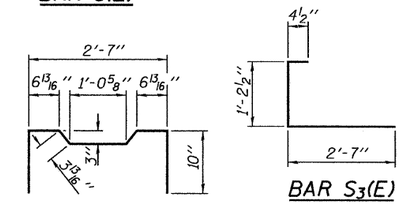
Hatched area to be poured after beams are in place.

** 1" joint shall be filled with non-shrink grout. 1" dimension may vary to accommodate tolerance in beam lengths.*



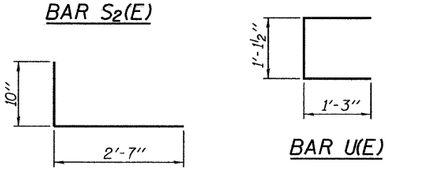
BAR S(E)

BAR S1(E)



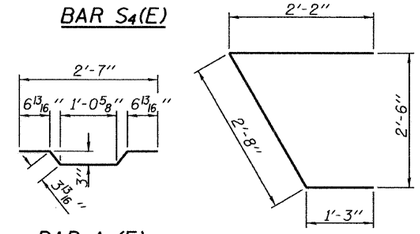
BAR S2(E)

BAR S3(E)



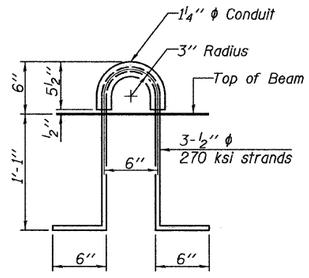
BAR S4(E)

BAR U(E)



BAR A1(E)

BAR U1(E)



LIFTING LOOP DETAIL

NOTES

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be ½" and the nominal cross-sectional area shall be 0.153 sq. in.

The 1" ϕ rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place.

Reinforcement bars shall conform to ASTM A 706, Grade 60. (See Special Provisions).

Two ⅛" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.

A minimum 2½" ϕ lifting pin shall be used to engage the lifting loops during handling.

Corrosion Inhibitor, per Article 1020.05(b)(12) and 1021.06 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.

Compressive strength of prestressed concrete, f'c, shall be 6000 psi.

Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi.

BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (17" depth)	Sq. Ft.	1048

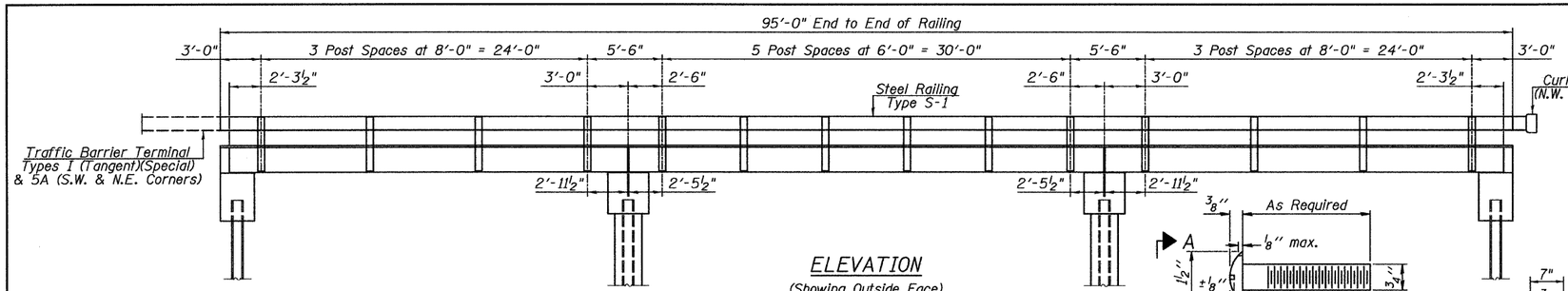
FILE NAME = ⊕FILEL⊕	USER NAME = ⊕USER⊕	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = ⊕SCALE⊕	CHECKED -	REVISED -
	PLOT DATE = ⊕DATE⊕	DATE -	REVISED -

Allen Henderson & Associates, Inc.
Civil and Structural Engineers Springfield, IL.
62703 Phone: (217)544-8033 IL. Design Firm
No. 184-001907

17" X 36" PPC DECK BEAM
SPAN 2

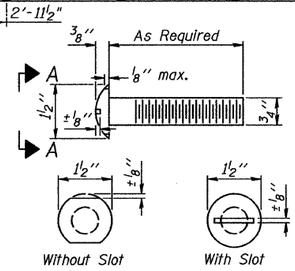
SCALE: NONE | SHEET NO. 10 OF 18 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
575	09-00074-00-BR	CASS	18	10
		CONTRACT NO. 93508		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

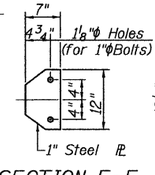


ELEVATION

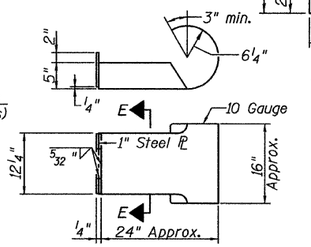
(Showing Outside Face)



