



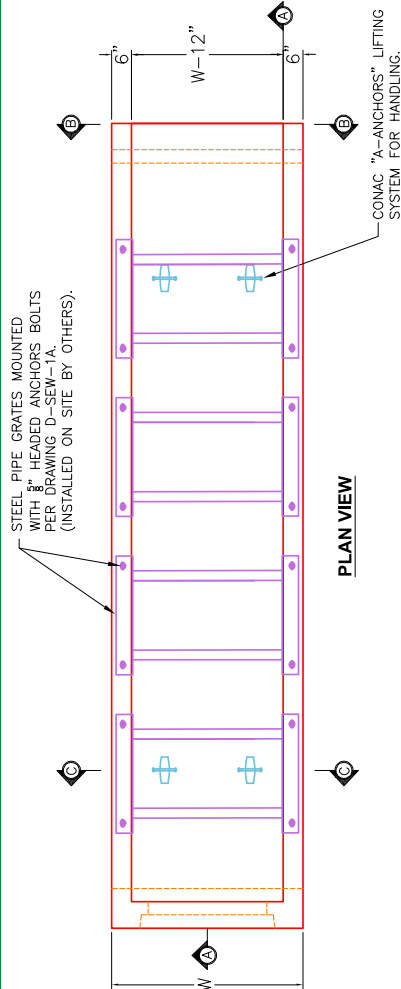
Structure ID: HW 13 (11)

P1 HWTDOT3-1TU15

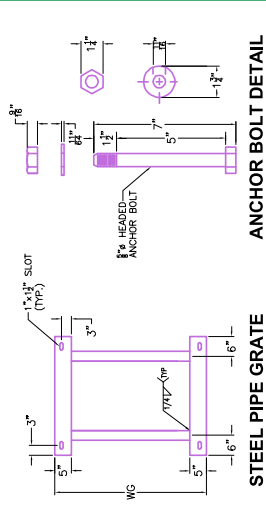
15" - HW TDOT 3:1 Type U Cross Drain Endwall F/F

GENERAL NOTES

- DRAWING TO BE USED FOR ALL 15" THROUGH 48" SIDE DRAIN CONCRETE ENDWALLS.
- CONCRETE: $F_c = 4,500$ PSI @ 28 DAYS.
- REINFORCING STEEL: ASTM A615, $F_y = 60,000$ PSI. SEE STD. DWGS. D-PE-15A, D-PE-18, D-PE-24A, D-PE-30A, D-PE-36A, D-PE-42A & D-PE-48A FOR BILL OF STEEL.
- SPlicing OF REINFORCEMENT IS ACCEPTABLE PROVIDED THAT A MINIMUM 21" SPlice LENGTH IS USED.
- APPROPRIATE SIZING AND LOCATIONS OF THE LIFTING INSERTS WILL BE THE RESPONSIBILITY OF INFRASTRUCTURE PRECAST, INC.
- LIFTING INSERTS SHALL BE BROUGHT OUT TO THE CONCRETE SURFACE PER THE REQUIREMENTS SET FORTH IN THE CONTRACT DOCUMENTS. DIMENSIONS AND REINFORCING TOLERANCES WILL BE AS SHOWN IN STANDARD OPERATING PROCEDURE (SOP) 5.3.
- PIPE OPENINGS FOR HEADWALLS ARE BASED ON REINFORCED CONCRETE PIPE WITH TYPE "B" WALL AS PER AMERICAN CONCRETE PIPE ASSOCIATION (ACPA). OUTSIDE DIAMETER + 3"-4". TOE WALL BACK SLOPE MAY BE CONSTRUCTED VARIABLE FROM VERTICAL UP TO 15'.

