

Approved Products List (APL) provides a list of approved products that can be installed on City of Kelowna owned infrastructure. Any use of an alternate product requires the approval of the APL Committee.

The following products have been reviewed and are approved in accordance with the Approved Products List - Administrative Policy. **Revised April 5, 2024.**

1.0 Water Distribution

1. Watermain and Service Pipe
2. Fittings and Appurtenances
3. Valves
4. Hydrants and Hydrant Paint
5. Brass Service Fitting
6. Kiosks

2.0 Sanitary Sewer

1. Sanitary Mains and Services
2. Fittings and Appurtenances
3. Manholes
4. Pressure Systems

3.0 Stormwater

1. Storm Mains and Services
2. Fittings and Appurtenances
3. Manholes and Drywells
4. Containment Devices and Oil-Grit Separators

4.0 Highway

1. Traffic Signs
2. Traffic Painting

5.0 Roadway Lighting

1. Luminaires
2. Photocell
3. Poles
4. Bases
5. Electrical Service Disconnect

6.0 Traffic Signals

7.0 Landscape and Irrigation

1. Controller
2. Fittings and Appurtenances

Section	Material	Manufacturer	Make/Model	Size Range	Comments/Conditions	Date Approved mm/yyyy
1	Water Distribution					
	<p>Products must conform to CSA Standard, where applicable.</p> <p>All bolt and Rods to be stainless steel or high-strength low-alloy steel. Use of redi-rod is not permitted. All bolts & unprotected metallic fittings to be protected with petrolatum primer and tape. Chipped or damaged epoxy coated fittings must be repaired as per manufactured specifications</p> <p>All PVC Watermains to be pigmented Blue</p>					03/2024
1.1	Watermain and Service Pipe					
	PVC	IPEX Westlake Pipe and Fittings	PVC DR 18, PR235 AWWA C900	100 to 900mm		
	PVC	IPEX Westlake Pipe and Fittings	PVC DR 25, PR165 AWWA C900	350 to 1500mm	<p>Only if approved by the City Engineer.</p> <p>Not to be used for pump mains or where there might be frequent transient pressure fluctuations, or where potential pressure zone changes could occur.</p>	

Section	Material	Manufacturer	Make/Model	Size Range	Comments/Conditions	Date Approved mm/yyyy
	Ductile Iron	Canada Pipe US Pipe	Ductile C151	400mm and up.	<p>Only if approved by City Engineer.</p> <p>Soil conditions must be investigated to determine need for cathodic protection. Must be installed with Polyethylene encasement per manufacturer regardless of soil conditions. (See Bylaw 7900 Water Design section)</p> <p>Pipe to be cement mortar lined to AWWA C-104.</p>	
	PVC	Westlake Pipe and Fittings	CERta-Lok RJIB C900	150mm (6") – 300mm (12")		12/2023
		IPEX	TerraBrute CR Restrained Joint, DR18	200mm (8") – 600mm (24")		12/2023
	Watermain HDPE					
	Service Pipe					
		IPEX	Polyethylene	25mm (1") or 50mm (2")	<p>Only Series 160 or 200 conforming to CAN/CSA-B137.1-M. Due to its thicker wall, all plastic pipe's ID are smaller than copper; confirm flow capacity. Add trace wire for plastic service pipe.</p>	12/2023

Section	Material	Manufacturer	Make/Model	Size Range	Comments/Conditions	Date Approved mm/yyyy
		Rehau	MUNICIPEX*	25mm (1") or 50mm (2")	Due to its thicker wall, all plastic pipe's ID are smaller than copper; confirm flow capacity. Add trace wire for plastic service pipe.	12/2023
		Legend	AquaPure	25mm (1") or 50mm (2")		12/2023
1.2	Fittings and Appurtenances					
	Refer to Section 2.3 for Manhole products					
	Watermain Fittings - PVC	IPEX	PVC 5 degree CIOD bend	All Sizes	C900 / 905 / 907. Pressure Class to meet or exceed mainline.	
		Galaxy Plastics Ltd	PVC 5 degree CIOD bend	All Sizes	C900 / 905 / 907. Pressure Class to meet or exceed mainline.	
		Pro-Line Fittings	PVC 5 degree CIOD bend	All Sizes	C900 / 905 / 907. Pressure Class to meet or exceed mainline.	
		Westlake Pipe and Fittings	PVC 5 degree CIOD bend	All Sizes	C900 / 905 / 907. Pressure Class to meet or exceed mainline.	
	Watermain Fittings – Ductile Iron	TC / ACS	Ductile Iron	100 – 600 mm	C-153 Fittings only	
		Sigma	Ductile Iron	100 – 600 mm	C-153 Fittings only	
		Corporation	Ductile Iron	100 – 600 mm	C-153 Fittings only	
		Star Products	Ductile Iron	100 – 600 mm	C-153 Fittings only	12/2023
	Anti-corrosion Petrolatum Products	Petro Coating Systems Ltd.	Paste & primer, Mastic, Tape		See City of Kelowna Standard Drawings.	
		Denso North America	Denso Paste, LT tape		See City of Kelowna Standard Drawings.	

