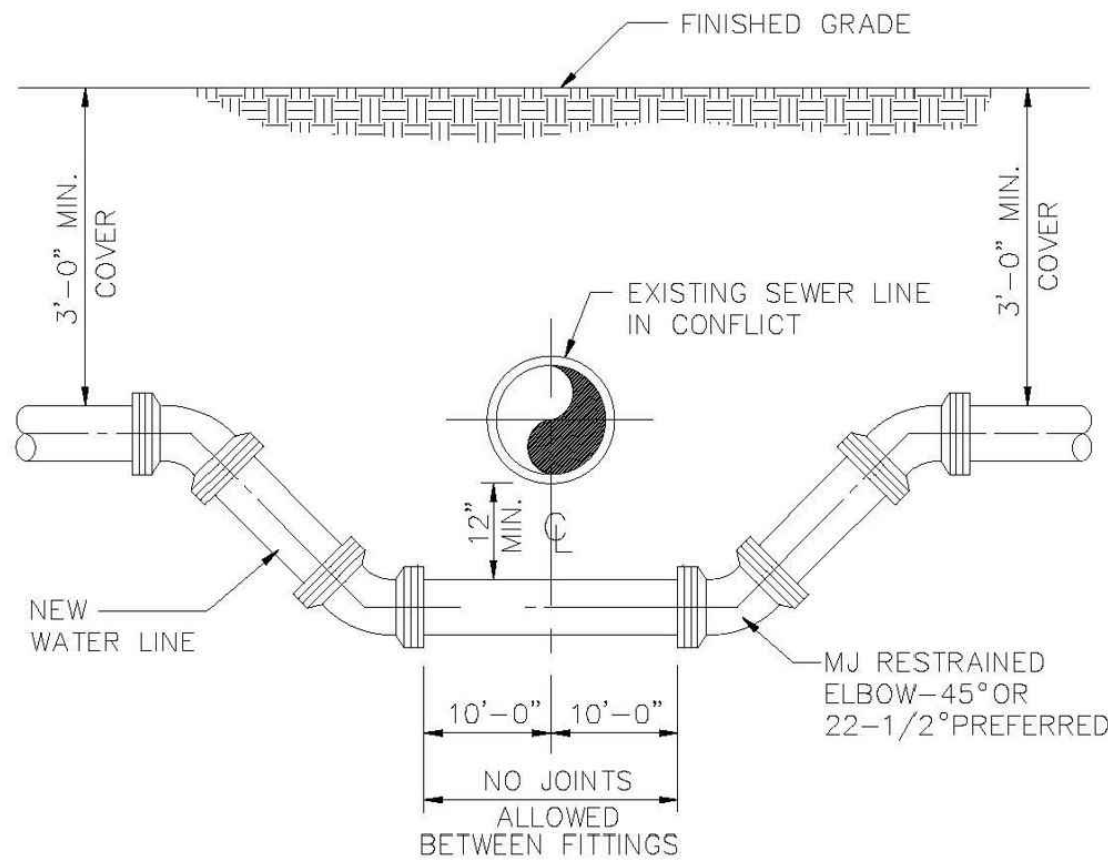


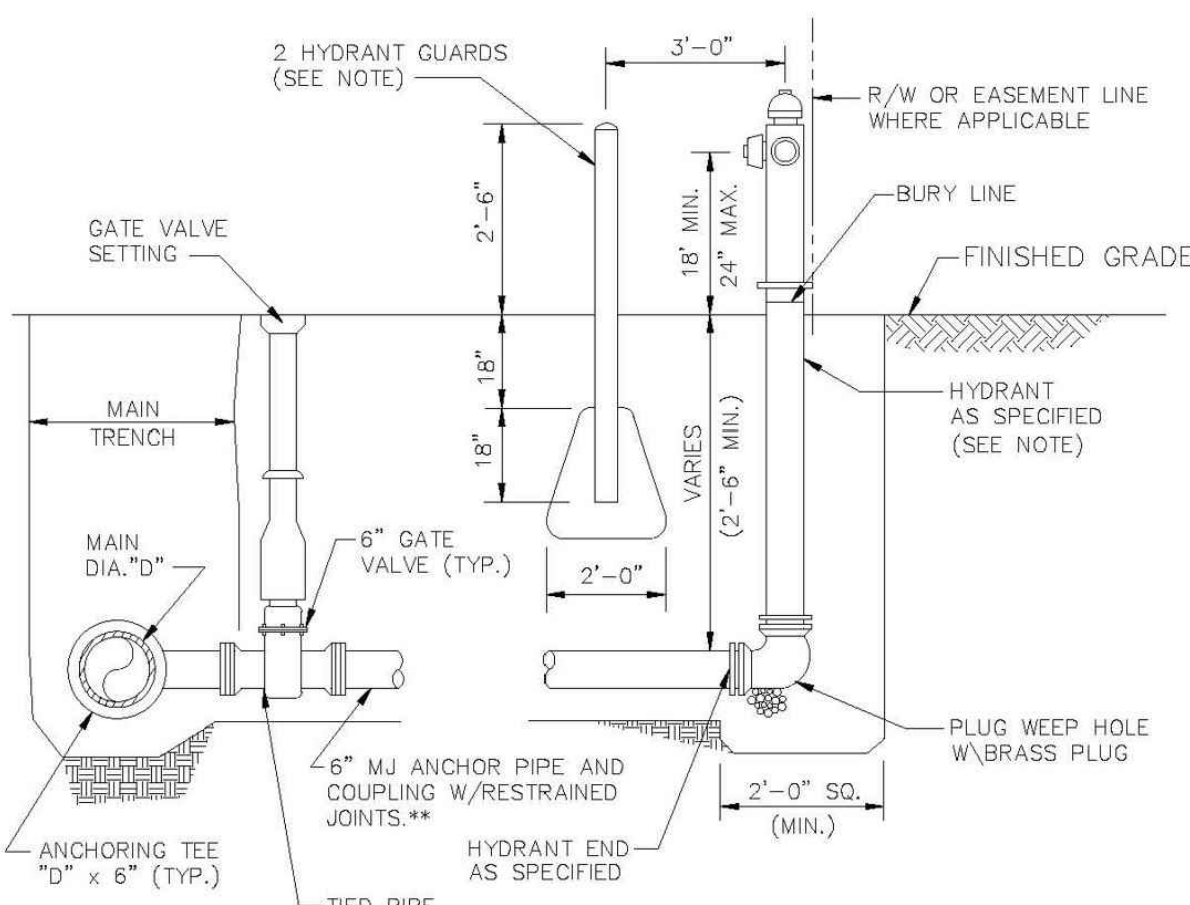
TYPICAL 1 1/2" AND 2" WATER SERVICE



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

ALL D.I.P. TO BE PAINTED BLUE ON TOP HALF OF PIPE.
USE MEGALUGS AT ALL PIPE JOINTS



