

IX. STANDARD DETAILS

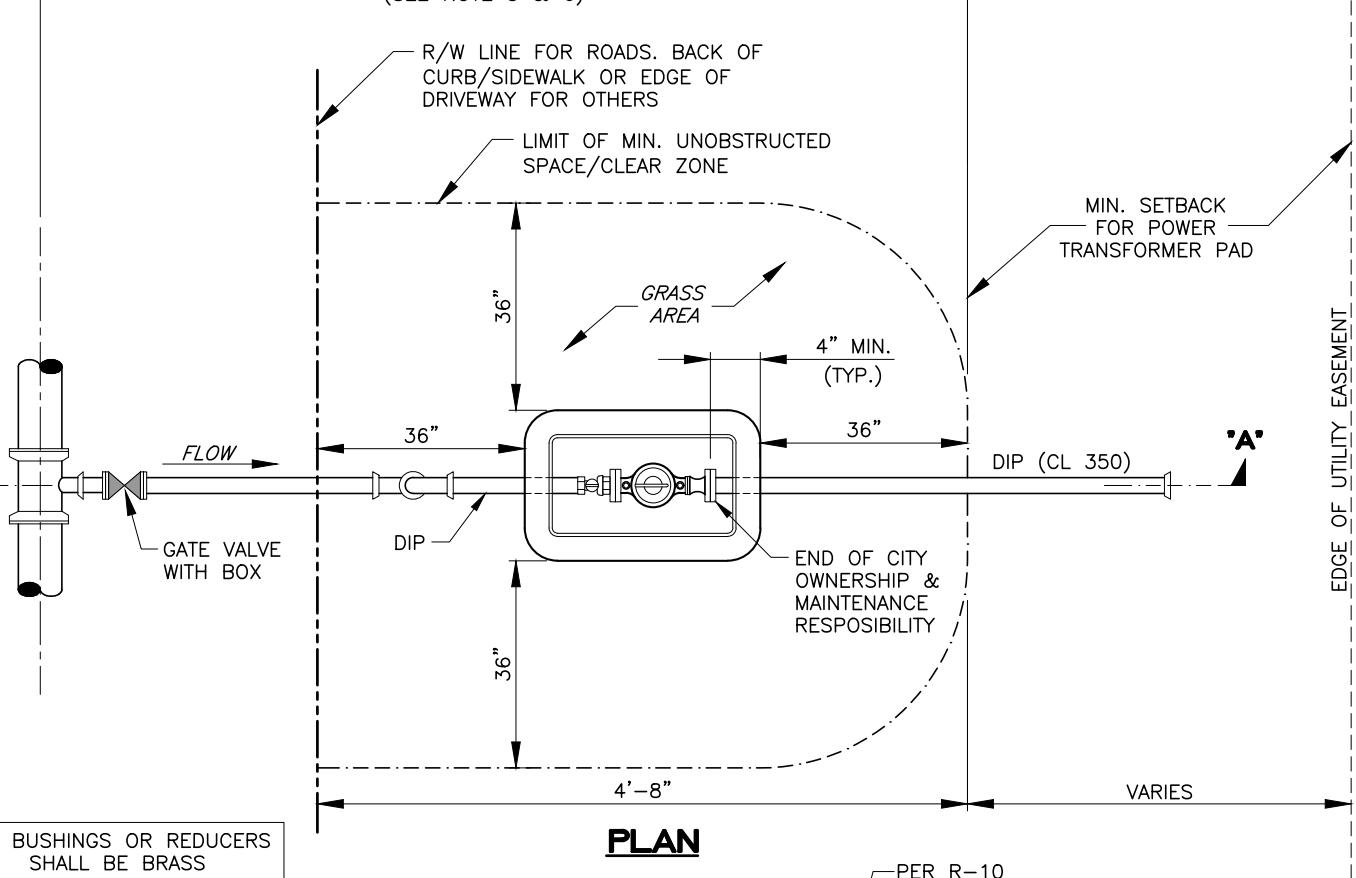
RECLAIMED WATER DETAILS

DRAWING INDEX

Reclaimed Water 2, 3" and Larger Meter Service Detail	R-1
Reclaimed Water Main 3" and Larger Meter Service Detail.....	R-2
Typical Gate Valve Setting and Main Cut-In Detail	R-3
Typical Butterfly Valve Setting.....	R-4
This Sheet Left Blank Intentionally.....	R-5
Reclaimed Water Main Offset Air Release Valve and Manhole	R-6
Reclaimed Water Main Pig Launcher Detail.....	R-7
Reclaimed Water Standard Sign	R-8
Reclaimed Water Service Radio Read For Sensus 3/4" & 2" Meters.....	R-9
Reclaimed Water Service Radio Read For Sensus 1-1/2" & 2".....	R-10
Reclaimed Water Main Locating Wire Detail for Non-Metallic Pipe.....	R-11
PVC Pipe Locating Wire Detail.....	R-12

BY CONTRACTOR OR DEPARTMENT
(SEE NOTE 5 & 6)

BY OWNER



BOYNTON BEACH UTILITIES DEPARTMENT CONSTRUCTION STANDARDS & DETAILS

RECLAIMED WATER 2", 3" AND LARGER METER SERVICE DETAIL

NOT TO SCALE	EFF. DATE 05/24
PAGE NUMBER R-1	

INSTALLATION NOTES:

1. ALL 3" OR LARGER SERVICE PIPING SHALL BE DUCTILE IRON WITH 3" GATE VALVES OR LARGER AND VALVE BOXES, OR AS SPECIFIED IN APPROVED DESIGN PLANS.
2. ALL PIPE AND FITTINGS INSIDE METER BOX TO BE 350 PSI W/CLASS 125 FLANGES, FULL BODIED. ALL HARDWARE FOR FLANGED FITTINGS (BOLTS, ETC...) TO BE 316 STAINLESS STEEL. RESTRAINER RODS MAY BE REQUIRED.
3. CONTRACTOR SHALL CONSTRUCT SERVICE FOR THE METER TO BE INSTALLED "TRUE" AND "PLUMB" AND TO ALLOW METER READING THROUGH THE METER READING LID.
4. THE ENTIRE ASSEMBLY (WITHOUT METER) SHALL BE PRESSURE TESTED AS REQUIRED.
5. RECLAIMED WATER METER 3" OR LARGER SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR.
6. METER SERVICE WILL NOT BE INSTALLED UNTIL:
 - A. FORM BOARDS FOR DRIVEWAY AND/OR SIDEWALK ARE IN PLACE OR DRIVEWAY OR SIDEWALK IS IN PLACE OR "FINISHED GRADE" STAKE IS SET ADJACENT TO PROPOSED METER BOX LOCATION.
 - B. "MINIMUM UNOBSTRUCTED SPACE" (AS SHOWN) IS PROVIDED.
7. SENSUS METERS SHALL HAVE A TOUCH-READ REGISTER.
8. PAINT DIRECTIONAL ARROWS (BLACK) ON PIPING.
9. ALL PIPING AND FITTINGS SHALL BE PAINTED PURPLE (PANTONE 522C).
10. APPROVED METER BOX TO BE PERMANENTLY INFUSED PURPLE COLOR WITH LID MARKED "RECLAIMED WATER – DO NOT DRINK" AND PAINTED PURPLE.
11. ALL FITTINGS OUTSIDE OF METER VAULT SHALL BE MECHANICAL JOINT OR FLANGED WITH MEGALUGS OR EQUAL. ALL PIPING SHALL BE RESTRAINED.
12. PIPING & VALVE TO BE IDENTIFIED AS "RECLAIMED WATER SYSTEM" COMPONENTS.
13. METER SHALL NOT BE PLACED IN SIDEWALK OR DRIVEWAY AREAS.
14. ALL HARDWARE FOR FLANGED CONNECTIONS (BOLTS etc...) TO BE 316 STAINLESS STEEL.
15. CHECK VALVE TO BE FREE OF OBSTRUCTION FOR PROPER OPERATION.
16. ALL BOXES AND COVERS SHALL BE POLYMER CONCRETE AND FIBERGLASS COMPOSITE UNLESS OTHERWISE APPROVED BY THE DEPARTMENT. THEY SHALL MEET ASTM D-570 STANDARDS FOR WATER ABSORPTION, GAINING NO MORE THAN 0.5% IN WEIGHT AFTER EXPOSURE TO MOISTURE AS ESTABLISHED BY THIS STANDARD.
17. ALL BOXES AND COVERS SHALL MEET THE REQUIREMENTS FOR TRAFFIC H-20 LOADING AS ESTABLISHED BY AASHTO, THE REQUIREMENTS OF ASTM C-857, SEC. A-8, AND A COMPRESSION STRENGTH OF AT LEAST 11,000 PSI.
18. ALL BOXES AND COVERS SHALL BE DESIGNED TO FIT AND INTERCHANGE WITH STANDARD CONCRETE BOXES AND COVERS. STANDARD COLOR TO BE CONCRETE GRAY FOR BOX. COVERS SHALL BE PURPLE (PANTONE 522C).
19. ALL COVERS SHALL BE CONSTRUCTED WITH A 2 INCH HOLE FOR A TOUCHREAD DEVICE AND ITS PERTINENT HARDWARE.
20. ALL BOXES AND COVERS SHALL BE AVAILABLE BOLTED DOWN WITH ALL HARDWARE BEING 316 STAINLESS STEEL INCLUDING ANY REPLACEABLE PARTS.



BOYNTON BEACH UTILITIES DEPARTMENT CONSTRUCTION STANDARDS & DETAILS

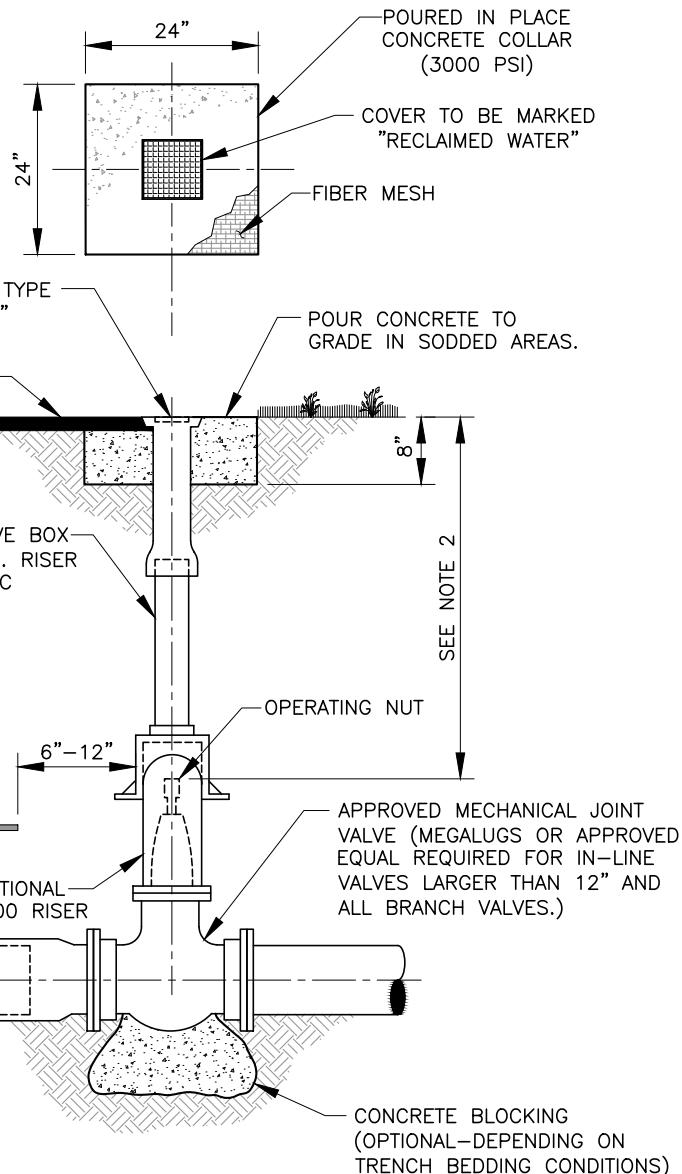
RECLAIMED WATER 3" AND LARGER METER SERVICE DETAIL

NOT TO SCALE	EFF. DATE 05/24
PAGE NUMBER R-2	

FOR ALL SIZE VALVES THERE SHALL BE A BRASS INDICATOR PLATE THAT INCLUDES THE FOLLOWING INFORMATION IN CONC. COLLAR OR PAVEMENT.

