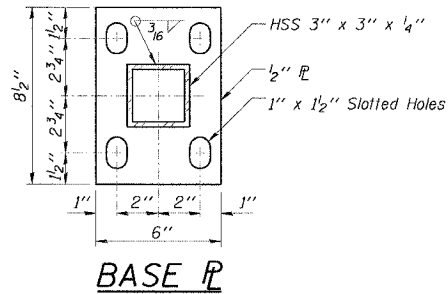
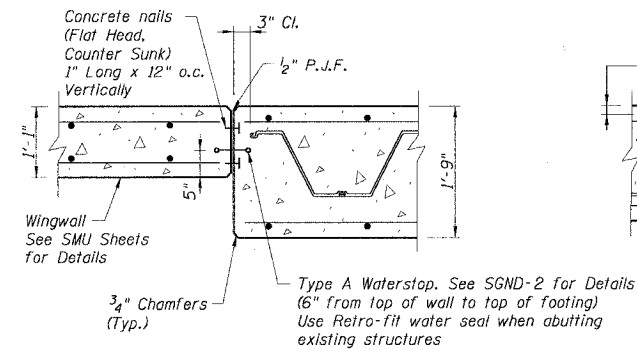


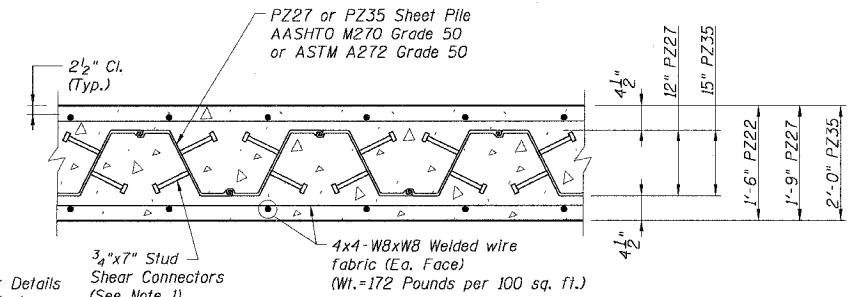
ELEVATION, HANDRAIL, 24"



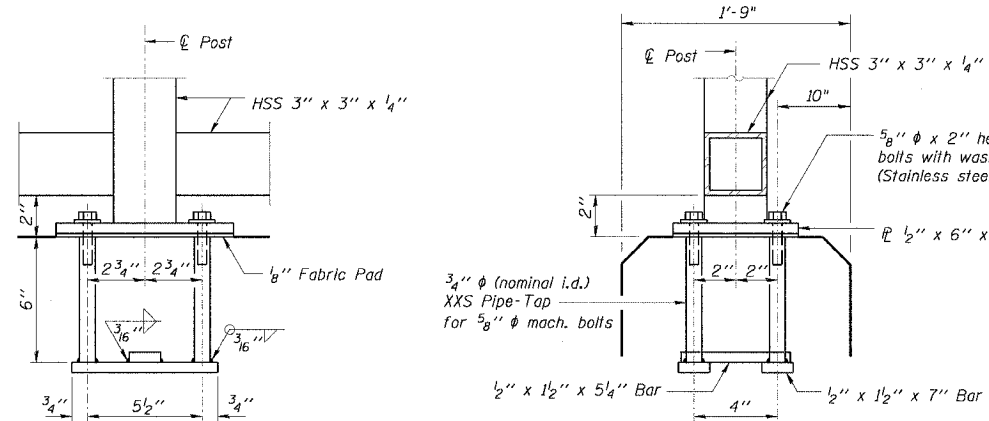
BASE PL



DETAIL 1

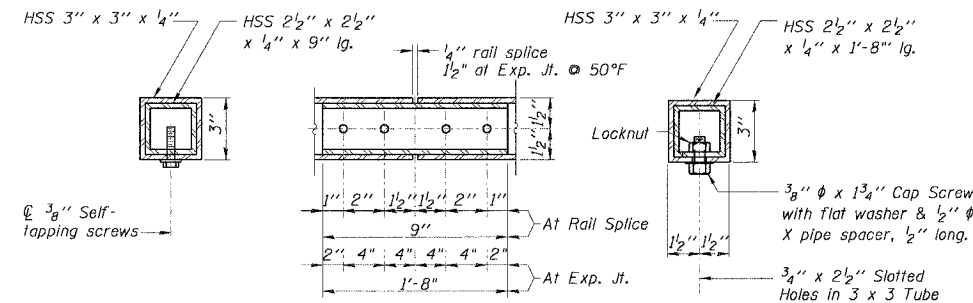


DETAIL 2



ANCHOR BOLT DETAILS

In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and epoxy grouting 5/8" diameter anchor rods. Embedment shall be according to the manufacturer's specifications.

