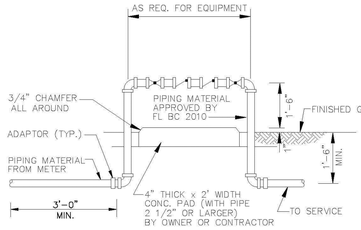
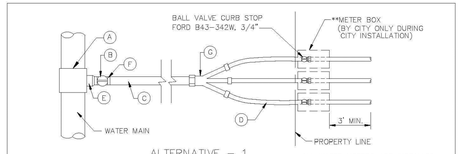


BACKFLOW PREVENTER

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 2022

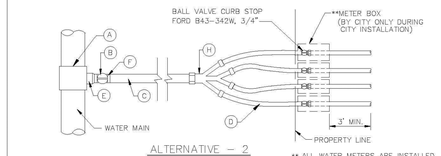
REVISIONS BY	DATE	ENGINEERING DIVISION CITY OF POMPANO BEACH	BACKFLOW PREVENTER
T.W.	04-2008		
S.S.	03-2009		
S.S.	11-2012		
S.S.	01-2013	SCALE: N.T.S.	DATE: MAY 2022 DWG. NO. 106-1



ALTERNATIVE – 1

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

2" WATER SERVICE W / 3 METERS



ALTERNATIVE – 2

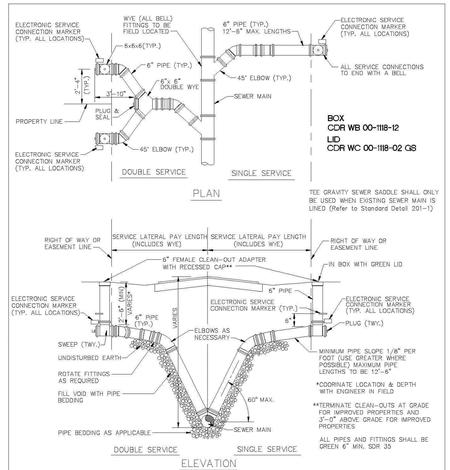
** ALL WATER METERS ARE INSTALLED PERPENDICULAR TO WATER MAIN.

2" WATER SERVICE W / 4 METERS

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

ENGINEERING STANDARDS 2022

REVISIONS BY	DATE	ENGINEERING DIVISION CITY OF POMPANO BEACH	2" WATER SERVICE "Y" BRANCHES ALTERNATIVES
S.S.	11-2012		
		SCALE: N.T.S.	DATE: MAY 2022 DWG. NO. 107-3



ELEVATION

SERVICE LATERALS WITH RISERS

ENGINEERING STANDARDS 2022

REVISIONS BY	DATE	ENGINEERING DIVISION CITY OF POMPANO BEACH	SERVICE LATERALS
T.W.	11-2007		
S.S.	01/27/12		
S.S.	07/10/13		
S.S.	02/05/16	SCALE: N.T.S.	DATE: JUNE 2022 DWG. NO. 200-1

Adjustable Repair Coupling

NOTES

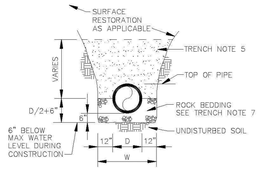
- Synthetic rubber gasket is strong, durable and resilient to ultraviolet rays, ozone, fungus growth and normal sewer gases. More pliable and easier to install in cold weather applications than an Elastomeric PVC gasket.
- Sealing "O" rings under the clamp prevent pipe slippage and create a more positive seal.
- More transition couplings for dissimilar pipe types and sizes are comprised of a one-piece transition gasket, eliminating the use of bushings that are difficult to install and easy to lose on the job site.
- Surgical Grade 316 stainless steel Nut & Bolt clamps are corrosion resistant, providing outstanding protection in severe environments such as marine applications, poorly aerated or moist soils, contaminated ground conditions (particularly industrial fill sites) and where the ground water contains chloride, sulfates or bicarbonates. Increased band tension of the Nut & Bolt clamp ensures a leak-proof, root-proof seal that is resistant to both infiltration and exfiltration.
- Series 300 stainless steel shear band is the heaviest in the industry, over 33% thicker than the competition.
- Broadest range of couplings on the market in sizes ranging from 1½" to 96" in diameter. Used for the alteration and rehabilitation of gravity-flow sewage pipes made of clay, cast iron, plastic, concrete, ductile iron, asbestos cement, fiber cement and truss pipe.

