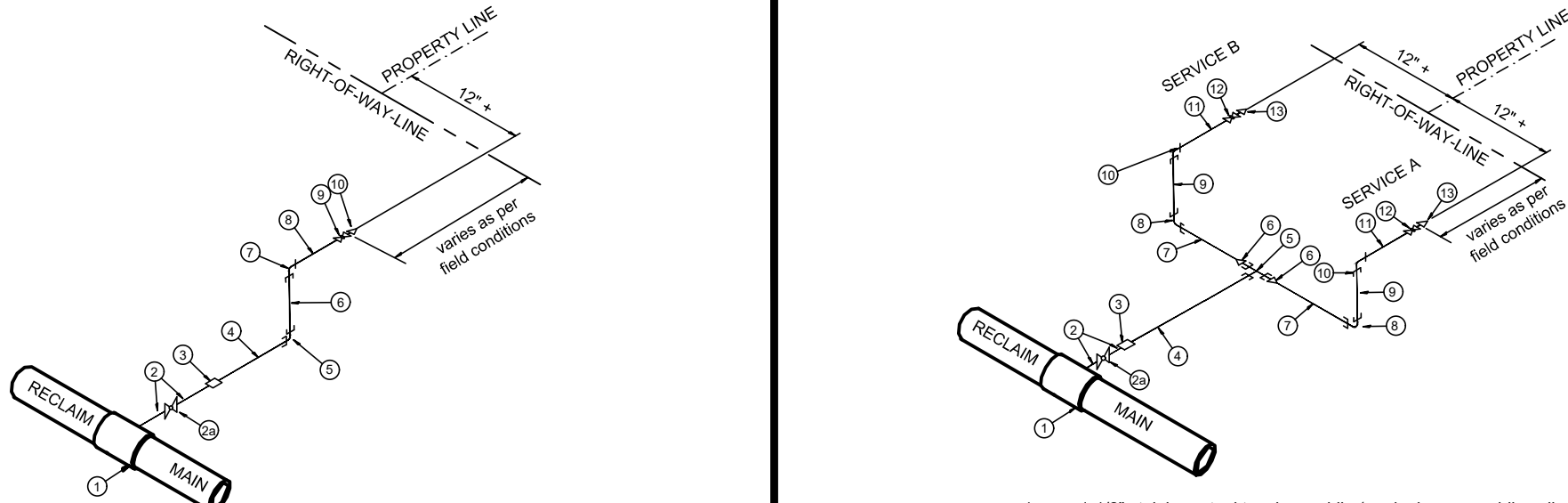




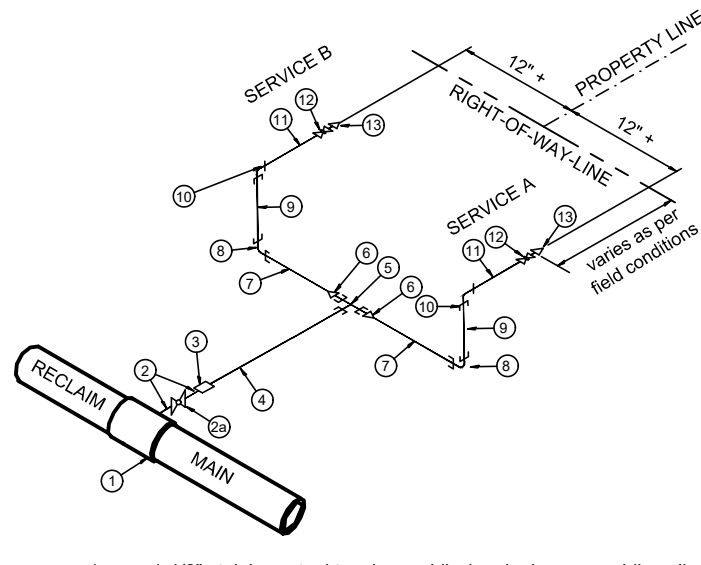
1. $\frac{1}{2}$ x 1-1/2" stainless steel tapping saddle, size on size (no dual range saddles allowed)
2. 1-1/2" stainless steel nipple (only one req'd. when tapping main not under pressure)
- 2a. 1-1/2" bronze ball valve (req'd. only when tapping main under pressure)
3. 1-1/2" SCH80 female adapter (SxFIPT)
4. 1" SCH80 pipe (purple)
5. 1-1/2" x 1" SCH80 red. bushing (SxS)
6. 1" x 90° SCH80 bend (SxS)
7. 1" SCH80 pipe (purple)
8. 1" x 90° SCH80 bend (SxT)
9. 1" x 6" SCH80 nipple (TxF)
10. 1" locking wing ball valve (see table on water details sheet)
11. 1" x 3/4" brass bushing (TxFIPT)

LONG SINGLE RECLAIMED SERVICES
NOT TO SCALE



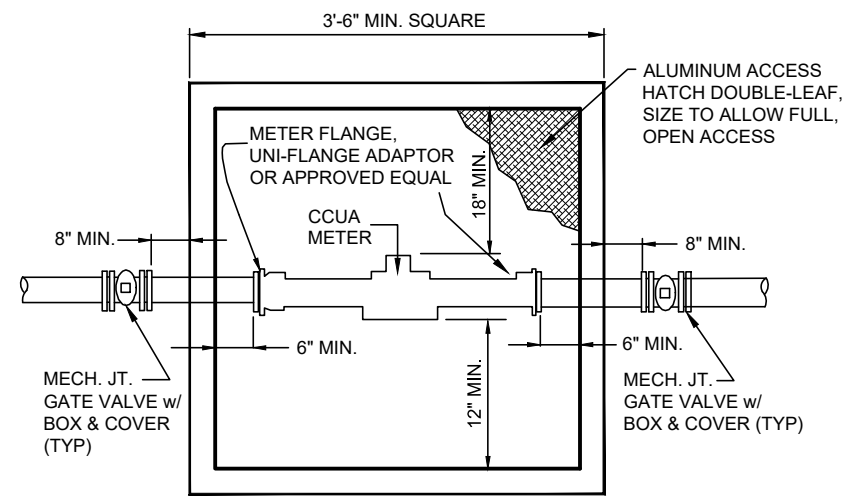
1. $\frac{1}{2}$ x 1" stainless steel tapping saddle, (no dual range saddles allowed) size on size
2. 1" x 3/4" stainless steel nipple (only one req'd. when tapping main not under pressure)
- 2a. 1" x 3/4" bronze ball valve (req'd. only when tapping main under pressure)
3. 1-1/2" SCH80 female adapter (SxFIPT)
4. 1" SCH80 pipe (purple)
5. 1" x 90° SCH80 PVC bend (SxS)
6. 1" SCH80 PVC pipe (purple)
7. 1" x 90° SCH80 PVC bend (SxT)
8. 1" x 6" SCH80 PVC nipple (TxF)
9. 1" locking wing ball valve (see table on water details sheet)
10. 1" x 3/4" brass bushing (TxFIPT)

SHORT SINGLE RECLAIMED SERVICES
NOT TO SCALE



1. $\frac{1}{2}$ x 1-1/2" stainless steel tapping saddle (no dual range saddles allowed)
2. 1-1/2" x 3" SCH80 stainless steel nipple (only one req'd. when tapping main not under pressure)
- 2a. 1-1/2" bronze ball valve (req'd. only when tapping main under pressure)
3. 1-1/2" SCH80 PVC female adapter
4. 1-1/2" SCH80 PVC pipe (purple)
5. 1-1/2" SCH80 PVC tee (SxSxS)
6. 1-1/2" x 1" SCH80 PVC reducing bushing (SxS) as required
7. 1" x 12" SCH80 PVC pipe (purple)
8. 1" x 90° SCH80 PVC bend (SxS)
9. 1" SCH80 PVC pipe (purple)
10. 1" x 90° SCH80 PVC bend (SxT)
11. 1" x 6" SCH80 PVC nipple (TxF)
12. 1" locking wing ball valve (see table on water details sheet)
13. 1" x 3/4" brass bushing (TxFIPT)

DOUBLE RECLAIMED SERVICES
NOT TO SCALE



- NOTES:
1. All pipe within vault must be ductile iron.
 2. All fittings to be ductile iron.
 3. Minimum length of 8 diameters of straight pipe to be installed on inlet side of meter.
 4. All pipe and fittings to be same size as meter.
 5. Concrete box shall be 42" deep with open bottom, precast with notch to accommodate pipe installed 36" deep, installed on 12" of #57 stone
 6. Contractor shall provide shop drawing of box with dimensions for approval by CCUA.
 7. Dimensions shown are minimum and shall be increased based upon actual size of meter provided.
 8. The cost of the meter will be assessed to developer under separate agreement. The meter only will be furnished to the contractor by CCUA and the contractor shall install the meter to complete the installation shown herein.

METER VAULT - 3' AND LARGER METERS
NOT TO SCALE

SPECIFICATIONS FOR CONSTRUCTION OF RECLAIMED WATER DISTRIBUTION SYSTEM

01. INTENTION. It is Clay County Utility Authority (CCUA) intention to secure a new reclaimed water distribution system, complete, in accordance with the plans and specifications, and contract documents. All new work shall be in accordance with CCUA Specifications and Details and Approved Materials Manual and Clay County Engineering Department Details and Specifications and any other Government Regulatory Agency. All work shall conform to the above whether or not specifically called out or noted on the plans.

02. GENERAL. All materials shall be in conformance to National Sanitation Foundation (NSF) 61 and those listed in the CCUA Approved Materials Manual. Materials shall be warranted by the Contractor as to materials, workmanship and accuracy of As-built drawings for a period of two years from the date of completion of the work or beneficial use of the facilities. Workmanship shall be of good quality, i.e. mains shall be laid in a uniform alignment, fittings shall be properly restrained, trenches shall be properly excavated and backfilled, and valve boxes shall be adjusted to finished grade.

02.1 CONTRACTOR LICENSE AND APPROVAL. Utility reserves the right to approve or deny approval of Contractor prior to construction of any on-site or off-site utility facilities. Contractor must hold a State Of Florida Underground Utility Contractors license, that named contracting company being the one doing the work on project, and demonstrate acceptable experience in the field of utility construction.

03. SURVEYS. The Utility Contractor shall provide all surveys necessary for the layout and construction of the work of his contract.

04. EARTHWORK. Earthwork shall include all excavation, fill and backfill (hand/machine), compaction and rough grading of materials encountered. No unsuitable materials clay, muck, or peat removed from pipe trenches are to be used for backfill. All fill or backfill shall be either sand or sandy clay, free of rocks, trash or other debris. All backfill alongside of and to a height twenty-four inches above all pipe shall be free of clay or organic material, compacted by either hand or machine operation carefully. All other backfill shall be compacted by either hand or machine operation carefully to 95% (outside of paving), 98% (under paving) of its optimum moisture content as determined by ASTM D698, latest. Copies of compaction density test reports from a licensed testing agency shall be made available to CCUA if requested.

