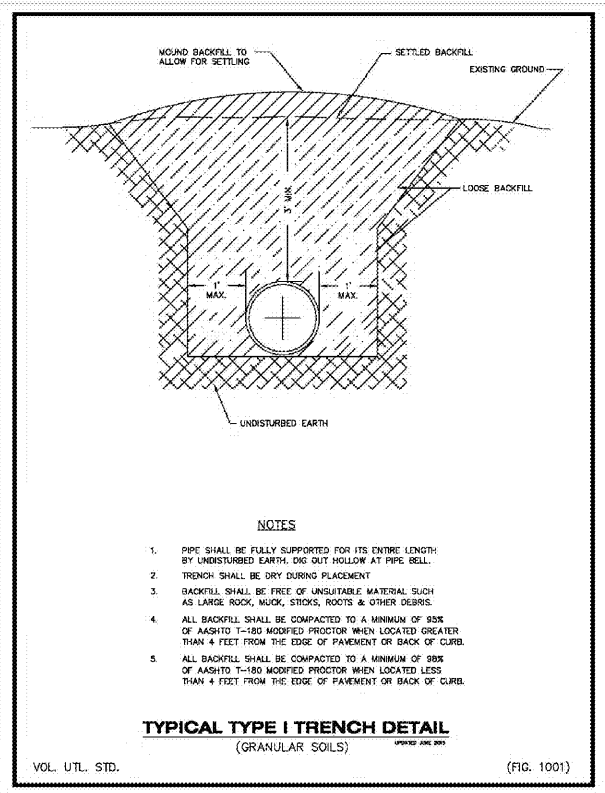


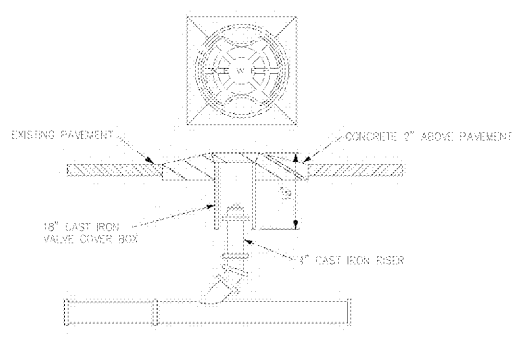
GATEVALVE AND BOX DETAIL
NOT TO SCALE

NOTES:
1. GATE VALVES SHALL BE CAST IRON RESISTENT HEAT PIPE, RATED AT 200 P.S.I. AND SHALL COMPLY WITH ANSI/AWWA C518.
2. CONCRETE COLLAR AND WALK COVER SHALL BE PAINTED FEDERAL SAFETY BLUE FOR POTABLE WATER.



TYPICAL TYPE I TRENCH DETAIL
(GRANULAR SOILS)
VOL. UTL. STD. (FIG. 1001)

NOTES:
1. PIPE SHALL BE FULLY SUPPORTED FOR ITS ENTIRE LENGTH BY UNDISTURBED EARTH, DIG OUT HOLLOW AT PIPE BELL.
2. TRENCH SHALL BE DRY DURING PLACEMENT.
3. BACKFILL SHALL BE FREE OF UNSUITABLE MATERIAL SUCH AS LARGE ROCK, WOOD, STICKS, ROOTS & OTHER DEBRIS.
4. ALL BACKFILL SHALL BE COMPACTED TO A MINIMUM OF 90% OF AASHTO T-99 MODIFIED PROCTOR WHEN LOCATED GREATER THAN 4 FEET FROM THE EDGE OF PAVEMENT OR BACK OF CURB.
5. ALL BACKFILL SHALL BE COMPACTED TO A MINIMUM OF 98% OF AASHTO T-99 MODIFIED PROCTOR WHEN LOCATED LESS THAN 4 FEET FROM THE EDGE OF PAVEMENT OR BACK OF CURB.



