Bench Mark: Survey marker on top of parapet at NW corner of bridge. Sta. 49+04.62, Offset 18.57' Rt., Elev. 699.62

Existing Structure: S.N. 081-0107 originally built in 1971 as F.A.I. Rte. 74, Section 81-1HB-4. The concrete deck was replaced in 1991. The existing structure consists of a 2 span continuous steel plate girder bridge with reinforced concrete deck. The approaches consist of single span vaulted abutments with prestressed concrete girders. The abutments, approach bents, and hammerhead pier are supported on drilled piers. The back to back approach bents length is $251'-1\frac{3}{4}$ " and the out to out deck width is 32'-8". The bridge will be closed and no staging will be required during construction.

DESIGN SPECIFICATIONS

2002 Standard Specifications for Highway Bridges, 17th Edition 2006 Seismic Retrofitting Manual for Highway Structures: Part I - Bridges (FHWA-HRT-06-032)

SEISMIC DATA

Seismic Retrofit Category (SRC) = ADesign Spectral Acceleration at $1.0 \sec (SD1) = 0.087g$ Design Spectral Acceleration at 0.2 sec (SDS) = 0.127gSoil Site Class = D Performance Level = 1

LOADING HS20-44 & ALT.

Allow 25#/sq. ft. for future wearing surface.

DESIGN STRESSES

FIELD UNITS NEW CONSTRUCTION fc = 4,000 psi (Superstructure Concrete)fy = 60,000 psi (Reinforcement)

EXISTING STRUCTURE f'c = 3,500 psi (Superstructure Concrete) fy = 60,000 psi (Reinforcement) fs = 20,000 psi (Structural Steel)

EXISTING PRECAST PRESTRESSED UNITS f'c = 5,000 psif's = 248,000 psi ($\frac{7}{16}$ " \emptyset strands) f'si = 173,600 psi ($\frac{7}{16}$ " \emptyset strands)

f'ci = 4,000 psi

Range 1W, 4th P.M.

LOCATION SKETCH

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Removal	Cu. Yd.	94.2		94.2
Concrete Superstructure	Cu. Yd.	44.6		44.6
Protective Coat	Sq. Yd.	114		114
Reinforcement Bars, Epoxy Coated	Pound	7,440		7,440
Bicycle Railing, Curved	Foot	249		249
Parapet Railing	Foot	249		249
Preformed Joint Strip Seal	Foot	77		77
Conduit Attached to Structure, 2" Dia., Galvanized Steel Furnish Only	Foot	498		498
Bridge Deck Latex Concrete Overlay, $2\frac{1}{4}$ "	Sq. Yd.	291		291
Bridge Deck Scarification $2\frac{1}{4}$ "	Sq. Yd.	291		291
Relocating Name Plates	Each	1		1

APPROVED

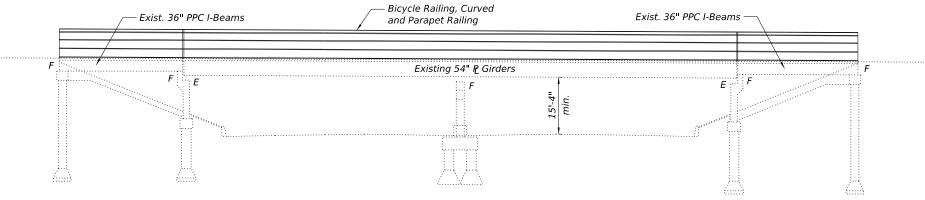
GENERAL PLAN & ELEVATION 27TH STREET SB OVER F.A.I. RTE. 74 F.A.U. RTE. 5836 - SECTION 23-00291-00-BT ROCK ISLAND COUNTY STATION 50+33.14

