

04-26-2024 LETTING ITEM 175

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROPOSED
HIGHWAY PLANS

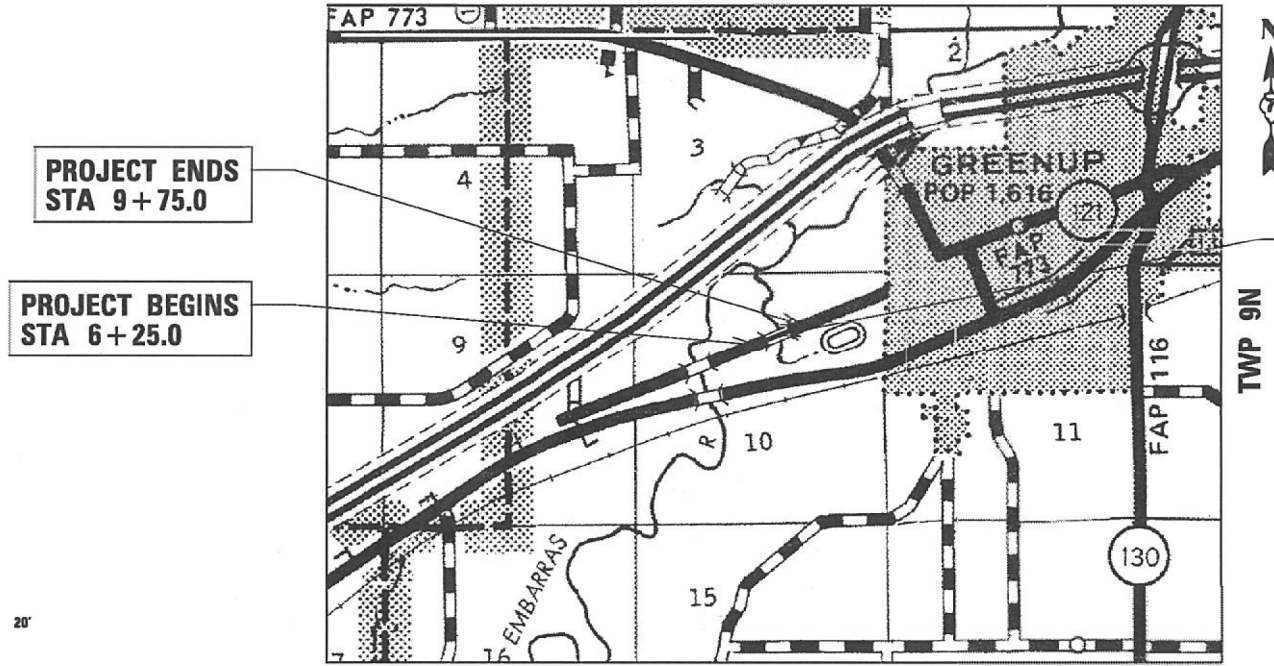
FAS 657
SECTION 10-00075-00-BR PROJECT
XXRX(514)
LBFP FUNDS
CUMBERLAND COUNTY

C-97-042-14
RANGE 9E

INDEX OF SHEETS

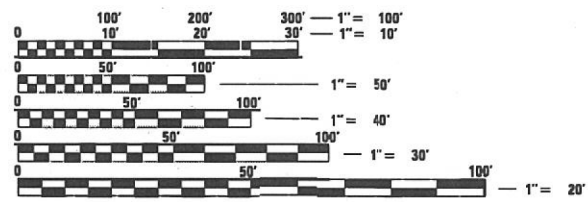
- 1 COVER SHEET
- 2 GENERAL NOTES / DETAILS
- 3 SUMMARY OF QUANTITIES /SCHEDULES
- 4 PLAN AND PROFILE
- 5-14 BRIDGE PLANS
- 15-18 CROSS SECTIONS

F.A.S. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
657	10-00075-00-BR	CUMBERLAND	19	1
		ILLINOIS	CONTRACT NO 95934	



PROPOSED STRUCTURE
REPLACEMENT OVER
EMBARRAS RIVER
OVERFLOW
DISTRICT 7
SEC 10-00075-00-BR
STATION 8+00.00
SN: 018-3203

LOCATION MAP
N.T.S.



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123
OR 811

LENGTH = 350.0 FT. = 0.066 MILE
ADT = 500
FUNCTIONAL CLASSIFICATION = COLLECTOR (NON-URBAN)
DESIGN SPEED = 30 MPH



THIS DOCUMENT IS THE PROPERTY OF ESI CONSULTANTS, LTD. AND NO PART HEREIN SHALL BE USED EXCEPT FOR THIS SPECIFIC PROJECT WITHOUT THE WRITTEN CONSENT OF ESI CONSULTANTS, LTD.

CUMBERLAND COUNTY
HIGHWAY DEPARTMENT

APPROVED *Richard Murray* 2/26/2024
COUNTY ENGINEER

PASSED *Brett Walker* 02/27/24
DISTRICT SEVEN ENGINEER OF LOCAL ROADS & STREETS

RELEASING FOR BID BASED ON LIMITED REVIEW *Jeffrey Meyer* 02/27/24
REGION FOUR ENGINEER

ENGINEER'S CERTIFICATION

I, Gary Mraz, A LICENSED PROFESSIONAL ENGINEER OF ILLINOIS, HEREBY CERTIFY THAT THIS SUBMISSION WAS PREPARED ON BEHALF OF CUMBERLAND COUNTY, BY ESI CONSULTANTS, LTD. UNDER MY PERSONAL DIRECTION. THIS TECHNICAL SUBMISSION IS INTENDED TO BE USED AS AN INTEGRAL PART OF AND IN CONJUNCTION WITH THE PROJECT SPECIFICATIONS AND CONTRACT DOCUMENTS.

DATED THIS 6 DAY OF JUNE, A.D., 2023.



Gary Mraz
ENGINEER
ILLINOIS REG. PROFESSIONAL ENGINEER NO. 62-052396 EXPIRATION DATE 11-30-2025

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

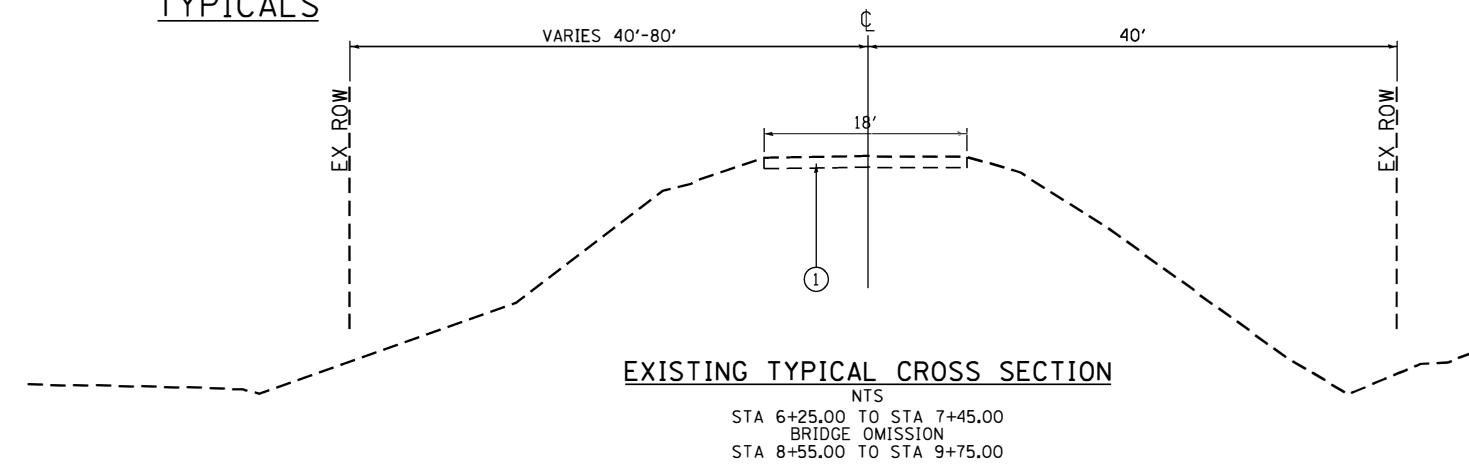
DATE: 06-07-2023
CONTRACT NO. 95934

PRINTED DATE: 06/07/2023
FILE NAME: 0175.DWG

GENERAL NOTES

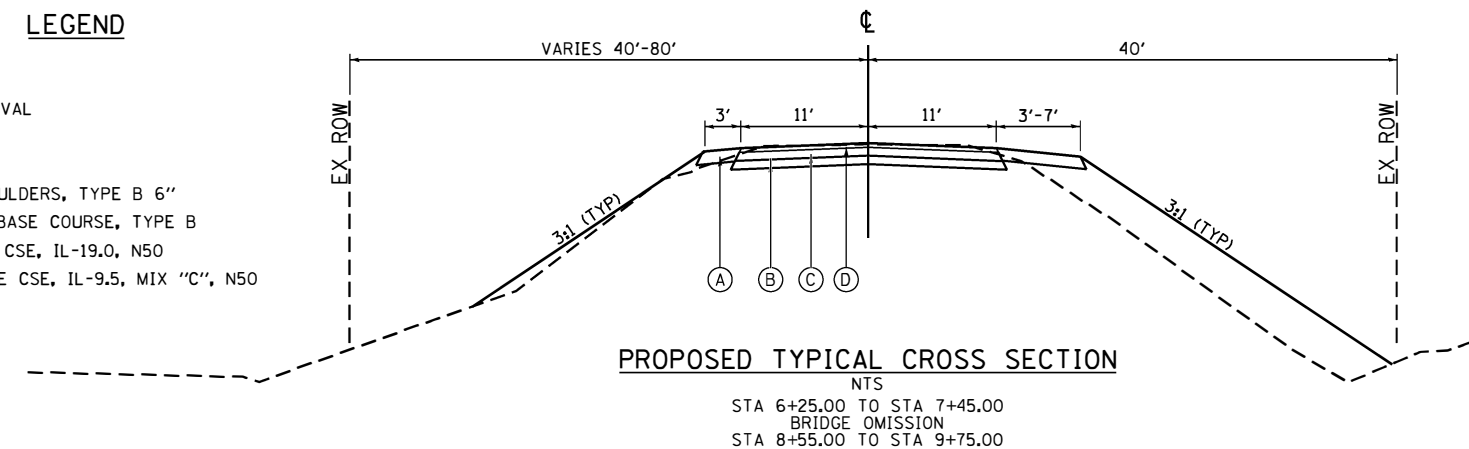
- ALL ELEVATIONS SHOWN ON THE PLANS ARE ESTABLISHED FROM U.S.G.S. MEAN SEA LEVEL DATUM.
 - THE CONTRACTOR SHALL COORDINATE ACTIVITIES WITH ALL UTILITIES WITHIN THE PROJECT LIMITS. THE LOCATIONS OF EXISTING UTILITIES AS SHOWN ON THE PLANS ARE BASED ON CAREFUL FIELD INVESTIGATION AND THE BEST INFORMATION AVAILABLE, BUT ARE NOT GUARANTEED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THEIR EXACT LOCATIONS FROM THE UTILITY COMPANIES AND BY FIELD INSPECTION. THE CONTRACTOR IS REQUIRED TO CONTACT J.U.L.I.E. AT, 1-800-892-0123, PRIOR TO PROCEEDING WITH ANY EXCAVATION AND WORK ON THE PROJECT.
 - DURING CONSTRUCTION THE CONTRACTOR MAY ENCOUNTER VARIOUS TYPES OF UNDERGROUND UTILITIES THAT MAY NOT BE SHOWN ON THE PLANS. THE CONTRACTOR SHALL COOPERATE WITH THE ENGINEER AND THE OWNER OF THE UTILITY WHILE THE UTILITY COMPANY ADJUST THEIR FACILITIES IF NECESSARY. IF IT IS DETERMINED THAT THE UTILITY HAS BEEN ABANDONED, THE CONTRACTOR SHALL BE DIRECTED TO REMOVE THE UTILITY LINES THAT CONFLICT WITH HIS WORK AND CAP OR PLUG THE LINES AS DIRECTED BY THE ENGINEER. THIS WORK SHALL NOT BE PAID FOR SEPARATELY AND SHALL BE CONSIDERED AS INCLUDED IN THE CONTRACT.
 - CONTRACTOR SHALL CAREFULLY PROTECT ANY TREES OR SHRUBS NOT INCLUDED IN THE CONTRACT FOR REMOVAL. SNOW FENCE SHALL BE ERECTED TWO FEET FROM TREES AND SHRUBS TO REMAIN, THAT ARE IMMEDIATELY ADJACENT TO THE WORK, FOR PROTECTION DURING CLEARING AND CONSTRUCTION OPERATIONS. COST OF THIS WORK SHALL BE CONSIDERED AS INCLUDED IN THE CONTRACT UNIT PRICE OF TREE REMOVAL.
 - ALL REMOVAL LIMITS SHALL BE SAW CUT. COST INCLUDED WITH PAVEMENT REMOVAL.
 - GRADING SHALL BE DONE BY HAND AROUND LIGHT POLES, UTILITY POLES, SIGN POSTS, SHRUBS, TREES AND OTHER NATURAL OR MAN-MADE OBJECTS WHERE SHALLOW FILLS OR CUTS ARE ADJACENT TO THESE ITEMS. IT IS THE INTENT THAT ITEMS THAT DO NOT NEED TO BE DISTURBED BY THE CONSTRUCTION SHALL BE PRESERVED. THE DECISION AS TO ITEMS TO REMAIN IN PLACE SHALL BE AS DIRECTED BY THE ENGINEER. THIS WORK WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE CONSIDERED INCLUDED IN THE CONTRACT UNIT PRICE FOR THE VARIOUS PAY ITEMS AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED.
 - FOR THE PAY ITEM BITUMINOUS MATERIALS (PRIME COAT), THE CONTRACTOR SHALL USE EITHER SS-1H, OR SS-1HP APPLIED AT THE RATE DIRECTED BY THE ENGINEER.
 - MATERIAL USED FOR AGGREGATE SURFACE, TYPE B SHALL BE CRUSHED STONE, CRUSHED CONCRETE.
- 1004.01 COARSE AGGREGATE GRADATION CA-10 MAY BE USED WHENEVER COARSE AGGREGATE CA-6 IS SPECIFIED IN THE STANDARD SPECIFICATIONS.

TYPICALS



LEGEND

- EXISTING**
- (I) PAVEMENT REMOVAL
- PROPOSED**
- (A) AGGREGATE SHOULDERS, TYPE B 6"
 - (B) 4" AGGREGATE BASE COURSE, TYPE B
 - (C) 4" HMA BINDER CSE, IL-19.0, N50
 - (D) 2" HMA SURFACE CSE, IL-9.5, MIX "C", N50



APPLICATION RATES

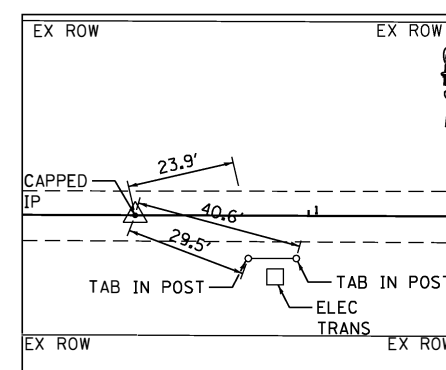
THE FOLLOWING RATES OF APPLICATION HAVE BEEN USED IN CALCULATING PLAN QUANTITIES...

