DRC
PZ25-12000022
11/05/2025

BROWARD COUNTY
PUBLIC WORKS DEPARTMENT
PLOTTED: 10/2024

WATER & WASTEWATER SERVICES
ENGINEERING DIVISION
2555 WEST COPANS ROAD
POMPANO BEACH, FL 33069
PHONE NO. 954-831-0745
FAX: 954-831-0925

STANDARD DETAIL

1. PRIOR TO BEGINNING ANY WORK, CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES THAT HAVE FACILITIES WITHIN THE PROJECT AREA.
2. THE ABOVE NOTICE SHALL APPEAR ON THE COVER SHEET OF ALL CONSTRUCTION PLANS SUBMITTED TO THE COUNTY.

REVISED	UTILITY LOCATES	FIGURE
7/7/2021		101

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PUBLIC WORKS DEPARTMENT
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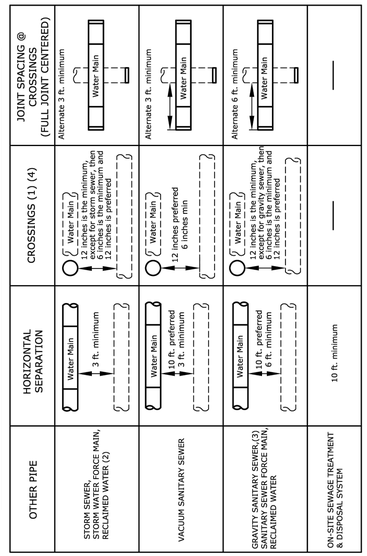
STANDARD DETAIL

WATER MAIN SEPARATION IN ACCORDANCE WITH F.A.C. RULE 62-555.314



(1) WATER MAIN SHOULD CROSS ABOVE OTHER PIPE. WHEN WATER MAIN MUST BE BELOW OTHER PIPE, THE MINIMUM SEPARATION IS 12 INCHES.
(2) RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.
(3) 3 FT. FOR GRAVITY SANITARY SEWER WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST 6 INCHES ABOVE THE TOP OF THE GRAVITY SANITARY SEWER.
(4) 18" VERTICAL MINIMUM SEPARATION REQUIRED BY WWS, UNLESS OTHERWISE APPROVED.

REVISED	WATER MAIN SEPARATION	FIGURE
7/7/2021		105

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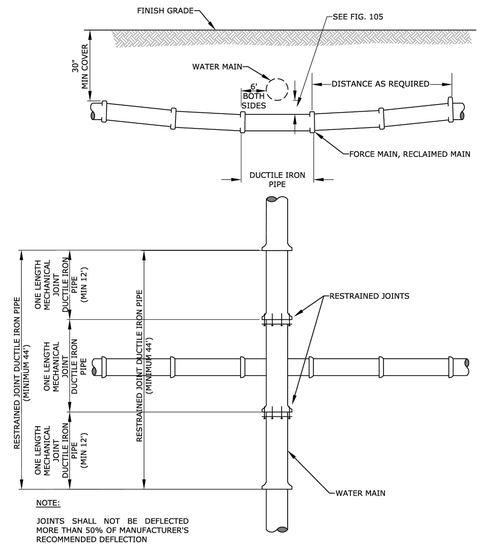

NOTE:
JOINTS SHALL NOT BE DEFLECTED MORE THAN 50% OF MANUFACTURER'S RECOMMENDED DEFLECTION

REVISED	STANDARD UTILITY CROSSING	FIGURE
7/7/2021		106

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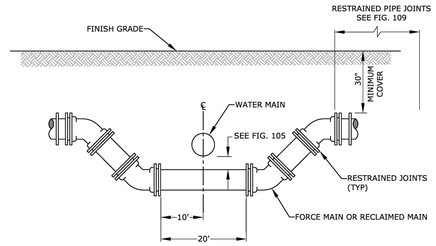

WHEREVER POSSIBLE DEFLECTION OF THE PIPE WILL BE USED TO AVOID EXISTING OBSTRUCTIONS. THIS CROSSING SHALL BE USED ONLY WHEN APPROVED BY WWS.

