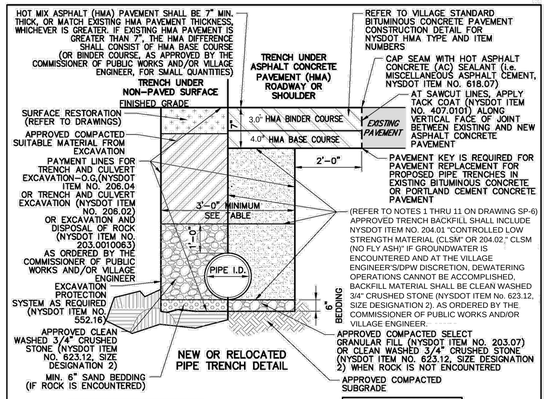
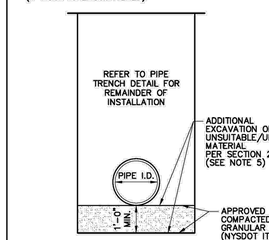


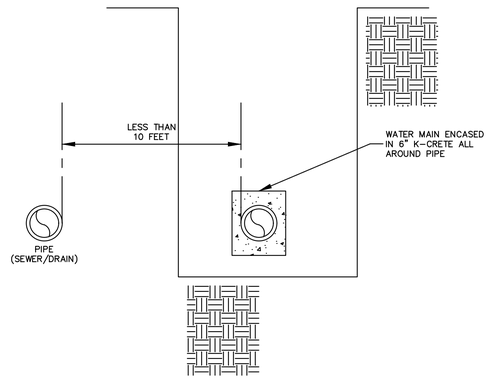


PIPE INSTALLATION IN UNSTABLE OR UNSUITABLE SOIL CONDITIONS

EXCAVATION PAYMENT WIDTHS	
PIPE INSIDE DIAMETER (I.D.)	TRENCH WIDTH
3	3'-0"
4	3'-0"
6	3'-0"
8	3'-0"
10	3'-0"
12	3'-0"
14	3'-6"
16	3'-6"
18	3'-6"
20	4'-0"
24	4'-0"
30	4'-6"
36	5'-0"
42	5'-6"
48	6'-0"
54	6'-6"
60	7'-0"
64	7'-6"

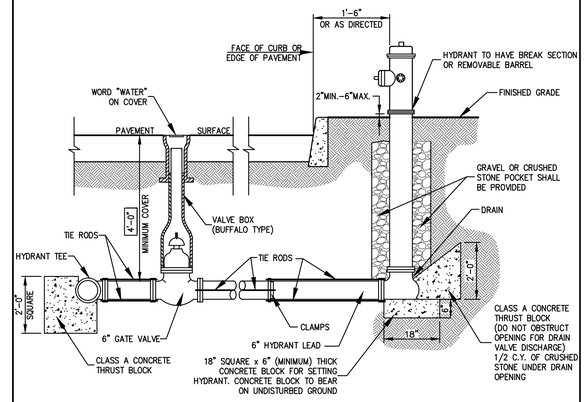
VILLAGE OF CROTON-ON-HUDSON STANDARD CONSTRUCTION DETAILS
PREPARED IN THE OFFICE OF THE COMMISSIONER OF PUBLIC WORKS
PIPE TRENCH AND ASPHALT CONCRETE PAVEMENT RESTORATION (W/ BINDER TO GRADE)
DESIGNED BY: ARC, PE CHECKED BY: ARC, PE
DRAWN BY: ARC, PE VCOD#1 SD 2B_Pipe Trench and A
VILLAGE OF CROTON-ON-HUDSON
STANLEY H. KELLENHOUSE MUNICIPAL BUILDING
1 VAN WYCK STREET (2ND FLOOR)
WESTCHESTER COUNTY
VILLAGE OF CROTON-ON-HUDSON, NY 10520
PHONE: (914) 271-4775
FAX: (914) 271-2856
PROJECT DETAILS
SCALE/NOT TO SCALE
DATE: 05/01/2015
SD-2B