AGGREGATE SURFACE COURSE, TYPE B	- 1.8 TON/CU YD
MULCH METHOD	- 2.0 TON/ACRE
NITROGEN FERTILIZER NUTRIENT	- 90 LB/ACRE
PHOSPHORUS FERTILIZER NUTRIENT	- 90 LB/ACRE
POTASSIUM FERTILIZER NUTRIENT	- 90 LB/ACRE
TEMPORARY SEEDING	- 100 LB/ACRE (2 APPLICATIONS)

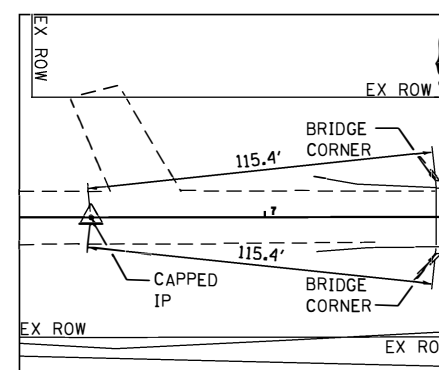
LIST OF ILLINOIS DOT HIGHWAY STANDARDS

STANDARD NO.	DESCRIPTION
000001-08	STANDARD SYMBOLS, ABBREVIATIONS & PATTERNS
001001-02	AREAS OF REINFORCEMENT BARS
001006	DECIMAL OF INCH AND FOOT
280001-07	TEMPORARY EROSION CONTROL SYSTEMS
420406	PAVEMENT CONNECTOR (HMA) FOR BRIDGE APPROACH SLAB
515001-04	NAME PLATE FOR BRIDGES
630301-09	SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
631011-10	TRAFFIC BARRIER TERMINAL, TYPE 2
631032-10	TRAFFIC BARRIER TERMINAL, TYPE 6A
701901-09	TRAFFIC CONTROL DEVICES
725001-01	OBJECT AND TERMINAL MARKERS
782006-01	GUARDRAIL AND BARRIER WALL REFLECTOR MOUNTING DETAILS
BLR 21-9	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS

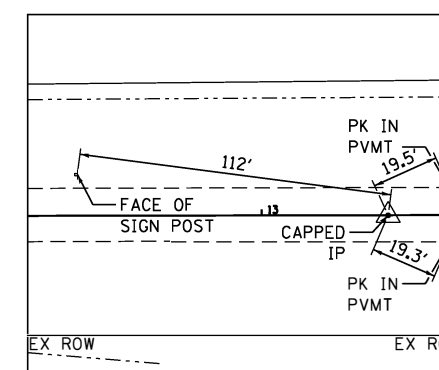
ALIGNMENT AND TIES



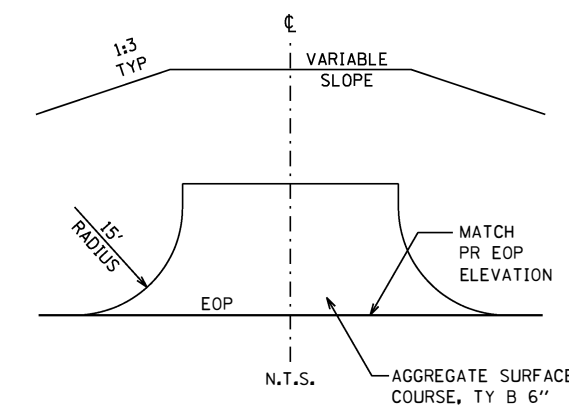
SET 5/8" IRON PIN & CAP
N: 937054.6860
E: 1026557.7990
STA 0+42.18
0.0'



SET 5/8" IRON PIN
N: 937283.9826
E: 1027112.2565
STA 6+42.18
0.0'



SET 5/8" IRON PIN
N: 937554.8370
E: 1027757.7010
STA 13+42.15
0.0'



TYPICAL ENTRANCE DETAIL

PRINTED DATE: \$DATE\$
FILE NAME: \$FILE\$



USER NAME = \$USER\$	DESIGNED - JEH	REVISED -
PLOT SCALE = \$SCALE\$	DRAWN - JEH	REVISED -
PLOT DATE = \$DATE\$	CHECKED - SAL	REVISED -
	DATE - 04-08-2016	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

GENERAL NOTES /DETAILS

SHEET NO 1 OF 1 SHEETS

F.A.S. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
657	10-00075-00-BR	CUMBERLAND	18	2
CONTRACT NO. 95934				
ILLINOIS FEDERAL AID PROJECT				

SUMMARY OF QUANTITIES

CODE NO.	ITEM	UNIT	TOTAL QUANTITY
20200100	EARTH EXCAVATION	CU YD	185
20300100	CHANNEL EXCAVATION	CU YD	279
20400800	FURNISHED EXCAVATION	CU YD	45
25000200	SEEDING, CLASS 2	ACRE	0.15
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	20
25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	20
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	20
25100115	MULCH, METHOD 2	ACRE	0.15
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	15
28000400	PERIMETER EROSION BARRIER	FOOT	602
28100107	STONE RIPRAP, CLASS A4	SQ YD	481
28200200	FILTER FABRIC	SQ YD	481
35101600	AGGREGATE BASE COURSE, TYPE B 4"	SQ YD	52
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	195
40600275	BITUMINOUS MATERIALS (PRIME COAT)	POUND	94
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	40
40603080	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50	TON	76
40604050	HOT-MIX ASPHALT SURFACE COURSE, IL-9.5, MIX "C", N50	TON	42
42000070	PAVEMENT CONNECTOR (HMA) FOR BRIDGE APPROACH SLAB	SQ YD	50.3
44000100	PAVEMENT REMOVAL	SQ YD	480
48101500	AGGREGATE SHOULDERS, TYPE B 6"	SQ YD	165
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50200100	STRUCTURE EXCAVATION	CU YD	185
50300225	CONCRETE STRUCTURES	CU YD	44.0
50300280	CONCRETE ENCASEMENT	CU YD	3.5
50301350	CONCRETE SUPERSTRUCTURE (APPROACH SLAB)	CU YD	71.6
50400705	PRECAST PRESTRESSED CONCRETE DECK BEAMS (42" DEPTH)	SQ FT	2272
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	32780
* 50901050	STEEL RAILING, TYPE SM	FOOT	266
51201800	FURNISHING STEEL PILES HP14X73	FOOT	184
51202305	DRIVING PILES	FOOT	184
51203800	TEST PILE STEEL HP14X73	EACH	2
51500100	NAME PLATES	EACH	1
59300100	CONTROLLED LOW-STRENGTH MATERIAL	CU YD	49.0
* 63100045	TRAFFIC BARRIER TERMINAL, TYPE 2	EACH	2
* 63100087	TRAFFIC BARRIER TERMINAL, TYPE 6A	EACH	4
* 63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	2
63200310	GUARDRAIL REMOVAL	FOOT	163
67100100	MOBILIZATION	L SUM	1
* 72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	4
X7011800	TRAFFIC CONTROL AND PROTECTION, STANDARD BLR 21	L SUM	1
Z0013798	CONSTRUCTION LAYOUT	L SUM	1

*SPECIALTY ITEM

EARTHWORK SCHEDULE

STATION	CUT		FILL		TOTAL CU YD
	SQ FT	CU YD	SQ FT	CU YD	
6+25	18.3		0.0		
6+59	37.2		0.2		35.5
6+75	21.9		0.2		17.2
7+00		21.3		0.3	21.6
7+25	14.9		8.0		21.9
7+45	11.4		9.8		24.3
7+52	9.5		2.6		18.5
7+52	9.5		97.1		
BRIDGE OMISSION					
8+48	7.3		67.2		
8+48		2.0		14.0	16.0
8+55	8.8		46.2		
8+75	12.9		8.0		33.9
8+75		12.9	45.4		41.9
9+00	19.5		15.0		29.6
9+00		19.5	18.5		44.6
9+25	17.4		17.1		18.7
9+25		17.4	21.9		35.8
9+50	18.3		16.5		21.9
9+50		18.3	35.2		26.4
9+75		20.7		16.4	43.0
9+75	26.5		0.3		37.2
TOTAL CUT					
EARTH EXCAVATION		TOTAL FILL		TOTAL EARTHWORK	
20200100		20200100		20200100	
185 CU YD		175 CU YD		360 CU YD	
FURNISHED EXCAVATION =					
20400800		45 CU YD			

** FURNISHED EXCAVATION INCLUDES 25% SHRINKAGE AND 5% WASTE OF EARTH EXCAVATION.

CONCRETE SUPERSTRUCTURE (APPROACH SLAB)

50301350		APPROACH SLAB	
Station	To	Station	CU YD
7+21.68		7+51.68	35.8
BRIDGE OMISSION			
8+48.33		8+78.33	35.8
TOTAL			
		71.6	

AGGREGATE SURFACE

40200800		SURFACE AREA (SQ FT)	AGG SURF CSE, TY B TON
STATION	TO		
6+59.40		651	195
TOTAL :			
		195	

AGGREGATE SHOULDER

48101500		SURFACE AREA (SQ FT)	AGG SHLD TY B, 6" (SQ YD)		
STATION	TO				
6+25.00	-	7+51.70	RT	454	50.4
6+25.00	-	6+35.08	LT	22	2.4
6+71.20	-	7+51.70	LT	203	22.5
8+48.30		9+75.00	RT	350	38.9
8+48.30	-	9+75.00	LT	452	50.2
TOTAL :					
		165			

SEEDING

25000200		AREA (SQ FT)	SEEDING CL 2A (ACRE)		
STATION	TO				
6+25	-	6+40	LT	143	0.01
6+71	-	7+53	LT	444	0.01
6+25	-	7+53	RT	986	0.02
BRIDGE OMISSION					
8+47		9+75	LT	2679	0.06
8+47	-	9+75	RT	2368	0.05
TOTAL :					
		0.15			

AGGREGATE BASE CSE

35101600		AGG BASE CSE TYPE B 4"	
Station	To	Station	SQ YD
6+25.00		7+21.70	26
BRIDGE OMISSION			
8+78.30		9+75.00	26
TOTAL			
		52	

GUARDRAIL REMOVAL

63200310		STATION	SIDE	GUARDRAIL REMOVAL (FOOT)
TO	STATION			
7+16.48	-	7+57.07	LT	41
7+17.23	-	7+56.92	RT	40
8+43.18	-	8+83.82	LT	41
8+43.14	-	8+83.42	RT	41
TOTAL :				
		163		

HMA PAVING

40600275		HOT MIX ASPHALT SURFACE	HOT MIX ASPHALT BINDER	PRIME ON ASPHALT	
STATION	TO				
6+25.00		7+21.70	21	38	47
BRIDGE OMISSION					
8+78.30		9+75.00	21	38	47
TOTAL					
		42 76 94			

PERIMETER EROSION BARRIER

28000400		STATION	SIDE	PERIMETER ERO BAR (FOOT)
TO	STATION			
6+25.00	-	7+51.70	RT	151.0
6+71.20	-	7+51.70	LT	152.0
BRIDGE OMISSION				
8+48.30		9+75.00	RT	155.0
8+48.30	-	9+75.00	LT	144.0
TOTAL :				
		602		

HOT-MIX ASPHALT

LOCATION:	SBI 11A	SBI 11A
MIXTURE USE	BINDER	SURFACE
AC/PG	PG 64-22	PG 64-22
DESIGN AIR VOIDS	4.0% @ Ndes= 50	4.0% @ Ndes= 50
MIX COMP(GRADATION)	IL-19.0	IL-9.5
FRICTION AGGREGATE	MIX C	MIX C
MIXTURE WEIGHT	112	112
QUALITY MGMT PROGRAM	QC/OA	QC/OA
SUBLOT SIZE	N/A	N/A

PRINTED DATE: 2/22/2024
FILE NAME: 03_EPL_SDD.gpr



USER NAME : Personal
PLOT SCALE : 2.0000 ' / in.
PLOT DATE : 2/22/2024

DESIGNED - JEH
DRAWN - JEH
CHECKED - SAL
DATE - 04-08-2016

REVISED -
REVISED -
REVISED -
REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

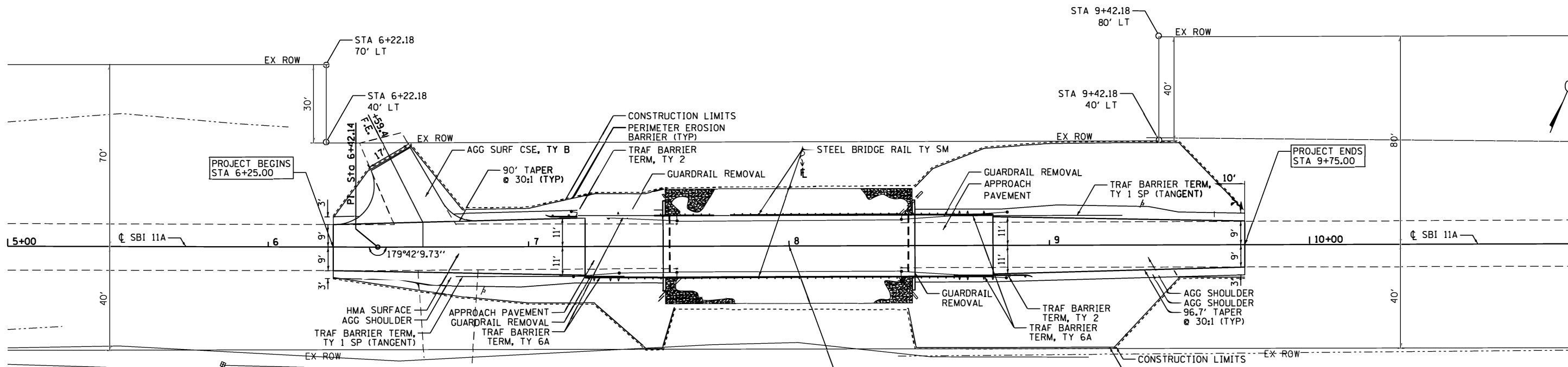
SUMMARY OF QUANTITIES /
SCHEDULE OF QUANTITIES

SHEET NO 1 OF 1 SHEETS

F.A.S. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
657	10-00075-00-BR	CUMBERLAND	19	3
CONTRACT NO. 95934				
ILLINOIS FEDERAL AID PROJECT				

PLAN	SURVEYED	DATE
	PLOTTED	BY
	ALIGNED	
	CHECKED	
	FILED	
	NO.	

PROFILE	SURVEYED	DATE
	PLOTTED	BY
	GRADES	
	CHECKED	
	STRUCTURE	
	NOTATIONS	
	NO.	



EROSION CONTROL NOTES

PRIOR TO REMOVAL OF THE EXISTING BRIDGE, SEDIMENT TRAPS AND/OR TURBIDITY CURTAINS SHALL BE PLACED TO PREVENT DEBRIS FROM ENTERING THE OVERFLOW, COST INCLUDED IN THE CONTRACT.

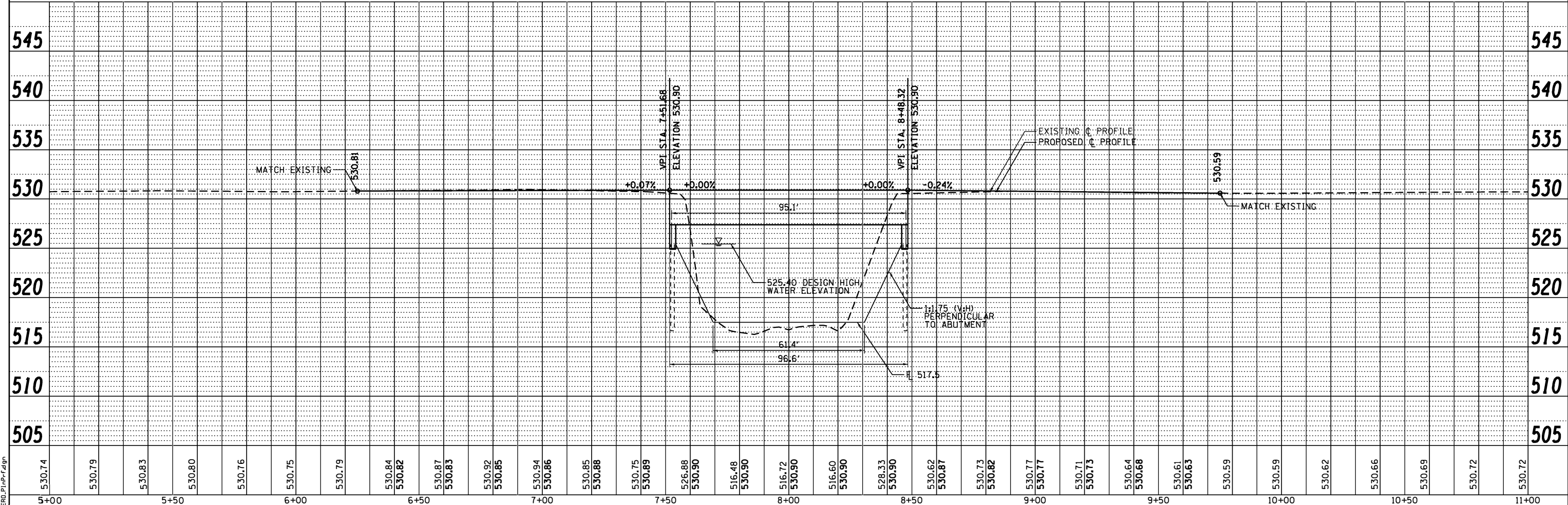
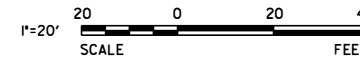
WHILE COMPLETING THE WORK, THE APPLICANT SHALL ENSURE THAT NO CONSTRUCTION DEBRIS IS PLACED WITHIN THE OVERFLOW.

EXCAVATED SOIL AND OTHER TEMPORARY CONSTRUCTION MATERIALS SHALL BE STOCKPILED OUTSIDE OF THE DITCH CHANNEL AND OUTSIDE THE TOP OF THE BANKS. REMOVE ANY UNSUITABLE SOILS FROM SITE. WORK WITHIN THE OVERFLOW SHOULD BE MINIMIZED TO JUST THE TASKS NECESSARY FOR COMPLETION OF THIS PROJECT.

ON AREAS WHERE CONSTRUCTION ACTIVITY HAS TEMPORARILY CEASED AND WILL RESUME AFTER 7 DAYS, A TEMPORARY STABILIZATION METHOD SUCH AS TEMPORARY SEEDING SHOULD BE USED.

