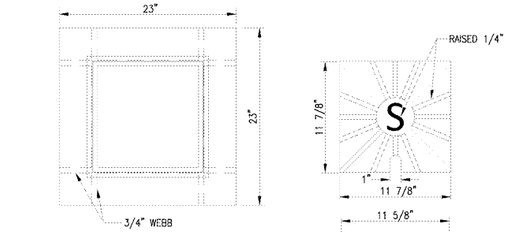
NOTE:

1. LETTER ON COVER SHALL BE "S".

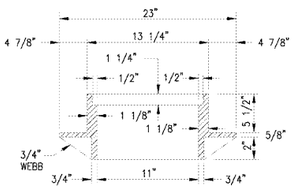
GENERAL SPECIFICATIONS

1. CAST IRON SHALL BE 35,000 PSI
2. ASTM A48 CLASS 35B

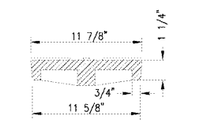


PLAN VIEW

PLAN VIEW VALVE LID

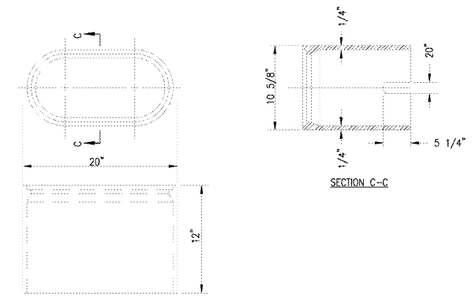


PROFILE



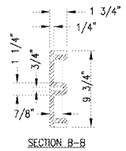
PROFILE

	CITY OF NORFOLK – DEPARTMENT OF UTILITIES STANDARD DETAILS	SCALE: NOT TO SCALE
DATE: 03/07	MAINLINE CLEANOUT CASTING AND COVER	DRAWING NO. CS 10



SECTION A–A

SECTION C–C



SECTION B–B

GENERAL SPECIFICATIONS:

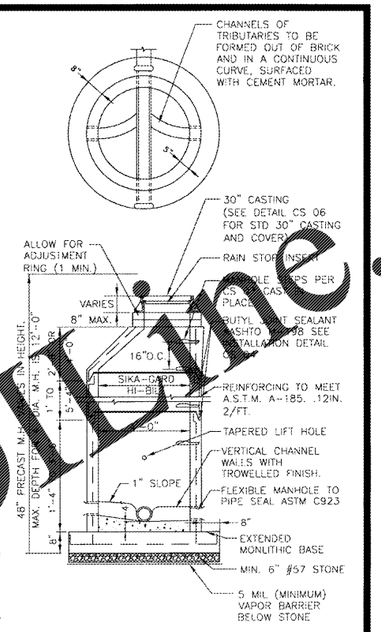
1. CAST IRON SHALL BE 35,000 P.S.I.
2. ASTM A-48 CLASS 35B

	CITY OF NORFOLK – DEPARTMENT OF UTILITIES STANDARD DETAILS	SCALE: NOT TO SCALE
DATE: 03/07	WATER METER BOX & COVER	DRAWING NO. CW 02

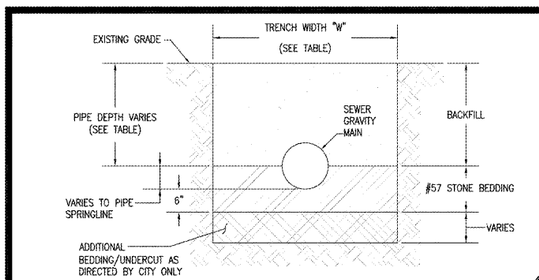
REQUIREMENTS:

1. MANHOLE SHALL MEET ALL REQUIREMENTS OF ASTM C478.
2. CONCRETE SHALL BE 4000 PSI COMPRESSIVE STRENGTH MINIMUM.
3. REINFORCING FABRIC SHALL MEET ASTM A185.
4. BASES SHALL BE EXTENDED MONOLITHIC TYPE.
5. MAX. HEIGHT FOR 48" M.H. SHALL NOT EXCEED 12', WHEN THE MANHOLE IS OVER 12' DEEP, THE BOTTOM 6' (MINIMUM) SHALL BE 60" IN DIAMETER.
6. ALL MANHOLE WALLS SHALL RECEIVE INSIDE APPLICATION OF SIKAGARD HI-BILT OR APPROVED EQUAL APPLIED IN ACCORDANCE WITH MANUFACTURERS SPEC.
7. JOINTS, LIFT HOLES & CHIPS TO BE POINTED WITH NONSHRINK GROUT AND COATED WITH SIKAGARD HI-BILT OR APPROVED EQUAL ON INSIDE WALL, AND PAINTED WITH BITUMINOUS COATING ON OUTSIDE WALL.
8. BUTYL JOINT SEALANT SHALL MEET ALL REQUIREMENTS OF ASTM C443 OR APPROVED EQUAL.
9. MANHOLE STEPS SHALL BE AS PER CITY STANDARD 07.