05. JOINT RESTRAINT. All fittings shall be properly and adequately restrained against lateral movement at all water main tees, crosses, valves, bends and fire hydrants. Restraints shall be as outlined in the CCUA Approved Materials Manual for acceptable restraints (www.claycounty.org/engineering/materials_manual.aspx)

06. DUCTILE IRON PIPE. Ductile iron pipe shall conform to ANSI Specification A21.50 (AWWA C150) latest, "Thickness Design of Ductile Iron Pipe", Table 50.5, laying condition Type 2, internal operating pressure of 250 p.s.i. for an 8-foot depth of cover, Class 51 minimum and shall be ANSI A21.51 (AWWA C151), latest centrifugally cast pipe. Laying lengths shall be 20 feet or less in length, and shall be clearly marked with pressure ratings, thickness, class, height of pipe without flange, length, and Manufacturer. Ductile iron pipe for water service shall be furnished with cement lining per AWWA C110, C115 and C151. The pipe shall have design values of 60,000 p.s.i. minimum tensile strength, and 42,000 p.s.i. minimum yield strength. All ductile iron piping shall be wrapped with purple tape and stamped "Reclaimed Water" on at least two sides @ 12" o.c. along pipe barrel. Ductile iron pipe for reclaimed water or service lines shall be used in any easement, right-of-way, between lots, and any instance where a building foundation or other permanent appurtenance is within 10' of the main or a service line larger than 3'.

07. DUCTILE IRON FITTINGS shall be C153 cement lined and suitable for the type and class of pipe to which connected. Gaskets shall be suitable for reclaimed water service. Minimum working pressure shall be 150 p.s.i.

08. POLYVINYL CHLORIDE PIPE. Polyvinyl chloride pipe for water mains 4 inch through 24 inches in diameter, shall be DR18 (C900) Pressure Class 235 psi PVC 1120, reclaim mains above 24 inches in diameter shall be DR25 (C900) PVC 1120, Pressure Class 165 psi, conforming to ASTM D-1784, D-2241, D-2139 and F-477, latest, or P.V.C. C900, Class 155, DR-25, conforming to ASTM D-1784, Cell Class 12454, ASTM F-477, ASTM D-3139, latest, and shall bear the seal of the National Sanitation Foundation. Pipe shall be color coded and marked "RECLAIMED WATER" at every 12' along the barrel of the pipe, with lettering facing up. Couplings shall be rubber gasketed, push-on type conforming to ASTM D-2122

09. STEEL CASING PIPE. Steel casing pipe shall be of size indicated on the Drawings and shall conform to ASTM A139, with a minimum yield strength of 35,000 p.s.i.

10. POLYVINYL CHLORIDE (PVC 1120, SCHEDULE 40) PIPE shall conform to the requirements of ASTM D 1785. Fittings and threaded nipples shall be Schedule 80 PVC. All piping smaller than 4" shall be Schedule 40 or Schedule 80 as detailed. Schedule 40 PVC pipe shall be Pantone purple 522C and marked "Reclaimed Water".

11. NOTE: All reclaimed water services are to be installed on one lot line and potable water services are to be installed on the other. This is to allow separation of the two water services. Sewer services are to be installed at the middle of the lot.

12. GATE VALVES AND BOXES. Gate valves shall be non-rising stem type and shall be suitable for a 200 p.s.i. non-shock working pressure. Gate valves shall be mechanical joint, flanged or screwed. Gate valves shall have a 2" operating nut and open left. Gate valves shall have joints suitable for the type of main on which installed. Valves 3" and larger shall be iron body, bronze fitted with resilient seat. Valves shall be of DOMESTIC (American) manufacture and shall be those listed in CCUA Approved Material Manual. Valves 16" and larger shall be AWWA C-515. Valve boxes with screw extensions shall be provided for all gate valves. Boxes shall be of cast iron construction, 7/32" minimum wall thickness and shall be nontacky tar enamel coated. The word "RECLAIMED WATER" shall be cast in the cover. Other valves smaller than 2" shall be heavy-duty bronze ball valves. Box covers to be primed and painted Pantone Purple 522C.

13. RECLAIMED WATER METER BOXES. Developer shall be responsible for installation of meter boxes on all water services as part of the water main installation and shall be adjusted to the proper elevation and shall be accessible for the installation of the meter. The Contractor shall be required to open all boxes for the Authority's inspector at the final inspection. A treated 6'-6" fence post marker shall be installed at the side of and centered on the meter box and painted Pantone Purple 522C for identification. Meter boxes shall not be placed in any sidewalk or driveway without the approval of CCUA.

14. CURB STOPS. Curb stops shall be cast bronze, inverted key stop, roundway, with check, lock wing type, for locking in the closed position. See CCUA Approved Materials Manual for acceptable curb stops.

15. PRESSURE REDUCING VALVES. The pressure reducing valve shall maintain a constant delivery pressure as part of the service to each residential irrigation system. Pressure reducing valves shall conform with the standard requirements of the ASSE (Std. 1003) and WPOA Uniform Plumbing Code. Approved model: See CCUA Materials manual.

16. INSTALLATION. The minimum cover over top of reclaimed water main shall be 48". All lines and appurtenances shall be thoroughly cleaned of all foreign matter before being lowered into the trench and shall be kept clean during laying operations by means of plugs or other approved methods. All pipe shall be new and checked for defects before being lowered into the trench. Defective pipe shall not be used. Pipe found to be defective after installation, shall be removed and replaced with sound pipe at no additional expense to the Owner. The full length of each section of pipe shall rest solidly upon the pipe bed, with recesses excavated to accommodate the bells and joints. All pipe that has the grade or joint disturbed after laying shall be taken up and reinstalled. The pipe shall not be laid in water or when trench or weather conditions are unsuitable for the job. All joints shall be cleaned of all foreign matter before making the joint. Fittings at bends in the pipe shall be properly restrained with joint restrainers adequately sized to prevent movement and dislocating or bowing of when the line is under service. Pressure laterals shall terminate at the point noted in the details. All reclaimed mains shall be installed with tracer wire per CCUA standard location wire details.

17. SEPARATION OF RECLAIMED WATER MAINS. Maximum separation of reclaimed water lines and potable water lines shall be practiced. A minimum horizontal separation of three feet, outside-to-outside, shall be maintained between reclaimed water mains and other potable water mains or wastewater pipes. Reclaimed water mains crossing under water mains shall be laid to provide a minimum vertical separation of 18 inches between the invert of the upper pipe and the crown of the lower pipe. Where the minimum separation cannot be maintained, the crossing shall be arranged such that the reclaimed water main pipe joints and potable water main joints are separated from each other by at least 18 inches between joints. Alternatively, the reclaimed water main shall be placed in a sleeve to obtain the equivalent of the required ten feet separation. Where there is no alternative to reclaimed water pipes crossing over a water main, the criteria for minimum separation between lines and joints shall be required.

18. PIPE FLUSHING. All reclaimed water system piping shall be flushed with clean water in a rate of 2 feet per second (min.) utilizing full pipe diameter flushing. In cases where the water supply is inadequate to flush the full pipe diameter, flushing shall occur to the extent of the water supply that is available. All flushing must be contained.

19. TESTS. After the pipe is laid, the joints completed, and the trench backfilled, the newly laid pipe and appurtenances shall be subjected to a Hydrostatic and Leakage test of 150 pounds per square inch for a period of at least two hours. During this period, all joints shall be inspected to determine water tightness of the system. Any leaks detected shall be corrected, tests shall be in accordance with the CCUA's requirements and specifications. Curb and linerock may be installed after construction of the reclaimed water mains, however, linerock priming cannot proceed until such time as the CCUA inspector approves the reclaimed water distribution system pressure test. This will be strictly enforced. If the reclaimed water system is damaged during any of the operations prior to paving, a follow up test may be required by CCUA.

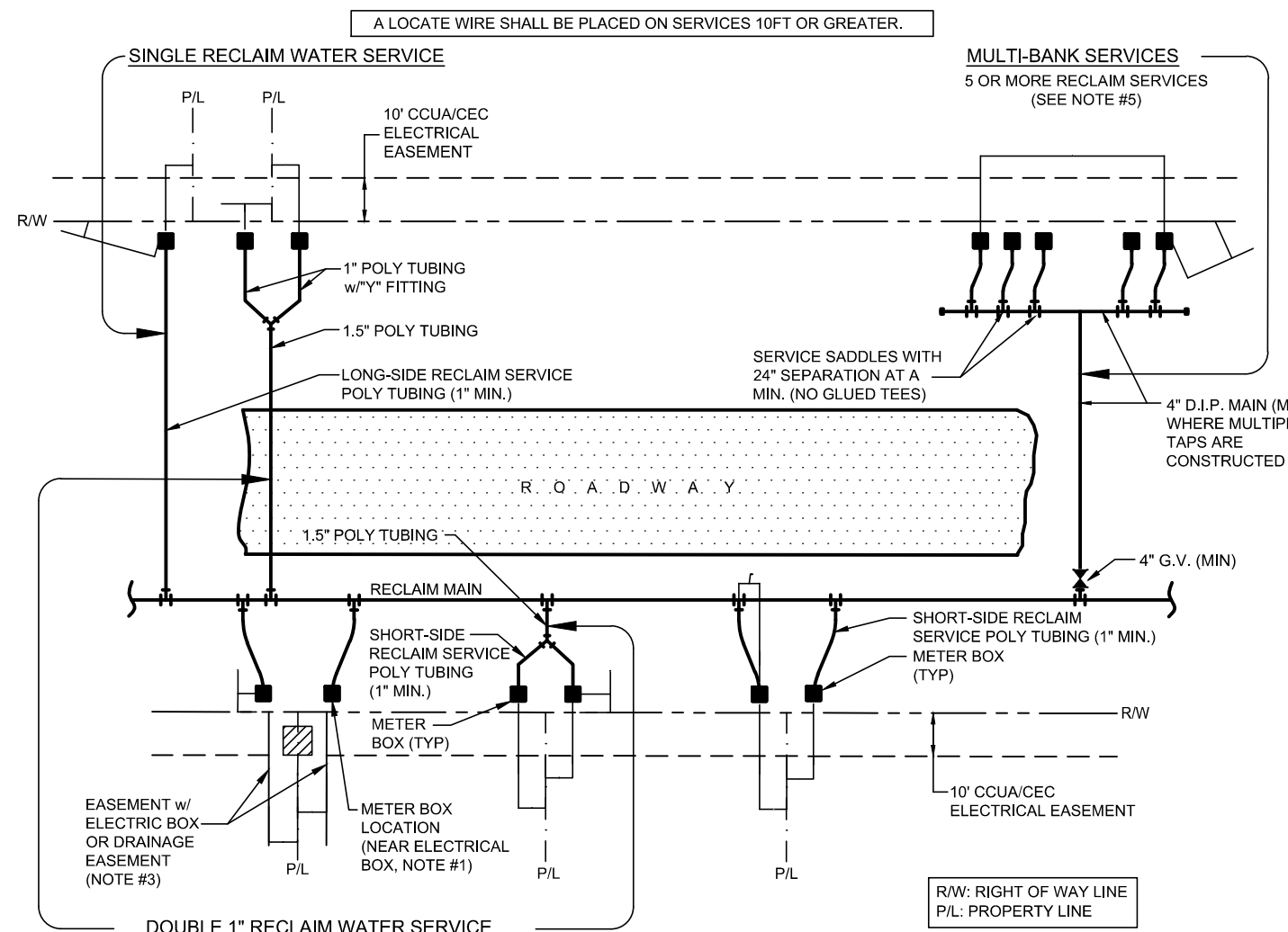
20. WARNING SIGN. Each development, subdivision, or commercial establishment, regardless of the number of buildings, shall install reclaimed water use warning signs at the entrance or any other street or driveway entering any properties which use reclaimed water. The signs shall meet the requirements of CCUA details and specifications. The signs shall be a requirement whether shown on plans or not. Direction of locating those signs shall be given by the CCUA engineer on site.

