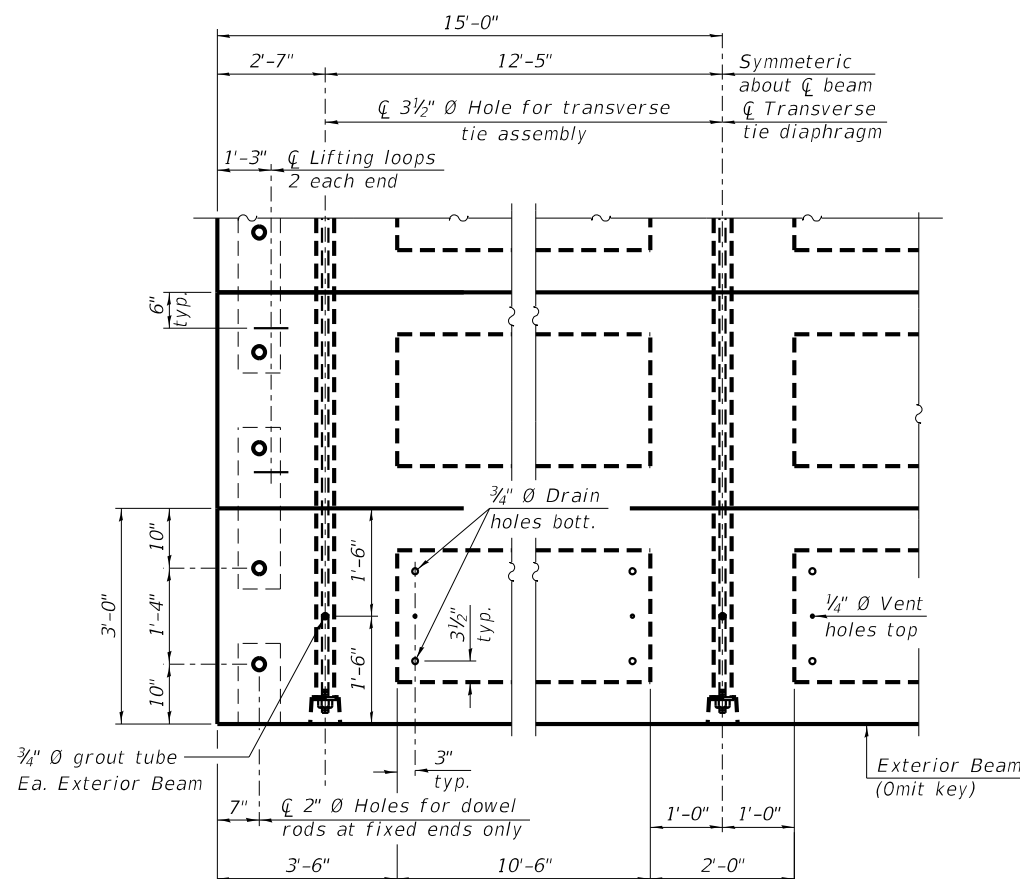
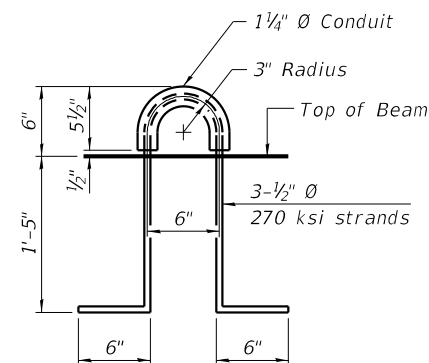
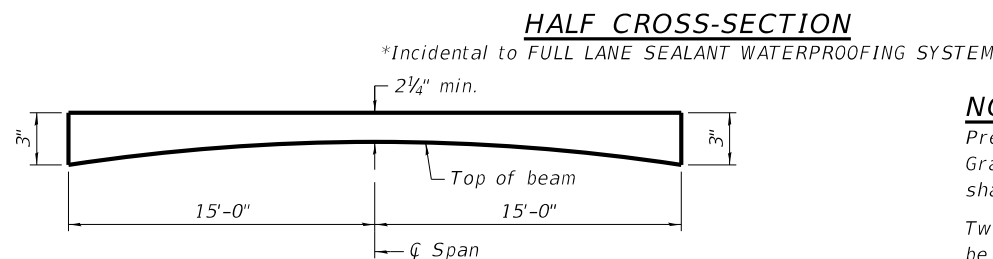
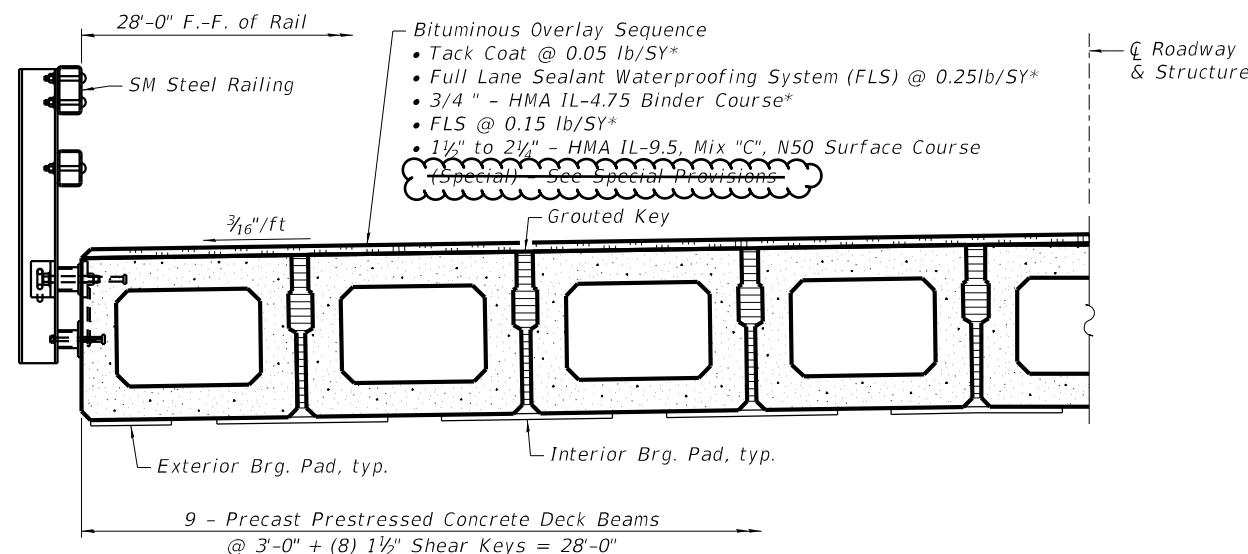


