

**UPDATE LOG FOR APPENDIX A**

Date	Item(s) Changed	Page #
10/01/09	<p><b>6. METERS</b></p> <p>d. Compound Meters (cubic feet registers) (strainer required)</p> <p><del>— 3" – 10" SENSUS TECH, INC. – Model Series SRH (Must be with ECR 2 or 3 registers &amp; Absolute Encoder Technology)</del></p> <p><u>Sensus Tech, Inc.</u></p> <p>- Omni C-2 3" – 8" Model Series SRH (Absolute Encoded Register and Pulse Output)</p> <p>e. Turbine Meters (cubic feet registers) (strainer required)</p> <p><del>— 2" – 10" SENSUS TECH, INC. – Model Series "W" (Must be with ECR 2 or 3 registers &amp; Absolute Encoder Technology) (Landscape Use)</del></p> <p><u>Sensus Tech, Inc.</u></p> <p>- Omni T-2 2" – 10" Model Series "W" (Absolute Encoded Register and Pulse Output) <b>(Landscape Use Only)</b></p>	3
10/16/08	<p><b>6. METERS</b></p> <p>c. Small Domestic</p> <ul style="list-style-type: none"> <li>- PRECISION METER COMPANY - Bronze Multi-Jett <b>(Domestic Use)</b></li> </ul> <p>e. Turbine Meters (cubic feet registers) (strainer required)</p> <p>2" - 10" SENSUS TECH, INC. – Model Series "W" (Must be with ECR 2 or 3 registers &amp; Absolute Encoder Technology) <b>(Landscape Use)</b></p>	3
10/15/08	<p><b>3. DUCTILE IRON FITTINGS C-153</b></p> <p>Fittings shall be Mechanical Joints or Push-on Joints, Tar coated (Seal), and Cement-mortar lined per ANSI A21.4 (AWWA/C104).</p> <ul style="list-style-type: none"> <li>- PACIFIC STATES</li> <li>- <b>SIP INDUSTRIES</b></li> <li>- SIGMA CORPORATION</li> <li>- STAR PIPE PRODUCTS</li> <li>- TYLER PIPE COMPANY</li> <li>- UNION FOUNDRY</li> <li>- U.S. PIPE</li> <li>- ONE BOLT INC. (ASTM/A536 Restraint Joint Fittings)</li> <li>- PIPELINE COMPONENTS, INC. (M.J. Compact Fittings – All Sizes; M.J. Full Body Fittings – All Sizes and Push On Fittings – 4" – 8")</li> </ul> <p><b>4. FIRE HYDRANTS</b></p> <p>Super Hydrant (6" x 1-4 x 2-2 ½"), EMWD Standard Drawings B-516 &amp; B-517.</p> <ul style="list-style-type: none"> <li>- CLOW - Model: El Rancho 2060 Bronze and Model: <b>860 Ranger 960</b></li> </ul> <p>Standard Hydrant (6" x 1-4 x 1-2 ½"), EMWD Standard Drawings B-362 &amp; B-356</p> <ul style="list-style-type: none"> <li>- CLOW - Model: El Rancho 2050 Bronze and Model: Ranger <b>850 950</b>, F850, F860 Cast Iron</li> </ul> <p><b>6. METERS</b></p> <p>e. Turbine Meters (cubic feet registers) (strainer required)</p> <ul style="list-style-type: none"> <li>- <b>2" 3"</b> – 10" SENSUS TECH, INC. – Model Series "W" (Must be with ECR 2 or 3 registers &amp; Absolute Encoder Technology)</li> </ul>	<p>2</p> <p>2</p> <p>3</p> <p>11</p>

