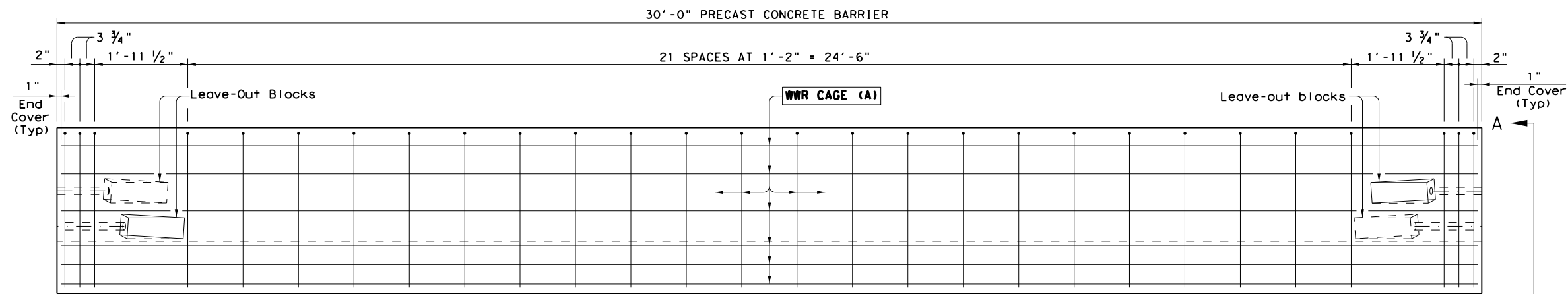
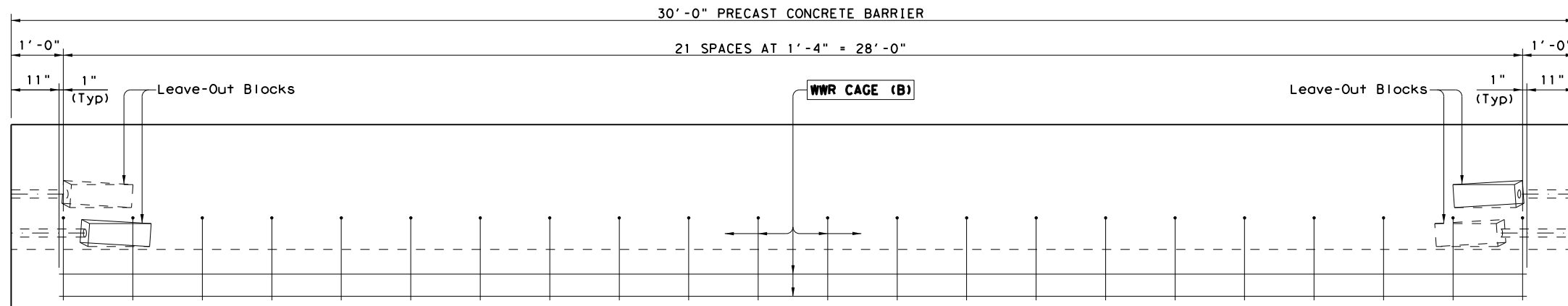


