

DDODUCT	MATERIAL TYPE	CDECIFICATION	December 8, 2022	BAABILIEA CTUBED	CATALOCUE IDENTIFIED	CONANACNITO	
PRODUCT	MATERIAL TYPE	SPECIFICATION	FEATURE PIPE	MANUFACTURER	CATALOGUE IDENTIFIER	COMMENTS	
		Class F2	PIPE	II C Dina	Tuton® Inint Ding	Dustile iron pine with "Tyten" isinte is to be somethed	
		Class 52 AWWA C104		U.S. Pipe Canada Pipe Company ULC	Tyton <sup>®</sup> Joint Pipe  Tyton <sup>®</sup> Joint Pipe	Ductile iron pipe with "Tyton" joints is to be supplied with bonding straps or lock wedges to maintain electrical continuity. All ductile water main shall be	
	Ductile Iron with Polyethylene	AWWA C111/A21.11	6 meters in length, push-on joint pipe rounding per manufacturers			cathodically protected by an anode.	
	encasement	AWWA C150	specifications				
		AWWA C151	·				
Watermain up to and including		AWWA C105					
300mm diameter		ANSI A21.5					
		Class 235, SDR 18		Ipex	Blue Brute		
	Polyvinyl Chloride (PVC)	AWWA C900	Duch an inint colour coded "blue" 6.1 matres in langth	Royal Pipe	CIOD PVC P.P.		
		CSA B137.3	Push-on joint, colour coded "blue", 6.1 metres in length.			Factory capped	
	Moleculary oriented polyvinyl	AWWA C909	Class 235 DR18 (CIOD)	IPEX	Dienay		
	chloride (PVCo)	CSA B137.3		IPEX	Bionax		
		Class 235, SDR 18	Push-on joint, colour coded "blue", 6.1 metres in length.	IPEX	Centurion		
Watermain 400mm diameter	Polyvinyl Chloride (PVC), DR 18	AWWA C905	Class 235 DR18 (CIOD)	Royal Pipe	CIOD PVC P.P.	Factory capped	
		CSA B137.3	Class 233 DN16 (ClOD)				
	Prestressed Concrete Pressure	AWWA C301 or C303 &		Hanson, Munro, Forterra	B-303, L-301, PCCP		
	Pipe - 500mm	C304	Double Gasketed Push on Joints			Mortar Collar Diaper required at all joints,	
Watermain 400mm diameter and	Prestressed Concrete Pressure Pipe - 600mm	AWWA C301 & 304	Double dasketed Fusition Joines	Transon, Warro, Forcerra	B 303, L 301, I CCI	performance bedding required.	
larger	Ductile Iron with Polyethylene	AWWA C104 AWWA C115	6 meters in length, push-on joint pipe rounding per manufacturers	U.S. Pipe	Tyton® Joint Pipe		
	encasement	AWWA C150 AWWA C151	specifications	Canada Pipe Company ULC	Tyton <sup>®</sup> Joint Pipe		
			SERVICES				
	Copper - 19mm to 25mm	AWWA C800 ASTM B88	Type 'k', 3rd party (W.H.) soft copper		as per manufacturer	Kinked, crushed or distorted tubing shall not be used. Soder type fittings shall not be used.	
Water Services	Cross-linked polyethylene 38mm to 50mm	AWWA C904, ASTM F876/F877, F2023, F2080, F2657 CSA B137.5, 137.18 NSF-14, NSF-61	Cross-linked polyethylene (PEX) tubing	Rehau, IPEX, Aquapure	Municipex, Blue 904, 2399NT	Municipex valves and fittings conform with AWWA C800. C800 applies to "Underground Service Line Valves and Fittings. Appropriate Standard C904 "Cross Linked Poly Services". Suggest NSF Standard 14 and 61. All compression connections must have stainless steel insert stiffners. All PVC cuts must be made with proper tube cutter. All service pipe shall be installed with tracer wire.	