21. POLYETHYLENE TUBING SERVICE LINES AND MAINS (2 INCH AND SMALLER). Tubing shall be manufactured of PE 4710, High Density Polyethylene (HDPE), in accordance with AWWA C901, ASTM D2339, ASTM D3737 and ASTM D3350. The tubing shall have a minimum working pressure of 250 psi. Polyethylene tubing shall be copper tube size SDR-9 and shall be colored purple. HDPE pipe shall have ultraviolet (UV) inhibitors for protection against direct sunlight for 1 year. Inseal for polyethylene tubing may be utilized, at Contractor's option, and, if used, shall be 316 stainless steel. The use of non-lead brass couplings, tees and "Y" fittings are acceptable on poly service tubing, if not located under a roadway. Tubing shall be approved for use with potable water by the National Sanitation Foundation (NSF-14) and shall be continuously marked at intervals of not more than four feet with the following:

22. PRIOR TO FINAL INSPECTION, THE CONTRACTOR SHALL PROVIDE THE FOLLOWING:
1. The pressure test and flushing report.
 2. The Engineer of Record certification to PEP; this can be done with preliminary as-builts.
 3. Preliminary as-builts showing at least the following: location of valves, mains, services and manholes.
 4. All services and valves to be installed marked with a treated fence post.
 5. The reclaimed water use warning signs shall be installed.

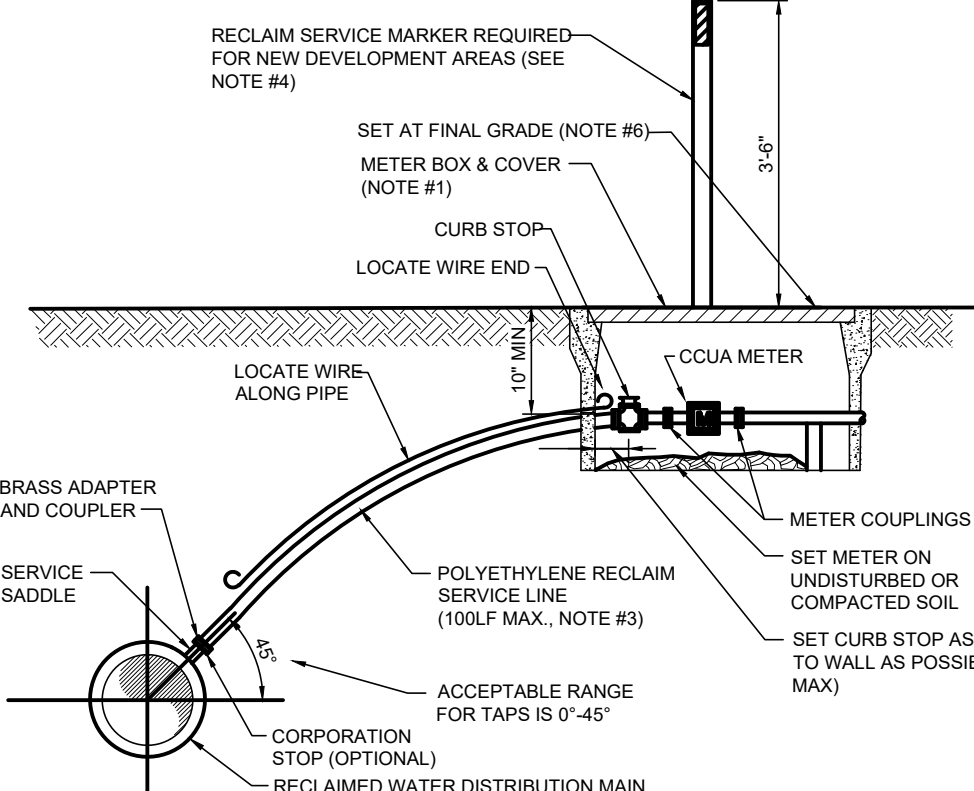
23. PRIOR TO FINAL ACCEPTANCE FOR OWNERSHIP, THE FOLLOWING MUST BE COMPLETED:

1. Reclaimed water services must be lowered and meter boxes installed, valve boxes must be set on all gate valves, recast concrete valve box collar must be in place on all gate valves.
2. As-built drawings shall have been updated to accommodate the CCUA's comments (shall comply to the guidance set forth in CCUA's As-built Specifications Standards Manual, which can be obtained from CCUA's website www.clayutility.org).
3. As-builts must be accepted by the CCUA.
4. All valves and single services shall be scribed in curb and painted the correct color for each.



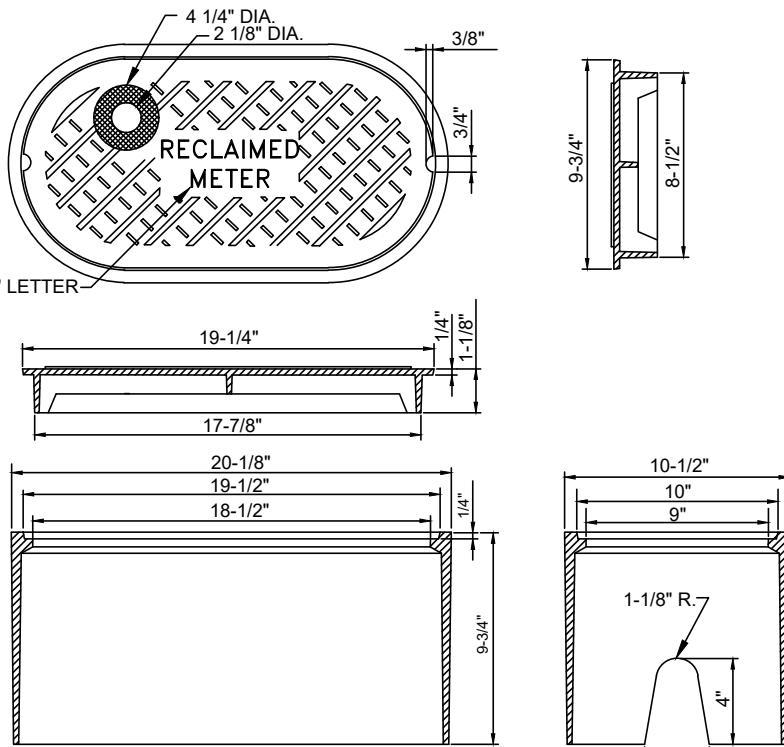
- NOTES
1. The sketches above indicate typical reclaim water service and meter box locations. Actual locations of boxes may vary slightly according to field conditions encountered. Typically, the meter box shall be located 1/2' off of the R/W line.
 2. Unless specified otherwise by the applicable county (Clay or Bradford), the meter box shall be located 1/2' off of the r/w line, and 1/2' foot inside of the prolongation of one of the side property lines. If a conflict exists with other utilities, the meter box may be adjusted to four feet (max.) inside property lines (in lieu of 1/2' foot). Unless approved otherwise by CCUA, the water meter box shall be located in non-traffic areas (not in sidewalks or driveways). If an unapproved meter box is identified by CCUA, then the contractor or customer shall be responsible for the cost of relocating any meter box which is located in the sidewalk or driveway or the cost to provide the correct meter box. CCUA shall approve all deviations to the above prior to construction.
 3. If drainage or other easement is located between lots, meter boxes shall be located at the easement line but outside the easement area.
 4. For single services, the horizontal distance (perpendicular to the main between the service's saddle and the meter box shall be 2 feet maximum. For double 1" services, the 1/2" poly main shall be located centered between the two meter boxes. Locate wire is required on all services 10' or greater in length. If locate wire is required, the wire shall run from the meter box to the main (with no connection to main wire with the last 24 inches stripped of insulation bare wire as ground). All exceptions to this requirement must be approved by CCUA. This will result in locating existing service lines in the future.
 5. Multi-bank water services for 3 or 4 services in one area, a ductile iron pipe (D.I.P.) water main extension w/locate wire may be utilized on either short-side or long-side services where shown on the drawings. Locate wire shall extend from one meter box to curb stop at least 10' from the main. For 5 or more services in one area, a water main extension w/locate wire may be utilized on long-side services where shown on the drawings (taps staggered and at a 2' foot on center-min). For water supply headers where 5 or more taps are constructed, the header pipe shall be 4" at a minimum. Example: Construct a 4" main D.I.P. crossing the street for 5 residential customers, utilizing 4" gate valve, 4" pipe, 4"x1" saddles and 1" curb stops (no glued tee fittings). The 4" or larger D.I.P. water main must be sized and designed by the engineer.
 6. Double 1" reclaim water services is allowed for short side or long side services and where shown on the drawings.
 7. Reclaimed water meter boxes or services shall be located at a min. of 10' from the existing potable water service and/or box, and not allowed in concrete or asphalt unless approved otherwise by CCUA.

RECLAIM WATER SERVICE INSTALLATIONS
2" AND SMALLER METER
NOT TO SCALE



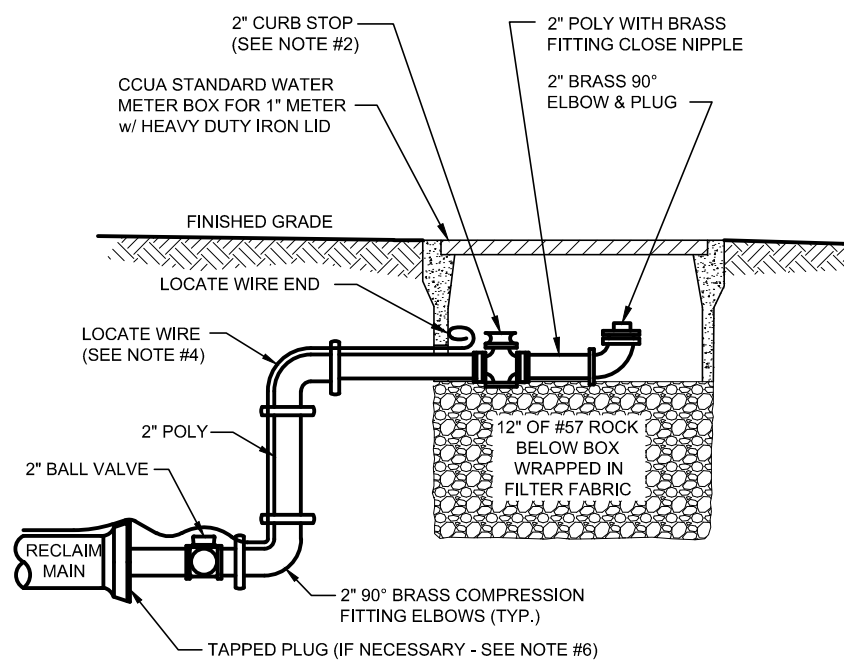
- NOTES
1. See CCUA Approved Materials Manual and system details for requirements.
 2. Single band saddles may be utilized on new 1" reclaim water services which are installed on a dry 10" size or smaller reclaim water main (new reclaim water main construction). For wet taps or water mains 12" size and larger, a double band saddle is required.
 3. No open cut under roadway paving allowed unless the roadway is being reconstructed or if directed otherwise by CCUA. Construct poly line with 36" (min.) cover under roadways. The poly reclaim water service line shall be same size as the meter (3/4" minimum) and be installed perpendicular to the main and not exceed 100 LF unless approved otherwise by CCUA.
 4. Install PVC plug in all curb stops if reclaim water service is "not in use" (i.e.: if no meter is installed). In addition, install a 6" wide, 6'-6" long pressure treated fence post (top painted purple) 12" off the side of the meter box. The removal or transfer of a reclaim water service shall include brass meter couplings (two on barrel type).
 5. The contractor shall be responsible for the repair or replacement of the meter or electronic devices if damaged by the contractor during the construction period.
 6. Meter box and top shall be clear of all debris to allow full access to box (i.e. no dirt, trash or other debris placed on top of box).
 7. Locate wiring required on all services 10' or greater in length/offset greater than 2'.