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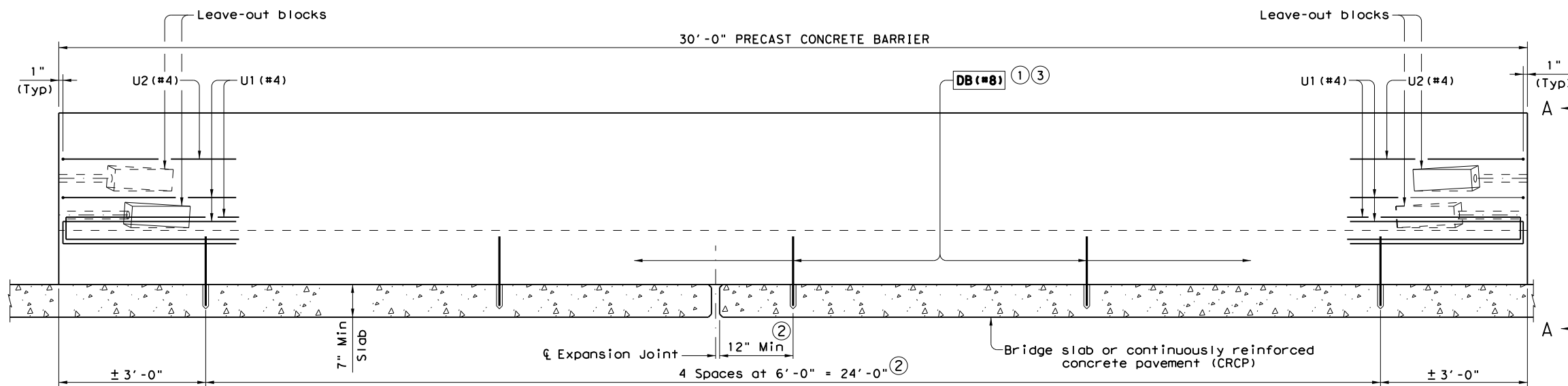
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ELEVATION VIEW - WWR CAGE (A) IN BARRIER
(REINFORCING STEEL CAGE B, U1 (#4), U2 (#4), & DB (#8) NOT SHOWN FOR CLARITY)



ELEVATION VIEW - WWR CAGE (B) IN BARRIER
(REINFORCING STEEL CAGE A, U1 (#4), U2 (#4), & DB (#8) NOT SHOWN FOR CLARITY)

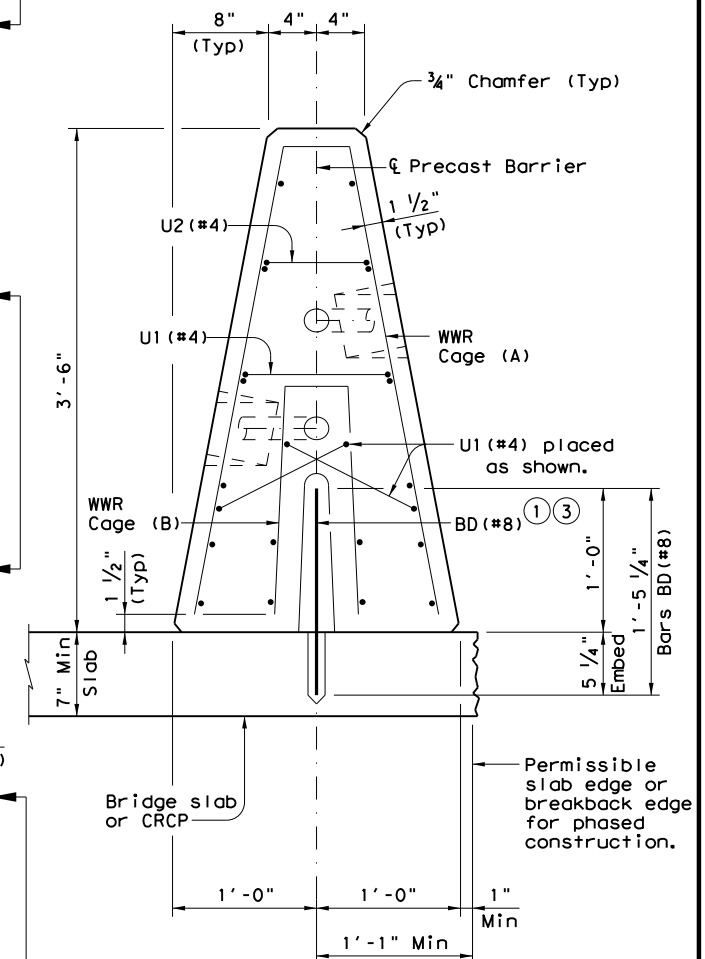


ELEVATION VIEW - DB (#8) ANCHORS & U (#4) BAR PLACEMENT IN BARRIER
(REINFORCING STEEL CAGE A & CAGE B NOT SHOWN FOR CLARITY)