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

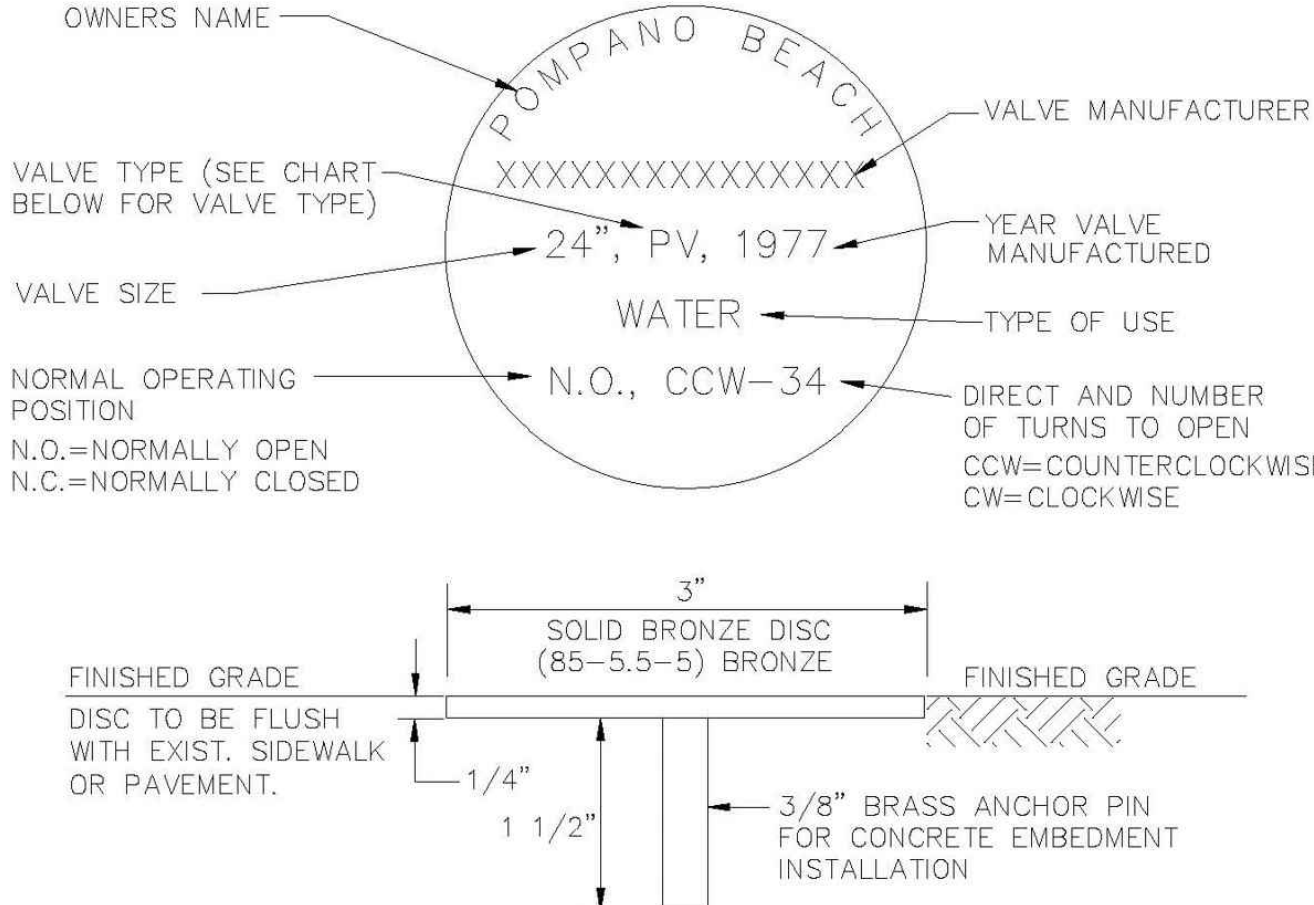
**USE 2-3/4" S.S. TIE RODS WHEN DISTANCE BETWEEN MAIN AND HYDRANT < 10'. TIE RODS WILL BE USED W/RESTRAINED JOINTS OR USE MEGALUGS AT ALL PIPE JOINTS

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.

