

# C.O.W.R. APPROVED MATERIALS LIST

July 2018

MATERIAL	DESCRIPTION	PRE- APPROVED MANUFACTURER
<b>SANITARY SEWER AND STORM DRAINAGE</b>		
PVC Sewer & Storm Pipe, Joints and Fittings.	4"-15" PVC - ASTM D3034, SDR35 4" to 15" (< 15' depth), PVC SDR35 - ASTM D3034 4" to 15" (>15' depth), PVC SDR 26 (PS115) - ASTM F679 18" to 48", PVC SDR 26 (PS115) - ASTM F679 Restrained gaskets ASTM F477 Joints and fittings - (SWSS 9-05.12) ASTM D3212, w/ elastomeric gaskets ASTM F477	JM Eagle Diamond Royal Vynl Tech
DI Sewer Pipe, Joints and Fittings.	DI - ASTM A 21.51 or AWWA C-151 and shall be Class 50. SWSS 9-05.13.	US Pipe Amiecan Ductile Pacific State Cast Iron Pipe Co.
Percolation Trench (Perforated Corrugated Polyethylene Underdrain Pipe, Couplings, and Fittings)	12" to 60" - AASHTO M294 Type CP or SP. SWSS 9-05.2(8). (Smooth wall interior, corrugated exterior)	ADS/Hancore
ADS 90's with Tapered Male End	Corrugated HI-Q x Smooth P.E.(tapered end section)	ADS/Hancore
New Service Saddle	Gasketed 'wye' SWSS Section 7-17 & 7-18	GPK
New Service Saddle Tap on existing main	Single 3 1/2" Wide Strap Saddle (Concrete Pipe)	Romac (CB Style)
	Gasketed sewer saddle wye or Single 3 1/2" Wide Strap Saddle (PVC Pipe)	Romac (CB Style) GPK Specified Fittings
Manholes (Precast)	ASTM C478 or cone section eccentric to 24" opening	Reese H2 Precast
Manhole Frames	Ring adjustments- precast concrete ASTM A48-64, Class 30, cast iron or ductile iron, frame weight-Min 210 lbs.	EJ (Cat. No. 3717Z)
	Domestic Stamped "USA"	
Manhole Cover	"DRAIN" or "SEWER" in 2" letters Cast iron or ductile iron cover Weight – Min 147 lbs Drain Heavy Duty H-20 Rated Sewer Heavy Duty H-20 Rated Water Heavy Duty H-20 Rated	EJ (Cat No. 3717C)
	Domestic Stamped "USA"	
Manhole Ladder Steps/Rungs	Co-polymer Polypropylene Steel Reinforced - ASTM C-478 with a 300 lb load capacity.	Lane
Catch basin barrels	24" round barrels, 4' deep (min), Heavy wall pre-cast Catch Basin. SWSS 7-05	Reese Concrete Wilbert Vault H2 Precast
	Adjustment rings precast concrete ASTM A48-64	
Cleanout Lid	8" diam. frame / lid for 6" or 8" CO	EJ (Cat. No. 3675)
	Domestic Stamped "USA"	
Catch Basin Frames and Grates	Frame (round base) Vane Grate (one-direction flow) Bi-Vane Grate (two-direction flow)	EJ: 00775311 or 00775310 EJ: 007750 Type M2 EJ: 007750 Type M3
	Adjustment rings precast concrete ASTM A48-64	

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Catch Basin Sediment Traps	Non-Woven Geotextile, 8 oz/yd2	Ultra Drain Guard 9227
Mortar / Grout	Complete Repair Target Expanding Non-Shrink	American All Patch 20 Jet Set
Pipe couplings	Transition Couplers - 4" & 6"	Ferco
	Sewer Repair Couplings (SDR35) - 8" and larger	GPK Mulit-Fittings
Geo-textile Fabric	SWSS 9-33, Moderate Survivability, Non-Woven, ASTM D4632 (6 oz.)	Mirafi 160N
Manhole Pipe Connectors	Cast-in flexible pipe connectors: Sanitary Sewer: all diameters SWSS 7-05.3 AND 7-05.3(3)	A-LOK X-Cel
	Storm Drain: 12" diam. pipe and smaller Larger than 12" diameter pipe	A-LOK X-Cel A-LOK Premium
Tracer Wire	12 Gauge solid copper wire with green colored UF installation, rated for 600V.	Service Wire Co., TRACE12YW
	Splice Kits (600v, epoxy encapsulated)	DBY

