

MMCD Section 33 11 01 - WATERWORKS

NOTE:

1. All waterworks product to conform to NSF61.
2. All waterworks product to conform to NSF372 to be "lead free" ..
3. All bolts, nuts, rods and washers for use on all fittings and restraints shall be Core 10
4. Waterworks products shall conform to CSA Standard, where applicable.

MAINLINE PIPES

MMCD Sub-Section	Manufacturer	Make / Model	Size Range	Comments/Restrictions.
2.2.1 Ductile Iron	Canada Pipe, US Pipe	Ductile PC350 AWWA C151	100mm to 450mm	
2.2.2 PVC Pressure Pipe	IPEX, NAPCO Royal Pipe	PVC DR18, PR235 AWWA C900	100mm to 300mm	
	IPEX, NAPCO Royal Pipe	PVC CIOD, PR235 AWWA C909	100mm to 450mm	Thickened bells
	NAPCO Royal Pipe	Cobra Lock PVC DR18, PR235 AWWA C900	100mm to 300mm	For use on temporary / by-pass piping situations only

FITTINGS

MMCD Sub-Section	Manufacturer	Make / Model	Size Range	Comments/Restrictions.
2.2.4.3 Compact Ductile Iron	Sigma Star Pipe Canada Terminal City / ACS	AWWA C153	100mm to 450mm	Fittings may be HxH, HxFI, MJxMJ, MJxFI or FlxFI Hub ends shall have lugs with holes suitable for restraint rods.
2.2.4.4 & PVC Injection & 2.2.4.5 Fabricated	IPEX NAPCO Royal Pipe	C900 / C907 / C909	100mm to 450mm	Pressure class to meet or exceed mainline
2.2.4.12 Couplings and Flanged Coupling Adaptors	EBAA ROBAR ROBAR ROMAC	3800 1506 1508 501	100mm to 400mm 100mm to 400mm 100mm to 400mm 100mm to 400mm	400mm available only for C900 including C909
	<i>Wide Range Couplings:</i> ROMAC ROMAC ROBAR Smith-Blair Smith-Blair Krausz Industries	XR501 Alpha 1596 421 461 Hymax	100mm to 300mm 100mm to 400mm 100mm to 300mm 100mm to 400mm 100mm to 300mm 38mm to 400mm	including C909 not approved for use with C909
<i>Restrained Couplings:</i>	EBAA Ford Meter Box Ford Meter Box Ford Meter Box Krausz Industries ROMAC Smith-Blair Smith-Blair Smith-Blair	3800 Uniflange RCDD Uniflange RCPP Uniflange RCDP Hymax Grip Romac Alpha 471 472 473	100mm to 400mm 75mm to 400mm 75mm to 400mm 75mm to 400mm 100mm to 300mm 100mm to 400mm 100mm to 400mm 100mm to 400mm 100mm to 400mm	400mm for PVC only including C909 including C909 NOTE: Hymax not approved for use with C909 including C909 400mm for DI only
	2.2.4.13 Joint Restraint Devices <i>Restraining MJ & PO Fittings to Ductile</i>	EBAA EBAA EBAA Ford Meter Box Ford Meter Box ROMAC Sigma Smith-Blair Star Pipe Products Star Pipe Products Star Pipe Products	1100 15MJ00TD 15PF00TD Uniflange 1309 Uniflange 1400 PVC Romagrip SLD 111 StarGrip All StarGrip Series 1000	

