

APPROVED MATERIALS



May 2019

APPROVED MATERIALS

May 2019

TABEL OF CONTENTS

| <u>SECTION NO.</u> | <u>DESCRIPTION</u> | <u>PAGE</u> |
|--------------------|--|-------------|
| 1 | General | 2 |
| 2 | PVC Pipe, Couplings, Fittings, etc..... | 2 |
| 3 | Steel Pipe, Coatings, Anodes, Insulating Flanges, etc..... | 4 |
| 4 | Valves and Appurtenances | 7 |
| 5 | Fire Hydrants (Wet Barrel) | 9 |
| 6 | Service Lines, Brass Fittings, Meter Boxes, etc | 10 |
| 7 | Flexible Couplings and/or Transition Couplings | 12 |

APPROVED MATERIALS

1. General

This section indicates the materials approved for use within the District. The approved Materials Section is subject to revisions and update from time-to-time as determined by the District. Users of the District's Standard Specifications for Water Main Installation, standard drawings, and Approved Materials List shall be responsible to confirm they are using the most recent versions. To confirm the most recent versions of the Standard Specifications for Water Main Installation, standard drawings and Approved Materials List, please contact the District Engineering Department at (510) 668-4499 or visit the District website at www.acwd.org.

The District may consider in-kind substitutions for any material listed below, provided the proposed substitution is acceptable to the District. However, Contractor's requests for substitution of material shall be submitted in writing to the District for District review. Please allow at least fourteen (14) days for District review of in-kind substitution requests. District approval must be granted prior to installation of the substitution material.

2. PVC Pipe, Couplings, Fittings, etc.

PVC Pipe C900 with Integral Bell (Reference F.2.1.1)

DR 14 and DR 18 AWWA C900 PVC Pipe

Manufacturers: Vinyltech
Diamond
North American Pipe Corporation

Approved Materials

PVC Pipe Couplings

| <u>Manufacturer / Model</u> | <u>Sizes</u> | <u>Minimum Dimension Ratio</u> |
|--|--------------|--------------------------------|
| Deflection Coupling | | |
| CertainTeed High Deflection “HD” Stop Coupling | 6 – 12-inch | DR 14 |
| Pipeline Couplings (with stop) and Repair Couplings (without stop) | | |
| CertainTeed Closure/Repair Coupling (without stop) | 6 – 12-inch | DR 14 |
| IPEX / Multi Fittings Coupling (with stop) | 6 – 12-inch | DR 18 |
| IPEX / Multi Fittings Repair Coupling (without stop) | 6 – 12-inch | DR 18 |

Push-On by Flange or Flange by Flange Fittings for AWWA C900 PVC Pipe

Gray Iron or Ductile Iron Tees and Crosses

Manufacturers: Sigma-Nappco
 Star Pipe Products, Inc.
 Tyler / Union Foundry
 U.S. Pipe Trim Tyton

Push-On by Push-On Fittings for AWWA C900 PVC Pipe (Reference F.2.1)

Gray Iron, Ductile Iron or PVC 11-1/4°, 22-1/2°, 45°, 90° Elbows

Manufacturers: Sigma-Nappco
 Star Pipe Products, Inc.
 Tyler / Union Foundry
 U.S. Pipe Trim Tyton
 IPEX / Multi Fittings

Tools for Cutting PVC Pipe (Reference F.5.5.2)

Manufacturer: Reed Model PLAS1, #04470
 Reed Pneumatic Powered Universal Pipe Cutter, UPC 616A

3. Steel Pipe, Coating, Anodes, Insulating Flanges, etc.

Machine-Applied Spiral Wrap Tape Coating (Reference F.2.2.6.1, F.2.2.6.2, F.10.2)

| <u>Manufacturer</u> | <u>Primer</u> | <u>Inner Wrap Thickness</u> | | <u>Outer Wrap Thickness</u> | |
|-----------------------|------------------------|-----------------------------|-------------|-----------------------------|-------------|
| | | <u>No.</u> | <u>Mils</u> | <u>No.</u> | <u>Mils</u> |
| Polyken YG-111 System | 1019 | 989-20 | 20 | 955 or 956 -30 | 30 |
| Tapcoat P-TC-80 | M/A 1000F or M/A 100NF | 1020B | 20 | 2030W | 30 |

Field Repair of Coatings (Reference F.2.2.6.1, F.2.2.6.2, F.10.2)

| <u>Manufacturer</u> | <u>Primer</u> | <u>Tape</u> | <u>Mils</u> |
|---------------------|---------------|------------------|-------------|
| Polyguard | 601 | 610 | 50 Min. |
| Polyken | 1027 | 932-50 or 934-50 | 50 Min. |
| Tapcoat | Coldprime | 10 / 40W | 50 Min. |

