

WATER

PVC PIPE

4" - 12"
14" - 24"

Minimum Requirements:

4" -12" and 14" - 24":

- Meet or exceed AWWA C-900 (4" - 12")
- Meet or exceed AWWA C-905 (14" - 24")
- Shall be listed by Underwriter's Laboratories and approved for use in cities and towns in Texas by the State Board of Insurance.
- Rigid pipe shall bear the seal of approval (NSF mark) of the national Sanitation Foundation Testing Laboratory.
- Be **Blue** in color.
- Assembled with non-toxic lubricant.
- Minimal sizes: 4, 6, 8, 10, 12, 14, 16, 18, 20, 24
- UV faded pipe will not be accepted
- pipe with extrusion defects such as, but not limited to, internal rippling or external grooves shall be grounds for rejection at the discretion of the Engineer.

Carrier Pipe:

- Carrier pipe shall be C-900 pressure rated pipe
- Be **Blue** in color.



PRE-APPROVED MANUFACTURES:

4" - 12" (C-900):

- Westlake Pipe & Fittings
- Diamond Plastics
- PipeLife Jet Stream
- Certanteed C900-IB
- Sanderson Pipe, Corp.
- JM Eagle

4" - 12" → AWWA C900; CL 305 DR 14, CL 235 DR 18

14" - 24" (C-905):

- Westlake Pipe & Fittings
- Diamond Plastics
- PipeLife Jet Stream
- JM Eagle

14" - 24" → AWWA C905; CL 235 DR 18

Date: 09 January 2023

Date Last Issued: 04 November 2021

Date First Issued 30 Jun 2020

Standard Detail XX-X00

Minimum Requirements:

Full Body Fittings:

- All fittings are to be Mechanical Joint or Flanged
- Fittings shall comply with ANSI/AWWA C110/A21.10 and joint meeting requirements ANSI/AWWA C111/A21.11 and UL requirements.
- Full body ductile iron fittings 3" - 24" shall be pressure rated at 350 psi, minimum.
- Full body ductile iron fittings 30" - 54" shall be pressure rated at 250 psi, minimum.
- Cement lining in accordance with ANSI/AWWA C104/A21.4.
- Coating interior ANSI/AWWA C104/A21.4 and NSF61 approved.
- Coating exterior ANSI/AWWA C110/A21.10 and NSF approved.
- Gaskets—SBR in accordance with ANSI/AWWA C111/A21.11.
- T-Bolts—High-Strength, corrosion-resistant, low-alloy steel in accordance with ASTM A325 (Type 3) or stainless steel in accordance with ASTM A304.
- Standards—NSF 61 approved
- Ductile iron grade 70-50-05 min tensile strength 70,000 psi, yield at 50,000 psi and min. elongation of 5%.
- Polyethylene encasement conforming to AWWA C105.
- Domestic fittings only



PRE-APPROVED MANUFACTURES:

3" - 24":

- Tyler/Union
- Star Pipe
- Sigma

Date: 30 Jun 2020

Date Last Issued: XX Apr 2020

Date First Issued 30 Jun 2020

Standard Detail XX-X00

WATER

**Water Line Fittings
Compact Body Ductile Iron (DI)
C153**

Minimum Requirements:

Compact Body Fittings:

- All fittings are to be Mechanical Joint or Flanged
- Fittings shall comply with ANSI/AWWA C153/A21.53 and joint meeting requirements ANSI/AWWA C111/A21.11 and UL Requirements.
- Compact body ductile iron fittings 3" - 24" shall be pressure rated at 350 psi, minimum.
- Compact body ductile iron fittings 30" - 54" shall be pressure rated at 250 psi, minimum.
- Cement lining in accordance with ANSI/AWWA C104/A21.4.
- Coating interior and exterior ANSI/AWWA C104/A21.4
- Gaskets—SBR in accordance with ANSI/AWWA C111/A21.11.
- T-Bolts—High-Strength, corrosion-resistant, low-alloy steel in accordance with ASTM A325 (Type 3) or stainless steel in accordance with ASTM A304.
- Standards—NSF 61 approved
- Ductile iron grade 70-50-05 min tensile strength 70,000 psi, yield at 50,000 psi and min. elongation of 5%.
- Polyethylene encasement conforming to AWWA C105.
- Domestic fittings only



