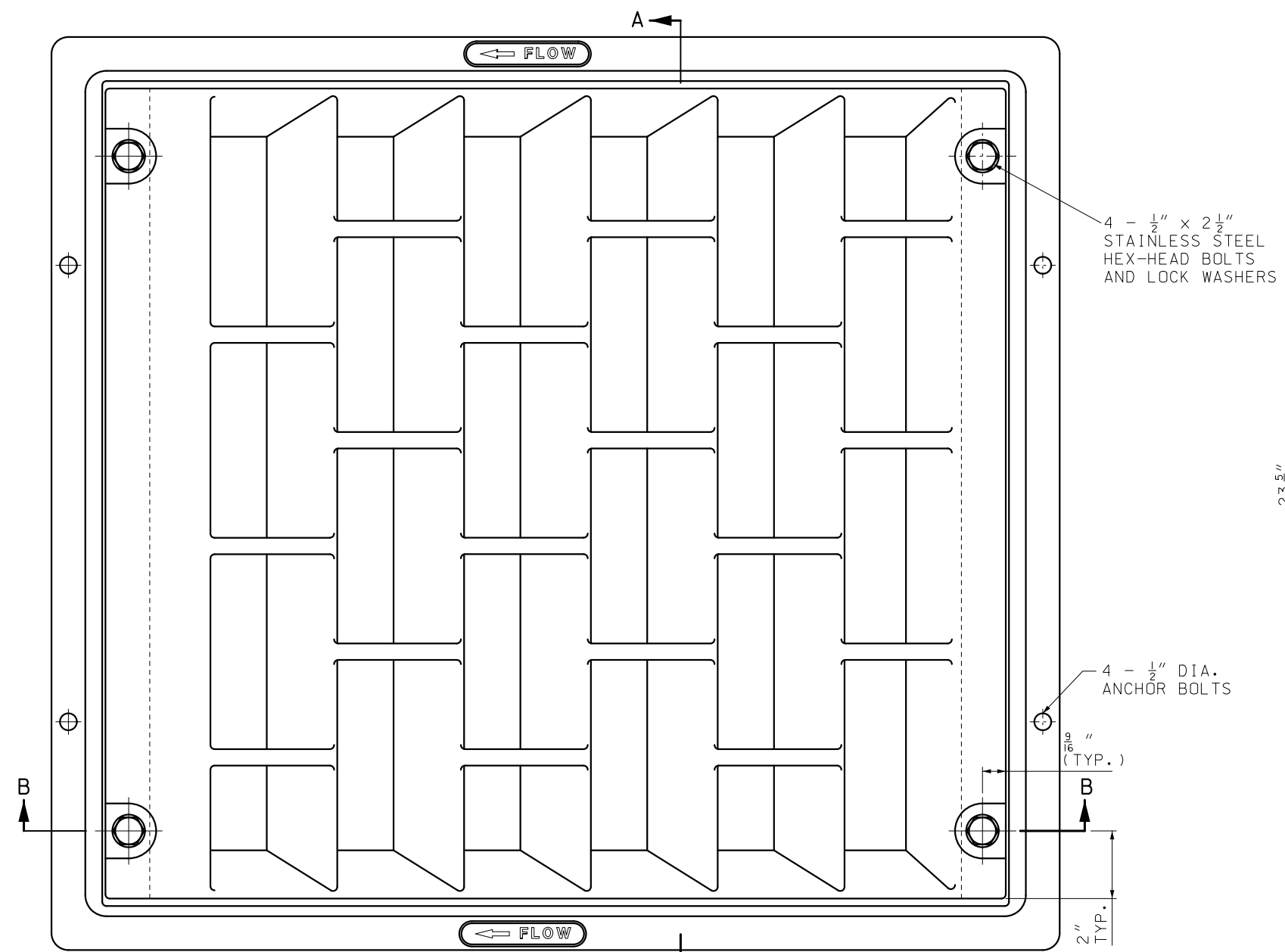


IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.



