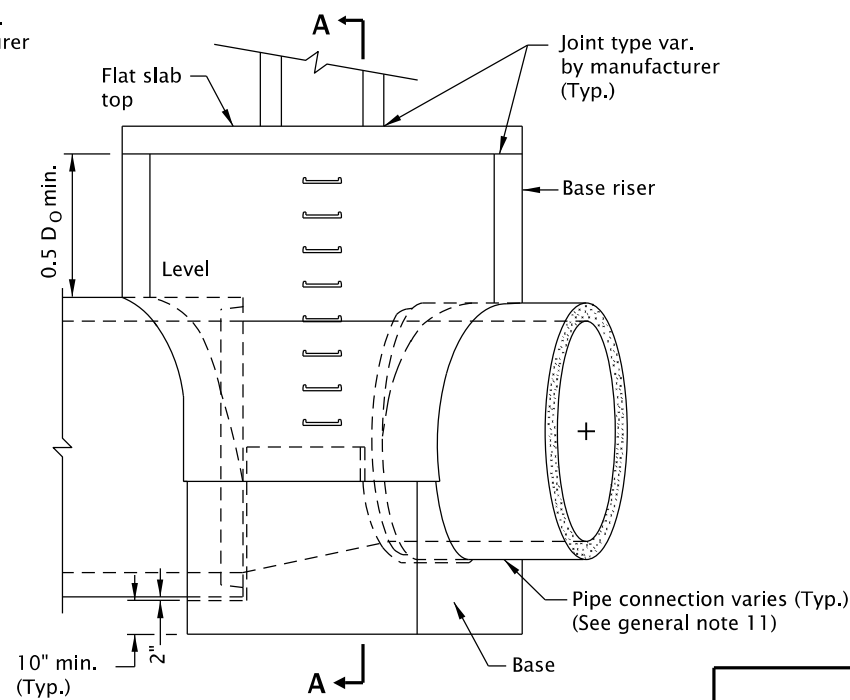
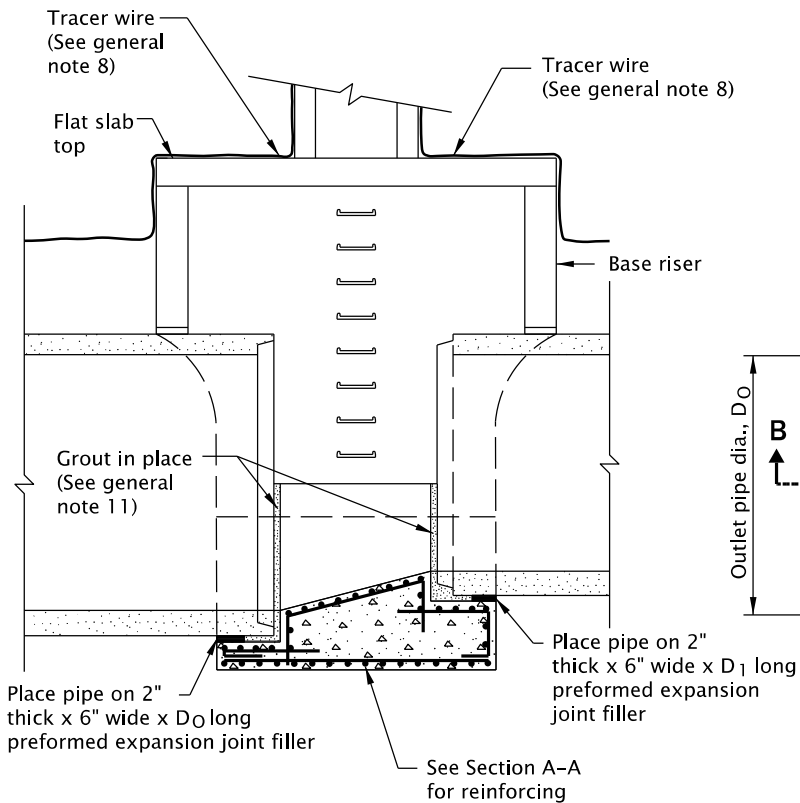


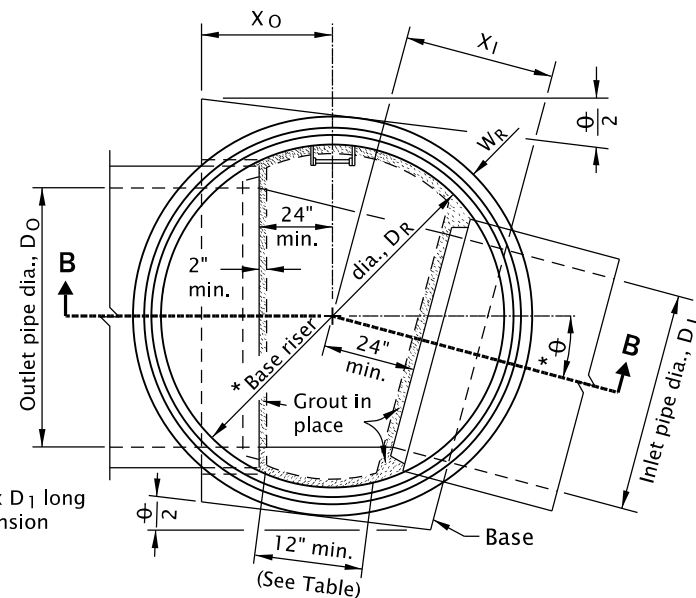
SECTION A-A



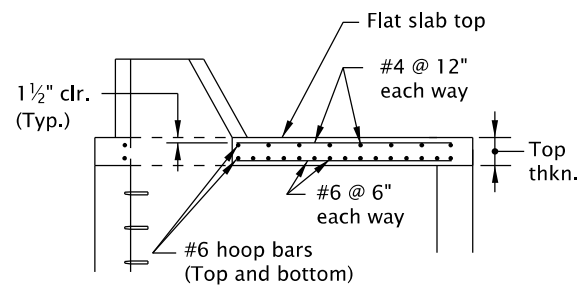
MANHOLE BASE ELEVATION



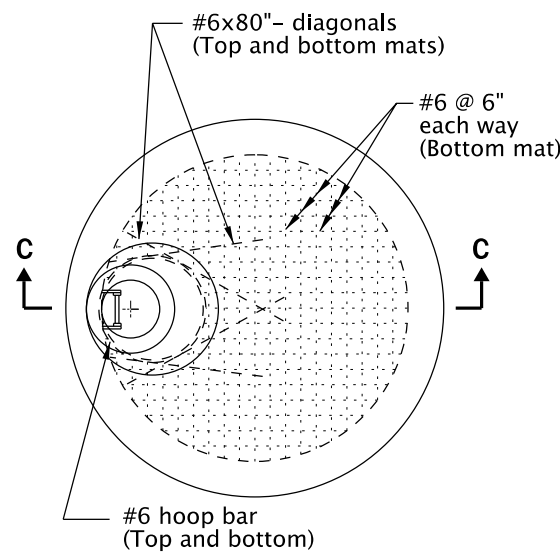
DEVELOPED SECTION B-B
ALONG PIPE CENTERLINE



MANHOLE BASE PLAN



SECTION C-C



MANHOLE FLAT SLAB TOP PLAN

(Bottom reinf. mat shown)
(Manhole I.D. >4', <10' 6")

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.

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.

CALC. BOOK NO. N/A

SDR DATE 25-JUL-2017

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications

OREGON STANDARD DRAWINGS

LARGE PRECAST MANHOLE

2021

DATE	REVISION	DESCRIPTION