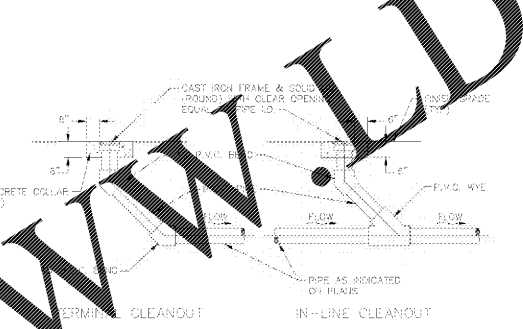
TRAFFIC BEARING CLEANOUT
SCALE = 1/4" = 1'-0"

LOCATION OF PUBLIC WATER SYSTEM MAINS IN ACCORDANCE WITH F.A.C. RULE 62-565.314

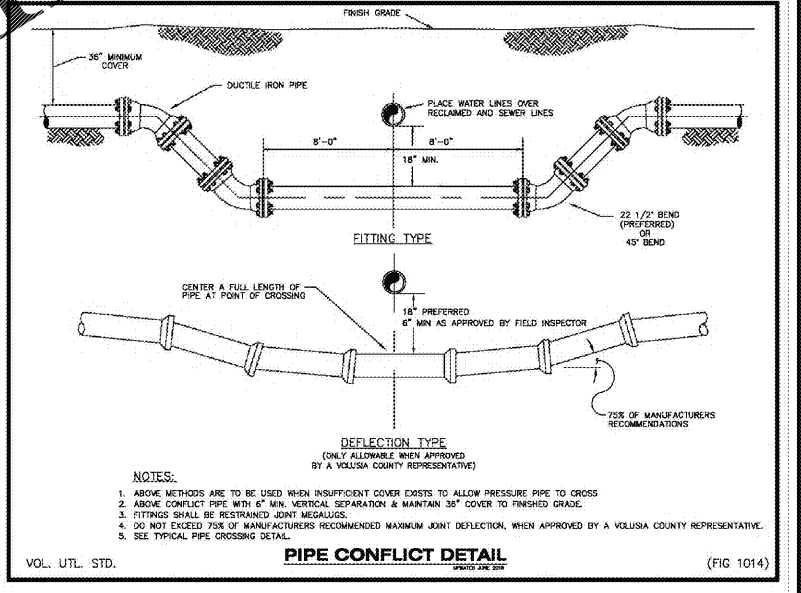
OTHER PIPE	HORIZONTAL SEPARATION	CROSSING (1)	JOINT SPACING & CROSSINGS (FULL JOINT CENTERED)
STORM SEWER, STORMWATER FORCE MAIN, RECLAIMED WATER (2)	WATER MAIN 3 FT MINIMUM	WATER MAIN 12 INCHES IS THE MINIMUM SEPARATION FOR GRAVITY SEWER, WITH 12 INCHES IS PROVIDED	ALTERNATE 2 FT MINIMUM WATER MAIN
VACUUM SANITARY SEWER	WATER MAIN 10 FT PROVIDED 3 FT MINIMUM	WATER MAIN 12 INCHES IS PROVIDED 8 INCHES IS THE MINIMUM	ALTERNATE 2 FT MINIMUM WATER MAIN
GRAVITY OR PRESSURE SANITARY SEWER FORCE MAIN, RECLAIMED WATER (4)	WATER MAIN 10 FT PROVIDED 8 FT MINIMUM	WATER MAIN 12 INCHES IS PROVIDED 8 INCHES IS THE MINIMUM	ALTERNATE 2 FT MINIMUM WATER MAIN
ON-SITE SEWAGE TREATMENT & DISPOSAL SYSTEM	3 FT MINIMUM		

1. WATER MAINS SHOULD CROSS ABOVE ALL OTHER PIPES. WATER MAINS MUST BE BENEATH OTHER PIPE, THE MINIMUM SEPARATION IS 12 INCHES.
2. RECLAIMED WATER RECLAIMED MAINS SHALL BE BENEATH ALL OTHER PIPES, F.A.C.
3. 3 FT FOR GRAVITY SANITARY SEWER WITH THE WATER MAIN IS LAID AT LEAST 6 INCHES ABOVE THE TOP OF THE GRAVITY SANITARY SEWER.
4. RECLAIMED WATER NOT RECLAIMED MAINS SHALL BE BENEATH ALL OTHER PIPES, F.A.C.