EXISTING SN 018-0021
SINGLE SPAN STRUCTURE
STA 8+00.00

PROPOSED SN 018-3203
SINGLE SPAN STRUCTURE
STA 8+00.00



PRINTED DATE: 2/22/2024
FILE NAME: BR_EROF_PlanPrf.dgn



USER NAME = Personal	DESIGNED - JEH	REVISED -
	DRAWN - JEH	REVISED -
PLOT SCALE = 48.0000' / in.	CHECKED - SAL	REVISED -
PLOT DATE = 2/22/2024	DATE - 04-08-2016	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**EMBARRAS RIVER OVERFLOW
PLAN & PROFILE**

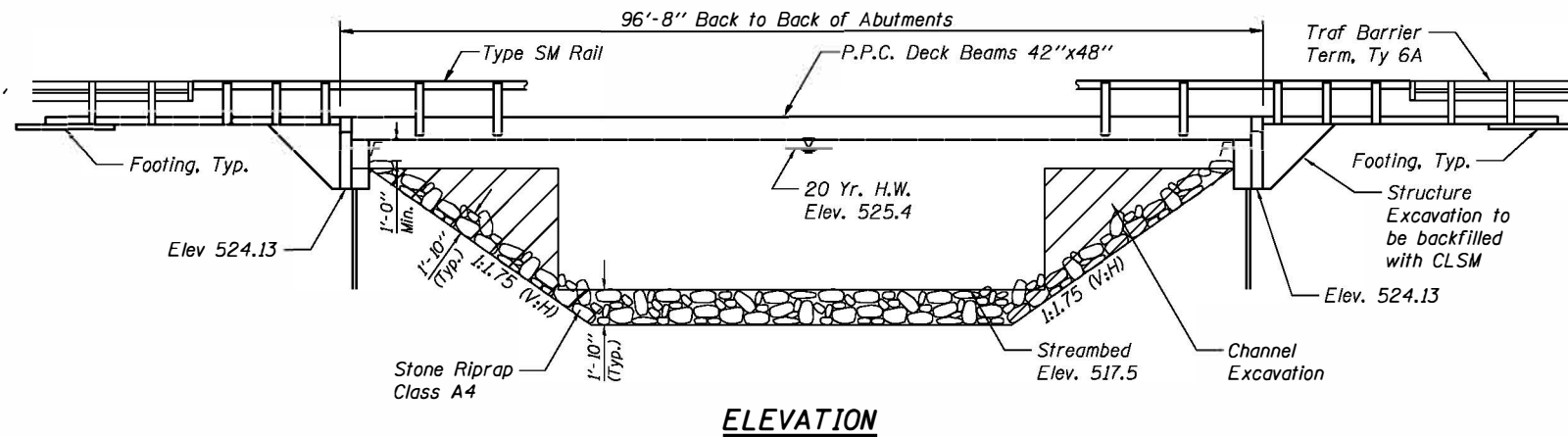
SCALE: 1"=20' SHEET NO 1 OF 1 SHEETS STA 6+25.0 TO STA 9+75.0

F.A.S. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
657	10-00075-00-BR	CUMBERLAND	19	4
				CONTRACT NO. 95934
ILLINOIS FEDERAL AID PROJECT				

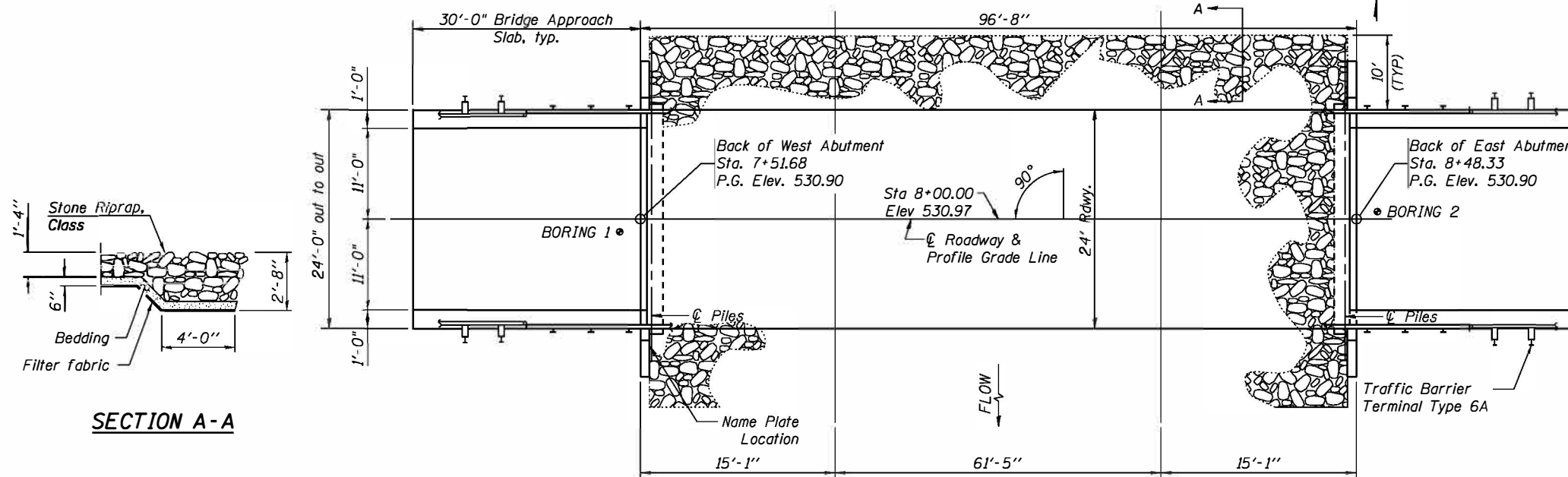
B.M. #1 : Sta. 0+42, C, IP with Cap, Elev. 530.28
 B.M. #2 : Sta. 6+42, C, IP with Cap, Elev. 530.85
 B.M. #3 : Sta. 8+43, 13.4' Rt., Chiseled L on Wing Wall, Elev. 530.48
 B.M. #4 : Sta. 13+42, C, IP with Cap, Elev. 530.46

Existing Structure: Structure 018-0021 consists of a two span concrete deck beam bridge on closed wood abutments. The bk. to bk. of abutments length is 86' and the out-to-out width is 24'. The existing structure shall be completely replaced. Road closure shall be used during construction.

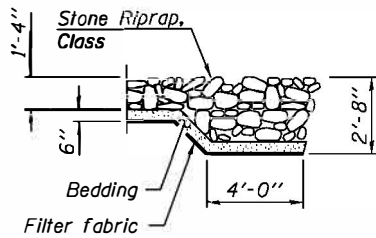
No Salvage.



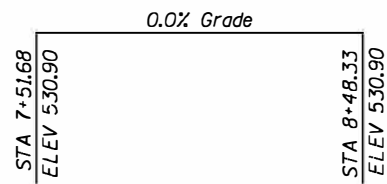
ELEVATION



PLAN



SECTION A-A



PROFILE GRADE

DESIGN STRESSES

FIELD UNITS

$f'_c = 3,500$ psi
 $F_y = 60,000$ psi (reinforcement)

PRECAST PRESTRESSED UNITS

$f'_c = 6,000$ psi
 $f'_ci = 5,000$ psi
 $f_{pu} = 270,000$ psi ($\frac{1}{2}$ " low relax. strands)
 $f_{ps} = 201,960$ psi ($\frac{1}{2}$ " low relax. strands)

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevations (ft.)		
	W. Abut.	E. Abut.
Q100	524.13	524.13
Q500	-	-

DESIGN SPECIFICATIONS

2012 AASHTO LRFD Bridge Design Specifications - 6th ed., with 2012 & 2013 Interims

LOADING HL-93

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

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
 Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.138
 Design Spectral Acceleration at 0.2 sec. (S_{D5}) = 0.324
 Site Soil Class = C

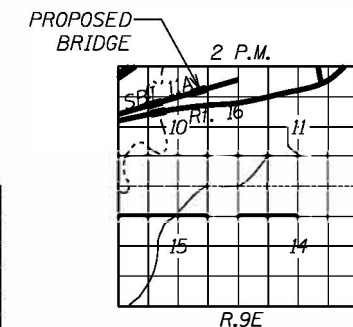
BUILT 2023 BY
 CUMBERLAND COUNTY
 SEC. 10-00075-00-BR
 PROJECT NO. XXRX(514)
 FAS 657 STA. 8+00
 STR. NO. 018-3203 LOADING HL-93

LETTERING FOR NAME PLATE

Locate Name Plate on the outside face of the Southeast Wingwall.

WATERWAY INFORMATION

Drainage Area = 1020.2 SQ MI Low Grade Elev. = 530.31 @ Sta. 22+50							
Flood	Freq. Yr.	0 C.F.S.	Opening Exist.	Sq. Ft. Prop.	Nat. H.W.E. Exist.	Head - Ft. Prop.	Headwater El. Exist. Prop.
Design	20	2473	612.9	644.8	525.4	0.3 0.1	660.7 660.5
Base	100	3650	660.2	743.7	527.1	0.8 0.8	527.2 527.2
Overtopping							
Max. Calc.							



LOCATION SKETCH

GENERAL NOTES

- The Contractor shall drive 1 test pile at each abutment, as specified, in a permanent location as directed by the Engineer before ordering the remaining piles.
- Concrete sealer shall be applied to exterior face of each fascia beam.
- Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60.
- Reinforcement bars designated (E) shall be epoxy coated.
- Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.

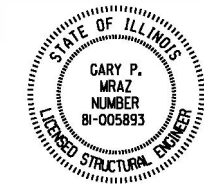
481

TOTAL BILL OF MATERIAL

Item	Unit	Super	Sub. Abuts.	Total
Removal of Existing Structures	Each	-	-	1
Concrete Structures	Cu. Yd.	-	44	44
Precast Prestressed Concrete Deck Beams (42" Depth)	Sq. Ft.	2272	-	2272
Steel Bridge Railing, Type SM	Foot	266	-	266
Reinforcement Bars, Epoxy Coated	Pound	27650	5130	32780
Furnishing Steel Piles HP 14x73	Foot	-	184	184
Driving Piles	Foot	-	184	184
Test Pile Steel HP 14x73	Each	-	2	2
Name Plates	Each	1	-	1
Structure Excavation	Cu. Yd.	-	185	185
Stone Riprap Class A4	Sq. Yd.	-	481	481
Channel Excavation	Cu. Yd.	-	279	279
Controlled Low-Strength Material	Cu. Yd.	-	49	49
Concrete Encasement	Cu. Yd.	-	3.5	3.5
Filter Fabric	Sq. Yd.	-	481	481
Concrete Superstructure (Appr. Slab)	Cu. Yd.	71.6	-	71.6

INDEX OF SHEETS

- General Plan & Elevation
- Approach Slab Elevations
- Superstructure
- Superstructure Details
- 6. Approach Slab Details
- Steel Railing
- Abutment Details
- Pile Details
- Boring Logs



Gary P. Mraz
 License Expires 11-30-2024
 Date 2.3.23

I certify that to the best of 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 AASHTO Standard Specifications for Highway Bridges.

GENERAL PLAN & ELEVATION
FAS 657 OVER EMBARRAS RIVER OVERFLOW
SEC. 10-00075-00-BR
CUMBERLAND COUNTY
STATION 8+00.00
STRUCTURE NO. 018-3203

PRINTED DATE: 02/03/23
 FILE NAME: 018-3203



USER NAME = *USER*	DESIGNED - MW	REVISIONS
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PLOT DATE = *DATE*	CHECKED - MW	REVISIONS

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

GENERAL PLAN & ELEVATION

SHEET NO 1 OF 10 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
657	10-00075-00-BR	CUMBERLAND	18	5
CONTRACT NO. 95934			ILLINOIS FED. AID PROJECT	

NORTH EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
W. End West Appr. Pavmt.	7+22.68	-12.00	530.69
A1	7+32.68	-12.00	530.70
A2	7+42.68	-12.00	530.71
E. End West Appr. Pavmt.	7+52.68	-12.00	530.71
W. End East Appr. Pavmt.	8+47.33	-12.00	530.71
A3	8+57.33	-12.00	530.69
A4	8+67.33	-12.00	530.66
E. End East Appr. Pavmt.	8+77.33	-12.00	530.64

NORTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
W. End West Appr. Pavmt.	7+22.68	-11.00	530.71
A1	7+32.68	-11.00	530.71
A2	7+42.68	-11.00	530.72
E. End West Appr. Pavmt.	7+52.68	-11.00	530.73
W. End East Appr. Pavmt.	8+47.33	-11.00	530.73
A3	8+57.33	-11.00	530.70
A4	8+67.33	-11.00	530.68
E. End East Appr. Pavmt.	8+77.33	-11.00	530.66

℄ & PGL

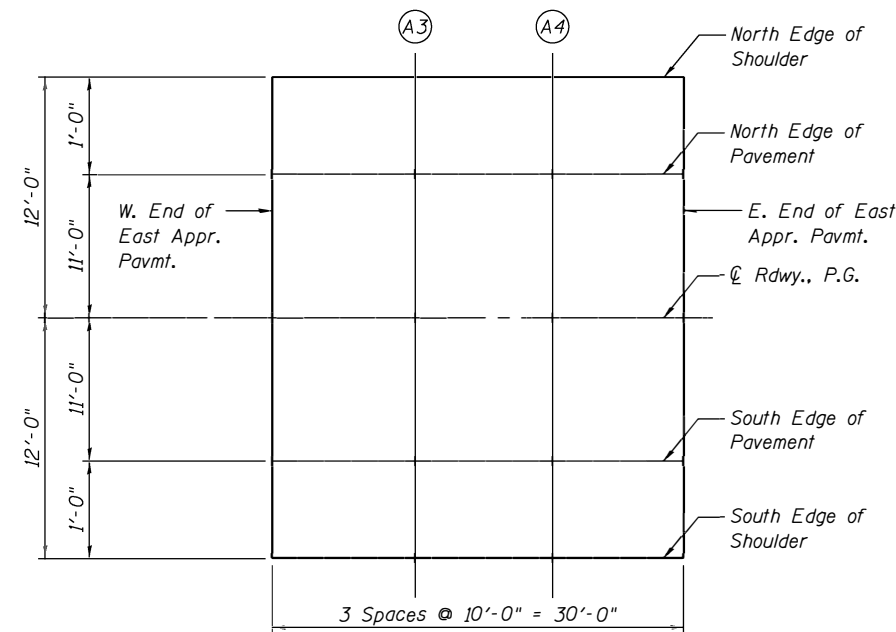
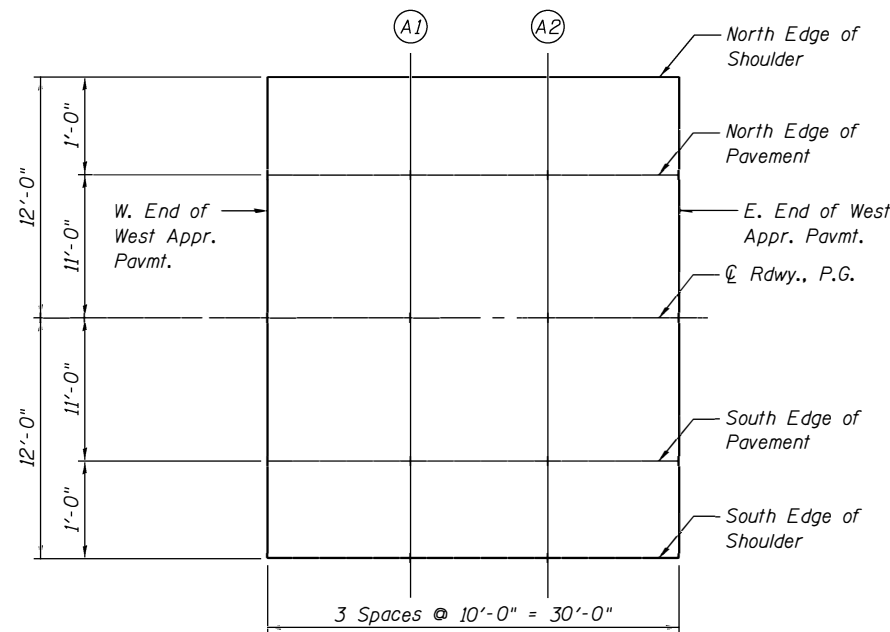
Location	Station	Offset	Theoretical Grade Elevations
W. End West Appr. Pavmt.	7+22.68	0.00	530.88
A1	7+32.68	0.00	530.89
A2	7+42.68	0.00	530.89
E. End West Appr. Pavmt.	7+52.68	0.00	530.90
W. End East Appr. Pavmt.	8+47.33	0.00	530.90
A3	8+57.33	0.00	530.88
A4	8+67.33	0.00	530.85
E. End East Appr. Pavmt.	8+77.33	0.00	530.83

SOUTH EDGE OF PAVEMENT

Location	Station	Offset	Theoretical Grade Elevations
W. End West Appr. Pavmt.	7+22.68	11.00	530.71
A1	7+32.68	11.00	530.71
A2	7+42.68	11.00	530.72
E. End West Appr. Pavmt.	7+52.68	11.00	530.73
W. End East Appr. Pavmt.	8+47.33	11.00	530.73
A3	8+57.33	11.00	530.70
A4	8+67.33	11.00	530.68
E. End East Appr. Pavmt.	8+77.33	11.00	530.66

SOUTH EDGE OF SHOULDER

Location	Station	Offset	Theoretical Grade Elevations
W. End West Appr. Pavmt.	7+22.68	12.00	530.69
A1	7+32.68	12.00	530.70
A2	7+42.68	12.00	530.71
E. End West Appr. Pavmt.	7+52.68	12.00	530.71
W. End East Appr. Pavmt.	8+47.33	12.00	530.71
A3	8+57.33	12.00	530.69
A4	8+67.33	12.00	530.66
E. End East Appr. Pavmt.	8+77.33	12.00	530.64