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	<p><b>14. WIRING</b>  b. Telemetry Hardware</p> <p>CHARLES INDUSTRIES - Pedestal Model No. CPLM8-1/GTE  ENTRELEC - Terminal Model No. M4/6.SNB 0115686.13  Terminal End Stop Model No. <b>114836.00</b> <del>0199408.02</del>  DIN Rail Model No. 101598.26</p>	
08/05/08	<p><b>9. PIPE</b>  c. High Density Polyethylene Pipe (<del>Sewer</del>)</p> <p><del>Spirolite</del>  <b>J-M Manufacturing Company, Inc.</b>  <b>Chevron Phillips Chemical Company</b></p>	5
03/31/08	<p><b>13. VALVES</b>  d. Check Valves Flanged</p> <p>Check valves shall be single disc, swing type, with spring and lever when so specified on the Bidding Sheet. EMWD Spec. No. <del>15110</del> <b>15111</b></p> <ul style="list-style-type: none"> <li>--APCO VALVE CO.</li> <li>--CLOW CO.</li> <li>--KENNEDY VALVE CO.</li> <li>--M&amp;H CO.</li> <li>--MUELLER CO.</li> <li>--STOCKHAM CO.</li> </ul>	9

**Change Legend:**

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**APPENDIX A**  
**EMWD APPROVED MATERIALS LIST**

**Latest Revision:**  
**October 1, 2009**



# EASTERN MUNICIPAL WATER DISTRICT APPROVED MATERIALS LIST

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## APPENDIX "A"

# EASTERN MUNICIPAL WATER DISTRICT APPROVED MATERIALS LIST

If Contractor uses materials listed on this approved material list, no formal submittal will be required, except for pipe submittals. Contractor, however, must submit and identify that materials to be used on the project comply with the approved list.

### 1. AIR VALVES

Air Release and Vacuum Valve - EMWD Standard Drawing B-598 and B-367, Sizes 1" & 2"

- APCO VALVE COMPANY - Model 143C and 145C
- CRISPIN VALVE COMPANY - Model UL-10 and UL-20
- EMPIRE VALVE COMPANY - Model 940
- VALVMATIC VALVE COMPANY - Model 201-C and 202C
- CLA-VAL COMPANY - Model #361-CAV564B and #362-CAV332

Air Release and Vacuum Valve - EMWD Standard Drawing B-578, Sizes 4" & 6"

- APCO VALVE COMPANY - Model APCO 149-C & APCO 150-C
- CRISPIN VALVE COMPANY - Model UL-41 (4") and Model AL-61/PL-10 (6")
- CLA-VAL COMPANY - Model #364-CAV332 and #366-CAV732-3

Pump Air Valve

- ARMSTRONG MACHINE WORKS - Model 21

### 2. CAST IRON FITTINGS C-110

Cast Iron Flanged Fittings, Various Sizes -

- Shall conform to the latest revision of ASA Specification A21.10 (AWWA C110) Flanged Fittings. These fittings shall be cement lined in accordance with the latest revision of ASA Specification No. A21.4 and shall have standard machine finish.

Cast Iron Hub Fittings -

- Shall conform to the latest revision of AWWA C100.52 ASA 21-10250 PSI for Class 150 and 200 pipe, cement line in accordance with the latest revision of ASA Specification A21.4.
- Size, Joint size, and Pressure Rating shall be as specified on Purchase Orders, Construction plans, and Bid Sheets.

Cast Iron Fittings -

- Shall conform to latest revision of ASA Spec. A21.10 (AWWA C110) Flanged Fittings.

Fittings shall be cement lined, ASA Spec. A21.4, and shall have standard machine finish.

- SIGMA CORPORATION - Model Sigma/Nappco
- STAR PIPE PRODUCTS - Model Star Fittings
- TYLER PIPE - Model Tyler Fittings
- UNION FOUNDRY\* - Model Union Fittings \*(Domestic Fittings)
- SMITH COPPER - Model Flanged Fittings for 125# and 250#

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### 3. DUCTILE IRON FITTINGS C-153

Fittings shall be Ductile Iron and conform to ANSI/AWWA C153/A21.53, ANSI/AWWA C111/A21.11 and ANSI/AWWA C110/A21.10.

Fittings shall be Mechanical Joints or Push-on Joints, Tar coated (Seal), and Cement-mortar lined per ANSI A21.4 (AWWA/C104).

