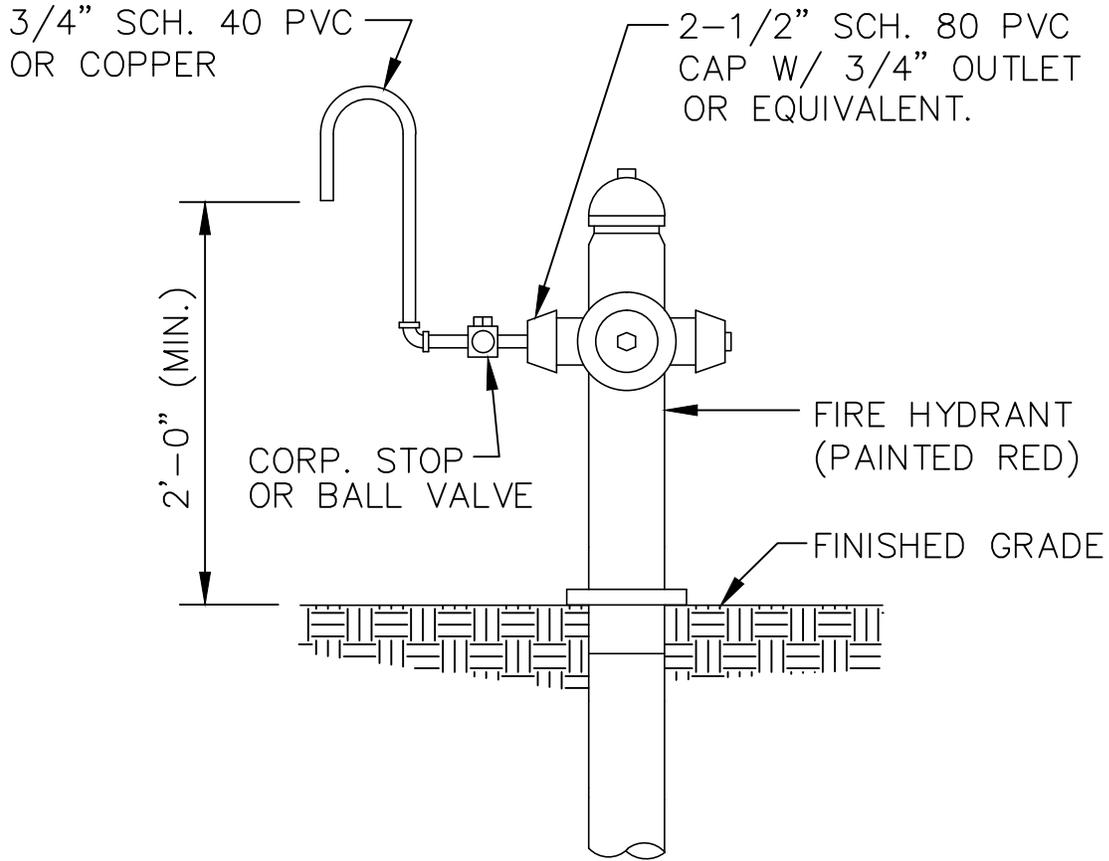


SAMPLE POINT (MAIN)

ALL D.I.P. TO BE PAINTED
BLUE ON TOP HALF OF PIPE.

ENGINEERING STANDARDS 2016

REVISIONS		ENGINEERING DIVISION CITY OF POMPAÑO BEACH	SAMPLE POINT (MAIN)	
BY	DATE		DATE: JUNE 1996 DWG. NO. 100-1	
S.S.	04-2005	SCALE: N.T.S.		



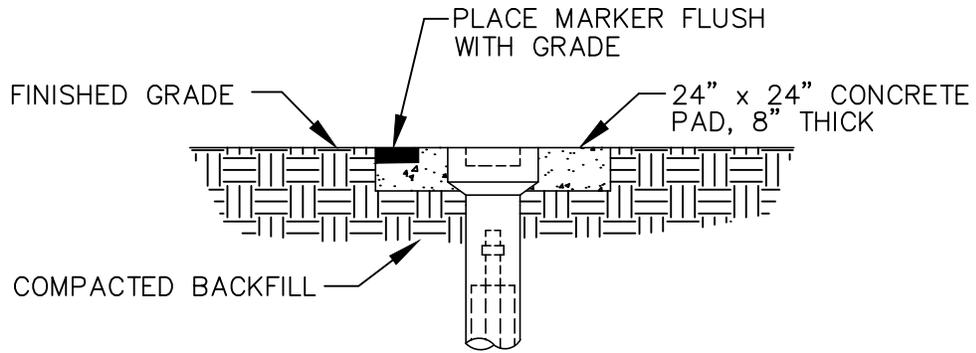
SAMPLE POINT (HYDRANT)

ALL POMPANO BEACH HYDRANTS SHALL BE PAINTED RED.

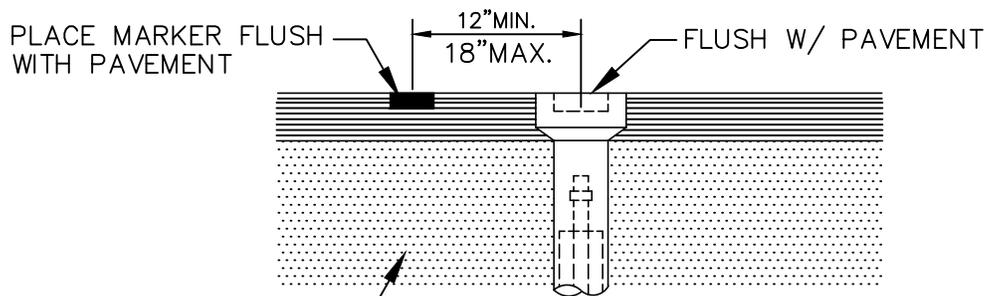
ALL D.I.P. TO BE PAINTED
BLUE ON TOP HALF OF PIPE.

ENGINEERING STANDARDS 2016

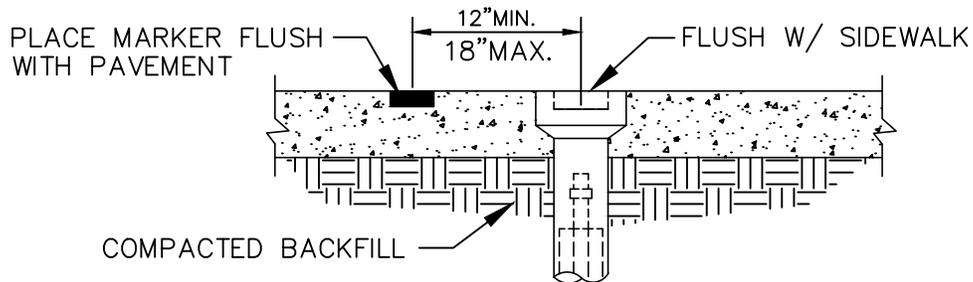
REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	SAMPLE POINT (HYDRANT)	
BY	DATE			
S.S.	04-2005			DATE: JUNE 1996
				DWG. NO.
		SCALE: N.T.S.		101-1



UNPAVED AREAS



PAVED AREAS



ON SIDEWALKS

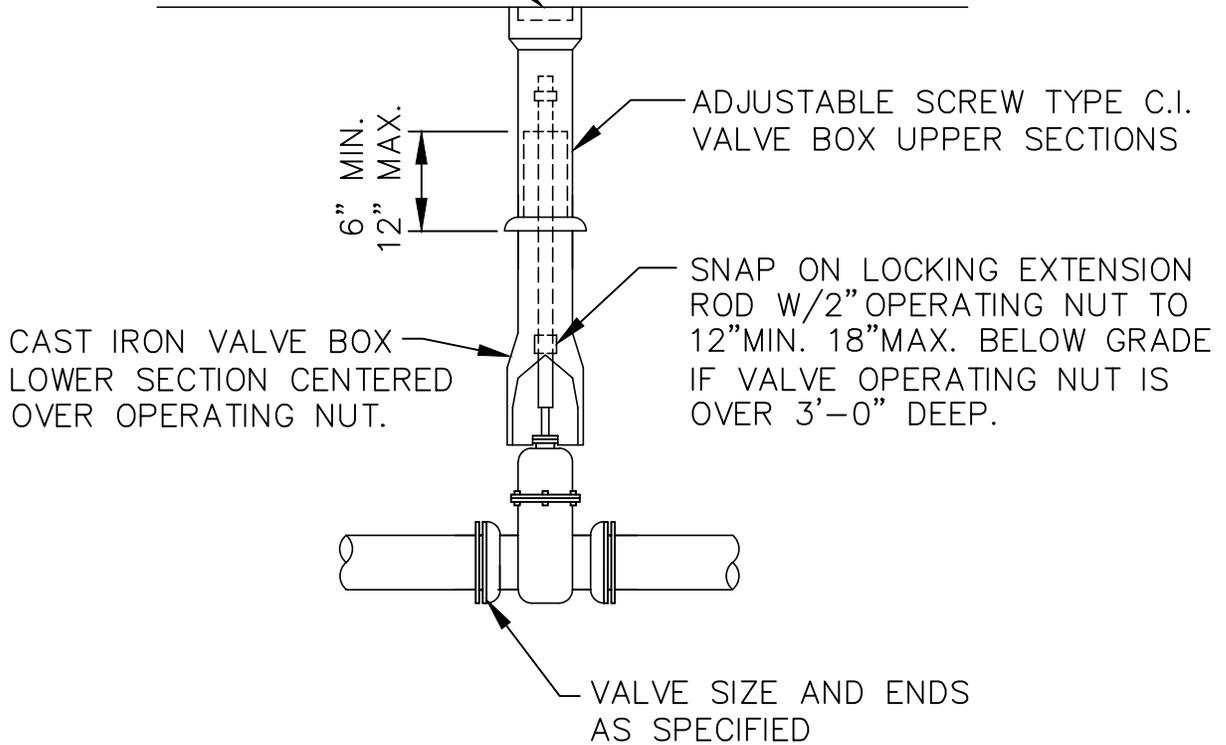
VALVE BOX SETTINGS

ENGINEERING STANDARDS 2016

REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	VALVE BOX SETTINGS	
BY	DATE			
S.S.	04-2005		DATE: JUNE 1996	
			DWG. NO.	
		SCALE: N.T.S.	102-1	

J:\City-STANDARDS\2016 Standards Details\Water 1-1.dwg, 11/4/2015 3:26:47 PM

FLUSH WITH GRADE
 CAST IRON VALVE BOX LID
 (SEE SPECIFICATIONS)



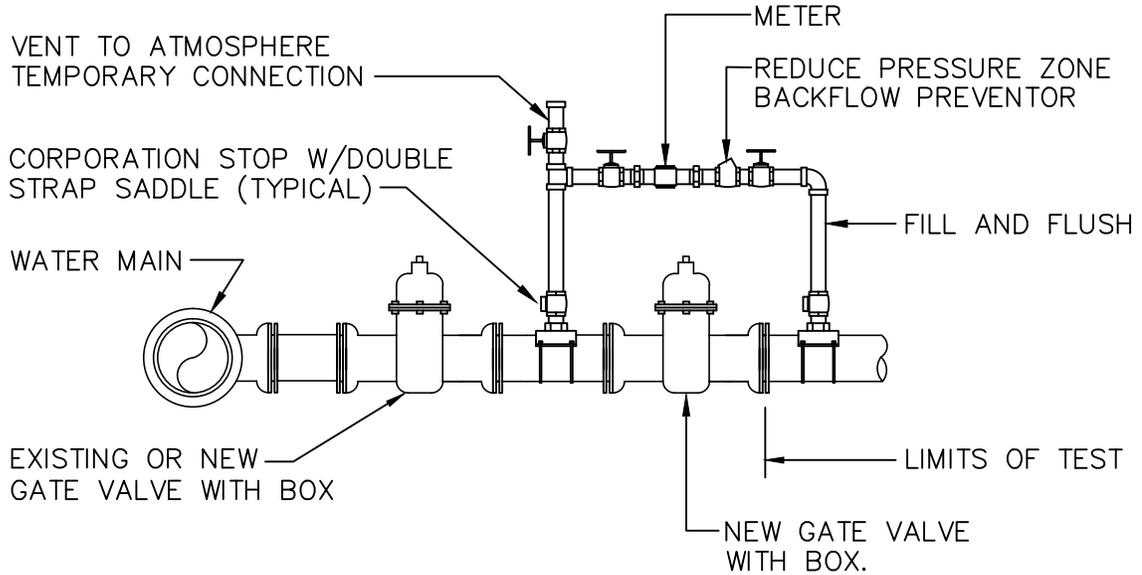
GATE OR PLUG VALVE SETTING

USE MEGALUGS AT ALL PIPE JOINTS

ALL D.I.P. TO BE PAINTED
 BLUE ON TOP HALF OF PIPE.

ENGINEERING STANDARDS 2016

REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	GATE OR PLUG VALVE SETTINGS	
BY	DATE		DATE: JUNE 1996 DWG. NO. 103-1	
S.S.	04-2005	SCALE: N.T.S.		
T.W.	11-2007			



METHOD "B"

NOTES:

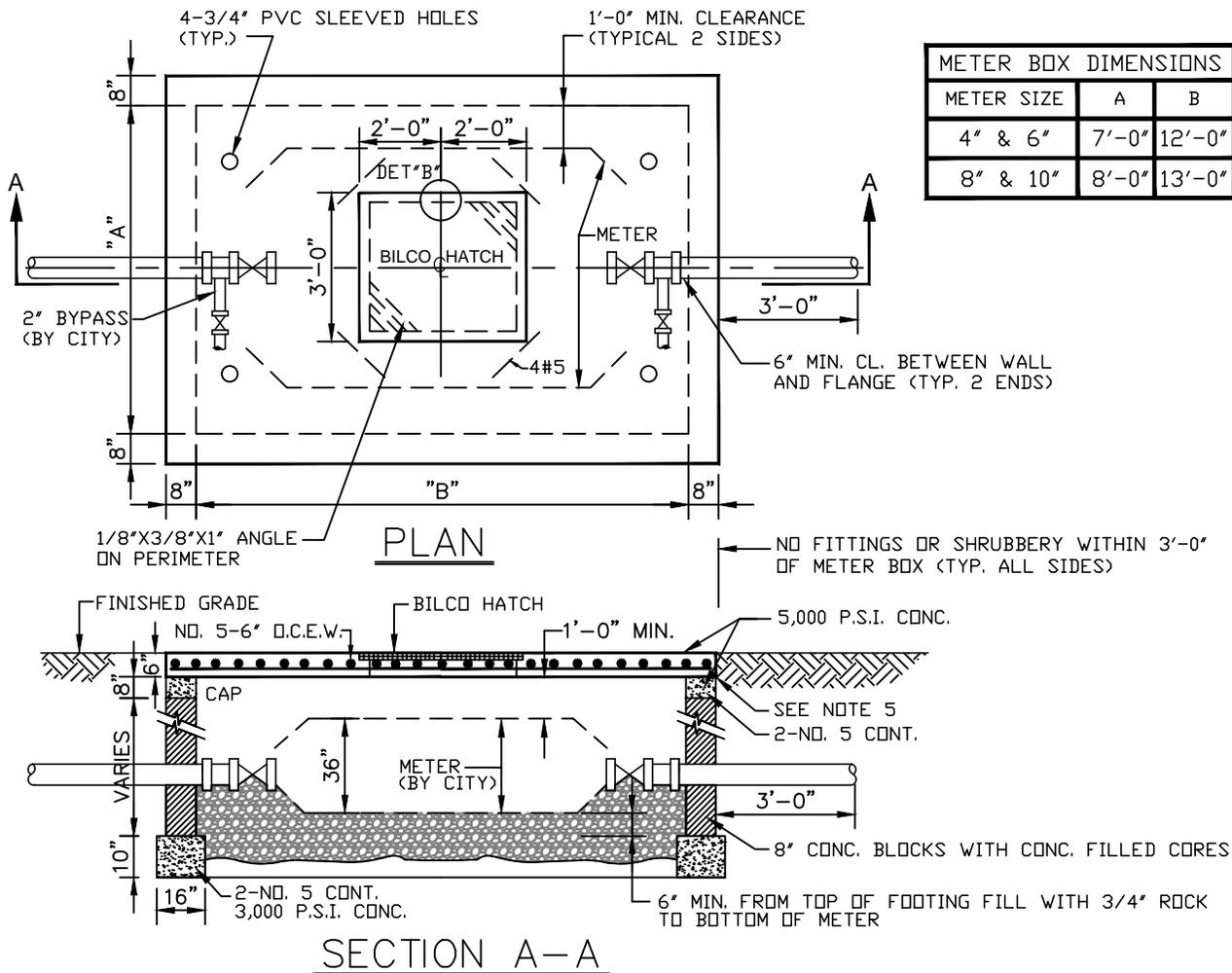
1. WATER MAIN TO BE PRESSURE TESTED AND DISINFECTED ACCORDING TO BROWARD COUNTY PUBLIC HEALTH UNIT REGULATIONS, AWWA, AND MUNICIPAL SPECIFICATIONS IN EFFECT.
2. BACTERIOLOGICAL TESTS ARE TO BE PERFORMED BY THE CONTRACTOR AND AN APPROVED TESTING LABORATORY.
3. REMOVE TEMPORARY CONNECTION AT SADDLE ON NEW MAINS AFTER FILLING AND FLUSHING HAS BEEN COMPLETED AND REPLACE WITH BRASS PLUG
4. PROVIDE ALL NECESSARY THRUST BLOCKS OR OTHER RESTRAINTS.
5. FILLING AND FLUSHING LOCATIONS SHALL BE COORDINATED BY THE CONTRACTOR, ENGINEER, AND CITY.
6. VENT TO ATMOSPHERE SHALL REMAIN OPEN DURING ALL PHASES OF PRESSURE TESTING.
7. AFTER COMPLETION FILL AND FLUSH CONNECTION
8. USE MEGALUGS AT ALL PIPE JOINTS

FILLING AND FLUSHING CONNECTION

ALL D.I.P. TO BE PAINTED BLUE ON TOP HALF OF PIPE.

