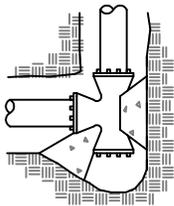


(HORIZONTAL)

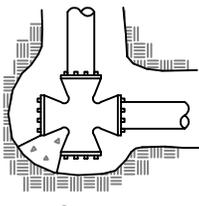
BEARING AREA OF THRUST BLOCKS IN SQ. FT.

VOLUME OF THRUST BLOCK  
IN CU. YDS. (VERTICAL)

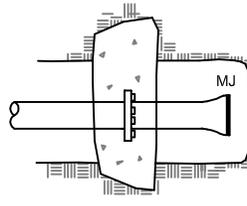
FITTING SIZE (IN.)	TEES, LATERAL WYES DEAD ENDS	STRADDLE BLOCK	90° BEND PLUGGED CROSS; TEE PLUGGED ON RUN	45° BEND	22 1/2° BEND	11 1/4° BEND	BEND ANGLE			
							90°	45°	22.5°	11.25°
2	0.2	0.2	0.3	0.2	0.1	0.05	0.2	0.1	0.0	0.0
3	0.5	0.9	0.8	0.4	0.2	0.1	0.4	0.2	0.1	0.1
4	0.9	1.4	1.3	0.7	0.4	0.2	0.7	0.4	0.2	0.1
6	2.1	2.8	3.0	1.6	0.8	0.4	1.5	0.8	0.4	0.2
8	3.8	4.8	5.3	2.9	1.5	0.7	2.7	1.5	0.8	0.4
10	5.9	7.3	8.3	4.5	2.3	1.2	4.3	2.3	1.2	0.6
12	8.5	10.3	12.0	6.5	3.3	1.7	6.1	3.3	1.7	0.8
14	11.5	13.8	16.3	8.8	4.5	2.3	8.3	4.5	2.3	1.2
16	15.1	17.8	21.3	11.5	5.9	3.0	10.9	5.9	3.0	1.5
18	19.1	22.4	27.0	14.6	7.4	3.7	13.8	7.5	3.8	1.9
20	23.6	27.5	33.3	18.0	9.2	4.6	17.0	9.2	4.7	2.4
24	33.9	39.2	48.0	26.0	13.2	6.7	24.5	13.3	6.8	3.4



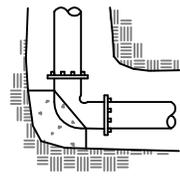
90° BEND



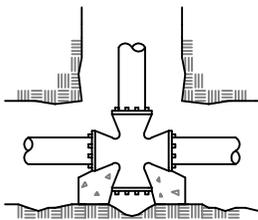
90° BEND



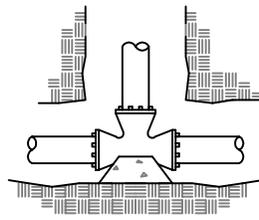
STRADDLE BLOCK



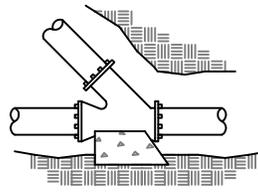
BEND



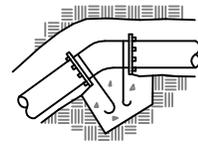
TEE



TEE



LATERAL WYE



VERTICAL BEND

**NOTES:**

- 1) CONCRETE BLOCKING TO BE POURED AGAINST UNDISTURBED EARTH.
- 2) ALL CONCRETE TO BE CLASS 2500.
- 3) INSTALL ISOLATION MATERIAL BETWEEN PIPE AND/OR FITTINGS BEFORE POURING BLOCKING.
- 4) CONCRETE SHALL BE KEPT CLEAR OF ALL JOINTS AND ACCESSORIES.
- 5) SEE TYPICAL HYDRANT SETTING DETAILS FOR BLOCKING LOCATIONS.