- PACIFIC STATES
- SIP INDUSTRIES
- SIGMA CORPORATION
- STAR PIPE PRODUCTS
- TYLER PIPE COMPANY
- UNION FOUNDRY
- U.S. PIPE
- ONE BOLT INC. (ASTM/A536 Restraint Joint Fittings)
- PIPELINE COMPONENTS, INC. (M.J. Compact Fittings – All Sizes; M.J. Full Body Fittings – All Sizes and Push On Fittings – 4" – 8")

### 4. FIRE HYDRANTS

Super Hydrant (6" x 1-4 x 2-2 ½"), EMWD Standard Drawings B-516 & B-517.

- AVK – Series 24 – Model 90 (24-90)
- CLOW - Model: El Rancho 2060 Bronze and Model: 860
- JONES - Model: J-3765 Bronze
- LONG BEACH IRON - Model: LBIW 615
- LONG BEACH IRON - Model: Series 130 Bronze (New Pattern)

Standard Hydrant (6" x 1-4 x 1-2 ½"), EMWD Standard Drawings B-362 & B-356

- AVK - Series 24 – Model 70 (24-70)
- CLOW - Model: El Rancho 2050 Bronze and Model: Ranger 850, F850, F860 Cast Iron
- JONES - Model: J-3700 Bronze, Model: J4040, J4060 Cast Iron
- LONG BEACH IRON - Model: Series 125 Bronze - New Pattern and Model: 611 East Bay

Intermediate Hydrant (6" x 2-2 ½"), EMWD Standard Drawings B-360 & B-354.

- CLOW - Model: Clow Rich Ranger 945
- JONES - Model: J-3720
- LONG BEACH IRON - Model: 601-613 Rich East Bay

### 5. FRAMES AND COVERS

Manhole Covers & Frames - 24" & 36" - Standard Drawing SB-61

- ALHAMBRA FOUNDRY - Model: A-1251 & A-1254
- EVERETT ENTERPRISES - Model: GTS - Pont-A-Mousson
- FAMEX - B&W Precast Construction - Model: F-1251 & F-1254
- NEENAH FOUNDRY - Model: R-1593
- RIVERSIDE FOUNDRY - Model #1254 and #1251
- SOUTHBAY FOUNDRY - Model: SBF-1251 & SBF-1254. Model SBF-1348 with Pick Hole for EMWD Std. Dwg. SB #30.
- NORFOLK CASTING CORP. – Model #NC-254
- STAR PIPE PRODUCTS – Model #1254

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### Manhole Covers & Frames - Locking

- ALHAMBRA FOUNDRY - Model: A-1175
- FAMEX FOUNDRY - Model: F-1251
- NEENAH FOUNDRY - Model: R-1251
- SOUTHBAY FOUNDRY - Model: SBF-1251
- LONG BEACH IRON WORKS - Model RE85R3PD GTS
- Manhole Shafts, Cones, Flat Tops & Grade Rings - 24" - 48"
- AMERICAN PIPE
- ASSOCIATED CONCRETE
- B&W PRECAST CONSTRUCTION
- INLAND CONCRETE
- HOWARD ENTERPRISES
- MAR-CON PRODUCTS
- SAN DIEGO PRECAST
- SOUTHWEST CONCRETE

## 6. METERS

- a. Propeller
  - McCROMETER - Model: MG-900 Series, MW-900 Series and MW-500 Series.
- b. Magnetic (Sewer)
- c. Small Domestic
  - PRECISION METER COMPANY - Bronze Multi-Jett (Domestic Use)
- d. Compound Meters (cubic feet registers) (strainer required)  
Sensus Tech, Inc.
  - Omni C-2 3" – 8" Model Series SRH (Absolute Encoded Register and Pulse Output)
- e. Turbine Meters (cubic feet registers) (strainer required)  
Sensus Tech, Inc.
  - Omni T-2 2" – 10" Model Series "W" (Absolute Encoded Register and Pulse Output)  
**(Landscape Use Only)**

