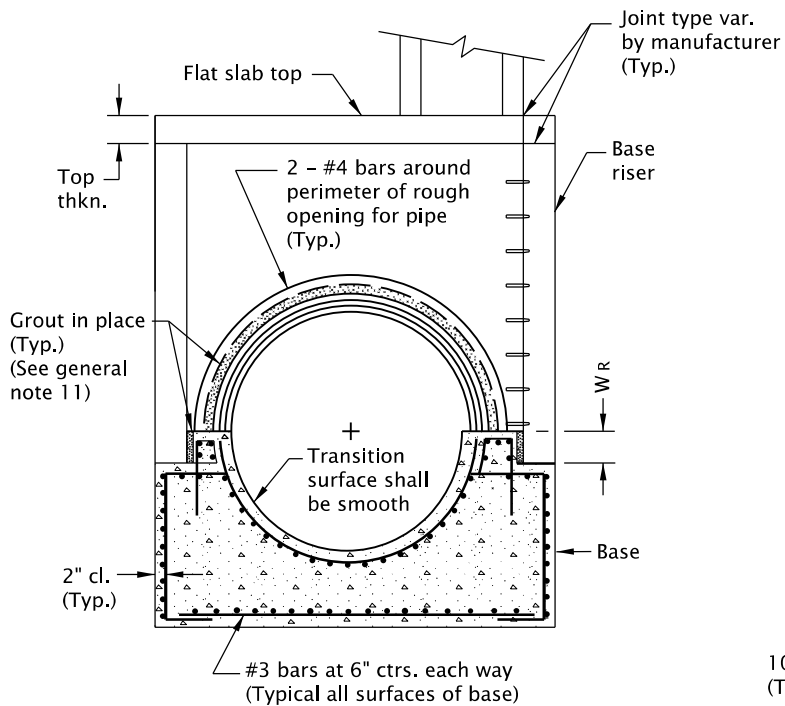
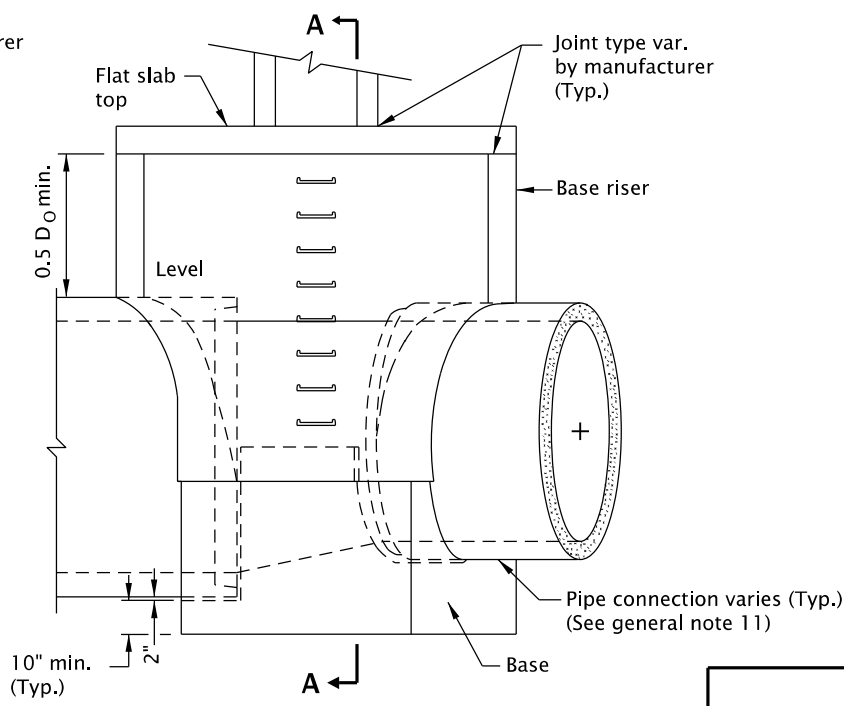
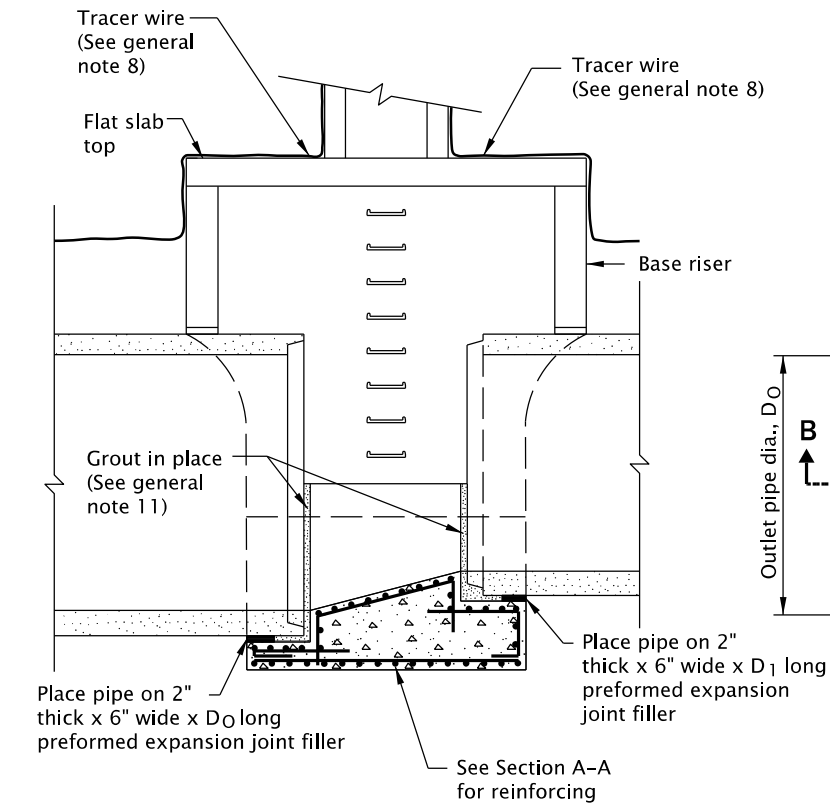




