

04-24-2026 LETTING ITEM 123

SEE SHEET 2 FOR
INDEX OF SHEETS AND
LIST OF ILLINOIS DOT HIGHWAY STANDARDS

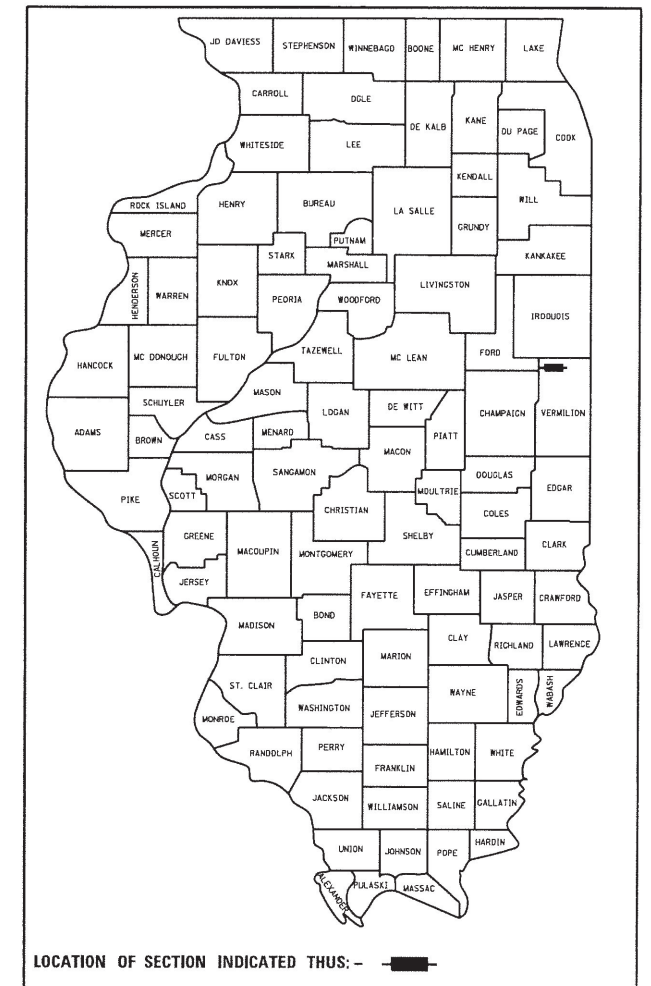
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED
FEDERAL-AID PROJECT

T.R. 13 (4000N)
SECTION 13-02150-00-BR
PROJECT 5PKW(639)
VERMILION COUNTY
BUTLER TOWNSHIP ROAD DISTRICT
C-95-030-25

LOCAL BRIDGE FORMULA PROGRAM AND LOCAL ONLY

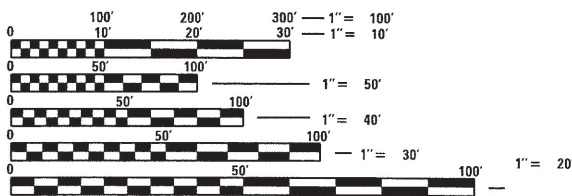
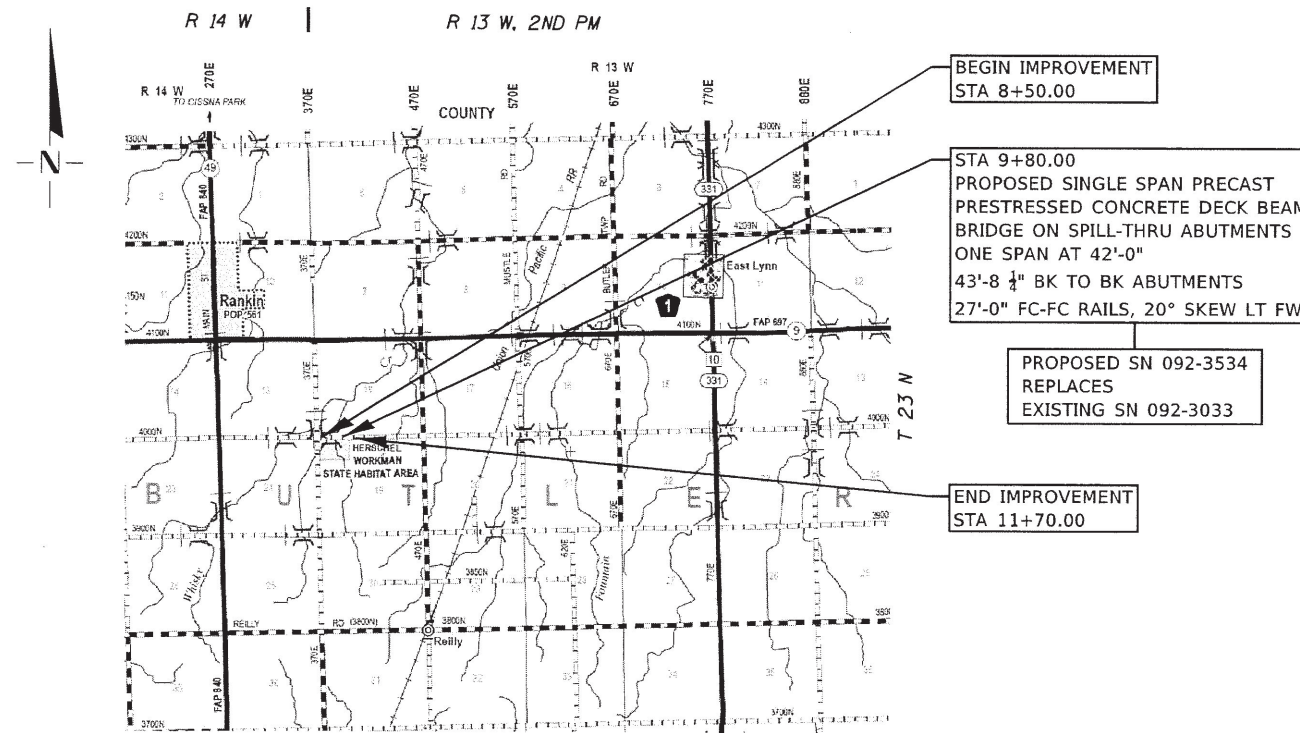
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
13	13-02150-00-BR	VERMILION	20	1
FEDERAL AID PROJECT		ILLINOIS	CONTRACT NO. 91652	



UTILITY CONTACTS:

UTILITY TYPE:
ELECTRIC
EASTERN ILLINI ELECTRIC COOP
(217) 379-2131 EXT. 0431
ATTN: BRAD SMITH

UTILITY TYPE:
TELEPHONE
FRONTIER COMMUNICATIONS
(815) 895-1515
ATTN: KALIN HINSHAW



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



LAYOUT

Net Length of Section = 320 Feet (0.061 Miles)



FUNCTIONAL CLASSIFICATION : LOCAL ROAD
DESIGN SPEED 30 MPH
CURRENT ADT= 20 (2019)



Kimberley S. Cummins 10/01/24
ILLINOIS PROFESSIONAL NO. 56816
(Expires 11/30/25)

APPROVED	<i>10/17</i>	20	24
	<i>Adrian L. Greenwell</i>		
	VERMILION COUNTY ENGINEER		
PASSED	<i>Oct 8</i>	20	24
	<i>Matthew Poe</i>		
	ROAD DISTRICT COMMISSIONER		
PASSED		02/25	20 26
	<i>Averee S. Gore</i>		
	DISTRICT FIVE ENGINEER OF LOCAL ROADS AND STREETS		
RELEASED FOR BID BASED ON LIMITED REVIEW		0225	20 26
	<i>Kensil A. Garnett</i>		
	REGION THREE ENGINEER		
	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

SUMMARY OF QUANTITIES

CODE NO.	ITEM	UNIT	TOTAL QUANTITY
20200100	EARTH EXCAVATION	CU YD	225
20300100	CHANNEL EXCAVATION	CU YD	13
20408000	FURNISHED EXCAVATION	CU YD	80
25000200	SEEDING, CLASS 2	ACRE	0.25
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	23
25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	23
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	23
25100115	MULCH, METHOD 2	ACRE	0.25
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	25
28000400	PERIMETER EROSION BARRIER	FOOT	566
28000500	INLET AND PIPE PROTECTION	EACH	1
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	409
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50105220	PIPE CULVERT REMOVAL	FOOT	30
50200100	STRUCTURE EXCAVATION	CU YD	72
50300225	CONCRETE STRUCTURES	CU YD	24.8
50400305	PRECAST PRESTRESSED CONCRETE DECK BEAMS (17" DEPTH)	SQ FT	1,134

SUMMARY OF QUANTITIES

CODE NO.	ITEM	UNIT	TOTAL QUANTITY
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	3,640
* 50900205	STEEL RAILING, TYPE S1	FOOT	84
51201600	FURNISHING STEEL PILES, HP 12X53	FOOT	280
51202305	DRIVING PILES	FOOT	280
51203600	TEST PILE STEEL HP 12X53	EACH	2
51500100	NAME PLATES	EACH	1
542D0220	PIPE CULVERTS, CLASS D, TYPE 1 15"	FOOT	40
59300100	CONTROLLED LOW-STRENGTH MATERIAL	CU YD	29.5
66600105	FURNISHING AND ERECTING RIGHT OF WAY MARKERS	EACH	4
67100100	MOBILIZATION	L SUM	1
X2810208	STONE RIPRAP, CLASS A4 (SPECIAL)	TON	190
X7011800	TRAFFIC CONTROL AND PROTECTION, STANDARD BLR 21	L SUM	1
XX004566	CONCRETE CUT-OFF WALL	CU YD	6.8
Z0013798	CONSTRUCTION LAYOUT	L SUM	1

* SPECIALTY ITEM



Cummins Engineering Corporation
 JOB # 2775
 FILE NAME = 2775-shr-S00.dgn
 PLOT SCALE = 0.2500 "/>

DESIGNED - CGF
 DRAWN - CGF
 CHECKED - TSH
 DATE - 5/01/2024

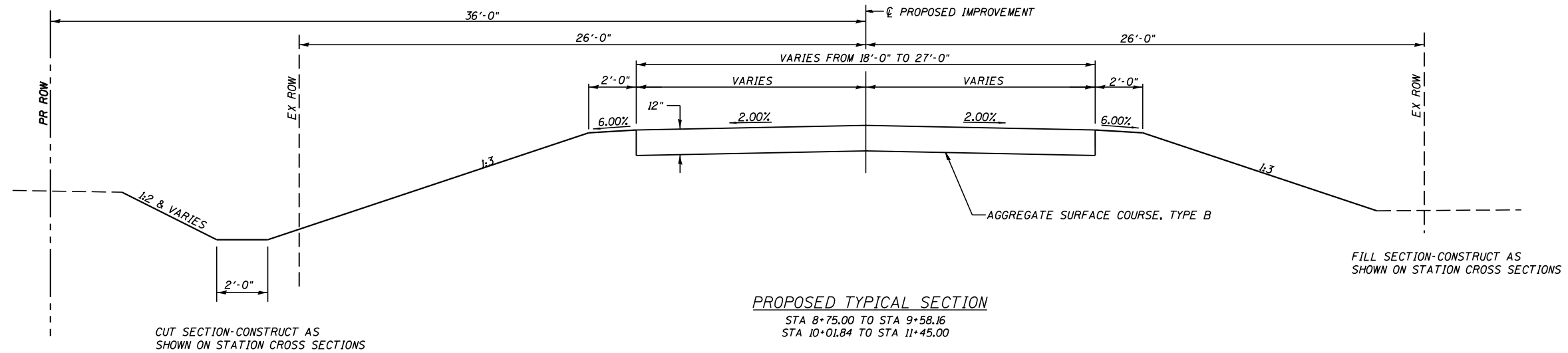
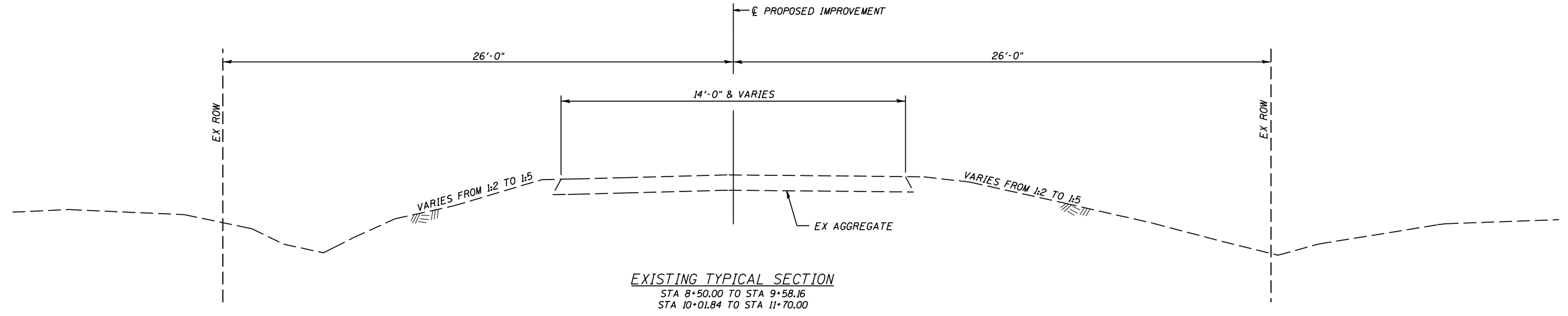
REVISED -
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BUTLER TOWNSHIP ROAD DISTRICT
 TR 13 (4000N) IMPROVEMENTS

SUMMARY OF QUANTITIES

SCALE: SHEET NO. OF SHEETS STA. TO STA.

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
13	13-02150-00-BR	VERMILION	20	3
FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT	
			CONTRACT NO. 91652	



FILL SECTION-CONSTRUCT AS SHOWN ON STATION CROSS SECTIONS

CUT SECTION-CONSTRUCT AS SHOWN ON STATION CROSS SECTIONS

OMISSIONS
 BRIDGE
 STA 9+58.16 TO STA 10+01.84

NOTE:
 TRANSITION FROM EXISTING ROADWAY TO PROPOSED AS FOLLOWS:
 STA 8+50.00 TO STA 8+75.00
 STA 11+45.00 TO STA 11+70.00

TRANSITION FROM PROPOSED ROADWAY TO PROPOSED BRIDGE AS FOLLOWS:
 STA 8+75.00 TO STA 9+58.16
 TRANSITION FROM PROPOSED BRIDGE TO PROPOSED ROADWAY AS FOLLOWS:
 STA 10+01.84 TO STA 11+45.00

EARTHWORK

LOCATION	20200100 EARTH EXCAVATION (with roadway)	EARTH EXCAVATION (no roadway)	EXCAVATION ADJUSTED FOR SHRINKAGE (no roadway)	EMBANKMENT (no roadway)	20408000 FURNISHED EXCAVATION EARTHWORK BALANCE WASTE (+) OR SHORTAGE (-)
STA 8+50.00 TO STA 9+58.16	110	60 (1)	45	70	-25
STA 10+01.84 TO STA 11+70.00	115	45 (1)	35	90	-55
TOTAL	225	105 (1)	80	160	-80
CHANNEL EXCAVATION		13 (2)	0	0	0
TOTAL	225	105	80	160	-80

(1) SHRINKAGE = 25%

(2) ASSUMES EXCAVATED MATERIAL IS NOT SUITABLE FOR EMBANKMENT

NOTES:

ALL EXCAVATED MATERIAL OUTSIDE OF THE ROADWAY SHALL BE WASTED WITHIN THE PROJECT LIMITS.

ALL EXCAVATED MATERIAL WITHIN THE EXISTING ROADWAY IS DEEMED NOT REUSABLE WITHIN THE PROJECT LIMITS AND SHALL BE DISPOSED OF BY THE CONTRACTOR.