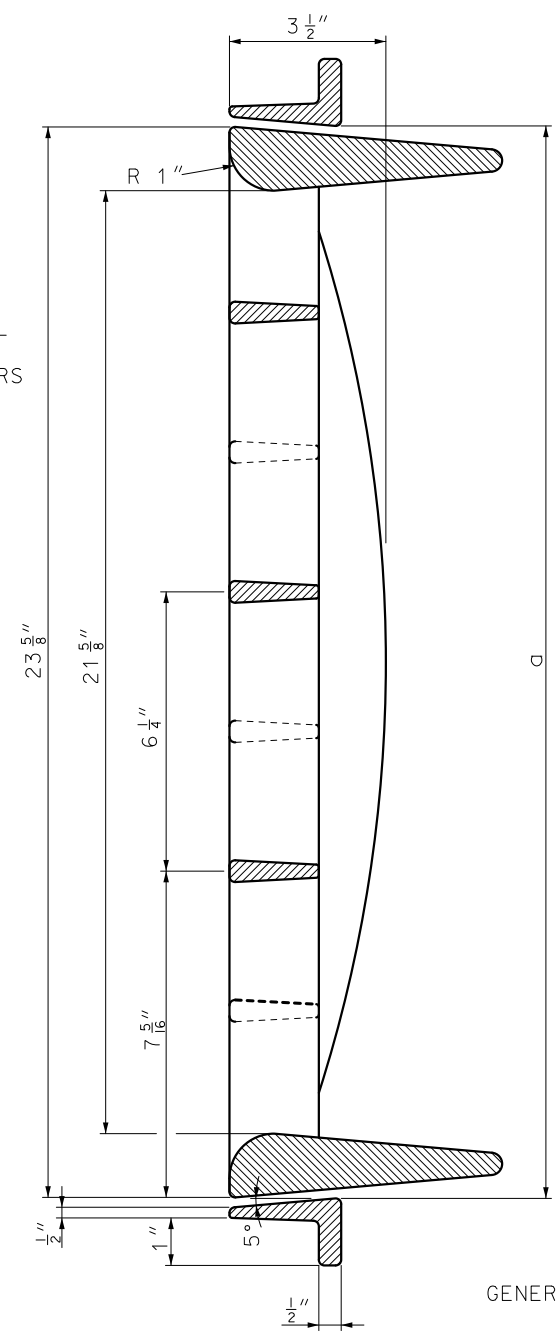
4 - 1/2" x 2 1/2" STAINLESS STEEL HEX-HEAD BOLTS AND LOCK WASHERS

4 - 1/2" DIA. ANCHOR BOLTS

9/16" (TYP.)

2" TYP.

PLAN



SECTION A-A

| NOMINAL DIMENSIONS AND WEIGHTS | | | | | |
|--------------------------------|--------|-----|--------------|--------------|-----------------------|
| OPENING | | a | WEIGHT (LB.) | NUMBER OF | |
| WIDTH | LENGTH | | | ANCHOR BOLTS | STAINLESS STEEL BOLTS |
| 2'-0" | 2'-0" | 24" | 200 | 4 | 4 |
| 4'-0" | 2'-0" | 48" | 348 | 8 | 8 |

NOTE: TWO 2' X 2' GRATES MAY BE USED IN LIEU OF SINGLE 4' X 2' GRATES.

INSTALLATION INSTRUCTIONS:

DRILL AND TAP FRAME.