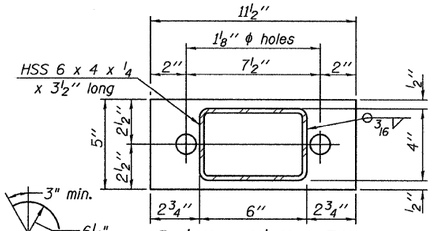
VIEW A-A ROUND HEAD BOLT



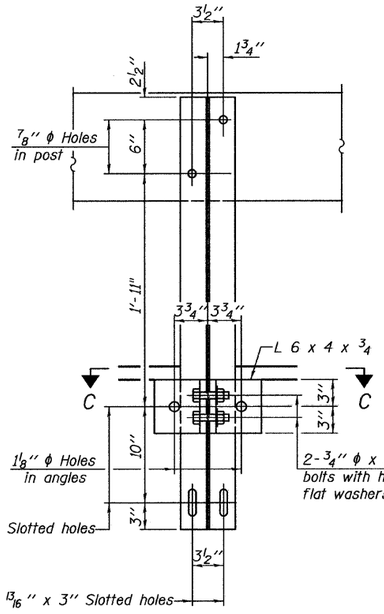
SECTION E-E



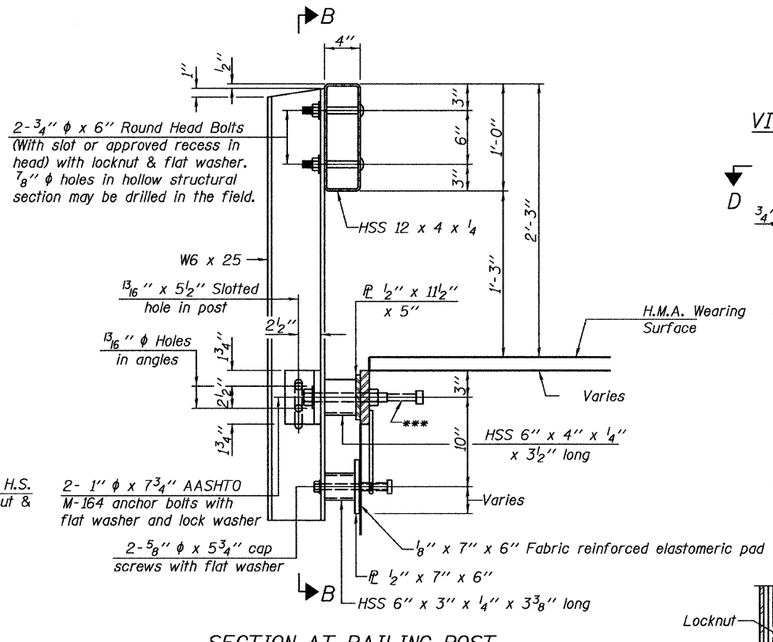
CURLED END SECTION DETAILS (2 Required)



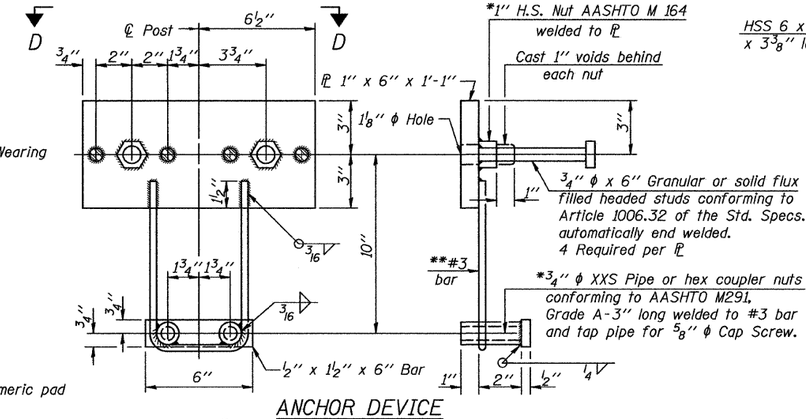
PL ½" x 11½" x 5"



SECTION B-B



SECTION AT RAILING POST



ANCHOR DEVICE

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

PL ½" x 7" x 6"

Notes:

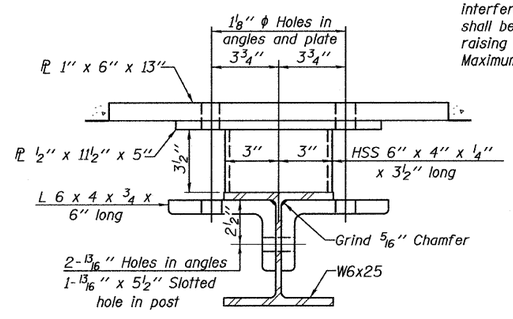
All field drilled holes shall be coated with an approved zinc rich paint before erection.

For multi-span bridges, sufficient ¼" 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 steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.

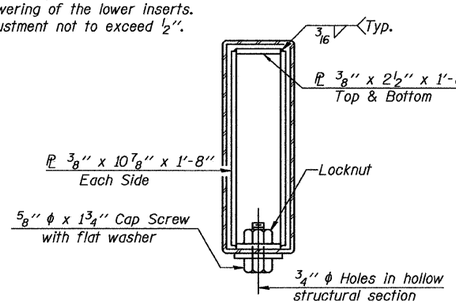
***The studs of the anchor devices shall be placed below the top reinforcement bars and the outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchor device.

**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 ½".

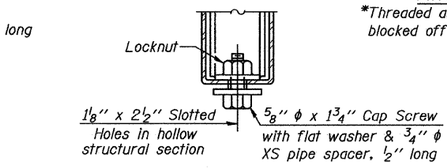


SECTION C-C

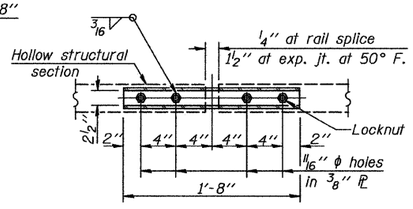
(10'-9" Maximum Post Spacing)



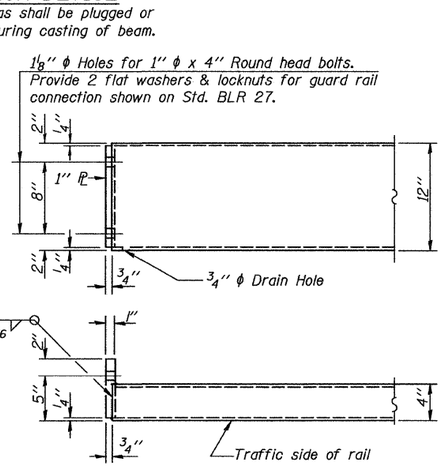
SECTIONS AT RAIL SPLICE



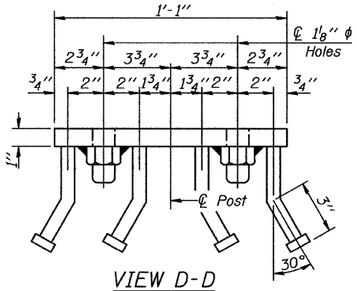
RAIL SPLICE CONNECTION AT EXPANSION JT.