WATER		
DI Pipe	DI - Class 50, ANSI A21.51 (AWWA C151), Cement-Mortar Lined and seal coated - ANSI A21.4 (AWWA C104)	US Pipe American Ductile Pacific State Cast Iron Pipe Co.
	Domestic Stamped "USA"	
PVC Pipe	AWWA C900 DR18 (4" to 12" Diam) AWWA C905 DR18 (14" to 48" Diam)	JW Eagle Diamond Northern Royal
Fittings: (for ductile iron and PVC Pipe)	Fittings shall be cement lined cast or ductile iron, Shall conform to AWWA C110 or C153(compact), Cement motar lined AWWA C104, SWSS 9-30.2	Tyler
	Domestic Stamped "USA"	
Gaskets	For Ductile Iron & PVC Pipe: Rubber gasket joints shall conform to ANSI/AWWA C111/A21.11. SWSS 9-30.1(1) - All gaskets shall be neoprene (150 lbs)	
	All mechanical joint gasket kits shall be labeled domestic. The follower shall be made of domestic material.	
Nuts, bolts, studs, & gaskets	DI - ANSI 21.11 (AWWA C111 and C207); Alloy Steel - A307, Grade B; Flange Bolts - ANSI B16.1; All gaskets shall be neoprene (150 lbs)	
Pipe couplings	Straight, transition, reducing, and DI MJ sleeves - ANSI/AWWA C110/A21.10 or ANSI/AWWA C153/A21.53	Romac Ford Tyler Smith-Blair
	PVC to AC	Romac
	Domestic Stamped "USA"	
Tapping Sleeve (Tee)	Stainless Steel - SWSS 9-30.3(8) Size on size live tape requires extended sleeve.	Romac - SST Smith-Blair - 317

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Restrained Systems	Pipe joints, flanges, MJ fittings and others DI castings meeting ASTM A 536	Romac Romagrip - DI & PVC Romac GripRing - DI & PVC Romac RFCA Ford (Uni-Flange) EBAA Series 1000 Megalug EBAA Series 2000 Megalug US Pipe and Tyler - MJ Field Lok EBBA-Series 1500 Bell Restraint (PVC) EBAA-Series 1700 Bell Restraint (DI)
	Domestic Stamped "USA"	
Flanged Coupling Adaptors	Cast iron, 150 PSI rating (min), middle ring length min. 5-inches. Up to 24".	Smith-Blair 922 ROMAC FCA
	Domestic Stamped "USA"	
Joint lubricant	Nontoxic lubricant (water-soluble) - United States Pharmacopoeia No. P39	See Pipe Manufacturer for Recommended type of Lube.
Gate valves – 12" and smaller	Resilient wedge with DI body (AWWA C509-under 4" or AWWA C515- 4" and larger), 2" square non-rising stem, fully encapsulated in synthetic rubber, min 2 O-ring valve stem seal and replacable with valve wide open, body and bonnet epoxy coated inside and out. Direction of Opening-Counter clockwise. SWSS 9-30.3(1)	Clow R/W Waterous Series 500 (AFC) Kennedy Ken-Seal Mueller M&H Style 4067 American Flow Control Series 2500
Butterfly valves - 12" or larger	Rubber seated (AWWA C504 Class 150B), - 2" square non-rising stem, shaft seals designed fo use with standard split V type packing. Direction Opening-Counter clockwise. SWSS 9-30.3(3)	Pratt (Groundhog) Mueller Lineseal III M&H 450 Clow Kennedy
Butterfly Valve Lubrication	Contractor shall lubricate seat prior to installation	Molykote Valve Seal, Catalog No. 98750-56
Tapping gate valve – 12" or less	Resilient wedge, DI body (AWWA C509 or AWWA C515) Direction of Opening – Counter clockwise SWSS 9-30.3(8)	Clow (F-16114) Kennedy M&H
Fire Hydrant	Dry-barrel, Compression type with 5 ¼" valve opening, two 2-1/2" hose nozzels (4 NST/in) and one 4-1/2" Steamer Port (4-1/2 NTS), (SWSS 7-14) Working pressure 150 lb 1-1/2" Pentagon operating nut and cap(left open) (AWWA C502). SWSS 9-30.5	Clow (Medallion) M&H (129S) Waterous (Pacer WB-6) Kennedy (Model K-81)
Fire Hydrant Paint	OSHA Safety Yellow	Quickset Enamel No. 3472 Hydrant Yellow (Farwest Paint Manufacturing Company), Sherman Williams "Custom Clow Gold"
Hydrant Guard Post	6" Sch. 40 Steel	
	Paint	Sherman Williams- "Custom Clow Yellow"
Fire Hydrant Connector & Cap 5" x 4½" NH	Storz Adapter - HPHA50-45NH	Harrington, Inc
Air Relief Valve	Air-release for water works service (AWWA C512), cast iron body, cover and baffle with stainless steel float and Buna N seat, and all internal parts stainless steel or bronze. Rated for 150 PSI	APCO No. 144 Crispen
Air Vac Vault	Precast Manhole Section - SWSS 9-12.4 Top Slab shall be Reinforced Concrete - AASHTO for HS20 Trucks	
Pressure Reducing Valve	Pressure reducing valve (size varies)	Cla-Val (no substitution)