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MMCD Sub-Section	Manufacturer	Make / Model	Size Range	Comments/Restrictions.
<i>Restraining MJ & PO Fittings to PVC:</i>	EBAA	15MJ00TD	400mm	C909
	EBAA	15PF00TD		
<i>Restraining Bell & Spigot Joints for Ductile & PVC:</i>	EBAA	2000PV	100mm to 400mm	C909 and DI C909 and DI C909 C900 and DI C909 and DI C909 new installation only C900 and DI C900 and C909 DI only C900 and DI AWWA CI OD C900/C909 PVC/PVCO Pipe Joints C900, C909 and DI C900, C909 and DI
	EBAA	19MJ00		
	EBAA	19PF00		
	EBAA	2016PV		
	Ford Meter Box	Uniflange 1309		
	ROMAC	PVC Romagrip		
	ROMAC	612		
	Sigma	SLD		
	Smith-Blair	120		
	Star Pipe Products	StarGrip		
	Star Pipe Products	All StarGrip		
	Star Pipe Products	Series 1000		
	<i>Restraining PVC Fittings to PVC:</i>	EBAA		
EBAA		1900		
EBAA		2916		
Ford Meter Box		Uniflange 1390		
Ford Meter Box		Uniflange 1399		
Ford Meter Box		UFR 1559		
ROMAC		611		
<i>Restrained Flange Adaptors</i>	Sigma	SLC	75mm to 400mm 75mm to 400mm	DI Including C909, not approved for DI
	Sigma	SLDE		
	Smith-Blair	165		
	Star Pipe Products	1100G2C		
	Star Pipe Products	StarGrip		
<i>Restraining PVC Fittings to PVC:</i>	Star Pipe Products	Series 1000	100mm to 300mm	AWWA CI OD C900/C909 PVC/PVCO Pipe Joints
	EBAA	2500		
	EBAA	2600		
	Smith-Blair	136		
	Star Pipe Products	1200G2C		
2.2.4.14 Tapping Sleeves for branch connections (75mm & larger)	Star Pipe Products	Series 1000	75mm to 400mm 75mm to 400mm	Stainless steel Stainless steel Stainless steel Stainless steel Stainless steel
	Ford Meter Box	Uniflange RFAD		
	Ford Meter Box	Uniflange RFAP		
	ROBAR	6606		
	ROMAC	SSTIII		
2.2.4.15 Repair Clamps	Smith-Blair	622	50mm and under 50mm and under	Control Valves Control Valves Control Valves
	ROBAR	5616		
	ROBAR	5626		
	ROMAC	SS1		
	ROMAC	SS2		
	Smith-Blair	261		
	Smith-Blair	262		
Cambridge	825			
2.3.1 Mainline Valves - General Requirements	Clayton		50mm and under 50mm and under	Ball & Gate Valves Ball & Gate Valves
	Singer			
2.3.2 Mainline Gate Valves	Watts		100mm to 450mm 100mm to 450mm 100mm to 450mm 100mm to 450mm	Resilient wedge only Resilient wedge only Resilient wedge only Resilient wedge only
	Red & White			
	Watts			
	American Flow Cont	Series 2500		
2.3.3 Mainline Butterfly Valve	CLOW		Series 4500	
	Mueller Canada			
	Terminal City	3200 Series PO x FL		
2.3.5 Air Release/Combination Air Valves	Dezurik			epoxy coated on inside (fusion bonded)
	M & H			
	Mueller Canada			
	Pratt			
	ARI Valves Inc.	D040		
	Valmatic			

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MMCD Sub-Section	Manufacturer	Make / Model	Size Range	Comments/Restrictions.
2.3.8 Detector Check Valves	Febco Hersey Watts	800 EDC III SS07F		
2.5 Service Connection Pipe	REHAU	Type K Copper PEX-a	19mm to 50mm 19mm to 25mm	
2.6 Hydrants	CLOW Mueller Canada Terminal City / ACS	Canada Valve C71P	150mm 150mm 150mm	c/w Storz fitting c/w Storz fitting c/w Storz fitting; C71P long body only
2.7.2 Corporation Stops	AY Mcdonald Cambridge Mueller		19mm to 50mm 19mm to 50mm 19mm to 50mm	Ball type, compression Ball type, compression Ball type, compression