PIPE TRENCH AND ASPHALT CONCRETE PAVEMENT RESTORATION 10



WATER MAIN TRENCH WITH ENCASEMENT 11

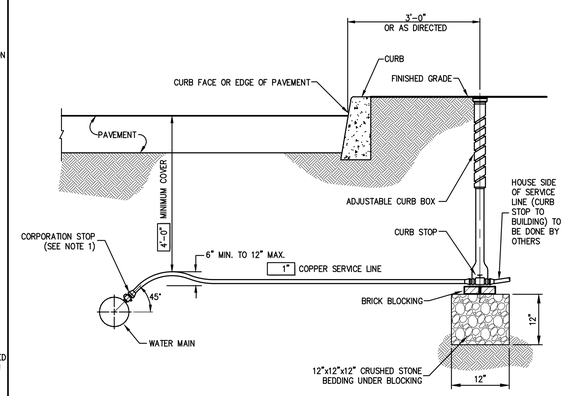
FIRE HYDRANTS TO BE PROVIDED BY:
THE VILLAGE OF CROTON-ON-HUDSON



NOTES:

1. ALL CONCRETE THRUST BLOCKS SHALL BEAR ON UNDISTURBED GROUND.
2. RODDING SHALL CONSIST OF TWO 3/4" THREADED STEEL TIE RODS WITH NUTS AND WASHERS COMPLETE WITH ALL NECESSARY AND REQUIRED CLAMPS, CAREFULLY AND THOROUGHLY COVERED WITH ASPHALT OR OTHER ACCEPTABLE CORROSIVE RETARDING MATERIAL. IN GENERAL, THE METHOD AND TYPES OF MATERIAL REQUIRED IN THE INSTALLATION OF CLAMPS AND THE RODS SHALL BE IN ACCORDANCE WITH THE LATEST NATIONAL FIRE PROTECTION STANDARDS.
3. HYDRANT DRAINAGE
   A. HYDRANT DRAINS SHOULD BE PLUGGED. WHEN THE DRAINS ARE PLUGGED THE BARRELS MUST BE PUMPED DRY AFTER USE DURING FREEZING WEATHER.
   B. WHERE HYDRANT DRAINS ARE NOT PLUGGED, A GRAVEL POCKET OR DRY WELL SHALL BE PROVIDED UNLESS THE NATURAL SOILS WILL PROVIDE ADEQUATE DRAINAGE.
   C. HYDRANT DRAINS SHALL NOT BE CONNECTED TO OR LOCATED WITHIN 10 FEET OF SANITARY SEWERS, STORM SEWERS, OR STORM DRAINS.
   D. HYDRANT DRAINS, WHERE ALLOWED, MUST BE ABOVE THE SEASONAL GROUNDWATER TABLE.

HYDRANT INSTALLATION 12



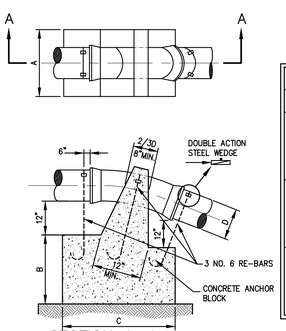
SERVICE LINE REQUIREMENTS

SIZE	SERVICE LINE(MATERIALS)	CORPORATION STOP	CURB STOP	CURB BOX	ENLARGED BASE
3/4"	COPPER, TYPE K	H-15008	H-15214	H-10308	Not Applicable
1"	COPPER, TYPE K	H-15008	H-15214	H-10308	Not Applicable
1-1/2"	COPPER, TYPE K	H-15013	H-15214	H-10310	Not Applicable
2"	COPPER, TYPE K	H-15013	H-15214	H-10310	H-10349

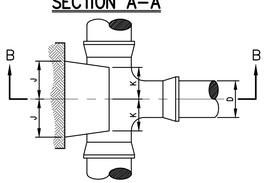
NOTES:

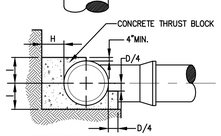
1. INSTALLATION OF 1-1/2" AND 2" CORPORATION STOPS SHALL BE MADE IN THE UPPER PIPE QUADRANT, BUT MAY BE MADE AT ANGLES LESS THAN 45° IF APPROVED BY THE OWNER'S FIELD REPRESENTATIVE.
2. SERVICE LINE SHALL HAVE NO JOINTS BETWEEN THE WATER MAIN AND CURB STOP.
3. CORPORATION STOP, CURB STOP, CURB BOX AND ENLARGED BASE FOR CURB BOX SHALL BE MUELLER COMPANY OR APPROVED EQUAL. CATALOG NUMBERS SHOWN REFER TO MUELLER COMPANY.

