

- ALL WATER LINE WORK SHALL BE IN ACCORDANCE WITH FAC 62-555, "PERMITTING AND CONSTRUCTION OF PUBLIC WATER SYSTEMS". ALL PRODUCTS SHALL BE CERTIFIED AS SUITABLE FOR CONTACT WITH DRINKING WATER BY AN ACCREDITED CERTIFICATION ORGANIZATION IN ACCORDANCE WITH ANSI/NSF STANDARD 61. DRINKING WATER SYSTEMS COMPONENTS HEALTH EFFECTS, AND SHALL BE INSTALLED IN ACCORDANCE WITH APPLICABLE AWWA STANDARDS AND/OR THE MANUFACTURERS' RECOMMENDATIONS. PVC PIPING SHALL BE INSTALLED IN ACCORDANCE WITH AWWA C605; DUCTILE IRON PIPING SHALL BE INSTALLED IN ACCORDANCE WITH AWWA C600.
- ALL PIPING SHALL BE DISINFECTED IN ACCORDANCE WITH AWWA C651 AND SHALL NOT BE PLACED INTO SERVICE UNTIL REGULATORY CLEARANCE IS RECEIVED.
- MAINTAIN SEPARATION BETWEEN UTILITIES IN ACCORDANCE WITH RULE 62-555.314 FAC.
- ALL COMMERCIAL WATER SERVICES SHALL HAVE A CITY APPROVED BACKFLOW DEVICE ASSEMBLY AT EACH CONNECTION POINT TO THE CITY WATER DISTRIBUTION SYSTEM. BACKFLOW DEVICES SHALL MEET THE REQUIREMENTS OF FAC 62-555.360 AND AWWA MANUAL M14, "RECOMMENDED PRACTICE FOR BACKFLOW PREVENTION AND CROSS CONNECTION CONTROL".
- IF REPAIRS TO NEW WATER LINES ARE REQUIRED IN ORDER TO PASS A SPECIFIED PRESSURE TEST, THE NUMBER OF ALLOWED JOINT REPAIRS SHALL NOT EXCEED 10% OF THE TOTAL NUMBER OF JOINT CONNECTIONS. NEW LINES THAT FAIL TO PASS THE PRESSURE TEST AFTER THE 10% JOINT REPAIRS SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
- ALL MAINS AND SERVICE PIPING SHALL BE HYDROSTATICALLY TESTED AT 150 PSI FOR A TWO HOUR PERIOD. NO INSTALLATION WILL BE ACCEPTED IF THE LEAKAGE IS GREATER THAN THAT ALLOWED BY AWWA C605, OR BY AWWA C600, WHICHEVER IS APPLICABLE, OR IF THERE IS ANY VISIBLE LEAK REGARDLESS OF AMOUNT.
- A FIRE HYDRANT METER IS REQUIRED FOR ANY WATER USAGE IN A PROJECT. THE CITY WILL PROVIDE THE HYDRANT METER FOR A NON REFUNDABLE CHARGE OF \$25.00 PLUS A \$1,000.00 REFUNDABLE SECURITY DEPOSIT. BILLING FOR WATER CONSUMPTION SHALL BE ON A MONTHLY BASIS.
- ONLY CITY EMPLOYEES ARE PERMITTED TO OPEN OR CLOSE ANY VALVES OR FIRE HYDRANTS OWNED BY OR CONNECTED TO THE CITY WATER SYSTEM.
- THRUST BLOCKS ARE NOT ALLOWED. CITY APPROVED RESTRAINING DEVICES SHALL BE USED FOR PIPE RESTRAINT.
- VALVES AND FIRE HYDRANTS SHALL BE SPACED NO MORE THAN 500' APART IN COMMERCIAL AND HIGH-DENSITY AREAS, AND 800' APART IN OTHER AREA, ON DISTRIBUTION SYSTEMS. FOR TRANSMISSION MAINS VALVES SHALL BE SPACED A MAXIMUM OF 1,200'.
- PROVIDE GATE VALVES AT ALL TEES AND CROSSINGS. A VALVE SHALL BE PROVIDED ON EACH BRANCH OF A CROSS OR TEE.
- WATER MAIN DEPTH SHALL BE A MINIMUM OF 36" BELOW FINAL GRADE.
- DEPTH OF CURB STOPS, IN METER BOXES, SHALL BE 8" BELOW FINISHED GRADES.
- WARNING TAPE SIZE 2" LABEL "WATER BELOW" SHALL BE PLACED 8" TO 12" BELOW FINISHED GRADES ABOVE ALL WATER MAINS, LATERALS AND HEADER TEES. NUMBER 10 GAUGE INSULATED COPPER TRACER WIRE SHALL BE ATTACHED TO TOPS OF NON-METALLIC PIPE WITH DUCT TAPE, ON EACH PIPE LENGTH AT ALL BELLS AND AT LEAST FOUR ADDITIONAL EQUALLY SPACED LOCATIONS. THE TRACER WIRE SHALL BE ATTACHED TO ALL LATERALS AND EXTENDED TO THE TOP OF EACH VALVE BOX ON THE INSIDE SO THAT PIPE LOCATOR CAN BE ATTACHED.