## 7. METER BOXES

- a. Concrete or Polymer Concrete EMWD Standard Drawing B-590, B-591, B-342, B-344
  - ARMORCAST PRODUCTS - 12" x 20", A6000485SA (No. 37) 5/8" Polymer Concrete  
13" x 24", A6001946PC-12 (No. 38) 1" Polymer Concrete
  - BROOKS PRODUCTS - 17" x 30", Model No. 66 and 30" x 48", Model No. 68
  - EISEL ENTERPRISES (H&C) - 17" x 30", Model # 666B and 30" x 48", Model # 68MB
  - J&R CONCRETE - 12"x20", Model No. 4½ (No. 37) Polymer Concrete  
13"x24", Model W5 ¼ "P" (No. 38) Polymer Concrete  
17" x 30", Model No. 6B  
30" x 48", Model No. 8
  - ASSOCIATED CONCRETE PRODUCTS –  
12" x 20", Cat #WPB111812C21 (#437) Polymer  
Concrete and Cat #WPC1118RLC11  
13" x 24", Cat #WPB132412A21 (#438) Polymer  
Concrete and Cat #WPC1324RLC11

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## b. Meter Boxes and Vaults - Cross Reference Chart

### Valve Box Equals

<u>BROOKS PRODUCTS</u>	<u>EISEL ENTERPRISES</u>	<u>J&amp;R CONCRETE PRODUCTS</u>
#1-RD	#1R-VB-CC	#1-R
#1-RT	#2VB-VC	#2-R
#3-RT	#10VB-VC	#3-R
#4-TT	#4TT VB-VC	#4-T
#1-SP	#1RVB-CC	#5-R

### Utility Vault Equals

<u>SIZE</u>	<u>BROOKS</u>	<u>EISEL ENTERPRISES</u>	<u>J&amp;R CONCRETE PRODUCTS</u>
4'x4'	#W-300 Series	#EM 4848	#4400-1W
4'x6'6"	#W-500 Series	#EM 4878	#4660-2W
4'6"x8'6"	#W-510 Series	#EM 60108	#4686-1W
4'x 7'9"	#W-600 Series	#EM 4896	#4700-1W
4'6"x10'6"	#W-610 Series	#EM 60132	#5106-1W
6'x8'	#W-680 Series	#EM 7296	n/a
			#5080W

### c. Vaults

- BEST CONCRETE PRODUCTS - Model: MCT-4 and MCT-5
- ASSOCIATE CONCRETE - As approved by Engineering.
- ARMORCAST PRODUCTS - Polymer Concrete only.

### d. Domestic Meter Box Lid Covers

- ARMORCAST PRODUCTS – Model # A6000484-H1
- JR CONCRETE – Model # PC 412 QRP

## 8. MISCELLANEOUS BRASS

### a. Corp Stops

- FORD - F-1000 Series, F-600 Series, FB700 Series
- JONES - J-3401 Series, J-1500 Series, J-1505 Series, J-1929 Series, J-1930 Series, J-1935 Series
- McDONALD - 4701-T, 4701-22 and 4701
- MUELLER - H-15000 Series, H-15008 Series, H-15000(w/110), H-15013 (w/IPT), H-15023 (w/IPT) and H-15008