PRE-APPROVED MANUFACTURES:

3" - 24":

- Tyler/Union
- Star Pipe
- Sigma

Date: 05 May 2021

Date Last Issued: 30 Jun 2020

Date First Issued 30 Jun 2020

Standard Detail XX-X00

SHEET NUMBER

W 3.0

Minimum Requirements:

Tapping Sleeve:

- Body to be either ASTM A 240 type 304 UNS S30400 and S30403 stainless or type 316 stainless steel.
- Plug to be No-lead brass test plug or type 304 stainless steel.
- **Nuts, Bolts & Washers** - Type 316 stainless or Type 304 stainless steel.
- **Gaskets** - To be virgin Stryene Butadiene Rubber (SBR) in accordance with ASTM D2000.
- **Flange** - Type 316 stainless steel with recess per MSS SP-60 in accordance with AWWA C228 Class D ANSI 150# drilling or Ductile Iron in accordance with ASTM A536 grade 65-45-12, 304 stainless is also optional.



PRE-APPROVED MANUFACTURES:

TAPPING SLEEVE:

Ford Meter Box

- FAST 304 SS
- FTSAS 304 SS
- FTSS 304 SS

Romac

- SST
- STS 420

Date: 04 November 2021

Date Last Issued: 05 May 2021

Date First Issued 30 Jun 2020

Standard Detail XX-X00

SHEET NUMBER

W 4.0

Minimum Requirements:

Valve, Resilient Wedge:

- Valve body, bonnet, stuffing box, etc.. material in accordance with ASTM A536.
- **Flanged End** - Flange drilling in accordance with ASME B16.1 Class 125. Also per AWWA C110 and C111, with a 250 psig working pressure.
- **Mechanical Joint Ends** - In Accordance with ANSI/AWWA C111/A21.11, and C110
- Valve in accordance with ANSI/AWWA C515 and UL listed.
- Certified by ANSI/NSF 61 & 372
- Disc coating in accordance with ANSI/AWWA C550.
- Nut and Bolts in accordance with ANSI/ AWWA A304, or ANSI/AWWA A316
- Stem to comply with CDA Alloy C67600 or Stainless steel ASTM A582Type 304
- Valve to be **LEFT** open only.
- Valve to be **NRS** non-rising stem.
- Comply with either AWWA C-515 or AWWA C-509.

Valve, Butterfly:

- Meets or exceeds all applicable requirements of ANSI/AWWA C504, standard Class 150B; NSF 61 Certified.
- Body - Cast Iron ASTM A-126
- Flanges drilled per ANSI B16.1 Class 125
- Disc edge to be 316 stainless
- Disc - Cast iron ASTM A-126 (3", 4", 6" stainless steel ASTM A-743 CF8M
- Nonmetallic bearings
- 3" - 24" 304 SS hardware.



PRE-APPROVED MANUFACTURES:

BUTTERFLY VALVES:

- Mueller Lineseal III, 3211-23

VALVE:

Mueller

- A2361 Resilient Wedge Gate Valve

American AVK(NRS):

- Series 65 Reduced Wall DI (3" - 12").
- Series 65 Hymax Grip® Reduced Wall DI (2" - 12").
- Series 45 Full Wall DI (16" only)

CLOW

- C515 4" - 16" Resilient Wedge Valve (2638)
- C509 2" - 12" Resilient Wedge Valve (2640)

Date: 04 November 2021

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Date First Issued 30 Jun 2020

Standard Detail XX-X00

SHEET NUMBER

W 5.0

Minimum Requirements:

PIPE - FLEXIBLE:

- Material in accordance with NSF 14 and 61.
- Conforming to ASTM D2737, AWWA C901 and ASTM D2239 for IPS.
- Materials conforming to ASTM D3350 cell structure 445574E, or ASTM D3350 cell classification 445574A.
- The resin shall meet PE 4710.
- Shall have a minimum working pressure of 250 psi.
- Compatible with AWWA C800 compression joint brass fittings with stainless steel inserts.
- Sizes conform to ASTM F876 and AWWA C904 for copper tube sizes (CTS).
- Meets the requirements of ASTM F876 for chlorine resistance, tested in accordance with ASTM F2023.

PIPE - COPPER:

- Material in accordance with ASTM B88.