Corporation (Main) Stop	No Lead Alloy - 19mm to 50mm	AWWA C800 NSF/ANSI 61, ASTM B-62 ASTM B-584 NSF 372	Ball valve, compression joining.	Mueller	19mm - B - 2500 8.13 25mm - B - 2500 8.25 38mm - B - 2500 8.38 50mm - B - 2500 8.50		
				Ford Meter Box Company	19mm - FB1000-3Q-NL 25mm - FB1000-4Q-NL 38mm - FB1000-6Q-NL 50mm - FB1000-7Q-NL		



PRODUCT	MATERIAL TYPE	SPECIFICATION	FEATURE	MANUFACTURER	CATALOGUE IDENTIFIER	COMMENTS
			SERVICES (CONT'D)			
		AWWA C800			19mm - H - 15209.13	
		NSF/ANSI 61,		Mueller	25mm - H - 15209.25	all Mueller curbstops are Mark II oriseal
		ASTM B-62		Wideliei	38mm - H - 15209.38	all Mueller curbstops are Mark II offsear
		ASTM B-584			50mm - H - 15209.50	
Curb Stop	No Lead Alloy - 19mm to 50mm	NSF/ANSI 372	Ball valve, compression joining, non-draining		19mm - B44 - 333 - Q - NL	
Curb Stop	No Lead Alloy - 13mm to 30mm		ball valve, compression joining, non-draining	5 dad a Rose	19mm x 25mm - B44 - 343 - Q - NL	
				Ford Meter Box Company	25mm - B44 - 444 - Q - NL	
					38mm - B44 -666 - Q - NL	
					50mm - B44 - 777 - Q - NL	
			5	Mueller Canada	A728 - Large	
Service Boxes	Epoxy Coating Cast Iron	N/A	Extension required if special depths are encountered (as per	Clow Canada	D18 / D28 - Large	
			manufacturers recommendations).	Bibby Ste Crolx	VSB1, VSB2	
Service Box Rods	Stainless Steel	N/A	36" Stainless Steel, self centering, stainless steel cotter pin			
		AWWA C800		Ford	FS 313 (100mm - 300mm)	
		AWWA C-213		Robar	2616 (100mm - 300mm)	
	D.I. Watermain	ASTM A536, ASTM-D2000 ASTM A240,	Type 304 stainless steel including hardware, double bolt, broad	Robar	2626 (400mm)	
	(38mm to 50mm)		band, AWWA tappered thread			
Service Saddles		NSF-61				
	PVC Watermain (19mm to 50mm)	NSF-61	Type 304 stainless steel including hardware, double bolt, broad	Ford	FS 313 (100mm - 300mm)	
				Robar	2616 (100mm - 300mm)	
			band, AWWA tappered thread	Robar	2626 (400mm - 450mm)	Service saddles are mandatory on all PVC watermain
	Asbestos		Type 304 stainless steel including hardware, double bolt, broad band, AWWA tappered thread	Robar	1616 (14.50 x 1" CC DB)	
	Ductile Iron / Cast Iron / PVC	ASTM D-2000 ASTM A3,	Style fast tapping sleeve, 360 gasket, stainless steel flange	Ford - Fast	Fast x OD x Tap Size	
Tanning Sleave		AWWA C223, NSF 61	6606 - Lifter Bar, T304 SS, full wrap around	Robar - 6606	6606 x Main Size x Outlet x Range High End	
Tapping Sleeve	Ashastas	AWWA C223, AWWA C207,	Style fast tapping sleeve, 360 gasket, stainless steel flange	Ford - Fast	Fast 1440 x Tap AC	14:00 - 14:40
	Asbestos	NSF 61, ASTM D-2000	6606 - Lifter Bar, T304 SS, full wrap around	Robar - 6606	S6606	14:10 - 14:50
	No Lead Variety - 25mm to 50mm	AWWA C800,		Ford	C44	i.e. C-44-44-Q-NL = 25mm
		NSF/ANSI61,	No Lead, Quick Joint		¾" - H15403.20	
		NSF/ANSI 372			1" - H15403.25	
Service Coupling				Mueller	1" x ¾" - H15403.2520	
		ASTM B-62			1¼" - H15403.32	
					1½ - H15403.38	
					2" - H15403.50	



FEATURE FEATURE	MANUFACTURER	CATALOGUE IDENTIFIER	COMMENTS	
FITTINGS				
	Tyler/Union/Bibby			
	Sigma			
., Mechanical Joint, Ductile Iron Body and Glands cement lined seal			All fittings must have Anode attached with thermoweld. Thermocap or Royston Handicap	
		as per manufacturer		
coat to AWWA C104/A21.4		as per manufacturer	overweld.	
			over weld.	