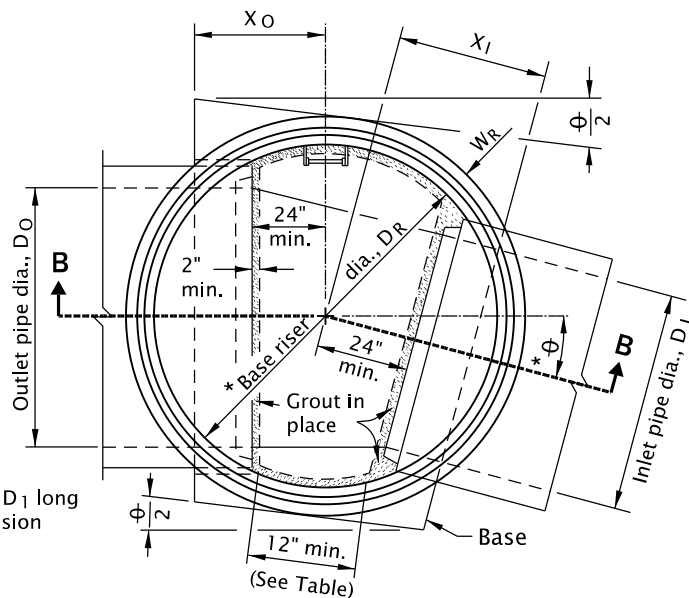
SECTION A-A



MANHOLE BASE ELEVATION



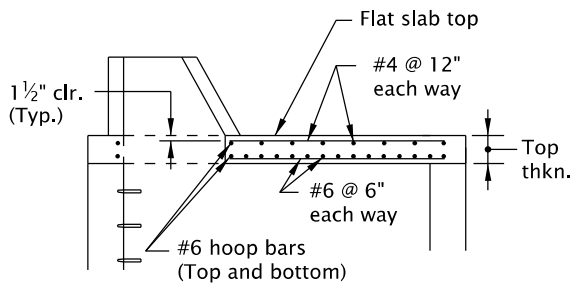
DEVELOPED SECTION B-B
ALONG PIPE CENTERLINE



