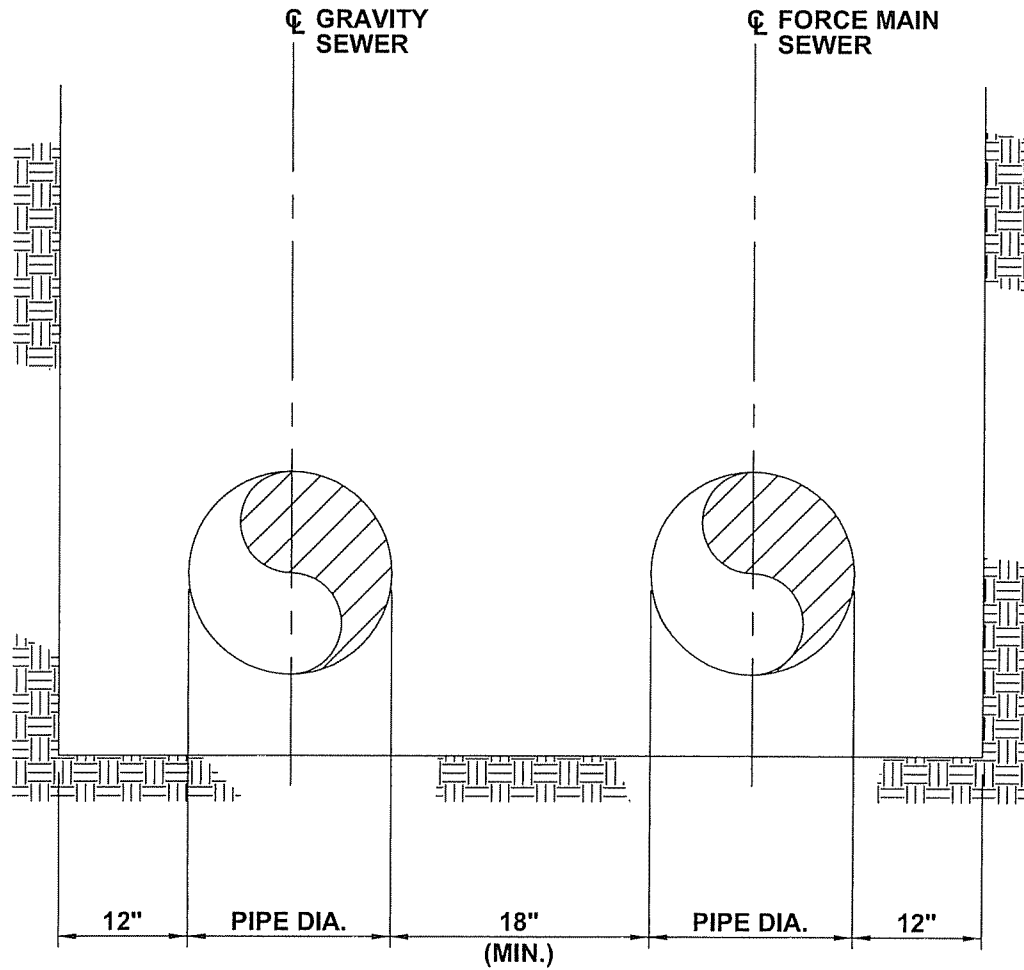


REFERENCE TRENCH ZONE DETAILS SD-001 AND PIPE BEDDING SD-002



* NOTE: FORCE MAIN TO BE
INSTALLED ON RISING GRADIENT



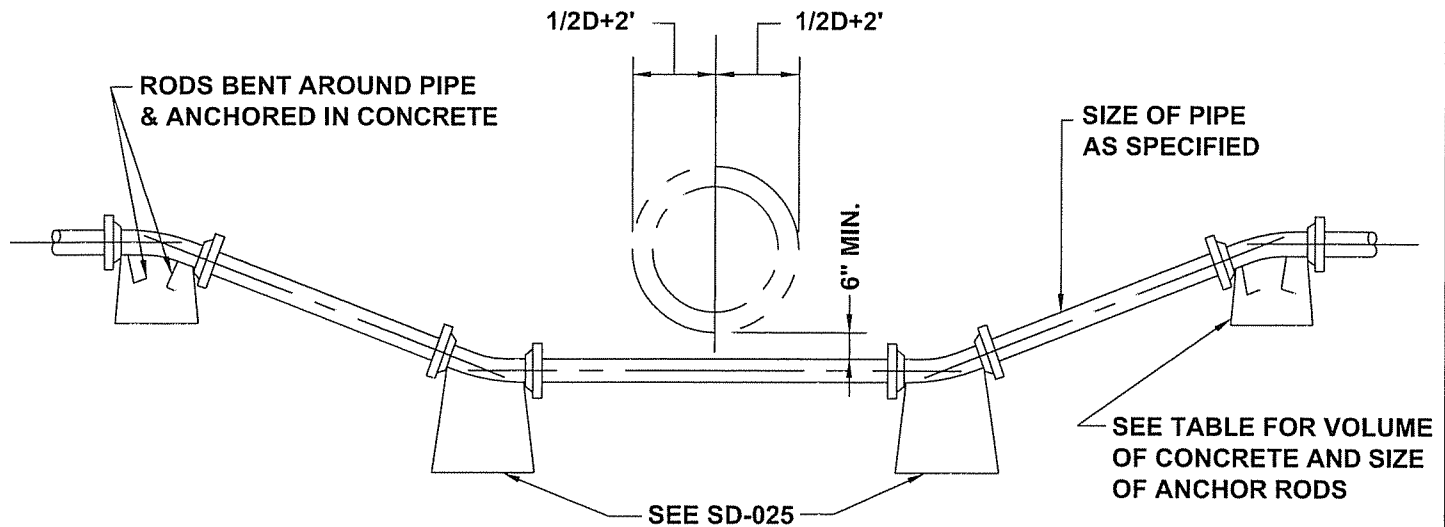
TOWNSHIP OF HAMPTON
STANDARD SANITARY DETAILS
GRAVITY SEWER AND FORCE MAIN
