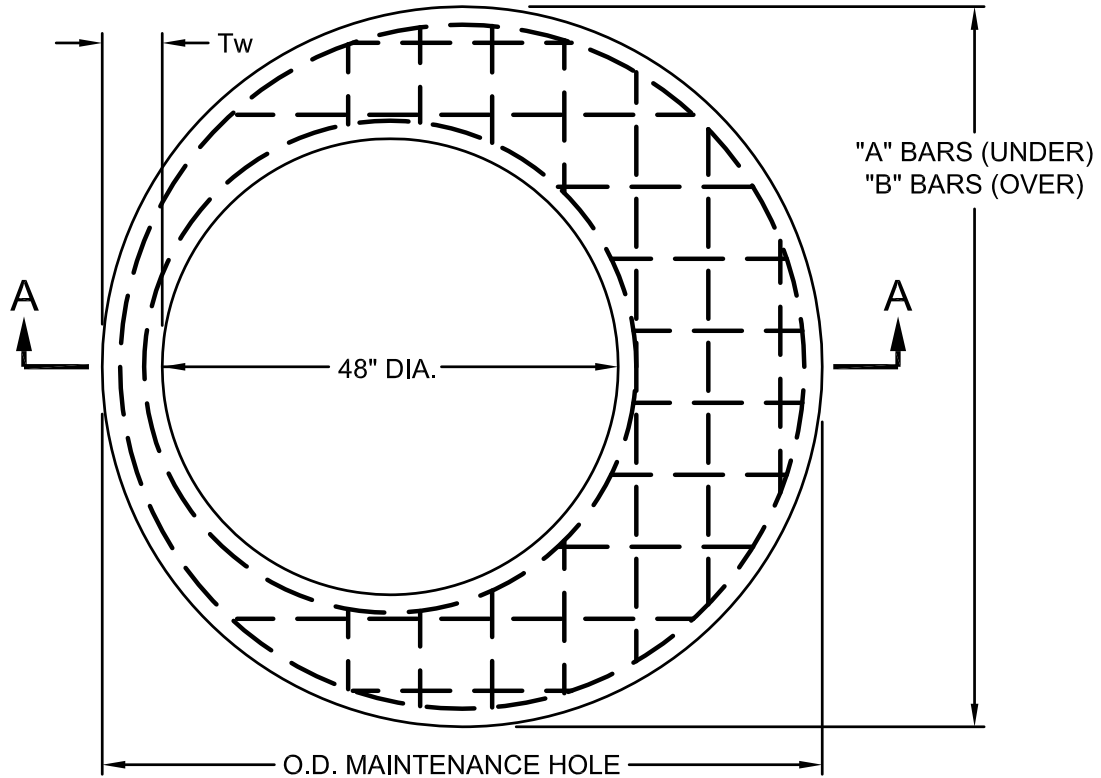


**SECTION A-A**



**PLAN**

**NOTES:**

- CONCRETE SHALL BE STRUCTURAL CONCRETE HAVING A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4,000 PSI.
- REINFORCEMENT SHALL HAVE A MINIMUM YIELD STRENGTH OF 60,000 PSI (GRADE 60).
- LAP SPLICES SHALL BE A MINIMUM OF 24 BAR DIAMETERS IN LENGTH UNLESS OTHERWISE NOTED.
- OMIT BARS 6" OR LESS IN LENGTH. PROVIDE 6" TO 14" BARS WITH A 90° 4" HOOK EACH END. HOOK SHALL BEND UPWARD TOWARD TOP OF SLAB.
- ADD A TEMPERATURE REINFORCEMENT MAT OF #4 BARS @ 12" E.W., 1½" CLEAR OF TOP SURFACE, ON ALL TOP SLABS GREATER THAN 12" IN THICKNESS.
- ALL REINFORCING HOOPS AND BARS SHALL HAVE A MINIMUM 1½" CLEARANCE TO OUTSIDE SURFACES, INCLUDING TO THE INSIDE FACE AT OPENING.
- REINFORCING HOOPS AND BARS SHALL HAVE A MINIMUM 1" CLEARANCE TO BOTTOM FACE AND 1½" CLEARANCE TO OUTSIDE FACE OF 48" RISER JOINT.
- UPPER HOOP AROUND OPENING MAY BE LOCATED A MINIMUM OF 1" BELOW BOTTOM FACE OF RISER JOINT, OR A LARGER HOOP MAY BE LOCATED A MINIMUM OF 1½" CLEAR OF OUTSIDE FACE OF RISER JOINT AND 1½" CLEAR OF TOP OF SLAB. IF TEMPERATURE REINFORCEMENT IS REQUIRED, HOOP SHALL BE TIED UNDERNEATH TOP MAT REINFORCEMENT.
- LOWER HOOP AROUND OPENING SHALL BE TIED TO TOP OF BOTTOM MAT REINFORCEMENT.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user.

Manufacturing Standards for Precast Concrete Products

Appendix A

**Top Slab "E" (Reducing Slab) for Precast Maintenance Hole (72"-144" Dia.)**



Bureau of Environmental Services  
CITY OF PORTLAND, OREGON

Chief Engineer

Calc. Book No.  
001

Effective Date  
01-01-09

Standard Drawing No.

**P-145**