Special Coatings and Linings for Ferrous Metals

Mastic Coating (Reference F.10.3)

Manufacturers: Polyguard CA 14 Mastic
Tapcoat TC Mastic

Fusion Bonded Epoxy (Reference F.2.2.7.2, F.10.4.2, F.10.4.2.4)

| | <u>Alternate A System</u> | <u>Alternate B System</u> |
|----------------------------|---------------------------|--|
| Electrostatic application: | 3M Scotchkote No. 134 | Valspar (formerly Lilly) Pipeclad 1500 Red |
| Fluidized bed process: | 3M Scotchkote No. 206N | Valspar (formerly Lilly) Pipeclad 1500 Red |
| Repair: | 3M Scotchkote No. 323 | Valspar Pipeclad Patch Compound |

Catalyst Cured Epoxy (12 Mils. Min.) (Reference F.10.4.3)

Manufacturers: Devoe, Bar Rust 235
Ellis Paint Co., Engard, 460 HS

Magnesium Anodes (Reference F.11.3.1)

| <u>Manufacturer / Distributor</u> | <u>Model / Type</u> |
|-----------------------------------|-------------------------------------|
| Calpico | High Potential |
| Far West Corrosion Control Co. | High Potential or AMAX MAXMAG |
| Harco (Corrpro) | High Potential Cast Magnesium Anode |
| Protection Engineering | Galvotec SuperMAG High Potential |

Zinc Anodes (Reference F.11.3.2)

| <u>Manufacturer / Distributor</u> | <u>Model / Type</u> |
|-----------------------------------|---------------------------------------|
| Calpico | High Purity Alloy, ASTM B418, Type II |
| Far West Corrosion Control Co. | High Purity Alloy, ASTM B418, Type II |
| Harco (Corrpro) | High Purity Alloy, ASTM B418, Type II |
| Protection Engineering | High Purity Alloy, ASTM B418, Type II |

Exothermic Welding Requirements (Reference F.6.6.4)

| <u>Manufacturer / Distributor</u> | <u>Model</u> |
|-----------------------------------|--------------|
| Erico Products, Inc., Calpico | Cadweld |
| Continental Industries | thermOweld |

Type: Weld mold and weld metal as recommended by the manufacturer for use with ductile iron or gray iron and for the fitting diameter when used on ductile iron or gray iron fittings and appurtenances; weld mold and weld metal as recommended by the manufacturer for use with steel pipe and for the pipe diameter when used on steel pipe. Wire sleeves shall be used as required by manufacturer for given connecting wire size and weld mold.

Flange Insulation Kit (Flanges with nominal diameter smaller than 24-inches) (Reference F.3.10 and F.3.12)

Manufacturers: Calpico or PSI

- a. ANSI Series 15 Type E
- b. 1/8-inch full face, neoprene-faced cloth inserted phenolic insulating gasket
- c. Spiral-wound Mylar insulating sleeves
- d. 1/8-inch NEMA Grade G-10 fiberglass epoxy insulating washers

Flange Insulation Kit (Flanges with nominal size 24-inches and greater) (Reference F.3.10 and F.3.12)

Manufacturer: PSI

- a. ANSI Series 15 Type E
- b. 1/8-inch full face, neoprene-faced cloth inserted phenolic insulating gasket with integral O-rings
- c. Spiral-wound Mylar insulating sleeves
- d. 1/8-inch NEMA Grade G-10 fiberglass epoxy insulating washers

Installation of Water Mains Within Steel Encasement Pipe (Reference F.9.3, F.9.4 and F.11.2.3)

Pipe Insulators:

Manufacturer: Calpico, Model M-Series

Encasement Closure (End Seal)

Manufacturer: Calpico
Model C Pull-on Casing End Seal 1/8-inch thick with 2 stainless steel bands

Tracer Wire Splices (Reference F.3.13 and F.5.7)

Manufacturers: Burndy Servit Model KS-15 or 3M Company Scotchlok Connector B or Connector G screw type connectors, with encapsulating 3M Company Model Scotchcast 3570G connector sealing packs; or
3M Company DBR Direct Bury Splice Kit, Part No. 054007-09964