WATER MAIN SEPARATION DETAIL
VOL. UTL. STD. (FIG. 2312)



CLEANOUT DETAIL IN UNPAVED AREA
SCALE = 1/4" = 1'-0"

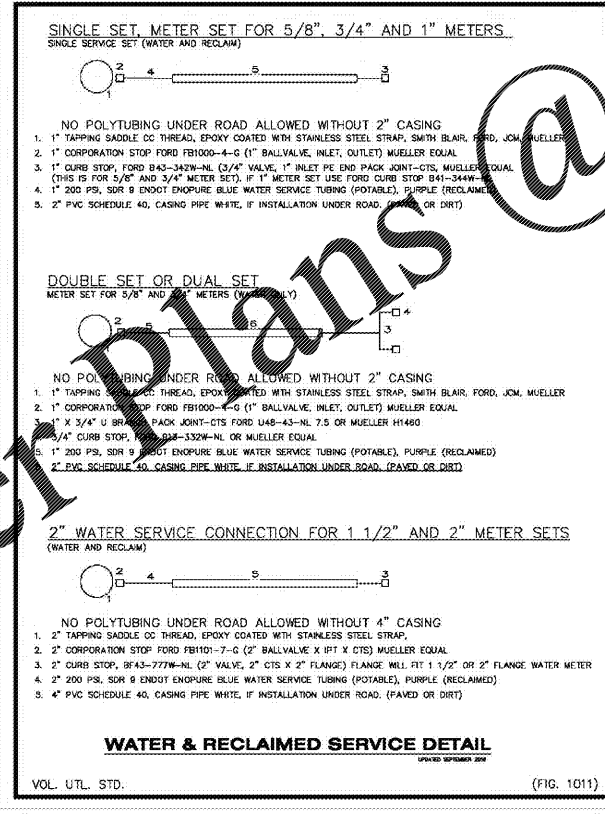


PIPE CONFLICT DETAIL
VOL. UTL. STD. (FIG. 1014)

NOTES:
1. ABOVE METHODS ARE TO BE USED WHEN INSUFFICIENT COVER EXISTS TO ALLOW PRESSURE PIPE TO CROSS.
2. ABOVE CONFLICT PIPE WITH 6" MIN. VERTICAL SEPARATION & MAINTAIN 36" COVER TO FINISHED GRADE.
3. FITTINGS SHALL BE RESTRAINED JOINT METALLURGY.
4. DO NOT EXCEED 75% OF MANUFACTURERS RECOMMENDED MAXIMUM JOINT DEFLECTION, WHEN APPROVED BY A VOLUSIA COUNTY REPRESENTATIVE.
5. SEE TYPICAL PIPE CROSSING DETAIL.

MAXIMUM ALLOWABLE LEAKAGE
NOTE: FOR P31 TESTING, P 1071K (LEAKAGE TEST) MAXIMUM LEAKAGE ALLOWED PER 1000 LF OF PIPE.

PIPE SIZE	GALLONS PER 1000 LF PER HOUR
2"	0.32
3"	0.52
4"	1.10
6"	1.48
8"	1.86
10"	2.20
12"	2.54
14"	2.88
16"	3.22
18"	3.56
20"	3.90
22"	4.24
24"	4.58
26"	4.92
28"	5.26
30"	5.60
32"	5.94
34"	6.28
36"	6.62
38"	6.96
40"	7.30
42"	7.64
44"	7.98
46"	8.32
48"	8.66



WATER & RECLAIMED SERVICE DETAIL
VOL. UTL. STD. (FIG. 1011)