PLAN

PRINTED DATE: 7/1/10
FILE NAME: 011111

E-AS

7-1-10



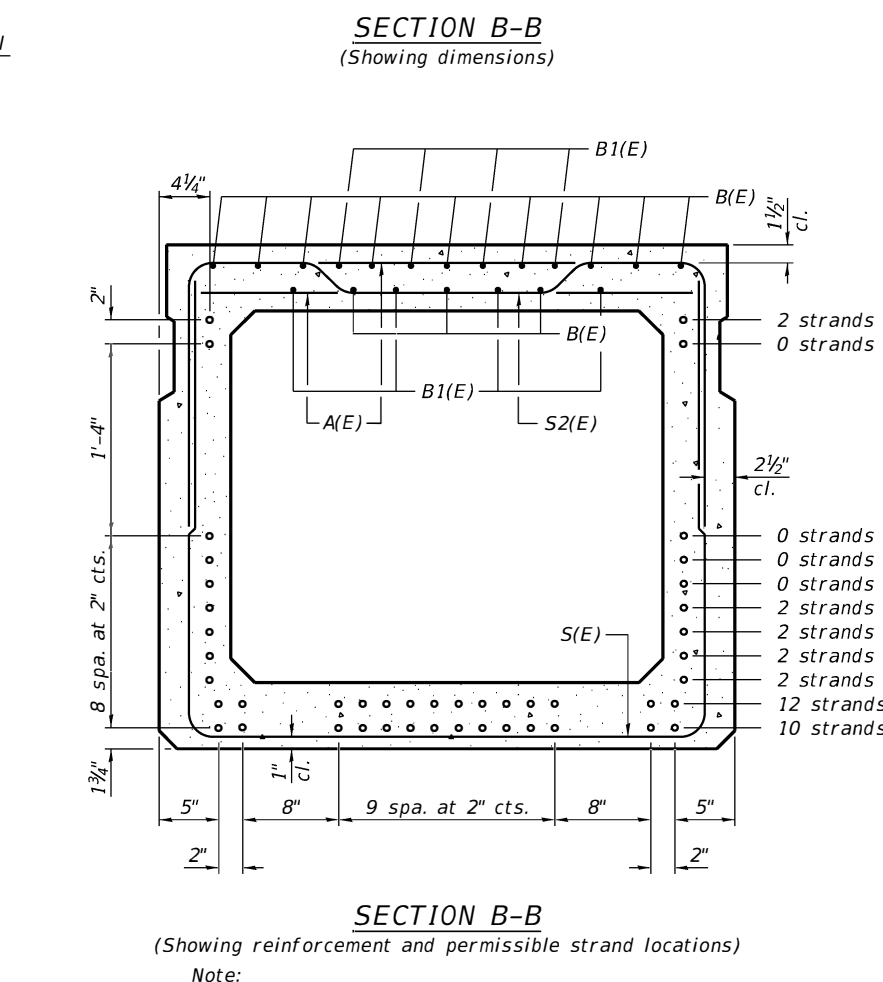
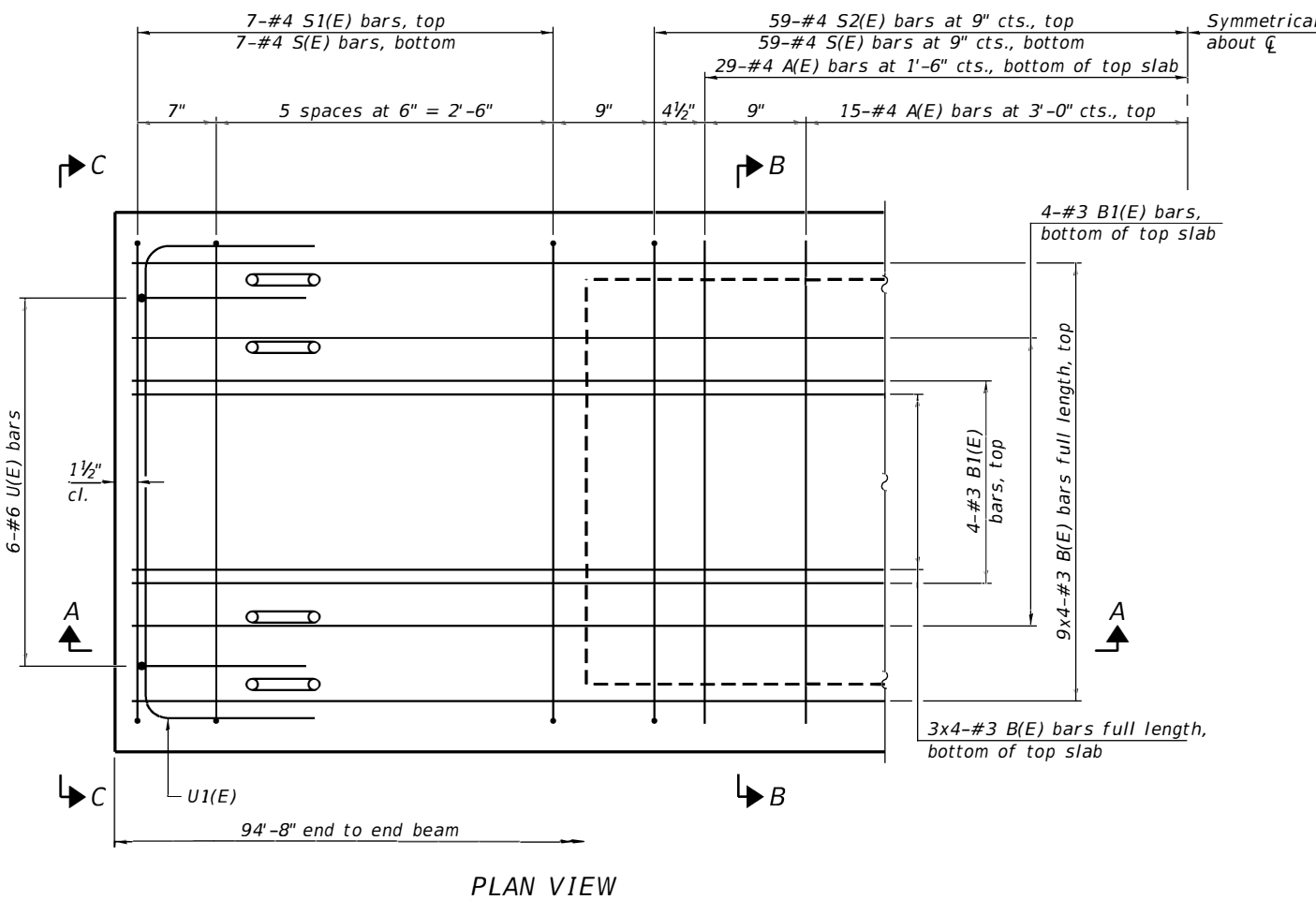
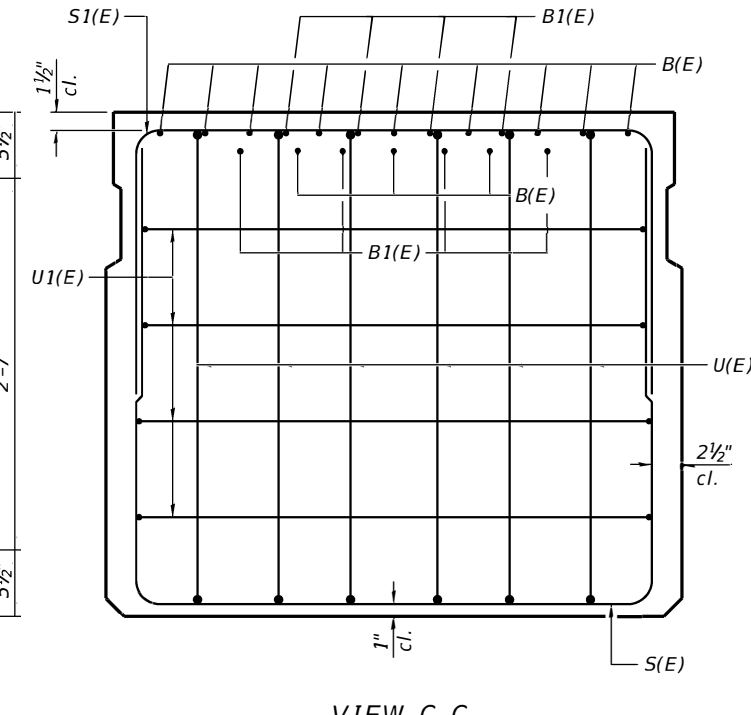
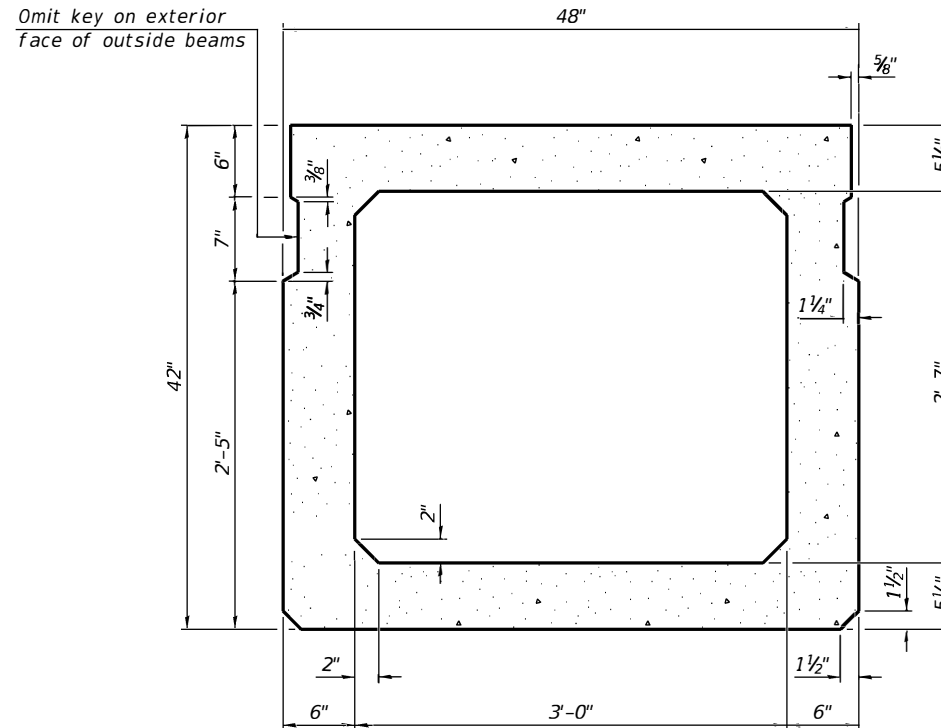
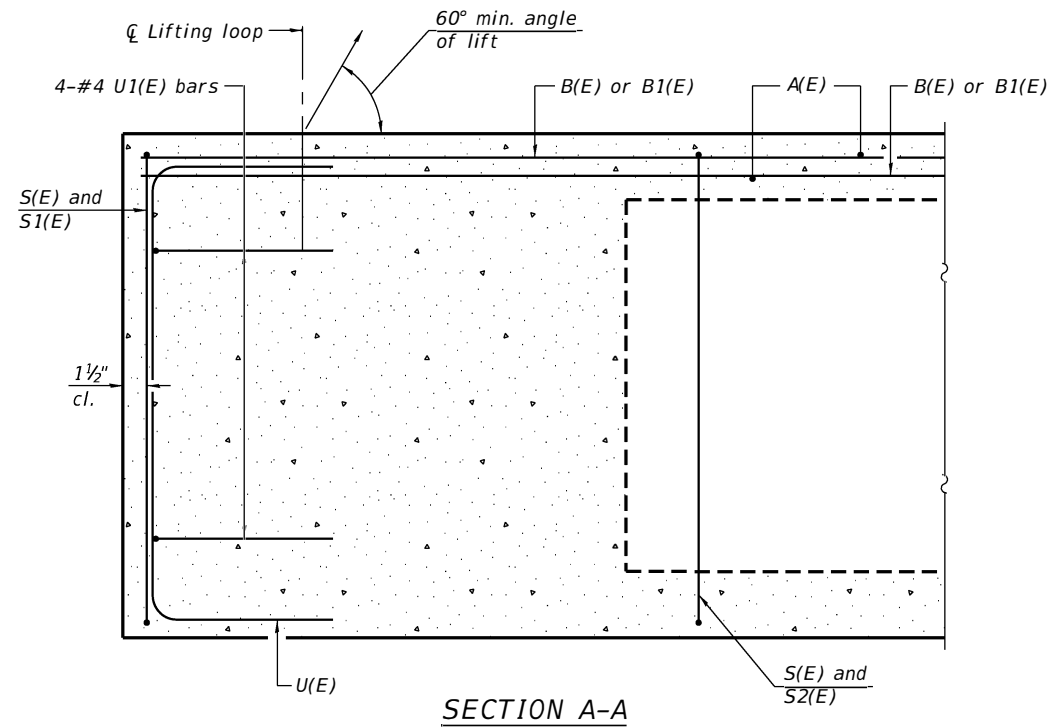
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PLOT DATE = *DATE*	CHECKED - MW	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TOP OF APPROACH SLAB ELEVATIONS
STRUCTURE NO 018-3203**

SHEET NO 2 OF 10 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
657	10-00075-00-BR	CUMBERLAND	18	6
CONTRACT NO. 95934				
ILLINOIS FED. AID PROJECT				



BAR LIST
ONE BEAM ONLY
(For information only)

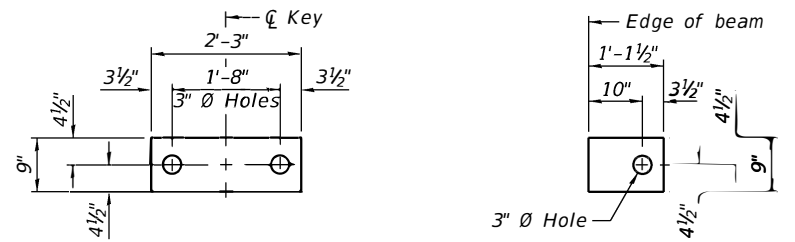
Bar	No.	Size	Length	Shape
A(E)	88	#4	3'-7"	—
B(E)	48	#3	33'-0"	—
B1(E)	16	#3	10'-0"	—
S(E)	132	#4	10'-2"	U
S1(E)	14	#4	7'-5"	U
S2(E)	118	#4	7'-8"	U
U(E)	12	#6	5'-9"	C
U1(E)	8	#4	6'-0"	C

Note:
See sheet 4 of 10 for additional details and Bill of Material.

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.

MINIMUM BAR LAP
#3 bar = 1'-6"

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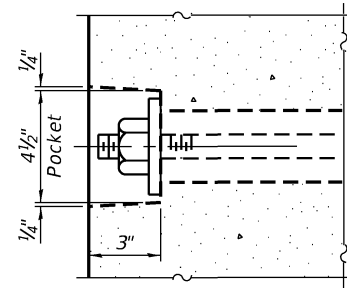


FABRIC BEARING PAD
(Interior)

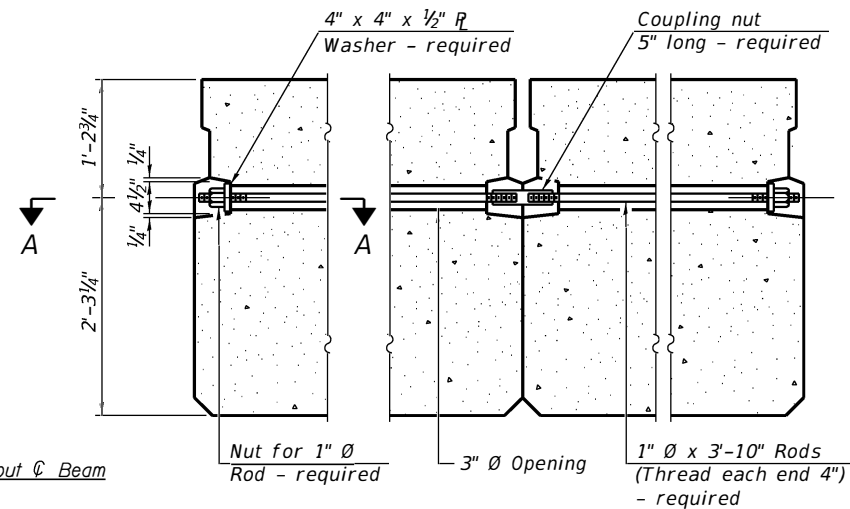
FABRIC BEARING PAD
(Exterior)