FITTING SIZE	ROD SIZE	EMBEDMENT
12" AND LESS	#6	30"
14"-16"	#8	36"

BEARING AREA OF REDUCERS SHALL BE THE DIFFERENCE BETWEEN VALUES FOR DEAD ENDS FOR EACH END SIZE  
(IE. 6x8: 3.8-2.1 = 1.7 SQ. FT.)

VALUES BASED ON 150 PSI WATER PRESSURE AND 2000 PSF SOIL BEARING CAPACITY.



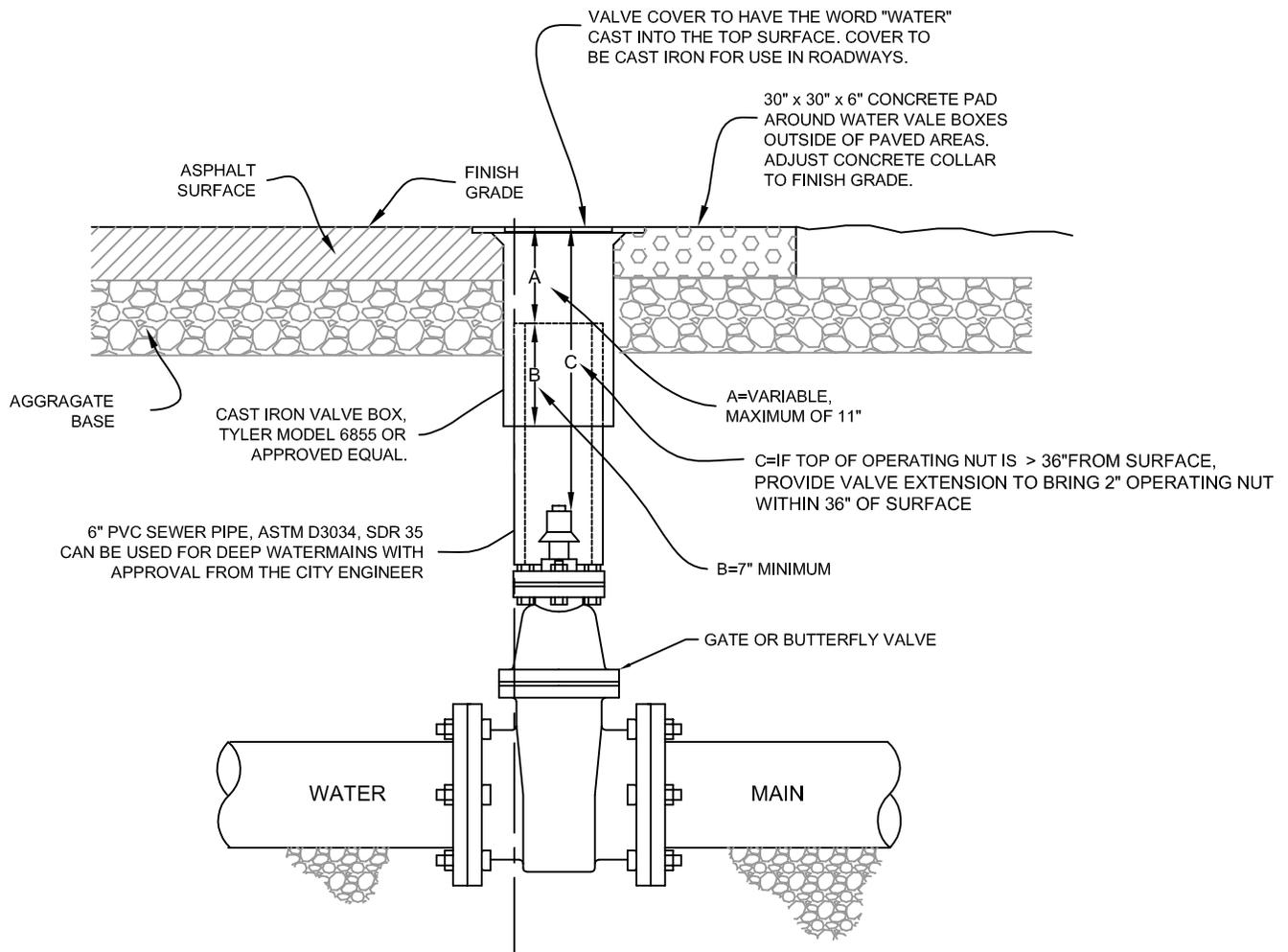