ENGINEERING STANDARDS 2016

REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	FILLING / FLUSHING CONNECTION	
BY	DATE			
S.S.	04-2005		DATE: JUNE 1996 DWG. NO.	
T.W.	11-2007			
S.S.	01-2012	SCALE: N.T.S.	104-1	



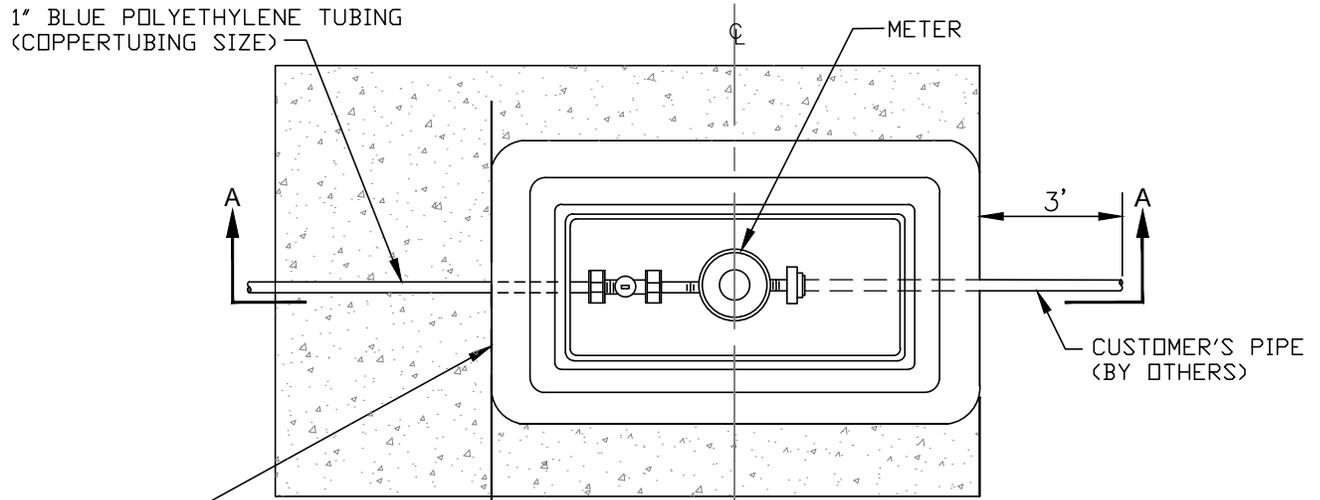
NOTES

1. THIS STRUCTURE & LID ARE FOR NON-TRAFFIC BEARING ONLY.
2. DO NOT CONSTRUCT METER BOX UNTIL AFTER METER IS IN PLACE.
3. CENTER BOX AROUND METER.
4. DO NOT TIE CONCRETE LID TO CONCRETE WALLS.
5. TOP OF LID TO BE @ FINISH GRADE ELEV.
6. CUT OUT REPLACEABLE 10" SQUARE OVER EACH READING HEAD & FASTEN W/CHAIN.
7. FITS NEPTUNE R450 ANTENNA.
8. BILCO HATCH MODEL J-AL OR JD-AL OR EQUAL

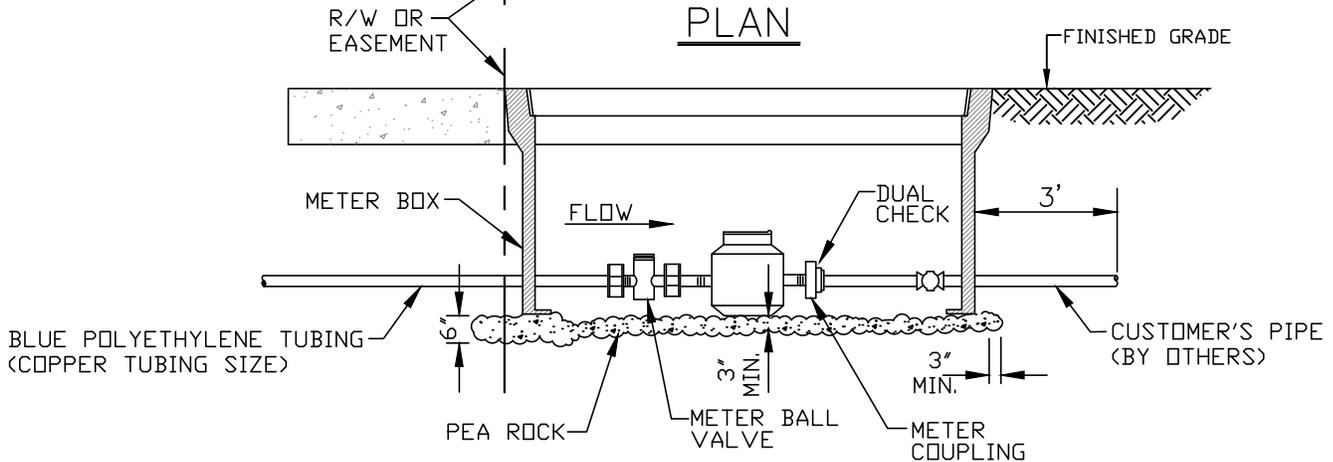
LARGE METER BOX

ENGINEERING STANDARDS 2016

REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	LARGE METER BOX	
BY	DATE		SCALE: N.T.S.	DATE:
T.W.	03-2008	DWG. NO.		105-1
S.S.	01-2012			
S.S.	11-2012			



PLAN



SECTION A-A

NOTES:

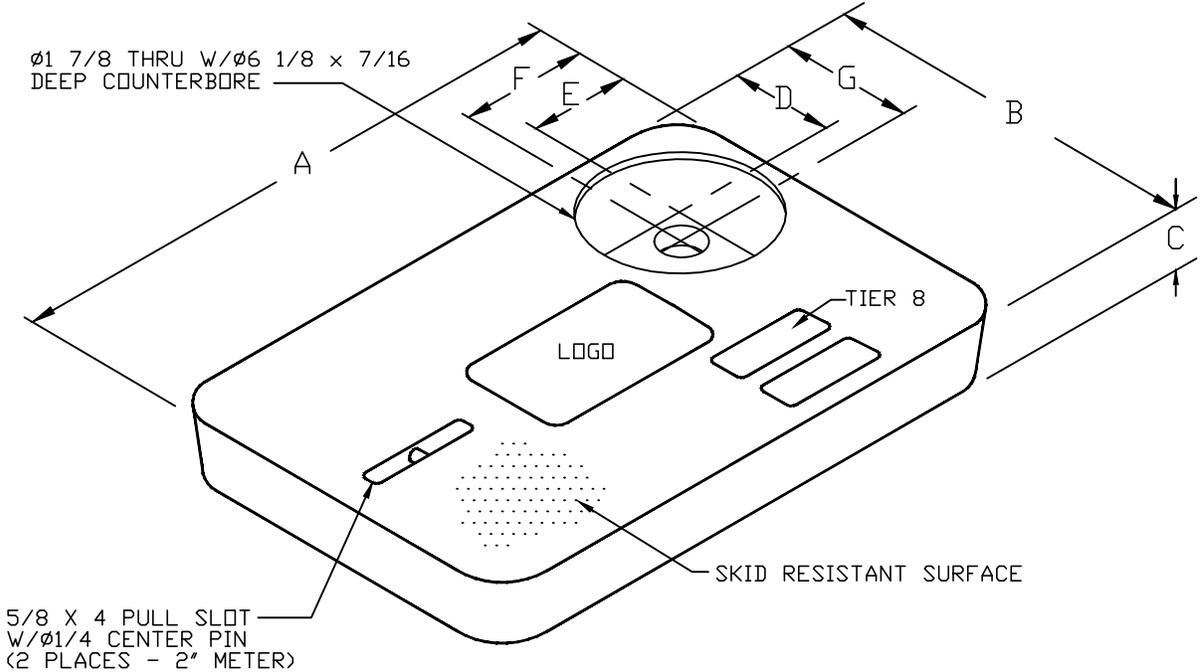
1. ALL METERS WILL BE SUPPLIED AND INSTALLED BY COPB UTILITIES
METER HAS IRON PIPE THREAD MALE CONNECTION ON EACH END.
2. METER SHALL BE CENTERED IN BOX.
3. DUAL CHECK IS SAME SIZE AS CUSTOMER'S SERVICE LINE.

METER SIZE	LAYING LENGTH (IN)	HEIGHT (IN)
5/8"	7.5	4.56
1"	10.75	5.75

METER BOX INSTALLATION

ENGINEERING STANDARDS 2016

<table border="1"> <thead> <tr> <th colspan="2">REVISIONS</th> </tr> <tr> <th>BY</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td>S.S.</td> <td>11-2012</td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> </tbody> </table>		REVISIONS		BY	DATE	S.S.	11-2012							<p>ENGINEERING DIVISION CITY OF POMPANO BEACH</p>	<p>METER BOX INSTALLATION FOR 5/8" AND 1" METERS</p>
REVISIONS															
BY	DATE														
S.S.	11-2012														
<p>SCALE: N.T.S.</p>		<p>DATE: JAN. 2012 DWG. NO. 105-2</p>													



METER BOX COVER DIMENSIONS (IN)							
METER SIZE	A	B	C	D	E	F	G
1"	18 1/8"	11 1/4"	1 3/4"	3 3/4"	4"	4 9/16"	4 5/16"
1 1/2"	23 1/4"	13 3/4"	2"	4"	4"	4 9/16"	4 9/16"
2"	30 1/2"	17 1/2"	2"	4"	4"	4 9/16"	4 9/16"

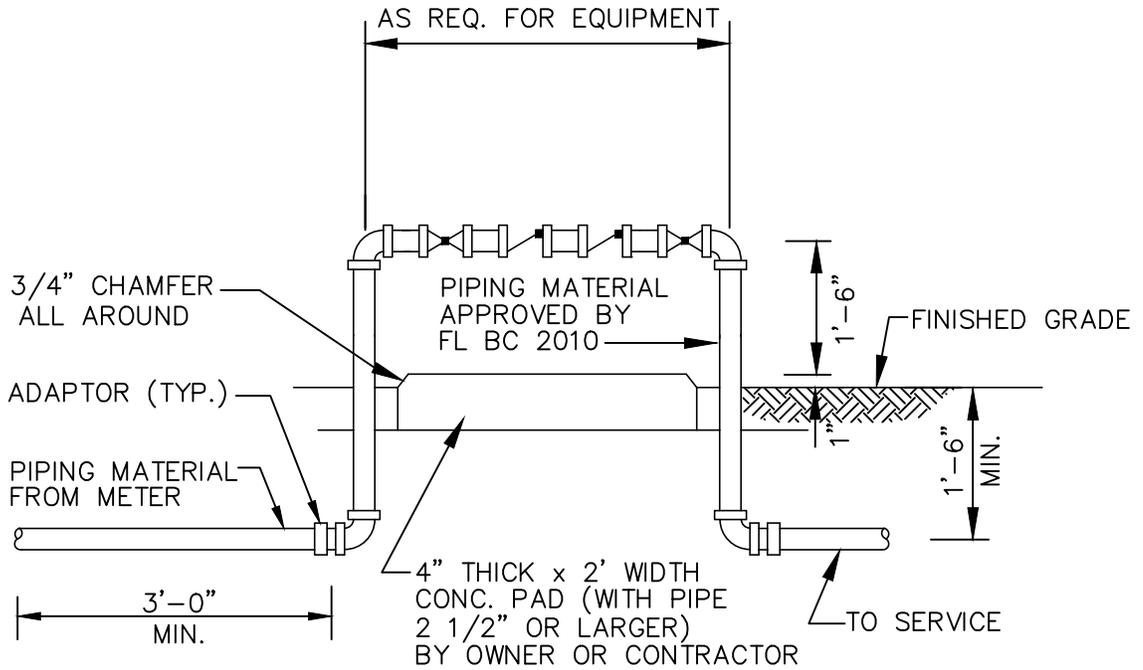
NOTES

- CUSTOMER IS CITY OF POMPANO BEACH FLORIDA
LOGO TO BE SPECIFIED: CITY OF POMPANO BEACH POTABLE WATER
- FITS NEPTUNE R450 ANTENNA
- THIS COVER IS RATED FOR A STATIC DESIGN LOAD OF 8,000 LBS. (35,548 N) OVER A 10 (254) X 10 (254) AREA AND MUST PASS A MINIMUM STATIC TEST LOAD OF 12,000 LBS (53,376 N).
- METER BOX COVER SHOULD BE RATED FOR TRAFFIC CONDITION AS DETERMINED BE ENGINEER OF RECORD.

POTABLE WATER METER BOX COVER

ENGINEERING STANDARDS 2016

<table border="1"> <thead> <tr> <th colspan="2">REVISIONS</th> </tr> <tr> <th>BY</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td>S.S.</td> <td>11-2012</td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> </tbody> </table>		REVISIONS		BY	DATE	S.S.	11-2012							ENGINEERING DIVISION CITY OF POMPANO BEACH	TYPICAL METER BOX COVER	
REVISIONS																
BY	DATE															
S.S.	11-2012															
SCALE: N.T.S.		DATE: JAN. 2012 DWG. NO.														
			105-3													

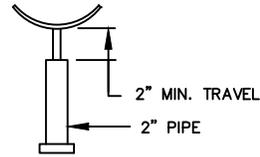


BACKFLOW PREVENTER

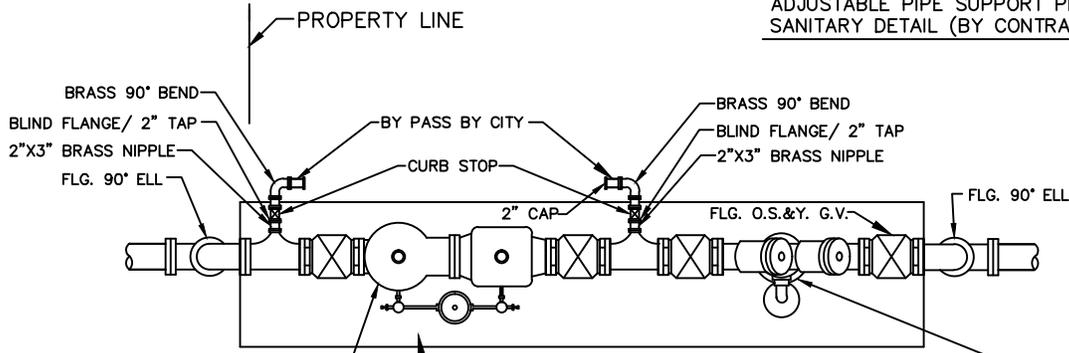
USE MEGALUGS AT ALL PIPE JOINTS 3" AND LARGER
 PLEASE SEE METER INSTALL DIMENSION LIST ON STANDARD NO. 106-4
 SMALL UNITS UNI-STRUT SUPPORT

ENGINEERING STANDARDS 2016

REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	BACKFLOW PREVENTER	
BY	DATE		SCALE: N.T.S.	
T.W.	04-2008	DWG. NO.		
S.S.	03-2009			
S.S.	11-2012			
S.S.	01-2013			
			106-1	



ADJUSTABLE PIPE SUPPORT PER 204-1
SANITARY DETAIL (BY CONTRACTOR OR OWNER)

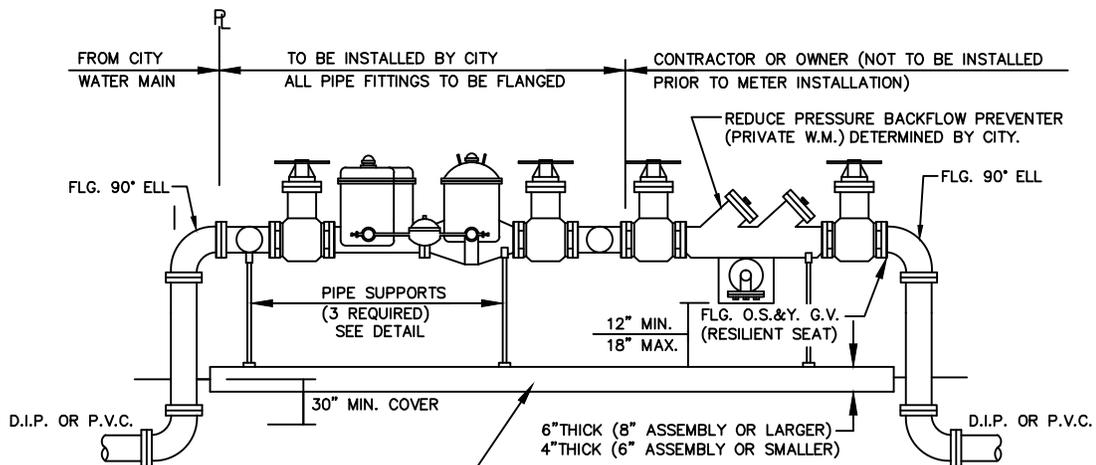


FIRE DOMESTIC SERVICE METER
INSTALLED BY CITY.
ALL WATER METERS ARE INSTALLED
PERPENDICULAR TO WATER MAIN.