NOTE:
All bearing pads shall be 1" thick.
Omit holes when using expansion bearings.
Expansion bearing pads shall be bonded to the substructure.



NOTE:
Connect all beams together with the post tensioned transverse tie configuration shown.

REVISION	DATE	BY	REMARKS	DESIGNED	C.T.C.
1	4/3/2025	WHA	Corrected Rod Length, Edge Pocket Depth, and Half Section	DRAWN	ROA
				REVIEWED	SAB
				APPROVED	SAB

DESIGNED	CTC
DRAWN	RDA
REVIEWED	SAB
APPROVED	SAB

LEE COUNTY HIGHWAY DEPARTMENT
FAS 179 (CH 6 – BROOKLYN ROAD) OVER WILLOW CREEK
2025

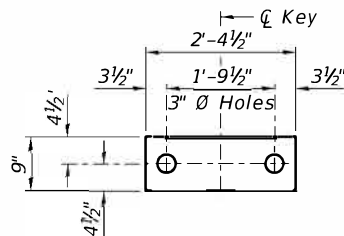


WILLETT HOFMANN
 & ASSOCIATES INC.
 ENGINEERING ARCHITECTURE LAND SURVEYING
 809 EAST 2ND STREET, DIXON, IL 61021-0367
 T: 815-284-3381 DESIGN FIRM: # 84-000918

21"x36" PPC DECK BEAM DETAILS SPANS 1 & 3
S.N. 052-3104

STRUCTURAL SHEET NO. 4 OF 14

C.H	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
6	22-00351-00-BR	LEE	21	10
		WHA# 1996D23		
ILLINOIS				



FABRIC BEARING PAD (Interior) FABRIC BEARING PAD (Exterior)