PLAN-BOTTOM SPLICE PL TYPICAL



END OF RAIL DETAILS



VIEW D-D

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S-1	Foot	190

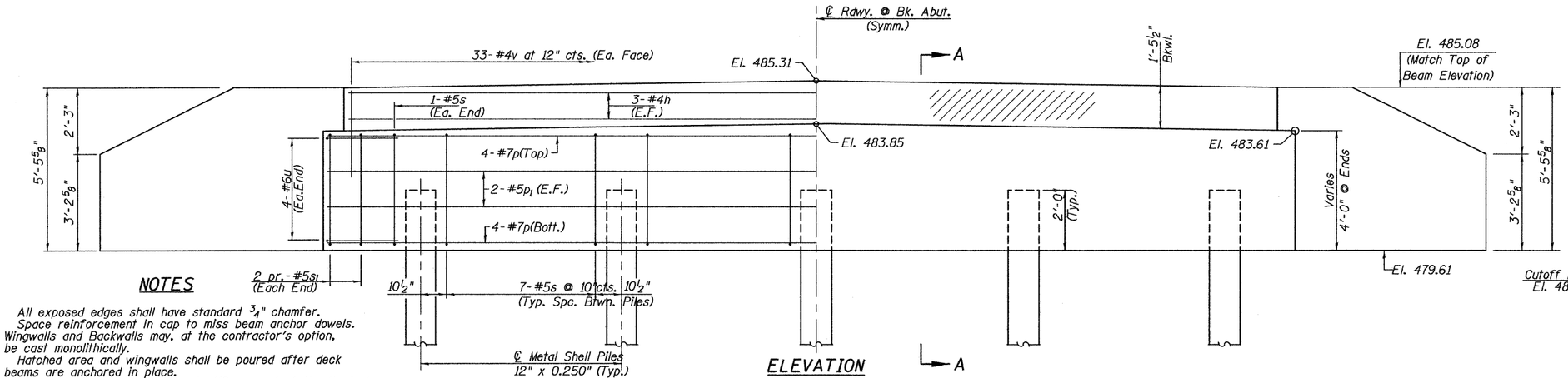
FILE NAME = ⊕FILE⊕	USER NAME = ⊕USER⊕	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = ⊕SCALE⊕	CHECKED -	REVISED -
	PLOT DATE = ⊕DATE⊕	DATE -	REVISED -

Allen Henderson & Associates, Inc.
Civil and Structural Engineers Springfield, IL.
62703 Phone: (217)544-8033 IL. Design Firm
No. 184-001907

RAILING

SCALE: NONE | SHEET NO. 11 OF 18 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
575	09-00074-00-BR	CASS	18	11
		CONTRACT NO. 93508		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



NOTES

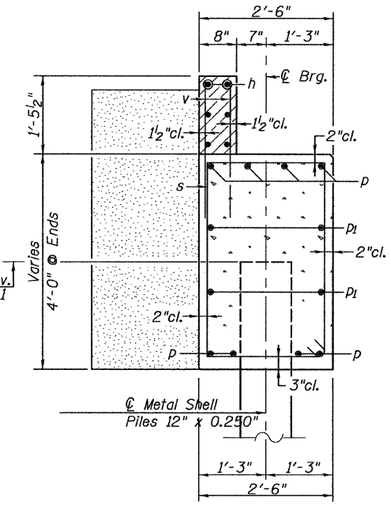
All exposed edges shall have standard $\frac{3}{4}$" chamfer.
Space reinforcement in cap to miss beam anchor dowels. Wingwalls and Backwalls may, at the contractor's option, be cast monolithically.
Hatched area and wingwalls shall be poured after deck beams are anchored in place.
The Test Pile shall be driven to 110 percent of the Nominal Required Bearing indicated in the pile data information.

Reinforcement

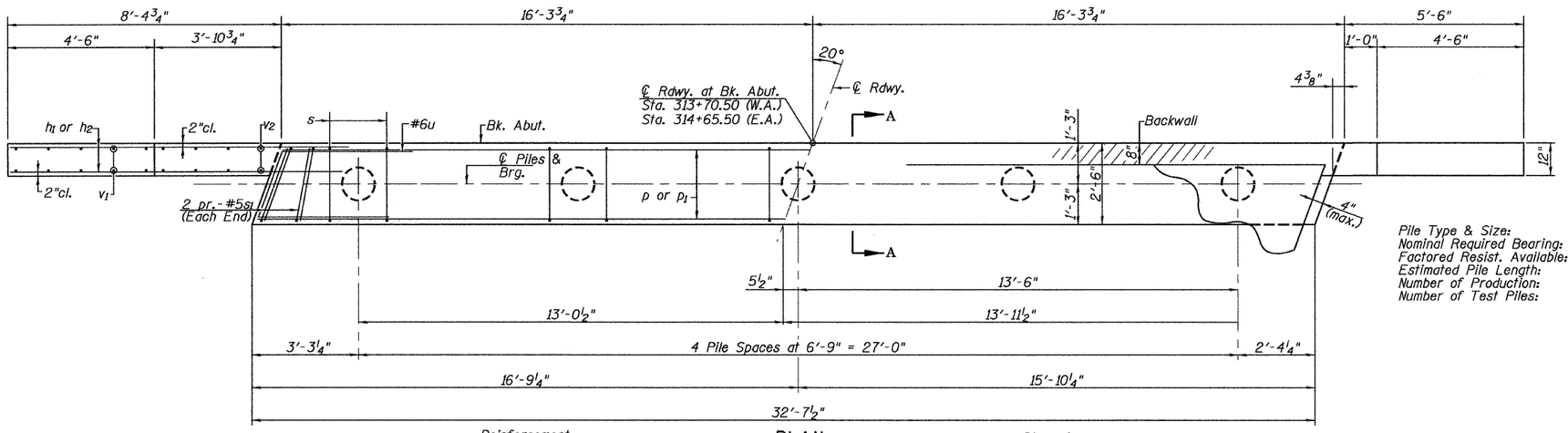
ELEVATION

(W. Abut. Looking West)
(E. Abut. Looking East)

