WATER, SEWER & RECLAIMED WATER

APPROVED MATERIAL MANUAL

EDITION 2026/2027

THE APPROVED MATERIAL MANUAL

A comprehensive resource for approved materials used in our systems.

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WATER
Quality. Reliability. Every Drop.

SEWER
Essential Services. Healthy Communities.

RECLAIMED WATER
Sustainable Solutions. Stronger Tomorrow.

Quality Materials.
Reliable Infrastructure.
Stronger Communities.

CLAY COUNTY UTILITY AUTHORITY
3176 OLD JENNINGS ROAD
MIDDLEBURG, FLORIDA 32068

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INTRODUCTION

This manual has been prepared to provide the utility and development community with a comprehensive list of materials that have been reviewed and approved for use within the Clay County Utility Authority (CCUA) systems.

Certain products—such as pumps, emergency standby generators, and control systems—have been intentionally excluded and will continue to require separate shop drawing review and approval.

All photos shown in this manual are provided as examples only and are not intended to represent specific manufacturers or product models.

Applicable national standards listed throughout this manual are provided for reference purposes only. Additional state, local, or project-specific standards may also apply and shall be followed where required.

Important: Any material not listed in this manual is considered NOT approved and shall not be installed unless expressly authorized by CCUA or its designated representative.

To ensure the highest standards of service and system reliability, CCUA will periodically review approved materials to confirm continued compliance with industry and environmental standards. If a material no longer meets these standards or CCUA policies, it may be disapproved or suspended from use. In such cases, the manufacturer will be permitted to address the identified issues. If satisfactorily resolved, the material may be reinstated.

New materials will be considered continuously. This manual includes procedures for vendors, suppliers, or manufacturers to submit materials for review. Submittals that do not follow these procedures will not be considered.

All revisions to this manual will be made available on our website at www.clayutility.org.

HOW TO SUBMIT MATERIALS FOR APPROVAL

To maintain consistency, safety, and reliability across the CCUA's utility systems, a formal process has been established for reviewing and approving new materials for inclusion in the Approved Materials Manual. This process is overseen by CCUA's Approved Materials Review Committee (AMRC).

Submittal Requirements

Manufacturers, suppliers, or their authorized representatives seeking inclusion of material must submit a complete application package containing the following:

- Product specification sheets (technical data),
- Independent third-party testing and certifications (if applicable)
- Installation and maintenance guidelines
- List of utilities currently using the product
- References from at least two utilities of comparable size
- Sample of material, if feasible
- Documentation demonstrating compliance with all applicable national, state, and local standards, regulations, and requirements governing the material's intended use
- Additional justification or documentation as deemed necessary by the vendor
- Optional: Video presentation or request for a demonstration meeting
- All submittals must be clearly labeled with the product name, model number(s), and manufacturer contact information.

Note: Incomplete submittals will not be reviewed.

Format and Delivery

Manufactures, suppliers, or their authorized representatives shall submit all application packages electronically to the email address below. Hard copy submissions may also be accepted at the following address:

Clay County Utility Authority
Approved Materials Review Committee (AMRC)
3176 Old Jennings Road
Middleburg, FL 32068

Email: DesignStandards@clayutility.org

Review Criteria

Each submittal will be evaluated based on the following factors:

- Compatibility with existing CCUA systems and standards
- Performance and durability under Florida-specific environmental conditions
- Field staff experience and operational input
- Life-cycle costs and operational or maintenance impacts

Field testing or pilot use may be required before final approval is granted.

The review process typically takes 60–90 days, depending on the complexity and availability of resources.

Incomplete submittals will not be reviewed.

Approval and Inclusion

If approved, the material will be added to the Approved Material Manual and posted on CCUA's website. Approval may be conditional based on system type, location, or application.

Approval does not guarantee permanent inclusion; materials are subject to removal if performance issues arise or standards change. The vendor will be notified and given the opportunity to respond to or correct any deficiencies before disqualification.

Notification of Decision

The submitting party will receive a formal decision letter indicating:

- Approval (with any conditions or limitations)
- Denial (with reason for rejection)
- Request for Additional Information

Re-submittals may be accepted following the correction of deficiencies or after design revisions have been made.

Revisions

Vendors must notify CCUA of any change in product formulation, specifications, or ownership. CCUA reserves the right to re-review any previously approved material in such cases.

All updates to the Approved Materials Manual are posted at www.clayutility.org

Section A: Pipe

A.1 PVC Pipe-Schedule 40

Material Item Approved for Use In	
Water System	☐
Wastewater System	☐
Reclaimed Water System	☒

Material Description:

PVC 1120 Schedule 40 bell and spigot pipe shall conform to ASTM D1785.

Pipe shall be color-coded Pantone Purple and continuously marked "RECLAIMED WATER" in accordance with industry standards for identification of non-potable systems.

Pipe shall be suitable for pressure applications and compatible with solvent-weld joint systems.

This pipe material is approved for use on private reclaimed water irrigation systems only and shall be installed downstream of the reclaimed water service connection. Use on public reclaimed water distribution mains is prohibited unless specifically approved by CCUA.

APPLICABLE STANDARDS:
ASTM D1785, D1784, NSF/ANSI 14, NSF/ANSI 61, American Water Works Association (AWWA) C904

Size	Approved Manufacturer
2" and smaller	JM Eagle Corporation
	Westlake Eagle Corporation
	National Pipe & Plastics, Inc.
	Sanderson Pipe Corp.
	Vassall Industries
	Charlotte Pipe Foundry Co.
	IPEX, Inc.

A.2 PVC Pipe-Schedule 80

Material Item Approved for Use In	
Water System	☒
Wastewater System	☒
Reclaimed Water System	☒

Material Description:

Schedule 80 (SCH80) PVC Pipe, bell-and-spigot type, shall be manufactured in accordance with all applicable standards listed below.

Applicable Standards:
ASTM D1784 and ASTM D1785 (Cell Class 12454B), NSF/ANSI 14 & 61 and all other applicable national, state, and local standards governing its intended use.

Size	Approved Manufacturer
2” and smaller	JM Eagle Corporation
	Westlake Pipe & Fittings Corp.
	National Pipe & Plastic, Inc.
	Sanderson Pipe Corporation
	Vassallo Industries
	Charlotte Pipe and Foundry Co.
	IPEX, Inc.

A.3 Polyethylene Service & Main Tubing (2” and smaller)

Material Item Approved for Use In	
Water System	☒
Wastewater System	☒
Reclaimed Water System	☒

Material Description:

Polyethylene (HDPE) service tubing shall be manufactured from PE4710 resin in accordance with AWWA C901, ASTM D1248, ASTM D2239, ASTM D2737, ASTM D3350 and all other applicable national, state, and local standards governing its intended use. Tubing shall be copper tube size (CTS), SDR-9, with a minimum working pressure of 250 psi.

Tubing shall be suitable for potable water and reclaimed water main applications (where approved). HDPE service tubing may also be used for general sanitary sewer force main service connections, low-pressure force main applications, and force main blow-off assemblies where approved by CCUA. Material shall include ultraviolet (UV) inhibitors for protection against sunlight exposure.

Insert stiffeners must be used and shall be 316 stainless steel. No-lead brass fittings (couplings, tees, and wyes) are acceptable for service connections when not installed under roadways.

Tubing shall be continuously marked at intervals not exceeding four (4) feet with nominal size, pressure rating, SDR, manufacturer identification, ASTM standard, and NSF certification (when applicable).

Color Coding:

- Blue – potable water
- Purple (Pantone) – reclaimed water, marked “RECLAIMED WATER.”
- Green-Sanitary sewer/force main

Size	Approved Manufacturer
2” and smaller	ENDOT Industries, Inc.
	Rehau
	Advanced Drainage Systems (ADS)

A.4 High-Density Polyethylene (HDPE) Pipe 4-inch and larger

Material Item Approved for Use In		
Water System	☒	
Wastewater System	☒	
Reclaimed Water System	☒	

Material Description:

High-Density Polyethylene (HDPE) pipe, 4-inch diameter and larger, shall meet AWWA C906 standards for polyethylene pressure pipe and fittings. Pipe shall be manufactured from PE4710 resin and be suitable for pressure applications, including potable water distribution, reclaimed water systems, and wastewater force mains.

HDPE pipes shall be manufactured to Ductile Iron Pipe Size (DIPS) outside diameters and supplied in DR-11 or DR-13.5 pressure classes. The material shall be resistant to corrosion, chemical degradation, and environmental stress cracking and suitable for open-cut and trenchless installations, including horizontal directional drilling (HDD).

All pipe joints shall be made using thermal butt fusion, producing a fully restrained, leak-free system. Mechanical joint or flanged adapters shall be used for transitions to valves and fittings.

Color-Coded:

- Black with Blue Strip-Potable water
- Black with Green Strip-Sanitary sewer/Force main
- Black with Pantone Purple Strip-Reclaimed water

Applicable Standards:
AWWA C906, ASTM F714, D3350, 345444C, 345464C for black or 345444E, 35464E non-black & color, F2620, D2513, PPI TR-4, NSF/ANSI 14 & 61 and all other applicable national, state, and local standards governing its intended use.