4. Valves and Appurtenances**Resilient-Seated Gate Valves** (Reference F.3.1)

| <u>Manufacturer</u> | <u>Flange by Flange</u> | <u>C900 Push-On (PO)</u> | | <u>2-Inch Only Threaded Ends</u> |
|---------------------|-------------------------|--------------------------|---------------------|----------------------------------|
| | | <u>PO by PO</u> | <u>PO by Flange</u> | |
| American AVK | 25/4X | 25/5X | 25/6X | 03-063-39X |
| Clow | F-6102 | F-6112 | F-6113 | F-6103 |
| Kennedy Ken-Seal | 8561AN | 8901 | 8902 | 8057 |
| M & H | 4067-02 | 4067-22 | 4067-23 | 4067-07 |
| Mueller | A-2362-6 | A-2362-38 | A-2362-41 | A-2362-8 |

Butterfly Valves (Flange by Flange) (Reference F.3.2)

| <u>Manufacturer</u> | <u>Model Name/No.</u> | <u>Working Pressure Class</u> | <u>Sizes [inches]</u> |
|------------------------|-----------------------|-------------------------------|-----------------------|
| Clow, M&H, and Dresser | 450 | 200 | 4 – 12 |
| | 1450 | 150 | 30 – 42 |
| | 4500 | 150 | 14 – 24 |
| Mueller-Linseal III | #B-3211-6 | 150B | 12 – 48 |
| Pratt | Groundhog | 150B | 4 – 20 |
| | Triton XR-70 | 150B | 24 – 48 |
| Val-Matic | --- | 150 | 4 – 72 |
| | --- | 250 | 4 – 48 |

Valve Boxes (Reference F.3.5 and F.11.5)

Manufacturer: Christy, Model Style G5 (Box No. G05TBOX with Cast Iron Lid No. G05C)
 Bes, Model Style G5

Air Valves (Reference F.3.7.1)

| <u>Manufacturer</u> | <u>Model No.</u> | <u>Size</u> |
|------------------------|------------------|---------------------|
| APCO-Combination | 143-C | 1-inch |
| Air Release Valves | 145-C | 2-inch |
| Crispin | UL10 | 1-inch Screwed |
| Universal Air Valves | UL20 | 2-inch Screwed |
| | UL21 | 2-inch 125# Flanged |
| | UL22 | 2-inch 250# Flanged |
| | UL40 | 4-inch Screwed |
| | UL41 | 4-inch 125# Flanged |
| | UL42 | 4-inch 250# Flanged |
| Val-Matic | 201C | 1-inch |
| Combination Air Valves | 202C | 2-inch |
| | 204C | 4-inch |

Air Valve Meter Boxes (Reference F.3.7.1)

| <u>Manufacturer</u> | <u>Air Valve Size [inches]</u> | <u>Meter Box Model No.</u> | <u>Inside Dimensions [inches]</u> | <u>Box Extension Model No.</u> | <u>Lid Model No.</u> |
|-----------------------|--------------------------------|----------------------------|-----------------------------------|--------------------------------|----------------------|
| Bes Concrete Products | 1 | C24W | 18 by 19-1/2 | 1235 | C24D |
| | 2 | C36W | 17-1/4 by 30 | 1405 | C36D |
| Christy | 1 | B24 | 18-3/4 by 20-1/4 | B24 x 12 | B24D |
| | 2 | B36 | 17-1/4 by 30 | B36 x 12 | B36D |

5. Fire Hydrants (Wet Barrel)

Fire Hydrants (Reference F.3.3.1)

Two 2-1/2 inch and one 4-1/2 inch NST outlets

| <u>Manufacturer</u> | <u>Model / No.</u> | <u>Cities</u> |
|---------------------|--------------------|---------------|
| Clow (800 Series) | 860 | FNUC |
| Clow (Ranger) | 960 | FNUC |
| Jones | J-3760 | FNUC |
| Jones | J-4060 | FNUC |

Fire Hydrant Break-Off Check Valve

| <u>Manufacturer</u> | <u>Model / No.</u> | <u>Cities</u> |
|---------------------|--------------------|---------------|
| Clow | LBIW #400a | FNUC |

Where F = City of Fremont
 N = City of Newark
 UC = City of Union City

Fire Hydrant Paint Color (Reference F.3.3.2)

| <u>Manufacturer</u> | <u>Paint Color</u> | <u>Cities</u> |
|---------------------|--|---------------|
| Kelly-Moore | Kel-Guard Enamel “Sunburst/Safety Yellow” No. 1700-63 | FNUC |
| Sherwin Williams | Metalatex “Safety Yellow” No. B42Y37 | FNUC |

Where F = City of Fremont
 N = City of Newark
 UC = City of Union City

Fire Hydrant Burys (C900 Push-On) (Reference F.3.3.2)