SEEDING

LOCATION	25000200 SEEDING, CLASS 2	25100115 MULCH, METHOD 2	25000400 NITROGEN FERTILIZER NUTRIENT	25000500 PHOSPHORUS FERTILIZER NUTRIENT	25000600 POTASSIUM FERTILIZER NUTRIENT
	ACRE	ACRE	POUND	POUND	POUND
LT STA 8+50.00 TO STA 11+70.00	0.12	0.12	11	11	11
RT STA 8+50.00 TO STA 11+70.00	0.07	0.07	6	6	6
TOTAL	0.19	0.19	17	17	17
USE	0.25	0.25	23	23	23

28000250 TEMPORARY EROSION CONTROL SEEDING

LOCATION	POUND
LT STA 8+50.00 TO STA 11+70.00	12
RT STA 8+50.00 TO STA 11+70.00	7
TOTAL	19
USE	25

28000400 PERIMETER EROSION BARRIER

LOCATION	FOOT
RT STA 8+50.00 TO STA 9+49.00	100
LT STA 8+50.00 TO STA 9+76.00	127
RT STA 9+93.00 TO STA 11+70.00	178
LT STA 10+10.00 TO STA 11+70.00	161
TOTAL	566

28000500 INLET AND PIPE PROTECTION

LOCATION	EACH
LT STA 10+89.70	1
TOTAL	1

40200800 AGGREGATE SURFACE COURSE, TYPE B

LOCATION	WIDTH	THICKNESS	TON
STA 8+50.00 TO STA 8+75.00	15' TO 18'	12"	27.62
STA 8+75.00 TO STA 9+58.16	18' TO 27'	12"	124.74
STA 10+01.84 TO STA 11+45.00	27' TO 18'	12"	214.74
STA 11+45.00 TO STA 11+70.00	18' TO 14'	12"	26.57
FE LT STA 10+70.00	24'	6"	14.85
TOTAL			408.52
USE			409

50105220 PIPE CULVERT REMOVAL

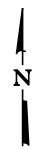
LOCATION	SIZE	FOOT
LT STA 10+54.00 TO STA 10+83.70	15" CMP	30
TOTAL		30

542D0220 PIPE CULVERTS, CLASS D, TYPE 1 15"

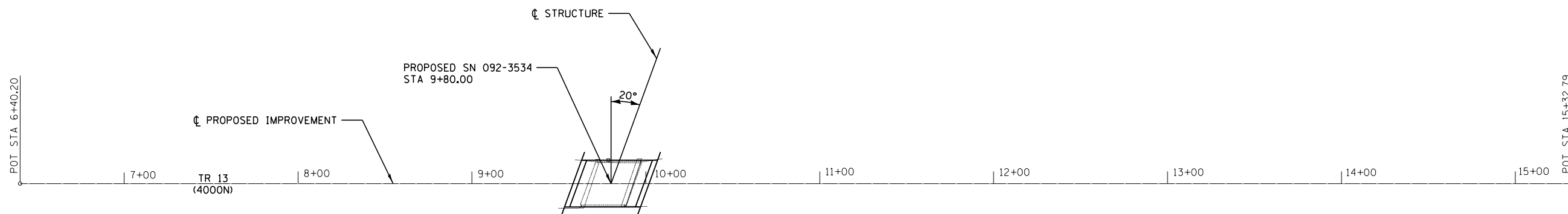
LOCATION	FOOT
LT STA 10+49.70 TO STA 10+89.70	40
TOTAL	40

66600105 FURNISHING AND ERECTING RIGHT OF WAY MARKERS

LOCATION	EACH
26' LT STA 8+75.00	1
36' LT STA 8+75.00	1
26' LT STA 9+73.00	1
36' LT STA 9+77.60	1
TOTAL	4



SEC 18, T23N, R13W, 2ND PM

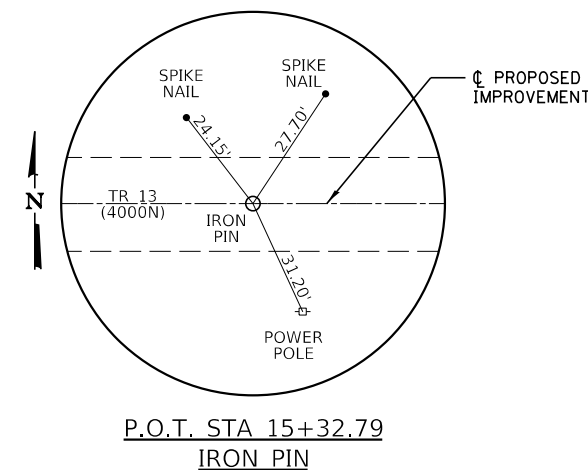
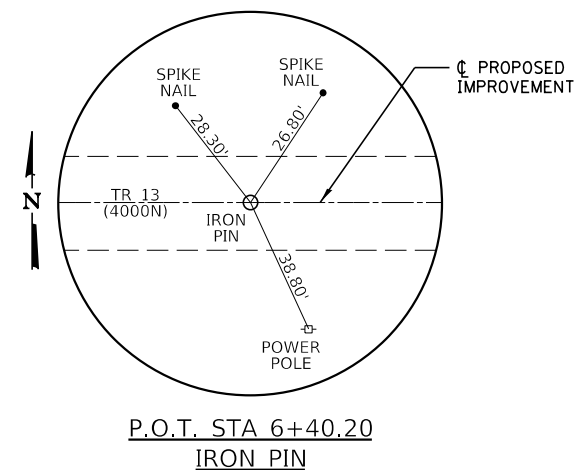


SEC 19, T23N, R13W, 2ND PM

BM*1 - SPIKE NAIL IN POWER POLE
STA. 6+55.1, 35.2' RT
ELEV. 715.83

BM*2 - CHISELED "C" ON SE HUB GUARD
STA. 9+87.5, 13.5' RT
ELEV. 716.69

BM*3 - SPIKE NAIL IN POWER POLE
STA. 13+05.2, 31.7' RT
ELEV. 713.92



CENTERLINE PROPOSED IMPROVEMENT			
CONTROL POINT	STATION	COORDINATES	
		NORTHING	EASTING
P.O.T.	6+40.20	1375652.8815	1111703.6525
P.O.T.	15+32.79	1375670.0515	1112596.0780

MODEL: Default
 FILE NAME: 2775_Vermillion County-TR_13 Butler Whiskey Creek-CADD-Sheets2775-shc-all.dgn

CEC Cummins
Engineering
Corporation
ENGINEERS & SURVEYORS

JOB = 2775
 FILE NAME = 2775-shc-all.dgn
 PLOT SCALE = 80' / in.
 PLOT DATE = 9/19/2024

DESIGNED - CGF
 DRAWN - CGF
 CHECKED - TSH
 DATE - 5/02/2024

REVISED -
 REVISED -
 REVISED -
 REVISED -

**BUTLER TOWNSHIP ROAD DISTRICT
 TR 13 (4000N) IMPROVEMENTS**

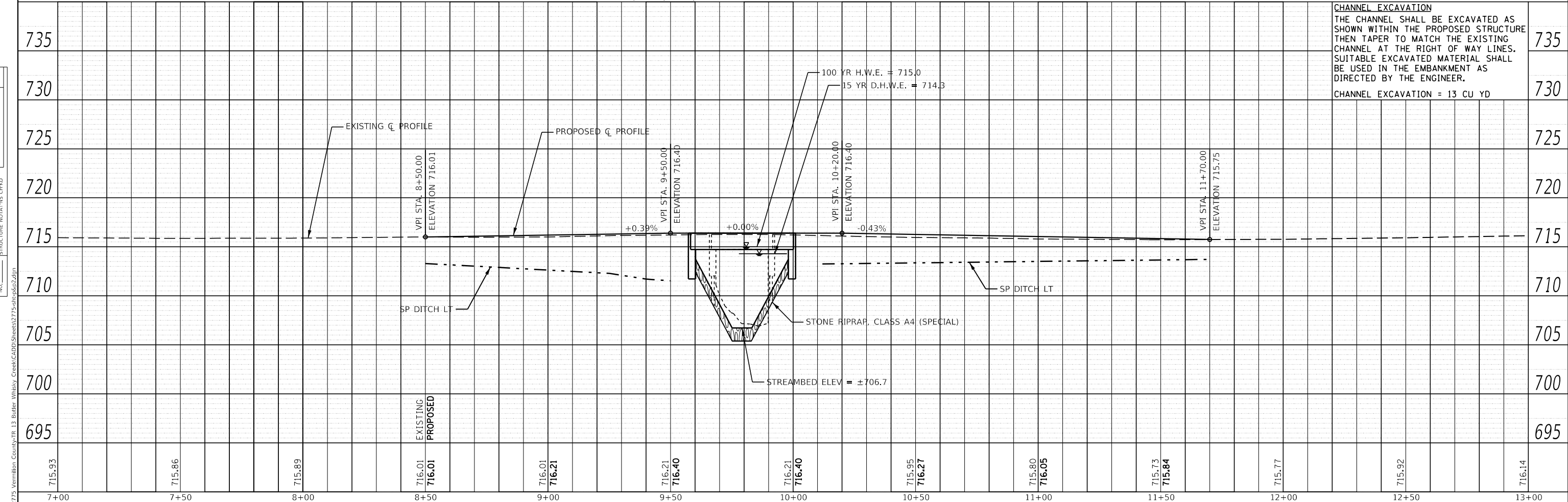
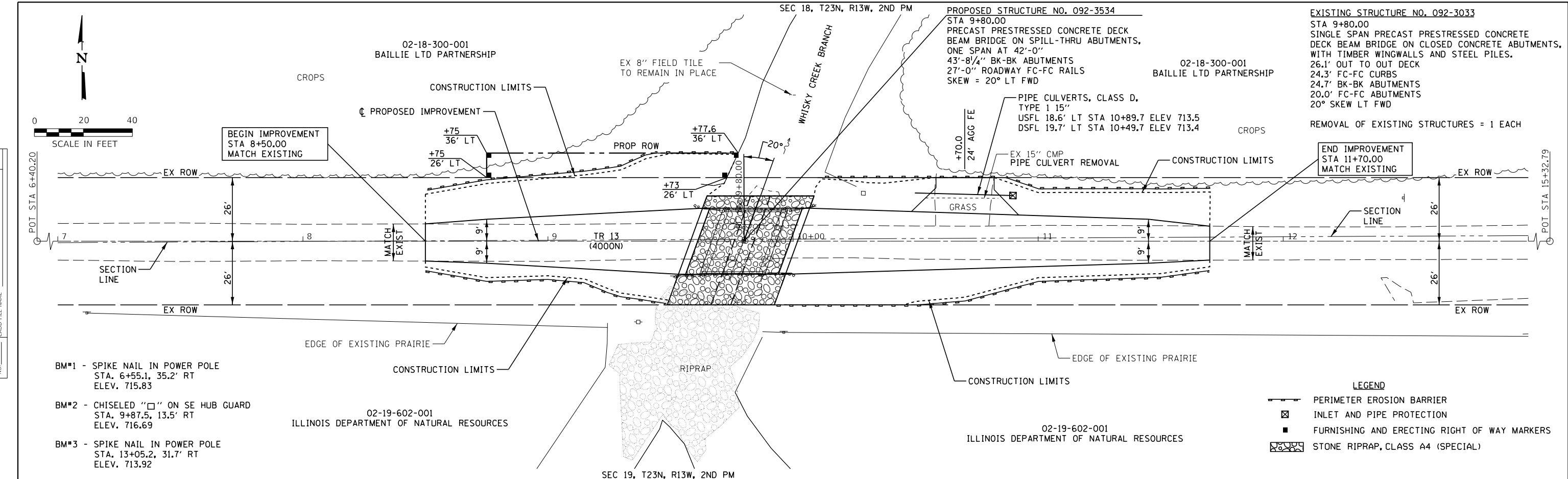
ALIGNMENT, BENCHMARKS, AND CROSS TIES

SCALE: SHEET OF SHEETS STA. TO STA.

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
13	13-02150-00-BR	VERMILION	20	6
CONTRACT NO. 91652				
		ILLINOIS	FED. AID PROJECT	

DATE	
BY	
SURVEYED	
PLOTTED	
ALIGNMENT CHECKED	
NOTE BOOK NO.	
FILE NAME	
FILE NO.	

DATE	
BY	
SURVEYED	
PLOTTED	
GRADES CHECKED	
STRUCTURE NOTATIONS CHECKED	
NOTE BOOK NO.	
FILE NAME	
FILE NO.	



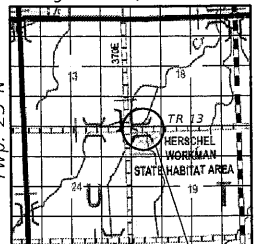
CEC Cummins Engineering Corporation ENGINEERS & SURVEYORS	JOB = 2775 FILE NAME = 2775-shp&p2.dgn PLOT SCALE = 40,000' / in. PLOT DATE = 9/19/2024	DESIGNED - CGF DRAWN - CGF CHECKED - TSH DATE - 5/02/2024	REVISED - REVISED - REVISED - REVISED -	BUTLER TOWNSHIP ROAD DISTRICT TR 13 (4000N) IMPROVEMENTS	PLAN AND PROFILE SCALE: 1" = 40' SHEET OF SHEETS STA. TO STA.	T.R. 13 SECTION 13-02150-00-BR COUNTY VERMILION TOTAL SHEETS 20 SHEET NO. 7 CONTRACT NO. 91652	ILLINOIS FED. AID PROJECT
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Benchmark #1 survey spike in power pole, 35.23' Rt. Sta. 6+55.05, Elev 715.83

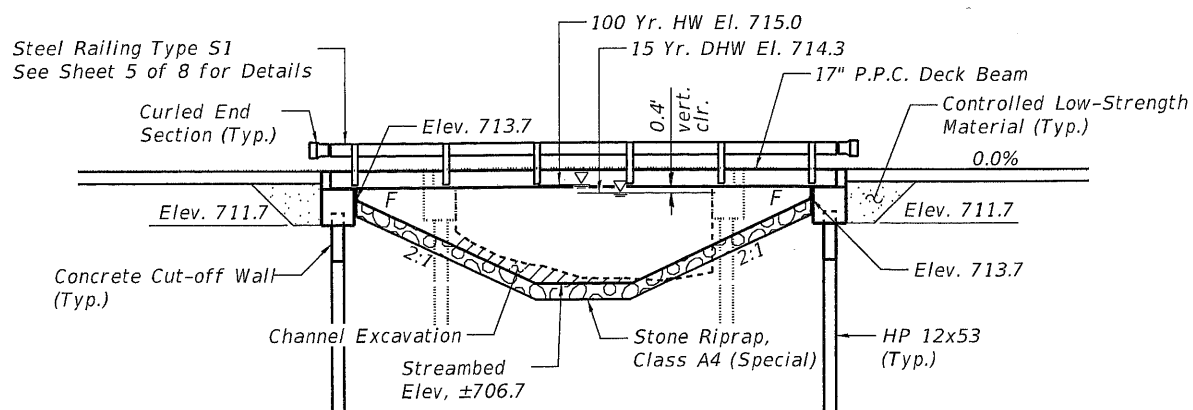
Existing S.N. 092-3033 single span PPC Deck Beam bridge on closed concrete abutments with timber wingwalls and steel piles. The structure is 24.7' back to back abutments. The structure is 26.1' out to out deck. The structure is skewed 20° Lt. fwd.

No salvage.