① Embed DB (#8) anchor bars plumb with a Type III, Class C, D, E, or F anchor adhesive. Minimum adhesive anchor embedment depth is 5 1/4". Anchor adhesive chosen must be able to achieve a basic bond strength in tension, N_{ba}, of 26 kips. Submit signed and sealed calculations or the manufacturers published literature showing the proposed adhesives anchor ability to develop this load to the Engineer for approval prior to use. Anchor installation, including the hole size, drilling and clean out, must be in accordance with Item 450, "Railing".

② DB (#8) anchor bar nearest to a slab expansion joint, construction joint or end of structure may be shifted up to 12" longitudinally along center of barrier in order to satisfy the minimum offset dimension.

③ Provide stainless steel for BD (#8) when bar is to remain embedded in finished bridge slab or CRCP.



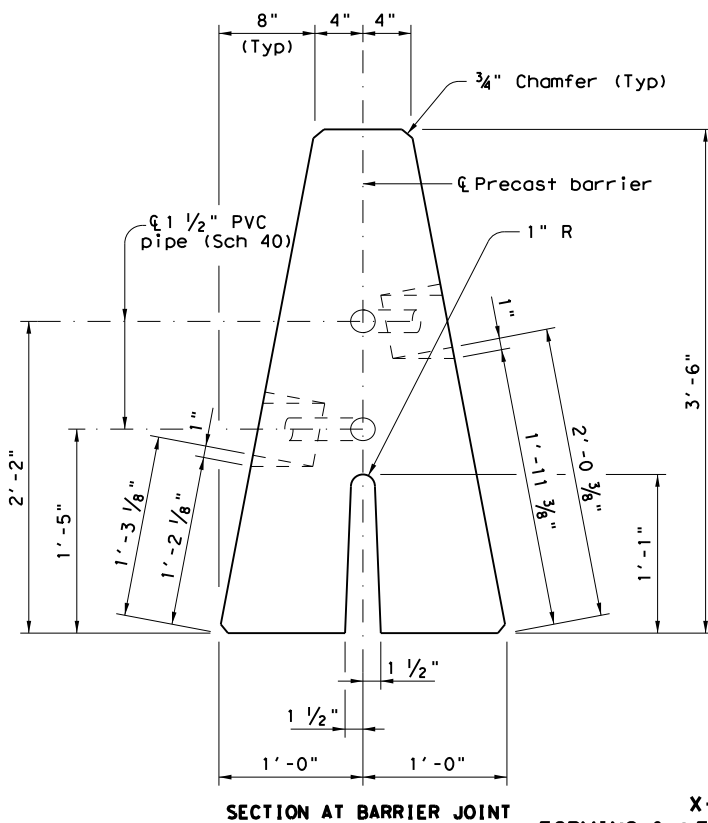
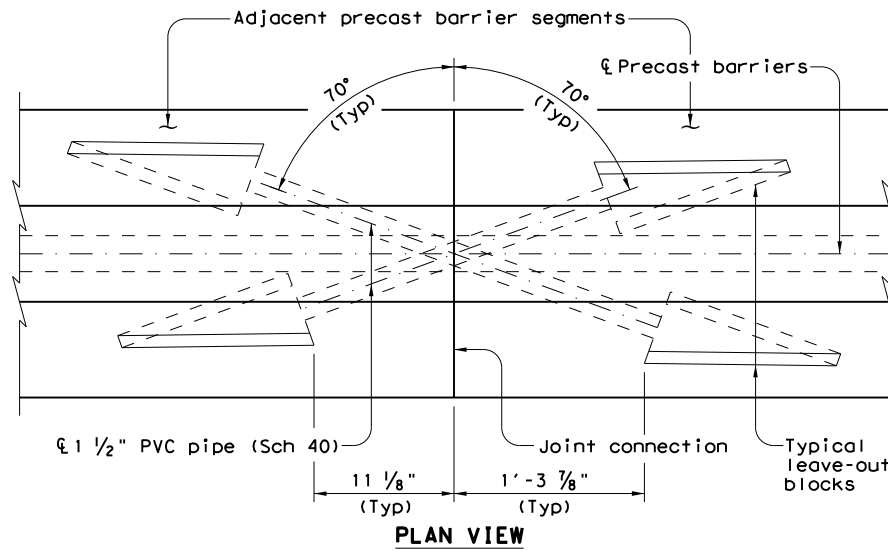
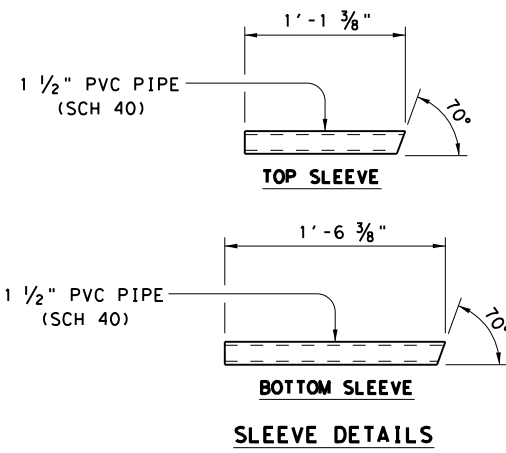
VIEW A-A
NOTE: THREADED RODS WITH NUTS AND WASHERS FOR X-BOLT CONNECTION NOT SHOWN FOR CLARITY.