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Valve Box – 5 ¼" Slip type	Cast Iron, sliding type adjustable with covers (marked "WATER"), cover skirt length of 1-1/2" minimum, total lid depth of 3-1/2" minimum, lid weight of 13 lbs minimum and shall be coal tar painted per manufacture.	Tyler Valve Box 6855 Series w/ 69-A Slip Type Adjustable riser & 5 ¼" Fluted Drop Lid
	Domestic Stamped "USA"	
Casing Spacer / Casing Wrap	Galvanized or stainless steel, sized for type of pipe	Calpico – Model "M" Series
Tracer Wire	12 Gauge solid copper wire with blue colored UF installation, rated for 600V.	Service Wire Co., TRACE12YW.
	Splice Kits (600v, epoxy encapsulated)	DBY

WATER SERVICE CONNECTION		
1" Copper pipe (std. service)	Soft, Type K - seamless, ASTM B88 (AWWA C800 Underground service lines)	Cerro,Muller
1" and 2" Polyethylene Pipe (std. service)	5100 ultra-high molecular weight rated to 200 PSI, SDR9, ASTM D2737, AWWA C901,CTS OD. Blue in color	Phillips Driscopipe Interstate Plastic
Galvanized pipe and fittings 1" and larger	ASTM A53 (AWWA C800 Sec. A.4, Steel pipe)	Smith Cooper Baxger Rutherford
1" & 2" Service Saddle	I.P.(iron pipe) size and conform to AWWA c800, PVC C900 and Ductile Iron pipe, epoxy or nylon coated. Sized specifically for PVC when used on PVC	Romac 202NS – Ductile (2" only) Ford FS101-XXXXIP7 Smith-Blair 315, 317
1" Ballcorp Corp. Stop	For 1" copper service line or CTS Polyethylene	Ford FB1100-4-NL (quick joint or pack joint)
	No lead	
2" Ballcorp Corp Stop	For 2" poly service line	Ford FB1100-7-NL (quick joint or pack joint)
	No lead	
1" Water Setter	inlet ball valve, outlet check valve, copper	Ford- VBH74-24W-44-44-NL Mueller- 394P2470-R2
	No Lead	
1-1/2" Water Setter	inlet ball valve, outlet angle check valve, copper	Ford- VBH76-24-11-66-NL Ford C84-67 transition to 2" CTS Poly
	No Lead	
2" Water Setter	inlet ball valve, outlet angle check valve, copper	Ford- VBH77-24-44-77-NL
	No Lead	
1" Service Fittings	<u>Couplings used in service lines:</u> (copper to copper)	Ford - (Pack Joint or Quick Joint)
	(poly to copper or PVC) (poly to galvanized) (poly to poly)	Ford (Pack Joint or Quick Joint)
	No lead	
Meter Boxes & Lids	1" - Plastic, 15"x27"	Raven (RMB 15x27-12 or 18) Oldcastle
	1-1/2" or 2" - Plastic, 17"x30"	Raven (RMB 17x30-12 or 18) Oldcastle
Meter Box Lids	Flip lid shall be cast iron marked "Water"	When traffic rated lids required: Carson (fits Oldcastle box), Sigma (fits Raven box) Company
Meter vault (3"–12")	Pre-cast cement with Aluminum spring assisted cover with locking latch inside dimensions must allow for specified clearances	Or approved Equal (Contractor Supplied)
Tracer Wire	12 Gauge solid copper wire with blue colored UF installation, rated for 600V.	Service Wire Co., TRACE12YW
	Splice Kits (600v, epoxy encapsulated)	DBY

