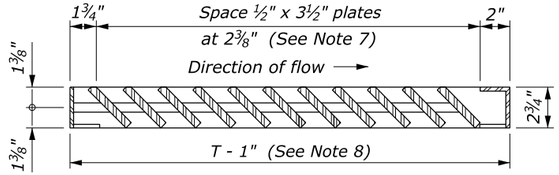
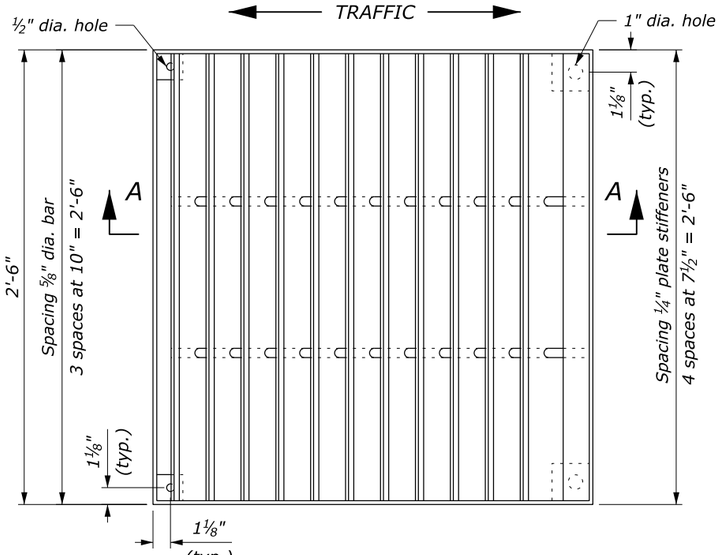
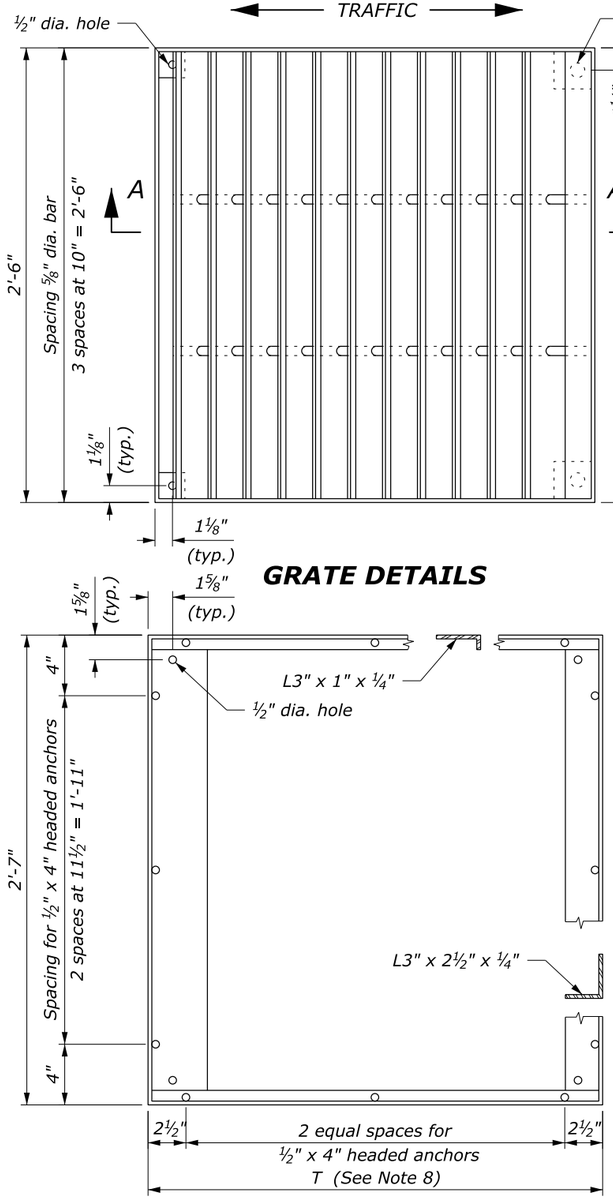
STATE	PROJECT	SHEET NUMBER