**City of Sisters ° Standard Detail**

STANDARD  
THRUST BLOCKING

SCALE:	NONE
DRAWN BY:	EH
APPROVED BY:	PB
REVISION DATE:	12/03/2013

DRAWING NO.

**4-1**



## City of Sisters • Standard Detail

WATER MAIN VALVE  
VALVE BOX DETAIL

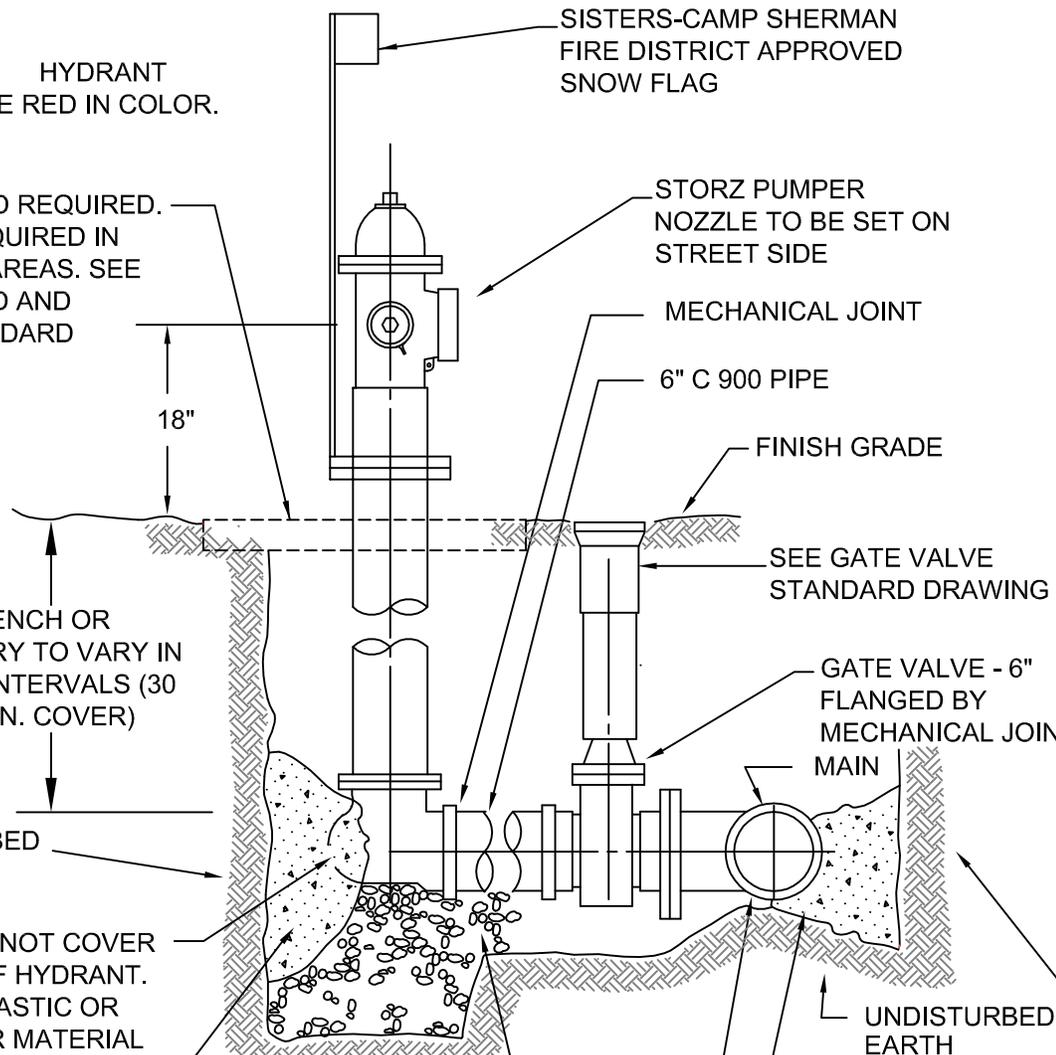
SCALE:	NONE
DRAWN BY:	EH
APPROVED BY:	PB
REVISION DATE:	12/03/2013