Dimensions



SECTION A-A



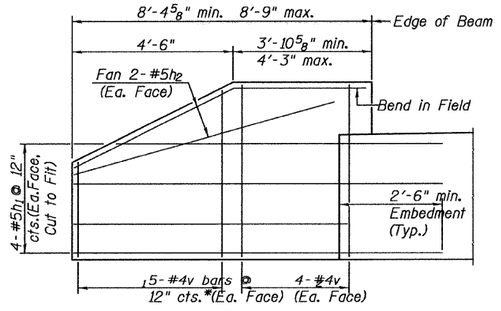
Reinforcement

PLAN

Dimensions

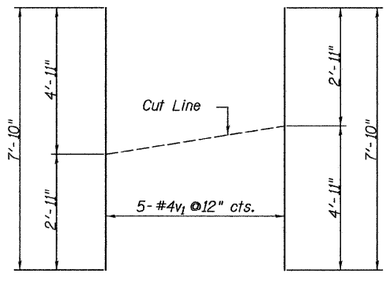
PILE DATA

	W. Abut.	E. Abut.
Pile Type & Size:	Metal Shell 12"x0.25"	Metal Shell 12"x0.25"
Nominal Required Bearing:	212 Kips	212 Kips
Factored Resist. Available:	106 Kips	106 Kips
Estimated Pile Length:	43'	50'
Number of Production:	4	4
Number of Test Piles:	1	1



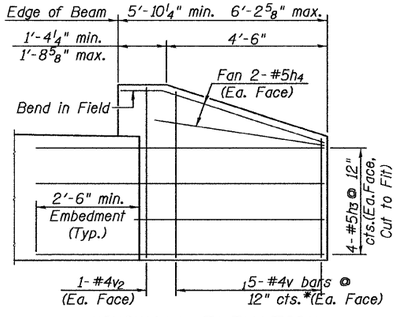
WINGWALL ELEVATION

(S.W. & N.E. Corners)
(Showing Reinforcement)
* See v -bar cut diagram



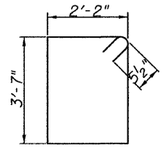
BAR CUT DIAGRAM

Order v_1 bars full length: Layout in field according to diagram. Cut v_1 bars along cut line. Use remainder of each bar in opposite face.

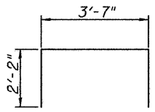


WINGWALL ELEVATION

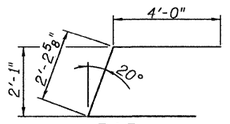
(N.W. & S.E. Corners)
(Showing Reinforcement)
* See v_1 -bar cut diagram



BAR s



BAR s1



BAR u

TWO ABUTMENTS BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
h	12	#4	34'-3"	——
h1	16	#5	10'-11"	——
h2	8	#5	8'-5"	——
h3	16	#5	8'-5"	——
h4	8	#5	5'-8"	——
p	16	#7	32'-3"	——
p1	8	#5	32'-3"	——
s	60	#5	12'-5"	⌐
s1	16	#5	7'-11"	⊓
u	16	#6	10'-3"	⌐
v	132	#4	2'-8"	——
v1	20	#4	7'-10"	——
v2	20	#4	5'-1"	——
Concrete Structures			Cu. Yd.	31.6
Reinforcement Bars			Pound	3605
Furnishing Metal Shell Pile 12" x 0.250"			Foot	372
Driving Piles			Foot	372
Test Pile Metal Shells			Each	2
Structure Excavation			Cu. Yd.	97

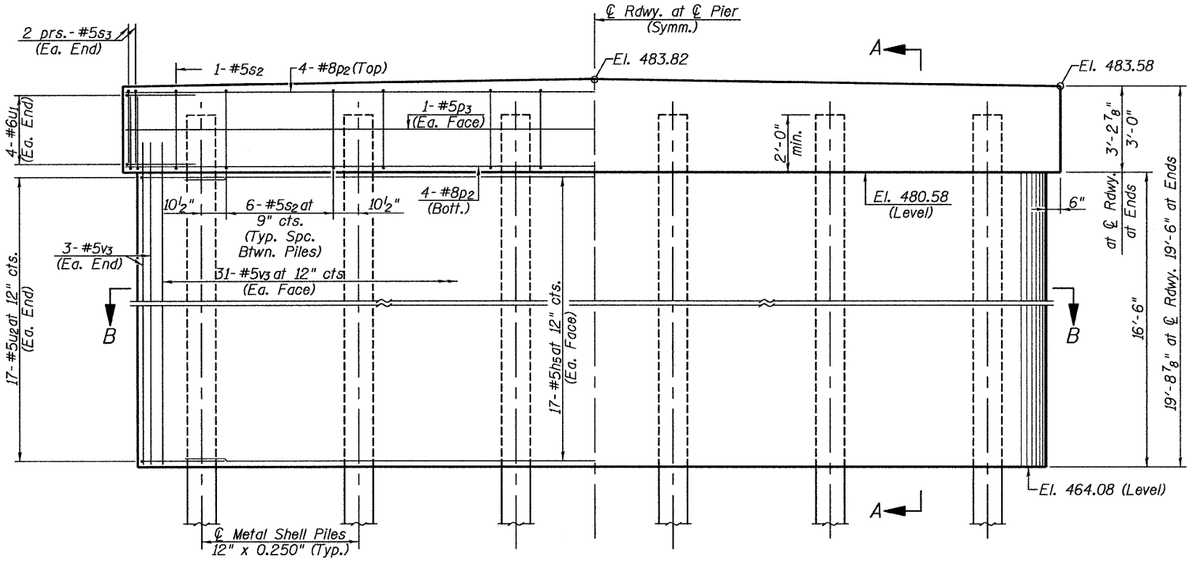
FILE NAME = $FILEL$	USER NAME = $USER$	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = $SCALE$	CHECKED -	REVISED -
	PLOT DATE = $DATE$	DATE -	REVISED -

