



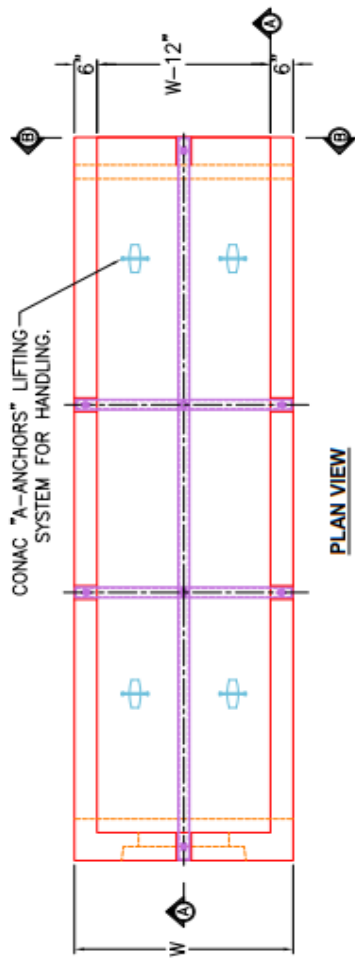
Structure ID: 117-2 HW

P1 HWT DOT3-1TU36

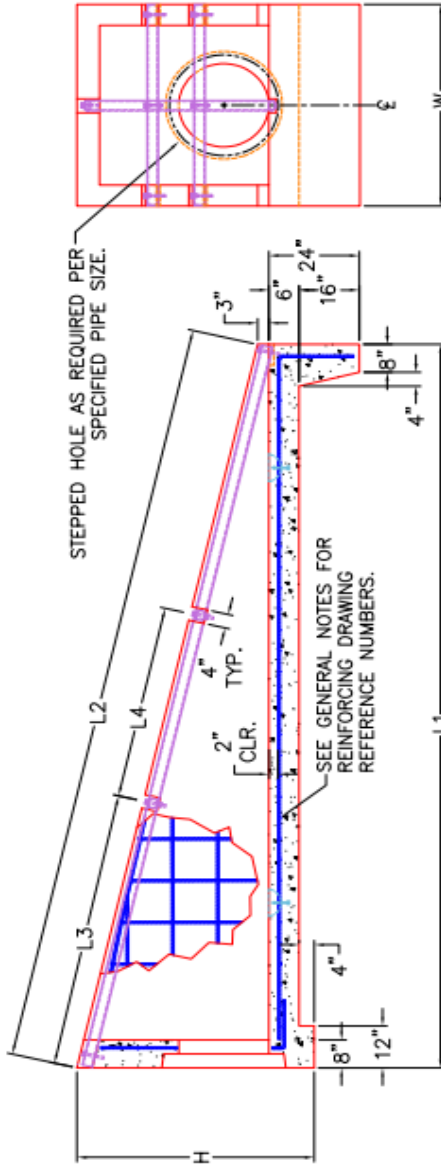
36" - HW TDOT 3:1 Type U Cross Drain Endwall F/F

GENERAL NOTES

- DRAWING TO BE USED FOR ALL 12" 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.
- 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 INSERT POCKETS SHALL BE GROUDED ON SITE BY THE CONTRACTOR AFTER THE ENDWALL IS SET AS PER TDOT REQUIREMENTS.
- DIMENSIONAL 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'.



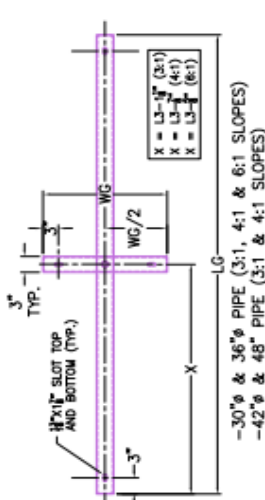
PLAN VIEW



SECTION A-A

SEE GENERAL NOTES FOR REINFORCING DRAWING REFERENCE NUMBERS.

STEPPED HOLE AS REQUIRED PER SPECIFIED PIPE SIZE.



ELEVATION B-B

DIMENSIONS & QUANTITIES FOR ONE ENDWALL 3:1

| PIPE DIA. (D) | CONCRETE ENDWALL DIMENSIONS | | | | GRATE DISPLACEMENT DIMENSIONS | | | | STRUCT. STEEL | | WEIGHT LBS. |
|---------------|-----------------------------|--------|--------|---------|-------------------------------|-----|-----|--------|---------------|------|-------------|
| | H | W | L1 | L2 | L3 | L4 | L3 | L4 | LBS. | LBS. | |
| 15" | 2'-11" | 2'-8" | 6'-0" | 6'-3" | N/A | N/A | N/A | N/A | N/A | N/A | 2,819 |
| 18" | 3'-2" | 2'-11" | 6'-8" | 7'-0" | N/A | N/A | N/A | N/A | N/A | N/A | 3,406 |
| 24" | 3'-9" | 3'-6" | 8'-5" | 8'-10" | N/A | N/A | N/A | N/A | N/A | N/A | 5,011 |
| 30" | 4'-5" | 4'-1" | 10'-5" | 10'-11" | 5'-2" | N/A | 114 | 7,204 | N/A | N/A | 9,513 |
| 36" | 5'-0" | 4'-8" | 12'-2" | 12'-8" | 6'-4" | N/A | 132 | 9,513 | N/A | N/A | 11,862 |
| 42" | 5'-6" | 5'-3" | 13'-8" | 14'-4" | 7'-4" | N/A | 148 | 11,862 | N/A | N/A | 14,838 |
| 48" | 6'-1" | 5'-10" | 15'-5" | 16'-3" | 7'-4" | N/A | 167 | 14,838 | N/A | N/A | |