REDUCE PRESSURE BACKFLOW PREVENTER (PRIVATE WATER MAIN)
OR DOUBLE DETECTOR CHECK VALVE (FIRE MAIN) FURNISHED AND
INSTALLED BY OWNER/CONTRACTOR IN ACCORDANCE WITH CITY
RECOMMENDATIONS.

2'-0" WIDE CONC. SLAB (3000 PSI) REINF.
W/6x6 # 10 WMM (LENGTH AS REQUIRED)
OR FIBER REINFORCED.
INSTALLED BY OWNER OR CONTRACTOR.

PLAN



2'-0" WIDE CONC. SLAB (3000 PSI) REINF.
W/6x6 # 10 WMM (LENGTH AS REQUIRED)
OR FIBER REINFORCED.
INSTALLED BY OWNER OR CONTRACTOR.

ELEVATION

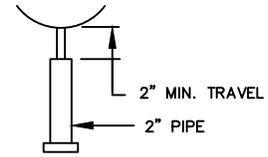
**MASTER METER AND BACKFLOW DEVICE DETAILS
FIRE AND DOMESTIC COMBINED SOURCE**

NOTES:

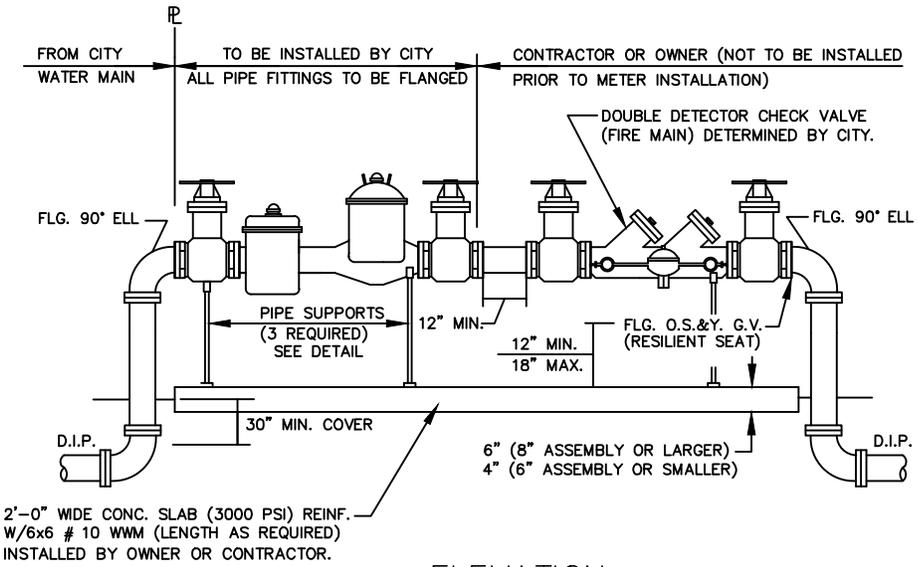
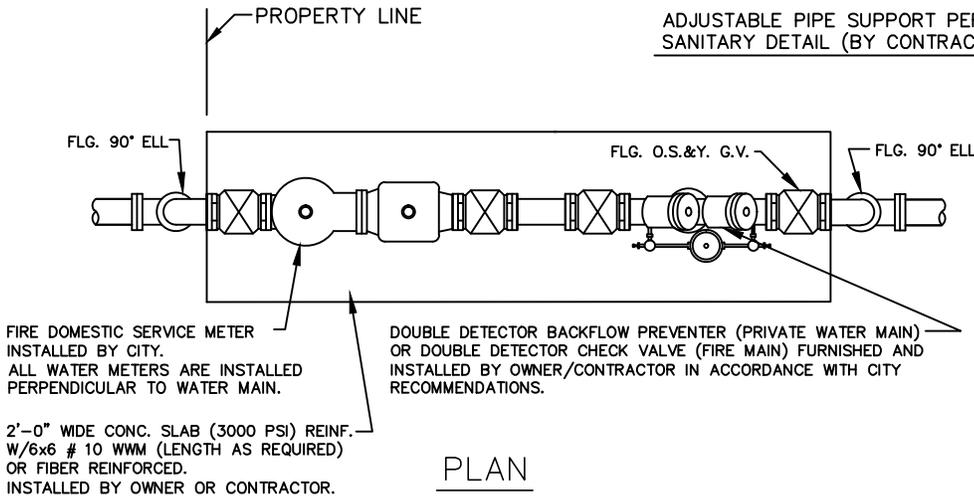
1. THE BACKFLOW PREVENTOR FOR THE BY-PASS SHALL BE DDCV OR RPZ.
2. METERS MUST BE PAID IN ADVANCE AS THEY ARE SUBJECT TO A LONG LEAD DELIVERY TIME.
CONTACT CUSTOMER SERVICE AT 954-786-4637 TO ARRANGE FOR METER INSTALLATION.
3. USE MEGALUGS AT ALL PIPE JOINTS
4. PLEASE SEE METER INSTALL DIMENSION LIST ON STANDARD NO. 106-4

ENGINEERING STANDARDS 2016

REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	MASTER METER AND BACKFLOW DEVICE	
BY	DATE			
S.S.	03-2009	SCALE: N.T.S.	DATE: JUNE 1996 DWG. NO. 106-2	
S.S.	05-2011			
S.S.	11-2012			
S.S.	12-2013			



ADJUSTABLE PIPE SUPPORT PER 204-1
SANITARY DETAIL (BY CONTRACTOR OR OWNER)



FIRE ONLY METER AND BACKFLOW DEVICE DETAILS

NOTES:

1. THE BACKFLOW PREVENTOR FOR THE BY-PASS SHALL BE DDCV OR RPZ.
2. METERS MUST BE PAID IN ADVANCE AS THEY ARE SUBJECT TO A LONG LEAD DELIVERY TIME. CONTACT CUSTOMER SERVICE AT 954-786-4637 TO ARRANGE FOR METER INSTALLATION.
3. USE MEGALUGS AT ALL PIPE JOINTS
4. PLEASE SEE METER INSTALL DIMENSION LIST ON STANDARD NO. 106-4

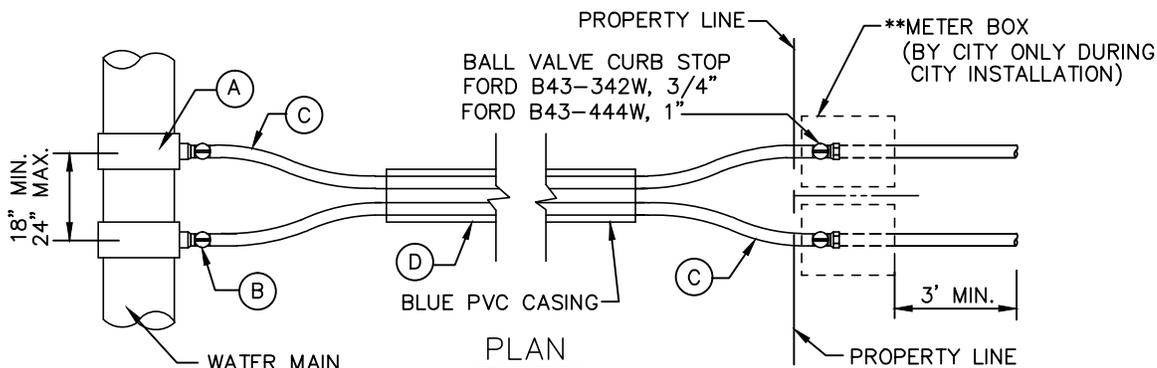
ENGINEERING STANDARDS 2016

REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	FIRE ONLY METER AND BACKFLOW DEVICE	DATE: JUNE 1996 DWG. NO.
BY	DATE			
S.S.	03-2009		SCALE: N.T.S.	106-3
S.S.	05-2011			
S.S.	11-2012			
S.S.	12-2013			

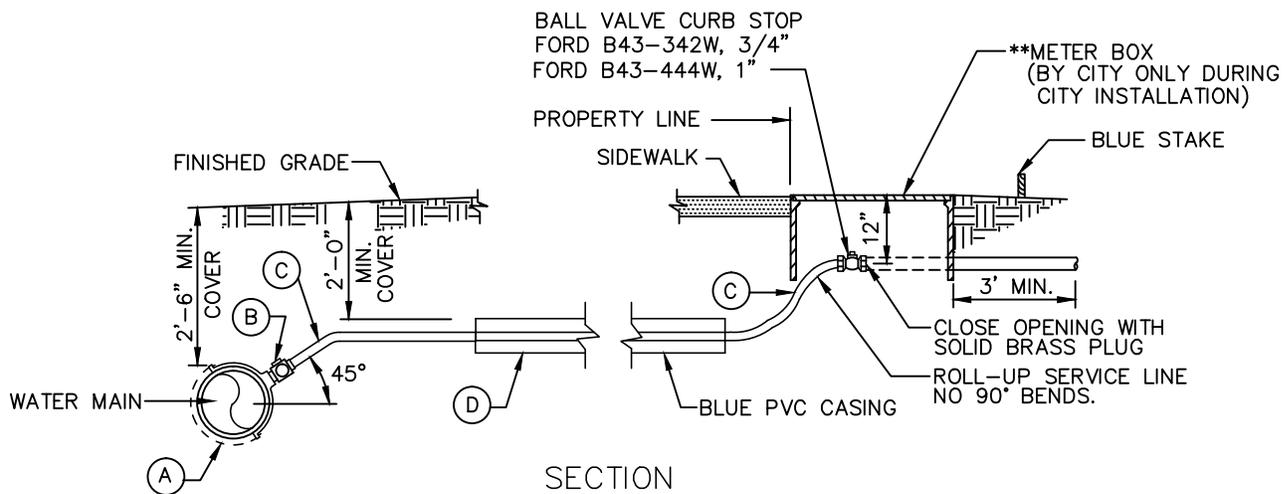
FIRE METERS - OS & Y VALVES, GASKETS, SPOOL & METER						
(NEPTUNE HP FIRE SERVICE TURBINE METER)						
					TOTAL	
SIZE	VALVES (2)	GASKETS (4)	METER	LENGTH		
3"	16"	1/2"	26 1/8"	42 5/8"		
4"	18"	1/2"	35"	53 1/2"		
6"	21"	1/2"	44 7/8"	66 3/8"		
8"	23"	1/2"	51 5/16"	74 13/16"		
10"	26"	1/2"	56"	82 1/2"		
FIRE SERVICE METERS - TEES, OS & Y VALVES, GASKETS & METERS						
(HP PROTECTUS III FIRE SERVICE METER)						
					TOTAL	
SIZE	TEES (2)	VALVES (2)	GASKETS (6)	METER	LENGTH	
4" X 1"	4" X 3" - 26"	18"	3/4"	33"	77 3/4"	
6" X 1 1/2"	6" X 4" - 32"	21"	3/4"	45"	98 3/4"	
8" X 2"	8" X 4" - 36"	23"	3/4"	53"	112 3/4"	
10" X 2"	10" X 6" - 44"	26"	3/4"	68"	138 3/4"	
COMPOUND METERS - STRAINER, TEE, OS & Y VALVES, GASKETS & METERS						
(NEPTUNE TRU/FLOW COMPOUND METER)						
					TOTAL	
SIZE	STRAINER	TEES (2)	VALVES (2)	GASKETS	METER	LENGTH
3"	6"	3" X 3" - 22"	16"	3/4"	17"	61 3/4"
4"	7 1/2"	4" X 4" - 26"	18"	3/4"	20"	72 1/4"
6"	9"	6" X 4" - 32"	21"	3/4"	24"	86 1/4"
6" X 8"	10"	8" X 4" - 36"	23"	3/4"	55 3/8"	125 1/8"
*All fittings, valves and meters are flanged & all dimensions are from face of flange to face of flange.		NOTE: METERS MUST BE PAID IN ADVANCE AS THEY ARE SUBJECT TO A LONG LEAD DELIVERY TIME. CONTACT CUSTOMER SERVICE AT 954-786-4637 TO ARRANGE FOR METER INSTALLATION.				

ENGINEERING STANDARDS 2016

REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	METER INSTALL DIMENSION LIST			
BY	DATE					
T.W.	02-2008					
S.S.	12-2013					
		SCALE: N.T.S.			DATE: FEB. 2008 DWG. NO. 106-4	



**ALL WATER METERS ARE INSTALLED PERPENDICULAR TO WATER MAIN.



SINGLE SERVICE

DOUBLE SERVICE

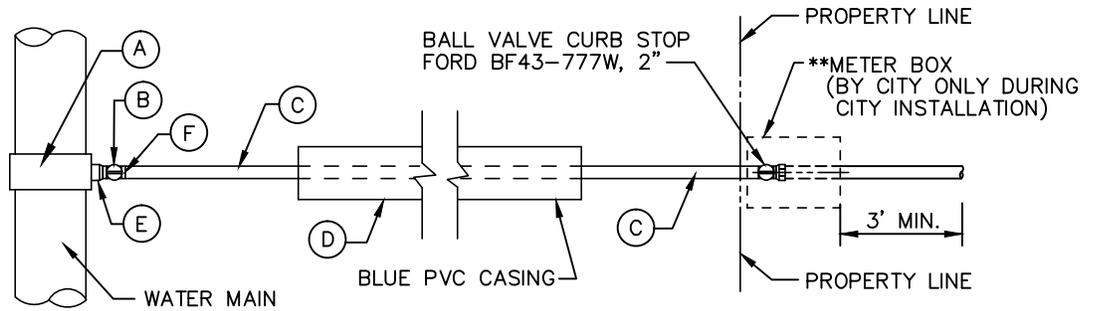
- (A) 1" TAPPING SADDLE CC THREAD FORD
- (B) 1" CORPORATION STOP FORD TYPE F1000-4 NL THREADS
- (C) 1" POLYETHYLENE SOLID BLUE CTS SDR 18 (200 PSI)
- (D) 1 1/2" SCH. 40 FOR 1" SERVICE
2 1/2" SCH. 40 FOR 2" SERVICE
PAINTED BLUE

- (A) 1" TAPPING SADDLE (2) FORD FC-202 OR EQUAL.
- (B) 1" CORPORATION STOP (2) FORD TYPE F1000
- (C) 1" POLYETHYLENE SOLID BLUE C.T.S. (2)
- (D) 2 1/2" SCH. 40 FOR 1" SERVICE
6" SCH. 40 FOR 2" SERVICE
PAINTED BLUE

TYPICAL 1" WATER SERVICE

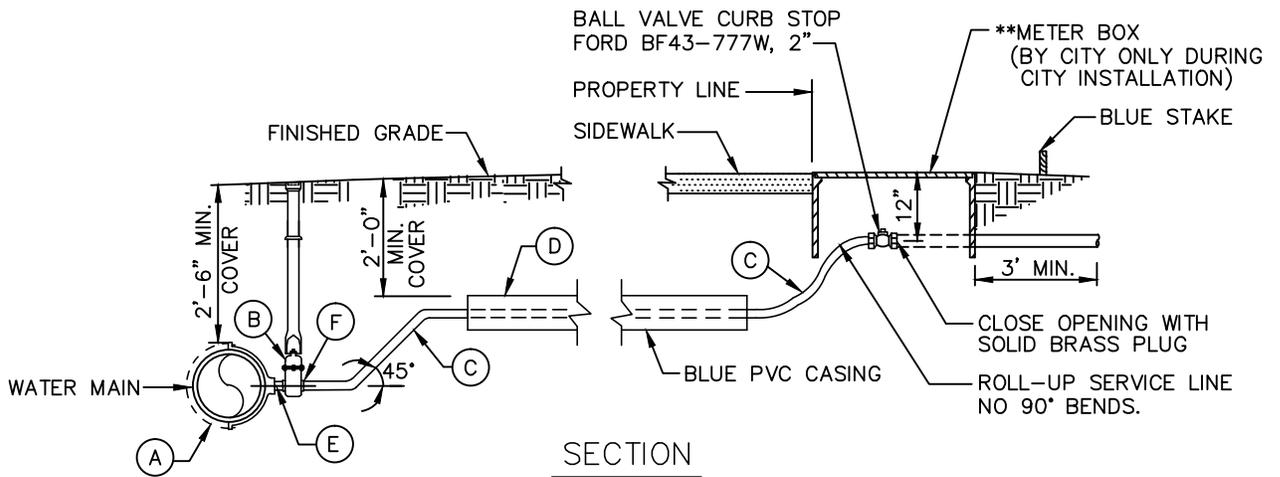
ENGINEERING STANDARDS 2016

REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	TYPICAL 1" WATER SERVICE	
BY	DATE		DATE: JUNE 2004 DWG. NO. 107-1	
S.S.	04-2005			
T.W.	11-2007			
S.S.	05-2012			
S.S.	11-2015	SCALE: N.T.S.		