Allen Henderson & Associates, Inc.
Civil and Structural Engineers Springfield, IL.
62703 Phone: (217)544-8033 IL. Design Firm
No. 184-001907

ABUTMENTS

SCALE: | SHEET NO. 12 OF 18 SHEETS

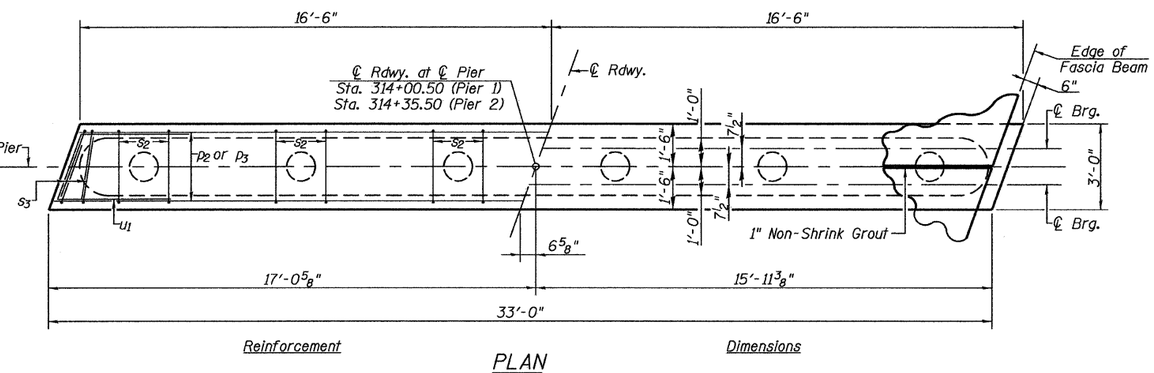
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
575	09-00074-00-BR	CASS	18	12
		CONTRACT NO. 93508		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



Reinforcement

ELEVATION

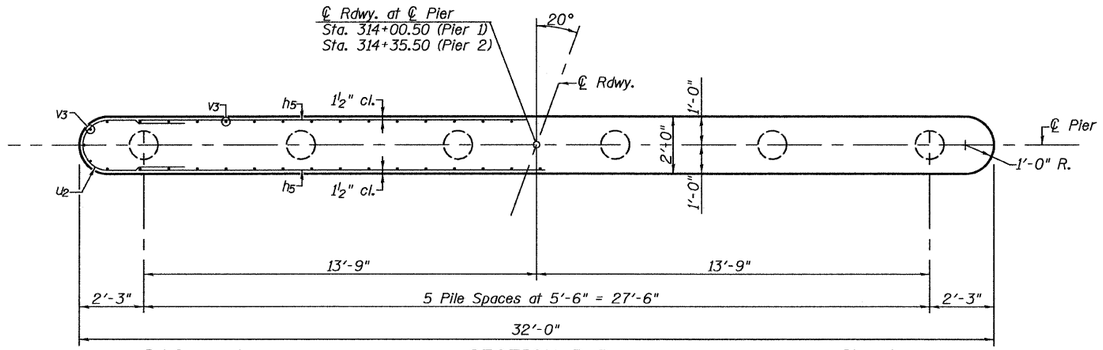
Dimensions



Reinforcement

PLAN

Dimensions



Reinforcement

SECTION B-B

Dimensions

PILE DATA

	Pier 1	Pier 2
Pile Type & Size:	Metal Shell 12"x0.25"	Metal Shell 12"x0.25"
Nominal Required Bearing:	302 Kips	302 Kips
Factored Resist. Available:	156 Kips	156 Kips
Estimated Pile Length:	49'	56'
Number of Production:	5	5
Number of Test Piles:	1	1

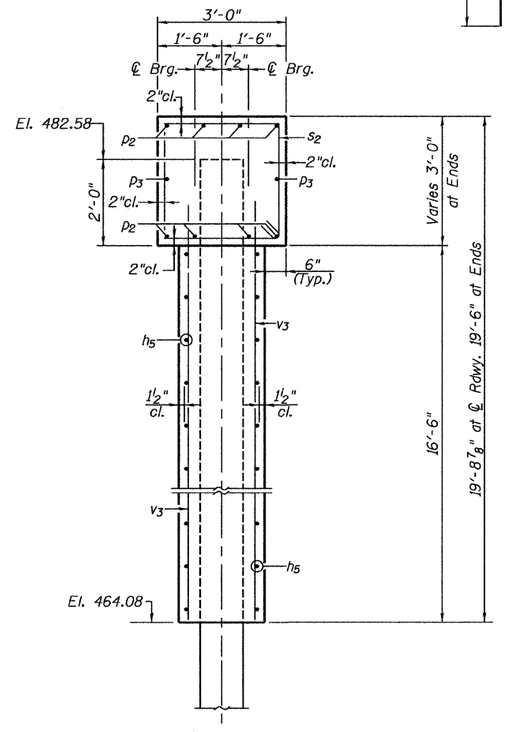
Notes:

The Test Pile shall be driven to 110 percent of the Nominal Required Bearing indicated in the pile data information.

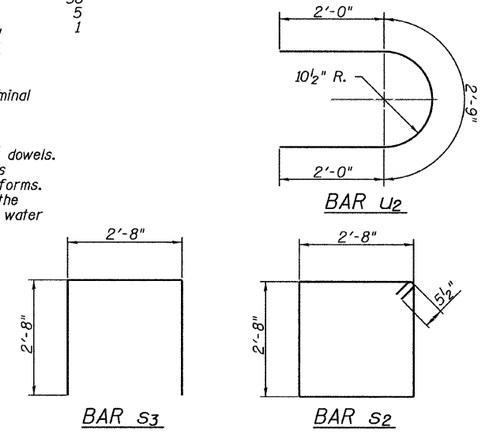
All exposed edges shall have standard ¾" chamfer except as noted.