FIXED

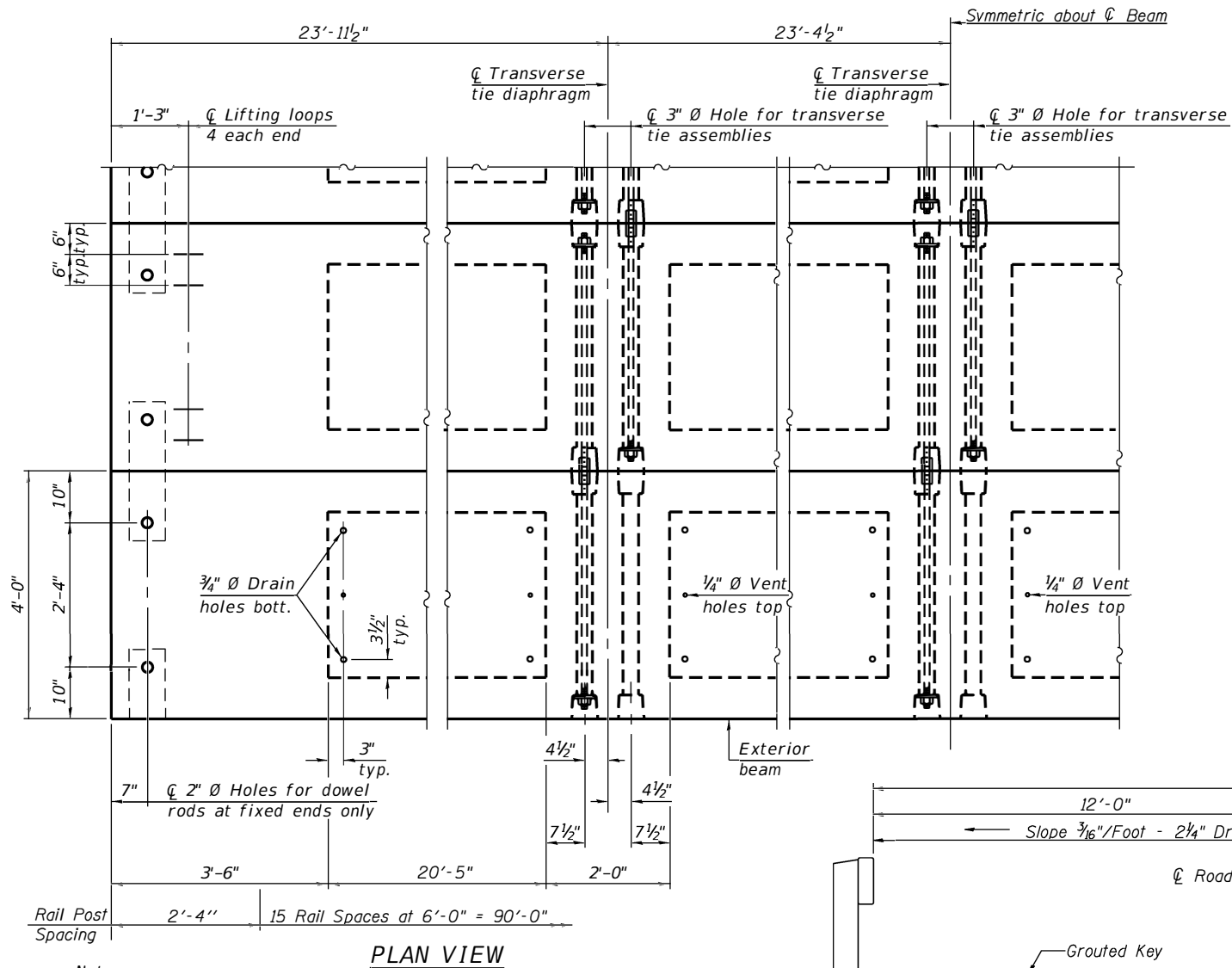
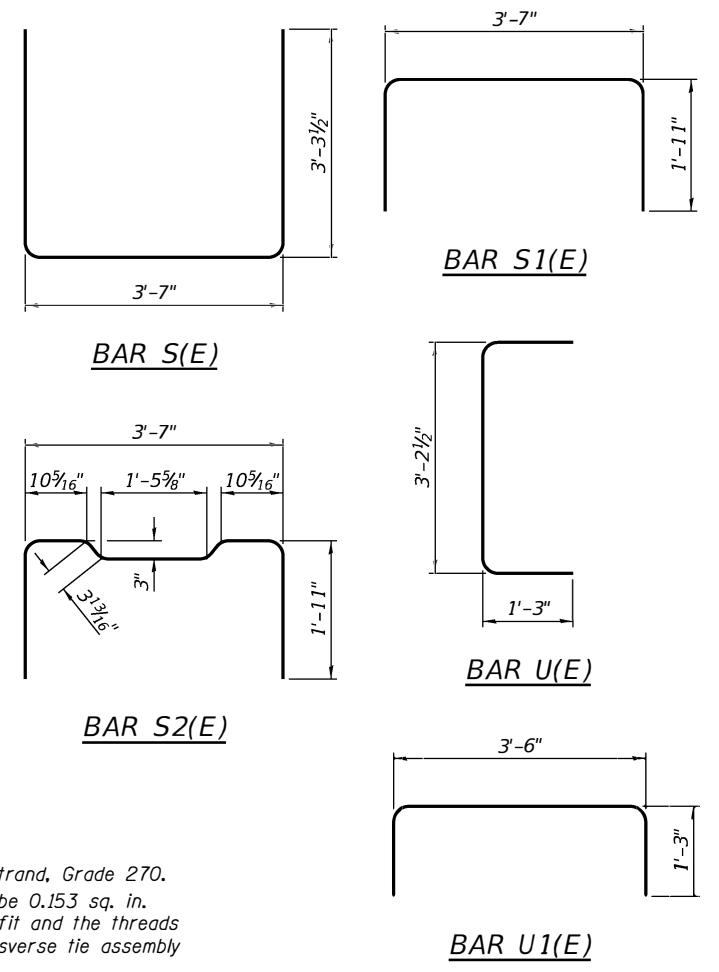
Notes:
All bearing pads shall be 1" thick.
Omit holes when using expansion bearings.
Expansion bearing pads shall be bonded to the substructure.



SECTION A-A

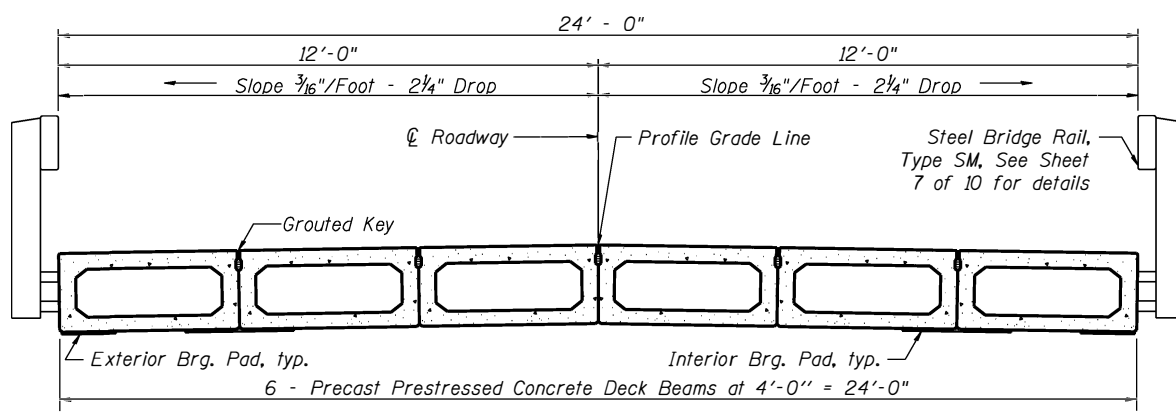


TYPICAL TRANSVERSE TIE ASSEMBLY



PLAN VIEW

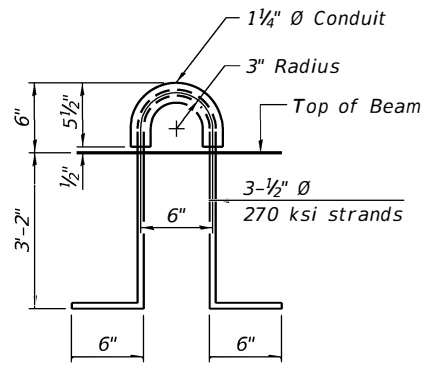
Note:
Connect beams in pairs with the transverse tie configuration shown.



CROSS SECTION

NOTES

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in. The 1" 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. Two 1/8" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location. A minimum 2 1/2" lifting pin shall be used to engage the lifting loops during handling. Corrosion Inhibitor, per Article 1020.05(b)(10) and 1021.07 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.



LIFTING LOOP DETAIL

BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (42" depth)	Sq. Ft.	2272
---	---------	------

PDD-4248-0 1-1-2020



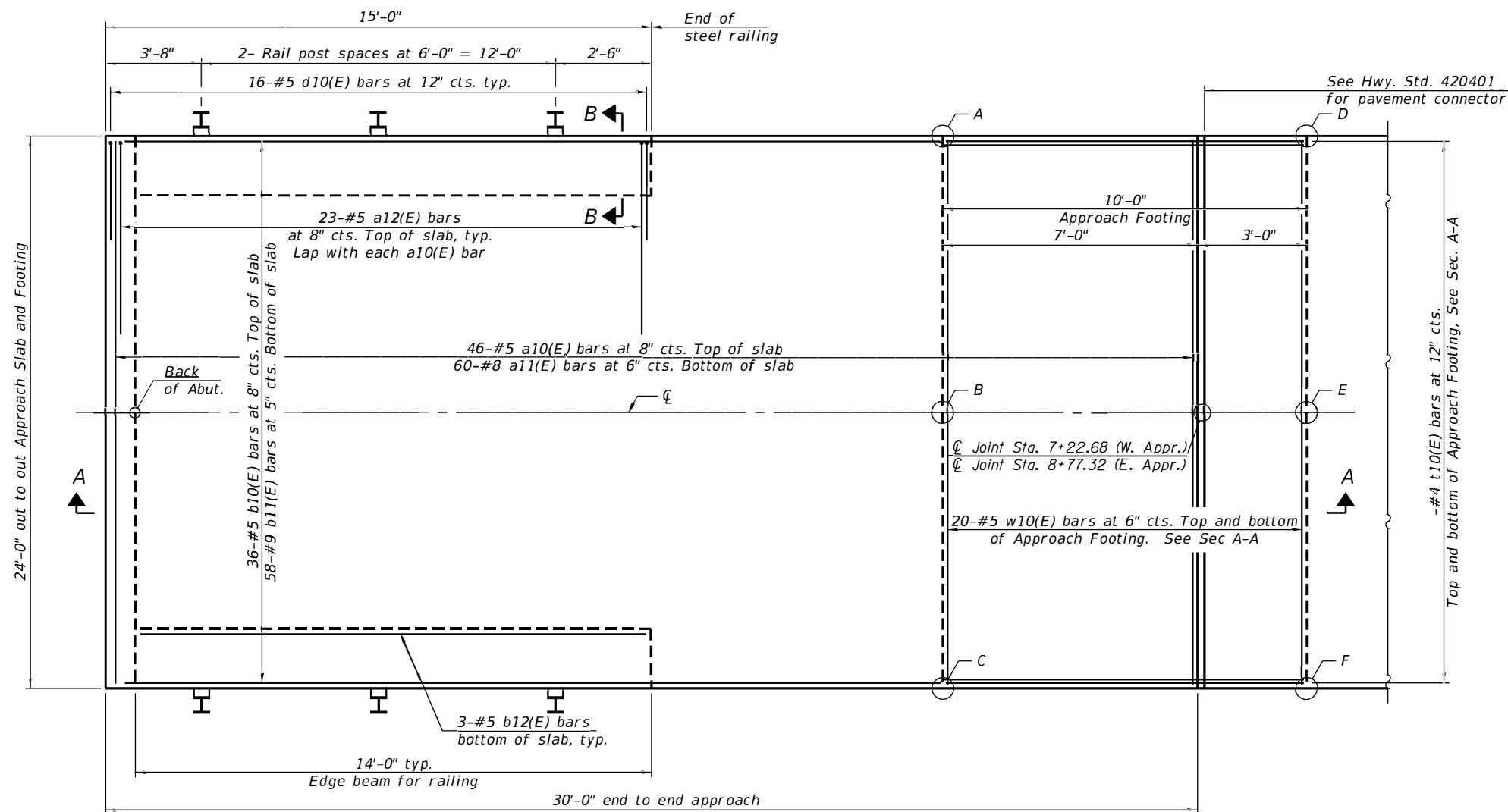
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	CHECKED - MW	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

42" x 48" PPC DECK BEAM DETAILS
STRUCTURE NO. 018-3203

SHEET NO 4 OF 10 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
657	10-00075-00-BR	CUMBERLAND	18	8
CONTRACT NO. 95934				
ILLINOIS FED. AID PROJECT				

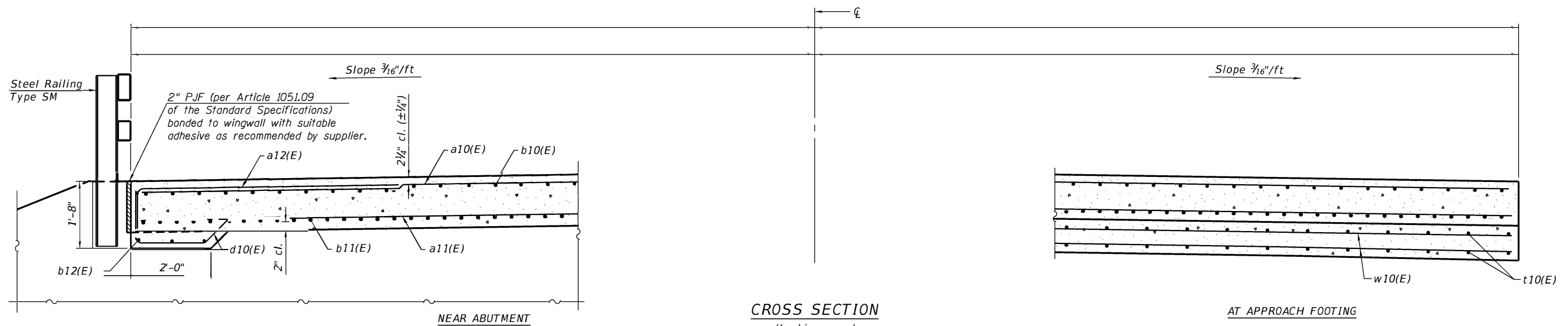


**TOP AND BOTTOM ELEVATIONS
FOR APPROACH FOOTING**

East Approach			West Approach		
Point/Location	Top	Bottom	Point/Location	Top	Bottom
A -	529.41	528.58	A -	529.45	528.62
B -	529.59	528.76	B -	529.63	528.80
C -	529.41	528.58	C -	529.45	528.62
D -	529.38	528.55	D -	529.44	528.61
E -	529.57	528.74	E -	529.63	528.80
F -	529.38	528.55	F -	529.44	528.61

PLAN

(East approach slab shown; West approach slab similar by 180° rotation)



CROSS SECTION

(Looking)

BAIA-CIP-R34-0

10-12-2021

(Sheet 1 of 2)

PRINTED DATE, DATE, FILE NAME, FILE#



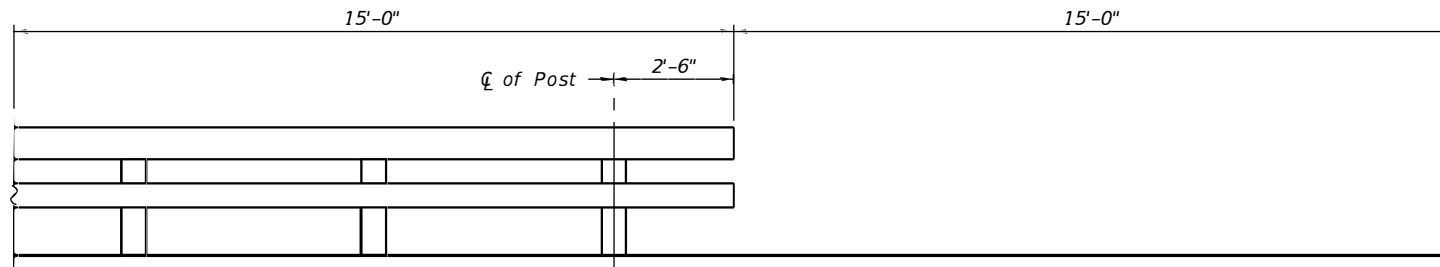
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**BRIDGE APPROACH SLAB DETAILS
STRUCTURE NO. 018-3203**

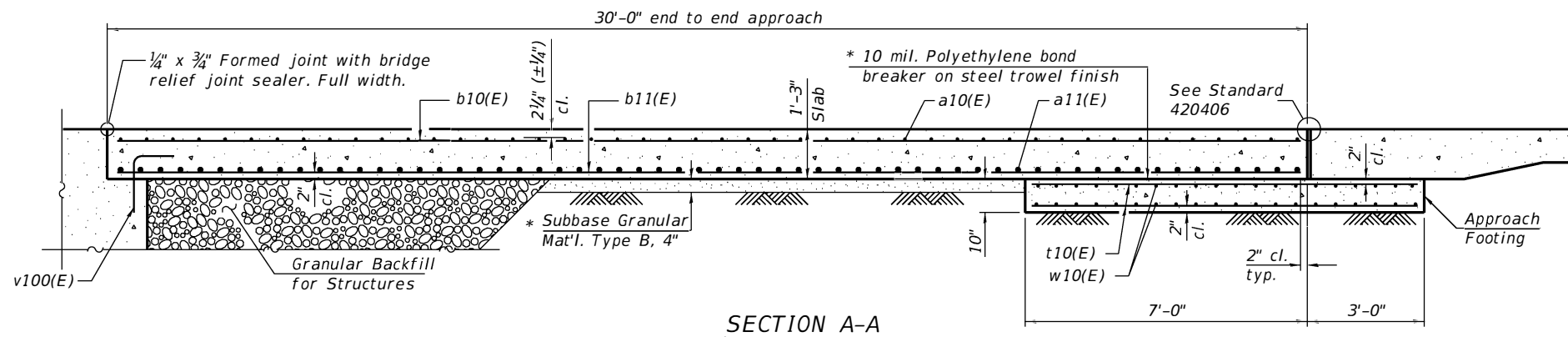
SHEET NO 5 OF 10 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 95934				
ILLINOIS FED. AID PROJECT				

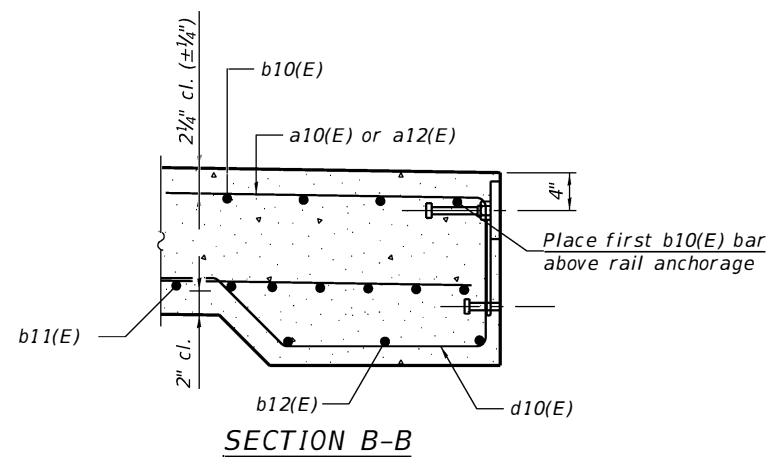


INSIDE ELEVATION OF RAILING

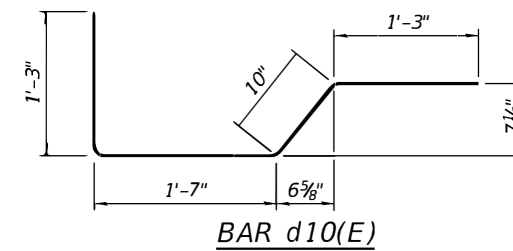
Notes:
 The joint opening shall be adjusted for temperature per Article 520.04 of the Standard Specifications. However, since this detail is for jointless structures, the length of bridge used to calculate the adjustment shall be equal to half the total bridge length plus the length of the bridge approach slab.
 Approach slab shall be paid for as Concrete Superstructure (Approach Slab).
 Approach footing concrete shall be paid for as Concrete Structures.
 The approach footing maximum applied service bearing pressure (Q_{max}) = 2.0 ksf.
 Cost of excavation for approach footing included with Concrete Structures.
 For Granular Backfill for Structures and drainage treatment details, see sheet 1 of 10.
 For railing details, see sheet 7 of 10.