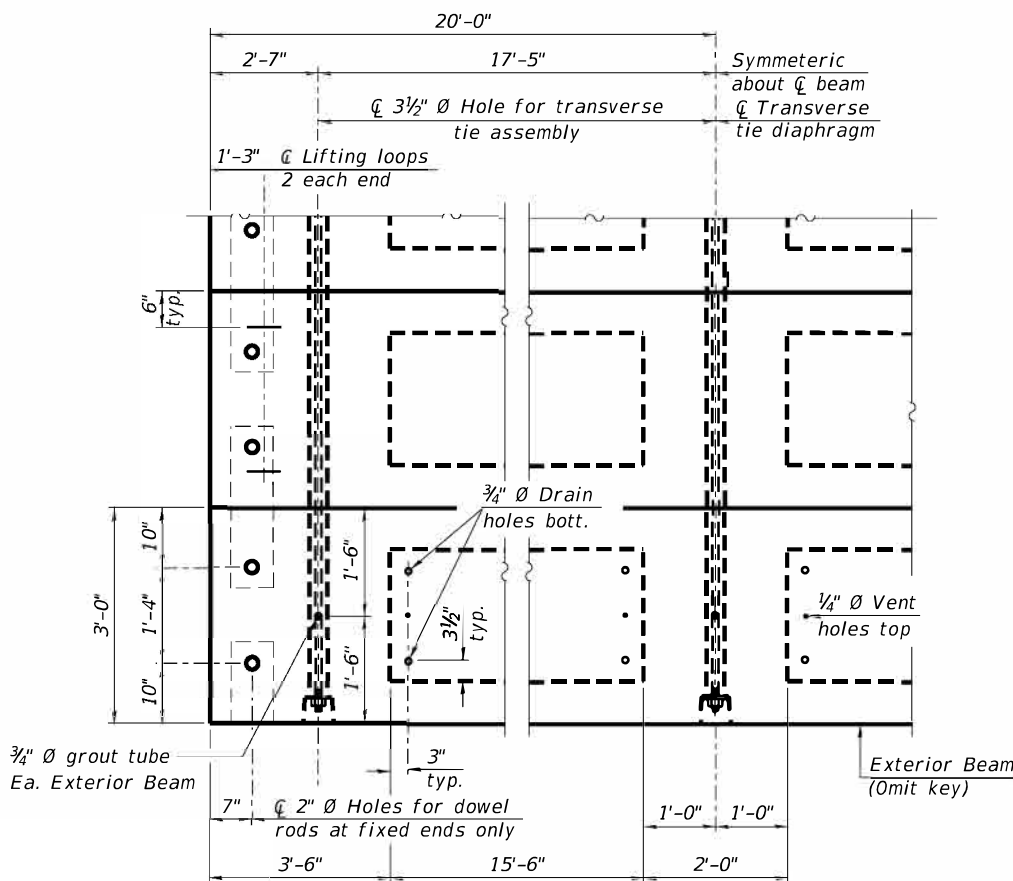
FIXED

NOTE:

All bearing pads shall be 1" thick.

Omit holes when using expansion bearings.

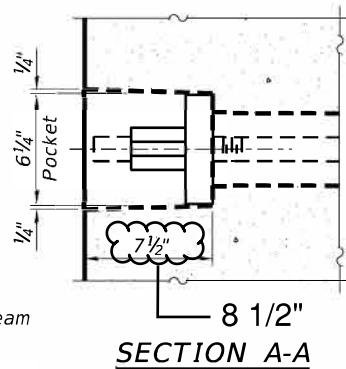
Expansion bearing pads shall be bonded to the substructure.



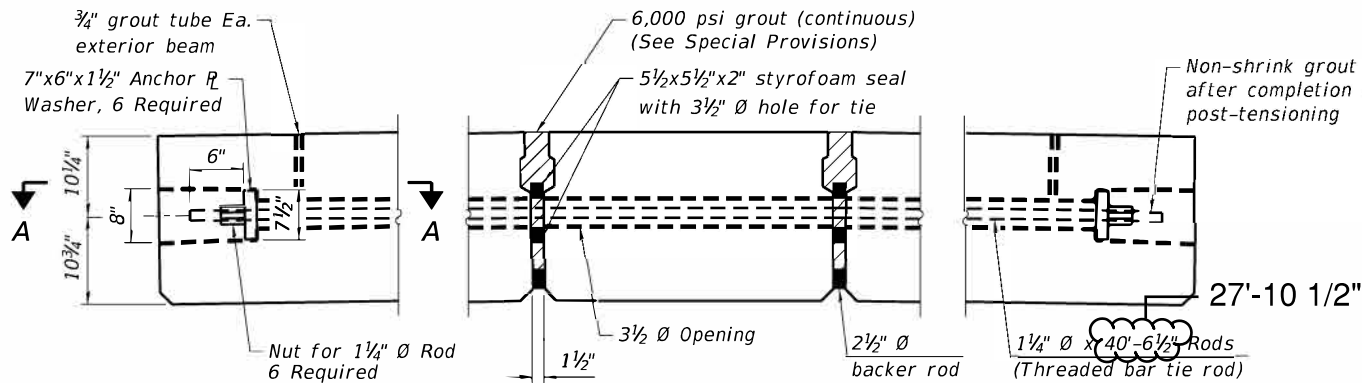
PLAN VIEW

NOTE:

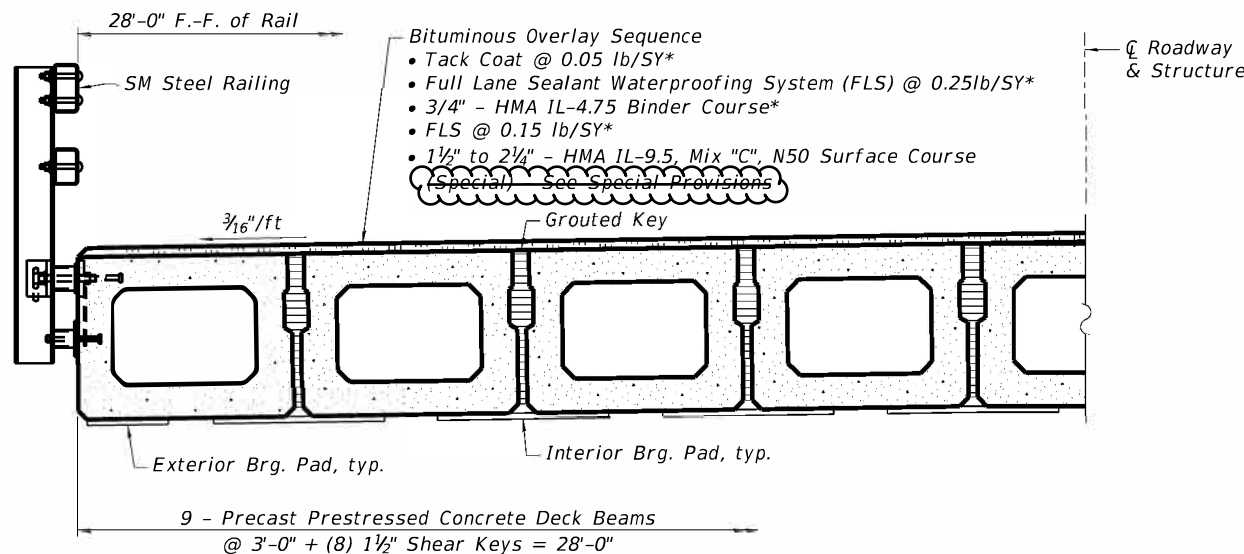
Connect beams in pairs with the transverse tie configuration shown.