1. MANUFACTURER'S NAME
2. NO. OF TURNS
3. SIZE & CLASS
4. SERIAL NO. -----

MADE IN USA CAST IRON VALVE BOX SCREW TYPE WITH THE COVER MARKED "RECLAIMED WATER"



NOTES:

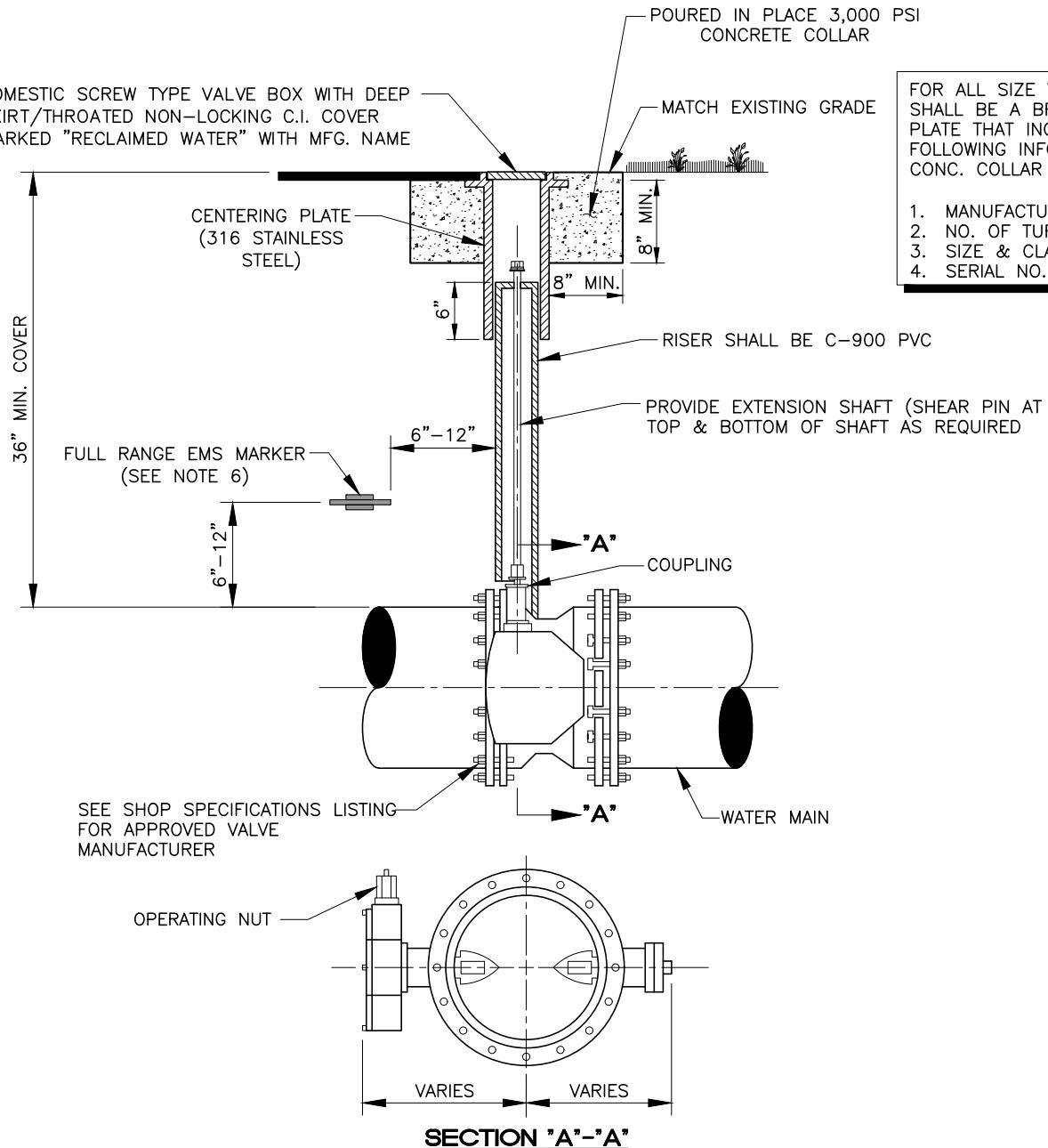
1. CONCRETE COLLAR IS NOT REQUIRED IN PAVED AREAS IF PAVEMENT SURFACE IS FINISHED PRIOR TO CONDITIONAL FINAL INSPECTION.
2. WHEN OPERATING NUT IS DEEPER THAN 36" AN EXTENSION WILL BE REQUIRED TO BRING OPERATING NUT 24"-30" BELOW FINISHED GRADE. EXTENSION BOLTS & NUTS ARE TO BE 316 STAINLESS STEEL. A HIGH STRENGTH STEEL CENTERING PLATE, WELDED TO THE EXTENSION, IS ALSO REQUIRED.
3. VALVE BOXES SHALL BE SQUARE AND HAVE COVERS MARKED "RECLAIMED WATER".
4. A GATE VALVE INSTALLATION SHALL REQUIRE MEGALUGS OR EQUAL THROUGHOUT ASSEMBLY.
5. AT DEAD END OR WHERE MAIN LINES CHANGE DIRECTION, VALVES SHALL BE RESTRAINED USING "MEGALUGS", TIE RODS, OR OTHER APPROVED RESTRAINT BY DEPARTMENT.
6. A CUT-IN INSTALLATION SHALL REQUIRE MEGALUGS OR EQUAL THROUGHOUT ASSEMBLY.
7. FULL RANGE EMS MARKER SHALL BE USED. FULL RANGE MARKER CANNOT TOUCH PIPE.
8. COVER WILL BE DETERMINED BY 18" COVER TO TOP OF VALVE OPERATING NUT.



BOYNTON BEACH UTILITIES DEPARTMENT CONSTRUCTION STANDARDS & DETAILS

**TYPICAL GATE VALVE SETTING
AND CUT-IN DETAIL**

NOT TO SCALE	EFF. DATE
	05/24
PAGE NUMBER	R-3



FOR ALL SIZE VALVES THERE SHALL BE A BRASS INDICATOR PLATE THAT INCLUDES THE FOLLOWING INFORMATION IN CONC. COLLAR OR PAVEMENT.