- ALL SERVICE LATERALS SHALL BE A UNIFORM DISTANCE BETWEEN CURB AND SIDEWALK, AND SHALL BE LOCATED ON PROPERTY LOT LINE.
- NO SPLICES IN SERVICE PIPING WILL BE ALLOWED BETWEEN THE WATER MAIN AND THE CURB STOP.
- ALL WATER MAINS UNDER PAVEMENT SHALL BE DUCTILE IRON, EXCEPT DIRECTIONAL BORES, WHICH MAY BE SDR-11 HDPE.
- A CONTINUITY TEST SHALL BE SUCCESSFULLY COMPLETED BY THE CONTRACTOR PRIOR TO FINAL ACCEPTANCE OF NON-METALLIC PIPES BY THE CITY.
- WATER LINES 8" AND GREATER IN DIAMETER SHALL BE CLEANED BY "PIGGING".
- ALL FIELD CHANGES TO THE APPROVED DRAWINGS SHALL BE RECORDED AND ADDED TO THE RECORD DRAWING ("AS-BUILT") PLANS. UPON COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL FURNISH RECORD DRAWINGS ON DISK USING AUTOCAD FILES AS WELL AS ON A SET OF REPRODUCIBLE DRAWINGS AND THREE BLUE-LINE COPIES.
- RECORD DRAWINGS SHALL BE PREPARED BY A STATE OF FLORIDA LICENSED SURVEYOR AND SHALL BE REVIEWED, SIGN AND SEALED BY THE ENGINEER OF RECORD.
- BLUE REFLECTIVE PAVEMENT MARKERS SHALL BE PLACED IN THE CENTER OF THE DRIVING LANE ADJACENT TO FIRE HYDRANTS.
- THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE THE CITY WITH 48 HOURS NOTICE BEFORE COMMENCEMENT OF ANY CONSTRUCTION ACTIVITY.
- THE CITY PUBLIC WORKS DIRECTOR MUST APPROVE ANY ITEM OR CHANGE NOT MENTIONED OR COVERED IN THE CITY STANDARD SPECIFICATIONS OR DETAILS.
- ANY PROPOSED TAPS TO EXISTING CITY MAINS SHALL BE SCHEDULED AND COORDINATED WITH THE PUBLIC WORKS DIRECTOR. A MINIMUM 48 HOURS NOTICE MUST BE PROVIDED.