PLAN

** ALL WATER METERS ARE INSTALLED PERPENDICULAR TO WATER MAIN.



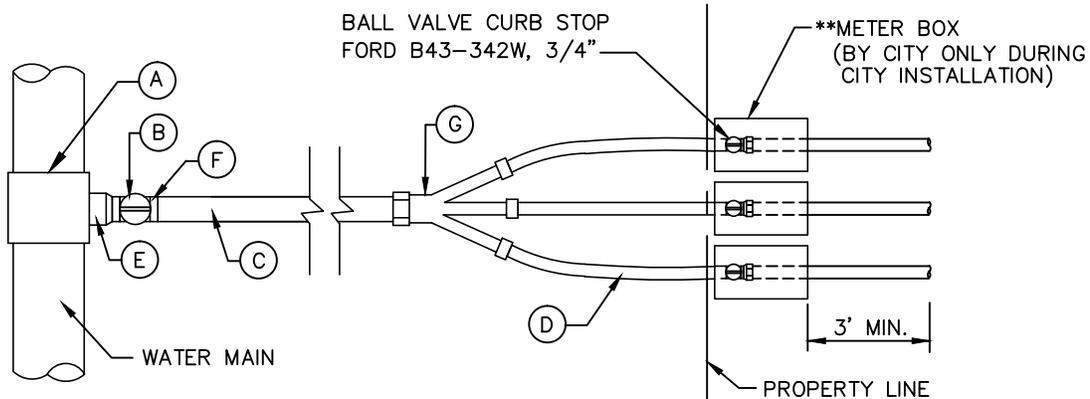
SECTION

- (A) 2" TAPPING SADDLE IRON PIPE
THREADED FORD FC-202 OR EQUAL.
- (B) 2" RESILIENT SEATED GATE VALVE
CLOW F61-03
MUELLER A-23-60-8
2" OPERATING NUT BOXED TO GRADE - C.I. BOX
- (C) 2" POLYETHYLENE BLUE
- (D) 2 1/2" SCH. 40
- (E) 2" X 3" BRASS NIPPLE
- (F) 2" MIP COUPLING C-84-77 - PACK JOINT - CTS

TYPICAL 2" WATER SERVICE

ENGINEERING STANDARDS 2016

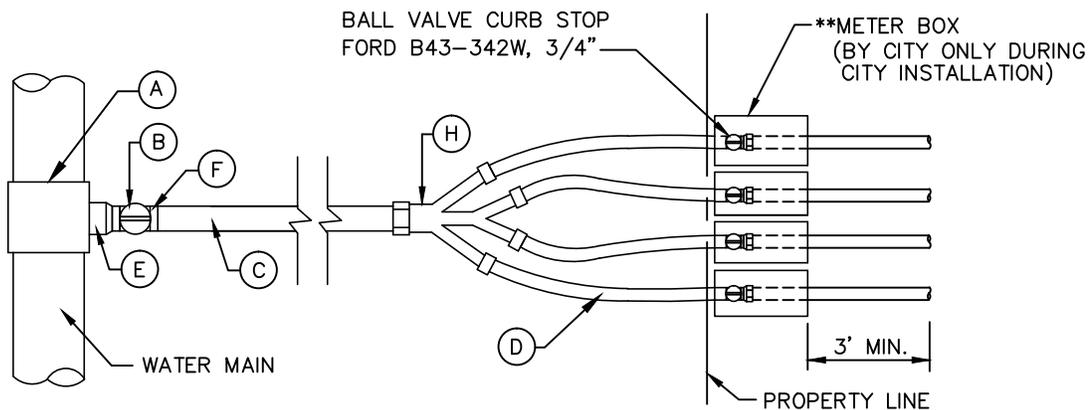
REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	TYPICAL 2" WATER SERVICE	
BY	DATE		SCALE: N.T.S.	DATE: APRIL 2004 DWG. NO. 107-2
T.W.	11-2007			
T.W.	08-2009			
S.S.	05-2011			
S.S.	05-2012			



ALTERNATIVE - 1

** ALL WATER METERS ARE INSTALLED PERPENDICULAR TO WATER MAIN.

2" WATER SERVICE W / 3 METERS



ALTERNATIVE - 2

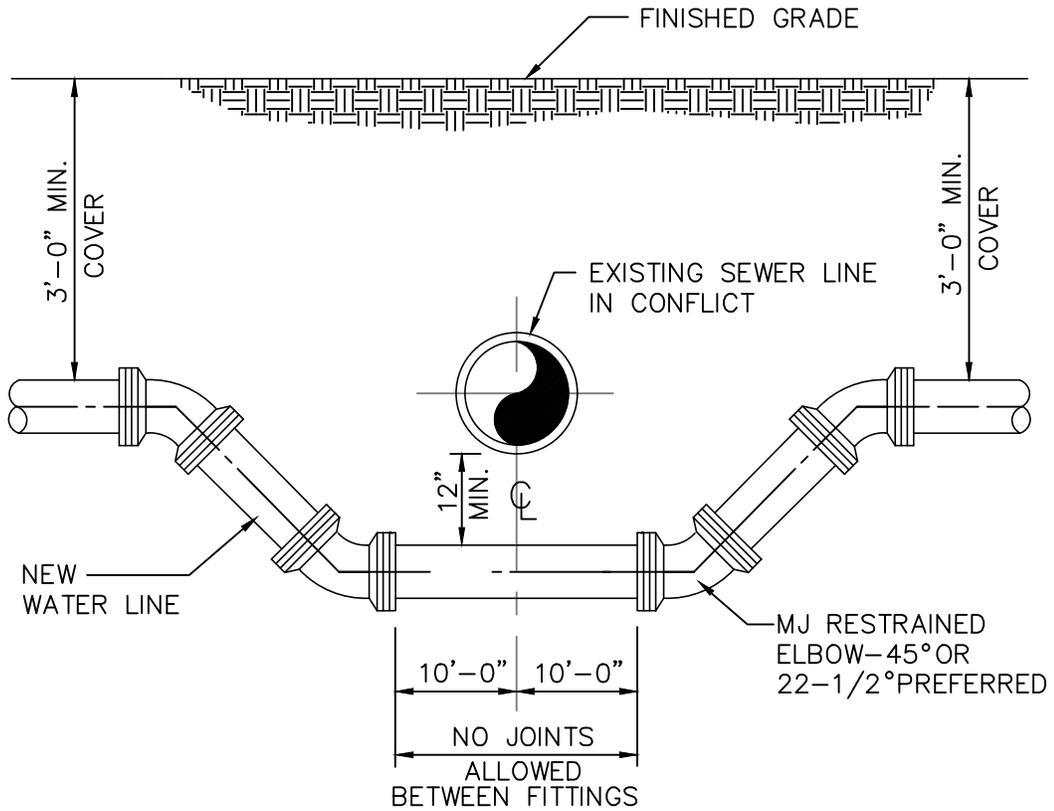
** ALL WATER METERS ARE INSTALLED PERPENDICULAR TO WATER MAIN.

2" WATER SERVICE W / 4 METERS

- | | |
|--|--|
| (A) 2" TAPPING SADDLE IRON PIPE
THREADED FORD FC-202 OR EQUAL. | (D) 1" POLYETHYLENE SOLID BLUE C.T.S. (3) |
| (B) 2" RESILIENT SEATED GATE VALVE
CLOW F61-03
MUELLER A-23-60-8 | (E) 2" X 4" BRASS NIPPLE |
| (C) 2" OPERATING NUT BOXED TO GRADE - C.I. BOX | (F) 2" MIP COUPLING C-84-77 - PACK JOINT - CTS |
| (C) 2" BLUE POLYETHYLENE | (G) 3 "Y" BRANCHES - Y48-347 FORD |
| | (H) 4 "Y" BRANCHES - 08Y4QQ A.Y. McDONALD |

ENGINEERING STANDARDS 2016

REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	2" WATER SERVICE "Y" BRANCHES ALTERNATIVES	
BY	DATE			
S.S.	11-2012		DATE: NOV. 2012	
		SCALE: N.T.S.	DWG. NO.	
			107-3	



NOTES:

WHERE CONDITIONS PERMIT, PIPE DEFLECTION MAY BE USED INSTEAD OF BENDS TO OBTAIN THE MINIMUM CLEARANCE. FACTORY OFFSETS MAY BE USED.

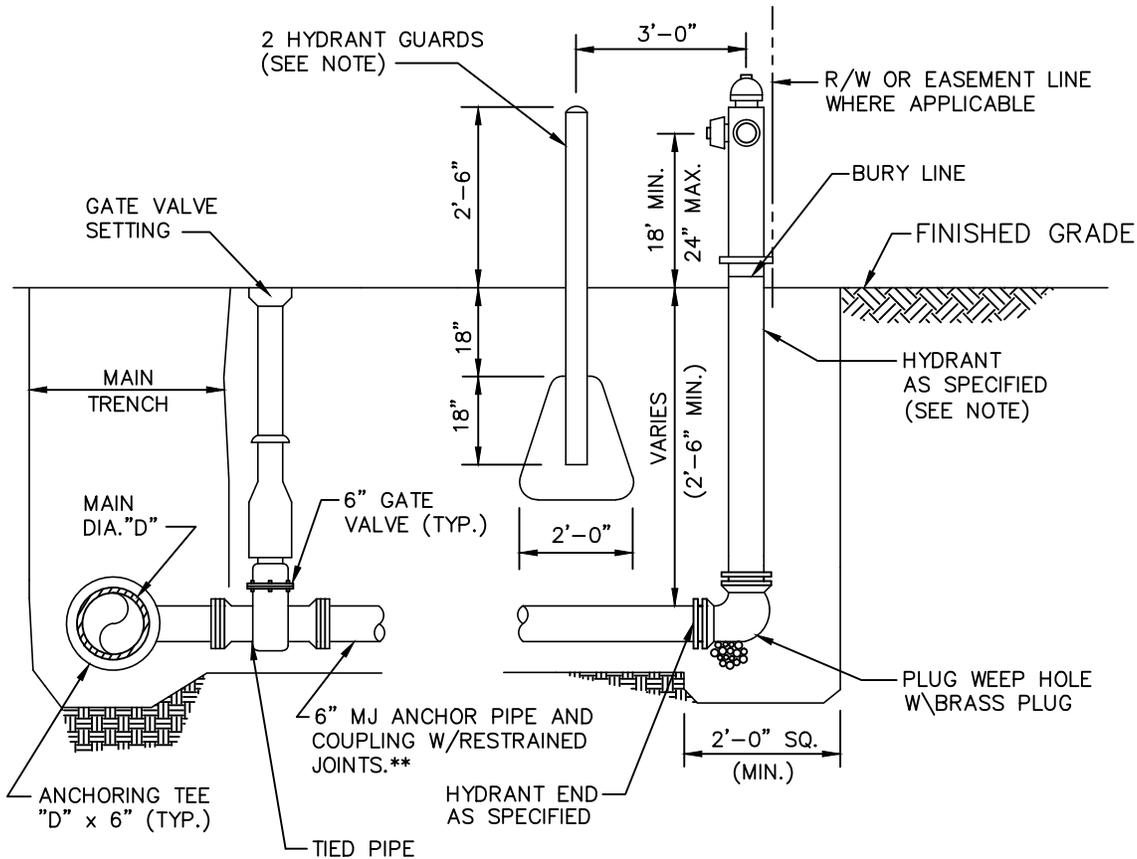
TYPICAL CONFLICT DETAIL

USE MEGALUGS AT ALL PIPE JOINTS

ALL D.I.P. TO BE PAINTED BLUE ON TOP HALF OF PIPE.

ENGINEERING STANDARDS 2016

REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	TYPICAL CONFLICT (WATER)	
BY	DATE			
S.S.	04-2005		DATE: JUNE 1996 DWG. NO.	
S.S.	01-2012	108-1		
SCALE: N.T.S.				



NOTES

HYDRANT GUARDS TO BE 6" DIAMETER GALVANIZED STEEL PIPE PAINTED YELLOW FILLED WITH CONCRETE. OMIT GUARDS IN LOCATIONS WHERE SIDEWALKS EXIST.

**USE 2-3/4" S.S. TIE RODS WHEN DISTANCE BETWEEN MAIN AND HYDRANT < 10'. TIE RODS WILL BE USED W/RESTRAINED JOINTS OR USE MEGALUGS AT ALL PIPE JOINTS

HYDRANTS INSTALLED ON EXISTING WATER MAINS MUST USE A MUELLER MJ DI TAPPING SLEEVE, H-615 OR APPROVED EQUAL.

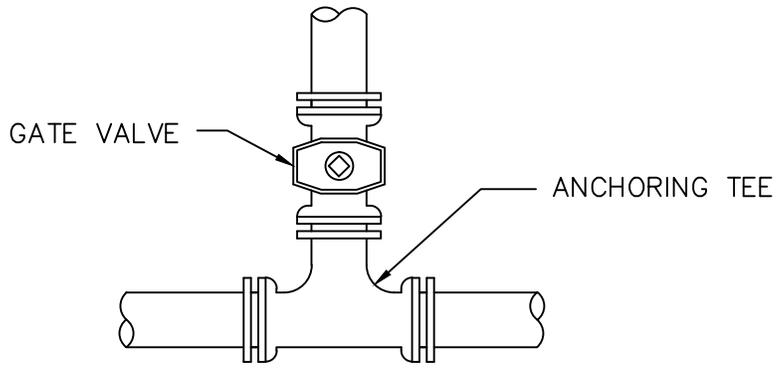
HYDRANTS CONNECTED TO NEW MAINS SHALL BE CONNECTED USING A HYDRANT TEE.

ALL POMPANO BEACH HYDRANTS SHALL BE PAINTED RED.