REVISED	SPECIAL UTILITY CROSSING	FIGURE
7/7/2021		107

BROWARD COUNTY
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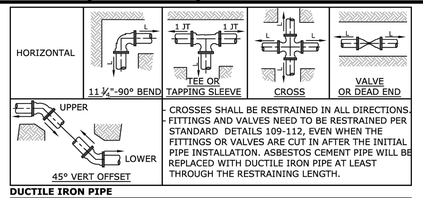

- CROSSES SHALL BE RESTRAINED IN ALL DIRECTIONS.
- FITTINGS AND VALVES NEED TO BE RESTRAINED PER STANDARD DETAILS 109-112, EVEN WHEN THE FITTINGS OR VALVES ARE CUT IN AFTER THE INITIAL PIPE INSTALLATION. ASBESTOS CEMENT PIPE WILL BE REPLACED WITH DUCTILE IRON PIPE AT LEAST THROUGH THE RESTRAINING LENGTH.

DUCTILE IRON PIPE

	HORIZONTAL, L (FEET)						45° VERTICAL OFFSET (FEET)	
Diameter	11 ¼°	22 ½°	45°	90°	Tee or Cross	Valves and Dead End	UPPER	LOWER
4	1	2	4	10	7	20	9	4
6	2	3	6	14	15	28	12	5
8	2	4	8	17	23	37	16	7
10	2	5	9	21	30	44	19	8
12	3	5	10	24	38	52	22	9

PVC PIPE

	HORIZONTAL, L (FEET)						45° VERTICAL OFFSET (FEET)	
Diameter	11 ¼°	22 ½°	45°	90°	Tee or Cross	Valves and Dead End	UPPER	LOWER
4	2	3	5	12	11	32	14	5
6	2	4	7	16	23	45	19	6
8	3	5	9	21	37	59	25	8
10	3	5	11	25	48	71	30	9
12	3	6	12	29	61	83	35	11

THE NOTED REQUIREMENTS WERE CALCULATED IN ACCORDANCE WITH THRUST RESTRAINT CALCULATOR V7.2 BY EBAA IRON WITH THE FOLLOWING ASSUMPTIONS:
SOIL CONDITIONS: SW OR GW; NOMINAL SIZE EQUALS BRANCH SIZE; LENGTH ALONG RUN EQUALS 4 FEET
LAYING CONDITION: 4, SAND BEDDING, BACKFILL COMPACTED > 80%; VERTICAL LOW SIDE DEPTH EQUALS 3.5 FEET
MINIMUM COVER: 3.0 FT SAFETY FACTOR: 1.5 BARE PIPE (NO POLY WRAP)
IF FIELD CONDITIONS DIFFER FROM THE ABOVE, CONTRACTOR SHALL NOTIFY WWS.
FOR PIPE LARGER THAN INCLUDED IN THE ABOVE TABLES, ENGINEER OF RECORD SHALL SUBMIT CALCULATIONS FOR EACH JOINT REQUIRING RESTRAINT.

SINGLE FITTING RESTRAINED JOINT
150 PSI TEST PRESSURE

REVISED	RESTRAINED JOINT REQUIREMENTS SINGLE FITTING	FIGURE
7/7/2021		109

BROWARD COUNTY
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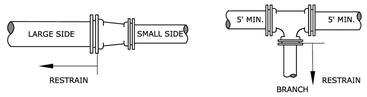

STRAIGHT REDUCER

SMALL SIDE	DUCTILE IRON PIPE			
DIAMETER	6"	8"	10"	12"
4"	15'	27'	36'	45'
6"		16'	27'	38'
8"			15'	28'
10"				16'
PVC PIPE	6"	8"	10"	12"
4"	24'	43'	58'	72'
6"		25'	44'	61'
8"			24'	44'
10"				25'

TEE REDUCER

BRANCH SIZE	DUCTILE IRON PIPE			
DIAMETER	6"	8"	10"	12"
4"	1'	1'	1'	1'
6"		6'	1'	1'
8"			15'	10'
10"				23'
PVC PIPE	6"	8"	10"	12"
4"	1'	1'	1'	1'
6"		16'	8'	1'
8"			31'	25'
10"				44'

THE NOTED REQUIREMENTS WERE CALCULATED IN ACCORDANCE WITH THRUST RESTRAINT CALCULATOR V7.2 BY EBAA IRON WITH THE FOLLOWING ASSUMPTIONS:
SOIL CONDITIONS: SW OR GW; LENGTH ALONG RUN EQUALS 4 FEET
LAYING CONDITION: 4, SAND BEDDING, BACKFILL COMPACTED > 80%
MINIMUM COVER: 3.0 FT;SAFETY FACTOR: 1.5;BARE PIPE (NO POLY WRAP)
IF FIELD CONDITIONS DIFFER FROM THE ABOVE, CONTRACTOR SHALL NOTIFY WWS.
FOR PIPE LARGER THAN INCLUDED IN THE ABOVE TABLES, ENGINEER OF RECORD SHALL SUBMIT CALCULATIONS FOR EACH JOINT REQUIRING RESTRAINT.