RECLAIMED WATER SERVICE DETAIL
2" AND SMALLER METER
NOT TO SCALE



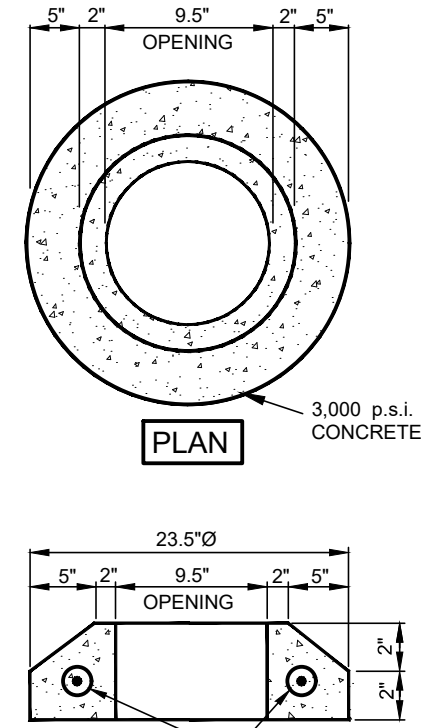
- NOTE: Tolerance should be $\pm 1/16$ ", unless otherwise specified.
MATERIAL: Cast iron ASTM A46 CLASS: 25B
COATING: Painted
WEIGHT: 46 lbs(set)

METER BOX & LID
W/ TOUCH READ HOLE
NOT TO SCALE

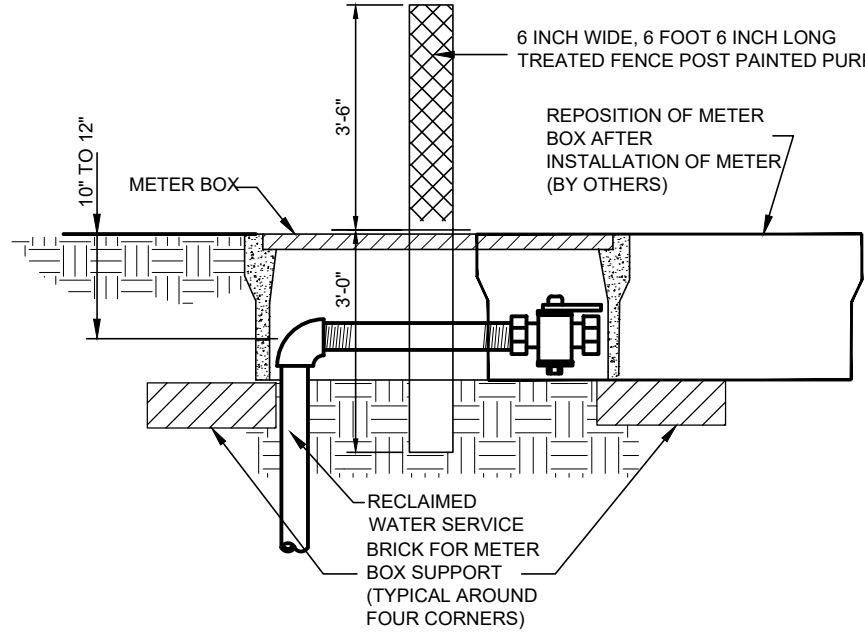


- NOTES
1. Pipe shall be polyethylene. Fittings shall be brass.
 2. The 2" curb stop shall be all bronze. Fittings shall be brass.
 3. Locate wire for 10' or greater in length.
 4. Cannot be placed under concrete or pavement.
 5. Place 2 feet past last water main service connection.
 6. See Pipe Restraint Chart on Sheet WAT 02.

FLUSHING VALVE BELOW GRADE
NOT TO SCALE

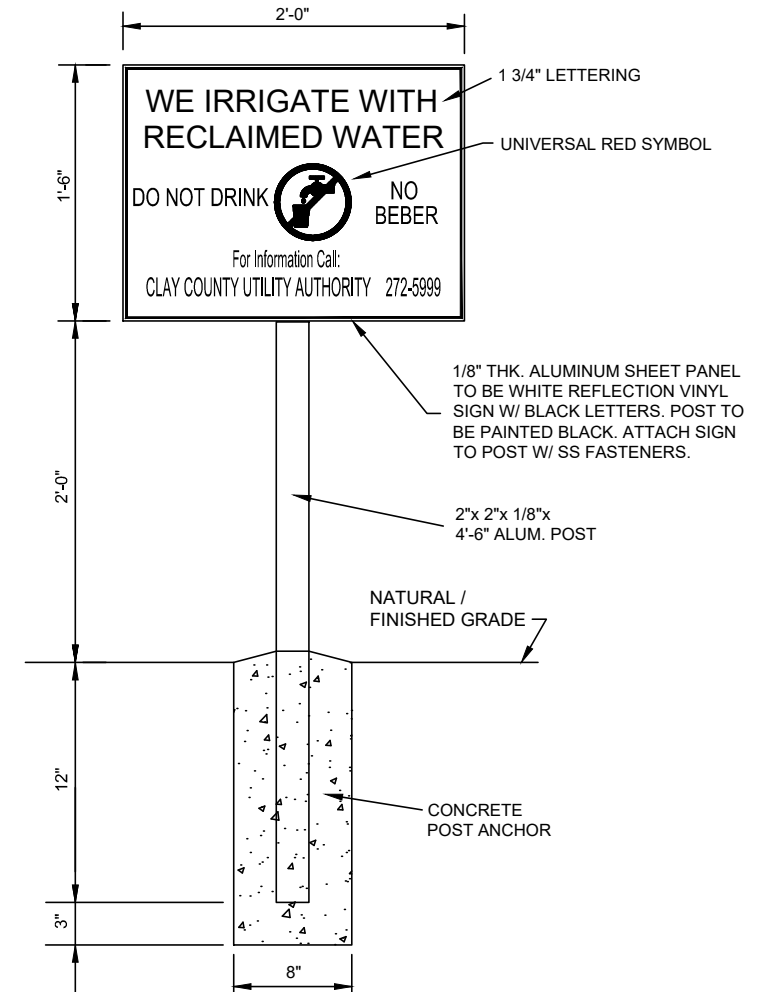


PRECAST CONCRETE
VALVE BOX COLLAR
NOT TO SCALE



- NOTES:
1. All services are to be clearly marked by a treated 6 inch wide, 6 foot 6 inch long marker (fence) post painted purple.
 2. All services are to be extended above grade until completion of all grading activities. Once final road grading is complete, lower services by cutting off riser 10" to 12" below final grade and install 90° bend, nipple and locate wire ball valve at that elevation.
 3. Set meter box over entire horizontal section of service line from last 90° bend to the end of the curb stop.
 4. Box to be repositioned level when the meter is installed.
 5. Marker post to be installed adjacent to and located at the mid section of the meter box.

RECLAIMED SERVICE MARKER POST
NOT TO SCALE



RECLAIMED WATER USE/WARNING SIGN
NOT TO SCALE

RECLAIM WATER DISTRIBUTION SYSTEM DETAILS AND SPECIFICATIONS

CLAY COUNTY
UTILITY AUTHORITY
3176 OLD JENNINGS ROAD
MIDDLEBURG, FLORIDA 32068-3907
TELEPHONE: (904) 272-5999

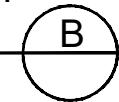
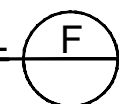
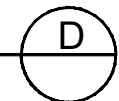
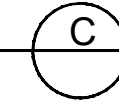
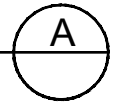


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SHEET NO.
S-RE1

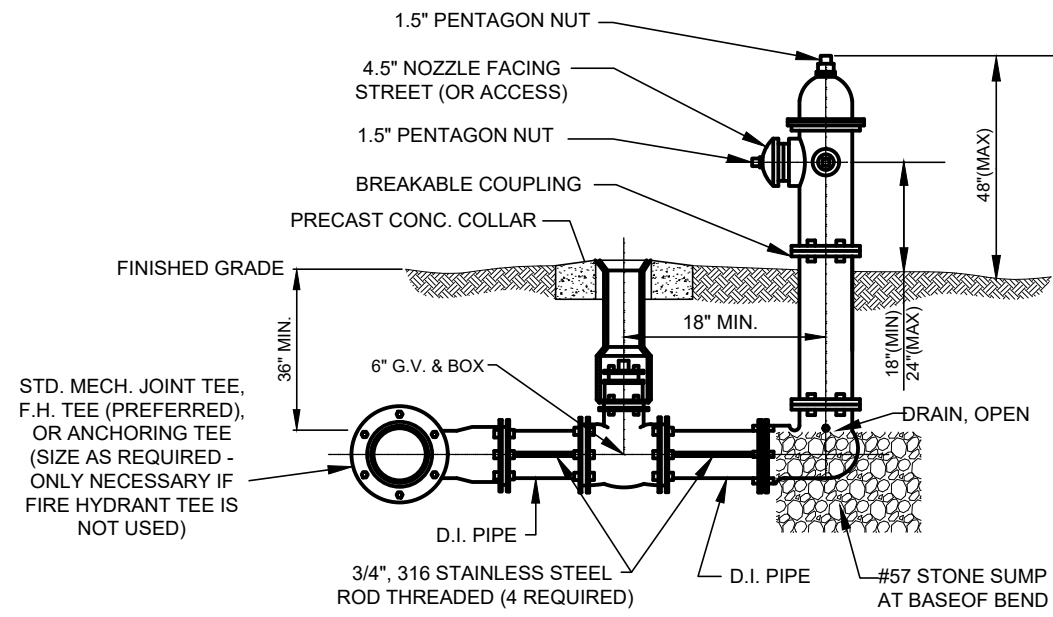
REVISED ALL NOTES AND DETAILS
JUNE 17 RHD
JUL 16 RHD
AUG 23 RHD
MAY 16 RHD
MAR 16 RHD
REVISED METER TIE-DOWNS
REVISED METER TIE-DOWNS

DESIG	XXX	RHD	CHD	XXX	XXX	DATE	NO	DATE	BY	REVISION DESCRIPTION
20	XXX	RHD	CHD	XXX	XXX	08/23	19			
19	XXX	RHD	CHD	XXX	XXX	08/23	18			
18	XXX	RHD	CHD	XXX	XXX	08/23	17			

