



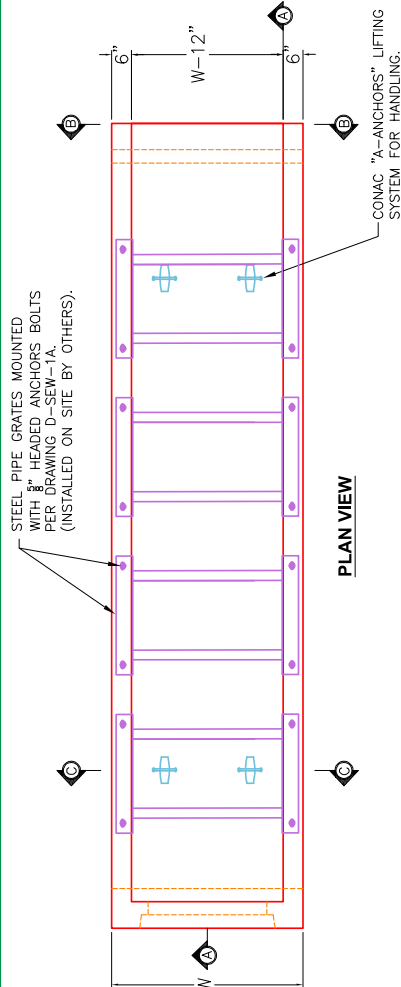
Structure ID: HW 14 (12)

P1 HWTDOT3-1TU15

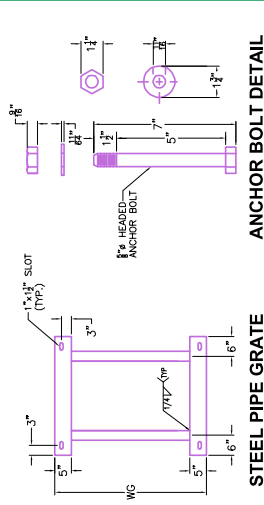
15" - HW TDOT 3:1 Type U Cross Drain Endwall F/F

GENERAL NOTES

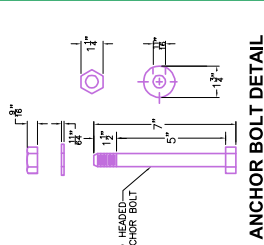
- DRAWING TO BE USED FOR ALL 15" THROUGH 48" SIDE DRAIN CONCRETE ENDWALLS.
- MANUFACTURING, FOR CROSS DRAINS ONLY.
- CONCRETE: $F_c = 4,500$ PSI @ 28 DAYS.
- REINFORCING STEEL: ASTM A615, $F_y = 60,000$ PSI. SEE STD. DWGS. D-PE-15A, D-PE-18, D-PE-24A, D-PE-30A, D-PE-36A, D-PE-42A & D-PE-48A FOR BILL OF STEEL.
- SPACING OF REINFORCEMENT IS ACCEPTABLE PROVIDED THAT A MINIMUM 2" SPICE LENGTH IS USED.
- APPROPRIATE SIZING AND LOCATIONS OF THE LIFTING INSERTS WILL BE THE RESPONSIBILITY OF INFRASTRUCTURE PRECAST, INC.
- LIFTING INSERT SOCKETS SHALL BE BROUGHT TO THE CONTRACTOR'S ATTENTION BY THE ENDWALL DESIGNER PER THE REQUIREMENTS OF SECTION 5.3. DIMENSIONAL 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'.