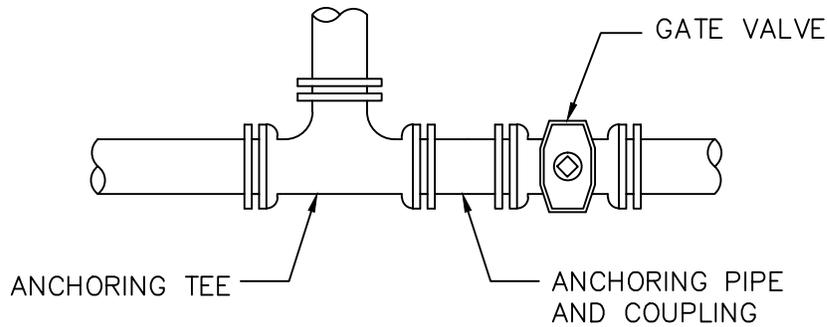
TYPICAL FIRE HYDRANT ASSEMBLY

ENGINEERING STANDARDS 2016

REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	FIRE HYDRANT ASSEMBLY	
BY	DATE			
T.W.	11-2007	SCALE: N.T.S.	DATE: JUNE 1996 DWG. NO. 109-1	
T.W.	10-2010			
S.S.	2-2012			
S.S.	11-2012			



**RESTRAINED VALVE AT TEE
(BRANCH)**



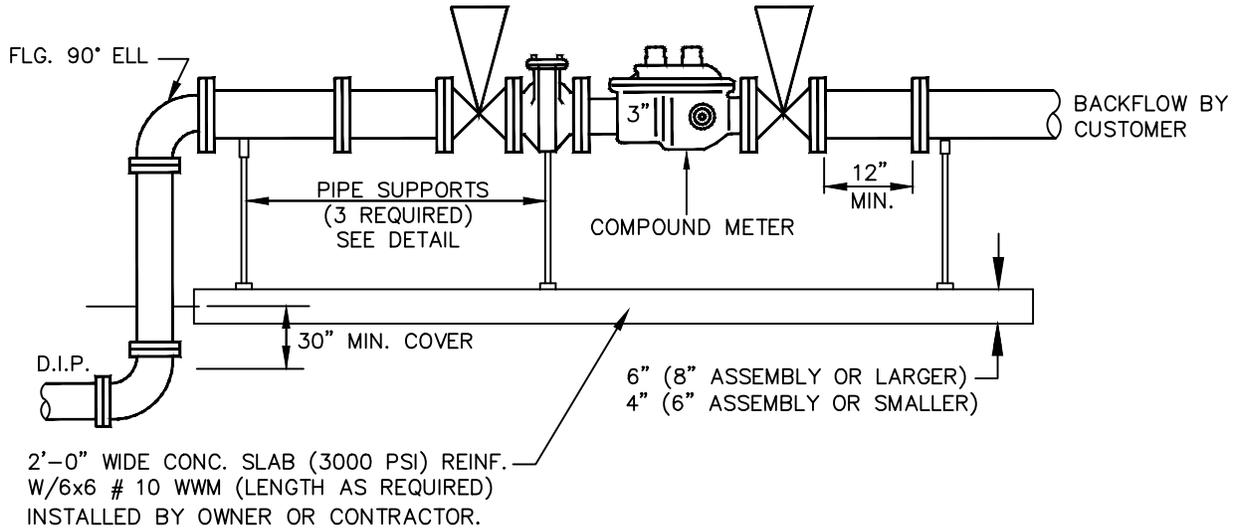
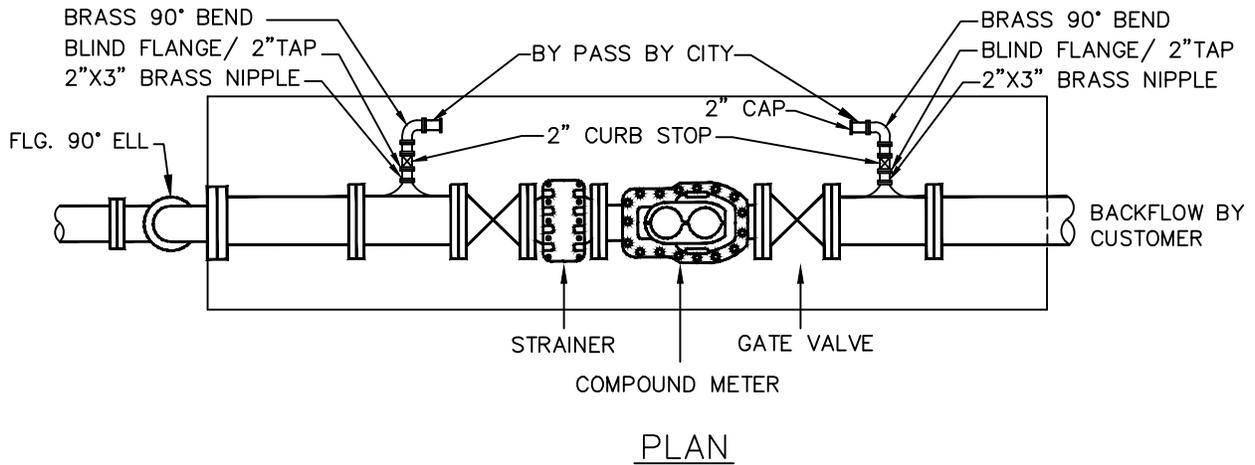
**RESTRAINED VALVE AT TEE
(IN LINE)**

USE MEGALUGS AT ALL PIPE JOINTS

ALL D.I.P. TO BE PAINTED BLUE
ON THE TOP HALF OF PIPE.

ENGINEERING STANDARDS 2016

REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	RESTRAINED VALVE AT TEE	
BY	DATE			
S.S.	JUNE 2005		DATE: JUNE 1996	
			DWG. NO.	
		SCALE: N.T.S.	111-1	



ELEVATION

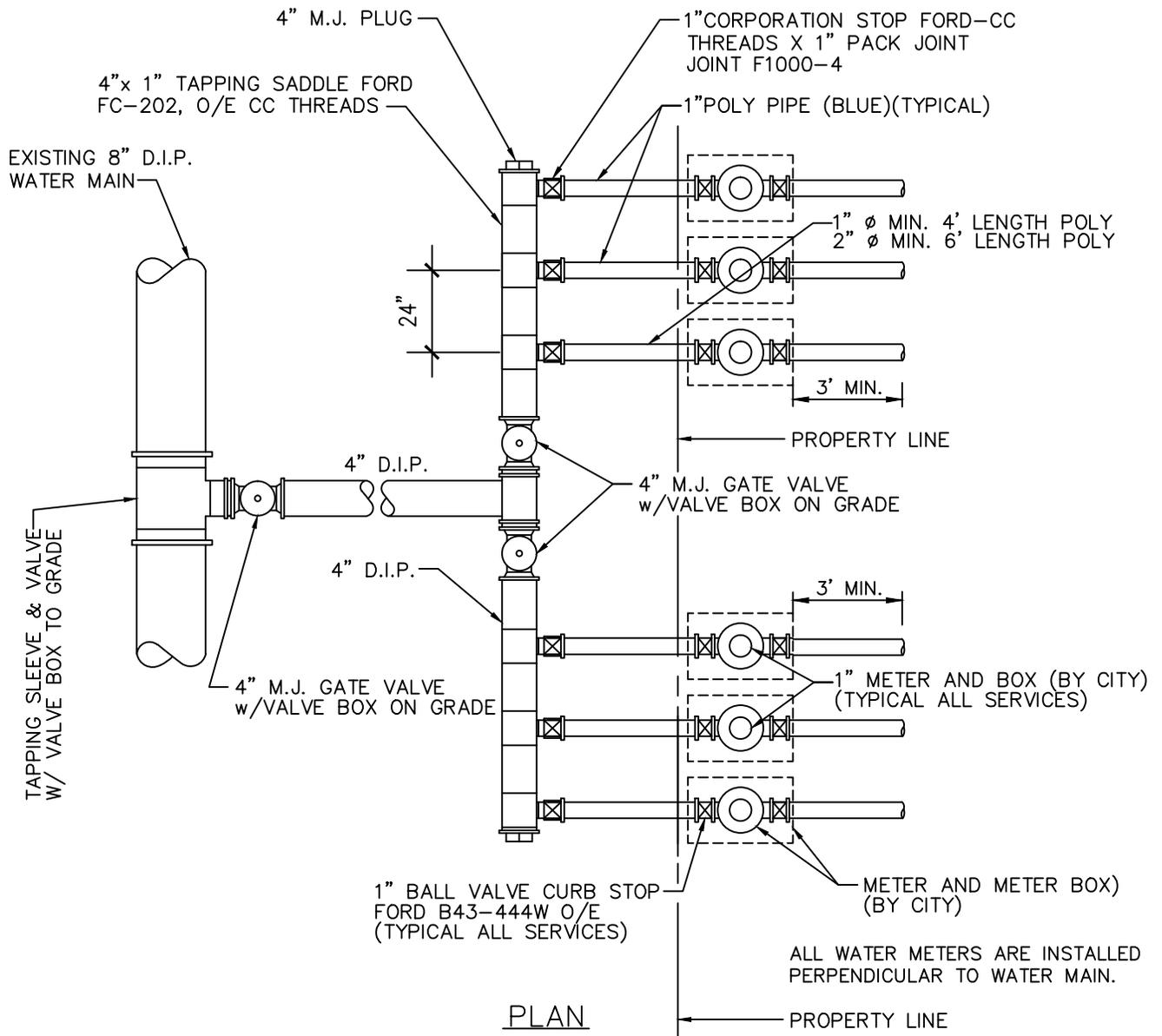
DOMESTIC SERVICE ONLY

PLEASE SEE METER INSTALL DIMENSION LIST ON STANDARD NO. 106-4

USE MEGALUGS AT ALL PIPE JOINTS

ENGINEERING STANDARDS 2016

REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	DOMESTIC SERVICE ONLY	
BY	DATE		DATE: APRIL 2008 DWG. NO. 112-1	
TCW	04-08			
S.S.	01-2012			
S.S.	11-2012			
SCALE: N.T.S.				



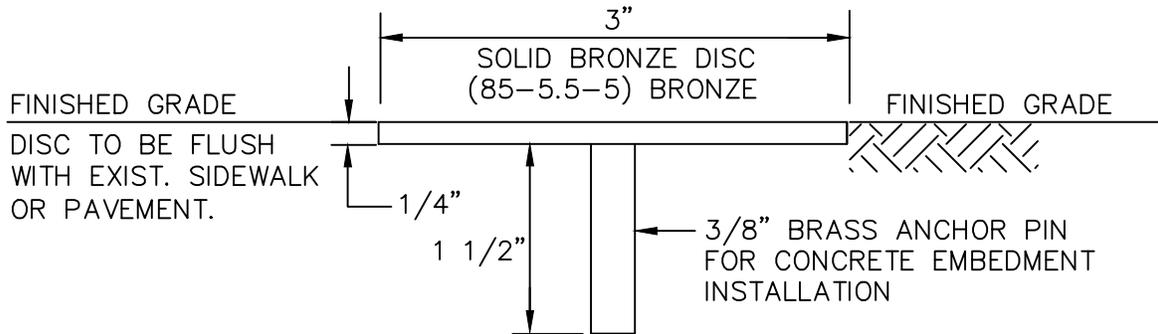
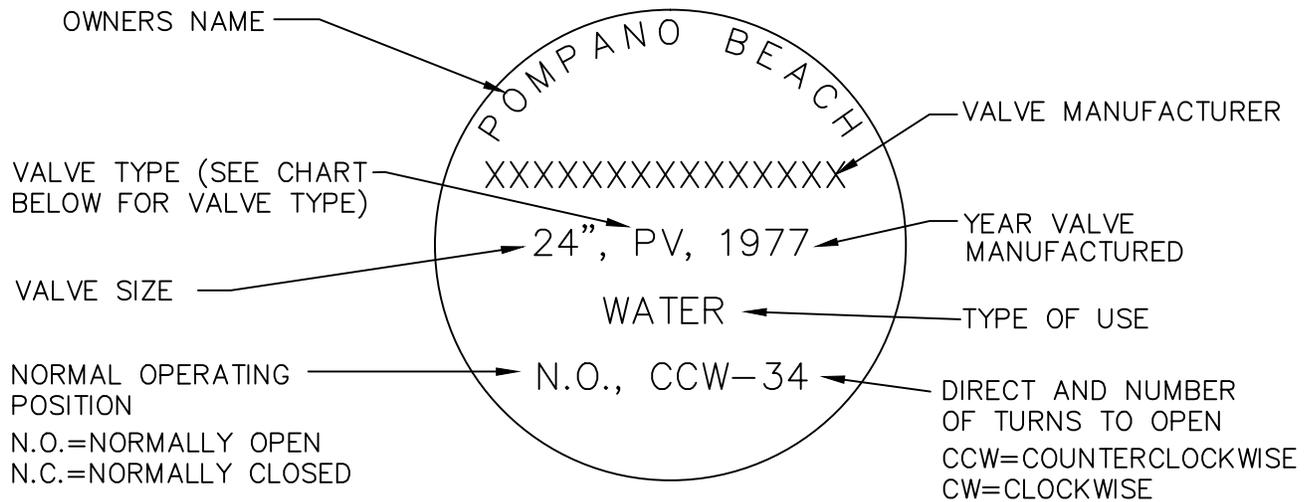
TYPICAL METER BANK

USE MEGALUGS AT ALL PIPE JOINTS

ALL D.I.P. TO BE PAINTED BLUE ON THE TOP HALF OF PIPE.

ENGINEERING STANDARDS 2016

REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	TYPICAL METER BANK	
BY	DATE			DATE: FEBRUARY 2009 DWG. NO.
TCW	02-09	SCALE: N.T.S.		113-1
S.S.	05-2011			
S.S.	11-2012			



VALVE TYPES

- BALL VALVE--BALLV
- RESILIENT WEDGE GATE VALVE--RWGV
- BUTTERFLY VALVE--BV
- PLUG VALVE--PV

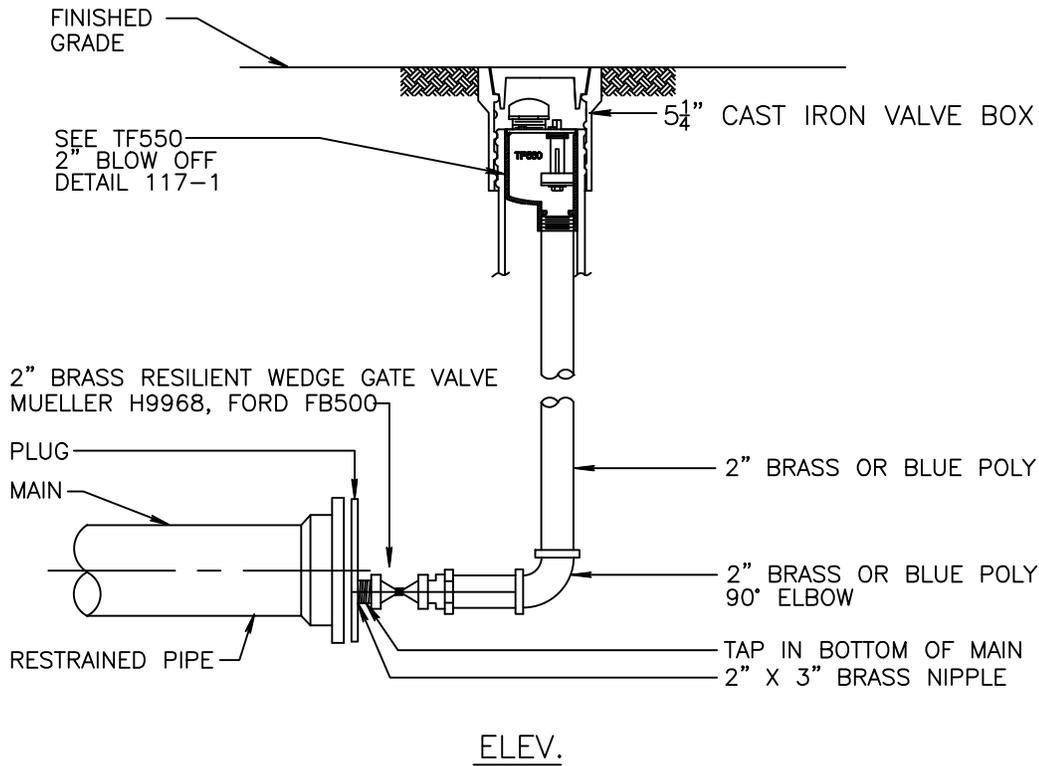
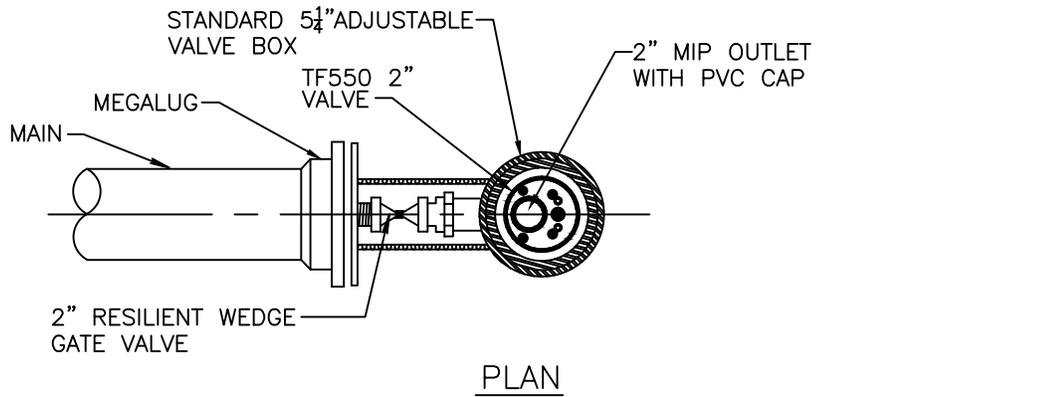
NOTES:

1. VALVE INFORMATION TO BE TRIPLE ENGRAVED INTO TOP SURFACE WITH 1/4" CAPITAL LETTERS.
2. ENTIRE MARKER TO BE COATED WITH CLEAR EPOXY TO PREVENT TARNISHING,
3. VALVE INFORMATION TO BE APPROVED BY CITY OF POMPANO BEACH UTILITIES DEPARTMENT.
4. MARKERS SHALL BE MANUFACTURED BY RG WRENCH, OR APPROVED EQUAL

UNDERGROUND VALVE IDENTIFICATION MARKER

ENGINEERING STANDARDS 2016

REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	UNDERGROUND VALVE IDENTIFICATION MARKER	
BY	DATE		DATE: FEB. 1998 DWG. NO. 115-1	
S.S.	JUNE 2005			
T.W.	11-2007			
T.W.	02-2008			
S.S.	1-24-12	SCALE: N.T.S.		