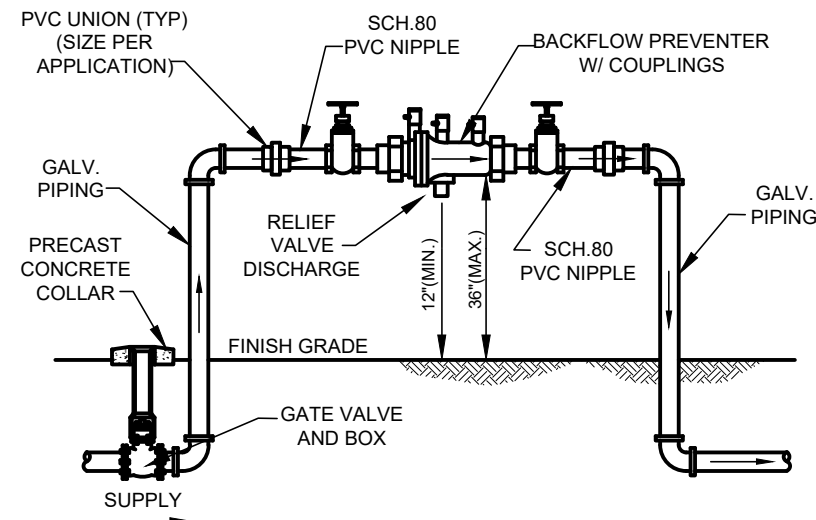


SHEET NO.
WAT 02

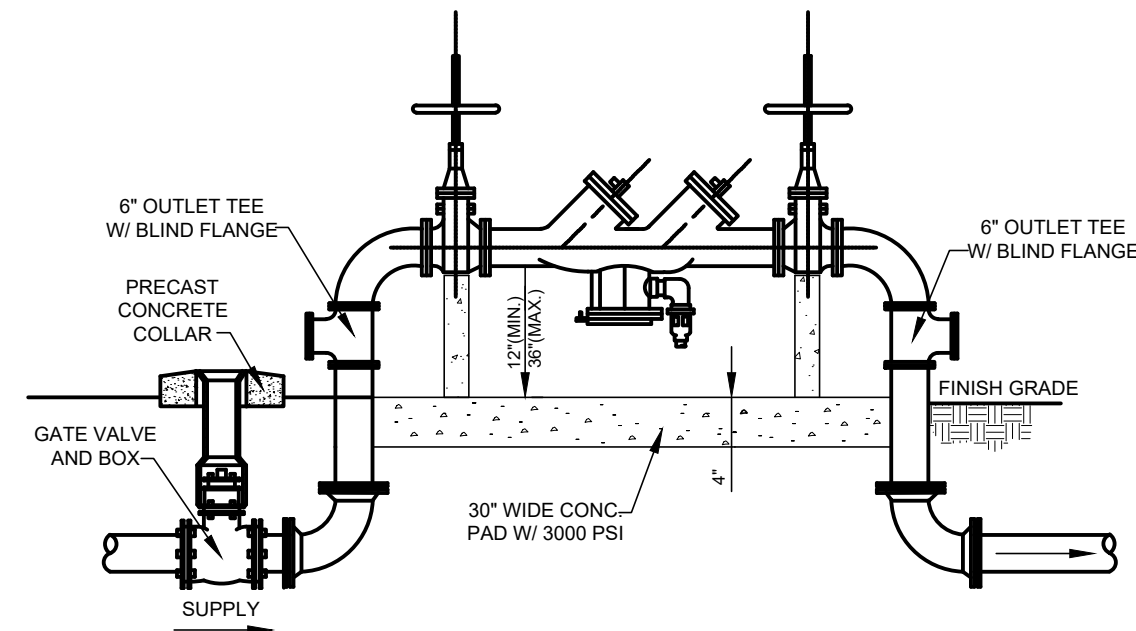
BACKFLOW PREVENTER NOTE:
DESIGNS SHOWN FOR BACKFLOW PREVENTER INSTALLATIONS ARE REQUIRED FOR CCUA OWNED INSTALLATIONS - SEE CCUA APPROVED MATERIALS MANUAL. THE BOTTOM OF THE BACKFLOW PREVENTER VALVE IS TO BE NO LESS THAN 12" OR MORE THAN 36" ABOVE THE NATURAL FLOOD GRADE. (SEE CCUA PUMP STATION DETAIL SHEETS (ALL) FOR BACKFLOW PREVENTERS AT PUMP STATIONS)



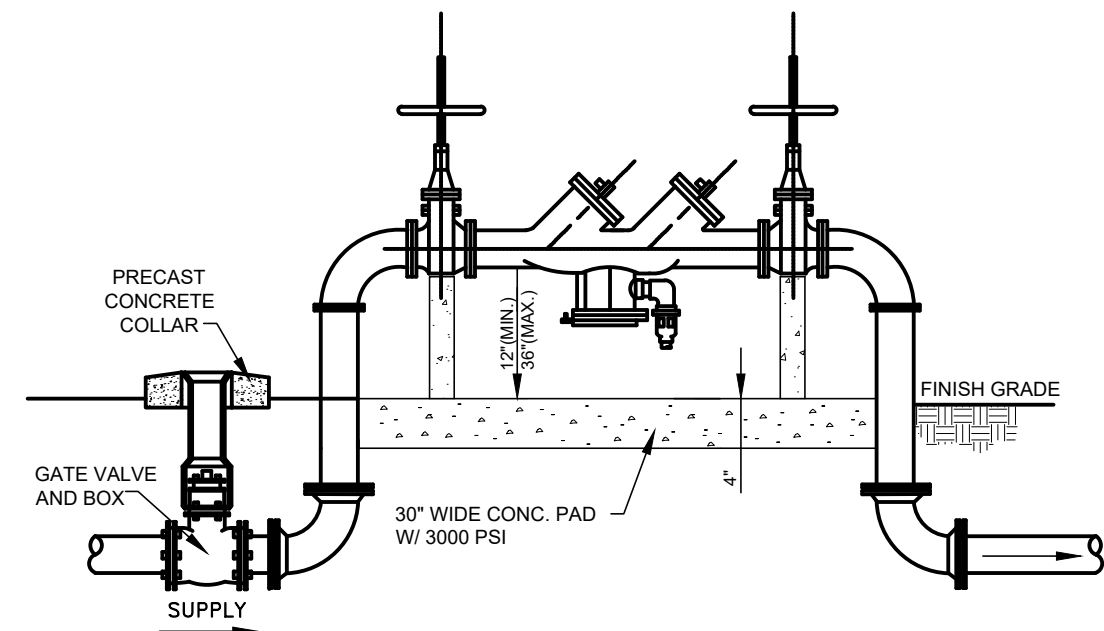
SEE CCUA APPROVED MATERIALS MANUAL
FIRE HYDRANT (STANDARD)
NOT TO SCALE



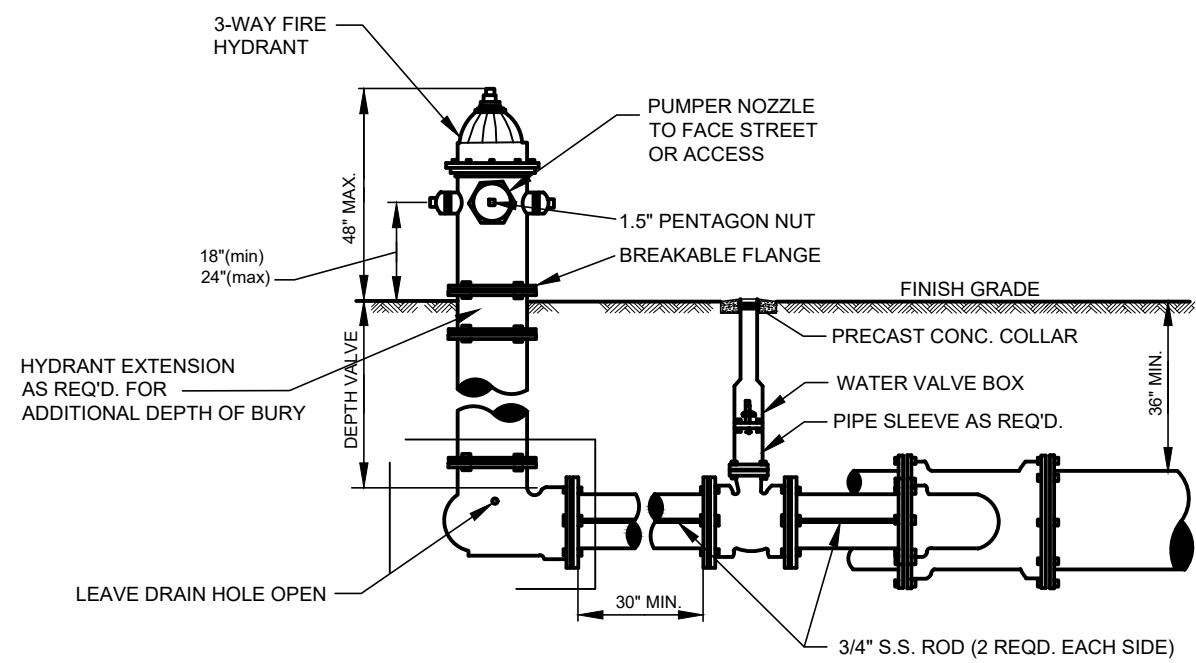
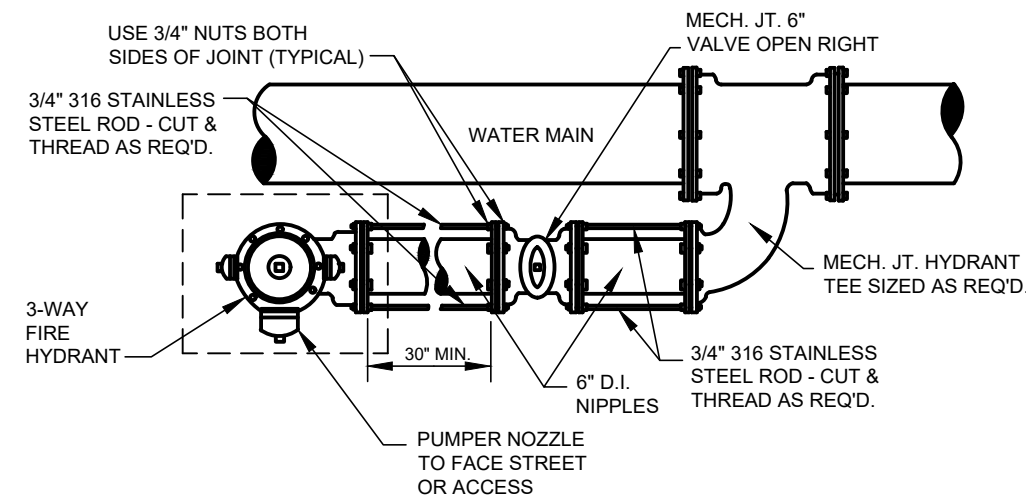
**REDUCED PRESSURE
BACKFLOW PREVENTER
2" DIAMETER AND SMALLER**
NOT TO SCALE