PRE-APPROVED MANUFACTURES:

3/4" - 2":

- MUNICIPEX®
- ADS PolyFlex™ Pipe (CTS or IPS)
- Endot, Endopure PE 4710
- Type K copper tubing

Date: 30 Jun 2020

Date Last Issued: XX Apr 2020

Date First Issued 30 Jun 2020

Standard Detail XX-X00

Minimum Requirements:

Fittings:

- All fire hydrants shall be equipped with a **5" STORZ** pumper connection.
- Hydrants are to have two - 2½" nozzles with NST threads.
- Working pressure to meet 250 psi.
- Hydrants to meet or exceed AWWA C502 and certified to ANSI/NSF 61/372.
- Hydrants are to operate in the right turn direction.
- Nozzle section, bonnet, hydrant bottom, standpipe flanges and tube support in accordance with ASTM A536, Grade 65-45-12, or Grade 70-50-05 or ANSI/AWWA A21.51/C151.
- **Flange** - Comply with ANSI/ASME B16.1, Class 125 and ISO PN10/16 (4"/6").
- T-Bolts—High-Strength, corrosion-resistant, low-alloy steel in accordance with ASTM A325 (Type 3) or stainless steel in accordance with ASTM A304.
- All fittings shall be furnished with stainless steel or high strength COR-TEN steel T-Head Bolts and hex nuts with composition, dimensions and threading in accordance with composition, dimensions and threading in accordance with ANSI/AWWA Standard C111/A21.11, latest revision .
- All glands shall be preferably made by the same manufacturer as the fittings .
- ASTM A194:
 - * B8 CL I Ansi 304 Stainless treated strain hardened
 - * B8 CL II Ansi 304 Stainless carbide solution



PRE-APPROVED MANUFACTURES:

East Jordan (EJ):

- 5CD250

American Flow Control:

- 5¼" Waterous Pacer® Traffic Model WB67-250

M&H Valve Company:

- Hydrant 129

4" - 24":

ASTM A536, ANSI/AWWA C115/A21.15

ASTM A194:

- B8 CL I - ANSI 304 Stainless treated strain hardened
- B8 CL II - ANSI 304 Stainless Carbide Solution

Date: 26 September 2022

Date Last Issued: 06 April 2022

Date First Issued 30 Jun 2020

Standard Detail XX-X00

Corporation Stop & Angled Meter Ball Valve

Minimum Requirements:

Angle Ball Meter Valves:

- To be in compliance with AWWA C800, UNS NO C89833
- Shall be a “No Lead” fitting
- Must be classified as ANSI/NSF 61, Annex G (NSF/ANSI 372).
- Brass parts, not in contact with the potable water, shall conform to the following; AWWA C800, ASTM B62, ASTM B584, UNS NO C83600 - 85-5-5-5
- Shall meet a working pressure of 100 psi for 1” smaller sizes and 80 psi for 1 1/4” through 2” size
- Must be lockable in the closed position.
- In compliance with AWWA C700 for meter threads.
- Solid one piece tee-head and stem
- Stainless inserts to be provided
- Pack Joint Angled Meter Valves are **NOT** permitted

Corporation Stop:

- To be in compliance with AWWA C800, ASTM B584, UNS C89833.
- Shall be a “No Lead” fitting
- Must be classified as ANSI/NSF 61 (NSF/ANSI 372).
- Brass parts, not in contact with the potable water, shall conform to the following; AWWA C800, ASTM B62, ASTM B584, UNS NO C83600 85-5-5-5.
- Shall meet a working pressure of 100 psi
- Body design larger for flat wrench installation.
- Stainless inserts shall be provided



PRE-APPROVED MANUFACTURES:

Angle Ball Meter Valves:

- FORD - ¾- BA 43-333W-Q-NL
- FORD - 1”- BA 43-444W-Q-NL
- FORD - 1 ½- BFA 43-666W-Q-NL
- AY McDonald - ¾” to 1½”- 74602BQ
- AY McDonald - ¾” to 1”- 74642BQ

Corporation Stops:

- Ford F or FB 1000-X-Q - NL
- AY McDonald 74701BQ
- AY McDonald 74701Q

PACK JOINTS ARE PROHIBITED

Date: 14 February 2023

Date Last Issued: 9 January 2023

Date First Issued 30 Jun 2020

Standard Detail XX-X00

**Flexible Ball Joint Restraint
& Tapping Saddles**

Minimum Requirements:

Flexible Ball Joint Restraint:

- Ends Meets or exceeds AWWA C219, NSF-61 and NSF-372 or ANSI/AWWA C111/A21.11 or ANSI/AWWA C153/A21.53.
- Casing, ball, and sleeve meets or exceeds ASTM A536, Grade 65-45-12.