Size	Approved Manufacturer
4” and larger	Shall be Approved by CCUA

A.5 PVC Pipe-DR-18

Material Item Approved for Use In	
Water System	☒
Wastewater System	☒
Reclaimed Water System	☒

Material Description:
DR-18 (C900) 235 psi PVC pipe for water, reclaimed water, and sanitary sewer force distribution mains, 4-inch through 24-inch. Shall conform to all applicable national standards referenced below.

Pipe shall be manufactured from PVC compounds meeting Cell Classification 12454B (Type I, Grade I) and shall be ductile iron pipe size (DIPS) outside diameter. Pipe shall be rated for 235 psi working pressure and supplied with integral bell and rubber gasket joints.

Pipe shall be color-coded and continuously marked at intervals not exceeding 12 inches along the barrel in accordance with the following:

- Blue – potable water, marked "WATER"
- Purple (Pantone) – reclaimed water, marked "REUSE WATER" or "RECLAIMED WATER"
- Green – sanitary sewer/force main, marked "FORCE MAIN"

All joints shall be rubber gasketed, push-on type, conforming to ASTM D3139, with gaskets conforming to ASTM F477.

Applicable Standards:
AWWA C900, ASTM D1784, D2241, D-3139, F477 and NSF/ANSI 61and all other applicable national, state, and local standards governing its intended use.

Size	Approved Manufacturer
4 inch to 24 inch	JM Eagle Corporation
	Diamond Plastics Corporation
	Westlake Pipe & Fittings Corporation
	National Pipe & Plastic, Incorporated
	Sanderson Pipe Corporation

A.6 PVC Pipe Fusible (4” thru 24”)

Material Item Approved for Use In	
Water System	☒
Wastewater System	☒
Reclaimed Water System	☒

Material Description:

Fusible PVC (C900) pressure pipe for potable water, reclaimed water, and sanitary sewer force mains shall conform to AWWA C900 and be manufactured from PVC compounds meeting ASTM D1784 cell classification 12454. Pipe shall be DIPS OD, DR-18 (235 psi) or DR-14 (305 psi), and supplied in plain-end lengths for thermal butt fusion joining to create a fully restrained, leak-free system.

Pipe shall be color-coded as follows:

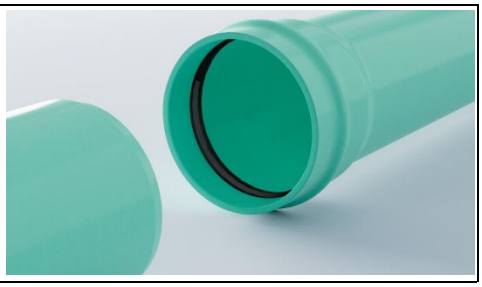
- Blue – potable water
- Purple (Pantone)-reclaimed water
- Green – sanitary sewer / force main

Applicable Standards:
AWWA C900, ASTM D1784, PPI TR-2, PPI TR-4, ASTM F1674/F1674M, NSF/ANSI 61and all other applicable national, state, and local standards governing its intended use.

Size	Approved Manufacturer
4 inch to 24 inch	Shall be Approved by CCUA

A.7 PVC Pipe-SDR26 (Sewer)-4-inches and above

Material Item Approved for Use In	
Water System	☐
Wastewater System	☒
Reclaimed Water System	☐



Material Description:

PVC SDR-26 gravity sewer pipe for sanitary sewer systems shall conform to ASTM D3034 and ASTM F679 (as applicable by size) and be manufactured from PVC compounds meeting ASTM D1784, Cell Classification 12454. Pipe shall be green in color and gasketed, bell-and-spigot type with elastomeric seals.

Pipe shall be clearly marked at intervals not exceeding 5 feet with the manufacturer's name, nominal size, SDR rating, cell classification, and applicable standards.

SDR-26 pipe shall be used for gravity sewer installations with burial depths less than 13 feet unless otherwise approved.

For burial depths of 13 feet or greater, DR-18 PVC pipes will be required. DR-18 PVC pipe shall only be used for gravity sewer mains without sewer services. See Section A.5 for DR-18 PVC pipe specifications and Section B.5 for DR-18 PVC fittings requirements.

Applicable Standards:
ASTM D3034, F679, D1784, D2412, D3212, F477, UNI-B-6 and all other applicable national, state, and local standards governing its intended use.

Size	Approved Manufacturer
4 inch and above	JM Eagle Corporation
	Westlake Pipe & Fittings Corp.
	Extrusion Technologies, Inc.
	Diamond Plastics Corp.
	Hawk Plastics Corp.
	National Pipe & Plastics, Inc.
	Sanderson Pipe Corp.

A.8 Ductile Iron Pipe

Material Item Approved for Use In	
Water System	☒
Wastewater System	☒
Reclaimed Water System	☒

Material Description:

Ductile Iron (D.I.) Pipe shall be cement-lined and meet all applicable national standards as listed below. Pipe shall have a minimum tensile strength of 60,000 PSI and a minimum yield strength of 42,000 PSI.

Cement lining shall conform to all requirements of the AWWA.

CCUA does not permit 3" Ductile Iron Pipe within the CCUA-owned and maintained utility system.

Applicable Standards:
ANSI A21 50-51, AWWA C150-C151, AWWA C104, AWWA C110, C115, C151 and all other applicable national, state, and local standards governing its intended use.

Size	Approved Manufacturer
4 inch and larger	US Pipe
	Clow Water Systems Co.
	American Cast Iron Pipe Co.
	Sonco Pipe & Tube

A.9 Steel Casing Pipe

Material Item Approved for Use In	
Water System	☒
Wastewater System	☒
Reclaimed Water System	☒

Material Description:

Steel Casing Pipe shall comply with all applicable national standards and FDOT requirements. Casing pipes shall be manufactured from rolled and welded steel plate meeting the specified wall thickness and structural requirements of the project. Pipe shall have a minimum yield strength of 35,000 PSI.

Installation / DOT Requirements:

Steel casing pipe installed beneath transportation facilities shall also comply with:

- FDOT Utility Accommodation Manual (UAM)

Applicable Standards:
ASTM A139, ASTM A53 and all other applicable national, state, and local standards governing its intended use.

Size	Approved Manufacturer
Varies	Shall be Approved by CCUA

Section B: Fitting and Accessories

B.1 PVC Fittings-Schedule 80

Material Item Approved for Use In	
Water System	☒
Wastewater System	☒
Reclaimed Water System	☒

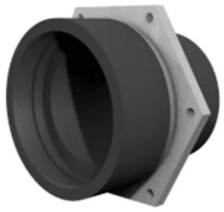
Material Description:

PVC Schedule 80 solvent-weld fittings, 2-inch diameter and smaller, solvent-weld (socket) type connections, shall be manufactured from rigid Polyvinyl Chloride (PVC) suitable for pressure applications, including potable water, reclaimed water, and wastewater systems where approved. Fittings shall meet or exceed the national standards referenced below.

Applicable Standards:
ASTM D2467, D1784, D2855, NSF/ANSI 14 & 61, and all other applicable national, state, and local standards governing its intended use.

Size	Approved Manufacturer
2” and smaller	Westlake Pipe & Fitting Corp.

B.2 HDPE Fusible Mechanical Joint (MJ) Adapter

Material Item Approved for Use In		
Water System	☒	
Wastewater System	☒	
Reclaimed Water System	☒	

Material Description:

Fusible Mechanical Joint (MJ) adapters shall be factory-molded HDPE fittings designed to provide a pressure-rated transition between HDPE piping systems and standard ductile iron mechanical joint (MJ) components, including valves, hydrants, and fittings.

The fitting shall consist of a one-piece molded HDPE body with an integral MJ bell and fusion-compatible spigot end suitable for butt fusion.

Applicable Standards:
ASTM D2513, D3261, D3350, F2620, AWWA C901/C906, C111, C600, NSF-61, NSF-14 and all other applicable national, state, and local standards governing its intended use.

Size	Approved Manufacturer
4” and larger	ISCO Industries

B.3 SDR-18 & SDR-26 PVC Sewer Fittings

Material Item Approved for Use In	
Water System	☐
Wastewater System	☒
Reclaimed Water System	☐

Material Description:

SDR-26 and SDR-18 PVC sewer fittings shall be molded type, green in color, and conform to all applicable national and state standards.

"Wyes" shall be Tee-Wye fittings only unless otherwise approved by CCUA.

Gravity sewer mains installed at depths of thirteen (13) feet or greater shall utilize SDR-18 heavy wall sewer pipe and fittings.

All fittings shall be installed in accordance with manufacturer recommendations and CCUA standards.

Applicable Standards:
ASTM D1784, D3034, D3212, D2412, F477, F1336, D2241, F679, AWWA C605, F.A.C 62-604 and all other applicable national, state, and local standards governing its intended use.

Size (SDR-26)	Approved Manufacturer	Model #
6" and Larger	Harco	N/A
	JM Eagle Corporation	N/A
	GPK Products, Inc.	N/A
	Multi Fittings Corp.	N/A
	Westlake Pipe & Fittings Corp.	N/A

Size (SDR-18)	Approved Manufacturer	Model #
8" and Larger	IPEX Sewer Wye	CO-EX/Molded
10" and Larger	IPEX Sewer Wye	Prefabricated
6"45 Bend	IPEX	CO-EX
6" Transition Coupling	Multi Fittings Corp.	C-900 X 6" SDR-26

B.4 Brass Fittings/Miscellaneous

Material Item Approved for Use In	
Water System	☒
Wastewater System	☒
Reclaimed Water System	☒

Material Description:

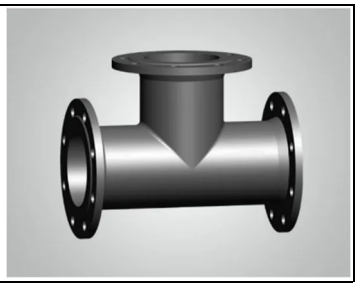
Brass adapters and couplers for polyethylene pipe shall be no-lead brass, female IPS, pack-joint, or compression type compatible with the specified pipe material and installation application.