Specification:
Furnish and install stainless steel shielded sewer couplings, as manufactured by Mission Rubber Company. Coupling to meet ASTM C 1173. Gasket to meet ASTM C 425 Table 2, to be rubber and be environmentally certified. Series 300 stainless steel shear band with a minimum thickness of .012", surgical grade 316 stainless steel clamps with nut & bolt take up, shear ring and clamps to meet all requirements of ASTM A 240. All stainless steel parts and clamping mechanisms to be **manufactured in the U.S.A.** Transitional sizes to utilize a one piece gasket.

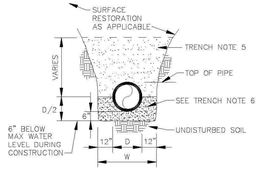
ADJUSTABLE REPAIR COUPLING PVC/CLAY NOTES

ENGINEERING STANDARDS 2022

REVISIONS BY	DATE	ENGINEERING DIVISION CITY OF POMPANO BEACH	ADJUSTABLE REPAIR COUPLING
		SCALE: N.T.S.	DATE: MAY 2022 DWG. NO. 202-1



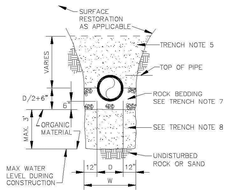
TRENCH BACKFILL / BEDDING CLASS " B "



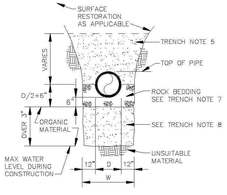
TRENCH BACKFILL / BEDDING CLASS " A "

ENGINEERING STANDARDS 2022

REVISIONS BY	DATE	ENGINEERING DIVISION CITY OF POMPANO BEACH	TRENCH BACKFILL / BEDDING
S.S.	JUNE 2005		
		SCALE: N.T.S.	DATE: JUNE 2022 DWG. NO. 203-1



TRENCH BACKFILL / BEDDING CLASS " C "



TRENCH BACKFILL / BEDDING CLASS " D "

ENGINEERING STANDARDS 2022

REVISIONS BY	DATE	ENGINEERING DIVISION CITY OF POMPANO BEACH	TRENCH BACKFILL / BEDDING
S.S.	JUNE 2005		
		SCALE: N.T.S.	DATE: JUNE 2022 DWG. NO. 203-2

1. OUTLINE OF TRENCH EXCAVATION IS FOR ILLUSTRATIVE PURPOSES ONLY. ACTUAL TRENCH WIDTH AND SHAPE WILL VARY WITH SOIL CONDITIONS. TRENCH EXCAVATION SHALL BE IN ACCORDANCE WITH THE "FLORIDA TRENCH SAFETY ACT" AND OSHA TRENCH SAFETY STANDARDS.
2. TYPICAL TRENCH BACKFILL/BEDDING FOR WATER MAIN AND FORCE MAIN INSTALLATIONS SHALL BE CLASS "A" AS SHOWN IN DETAIL.
3. TYPICAL TRENCH BACKFILL/BEDDING FOR GRAVITY SEWER INSTALLATION SHALL BE CLASS "B" AS SHOWN IN DETAIL.
4. TRENCH BACKFILL/BEDDING CLASS "C" AND CLASS "D" SHALL BE USED FOR PIPE INSTALLATIONS WHERE UNSITABLE TRENCH MATERIALS ARE ENCOUNTERED.
5. TRENCH ZONE BACKFILL SHALL BE MATERIAL TYPE 1 OR TYPES A THRU H, OR ANY MIXTURE THEREOF, WHERE SURFACE RESTORATION TYPE "1" IS APPLICABLE, TRENCH ZONE BACKFILL SHALL BE PLACED IN 12" LIFTS, COMPACTED TO 90% OF THE MATERIAL'S MAXIMUM DENSITY AS DETERMINED BY ASTM D-697 (AASHTO T-99). WHERE SURFACE RESTORATION TYPES "2", "3" AND "4" ARE APPLICABLE, TRENCH BACKFILL SHALL BE PLACED IN 8" LIFTS COMPACTED TO 98% OF THE MATERIAL'S DENSITY AS DETERMINED BY ASTM D-698 (AASHTO T-99).
6. BEDDING MATERIAL FOR TYPICAL WATER MAIN AND FORCE MAIN INSTALLATION SHALL BE TYPE C. BEDDING SHALL BE COMPACTED TO 95% OF THE MATERIAL'S MAXIMUM DENSITY AS DETERMINED BY ASTM D-1557 (AASHTO T-180).
7. BEDDING MATERIAL FOR TYPICAL GRAVITY SEWER INSTALLATION AND ANY INSTALLATION WHERE UNSUITABLE TRENCH BOTTOM CONDITIONS ARE FOUND SHALL BE TYPE E. BEDDING SHALL BE PLACED IN LIFTS NOT TO EXCEED 6" AND COMPACTED TO 95% OF THE MATERIAL'S MAXIMUM DENSITY AS DETERMINED BY ASTM D-1557 (AASHTO T-180).
8. UNSUITABLE MATERIAL SHALL BE REMOVED TO UNDISTURBED ROCK OR SAND OR TO DEPTH AS SPECIFIED BY ENGINEER. BACKFILL MATERIAL SHALL BE TYPE C. BACKFILL SHALL BE PLACED IN 8" LIFTS COMPACTED TO 95% OF THE MATERIAL'S MAXIMUM DENSITY AS DETERMINED BY ASTM D-1557 AASHTO T-180).