Section	Material	Manufacturer	Make/Model	Size Range	Comments/Conditions	Date Approved mm/yyyy
	Restraining Joints				Restraining Joints are not to be used on AC or CI Watermain.	
		Ford Meter Box Co. / Uni-Flange	UFR1300C UFR1350C UFR1390C UFR1309-C UFR1399-C	100 – 600 mm 100 – 600 mm 100 – 600 mm 100 – 450 mm 100 – 450 mm		
		Smith Blair	115 165 136 (PVC Fittings)	100 – 600 mm 100 – 600 mm 100 – 200 mm		
		Sigma	PV – LOC Series Zip Flange	100 – 600 mm 100 – 600 mm	PV-LOC is directional only for PVC. Install according to manufacturer instructions. Zip Flange is a flange adaptor for DI pipe.	
		EBAA Iron	Series 1500 PVC Series 2800 Series 1900 Series 2946	100 – 300 mm 350 – 600 mm 100 – 300 mm 400mm	Series 1500 is only for C900 (i.e., 100-300mm)	
		Star Products	PVC StarGrip Series 4300	100mm (4") -600mm (24")		12/2023
			PVC StarGrip Series 4000	100mm (4")- 600mm (24")		12/2023

Section	Material	Manufacturer	Make/Model	Size Range	Comments/Conditions	Date Approved mm/yyyy
			PVC StarGrip Series 4000HD	100mm (4")- 300mm (12")		12/2023
			PVC StarGrip Series 4100P	100mm (4")- 300mm (12")		12/2023
			PVC StarGrip Series 4100HDP	100mm (4")- 300mm (12")		12/2023
			PVC StarGrip Series 4400	350mm (14") - 500mm (20")		12/2023
			Series 1000	350mm (14")- 900mm (36")		12/2023
			Series1000G2	100mm (4")- 300mm (12")		12/2023
			Series 1100	350mm (14") – 900mm (36")		12/2023
			Series 1100G2	100mm (4")- 300mm (12")		12/2023
	Service Saddles					
		Robar	2616 2626 2706	50 – 300 mm 100 – 450 mm 100 – 600 mm	Dbl-bolt Dbl-bolt Dbl-strap with stainless steel straps	
		Canada Pipe	SC-2	100 – 400 mm	With stainless steel straps	
		Ford	FS313 202 BS	100 – 300mm 100 – 762 mm	With stainless steel straps	
		Cambridge Brass	812 8403 8407	100 – 300 mm	Two-piece – 4 bolts	
			8403	100 – 300 mm	Single piece – 2 bolts	

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			8407	300mm & larger	Two-piece – 4 bolts	
			8413	50mm only	Integral Saddle c/w Corporation Stop model	12/2023
	Service Tapping Saddles					
		Robar	All	100mm & larger	Manufactured steel for metal pipe only.	
		Smith-Blair	All	100mm & larger	Manufactured steel for metal pipe only.	
		JCM	All	100mm & larger	Manufactured steel for metal pipe only.	
		Robar	All	100mm & larger	Stainless steel for all pipe types.	
		Smith-Blair	All	100mm & larger	Stainless steel for all pipe types.	
		Smith-Blair	All	100mm & larger	Stainless steel for all pipe types.	
	Couplings				All couplings to be Fusion Bonded Epoxy Coated Ductile Iron	
		Ford	FC1-ESH FCA-ESH FC2W Ultra Flex	100 – 300 mm 100 – 600 mm 100 – 300 mm		
			1506&1506R 1596	100 – 600 mm		
		Robar	Vantage	100 – 300 mm		
			1696,2-bolt stainless	100 – 300mm		03/2024

Section	Material	Manufacturer	Make/Model	Size Range	Comments/Conditions	Date Approved mm/yyyy
		Smith Blair	441 421	100-400 mm 100-300mm		
		Viking Johnson	Maxi-Fit & Maxi-Step	All sizes		
		Romac	XR 501 Extended Range	100 – 300 mm	All Romac to be epoxy coated	
		IPEX Westlake Pipe and Fittings Galaxy Plastics Ltd, Pro-Line Fittings	PVC Repair & High Deflection Couplings	All sizes	C900 / 905 / 907. Pressure class To meet or exceed mainline.	
		Romac	Alpha Restained Joint	100mm – 400mm	Two bolt couplings	12/2023
		Romac	Macro HP	100mm – 400mm	Two bolt couplings	12/2023
		Rollee	SS ShearBand Repair Coupling	100mm (4")- 900mm (36")		12/2023
	Service Valve Boxes	Mueller	A-726 A-728	20 – 25 mm 37 – 50 mm	c/w Stainless Steel Rods & SS-RHD or MD-RHD Clevis Ends. Nelson Valve Box with Water Lid. Riser pipe to be notched out an mounted over service and supported by precast concrete patio block. Or as required by ID.	