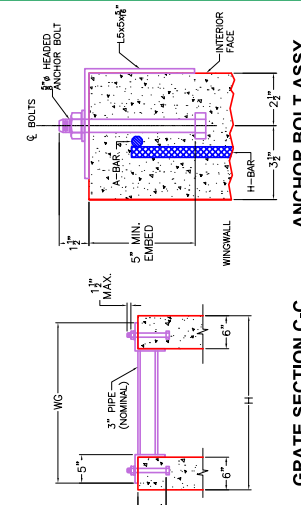
PLAN VIEW



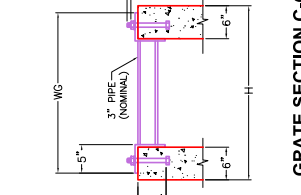
STEEL PIPE GRATE



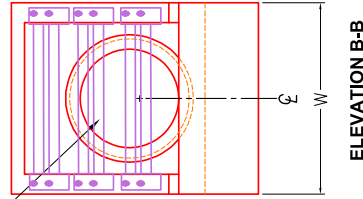
ANCHOR BOLT DETAIL



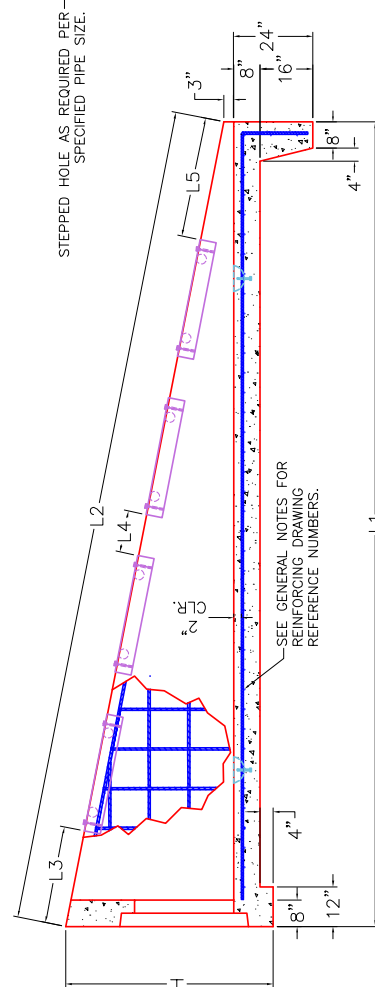
ANCHOR BOLT ASSY.



GRATE SECTION C-C



ELEVATION B-B



SECTION A-A

DIMENSIONS AND QUANTITIES FOR ONE ENDWALL 6:1

SIDE DRAIN DIA. (D)	CONCRETE ENDWALL DIMENSIONS				GRATE DISPLACEMENT DIMENSIONS				STRUCTURAL STEEL GRATE DIMENSIONS AND QUANTITY		STRUCT. STEEL		WEIGHT LBS.
	H	W	L1	L2	L3	L4	L5	WG	NO. REQ'D.	LBS.	LBS.		
15"	2'-11"	2'-8"	11'-2"	11'-3 3/8"	2'-2"	1'-0"	2'-1 1/8"	2'-5"	2	172	4,737		
18"	3'-2"	2'-11"	12'-8"	12'-10 1/8"	10 1/8"	1'-0"	1'-0"	2'-8"	3	269	5,833		
24"	3'-9"	3'-6"	16'-2"	16'-4 1/8"	2'-2"	1'-0"	3'-2 1/8"	3'-3"	3	296	8,848		
30"	4'-5"	4'-1"	20'-2"	20'-5 3/8"	2'-2"	1'-0"	3'-3 3/8"	3'-10"	4	694	12,880		
36"	5'-0"	4'-8"	23'-8"	23'-11 1/8"	2'-2"	1'-0"	2'-9 1/8"	4'-5"	5	975	17,186		
42"	5'-6"	5'-3"	26'-8"	27'-0 3/8"	2'-2"	1'-0"	1'-10 3/8"	5'-0"	6	1,300	21,532		
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 CULV. DIA.	CONCRETE ENDWALL DIMENSIONS				STRUCTURAL STEEL GRATE DIMENSIONS AND QUANTITY		STRUCT. STEEL		STEEL BAR WEIGHT	
	H	W	L1	L2	WG	NO. REQ'D.	LBS.	LBS.	LBS.	LBS.
18"	3'-1 1/4"	3'-1"	26'-0"	24'-1"	2'-10"	5	480	256	11,119	



INFRASTRUCTURE PRECAST, INC.
 981 WEST 7TH ST., BEAVER DAM, KY. 42320
 PHONE: (270) 363-2238, FAX: (270) 298-7424

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