SECTION A-A



TYPICAL POST-TENSIONED TRANSVERSE TIE ROD ASSEMBLY

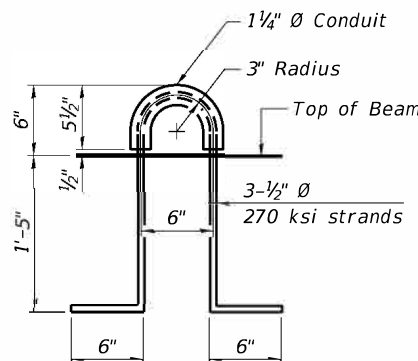


HALF CROSS-SECTION

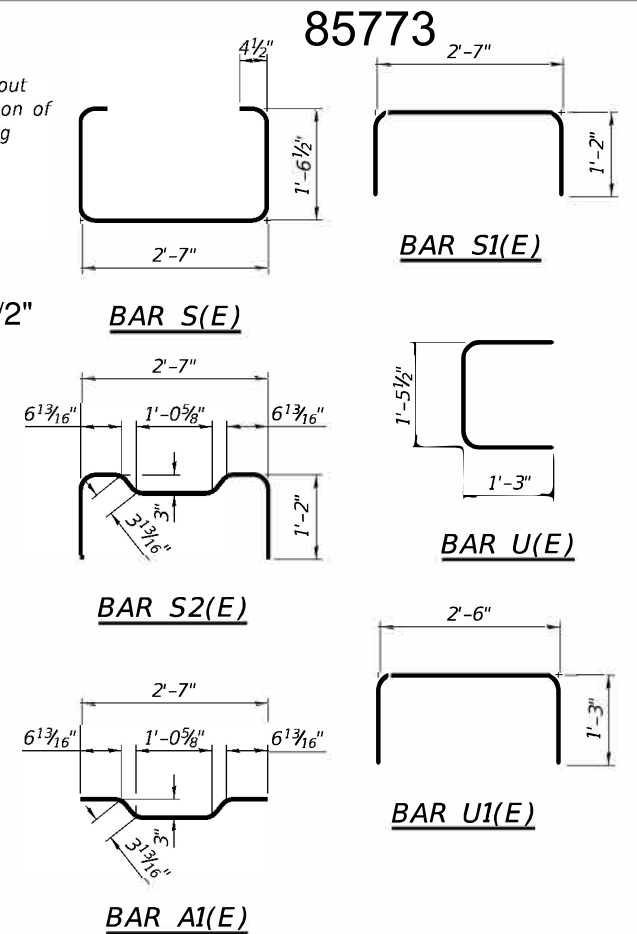
*Incidental to FULL LANE SEALANT WATERPROOFING SYSTEM



HOT-MIX ASPHALT WEARING SURFACE (HMA) PROFILE (For information only)



LIFTING LOOP DETAIL



BILL OF MATERIAL - SPAN 2

Precast Prestressed Conc. Deck Bms. (21" depth)	Sq. Ft.	1,120
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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.

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 6,000 psi.

Compressive strength of prestressed concrete at release, f'ci, shall be 5,000 psi.

Keyway surfaces shall be cleaned to remove form oil or other bond breaking material prior to shipment of beams. Cleaning shall be done by sandblasting the keyway areas between top of the beams and the bottom edge of the keys.

Threaded bar post-tensioning rods to be 1 1/4" diameter ultimate stress 150 ksi (ultimate strength = 187.5k). Conforming to ASTM A722 steel hot rolled and proof stressed. The bar deformations shall conform to the requirements of ASTM A615.

Voids around threaded bar and pockets on exterior faces of bridge shall be grouted after post-tensioning is completed. See Special Provisions for grout and grouting pressures.

All threaded rods shall be initially stressed to not more than 37.5 (0.2 Fpu, temporary) and the nut tightened. After all bars have been stressed to 37.5 the jacking may commence for 112.5k (0.6 Fpu) maximum transfer load (lockoff).

REVISION	DATE	BY	REMARKS	DESIGNED	CTC
1	4/3/2025	WHA	Corrected Rod Length and Edge Pocket Depth	DRAWN	RDA
				REVIEWED	SAB
				APPROVED	SAB

LEE COUNTY HIGHWAY DEPARTMENT
FAS 179 (CH 6 - BROOKLYN ROAD) OVER WILLOW CREEK
2025



WILLETT HOFMANN
& ASSOCIATES, INC.
ENGINEERING ARCHITECTURE LAND SURVEYING
809 EAST 2ND STREET, DIXON, IL 61021-0367
TEL: 815-284-3381 DESIGN FIRM: #184-030918

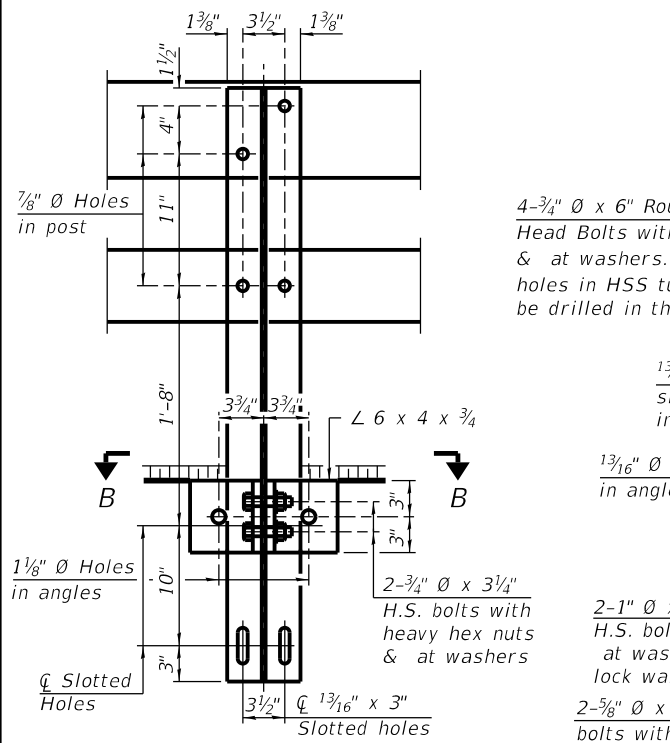
21"x36" PPC DECK BEAM DETAILS SPAN 2
S.N. 052-3104