Section	Material	Manufacturer	Make/Model	Size Range	Comments/Conditions	Date Approved mm/yyyy
		Trojan Industries	VSB1 VSB2	20 – 25 mm 37– 50 mm	c/w Stainless Steel Rods & SS-RHD or MD-RHD Clevis Ends. Nelson Valve Box with Water Lid. Riser pipe to be notched out and mounted over service and supported by precast concrete patio block. Or as required by ID.	
	Main Valve Boxes	TC / ACS	MR-6	Minimum 375mm	Nelson Type Lid	
		Dobney Foundry Armtec	MR-6		Nelson Type Lid	
1.3	Valves					
	Valves	Gate Valves – Resilient Wedge				
		Mueller	A-2362 A-2361	50 – 100 mm 100 - 1370 mm	250 PSI 250 PSI – DI	
		TC / ACS	B100 PO x PO B200 PO x FL B300 MJ x MJ B400 MJ x FL B500 FL x FL B700 Thrd x Thrd	100 – 300mm 100 – 300mm 100 – 300mm 100 – 300mm 50mm – 300mm 50mm – 75mm	250 PSI – DI	
	Valves	Butterfly Valves				

Section	Material	Manufacturer	Make/Model	Size Range	Comments/Conditions	Date Approved mm/yyyy
					All design recommendations to be approved by the City Engineer. Installation requires placement within chamber for access and maintenance.	
	Air Valves	Vent-O-Mat	RBX			
1.4	Hydrants					
	Hydrants	Terminal City	C-71-P		TCH1A only c/w Storz Fitting	
		Canada Valve	Mueller-Century		c/w Storz Fitting	
	Hydrant Paint				DULUX PAINTS (High gloss, lead free enamel. Self-priming with rust inhibitor)	
		METALCLAD	218419	P-1 RED	STOCK COLOUR	
		METALCLAD	218412	P-2 BLUE	STOCK COLOUR	
		METALCLAD	218413	P-3 YELLOW	FFR1Y32	
		METALCLAD	218414	P-4 GREEN	STOCK COLOUR	
		METALCLAD	218427	P-5 ORANGE	STOCK COLOUR	
		METALCLAD	218420	P-6 BLACK	STOCK COLOUR	
1.5	Brass Service Fittings					

Section	Material	Manufacturer	Make/Model	Size Range	Comments/Conditions	Date Approved mm/yyyy
	Brass Service Fittings				No Lead Brass	
	Corporation Stops	Mueller	B-25008	20 – 50 mm	Full port only	
		A.Y. McDonald	74701BQ	20 – 50 mm	Full port only	
		Ford	FB 1000	20 – 50 mm	Full port only	
		Cambridge Brass	Series 301	20 – 50 mm	Full port c/w new mueller gasket	
	Curb Stops				Stop & Drains NOT permitted	
		Mueller	B-25209	20 – 50 mm	Full port only	
		A.Y. McDonald	76100Q	20 – 50 mm	Full port only	
		Ford	B44 Series	20 – 50 mm	Only full port models 333,444, 555, 666 & 777	
		Cambridge Brass	Series 202	20 – 50 mm		03/2024
	Service Line Couplers	Ford	C44 Series	20 – 50 mm	Models C44-1 to C44-88	
		Mueller	H-15403	20 – 50 mm	H15403, H15404 & H12940	
		Cambridge Brass	Series 118 & 119	20 – 50 mm		
1.6	Kiosks					
	Pressure Reducing Stations	Valid Manufacturing	KXXA89-150-47-01	89”Hx150”Wx47D	Quad Door Kiosk with end Cabinet	
	Air Valve	Valid Manufacturing	HRV344227-170165	25-100mm	Insulated heated enclosure where above ground air valves are utilized.	