Space reinforcement in pier caps to miss beam anchor dowels.

If a portion of the pier wall or concrete encasement is underwater, reinforcement may be placed underwater into forms. Concrete shall be tremled according to Article 503.08 of the Standard Specifications to an elevation of 1'-0" above the water line at the time of construction.



SECTION A-A



BILL OF MATERIAL
TWO PIERS

BAR	NO.	SIZE	LENGTH	SHAPE
h_5	68	#5	30'-0"	——
p_2	16	#8	32'-8"	——
p_3	4	#5	32'-8"	——
s_2	64	#5	11'-7"	⌐
s_3	16	#5	8'-0"	⊓
u_1	16	#6	10'-9"	⌐
u_2	68	#5	6'-9"	⊂
v_3	136	#5	18'-3"	——

Concrete Structures	Cu. Yd.	93.6
Reinforcement Bars	Pound	7895
Furnishing Metal Shell Piles 12" x 0.250"	Foot	525
Driving Piles	Foot	525
Test Pile Metal Shells	Each	2
Underwater Structure Excavation Protection - Location 1 (Pier 1)	Each	1
Underwater Structure Excavation Protection - Location 2 (Pier 2)	Each	1
Structure Excavation	Cu. Yd.	82

FILE NAME = $FILE1$

USER NAME = $USER$ | PLOT SCALE = $SCALE$ | PLOT DATE = $DATE$

DESIGNED - | DRAWN - | CHECKED - | DATE -

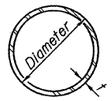
REVISED - | REVISED - | REVISED - | REVISED -

Allen Henderson & Associates, Inc.
Civil and Structural Engineers Springfield, IL.
62703 Phone: (217)544-8033 IL. Design Firm
No. 184-001907

PIERS

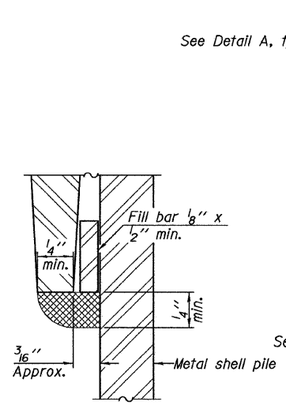
SCALE: | SHEET NO. 13 OF 18 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
575	09-00074-00-BR	CASS	18	13
		CONTRACT NO. 93508		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

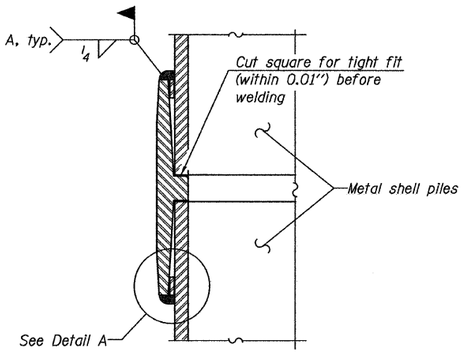


METAL SHELL PILE TABLE

Designation and outside diameter	Wall thickness t	Weight per foot (Lbs./ft.)	Inside volume (yd^3/ft.)
PP12	0.179"	22.60	0.0274
PP12	0.250"	31.37	0.0267
PP14	0.250"	36.71	0.0368
PP14	0.312"	45.61	0.0361

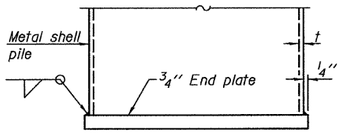


DETAIL A

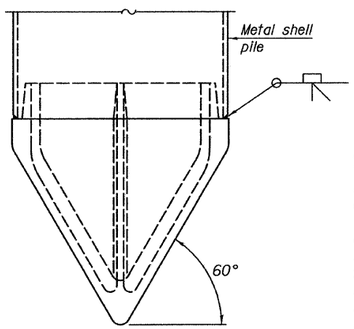


Notes:
The 1/8" x 1/2" min. fill bar may be constructed of 2 bars with a 1/8" max. gap between them.
Pile segments shall be driven to solid contact with splicer before welding.

WELDED COMMERCIAL SPLICE



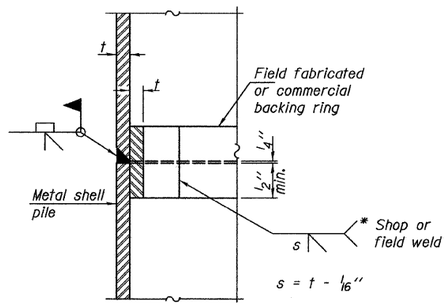
END PLATE ATTACHMENT



Note A:
When called for on the plans, the Contractor shall furnish metal shell pile shoes consisting of a single piece conical pile point as shown. The pile shoes shall be cast in one piece steel according to either ASTM A 148 Grade 90-60 or AASHTO M 103 Grade 65-35 and shall provide full bearing over the full circumference of the metal shell pile. The pile shoe shall have tapered leads to assure proper alignment and fitting and shall be secured to the pile with a circumferential weld.

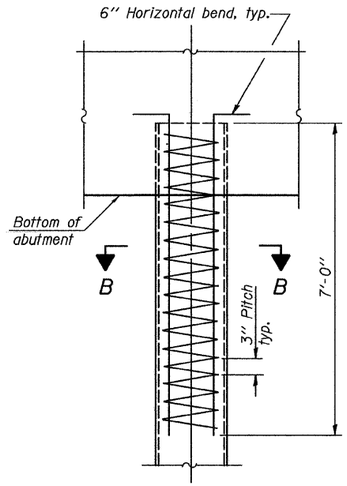
METAL SHELL PILE SHOE ATTACHMENT

(See Note A)

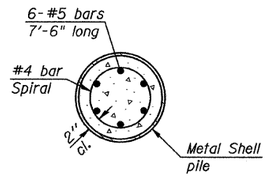


COMPLETE PENETRATION WELD SPLICE

* Field fabricated backing ring may be made from pile shell by removing segment to allow reducing circumference and vertically rejoin with partial joint penetration weld.