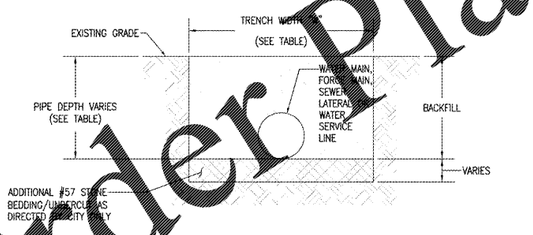
STANDARD INVERT ELEVATION OF NO GREATER THAN 1.99' DIFFERENCE SHOULD BE DESIGN CAT[illegible] IF EQUAL TO OR GREATER THAN 2' AN OUTSIDE DROP CONNECTION IS REQUIRED.



	CITY OF NORFOLK – DEPARTMENT OF UTILITIES STANDARD DETAILS	SCALE: NOT TO SCALE
DATE: 07/07	STANDARD PRECAST SEWER MANHOLE	DRAWING NO. CS 03



SEWER GRAVITY MAIN



WATER MAIN, SEWER LATERALS OR WATER SERVICE LINES

	CITY OF NORFOLK – DEPARTMENT OF UTILITIES STANDARD DETAILS	SCALE: NOT TO SCALE
DATE: 06/12	PIPE BEDDING	DRAWING NO. CWS 09

SEWER GRAVITY MAIN NOTES:

1. #57 STONE BEDDING AS SHOWN SHALL BE INCLUDED AS PART OF THE UNIT BID PRICE OF THE PIPE.
2. ANY ADDITIONAL UNDERCUT SHALL BE AT THE DIRECTION OF THE CITY ONLY.
3. #57 STONE TICKETS SHALL NOT BE ACCEPTED BY THE CITY. THE ADDITIONAL #57 STONE BEDDING/UNDERCUT AS DIRECTED BY THE CITY SHALL BE A CALCULATED QUANTITY ONLY, AND NOT BASED ON STONE TICKETS.
4. QUANTITY OF #57 STONE BEDDING ACCEPTABLE FOR INSTALLATION SHALL NOT EXCEED THE FULL TRENCH WIDTH, AS IDENTIFIED IN THIS DETAIL, AS WELL AS THE TOTAL DEPTH AND LENGTH AGREED UPON WITH THE CITY.
5. NO PAYMENT SHALL OCCUR FOR #57 STONE BEDDING NOT PROPERLY AUTHORIZED BY THE CITY IN ADVANCE.

WATER OR FORCE MAIN NOTES:

1. #57 STONE BEDDING SHALL NOT BE INCLUDED AS PART OF THE UNIT BID PRICE OF THE PIPE. #57 STONE SHALL BE CALCULATED AT 100lbs/CUBIC FOOT.
2. #57 STONE BEDDING SHALL BE INSTALLED ONLY AT THE SPECIFIC DIRECTION OF THE CITY.
3. IF UNSUITABLE SOILS ARE ENCOUNTERED THE CONTRACTOR SHALL NOTIFY THE CITY AND REQUEST #57 STONE BEDDING BE AUTHORIZED FOR INSTALLATION.
4. ANY #57 STONE BEDDING INSTALLED SHALL BE A CALCULATED QUANTITY AND NOT BASED ON STONE TICKETS.
5. QUANTITY OF #57 STONE ACCEPTABLE FOR INSTALLATION SHALL NOT EXCEED THE FULL TRENCH WIDTH, AS IDENTIFIED IN THIS DETAIL, AS WELL AS THE TOTAL DEPTH AND LENGTH AGREED UPON WITH THE CITY.
6. NO PAYMENT SHALL OCCUR FOR BEDDING NOT PROPERLY AUTHORIZED BY THE CITY IN ADVANCE.

TRENCH WIDTH INFORMATION	
PIPE DEPTH (FT)	TRENCH WIDTH "W" (FT) *
SEWER LATERALS & WATER SERVICE LINES	2 **
0.00 – 3.99	4 **
4.00 – 5.99	5 **
6.00 – 11.99	8 **
> 12.00	10 **

* 'W' DENOTES WIDTH FOR #57 STONE INCLUDED IN COST AS WELL AS MAXIMUM TRENCH WIDTH FOR 21A STONE AND ASPHALT

** MATERIALS INSTALLED IN EXCESS OF THE AUTHORIZED TRENCH WIDTH SHALL NOT BE PAID WITHOUT A REASONABLE WRITTEN EXPLANATION

	CITY OF NORFOLK – DEPARTMENT OF UTILITIES STANDARD DETAILS	SCALE: NOT TO SCALE
DATE: 06/12	PIPE BEDDING NOTES	DRAWING NO. CWS 09A

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www.

NO.	REVISIONS	DATE	BY

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PHONE: 804-673-3382
WWW.KIMLEY-HORN.COM

COMMONWEALTH OF VIRGINIA
J. RANDALL ROYAL
Lic. No. 14950
8/24/18
PROFESSIONAL ENGINEER

KHA PROJECT 116607003
DATE 08/24/2018
SCALE AS SHOWN
DESIGNED BY LEY
DRAWN BY LEY
CHECKED BY JY

UTILITY DETAILS

WAWA AT NEWTOWN AND STONEY POINT
PREPARED FOR WAWA
CITY OF NORFOLK VIRGINIA

SHEET NUMBER
CU-502

Plotted By: Young, Lauren (Virginia Beach) Sheet Set: xnc Layout: CU-502 UTILITY DETAILS Created: 02, 2018 09:02:19 am K:\vbc_civil\116607003 - wawa - newtown & stoney pt\CAD\plansheets\CU-502 UTILITY DETAILS.dwg
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