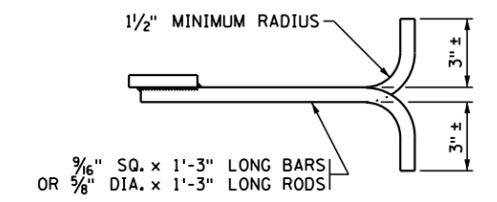


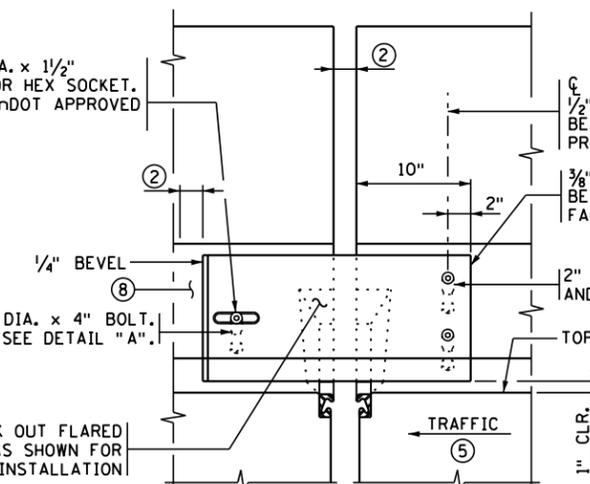
SECTION THROUGH BARRIER
TYPE F BARRIER



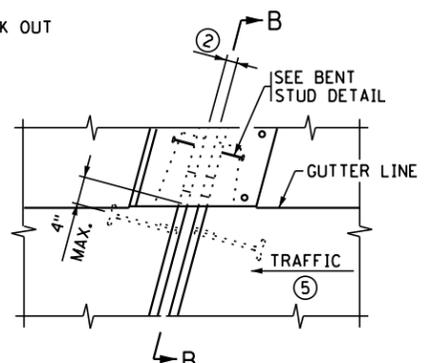
BAR-ROD DETAIL

1" x 6" LONG SLOTTED HOLE FOR 3/4" DIA. x 1/2" FLATHEAD CAP SCREW WITH 1/2" SQUARE OR HEX SOCKET. APPLY BRIDGE BEARING LUBRICANT PER MNDOT APPROVED PRODUCTS LIST TO SCREW THREADS. ⑨

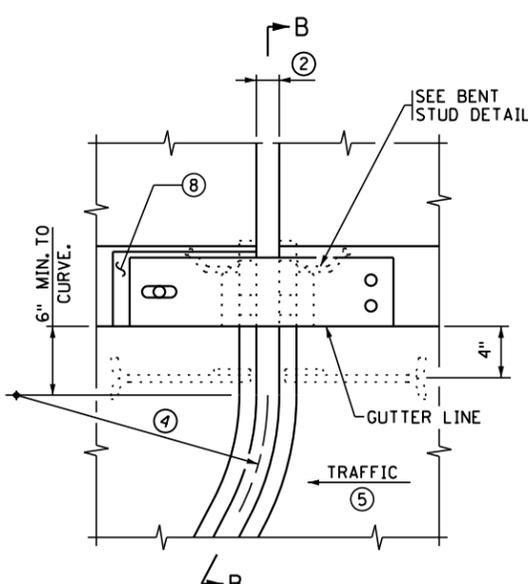
2" LONG HEX COUPLING NUT AND 3/4" DIA. x 4" BOLT. DO NOT TIGHTEN DOWN CAP SCREW. SEE DETAIL "A".