STRUCTURE NO. 081-0107

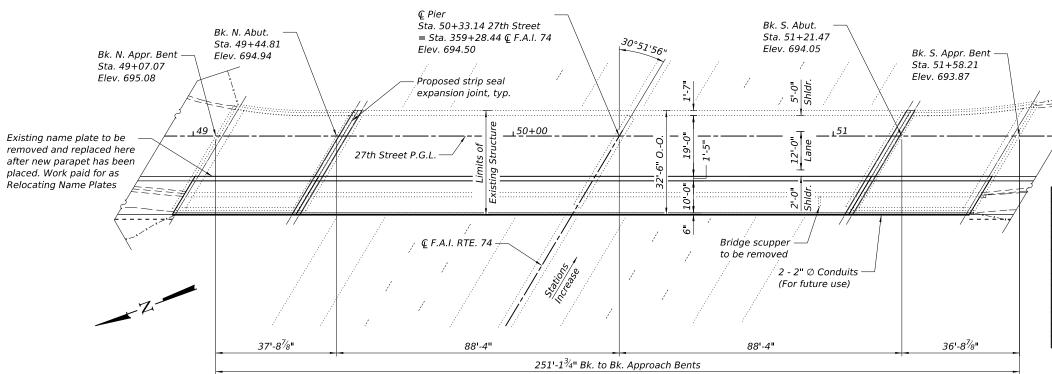
SECTION COUNTY 5836 23-00291-00-BT ROCK ISLAND 184 CONTRACT NO.

No salvage.

- INDEX OF SHEETS 1. General Plan & Elevation
- 2. Structure Removal Details
- 3. Superstructure Details 1
- 4. Superstructure Details 2
- 5. Bicycle Railing, Curved & Parapet Railing 1
- 6. Bicycle Railing, Curved & Parapet Railing 2
- 7. Preformed Joint Strip Seal Sidewalk 1
- 8. Preformed Joint Strip Seal Sidewalk 2

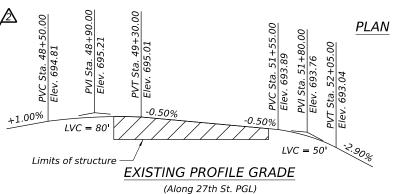


ELEVATION



SCOPE OF WORK

- 1. Set-up traffic control and close roadway.
- 2. Remove raised sidewalk, barriers at each side of sidewalk, and perform deck scarification and add a latex concrete overlay within limits of propsed 10' path.
- 13. Replace expansion joints full width with new strip seal expansion joints.
- 4. Overlay top 2" of deck at the 10' path and construct new barriers each side of path.



JOSEPH T. HEGER 081-008156 ATE OF ILL Exp. Date 11/30/2026

STATE OF ILLINOIS **DEPARTMENT OF TRANSPORTATION**

USER NAME = Vincent Tan	DESIGNED -	TRH	REVISED	-	1 1/04/2025
	DRAWN -	TRH	REVISED	-	
PLOT SCALE = N/A	CHECKED -	JTH/DH	REVISED	-	
PLOT DATE = 11/4/2025 - 8:40:14 AM	DATE -	OCTOBER 2024	REVISED	_	