No Lead, Quick Joint	Ford	L-44	i.e. L-44-44-Q-NL = 25mm 90°	
Lead, MUELLER 110 Compression Connection	Mueller	H-15526		
	Star	MJ & MJ Adapter Series 100	For MJ to MJ connction when space is limited 100mm to 300mm	
	Tyler/Union/Bibby			
	Sigma			
al Joint, Ductile Iron Body and Glands cement lined seal	Star		Anode installed on all fittings as per City of Owen	
coat to AWWA C104/A21.4	Meuller	as per manufacturer	Sound Specification 3.14.2	
Coat to AW WA C104/A21.4		_	Sound Specification 3.14.2	
		_		
Fusion Epoxy with 3" Stainless Steel Nuts and Bolts 14" lay length		12" Yellow 14.03 to 14.40 B		
	Romac Industries	AC x Black 13.15 to 13.55 B		
		x 14" B only Fusion Epoxy with		
		316SS bolt and nuts		
	EBAA Iron	Megalug Series 1100	-	
	ROMAC Grip Ring	GR-DI	-	
de "black" for Ductile Iron use. Tie rods stainless steel	SIGMA	One-lok Series SIde	-	
_	Star	Stargrip Series 3000	-	
			-	
	Star	PVC Stargrip - Series 4000		
stainless steel 304 or better. The split ring restraint	Sigma	One-Lok, Series SLCE	-	
hall incorporate a series of non-directional machined	ROMAC Grip Ring	GR-DI	-	
ons (not "as cast") on the inside diameter to provide	EBAA Iron	Series 2000 PV Mega Lug	-	
straint, exact fit, 360 degree contact and support of the	LUIVIIIOII	Series 2000 I V IVICEU LUE	-	
II. "If machined serrations are directional, additional			-	
safeguards must be built into casting	Star	PVC Stargrip - Series 4000		
	Sigma	One-lok Series for PVCo	1	
clamps to be supplied with stainless steel (passive 304)	-			
	s to be supplied with stainless steel (passive 304) d bolts. Tapered gaskets, conductive strip	s to be supplied with stainless steel (passive 304)	s to be supplied with stainless steel (passive 304)	



PRODUCT	MATERIAL TYPE	SPECIFICATION	FEATURE	MANUFACTURER	CATALOGUE IDENTIFIER	COMMENTS
			Valves			
Gate Valve	Resiliant Seated Gate Valve M.J. x M.J.	AWWA C509, ASTM A536-84, AWWA C515-09, AWWA C550-13, ASTM A126-04, NSF 61	Valves shall be M.J. non rising stems, close clockwise, 52mm square nut, M.J. x M.J. (100mm - 600mm) open counter clockwise, resiliant seated gate, epoxy coating, stainless steel bolts	Mueller Clow Canada	A-2362-23W40L F6100	
Bell Joint Restrainers	Ductile	AWWA C110/A21.11, ASTM A536, AWWA C151/A21.51, AWWA C111/A21.11,	Tie rods stainless steel 304 or better. The split ring restraint design shall incorporate a series of non-directional machined serrations (not "as cast") on the inside diameter to provide	Romac EBAA Iron Sigma Romac	Style 611 Series 1700 Mega Lug One-Lok Series SLDEH Style 611	
Deli Joine Restrainers	PVC C-900 PVCo C-909	AWWA C111/A21:11, AWWA C153/A21.53, AWWA C909	positive restraint, exact fit, 360 degree contact and support of the pipe wall. "If machined serrations are directional, additional safeguards must be built into casting	Star EBAA Iron Star	1100 G2 Series 1900 1100 G2	
Tapping Valve	Resiliant Seated Valves Tapping	C509, ASTM A536-84,	Flange x M.J. 150mm to 300mm, 150mm to 300mm, open counter clockwise, 52mm square nut, epoxy coating, stainless steel bolts	Mueller	T2362-19L	
Butterfly Valve		AWWA C504	>600mm only	Pratt	Groundhog	As per City Recommendation
Air Release	Air Release Valve Combination/Direct Bury	AWWA C512,  ASTM A-126 CLASS B  ASTM D429-08,  AWWA C515-09,  AWWA C550-13,  ASTM A126-04,  NSF 61,  AWWA C606-11	I.P. Thread x 1.P. (ball type) 150 mm Cover Stainless Steel thread	A.R.I. ValMatic	D-040-C (c\w stainless steel threads)  1" = 201C.2 Single Body	
Pressure Reducing	Pressure Reducing and Check Valve	AWWA C510, ASTM A216, ASTM A536, ASTM B148, ASTM B62, NSF 61		Singer	Contact Syntec	Syntec (Process Equipment Ltd.)
