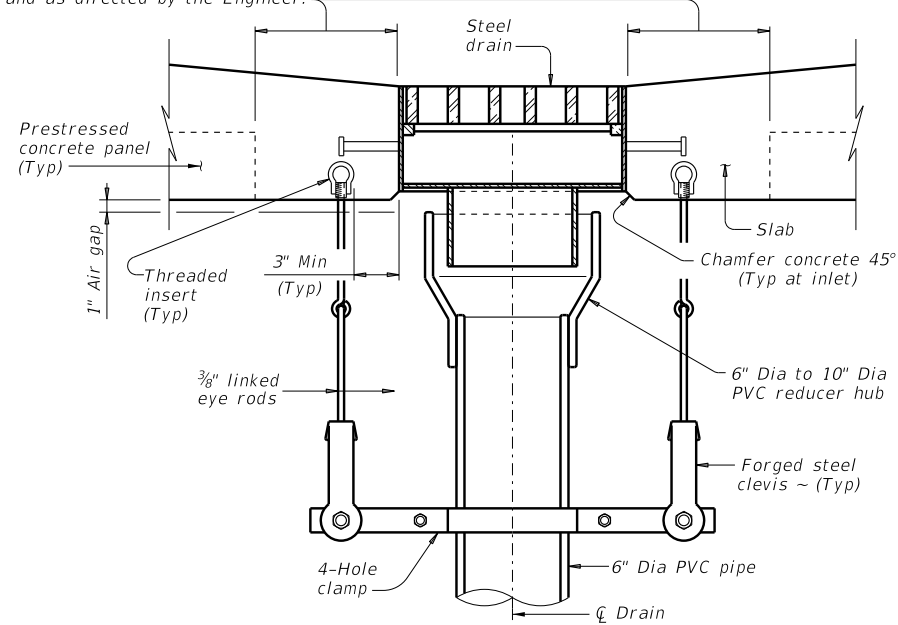


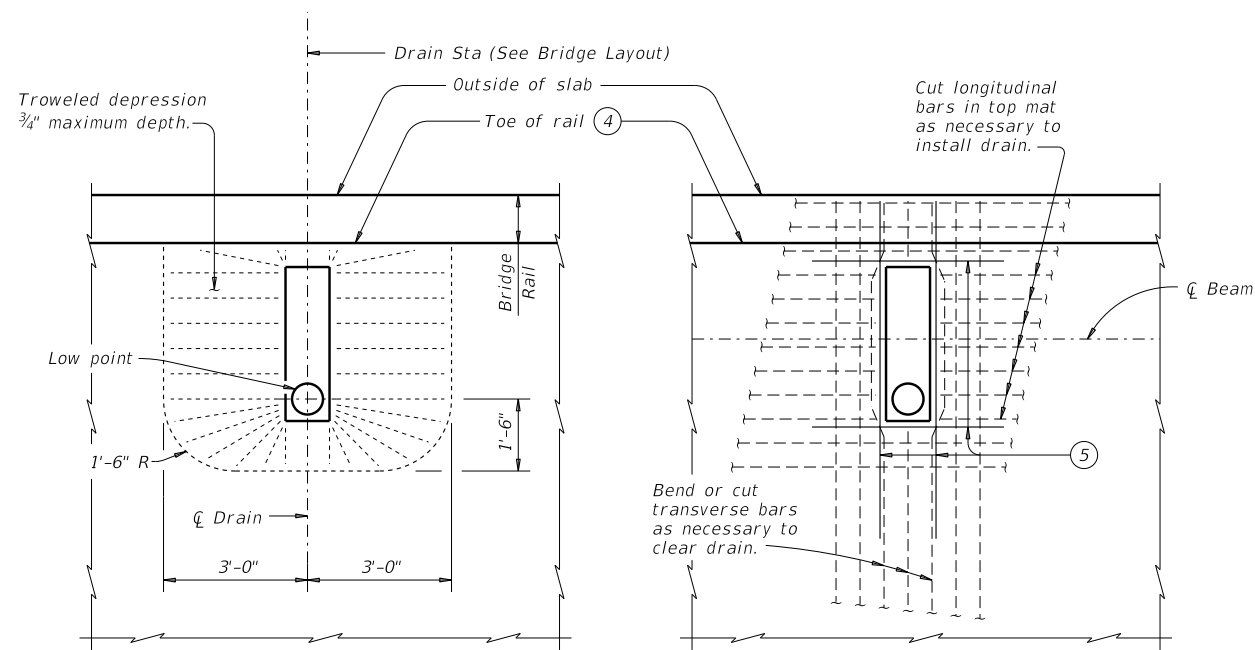


DISCLAIMER:  
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 TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

If prestressed concrete panels are used, place panels 3' Min from edges of drain. Conventionally reinforce this portion of cast-in-place slab as detailed on the span, unit sheets, or miscellaneous standard details and as directed by the Engineer.



**HOOK-UP TO INLET WITH VERTICAL PIPE SUPPORT** ④



**TROWELED DEPRESSION**

**SHOWING TYPICAL SLAB REINFORCING**

(Showing top map of reinforcing, bottom mat and panels omitted for clarity.)

- ④ Place edge of bridge drain close to the toe of rail.
- ⑤ Provide 4 additional #5 bars around perimeter in top mat of reinforcing and 4 additional #5 bars around perimeter in bottom mat of reinforcing. Extend bars 1'-6" from edges of drain.

**GENERAL NOTES:**

- Galvanize all steel components in accordance with Item 445 "Galvanizing" unless noted otherwise.
- Provide 7/16" Dia ASTM A307 Grade A hex bolt with one hex nut, one plain washer and one lock washer.
- Round or chamfer exposed edges of Grate and Frame to approximately 1/16" by grinding, unless otherwise noted.
- Take care to ensure uniform bearing between contact surfaces of grate and frame.
- Alternate bridge drains may be substituted for the bridge drain shown on this sheet provided they are approved by the Engineer prior to fabrication and installation. Alternate drains must have an approximately equal grate opening area (350 sq in) and an 8" diameter outfall. The grate should be of a similar configuration.
- Bend slab reinforcing bars to clear drain by 1". When bending is not possible, stop or cut reinforcing bars to clear drain as shown. Additional slab reinforcing is considered subsidiary to "Reinforced Concrete Slab." When placing concrete, take care to prevent honeycombing or air pockets around or beneath the drain.
- Provide Schedule 40 DWV PVC pipe conforming to ASTM D2665. Minimum wall thickness: 0.280" ~ 6" Dia, 0.322" ~ 8" Dia. Use fittings as directed by the Engineer. Attach the pipe securely to the superstructure. Provide pipe and supports that accommodate anticipated longitudinal movements of pipe and bridge slab. For long downhill pipe runs, match pipe grade to roadway grade.
- Galvanize metallic pipe support hardware and fasteners in accordance with Item 445 "Galvanizing." Include cost of attachment devices in the unit price bid for "Grate and Frame."
- Payment will be by each Grate and Frame (Bridge Drain). See Bridge Layout for location of drains.
- Deviations from Bridge Drain Details contained herein will not be permitted without prior approval from the Engineer.
- Average weight of Grate and Frame:  
 321 Lb total  
 148 Lb (Grate)  
 173 Lb (Frame).



**BRIDGE DRAIN DETAILS (WELDED)**

(Not to be used as a standard)  
**BD-2**

FILE: CD-BD2-20.dgn	DN: MAS	CK: TxDOT	DW: JTR	CK: TxDOT
CONT	SECT	JOB	HIGHWAY	
REVISIONS				
DIST	COUNTY			SHEET NO.

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