1. MANUFACTURER'S NAME
2. NO. OF TURNS
3. SIZE & CLASS
4. SERIAL NO. -----

NOTES:

1. CONCRETE COLLAR IS NOT REQUIRED IN PAVED AREAS IF PAVEMENT SURFACE IS FINISHED PRIOR TO CONDITIONAL FINAL INSPECTION.
2. WHEN TOP OF OPERATING NUT IS DEEPER THAN 42" A HIGH STRENGTH STEEL EXTENSION WILL BE REQUIRED TO BRING OPERATING NUT 24"-30" BELOW FINISHED GRADE. EXTENSION BOLTS AND NUTS ARE TO BE STAINLESS STEEL. A HIGH STRENGTH STEEL CENTERING PLATE, WELDED TO THE EXTENSION, IS ALSO REQUIRED.
3. VALVE BOXES SHALL HAVE COVERS MARKED "RECLAIMED WATER" AND PAINTED PANTONE PURPLE.
4. A BUTTERFLY VALVE INSTALLATION SHALL REQUIRE MEGALUGS OR EQUAL THROUGHOUT ASSEMBLY.
5. AT DEAD END OR WHERE MAIN LINES CHANGE DIRECTION, VALVES SHALL BE RESTRAINED USING "MEGALUGS", TIE RODS, OR OTHER APPROVED RESTRAINT BY DEPARTMENT.
6. FULL RANGE EMS MARKER SHALL BE USED. FULL RANGE MARKER CANNOT TOUCH PIPE.



BOYNTON BEACH UTILITIES DEPARTMENT CONSTRUCTION STANDARDS & DETAILS

TYPICAL BUTTERFLY VALVE SETTING

NOT TO SCALE	EFF. DATE 05/24
PAGE NUMBER R-4	

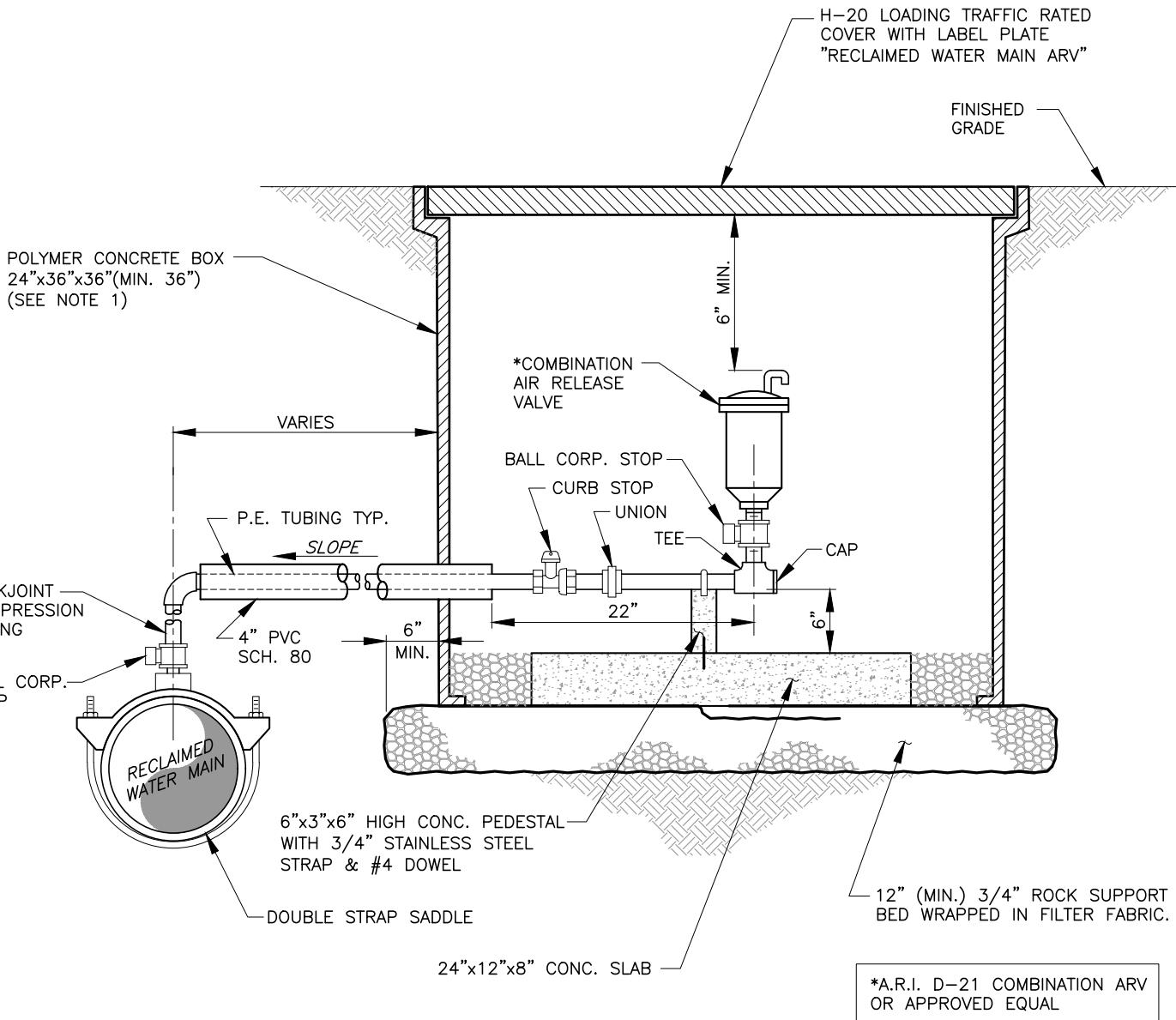
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R-5