Valve Boxes		N/A	Guide Plate Extension 305mm Extension 457mm Extension 756 Slide Style Upper Lower 914mm Lower 1346mm Lower 1568mm Cover	Bibby;	VB 875 - Guide Plate VB 725 - 305mm ext. VB 730 - 457mm ext. VB 625 - upper VB 525-L-914 mm VB 530-L - 1346 mm VB 535-L - 1568mm VB 825 - Cover	All slide style boxes



ASM   Part   Court   Part	PRODUCT	MATERIAL TYPE	SPECIFICATION	FEATURE	MANUFACTURER	CATALOGUE IDENTIFIER	COMMENTS		
Substitute	Valves (CONT'D)								
Part				4 ¼"	Bibby;				
Pressure Reducing Churcher   Steel - Fusion Bonded Epops   Steel				Guide Plate		VB 875 - Guide Plate			
Pasture Races   Pasture Race				Extension 305mm		VB 700 - 305mm ext.			
Valve Bones  Valve Bones  N/A  SW  Sudde Plate  Guide Plate  Fig.  Rottom 129 mm = 48"  Rottom 129 mm = 68"  Rotto				Extension 457mm		VB 705 - 457mm ext.			
Name				Extension 710mm		VB 710 - 710mm ext.			
Name				Upper		VB 600 - upper			
Lawer 1568mm				Lower 914mm					
Valve Rioves				Lower 1346mm		VB 505-L - 1346 mm			
Valve Roves				Lower 1568mm		VB 510-L - 1568mm			
Valve Boxes    Valve Boxes   V									
Valve Boxes  N/A  Guide Plate Top Bottom 1219mm + 48"  Guide Plate Top Bottom 1219mm + 48"  Guide Plate Top Bottom 1219mm + 48"  Guide Plate Top Bottom 1224 mm = 60"  V8D FF5 - Guide Plate V8D FF6 -					Star;		T		
Top Bottom 12 pmm 48" Bottom 1524 mm = 60" WB 514-688 - Bottom WB 514-689 - Bottom WB	Valve Boxes		N/A		,	VBD FGP - Guide Plate	All slide style boxes		
Bottom 1219mm = 48" Bottom 1219mm = 61" Cover   V8 514-488 - Bottom   Star; V8 DF 514 Lid - Cover   Star; V8 DF 514 Lid - Cover   WBD F41 Lid - Cover   WB									
Bottom 1524 mm = 60"				•					
Cover WB DF 514 LIJd Cover  4 %" Guide Plate Top Botton 125mm = 48" Botton 125mm = 48" Cover  Cover  WB DF 514 LIJd Cover  WB 114-488-Bottom WB 1414-608-Bottom WB 1414-608-Bottom WB 1414-608-Bottom WB 1414-608-Bottom WB 1414-608-Bottom WB 1414-608-Bottom WB DF 414 LIJd Cover  Wall As				<b>.</b>			_		
ASME B16.1 OPS ATM A36 ASTM A-36, ASTM A-36, Stallon   Steel - Fusion Bonded Epoor Stallon							_		
Guide Plate Top To Bottom 1219mm = 48" Bottom 1524 mm = 60" Cover  HYDRANTS  ASME B16.1 OPSS 441 CAN/ULC-5520-07, ASTM A36, ASTM A26, AWWA C502, AWWA C502, AWWA C502, AWWA C502, AWWA C502, AWWA C502, AWWA C502  AWWA C503  AWWA C504  AWWA C505  AWWA C506  AWWA C507  AWWA C506  AWWA C506					Star:				
Top Bottom 1219mm = 48"					J. G. G. T. G.	VBD FGP - Guide Plate	_		
Bottom 12.19mm = 48" Bottom 12							_		
Bottom 1524 mm = 60" V8 414-608 - Bottom V8 DF 414 Lid - Cover  HYDRANTS  HYdrants Shall meet CSA specification B89-6 and AWWA C-502 latest revision. Hydrants shall be mofF28 McAvity Brigadier or Meeller Century Progrant. Hydrants shall be CSA standard storz quick 100mm pumper connection coupler. Hydrant to be chornew sellow. Storz quick 100mm pumper connection coupler. Hydrant to be plugged. Hydrants must open left and shall have bronze to be plugged. Hydrants must open left and shall have bronze to bronze seat. Hydrants shall be mounted with break away flange 150mm maximum above finish grade to a minimum of 100mm on finished hard surface i.e. asphalt/cement, minimum of 50mm grass area.  