



The drawing consists of two views of a TF550 hydrant assembly. The top view shows the hydrant body with a 5 1/2" valve box lid on top, a 5 1/2" valve box upper section, and a 5 1/2" valve box lower section. The distance between the upper and lower sections is approximately 6". The side view shows the hydrant body with a 2" brass or blue poly inlet, a 2" 90 degree elbow, and a 2" brass or blue poly outlet. The outlet is labeled "TO Water Main". The hydrant body is labeled "TF550". The drawing is titled "Ground Line" and "Approx. 6\"

(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 THE 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.

2" BRASS OR BLUE POLY

2" 90 Degree Elbow

2" BRASS OR BLUE POLY

TO Water Main

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 TOP CAP COUNTERCLOCKWISE TO OPEN, OPERATING NUT COUNTERCLOCKWISE TO OPEN, CLOCKWISE TO CLOSE.

ALL INTERNAL WORKING PARTS, THE INLET AND THE OUTLET SHALL BE LOW-LEAK 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 TRUPOLO MODEL, TF550 AS MANUFACTURED BY THE KUFERLE FOUNDRY CO., ST. LOUIS MO 6302 OR APPROVED EQUAL.

TF550 INSTALLATION AND SPECIFICATION

CROSS WITH PLUG **90° BEND** **TEE/WYE**

DEAD END **REDUCER** **45° BEND & SMALLER**

• SEE NOTE 2

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 C805 & 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 ENCRUSTING 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

PVC HORIZONTAL BENDS AND VERTICAL UP BENDS						
PIPE SIZE (IN.)	RESTRAINED JOINT LENGTH L		(MINIMUM DISTANCE IN FEET FROM FITTING – EACH WAY)			
	BENDS				CROSS WITH RUE, 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)			
	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						
PIPE SIZE (IN.)	RESTRAINED JOINT LENGTH L		(MINIMUM DISTANCE IN FEET FROM FITTING – EACH WAY)			
	BENDS				CROSS WITH RUE, 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)			
	BENDS					
	90°	45°	22.5°	11.25°		
12"	144	60	29	14		
24"	258	107	51	25		

RESTRAINED JOINT INFORMATION

[illegible]

CAULFIELD & WHEELER, INC.
 CIVIL ENGINEERING - LAND PLANNING
 LANDSCAPE ARCHITECTURE - SURVEYING
 7900 GLADES ROAD - SUITE 100
 BOCA RATON, FLORIDA 33434
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The diagram illustrates the installation of a typical utility pipe. A horizontal line represents the GROUND LEVEL. Below it, a cross-section of the pipe is shown. Two marker balls are positioned along the pipe. The first marker ball is at a depth of 4" MIN. and 40" MAX. from the ground level. The second marker ball is at a depth of 24" MAX. and 36" MIN. from the ground level. The pipe is labeled 'TYPICAL UTILITY PIPE'. A note indicates '* SEE NOTE (2)'.

GENERAL NOTES:

- 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 AGREED UPON BY THE OWNER. IT SHALL BE COLOR CODED AND WORDED AS FOLLOWS:
 POTABLE WATER.
 A. COLOR: BLUE PER 62-555.320(2)(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)
- 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

REVISIONS		ENGINEERING DIVISION CITY OF POMPAÑO BEACH	WATER PIPE IDENTIFICATION
BY	DATE		
S.S.	01/12		
S.S.	06/16		
SCALE: N.T.S.		DATE: JAN. 2022 DWG. NO. 19-1	

WATER PIPE IDENTIFICATION

UTILITY PIPE AND MARKER BALLS LOCATION

The diagram illustrates the minimum horizontal separation requirements for different types of underground utility lines. It is divided into two main sections, each showing a cross-section of the ground with various pipes and their required separations.

Section 1: Minimum Horizontal Separation 3' (Outside to Outside)

This section shows a cross-section of the ground with three pipes: a POTABLE WATER MAIN at the top, a REUSE WATER MAIN OR STORMWATER SEWERS OR STORMWATER FORCE MAINS in the middle, and an EXISTING OR PROPOSED VACUUM-TYPE SANITARY SEWER at the bottom. The vertical distance between the bottom of the top pipe and the top of the middle pipe is labeled $3' \text{ MIN.}$. The vertical distance between the bottom of the middle pipe and the top of the bottom pipe is labeled $3' \text{ MIN.}$.

Section 2: Minimum Horizontal Separation 6' (Outside to Outside)

This section shows a cross-section of the ground with two pipes: a POTABLE WATER MAIN at the top and a SANITARY OR STORMWATER SEWERS AND FORCE MAINS at the bottom. The vertical distance between the bottom of the top pipe and the top of the bottom pipe is labeled $6' \text{ MIN.}$.

Textual Requirements:

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 2022			
REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	MIN. HORIZONTAL SEPARATION FOR POTABLE WATER
BY	DATE		
S.S.	01/12		
		SCALE: N.T.S.	DATE: JAN. 2022 DWG. NO. 121-1

OAKS @ PALM AIRE
WATER DISTRIBUTION & SANITARY SEWER DETAILS
POMPAHO BEACH, FLORIDA

DATE	06/12/23
DRAWN BY	RHT
F.B./ PG.	N/A
SCALE	n.t.s.

RYAN D. WHEELER
PROFESSIONAL ENGINEER
LICENSE NO. 71477
STATE OF FLORIDA
- FOR THE FIRM -
DATE Apr 02, 2025

JOB #10326
SHT.NO. WS.04
OF 8 SHEETS