NOTES:

1. ONLY BRASS OR BLUE POLY PIPING AND FITTINGS SHALL BE USED.
2. JOINT RESTRAINTS TO BE INSTALLED MIN. TWO JOINTS BEFORE DEAD END.

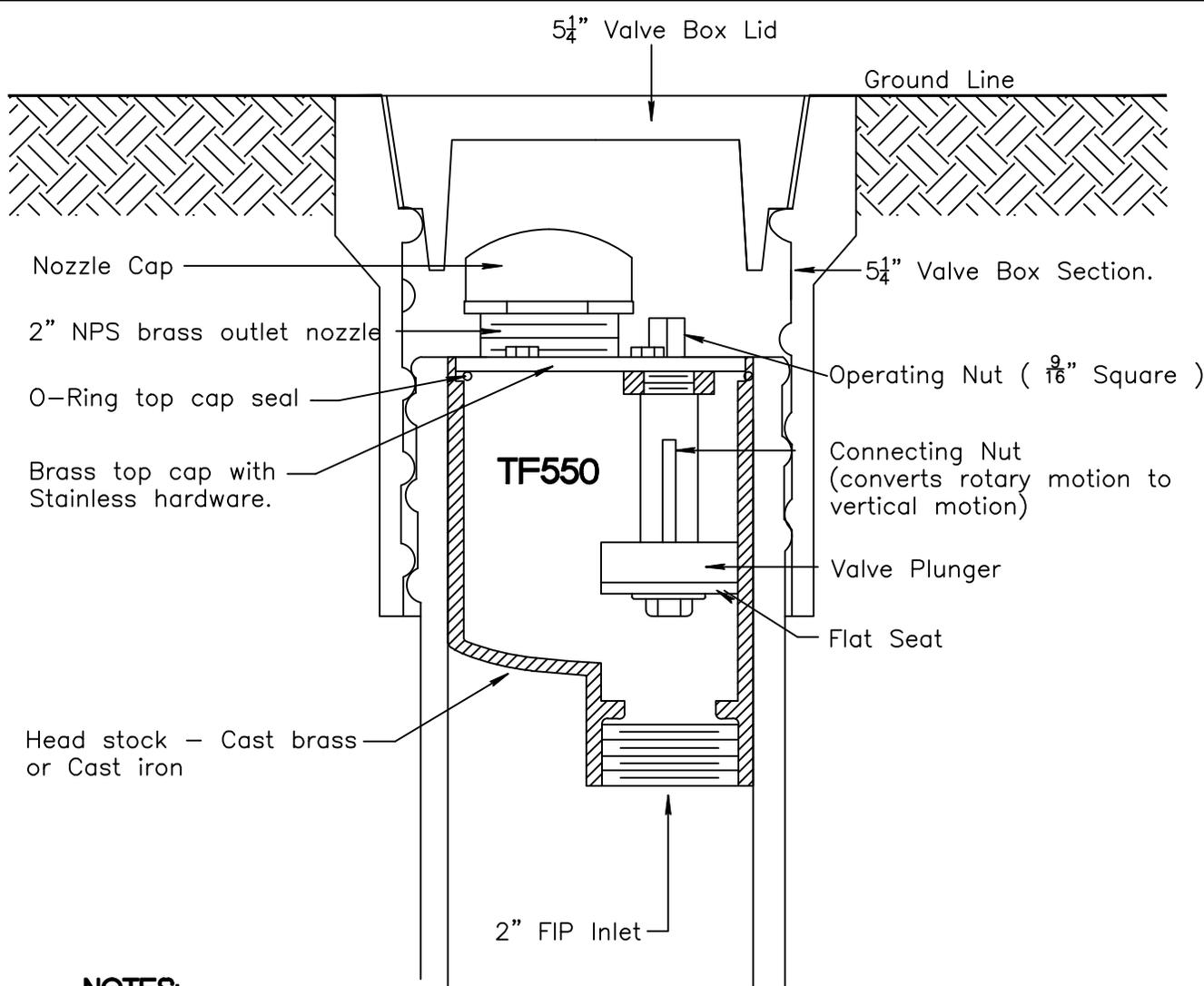
TYPICAL 2" TERMINAL BLOW OFF

USE MEGALUGS AT ALL PIPE JOINTS

ALL D.I.P. TO BE PAINTED BLUE ON TOP HALF OF PIPE.

ENGINEERING STANDARDS 2016

REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	TYPICAL 2" TERMINAL BLOW OFF	
BY	DATE			
S.S.	JUNE 2005		SCALE: N.T.S.	DATE: JUNE 2005
T.W.	11-2007			DWG. NO.
T.W.	07-2008			116-1



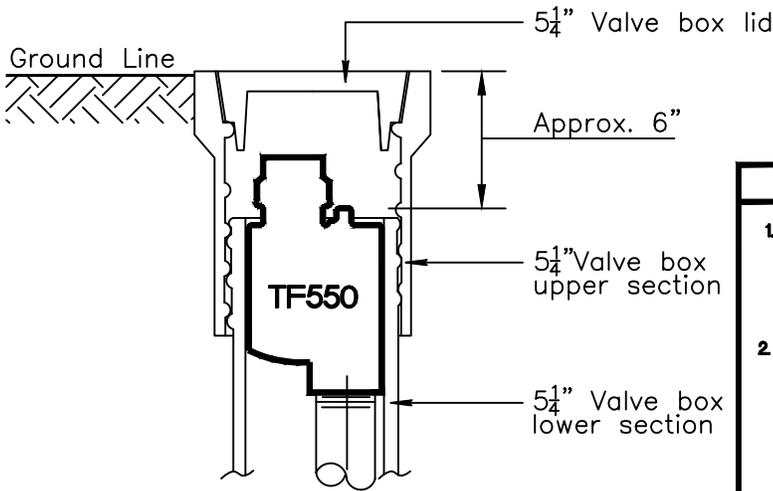
NOTES:

1. THE KUPERLE TF550 IS SHOWN HERE IN A TYPICAL 5-1/4" ID VALVE BOX.
2. THE KUPERLE TF550 IS RUGGED, COMPACT, EASY TO MAINTAIN AND ENGINEERED FOR A LIFETIME OF SERVICE.
3. THE SMALL 'FOOTPRINT' OF THE 5-1/4" VALVE BOX MAKES THE TF550 IDEAL FOR USE IN FRONT YARDS, CUL-DE-SACS AND OTHER "SPACE-SENSITIVE" INSTALLATIONS.

**KUPFERLE TF550 2" BLOW OFF
OR APPROVED EQUAL**

ENGINEERING STANDARDS 2016

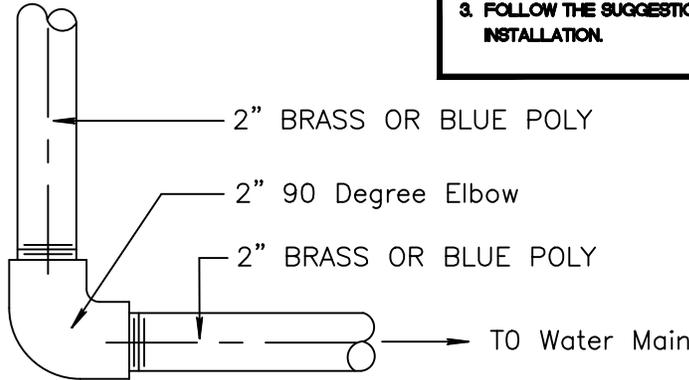
REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	TF550 2" BLOW OFF FLUSHING HYDRANT
BY	DATE		
S.S.	FEB. 2006		DATE: FEBRUARY 2006 DWG. NO.
T.W.	07-2008		
S.S.	01/31/12		
SCALE: N.T.S.			117-1



(See TP550 Detail #117-1)

INSTALLATION NOTES

1. INSURE THAT THE HYDRANT IS FREE TO MOVE VERTICALLY WITHIN THE VALVE BOX. IN ORDER TO PREVENT THE TRANSMISSION OF TRAFFIC LOADS TO THE HYDRANT, IT SHOULD NOT BE JAMMED OR WEDGED AGAINST THE VALVE BOX ID.
2. THE NORMAL POSITION OF THE TOP OF THE OPERATING NUT IS ABOUT 6" BELOW THE TOP OF THE VALVE BOX, BUT YOU CAN FREELY ADJUST THIS POSITION TO SUIT YOUR CIRCUMSTANCES. JUST KEEP IN MIND THAT MAINTENANCE PROCEDURES ARE BEST PERFORMED WHEN THE BOLTS ATTACHING THE CAP ARE WITHIN AN EASY REACH.
3. FOLLOW THE SUGGESTIONS OF THE AWWA FOR HYDRANT INSTALLATION.



USE MEGALUGS AT ALL PIPE JOINTS

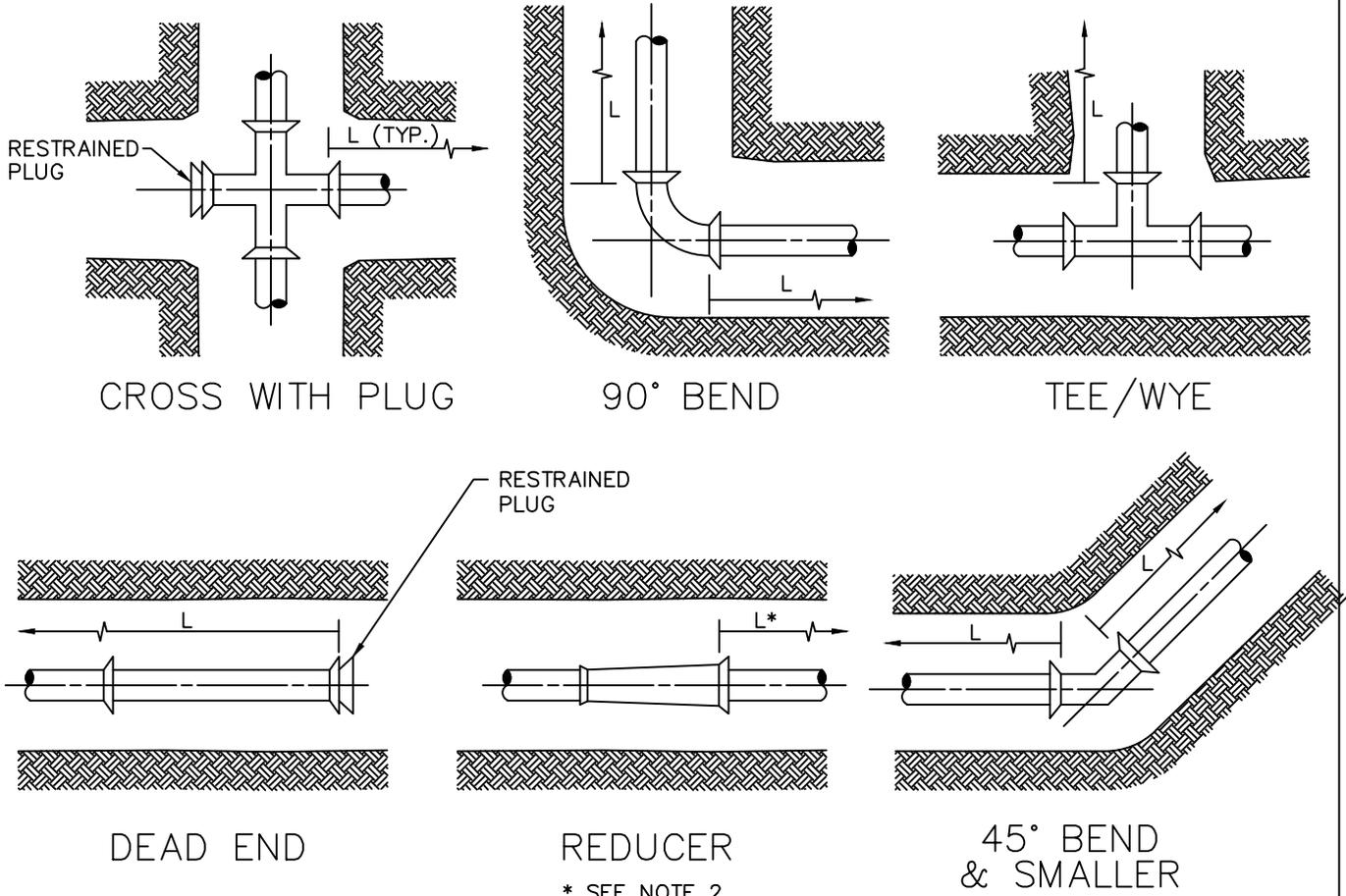
SPECIFICATION NOTES

BLOW OFF SHALL HAVE A 2' VERTICAL FIP INLET AND 2' NPT NOZZLE OUTLET. HYDRANT SHALL BE OPERATED BY TURNING A TOP-MOUNTED 9/16" SQUARE OPERATING NUT COUNTER CLOCKWISE TO OPEN, CLOCKWISE TO CLOSE. ALL INTERNAL WORKING PARTS, THE INLET AND THE OUTLET SHALL BE LOW-LEAD BRASS. ALL WORKING PARTS SHALL BE SERVICEABLE FROM ABOVE WITH NO DIGGING REQUIRED. ALL WEAR PARTS (O-RINGS AND VALVE SEAT) SHALL BE OF COMMONLY AVAILABLE DIMENSIONS AND MATERIALS, AND NONE MAY BE OF VENDOR UNIQUE DESIGN. HYDRANT SHALL BE THE TRUFLO MODEL TF550 AS MANUFACTURED BY THE KUPFERLE FOUNDRY CO., ST. LOUIS MO 63102 OR APPROVED EQUAL.

TF550 INSTALLATION AND SPECIFICATION

ENGINEERING STANDARDS 2016

REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	TF550 INSTALLATION AND SPECIFICATION	
BY	DATE		DATE: FEBRUARY 2006 DWG. NO. 117-2	
S.S.	FEB. 2006			
T.W.	11-2007			
T.W.	07-2008			
SCALE: N.T.S.				



GENERAL NOTES:

1. VALUES IN TABLE ARE BASED ON 3' OF COVER, 100 PSI INTERNAL PRESSURE, FOR FORCE MAINS, 150 PSI REUSE WATER LINES, ANSI/AWWA C605 & C150/A21.50 LAYING CONDITION 3, ASTM D2487 SAND-SILT SP SOIL TYPE, AND SAFETY FACTOR OF 2.0. RESTRAINED LENGTHS WERE COMPUTED PER DIPRA "THRUST RESTRAINT DESIGN FOR DUCTILE IRON PIPE" AND "PVC PIPE THRUST RESTRAINT DESIGN HANDBOOK," EBAA IRON, INC.
2. CONFIRM THE EXACT LENGTH OF RESTRAINING REQUIRED FOR REDUCERS, PIPE ENCASED IN POLYETHYLENE AND ENCROACHING RESTRAINED LENGTHS WITH THE DESIGN ENGINEER.
3. THE CONTRACTOR IS RESPONSIBLE FOR PROPER INSTALLATION OF THE RESTRAINED JOINTS TO PREVENT MOVEMENT OF THE PIPE & FITTINGS.
4. IN THE EVENT OF A CONFLICT BETWEEN RESTRAINED LENGTHS SHOWN ON THE TABLE AND RESTRAINED LENGTHS SHOWN ON THE DRAWINGS, THE LONGEST RESTRAINED LENGTH SHALL BE USED.