Pressure Reducing Chamber Station  Steel - Fusion Bonded Epoxy  Steel - Fusion Bonded Epoxy  Minimum plate thickness 6mm  Syntec Process Control  W8 814-608 - Bottom W8 B744 Lid - Cover  Mueller - Canada valve century hydrant century hydrant century hydrant denty for the century hydrant must open left and shall be mounted with break away flange as a seat. Hydrants shall be complete with 2 behind hydrant.  *Note - Storz connections must be supplied manufacturer specific to the Hydrant. All valve box top sections for tracer wire to be located 150mm directly behind hydrant.  *Note - Storz connections must be supplied manufacturer specific to the Hydrant. All valve box top sections for tracer wire to be located 150mm directly behind hydrant.  *Note - Storz connections must be supplied manufacturer specific to the Hydrant. All valve box top sections for tracer wire to be located 150mm directly behind hydrant.  *Note - Storz connections must be supplied manufacturer specific to the Hydrant. All valve box top sections for tracer wire to be located 150mm directly behind hydrant.  *Note - Storz connections must be supplied manufacturer specific to the Hydrant. All valve box top sections for tracer wire to be located 150mm directly behind hydrant.  *Note - Storz connections must be supplied manufacturer specific to the Hydrant hydrant h				·			-		
Hydrant Hydrant ASME 816.1 OPSS 441 OPS									
Hydrant Shall meet CSA specification B89-6 and AWWA C-502 latest revision. Hydrants shall be complete with 2-68.5mm nozzles with CSA standard thread and 1 CSA standard storz quick 100mm pumper connection coupler. Hydrant to be chrome yellow. Storz pumper to be black. Drain ports are NOT to be plugged. Hydrants shall be mounted with break away flange 150mm maximum above finished hard surface i.e. asphalt/cement, minimum of 50mm grass area.  Pressure Reducing Chamber Station  Steel - Fusion Bonded Epoxy  Steel - Fusion Bonded Epoxy  ASTM A-36, CSA C22.1-09/C22.2 No 108									
ASME B16.1 OPSS 441 CAN/ULC-S520-07, ASTM AS36 ASTM B62, AWWA C502, AWWA C502, AWWA C502, AWWA C503  Pressure Reducing Chamber Station Station  ASTM A-36, ASTM A-500, CSA C22.1-09/C22.2 NO 108  Minimum plate thickness 6mm  Minimum plate thickness 6mm  Muller - Canada valve century hydrant McAvity Brigadier NG7B  *Note - Storz connections must be supplied manufacturer specific to the Hydrant. All valve box top sections for tracer wire to be located 150mm directly behind hydrant.  *Note - Storz connections must be supplied and storz quick 100mm pon finished hard surface le. a sphalt/cement, minimum of 100mm on finished hard surface le. a sphalt/cement, minimum of 200mm makimum above finish grade to a minimum of 100mm on finished hard surface le. a sphalt/cement, minimum of 50mm grass area.  **Note - Storz connections must be supplied and CSA top and storz quick 100mm pon for ser NOT to be thydrant must be available to be chrome to be calculated and 1 CSA standard manufacturer specific to the Hydrant Mickay Brigadier or McAvity Brigadier MG7B  *Note - Storz connections must be supplied and storz quick 100mm pon fall have box top sections for tracer wire to be located 150mm directly behind hydrant.  *Note - Storz connections must be supplied and Storz quick 100mm pon fall have box top sections for Bright MacAvity Brigadier or McAvity Brigadier MG7B  *Note - Storz connections must be supplied and Storz quick 100mm pon fall have box top sections for Bright MacAvity Brigadier MC						VD DI 111 EIG COVEI			