SHEET 1 OF 2

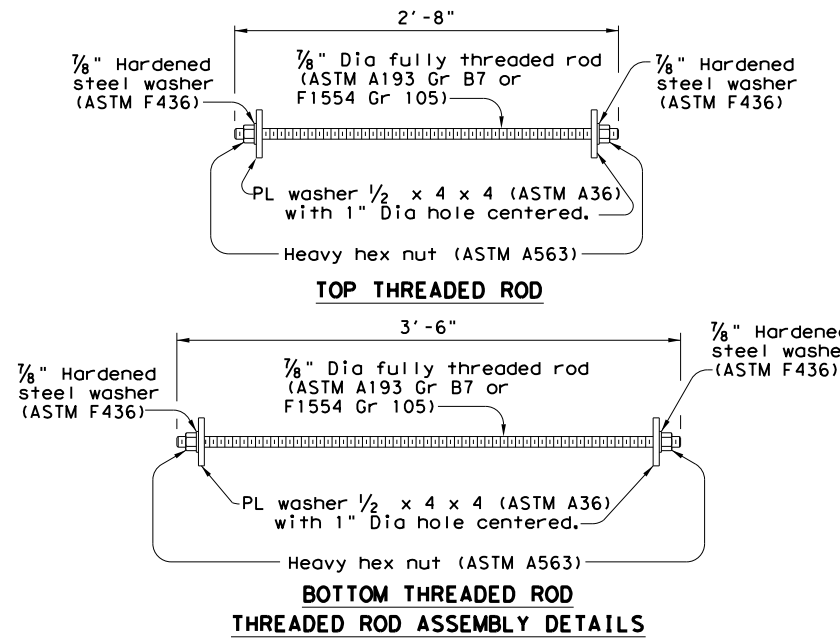
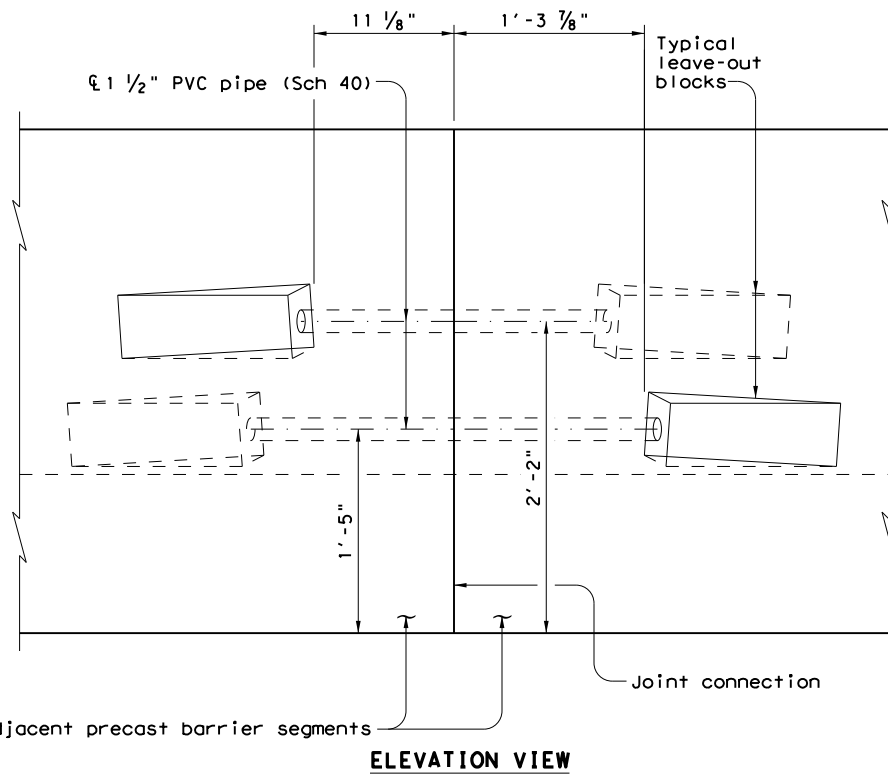
		Design Division Standard	
SINGLE SLOPE CONCRETE BARRIER (PRECAST) X-BOLT CONNECTION RESTRAINED MASH TL-4 SSCB-P (XB1) - 20			
FILE: sscbpxb120.dgn	DN: TxDOT	CK: KM	DW: JTR
© TxDOT: NOVEMBER 2020	CONT	SECT	JOB
REVISIONS	DIST	COUNTY	SHEET NO.

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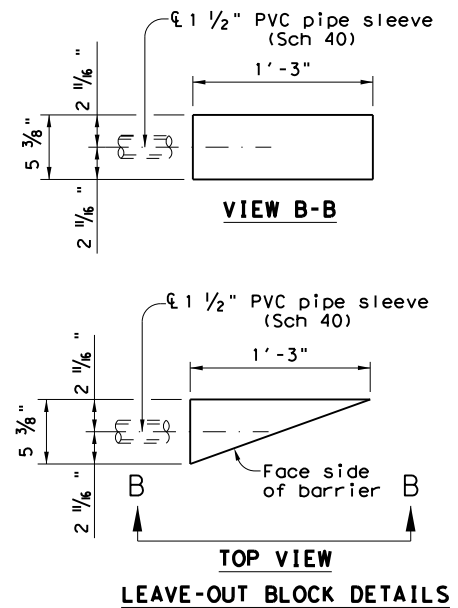
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X-BOLT CONNECTION WITH FORMING & LEAVE-OUT BLOCK PLACEMENT DETAILS
REINFORCING STEEL AND THREADED RODS WITH NUTS AND WASHERS NOT SHOWN FOR CLARITY.



Showing hardware for one complete X-bolt connection. Installation of threaded rods must not extend beyond face of barrier.



CONSTRUCTION NOTES:

At the Contractor's or Engineer's direction provide lifting devices (lugs, loops, etc.) in the rail. Locate lifting devices in rail so as to not exceed tensile strength of the concrete during lifting. Galvanize all permanent steel lifting components. Chamfer all exposed corners. Remove bars BD(#8) when barrier is removed. Cut bars and grind flush to finished bridge slab or CRCP unless directed otherwise by Engineer. Test adhesive anchors in accordance with Item 450.3.3, "Tests". Test 3 anchors per 100 anchors installed. Perform corrective measures to provide adequate capacity if any of the tests do not meet the required test load. Repair damage from testing as directed.