MATERIAL	MANUFACTURER
PIPE	4-INCHES THRU 12-INCHES: PVC - AWWA C900-97, DR 18 DI - AWWA C151-02, PRESSURE CLASS 350 CEMENT MORTAR LINED 14-INCHES AND LARGER: PVC - AWWA C905-97 CAST-IRON-PIPE-EQUIPMENT OUTSIDE DIAMETER, PRESSURE RATING 165 PSI DI - AWWA C151-02, PRESSURE CLASS 150 OR GREATER, CEMENT MORTAR LINED
TUBING	AWWA C901-02, PE 3408, DR 9, PRESSURE CLASS 200 3/4-INCH THRU 1 1/2-INCH NOMINAL SIZE, WITH STAINLESS STEEL INSERTS, ENRON OR ENDOT Endopure
GATE VALVES	2-INCHES AND SMALLER: MUELLER A-2360-8, OR AMERICAN AVK, THREADED ENDS 4-INCHES AND LARGER: MECHANICAL JOINT ENDS, AWWA C509-01, MUELLER A-2360 OR AMERICAN AVK, OR AWWA C515-01, AMERICAN FLOW CONTROL SERIES 2500
BUTTERFLY VALVES	LARGER THAN 12" AWWA C504, RESILIENT SEATED MUELLER LINESEAL 111 M.J. KENNEDY B.F.V. FIG. 30
VALVE BOXES	TYLER 461-S 18" - 24" TYLER 562-S 24" - 36"
CHECK VALVE	CAST IRON, RESILIENT SEAT, AWWA C508 AMERICAN FLOW 505C MUELLER MA-2602-6-01-LW
FIRE HYDRANT	SIZE C502, DRY-BARREL, 5/4" MAIN VALVE MUELLER A-423 KENNEDY K-81-A AMERICAN FLOW B-84-B AMERICAN AVK
FITTINGS	4-INCHES AND LARGER: AWWA C153-00 OR C110-03, MECHANICAL JOINT TYPE, CEMENT-MORTAR LINED
RESTRAINING DEVICES	PVC PIPE EBAA IRON MEGA-LUG 2000PV, 1600, 2800 FORD UNFLANGE 1500, 1300, 1350, 1390 DUCTILE IRON EBAA IRON MEGA-LUG 1100, 1700, 1100SD FORD UNFLANGE 1400
2" AIR RELEASE VALVE	APCO ARV, MODEL 200-WATER AND RECLAIMED WATER ONLY VALMATIC, MODEL 45-WATER AND RECLAIMED WATER ONLY CRISPIN, MODEL PL20-WATER AND RECLAIMED WATER ONLY A.R.I. FLOW CONTROL, MODEL D-025, SHORT VERSION-WASTEWATER ONLY

MATERIAL	MANUFACTURER
TAPPING VALVE	MUELLER T-2360 AMERICAN FLOW CONTROL SERIES 2500
TAPPING SLEEVE	AWWA C223-02, TYPE 304 STAINLESS STEEL PER ASTM A240 WITH OUTLET FLANGE PER MSS SP-50; STAINLESS STEEL BOLTING WITH ANTISEIZE COMPOUND. ROMAC SSI, FORD FAST, OR JCM 432, MUELLER H-304
SERVICE SADDLES	OUTLET TAPPED WITH I.P. THREAD (F.I.P.T.), DOUBLE STRAP, DUCTILE IRON BODY, MUELLER DR25, JCM 402, OR FORD F202.
CORPORATION STOP	AWWA C800, INLET WITH MALE IRON PIPE THREAD, OUTLET FOR CONNECTION TO COPPER TUBE SIZE O.D. POLYETHYLENE TUBING; MUELLER H-15028 OR FORD F1100-4, 1-INCH SIZE FOR SINGLE SERVICE; MUELLER H-15023 OR FORD FB1100-6, 1 1/2-INCH SIZE FOR DOUBLE SERVICE
CURB STOP (METER VALVE)	FOR SINGLE SERVICE: 1-INCH INLET FOR COPPER TUBE SIZE POLYETHYLENE TUBING BY METER SWIVEL NUT OUTLET FOR EITHER 3/4" X 1/2-INCH OR 3/4-INCH METER; MUELLER B-24258 OR B-24350 OR FORD B43-342W OR KV43-342W U BRANCH FOR DOUBLE SERVICE: 1 1/2-INCH INLET FOR COPPER TUBE SIZE POLYETHYLENE TUBING WITH 3/4-INCH MALE IRON PIPE THREAD OUTLETS; MUELLER H-153631234712 WITH B-24285 ANGLE METER VALVES HAVING 3/4-INCH FEMALE IRON PIPE INLET AND METER SWIVEL NUT OUTLETS OR FORD UV43-62W
SINGLE METER BOX	BROOKS SERIES #37 CONCRETE BOX, 12" X 20" X 12", SOLID CONCRETE COVER WITH SINGLE TOUCH READ HOLE, RHINO #MB-17 BLACK METER BOX & COVER WITH SINGLE TOUCH READ HOLE.
DOUBLE METER BOX	BROOKS MB DUAL CONCRETE BOX, 18" X 20" X 12", SOLID CONCRETE COVER WITH DUAL TOUCH READ HOLES, RHINO #MB-18 BLACK DUAL METER BOX & COVER WITH DUAL TOUCH READ HOLE