ASME B16.1 OPSS 441 CAN/ULC-S520-07, ASTM A536 ASTM A-S50, AWWA C502 AWWA C550  Pressure Reducing Chamber Station Station  ASTM E1.1 OPSS 441 CAN/ULC-S520-07, ASTM A-36, ASTM A-36, ASTM A-36, ASTM A-500, CSA C22.1-09/C22.2 NO 108  Minimum plate thickness 6mm  ASTM B6.1 OPSS 441 CAN/ULC-S520-07, ASTM A36, ASTM A-36, ASTM A-500, CSA C22.1-09/C22.2 NO 108  Minimum plate thickness 6mm  ASTM E1.1 OPSS 441 CAN/ULC-S520-07, Mueller Century hydrant. Hydrants shall be M678 McAvity Brigadier or Mueller Century hydrant. Hydrants shall be complete with 2- 68.5mm nozzles with CSA standard thread and 1 CSA standard storz quick 10mm pumper connection coupler. Hydrant to be chrome yellow. Storz pumper to be black. Drain ports are NOT to be plugged. Hydrants must open left and shall have bronze to bronze seat. Hydrants shall be mounted with break away flange 150mm maximum above finish grade to a minimum of 100mm on finished hard surface i.e. asphalt/cement, minimum of 50mm grass area.  Pressure Reducing Chamber Station  Steel - Fusion Bonded Epoxy  ASTM A-500, CSA C22.1-09/C22.2 NO 108  Minimum plate thickness 6mm  Syntec Process Control  as per manufacturer  H-20 Vehicle Loading As per City Recommendation					Mueller - Canada valve				
Hydrant Hydrant Sall be Complete with 2-68.5mm nozzles with CSA standard thread and 1 CSA standard storz quick 100mm pumper connection coupler. Hydrant to be chrome yellow. Storz pumper to be black. Drain ports are NOT to be plugged. Hydrants shall be complete with 2-68.5mm nozzles with CSA standard storz quick 100mm pumper connection coupler. Hydrant to be chrome yellow. Storz pumper to be black. Drain ports are NOT to be plugged. Hydrants must open left and shall have bronze to bronze seat. Hydrants shall be mounted with break away flange 150mm maximum above finish grade to a minimum of 50mm grass area.  Pressure Reducing Chamber Station Steel - Fusion Bonded Epoxy  Steel - Fusion Bonded Epoxy  Steel - Fusion Bonded Epoxy  ASTM A-560, CSA C22.1-09/C22.2 NO 108  Minimum plate thickness 6mm  McAvity Brigadier M67B  *Note - Storz connections must be supplied storz quick 100mm anufacturer specific to the Hydrant. All valve box top sections for tracer wire to be located 150mm directly behind hydrant.  *Note - Storz connections must be supplied storz quick 100mm anufacturer specific to the Hydrant shall be mounted with break away flange anufacturer specific to the Hydrant shall be connected to the chrome plant and the chrome specific to the Hydrant to be chrome plant and the chrome specific to the Hydrant shall be mounted with profits are NOT to be plugged. Hydrant to be chrome plant and the chrome p		OPSS 441 CAN/ULC-S520-07, ASTM A536 ASTM B62,	ASME B16.1	·					
Hydrant Hydrant AS36 ASTM AS36 ASTM B62, AWWA C502, AWWA C502, AWWA C503 AWWA C503 AWWA C503 AWWA C504 AWWA C505 AWWA C505 AWWA C505 AWWA C505 AWWA C506 AWWA C506 AWWA C506 AWWA C507 AWWA C507 AWWA C507 AWWA C507 AWWA C508 AWWA C508 AWWA C508 AWWA C508 AWWA C509 AWWA C509 AWWA C500 AWW									