Applicable Standards:

AWWA C800, NSF/ANSI/CAN 61 & 372, ASTM B584, B62

Size	Manufacturer
2” and Smaller	Ford Meter Box Company, Inc.
	A.Y. McDonald Mfg. Co.
	Mueller Co.
	Cambridge Brass

B.5 Flat Flange Joint Fittings

Material Item Approved for Use In		
Water System	☒	
Wastewater System	☒	
Reclaimed Water System	☒	

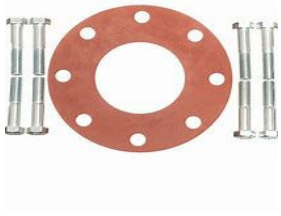
Material Description:

Flat flange joint fittings shall be ductile iron, mechanical joint, or flanged type designed for potable water, wastewater, or reclaimed water applications as applicable. Fittings shall be manufactured in accordance with applicable AWWA, ANSI, ASTM, and NSF standards and shall be compatible with the specified pipe material, pressure rating, and installation requirements. Protective linings and coatings shall comply with CCUA standards and approved details.

Applicable Standards:
AWWA C110/A21.10, C111/A21.11, ANSI B16.1, ANSI/AWWA C153/A21.53, NSF/ANSI/CAN 372, ASTM A536

Size	Manufacturer
4” and Larger	Tyler Union
	American Cast Iron Pipe Co.
	Star Pipe Products
	NAPAC, In. Waterworks
	NACIP, Inc.
	SIP Industries
	Sigma

B.6 Flange Joint Accessory Kits

Material Item Approved for Use In		
Water System	☒	
Wastewater System	☒	
Reclaimed Water System	☒	

Material Description:

Flange joint accessory kits shall include bolts, nuts, washers, glands, and gaskets suitable for flanged piping installations in potable water, wastewater, and reclaimed water systems. Components shall be compatible with the specified pipe material, pressure rating, and utility application. Hardware shall be corrosion resistant and conform to applicable AWWA, ANSI, ASTM, NSF, and FDEP standards.

Size	Manufacturer
4” and Larger	Union Foundry Corp
	Tyler Pipe (McWane, Inc)
	American Cast Iron Pipe Co.
	U.S. Pipe
	Star Pipe Products
	NAPAC, In. Waterworks
	NACIP, Inc.
	SIP Industries
	Sigma

B.7 Mechanical Joint Fittings (4” thru 36”)

Material Item Approved for Use In	
Water System	☒
Wastewater System	☒
Reclaimed Water System	☒

Material Description:

Ductile iron fittings shall be cement mortar-lined or ceramic epoxy-lined as applicable and include bends, tees, crosses, reducers, plugs, caps, anchors, sleeves, offsets, wye branches, true wyes, and flange fittings. Fittings shall conform to applicable AWWA, ANSI, ASTM, NSF, and FDEP standards and be compatible with the specified pipe material, pressure class, and utility application. Compact mechanical joint fittings shall comply with AWWA C153 and flange fittings shall comply with AWWA C110.

Applicable Standards:
AWWA C110/A21.10, C153/A21.53, C111/A21.11, NSF/ANSI/CAN 61, 372, ASTM A536 and all other applicable national, state, and local standards governing its intended use.

Size	Manufacturer
4” and Larger	Union Foundry Corp.
	Tyler Pipe (McWane, Inc)
	American Cast Iron Pipe Co.
	U.S. Pipe
	Star Pipe Products
	NAPAC, In. Waterworks
	NACIP, Inc.
	SIP Industries
	Sigma

B.8 Mechanical Joint Accessory Pack

Material Item Approved for Use In	
Water System	☒
Wastewater System	☒
Reclaimed Water System	☒

Material Description:

Mechanical Joint (MJ) Accessory Packs are used for assembling mechanical joint fittings, valves, and appurtenances for pressure-rated potable water, wastewater, and reclaimed water systems. A typical MJ accessory pack includes:

- Rubber gasket
- Corrosion-resistant T-bolts and nuts
- Washers as required

All fittings shall conform to all applicable national, state, and local standards governing its intended use.

Size	Approved Manufacturer
4” and larger	Union Foundry Co. (McWane, Inc.)
	Tyler Pipe (McWane, Inc.)
	American Ductile Iron Pipe
	US Pipe
	Star Pipe Products
	NAPAC, Inc. Waterworks
	Merit Fasteners Corp.

B.9 Flange Adapter for Ductile Iron Pipe

Material Item Approved for Use In		
Water System	☒	
Wastewater System	☒	
Reclaimed Water System	☒	

Material Description:

Flange adapters for ductile iron pipes shall be manufactured from ductile iron and designed for restrained or non-restrained flanged piping applications as applicable. Flange adapters shall conform to applicable AWWA, ANSI, ASTM, NSF, and FDEP standards and shall be compatible with the specified pipe material, pressure rating, and utility application.

Size	Manufacturer	Model No.
4” and Larger	Ford Meter Box Company, Inc.	Uni-Flange 200 series
	Ford Meter Box Company, Inc.	Uni-Flange 400 series
	Ford Meter Box Company, Inc.	Uni-Flange 900 series
	Ebaa Iron, Inc.	000 Series
	Ebaa Iron, Inc.	3500 Series
	Star Pipe Products	200 Series
	Star Pipe Products	400 Series
	Sigma	ZF2-ZF4 Series

B.10 Corporation Stops

Material Item Approved for Use In	
Water System	☒
Wastewater System	☒
Reclaimed Water System	☒

Material Description:

Corporation stops shall be manufactured from cast bronze with machined fitting surfaces and in accordance with AWWA C800 in sizes 3/4 inch through 2 inches. Corporation stop shall be full-port ball valve with check, combined cap and tee, cast on stop body and operating tee cap to provide for locking the stop in closed position. Corporation stops for use with copper services shall have an inlet connection with a flare nut fitting for Type K copper tubing. Corporation stops utilizing poly tubing shall have an inlet connection with a pack joint or compression joint. Corporation stops for use with Schedule 80 PVC pipe shall have inlet connections with female iron pipe threads. All Corporation stops shall have an outlet connection with female iron pipe thread

NOTE: Corporation stops will only be allowed at the main. Corporation stops are not allowed in meter boxes.

Applicable Standards:
AWWA C800, ASTM B62/B584, NSF/ANSI 61/372 and all other applicable national, state, and local standards governing its intended use.

Size	Approved Manufacturer
3/4” to 2”	Ford Meter Box Company, Inc.
3/4” to 2”	Mueller Co.
3/4” to 2”	AY MacDonald Manufacturing Co.

Section C: Joint Restraints

C.1 Mechanical Joint Retainer

Material Item Approved for Use In	
Water System	☒
Wastewater System	☒
Reclaimed Water System	☒

Material Description:

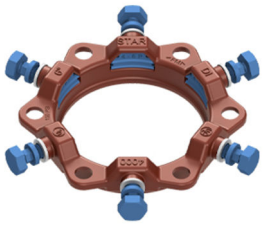
Mechanical Joint (MJ) Retainer Glands are designed to provide a positive mechanical restraint on ductile iron pipe and fittings in pressurized potable water, wastewater, and reclaimed water systems.

MJ retainers shall be manufactured from ductile iron conforming to applicable ASTM and AWWA standards. Restraining components (wedge segments, grip rings, or locking bolts) must be corrosion-resistant and designed to uniformly engage the pipe without causing damage. Retainer glands must be fully compatible with standard AWWA C111 mechanical joint dimensions and shall not require modifications to fittings or pipe.

All components—including bolts, wedges, hardware, and gaskets—must be supplied as a complete engineered assembly.

Size	Approved Manufacturer
4” and larger	McWane Inc. (Union Foundry Co./Tyler Pipe/Tyler Union)
	American Ductile Iron Pipe
	US Pipe
	Star Pipe Products
	EBAA Iron, Inc.
	Smith-Blair
	Ford Meter Box Company
	SIP Industries

C.2 Mechanical Joint Retainer

Material Item Approved for Use In		
Water System	☒	
Wastewater System	☒	
Reclaimed Water System	☒	

Material Description:

Mechanical Joint Restrainer Gland. For PVC pipe only.

MJ retainers shall be manufactured from ductile iron conforming to applicable ASTM and AWWA standards. Restraining components (wedge segments, grip rings, or locking bolts) must be corrosion-resistant and designed to uniformly engage the pipe without causing damage. Retainer glands must be fully compatible with standard AWWA C111 mechanical joint dimensions and shall not require modifications to fittings or pipe.

All components—including bolts, wedges, hardware, and gaskets—must be supplied as a complete engineered assembly.