DIMENSIONS & QUANTITIES FOR ONE ENDWALL 4:1

| PIPE DIA. (D) | CONCRETE ENDWALL DIMENSIONS | | | | GRATE DISPLACEMENT DIMENSIONS | | | | STRUCT. STEEL | | WEIGHT LBS. |
|---------------|-----------------------------|--------|--------|---------|-------------------------------|-----|-----|--------|---------------|------|-------------|
| | H | W | L1 | L2 | L3 | L4 | L3 | L4 | LBS. | LBS. | |
| 15" | 2'-11" | 2'-8" | 8'-0" | 8'-3" | N/A | N/A | N/A | N/A | N/A | N/A | 3,484 |
| 18" | 3'-2" | 2'-11" | 8'-8" | 8'-11" | N/A | N/A | N/A | N/A | N/A | N/A | 4,228 |
| 24" | 3'-9" | 3'-6" | 11'-0" | 11'-4" | N/A | N/A | N/A | N/A | N/A | N/A | 6,303 |
| 30" | 4'-5" | 4'-1" | 13'-8" | 14'-1" | 6'-1" | N/A | 137 | 9,083 | N/A | N/A | 12,056 |
| 36" | 5'-0" | 4'-8" | 16'-0" | 16'-3" | 8'-2" | N/A | 160 | 12,056 | N/A | N/A | 15,073 |
| 42" | 5'-6" | 5'-3" | 18'-0" | 18'-6" | 9'-2" | N/A | 180 | 15,073 | N/A | N/A | |
| 48" | 6'-1" | 5'-10" | 20'-4" | 20'-11" | 10'-3" | N/A | 203 | 18,910 | N/A | N/A | |

DIMENSIONS & QUANTITIES FOR ONE ENDWALL 6:1

| PIPE DIA. (D) | CONCRETE ENDWALL DIMENSIONS | | | | GRATE DISPLACEMENT DIMENSIONS | | | | STRUCT. STEEL | | WEIGHT LBS. |
|---------------|-----------------------------|--------|--------|---------|-------------------------------|-----|-----|--------|---------------|------|-------------|
| | H | W | L1 | L2 | L3 | L4 | L3 | L4 | LBS. | LBS. | |
| 15" | 2'-11" | 2'-8" | 11'-2" | 11'-3" | N/A | N/A | N/A | N/A | N/A | N/A | 4,737 |
| 18" | 3'-2" | 2'-11" | 12'-8" | 12'-10" | N/A | N/A | N/A | N/A | N/A | N/A | 5,833 |
| 24" | 3'-9" | 3'-6" | 16'-2" | 16'-4" | N/A | N/A | N/A | N/A | N/A | N/A | 8,848 |
| 30" | 4'-5" | 4'-1" | 20'-2" | 20'-6" | 10'-1" | N/A | 186 | 12,880 | N/A | N/A | 17,186 |
| 36" | 5'-0" | 4'-8" | 23'-8" | 23'-11" | 12'-0" | N/A | 217 | 17,186 | N/A | N/A | 21,532 |
| 42" | 5'-6" | 5'-3" | 26'-8" | 27'-0" | 9'-1" | N/A | 284 | 21,532 | N/A | N/A | 27,092 |
| 48" | 6'-1" | 5'-10" | 30'-2" | 30'-7" | 10'-0" | N/A | 320 | 27,092 | N/A | N/A | |

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



TDOT TYPE "U" CROSS DRAIN ENDWALL WITH STEEL PIPE GRATE FOR 15" THROUGH 48" PIPES
 DRAWING NO.: ET-TDOT-202
 DATE: 11-24-25
 DRAWN BY: N. RICHARDS
 SCALE: NTS

STEEL PIPE GRATE DIMENSIONS

| PIPE DIA. | ALL SLOPES | WG | LG | LG | LG |
|-----------|------------|---------|---------|---------|----|
| 15" | 3:1 | 4:1 | 6:1 | | |
| 18" | 4'-1" | 10'-10" | 14'-0" | 20'-4" | |
| 24" | 4'-8" | 12'-8" | 16'-5" | 23'-11" | |
| 30" | 5'-3" | 14'-3" | 18'-5" | 26'-11" | |
| 36" | 5'-10" | 16'-1" | 20'-10" | 30'-0" | |

(PROVIDED BY OTHERS)

STEEL PIPE GRATE PLAN VIEWS
 (SEE D-PE-99 FOR MOUNTING STEEL GRATES)