Hydrant Hydrant Hydrant ASTM A536 ASTM B62, AWWA C502, AWWA C502, AWWA C502, AWWA C502 AWWA C502 AWWA C502 AWWA C502 AWWA C500 ASTM B62, AWWA C502				·	The strong of th	-			
Hydrant Hydrant Max ASTM B62, AWWA C502, AWWA C502							*Note - Storz connections must be supplied		
AWWA C502, Chrome yellow. Storz pumper to be black. Drain ports are NOI to be plugged. Hydrants must open left and shall have bronze to be plugged. Hydrants shall be mounted with break away flange 150mm maximum above finish grade to a minimum of 100mm on finished hard surface i.e. asphalt/cement, minimum of 50mm grass area.  Pressure Reducing Chamber Station  Steel - Fusion Bonded Epoxy  Steel - Fusion Bonded Epoxy  ASTM A-36, ASTM A-500, CSA C22.1-09/C22.2 NO 108  Minimum plate thickness 6mm  Syntec Process Control  Syntec Process Control  as per manufacturer  H-20 Vehicle Loading As per City Recommendation				·			1		
Pressure Reducing Chamber Station  Steel - Fusion Bonded Epoxy  Steel - Fusion Bonded Epoxy  AWWA C550  Be plugged. Hydrants must open left and snall have bronze to bronze seat. Hydrants shall be mounted with break away flange 150mm maximum above finish grade to a minimum of 100mm on finished hard surface i.e. asphalt/cement, minimum of 50mm grass area.  CHAMBERS  Syntec Process Control  Syntec Process Control  as per manufacturer  H-20 Vehicle Loading As per City Recommendation	Hydrant		· ·						
Pressure Reducing Chamber Station  Steel - Fusion Bonded Epoxy  AWWA C550  AWWA C550  AWWA C550  Bronze seat. Hydrants snall be mounted with break away flange 150mm maximum above finish grade to a minimum of 100mm on finished hard surface i.e. asphalt/cement, minimum of 50mm grass area.  CHAMBERS  ASTM A-36, ASTM A-36, ASTM A-500, CSA C22.1-09/C22.2 NO 108  Minimum plate thickness 6mm  Syntec Process Control  as per manufacturer  H-20 Vehicle Loading As per City Recommendation			7.0002,				·		
AWWA C550 finished hard surface i.e. asphalt/cement, minimum of 50mm grass area.  CHAMBERS  Pressure Reducing Chamber Station  Steel - Fusion Bonded Epoxy  Steel - Fusion Bonded Epoxy  ASTM A-500, CSA C22.1-09/C22.2 NO 108  Minimum plate thickness 6mm  Syntec Process Control  as per manufacturer  H-20 Vehicle Loading As per City Recommendation							Jenna Hydrana		
Pressure Reducing Chamber Station  Steel - Fusion Bonded Epoxy  Steel - Fusion Bonded Epoxy  ASTM A-36, ASTM A-500, CSA C22.1-09/C22.2 NO 108  Minimum plate thickness 6mm  Syntec Process Control  as per manufacturer  H-20 Vehicle Loading As per City Recommendation		AW/W/A C550		_					
Pressure Reducing Chamber Station  Steel - Fusion Bonded Epoxy  Name As TM A-36, ASTM A-500, CSA C22.1-09/C22.2 NO 108  Minimum plate thickness 6mm  Syntec Process Control  Syntec Process Control  as per manufacturer  H-20 Vehicle Loading As per City Recommendation			AWWA C550	finished hard surface i.e. asphalt/cement, minimum of 50mm					
Pressure Reducing Chamber Station  Steel - Fusion Bonded Epoxy  Steel - Fusion Bonded Epoxy  ASTM A-36, ASTM A-500, CSA C22.1-09/C22.2 NO 108  Minimum plate thickness 6mm  Syntec Process Control  as per manufacturer  H-20 Vehicle Loading As per City Recommendation				grass area.					