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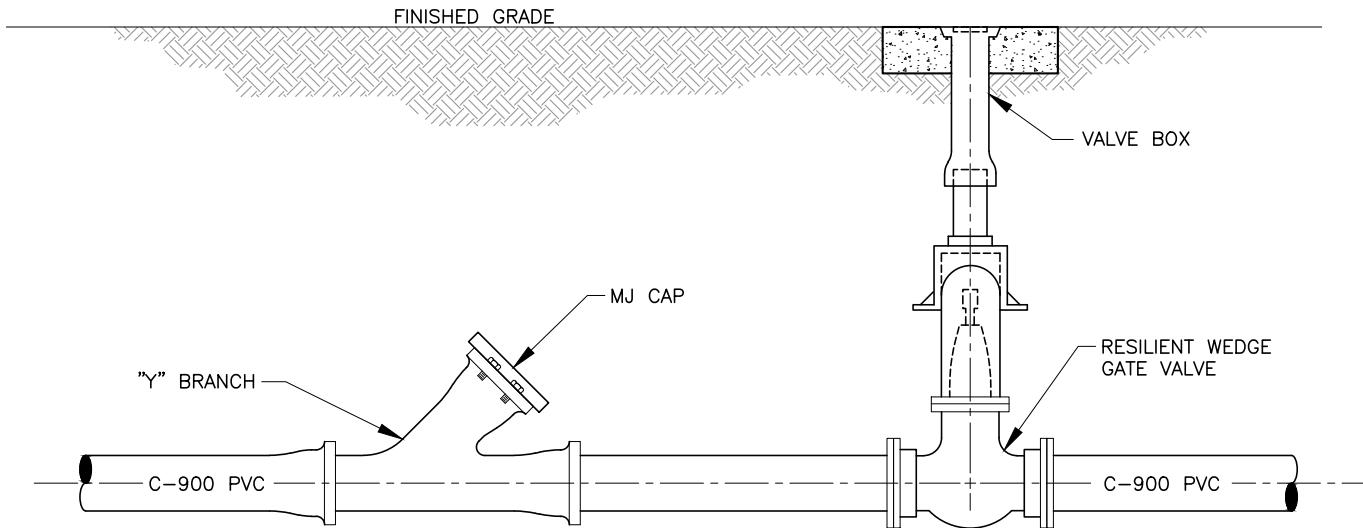
1. POLYMER CONCRETE BOX 24"x36"x36"(MIN. 36") BY OLDCASTLE PRECAST, INC. OR APPROVED EQUAL (SHOP DRAWING IS REQUIRED FOR REVIEW AND APPROVAL).
2. POLYMER CONCRETE BOX AND COVER SHALL BE HEAVY DUTY TRAFFIC RATED 20K POUNDS.
3. BOXES SHALL NOT BE INSTALLED IN ROADWAYS OR DRIVEWAYS AND SHALL BE INSTALLED FLUSH WITH THE FINISH GRADE SURFACE.
4. THREADED AREAS OF BALL CORP. STOP AND OTHER FITTINGS SHALL BE SPIRAL WRAPPED WITH TWO WRAPS OF TEFLON TAPE
5. ALL OPENINGS SHALL BE SEALED WITH A WATERPROOF NON-SHRINKING GROUT.
6. ALL PIPE HOLES SHALL BE PRECAST OR CORE-DRILLED.
7. AIR RELEASE VALVE SHALL BE TYPE AND SIZE APPROPRIATE FOR SERVICE INTENDED.
8. AIR RELEASE VALVE & PIPING TO BE IDENTIFIED AS "RECLAIMED WATER ARV" STAMPED ON THE LID.
9. ALL PIPE AND FITTINGS INSIDE VAULT TO BE BRASS.
10. STANDARD DESIGN FOR ALL EASEMENT AREAS & RIGHT-OF-WAY.



BOYNTON BEACH UTILITIES DEPARTMENT CONSTRUCTION STANDARDS & DETAILS

RECLAIMED MAIN OFFSET AIR RELEASE
VALVE AND MANHOLE

NOT TO SCALE	EFF. DATE 05/24
PAGE NUMBER R-6	



NOTES:

1. UPON COMPLETION OF THE PIPE INSTALLATION FOR ANY SECTION, THE MAINS SHALL BE SWABBED TO REMOVE DIRT AND ANY OTHER FOREIGN MATTER BY ACHIEVING A MINIMUM VELOCITY OF 2.5 FEET PER SECOND IN THE PIPE. TEMPORARY FITTINGS, PIPE, ETC. MAY BE NEEDED TO FACILITATE FLUSHING.
2. INSTALL A WYE FITTING AND ASSOCIATED PIPING AS SHOWN TO DIRECT THE FLUSHING WATER AWAY FROM THE IMMEDIATE WORK AREA AND EXERCISE DUE CARE SO AS TO ENSURE THAT THE WATER USED IN FLUSHING DOES NOT CAUSE A NUISANCE OR INFILTRATE PROPERTY DAMAGE.
3. BENDS AND PIPING SHALL BE THE SAME SIZE AS THE LINE TO BE FLUSHED.
4. PRIOR TO THE ACTUAL LINE FLUSHING OPERATION, THE CONTRACTOR SHALL PROPERLY NOTIFY THE DEPARTMENT INSPECTOR OF SUCH INTENDED WATER USE.
5. NO EXISTING VALVES SHALL BE TURNED ON OR OFF, EXCEPT BY AUTHORIZED DEPARTMENT PERSONNEL.
6. FLUSHING SHALL NOT BE ACCOMPLISHED WITHOUT THE ACTUAL PRESENCE OF THE DEPARTMENT INSPECTOR.
7. AFTER THE LINE UNDER CONSTRUCTION HAS BEEN SUCCESSFULLY FLUSHED THE CONTRACTOR SHALL CAP THE WYE AND PROCEED WITH THE REMAINING CONSTRUCTION AS SPECIFIED.
8. THERE MAY BE SPECIAL REQUIREMENTS FOR FLUSHING PIPE LARGER THAN 12" DIAMETER.
9. ALL FITTINGS TO BE MECHANICAL JOINT WITH MEGALUG JOINT RESTRAINT.
10. PIPE SHALL BE PANTONE PURPLE.