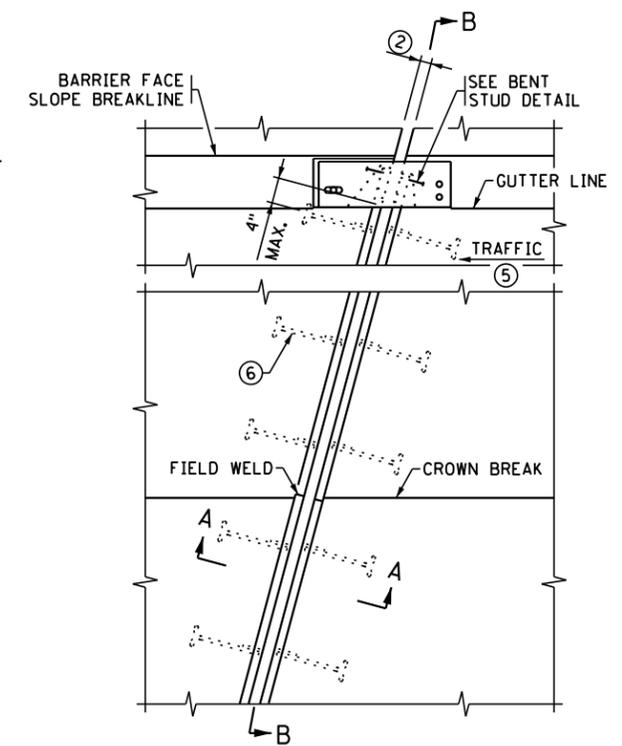
BARRIER ELEVATION



PLAN VIEW @ EXPANSION DEVICE
MEDIAN OR SIDEWALK ALTERNATE



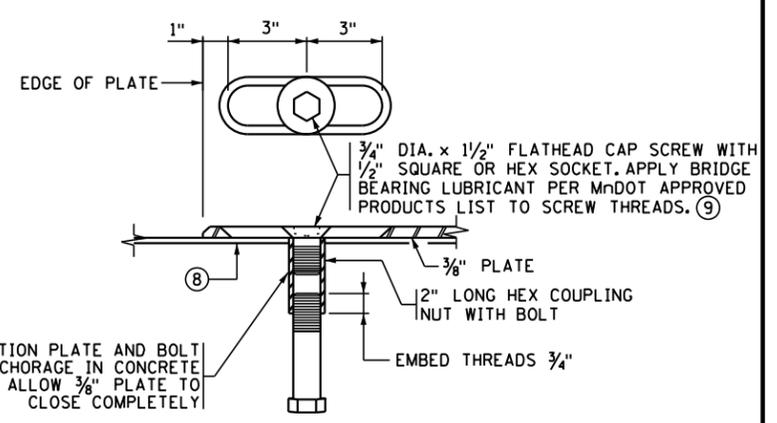
PLAN VIEW @ EXPANSION DEVICE
WITH CURVED DEVICE ALTERNATE



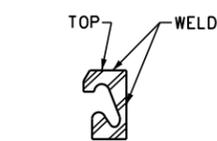
PLAN VIEW @ EXPANSION DEVICE
WITH STRAIGHT DEVICE

3/4" DIA. x 1/2" FLATHEAD CAP SCREW WITH 1/2" SQUARE OR HEX SOCKET. APPLY BRIDGE BEARING LUBRICANT PER MNDOT APPROVED PRODUCTS LIST TO SCREW THREADS. ⑨

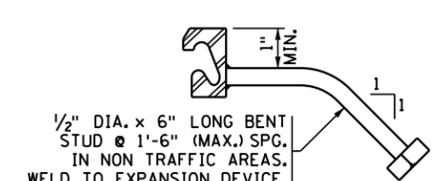
2" LONG HEX COUPLING NUT AND 3/4" DIA. x 4" BOLT



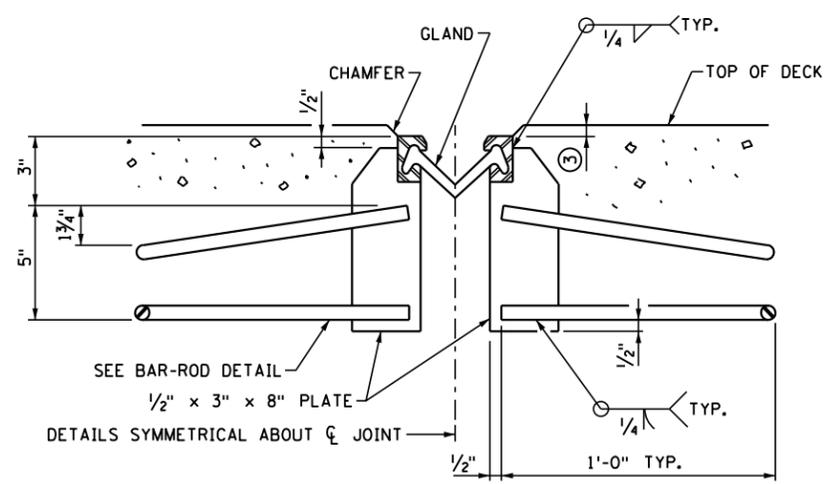
DETAIL "A"