OTHER

MMCD Sub-Section	Manufacturer	Make / Model	Size Range	Comments/Restrictions.
Service Saddles	Cambridge Canpac ROBAR ROMAC Smith-Blair	8403 304 2616 306 372	up to 200mm	Stainless steel Stainless steel Stainless steel Stainless steel Stainless steel
Bell Joint Leak Clamps	ROBAR ROMAC Smith-Blair	5508 516 274		Stainless steel Stainless steel Stainless steel
Displacement & Floating Ball Meters	Badger Neptune Sensus Sensus Sensus	Recordall T-10 AccuSTREAM iPEARL Omni R2	19mm to 25mm 19mm to 50mm 19mm to 25mm 19mm to 25mm 38mm to 50mm	Touch read Touch read Touch read Touch read Touch read; Flanged
Compound Meters	Neptune Sensus	TRU/FLO Omni C2	50mm to 150mm 50mm to 150mm	Touch read Touch read
Turbine Meters	Neptune Sensus	High Performance Omni T2	50mm to 150mm 50mm to 150mm	Touch read Touch read
Ultrasonic Meters	Kamstrup	FIQ3101 Stainless	50mm (2")	For use on combined Domestic/Fire service
Meter Setters and Meter Resetters	AY Mcdonald Cambridge Mueller		19mm to 25mm 19mm to 25mm 19mm to 25mm	
Meter Box	Brooks Box Brooks Box DFW	37 66 Heavy duty polymer	300mm x 500mm 425mm x 750mm	H2O Loading H2O Loading not for use in road or driveways
Meter Box Lids	Terminal City / ACS Terminal City / ACS	37 66	300mm x 500mm 425mm x 750mm	H2O Loading, labeled with "Water" H2O Loading, labeled with "Water"
Meter Vault Hatches	Norinco	Model # T14S106070AV (Roadway) Model # T13S106070AV (Sidewalk)		Triangular lids, Traffic (H2O Loading) & Non-Traffic
Tracer Wire	Copperhead Industries Ltd.	Soloshot EHS		

MMCD Section 33 30 01 - SANITARY SEWER (Gravity)

NOTE:

1. All concrete used in construction shall be sulphate resistant Type HS (Type 50) or alternate cement type may be approved by City Engineer.
2. Sanitary Sewer products shall conform to CSA Standard, where applicable.
- 3
- 4

MAINLINE PIPES

MMCD Sub-Section	Manufacturer	Make / Model	Size Range	Comments/Restrictions.
2.2 Plastic Pipe, Mainline Smooth Profile	IPEX Northern Pipe NAPCO Royal Pipe	Ring Tite DR35 PVC DR35 PVC DR35	100mm to 1200mm 100mm to 375mm 100mm to 1200mm	

OTHER

MMCD Sub-Section	Manufacturer	Make / Model	Size Range	Comments/Restrictions.
Inspection Chamber	Orbit Plastics Ltd. Proline Fittings Inc. NAPCO Royal Pipe		100mm & 150mm 100mm & 150mm 100mm & 150mm	for 100mmØ and 150mmØ service connections
Inspection Chamber surface box	Brooks Box Brooks Box Raven	37 66	300mm x 500mm 425mm x 750mm	H2O Loading H2O Loading not for use in road or driveways
Inspection Chamber surface box lids	Terminal City / ACS Terminal City / ACS	37 66	300mm x 500mm 425mm x 750mm	H2O Loading, labeled with "Sanitary" H2O Loading, labeled with "Sanitary"
Couplings & Bushings	Fernco Mission Rollee ROMAC	Kwik couplings bolted couplings		w/stainless steel sheer band w/stainless steel sheer band w/stainless steel sheer band w/stainless steel sheer band (to AWWA C219)
Tapping Saddles	Fernco Mission Rollee		100mm & 150mm 100mm & 150mm 100mm & 150mm	flexible saddle flexible saddle flexible saddle

MMCD Section 33 34 01 - SEWAGE FORCEMAINS

NOTE:

- 1 All bolts, nuts, rods and washers for use on all fittings and restraints shall be Core 10
- 2 Sewage forcemain products shall conform to CSA Standard, where applicable.
- 3
- 4

MAINLINE PIPES

MMCD Sub-Section	Manufacturer	Make / Model	Size Range	Comments/Restrictions.
2.2.1 Ductile Iron	Canada Pipe, US Pipe	Ductile PC350 AWWA C151	100mm to 450mm	
2.2.2 PVC Pressure Pipe	IPEX, NAPCO Royal Pipe	PVC DR18, PR235 AWWA C900	100mm to 300mm	
	IPEX, NAPCO Royal Pipe	PVC CIOD, PR235 AWWA C909	100mm to 450mm	Thickened bells
	NAPCO Royal Pipe	Cobra Lock PVC DR18, PR235 AWWA C900	100mm to 300mm	For use on temporary / by-pass piping situations only