SECTION A-A



SECTION B-B



BAR d10(E)



BAR a12(E)

TWO APPROACHES
 BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a10(E)	92	#5	23'-8"	—
a11(E)	120	#8	23'-8"	—
a12(E)	92	#5	7'-8"	—
b10(E)	72	#5	29'-8"	—
b11(E)	116	#9	29'-8"	—
b12(E)	12	#5	13'-8"	—
d10(E)	64	#5	4'-11"	┘
t10(E)	100	#4	9'-8"	—
w10(E)	80	#5	23'-8"	—
Concrete Superstructure (Approach Slab)		Cu. Yd.	71.6	
Concrete Structures		Cu. Yd.	15.0	
Reinforcement Bars, Epoxy Coated		Pound	27,650	

* Cost included with Concrete Superstructure (Approach Slab).

** Per manufacturer recommendations

(Sheet 2 of 2)

PRINTED DATE: \$DATE*
 FILE NAME: \$FILEL*

BAIA-CIP-R34-0

10-12-2021



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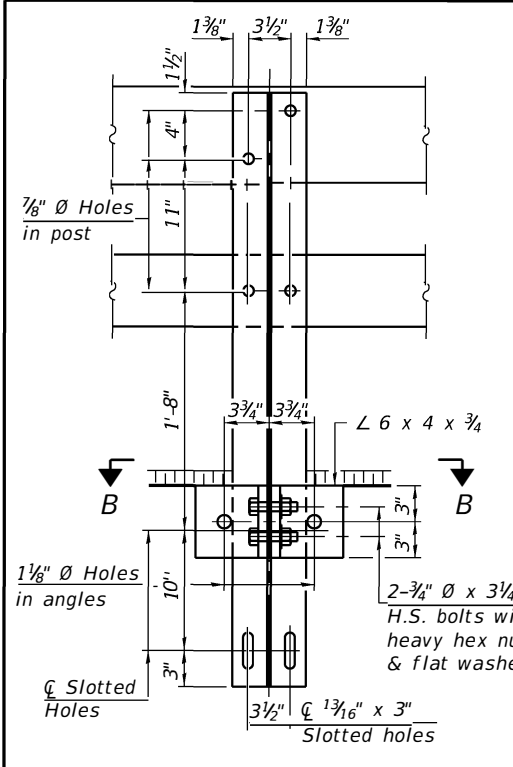
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

BRIDGE APPROACH SLAB DETAILS
 STRUCTURE NO. 018-3203

SHEET NO 6 OF 10 SHEETS

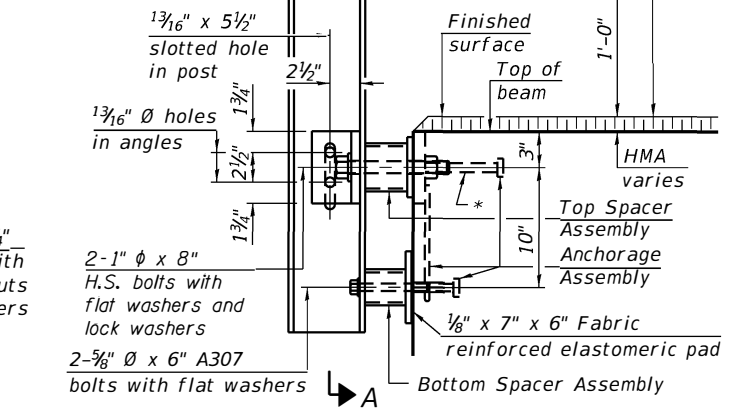
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
657	10-00075-00-BR	CUMBERLAND	18	10
CONTRACT NO. 95934				

ILLINOIS FED. AID PROJECT



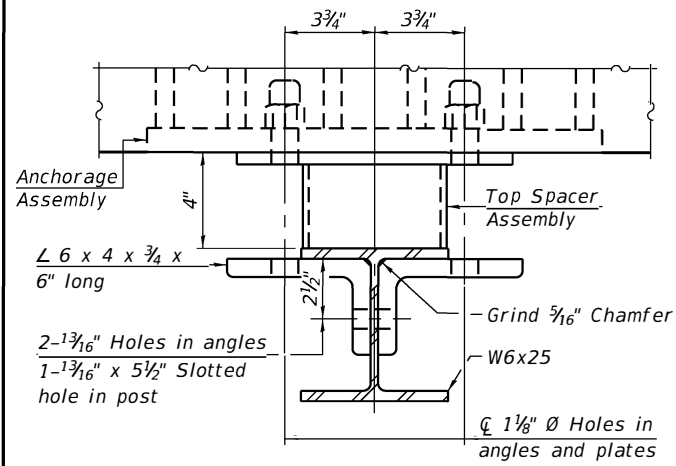
SECTION A-A

4-3/4" Ø x 6" Round Head Bolts with locknuts & flat washers. 7/8" Ø holes in HSS tubing may be drilled in the field.

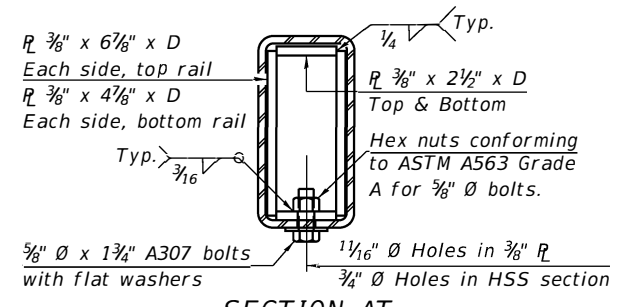


SECTION AT RAIL POST

* The outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchorage assembly. The anchorage studs may be bent down 1/2" to accommodate the top reinforcement bar placement.

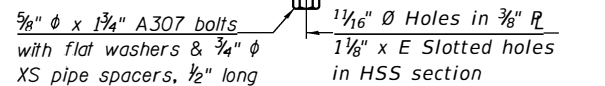


SECTION B-B

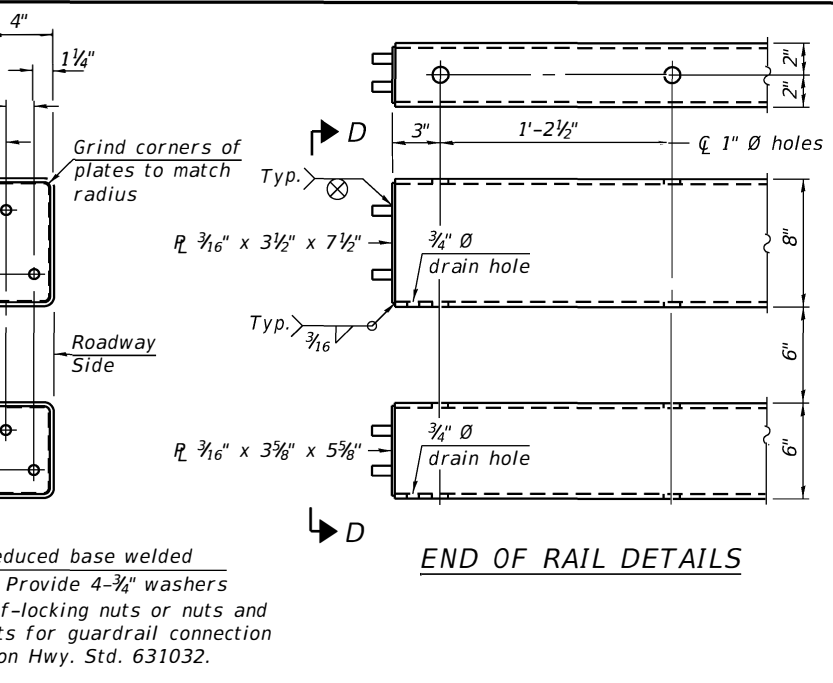


SECTION AT RAIL SPLICE

Hex nuts conforming to ASTM A563 Grade A for 3/8" Ø bolts.



RAIL SPLICE CONNECTION AT EXPANSION JT.

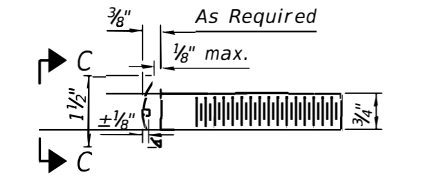


END OF RAIL DETAILS

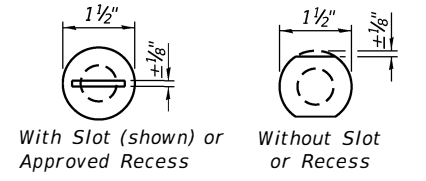
VIEW D-D

4-3/4" reduced base welded studs. Provide 4-3/4" washers and self-locking nuts or nuts and jam nuts for guardrail connection shown on Hwy. Std. 631032.

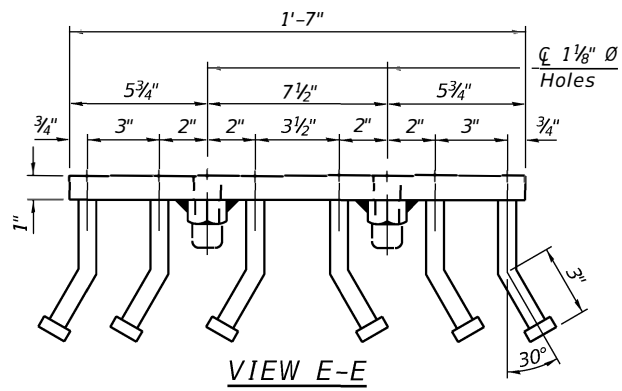
Notes:
A sufficient number of shims of various thicknesses, sized to fit behind the top spacer assembly, 5" x 1 1/2", and bottom spacer assembly, 6" x 7", shall be provided to adjust posts for proper alignment. If the summation of shims is greater than 1/4" (top) or 1/2" (bottom), longer bolts are required. Cost included with Steel Railing, Type SM.
All steel rail elements including shims shall be galvanized according to Article 509.05 of the Standard Specifications.
All HSS tubing serving as railing shall be CVN tested according to Article 1006.34(b) of the Standard Specifications.
Rail splice inserts may be built out of 2 - 3/8" bent plates in lieu of the 4 plate rail splice inserts shown, provided the outside dimensions are matched.
All round head bolts shall be ASTM A307 with locknuts according to ASTM A563 grade A.



ROUND HEAD BOLT DETAIL

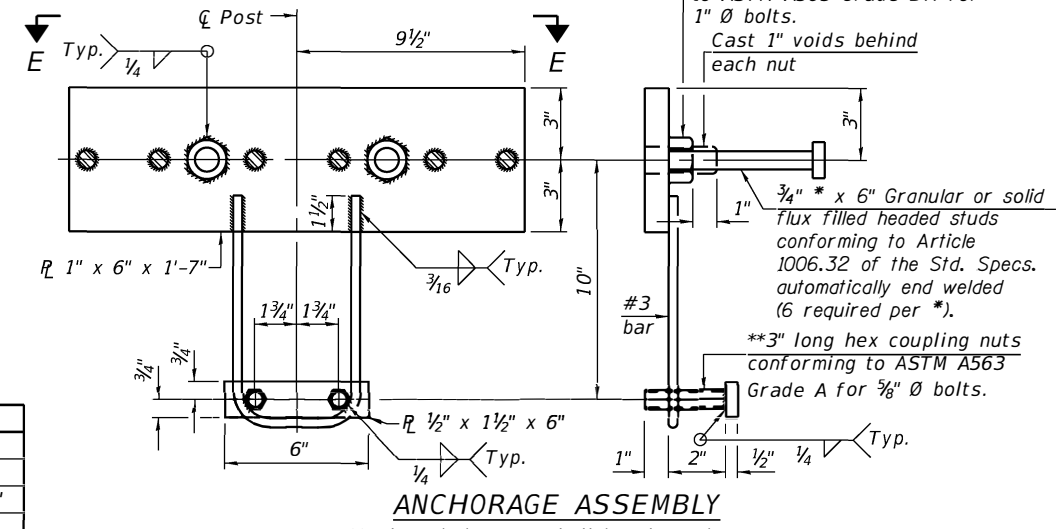


VIEW C-C



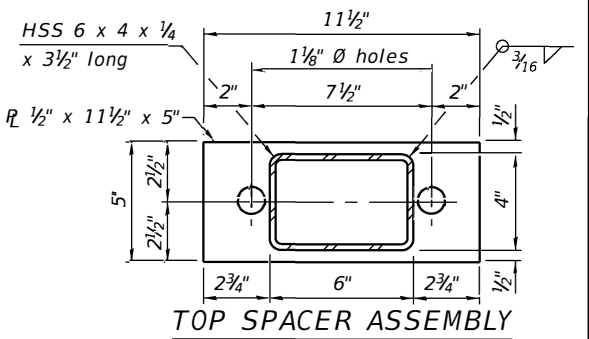
VIEW E-E

**Heavy hex nuts conforming to ASTM A563 Grade DH for 1" Ø bolts. Cast 1" voids behind each nut

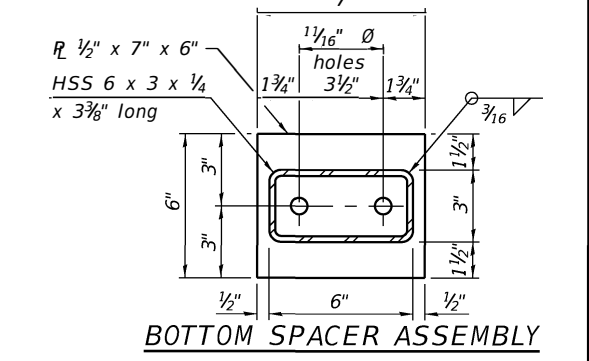


ANCHORAGE ASSEMBLY

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



TOP SPACER ASSEMBLY



BOTTOM SPACER ASSEMBLY

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type SM	Foot	266

RAILING CRITERIA

MASH 2016 Test Level	2
Railing Weight (plf)	90
Min f'c (psi)	5,000
Max Post Spacing	6'-3"
HMA thickness range (in)	1 1/4 - 3 3/8"

SPLICE DIMENSIONS

Location	T	A	B	C	D	E
All locs. not over exp. jts.	0	1/4"	4"	4"	1'-8"	-
Over Strip Seal Jt.	≤4"	2 1/2"	4 3/8"	4 3/8"	1'-10"	3 1/16"
Over Finger or Modular Jt.	≤9 1/2"	5 1/2"	7 3/8"	7 1/4"	2'-9 1/4"	5 1 3/16"
Over Finger or Modular Jt.	≤15"	8 1/4"	10 1/8"	10"	3'-8 1/4"	8 9/16"

T = ; total movement along centerline of roadway at expansion joint.