Section	Material	Manufacturer	Make/Model	Size Range	Comments/Conditions	Date Approved mm/yyyy
2	Sanitary Sewer					
	All Concrete used in construction shall be sulphate resistant cement Type HS (Type 50) or alternate cement type may be approved by the City Engineer. All manhole cast iron, steel or ductile iron components shall be coated with an asphalt varnish.					
2.1	Pipe Mains and Services					
		IPEX "Ring-Tite" Westlake Pipe and Fittings "Flex-Lox"	PVC DR35	For 200mm diameter and up.	Must meet CSA B182.2 Gasket joint.	
		IPEX "Ring-Tite" Rehau "BondLoc" Westlake Pipe and Fittings "Flex-Lox"	PVC DR28	100 – 150mm (All Makes)	Must meet CSA B182.2 Gasket joint	
		IPEX "Blue Brute" Westlake Pipe and Fittings "FlexLox"	Pressure Pipe for Sewer Forcemains	100 – 300mm 350 – 900mm	Colour to be White with "SEWER FORCEMAIN" Printed on it. Must meet CSA B137.3, C900, Class 235 (DR 18), gasket joint.	
		Langley Ocean Pipe A.E. Concrete Armtec	Reinforced Concrete	300 – 3000mm	Concrete pipe must meet CSA A257 Series- 14, C 789M-95a specification for Precast Reinforced Concrete Pipe. Sulphate resistant ASTM E 632.	

Section	Material	Manufacturer	Make/Model	Size Range	Comments/Conditions	Date Approved mm/yyyy
2.2	Fittings and Appurtenances					
	Couplings	IPEX Westlake Pipe and Fittings Galaxy Plastics Ltd. Mission Rubber (Flex-Seal)	PVC Gasketed Corebell Adaptor Shielded Transitional PVC 100 to 675mm	100 – 675mm 100 – 675mm 100 & up	Must not be plasticized PVC. Shear band and clamps to be 316 Series stainless steel. Clamps must be nut & bolt design. Bushings to be integral.	
	Inserted Service Connections	Galaxy Plastics Ltd. Inserta Fittings Co. Westlake Pipe and Fittings	EZ Tee Inserta Tee Fat Boy, PVC gasket type	100mm	May be used on existing mains 200mm & larger or on new mains 375mm & larger	
		Galaxy Plastics Ltd. Inserta Fittings Co. Westlake Pipe and Fittings	EZ Tee Inserta Tee Fat Boy, PVC gasket type	150mm	Refer to STD DWG SS-50 for Manhole requirement. May be used on existing mains 300mm & larger or new mains 375mm & larger	
		Galaxy Plastics Ltd. Inserta Fittings Co. Westlake Pipe and Fittings	EZ Tee Inserta Tee Fat Boy, PVC gasket type	200mm	Manhole required on services 200mm and up. Special Approval required for existing mains 300mm & larger or new mains 375mm & larger	
	Inspection Chambers	Westlake Pipe and Fittings Galaxy Plastics	Sewer Gasketed Fittings	100 – 200mm	Single service IC's only. With provision for "add-a-flap" check valve (PICF04*SS).	
	Inspection Chamber Caps & Lids	Westlake Pipe and Fittings Galaxy Plastics	191-LL (Red)	200mm	PVC. Must be locking type. Red in colour for sanitary sewer	
	Service Boxes	Langley Concrete Kon Kast	WM-37-1 No. 1480	590 x 410mm 545 x 370mm	Brooks style box. State "Sanitary" or "Storm" on cover.	
	45 Degree Wye	Westlake Pipe and Fittings IPEX Galaxy Plastics Ltd.	Services	All	PVC gasket type. No wye saddles allowed.	

Section	Material	Manufacturer	Make/Model	Size Range	Comments/Conditions	Date Approved mm/yyyy
	Service Bends	Westlake Pipe and Fittings Galaxy Plastics Ltd.	Service sweep Fittings	All	Long radius sweeps only. PVC Gasketed. PVC Gasketed Sewer Fittings	
	Gaskets	IPEX Rehau Westlake Pipe and Fittings	"Ring-tite" PVC "BondLoc" PVC "Flex-Lox" PVC	200 – 1200mm		
2.3	Manholes					
	Manhole Frame & Cover	Terminal City Ironworks Dobney Foundry Trojan Industries Westview Sales Armtec/AE Concrete	Adjustable C18 & C44 C44A TR40 C23 C18	762mm (30 in)	Refer to Supplementary Standard Detail Drawings for required lettering on manhole covers. Refer to installation specifications.	
	Manhole Grade Rings	Kon Kast Langley Concrete AE Concrete	720 – 723 MH-6 915	50 - 150mm	760mm diameter opening 760mm, 565 Sloped rings	
	Manhole Barrel Sections	Kon Kast Langley Concrete	Concrete	1050 – 2400mm	Refer to Standard Detail Drawings	
	Manhole Rungs		Aluminum		Refer to Standard Detail Drawings	
	Manhole Barrel Lids (donuts)	Kon Kast Langley Concrete	Concrete	1050 – 2400mm	Refer to Standard Detail Drawings 760mm diameter opening	
	Manhole Barrel Bases	Kon Kast Langley Concrete	Concrete	1050 – 2400mm	Refer to Standard Detail Drawings	
	Internal Drops	Westlake Pipe and Fittings Reliner/Duran	PVC A-4 A-6 B-8 B-10	100 - 200mm 100mm 150mm 200mm 250mm	Refer to Standard Detail Drawings Inside drop bowl.	

