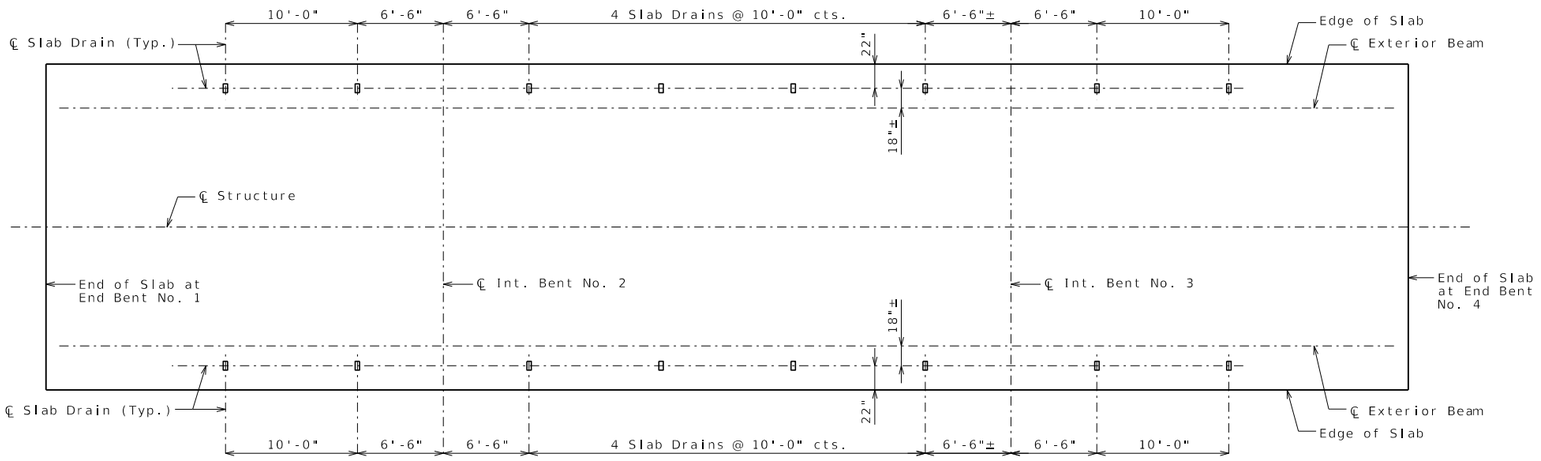
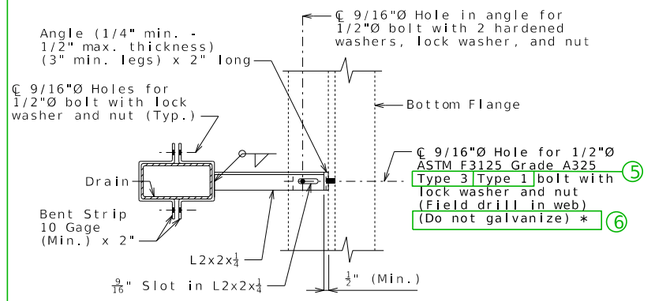
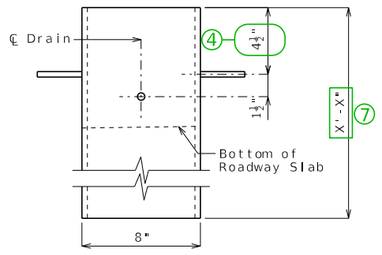


PLAN OF SLAB SHOWING SLAB DRAIN LOCATIONS

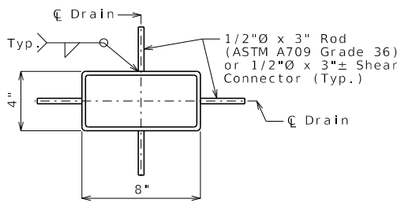


PART SECTION SHOWING BRACKET ASSEMBLY

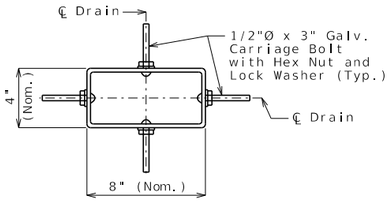
∗ See Sec 1080.4



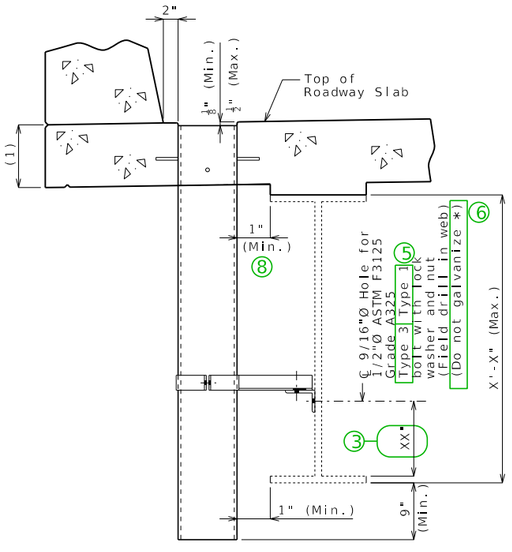
ELEVATION OF DRAIN



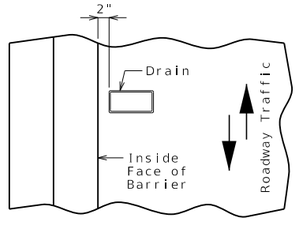
PLAN OF STEEL DRAIN OPTION



PLAN OF FRP DRAIN OPTION



PART SECTION NEAR DRAIN



PART PLAN OF SLAB AT DRAIN

SLAB DRAINS

General Notes:

Contractor shall have the option to construct either steel or FRP slab drains. All drains shall be of same type. (1)

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 F2329, except as shown. (6)

All 1/2"Ø bolts shall be ASTM A307, except as shown.