ELEVATION



SECTION B-B

METAL SHELL REINFORCEMENT AT ABUTMENTS

Note: The metal shell piles shall be according to ASTM A 252 Grade 3.

FILE NAME = ⊕FILEL⊕	USER NAME = ⊕USER⊕	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = ⊕SCALE⊕	CHECKED -	REVISED -
	PLOT DATE = ⊕DATE⊕	DATE -	REVISED -

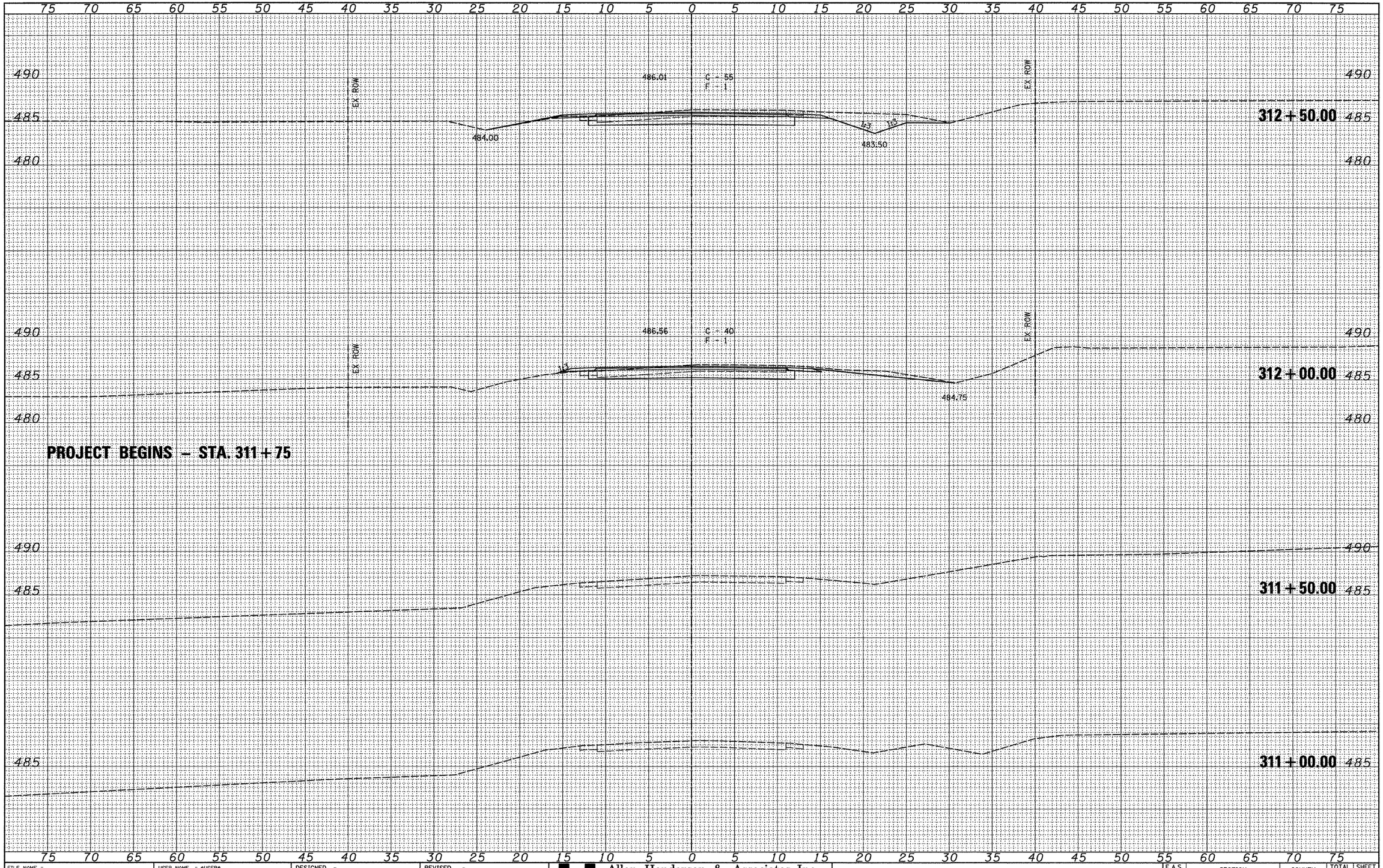
Allen Henderson & Associates, Inc.
Civil and Structural Engineers Springfield, IL.
62703 Phone: (217)544-8033 IL. Design Firm
No. 184-001907

METAL SHELL PILE DETAILS

SCALE: | SHEET NO. 14 OF 18 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
575	09-00074-00-BR	CASS	18	14
		CONTRACT NO. 93508		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

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



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

FILE NAME =	USER NAME = $USER$	DESIGNED -	REVISED -
$FILEL$		DRAWN -	REVISED -
	PLOT SCALE = $SCALE$	CHECKED -	REVISED -
	PLOT DATE = $DATE$	DATE -	REVISED -

Allen Henderson & Associates, Inc.
Civil and Structural Engineers Springfield, IL.
62703 Phone: (217)544-8033 IL. Design Firm
No. 184-001907