GENERAL PLAN & ELEVATION STRUCTURE NO. 081-0107

"I certify that to the best of my

belief, this design is structurally

adequate for the design loading

an economical one for the style

the requirements of the current

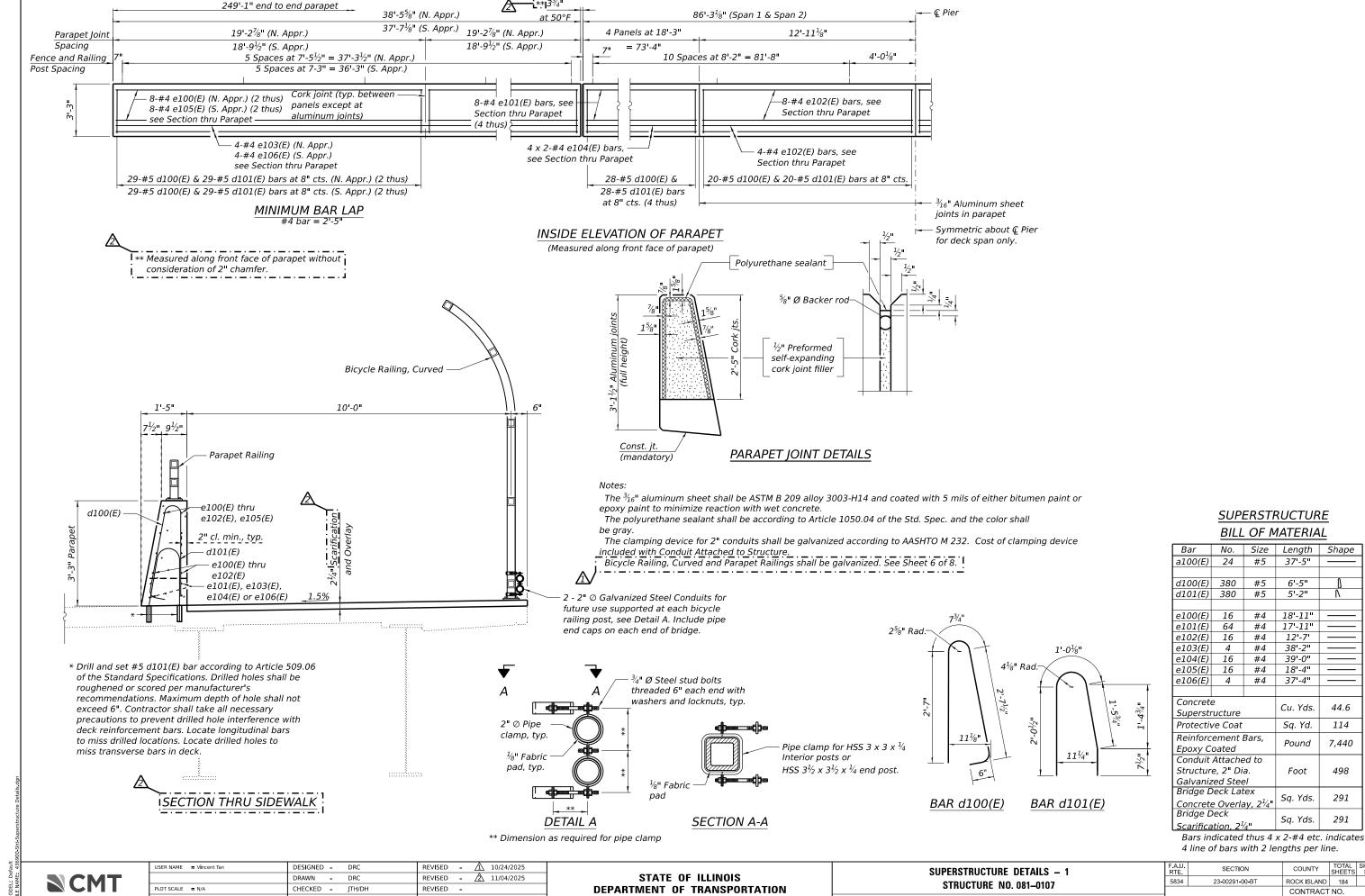
Design Specifications listed"

shown on the plans. The design is

of the structure and complies with

knowledge, information and

SHEET 1 OF 8 SHEETS



SHEET 3 OF 8 SHEETS

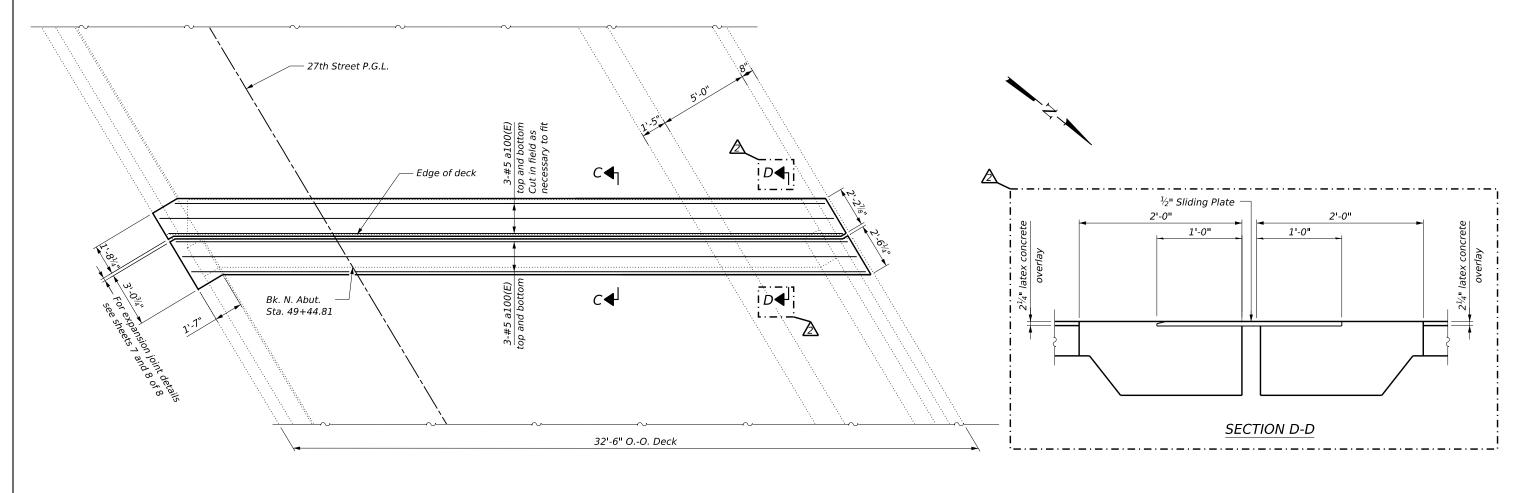
---[*∗**|**3¾"