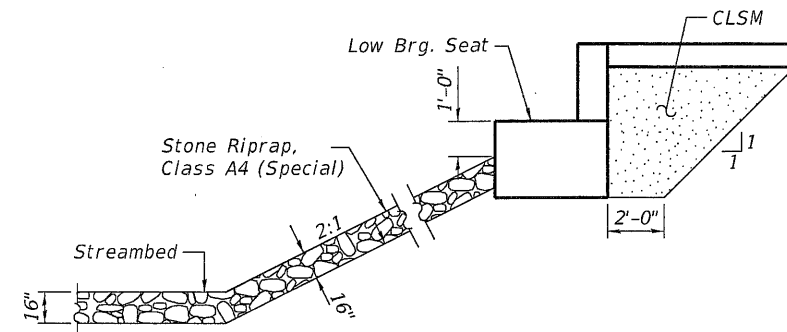
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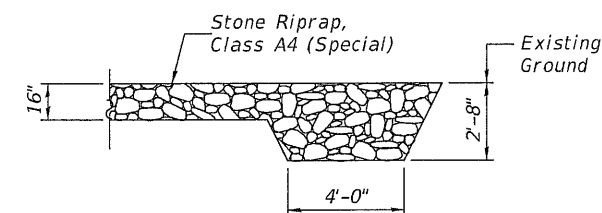
Proposed Structure
LOCATION SKETCH



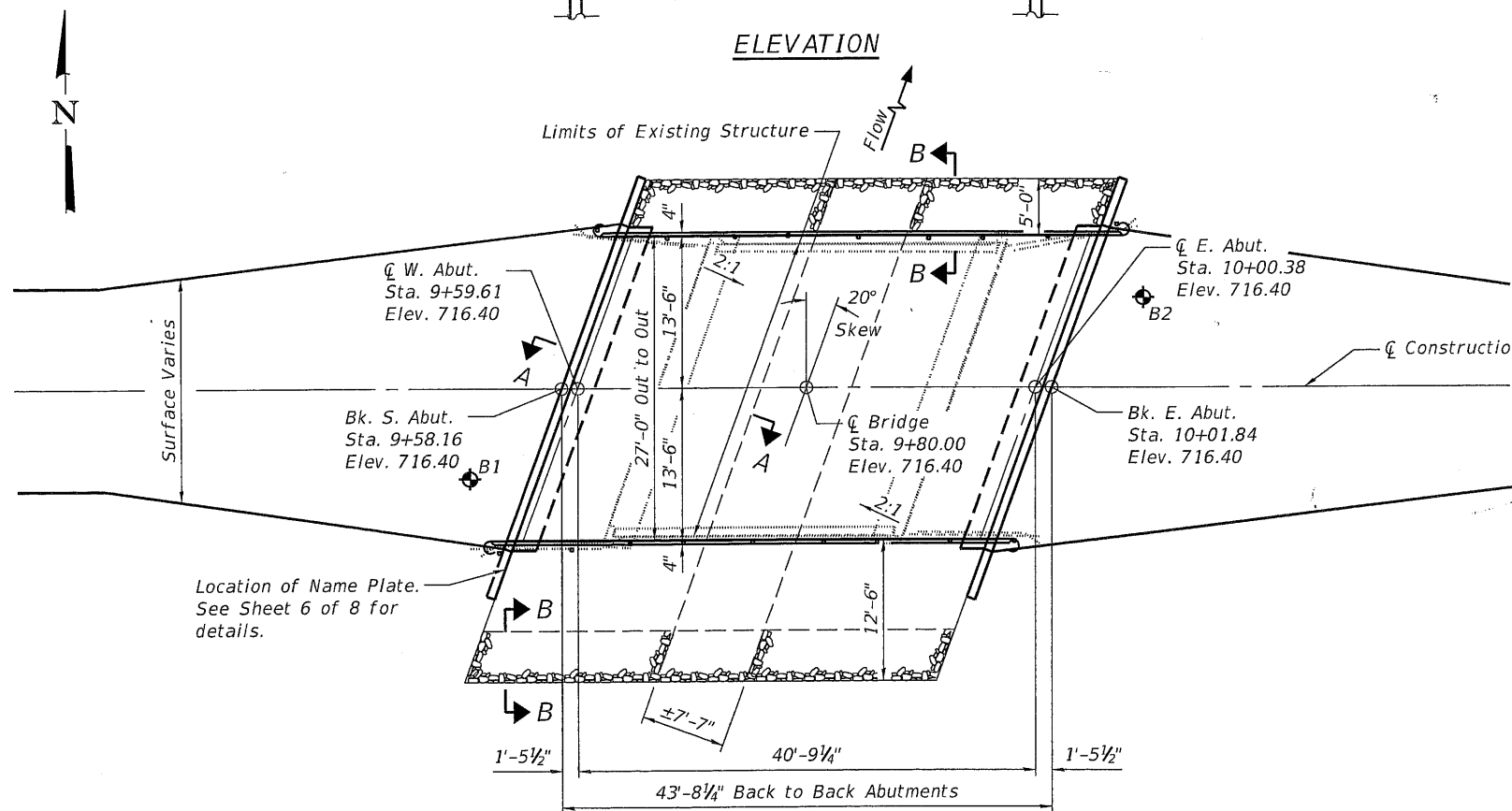
ELEVATION



SECTION A-A



SECTION B-B
STONE RIPRAP DETAIL



PLAN

DESIGN SPECIFICATIONS

2020 AASHTO LRFD Bridge Design Specifications, 9th Edition

LOADING HL-93

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

DESIGN STRESSES

$f'_c = 3,500$ psi (Substructure)
 $f_y = 60,000$ psi (Reinforcement)

PRECAST PRESTRESSED UNITS

$f'_c = 6,000$ psi
 $f'_{ci} = 5,000$ psi
 $f_{pu} = 270,000$ psi ($1/2$ " low relax strands)
 $f_{pbi} = 201,960$ psi ($1/2$ " low relax strands)

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	N. Abut.	S. Abut.	Item 113
	711.7	711.7	8

WATERWAY INFORMATION

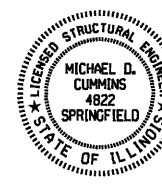
Drainage Area	2.3 Sq. Mi.
Required Opening (15 Yr.)	165 Sq. Ft.
Existing Opening (15 Yr.)	130 Sq. Ft.
Approach Opening (15 Yr.)	0 Sq. Ft.
Proposed Opening (15 Yr.)	165 Sq. Ft.
Required Opening (100 Yr.)	186 Sq. Ft.
Existing Opening (100 Yr.)	137 Sq. Ft.
Approach Opening (100 Yr.)	0 Sq. Ft.
Proposed Opening (100 Yr.)	186 Sq. Ft.
Design Discharge (15 Yr.)	680 C.F.S.
Created Head (15 Yr.)	0.0 Ft.
100 Year Discharge	1110 C.F.S.
100 Yr. Created Head	0.8 Ft.

WHISKY CREEK BRANCH
BUILT 20__ BY
BUTLER ROAD DISTRICT
VERMILION COUNTY
SEC. 13-02150-00-BR
STATION 9+80.00
STR. NO. 092-3534 LOADING HL-93

NAME PLATE
See Std. 515001

"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 'AASHTO Bridge Design Specifications.'"

Michael D. Cummins 10-7-24
ILLINOIS STRUCTURAL NO. 4822 (Expires 11/30/24)



GENERAL NOTES

Reinforcement bars designated (E) shall be epoxy coated.

Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.

Controlled Low Strength Material shall be placed behind the abutments as shown from the bottom of the abutment cap to the top of the subgrade. This material shall be placed throughout the width of the abutment and shall be capped with earth at the ends of the excavation near the wingwalls.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Removal Of Existing Structures	Each		1	1
Structure Excavation	Cu. Yd.		72	72
Concrete Structures	Cu. Yd.		24.8	24.8
Precast Prestressed Concrete Deck Beams (17" Depth)	Sq. Ft.	1134		1134
Reinforcement Bars, Epoxy Coated	Pound		3640	3640
Steel Railing, Type S1	Foot	84		84
Furnishing Steel Piles, HP 12x53	Foot		280	280
Driving Piles	Foot		280	280
Test Pile Steel HP 12x53	Each		2	2
Name Plates	Each		1	1
Controlled Low-Strength Material	Cu. Yd.		29.5	29.5
* Stone Riprap, Class A4 (Special)	Ton		190	190
* Concrete Cut-off Wall	Cu. Yd.		6.8	6.8

* See Special Provisions

GENERAL PLAN AND ELEVATION

TR 13 (4000N) OVER
WHISKY CREEK BRANCH
SECTION 13-02150-00-BR
VERMILION COUNTY
STA 9+80.00
STRUCTURE NO. 092-3534



JOB #	2775
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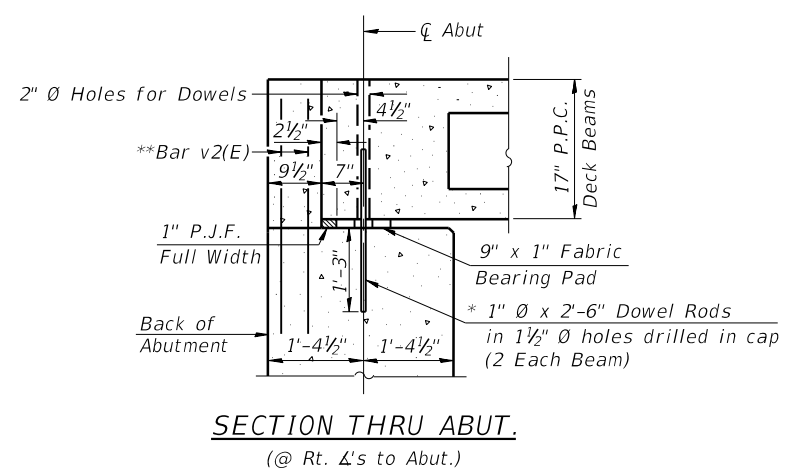
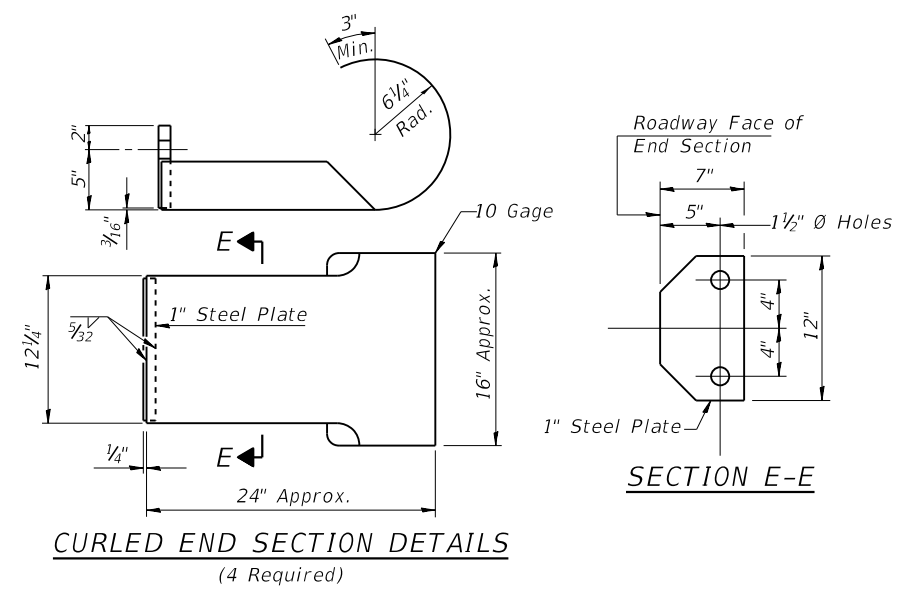
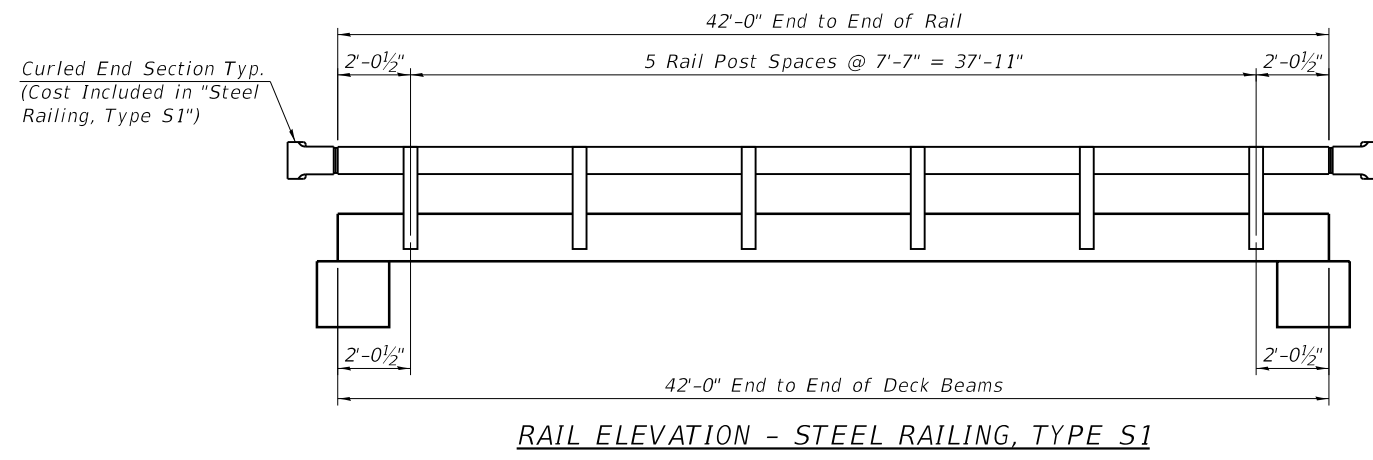
DESIGNED -	EFB	REVISED -	
CHECKED -	AAN	REVISED -	
DRAWN -	EFB	REVISED -	
CHECKED -	MDC	REVISED -	

VERMILION COUNTY
BUTLER ROAD DISTRICT
TR 13 (4000N) IMPROVEMENTS

GENERAL PLAN AND ELEVATION
STRUCTURE NO. 092-3534

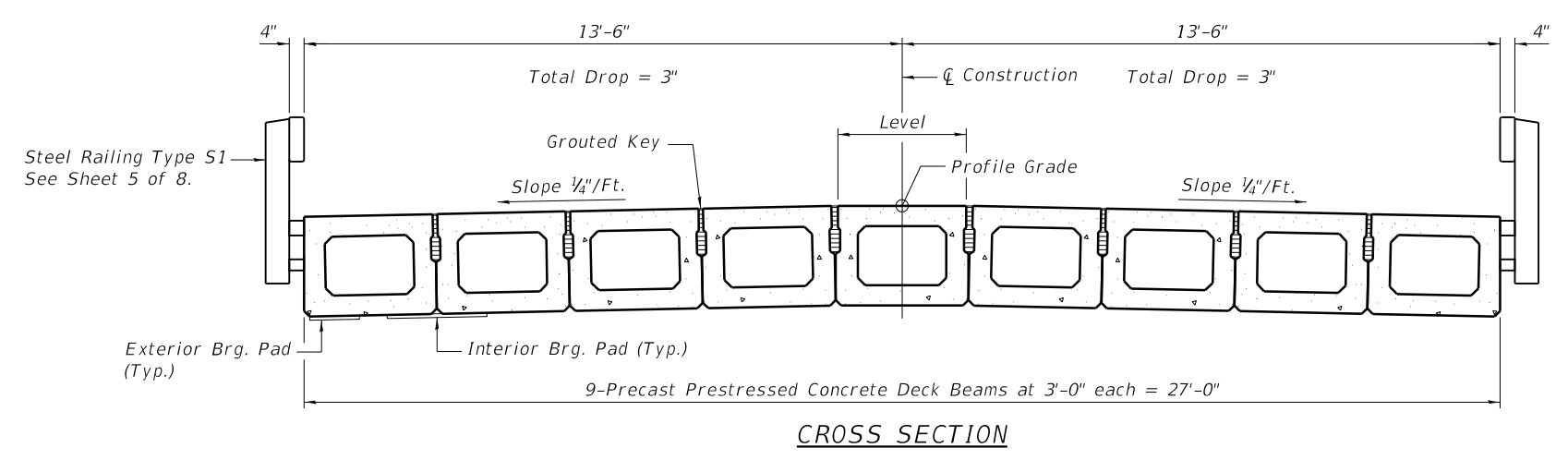
SHEET 1 OF 8 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
13	13-02150-00-BR	VERMILION	20	8
CONTRACT NO. 91652				
ILLINOIS FED. AID PROJECT				



* 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.