R-34HMAWS 9-1-2022



USER NAME = #USER#	DESIGNED - MW	REvised -
CHECKED - PS	CHECKED - PS	REvised -
PLOT SCALE = #SCALE#	DRAWN - PS	REvised -
PLOT DATE = #DATE#	CHECKED - MW	REvised -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

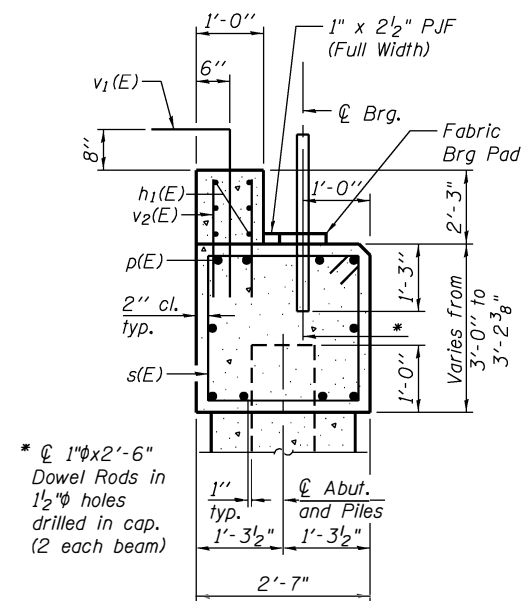
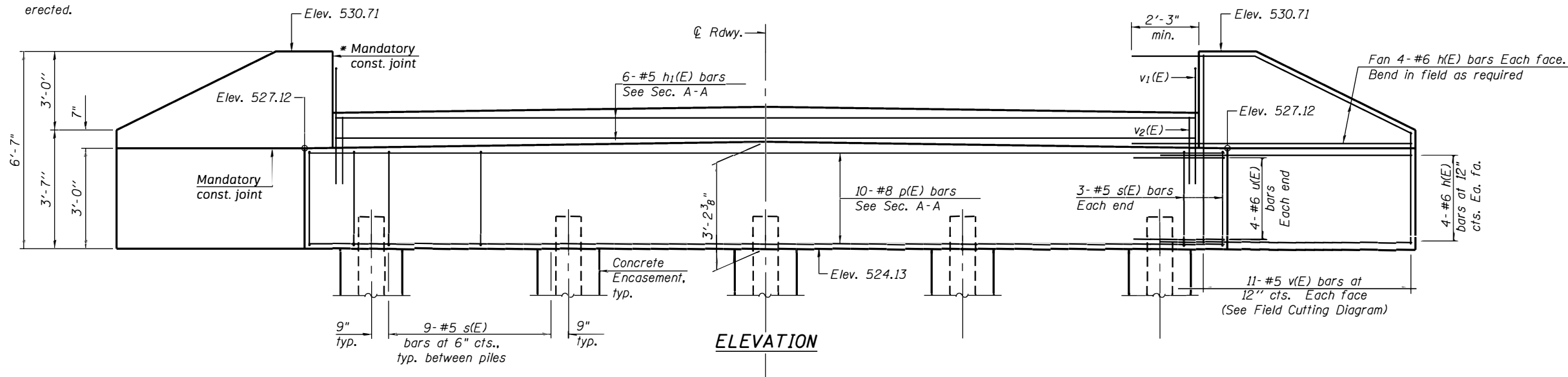
STEEL RAILING, TYPE SM
STRUCTURE NO.

SHEET NO 7 OF 10 SHEETS

F.A.S. RTL.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
657	10-00075-00-BR	CUMBERLAND	18	11

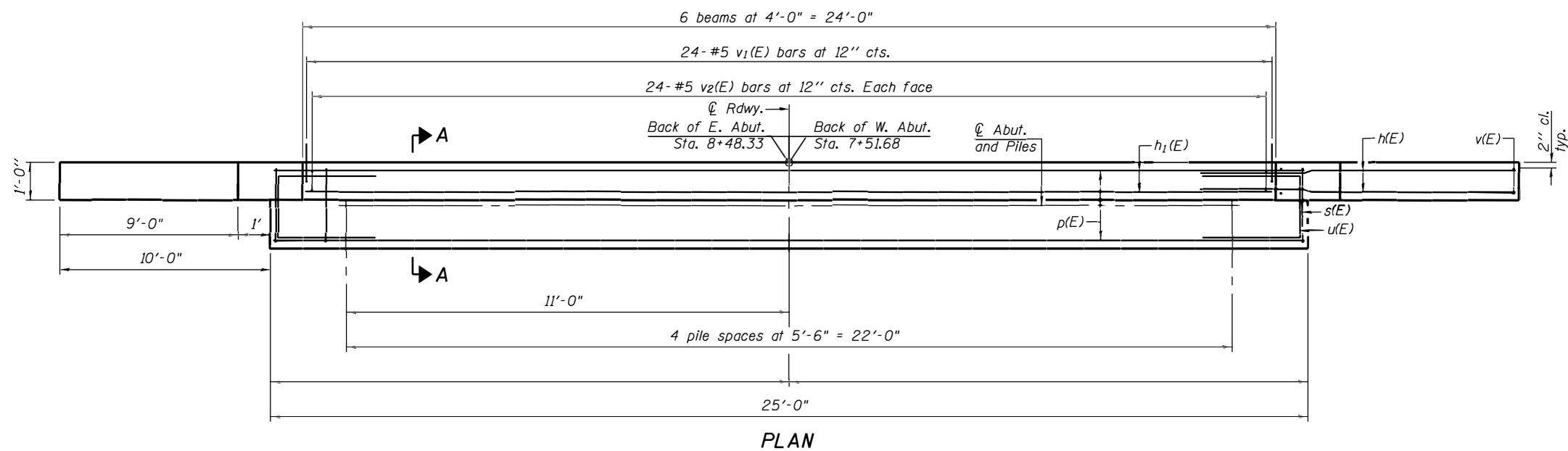
CONTRACT NO. 95934
ILLINOIS FED. AID PROJECT

* Cast top of wingwall flush with exterior beam face after beams have been erected.



* @ 1"φx2'-6" Dowel Rods in 1 1/2"φ holes drilled in cap. (2 each beam)

SECTION A-A

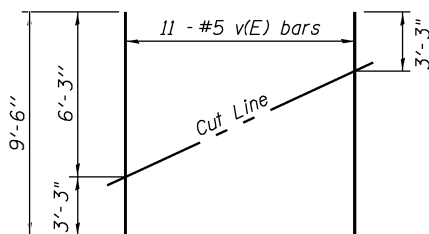


PLAN

PILE DATA

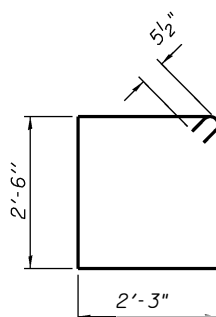
Type: Steel HP 14x73
 Nominal Required Bearing: 300 kips
 Factored Resistance Available: 317 kips
 Est. Length: 34' East, 12' West
 No. Production Piles: 8 (4 East, 4 West)
 No. Test Piles: 2 (1 East, 1 West)

Note:
 Due to the shallow depth of bedrock at the West Abutment, the piles shall be set in 24" diameter holes drilled at least 10' into bedrock, driven to maximum nominal bearing, and back-filled with PCC.

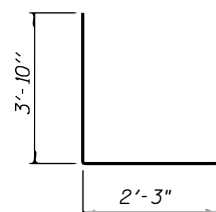


FIELD CUTTING DIAGRAM

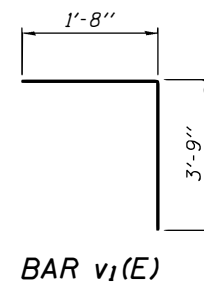
Order v(E) bars full length. Cut as shown and use remainder of bars in opposite face.



BAR s(E)



BAR u(E)



BAR v1(E)

BILL OF MATERIAL

(Two Abutments)

Bar	No.	Size	Length	Shape
h(E)	64	#6	13'-4"	—
h1(E)	12	#5	23'-9"	—
p(E)	20	#8	24'-9"	—
s(E)	84	#5	10'-5"	□
u(E)	16	#6	9'-11"	U
v(E)	44	#5	9'-6"	—
v1(E)	48	#5	5'-5"	└
v2(E)	96	#5	3'-9"	—
Structure Excavation		Cu. Yd.	185	
Concrete Structures		Cu. Yd.	29	
Reinforcement Bars, Epoxy Coated		Pound	5130	
Furnishing Steel Piles, HP14x73		Foot	184	
Driving Piles		Foot	184	
Test Pile		Each	2	
Concrete Encasement		Cu. Yd.	3.5	

Notes:
 For details of piles and Concrete Encasement, see sheet 9 of 10.
 Cast backwall after beams and concrete wearing surface, if applicable, have been erected.

PRINTED DATE: \$DATE\$
 FILE NAME: \$FILE\$

AD-2742-0

7-1-10



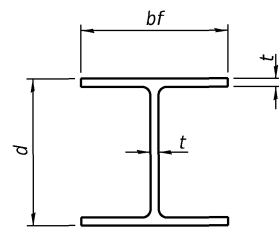
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PLOT DATE = \$DATE\$	DRAWN - PS	REVISED -
	CHECKED - MW	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

ABUTMENTS
 STRUCTURE NO. 018-3203

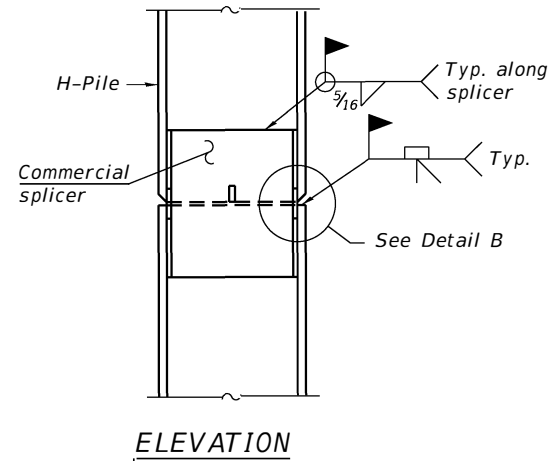
SHEET NO 8 OF 10 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
657	10-00075-00-BR	CUMBERLAND	18	12
CONTRACT NO. 95934			ILLINOIS FED. AID PROJECT	

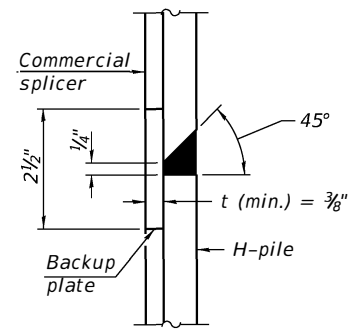


STEEL PILE TABLE

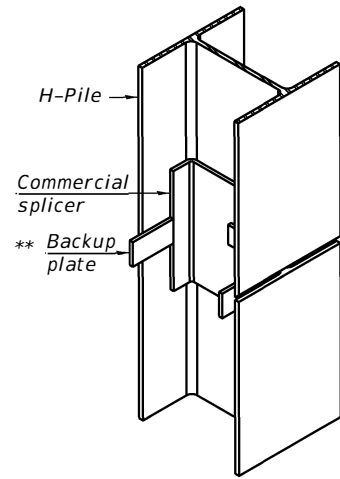
Designation	Depth d	Flange width bf	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	1 3/16"	30"
x102	14"	14 3/4"	1 1/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1 1/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53	11 3/4"	12"	7/16"	24"
HP 10x57	10"	10 1/4"	9/16"	24"
x42	9 3/4"	10 1/8"	7/16"	24"
HP 8x36	8"	8 1/8"	7/16"	18"



ELEVATION

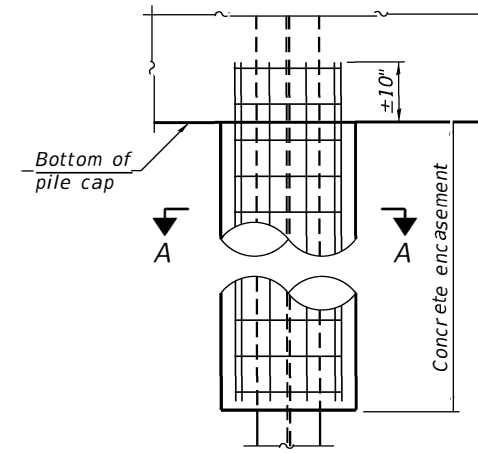


DETAIL "B"

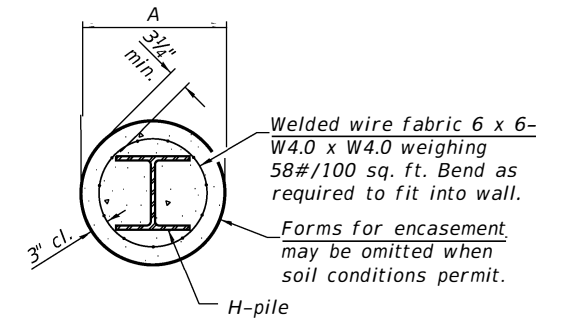


ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE

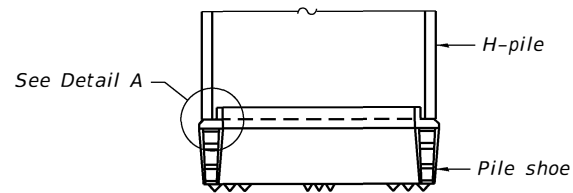


ELEVATION

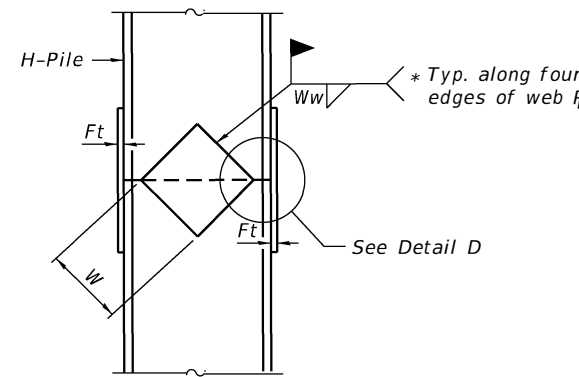


SECTION A-A

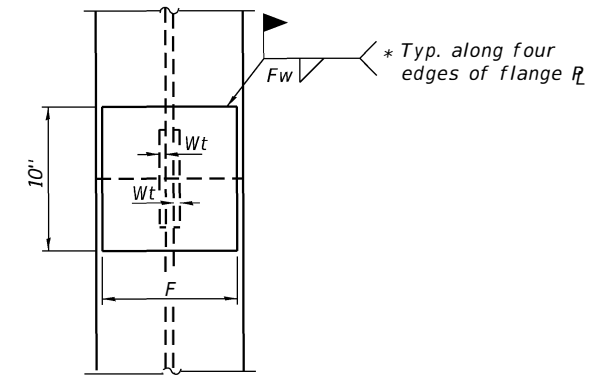
INDIVIDUAL PILE CONCRETE ENCASUREMENT (when specified)



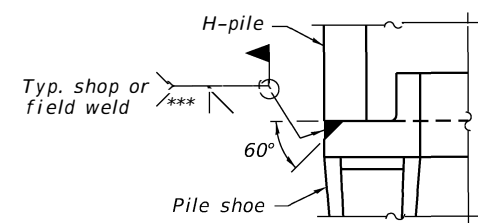
ELEVATION



ELEVATION

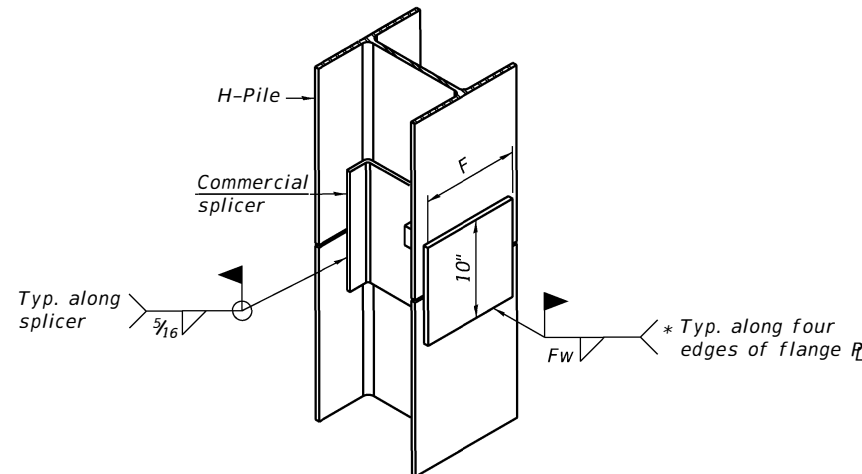


END VIEW



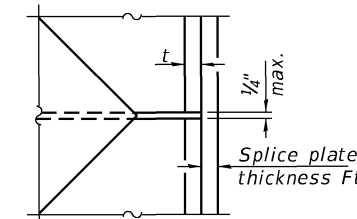
DETAIL A

SHOE ATTACHMENT



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE



DETAIL D

WELDED PLATE FIELD SPLICE

Designation	F	Ft	Fw	W	Wt	Ww
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5/8"	1/2"
x89	12 1/2"	3/4"	1 1/16"	7 3/4"	5/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5/8"	1/2"
HP 12x84	10"	7/8"	1 1/16"	6 1/2"	5/8"	1/2"
x74	10"	7/8"	1 1/16"	6 1/2"	5/8"	1/2"
x63	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
x53	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
HP 10x57	8"	3/4"	9/16"	5 1/4"	1/2"	3/8"
x42	8"	5/8"	9/16"	5 1/4"	1/2"	3/8"
HP 8x36	7"	5/8"	7/16"	4 1/4"	1/2"	3/8"

Note:
The steel H-piles shall be according to AASHTO M270 Grade 50.

- * Interrupt welds 1/4" from end of web and/or each flange.
- ** Remove portions of backup plates that extend outside the flanges.
- *** Weld size per pile shoe manufacturer (5/16" min.).