PROJECT:

**FRESENIUS KIDNEY CARE DIALYSIS CLINIC CLERMONT WEST**

LOCATION:

(ADDRESS TO BE ASSIGNED)  
N.W.Q. OF C.R. 565A & S.R. 50  
GROVELAND  
LAKE COUNTY, FL 34736

DEVELOPER:

**DOUGLAS C. McNAB, ARCHITECT**

8148 OLD FEDERAL ROAD  
MONTGOMERY, AL 36117  
TEL (334) 271-3015

ENGINEER:

**FORESITE group**

FL CA 26115  
Foresite Group, Inc.  
10150 Highland Manor Dr. o | 813.549.3250  
Suite 210 w | 813.621.3580  
Tampa, FL 33610 | www.fg-inc.net

CITY OF GROVELAND STANDARD DETAILS: WATER

**GENERAL WATER NOTES**

DATE: JULY 7, 2008  
SCALE: N.T.S.

**W-1A**

CITY OF GROVELAND STANDARD DETAILS: WATER

**GENERAL WATER NOTES**

DATE: JULY 7, 2008  
SCALE: N.T.S.

**W-1B**

CITY OF GROVELAND STANDARD DETAILS: WATER

**APPROVED MATERIALS AND PRODUCTS**

DATE: JULY 7, 2008  
SCALE: N.T.S.

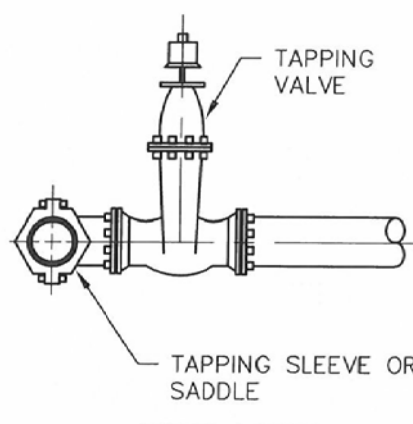
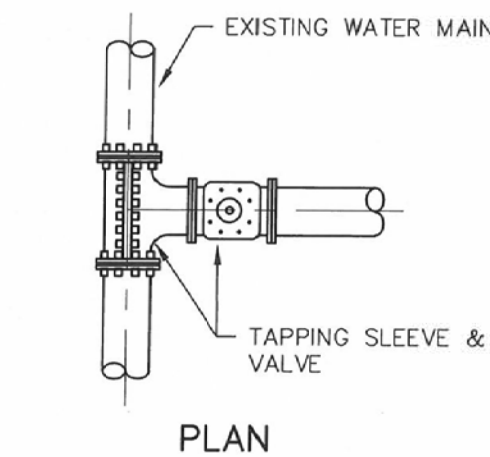
**W-2A**

CITY OF GROVELAND STANDARD DETAILS: WATER

**APPROVED MATERIALS AND PRODUCTS**

DATE: JULY 7, 2008  
SCALE: N.T.S.