** See Sheet 6 of 8 for v2(E) bar



Notes:
See Sheet 3 & 4 of 8 for Superstructure.
See Sheet 5 of 8 for Steel Railing, Type S1.

MODEL: Default
FILE NAME: 092-3534-0000-02-SuperDetails.dgn

CEC Cummins
Engineering
Corporation
ENGINEERS & SURVEYORS

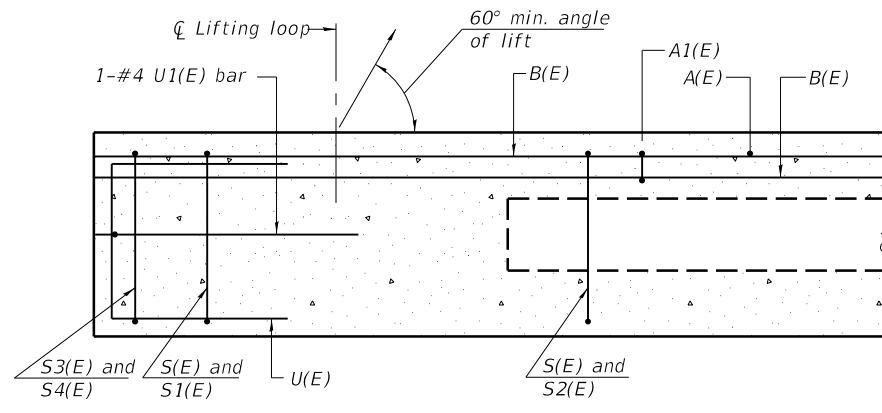
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PLOT DATE = 10/7/2024	DRAWN - EFB	REVISED -
	CHECKED - MDC	REVISED -

**VERMILION COUNTY
BUTLER ROAD DISTRICT
TR 13 (400N) IMPROVEMENTS**

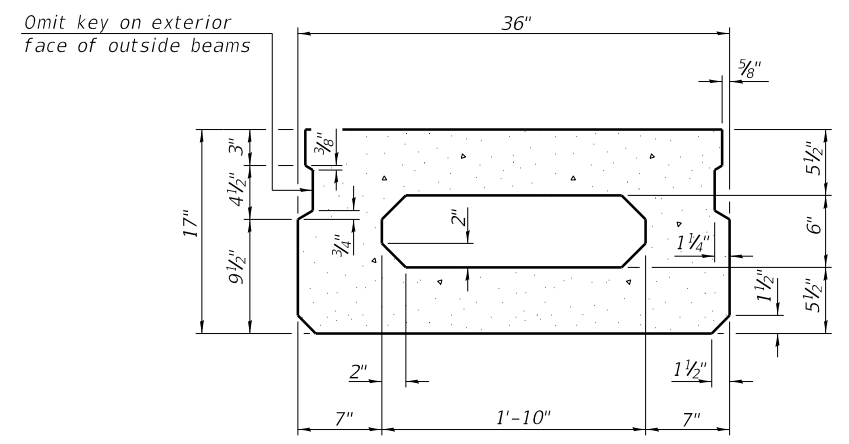
**SUPERSTRUCTURE DETAILS
STRUCTURE NO. 092-3534**

SHEET 2 OF 8 SHEETS

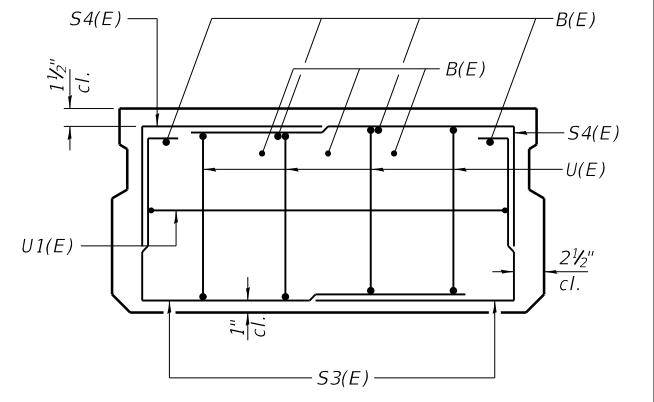
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
13	13-02150-00-BR	VERMILION	20	9
CONTRACT NO. 91652				
ILLINOIS FED. AID PROJECT				



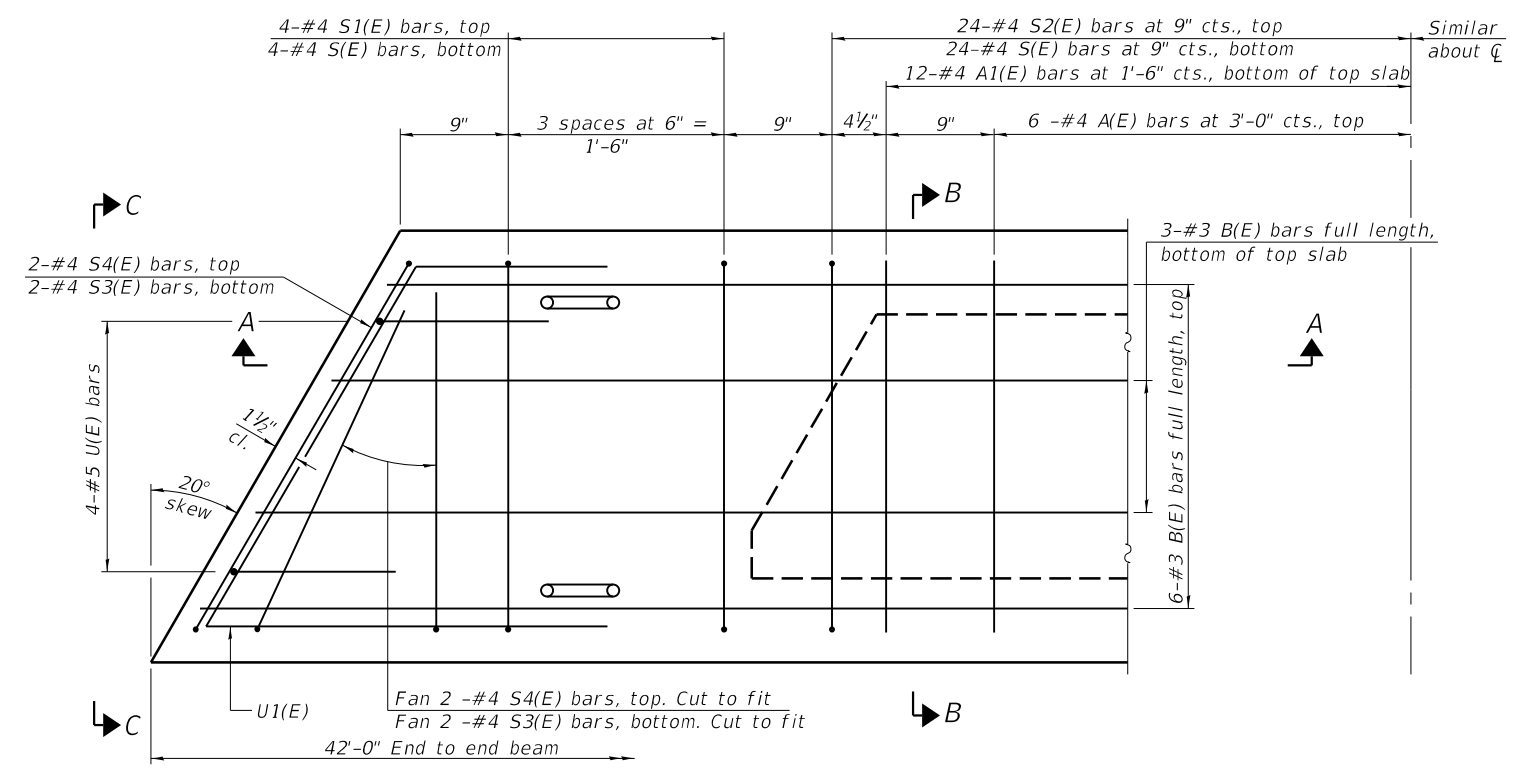
SECTION A-A



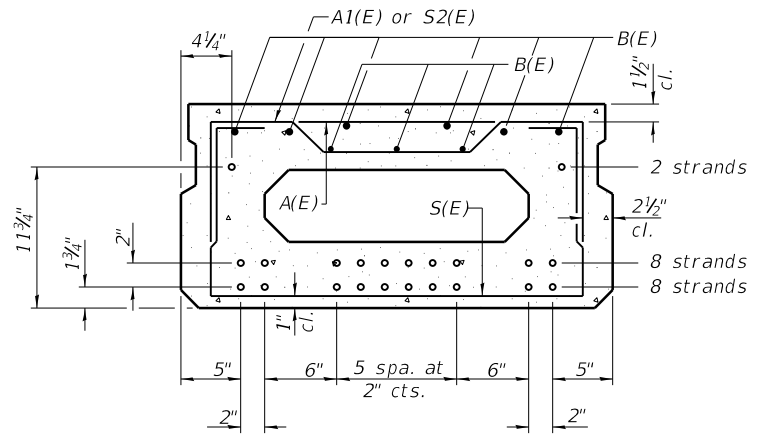
SECTION B-B
(Showing dimensions)



VIEW C-C



PLAN VIEW



SECTION B-B
(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.

BAR LIST
ONE BEAM ONLY
(For information only)

Bar	No.	Size	Length	Shape
A(E)	12	#4	2'-7"	—
A1(E)	24	#4	2'-10"	~
B(E)	9	#3	21'-8"	—
S(E)	56	#4	5'-9"	┌
S1(E)	8	#4	4'-3"	┌
S2(E)	48	#4	4'-6"	┌
S3(E)	8	#4	4'-8"	┌
S4(E)	8	#4	3'-11"	┌
U(E)	8	#5	3'-8"	┌
U1(E)	2	#4	6'-1"	┌

Note: See sheet 4 of 8 for additional details and Bill of Material.

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

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.

MODEL: Default
FILE NAME: H:\21775 Vermillion County-TR_13 Butler_Whisky Creek\CADD\Sheets\Bridg\092-3534-0000-03-04-Super.dgn

PD-1736-L

2-17-2017



JOB = 2775
FILE NAME = 092-3534-0000-03-04-Super.dgn
PLOT DATE = 10/7/2024

DESIGNED - EFB	REVISIONS -
CHECKED - AAN	REVISIONS -
DRAWN - EFB	REVISIONS -
CHECKED - MDC	REVISIONS -

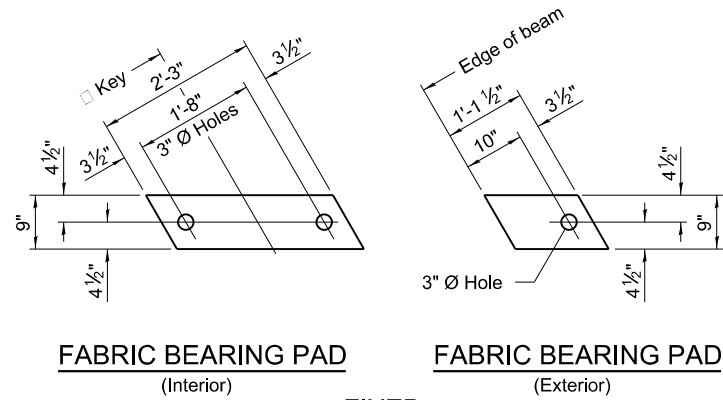
**VERMILION COUNTY
BUTLER ROAD DISTRICT
TR 13 (400N) IMPROVEMENTS**

**17" x 36" PPC DECK BEAM
STRUCTURE NO. 092-3534**

SHEET 3 OF 8 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
13	13-02150-00-BR	VERMILION	20	10
CONTRACT NO. 91652				
ILLINOIS FED. AID PROJECT				

17" x 36" PPC DECK BEAM
STRUCTURE NO.



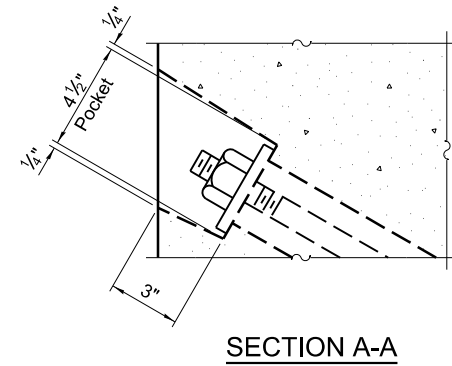
FABRIC BEARING PAD
(Interior)

FABRIC BEARING PAD
(Exterior)

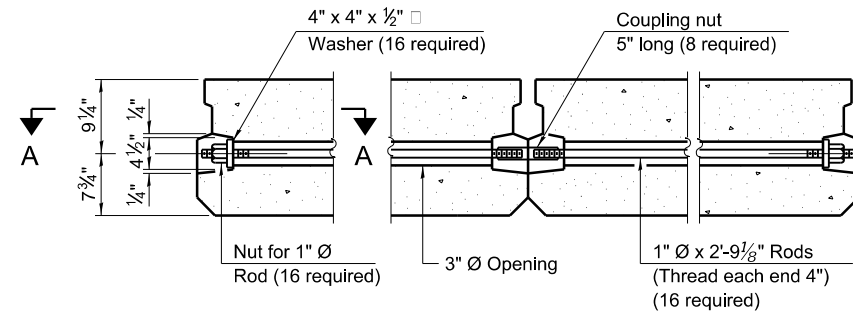
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Notes:

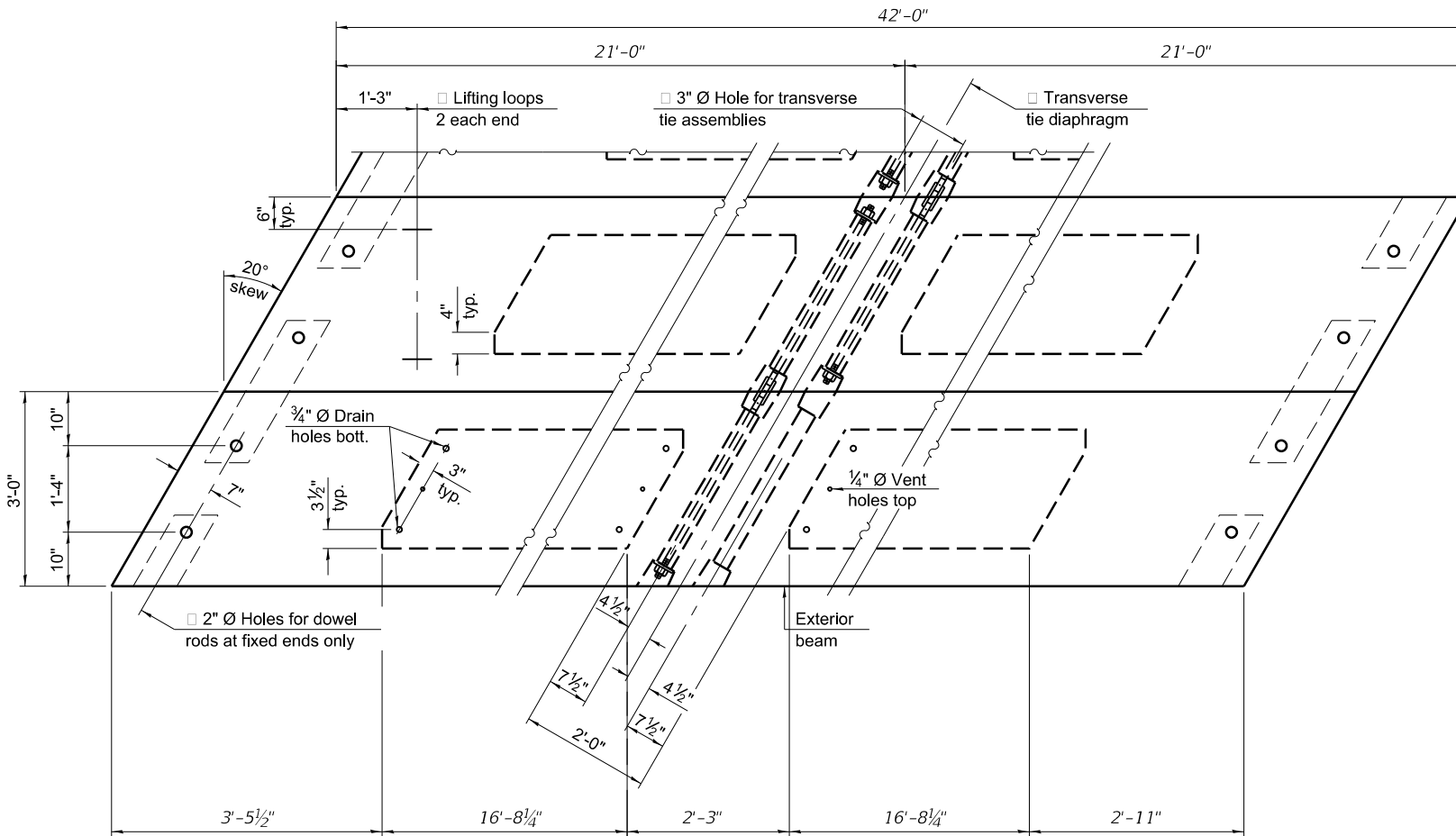
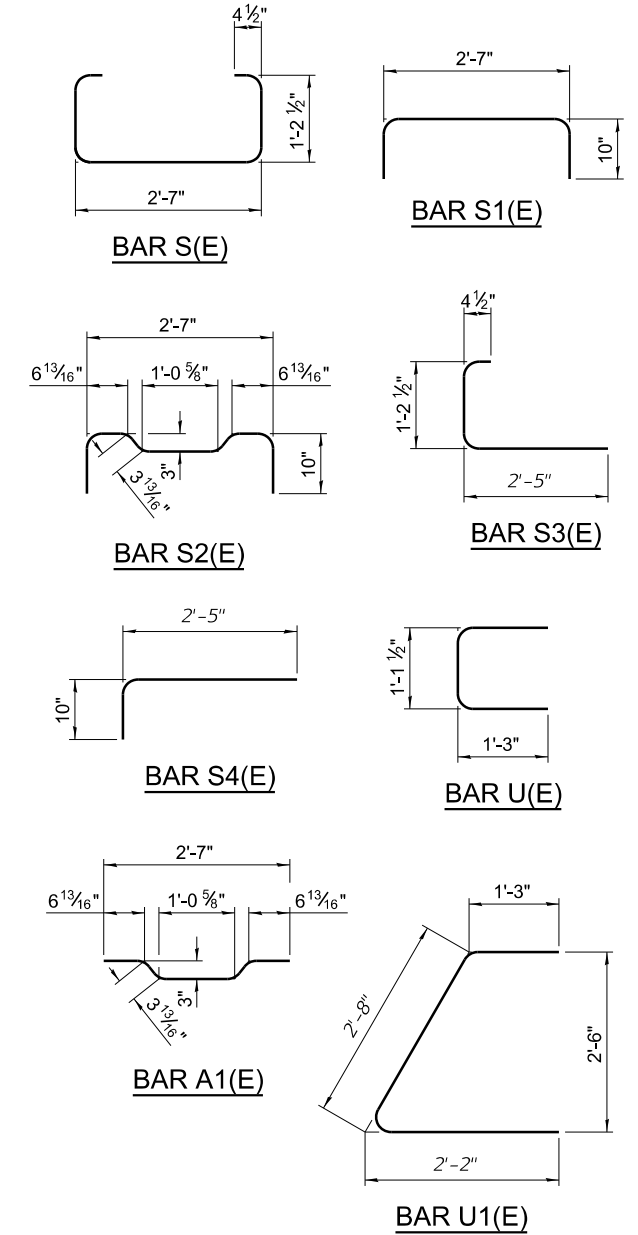
- All bearing pads shall be 1" thick.
- Omit holes when using expansion bearings.
- Expansion bearing pads shall be bonded to the substructure.



SECTION A-A



TYPICAL TRANSVERSE TIE ASSEMBLY

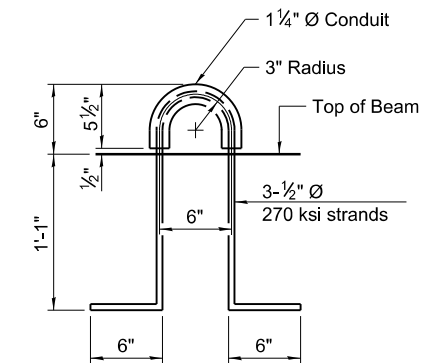


PLAN VIEW

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" diameter 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.

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



LIFTING LOOP DETAIL

BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (17" depth)	Sq. Ft.	1134
---	---------	------

MODEL: Default
FILE NAME: H:\21775 Vermillion County-TR 13 Butler, Whisky Creek\CADD\Sheets\Bridges\092-3534-0000-03-04-Super.dgn

PDD-1736-L

5-15-2023



JOB #	2775
FILE NAME	= 092-3534-0000-03-04-Super.dgn
PLOT DATE	= 10/7/2024

DESIGNED	- EFB
CHECKED	- AAN
DRAWN	- EFB
CHECKED	- MDC

REVISED	-
REVISED	-
REVISED	-
REVISED	-

VERMILION COUNTY
BUTLER ROAD DISTRICT
TR 13 (400N) IMPROVEMENTS

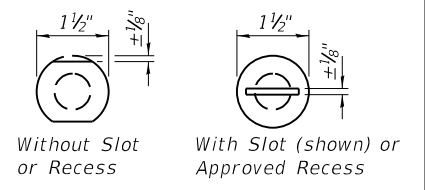
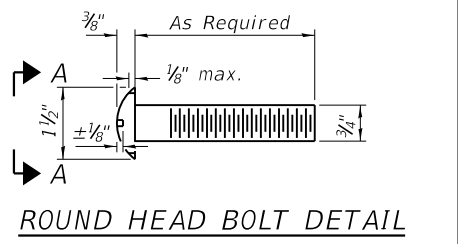
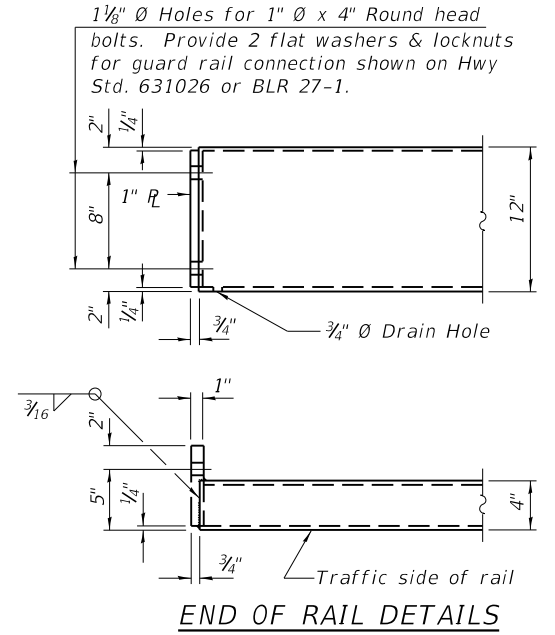
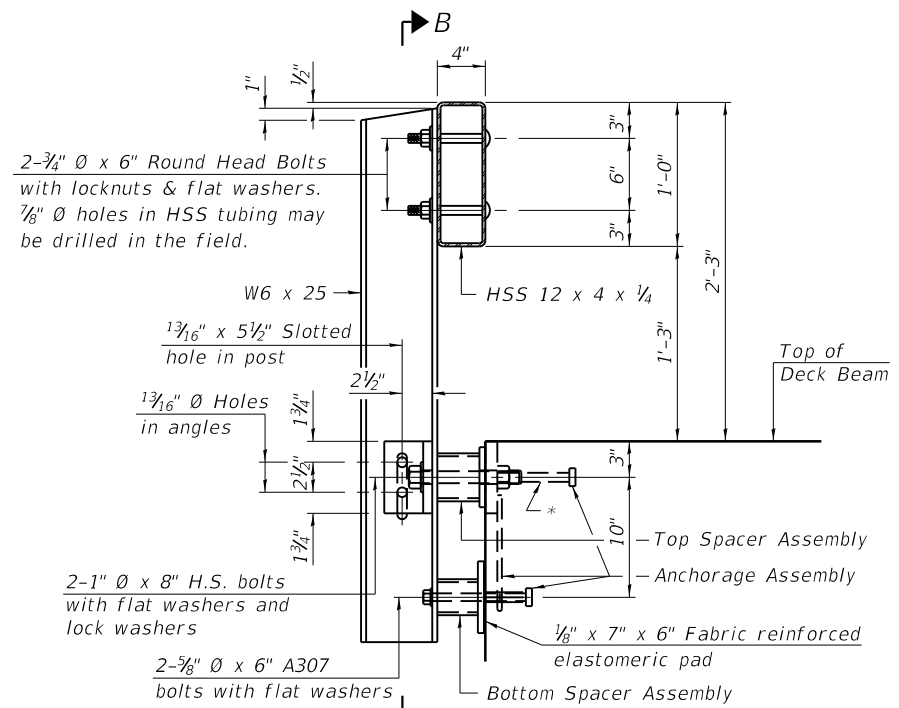
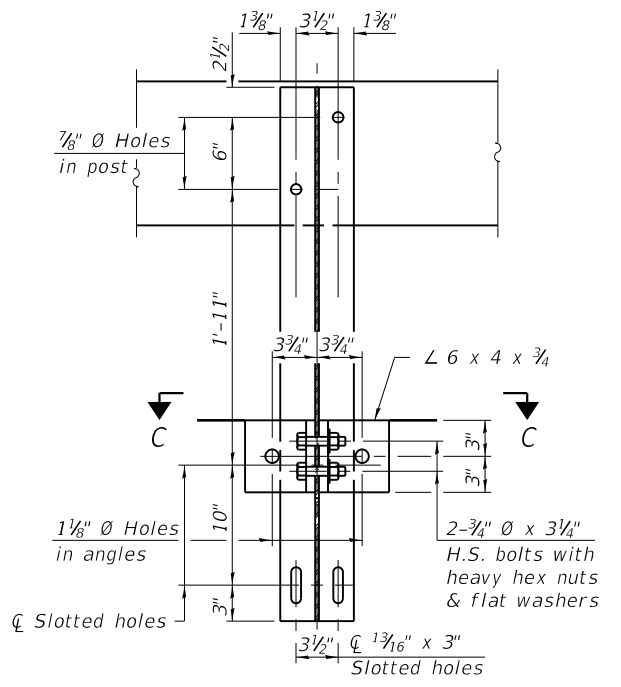
17" x 36" PPC DECK BEAM DETAILS
STRUCTURE NO. 092-3534

SHEET 4 OF 8 SHEETS

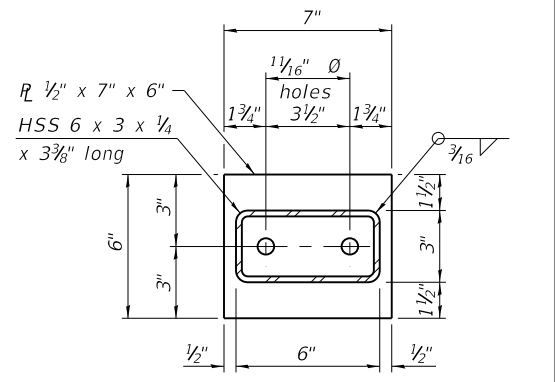
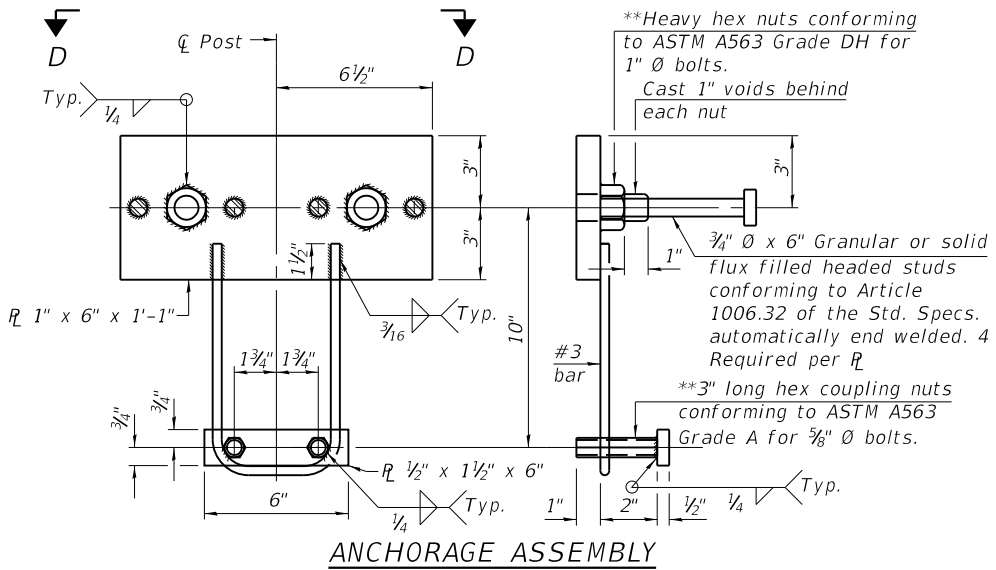
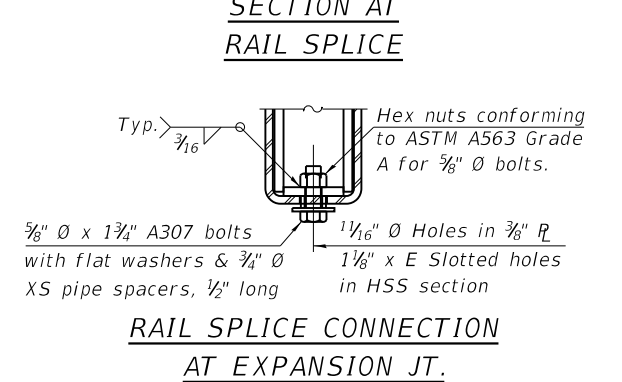
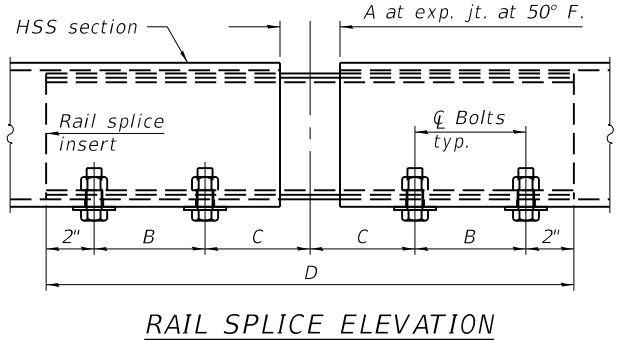
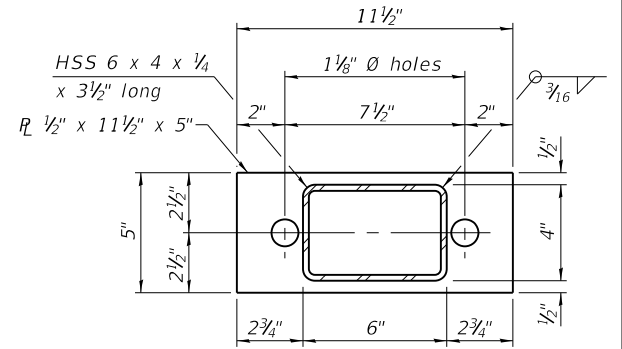
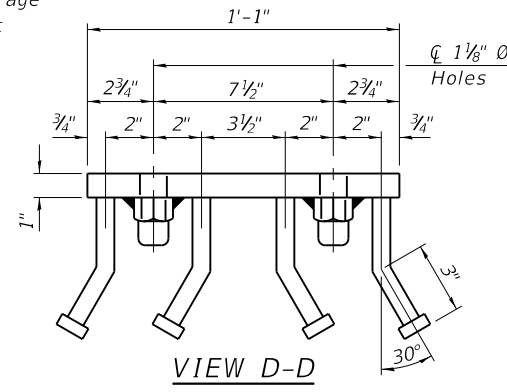
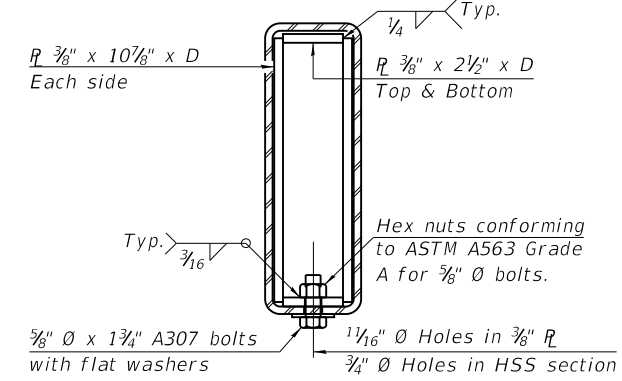
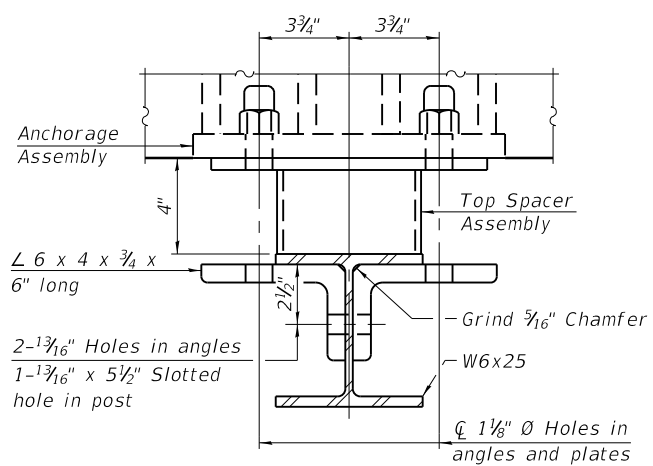
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
13	13-02150-00-BR	VERMILION	20	11
CONTRACT NO. 91652				

ILLINOIS FED. AID PROJECT

Notes:
 A sufficient number of shims of various thicknesses, sized to fit behind the top spacer assembly, 5" x 11 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 S-1.
 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.