BOYNTON BEACH UTILITIES DEPARTMENT CONSTRUCTION STANDARDS & DETAILS

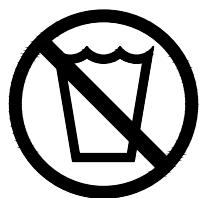
RECLAIMED WATER MAIN PIG LAUNCHER DETAIL

NOT TO SCALE	EFF. DATE 05/24
PAGE NUMBER R-7	

IRRIGATED WITH RECLAIMED WATER



BOYNTON BEACH UTILITIES WATER RECLAMATION PROGRAM



**DO NOT DRINK
NO TOMAR**



CALL 742-6400 FOR INFORMATION

NOTES:

1. SIGNS SHALL BE 12"x18" WITH PURPLE AND WHITE IMPRINTS ON WHITE ALUMINUM (0.63 GAUGE), ROUNDED CORNERS (1.25" RADIUS), TWO HOLES (13/32" DIAMETER) 12" ON CENTER.
2. UP TO FIVE SIGNS AND MOUNTING HARDWARE PROVIDED BY THE CITY (AT NO COST) AND INSTALLED BY THE PROPERTY OWNER/CONTRACTOR.

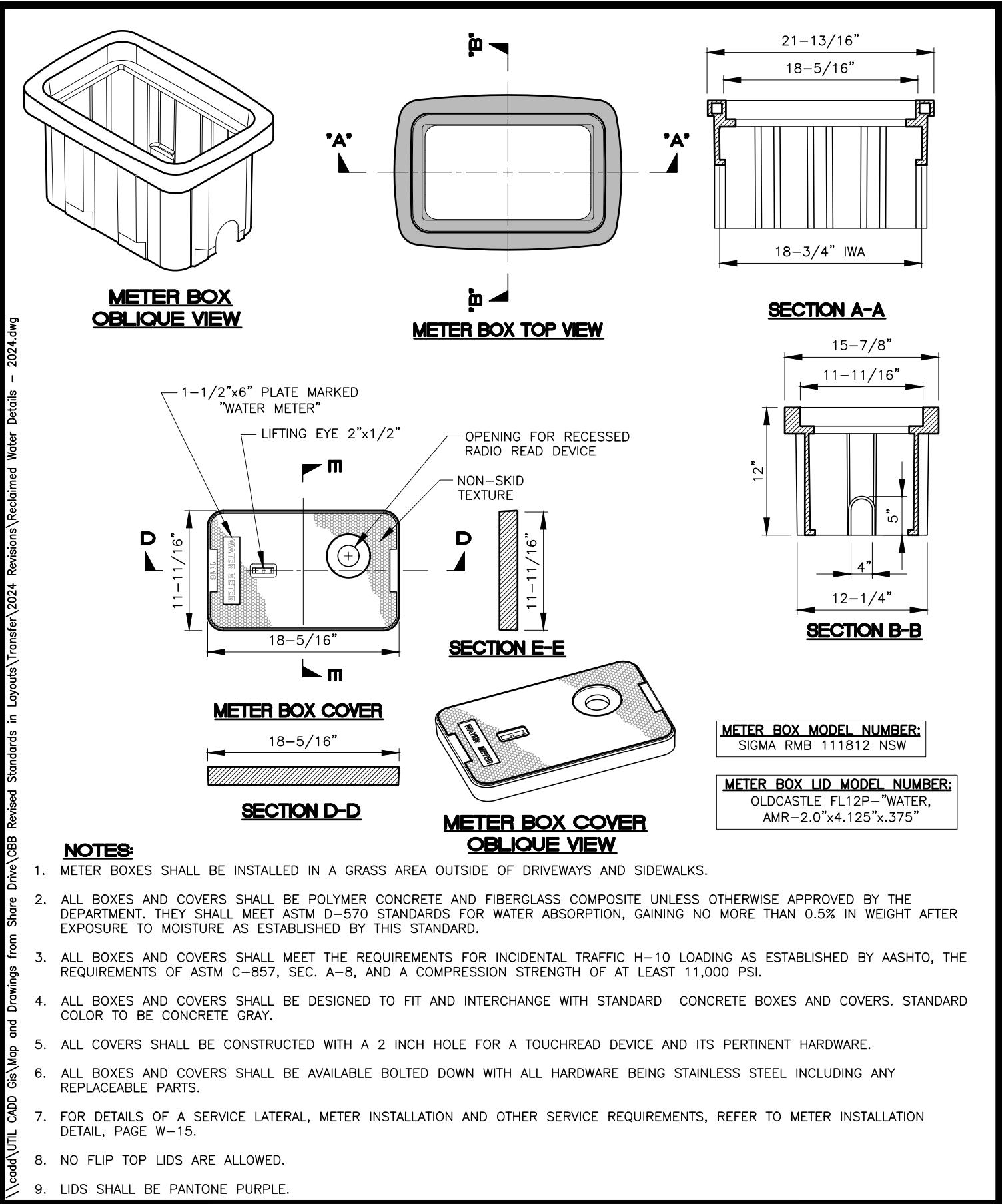


UTILITIES
ENGINEERING DIVISION

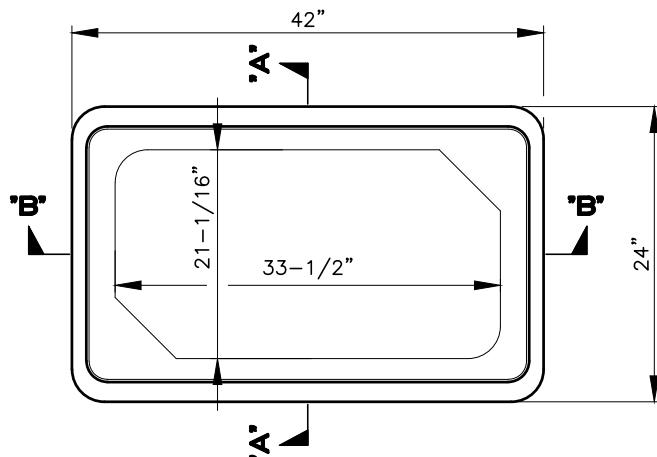
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RECLAIMED WATER STANDARD SIGN

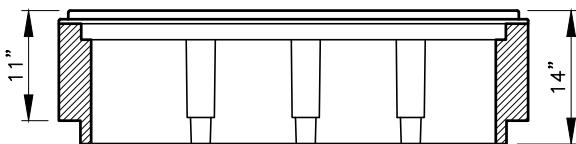
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PAGE NUMBER R-8	