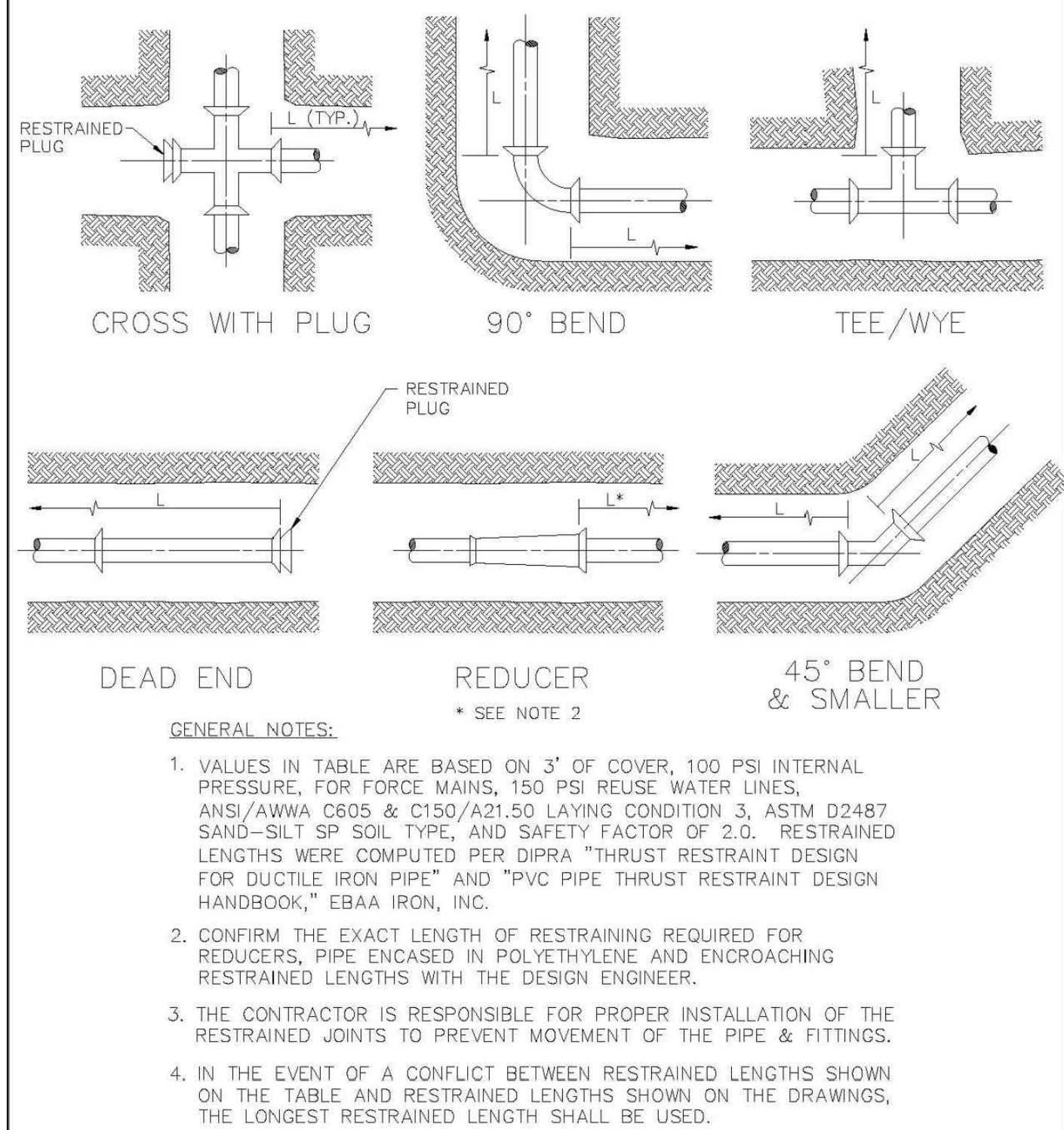
TYPICAL FIRE HYDRANT ASSEMBLY



- 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 2022			
REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	TYPICAL 2" WATER SERVICE
BY	DATE		
S.S.	05-2011		
S.S.	05-2012		
S.S.	11-2018		
A.S.	08-2021		
SCALE: N.T.S.			DATE: APRIL 2022 DWG. NO. 107-2



RESTRAINED JOINT INFORMATION

ENGINEERING STANDARDS 2022				
REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	RESTRAINED JOINT INFORMATION	
BY	DATE			
			DATE: MAY 2022 DWG. NO. 118-1	
SCALE: N.T.S.				

ENGINEERING STANDARDS 2022			
REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	TYPICAL CONFLICT (WATER)
BY	DATE		