WATER SERVICE CONNECTION (2" OR LESS) 13



SECTION A-A





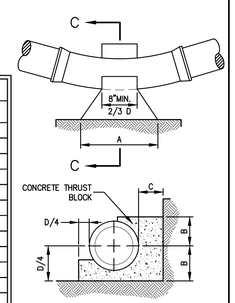
SECTION B-B

VERTICAL BEND

BEND		DIAMETER (D) 4"	6"	8"	10"	12"	16"
1/32	A	1'-6"	1'-6"	2'-0"	2'-6"	3'-0"	3'-6"
	B	1'-3"	1'-3"	1'-9"	1'-3"	2'-0"	2'-0"
	C	2'-0"	2'-0"	2'-6"	2'-9"	3'-0"	4'-0"
1/16	A	2'-0"	2'-0"	3'-4"	3'-8"	4'-0"	4'-4"
	B	1'-9"	1'-9"	2'-3"	2'-6"	2'-6"	2'-6"
	C	2'-6"	2'-6"	2'-8"	4'-0"	4'-0"	5'-6"
1/8	A	2'-6"	2'-6"	3'-0"	4'-0"	4'-6"	5'-2"
	B	2'-6"	2'-6"	2'-9"	3'-0"	3'-6"	4'-0"
	C	3'-0"	3'-0"	4'-0"	4'-6"	4'-9"	6'-6"

HORIZONTAL BEND

BEND		DIAMETER (D) 4"	6"	8"	10"	12"
1/32	A	8"	8"	8"	10"	12"
	B	7"	7"	8"	9"	10"
	C	7"	7"	7"	8"	8"
1/16	A	9"	9"	12"	1'-6"	1'-9"
	B	7"	7"	8"	9"	10"
	C	8"	8"	9"	10"	11"
1/8	A	1'-3"	1'-3"	1'-8"	2'-1"	2'-6"
	B	7"	7"	8"	9"	11"
	C	8"	8"	9"	10"	11"
1/4	A	2'-0"	2'-0"	2'-6"	3'-0"	3'-6"
	B	7"	7"	9"	12"	1'-3"
	C	2'-0"	2'-0"	1'-9"	1'-8"	1'-7"



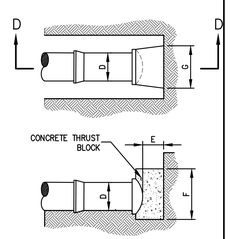
SECTION C-C

TEE

D	4"	6"	8"	10"	12"
H	6"	7"	9"	10"	12"
I	8"	8"	10"	12"	1'-3"
J	7"	7"	9"	12"	1'-2"
K	6"	6"	8"	8"	8"

CAP

D	4"	6"	8"	10"	12"
E	6"	6"	8"	8"	10"
F	12"	12"	1'-4"	1'-8"	2'-0"
G	1'-5"	1'-5"	2'-0"	2'-5"	3'-0"

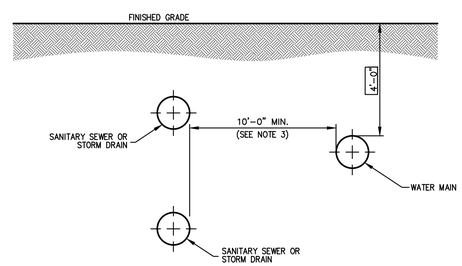


SECTION D-D

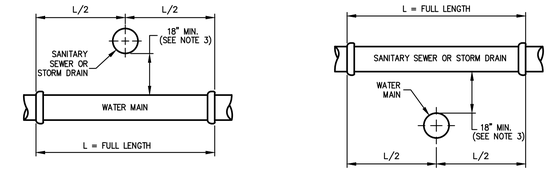
NOTES:

1. ALL CONCRETE TO BE CLASS A (4,000 PSI).
2. ALL ANCHOR AND THRUST BLOCKS TO BEAR ON UNDISTURBED EARTH.
3. IN ALL CASES SHOWN, MEASUREMENT "D" REFERS TO THE INSIDE PIPE DIAMETER.
4. ANCHOR AND THRUST BLOCK DIMENSIONS SHOWN ARE MINIMUM FOR 100 PSI WATER PRESSURE AND SOIL RESISTANCE OF 2 KIPS PER SQ FT. CONTRACTOR SHALL ADJUST FOR OTHER CONDITIONS AND SUBMIT FOR APPROVAL.