**BACKFLOW PREVENTER SIZES 6" & ABOVE
WHERE BACKFLOW IS BETWEEN
RECLAIMED & POTABLE**
NOT TO SCALE



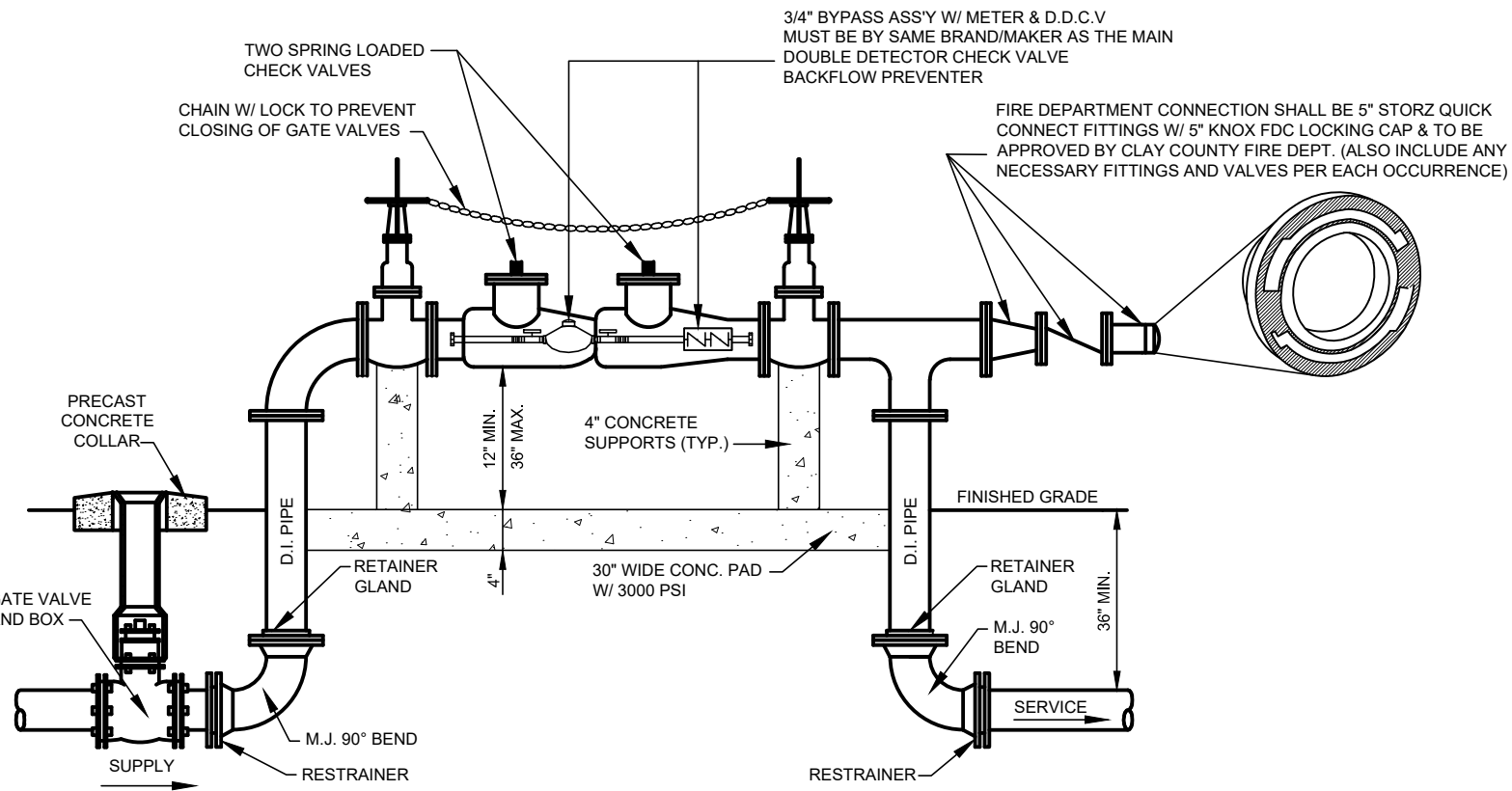
**REDUCED PRESSURE
BACKFLOW PREVENTER
SIZES 3" & ABOVE**
NOT TO SCALE



HYDRANT INSTALLATION FOR LIMITED SPACE WITH MECH. JOINT HYDRANT TEE
FIRE HYDRANT CANNOT BE LOCATED LESS THAN 5'-0" FROM BACK OF CURB AND NO MORE THAN 20'-0" BACK OF CURB.

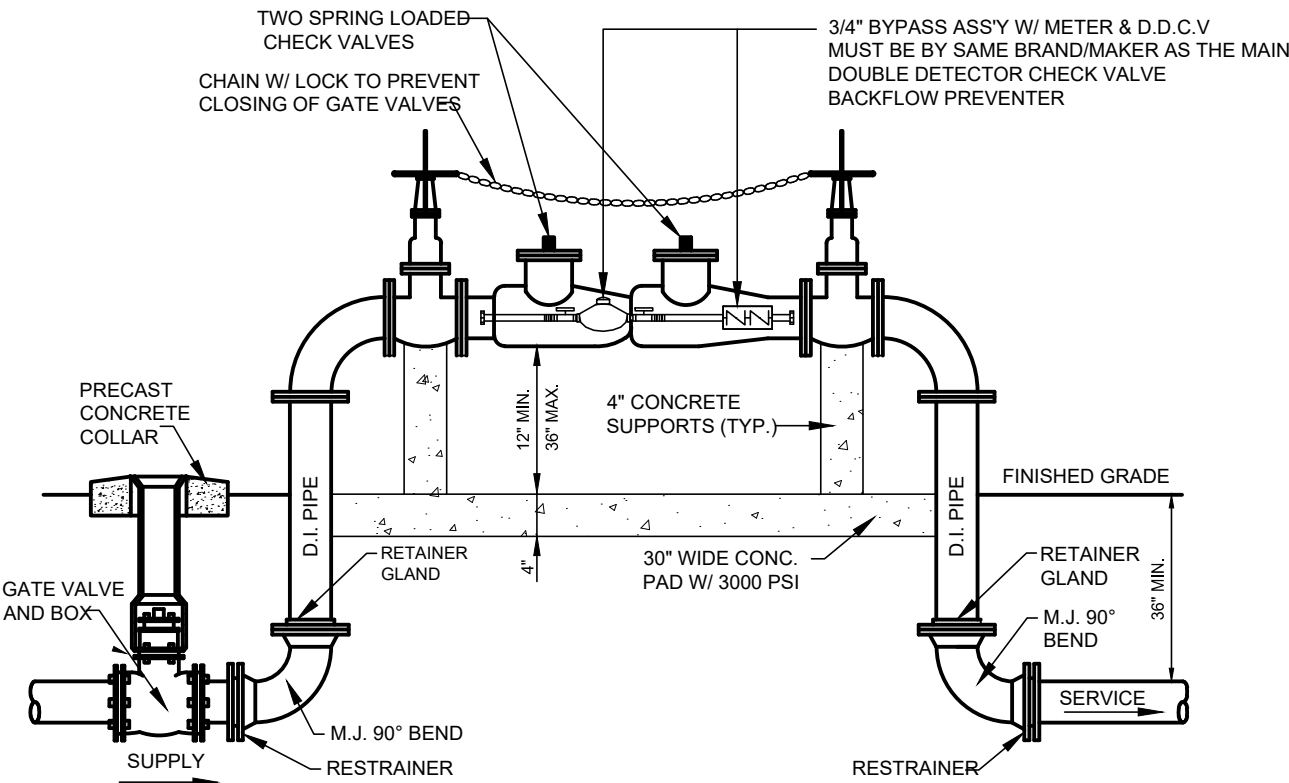
FIRE HYDRANT - LIMITED SPACE
NOT TO SCALE

- NOTES:
- THERE SHALL BE CLEARANCES OF SEVEN AND ONE-HALF FEET (7'-6") IN FRONT OF AND TO THE SIDES OF THE FIRE HYDRANT, WITH A FOUR FEET (4') CLEARANCE TO THE REAR OF THE HYDRANT. EXCEPTION: THESE DIMENSIONS MAY BE REDUCED BY THE APPROVAL OF THE FIRE OFFICIAL.
 - THERE SHALL BE NO OBSTRUCTIONS PLACED IN FRONT OF ANY FIRE HYDRANT ASSEMBLY THAT WOULD PROHIBIT ACCESS.



- NOTES
- DOUBLE DETECTOR CHECK VALVE W/ 3/4" BYPASS METER & 3/4" D.D.C.V ARE REQUIRED ON ALL ON-SITE FIRE SPRINKLER SYSTEMS.
 - PROVIDE FREEZE PROTECTION FOR COMPLETE ASSEMBLY.

**DOUBLE DETECTOR CHECK VALVE
BACKFLOW PREVENTER WITHOUT
ABOVE GROUND ENCLOSURE -
3" AND ABOVE WITH FIRE DEPARTMENT
CONNECTION**
NOT TO SCALE



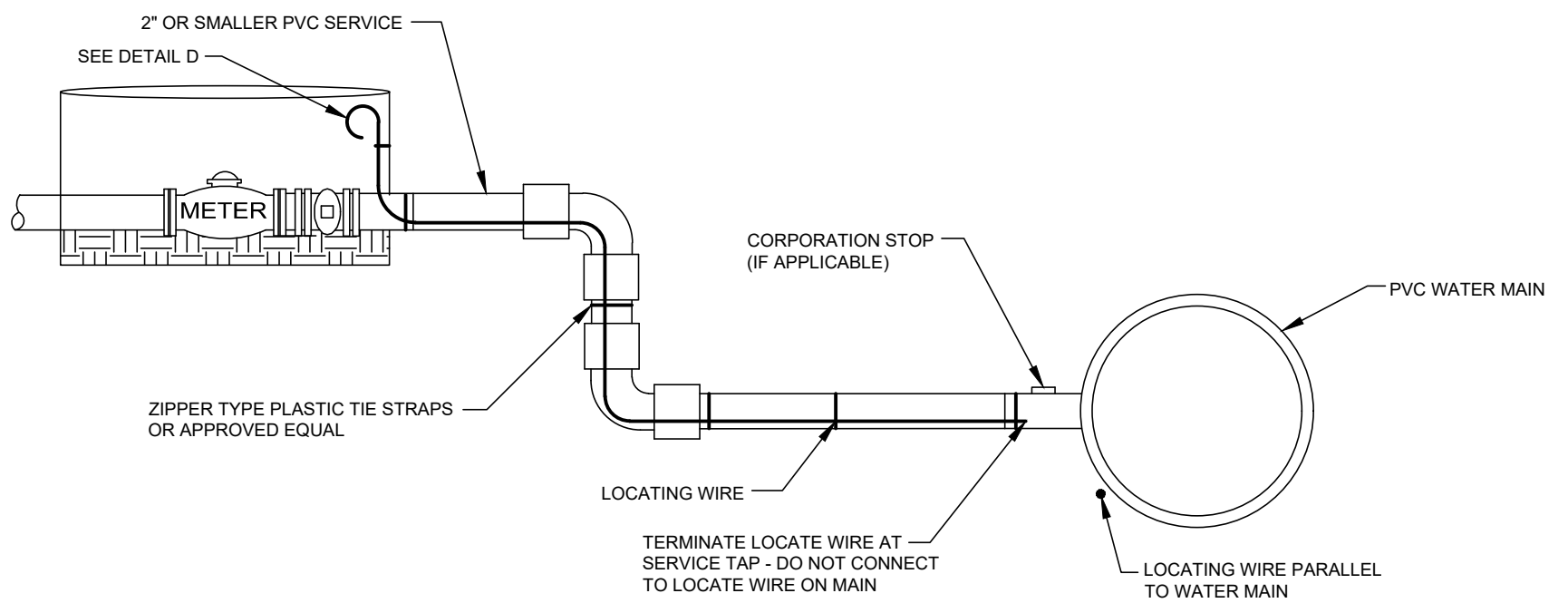
- NOTES
- DOUBLE DETECTOR CHECK VALVE W/ 3/4" BYPASS METER & 3/4" D.D.C.V ARE REQUIRED ON ALL ON-SITE FIRE SPRINKLER SYSTEMS.
 - PROVIDE FREEZE PROTECTION FOR COMPLETE ASSEMBLY.

