BCEDP NO.

WATER DISTRIBUTION SYSTEM

GENERAL NOTES

1. All work shall be done in accordance with the City of Coconut Creek Specifications and Requirements.

2. No construction should be undertaken until it is assured that all required agency permits have been obtained, and that these plans conform to the requirements of such permits.

3. Contractor shall notify owners of all existing utilities and obtain locations prior to construction.

4. The location and depth of existing utilities shown on the approved plans are to be verified in the field by the Contractor. Any discrepancy in or variation from the approved plans is to be brought to the attention of the Engineer prior to construction of the water system.

5. A pre-construction meeting is to be held prior to delivery of materials and initiation of any water and sewer construction. The meeting shall be attended by the City, Contractor, Engineer and other interested parties.

6. Six (6) copies of all necessary shop drawings shall be submitted to the Engineer for approval prior to scheduling of the pre-construction meeting.

7. All materials supplied by the project shall conform to the shop drawings as approved prior to construction. Substitute materials will not be approved after delivery to the job site. All requests for material substitution shall be approved prior to delivery of these materials to the job site.

8. The Contractor shall be responsible at all times throughout the duration of construction for the protection of existing and newly installed utilities from damage or disruption of service. The Contractor shall be responsible for taking such measures as necessary to protect the health, safety and welfare of those persons having access to the work site.

9. The Contractor shall schedule inspections and tests and notify Engineer a minimum of 24-48 hours in advance.

10. If unsuitable material is encountered as determined by the Engineer, it shall be completely removed from the trench area and replaced with acceptable granular material.

11. All underground utilities shall be in place prior to subgrade compaction and roadway construction.

12. Contractor shall restore swale areas, concrete and asphalt improvements damaged during construction, to existing or better conditions prior to construction. Photographs shall be taken to document existing conditions.

13. Pipe backfill to be placed in lifts of 1' compacted to within 98% of the soils modified proctor value (AASHTO T-180) and all checked by a certified testing laboratory for proper compaction. All test results to be sent to the Engineer.

14. Upon completion of construction, a final inspection shall be done to verify proper adherence to all facets of the contract documents.

15. Water Mains - Install AWWA/ANSI C151/A21 51-96 Ductile Iron Pipe, Class 51 cement lined and bituminous sealed and coated in accordance with AWWA/ANSI C104/A21 4-95.

16. Minimum cover over water mains shall be thirty (30) inches, unless otherwise noted.

17. Water Service - Install Polyethylene Plastic Tubing (ASTM-D2737) Class 160 SDR 9.0, and AWWA C901-96 service line to be pressure tested at 100 psi with no visible leakage.

18. The end of the water service shall be marked by the contractor with 2" x 2" stake and electronic marker as manufactured by Automated Products Corp. of Austin, Texas, or approved equal.

19. Hydrostatic and leakage tests shall be performed on water mains in accordance with AWWA C600-99. Length of test shall be 2 hours and test pressure shall be 150 psi. Allowable leakage shall not be greater than:

$$L = \frac{(S)(D)(P)^{1/2}}{133{,}200}$$

Where L = Allowable Leakage (Gal/Hr)
S = Length of Pipe Tested (Feet)
D = Nominal Pipe Diameter (Inches)
P = Average Test Pressure (P.S.I.G.)

20. Disinfection of water main shall be in accordance with AWWA C651-99. Mains shall not be put into domestic service until the necessary bacteriological samples have been approved by the Broward County Health Department. Maximum distance between sample points shall be 1000'.

21. Gate valves 4" and larger shall comply with AWWA Standard C500-93, have a maximum working pressure of 200 psi and be tested at 400 psi; and City requirements.

22. Storm and sanitary sewers crossing under water mains shall be laid to provide a minimum vertical distance of eighteen (18) inches between the invert of the upper pipe and the crown of the lower pipe. Where this minimum separation cannot be maintained, the crossing shall be arranged so that the sewer pipe joints and water main joints are equidistant from the point of crossing with no less than ten (10) feet between any two joints and both pipes shall be D.I.P. Where there is not alternative to sewer pipes crossing over a water main, the criteria for minimum separation between lines and joints in the above shall be required and both pipes shall be D.I.P. irrespective of separation. D.I.P. is not required for storm sewer.

23. Maintain ten (10) feet horizontal distance between water main and storm or sanitary sewer main, as a minimum.

24. Force main crossing water main shall be laid to provide a minimum vertical distance of eighteen (18) inches between the outside of the force main and outside of the water main with water main crossing over the force main.