S.S.	04-2009		
S.S.	01-2012		
SCALE: N.T.S.			DATE: MAY 2022 DWG. NO. 108-1

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

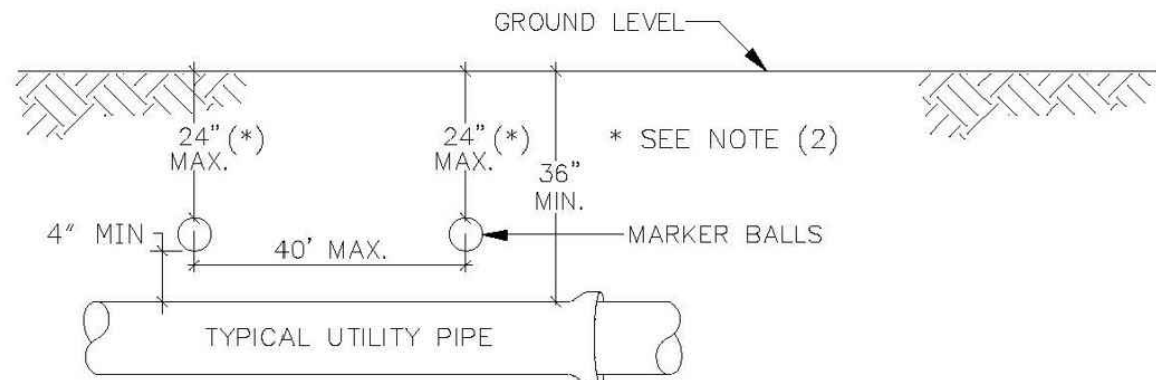
DIP HORIZONTAL BENDS AND VERTICAL UP BENDS					
PIPE SIZE (IN.)	RESTRAINED JOINT LENGTH L (MINIMUM DISTANCE IN FEET FROM FITTING - EACH WAY)				CROSS WITH PLUG DEAD END TEE/WYE
	90°	45°	22.5°	11.25°	
12"	68	28	14	7	144
24"	119	49	24	12	258

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

RESTRAINED JOINT INFORMATION

ENGINEERING STANDARDS 2022				
REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	RESTRAINED JOINT INFORMATION	
BY	DATE			
SCALE: N.T.S.			DATE: MAY 2022 DWG. NO. 118-2	