Section	Material	Manufacturer	Make/Model	Size Range	Comments/Conditions	Date Approved mm/yyyy
2.4	Air Release Valves					
		H-TEC	986-03	50mm (2")-100mm (4")	Automatic Air Release and Vacuum valve, Epoxy coated.	12/2023
			986-04	75mm (3")	Set for unground installation	12/2023
3	Stormwater					
3.1	Pipe Mains and Services					
	Pipe mains	IPEX "Ultra Rib" Westlake Pipe and Fittings "Kor Flo"	Ribbed PVC	200 – 600mm	Must meet CSA B182.4 Concentric ribbed pipe only is accepted. (storm only). No spiral ribbed pipe.	
		(as above)	Perforated PVC	200 – 600mm	With perforations as per Standard Drawing SS-S53	
		IPEX "Ring-Tite" Westlake Pipe and Fittings "Flex-Lox"	PVC DR35	200mm & larger	Must meet CSA B182.2 Gasket joint.	12/2023
		IPEX "Ring-Tite" Rehau "BondLoc" Westlake Pipe and Fittings "Flex-Lox"	PVC DR28	150mm (All Makes)	Must meet CSA B182.2 Gasket joint	03/2024
3.2	Fittings and Appurtenances					
	Refer to Section 2.2 for Fittings and Appurtenances products unless otherwise listed below.					
	Inspection Chamber Caps & Lids	Westlake Pipe and Fittings Galaxy Plastics	191-LL (Green)	200mm	PVC. Must be locking type. Green in colour for storm drainage	

Section	Material	Manufacturer	Make/Model	Size Range	Comments/Conditions	Date Approved mm/yyyy
	Culverts	Langley Concrete Ocean A.E. Concrete Armtec Atlantic Industries	Non-reinforced Concrete Reinforced Concrete Reinforced Concrete Arch Reinforced Concrete Box Corrugated Steel Multi-Plate BOSS 2000 HDPE Ribbed	See manufacturer spec's	Concrete pipe must meet CSA A257 Series- 14. Soils testing required for suitability when specifying metal pipe. C 789M-95a Specification for Precast Reinforced Concrete Box Sections for Culverts, Storm Drains, and Sewers. C 850M-95b Specification for Precast reinforced concrete Box Sections for culverts, Storm Drains and Sewers with less than 0.6 m of cover subjected to Highway Loadings. Note: Corrugated steel pipe (CSP) limited to driveway and road crossings only. Not to be used contiguous with collection pipe networks.	
		ADS Canada	N-12		300mm-900mm	Limited to driveway and road crossings.
	Headwall	Langley Concrete, Ocean Pipe, Tri- Kon, AE Concrete	Pre-cast concrete headwalls		Grills required for 450mm and larger and pipes longer than 30m	
	Headwall Inlet	Kon Kast	Inlet structure with grillage Model 1487		Grills required for 450mm and larger pipes longer than 30m.	
	Catch Basin Rollover Frame and Grate	Westview Dobney Foundry Ltd. Terminal City Ironworks Trojan Industries	RB7 frame & grate B-39M – modified grate T-K7	632mm (~25in)	Specified by design engineer where location of driveway letdowns are unknown.	

Section	Material	Manufacturer	Make/Model	Size Range	Comments/Conditions	Date Approved mm/yyyy
	Catch Basin Combined Side & Gutter Inlet	Westview Sales Ltd. TC/ACS Dobney & Trojan	TR-39B – 3-piece storm with side inlet	627mm (~25in)	To be used with standard barrier curb or as specified by design engineer.	
3.3	Manholes and Drywells					
	Refer to Section 2.3 for Manhole products unless otherwise listed below.					
	Flow Control	Galaxy Plastics Ltd.	Inlet Control Device	100mm & larger	For use in Flow Control Manholes Debris Screens	
3.4	Containment Devices and Oil/Grit Separators					
	¹ Units are to be verified by Canadian Environmental Technology Verification Program (Canadian ETV) and have sufficient capacity to meet regulatory requirements for water quality to receiving waters					
		Armtec	Pro-Eco-Lite Headwalls	300mm – 2000mm		
		Armtec Downstream Defender	Swirl-type oil/water separator ¹			
		Armtec Hydro- Brake	Vortex flow control		Alternate to orifice control. Must be engineered and design verified by Armtec.	
		Contech Construction - CDS Technologies	Swirl-type oil/water separator ¹			
		Contech CON/SPAN	Concrete Detention & Infiltration		Large volume underground detention. Open bottom optional for infiltration.	
		Imbrium Stormceptor – Langley Concrete	Swirl-type oil/water separator ¹			
		Infiltrator Water Technologies	Infiltrator systems		Where infiltration is recommended.	

