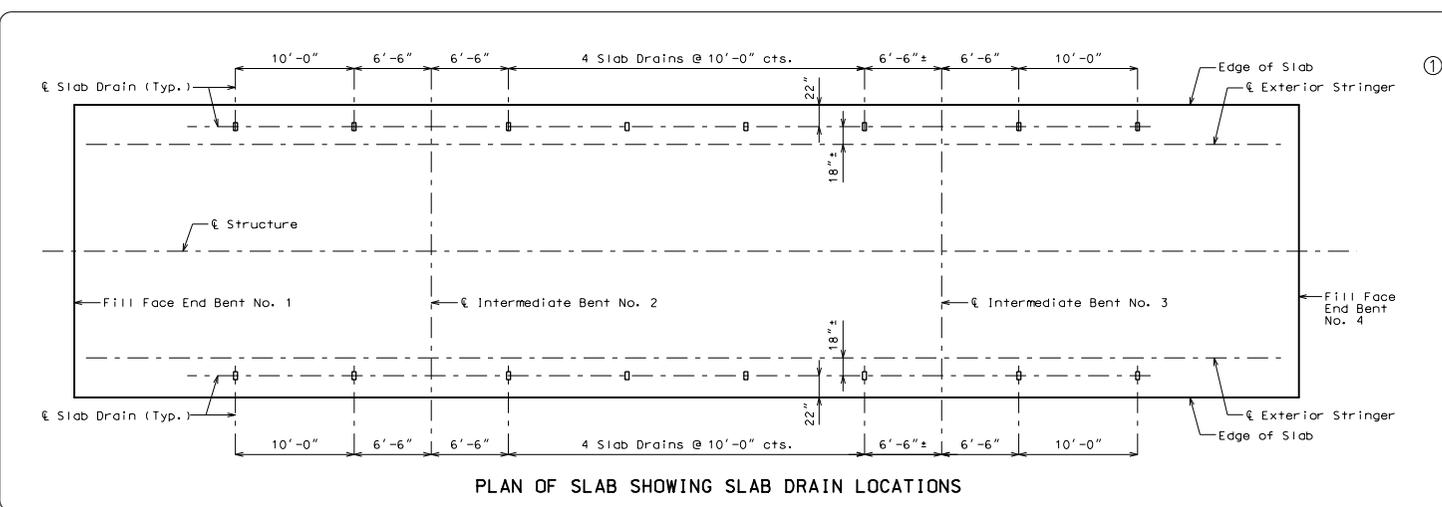
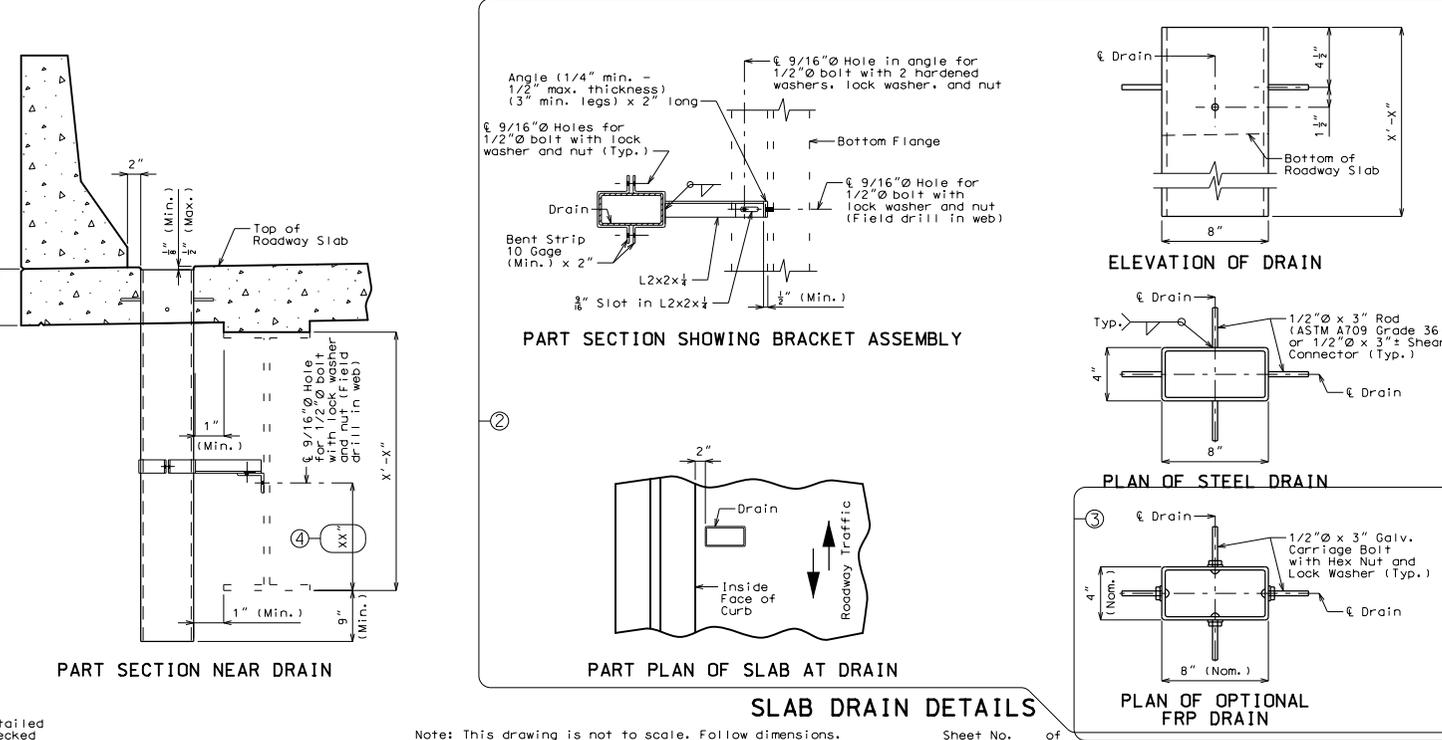
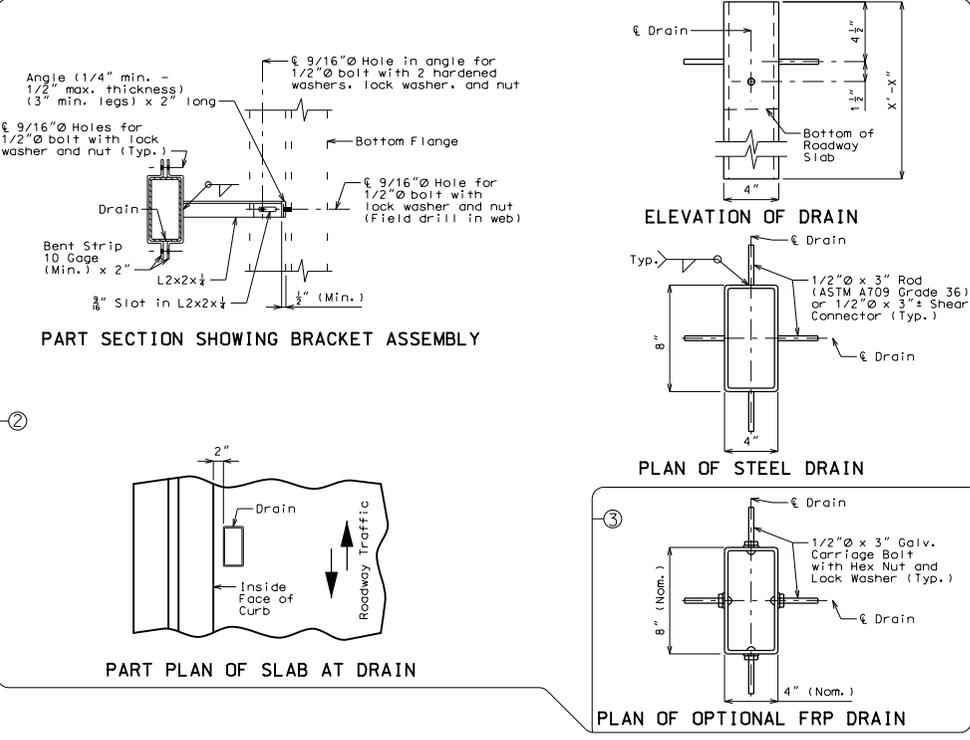