PLOT DATE = 11/4/2025 - 8:52:54 AM

SEPTEMBER 2024

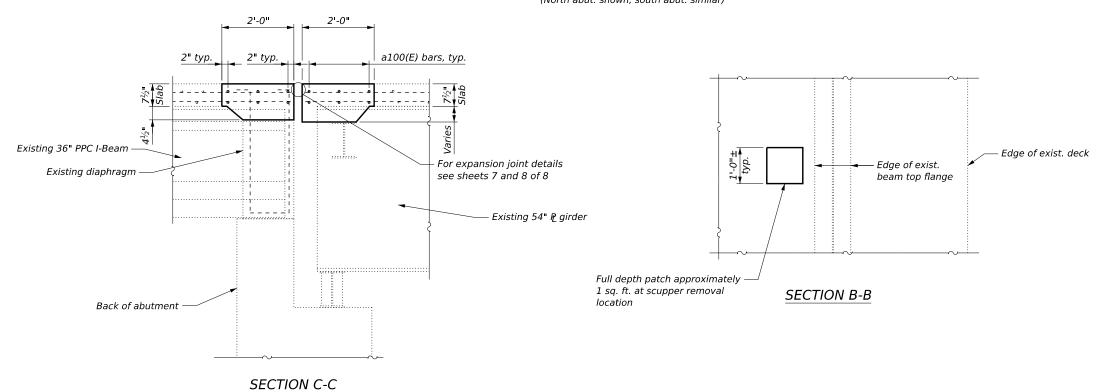
DATE

REVISED -



PLAN - NORTH ABUTMENT

(North abut. shown, south abut. similar)



Notos

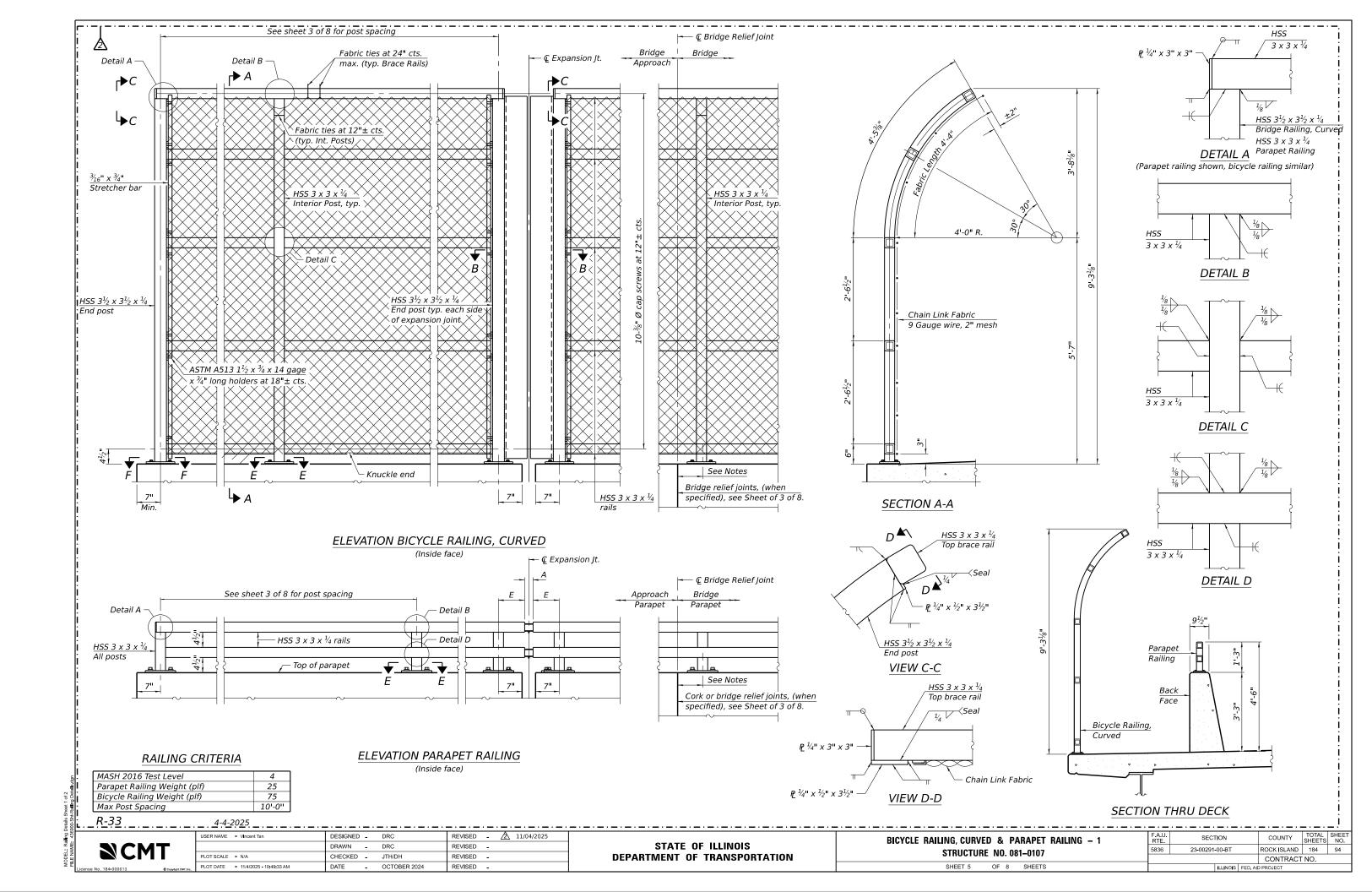
See sheets 7 and 8 of 8 for Preformed Joint Details.
The a100(E) bars shall be placed parallel to the end of deck.
Full depth patching at existing scupper removal location shall be completed prior to placing new barrier and deck overlay.
See sheet 2 of 8 for location of Section B-B.