STRUCTURAL SHEET NO. 6 OF 14

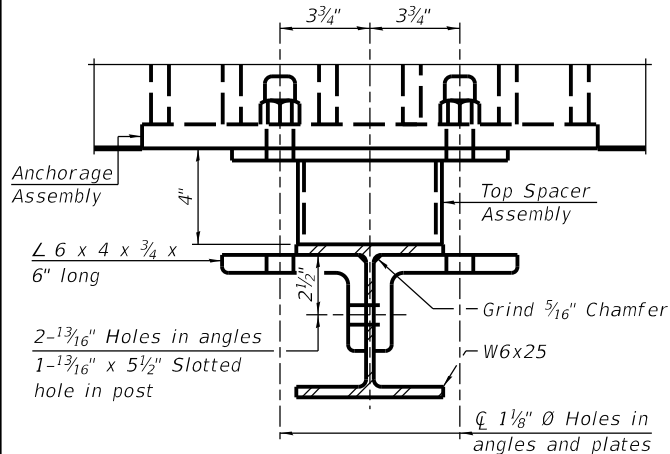
C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
6	22-00351-00-BR	LEE	21	12
		WHA# 1996D23		

ILLINOIS

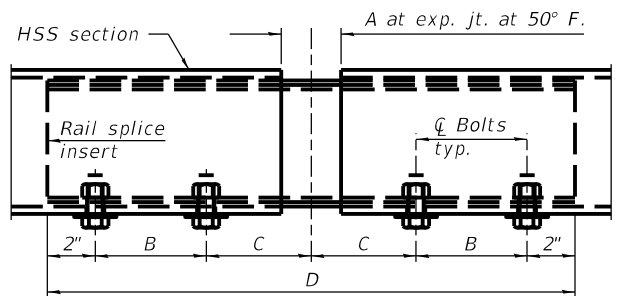
FILE - \$FILES
SPLIT DWGS
DATES
STAGES - PLOTTED



SECTION A-A



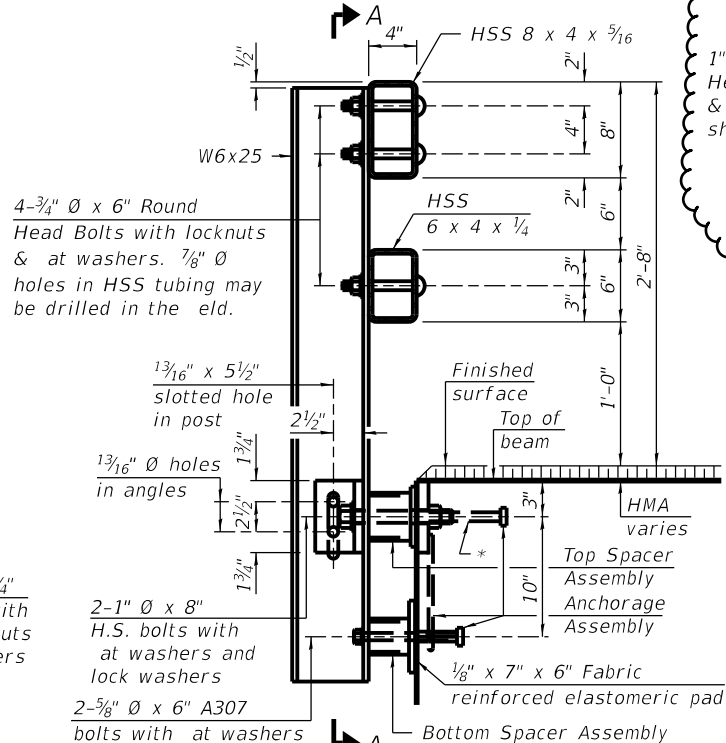
SECTION B-B



RAIL SPLICE ELEVATION

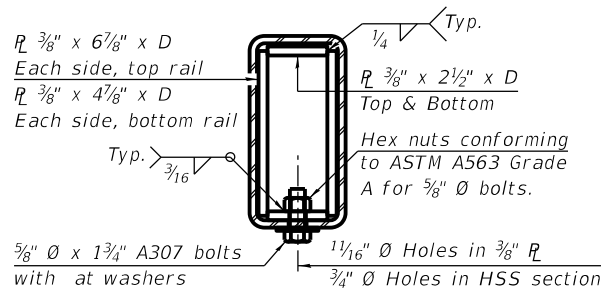
RAILING CRITERIA

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 1/8"