**DOUBLE DETECTOR CHECK VALVE
BACKFLOW PREVENTER WITHOUT
ABOVE GROUND ENCLOSURE -
3" & ABOVE WITHOUT FIRE DEPARTMENT
CONNECTION**
NOT TO SCALE

REVISION		BY		DATE		REVISION DESCRIPTION	
1	ADD HYDRANT GENERAL NOTES	RHD					
2	NEW DETAIL SHEET DESIGN	RHD					

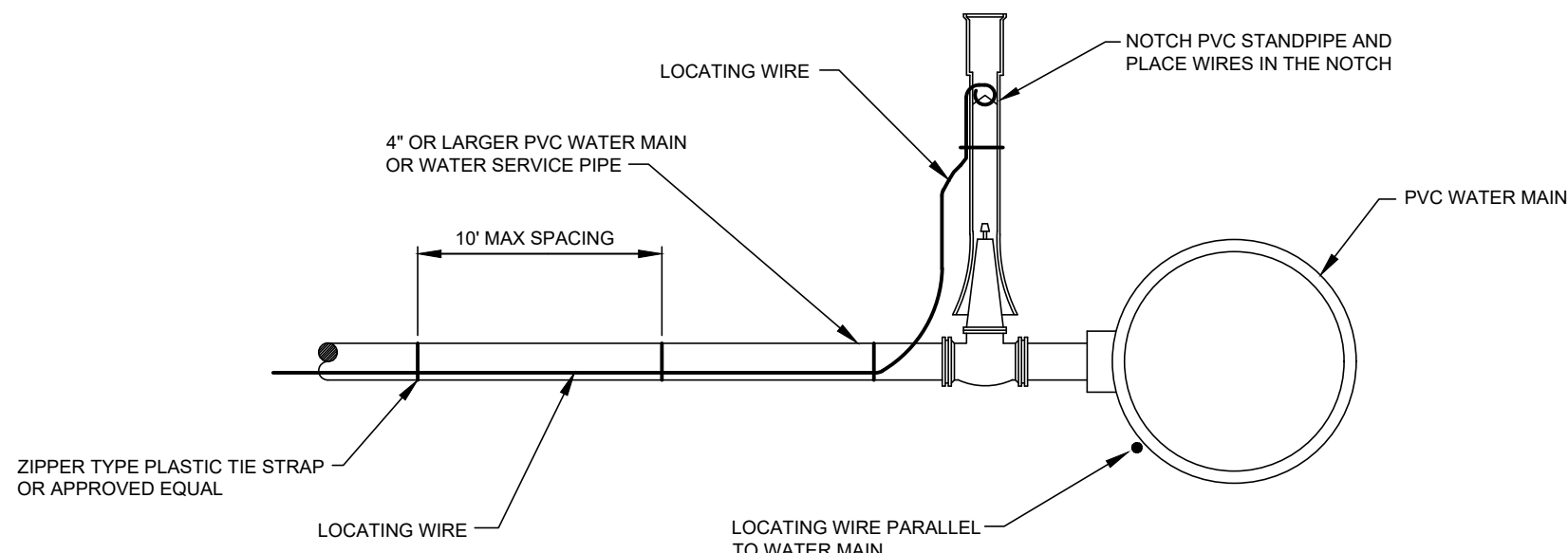
STANDARD FIRE HYDRANT AND
D.D.C.V. BACKFLOW PREVENTER DETAILS

CLAY COUNTY
UTILITY AUTHORITY
3176 OLD JENNINGS ROAD
MIDDLEBURG, FLORIDA 32068-3907
TELEPHONE: (904) 272-5999



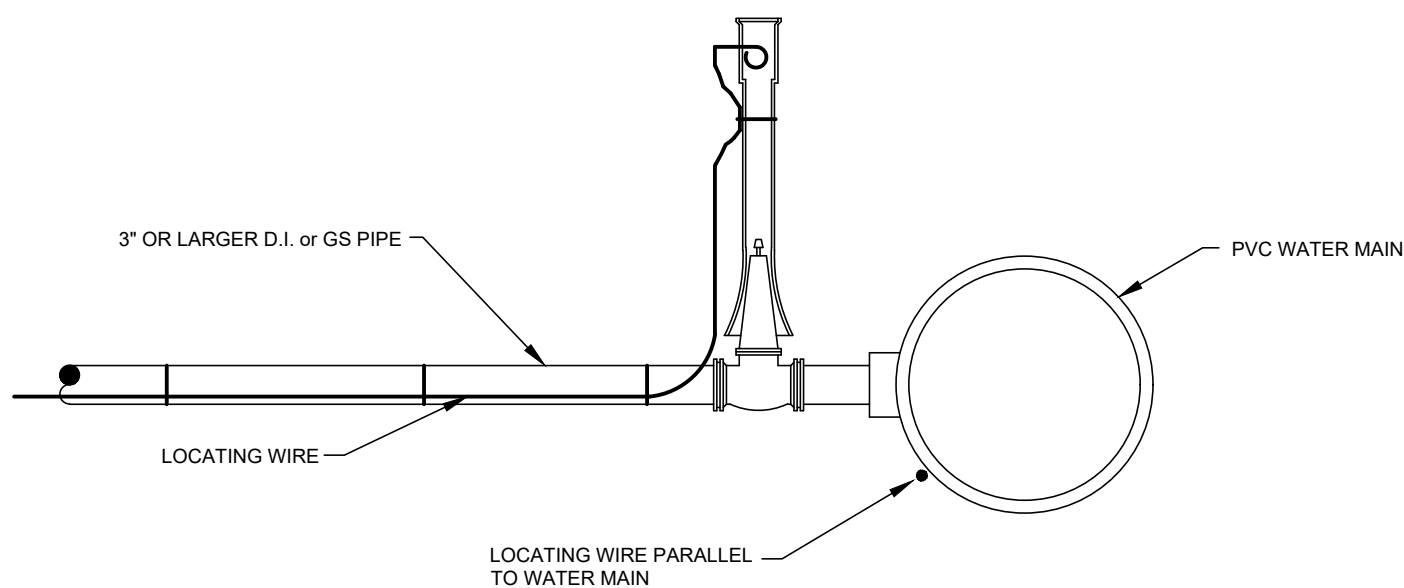
CONNECTION TO PVC MAINS
2" OR SMALLER WATER SERVICE (LONG SERVICES ONLY)

A



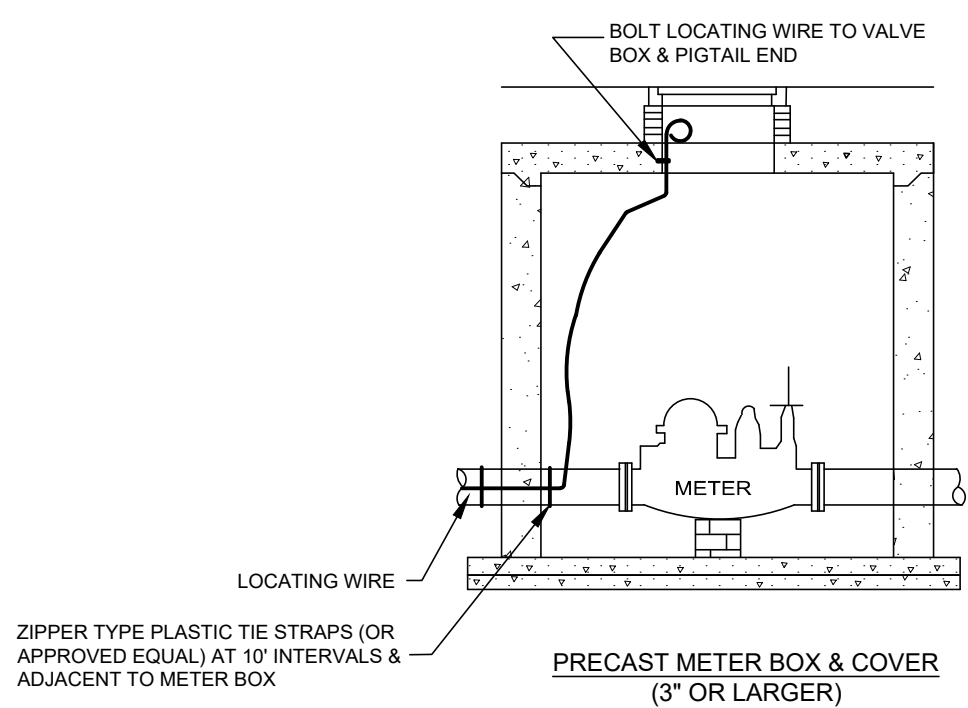
CONNECTION TO PVC MAINS
4" OR LARGER PVC WATER MAIN OR WATER SERVICE PIPE

B



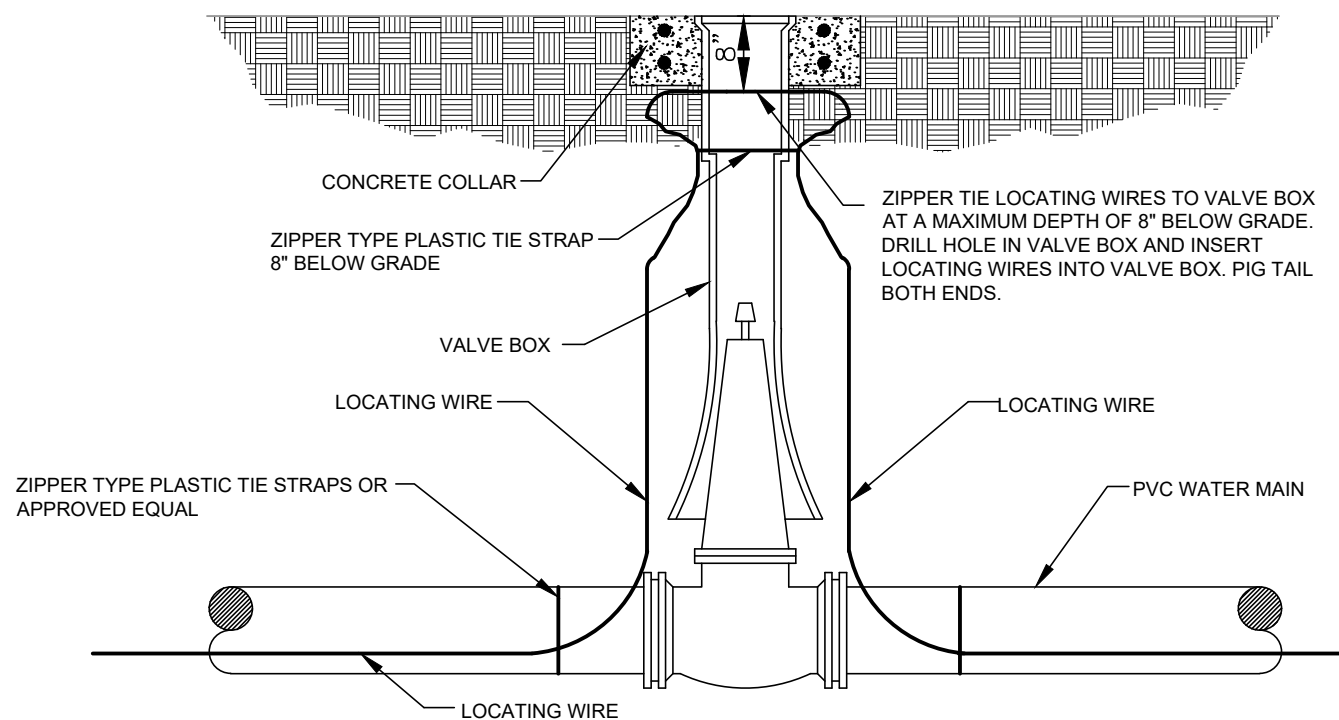
CONNECTION TO PVC MAINS
w/3" OR LARGER D.I. OR GS WATER SERVICE OR WATER MAIN