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APPROVED PRODUCT LIST**

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FITTINGS

MMCD Sub-Section	Manufacturer	Make / Model	Size Range	Comments/Restrictions.
2.2.5 Fittings				All ferrous fittings to be epoxy coated.
2.2.5.3 Compact Ductile Iron	Sigma Star Pipe Canada Terminal City / ACS	AWWA C153	100mm to 450mm	Fittings may be HxH, HxFI, MxMJ, MxFI or FixFI Hub ends shall have lugs with holes suitable for restraint rods.
2.2.5.4 & CIOD PVC Injection & 2.2.5.5 IPSOD Fabricated	IPEX NAPCO Royal Pipe	C900 / C907 / C909	100mm to 450mm	Pressure class to meet or exceed mainline

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APPROVED PRODUCT LIST**

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MMCD Section 33 40 01 - STORM SEWERS (Gravity)

NOTE:

1. All concrete used in construction shall be sulphate resistant Type HS (Type 50) or alternate cement type may be approved by City Engineer.
2. Sanitary Sewer products shall conform to CSA Standard, where applicable.
- 3
- 4

MAINLINE PIPES

MMCD Sub-Section	Manufacturer	Make / Model	Size Range	Comments/Restrictions.
2.2 Plastic Pipe, Mainline Smooth Profile	IPEX Northern Pipe NAPCO Royal Pipe	Ring Tite DR35 PVC DR35 PVC DR35	100mm to 1200mm 100mm to 375mm 100mm to 1200mm	

OTHER

MMCD Sub-Section	Manufacturer	Make / Model	Size Range	Comments/Restrictions.
Inspection Chamber	Orbit Plastics Ltd. Proline Fittings Inc. NAPCO Royal Pipe		100mm & 150mm 100mm & 150mm 100mm & 150mm	for 100mmØ and 150mmØ service connections
Inspection Chamber surface box	Brooks Box Brooks Box Raven	37 66	300mm x 500mm 425mm x 750mm	H20 Loading H20 Loading not for use in road or driveways
Inspection Chamber surface box lids	Terminal City / ACS Terminal City / ACS	37 66	300mm x 500mm 425mm x 750mm	H20 Loading, labeled with "Storm" H20 Loading, labeled with "Storm"
Couplings & Bushings	Fernco Mission Rollee	Kwik couplings		w/stainless steel sheer band w/stainless steel sheer band w/stainless steel sheer band
Tapping Saddles	Fernco Mission Rollee		100mm & 150mm 100mm & 150mm 100mm & 150mm	flexible saddle flexible saddle flexible saddle

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34 41 13 Traffic Signals					
2.16		Vehicle Signal Heads		McCain	
2.19		Vehicle Signal Mounting Hardware		Astro-Brac (Pelco Products)	
2.16		Pedestrian Signal Heads		Model 7090 McCain #141SPO	
2.2		Audible Pedestrian Signal Heads		Novax DS2000	
2.26.2.2		Conflict Monitors		Eberie Model 210E	
2.26.4		Controller Cabinets - 332, 226 & 338		Safetran & Signal Control Company (SCC, Peak)	

32 17 23 Painted Pavement Markings					
2.1	.5	Glass Beads	Swarco	Premium Glass Bead Type-I (T-20 coated)	
	.6	Pavement Markings	Ennis-Flint	Solvent based traffic marking paint	
				Yellow road marking paint prod # 986063	
				White road marking paint prod # 986061	
	.7S	Thermoplastic	Ennis-Flint	Pave Mark (both yellow and white)	

32 01 17.6 Sealing Pavement Cracks for Maintenance Purposes					
2.1		Cold Pour Crack Sealer	Cold Pour Crack Sealer	CRF Wilco	Good for over 5 minute cure rate only
		Hot Pour Crack Sealer	Hot Pour Crack Sealer	KOCH - 9211, Crafco & Tremco	

31 32 19 Geosynthetics					
2.1		Stress Absorbing Membrane	Stress Absorbing Membrane	Amopave 4599 & Trevira S-112-C	

Other					