Size	Manufacturer	Model No.
4” and Larger	Ford Meter Box Company, Inc.	Uni-Flange Series 1500 S (IPS)
	Ford Meter Box Company, Inc.	Uni-Flange Series 1500 C (PVC)
	Ford Meter Box Company, Inc.	UFR1500 PVC
	Star Pipe Products	Series 4000
	Ebaa Iron, Inc.	Series 2000 (PV)
	Tyler Union	Series 1500 (Dual Wedge)
	Tyler Union	Series 2000
	Tyler Union	Series 3000
	Smith Blair	Cam-Lock 120
	SIP Industries	EZPVC08

C.3 Joint Restraining Device/Bell Restraint (PVC Pipe)

Material Item Approved for Use In		
Water System	☒	
Wastewater System	☒	
Reclaimed Water System	☒	

Material Description:

Joint Restraining Devices for PVC pipe shall be designed to provide axial restraint for push-on or mechanical joint PVC pipelines used in potable water, wastewater, and reclaimed water systems. Restraints must be fully compatible with AWWA-compliant PVC pipe and fittings and capable of resisting forces from internal pressure, external loading, and thermal stress.

Restraint components shall be fabricated from high-strength, corrosion-resistant materials suitable for direct burial. Coatings or stainless steel components shall meet applicable AWWA/ASTM requirements for long-term performance in underground utility environments.

Size	Approved Manufacturer	Model #
4” and larger	Ford Meter Box Company, Inc.	Uni-Flange 1300 Series
	EBAA Iron, Inc.	6500 Series
	Star Pipe Products	1000-1100 Series
	Sigma Corp.	PV-Lok, PVM & PVP Series
	SIP	PT PVC

C.4 Mechanical Joint Fasteners

Material Item Approved for Use In	
Water System	☒
Wastewater System	☒
Reclaimed Water System	☒

Material Description:

Mechanical Joint (MJ) Fasteners—including MJ bolts, nuts, and tie lugs—shall be used to secure mechanical joint fittings in potable water, wastewater, and reclaimed water systems. Fasteners shall be compatible with AWWA-standard mechanical joints and provide a secure, leak-free connection.

All fasteners shall be corrosion-resistant and suitable for buried installation, manufactured from high-strength steel and coated (e.g., Cor-Ten, zinc-coated, or equivalent) or constructed of approved corrosion-resistant materials. Tie rods and tie lugs shall be used where required to provide joint restraint.

Bolts and nuts shall meet applicable strength and dimensional requirements and be sized appropriately for the MJ fitting. All components shall be capable of withstanding long-term underground exposure without degradation.

Applicable Standards:
AWWA C111/A21.11, ANSI/AWWA C153/A21.53, C110/A21.10, ASTM A307, A563, A153/F2329, B633, F436 and all other applicable national, state, and local standards governing its intended use.

Size	Approved Manufacturer
3/4”	N/A

Section D: Valves and Accessories

D.1 Resilient Seated Gate Valve

Material Item Approved for Use In	
Water System	☒
Wastewater System	☒
Reclaimed Water System	☒

Material Description:

All gate valves shall be equipped with the following items: all bolts, nuts, and washers shall be stainless steel 304 or 316 grade, assembled with anti-seize compounds; the wedge shall be ductile iron; all resilient wedge material shall be EPDM rubber with the wedge fully encapsulated in a manner to prevent the rubber from separating from the metal wedge; the entire gate valve shall be fusion-bonded epoxy coated conforming to AWWA C550 and NSF 61 certified; all stems shall be stainless steel, lead free, type 304 through 430 S.S. per ASTM A276; valve shall have a 2˜ operating nut and open left. All gate valves 10˜ and larger in size shall have four bolt hole slots in the upper quadrant of M.J. Flange, or supplier shall supply equivalent hardware, including eyebolts and properly shaped restraining bolts, to accomplish the same installation, as part of the gate valve cost.

Applicable Standards:
All gate valves including tapping valves, regardless of size shall be AWWA C-515 D.I.

Note: Any manufacturer who wishes to pour Ductile Iron into the mold of a C-509 type valve, creating a full wall D.I. valve, will be permitted to do so. to AWWA C550, NSF 61 certified, ASTM A276 and all other applicable national, state, and local standards governing its intended use.

Size	Approved Manufacturer	Model #
2” and larger	American Flow Control	2500 series
	American Flow Control with ALPHA™ Ends	2500 series
	Mueller Company	2300 Series & A-2361
	M&H Valve Co.	7000 Series
	Clow Valve Co.	2638 Series
	American AVK Company	45 & 55 Series

D.2 Air/Vacuum and Air Release Valve

Material Item Approved for Use In	
Water System	☒
Wastewater System	☒
Reclaimed Water System	☒

Material Description:

Air release valves, air/vacuum valves, and combination air valves shall be designed for potable water, wastewater, and reclaimed water utility applications. Valves shall conform to applicable AWWA, ASTM, NSF, and FDEP standards and shall be suitable for the specified pressure rating and utility service conditions. Materials shall be corrosion resistant and compatible with underground utility installations.

Size	Approved Manufacturer	Model #
Varies	Val-Matic Corp.	802 A
	Golden Anderson	
	Crispin Valve	US20 SB
	Dynamic Fluid Control (DFC)	Vent O Mat: RGXI 316 SS

D.3 Curb Stop/Ball Valve

Material Item Approved for Use In	
Water System	☒
Wastewater System	☒
Reclaimed Water System	☒

Material Description:

Curb stops shall be full-port ball valve type manufactured from cast bronze with machined fitting surfaces and designed for potable water service applications. Curb stops shall conform to AWWA C800 and applicable ASTM, NSF, and FDEP standards in sizes 3/4-inch through 2-inch.

Valves shall include lock wing stops and operating tee caps for locking in the closed position. Inlet connections shall be compatible with the specified service pipe material, including flare nut fittings for Type K copper tubing, pack-joint or compression fittings for polyethylene tubing, and female iron pipe threads for Schedule 80 PVC pipe. Outlet connections shall be female iron pipe thread unless otherwise approved.

Applicable Standards:
AWWA C800, NSF/ANSI/CAN 61 & 372, ASTM B62 & B584 and all other applicable national, state, and local standards governing its intended use.

Size	Approved Manufacturer	Model #
3/4” to 2”	Ford Meter Box Company, Inc.	B-11 & B-41 Series
	Mueller Co.	B-20200
	AY MacDonald Manufacturing Co.	6101W

D.4 Plug Valve

Material Item Approved for Use In	
Water System	☐
Wastewater System	☒
Reclaimed Water System	☐

Material Description:

Plug valves shall be resilient seated, non-lubricated eccentric type valves designed for potable wastewater system applications. Valves shall provide drip-tight shutoff at a minimum pressure rating of 150 psi in both directions and shall conform to applicable AWWA, ASTM, NSF, and FDEP standards.

Valve bodies shall be constructed of ductile iron with corrosion-resistant coatings suitable for underground utility service conditions. Valves shall open left and may require actuators to achieve specified shutoff requirements. Mechanical joint and flanged end connections shall be provided as specified for the application.

Size	Approved Manufacturer	Model #
4” and Larger	Milliken Valve Co.	600 N (MJ)
	Milliken Valve Co.	601 N (Flg)
	Dezurik	Fig 118
	Clow Valve Co.	5400 Series
	Pratt (Henry Pratt Co.)	551 (MJ)
	Pratt (Henry Pratt Co.)	583 (Flg)
	Val-Matic Valve & Mfg. Co.	5800RN Series (Flg)
	Val-Matic Valve & Mfg. Co.	5900RN Series (MJ)
	VSI Waterworks	Series PVII/PVIF
	GA Industries	Fig 517 (Eco- Centric)

D.5 In-Line Check Valve

Material Item Approved for Use In		
Water System	☒	
Wastewater System	☒	
Reclaimed Water System	☒	

Material Description:

Resilient hinge inline check valves shall be designed for potable water, wastewater, and reclaimed water utility applications and shall provide automatic non-slam flow control to prevent reverse flow conditions. Valve bodies and covers shall be constructed of ductile iron with fusion bonded epoxy or approved corrosion-resistant coating systems.

Valves shall include stainless steel bolts and nuts on the access cover and flanged ends.

Valves shall be furnished with mechanical joints by flanged adapters suitable for connection to PVC or ductile iron pipe and shall include all required restrained joint devices in accordance with CCUA standards and details. Valves shall conform to applicable AWWA, ASTM, NSF, and FDEP requirements.

Size	Approved Manufacturer	Model #
4” through 12”	Kennedy Valve	FIG-506
	American Flow Control	2100
	Mueller Company	Flexible Disc
	GA Industries	Fig. 200

D.6 Ball Check Valve

Material Item Approved for Use In	
Water System	☐
Wastewater System	☒
Reclaimed Water System	☐

Material Description:

Buried ball check valves shall be cast iron, resilient ball-type check valves designed for wastewater, force main and grinder pump utility applications. Valve bodies shall be epoxy-coated cast iron with a resilient-coated metal ball designed for corrosion resistance and reliable sealing performance.

Valves shall be suitable for underground installation and conform to applicable ASTM and FDEP requirements.