CONSTRUCTED PARALLEL IN COMMON TRENCH

Date: October 2005

Scale: N.T.S.

Project Number: 50014

SD-028



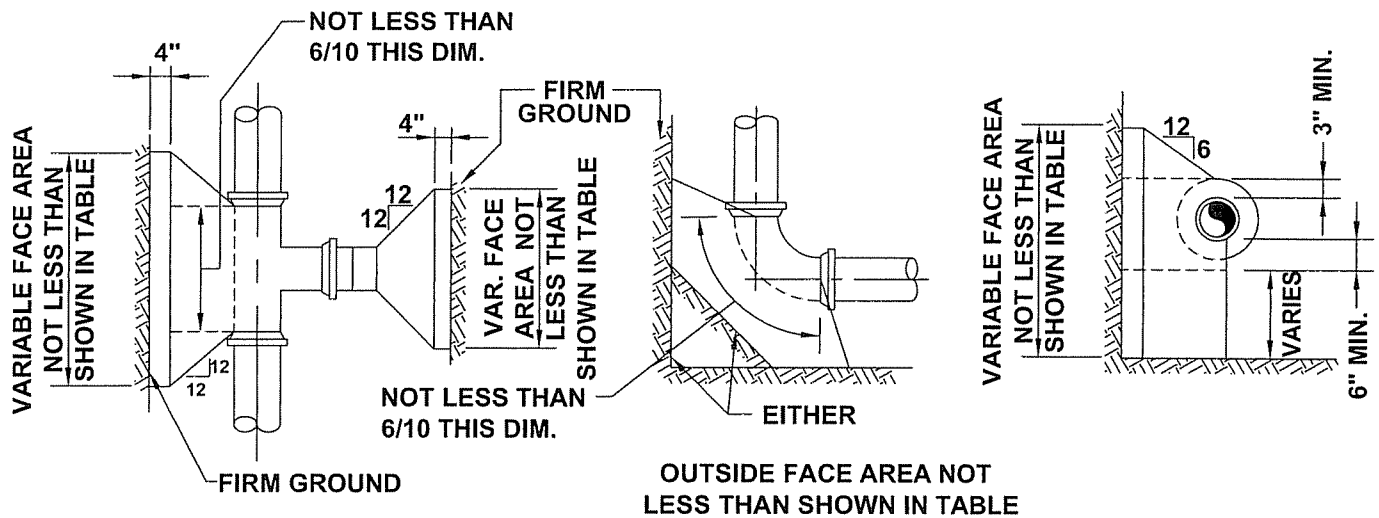
NOTE:
 THE TABLE IS BASED ON 225 PSI TEST PRESSURE. ALL BLOCKS HAVING LENGTH OF 3'-0" OR MORE TO BE REINFORCED WITH #4 @ 6" PLACED 3" FROM TOP OF BLOCK.