DRAWING  
NO.

4-2

NOTE: HYDRANT SHALL BE RED IN COLOR.

CONCRETE PAD REQUIRED. BOLLARDS REQUIRED IN NON-CURBED AREAS. SEE CONCRETE PAD AND BOLLARD STANDARD DRAWING.



SISTERS-CAMP SHERMAN FIRE DISTRICT APPROVED SNOW FLAG

STORZ PUMPER NOZZLE TO BE SET ON STREET SIDE

MECHANICAL JOINT

6" C 900 PIPE

FINISH GRADE

SEE GATE VALVE STANDARD DRAWING

GATE VALVE - 6" FLANGED BY MECHANICAL JOINT MAIN

TRENCH OR BURY TO VARY IN 6" INTERVALS (30" MIN. COVER)

UNDISTURBED EARTH

NOTE: DO NOT COVER DRAIN PORT OF HYDRANT. WRAP WITH PLASTIC OR OTHER SIMILAR MATERIAL TO PREVENT CONTACT WITH CONCRETE.

UNDISTURBED EARTH

2'-0" SQ. MIN.

CONCRETE THRUST BLOCK (SIZE PER CITY STANDARDS)

CONCRETE THRUST BLOCK (SIZE PER CITY STANDARDS). WHERE THRUST BLOCKS ARE NOT FEASIBLE RESTRAINED JOINTS MAY BE USED (PROVIDE RESTRAINED JOINT CALCULATIONS).

TEE MJ x MJ x FLG

3/4" MINUS DRAIN ROCK UP TO HYDRANT DRAIN PORT THEN 1"- 2" DRAIN ROCK TO ELEV. 6" ABOVE HYDRANT DRAIN PORTS. WRAP WITH AN APPROVED FILTER FABRIC