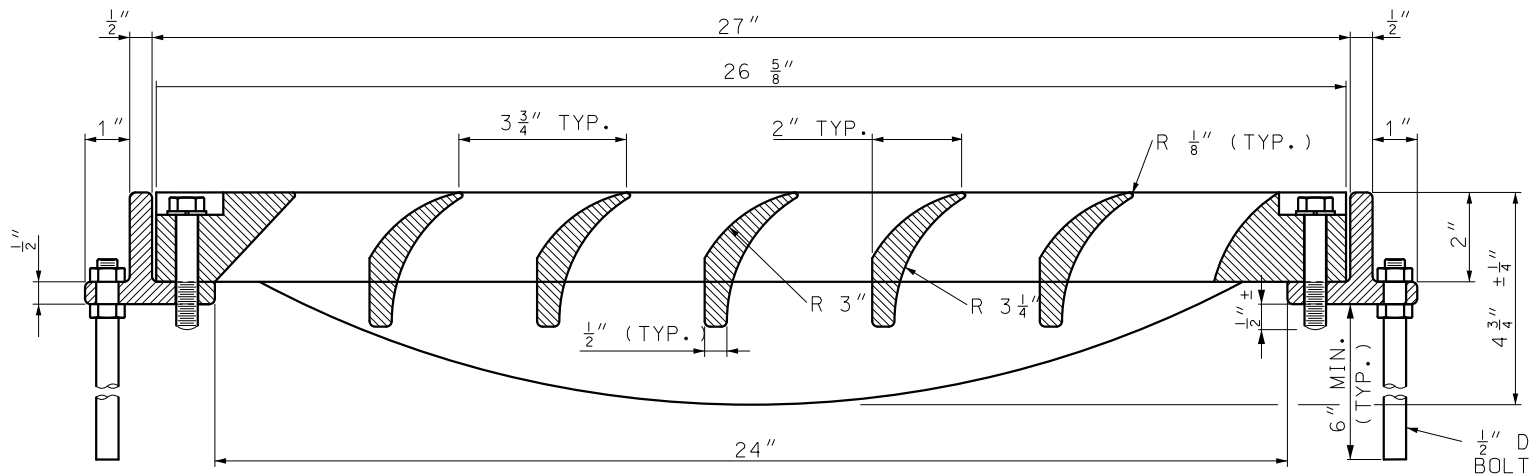
INSTALL 1/2" DIA. BOLTS WITHOUT WASHERS BEFORE CONCRETE POUR TO FORM 1/2" ± BOLT EXTENSION INTO CONCRETE BELOW FRAME. LUBRICATE EXPOSED THREADS.

AFTER CONCRETE HARDENS SUFFICIENTLY, FINAL INSTALLATION SHALL REMOVE AND REINSTALL 1/2" DIA. BOLTS AND LOCK WASHERS THROUGH GRATE AND FRAME. TORQUE 1/2" DIA. BOLTS TO 35-40 FT. LB. APPLY THREAD ADHESIVE TO ALL 1/2" DIA. STAINLESS STEEL BOLTS.

GENERAL NOTES:

GRATES TO BE CONSTRUCTED OF CAST GRAY IRON AND MEET REQUIREMENTS OF AASHTO M 306. MINOR VARIATIONS IN VANE SHAPE TO MEET MANUFACTURER'S STANDARD PRACTICE ARE PERMITTED.

MINIMUM CLEAR OPEN AREA: 2.10 SQUARE FEET.



SECTION B-B

(*) 1/2" DIA. ASTM F1554, GRADE 36 ANCHOR BOLTS, NUTS, AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M 232 (ASTM A153), CLASS C OR SHALL BE MECHANICALLY GALVANIZED. IF MECHANICALLY GALVANIZED, THE COATING THICKNESS, ADHERENCE AND QUALITY REQUIREMENTS SHALL BE IN ACCORDANCE WITH AASHTO M 232 (ASTM A153), CLASS C. DAMAGED SPALTER COATING SHALL BE REPAIRED IN ACCORDANCE WITH SEC 1081.

1/2" DIA. ANCHOR BOLT (TYP.) (*)

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL
JEFFERSON CITY, MO 65102
1-888-ASK-MODOT (1-888-275-6636)

CURVED VANE GRATE AND FRAME

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.

614.11D

SHEET NO.
1 OF 1

DATE EFFECTIVE: 01/01/2021

DATE PREPARED: 10/14/2020