* 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.



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 3/16"

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

RAILING CRITERIA

NCHRP 350 Test Level	2
Railing Weight (plf)	50
Max Post Spacing	10'-9"
HMA thickness range (in)	1 1/4" - 3 1/8"

R-23A 10-12-2021

MODEL: Default
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JOB = 2775
 FILE NAME = 092-3534-0000-05-S-1_Rail.dgn
 PLOT DATE = 10/7/2024

DESIGNED - EFB
 CHECKED - AAN
 DRAWN - EFB
 CHECKED - MDC

REVISED -
 REVISED -
 REVISED -
 REVISED -

**VERMILION COUNTY
 BUTLER ROAD DISTRICT
 TR 13 (400N) IMPROVEMENTS**

**STEEL RAILING, TYPE S-1
 STRUCTURE NO. 092-3534**

SHEET 5 OF 8 SHEETS

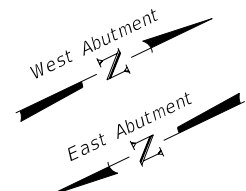
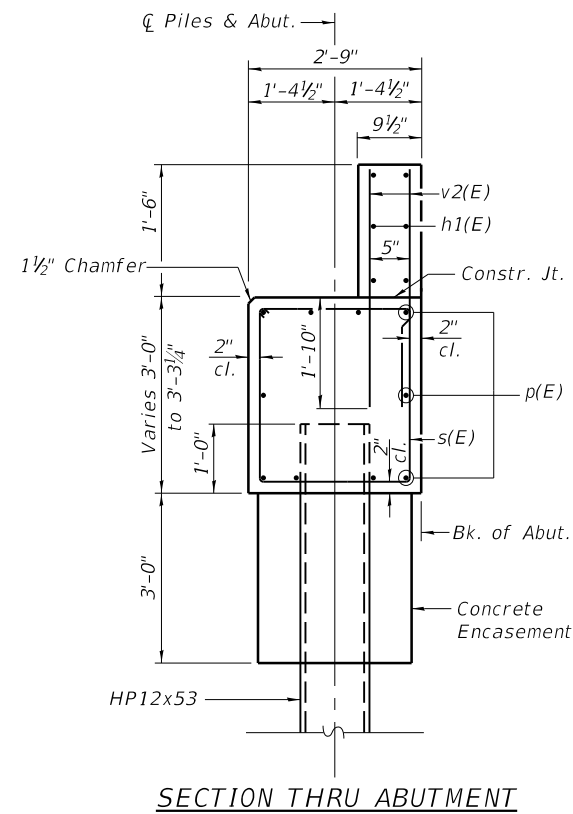
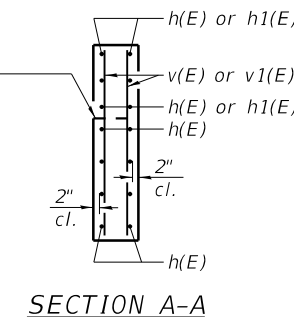
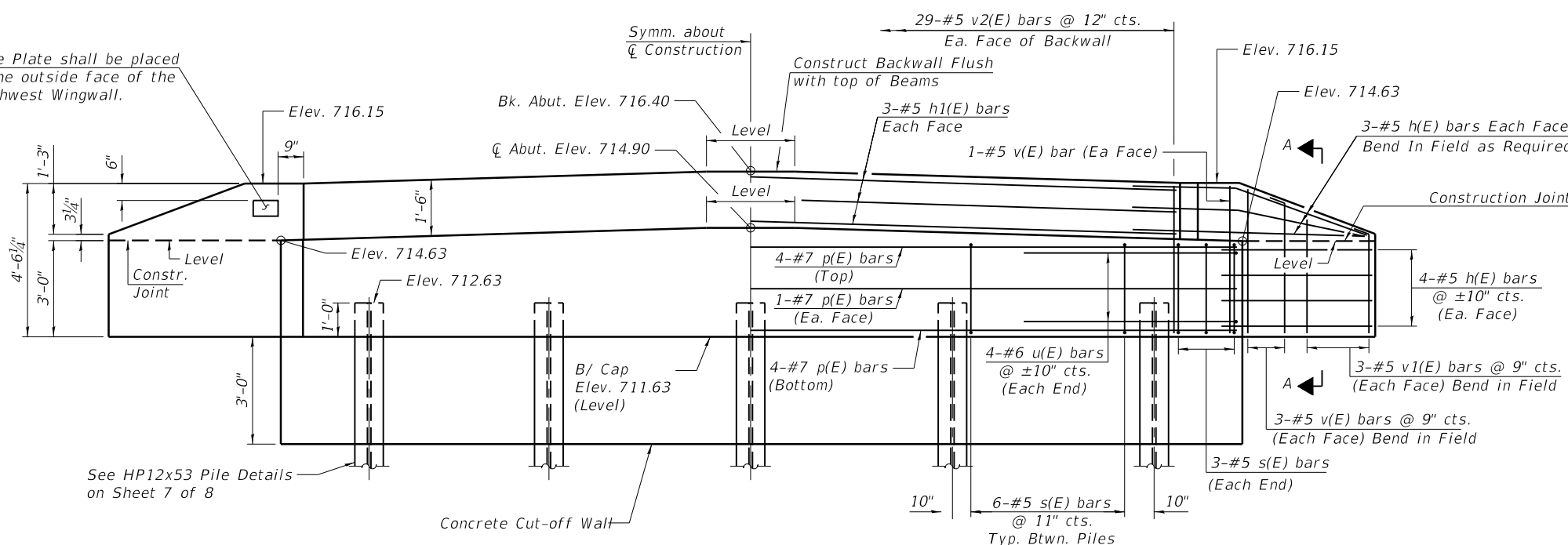
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
13	13-02150-00-BR	VERMILION	20	12
CONTRACT NO. 91652				

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S-1	Foot	84

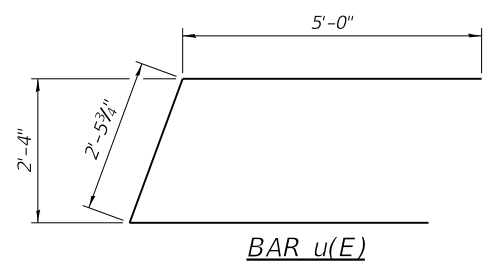
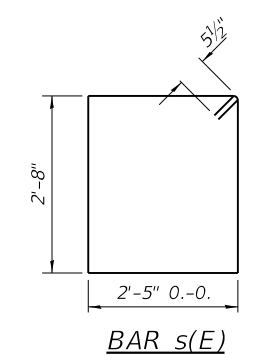
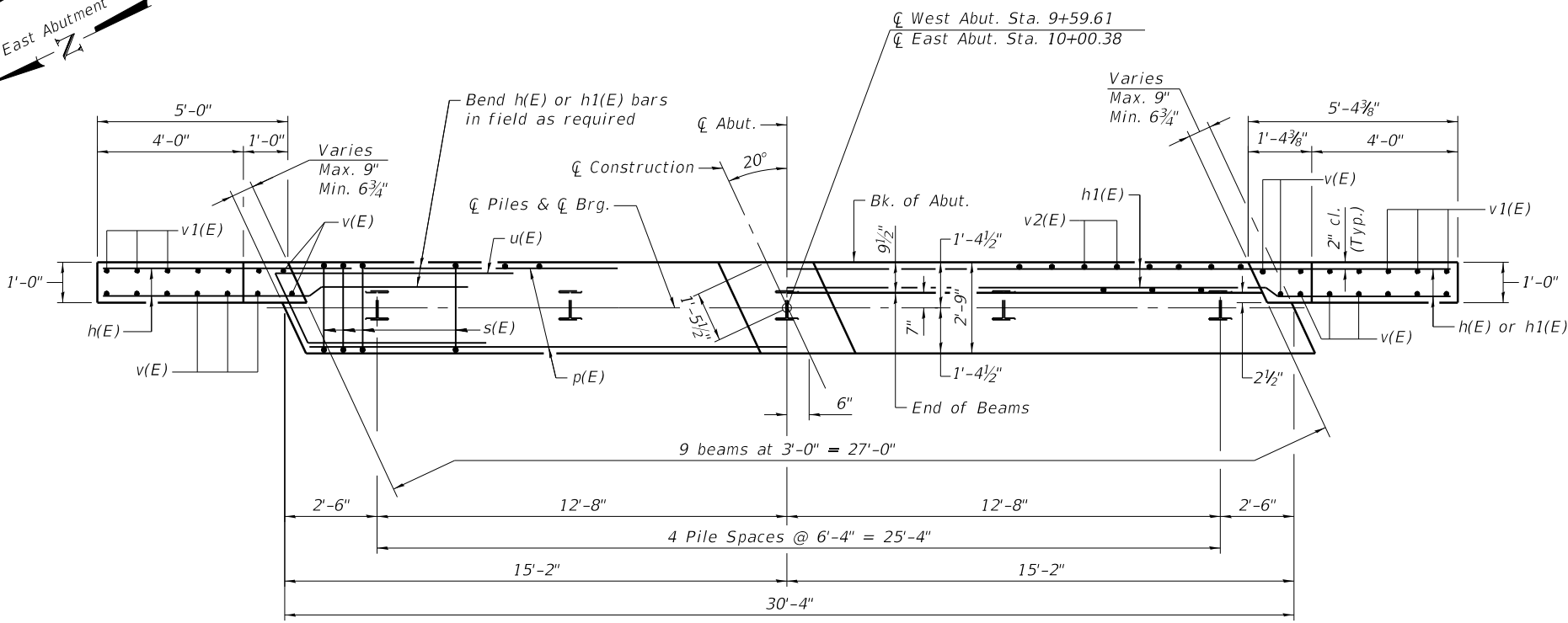
ILLINOIS FED. AID PROJECT

Name Plate shall be placed on the outside face of the Southwest Wingwall.



See HP12x53 Pile Details on Sheet 7 of 8

ELEVATION



PLAN

PILE DATA

Type: HP 12x53
 Nominal Required Bearing: 182 kips
 Factored Resistance Available: 100 kips
 No. Required: 10 piles*
 Estimated Length: 35 ft.**

* Includes one test pile to be driven in a permanent location at each Abutment, as directed by the Engineer, before ordering the remainder of the piles.
 ** Piles shall be driven to a minimum tip elevation of 678.0.

BILL OF MATERIAL TWO ABUTMENTS

BAR	NO.	SIZE	LENGTH	SHAPE
h(E)	56	#5	7'-10"	—
h1(E)	12	#5	28'-4"	—
p(E)	20	#7	30'-0"	—
s(E)	60	#5	11'-1"	□
u(E)	16	#6	12'-6"	▤
v(E)	32	#5	4'-2"	—
v1(E)	24	#5	3'-6"	—
v2(E)	116	#5	3'-2"	—
Concrete Structures			Cu. Yd.	24.8
Reinforcement Bars, Epoxy Coated			Pound	3640
Name Plates			Each	1
Furnishing Steel Piles HP12x53			Foot	280
Driving Piles			Foot	280
Test Pile Steel HP 12x53			Each	2
Structure Excavation			Cu. Yd.	72
Concrete Cut-off Wall			Cu. Yd.	6.7

Note:
 After beams are in place and dowel rods grouted, the backwall and the portions of the wingwalls above the construction joint shall be poured.