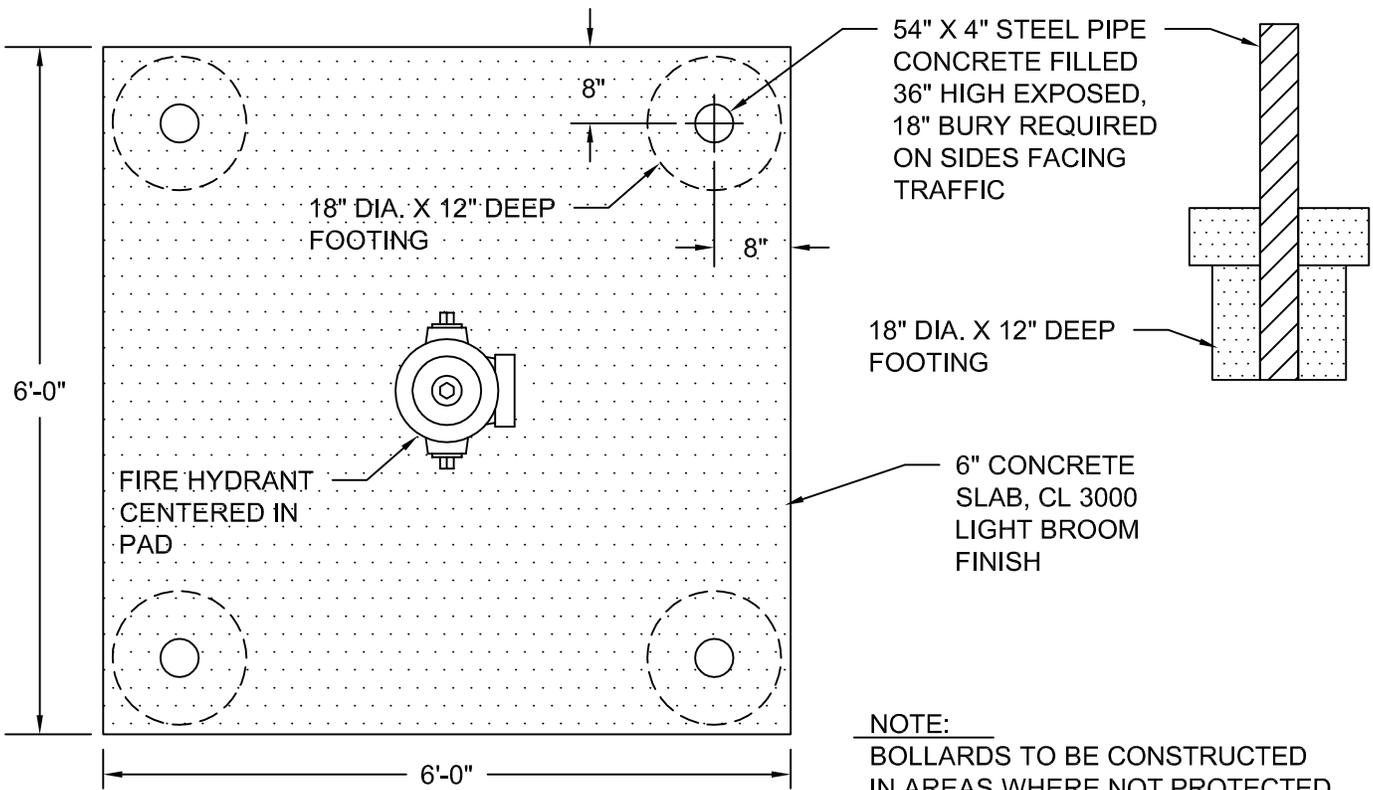
## City of Sisters • Standard Detail

FIRE HYDRANT ASSEMBLY

SCALE:	NONE
DRAWN BY:	EH
APPROVED BY:	PB
REVISION DATE:	12/03/2013

DRAWING NO.