Shop drawings will not be required for the slab drains and the bracket assembly.

The bolt hole for the bracket assembly attachment shall be shifted to the minimum extent necessary to field drill in the existing web.

(1) See front sheet for slab thickness.

(6) The galvanized surfaces of drain support brackets shall be prepared according to the coating manufacturer's recommendation and field coated with a gray epoxy-mastic primer (non-aluminum) within a distance of 6 inches from the point of connection to the weathering steel structure.

Notes for 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 for FRP Drain:

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.

DATE PREPARED 5/12/2026
ROUTE | STATE MO
DISTRICT | SHEET NO. 10
COUNTY
JOB NO.
CONTRACT ID.
PROJECT NO.
BRIDGE NO.

DESCRIPTION	DATE

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

Detailed
Checked

Note: This drawing is not to scale. Follow dimensions.

Sheet No. of

S_DRA10_exist_stl Guidance & Alternate Details

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 Use 1/6 of web depth.

④ For slab thickness less than 7 3/4", revise dimension to be equal to the slab thickness minus 3 1/4".

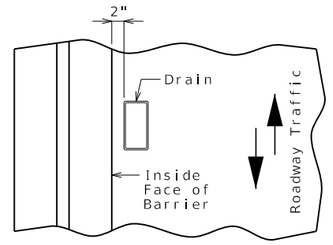
⑤ Type 3 for weathering steel; Type 1 for painted or galvanized steel.

⑥ Use with weathering steel. Delete for painted or galvanized steel.

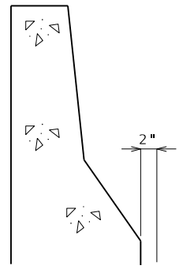
⑦ Total drain length is equal to 9" + maximum girder and haunch + slab thickness, rounded UP to the next whole inch.

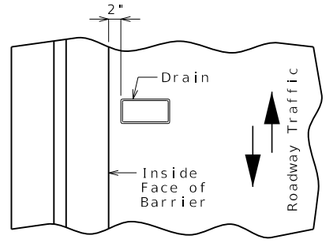
⑧ Consider cover plates that are wider than flanges when checking this dimension.

Alternate details for Type B barrier (SBC):

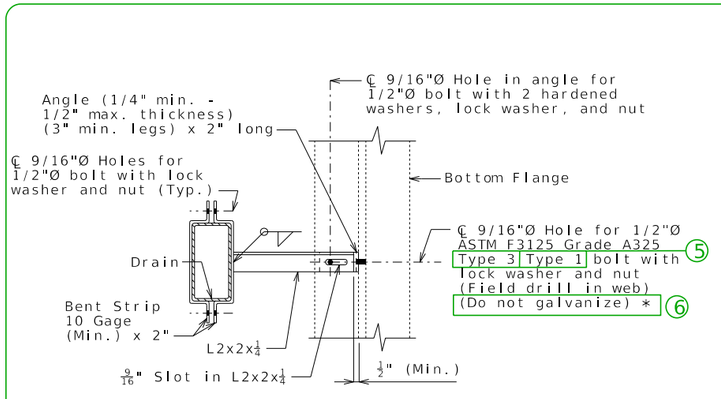


PART PLAN OF SLAB AT DRAIN





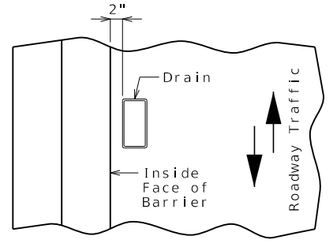
PART PLAN OF SLAB AT DRAIN



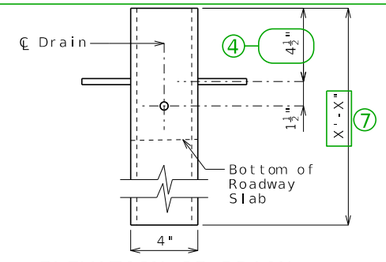
PART SECTION SHOWING BRACKET ASSEMBLY

* See Sec 1080.4 ⑥

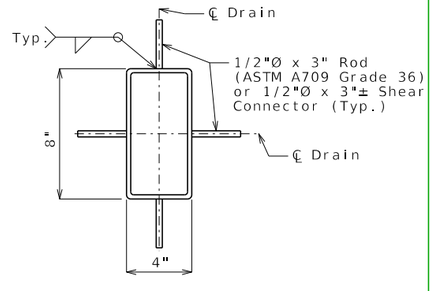
②



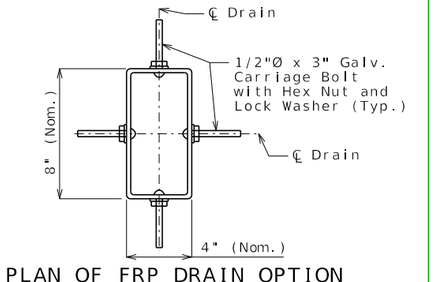
PART PLAN OF SLAB AT DRAIN



ELEVATION OF DRAIN



PLAN OF STEEL DRAIN OPTION



PLAN OF FRP DRAIN OPTION