RESTRAINED JOINT INFORMATION

ENGINEERING STANDARDS 2016

REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	RESTRAINED JOINT INFORMATION	
BY	DATE		DATE: DECEMBER 2010 DWG. NO.	
		SCALE: N.T.S.	118-1	

PVC HORIZONTAL BENDS AND VERTICAL UP BENDS					
	RESTRAINED JOINT LENGTH L (MINIMUM DISTANCE IN FEET FROM FITTING - EACH WAY)				
PIPE SIZE (IN.)	BENDS				CROSS WITH PLUG DEAD END TEE/WYE
	90°	45°	22.5°	11.25°	
6	26	11	6	3	53
8	33	14	7	4	68
12	46	19	10	5	96

PVC VERTICAL DOWN BEND					
	RESTRAINED JOINT LENGTH L (MINIMUM DISTANCE IN FEET FROM FITTING - EACH WAY)				
PIPE SIZE (IN.)	BENDS				
	90°	45°	22.5°	11.25°	
6	26	11	6	3	
8	33	14	7	4	
12	46	19	10	5	

DIP HORIZONTAL BENDS AND VERTICAL UP BENDS					
	RESTRAINED JOINT LENGTH L (MINIMUM DISTANCE IN FEET FROM FITTING - EACH WAY)				
PIPE SIZE (IN.)	BENDS				CROSS WITH PLUG DEAD END TEE/WYE
	90°	45°	22.5°	11.25°	
12"	68	28	14	7	144
24"	119	49	24	12	258

DIP VERTICAL DOWN BEND					
	RESTRAINED JOINT LENGTH L (MINIMUM DISTANCE IN FEET FROM FITTING - EACH WAY)				
PIPE SIZE (IN.)	BENDS				
	90°	45°	22.5°	11.25°	
12"	144	60	29	14	
24"	258	107	51	25	

RESTRAINED JOINT INFORMATION

ENGINEERING STANDARDS 2016

REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	RESTRAINED JOINT INFORMATION	
BY	DATE			DATE: DECEMBER 2010 DWG. NO.
		SCALE: N.T.S.		118-2

MIN. LENGTH OF PIPE (FEET) TO BE RESTRAINED
 (SOURCES: EBAA IRON RESTRAINT LENGTH CALCULATION PROGRAM FOR PVC PIPE, RELEASE 3.1.
 AND DIPRA THRUST RESTRAINT FOR DUCTILE IRON PIPE, RELEASE 3.2)

FITTING TYPE	PIPE SIZE								200psi				
	4"	6"	8"	10"	12"	16"	20"	24"	30"	36"	42"	48"	
90° HORIZ. BEND	14	20	25	30	35	45	54	62	98	112	124	135	
45° HORIZ. BEND	6	8	11	13	15	19	22	26	41	46	51	56	
22.5° HORIZ. BEND	3	4	5	6	7	9	11	12	19	22	25	27	
11.25° HORIZ. BEND	1	2	3	3	4	4	5	6	10	11	12	13	
90° VERT. OFFSET	UPPER BEND	29	41	53	64	74	95	115	134	214	246	276	304
	LOWER BEND	7	10	13	16	19	25	30	35	57	66	74	83
45° VERT. OFFSET	UPPER BEND	12	19	24	29	34	39	48	56	89	102	114	126
	LOWER BEND	3	4	6	7	8	10	12	15	23	27	31	34
22.5° VERT. OFFSET	UPPER BEND	6	9	12	14	17	19	23	27	43	49	55	60
	LOWER BEND	1	2	4	4	4	5	6	7	11	13	15	16
11.25° VERT. OFFSET	UPPER BEND	3	4	6	7	8	9	11	13	21	24	27	30
	LOWER BEND	1	1	1	2	2	2	3	3	6	6	7	8
PLUG (DEAD END)	32	45	59	70	83	107	129	151	214	246	276	304	
IN-LINE VALVE	32	45	45	45	45	56	65	80	110	125	140	155	
TEE (BRANCH RESTRAINT)	4"x Ø	23	-	-	-	-	-	-	-	-	-	-	-
	6"x Ø	21	35	-	-	-	-	-	-	-	-	-	-
	8"x Ø	18	34	47	-	-	-	-	-	-	-	-	-
	10"x Ø	16	32	46	58	-	-	-	-	-	-	-	-
	12"x Ø	13	30	44	57	69	-	-	-	-	-	-	-
	16"x Ø	7	26	41	55	67	90	-	-	-	-	-	-
	20"x Ø	1	21	38	52	65	88	109	-	-	-	-	-
	24"x Ø	1	16	34	49	62	86	108	129	-	-	-	-
	30"x Ø	1	8	28	44	58	83	106	127	208	-	-	-
	36"x Ø	1	1	22	39	54	80	103	124	206	240	-	-
	42"x Ø	1	1	15	33	49	77	100	122	205	239	270	-
	48"x Ø	1	1	7	27	44	73	97	120	203	238	269	298
REDUCER (LARGER PIPE RESTRAINT)	6"x Ø	23	-	-	-	-	-	-	-	-	-	-	-
	8"x Ø	38	25	-	-	-	-	-	-	-	-	-	-
	10"x Ø	57	43	24	-	-	-	-	-	-	-	-	-
	12"x Ø	72	60	44	41	-	-	-	-	-	-	-	-
	16"x Ø	99	90	78	75	45	-	-	-	-	-	-	-
	20"x Ø	123	116	107	105	81	45	-	-	-	-	-	-
	24"x Ø	146	140	132	131	111	82	45	-	-	-	-	-
200psi	30"x Ø	209	204	197	188	177	153	116	75	-	-	-	-
	36"x Ø	243	236	233	226	217	196	168	135	74	-	-	-
	42"x Ø	273	270	265	259	252	234	211	183	133	72	-	-
	48"x Ø	301	298	294	289	283	268	249	226	183	131	71	-

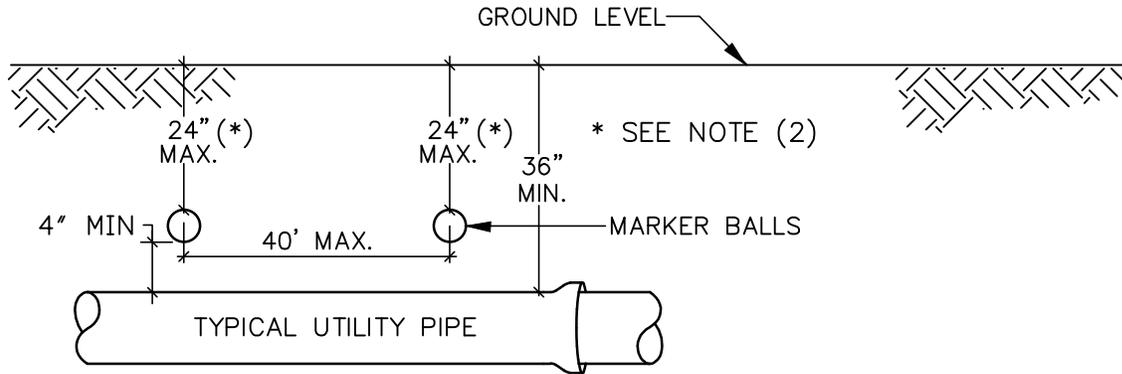
NOTES:

1. THE DATA IN THE ABOVE TABLE ARE BASED UPON THE FOLLOWING INSTALLATION CONDITIONS:
 SOIL TYPE-SAND TEST PRESSURE-150 PSI/200 PSI DEPTH OF BURY-3'
 TRENCH TYPE-3 SAFETY FACTOR-1.5 VERTICAL OFFSET-3'
 MINIMUM PIPE LENGTH ALONG TEE RUN-5'
2. THE RESTRAINED PIPE LENGTHS APPLY TO DUCTILE IRON AND PVC PIPE.
3. ALL JOINTS BETWEEN UPPER AND LOWER BENDS SHALL BE RESTRAINED.
4. RESTRAINED PIPE LENGTHS APPLY TO PIPE ON BOTH SIDES OF VALVES AND FITTINGS.

RESTRAINED JOINT INFORMATION

ENGINEERING STANDARDS 2016

REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	RESTRAINED JOINT INFORMATION	
BY	DATE		DATE: FEBRUARY 2009 DWG. NO. 118-3	
SCALE: N.T.S.				



GENERAL NOTES:

1. ALL UTILITY PIPE SHALL BE INSTALLED WITH 4"Ø MARKING BALLS PLACED EVERY 40' AND AT EVERY FITTING, FOR IDENTIFICATION AND WARNING PURPOSES, BURIED ABOVE THE PIPE AT A MAXIMUM DEPTH OF 24 INCHES OR AS APPROVED BY THE OWNER. IT SHALL BE COLOR CODED AND WORDED AS FOLLOWS:

POTABLE WATER.

- A. COLOR: BLUE
- B. LETTERING: WATER
- C. FREQUENCY OF MARKER BALLS SHALL BE 145.7 Khz.
- D. THE MARKER BALLS CAN BE BURIED IN ANY ORIENTATION.

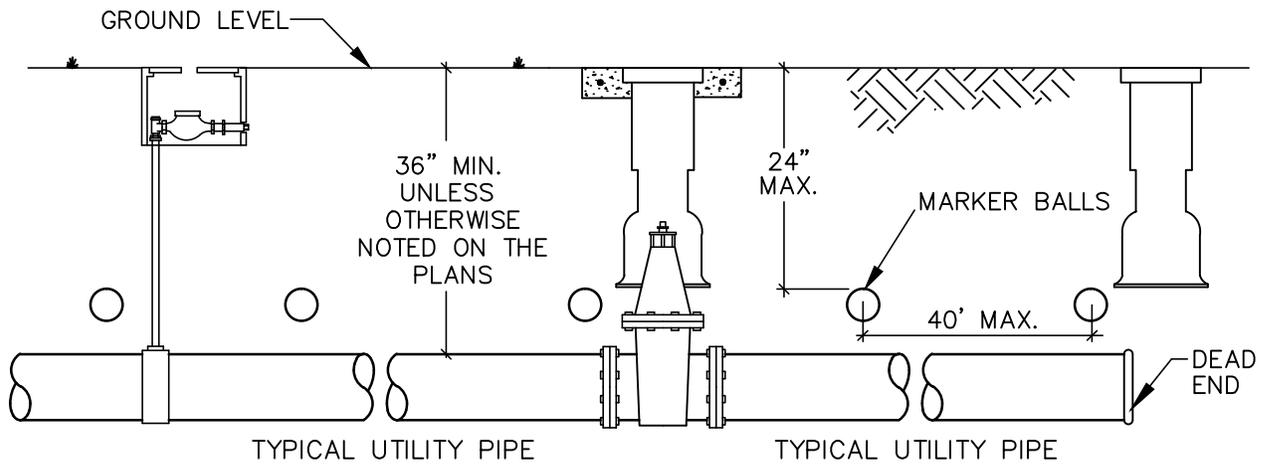
THE MARKER BALLS SHALL BE DETECTABLE BY STANDARD METAL DETECTION EQUIPMENT AND SHALL BE MANUFACTURED BY TEMPO OR 3M LOCATOR SYSTEM OR EQUIVALENT (FREQUENCY 145.7 Khz)

2. FOR LARGE DIAMETER PIPE INSTALLED AT DEPTHS BELOW 4'-0" MARKER BALLS SHALL BE PLACED AT A MAXIMUM DEPTH OF 4'-0" BELOW GRADE *.

WATER PIPE IDENTIFICATION

ENGINEERING STANDARDS 2016

REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	WATER PIPE IDENTIFICATION	
BY	DATE			
S.S.	01/12		DATE: JAN. 2012	
			DWG. NO.	
		SCALE: N.T.S.	119-1	



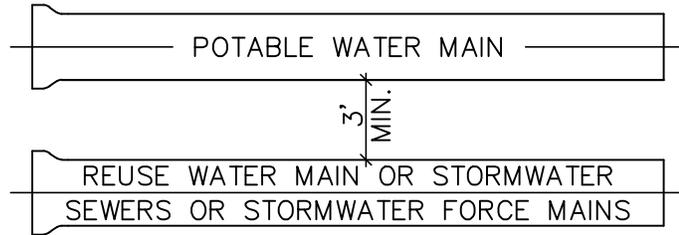
GENERAL NOTES:

1. ALL NONMETALLIC PIPE SHALL BE INSTALLED WITH 12 THHN SOLID COPPER TRACING WIRE.
2. THE MARKER BALLS MUST BE INSTALLED DIRECTLY ABOVE THE PIPE.
3. MARKER BALLS SHALL BE INSTALLED AT 40' O.C.
4. BALL COLOR CODING:
POTABLE WATER SYSTEM: BLUE

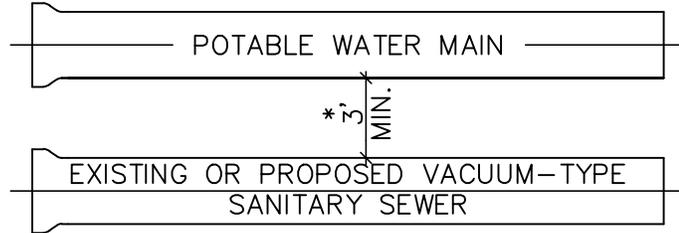
UTILITY PIPE AND MARKER BALLS LOCATION

ENGINEERING STANDARDS 2016

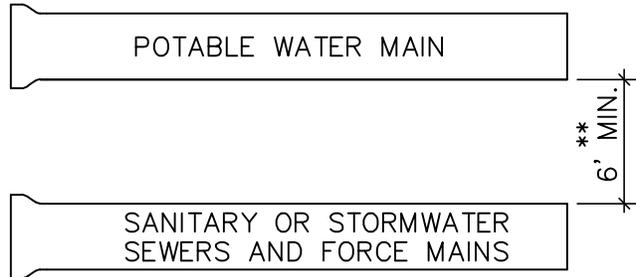
REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	UTILITY PIPE AND MARKER BALLS LOCATION
BY	DATE		
S.S.	01/12		DATE: JAN. 2012
			DWG. NO.
		SCALE: N.T.S.	120-1



A MINIMUM HORIZONTAL SEPARATION 3' (OUTSIDE TO OUTSIDE), SHALL BE MAINTAINED BETWEEN POTABLE WATER MAINS AND STORMWATER SEWERS, STORMWATER FORCE MAINS AND REGULATED REUSE WATER MAINS.



A MINIMUM HORIZONTAL SEPARATION 3' (OUTSIDE TO OUTSIDE), SHALL BE MAINTAINED BETWEEN EXISTING OR PROPOSED VACUUM-TYPE SANITARY SEWER. * SEE NOTE D(1)(B).



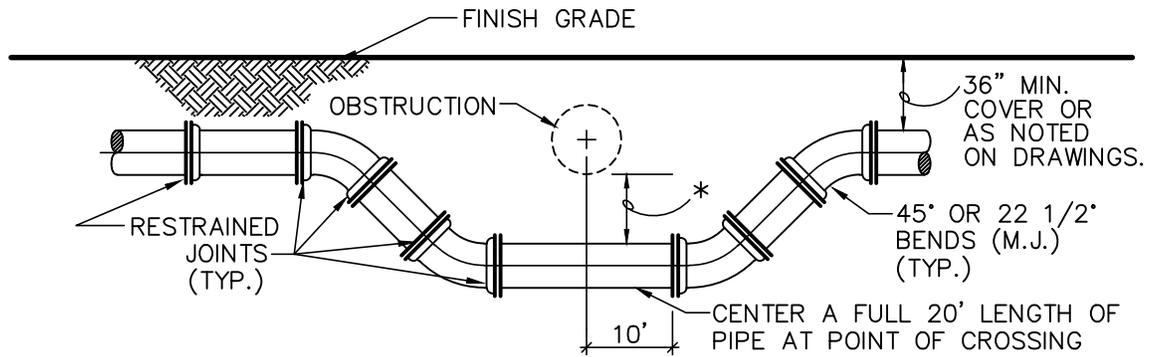
A MINIMUM HORIZONTAL SEPARATION OF 6' (OUTSIDE TO OUTSIDE), SHALL BE MAINTAINED BETWEEN POTABLE WATER MAINS AND EXISTING OR PROPOSED GRAVITY-OR PRESSURE TYPE SANITARY SEWER, WASTEWATER FORCE MAIN OR NOT REGULATED REUSE WATER MAIN. ** SEE NOTE D(1)(C).