### b. Curb Stops

- FORD - ZV-3W
- JONES - J-182
- MCDONALD – 10621S
- MUELLER - H-11026
- PUBCO - 2110

### c. Elbows

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- d. Angle Stops
- FORD - KY43-444W, FV23-666W, FV23-777W, FV43-666W, FV43-777W
  - JONES - J-4201, J-1973W, J-1975W
  - - MUELLER - H-14258, H-14277, Mueller (110)
  - - McDONALD - 4602-T and 4602-22
- e. Brass Saddles
- \*Service Saddles for A.C. Pipe - 4" thru 12"
- JONES - Model: J-975, J-979
- \*Service Saddles for C-900 Pipe - 4" thru 12"
- JONES - Model: J-996R, J-996
  - McDONALD - Model: 3805
  - MUELLER – Model: H-13000
  - ROMAC - Model: B-101, B-202
  - FORD - Model S902 & S912 (Style B2 piece bolted design)
  - CAMBRIDGE BRASS – #800 series hinged bronze saddle - ¾" - 2"
- \*Service Saddles for Ductile Iron Pipe - 4" thru 36"
- - FORD - Model: F-101, F-202
  - - ROMAC - Model: Romac 101, Romac 202
  - - SMITH-BLAIR - Model: Rockwell 311, Rockwell 313
- \*Tapping Saddles for A.C., C-900, and Ductile Iron Pipe. Size 4" - 24"
- - FORD - Model: Fast-Sleeve 18-8 All Stainless Steel
  - - JCM IND. - Model: JCM-432 All Stainless Steel, JCM-452 All Stainless Steel 14" & above.
  - - POWERSEAL PRODUCTS - Model: 3490 All Stainless Steel
  - - ROMAC - Model: SST 18-8 All Stainless Steel
  - - SMITH BLAIR INC. - #663 (4" – 24") AND #665 (6" – 12")
- \*NOTE: Size 10" & above require double strap.

### 9. PIPE

- a. Cement Mortar Lined & Coated Pipe
- AMERON CONCRETE PIPE
  - CONTINENTAL PIPE
  - NORTHWEST PIPE & CASING
  - ROSCOE-MOSS
  - MID AMERICA PIPE
- b. Ductile Iron Pipe - EMWD Spec. 15057 - AWWA C-600, AWWA C-151, AWWA C-150, & AWWA C-104
- PACIFIC STATES
  - U.S. PIPE
- c. High Density Polyethylene Pipe
- J-M Manufacturing Company, Inc.  
Chevron Phillips Chemical Company

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- d. Polyvinyl Chloride Pipe C-900/C-905
    - 4" - 12" - C-900, EMWD Spec. 02768 & 15064
    - 14" - 36" - C-905, EMWD Spec. 15064
    - CARLON PIPE - Carlon
    - CERTAIN-TEED CORP.
    - JOHN-MANSVILLE COMPANY - JM
    - PW PIPE
    - VINYL-TECH - White Knight
    - DIAMOND PLASTICS CORP. - 4" - 24"
  - e. PVC Pipe (Sewer) - Note: See 1.a (Fittings and pipe shall be from the same manufacturer when they make both. If only pipe is made, fittings from 1.a shall be used).
    - ARMCO PIPE - Contech
    - CARLON PIPE
    - CERTAIN-TEED CORP.
    - P.W. PIPE
    - JOHNS-MANSVILLE COMPANY
    - VINYL-TECH - White Knight
    - DIAMOND PLASTICS CORP. - SDR 35 PVC
    - SYRSCO INC – SDR 35 PVC
    - LAMSON VYLON - 21" thru 48"
  - f. PVC Sewer Fittings (4" - 8"), gravity use only
    - GPK
    - MULTI-FITTINGS CORP.
    - JOHNS-MANSVILLE CO.
  - g. Reinforced Concrete Pipe (Sewer)
    - AMERON
    - HYDRO CONDUIT
    - RIALTO PIPE
  - h. Vitrified Clay Pipe (Sewer) - Note: Fittings to be same as pipe.
    - BUILDING PRODUCTS CO. (MCP) - JCP Compression Joints
    - GLADDING McBEAN CO. - "Speed-Seal"
    - MISSION CLAY PRODUCTS - "Band Seal"
    - PACIFIC CLAY PRODUCTS - "Wedgelock"
- 10. PRECAST MANHOLES - Manhole Shafts, Cones, Flat Tops & Grade Rings 24" - 48"**
- AMERICAN PIPE
  - AMERICAN HIGHWAY PRODUCTS
  - ASSOCIATED CONCRETE
  - B&W PRECAST CONSTRUCTION
  - HOWARD ENTERPRISES
  - INLAND CONCRETE
  - MAR-CON PRODUCTS
  - SAN DIEGO PRECAST
  - SOUTHWEST CONCRETE