MODEL: Default
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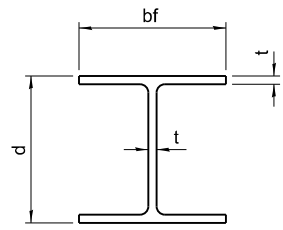
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PLOT DATE =	10/7/2024	DRAWN -	EFB	REVISED -	
		CHECKED -	MDC	REVISED -	

**VERMILION COUNTY
 BUTLER ROAD DISTRICT
 TR 13 (400N) IMPROVEMENTS**

**ABUTMENTS
 STRUCTURE NO. 092-3534**

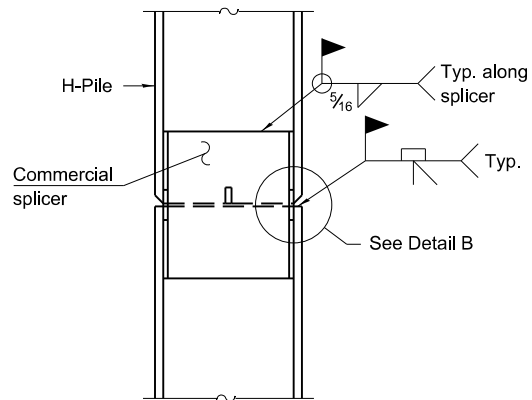
SHEET 6 OF 8 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 91652				
ILLINOIS FED. AID PROJECT				

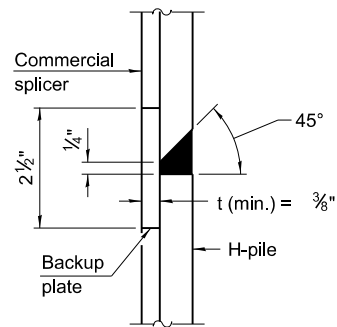


STEEL PILE TABLE

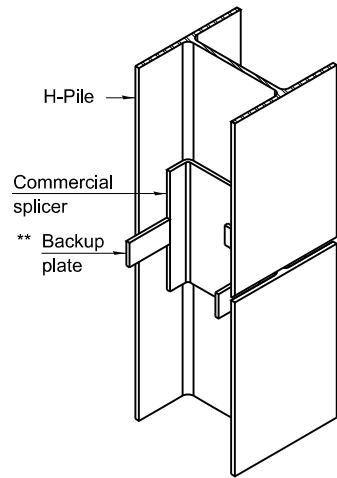
Designation	Depth d	Flange width bf	Web and Flange thickness t	Encasement diameter A
HP 18x181	18	18	1	36"
x157	17 3/4"	17 7/8"	7/8"	36"
x135	17 1/2"	17 3/4"	3/4"	36"
HP 16x183	16 1/2"	16 1/2"	1 1/8"	36"
x162	16 1/4"	16 1/8"	1"	36"
x141	16	16	7/8"	36"
x121	15 3/4"	15 7/8"	3/4"	36"
HP 14x117	14 1/4"	14 7/8"	13/16"	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

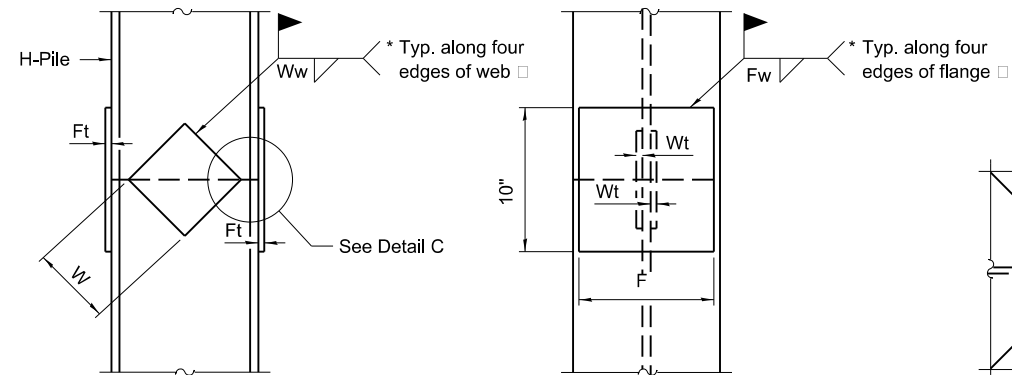


DETAIL B



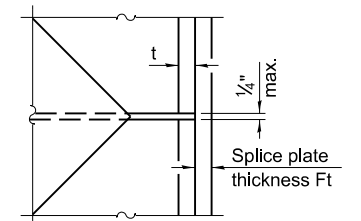
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



ELEVATION

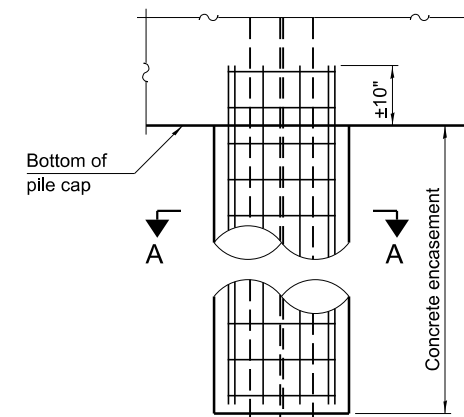
END VIEW



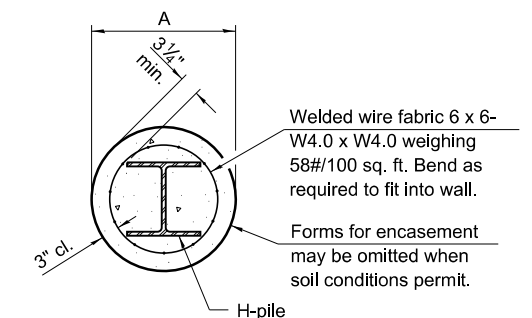
DETAIL C

Designation	F	Ft	Fw	W	Wt	Ww
HP 18x181	15 1/2"	1 1/2"	1"	9 1/2"	7/8"	3/4"
x157	15 1/4"	1 1/4"	1"	9 1/2"	7/8"	3/4"
x135	15 1/4"	1 1/4"	1"	9 1/2"	7/8"	3/4"
HP 16x183	13 3/4"	1 1/2"	1"	8 1/4"	7/8"	3/4"
x162	13 1/2"	1 1/2"	1"	8 1/4"	3/4"	5/8"
x141	13 1/2"	1 1/4"	7/8"	8 1/4"	3/4"	5/8"
x121	13 1/2"	1 1/4"	7/8"	8 1/4"	3/4"	5/8"
HP 14x117	12 1/2"	1 1/4"	7/8"	7 3/4"	5/8"	1/2"
x102	12 1/2"	1"	3/4"	7 3/4"	5/8"	1/2"
x89	12 1/2"	7/8"	1 1/16"	7 3/4"	5/8"	1/2"
x73	12 1/2"	3/4"	9/16"	7 3/4"	5/8"	1/2"
HP 12x84	10"	1"	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"	3/4"	1/2"	6 1/2"	1/2"	3/8"
x53	10"	3/4"	1/2"	6 1/2"	1/2"	3/8"
HP 10x57	8"	7/8"	9/16"	5 1/4"	1/2"	3/8"
x42	8"	3/4"	9/16"	5 1/4"	1/2"	3/8"
HP 8x36	6 3/4"	5/8"	7/16"	4"	1/2"	3/8"

WELDED PLATE FIELD SPLICE

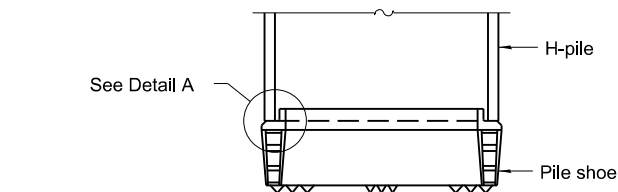


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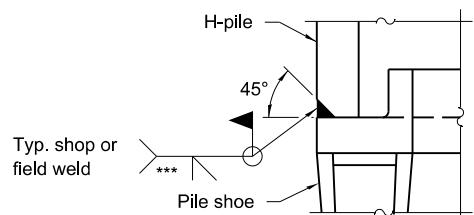


SECTION A-A

INDIVIDUAL PILE CONCRETE ENCASUREMENT (when specified)

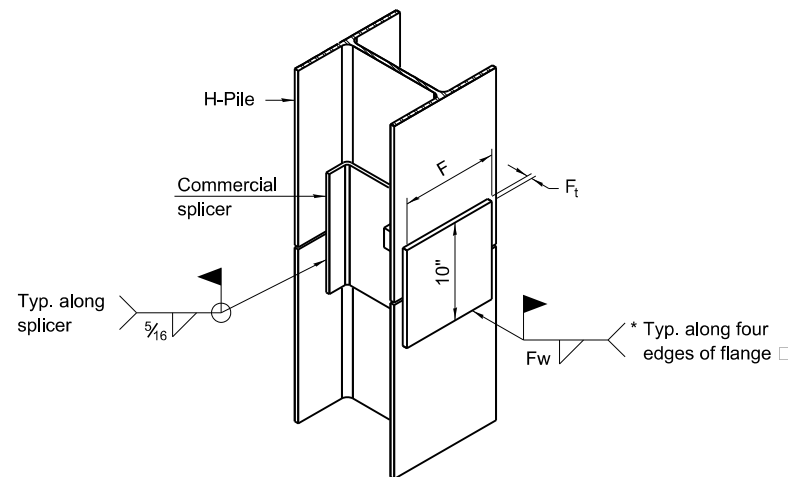


ELEVATION



DETAIL A

SHOE ATTACHMENT



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

- * 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.).

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

MODEL: Default
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F-HP
CEC Cummins Engineering Corporation
ENGINEERS & SURVEYORS

JOB =	2775
FILE NAME =	092-3534-0000-07-H-Piles.dgn
PLOT DATE =	10/7/2024

DESIGNED -	EFB	REVISED -	
CHECKED -	AAN	REVISED -	
DRAWN -	EFB	REVISED -	
CHECKED -	MDC	REVISED -	

VERMILION COUNTY
BUTLER ROAD DISTRICT
TR 13 (400N) IMPROVEMENTS

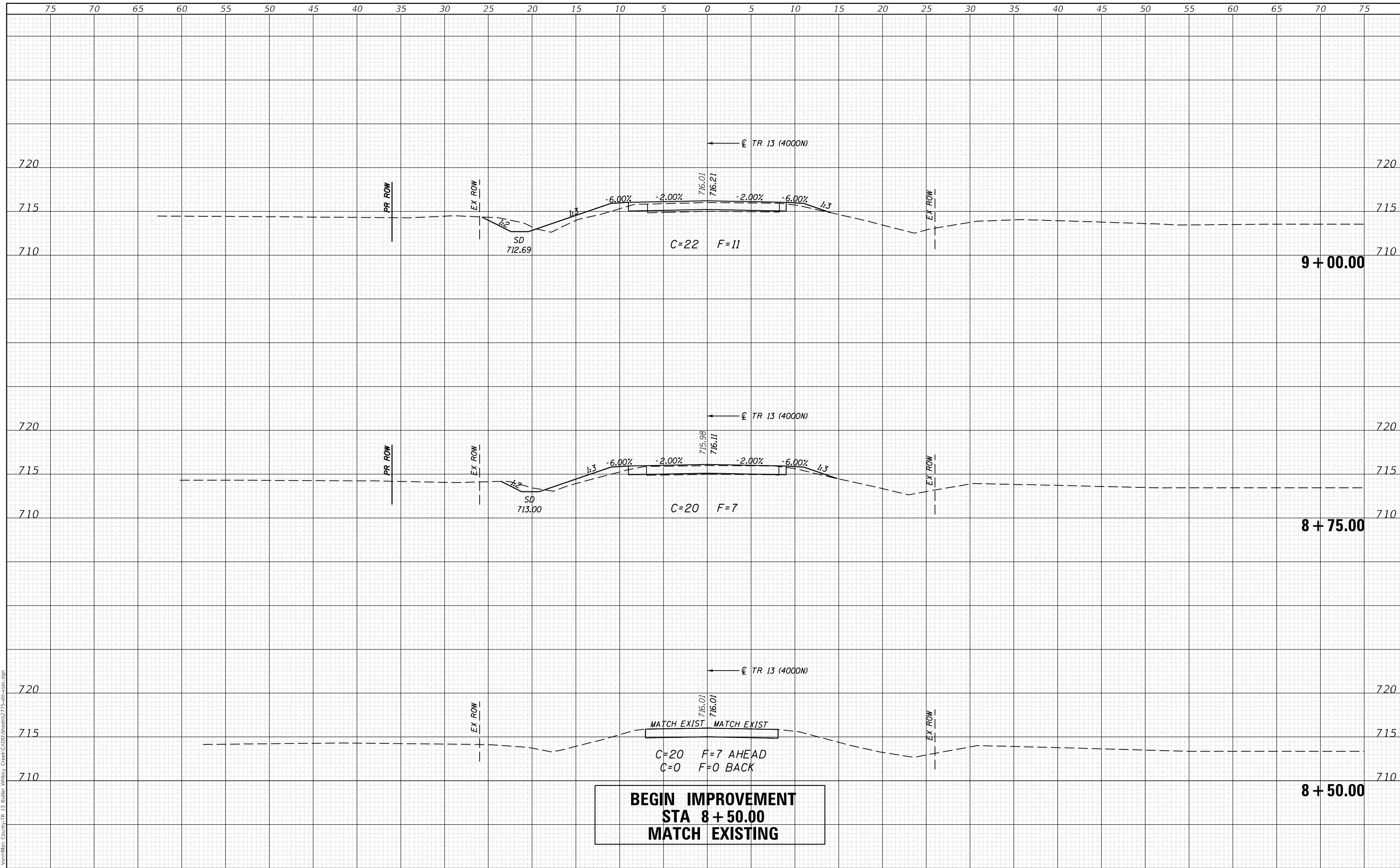
HP PILE DETAILS
STRUCTURE NO. 092-3534

SHEET 7 OF 8 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
13	13-02150-00-BR	VERMILION	20	14
			CONTRACT NO. 91652	
ILLINOIS FED. AID PROJECT				

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

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



**BEGIN IMPROVEMENT
STA 8+50.00
MATCH EXISTING**

C=20 F=7 AHEAD
C=0 F=0 BACK

CEC Cummins Engineering Corporation
ENGINEERS & SURVEYORS

JOB# = 2775
FILE NAME = 2775-sht-xsec.dgn
PLOT SCALE = 10.0000' / in.
PLOT DATE = 9/19/2024

DESIGNED - CGF	REVISED -
DRAWN - CGF	REVISED -
CHECKED - TSH	REVISED -
DATE - 5/02/2024	REVISED -

**BUTLER TOWNSHIP ROAD DISTRICT
TR 13 (4000N) IMPROVEMENTS**

CROSS SECTIONS

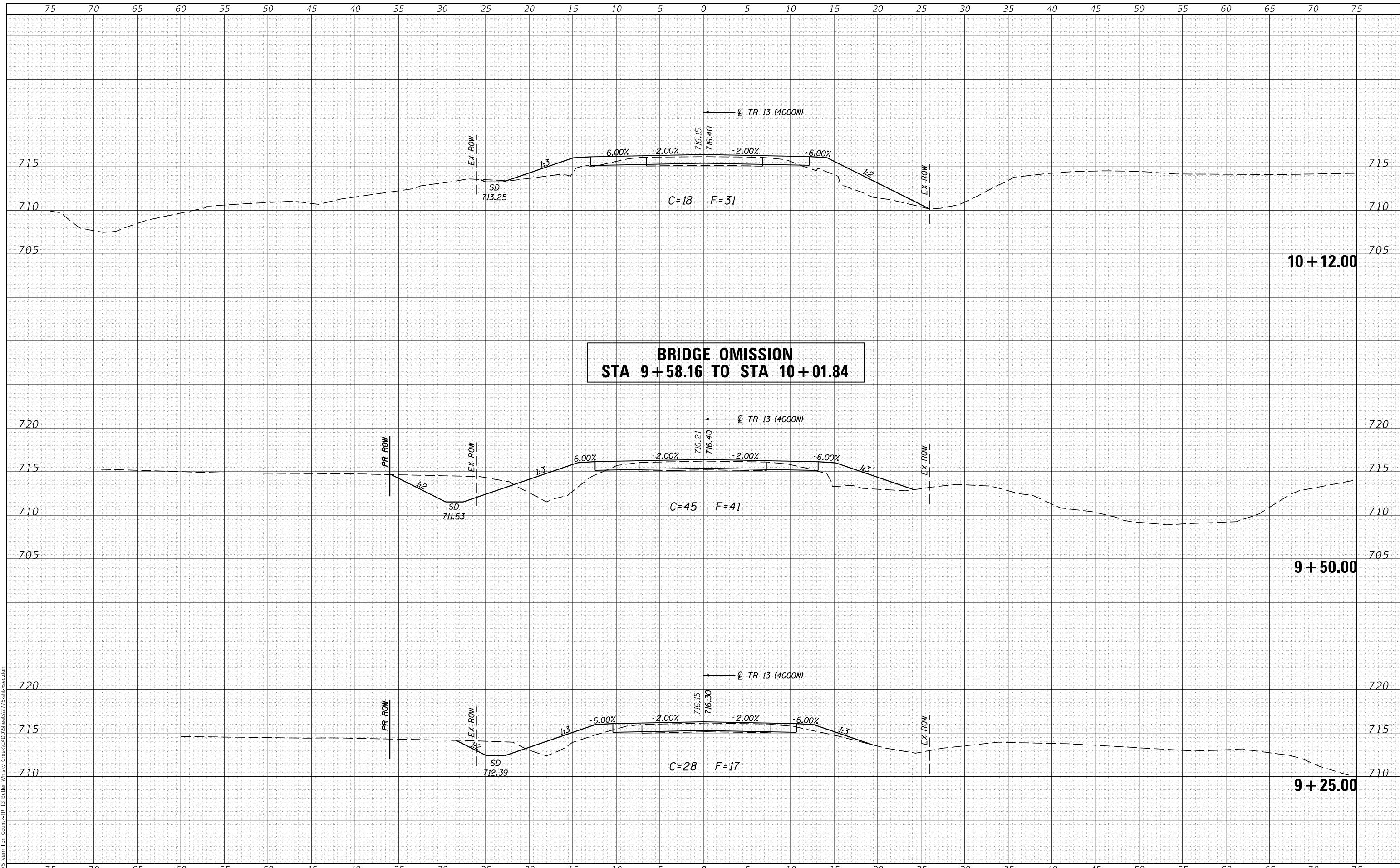
SCALE: SHEET OF SHEETS STA. 8+50.00 TO STA. 9+00.00