Tapping Saddle - DI:

- Body in compliance with ASTM A536, Grade 65-45-12.
- Straps in compliance with Type 304 (18-8) stainless steel per ASTM A240.
- Gasket in compliance with ASTM D2000.
- Bolts and Nuts - For 1½" - 3", ½" UNC roll thread Type 304 (18-8). For 3" and above ⅝" UNC roll thread Type 304 (18-8) stainless steel. Nuts per ASTM A240. Rods per ASTM A194.



PRE-APPROVED MANUFACTURES:

Flexible Ball Joint Restraint:

- Hymax Grip® Swivel joint (LALO) (4" - 12")
- Romac - FJ-Restraint Flexible Ball Joint Restraint (3" - 12")

Tapping Saddles:

- Romac - 202NS
- Ford FCD202-XXX-TAP
- Smith-Blair - Model 317 Service Saddle

Date: 13 Jan 2022

Date Last Issued: 30 Jun 2020

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Standard Detail XX-X00

Minimum Requirements:

Valve Box:

- The 3 pieces to be in accordance with ASTM A48 Class 35B or better cast iron.
- In accordance with AASHTO M306-10 (105) requirements.
- Domestic materials only.

Meter Box:

- Meter box shall meet the dimensions and materials of the DFW 1200TT.12.1.

Flushing Valve:

- Flushing valve to be certified to NSF/ANSI 372.
- 2½" NST.



PRE-APPROVED MANUFACTURES:

Valve Box:

- Tyler Union 6850 Screw Type Valve Box.
- East Jordan 8550 Screw Type 2-piece Valve Box Set 562-S, 16T valve box top, black asphaltic coated

Meter Box:

- DFW 1200TT.12.1

Flush Valve:

- Kupferle Mainguard Model 77

Automatic Flush Valve:

- Kupferle 9800WC

Date: 26 September 2022

Date Last Issued: 04 November 2021

Date First Issued 30 Jun 2020

Standard Detail XX-X00

**Restraint Glands
& Blind Flange Cover**

Minimum Requirements:

Restraint Gland:

- Manufactured with ASTM A536, Grade 65-45-12.
- In accordance with ANSI/AWWA C111/A21.11
- **T-Bolts and Nuts** - To be high strength, low alloy steel and in accordance with ANSI/AWWA C111/A21.11., or 304 stainless steel.
- Required minimum 2:1 safety factor.
- Domestic only.

Blind Flange:

- Flanges in accordance with ANSI/AWWA C115/A21.15 standards.
- Fitting in accordance with ANSI/AWWA C110/A21.10 or in accordance with ANSI/AWWA C153/A21.53.
- Conforming to NSF-61.
- Pressure rating of at least 350 psi for 2" - 24" .
- Bituminous coating in accordance with ANSI/AWWA C104/A21.1.
- Cement Lining in accordance with ANSI/AWWA C104/A21.1.
- Epoxy Coating in accordance with ANSI/AWWA C116/A21.16.
- Bolts in accordance with ANSI/AWWA C111/A21.11
- Domestic only.



PRE-APPROVED MANUFACTURES:

Restraint Gland:

- Ford - UFR1300-C-XX-I
- Tyler Union - Series 2000 TLP-PVC TufGrip™
- Ebba 2000 PV MEGALUG® (PVC)
- Ebba 1100 MEGALUG® (Ductile, Steel)

Blind Flange:

- Tyler Union C110/A21.10 Full Body
- Tyler Union C153/A21.53 Compact

Date: 12 Nov 2020

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Standard Detail XX-X00

Minimum Requirements:

HDPE:

- Meet or exceed ASTM:
 - F714
 - D3035
- Meet or exceed AWWA:
 - C901 (¾" - 2")
 - C906
- Fitting standards shall meet or exceed ASTM:
 - D3261
 - F1055
 - F1751
 - F2206
 - D2683
- Pipe shall be manufactured from approved pipe grade, PPI Listed, Extra High Molecular Weight, High Density PE3408 material.