Size	Approved Manufacturer	Model #
2”	Flowmatic/Danfoss Socla	508 Cast Iron
4” and larger	Flowmatic/Danfoss Socla	408 Cast Iron

D.7 In-line Check Valve (Residential)

Material Item Approved for Use In		
Water System	☒	
Wastewater System	☐	
Reclaimed Water System	☐	

Material Description:

Inline dual check valves shall be designed for residential potable water service applications to provide backflow prevention at individual service connections. Valves shall conform to applicable ASSE, AWWA, NSF, and FDEP standards and shall include a female inlet threaded connection and male outlet threaded connection unless otherwise approved.

Valve bodies and internal components shall be constructed of corrosion-resistant materials suitable for potable water utility service conditions.

Size	Approved Manufacturer	Model #
Varies	Wilkins Divisions/Zurn Industries, Inc.	700
	Watts Industries	7F
	Febco	810

D.8 Double Check Detector Valve Assembly

Material Item Approved for Use In	
Water System	☒
Wastewater System	☐
Reclaimed Water System	☐

Material Description:

Double check detector valve assemblies shall be designed for fire protection system applications and shall include a ¾" bypass meter. Assemblies shall conform to applicable AWWA, NSF, UL, FM, and FDEP requirements and shall be approved for fire line service installations. Assemblies shall be furnished complete with shutoff valves, test cocks, and detector bypass assembly as required for the specified installation.

NOTE:
Approved materials listed below are for installations owned by CCUA. Installations not owned by CCUA shall utilize a backflow prevention assembly compliant with applicable FDEP requirements.

Size	Approved Manufacturer	Model #
2 ½" – 10"	Watts Industries	709 DCDA
	Febco	856
	Hersey/Grinnell (Grinnell Mechanical Products)	DC-II
	Wilkins Division/Zurn Industries Inc.	950DA
	Wilkins Division/Zurn Industries Inc.	450DA
	Wilkins Division/Zurn Industries Inc.	350DA

D.9 Reduced Pressure Backflow Preventer

Material Item Approved for Use In		
Water System	☒	
Wastewater System	☐	
Reclaimed Water System	☐	

Material Description:

Reduced pressure backflow prevention assemblies shall be designed for high hazard cross-connection protection in potable water system applications. Assemblies shall conform to applicable AWWA, ASSE, USC FCCCHR, NSF, UL/FM, and FDEP requirements and shall be suitable for installation downstream of a flow meter unless otherwise approved.

Assemblies shall include resilient seated check valves, differential pressure relief valve, shutoff valves, and test cocks suitable for testing, maintenance, and continuous service conditions. Devices shall be compatible with the specified pressure rating and installation requirements.

NOTE:
Approved materials listed below are for installations owned by CCUA. Installations not owned by CCUA shall utilize a backflow prevention assembly compliant with applicable FDEP requirements.

Size	Approved Manufacturer	Model #
¾”” – 12”	Wilkins/Zurn Industries, Inc.	375/975/975 XL
	Watt Industries	909 Series
	Febco	825Y/860
	Hersey/Grinnell	6CM

Section E: Fire Hydrants

E.1 Fire Hydrant

Material Item Approved for Use In	
Water System	☒
Wastewater System	☐
Reclaimed Water System	☐

Material Description:

All fire hydrants shall open to the left and shall be equipped with the following items: all bolts, nuts, and washers shall be stainless steel 304 or 316 grade, assembled with anti-seize compound; breakaway coupling should be bronze, cast iron/ductile iron; all pins, bolts, or clips shall be stainless steel 304 or 316 grade; upper and lower stems shall be stainless steel 316 grade or 400 grade; main valve seat shall be EPDM rubber and shall be marked as such and shall be assembled in such a fashion the rubber cannot separate from the metal; all coatings shall be NSF approved.

Fire hydrant shall be painted silver and have 1-1/2˜penta nuts opening left. Caps shall be attached with stainless steel chain, including swivel rings. Paints shall be silver, BLP Mobile Paints, liquid aluminum, 1151 ALKYD weight 56.6% x volume 41.2%, VOC 3.76 lb/gal.

Size	Approved Manufacturer	Model #
5-1/4”	Waterous Hydrant	WB-67*
	Waterous Hydrant with ALPHA™ Ends**	(Repair Only) **
	Mueller Co.	A-423*
	American AVK Company	27/00*
	American AVK Company	27/80*
	Clow Valve Co.	F2545*
	M&H Valve Co.	129T*

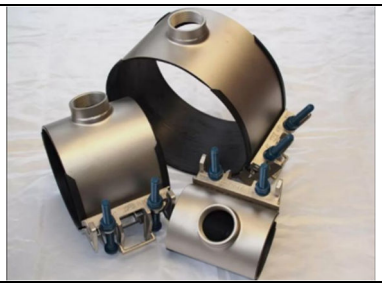
*Each model is acceptable, providing that it meets the above specifications.

**Repair only

Section F: Service Saddles and Tapping Devices

F.1 Stainless Steel Tapping Saddle (2” and smaller)

Material Item Approved for Use In	
Water System	☒
Wastewater System	☒
Reclaimed Water System	☒



Material Description:

Tapping Sleeve, stainless steel band with stainless steel threaded outlet (NPT). Required for taps on existing mains.

Size	Approved Manufacturer	Model #
3/4” to 2”	Ford Meter Box Company, Inc.	FS313
	Romac Industries	306
	Smith-Blair, Inc.	372
	Powerseal Pipeline Product Corp.	3414 AS
	Dresser Utility Solutions	TPS Series

F.2 Stainless Steel Tapping Sleeve (2” and larger)

Material Item Approved for Use In		
Water System	☒	
Wastewater System	☒	
Reclaimed Water System	☒	

Material Description:

Stainless Steel Tapping Sleeves are designed for making branch connections to existing pressurized potable water mains. Sleeves must provide a pressure-tight, structurally sound connection suitable for shell cutter tapping machines and resilient wedge gate valve installations. Products must consist of a stainless-steel band, bolt assemblies, and outlet flange compliant with AWWA and ANSI standards.

Sleeves must be constructed of all stainless steel—no dissimilar metals are permitted, including bolts, nuts, washers, and hardware. Gaskets must provide a full circumferential seal and comply with NSF/ANSI potable water requirements.

Size	Approved Manufacturer	Model #
2” and larger	Ford Meter Box Company, Inc.	FAST Series
	Romac Industries, Inc.	SST
	Smith Blair, Inc.	663 & 665
	Cascade Waterworks Mtg.	CST-EX
	Dresser	Style 630
	Mueller Co.	H304
	PowerSeal Pipeline Products Corp.	3490 MJ

F.3 Double Strap Service Saddle (New Mains Only)

Material Item Approved for Use In	
Water System	☒
Wastewater System	☐
Reclaimed Water System	☒

Material Description:

Service Saddle shall be epoxy or poly coated with stainless steel straps. Service saddles shall include stainless steel bands with either 3 mil thickness (minimum) epoxy or poly coated (malleable or ductile) iron body or 85 - 5 - 5 - 5 bronze body. For wet taps or water mains 12-inch size and larger, a double band saddle is required. Outlet sizes shall be 1 inch through 2 inches and have iron pipe threads (IPS). The outside diameter range of the saddle shall be properly sized to conform to the type of pipe being tapped without placing undue stress on the pipe. Pipe shavings or cuttings, including coupon, shall not enter the host pipe during the tapping operation.

Note:
Select desired saddle O.D. range which specifically matches outside diameter of pipe. Saddles for C-900/DR-18 shall be sized to the exact O.D. Size for proper fit.

Size	Approved Manufacturer	Model #
2” and smaller	Ford Meter Box Company, Inc.	FC-202, 202BS
	Romac Industries, Inc.	202 DS (Dual)
	Smith-Blair, Inc.	317
	JCM Industries (new construction only)	406
	PowerSeal Pipeline Products Corp.	3417, 3409
	Mueller Company	DR 25

F.4 Gravity Sewer Tap Saddle (4”-6”)

Material Item Approved for Use In	
Water System	☐
Wastewater System	☒
Reclaimed Water System	☐

Material Description:

Gravity Line Tap Saddle, designed for tapping 4” through 6” PVC or ductile iron gravity sewer mains shall be suitable for the intended application and compatible with the host pipe material. All materials must comply with ASTM , AWWA Standards and all other applicable national, state, and local standards governing its intended use.

Use of gravity line tap saddles shall require prior approval from CCUA and shall not be permitted where installation of a standard tee-wye fitting is practical.

The use of Romac Gravity Line Tap Saddles, or an approved equal, shall be in accordance with the manufacturer's installation recommendations and CCUA specifications.

Installation shall ensure a watertight connection and maintain the structural integrity of the existing gravity sewer main.

Size	Approved Manufacturer	Model No.
4”-6”	Romac Industries, Inc.	CB-4.80UN

F.5 Fused Poly Service Saddles

Material Item Approved for Use In	
Water System	☒
Wastewater System	☐
Reclaimed Water System	☒

Material Description:

Fused polyethylene (HDPE) service saddles shall be designed for use on polyethylene pressure piping systems and shall provide a fully restrained, leak-free branch connection through thermal fusion. Service saddles shall be manufactured from PE4710 high-density polyethylene resin and shall be compatible with the specified host pipe material and fusion process.

All materials shall comply with applicable ASTM, AWWA, and all other applicable national, state, and local standards, regulations, and CCUA requirements governing their intended use. Installation shall be performed by personnel trained in the applicable fusion procedures and in accordance with the manufacturer's installation recommendations, approved fusion procedures, and CCUA specifications.