**W-2B**



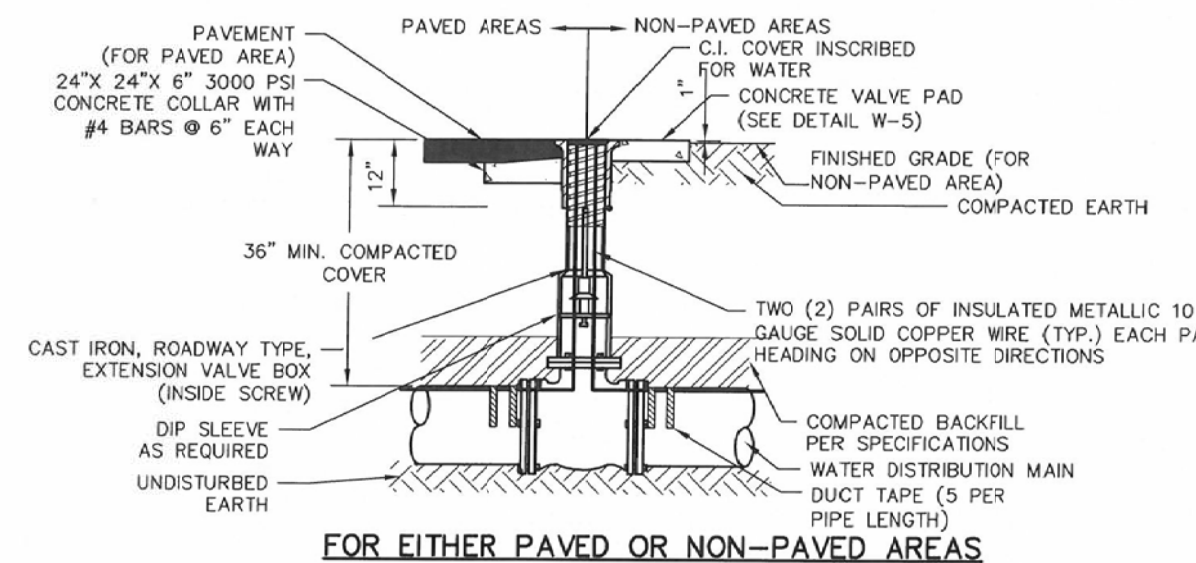
- NOTES:
- TAPPING SLEEVE TO BE STAINLESS STEEL FOR 12" PIPE OR SMALLER, WITH PUBLIC WORKS DIRECTOR'S WRITTEN APPROVAL.
  - TAPPING SLEEVE OR SADDLE IS TO BE COMPLETELY WRAPPED WITH 8 MIL POLYETHYLENE ENCASEMENT.
  - TAPPING SLEEVE AND SADDLE SHALL BE TESTED AT A MINIMUM OF 150 PSI FOR A MINIMUM OF 15 MINUTES WITH NO VISIBLE LEAKAGE.
  - SIZE ON SIZE TAPS SHALL REQUIRE FULLY ENCAPSULATED SPLIT TAPPING SLEEVES, WITH MECHANICAL JOINT FLANGED.

CITY OF GROVELAND STANDARD DETAILS: WATER

**TAPPING SLEEVE/SADDLE DETAIL**

DATE: JULY 7, 2008  
SCALE: N.T.S.