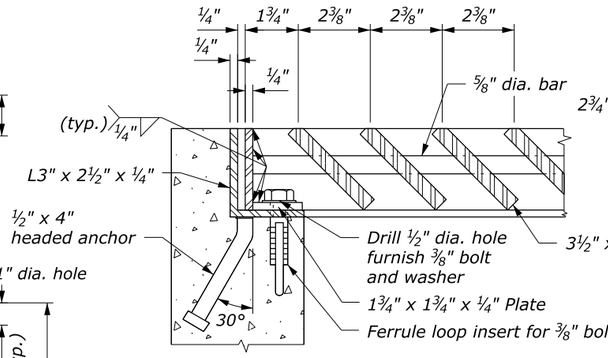
SECTION A-A

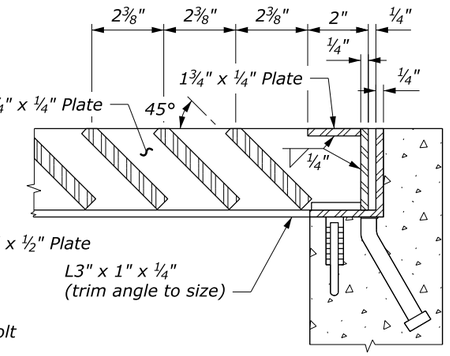


GRATE DETAILS



FRAME DETAIL





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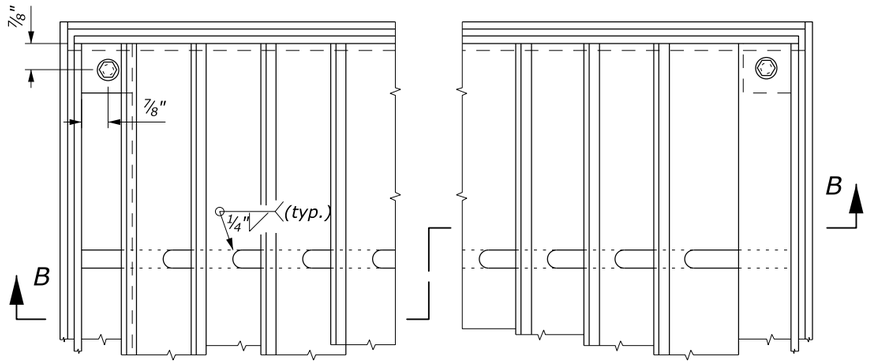
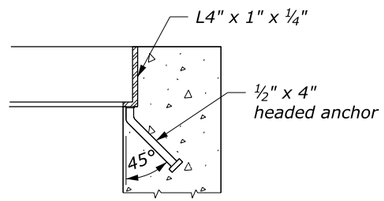


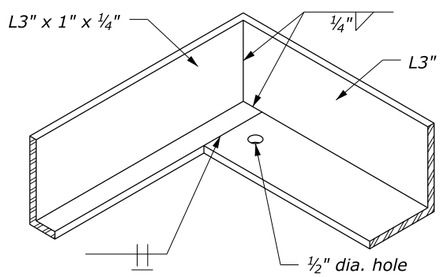
FRAME AND GRATE DETAILS

NOTE:

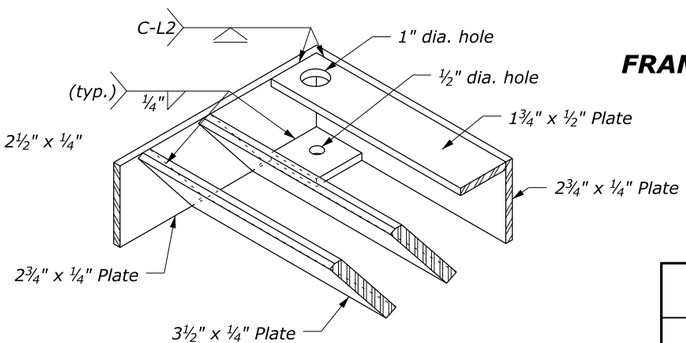
1. STRUCTURAL STEEL: AASHTO M 183 (ASTM A 36M).
2. BOLTS & WASHERS: ASTM A 307, Galvanized.
3. THREADED CONCRETE ANCHORS: Ferrule loop inserts for ⅜" bolt or approved equal.
4. HEADED CONCRETE ANCHORS: Weld to frame with a full penetration butt weld.
5. WELDING: Weld in conformance with the Standard Specifications. Unless otherwise indicated seal weld all joints with a minimum size fillet weld, based on material thickness. Grind smooth all contact surfaces. FINISH: Galvanized after fabrication.
6. Estimated weight, frame and grate (2'-6" x 2'-6") 238 lbs. Increase or decrease weight by 19 lbs for each 2⅜" increment.
7. Number of plates varies according to pipe diameter. See Standard 604-1.
8. See Standard 604-1 for dimensions of T.



FRAME ANCHOR DETAIL



FRAME CORNER DETAIL



GRATE CORNER DETAIL

NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
FEDERAL LANDS HIGHWAY

U.S. CUSTOMARY STANDARD

METAL FRAME AND GRATE TYPE B

STANDARD APPROVED FOR USE 6/2005
REVISED: 6/2007

STANDARD 604-3

17 March 2016 2:27 PM c:\myfiles\pw_production\dms44777\Std604-3.dgn [USC]