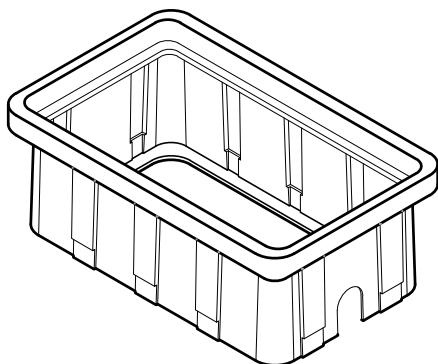
 UTILITIES ENGINEERING DIVISION	BOYNTON BEACH UTILITIES DEPARTMENT CONSTRUCTION STANDARDS & DETAILS		
	RECLAIMED WATER SERVICE RADIO READ FOR SENSUS 3/4" & 1" METERS		
		NOT TO SCALE	EFF. DATE 05/24
		PAGE NUMBER R-9	



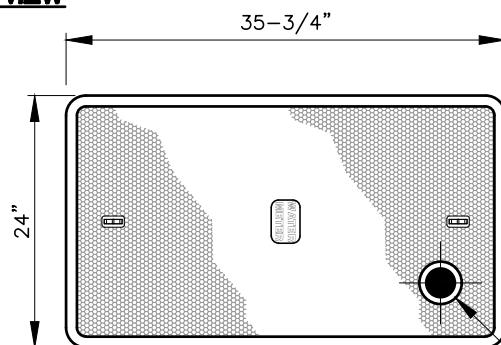
METER BOX TOP VIEW



SECTION B-B



**METER BOX
OBLIQUE VIEW**



SIDE VIEW

METER BOX & LID MODEL NUMBER:
DFW PLASTICS:
DFWB40WBC-14-1T 63D

NOTES:

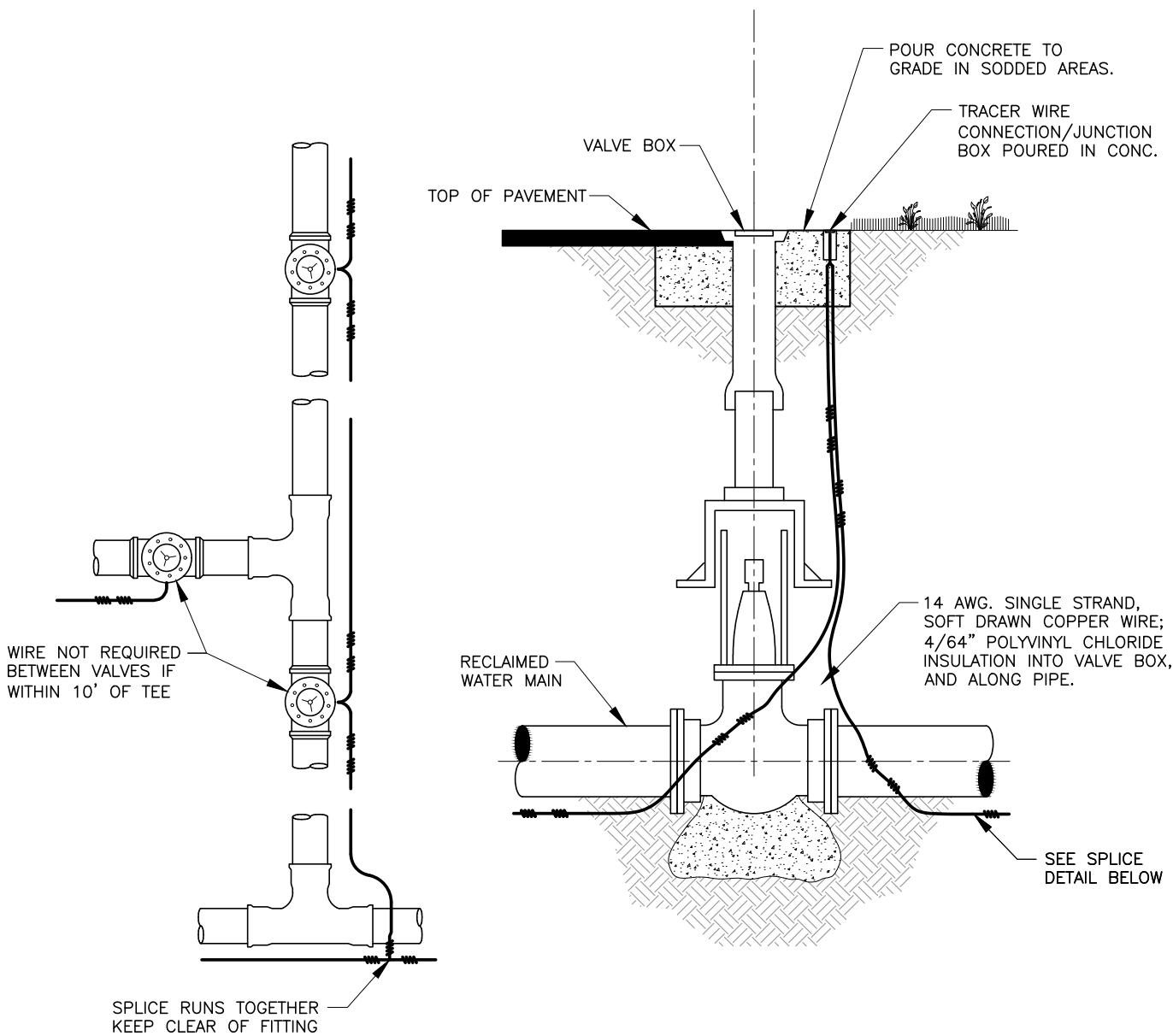
1. METER BOXES SHALL BE INSTALLED IN A GRASS AREA OUTSIDE OF DRIVEWAYS AND SIDEWALKS.
2. ALL BOXES AND COVERS SHALL BE POLYMER CONCRETE AND FIBERGLASS COMPOSITE UNLESS OTHERWISE APPROVED BY THE DEPARTMENT. THEY SHALL MEET ASTM D-570 STANDARDS FOR WATER ABSORPTION, GAINING NO MORE THAN 0.5% IN WEIGHT AFTER EXPOSURE TO MOISTURE AS ESTABLISHED BY THIS STANDARD.
3. ALL BOXES AND COVERS SHALL MEET THE REQUIREMENTS FOR INCIDENTAL TRAFFIC H-10 LOADING AS ESTABLISHED BY AASHTO, THE REQUIREMENTS OF ASTM C-857, SEC. A-8, AND A COMPRESSION STRENGTH OF AT LEAST 11,000 PSI.
4. ALL BOXES AND COVERS SHALL BE DESIGNED TO FIT AND INTERCHANGE WITH STANDARD CONCRETE BOXES AND COVERS. STANDARD COLOR TO BE PANTONE PURPLE.
5. ALL COVERS SHALL BE CONSTRUCTED WITH A 2 INCH HOLE FOR A TOUCHREAD DEVICE AND ITS PERTINENT HARDWARE.
6. ALL BOXES AND COVERS SHALL BE AVAILABLE BOLTED DOWN WITH ALL HARDWARE BEING STAINLESS STEEL INCLUDING ANY REPLACEABLE PARTS.
7. NO FLIP TOP LIDS ARE ALLOWED.
8. LIDS SHALL BE PANTONE PURPLE.