Section	Material	Manufacturer	Make/Model	Size Range	Comments/Conditions	Date Approved mm/yyyy
		PolyDrain - Interceptor A-67	Drain systems		Interceptor trench drains.	
		Snout – Best Management Products	Enhanced trapping hood system for gravity separation.		Installed in minim 1050mm manhole barrel to replace standard catch basin. Use of these devices to be limited to intersections and not used as primary outfall treatment device.	
		Stormtech Chambers	Chamber / Infiltrator			
4	Highway					
4.1	Traffic Signs					
	Sign-Street Name					
	Sign-Traffic					
	Sign Bases					
	Sign Posts					
	Sign Fasteners					
	Bollards					
		Reliance Foundary	R-7901	100mm	Removable lockable bollards w/ Hinged	12/2023
4.2	Pavement Markings					
	Thermal Plastics					
	Paint					
5	Roadway Lighting					

Section	Material	Manufacturer	Make/Model	Size Range	Comments/Conditions	Date Approved mm/yyyy
5.1	Luminaires					
	LED Cobra Luminaires					
	Cobra	GE GE	31W_ERL1_0_04_B3_30A_GRAY_ILR 31W_ERL1_0_04_C3_30A_GRAY_ILR		31W, LED, 4000 Lumens, Type II Wide, 3000K 120V-277V, ANSI C136.41 7 Pin, Gray, IP66, Tool-less Entry, Optional Secondary Enhanced Surge Protection	
	Cobra	GE GE	39W_ERL1_0_05_B3_30A_GRAY_ILR 39W_ERL1_0_05_C3_30A_GRAY_ILR		39W, LED, 5000 Lumens, Type II Wide, 3000K 120V-277V, ANSI C136.41, 7 Pin, Gray, IP66, Tool-less Entry, Optional Secondary Enhanced Surge Protection	
	Cobra	GE GE	47W_ERL1_0_06_B3_30A_GRAY_ILR 47W_ERL1_0_06_C3_30A_GRAY_ILR		47W, LED, 6000 Lumens, Type II Wide, 3000K 120V-277V, ANSI C136.41, 7 Pin, Gray, IP66, Tool-less Entry, Optional Secondary Enhanced Surge Protection	
	Cobra	GE GE	71W_ERL1_0_08_B3_30A_GRAY_ILR 71W_ERL1_0_08_C3_30A_GRAY_ILR		71W, LED, 8000 Lumens, Type II Wide, 3000K 120V-277V, ANSI C136.41, 7 Pin, Gray, IP66, Tool-less Entry, Optional Secondary Enhanced Surge Protection	

Section	Material	Manufacturer	Make/Model	Size Range	Comments/Conditions	Date Approved mm/yyyy
	Cobra	GE GE	82W_ERL1_0_10_B3_30A_GRAY_ILR 82W_ERL1_0_10_C3_30A_GRAY_ILR		82W, LED, 10000 Lumens, Type II Wide, 3000K 120V-277V, ANSI C136.41, 7 Pin, Gray, IP66, Tool-less Entry, Optional Secondary Enhanced Surge Protection	
	Cobra	GE GE	136W_ERL1_0_15_B3_30A_GRAY_ILR 136W_ERL1_0_15_C3_30A_GRAY_ILR		136W, LED, 15000 Lumens, Type II Wide, 3000K 120V-277V, ANSI C136.41, 7 Pin, Gray, IP66, Tool-less Entry, Optional Secondary Enhanced Surge Protection	
LED Decorative Luminaires						
	Post Top	Phillips Phillips	PDP10050W64LED3KMPPCCLE2 UNIVRCD7MGY PDP10050W64LED3KMPPCCLE5 UNIVRCD7MGY		Post Top, LED 4000 Lumens, Type II 3000 K 120-277V, Flat glass dimmable, UL/CSA listed, 10 KV/KA surge protection, Gray, 7 pin photoeye receptical, meets ANSI C136.31, UL8750, UL1598, B2-U2-G1	
	Decorative Post Top	King Luminaire	K123R-B2AR-II-50(SSL)-1042-120: 277-3K-HSS-K14		WELLINGTON STYLE Luminaire , LED, 4000 Lumens, Type II Wide, 3000K 120V-277V, with Photoeye receptical and side shield	
	Decorative Post Top	King Luminaire	K425R-T1AR-II-50(SSL)-4004-120: 277-3K-HSS-K14		ACCORN STYLE Luminaire , LED, 4000 Lumens, Type II Wide, 3000K 120V-277V, with Photoeye receptical and side shield	