SECTION C-C



BENT STUD DETAIL

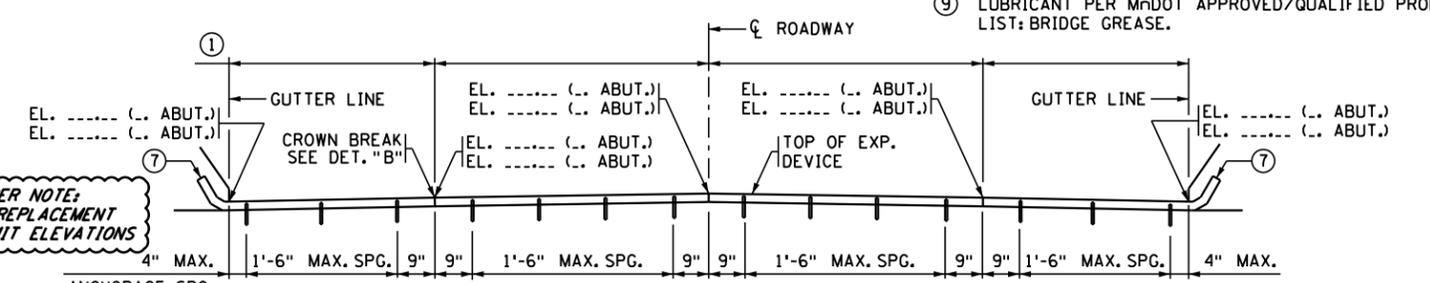


SECTION A-A

DESIGNER NOTE:
CHOOSE ONE JOINT OPENING NOTE AND DELETE OTHER.

- ① DIMENSIONS ARE ALONG CENTERLINE OF JOINT.
- ② .. AT 45° F; .. AT 90° F. 2" AT ALL TEMPS.
- ③ 1/8" (1/4" MAX.), 1/2" (3/8" MAX.) WHEN SNOWPLOW FINGERS ARE USED. SNOWPLOW FINGERS ARE REQUIRED FOR SKEWS OVER 15° AND LESS THAN 50°.
- ④ SEE SUPERSTRUCTURE DETAILS FOR RADIUS.
- ⑤ SEE SHEET NO. ... FOR DIRECTION OF TRAFFIC.
- ⑥ PLACE BAR-ROD NORMAL TO JOINT ON NEW BRIDGES AND JOINT REPLACEMENTS. ON JOINT REPLACEMENTS WHEN SKEW IS OVER 15° AND LESS THAN 50° BEND RODS PARALLEL TO CL ROADWAY.
- ⑦ EXTEND GLAND 1" MIN. BEYOND THE TOP OF THE EXTRUSION.
- ⑧ PROVIDE SMOOTH CONCRETE FINISH BENEATH PLATE WITH 0" MIN. TO 1/8" MAX. GAP BETWEEN CONCRETE AND UNDERSIDE OF PLATE. PROVIDE BOND BREAKER (DUCT TAPE, ETC.) TO UNDERSIDE OF COVER PLATE.
- ⑨ LUBRICANT PER MNDOT APPROVED/QUALIFIED PRODUCTS LIST: BRIDGE GREASE.

DESIGNER NOTE:
ON JOINT REPLACEMENT PROJECTS OMIT ELEVATIONS



SECTION B-B ~ ALONG CL JOINT

ELEVATIONS SHOWN ARE 1/8" BELOW TOP OF SLAB @ CL JOINT
ELEVATIONS SHOWN ARE 1/2" BELOW TOP OF SLAB @ CL JOINT

REVISION: FEBRUARY 22, 2018
APPROVED: AUGUST 24, 2016
Kevin Weston
STATE BRIDGE ENGINEER

CERTIFIED BY _____ DATE _____
LICENSED PROFESSIONAL ENGINEER
NAME: _____ LIC. NO. _____

TITLE: **WATERPROOF EXPANSION DEVICE (WITH TYPE F BARRIER)**

DES: _____ DR: _____
CHK: _____ CHK: _____
APPROVED: _____
SHEET NO. OF SHEETS
BRIDGE NO. _____

FIG. 5-397.627(A)