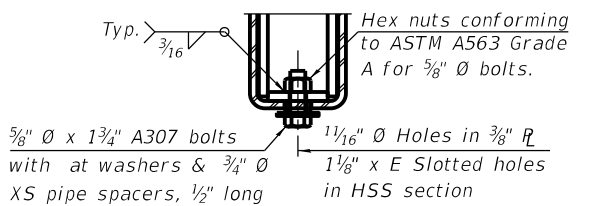


SECTION AT RAIL POST

* 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 AT RAIL SPLICE



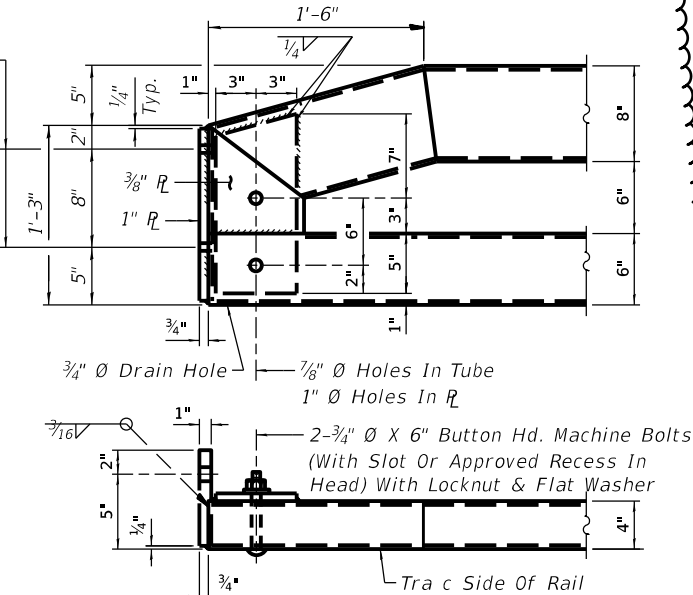
RAIL SPLICE CONNECTION AT EXPANSION JT.

SPLICE DIMENSIONS

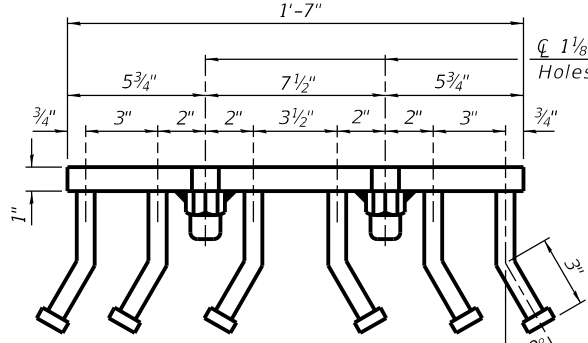
Location	T	A	B	C	D	E
All locs. not over exp. jts.	0	1/4"	4"	4"	1'-8"	-
Over Strip Seal Jt.	≤4"	2 1/2"	4 3/8"	4 3/8"	1'-10"	3 1/16"
Over Finger or Modular Jt.	≤9 1/2"	5 1/2"	7 3/8"	7 1/4"	2'-9 1/4"	5 1 3/16"
Over Finger or Modular Jt.	≤15"	8 1/4"	10 1/8"	10"	3'-8 1/4"	8 9/16"

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

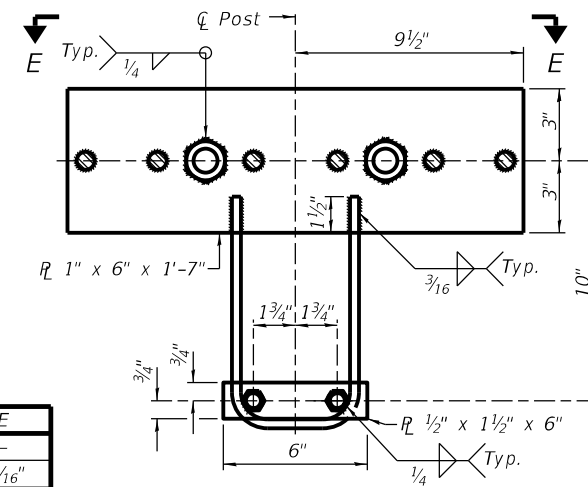
1" Ø Holes For 1" Ø X 4" Round Head Bolts. Provide 2 Flat washers & locknuts for guard rail connection shown on Std. 631026