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	Decorative Pendant	King Luminaire	47W_ERL1_0_06_B3_30A_GRAY_ILR		AURORA SAG STYLE Luminaire , LED,4000 Lumens, Type II Wide, 3000K 120V-277V, with Photoeye receptical and side shield, c/w Plumbizer	
	Decorative Pendant	King Luminaire	47W_ERL1_0_06_C3_30A_GRAY_ILR		HARBOUR STYLE Luminaire , LED,4000 Lumens, Type II Wide, 3000K 120V-277V, with Photoeye receptical and side shield, c/w Plumbizer	
5.2	Photocell					
		INTERMATIC	LED4536SC		LOCKING TYPE 120-277 Volt	
5.3	Poles					
	Galvanized Powder Coated Green Poles					
	Davit	Nova Pole, Valmont	122-30-A2206A-F5 10020-07		22x6 Single Davit, C/W 10"-11" BCD, Galv. & Powder Coated Green	
	Davit	Nova Pole, Valmont	122-30-A3008A-F5 10170-07		30x8 Single Davit, C/W 10"-11" BCD, Galv. & Powder Coated Green	
	Double Davit	Nova Pole, Valmont	102-75-60202C-F5		Type 2C Double Davit Arm, Type 1 Flange Galv. & Powder Coated Green	
	Double Davit Pole	Nova Pole, Valmont			Type 2 Shaft, 6.5 m, Type 1 Flange, Galv. & Powder Coated Green	
	Post Top	Nova Pole, Valmont			6 metre Galv. & Powder Coated Green	
	Post Top	Nova Pole, Valmont			7.5 metre Galv. & Powder Coated Green	

Section	Material	Manufacturer	Make/Model	Size Range	Comments/Conditions	Date Approved mm/yyyy
Decorative Powder Coated Black Poles						
	Decorative Base	Nova Pole, Valmont			Henderson With Transition adapter Powder Coated Black	
5.4	Bases					
	Decorative Base					
		Nova Pole, Valmont			Henderson With Transition adapter Powder Coated Black	
	Service Bases					
		Nova Pole	Open Top Service Base	NTB36 Open Top	Open top service base for use with Davit and Post Top poles. Powder Coated Kelowna Green	
		Nova Pole	Closed Top Service Base	NTB36 Closed Top	Closed top service base for use as a remote service with any pole style. Powder coated Kelowna Green for davit and post top poles and powder coated Black for decorative pole locations	
5.5	Electrical Service Disconnect					
		Valid Manufacturing	BSDA6A18		Base Service Disconnect	
6	Traffic Signals					

Section	Material	Manufacturer	Make/Model	Size Range	Comments/Conditions	Date Approved mm/yyyy
7	Landscape and Irrigation					
7.1	Controller					
	Controller	Toro	Sentinel V4		With Level 3 Surge Protection And Communication Modem. Sportsfield Only	12/2023
		Toro	ESB204-U2-TDC+		For Decoder Systems	12/2023
	Controller - IQ	Rain Bird	ESP LXME2P		For Standard Wire Systems. With Cellular Or Ethernet Communication Cartridge.	12/2023
		Rain Bird	ESP LXD / LX-IVM PRO		For Decoder Systems. With Cellular Or Ethernet Communication Cartridge.	12/2023
	Controller Kiosk	Valid Manufacturing	KSDA483616-230840		No Meter Required. L2017 Base.	12/2023
		Valid Manufacturing	DSKA602420-231094		Meter Required. L2017B Base.	12/2023
	Controller Kiosk Base	Leko Precast Ltd.	L2017		No Meter Required	12/2023
		Leko Precast Ltd.	L2017B		Meter Required	12/2023
7.2	Fittings and Appurtenances					
	Backflow Prevention Assembly - DCVA	Apollo	4A-100 Series	Up to 2"		12/2023
		Apollo	4A-100 Series	2 1/2" or greater		12/2023
		Watts	LF709-NRS4	2 1/2" or greater		12/2023