MATERIAL NOTES:

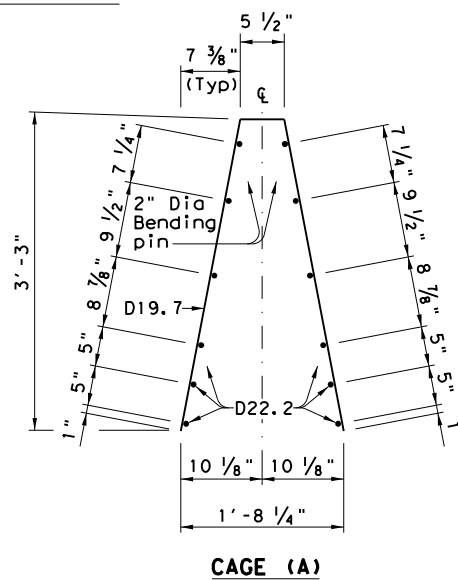
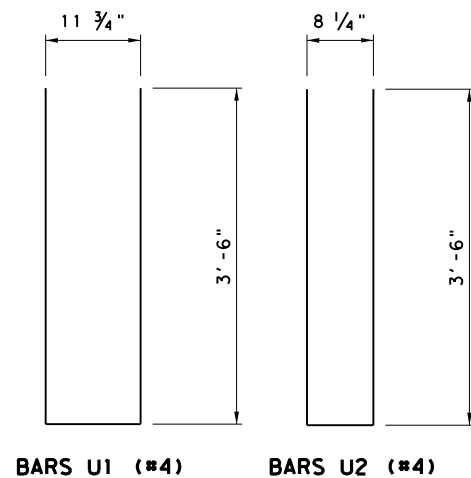
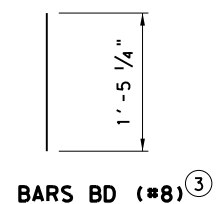
Galvanize all metal components of barrier system. Provide Class "S" concrete (f'c = 4,000 psi). Provide Class "S" (HPC) if required elsewhere. Galvanize all reinforcing steel and WWR if required or shown elsewhere. Provide stainless steel in accordance with Item 440.2.10., for BD(#8) when bar is to remain embedded in finished bridge slab or continuously reinforced concrete pavement (CRCP). Provide Grade 60 reinforcing steel. Provide deformed welded wire reinforcement (WWR) (ASTM A1064). Provide welded wire reinforcement (WWR) laps, where required, as follows: Uncoated or galvanized ~ D22.2 = 1'-7"

GENERAL NOTES:

This barrier system has been successfully evaluated by full-scale crash test to meet MASH TL-4 criteria. This barrier system had approximately 7 inches of dynamic deflection and 1.5 inches of permanent deflection as it contains and redirects the TL-4 (single-unit truck) errant vehicle. Average weight of one 30' precast barrier is 19,960 Lb. Average weight of precast barrier is 665 plf.

Cover dimensions are clear dimensions, unless noted otherwise. Reinforcing bar dimensions shown are out-to-out of bar.

③ Provide stainless steel for BD(#8) when bar is to remain embedded in finished bridge slab or CRCP.



		Design Division Standard	
SINGLE SLOPE CONCRETE BARRIER (PRECAST) X-BOLT CONNECTION RESTRAINED MASH TL-4 SSCB-P (XB1) -20			
FILE: sscbpxb120.dgn	DN: TxDOT	CK: KM	DW: JTR
© TxDOT: NOVEMBER 2020	CONT	SECT	JOB
REVISIONS		HIGHWAY	
DIST	COUNTY	SHEET NO.	