PIPE SIZE	TOTAL FORCE (lbs)	VOLUME IN CUBIC FEET			SIZE AND NO. OF ANCHOR RODS		
		45 DEGREE BENDS	22 1/2 DEGREE BENDS	11 1/4 DEGREE BENDS	45 DEGREE BENDS	22 1/2 DEGREE BENDS	11 1/4 DEGREE BENDS
4	4275	22.7	11.6	5.9	1-#4	1-#4	1-#4
6	8550	45.5	23.3	11.9	2-#4	1-#4	1-#4
8	14625	77.8	39.6	20.3	2-#4	2-#4	1-#4
10	21825	116.1	59.1	30.3	2-#4	2-#4	2-#4
12	30825	164.0	83.5	42.8	2-#5	2-#4	2-#4
14	41400	220.2	112.1	57.5	2-#6	2-#4	2-#4
16	53550	284.9	145.0	73.4	2-#7	2-#5	2-#4
18	67275	357.9	182.2	93.4	2-#7	2-#5	2-#4
20	82575	439.2	223.6	114.7	2-#8	2-#6	2-#4
24	117675	626.0	318.7	183.4	2-#9	2-#7	2-#5



**TOWNSHIP OF HAMPTON
 STANDARD SANITARY DETAILS
 CONCRETE ANCHORS AND METHOD OF LAYING
 FORCE MAINS UNDER OBSTRUCTIONS**

Date: October 2005
 Scale: N.T.S.
 Project Number: 50014
SD-029



**BLOCKING FOR
TEES AND PLUGS**

**BLOCKING FOR
BENDS**

**APPLICABLE TO
TEES, WYES, AND BENDS**

NOTES:

1. ALL TEES, WYES, CROSSES, PLUGS AND BENDS OF 10° OR MORE SHALL BE BLOCKED AGAINST FIRM EARTH WITH CONCRETE.
2. EARTH PRESSURE FIGURED AT 4000 PSF. IF EARTH ENCOUNTERED WILL NOT WITHSTAND THIS PRESSURE, THE AREA OF THE BLOCK MUST BE INCREASED PROPORTIONATELY.

PIPE SIZE (in)	AREA* (sq in)	TOTAL FORCE (lbs)	AREA OF BLOCK IN SQUARE FEET				
			TEES & PLUGS	90 DEGREE BENDS	45 DEGREE BENDS	22 1/2 DEGREE BENDS	11 1/4 DEGREE BENDS
4	19	4275	1.1	1.5	1.0	1.0	1.0
6	38	8550	2.2	3.0	1.6	1.0	1.0
8	65	14625	3.7	5.2	2.8	1.4	1.0
10	97	21825	5.5	7.7	4.2	2.1	1.1
12	137	30825	7.7	10.9	5.9	3.0	1.5
14	184	41400	10.4	14.6	7.9	4.0	2.1
16	238	53550	13.4	18.9	10.3	5.2	2.7
18	299	67275	16.8	23.8	12.9	6.6	3.4
20	367	82575	20.7	29.2	15.8	8.1	4.1
24	523	117675	29.4	41.6	22.5	11.5	5.9
30	805	96600	24.2	34.2	18.5	9.4	4.8
36	1152	138240	34.6	48.9	26.5	13.5	6.9