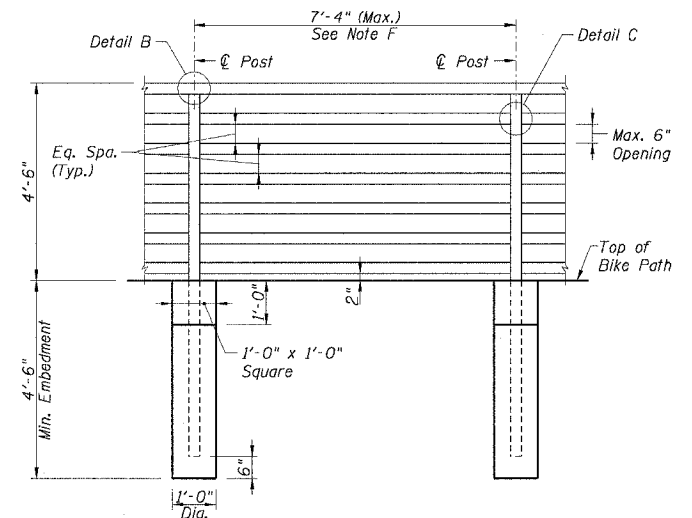


DETAIL AT RAIL SPLICE

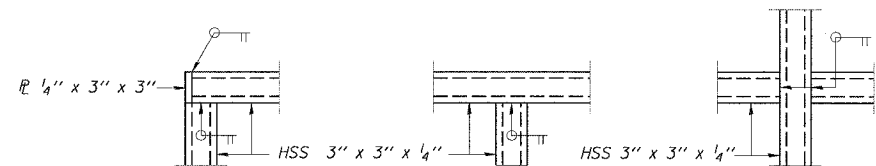
PLAN VIEW

DETAIL AT EXPANSION JT.

RAIL SPLICE DETAILS



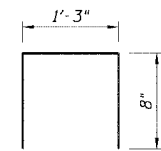
ELEVATION-HANDRAIL, 54"



DETAIL A

DETAIL B

DETAIL C



BAR h1

NOTES FOR HANDRAIL:

- Railing shall be according to Section 509 of the Standard Specifications, except as noted, and will be paid for at the Contract Unit Price per foot for Handrail, 24", and Handrail, 54".
- Hollow structural sections shall conform to the requirements of ASTM designation A 500, Grade B, structural steel tubing. All other steel shapes and plates shall conform to the requirements of AASHTO M 270 Grade 36.
- If the option of drilling and epoxy grouting the anchor rods is chosen, the Contractor shall use the capsule or the adhesive cartridge type anchor rods that have been previously tested and given a prior approval by the Engineer. The Contractor shall install these anchor rods in pre-drilled holes according to the manufacturer's recommendations and procedures. The capsule or the adhesive cartridge shall be sealed with pre-measured amounts of the adhesive chemical.
- Space reinforcement to miss anchor rods.
- All posts, railing, splices, anchor devices, and bent plates shall be galvanized after shop fabrication according to AASHTO M 111 and ASTM A 385. All bolts, nuts, washers, and anchor rods shall be galvanized according to AASHTO M 232 except stainless steel bolts as noted. Vent holes for galvanizing shall be placed in the posts and rails at locations that will not allow the accumulation of moisture in the members.
- Contractor shall prepare and submit layout of steel railing for Engineer's review and approval. Post spacing shown is maximum allowed.

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h1	180	#5	2'-7"	□
h2	6	#8	30'-0"	—
Items		Units	Quantity	
Structure Excavation		Cu. Yd.	*	
Concrete Structures		Cu. Yd.	1,550	
Architectural Concrete Form Liner Finish		Sq. Ft.	24,000	
Protective Coat		Sq. Yd.	4,250	
Steel Sheet Piling		Sq. Ft.	84,275	
Reinforcement Bars, Epoxy Coated (Including Welded Wire Fabric)		Pound	104,780	
Stud Shear Connectors		Each	16,430	
Handrail, 24"		Lin. Ft.	270	
Handrail, 54"		Lin. Ft.	*	

* Quantity Included with Civil work

NOTES:

- 3/4" x 7" Granular or solid flux filled headed studs conforming to Article 710.38 of the Standard Specifications. Automatically end welded @ 12" alternate centers along vertical height of the concrete caps. Install shear studs up to 6" at either ends, top and bottom.
- All reinforcement bars, including welded wire fabric shall be epoxy coated.

REVISION	
DATE	DESCRIPTION

PLANS PREPARED BY:

CTE | AECOM

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SCALE: NONE

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