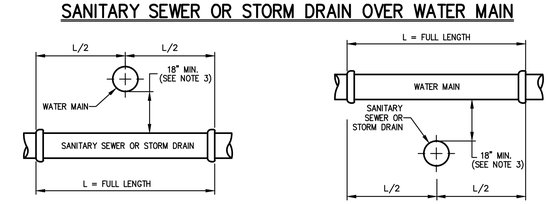
ANCHOR AND THRUST BLOCKS 14



HORIZONTAL SEPARATION



SANITARY SEWER OR STORM DRAIN OVER WATER MAIN



WATER MAIN OVER SANITARY SEWER OR STORM DRAIN

VERTICAL SEPARATION

NOTES:

1. NORMAL CONDITIONS:
   A. WHENEVER A WATER MAIN MUST CROSS OVER OR UNDER A SANITARY SEWER OR STORM DRAIN, THE PIPES SHALL BE LAID TO PROVIDE A VERTICAL SEPARATION BETWEEN THEM OF AT LEAST 18 INCHES, AS MEASURED FROM THE BOTTOM OF THE HIGHER PIPE TO THE CROWN OF THE LOWER PIPE.
   B. FULL LENGTH OF WATER PIPE MUST BE CENTERED AT THE POINT OF CROSSING; NO JOINTS WILL BE PERMITTED AT THE POINT OF CROSSING.
2. WATER MAIN CROSSING UNDER SANITARY SEWERS:
   A. VERTICAL SEPARATION OF 18 INCHES MUST BE PROVIDED.
   B. ADEQUATE STRUCTURAL SUPPORT MUST BE PROVIDED FOR THE SANITARY SEWER TO PREVENT EXCESSIVE DEFLECTION OF JOINTS AND SETTLING.
   C. FULL LENGTH OF WATER PIPE MUST BE CENTERED AT THE POINT OF CROSSING; NO JOINTS WILL BE PERMITTED AT THE POINT OF CROSSING.
3. IF DURING CONSTRUCTION IT IS FOUND THAT THE REQUIRED SEPARATION OF WATER MAINS, SANITARY SEWERS, STORM SEWERS AND BUILDING SANITARY SEWERS CANNOT BE MET, THE CONTRACTOR OR HIS AUTHORIZED REPRESENTATIVE SHALL IN WRITING ADVISE JOHN MEYER CONSULTING OF THE SPECIFIC CONDITIONS ENCOUNTERED. APPROVAL OF ALTERNATIVE SEPARATION CRITERIA SHALL BE OBTAINED FROM THE WESTCHESTER COUNTY DEPARTMENT OF HEALTH PRIOR TO INSTALLATION.

SEPARATION OF WATER AND SANITARY SEWER/STORM DRAIN LINES 15

NO.	REVISION	DATE	BY
1.	REVISED/ISSUED IN RESPONSE TO WCDH COMMENTS	01/04/2013	RC
2.	REVISED PER CON EDISON COMMENTS	06/19/2015	DS
3.	REVISED/ISSUED IN RESPONSE TO WCDH COMMENTS	08/05/2015	DM

Previous Editions Obsolete

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JMC SITE DEVELOPMENT CONSULTANTS
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WATERMAIN DETAILS

FARRINGTON ROAD & HUNTER PLACE IMPROVEMENTS
FARRINGTON ROAD & HUNTER PLACE
VILLAGE OF CROTON-ON-HUDSON, NEW YORK

DRAWN: RC	APPROVED: RR
SCALE: N.T.S.	
DATE: 06/15/2012	
PROJECT No: 11059	
DWG: 11059-DETAILS	TAB: DETAILS-3 / SCR: --
DRAWING No: SP-8	

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