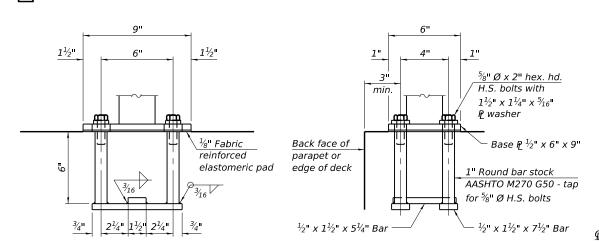
≥CMT

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE DETAILS - 2
STRUCTURE NO. 081-0107

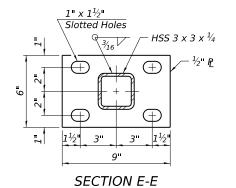
SHEET 4 OF 8 SHEETS

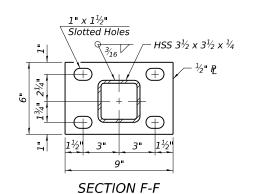


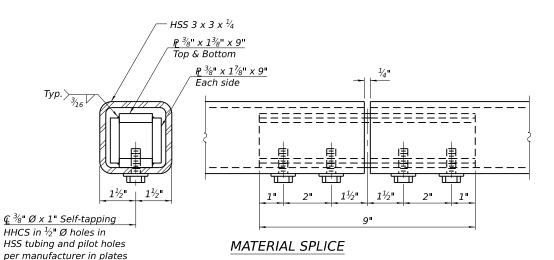


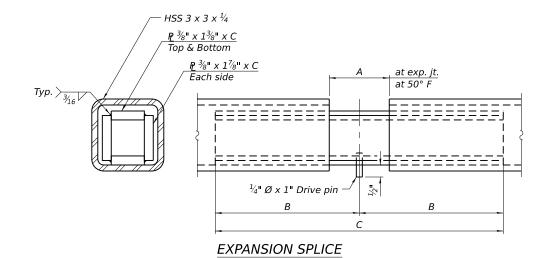
ANCHORAGE ASSEMBLY

The Bicycle Railing, Curved fasteners for end posts near expansion joints may need to be installed prior to installing the bent plates. In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and setting $\frac{5}{8}$ " Ø fully threaded anchor rods with the same plate washers as specified above and heavy hex lock nuts according to Article 509.06 of the Standard Specifications. Embedment shall be according to the manufacturer's specifications.









Notes:

Place reinforcement bars to miss anchor rod locations.

CVN testing is not required for the HSS tubing used in the Bicycle Railing, Curved.

All HSS tubing used for the Parapet Railing shall be CVN tested according to Article 1006.34(b) of the Standard Specifications.

All HSS tubing used for the Parapet Railing shall be ASTM A500 grade C.