25. The contractor shall guarantee to the satisfaction of the City of Coconut Creek, Florida all materials and workmanship for one year from the date of acceptance.

26. Hydrostatic Testing shall be maximum 2000 feet of pipe.

27. Corporation stops for all 2 inch or less service connection shall be brass alloy type ASTM B-62 latest revision.

28. Service line shall be tested at 100 psi with no visible leaks.

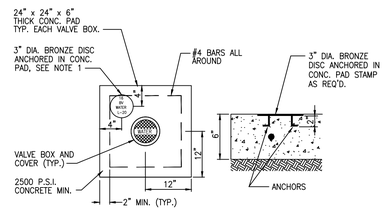
29. Service lines shall be less than 2".

30. The contractor shall be responsible for obtaining locations from all other utility facilities, prior to construction.

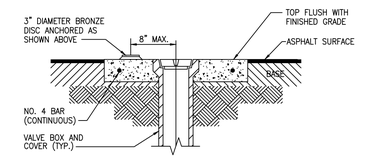
31. All applicable permits must be obtained prior to commencement of construction (DOT, Health Department, County Engineer, etc.).

32. No connection to or any other construction shall be performed on an existing department owned or maintained main or structure without the presence of a department inspector.
33. Facilities proposed herein shall be constructed in accordance with the approved plans and the department's minimum standards. Conflicts between the preceding documents should be called to the attention of the department for resolution. Deviations from the approved plans must be approved in advance by the department.

34. Upon completion of construction, a final inspection shall verify proper adherence to all facets of the plans and specifications.



UNIMPROVED CONDITION



ALTERNATIVE FOR IMPROVED CONDTITION

NOTES:

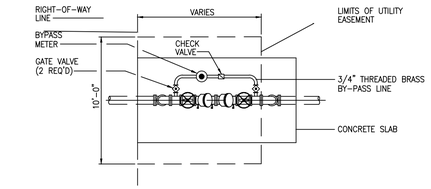
1. BRONZE DISC TO BE SUPPLIED BY CITY.
2. AMERICAN FLOW CONTROL TRENCH ADAPTER VALVE BOX AND EXTENSION IS PREFERRED.

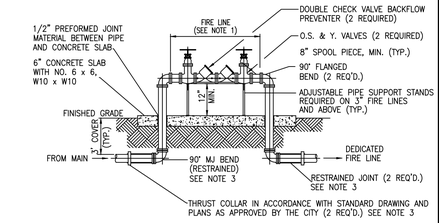
Date	Revisions	Appr. by

CITY OF COCONUT CREEK
UTILITIES AND ENGINEERING DEPARTMENT

VALVE COLLAR DETAIL

Date: | Scale: N.T.S. | Dwg: F111 | Fig: 111





NOTES:

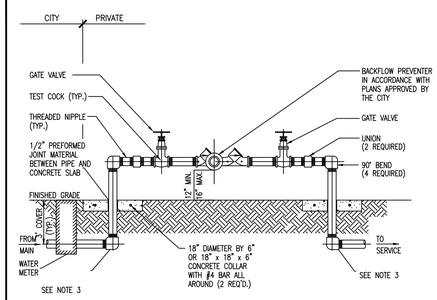
1. ALL PIPE AND FITTINGS 2" AND SMALLER SHALL BE THREADED BRASS.
2. ALL PIPE FITTINGS 4" DIA. AND LARGER SHALL BE CEMENT-LINED DUCTILE IRON WITH FLANGED FITTINGS FOR ABOVEGROUND USE. MECHANICAL JOINT FITTINGS SHALL BE USED UNDERGROUND.
3. MEGALUGS, OR EQUAL, CAN BE USED IN PLACE OF RESTRAINED JOINTS ON ALL UNDERGROUND PIPING.
4. PAINT ALL ABOVEGROUND DUCTILE PIPING, FITTINGS AND VALVES.

Date	Revisions	Appr. by

CITY OF COCONUT CREEK
UTILITIES AND ENGINEERING DEPARTMENT

FIRELINE DOUBLE DETECTOR CHECK VALVE ASSEMBLY

Date: | Scale: N.T.S. | Dwg: F121 | Fig: 121



NOTES:

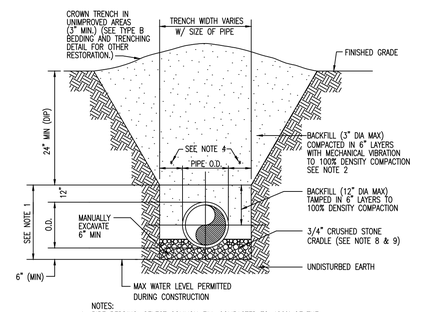
1. ALL PIPE AND FITTINGS 2" AND SMALLER SHALL BE THREADED BRASS, AS SHOWN. ALL 3" PIPE TO BE GALVANIZED STEEL.
2. ALL PIPE FITTINGS LARGER THAN 4" SHALL BE CEMENT-LINED DUCTILE IRON WITH FLANGED FITTINGS FOR ABOVEGROUND USE. MECHANICAL JOINT FITTINGS SHALL BE USED UNDERGROUND WITH RESTRAINED JOINTS AND THRUST COLLARS.
3. MEGALUGS, OR EQUAL, CAN BE USED IN PLACE OF RESTRAINED JOINTS ON ALL UNDERGROUND DUCTILE IRON PIPING (4" AND LARGER).
4. PAINT ALL ABOVEGROUND DUCTILE PIPING, FITTINGS AND VALVES.
5. METER VALVES SHALL BE BRONZE IN ACCORDANCE TO ASTM SPECIFICATIONS.

Date	Revisions	Appr. by

CITY OF COCONUT CREEK
UTILITIES AND ENGINEERING DEPARTMENT

REDUCED PRESSURE BACKFLOW PREVENTER

Date: | Scale: N.T.S. | Dwg: F120 | Fig: 120



NOTES:

1. PIPE BEDDING: SELECT COMMON FILL COMPACTED TO 100% OF THE MAXIMUM DENSITY AS PER AASHTO T-99-C.
2. TRENCH BACKFILL: COMMON FILL COMPACTED TO 100% OF THE MAXIMUM DENSITY AS PER AASHTO T-99-C.
3. USE TYPE A BEDDING TO BE DETERMINED IN THE FIELD AS DIRECTED BY THE CITY OF COCONUT CREEK.
4. (*): 15" MAX. FOR PIPE DIAMETER LESS THAN 24", AND 24" MAX. FOR PIPE DIAMETER 24" AND LARGER.
5. WATER SHALL NOT BE PERMITTED IN THE TRENCH DURING CONSTRUCTION.
6. ALL PIPE TO BE INSTALLED WITH BELL FACING UPSTREAM TO THE DIRECTION OF THE FLOW.
7. REFER TO SECTION 2.18-E OF THE MANUAL FOR SHEETING AND BRACING IN EXCAVATIONS.
8. GRAVITY SEWERS SHALL UTILIZE TYPE A BEDDING, IF REQUIRED BY THE CITY. BEDDING DEPTH SHALL BE 6" MINIMUM FOR ANY DIAMETER PIPE.
9. DEPTH FOR REMOVAL OF UNSUITABLE MATERIAL SHALL GOVERN DEPTH OF BEDDING ROCK BELOW THE PIPE. APPLICABLE GOVERNING AGENCY SHALL DETERMINE IN THE FIELD REQUIRED REMOVAL OF UNSUITABLE MATERIAL TO REACH SUITABLE FOUNDATION.

Date	Revisions	Appr. by

CITY OF COCONUT CREEK
UTILITIES AND ENGINEERING DEPARTMENT

TYPE A BEDDING AND TRENCHING DETAIL

Date: | Scale: N.T.S. | Dwg: F020 | Fig: 020

05/13/19	BAH	
04/04/19	NJA	
DATE	BY	

REV PER CITY; SITE PLAN COMMENTS
REV PER CITY
REVISIONS
FILE NAME 8281ENG.DWG

CAULFIELD & WHEELER, INC.
CIVIL ENGINEERING • LAND PLANNING
LANDSCAPE ARCHITECTURE • SURVEYING
7900 GLADES ROAD - SUITE 100
BOCA RATON, FLORIDA 33434
PHONE (561) 392-1991 / FAX (561) 750-1452

LYONS EXCHANGE CENTER
COCONUT CREEK, FLORIDA
WATER DISTRIBUTION &
SANITARY SEWER DETAILS
COCONUT CREEK, FLORIDA

DATE	6/26/18
DRAWN BY	BAH
F.B./ PG.	N/A
SCALE	N.T.S.

JOHN F. WHEELER
PROFESSIONAL ENGINEER
LICENSE NO. 25478
STATE OF FLORIDA
ENG NO. EB-0003591
DATE

JOB # 8281
SHT.NO.
WS-4
OF 15 SHEETS

Drawing: P:\JOB281-00-00-00\drawings\eng\details\8281ws-S_DETAILS.dwg\WS-S-DTALS.SHT,WS-4