END OF RAIL DETAILS

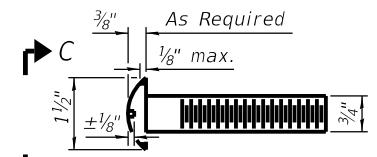


VIEW E-E

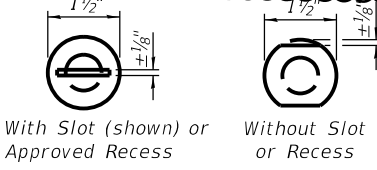


ANCHORAGE ASSEMBLY

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



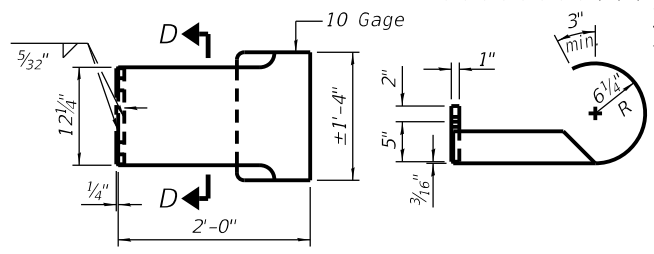
ROUND HEAD BOLT DETAIL



VIEW C-C

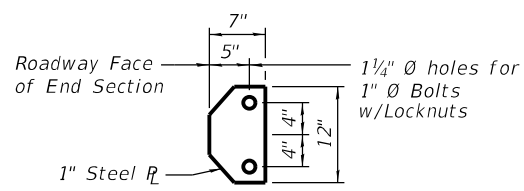
NOTES:

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 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.

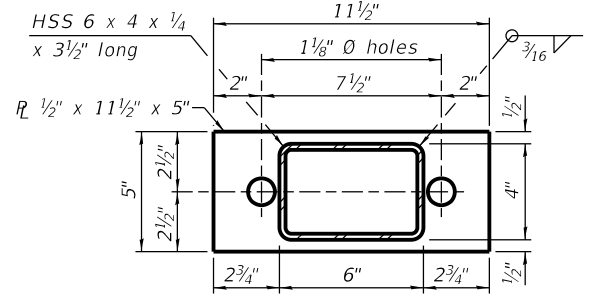


CURLED END SECTION DETAILS

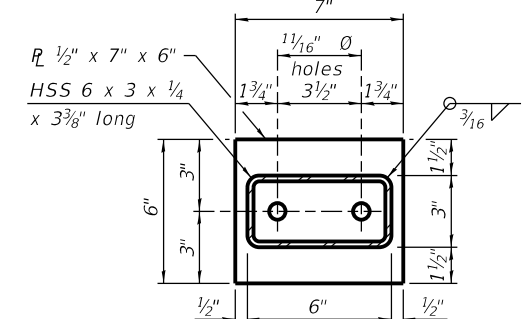
*** (4 required)



SECTION D-D



TOP SPACER ASSEMBLY



BOTTOM SPACER ASSEMBLY

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type SM	Foot	204

REVISION	DATE	BY	REMARKS
1	4/3/2025	WHA	Revised end of rail detail

DESIGNED	CTC
DRAWN	RDA
REVIEWED	SAB
APPROVED	SAB

LEE COUNTY HIGHWAY DEPARTMENT
FAS 179 (CH 6 - BROOKLYN ROAD) OVER WILLOW CREEK
2025



WILLET-HOFMANN & ASSOCIATES, INC.
ENGINEERING, ARCHITECTURE, AND SURVEYING
809 EAST 2ND STREET, DIXON, IL 61021-0367
T: 815-284-3381 DESIGN FIRM: #184-000918

STEEL RAILING, TYPE SM
S.N. 052-3104

STRUCTURAL SHEET NO. 10 OF 14

C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
6	22-00351-00-BR	LEE	21	16
WHA# 1996D23				
ILLINOIS				