All base plates used for the Parapet Railing shall be AASHTO M270

All heavy hex nuts shall be according to ASTM A 563 grade DH. All fully threaded anchor rods shall be ASTM F1554 grade 105.

The post base plate shall be fastened to the curb snug tight and given an additional 1/8" turn.

Contractor shall offset posts to miss any aluminum sheet or cork joints for sufficient installation of the anchorage assembly. Rail splice inserts may be built out of bent plates of the same thicknesses and outside geometry limits as the 4 plate rail splice inserts shown.

When the contract specifies a galvanized railing, all steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications. When the contract specifies a painted railing, all posts, rail, splices, anchor devices and plates of the railing shall be painted according to the paint system for railings as specified in the General Notes.

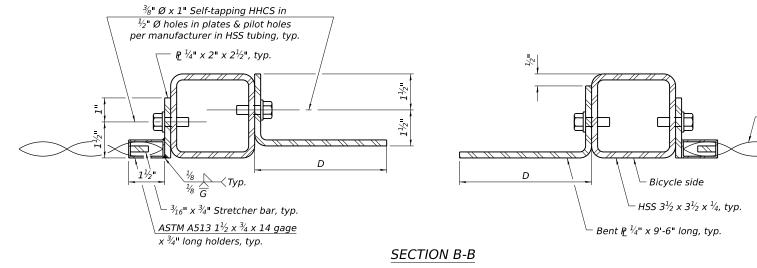
See sheet 3 of 8 for dimensions of concrete openings at expansion joints.



				=			
Location	T	Α	В	С	D	Ε	
Over Strip Seal Jt.	<u>≤</u> 4"	2½"	1'-2"	2'-4"	33/4"	61/4"	
Over Finger or Modular Jt.	≤9½"	5½"	1'-73/4"	3'-3½"	6"	93/4"	
Over Finger or Modular Jt.	≤15"	81/4"	2'-11/4"	4'-2½"	83/4"	13%"	
At Light Poles	8" NA - Coordinate 8" Wide Access With Fabricator						
At Bridge Relief Joints	NA - Material Splices Per Fabricator						

T= ; total movement based on total temperature range from -20°F to 120°F along centerline of roadway at expansion joint.

8" hand-hole access for maintenance of light poles (when present; replace splice with 8" gap).