**W-3**



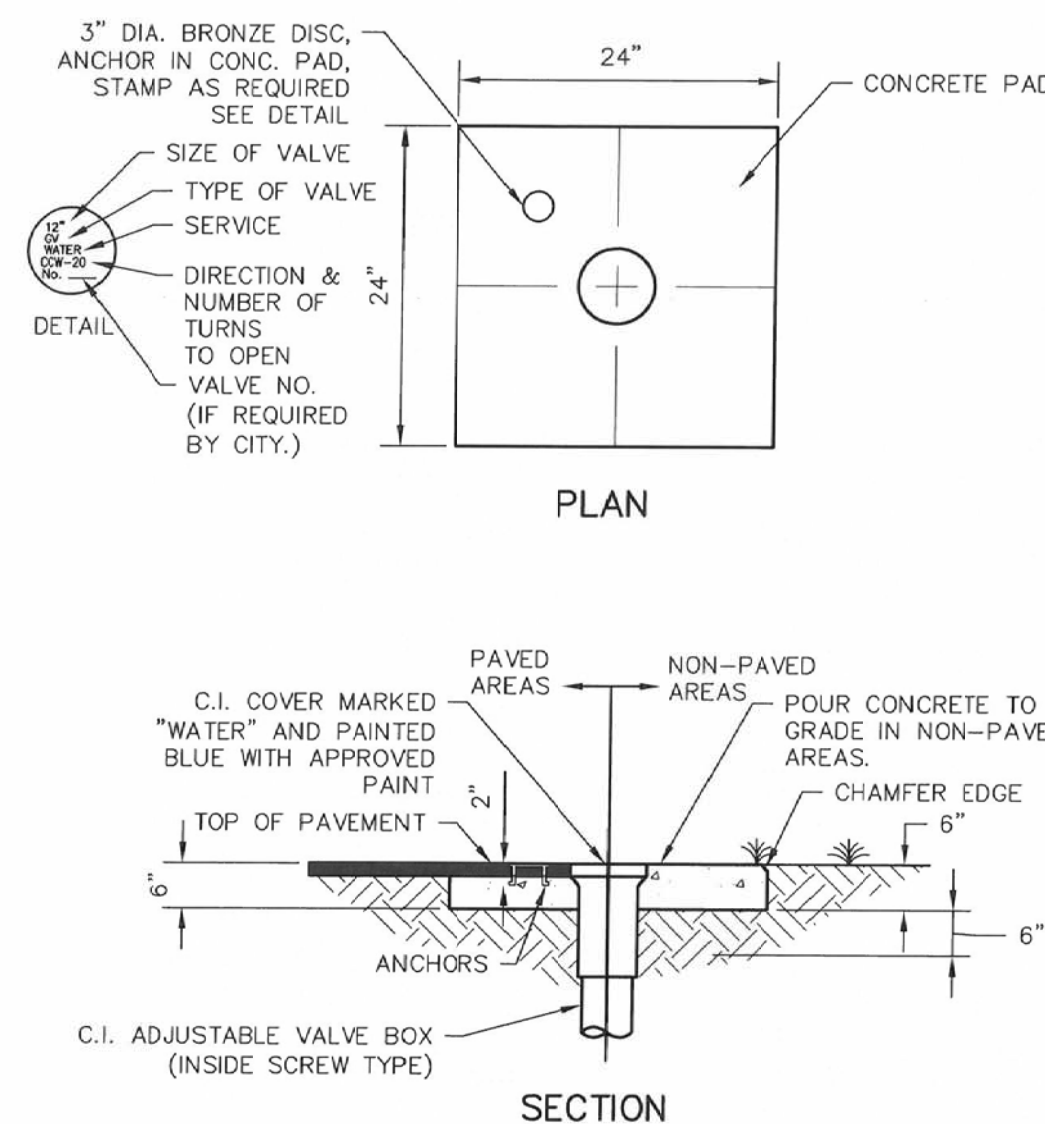
- PVC EXTENSIONS SHALL NOT BE USED.
- EXTENSION ON VALVE BOX SHALL BE SET TO RESERVE 1/2 OF THE ADJUSTMENT LENGTH FOR FUTURE USE.
- OPERATING NUT SHALL BE WITHIN 12" OF GRADE. EXTENSION TO BE PROVIDED AS REQUIRED.
- VALVE EXTENSION SHALL BE MECHANICALLY ATTACHED AND SHALL HAVE A STAINLESS STEEL PIN AT THE VALVE AND SHEAR PIN ONLY AT THE OPERATING NUT.
- ALL PVC PIPE SHALL REQUIRE TWO PAIRS OF INSULATED METALLIC LOCATING WIRES (10 GAUGE SOLID COPPER) TAPED WITH 2" WIDE DUCT TAPE TO TOP CENTERLINE OF THE PIPE AT EVERY JOINT AND AT 4 ADDITIONAL EQUALLY SPACED POINTS PER LENGTH OF PIPE.
- LOCATING WIRES TO TERMINATE 4" ABOVE VALVE BOX AND FOLDED BACK INSIDE BOX AND PLUGGED PIPE AND PLUGGED.
- LOCATING WIRES SHALL BE CAPABLE OF DETECTION BY A CABLE LOCATOR AND PASS A FIELD CONDUCTIVITY TEST, OBSERVED BY THE CITY, FROM END TO END OF WIRES.
- SPLICES SHALL BE CAPABLE OF COMPLETE SUBMERSION, SUCH AS BUTT SPLICE WITH RAYCHEM HEAT SHRINK TUBING.
- NO MORE THAN ONE SPLICE IN LOCATING WIRES BETWEEN VALVES IS ALLOWED.

CITY OF GROVELAND STANDARD DETAILS: WATER

**RESILIENT SEATED GATE VALVE DETAIL**

DATE: JULY 7, 2008  
SCALE: N.T.S.