4-3



**NOTE:**  
 BOLLARDS TO BE CONSTRUCTED  
 IN AREAS WHERE NOT PROTECTED  
 BY CURB.



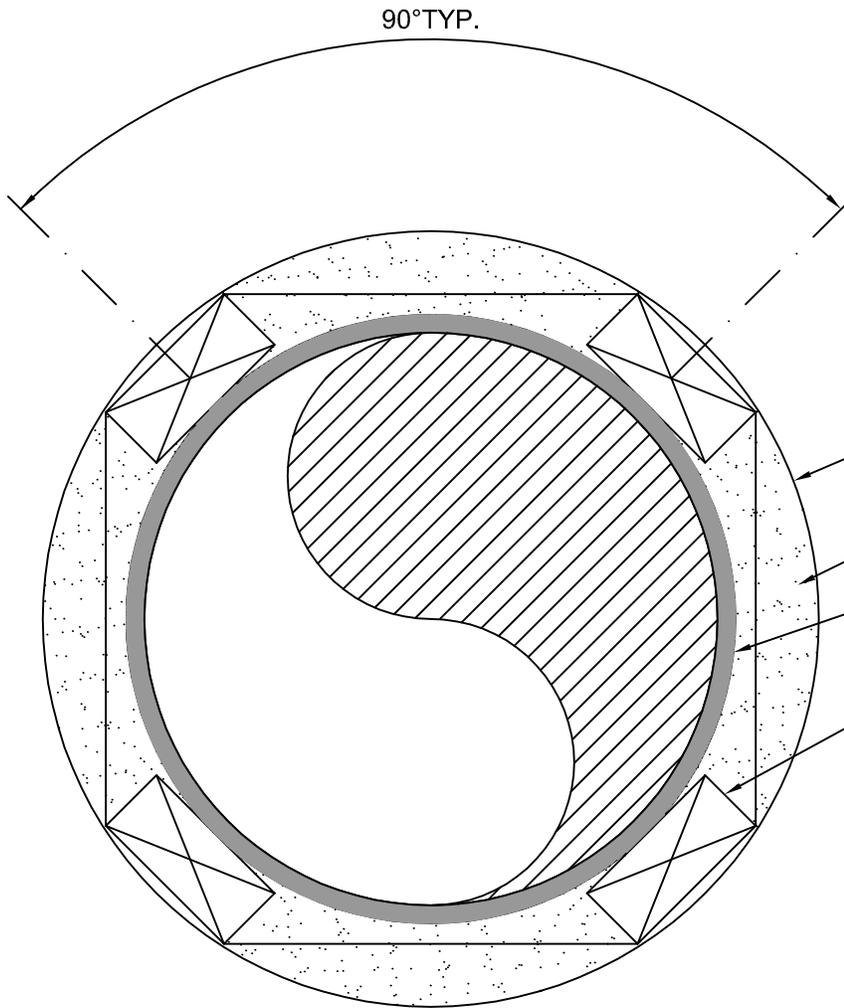
**City of Sisters • Standard Detail**

FIRE HYDRANT PAD AND  
 BOLLARDS

SCALE:	NONE
DRAWN BY:	EH
APPROVED BY:	PB
REVISION DATE:	12/03/2013

DRAWING  
 NO.

**4-4**



STEEL ENCASEMENT PIPE.  
SIZE AS SPECIFIED

SAND SLURRY

WATERMAIN PIPE  
AS SPECIFIED

2x4 REDWOOD SPACER  
BLOCKS NEAR COUPLING.  
(4) REQ'D AT EACH END OF  
PIPE. BAND WITH  
STAINLESS STEEL STRAPS



**City of Sisters • Standard Detail**

PIPE  
ENCASEMENT

SCALE:	NONE
DRAWN BY:	EH
APPROVED BY:	PB
REVISION DATE:	12/03/2013

DRAWING  
NO.

**4-5**

DIMENSION VARIES. SEE PLAN  
AND/OR AS DIRECTED. POSTS  
GENERALLY LOCATED 3' FROM  
PROPERTY LINE OR RIGHT-OF-WAY

4 x 4 P.T. POST, 6'-0"  
LONG, 3' BURIED.

IPT END PLUG

GALV. METAL STRAPS

FINISH GRADE

24"

2" GALV. IRON PIPE  
AND FITTINGS

MAIN WATERLINE

PIPE SADDLE OR TEE  
AS REQ'D

3/4"-0" GRANULAR  
BEDDING & ZONE  
MATERIAL AS SHOWN

36"