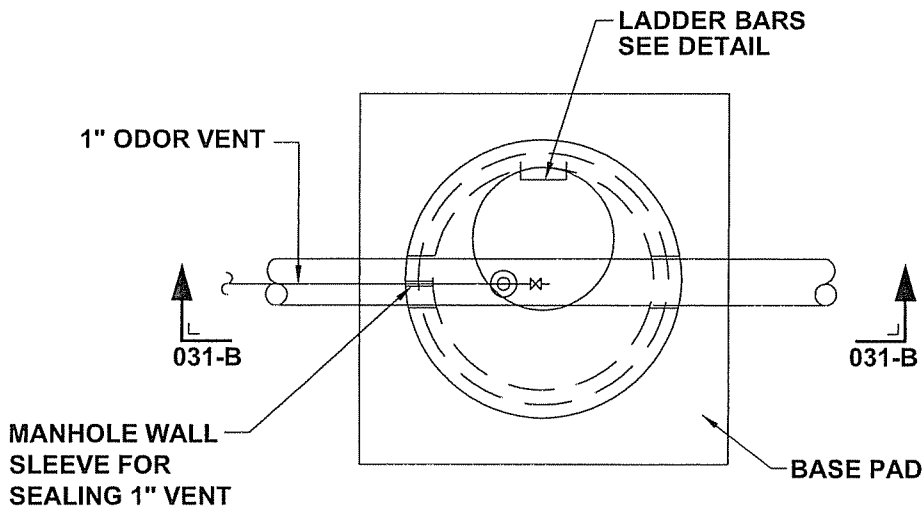
* BASED ON PIPE O.D. AND ROUNDED TO NEXT HIGHEST EVEN INCH.

CALCULATIONS ARE BASED ON 225 PSI PRESSURE OR 150 PSI WORKING PRESSURE PLUS 50 % INCREASE FOR WATER HAMMER FOR SIZES 4" TO 24" INCLUSIVE. FOR SIZES 30" & 36" THE TABLE IS BASED ON 120 PSI PRESSURE OR 75 PSI WORKING PRESSURE PLUS 50 % WATER HAMMER.



**TOWNSHIP OF HAMPTON
STANDARD SANITARY DETAILS
CONCRETE THRUST BLOCKING**

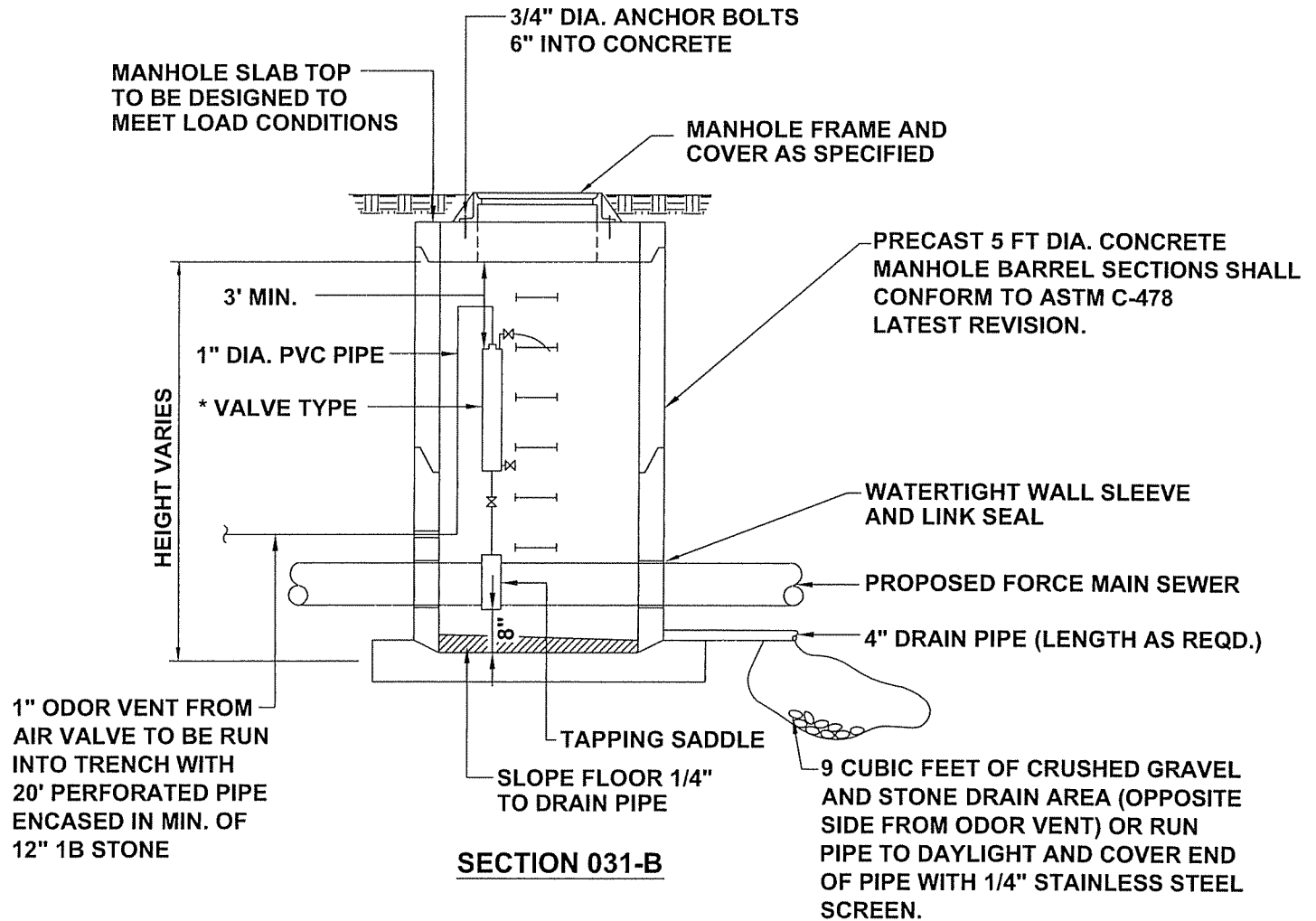
Date:	October 2005
Scale:	N.T.S.
Project Number:	50014
	SD-030