TRENCH BACKFILL / BEDDING NOTES

ENGINEERING STANDARDS 2022

REVISIONS BY	DATE	ENGINEERING DIVISION CITY OF POMPANO BEACH	TRENCH BACKFILL / BEDDING
		SCALE: N.T.S.	DATE: JUNE 2022 DWG. NO. 203-3

9. BEDDING TYPES – THE FOLLOWING TYPES OF SUITABLE MATERIALS ARE DESIGNATED AND DEFINED AS FOLLOWING:

TYPE A: CRUSHED LIMEROCK OR SAND WITH 100 PERCENT PASSING A 1 INCH SIEVE AND A SAND EQUIVALENT VALUE NOT LESS THAN 50.

TYPE B: CRUSHED LIMEROCK OR SAND WITH 100 PERCENT PASSING A 1/2 INCH SIEVE AND A SAND EQUIVALENT VALUE NOT LESS THAN 50.

TYPE C: SAND WITH 100 PERCENT PASSING A 3/8 INCH SIEVE, AT LEAST 90 PERCENT PASSING A NUMBER 4 SIEVE, AND A SAND EQUIVALENT VALUE NOT LESS THAN 30.

TYPE D: CRUSHED LIMEROCK WITH 100 PERCENT PASSING A 1 INCH SIEVE AND NOT MORE THAN 10 PERCENT A NUMBER 4 SIEVE.

TYPE E: CRUSHED LIMEROCK OR SAND WITH 100 PERCENT PASSING A 3/4 INCH SIEVE AND NOT MORE THAN 10 PERCENT PASSING A NUMBER 4 SIEVE.

TYPE F: CRUSHED LIMEROCK MEETING THE FOLLOWING GRADATION REQUIREMENTS.

SIEVE SIZE	PERCENTAGE PASSING
2 INCH	100
1-1/2 INCH	90-100
1 INCH	20-55
3/4 INCH	0-15
NO. 200	0-3

TRENCH BACKFILL / BEDDING NOTES

ENGINEERING STANDARDS 2022

REVISIONS BY	DATE	ENGINEERING DIVISION CITY OF POMPANO BEACH	TRENCH BACKFILL / BEDDING
		SCALE: N.T.S.	DATE: JUNE 2022 DWG. NO. 203-4

WILFORD ZEPHYR
Digitally signed by WILFORD ZEPHYR
Date: 2024.12.12 14:26:13 -05'00'

WILFORD ZEPHYR LICENSE No 76036 STATE OF FLORIDA PROFESSIONAL ENGINEER
12-12-24

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY WILFORD ZEPHYR ON THE DATE ADJACENT TO THE SEAL.

PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

WATER & SEWER DETAILS

SCALE: N.T.S.

DRC
PZ23-12000051
03/05/2025

REVISIONS

NO.	DATE	DESCRIPTION
1	1-18-24	DRC REVIEW COMMENTS

ZEPHYR ENGINEERING
WILFORD ZEPHYR, P.E.
HOLLYWOOD, FL
(786)302-7693
wzephyreng@gmail.com
CA#:31158

PROPOSED 12 HOUSES
NW 10th STREET
POMPANO BEACH, FL 33060

P.E.#:76036
DATE: 7/28/23
SCALE: N.T.S.
SHEET NO.: CWS-3 7 OF 8
PROJECT NO.: 23-34