DRILL 1/8" HOLE  
IN ELBOW FOR  
PIPE DRAIN

THREADED C.I. GATE  
VALVE W/ 2" SQUARE  
OPERATING NUT (STEM  
EXTENSION AS REQ'D)  
AND VALVE BOX



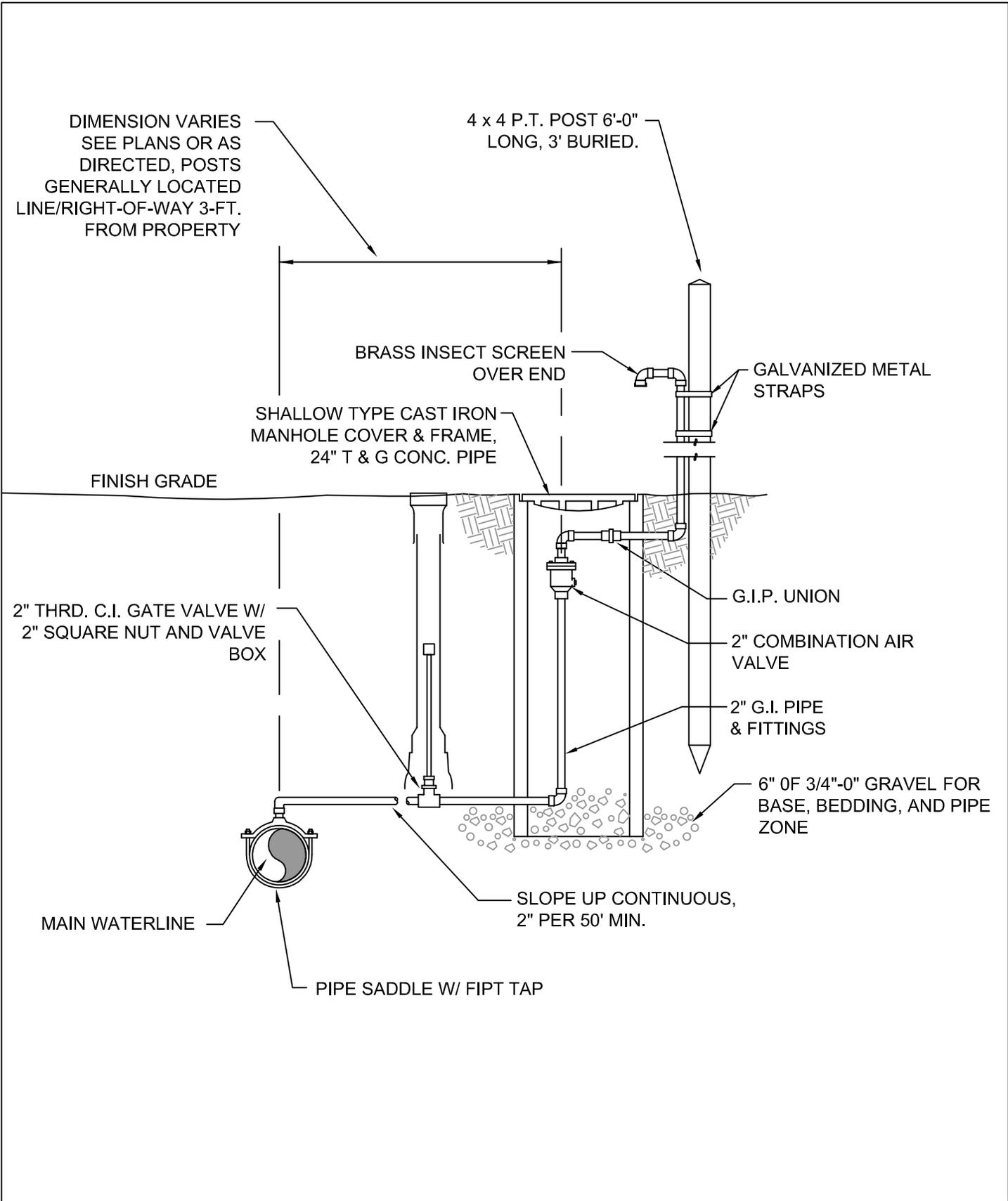
## City of Sisters • Standard Detail

BLOW OFF  
ASSEMBLY

SCALE:	NONE
DRAWN BY:	EH
APPROVED BY:	PB
REVISION DATE:	12/03/2013

DRAWING  
NO.