BILL OF MATERIAL

Chain link fabric

Item	Unit	Quantity
Bicycle Railing, Curved	Foot	249
Parapet Railing	Foot	249

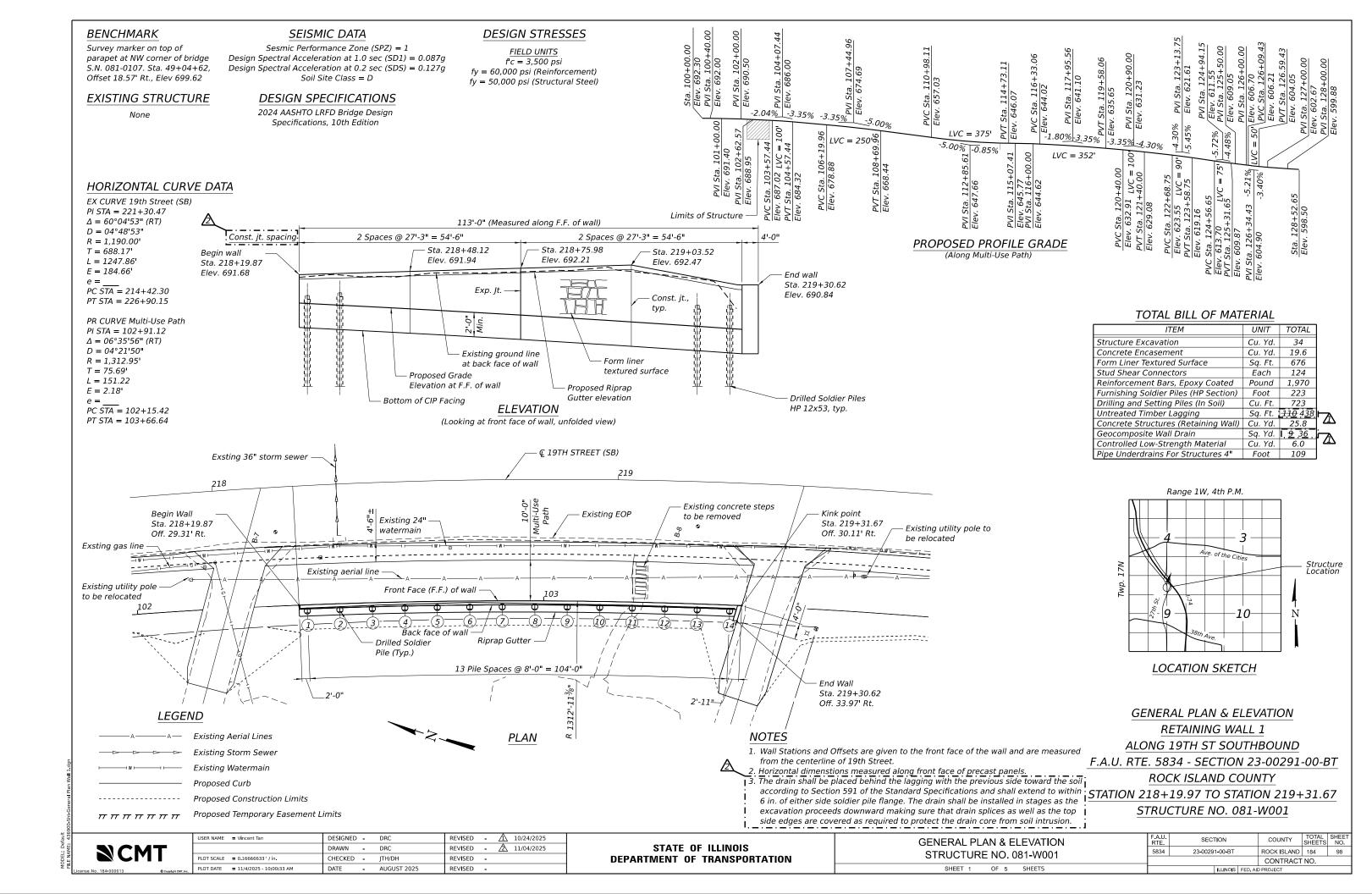


USER NAME = Vincent Tan	DESIGNED	-	DRC	REVISED	-	Δ	11/04/2025
	DRAWN	-	DRC	REVISED	-		
PLOT SCALE = N/A	CHECKED	-	JTH/DH	REVISED	-		
PLOT DATE = 11/4/2025 - 10:49:55 AM	DATE	_	OCTOBER 2024	REVISED	-		

STATE OF ILLINOIS **DEPARTMENT OF TRANSPORTATION**

BICYCLE	RAILING, CURVED STRUCTURE				RAILING – 2	
	SHEET 6	OF	8	SHEETS		

<u> </u>	. – . – . –		· ·		<u> </u>	<u>-:</u>
A.U. RTE	SEC	TION		COUNTY	TOTAL SHEETS	SHE
836	23-00291-00	-BT		ROCK ISLAND	184	95
·			CONTRACT	NO.		
ILLINOIS FED. AII			D PROJECT			