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### 11. RESTRAINING JOINT DEVICES

- EBBA IRON – 2000 PV Series - 4" - 24" (C-900 & C-905)  
1100 Series - 3" - 48"  
2100 Series - 4" - 12" (C-900)  
2800 Series – 14" – 36" (C-905)
- NAPPCO/SIGMA CORP. - Model: PV-LOK Model PVM - 2" - 12"  
PV-LOK Model PVP - 2" - 12"  
ONE LOK - 4" - 36"
- U.S. PIPE - Field Lok Gaskets - 4" - 12"
- FORD - Uni-flange Series No. 200, 900, 1300 & 1400  
Uni-flange Series 1500 restraint joint for PVC pipe - 4" - 12"  
Uni-flange Series 1390 restraint joint for PVC pipe
- ROMAC INDUSTRIES – Grip Ring – 4" – 12"  
RomaGrip PVC Restrainer 3" - 24".
- STAR - Allgrip 3600 - 4" - 12" for C900 and ductile iron pipe  
Series 1000 - 4" - 12" for C-900  
Series 1100 - 4" - 12" for C-900/C-905  
PVC Grip 3500 – 4" – 16" for C-900  
Stargrip 3000 – 4" – 36" for D.I.P.

### 12. VALVES

#### a. Gate Valves

Bronze Threaded - EMWD Standard Drawing B-590 thru B-344B  
NRS - ½"

- HAMMOND VALVE COMPANY - Model: 606-125 psi
- MILWAUKEE VALVE COMPANY - Model: 105-200 psi
- STOCKHAM VALVE COMPANY - Model: B-103-200 psi

NRS - ¾" - 1" - \*To be used in customer side of meter installation only. EMWD Standard  
Drawing B-591

- AMERICAN VALVE COMPANY - Model: Milano, M-300
- FAIRBANKS VALVE - Model: 125-S 250
- \*F&F VALVE - Model: 710-Brass
- \*KITZ VALVE - Code No. 27 Fig. AKH
- MILWAUKEE VALVE - Model: 1105M & 105
- NIBCO VALVE - Model: T-113 Domestic
- \*PIONEER ENTERPRISES - Model: GTI-0102 & 0103
- RED AND WHITE VALVE - Model: B-206
- STOCKHAM VALVE - Model: B-103
- WOLVERINE VALVE - Model: 50293

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### a. Gate Valves (*continued*)

NRS 1-1/2" - 2"

- AMERICAN VALVE - Model: 3-F Bronze
- MILWAUKEE VALVE - Model: 1105M & 105
- NIBCO VALVE - Model: T-113, Domestic
- STOCKHAM VALVE - Model: B-103

Cast Iron with 2" Operating Nut - 2" Blow-offs

- IOWA VALVE - Model: List 14
- MUELLER VALVE - Model: A-2380-8 and A-2380-6
- CLOW VALVE
- RENSSELSER VALVE - Model: Ludlow, List 13A
- STOCKHAM VALVE

IBBM - Horizontal, Double-Disc IBBM with By-Pass - 24"

- AMERICAN FLOW SYSTEMS - Model: A.D. "50-Line"
- CLOW - Model: Clow F5070
- MUELLER VALVE COMPANY - Model: A-2380-6

Resilient Seat - Flanged

R.S.G.V. - AWWA C-509, AWWA C-515 and AWWA C-550.