PLAN 031-A

* TYPE OF VALVE INSTALLED
IN THE MANHOLE AS REQUIRED
BY TOWNSHIP

- 1) AIR RELEASE VALVE
- 2) AIR VACUUM VALVE
- 3) COMBINATION AIR AND VACUUM
VALVE AS SPECIFIED



SECTION 031-B



TOWNSHIP OF HAMPTON
STANDARD SANITARY DETAILS
FORCE MAIN SEWER- SEWAGE AIR AND
VACUUM RELEASE VALVE AND MANHOLE

Date: October 2005

Scale: N.T.S.

Project Number: 50014

SD-031

MANHOLE FRAME AND COVER
(AS SPECIFIED)

30" MAX.

GROUND LINE

CONSEAL BITUMASTIC
SEALER - ONE RING INSIDE
AND ONE RING PLACED
OUTSIDE AT ALL MANHOLE
BARREL JOINTS

DROP CONNECTION INLET
PIPE, DROP PIPE, TEE, AND
ALL BENDS SHALL BE PVC
PIPE CONFORMING TO
ASTM D 3034, SDR 35

LADDER BARS
(AS SPECIFIED)

WATERPROOF EXTERIOR
SURFACE WITH TWO COATS
MINIMUM DRY FILM
THICKNESS, 8 MILS PER
COAT. BITUMASTIC
MATERIAL OR COAL
TAR SOLUTION

FIELD FORM
CONCRETE CHANNEL

PROPOSED
SANITARY SEWER

APPROVED PIPE
CONNECTION

6" MINIMUM 1B CRUSHED
STONE OR CRUSHED GRAVEL

REMOVABLE PVC PLUG

PROVIDE APPROVED PIPE
CONNECTION

PROPOSED PVC
FORCE MAIN

CRADLE PIPE WITH CONCRETE
TO FIRST JOINT OUTSIDE
MANHOLE EXCAVATION

2" STAINLESS STEEL CLAMPS
ANCHORED TO INSIDE FACE OF
MANHOLE BARREL AT TEE
AND ON 4'-0" MAX. CENTERS

BACKFILL TO UNDISTURBED
EARTH WITH CONCRETE

SUPPORT AND ANCHOR
1 - 45° BEND WITH
CONCRETE CHANNEL

NOTE:
THIS CONNECTION SHALL BE
MADE ONLY BY APPROVAL
FROM HAMPTON TOWNSHIP

HAMPTON
H
TOWNSHIP

TOWNSHIP OF HAMPTON
STANDARD SANITARY DETAILS
CONNECTION OF FORCE MAIN
TO GRAVITY MANHOLE

Date: October 2005

Scale: N.T.S.

Project
Number: 50014

SD-032