Service saddles shall be suitable for potable water, sewer force main and reclaimed water applications, where approved, and shall maintain the pressure rating and integrity of the host piping system.

Size	Approved Manufacturer	Model No.
Varies		

Section G: Repair Sleeves, Couplings, Clamps & Adapters

G.1 Wide Range Coupling

Material Item Approved for Use In		
Water System	☒	
Wastewater System	☒	
Reclaimed Water System	☒	

Material Description:

Wide Range Couplings are flexible, gasketed mechanical couplings designed to connect pipes of varying outside diameters (OD), materials, or classes. Commonly used for repair, transition connections, or emergency maintenance, these couplings accommodate pipe tolerance variations while maintaining a pressure-rated, leak-tight seal.

These couplings are suitable for ductile iron, PVC, steel, HDPE (with insert stiffeners), and AC pipe applications.

Applicable Standards:
AWWA C219, C111/A21.11, ASTM F477, NSF/ANSI 61, ASTM D3034/F679, AWWA C900/C905, all other applicable national, state, and local standards governing its intended use.

Size	Approved Manufacturer	Model No.
2” thru 12”	Ford Meter Box Company, Inc.	FC2W Ultra-Flex
	PowerSeal Pipeline Products Corp.	3506 PowerMax
	Mueller Company	Max-Range Coupling
	JCM	Optimum Range 242
	Krausz (Hymax)	HYMAX Wide Range

G.2 Flexible Concrete Manhole Connection Boots

Material Item Approved for Use In		
Water System	☐	
Wastewater System	☒	
Reclaimed Water System	☐	

Material Description:

Flexible manhole connectors shall be resilient watertight connectors designed for use with precast concrete manholes and compatible with the specified pipe material and outside diameter. Connectors shall allow for differential settlement, pipe deflection, and watertight sealing between the manhole structure and connecting pipe. Flexible connectors shall conform to applicable ASTM and FDEP requirements and shall be suitable for wastewater utility applications.

Applicable Standards:
AWWA C923, C990, F477, D2240 and all other applicable national, state, and local standards governing its intended use.

Size	Approved Manufacturer	Model #
Varies	Kor-N-Seal	N/A
Varies	International Precast Supply, Inc. (IPS)	Toggle Style

G.3 Boltless Coupling

Material Item Approved for Use In	
Water System	☒
Wastewater System	☐
Reclaimed Water System	☒

Material Description:

Repair Boltless dresser Coupling (long or short type) for pressurized potable water distribution systems. Coupling shall be designed for pipe repair or joining of like-sized pipe materials without the use of bolts, gaskets, or restraint accessories. All materials shall be suitable for buried installation and continuous potable water service.

Applicable Standards:
AWWA C219, ASTM A536, NSF/ANSI/CAN 61/372 and all other applicable national, state, and local standards governing its intended use.

Size	Approved Manufacturer	Model #
3/4” to 2”	Dresser Utility Solutions	Style 65
	Telsco Industries, Inc.	700 Series

G.4 Transition Coupling

Material Item Approved for Use In		
Water System	☒	
Wastewater System	☒	
Reclaimed Water System	☒	

Material Description:

Transition couplings shall be designed for connecting dissimilar pipe materials and outside diameters in potable water, wastewater, and reclaimed water utility applications. Couplings shall be cement mortar-lined or epoxy-lined as applicable and suitable for underground utility service conditions. Couplings shall conform to applicable AWWA, ASTM, NSF, and FDEP requirements and shall provide a flexible, watertight connection compatible with the specified pipe materials, outside diameter ranges, and pressure ratings.

NOTE:
Outside diameter ranges may vary. Refer to manufacturer's specifications for compatibility with the specified pipe material and outside diameter.

Size	Approved Manufacturer	Model #
4" and larger	Romac Industries, Inc.	501
	Ford Meter Box Company, Inc.	FC2A
	Ford Meter Box Company, Inc.	FC2W
	Smith-Blair, Inc.	441
	Dresser Hymax	262
	PowerSeal Pipeline Products Corp.	3506-AS
	PowerSeal Pipeline Products Corp.	3506
	Mueller Company	Max-Range Coupling
	JCM	Optimum Range 242

G.5 Full Circle Repair Clamp

Material Item Approved for Use In		
Water System	☒	
Wastewater System	☒	
Reclaimed Water System	☒	

Material Description:

Full-Circle Repair Clamps are stainless-steel clamps designed for permanent, pressure-rated repairs of circumferential breaks, pinholes, longitudinal cracks, and leaking joints on potable water, reclaimed water, and wastewater pipelines.

These clamps provide a 360-degree sealing surface and are suitable for ductile iron, cast iron, PVC, HDPE, steel, and asbestos-cement pipe (when sized correctly).

Full-Circle Repair Clamps are intended as permanent repair, not temporary banding, and must be installed according to the manufacturer's torque recommendations.

Warranty Repairs:
The use of Full-Circle Repair Clamps is not permitted for repairs associated with contractor warranty obligations unless specifically approved in writing by CCUA.

All fittings shall conform to the applicable national, state and local standards governing its intended use.

Size	Approved Manufacturer	Model #
All Sizes	Ford Meter Box Company, Inc.	"F" or "FS" Series
2" – 12"	Smith-Blair, Inc.	Series 226 or 256
10" and larger	Smith-Blair, Inc.	Series 228 or 263
All Sizes	Romac Industries, Inc.	"SS" or "CL" Series
2" – 12"	JCM Industries, Inc.	101 or 131
4" – 60"	JCM Industries, Inc.	102 or 132
2" – 12"	Krausz Industries Ltd.	EZ Max
All Sizes	PowerSeal Pipeline Products Corp.	3121/3121 AS
	Mueller Company	Series 500
	Dresser Utility Solutions/TPS	TPS/Quick-Cam
	Dresser Utility Solutions/TPS	Ultra-Sleeve Encapsulation

Section H: Casting and Access Covers

H.1 Cast Iron Valve Box & Cover

Material Item Approved for Use In	
Water System	☒
Wastewater System	☒
Reclaimed Water System	☒

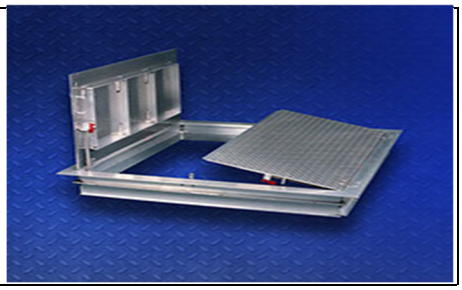
Material Description:

Cast iron valve boxes and covers for water, wastewater, and reclaimed water systems shall be of domestic origin and manufactured from cast iron with non-tacky bituminous or tar enamel coating suitable for underground utility service conditions. Valve boxes shall be adjustable screw type and designed to protect and provide access to buried valves and appurtenances.

Covers shall be cast with the applicable utility designation, including “WATER,” “SEWER,” or “RECLAIMED WATER,” as applicable. Materials shall conform to applicable ASTM and AASHTO requirements and be suitable for H-20 traffic loading conditions where installed within roadways or traffic areas.

Size	Approved Manufacturer	Model #
N/A	Tyler Pipe (McWane, Inc.)	461-S
	US Foundry	7500
	Opelika Foundry (Bingham & Taylor)	4905 (size 18)
	PCI Fastech	N/A
	Sigma Corp/Russell	N/A

H.2 Access Cover/Aluminum

Material Item Approved for Use In		
Water System	☒	
Wastewater System	☒	
Reclaimed Water System	☒	

Material Description:

Aluminum access hatches shall be double-leaf type designed to provide safe access to underground meter vaults and utility structures. Hatches shall be fabricated from aluminum and designed for pedestrian or H-20 traffic loading where required.

Access hatches should include lift assistance, locking hold-open arms, corrosion-resistant hardware, and non-slip surfaces suitable for underground utility service conditions.

Hatches shall conform to applicable ASTM and AASHTO loading requirements and be compatible with the specified vault dimensions and installation application.

Size	Approved Manufacturer
Varies	Halliday Co.
Varies	Or approved equal

Section I: Service Boxes Materials

I.1 Meter/Flushing Hydrant/Force Main Connection Box

Material Item Approved for Use In	
Water System	☒
Wastewater System	☒
Reclaimed Water System	☒

Material Description:

Water and reclaimed water meter boxes, sewer/grinder pump force main connection boxes, valve boxes, and flushing hydrant boxes shall be designed for underground utility applications serving 1-inch and smaller meters, flushing hydrants, grinder pump force main connections, and associated utility appurtenances. Boxes may be cast iron, polyethylene, polymer concrete, fiberglass reinforced polymer, or composite construction as specified and shall be suitable for underground utility service conditions and applicable traffic loading requirements.

Lids shall be clearly identified with the applicable utility designation, including “WATER,” “RECLAIMED WATER,” or “SEWER,” cast or molded into the lid. Potable water lids shall be blue in color, reclaimed water lids shall be Pantone purple, and sewer/grinder pump force main lids shall be green. All meter box lids shall include a touch-read access hole compatible with the utility metering system where applicable. Materials shall conform to applicable ASTM, AWWA, AASHTO, FDEP and all other applicable national, state, and local standards governing its intended use.