Pressure Reducing Chamber Station  Steel - Fusion Bonded Epoxy  Steel - Fusion Bonded Epoxy  ASTM A-36, ASTM A-500, CSA C22.1-09/C22.2 NO 108  Minimum plate thickness 6mm  Syntec Process Control  as per manufacturer  H-20 Vehicle Loading As per City Recommendation				CHAMBERS					
Pressure Reducing Chamber Station  Steel - Fusion Bonded Epoxy  One of the process Control Steel - Fusion Bonded Epoxy  One of the process Control Syntec Process Control Syntec Process Control Syntec Process Control ASTM A-500,  One of the process Control Syntec Process Control Syntem Syntem Syntec Process Control Syntem Syntam Syntem Syntam Syntem Syntem Syntem Syntem Syntem Syntem Syntem Syntem Synte			ASTM A-36,	5.11.11.12.11.12					
Pressure Reducing Chamber Station  Steel - Fusion Bonded Epoxy No Pressure Reducing Chamber Station  Steel - Fusion Bonded Epoxy Steel - Fusio		Steel - Fusion Bonded Epoxy	i i						
Station Steel - Fusion Bonded Epoxy 108 Minimum plate thickness 6mm Syntec Process Control as per manufacturer H-20 Vehicle Loading As per City Recommendation						_			
				Minimum plate thickness 6mm	Syntec Process Control	as per manufacturer	H-20 Vehicle Loading As per City Recommendation		
I INational Electrical Code I									
			National Electrical Code						
	Water Cl.	Water State Day 100 1	0000 4400 040	2			H 20 W lists to all the Asset City S		
Water Chambers Watertight Precast Concrete OPSD 1108.010 2 piece monolithic construction as per manufacturer H-20 Vehicle Loading As per City Recommendation	Water Chambers	watertight Precast Concrete	UPSD 1108.010	2 piece monolithic construction		as per manufacturer	H-20 Venicle Loading As per City Recommendation		



PRODUCT	MATERIAL TYPE	SPECIFICATION	FEATURE	MANUFACTURER	CATALOGUE IDENTIFIER		COMMENTS	
	_		CATHODIC PROTECTION					
					WATERMA	AIN ANODE	SPACING	
					MAIN SIZ			
		ASTM B843,		Maple Industries	100mm	, .,	Per length over 3.0 m or fitting of similar size	
					150mm		Per length over 3.0 m or fitting of similar size	
					200mm		Per length over 3.0 m or fitting of similar size	
	High Potential Magnesium				250mm		Per length over 3.0 m or fitting of similar size	
Anodes	Anode				300mm		Per length over 3.0 m or fitting of similar size	
					Copper serv		at each curb stop	
		OPSS 422		Bren Technology	Hydrant	5.5	at hydrant base	
					Tees, elbow		On each fitting for 100mm-150mm pipe	
					Tees, elbow	7s 5.5	On each fitting for 200mm-300mm pipe	
				Star	VB DF 514 Lid - Cover	1		
_				Stai	VP DFT 514D - Upper	All valve box	top sections for tracer wire to be located	
Test Station for Tracer Wire	Valve Box Top Only		5 ¼" Valve Box Top and Cover	Bibby	VB 825 - Cover		150mm directly behind hydrant	
				,	VB 625 - Upper			
Sacrificial Caps	Cathodic Protection (Nuts and	ASTM B418 Type II	99.9% high grade zinc, steel core, coated with low resistant depolarizing material: 175 grams	Maple Agencies - Exothermal Industries	Protecto Caps 175P190			
	Caps)		depolarizing material. 173 grams	Bren Technology	SAP CAP			
Protective Coatings	Protective Coatings for metal fittings, polyethylene encasement for ductilleiron watermain pipe and fittings, poly-tube with overlap	AWWA C105/A21.5-99 AWWA C217-04		Denso North America	Denso Wrap			
	<u> </u>	<u>l</u>	MISCELLANEOUS		1			
Insulation	Extruded Polystyrene	ASTM C578CAN ULC S701 Type 4	Styrofoam Highload 40	Dow Chemical Canada	as per manufacturer		minimum strength 275kPa	
Tracer Mine		,,	Calid Cannon Chainless Chaol Clad	Commonhaad	HF-CCS PE45			
Tracer Wire			Solid Copper-Stainless Steel Clad	Copperhead	as per manufacturer			
		ASTM D-1248,		Copperhead,	Snake-Bit			
Tracer Wire Connectors		ASTM B910/B910M	Water proof connector	King Innovation	DryConn-DBSR or Direct Bury Lug	3		
	Casing End Seals	asing End Seals		Cascade;	as per manufacturer			
			Seal-Virgin SBR & Bands, T-304 Stainless Steel	PSI	as per manufacturer			
Casing Spacers				Advance (APS)	Model SI & SSI			
223Q 2443C13	Casing Spacers			Cascade;	as per manufacturer	_		
		Casing Spacers	Fusion Coated Steel Casing Insulators	PSI Advance (APS)	as per manufacturer Model SI & SSI			
Metallic Caution Tape			Blue "Caution Watermain Buried Below"				ed 18" above watermain and 18" above ces. Tied knot at tees, services etc.	