BENCHMARK SEISMIC DATA $Sesmic \overline{Performance Zone} (SPZ) = 1$ Survey marker on top of Design Spectral Acceleration at 1.0 sec (SD1) = 0.087g parapet at NW corner of bridge Design Spectral Acceleration at 0.2 sec (SDS) = 0.127gS.N. 081-0107. Sta. 49+04.62, Soil Site Class = D Offset 18.57' Rt., Elev 699.62 -2.04% -3.35% -3.35% **EXISTING STRUCTURE DESIGN SPECIFICATIONS** 2024 AASHTO LRFD Bridge Design PVI Sta. 101+00.00 Elev. 691.40 Specifications, 10th Edition LVC = 250'8 -3.35% -4.30% **DESIGN STRESSES** 5,00% 10.85% LVC = 352'FIELD UNITS PVI Sta. 112+85.61 Elev. 647.66 fc = 3.500 psify = 60,000 psi (Reinforcement)fy = 50,000 psi (Structural Steel) Limits of Structure PROPOSED PROFILE GRADE (Along Multi-Use Path) 877'-0" (Meastured along F.F. of wall) Coping Const. Jt. 3 Spaces @ 30'-0" = 90'-0" Spacing Sta. 220+50.78 Sta. 221+12.34 Top of CIP Sta. 223+89.35 Elev. 690.60 Sta. 222+04.68 Elev. 688.86 Sta. 222+97.02 -Begin Wall Elev. 686.80 Elev. 681.14 Elev. 684.75 Sta. 223+27.79 Sta. 220+20.00 Elev. 683.94 Elev. 689.80 Exp. Jt. — Exp. Jt. Exp. Jt. – TOTAL BILL OF MATERIAL Exp. Jt. Proposed Grade STA. Exposed Treated Elevation at F.F. Const. Jt., typ. ITEM UNIT TOTAL Drilled Soldier Piles Timber Lagging, of Wall 477 Structure Excavation Cu. Yd. HP 14x117 or Proposed Riprap Bottom of Timber Lagging MATCHLINE Existing ground 12x84, typ. Cu. Yd. 335.7 Concrete Encasement Gutter elevation line at back face Existing ground Reinforcement Bars, Epoxy Coated Pound 6,070 PART ELEVATION HORIZONTAL CURVE DATA line at front face Furnishing Soldier Piles (HP Section) Foot 3,030 (Looking at front face of wall) of wall Cu. Ft. \ 13,920 PR CURVE Multi-Use Path Drilling and Setting Soldier Piles (In Soil) EX CURVE 19th Street (SB) 6,759 Treated Timber Lagging Sq. Ft. PI STA = 107 + 33.64PI STA = 221 + 30.47Cu. Yd. 65.4 $\Delta = 35^{\circ}06'55'' (RT)$ Concrete Structures (Retaining Wall, $\Delta = 60^{\circ}04'53'' (RT)$ Sq. Yd. <mark>6468</mark> 718 Foot 877 Geocomposite Wall Drain $D = 04^{\circ}56'23"$ $D = 04^{\circ}48'53''$ Pipe Underdrains For Structures 4" R = 1,159.92R = 1.190.00 $T = 367.00^{\circ}$ T = 688.17'L = 710.89L = 1247.86E = 56.68E = 184.66Existing 21" storm sewer · Ç 19TH STREET (SB) $PC \overline{STA} = 103 + 66.64$ $PC \overline{STA} = 214 + 42.30$ Front Face (F.F.) of Proposed Back of Curb PT STA = 110 + 77.53PT STA = 226 + 90.15Timber Lagging Existing EOP 1224 Range 1W, 4th P.M. 224. Proposed ₽ Multi-Use Path Begin Wall Sta. 220+20.00 *ST*4. Off. 30.12' Rt. Structure MATCHLINE ! 108 Pile Spaces @ 8'-0" = 864'-0" Existing Utility Pole, typ. Existing aerial line Construction Limits Existina Fence PART PLAN LOCATION SKETCH Drilled Soldier Pile, typ TRUCTURA **NOTES** GENERAL PLAN & ELEVATION 'I certify that to the best of my 1. Wall Stations and Offsets are given to the front face of the wall and LEGEND JOSEPH T. knowledge, information and are measured from the centerline of 19th Street (SB). RETAINING WALL 2 HEGER belief, this design is structurally 2. Horizontal dimenstions measured along front face of Timber Lagging. 3. The treated timber lagging shall be according to Article 507 and 1007 A— Existing Aerial Lines 081-008156 adequate for the design loading ALONG 19TH ST SOUTHBOUND ->---> Existing Storm Sewer shown on the plans. The design is of the Standard Specifications. F.A.U. RTE. 5834 - SECTION 23-00291-00-BT an economical one for the style 4. The drain shall be placed behind the lagging with the previous side Existing Watermain of the structure and complies with toward the soil according to Section 591 of the Standard Specifications ROCK ISLAND COUNTY Proposed Curb the requirements of the current and shall extend to within 6 in. of either side soilder pile flange. The Design Specifications listed" STATION 220+20.00 TO STATION 229+14.24 drain shall be installed in stages as the excavation proceeds ----- Proposed Construction Limits Exp. Date 11/30/2026 downward making sure that drain splices as well as top side edges are STRUCTURE NO. 081-W003 covered as required to protect the drain core from soil intrusion. JSER NAME = Vincent Tan DESIGNED - DRC REVISED - 10/24/2025 SECTION COUNTY **GENERAL PLAN & ELEVATION** REVISED -STATE OF ILLINOIS DRAWN - DRC <u>2</u> 11/04/2025 5834 23-00291-00-BT ROCK ISLAND 184 103 STRUCTURE NO. 081-W003 CHECKED -JTH/DH REVISED -**DEPARTMENT OF TRANSPORTATION** CONTRACT NO. SHEET 1 OF 23 SHEETS PLOT DATE = 11/4/2025 - 10:53:02 AM AUGUST 2025 REVISED -