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
13	13-02150-00-BR	VERMILION	20	16
CONTRACT NO. 91652				
ILLINOIS FED. AID PROJECT				

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

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

MODEL: Default
FILE NAME: R2775_Vermillion County-TR_13 Butler Whiskey Creek\CADD\Sheets\2775-sh-xsec.dgn



**BRIDGE OMISSION
STA 9+58.16 TO STA 10+01.84**



JOB# = 2775
FILE NAME = 2775-sh-xsec.dgn
PLOT SCALE = 10,0000' / in.
PLOT DATE = 9/19/2024

DESIGNED - CGF
DRAWN - CGF
CHECKED - TSH
DATE - 5/02/2024

REVISED -
REVISED -
REVISED -
REVISED -

**BUTLER TOWNSHIP ROAD DISTRICT
TR 13 (4000N) IMPROVEMENTS**

CROSS SECTIONS

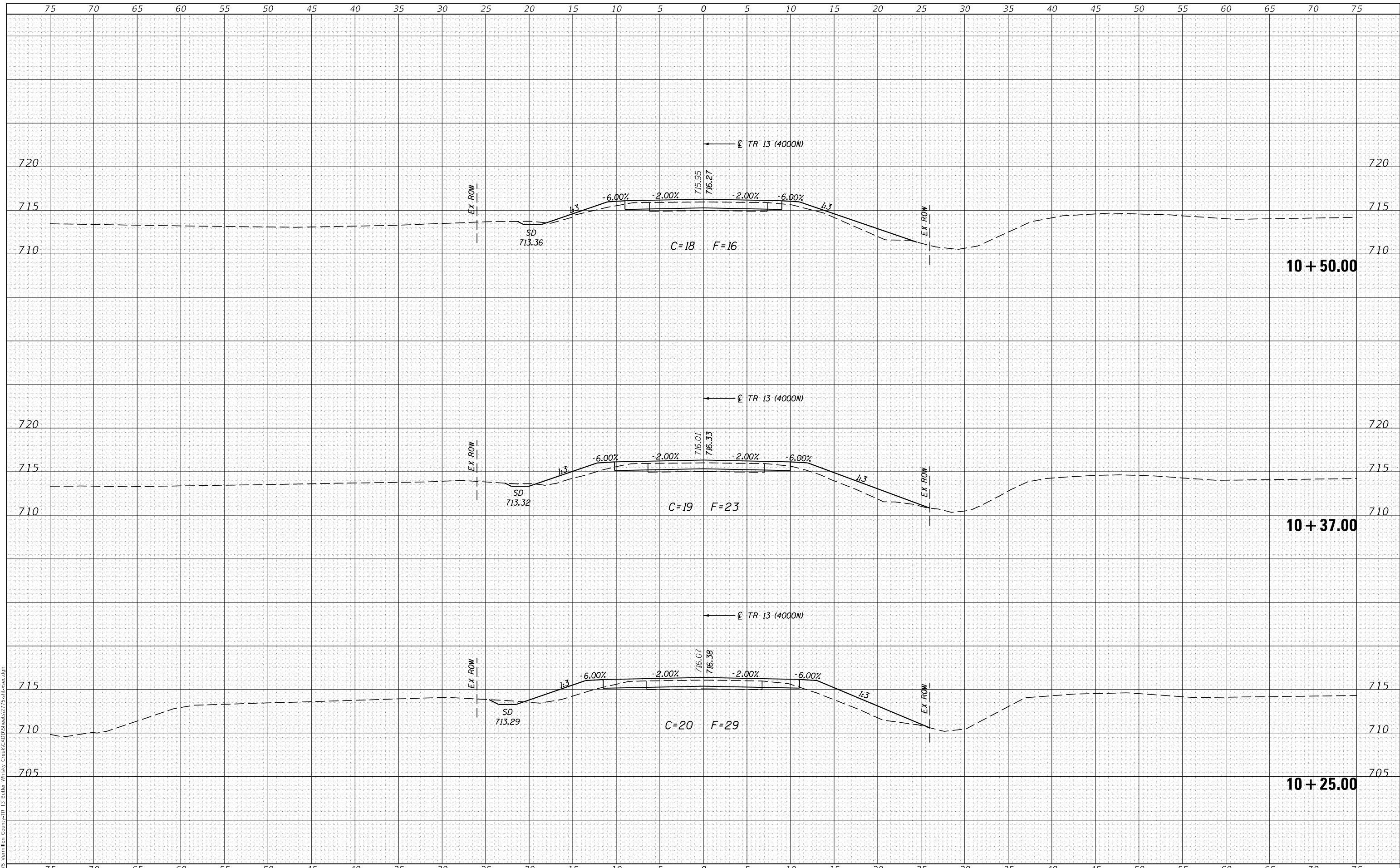
SCALE: SHEET OF SHEETS STA. 9+25.00 TO STA. 10+12.00

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
13	13-02150-00-BR	VERMILION	20	17
CONTRACT NO. 91652				
		ILLINOIS	FED. AID PROJECT	

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

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

MODEL: Defaul
FILE NAME: R2775_Vermilion County-TR_13 Butler Whiskey Creek\CADD\Sheets\2775-sh-xsec.dgn



JOB# = 2775
FILE NAME = 2775-sh-xsec.dgn
PLOT SCALE = 10.0000' / in.
PLOT DATE = 9/19/2024

DESIGNED -	CGF	REVISED -	
DRAWN -	CGF	REVISED -	
CHECKED -	TSH	REVISED -	
DATE -	5/02/2024	REVISED -	

**BUTLER TOWNSHIP ROAD DISTRICT
TR 13 (4000N) IMPROVEMENTS**

CROSS SECTIONS

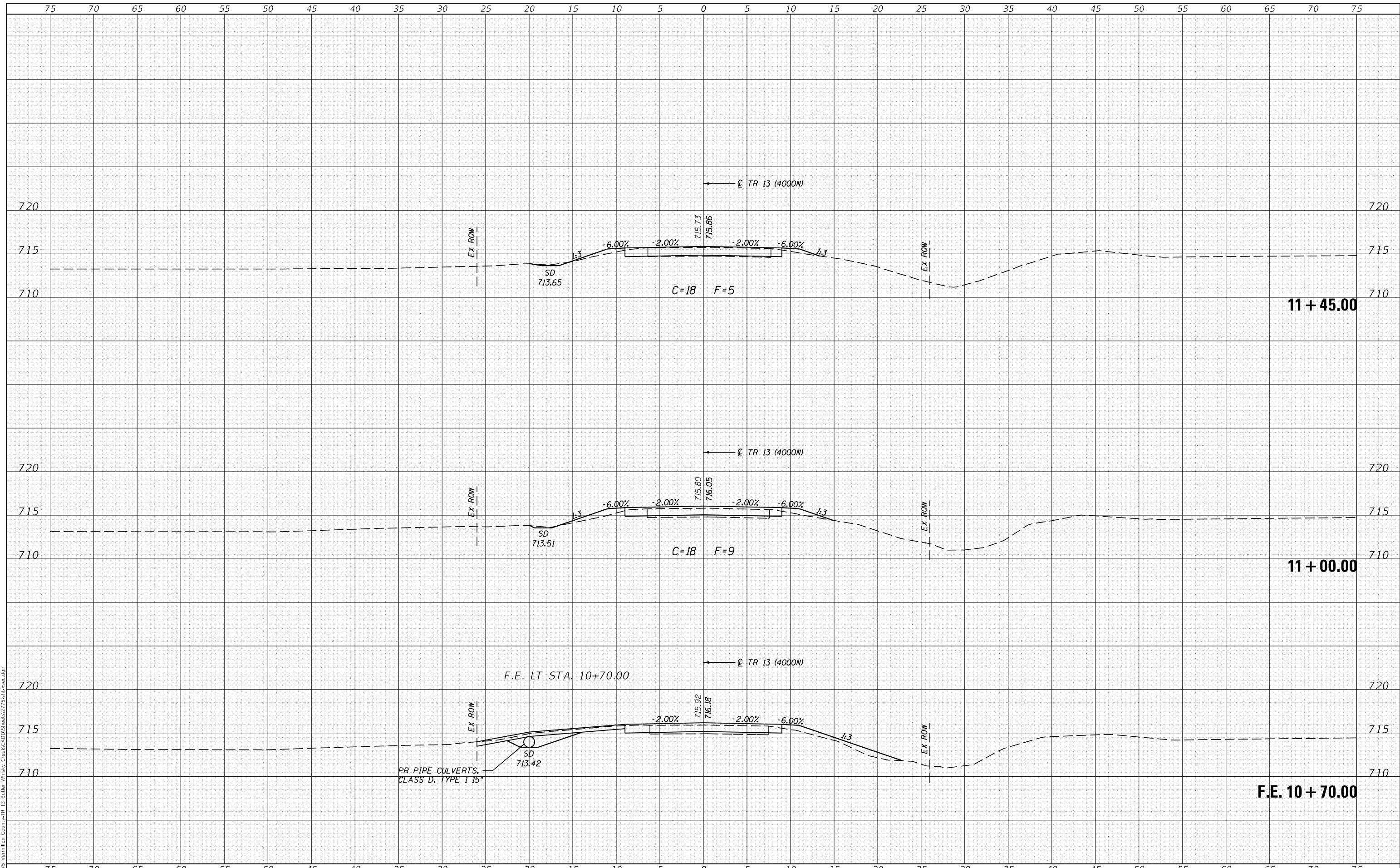
SCALE: SHEET OF SHEETS STA. 10+25.00 TO STA. 10+50.00

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
13	13-02150-00-BR	VERMILION	20	18
				CONTRACT NO. 91652
		ILLINOIS	FED. AID PROJECT	

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

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

MODEL: Default
 FILE NAME: R13-275_Vermillion County-TR_13 Butler_Township_Creek-CDD\Sheets\275-sh-xsec.dgn



CEC Cummins
 Engineering
 Corporation
 ENGINEERS & SURVEYORS

JOB# = 2775
 FILE NAME = 2775-sh-xsec.dgn
 PLOT SCALE = 10,0000' / in.
 PLOT DATE = 9/19/2024

DESIGNED - CGF
 DRAWN - CGF
 CHECKED - TSH
 DATE - 5/02/2024

REVISED -
 REVISED -
 REVISED -
 REVISED -

**BUTLER TOWNSHIP ROAD DISTRICT
 TR 13 (4000N) IMPROVEMENTS**

CROSS SECTIONS

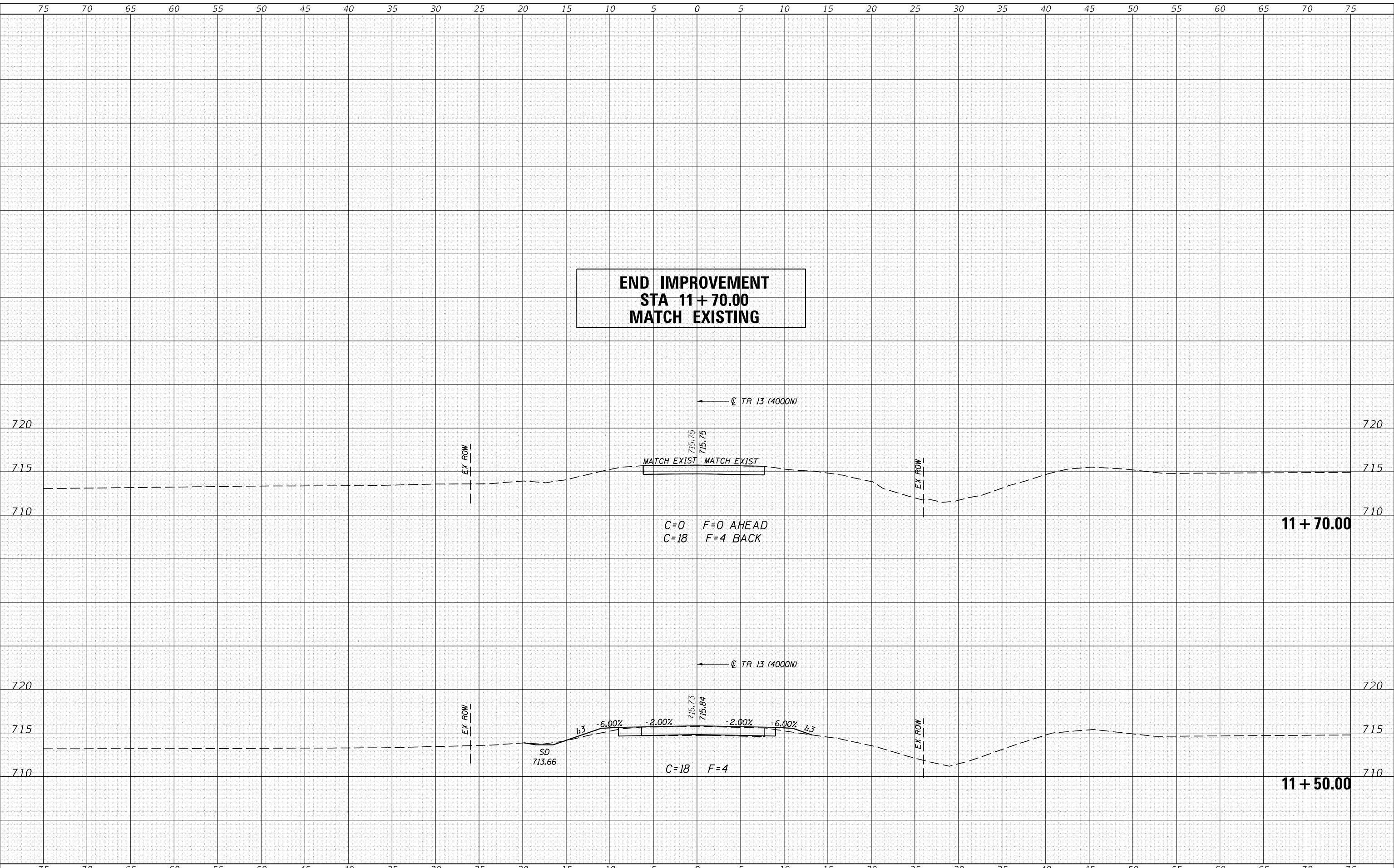
SCALE: SHEET OF SHEETS STA. 10+70.00 TO STA. 11+45.00

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
13	13-02150-00-BR	VERMILION	20	19
CONTRACT NO. 91652				
		ILLINOIS	FED. AID PROJECT	

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

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

MODEL: Default
FILE NAME: R13-275_Vermillion_County-TR_13_Butler_Creek-CADD\Sheets\275-sh-xsec.dgn



**END IMPROVEMENT
STA 11+70.00
MATCH EXISTING**

MATCH EXIST MATCH EXIST

C=0 F=0 AHEAD
C=18 F=4 BACK

11 + 70.00

C=18 F=4

11 + 50.00



JOB# = 2775
FILE NAME = 2775-sh-xsec.dgn
PLOT SCALE = 10.0000' / in.
PLOT DATE = 9/19/2024

DESIGNED - CGF
DRAWN - CGF
CHECKED - TSH
DATE - 5/02/2024

REVISED -
REVISED -
REVISED -
REVISED -

**BUTLER TOWNSHIP ROAD DISTRICT
TR 13 (4000N) IMPROVEMENTS**

CROSS SECTIONS

SCALE: SHEET OF SHEETS STA. 11+50.00 TO STA. 11+70.00

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
13	13-02150-00-BR	VERMILION	20	20
CONTRACT NO. 91652				
ILLINOIS FED. AID PROJECT				