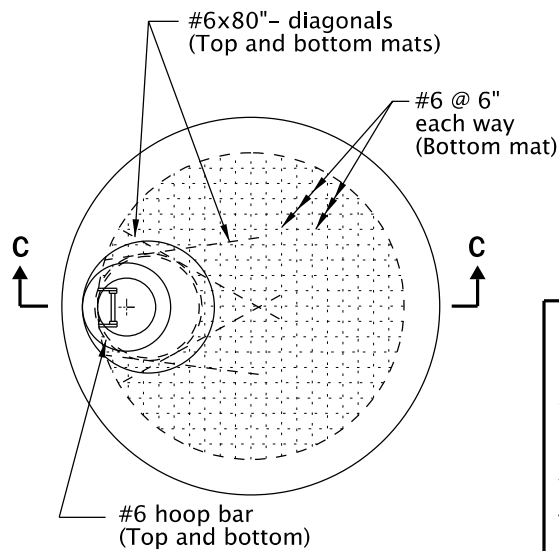
MANHOLE BASE PLAN

Dia. of largest pipe in manhole (Inch)	* Θ max when $D_I = D_O$	* Base Riser			Base X_O $X_I = X_O$ when $D_I = D_O$ (Feet)	Base X_I when $D_I < D_O$		
		D_R (Inch)	W_R (Inch)	Top Thkn. (Inch)		$D_I = (D_O - 6")$ (Feet)	$D_I = (D_O - 12")$ (Feet)	$D_I = (D_O - 18")$ (Feet)
30"	75°	60"	6"	10"	2.42	2.63	2.75	2.89
36"	67°	72"	7"	10"	2.75	2.97	3.15	3.29
42"	60°	72"	7"	10"	2.75	2.97	3.15	3.29
48"	54°	84"	8"	10"	3.02	3.27	3.48	3.66
54"	49°	84"	8"	10"	3.02	3.27	3.48	3.66
60"	45°	96"	9"	12"	3.25	3.54	3.78	3.99
66"	42°	96"	9"	12"	3.25	3.54	3.78	3.99
72"	39°	108"	10"	12"	3.48	3.79	4.06	4.29
78"	36°	108"	10"	12"	3.48	3.79	4.06	4.29
84"	34°	120"	11"	12"	3.69	4.03	4.32	4.57
90"	32°	120"	11"	12"	3.69	4.03	4.32	4.57
96"	30°	126"	11 1/2"	12"	3.79	4.15	4.45	4.71

* A special design using a larger Base Riser diameter D_R may be required to obtain specified 12" min. dimension when Θ angle exceeds Θ max.



SECTION C-C



MANHOLE FLAT SLAB TOP PLAN
(Bottom reinf. mat shown)
(Manhole I.D. > 4', < 10' 6")

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:

- All concrete shall be Class 4000. All precast products shall conform to requirements of ASTM C478.
- All reinforcing steel shall conform to ASTM Specification A706 or AASHTO M31 (ASTM A615), Grade 60. The following splice lengths shall be used (unless shown otherwise):

Bar Size	4	5	6
Uncoated	16"	20"	24"
- All reinforcement shall be placed 2" clear of the nearest face of the concrete unless shown otherwise.
- Eccentric reducing cones or eccentric reducing flat slabs designed in accordance with AASHTO M199 shall be placed on top of the base riser as required by the contract plans. Eccentric reducing flat slabs shall be designed to support a load of 120 lb/ft in addition to the dead load of the slab, the risers above the slab, and the earth overburden above the slab.
- Base riser to be pre-cast unless otherwise shown on the plans.
- Cast-in-Place concrete, shown thus:
- See Std. Dwg. RD336 for manhole steps details, and flat slab top orientation.
- See Std. Dwg. RD336 for tracer wire details.
- See Std. Dwg. RD336 for manhole steps.
- Max. pipe diameter varies with pipe material.
- See Std. Dwg. RD345 for pipe to manhole connections.
- Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans.

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 and should not be used without first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.			
OREGON STANDARD DRAWINGS			
LARGE PRECAST MANHOLE			
2024			
DATE	REVISION DESCRIPTION		
CALC. BOOK NO. - - -	N/A - - -	SDR DATE- 25-JUL-2017 -	RD346