Manufacturers: Clow
 Nappco
 South Bay Foundry

6. Service Lines, Brass Fittings, Meter Boxes, etc.

Plastic Tubing (Reference F.2.3)

Polyethylene, 1-1/2 inch and 2 inch, 200 psi, SDR-9, PE 4710 classification number, Copper Tube Size (CTS), NSF 61 Certified

Compression fittings with stainless steel inserts required

| <u>Manufacturer</u> | <u>Model</u> |
|---------------------------------|--------------------------------------|
| Advanced Drainage Systems (ADS) | ADS PolyFlex CTS PE4710 |
| Centennial Plastics | CenFlo HDPE 4710 |
| Interstate Plastic | HD PE4710 |
| Performance Pipe | Driscoplex 5100 Ultra-Line (PE 4710) |

Corporation Stops, Curb Stops, Angle Meter Stops and Miscellaneous Brass Fittings (Reference F.3.8.)

Corporation stops, curb stops, angle meter stops and miscellaneous brass fittings shall be made of copper alloy (brass) conforming to AWWA C800, except that only brass materials with CDA No. C89520 or CDA No. C89833 (“non-lead”) will be allowed and as otherwise modified herein. Written District approval will be required before any substitutions may be used.

Manufacturers: A.Y. McDonald
 Cambridge Brass
 Ford
 Jones
 Mueller

C900 Service Saddles (Reference F.3.6.1)

1-inch, 1-1/2-inch and 2-inch tap sizes, all brass / bronze

| <u>Manufacturer</u> | <u>Model No.</u> |
|---------------------|--|
| A.Y. McDonald | 3806 |
| Ford | S91 or S912 |
| Jones | J-996 |
| Mueller | H-13491 for 6” Main H-13492 for 8” Main H-13494 for 12” Main |

Water Meter Boxes (Reference F.7.9)

| <u>Manufacturers:</u> | | Bes Concrete | | Christy Concrete | |
|---|--|-------------------------|-------------------------|-------------------------|-------------------------|
| Water Meter Sizes [inches] | Nom. Inside Dimension of Box [inches] | Box Model <u>No.</u> | Lid Model <u>No.</u> | Box Model <u>No.</u> | Lid Model <u>No.</u> |
| 3/4 and 1 | 12 by 22 | C16W | C16G | B16 | B16G |
| 1-1/2 and 2 | 13 by 24 | C30 | C30G | N30BOX | FL30G |
| 1, 1-1/2 and 2 | 17 by 30 | C36W | C36G | B36BOX | FL36G |
| Residential Fire Sprinkler Junction Box | 10-1/2 by 17 | C9W | C9D | B9 | B9D |

Box lids and top rim of boxes shall have etched polyethylene face.

Christy Fibrelyte lids with iron reading doors are approved for B30 and B36 boxes.

Armorcast traffic rated (20k) meter boxes for ¾ and 1 inch, and 1, 1-1/2 and 2 inch meter boxes shall be used on projects where District approval has been granted for meters set within garage aprons or at locations shown on the approved plans.

| <u>Manufacturer:</u> | | Armorcast Polymer Concrete (20k-rated) | |
|-------------------------------|--|--|----------------------|
| Water Meter Sizes [inches] | Nom. Inside Dimension of Box [inches] | Box Model <u>No.</u> | Lid Model <u>No.</u> |
| 3/4 and 1 | 11 by 21 | A6000492 | A6000489TRCI-ACWD |
| 1, 1-1/2 and 2 | 17 by 30 | A6001640PCX12 | A6001947TRCI-ACWD |

Detector Check Boxes

| <u>Manufacturers:</u> | | Bes Concrete | | Christy Concrete | |
|-------------------------------------|---|----------------------------|----------------------------|----------------------------|----------------------------|
| Detector Check Sizes [inches] | Nom. Inside Dimension of Box [inches] | Box Model <u>No.</u> | Lid Model <u>No.</u> | Box Model <u>No.</u> | Lid Model <u>No.</u> |
| 2 | 12 by 22 | C36W | C36G | B36 | FL36GOC207 |

Box lids and top rim of boxes shall have etched polyethylene face.

7. Flexible Couplings and/or Transition Couplings

Transition Couplings / Flexible Couplings (Reference Section F.3.12)

| <u>Manufacturer</u> | <u>Model/No.</u> |
|---------------------|------------------|
| APAC | Style 301/311 |
| Dresser | Style 38 |
| Dresser | #162 |
| Power Seal | Style 3501 |
| Romac | 501, XR501 |
| Smith-Blair | Omni #441 |
| Smith-Blair | 411, 415 |
| Smith-Blair | Quantum 461 |