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Pipe Stands	Adjustable pipe stands (varying heights)	Standon Pipe Support (Or approved Equal)
<b>STREETS</b>		
Detectable Warning Patterns	Per WSDOT std spec 8-14.3(5) Cast in Place	Armor-Tile
Concrete Curing Compound	Liquid membrane forming compound, water based, wax- based, type 2 class A, White Pigmented	WR Meadows 1600-White
Survey monument Frame and cover	Cover shall read "MON" and shall have 2 pick holes, 1 on either side of the Monument Lid	EJ 3680Z A2 (00368005)
		Domestic Stamped "USA"
Pre-cast Monument	Per C.O.W.R. Std. Detail 2-10A	Reese Concrete
Luminaire	50 Watt LED	AEL ATBO 20BLED70
	110 W LED	AEL ATBO 30BLED10
	220 W LED	AEL ATB2 60BLED10
	10 year warranty, Type II & III, 4000K, 70 CRI Min, Multi-Volt, ANSI C136.15-2011,	
Photo Cell	5 or 7 pin, 0-10V Dimming, compatible with ROAMVIEW Dimming Controls	AcuityBrands ROAM REN 127DV1
Conduits/Bends	1.5" minimum Sch40 PVC ASTM D1785	Spears, JM Eagle, Crestline
Junction Box	Pre-cast polymer concrete fiberglass reinforced, Tier 22 rated box and Tier 8 lid. Tier 22 lid when in traffic areas.	Quazite (PG Style)
Wiring	No.6 min. Aluminum cross-link poly USE insulation, Min gnd No.8 THHN, green coded, insulated wire	Encore Wire American
Splices	600v min rating, UL Listed, CSA Certified, designed for direct burial application	Burndy
Fuses	UL Listed, CSA Certified	Mersen TRM
Fuse Connector Kit	For aluminum wire, UL Listed, Outdoor locations (wet and dry), 600v or less	SEC (1791-SF)
Street light standard (Type I/II)	Direct bury, hot rolled commercial quality fabricated from U.S. 11 gauge (0.1196") carbon steel, 55,000 PSI min yield strength, galvanized	Valmont, KW Poles
Fused Disconnect	NEMA 3R Enclosure, 30amp	GE Model TG3222RH Square D

MATERIAL	DESCRIPTION	PRE- APPROVED MANUFACTURER
<b>IRRIGATION</b>		
Pipe	OUTSIDE R.O.W.: PVC Class 200, SDR21 or better, purple color, 3" and smaller: solvent welded 4" and larger: ring gasketed joints WITHIN ROW: PVC Sch. 40 (3" and smaller). PVC, DR18 C900 (4" and larger) purple color.	Pacific States US Pipe Griffin PW Pipe JM Pipe American Ductile
Fittings: (for PVC Pipe)	4" and larger: Fittings shall be cement lined cast or ductile iron, Shall conform to AWWA C110 or C153(compact), Cement motar lined AWWA C104, SWSS 9-30.2	Tyler
Domestic Stamped "USA"		
Valve Box – 5 ¼" Slip type	Cast Iron, sliding type adjustable with covers (marked "IRR"), cover skirt length of 1-1/2" minimum, total lid depth of 3-1/2" minimum, lid wieght of 13 lbs minimum and shall be coal tar painted per manufacture.	Tyler Valve Box 6855 Series w/ 69-A Slip Type Adjustable riser & 5 ¼" Fluted Drop Lid
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Irrigation Box	Material to be determined by C.I.D. standards	
Air Vent & Vacuum Relief Valve		Fresno Series 3000, Model 300B, 2" vent.
2" Curb Stop for Air / Vac. Valve setup	For 2" galv. Pipe	Ford B11-777 (Female x Female)
Gate valves – 8" and smaller	Resilient wedge with cast iron body (AWWA C509- under 4" or AWWA C515- 4" and larger), non-rising stem, Direction of Opening-Counter clockwise	American Flow Control Clow Kennedy M&H Valve Mueller EJIW
Galvanized pipe and fittings 1" and larger	ASTM A53 (AWWA C800 Sec. A.4, Steel pipe)	Smith Cooper