PRINTED DATE: 04/2020
FILE NAME: FHP10

F-HP

1-1-2020



USER NAME = *USER*	DESIGNED - MW	REVISED -
PLOT SCALE = *SCALE*	CHECKED - PS	REVISED -
PLOT DATE = *DATE*	DRAWN - PS	REVISED -
	CHECKED - MW	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**HP PILE DETAILS
STRUCTURE NO. 018-3203**

SHEET NO 9 OF 10 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
657	10-00075-00-BR	CUMBERLAND	18	13
CONTRACT NO. 95934			ILLINOIS FED. AID PROJECT	

HOLCOMB FOUNDATION ENGINEERING INC.
 P.O. Box 88 618-529-5262
 Carbondale, Il. 62903 618-457-8991 fax Page 1 of 1

Bridge Foundation Boring Log

Project: H-14098 Bridge Cumberland Road Date: 4/24/2014
 Section: _____ Station: _____ Bored by: B. Schwartz
 Structure: 018-0021 _____ Checked By: T. Holcomb
 County: Cumberland

Boring No:	Station:	Offset:	Elevation	N	Qu tsf	w %	Surface Water Elev.	Elevation	N	Qu tsf	w %
1	8+90	9.5' Right					522.02				
							522.02				
			530.52	0							
				7	0.7S	16		-25	12	--	11
			-5	7	1.3S	17			13	--	17
							502.02				
				7	0.4B	21		-30	100/3"	3.8B	15
			522.02						100/3"	--	16
				-10	4	--	21				
			519.52						100/4"	1.8B	14
				6	1.7B	22		-35			
			-15	5	1.3B	25					
			514.52								
				2	0.6B	23		-40			
			-20	2	0.8B	22					
			509.52								
				6	--	21					

Ground Surface 530.52 0 sand continued
 Brown Sandy CLAY (A-6)
 522.02 Brown Fine SAND (A-2-4)
 519.52 Brown Mottled Gray Silty CLAY (A-6)
 514.52 Gray Sandy CLAY (A-6)
 509.52 Gray SAND (A-2-4) with gravel

End of Boring @ -34.0'

N = Standard Penetration Test Blows per foot to drive 2" O.D. Split Spoon Sampler 12" with a 140 lbs. hammer falling 30"
 Qu-Unconfined Compressive Strength in tons/sq.ft.
 w-Water Content-percentage of oven dry weight-%
 B = Bulge Failure
 S = Shear Failure
 E = Estimated Value
 P = Penetrometer

HOLCOMB FOUNDATION ENGINEERING INC.
 P.O. Box 88 618-529-5262
 Carbondale, Il. 62903 618-457-8991 fax Page 1 of 1

Bridge Foundation Boring Log

Project: H-14098 Bridge Cumberland Road Date: 4/24/2014
 Section: _____ Station: _____ Bored by: B. Schwartz
 Structure: 018-0021 _____ Checked By: T. Holcomb
 County: Cumberland

Boring No:	Station:	Offset:	Elevation	N	Qu tsf	w %	Surface Water Elev.	Elevation	N	Qu tsf	w %
2	7+27.5	19.5' Left									
			530.48	0							
				76	4.5B	9		-25			
			-5	100/6"	4.6S	9					
			524.48						100/3"	--	10
				-10	100/2"	--	6				
			515.98						100/2"	--	6

Ground Surface 530.48 0
 Brown Mottled Gray Weathered SHALE
 524.48 Gray Mottled Brown SHALE
 515.98 End of Boring @ -14.5'

N = Standard Penetration Test Blows per foot to drive 2" O.D. Split Spoon Sampler 12" with a 140 lbs. hammer falling 30"
 Qu-Unconfined Compressive Strength in tons/sq.ft.
 w-Water Content-percentage of oven dry weight-%
 B = Bulge Failure
 S = Shear Failure
 E = Estimated Value
 P = Penetrometer

PRINTED DATE: #DATE#
 FILE NAME: #FILE#



USER NAME = #USER#	DESIGNED - MW	REVISED -
	CHECKED - PS	REVISED -
PLOT SCALE = #SCALE#	DRAWN - PS	REVISED -
PLOT DATE = #DATE#	CHECKED - MW	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

BORING LOGS

SHEET NO 10 OF 10 SHEETS

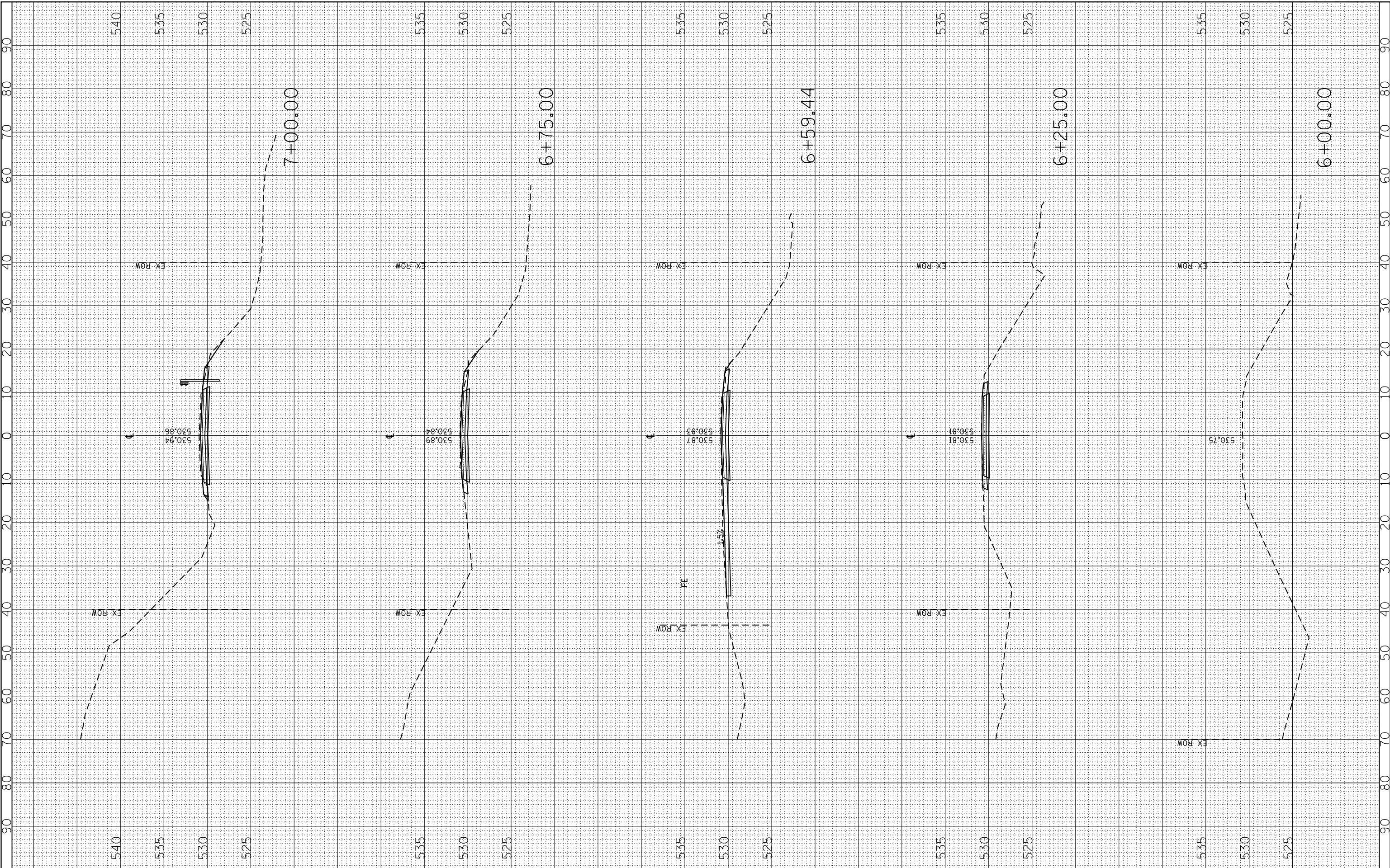
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
657	10-00075-00-BR	CUMBERLAND	18	14
CONTRACT NO. 95934				

ILLINOIS FED. AID PROJECT

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

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

PRINTED DATE: *DATE*
FILE NAME: *FILES*



USER NAME	: *USER*
DESIGNED	- JEH
DRAWN	- JEH
CHECKED	- SAL
DATE	- 04-08-2016
PLOT SCALE	: *SCALE*
PLOT DATE	: *DATE*

REVISED	-
REVISED	-
REVISED	-
REVISED	-

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**EMBARRAS RIVER OVERFLOW
CROSS-SECTIONS**

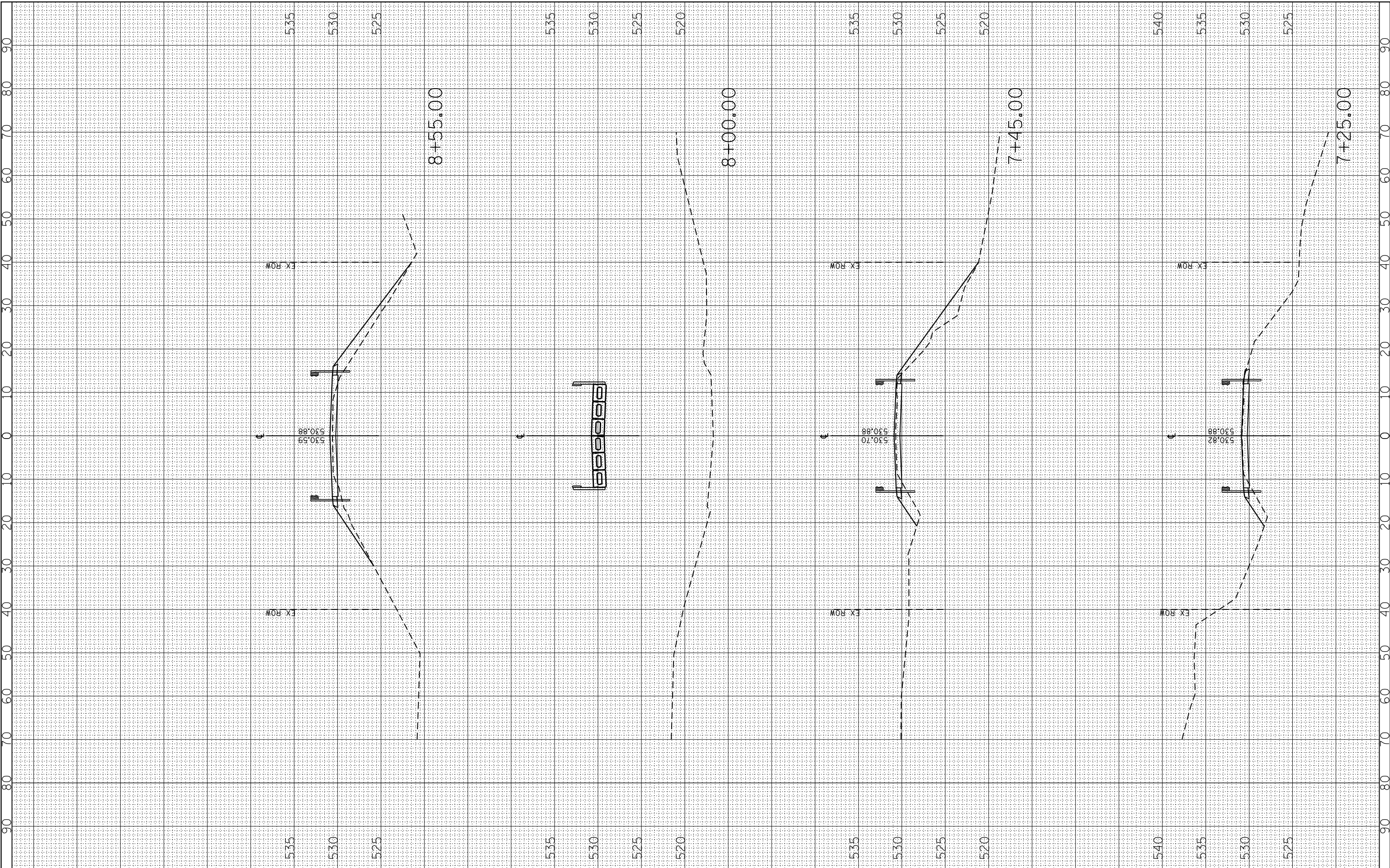
SCALE: 1"=10' 1"=5' SHEET NO 1 OF 4 SHEETS STA 6+00.00 TO STA 7+00.00

F.A.S. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
657	10-00075-00-BR	CUMBERLAND	18	15
			CONTRACT NO 95934	
ILLINOIS FEDERAL AID PROJECT				

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

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

PRINTED DATE: \$DATE\$
FILE NAME: \$FILES\$



USER NAME : \$USER\$	DESIGNED - JEH	REVISED -
	DRAWN - JEH	REVISED -
PLOT SCALE : \$SCALE\$	CHECKED - SAL	REVISED -
PLOT DATE : \$DATE\$	DATE - 04-08-2016	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EMBARRAS RIVER OVERFLOW
CROSS-SECTIONS

SCALE: 1"=10' 1"=5' SHEET NO 2 OF 4 SHEETS STA 7+25,00 TO STA 8+55,00

F.A.S. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
657	10-00075-00-BR	CUMBERLAND	18	16
CONTRACT NO 95934			ILLINOIS FEDERAL AID PROJECT	

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

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

PRINTED DATE: *DATE*
FILE NAME: *FILES*



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CHECKED	- SAL
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PLOT DATE	= *DATE*

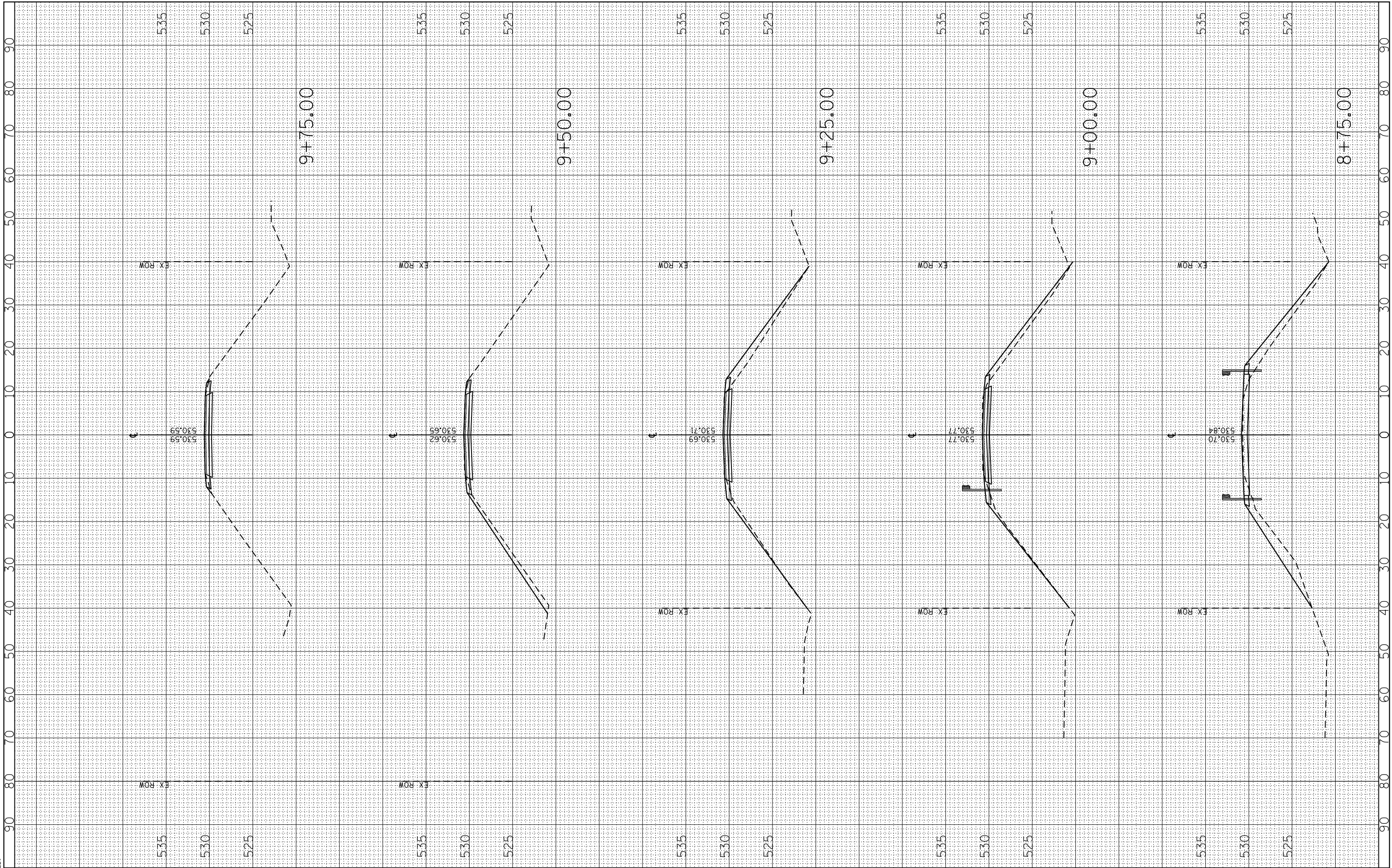
REVISED	-
REVISED	-
REVISED	-
REVISED	-

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**EMBARRAS RIVER OVERFLOW
CROSS-SECTIONS**

SCALE: 1"=10' 1"=V=5' SHEET NO 3 OF 4 SHEETS STA 8+75.00 TO STA 9+75.00

F.A.S. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
657	10-00075-00-BR	CUMBERLAND	18	17
			CONTRACT NO 95934	
ILLINOIS FEDERAL AID PROJECT				



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

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

PRINTED DATE: *DATE*
FILE NAME: *FILES*



USER NAME : *USER*	DESIGNED - JEH	REVISED -
PLOT SCALE : *SCALE*	DRAWN - JEH	REVISED -
PLOT DATE : *DATE*	CHECKED - SAL	REVISED -
	DATE - 04-08-2016	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**EMBARRAS RIVER OVERFLOW
CROSS-SECTIONS**

SCALE: 1"=10' 1"=5' SHEET NO 4 OF 4 SHEETS STA 10+00.00 TO STA 10+00.00

F.A.S. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
657	10-00075-00-BR	CUMBERLAND	18	18
			CONTRACT NO 95934	
ILLINOIS FEDERAL AID PROJECT				