ENGINEERING STANDARDS 2022			
REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	FIRE HYDRANT ASSEMBLY
BY	DATE		
T.W.	11-2007		
T.W.	10-2010		
S.S.	2-2012		
S.S.	11-2012		
SCALE: N.T.S.		DATE: MAY 2022 DWG. NO. 109-1	



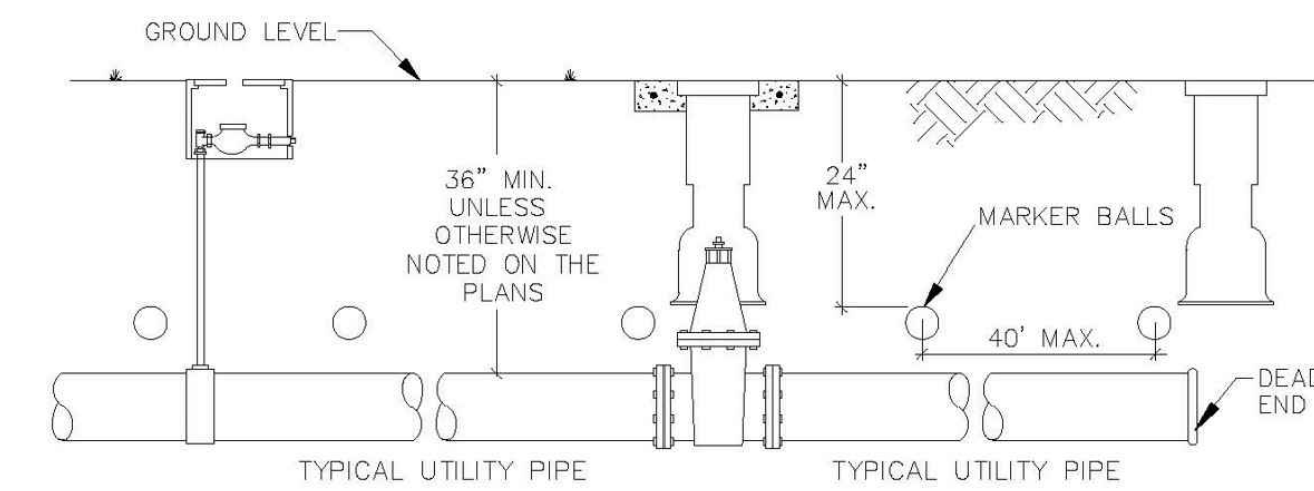
- GENERAL NOTES:
1. ALL UTILITY PIPE SHALL BE INSTALLED WITH 4"Ø MARKING BALLS PLACED EVERY 40' AND AT EVERY FITTING, FOR IDENTIFICATION AND WARNING PURPOSES, BURIED ABOVE THE PIPE AT A MAXIMUM DEPTH OF 24 INCHES OR AS APPROVED BY THE OWNER, IT SHALL BE COLOR CODED AND WORDED AS FOLLOWS:
POTABLE WATER.
A. COLOR: BLUE PER 62-555.320(21)(b)(3) F.A.C.
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

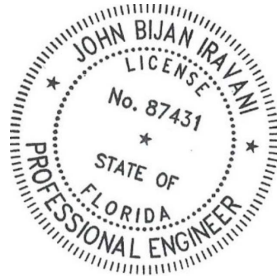
ENGINEERING STANDARDS 2022			
REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	WATER PIPE IDENTIFICATION
BY	DATE		
S.S.	01/12		
S.S.	06/16		
SCALE: N.T.S.			DATE: JAN. 2022 DWG. NO. 119-1



- 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 PER 62-555.320(21)(b)(3) F.A.C.

UTILITY PIPE AND MARKER BALLS LOCATION

ENGINEERING STANDARDS 2022				
REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	UTILITY PIPE AND MARKER BALLS LOCATION	
BY	DATE			
S.S.	01/12			
S.S.	06/16			
SCALE: N.T.S.			DATE: JAN. 2022 DWG. NO. 120-1	



Digitally signed by
John Iravani
Date: 2024.10.15
10:37:19 -04'00'

REVISIONS

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Consulting Engineers

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201 SW 12th Ave

Water & Wastewater
Details

DATE	SCALE	DESIGNED BY	DRAWN BY	JOB NO.
01/28/2023	N.T.S.	JBI	JBI	2208-1411

SEAL

FR # 6986
SHEET NO.
C-11