Size	Approved Manufacturer	Model #
10” x 19” x 10”	SIGMA Corporation	Rome 1910, Box-MB282T, Lid-MB2821T
21 ½” x 19 ½” x 14	SIGMA Corporation	RMB171814
30 ¾” x 18 ¾” x 14”	SIGMA Corporation	RMB152714
22” x 16” x 12”	SIGMA Corporation	RMB11181
20 5/8” x 21 ½” x 14”	SIGMA Corporation	RMB171814
18”x 13” x 12”	DFW Plastics, Inc.	DFW36C-12-3T
Varies	Southeastern Distributors, Inc	MB-16-17-18
13” x 24” x 12”	Glasmasters, Inc.	AP Series

I.2 1-inch & 3/4 Inch Meter Box

Material Item Approved for Use In	
Water System	☒
Wastewater System	☒
Reclaimed Water System	☒

Material Description:

Meter boxes for water and reclaimed water meter installations shall be designed for residential and commercial utility service applications, including flushing hydrants and associated appurtenances. Boxes may be cast iron, polyethylene, polymer concrete, or composite construction as specified and shall be suitable for underground utility service conditions and applicable traffic loading requirements.

Meter box lids shall include the applicable utility identification, including "WATER," "WATER METER," "RECLAIMED," or "RECLAIMED METER," cast or molded into the lid and shall include a touch-read access hole compatible with the utility metering system. Potable water lids shall be blue in color and reclaimed water lids shall be Pantone purple. Polymer concrete and composite meter boxes may be utilized where approved and shall provide non-absorbent, corrosion-resistant, and durable enclosure protection.

Materials shall conform to applicable ASTM, AWWA, FDEP all other applicable national, state, and local standards governing its intended use.

Size	Approved Manufacturer	Model #
13" x 24" x 12"	Glasmasters, Inc.	AP Series
13 3/8" x 20 ¼" x 12"	Southeastern Distributors, Inc	MB-17
14" x 21" x 12"	DFW Plastics, Inc.	DFW37C-12-3T
10" x 19" x 10"	SIGMA Corporation	Rome 1910, Box-MB282T, Lid- MB2821T

I.3 1 1/2-inch and 2-inch Meter Box

Material Item Approved for Use In	
Water System	☒
Wastewater System	☐
Reclaimed Water System	☒

Material Description:
Heavy-duty meter boxes for 1-1/2-inch and 2-inch water and reclaimed water meter installations shall be rectangular type and suitable for underground utility service conditions and traffic-rated applications where required.

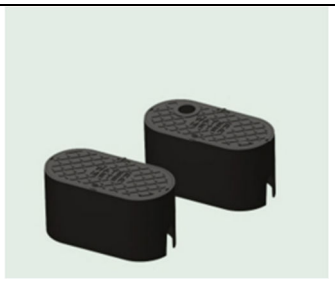
Meter boxes may be polymer concrete, polyethylene, fiberglass reinforced polymer, composite, or cast construction as specified. Lids shall include the applicable utility identification, including “WATER METER” or “RECLAIMED WATER METER,” cast or molded into the lid. Reclaimed water lids shall be Pantone purple in color. All lids shall be traffic rated and include a touch-read access hole compatible with the utility metering system.

Materials shall conform to applicable ASTM, AASHTO, FDEP all other applicable national, state, and local standards governing its intended use.

Size	Approved Manufacturer	Model #
36”x 24” x 24”	Glasmasters, Inc.	AP Series
36” x 36” x 18”	Glasmasters, Inc.	AP Series
30-3/8" x 18-3/4" x 14"	SIGMA	RMB152714 & N1527
35" x 22" x 12"	Brooks Products	66MB (Box), 66-TR (Lid)
35" x 21" x 12"	Southern Meter Box, Inc.	C.H. 2” (Box), T-T.R. 2” (Lid)
30" x 17" x 12"	DFW Plastics, Inc.	DFW1730F-12-1

I.4 Locate Wire Box

Material Item Approved for Use In	
Water System	☒
Wastewater System	☒
Reclaimed Water System	☒



Material Description:

Locate wire access boxes shall be designed to provide accessible termination and connection points for underground utility locate wire systems associated with potable water, reclaimed water and wastewater infrastructure. Boxes shall be suitable for underground utility service conditions and designed to be easily detectable by magnetic and electronic locating equipment .

Boxes may be polyethylene or cast construction as specified and shall provide corrosion-resistant and durable protection for locate wire access points and locator terminals.

Materials shall conform to applicable ASTM, FDEP, all other applicable national, state, and local standards governing its intended use.

NOTE:
Where utility mains are installed beneath sidewalks, Tyler Union Model 461-S valve boxes shall be installed in lieu of locate wire access boxes.

Size	Approved Manufacturer	Model #
10-1/4” x 19”-22”	Tyler Union	461S
10” x 19” x 10”	Sigma Corp./Russell	Rome 1910, MB282T, MB2821T
	Glasmasters , Inc.	AP Series

I.5 Precast Meter Vault

Material Item Approved for Use In	
Water System	☒
Wastewater System	☐
Reclaimed Water System	☒

Material Description:

Precast meter vaults for 3-inch meters and larger shall be reinforced precast concrete structures designed to house utility meters, valves, fittings, and associated appurtenances for potable water and reclaimed water utility applications. Vaults shall be suitable for underground utility service conditions and traffic-rated installations where required. Vaults shall provide adequate access for operation, maintenance, and meter reading activities and shall include pipe openings or knockouts as required for utility piping installation. Vault structures shall conform to applicable ASTM, AASHTO, AWWA, FDEP all other applicable national, state, and local standards governing its intended use.

NOTES:

- All piping shall be ductile iron, minimum 4-inch diameter unless otherwise approved by CCUA.
- All valves and fittings shall be ductile iron, minimum 4-inch diameter.
- Minimum straight pipe length equal to eight (8) pipe diameters shall be provided on the inlet side of the meter.
- All piping and fittings shall match the meter size except 3-inch meter installations, which shall utilize 4-inch piping and fittings.
- Concrete vaults shall provide a minimum 42-inch deep clear opening and include pipe notches/openings as required. Vaults shall be installed with a minimum 12 inches of #57 stone foundation material unless otherwise approved.
- Contractor shall submit vault shop drawings and dimensions for CCUA review and approval prior to installation.

Size	Approved Manufacturer
As required	Quickrete Co. Rinker Materials
	Standard Precast
	GlasMasters, Inc.
	Approved Equal

Section J: Miscellaneous

J.1 Hair Interceptor

Material Item Approved for Use In	
Water System	☐
Wastewater System	☒
Reclaimed Water System	☐

Material Description:

Hair interceptors shall be designed for commercial and institutional plumbing applications to intercept and collect hair, lint, and similar solids from wastewater prior to discharge into the sanitary sewer system. Units shall be suitable for underground or above-ground installation as applicable and constructed of durable corrosion-resistant materials.

Interceptors shall include removable collection baskets or screens for maintenance, access and cleaning. Materials and assemblies shall conform to applicable ASME, ASTM, plumbing code, FDEP all other applicable national, state, and local standards governing its intended use.

Size	Approved Manufacturer	Model #
70 GPM	Josam Co.	61805

J.2 Casing Spacer

Material Item Approved for Use In	
Water System	☒
Wastewater System	☒
Reclaimed Water System	☒

Material Description:
Casing spacers for potable water, reclaimed water, force main, and gravity sewer utility installations shall be poly or stainless-steel centerline designed to support and center carrier pipe within casing pipe installations. Poly spacers shall be installed at a maximum spacing of three (3) feet on center, and stainless-steel spacers shall be installed at a maximum spacing of six (6) feet on center, unless closer spacing is recommended by the manufacturer or required by CCUA.

Casing spacers shall provide corrosion-resistant support and maintain separation between the carrier pipe and casing pipe during installation and operation. Spacers shall provide a minimum clearance of 1/4-inch and maximum clearance of 1/2-inch between the top of the carrier pipe and the casing pipe unless otherwise approved. Spacer runners shall be evenly spaced around the circumference of the carrier pipe. Spacers for 4-inch through 16-inch pipe shall have six (6) runners spaced at 60-degree intervals. Spacers for 18-inch through 36-inch pipes shall have eight (8) runners spaced at 45-degree intervals. Spacers for pipe 36-inch and larger shall require separate CCUA review and approval. Materials shall conform to applicable ASTM, FDOT, AREMA, FDEP all other applicable national, state, and local standards governing its intended use.

Size	Approved Manufacturer	Model #
4” – 16”	The BWM Co.	BWM-SS (6 legs @ 60°)
18” – 36”	The BWM Co.	BWM-SS (8 legs @ 45°)
4”-12”	The BWM Co.	KP Poly (2 pc. w/ 6 Legs)
8”- 12”	Advanced Products & Systems, Inc.	(Stainless Steel Only)
14”-36”	Advanced Products & Systems, Inc.	(Poly)
8” – 12”	Pipeline Seal & Insulator, Inc. (PSI)	(Stainless Steel Only)
4”-16”	RACI Spacers North America. Inc.	F/G, P/Q, M/N

Section K: Electrical

K.1 Locate/Tracer Wire

Material Item Approved for Use In	
Water System	☒
Wastewater System	☒
Reclaimed Water System	☒

Material Description:
Locate wire for potable water, reclaimed water, and force main utility installations shall be copper clad steel conductor type with high-density polyethylene (HDPE) insulation suitable for underground utility locating applications. Locate wire insulation color shall conform to the APWA utility color code for the applicable buried utility. Locate wire shall be suitable for installation by horizontal directional drilling (HDD) and direct bury open-cut methods as specified.