BOYNTON BEACH UTILITIES DEPARTMENT CONSTRUCTION STANDARDS & DETAILS

RECLAIMED WATER SERVICE RADIO READ FOR
SENSUS 1-1/2" & 2" METERS

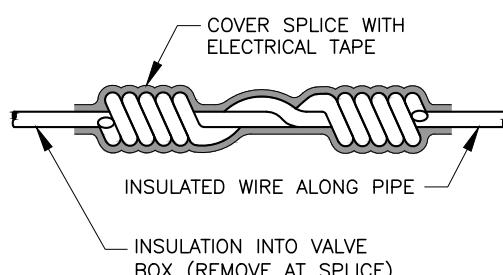
NOT TO SCALE	EFF. DATE 05/24
PAGE NUMBER R-10	



TYPICAL LAYOUT

NOTES:

1. WIRE TO BE CONTINUOUS BETWEEN VALVE BOXES, EXCEPT AS NOTED.
2. LOCATING WIRE TO BE LAID AT BOTTOM OF TRENCH, NEXT TO PIPE.
3. LOCATING WIRE SHALL BE 14 AWG. SINGLE STRAND, SOFT DRAWN COPPER WIRE; 4/64" POLYVINYL CHLORIDE INSULATION INTO VALVE BOX AND ALONG PIPE.



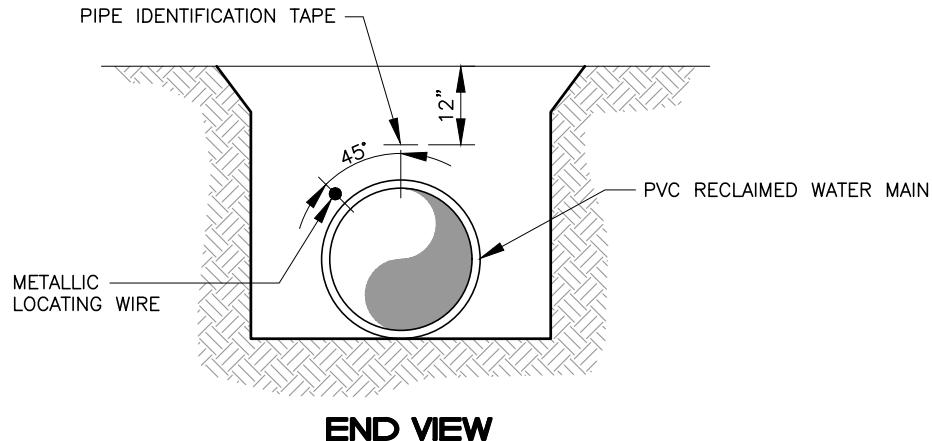
SPLICE DETAIL



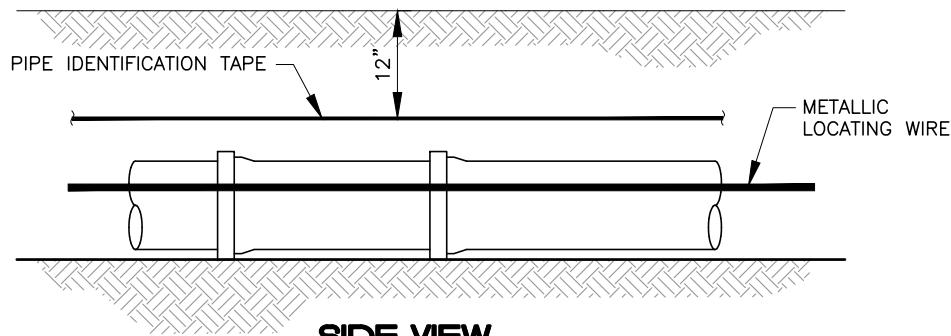
BOYNTON BEACH UTILITIES DEPARTMENT CONSTRUCTION STANDARDS & DETAILS

RECLAIMED WATER MAIN LOCATING WIRE DETAIL FOR NON-METALLIC PIPE

NOT TO SCALE	EFF. DATE 05/24
PAGE NUMBER R-11	



END VIEW



SIDE VIEW

NOTES:

1. ALL PRESSURE PIPE SHALL REQUIRE INSULATED METALLIC LOCATING WIRE (14 GAUGE COPPER) CAPABLE OF DETECTION BY A CABLE LOCATOR AND SHALL BE BURIED DIRECTLY AGAINST PIPE.
2. LOCATING WIRE SHALL TERMINATE AT THE TOP OF EACH VALVE BOX AND BE CAPABLE OF EXTENDING 12" ABOVE TOP OF BOX IN SUCH A MANNER SO AS NOT TO INTERFERE WITH VALVE OPERATION.
3. USE DUCT TAPE AS NECESSARY TO HOLD WIRE DIRECTLY AGAINST THE PIPE.
4. ALL PRESSURE PIPE SHALL REQUIRE 3" ALUMINUM FOIL IDENTIFICATION TAPE INDICATING MATERIAL CONTAINED WITHIN PIPE (E.G...RECLAIMED WATER). TAPE SHALL BE BURIED DIRECTLY ABOVE THE CENTERLINE OF PIPE, AND UNBROKEN THE ENTIRE RUN OF PIPE.