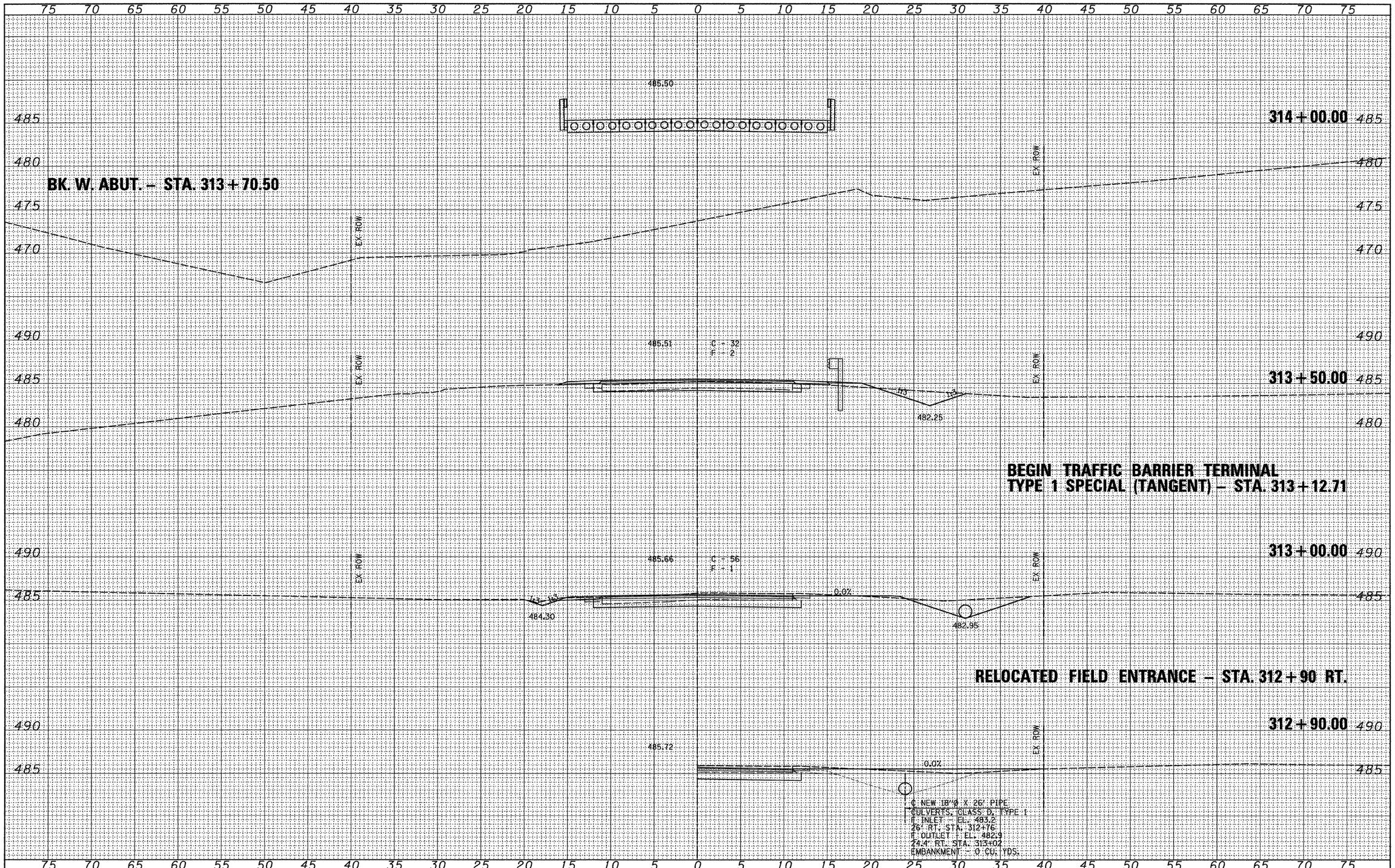
CROSS SECTIONS

SCALE: 1" = 5' | SHEET NO. 15 OF 18 SHEETS | STA. 311+00.00 TO STA. 312+50.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
575	09-00074-00-BR	CASS	18	15
		CONTRACT NO. 93508		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

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

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



FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE =	CHECKED -	REVISED -
	PLOT DATE =	DATE -	REVISED -

Allen Henderson & Associates, Inc.
Civil and Structural Engineers Springfield, IL.
62703 Phone: (217)544-8033 IL. Design Firm
No. 184-001907

CROSS SECTIONS

SCALE: 1" = 5' | SHEET NO. 16 OF 18 SHEETS | STA. 312+90.00 TO STA. 314+00.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
575	09-00074-00-BR	CASS	18	16
		CONTRACT NO. 93508		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

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

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

END TRAFFIC BARRIER TERMINAL
TYPE 1 SPECIAL (TANGENT) – STA. 315 + 23.25

485.41 C - 28 F - 11

1:3 1:3 EX. ROW EX. ROW

315 + 50.00

485.49 C - 18 F - 10

1:3 1:3 EX. ROW EX. ROW

315 + 00.00

BK. E. ABUT. – STA. 314 + 65.50

485.50 485.50 EX. ROW EX. ROW

314 + 50.00

485 480 475 470

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

FILE NAME = $FILE1$	USER NAME = $USER$	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = $SCALE$	CHECKED -	REVISED -
	PLOT DATE = $DATE$	DATE -	REVISED -

Allen Henderson & Associates, Inc.
Civil and Structural Engineers Springfield, IL.
62703 Phone: (217)544-8033 IL. Design Firm
No. 184-001907

CROSS SECTIONS

SCALE: 1" = 5' | SHEET NO. 17 OF 18 SHEETS | STA. 314+50.00 TO STA. 315+45.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
575	09-00074-00-BR	CASS	18	17
		CONTRACT NO. 93508		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

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

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

485
480

317 + 00.00 485 480

485
480

316 + 50.00 485 480

PROJECT ENDS – STA. 316 + 20

485.27

C - 28
F - 3

485
480

EX ROW
1:3
1:3
EX ROW

316 + 00.00 485 480 475

RELOCATED FIELD ENTRANCE – STA. 315 + 60

485.42

485
480

EX ROW
1:3

315 + 60.00 485 480

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

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

FILE NAME = $FILEL$	USER NAME = $USER$	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = $SCALE$	CHECKED -	REVISED -
	PLOT DATE = $DATE$	DATE -	REVISED -

Allen Henderson & Associates, Inc.
Civil and Structural Engineers Springfield, IL.
62703 Phone: (217)544-8033 IL. Design Firm
No. 184-001907

CROSS SECTIONS

SCALE: 1" = 5' | SHEET NO. 18 OF 18 SHEETS | STA. 315+50.00 TO STA. 317+00.00

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
575	09-00074-00-BR	CASS	18	18
		CONTRACT NO. 93508		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		