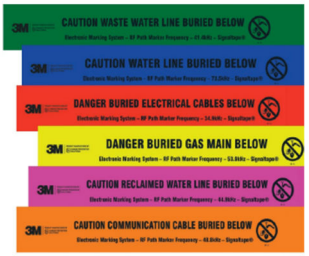
Locate wire for horizontal directional drilling installations shall be minimum 8 AWG solid copper clad steel conductor with minimum 45 mil HDPE coating and minimum break load of 2,150 pounds (or 165,800 PSI).

Locate wire for direct bury installations shall be minimum 10 AWG solid copper clad steel conductor with minimum 30 mil HDPE coating and minimum break load of 448 pounds (or 55,000 PSI).

Locate wire materials shall be corrosion resistant, RoHS compliant, and suitable for electronic locating systems. Materials shall conform to applicable ASTM, APWA, FDEP all other applicable national, state, and local standards governing its intended use.

Size	Approved Manufacturer	Model #
8 Gauge	Pro-line Safety Products	HD-CCS PE 45
8 Gauge	Copperhead	845-EHS
10 Gauge	Pro-line Safety Products	HF-CCS PE 30
10 Gauge	Copperhead	1030 SF

K.2 Electronic Marking System (EMS)

Material Item Approved for Use In		
Water System	☒	
Wastewater System	☒	
Reclaimed Water System	☒	

Material Description:

Electronically detectable path marking warning tape designed for the identification and future locating of underground water, wastewater, and reclaimed water pressure mains and service lines. The tape shall consist of polyethylene material with embedded RFID markers capable of independent detection without the need for grounding or external power sources.

Color Requirements:

- Blue – Potable Water Systems
- Green – Wastewater Systems
- Purple – Reclaimed Water Systems

The warning tape shall be printed continuously with wording identifying the utility type, such as "CAUTION WATER LINE BURIED BELOW," "CAUTION SEWER LINE BURIED BELOW," or "CAUTION RECLAIMED WATER LINE BURIED BELOW," as applicable.

Use of this material shall require the same post-installation testing and certification requirements as other underground locating systems, performed by a qualified and certified locator or technician acceptable to CCUA. The location and type of installed path marking tape shall be accurately depicted on the project record drawings (As-Builts).

Installation shall be in strict accordance with the manufacturer's written recommendations. Materials shall conform to applicable national, state, and local standards governing its intended use.

Size	Approved Manufacturer	Model #
N/A	3M Corporation	7900 Series

K.3 Locate Ball-Sewer Service

Material Item Approved for Use In	
Water System	☐
Wastewater System	☒
Reclaimed Water System	☐

Material Description:

Electronic locate balls shall be passive electronic marker devices designed for underground utility locating applications associated with sewer service installations.

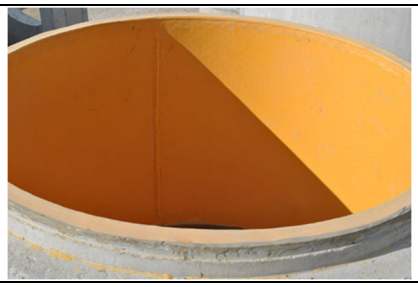
Locate balls shall be suitable for direct burial and compatible with standard electronic utility locating equipment. Sewer service locate balls shall be buried directly above the end of the service line with the marker ball installed approximately three (3) feet below finished grade unless otherwise approved by CCUA.

Size	Approved Manufacturer	Model #
N/A	3M Corporation	EMS1404 Sanitary XR
N/A	GreenLee	OmniMaker - 162

Section L: Liner and Sealants

L.1 Polyethylene Liner

Material Item Approved for Use In	
Water System	☐
Wastewater System	☒
Reclaimed Water System	☐



Material Description:

Polyethylene liner systems for wastewater lift stations and manholes shall consist of high-density polyethylene (HDPE) liner panels designed to provide corrosion-resistant interior protection for concrete wastewater structures. Liners shall be extrusion welded or fusion welded and installed in accordance with the manufacturer's recommendations to provide a continuous watertight protective barrier.

Liner systems shall be suitable for exposure to hydrogen sulfide, wastewater gases, corrosive environments, and sanitary sewer conditions. Materials shall conform to applicable ASTM, FDEP all other applicable national, state, and local standards governing its intended use.

Size	Approved Manufacturer
N/A	AGRU America, Inc.
	or Approved Equal

L.2 Infiltration Taping Seal System

Material Item Approved for Use In		
Water System	☐	
Wastewater System	☒	
Reclaimed Water System	☐	

Material Description:

Infiltration Taping Seal System shall consist of a pressure-sensitive, elastomeric mastic sealing tape designed for external joint encapsulation of underground utility structures. The system shall include a reinforced backing (polypropylene or equivalent) with a high-tack, rubberized asphalt or butyl-based adhesive layer capable of forming a continuous, watertight barrier when applied to concrete, PVC, HDPE, or metal surfaces.

The tape shall be flexible and conformable, allowing it to accommodate minor joint movement, irregular surfaces, and differential settlement without loss of adhesion or sealing integrity. The system shall be resistant to groundwater infiltration, soil chemicals, and corrosion, and shall maintain performance in buried service conditions.

Typical applications include manhole and vault joint sealing, pipe-to-structure connections, and rehabilitation or repair of leaking joints. Tape widths shall be selected based on application requirements, commonly ranging from 4 inches to 12 inches.

The infiltration taping seal system shall be BOA Tape as manufactured by Garlock Pipeline Technologies, or an approved equal meeting the above performance requirements.

Applicable Standards:
ASTM C877, C1244, C443, C990, C478 all other applicable national, state, and local standards governing its intended use.

Size	Approved Manufacturer	Model #
	Garlock	BOA Tape
	Or Approved Equal	

Section M: Manholes, Ring & Covers

M.1 Precast Manhole

Material Item Approved for Use In	
Water System	☐
Wastewater System	☒
Reclaimed Water System	☐

Material Description:

Precast concrete manholes shall be designed for wastewater utility applications and constructed in accordance with approved plans, specifications, and applicable ASTM and FDEP requirements.

Manholes shall consist of reinforced precast concrete sections with watertight joints and resilient pipe connectors suitable for underground sanitary sewer service conditions. Manhole sizing, depth, wall thickness, frame and cover requirements, and installation details shall conform to approved plans and CCUA standards.

Drycast manholes are not permitted. Dual stainless-steel bands shall be required on all resilient manhole connector boots. Manholes associated with permanent pump station installations shall include polyethylene liner systems where required by CCUA standards.

Size	Approved Manufacturer
Varies	Standard Precast
	Quickrete Co./Rinker Materials
	Oldcastle Precast East, Inc.
	Del Zotto Products
	Mack Industries, Inc.

M.2 Manhole Adjusting Ring

Material Item Approved for Use In	
Water System	☐
Wastewater System	☒
Reclaimed Water System	☐

Material Description:

Concrete manhole adjusting rings shall be precast reinforced concrete rings designed for adjusting finished manhole frame and cover elevations to match final grade conditions.

Adjusting rings shall be suitable for wastewater utility applications and compatible with standard precast manhole cone sections, frames, and covers. Rings shall provide durable structural support for traffic-rated installations and shall conform to applicable ASTM, AASHTO, FDEP and all other applicable national, state, and local standards governing its intended use.

Adjustment rings shall be installed using approved flexible sealants or joint materials in accordance with CCUA standards and manufacturer recommendations.

Size	Approved Manufacturer
Varies	Standard Precast
	Quickrete Co./Rinker Materials
	Oldcastle Precast East, Inc.
	Del Zotto Products
	Mack Industries, Inc.

M.3 Manhole/Lift Station Ring and Cover

Material Item Approved for Use In		
Water System	☐	
Wastewater System	☒	
Reclaimed Water System	☐	

Material Description:

Manhole and lift station rings and covers shall be cast iron or ductile iron assemblies designed for wastewater manholes, lift stations, wet wells, valve vaults, and related utility structures. Assemblies shall be traffic rated for roadway and utility service conditions and shall provide durable, corrosion-resistant frame and cover systems compatible with precast concrete structures.

Covers shall include "SANITARY SEWER" identification unless otherwise approved by CCUA. Hinged and gasketed covers shall be utilized where specified or required for odor control, inflow prevention, and operational safety.

Materials shall conform to applicable ASTM, AASHTO, FDEP and all other applicable national, state, and local standards governing its intended use.

Size	Approved Manufacturer	Model #
Manholes		
24"	U.S. Foundry	USF 170E
24"	U.S. Foundry	USF ORS
24"	U.S. Foundry	USF EBWT Cast Iron
24"	U.S. Foundry	USF 750KI Ductile Iron (Hinged, with Gasket)
24"	U.S. Foundry	RE24R8FS (Hinged, with Gasket)
Lift Stations		
34 ¾"	U.S. Foundry	USF 1307-CR-E Cast Iron (Not Hinged)
32"	Pamrex	RE32R8FS Ductile Iron (Hinged, with Gasket)