**W-4**

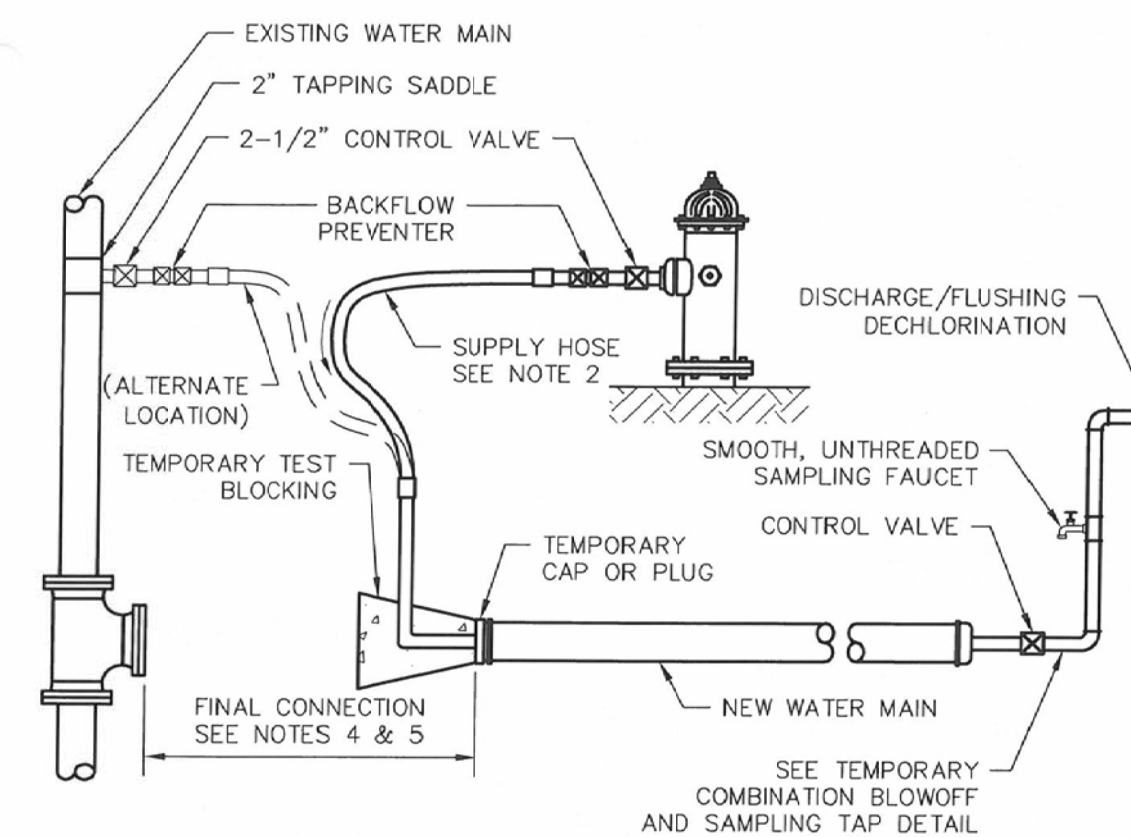


CITY OF GROVELAND STANDARD DETAILS: WATER

**VALVE PAD DETAIL 2" THRU 12"**

DATE: JULY 7, 2008  
SCALE: N.T.S.

**W-5**



- NOTES:
- REFERENCE, AWWA C651, FIG.1
  - CLEAN POTABLE WATER HOSE ONLY. SIZE AND NUMBER OF TAPS AND HYDRANT OUTLETS PER TABLE 3 OF AWWA C651. SUPPLY HOSE MUST BE REMOVED DURING THE HYDROSTATIC PRESSURE TEST.
  - THIS DETAIL APPLIES TO PIPES WITH DIAMETERS 4" THROUGH 12". ALL LARGER SIZES MUST BE HANDLED ON A CASE BY CASE BASIS.
  - PIPE FOR FINAL CONNECTION SHALL BE THOROUGHLY CLEANED WITH CHLORINE SOLUTION BY SWABBING PRIOR TO CONNECTION.
  - LENGTH OF FINAL CONNECTION SHALL BE MINIMIZED. CONNECTION SHALL BE VISIBLY INSPECTED UNDER LINE PRESSURE PRIOR TO BACKFILLING.

CITY OF GROVELAND STANDARD DETAILS: WATER

**TEMPORARY FLUSHING/TESTING DETAIL**

DATE: JULY 7, 2008  
SCALE: N.T.S.

**W-7**

SEAL:

REVISIONS	DATE

PROJECT MANAGER: BK

DRAWING BY: JEC

JURISDICTION: CITY OF GROVELAND, FL

DATE: 19 MAY 2016

TITLE:

**CITY OF GROVELAND DETAILS**

SHEET NUMBER: C-7.2

SCALE:

JOB/FILE NUMBER: 865.001