RESTRAINED REDUCING FITTING
150 PSI TEST PRESSURE

REVISED	RESTRAINED JOINT REQUIREMENTS REDUCING FITTINGS	FIGURE
7/7/2021		112

BROWARD COUNTY
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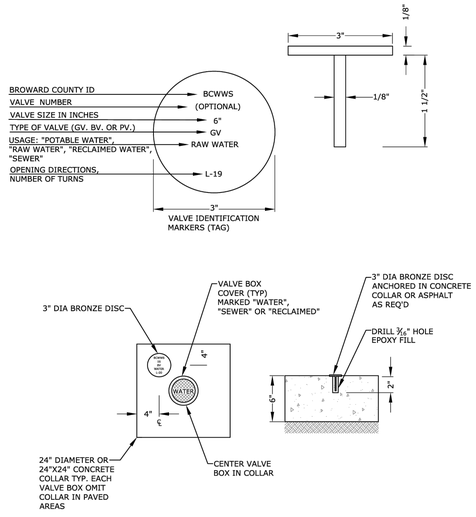

REVISED	VALVE COLLAR AND IDENTIFICATION MARKER	FIGURE
7/7/2021		121

BROWARD COUNTY
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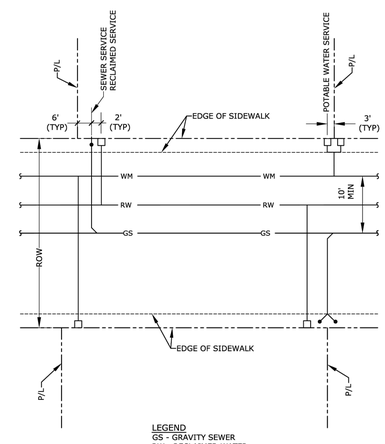

NOTE: LOCATION OF SERVICES CAN BE MODIFIED WITH WWS APPROVAL.

REVISED	UTILITY LOCATIONS	FIGURE
7/7/2021		104

KEITH
301 East Atlantic Blvd.
Pompano Beach, FL 33060
PH: (954) 788-3400
Florida Engineering Business License: CA7928
Florida Surveyor and Mapper Business License: LB6860
Florida Landscape Architecture Business License: LC26000457

Plotted by: dosuna On 8/26/2025 10:24 PM

REVISIONS

NO.	DESCRIPTION	DATE

PRELIMINARY PLAN NOT FOR CONSTRUCTION
THESE PLANS ARE NOT FULLY PERMITTED AND ARE SUBJECT TO REVISIONS MADE DURING THE PERMITTING PROCESS.
RESPONSIBILITY FOR THE USE OF THESE PLANS PRIOR TO OBTAINING PERMITS FROM ALL AGENCIES HAVING JURISDICTION OVER THE PROJECT WILL FALL SOLELY UPON THE USER.

ISSUE DATE:	08/26/2025
DESIGNED BY:	BB
DRAWN BY:	DJE
CHECKED BY:	NW
BID-CONTRACT:	

This item has been digitally signed and sealed by **Thomas F. Donahue**, P.E. on the date adjacent to the seal.
Signature must be verified on any electronic copies.

THOMAS F. DONAHUE LICENSE No. 60529 STATE OF FLORIDA PROFESSIONAL ENGINEER

2025.08.27 10:01:23-04'00'

THOMAS F. DONAHUE, P.E.
FLORIDA REG. NO. 60529
(FOR THE FIRM)

CLIENT
GREEN MILLS GROUP

PROJECT
ASPIRE 1650

SHEET TITLE
WATER AND SEWER DETAILS

SHEET NUMBER	CU-501
PROJECT NUMBER	16500.00

Drawing name: H:\16500.00 - Aspire 1650 - Green Mills Group\Engineering\Cadd\16500.00-CU-501X.dwg

STATUS: PRELIMINARY

DRC
PZ25-12000022
10.01.2025