To meet EMWD Spec. 15102, Size 4" - 36"

- AMERICAN AVK COMPANY - Model: 25 AVK
- AMERICAN FLOW CONTROL COMPANY - Model: AFC-500 for 4"-12" or Series 2500 for 4"-36"
- ACIPCO - Model: 82-200W-77785-7
- CLOW - Model: Clow RW, Class 150
- KENNEDY - Model: Kennedy RS, Class 150
- M&H - Model: M&H A-4067
- MUELLER COMPANY - Model: A-2360
- STOCKHAM COMPANY - Model: Stockham G700-0
- TYLER - DRS 250
- WATEROUS COMPANY - Model: Waterous #AFC-500
- U.S. PIPE - Model: Metroseal, RS Class 150

### b. Butterfly Valves

EMWD Spec. 15103 - Class 150, AWWA C-504

- AMERICAN FLOW CONTROL - Model: A.D. 150, Size 4" - 48"
- CLOW - Model: Clow BFV, Class 150, Size 4" - 72"
- DEZURIK COMPANY - Model: Dezurik BFV, Class 150, Size 4" - 20"
- KENNEDY (Mueller Co.) - Model: Kennedy BFV, Class 150, Size 4" - 72"
- CRISPIN (Previously CMB Industries) - K-FLO Model 500 Series, 3"-20" and K-FLO 47 Series, 24" - 48"
- KUBOTA - Model: Kubota BFV, Class 150, Size 24" - 48"
- M&H COMPANY - Model: 4500, Class 150, Size 4" - 24"  
Model: 1450, Class 150B, Size 30" - 48"
- MUELLER COMPANY - Model: Mueller Lineseal III, Size 4" - 24"  
Model: Mueller Lineseal III, Size 30" - 48" (with Ductile Iron Disc)

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- PRATT VALVE COMPANY -
  - Model: Pratt Ground Hog BFV. Class 150 with no power operation allowed.
  - Size 4" - 12"
  - Model: Pratt Ground Hog with power operation allowed with knowledge of turns.
  - Size 14" - 48"
  - Model: Pratt Triton XR-70 with handwheel. Size 24" - 48"

### Class 250

- DEZURIK - Model: Dezurik
- CRISPIN (Previously CMB Industries) - Model: K-FLO Model 500 series
- PRATT/WATTS - Model: H.P. 250

Coatings - All valves larger than 12" in diameter shall have all AWWA C-550 Ferrous parts epoxy coated thermosetting.

### c. Check Valves - Bronze Threaded

Bronze Swing Check Valve - Threaded 3/4" thru 2"

- HAMMOND VALVE CO. - Model No. 946 Bronze
- MILWAUKEE VALVE CO. - Model No. 510 & 511
- STOCKHAM VALVE CO. - Model No. B-320

### d. Check Valves Flanged

Check valves shall be single disc, swing type, with spring and lever when so specified on the Bidding Sheet. EMWD Spec. No. 15111

- -APCO VALVE CO.
- -CLOW CO.
- -KENNEDY VALVE CO.
- -M&H CO.
- -MUELLER CO.
- -STOCKHAM CO.

### e. Ball Valves - AWWA C507

- LUNKENHEIMER COMPANY
- MARPAC, INC.
- VALVE TECHNOLOGY CO. - Models D-7410-7420 and D7421-7432 Series

Meter Ball Valves - with Handles

- A.Y. MCDONALD - Model 6101 MWH 3/4" and 1"
- THE FORD METER BOX CO., INC. - Model B13-332 W - 3/4"  
Model B13-444 - 1"
- JAMES JONES - Model J1908W - 3/4" and 1"

### f. Detector Checks

Single Detector Check - Less By-Pass, EMWD Standard Drawing B-389, B-390, B-573 (4" - 10")

- AMES - Model: A113-225, A113-226
- Model: A113-227, A113-228
- Model: 1000 Epoxy Coated
- FEBCO - Model: 906-UL
- GLOBE - Model: B

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- HERSEY - Model: EDC III
- KENNEDY - Model: Grinnell 1371-G
- PRATT-WATTS - Model: 07F-UL/FM approved.