C



CONNECTION AT METERS BOXES
w/ PVC WATER SERVICE

D



IN-LINE LOCATING STATION - PVC PIPE

E

LOCATE WIRE

LOCATE WIRE TESTING REQUIREMENTS

Installed locate wiring shall be tested by the contractor as part of the final inspection procedure, using a certified tester and approved testing equipment. The Contractor shall notify CCUA at least 48 hours in advance of the testing period. At this time the Contractor shall tell CCUA the number of locate personnel to be used for the wire testing, so that CCUA can assign an inspector to work with each locate wire tester. If CCUA has not been notified of the correct number of testing personnel to be used, then the only testers allowed to test the wire shall be those who have a CCUA assigned inspector to work with them. The CCUA inspector shall have the plans on-site, as shall the testing personnel, for the purpose of recording the required test information (ie passed and failed sections) and for as-built preparation. The CCUA field representative or inspector shall be present during the testing period, and have the authority to request tester to retest sections if inspector suspects any problems within that section. The contractor shall provide the Certified Tester a copy of the project site drawings (as-builts preferred). A tone shall be put on the locate wire. The technician shall trace the entire length of the installed wire and spot paint the location at least at 100-foot intervals along the route. The depth shall be tested at 100-foot intervals and tester shall record the depth of pipe/wire on the report at each 100' interval. The certified tester shall report (show on drawings), where the pipe/wire has less than the allowable minimum cover (36 inches) or more than the maximum allowable cover (60 inches) unless called for on the plans or requested and approved by CCUA during the installation of said piping. All lateral stub-outs shall be marked with pain and the depth recorded. A final Locate Wire Report (statement by the certified tester), shall be submitted to CCUA for review and approval. The report shall include a signed statement from the certified tester which certifies that all installed wire (where shown on the drawing), was successfully (sounded), traced with no open breaks. The report shall also include a copy of the project site drawings which indicate all field notes, breaks found/repared, depths (if installed outside the acceptable cover limits), and other applicable field remarks by the certified tester. A Certified copy of the report and marked-up drawings shall be furnished to CCUA prior to final acceptance of the project or as approved otherwise by CCUA.

Definitions:

Approved Testing Equipment shall include variable frequency controls, digital depth read-out and tone continuity. The following is a list of approved equipment - Dynatel (3M)-2273 Cable/Fault Locator, Metrotech 9800XT, Ditch Witch 950 R/T or CCUA pre-approved equal.

Certified Tester - A person or company that has been certified by the Manufacturer of the approved testing equipment as proficient in the use of the equipment has 8 months experience in the use of the equipment including documented proof of past performance.

CCUA Approval: Clay County Utility Authority shall have the authority to approve Certified Tester, or deny the approval of Certified Tester to work on Utility's System. CCUA shall have the authority to remove any previously Certified Tester from its approved list of Certified Testers as CCUA deems necessary.

LOCATE WIRE INSTALLATION

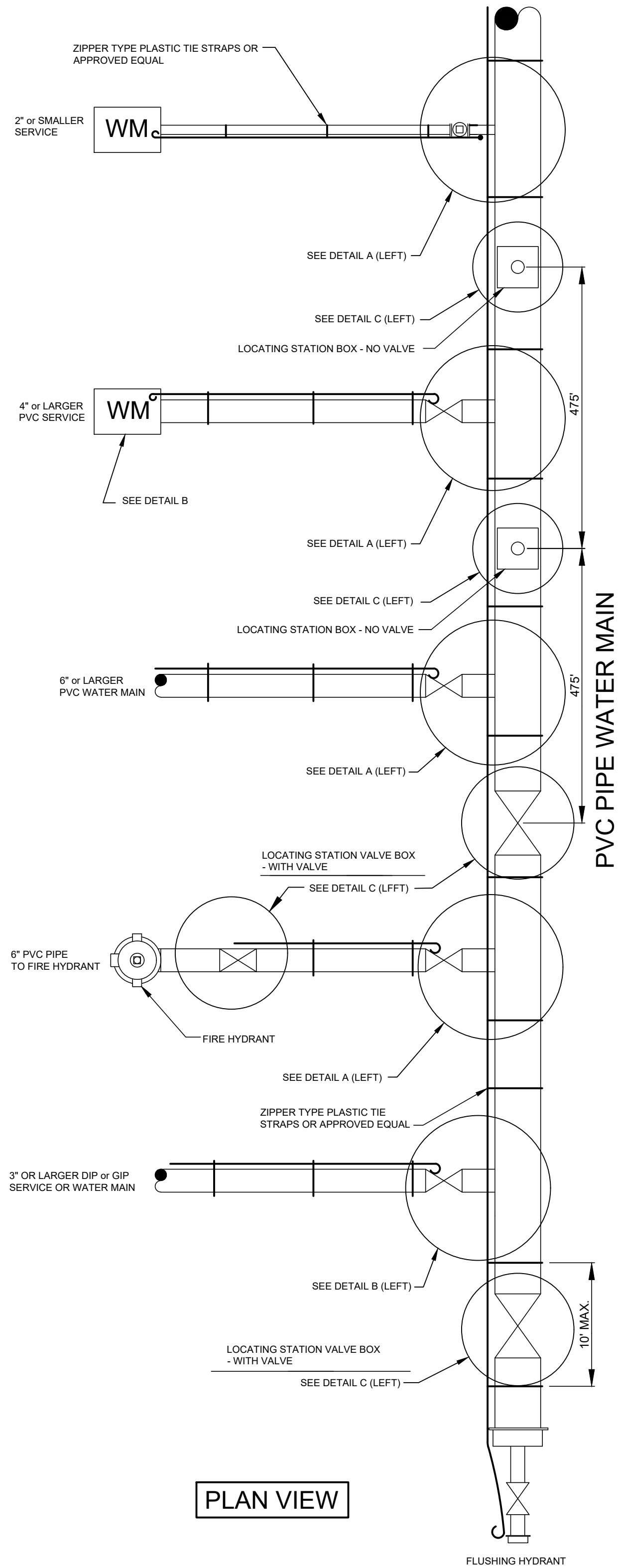
Contractor shall furnish and install locate wiring on all water mains, sewer force mains, and reclaimed water mains (both PVC and ductile 1 inch size and greater. Locate wire must be attached to mains and services with duct tape or approved iron) and on all service mains 1 2 plastic zipper ties, (pulled tight to keep wire from rotating out of location), at each side of bell joint or fitting and at 10 foot intervals along pipeline (at a minimum). Locate wire shall be brought to grade within a valve box or locating station box, as required, at 475 foot intervals (see note # 2 this page). Locate wire shall be installed in box and along pipeline as detailed in the CCUA Standard Details. Locate wire shall be installed beneath the pipe line at the 5:00 to 7:00 o'clock position on the pipe. Connection or splices underground which are not inside a locate box (or valve box), shall be prohibited unless approved otherwise by CCUA. The request to make an underground connection or wire splice shall be done in writing to CCUA. The request shall contain the complete job name, name of street, station number as shown on plans and scaled as close as possible to the location of splice or connection, and the reason for request. CCUA shall have at least 48 hrs. to respond verbally and 5 working days to respond in writing. If an underground connection is unavoidable and approved by CCUA, then the wire shall be first tied in a knot (to minimize future separation), then the wire ends shall be connected utilizing an electric wire nut, then make the connection water tight by using either vinyl mastic tape (4" wide X 0.09" thick by 3M-Scotch 2210), or plastic enclosure (Snaploo Model LV 9500/951-4 large by TKH) or CCUA approved equipment.

LOCATE WIRE BOX INSTALLATION

Where utility mains are to be installed beneath sidewalks, valve boxes shall be installed instead of locate wire boxes. The valve box lids shall indicate the type of line (i.e. water, sewer, or reclaimed water). The valve box shall be adjusted so the top of valve box is flush with the finished sidewalk grade. If for any reason a locate wire box must be offset from the C/L of pipeline, then the contractor shall have installed an adequate length of wire to avoid splices and the exact location of the locate box including the amount of the offset distance shall be recorded on the As-builts.

AS-BUILT DRAWINGS

Shall comply to the guidance set forth in CCUA's 'As-built Specifications Standards Manual', which can be obtained from CCUA's website (www.clayutility.org).



PLAN VIEW

NOTES:

1. LOCATING WIRE SHALL BE 10 GAUGE, SINGLE STRAND UF RATED (DIRECT BURIAL), COPPER WIRE, OR APPROVED EQUAL.
- 2) ALL DIRECTIONAL DRILLED PIPES SHALL HAVE 2-8 GUAGE STRAND COPPER-CLAD STEEL CONDUCTORS WITH 45mil HDPE EXTRUDED COATING, AND SHALL BE OF SUFFICIENT LENGTH TO AVOID SPLICING. UNDER NO CIRCUMSTANCES SHALL THE TRACER WIRE BE SPLICED; IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ORDER ROLLS OF WIRE OF THE REQUIRED LENGTH TO AVOID THE NEED FOR SPLICING THE TRACER WIRE.
3. LOCATE BOXES SHALL BE INSTALLED AT THE LOT LINE IN RESIDENTIAL SUBDIVISIONS, OR COMMERCIAL PROPERTIES; BOXES SHALL NOT BE LOCATED IN SIDEWALKS OR DRIVEWAYS. LOCATE BOXES SPACING SHALL NOT EXCEED 500 FEET.
4. WHERE IT IS NOT POSSIBLE TO LOCATE THE BOX OUTSIDE OF A PAVED STREET OR PARKING LOT, THE LOCATE WIRE SHALL BE PLACED IN A VALVE BOX INSTEAD OF A ROME BOX. VALVE BOX LID SHALL BE MARKED ACCORDING TO THE TYPE OF PIPE SERVED.

TYPICAL LOCATOR WIRING INSTALLATIONS

F

REVISION DESCRIPTION	BY	DATE	NO
REVISION 1: GENERAL UPDATES & REVISIONS	MRS	JUNE 05	1
REVISION 2: GENERAL UPDATES & REVISIONS	MRS	JUNE 05	2
REVISION 3: GENERAL UPDATES & REVISIONS	MRS	JUNE 05	3
REVISION 4: GENERAL UPDATES & REVISIONS	MRS	JUNE 05	4
REVISION 5: GENERAL UPDATES & REVISIONS	MRS	JUNE 05	5
REVISION 6: GENERAL UPDATES & REVISIONS	MRS	JUNE 05	6
REVISION 7: GENERAL UPDATES & REVISIONS	MRS	JUNE 05	7
REVISION 8: GENERAL UPDATES & REVISIONS	MRS	JUNE 05	8
REVISION 9: GENERAL UPDATES & REVISIONS	MRS	JUNE 05	9
REVISION 10: GENERAL UPDATES & REVISIONS	MRS	JUNE 05	10
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STANDARD LOCATOR WIRING INSTALLATIONS

CLAY COUNTY
UTILITY AUTHORITY
3176 OLD JENNINGS ROAD
MIDDLEBURG, FLORIDA 32068-3907
TELEPHONE: (904) 272-5999



ACAD FILE NAME

SHEET NO.

LW-STD