- Standard Drawing Guidance (do not show on plans):
- 1 Replace example Plan of Slab Showing Slab Drain Locations with actual plan.
 - 2 Details shown inside the sheet border are for drains transverse to roadway. Use the below details for drains parallel to roadway.
 - 3 Include notes and details of FRP drains if option is to be used.
 - 4 Use 1/6 of web depth.



General Notes:
 Slab drain bracket assembly shall be ASTM A709 Grade 36 steel.
 Locate drains in slab by dimensions shown in Part Section Near Drain.
 Reinforcing steel shall be shifted to clear drains.
 The bracket assembly shall be galvanized in accordance with ASTM A123.
 All bolts, hardened washers, lock washers and nuts shall be galvanized in accordance with ASTM A153.
 Shop drawings will not be required for the slab drains and the bracket assembly.
 The bolt hole for the bracket assembly attachment should be shifted to the minimum extent necessary to field drill in the existing web.
Notes (Steel Drain):
 Slab drains may be fabricated of either 1/4" welded sheets of ASTM A709 Grade 36 steel or from 1/4" structural steel tubing ASTM A500 or A501.
 Outside dimensions of drains are 8" x 4".
 The drains shall be galvanized in accordance with ASTM A123.
Notes (Optional FRP Drain)
 Fiberglass Reinforced Polymer (FRP) slab drains may be substituted for steel slab drains as a contractor's option.
 Drains shall be machine filament-wound thermosetting resin tubing meeting the requirements of ASTM D2996 with the following exceptions:
 Shape of drains shall be rectangular with outside nominal dimensions of 8" x 4".
 Minimum reinforced wall thickness shall be 1/4 inch.
 The resin used shall be ultraviolet (UV) resistant and/or have UV inhibitors mixed throughout. Drains may have an exterior coating for additional UV resistance.
 The color of the slab drain shall be Gray (Federal Standard #26373). The color shall be uniform throughout the resin and any coating used.
 The combination of materials used in the manufacture of the drains shall be tested for UV resistance in accordance with ASTM D4329 Cycle A. The representative material shall withstand at least 500 hours of testing with only minor discoloration and without any physical deterioration. The contractor shall furnish the results of the required ultraviolet testing prior to acceptance of the slab drains.
 At the contractor's option, drains may be field cut. The method of cutting FRP slab drain shall be recommended by the manufacturer to ensure a smooth, chip free cut.
 No additional payment will be made for this substitution.



Detailed Checked Note: This drawing is not to scale. Follow dimensions. Sheet No. of

THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT.

DATE PREPARED: 2/4/2015
 ROUTE: * MO *
 DISTRICT: BR *
 COUNTY: *
 JOB NO.: *
 CONTRACT ID: *
 PROJECT NO.: *
 BRIDGE NO.: REDECK03

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

MOTDOT
 105 WEST CAPITAL
 JEFFERSON, MO 64601
 1-888-ASH-HODOT (1-888-275-6636)

REDECK_03_slab_drains.dgn 3:45:17 PM 2/4/2015