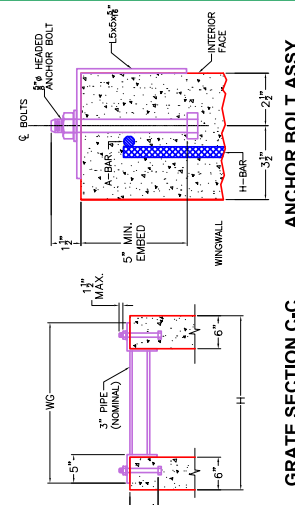


PLAN VIEW



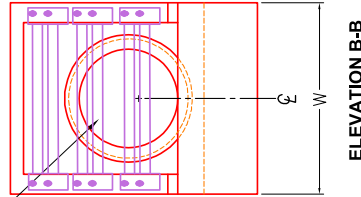
STEEL PIPE GRATE

ANCHOR BOLT DETAIL

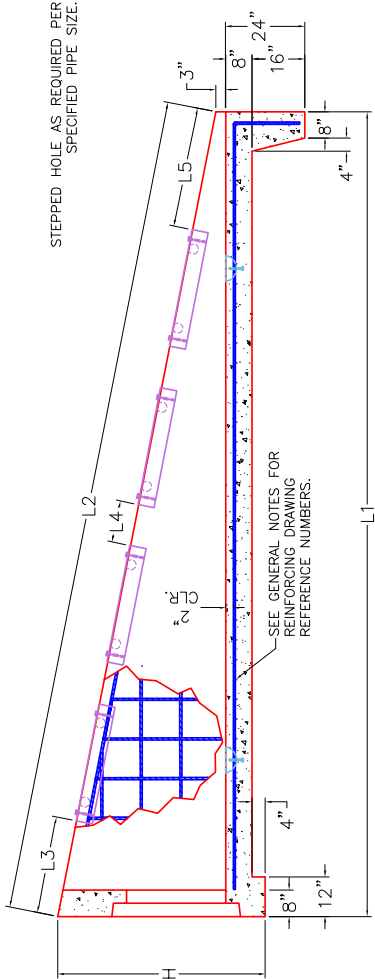


GRATE SECTION C-C

ANCHOR BOLT ASSY.



ELEVATION B-B



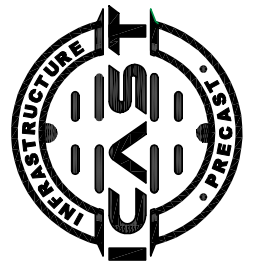
SECTION A-A

DIMENSIONS AND QUANTITIES FOR ONE ENDWALL 6:1

SIDE DRAIN DIA. (Ø)	CONCRETE ENDWALL DIMENSIONS					GRATE DISPLACEMENT DIMENSIONS					STRUCTURAL STEEL GRATE DIMENSIONS AND QUANTITY		STRUCT. STEEL		WEIGHT	
	H	W	L1	L2	L3	L4	L5	WG	NO. REQ'D.	LBS.	LBS.	LBS.	LBS.	LBS.	LBS.	
15"	2'-11"	2'-8"	11'-2"	11'-3 1/2"	2'-2"	1'-0"	2'-1 1/2"	2'-5"	2	172	4,737	269	5,833	269	5,833	
18"	3'-2"	2'-11"	12'-8"	12'-10 1/2"	10 1/2"	1'-0"	1'-0"	2'-8"	3	269	5,833	296	8,848	296	8,848	
24"	3'-9"	3'-6"	16'-2"	16'-4 1/2"	2'-2"	1'-0"	3'-2 1/2"	3'-3"	3	296	8,848	694	12,880	694	12,880	
30"	4'-5"	4'-1"	20'-2"	20'-5 1/2"	2'-2"	1'-0"	2'-9 1/2"	3'-10"	4	975	17,186	1,300	21,532	1,300	21,532	
36"	5'-0"	4'-8"	23'-8"	23'-11 1/2"	2'-2"	1'-0"	1'-10 1/2"	5'-0"	6	1,300	21,532	1,669	27,092	1,669	27,092	
42"	5'-6"	5'-3"	26'-8"	27'-0 1/2"	2'-2"	1'-0"	1'-5"	5'-7"	7	1,669	27,092					
48"	6'-1"	5'-10"	30'-2"	30'-7"	2'-2"	1'-0"	1'-5"	5'-7"	7	1,669	27,092					

DIMENSIONS AND QUANTITIES FOR ONE ENDWALL 12:1

PIPE DIA.	CONCRETE ENDWALL DIMENSIONS					STRUCTURAL STEEL GRATE DIMENSIONS AND QUANTITY					STRUCT. STEEL		WEIGHT	
	H	W	L1	L2	L3	L4	L5	WG	NO. REQ'D.	LBS.	LBS.	LBS.	LBS.	
18"	3'-1 1/4"	3'-1"	26'-0"	24'-1"	2'-1"	3'-0"	2'-10"	2'-10"	5	480	256	480	11,119	



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TDOT TYPE "SAFETY" SIDE DRAIN ENDWALL WITH STEEL PIPE GRATES FOR 15" THROUGH 48" PIPES (6:1 & 12:1 SLOPES)
 DRAWING NO.: ET-TDOT-200 DATE: 10-02-25
 REVIEWED BY: J.H. ROSS, PE DRAWN BY: N. RICHARDS
 WEB: WWW.ICASTING.COM SCALE: NTS