Double Check Detector Assemblies - EMWD Standard Drawing B-657 (3/4" - 10")  
**PER LATEST EDITION OF USC – FOUNDATION FOR CROSS-CONNECTION CONTROL AND HYDRAULIC RESEARCH "LIST OF APPROVED BACKFLOW PREVENTION ASSEMBLIES."**

- Reduced Pressure Detector Assemblies
- AMES - Model: 5000 RPDA
  - FEBCO - Model: 826YD
  - HERSEY - Model: 6CM-RPDA
  - PRATT-WATTS - Model: 909DDCM2, 909DDC

g. Reduced Pressure Assemblies

(3/4" - 10") - For High Hazard Service  
**PER LATEST EDITION OF USC - FOUNDATION FOR CROSS-CONNECTION CONTROL AND HYDRAULIC RESEARCH "LIST OF APPROVED BACKFLOW PREVENTION ASSEMBLIES."**

- (2 1/2" - 10") - For Automatic Fire Sprinkler Systems containing Toxic Substances
- AMES - Model: 5000 RPDA
  - FEBCO - Model: 826YD
  - HERSEY - Model: 6CM RPDA
  - PRATT-WATTS - Model: 909 Series

h. Double Check Assemblies

(3/4" - 10") - For Non-Toxic Service  
**PER LATEST EDITION OF USC - FOUNDATION FOR CROSS-CONNECTION CONTROL AND HYDRAULIC RESEARCH "LIST OF APPROVED BACKFLOW PREVENTION ASSEMBLIES."**

- (4" - 10") - For Automatic Sprinkler Systems containing Non-Toxic Substance
- AMES - Model: 3000 DCDA, 3000 DCDC
  - CLA-VAL - Model: 16
  - FEBCO - Model: 806 YD
  - MUELLER - Model: Hersey DDCII
  - WATTS - Model: 709DDC
  - WILKINS - Model: DCDA

Double Check Detector Assemblies - EMWD Standard Drawing B-657 (3/4" - 10")  
**PER LATEST EDITION OF USC - FOUNDATION FOR CROSS-CONNECTION CONTROL AND HYDRAULIC RESEARCH "LIST OF APPROVED BACKFLOW PREVENTION ASSEMBLIES."**

i. Plug Valves

- (3" - 24") - Ballcentric
- HENRY PRATT CO. - Pratt Keystone - 580 Series, #898

\*Other Manufacturers as Approved by Engineering

## APPENDIX "A"

### 13. ZINC CAPS

- RELIANCE ZINC CAPS
- MARS ZINC CAPS

### 14. WIRING

#### a. Telemetry Cable

ALCATEL DEDW - Telemetry wire, Double jacketed, filled polyethylene jacket for burial 5-mil copper shield, solid strand 6-pair, 19 gauge copper wire Alcatel DEDW.  
(Approximately 5,000 ft. Rolls)

Distributors - CLIFFORD OF VERMONT  
Phone No. 1-800-451-4381

#### b. Telemetry Hardware

CHARLES INDUSTRIES - Pedestal Model No. CPLM8-1/GTE  
ENTRELEC - Terminal Model No. M4/6.SNB 0115686.13  
Terminal End Stop Model No. 114836.00  
DIN Rail Model No. 101598.26  
3M - Splice Kit Model No. 72-N2

Distributors - CHARLES INDUSTRIES  
Phone No. (847) 806-6300

ESD ELECTRICAL  
Phone No. (760) 747-2211

ROYAL WHOLESALE ELECTRIC  
Phone No. (951) 683-6625

- c. Locating Wire - EMWD Std. Drawing B-656#14-1 UF Black Copper- Insulated Locating Wire
- d. Insulated CP Test Connections & Blow-Off Connections EMWD Std. Drawing B-582 & B-379 #4 HMW – Pe (High Molecular Wt-Polyethylene Coated) Stranded Wire Black #12 TW – Solid Wire – Green or Yellow
- e. Variable Frequency Drive

### 15. VARIABLE FREQUENCY DRIVES (VFD's)

Variable Frequency Drives

- ABB - Model ACS 600 Direct Torque Control up to 350 hp (Western Switch).
- ALLEN BRADLEY
- TOSHIBA

## APPENDIX "A"

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