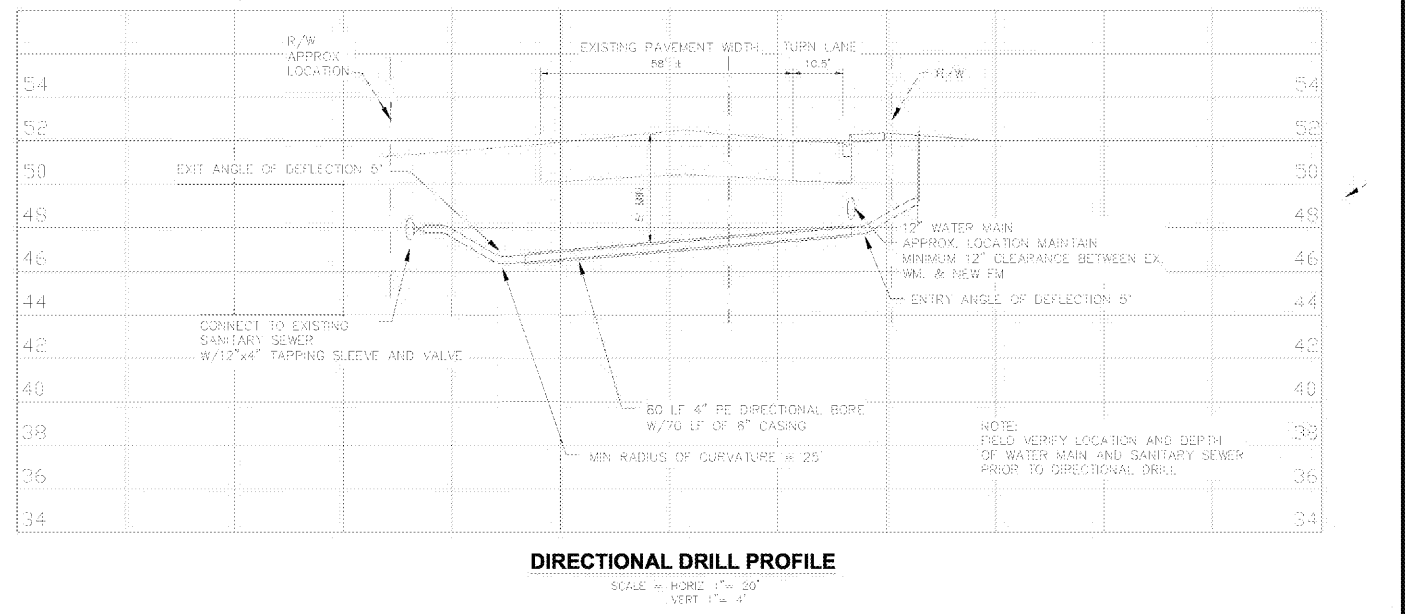
NO POLYTUBING UNDER ROAD ALLOWED WITHOUT 2" CASING

1. 1" TAPPING SADDLE OR THREAD, EPOXY COATED WITH STAINLESS STEEL STRAP, SMITH BLAIR, FORD, JOM, MUELLER
2. 1" CORPORATION STOP FORD FB1000-4-G (1" BALLVALVE, INLET, OUTLET) MUELLER EQUAL
3. 1" CURB STOP, FORD B43-320W-NL (2" VALVE, 1" INLET PE END PACK JOINT-CIS, MUELLER EQUAL (THIS IS FOR 3/4" AND 1" METER SET), IF 1" METER SET USE FORD CURB STOP B41-344W-NL
4. 1" 200 P.S.I. SDR 9 ENDOT ENDOURE BLUE WATER SERVICE TUBING (POTABLE), PURPLE (RECLAIMED)
5. 2" PVC SCHEDULE 40, CASING PIPE WHITE, IF INSTALLATION UNDER ROAD (PAVED OR DIRT)

2" WATER SERVICE CONNECTION FOR 1 1/2" AND 2" METER SETS (WATER AND RECLAIM)

NO POLYTUBING UNDER ROAD ALLOWED WITHOUT 4" CASING

1. 2" TAPPING SADDLE OR THREAD, EPOXY COATED WITH STAINLESS STEEL STRAP
2. 2" CORPORATION STOP FORD FB1101-7-G (2" BALLVALVE X IPT X CIS) MUELLER EQUAL
3. 2" CURB STOP, B43-777W-NL (2" VALVE, 2" CIS X 2" FLANGE) FLANGE WILL FIT 1 1/2" OR 2" FLANGE WATER METER
4. 2" 200 P.S.I. SDR 9 ENDOT ENDOURE BLUE WATER SERVICE TUBING (POTABLE), PURPLE (RECLAIMED)
5. 4" PVC SCHEDULE 40, CASING PIPE WHITE, IF INSTALLATION UNDER ROAD (PAVED OR DIRT)



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UTILITY DETAILS
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