PVC:

- Meet or exceed ASTM:
 - D2241
 - D1785
 - F1674
 - Cell Class 12454 per ASTM 1784
- Meet or exceed AWWA:
 - C900
 - C905
- Meets or exceed NSF 61-G to AWWA C900 and NSF-14 (NSF-pw) to AWWA C900

Combined:

- Meet or exceed ASTM:
 - D638
 - D2837
 - D638
 - D1505
 - D696
- Water pipe to have a blue spline



PRE-APPROVED MANUFACTURES:

HDPE:

- ◆ PLEXCO P34CH PE3408 HDPE
- ◆ ASTM F714

PVC:

- ◆ Fusible C900®
- ◆ Fusible C-905®
- ◆ FPVC®

Date: 04 November 2021

Date Last Issued: 30 Jun 2020

Date First Issued 30 Jun 2020

Standard Detail XX-X00



WATER

CITY OF SHERMAN

**City of Sherman Utility
Department Use ONLY**

PRE-APPROVED MANUFACTURES:

Minimum Requirements:

Angle Ball Meter Valves:

- To be in compliance with AWWA C800, UNS NO C89833
- Shall be a “No Lead” fitting
- Must be classified as ANSI/NSF 61, Annex G (NSF/ANSI 372).
- Brass parts, not in contact with the potable water, shall conform to the following; AWWA C800, ASTM B62, ASTM B584, UNS NO C83600 - 85-5-5-5
- Shall meet a working pressure of 100 psi for 1” smaller sizes and 80 psi for 1 1/4” through 2” size
- Must be lockable in the closed position.
- In compliance with AWWA C700 for meter threads.
- Solid one piece tee-head and stem
- Stainless inserts to be provided
- Pack Joint Angled Meter Valves are **NOT** permitted

Corporation Stop:

- To be in compliance with AWWA C800, ASTM B584, UNS C89833.
- Shall be a “No Lead” fitting
- Must be classified as ANSI/NSF 61 (NSF/ANSI 372).
- Brass parts, not in contact with the potable water, shall conform to the following; AWWA C800, ASTM B62, ASTM B584, UNS NO C83600 85-5-5-5.
- Shall meet a working pressure of 100 psi
- Body design larger for flat wrench installation.
- Stainless inserts shall be provided

Ball Meter Valves:

- Ford Straight Curb Stop
 - * ¾ - B41-333W-Q/G-NL
 - * 1” - B41-44W-Q/G-NL
 - * 1 ½ - B41c666-Q/G-NL
 - * 2” - B41-777-Q/G-NL
- AY McDonald 2” - 76102WQ CTS/FNPT
- Ford Right Angle Curb Stop
 - * ¾ - BA 43-332W-Q/G-NL
 - * 1” - BA 43-444W-Q/G-NL
 - * 1 ½ - bfa43-666W-Q/G-NL
 - * 2” - BFA43-777-Q/G-NL
- AY McDonald 2” - 74602BQ
- AY McDonald 2” - 74642BQ

Corporation Stops:

- Ford F or FB 1000-X-G or Q - NL
- Ford F or FB 1001-X-G or Q - NL
- Ford F or FB 1002-X-G or Q - NL
- Ford F or FB 400-X-NL
- Ford F or FB 600-X-NL
- AY McDonald 74701BQ
- AY McDonald 7471BG
- AY McDonald 74701Q
- AY McDonald 74701G

PACK JOINTS ARE PROHIBITED

Date: 07 December 2023

Date Last Issued: 26 September 2022

Date First Issued 28 March 2022

Standard Detail XX-X00

SHEET NUMBER

W 13.0



WATER

CITY OF SHERMAN

Minimum Requirements:

Split Pipe Restraint Fitting:

- To be in compliance with ASTM A 536, Grade 65-45-12
- Stainless steel bolts and rods are required (ASTM F593 type 304)
- Domestic Only.

**City of Sherman Utility
Department Use ONLY**

PRE-APPROVED MANUFACTURES:

Split Pipe Restraint Fittings:

- ROMAC
 - * Series 600: Style 611 and 612 for 4" - 24"

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Standard Detail XX-X00

SHEET NUMBER

W 14.0