Section	Material	Manufacturer	Make/Model	Size Range	Comments/Conditions	Date Approved mm/yyyy
	Hydrometer w/IQ Controller	Hydrometer	LHM15EM11AAFME	38mm (1.5")	Output: Red-0.1 Gal/Pulse, Green 1.0 Gal/Pulse	12/2023
		Hydrometer	LHM2EM11AAFME	25mm (2")	Output: Red-0.1 Gal/Pulse, Green 1.0 Gal/Pulse	12/2023
		Hydrometer	LHM3EM11AAFME	75mm (3")	Output: Red-0.1 Gal/Pulse, Green 1.0 Gal/Pulse	12/2023
		Hydrometer	LHM4EM11AAFME	100mm (4")	Output: Red-0.1 Gal/Pulse, Green 1.0 Gal/Pulse	12/2023
	Hydrometer w/Sentinel Controller	Netafim			All Sizes: Model Numbers And Register To Be Approved By Parks	12/2023
	Electrical Control Valve	Rain Bird	PEB			12/2023
		Toro	P-220			12/2023
	Low Flow Control Valve	Toro	TPV			12/2023
		Rain Bird	DVF			12/2023
	Electric Control Zone Kit - Low Flow	Rain Bird	XCZ-100-PRB-COM			12/2023
		Rain Bird	XCZ-150-PRB-COM			12/2023
	Low Flow Filter	Rain Bird	PRB-QKCHK			12/2023
	High Flow Filter	Amiad	Amiad 1.5" Super	38mm (1.5")		12/2023
	Air Relief Valve	Rain Bird	ARV050			12/2023

Section	Material	Manufacturer	Make/Model	Size Range	Comments/Conditions	Date Approved mm/yyyy
		Hunter	PLD-AVR			12/2023
		Toro	T-YD-500-34			12/2023
	Air Relief Valve For P.O.C	Watts	1" FV-4-M1 High Capacity Air Vent	25mm (1")	Required With Netafim Hydrometer.	12/2023
	Pressure Regulating Valve	Watts	LF223	Up to 2"		12/2023
		Watts	LFF127W	Greater than 2"		12/2023
	Isolation Valve	Red & White	206	Up to 3"		12/2023
		Mueller	4" Or Greater	4" Or Greater		12/2023
	Quick Coupler Valve	Rain Bird	5-RC			12/2023
	Sprinklers - Sprayhead	Hunter	PRO-SPRAY PRS30			12/2023
			PRO-SPRAY PRS40			12/2023
		Rain Bird	PRS-SAM Series			12/2023
	Sprinklers - Rotor	Rain Bird	3500 SAM			12/2023
			5000 PL SAM PRS			12/2023
			5500			12/2023
			6504			12/2023
			8005			12/2023
	Drip Emitter / Bubblers	Hunter series			Installed as per Detail Drawings.	12/2023
		Rain Bird series			Installed as per Detail Drawings.	12/2023

Section	Material	Manufacturer	Make/Model	Size Range	Comments/Conditions	Date Approved mm/yyyy
		Toro series			Installed as per Detail Drawings.	12/2023
Sub-surface Dripline		Rain Bird	XFS-CV			12/2023
			600 Spinlock/XF Series Insert Fittings			12/2023
		Toro	DL2000 Series			12/2023
			Tri Lock Fittings			12/2023
Root Zone Watering System		Hunter	RZWS		w/ root watering sock	12/2023
		Rain Bird	RWS Series		w/ root watering sock	12/2023
Valve Box / Extensions		Carson Industries	LLC Specification Grade		Locking lid w/stainless steel bolt and washer	12/2023
		NDS Manufacturing	Pro Series		Locking lid w/stainless steel bolt and washer	12/2023
Vault Base		Kon Kast	1102B		Fits 1102 vault	12/2023
Vault		Kon Kast	1102			12/2023
			1132		Comes With Base	12/2023
Vault Lid		Excel Metal Fab	3974-2		Fits 1102 vault	12/2023
			11040-4		Fits 1132 vault	12/2023
Vault Support Jack		Excel Metal Fab	1102	VPSS-1 - With Stainless Steel Pipe Clamp And 1/8 Rubber Liner Or Can Truss.	Specify pipe size and height when ordering.	12/2023
Wire Splice Box		Carson Industries	1102B		LLC Specification Grade	12/2023

Section	Material	Manufacturer	Make/Model	Size Range	Comments/Conditions	Date Approved mm/yyyy
		NDS Manufacturing	Pro Series		Locking Lid With Stainless Steel Bolt And Washer. Grey In Color.	12/2023
	Wire Splice Connectors	BM	DBY		2-Step Direct Bury Splice Kit	12/2023
	Cement	IPEX	XIRTEC 05			12/2023
			XIRTEC 11			12/2023
		Spears	PVC-05			12/2023
			PVC-11			12/2023
	Primer	IPEX	XIRTEC 7			12/2023
		Spears	Primer-70			12/2023