4-6



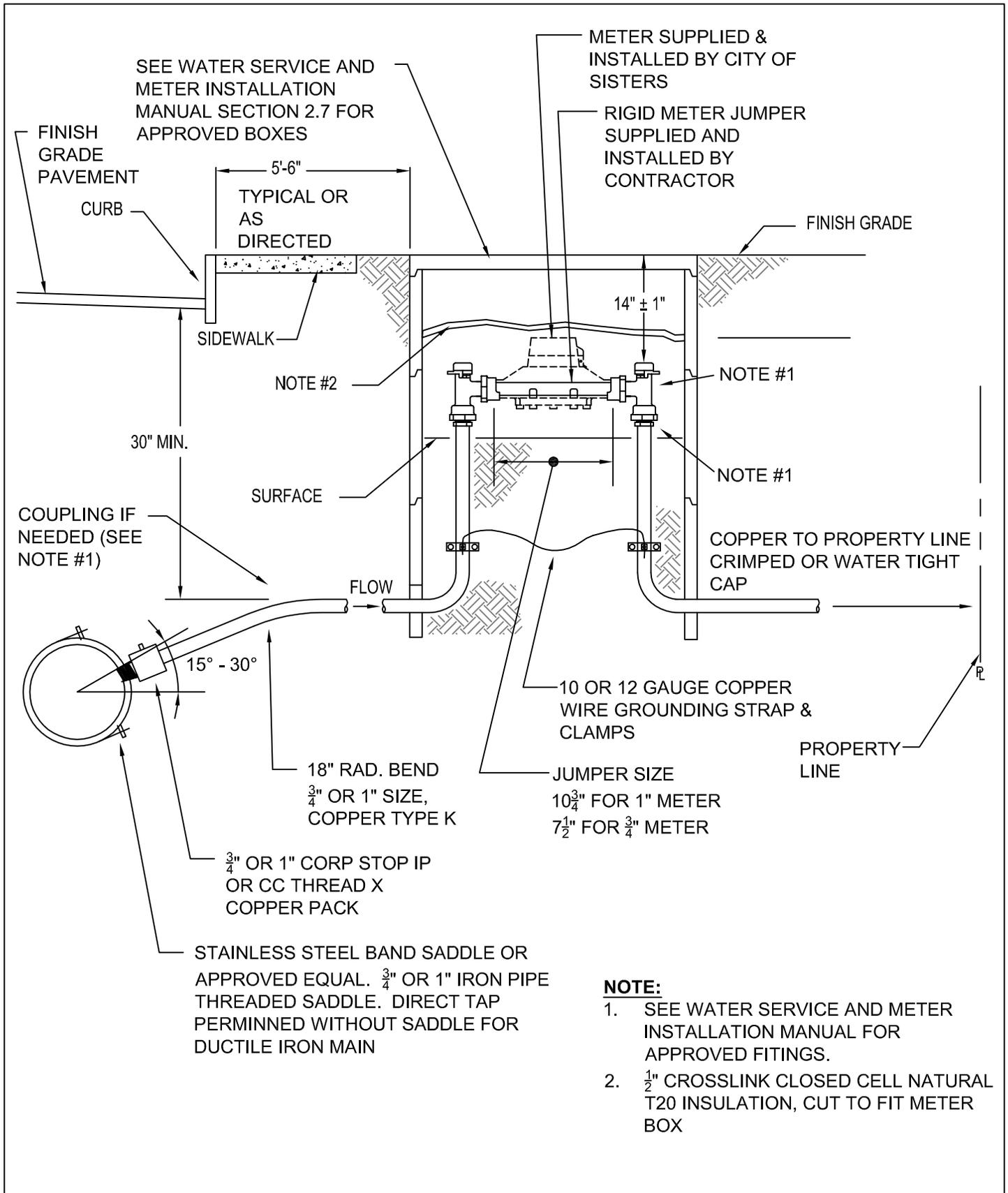
**City of Sisters • Standard Detail**

COMBINATION AIR/VAC.  
RELIEF VALVE ASSEMBLY

SCALE:	NONE
DRAWN BY:	EH
APPROVED BY:	PB
REVISION DATE:	12/03/2013

DRAWING  
NO.

**4-7**



## City of Sisters • Standard Detail

STANDARD <sup>3</sup>/<sub>4</sub>" AND 1"  
SERVICE INSTALLATION

SCALE:	NONE
DRAWN BY:	EH
APPROVED BY:	PB
REVISION DATE:	12/03/2013

DRAWING  
NO.

4-8