MINIMUM HORIZONTAL SEPARATION REQUIREMENTS FOR POTABLE WATER, REUSE, STORMWATER AND SEWER LINES

ENGINEERING STANDARDS 2016

REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	MIN. HORIZONTAL SEPARATION FOR POTABLE WATER	
BY	DATE			
S.S.	01/12		DATE: JAN. 2012	
			DWG. NO.	
		SCALE: N.T.S.	121-1	

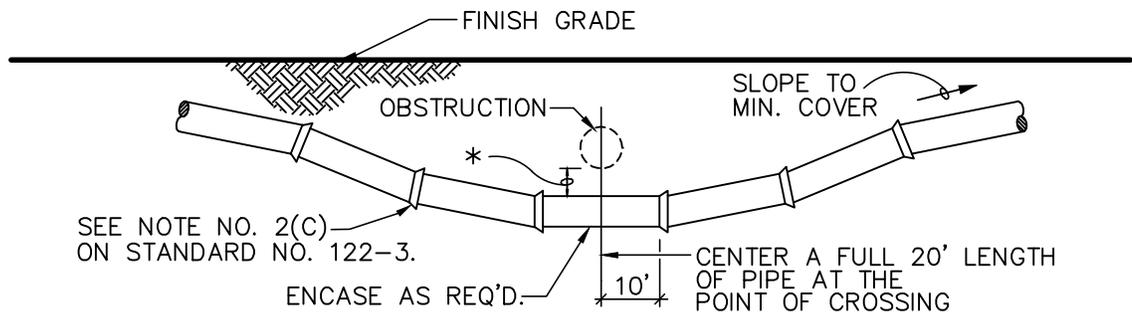
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SPECIAL UTILITY CROSSING – FITTING TYPE

* 12" MINIMUM CLEARANCE REQUIRED FOR PRESSURE TYPE SANITARY SEWER, WASTEWATER OR STORMWATER FORCE MAIN OR REUSE WATER MAIN CROSSINGS. IF MINIMUM CLEARANCE CANNOT BE OBTAINED. REFER TO "PROTECTION OF POTABLE WATER SUPPLY" FOR WATER MAIN CROSSINGS. SEE NOTE 2(B), ON STANDARD NO. 122-3

6" MINIMUM CLEARANCE REQUIRED FOR WATER AND STORMWATER, SEWER MAIN CROSSINGS. SEE NOTE 2(A), ON STANDARD NO. 122-3.



STANDARD UTILITY CROSSING – DEFLECTION TYPE

NOTES:

1. THE DEFLECTION TYPE CROSSING SHALL BE USED WHEREVER POSSIBLE. ONLY UNDER SPECIFIC ORDERS BY THE ENGINEER SHALL THE FITTING TYPE CROSSING BE ALLOWED.
2. CONSTRUCT STANDARD CROSSING USING NO MORE THAN 75% OF MANUFACTURERS' MAXIMUM JOINT DEFLECTION.
3. FOR POTABLE WATER MAINS, REFER TO "PROTECTION OF POTABLE WATER SUPPLY".

UTILITY CROSSINGS

ENGINEERING STANDARDS 2016

REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	UTILITY CROSSINGS	
BY	DATE			
S.S.	01/12		DATE: JAN. 2012	
			DWG. NO.	
		SCALE: N.T.S.	122-1	

PROTECTION OF POTABLE WATER SUPPLY NOTES

A. GENERAL

IN ADDITION TO THESE REQUIREMENTS, ALL POTABLE WATER MAINS CONSTRUCTED IN THE VICINITY OF STORM SEWERS, SANITARY SEWERS OR FORCE MAINS SHALL COMPLY WITH THE APPLICABLE PROVISIONS OF FLORIDA ADMINISTRATIVE CODE CHAPTER 62-555, GREAT LAKES-UPPER MISSISSIPPI RIVER BOARD OF STATE SANITARY ENGINEERS (GLUMRB) "RECOMMENDED STANDARDS FOR WATER WORKS", AND GLUMRB "RECOMMENDED STANDARDS FOR WASTEWATER FACILITIES".

B. DEFINITIONS

FOR THE PURPOSES OF THIS SPECIFICATION, THE WORDS "OTHER PIPE" OR "OTHER PIPES" SHALL MEAN SANITARY SEWER MAIN, SEWAGE FORCE MAIN, STORMWATER MAIN OR ANY COMBINATION THEREOF.

C. CROSS CONNECTIONS PROHIBITED

THERE SHALL BE NO PHYSICAL CONNECTIONS BETWEEN A PUBLIC OR PRIVATE POTABLE WATER SUPPLY SYSTEM AND ANY OTHER PIPE OR APPURTENANCE THERETO WHICH WOULD PERMIT THE PASSAGE OF ANY WASTEWATER, POLLUTED WATER, OR ANY OTHER WATER INTO THE POTABLE SUPPLY. NO WATER PIPE SHALL PASS THROUGH OR COME INTO CONTACT WITH ANY PART OF A SANITARY SEWER MANHOLE OR STORMWATER MANHOLE.

D. RELATION OF OTHER PIPES TO POTABLE WATER MAINS

1. HORIZONTAL SEPARATION

A. NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST THREE FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED STORM WATER, STORM WATER FORCE MAIN, OR PIPELINE CONVEYING REUSE WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610,F.A.C.

B. NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST THREE FEET, AND PREFERABLY TEN FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED VACUUM-TYPE SANITARY SEWER.

C. NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST SIX FEET, AND PREFERABLY TEN FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED GRAVITY-OR PRESSURE-TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING REUSE WATER NOT REGULATED UNDER CHAPTER 62-610, F.A.C. THE MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN WATER MAINS AND GRAVITY TYPE SEWERS SHALL BE REDUCED TO THREE FEET WHERE THE BOTTOM OF THE WATER IS LAID AT LEAST SIX INCHES ABOVE THE TOP OF THE SEWER.

ENGINEERING STANDARDS 2016

REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	POTABLE WATER SUPPLY NOTES	
BY	DATE			
S.S.	01/12			DATE: JAN. 2012
				DWG. NO.
		SCALE: N.T.S.		122-2

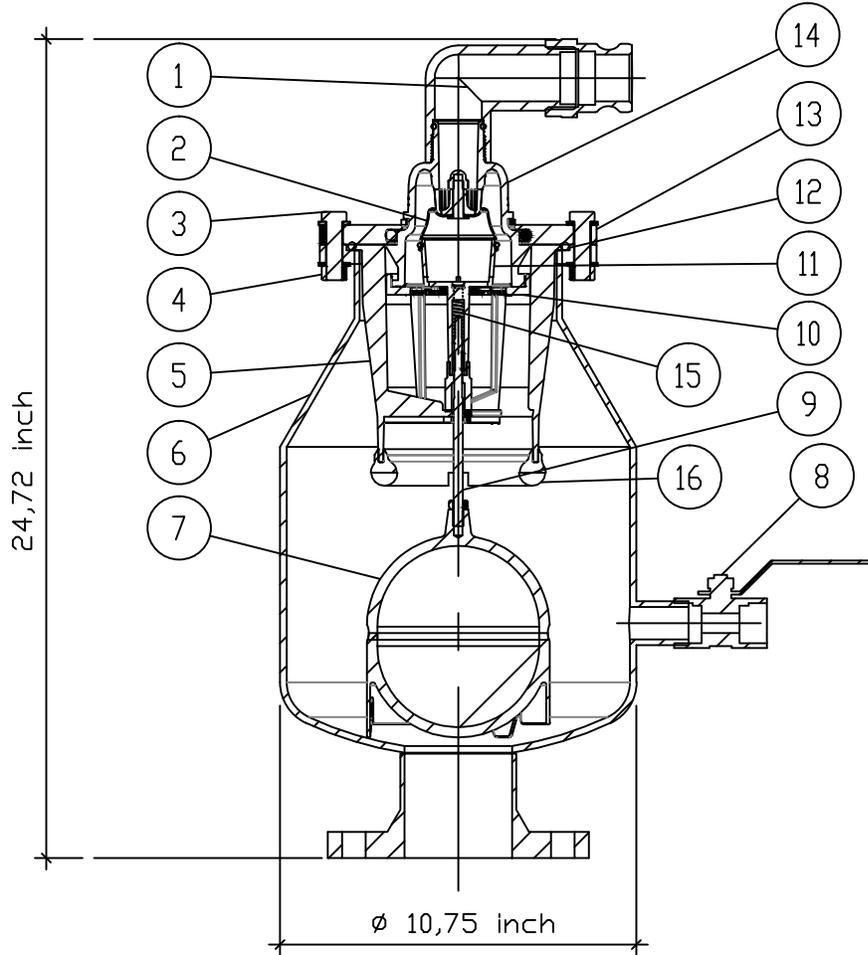
- D. NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST TEN FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND ALL PARTS OF ANY EXISTING OR PROPOSED "ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEM".
2. VERTICAL SEPARATION
- A. NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED GRAVITY-OR VACUUM-TYPE SANITARY SEWER OR STORM SEWER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST SIX INCHES, AND PREFERABLY 12 INCHES, ABOVE OR AT LEAST 12 INCHES BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE.
- B. NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED PRESSURE-TYPE SANITARY SEWER, WASTEWATER OR STORM WATER FORCE MAIN, OR PIPELINE CONVEYING REUSE WATER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST 12 INCHES, ABOVE OR BELOW THE OUTSIDE THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE.
- C. AT THE UTILITY CROSSINGS DESCRIBED IN PARAGRAPHS (A) AND (B) ABOVE, ONE FULL LENGTH OF WATER MAIN PIPE SHALL BE CENTERED ABOVE OR BELOW THE OTHER PIPELINE SO THE WATER MAIN JOINTS WILL BE AS FAR AS POSSIBLE FROM THE OTHER PIPELINE. ALTERNATIVELY, AT SUCH CROSSINGS, THE PIPES SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST THREE FEET FROM ALL JOINTS IN VACUUM-TYPE SANITARY SEWERS, STORM SEWERS, STORM WATER FORCE MAINS, OR PIPELINES CONVEYING REUSE WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C. AND AT LEAST SIX FEET FROM ALL JOINTS IN GRAVITY- OR PRESSURE-TYPE SANITARY SEWERS, WASTEWATER FORCE MAINS, OR PIPELINES CONVEYING REUSE WATER NOT REGULATED UNDER PART III OR CHAPTER 62-610, F.A.C.

WHERE THE HORIZONTAL CAN BEING LOCATED LESS THAT THE REQUIRED MINIMUM DISTANCES FROM JOINTS IN THE OTHER PIPELINE OR THE HORIZONTAL IS LESS THAT THREE FEET FROM ANOTHER PIPELINE OR THE UNDER GROUND WATER MAIN IS CROSSING ANOTHER PIPELINE AND IS LESS THAN THE REQUIRED MINIMUM VERTICAL DISTANCE FROM THE OTHER PIPELINE, THE CONTRACTOR SHALL CONTACT THE ENGINEER IMMEDIATELY FOR RECOMMENDED SOLUTIONS TO MEET THE FLORIDA OF DEPARTMENT OF ENVIRONMENTAL PROTECTION REQUIREMENTS PER CHAPTER 62-555, F.A.C.

PROTECTION OF POTABLE WATER SUPPLY NOTES

ENGINEERING STANDARDS 2016

REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	POTABLE WATER SUPPLY NOTES	
BY	DATE			
S.S.	01/12		DATE: JAN. 2012	
			DWG. NO.	
		SCALE: N.T.S.	122-3	



AUTOMATIC AIR & VACUUM VALVE FOR POTABLE WATER

Model 986

Automatic Air and Vacuum Release Valve, steel - epoxy powder coated
for operating range: 0-250 PSI (17.2 Bar)

Type	Size ANSI	Maximum Pressure PSI/Bar	Body Material	Overall Width B Inch/mm	Overall Height H Inch/mm	Weight Lbs./Kg
Thread	2" FNPT	250 PSI 17.2 Bar	Steel	10.75" 270 mm	23.2" 600 mm	50.7 lbs 23.0 Kg

ENGINEERING STANDARDS 2016

REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	H-TEC AIR AND VACUUM VALVE	
BY	DATE			
			DATE: MAY 2014 DWG. NO.	
		SCALE: N.T.S.	123-1	

No.	Component	Series - Epoxy-coated steel
1	Outlet elbow w. screen/camlock 1,5"	Polyethylene (PE)
2	Diaphragm	Buna HNBR
3	Hex Head Bolt	Stainless Steel
4	Hexagon nut	Stainless Steel
5	Debris shield	Polyethylene (PE)
6	Body	Steel - epoxy powder coated
7	Float	Delrin®(POM)
8	Ball valve, 1"	Stainless Steel
9	Float spindle	Stainless Steel 316TI
10	Debris screen	Delrin®(POM)
11	Diaphragm holder	Delrin®(POM)
12	O-Ring 157 x 6 mm	Buna NBR
13	Clamping flange	Steel - epoxy powder coated
14	Upper air valve part	Delrin®(POM)
15	Valve spring	Stainless Steel
16	Damper ring	Buna NBR

Automatic Air and Vacuum Release Valve, steel - epoxy powder coated (Model # 986).

Automatic Air and Vacuum Valves shall be infinitely variable automatic air and vacuum valves designed to allow escape of air for a operating range starting from pressure range: 0.0 through 250 psi (0 - 17.2 bar), allow air to enter in the event of a vacuum, and soft working behavior as water hammer inhibition realized by roll-on diaphragm and spring mechanism. A debris shield made of PE allows no contact between fluid and sealing area. A secondary debris screen provides an additional protection for the diaphragm. The float shall be Delrin (Polyoximethylene, POM); the valve seat and all working parts shall be of corrosion-resistant materials.

Air and vacuum valves shall be, from H-TEC, Inc. (Hawle company)

PAINT BODY OF THE VALVE BLUE USING AN EXPOXY PAINT.

ENGINEERING STANDARDS 2016

REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	H-TEC AIR AND VACUUM VALVE MATERIALS OF CONSTRUCTION	
BY	DATE			
		SCALE: N.T.S.	DATE: MAY 2014 DWG. NO. 123-2	

STANDARD DETAILS - 2016

WATER

SAMPLE POINT (MAIN)	100-1
SAMPLE POINT (HYDRANT)	101-1
VALVE BOX SETTINGS	102-1
GATE OR PLUG VALVE SETTINGS	103-1
FILLING AND FLUSHING CONNECTION	104-1
LARGE METER BOX	105-1
METER BOX INSTALLATION	105-2
TYPICAL METER BOX COVER	105-3
BACKFLOW PREVENTER	106-1
MASTER METER AND BACKFLOW DEVICE	106-2
FIRE METER AND BACKFLOW DEVICE	106-3
METER INSTALL DIMENSION LIST	106-4
TYPICAL 1" AND 2" WATER SERVICE	107-1, 107-2
2" WATER SERVICE "Y" BRANCHES	107-3
TYPICAL CONFLICT (WATER) DETAIL	108-1
TYPICAL FIRE HYDRANT ASSEMBLY	109-1
RESTRAINED VALVE AT TEE	111-1
DOMESTIC SERVICE ONLY	112-1
TYPICAL METER BANK	113-1
UNDERGROUND VALVE IDENTIFICATION MARKER	115-1
TYPICAL 2" TERMINAL BLOW OFF	116-1
TF550 2" BLOW OFF FLUSHING HYDRANT	117-1
TF550 INSTALLATION AND SPECIFICATION	117-2
RESTRAINED JOINT INFORMATION	118-1 TO 118-3
WATER PIPE IDENTIFICATION	119-1
PIPE AND MARKER BALLS LOCATION	120-1
MIN. HORIZONTAL SEPARATION FOR POTABLE WATER.	121-1
UTILITY CROSSINGS AND GENERAL NOTES	122-1 TO 122-3
H-TEC AIR AND VACUUM RELEASE VALVE	123-1
H-TEC VALVE MATERIALS OF CONSTRUCTION	123-2