

# Niagara Approved Product and Equipment List

DISCLAIMER: Inclusion onto the Approved Product and Equipment List (APEL) does not constitute mandatory use of the product in the Region's contract documents. The approved manufacturer(s) on the APEL must meet the specifications as outlined in Niagara Region's tender or quotation. Products are not necessarily listed in preferential order. Niagara Region reserves the right to list manufacturer(s) for specialized equipment and applications outside the APEL in tender or quotation specifications. All materials used in the alteration or operation of a Niagara Region drinking water system that come into contact with water within the system must meet all applicable standards set by both the American Water Works Association ("AWWA") and the American National Standards Institute ("ANSI") including NSF 61 and NSF 372.

## Control and Instrumentation

Equipment Type	Equipment Sub-Type	Water/Wastewater	Brand Name	Owner / Supplier Name	Model	Code, Criteria and Restrictions
Automatic Sampler		Wastewater	Hach			
Chlorine Residual Analyzer	Continuous online	Water	Prominent		DAC	
		Water	Rosemount	Emerson	FCL-56	
Conductivity Level Switches		Water	Warrick	Gems Sensors and Controls		
Diaphragm Seal for Pressure Gauges		Water/wastewater	WIKA			
		Water/wastewater	ABB			
		Water/wastewater	Rosemount	Emerson		
Dissolved Oxygen Sensor / Analyzer		Wastewater	Aysix Technologies			
		Wastewater	Hach			
Gas Monitoring	Fixed combustible gas	Wastewater	MSA		Infrared	

Equipment Type	Equipment Sub-Type	Water/Wastewater	Brand Name	Owner / Supplier Name	Model	Code, Criteria and Restrictions
Level Switch	Float	Water/wastewater	Sulzer			
	Float	Water/wastewater	Xylem			
	Paddle	Water/wastewater	Siemens			
Liquid Level Transmitter	Pressure	Water/wastewater	Rosemount	Emerson	3051S Series HART Compatible	
	Radar	Water/wastewater	Rosemount	Emerson		Non-contact
	Ultrasonic	Water/wastewater	Miltronics			
	Ultrasonic	Water/wastewater	Pulsar Process Measurement			
	Ultrasonic	Water/wastewater	Rosemount	Emerson		
Magnetic Flow Meter	Chemical dosing	Water/wastewater	Krohne		OptiFlux	
		Water/wastewater	Kohen		EnviroMag	
		Water/wastewater	Rosemount	Emerson		
Mass Flow Meter		Wastewater	Aysix Technologies			
		Wastewater	Fox Thermal Technologies			
		Wastewater	Kruz Instruments	SPD Sales	Series 545FTB and 504FTB	
pH Measurement	In-line analyzer	Water/wastewater	Rosemount	Emerson		
Pressure Transmitter		Water/wastewater	ABB			
		Water/wastewater	Rosemount	Emerson		

Equipment Type	Equipment Sub-Type	Water/Wastewater	Brand Name	Owner / Supplier Name	Model	Code, Criteria and Restrictions
Temperature Transmitter		Water/wastewater	Ashcroft			
		Water/wastewater	Honeywell			
		Water/wastewater	Rosemount	Emerson		
Thermostat	Low temperature thermostat	Water/wastewater	Honeywell			
Total Solids Analyzer		Wastewater	Metso Kajaani	Valmet		
Turbidity Meter	Online	Water	Hach		TU5300	
Ultrasonic Flow Meter		Water/wastewater	Endress and Hauser		Proline Prosonic	
Uninterruptible Power Supply		Water/wastewater	APC	Schneider Electric		Minimum UPS capacity to be equal to 150 per cent of system full load.
		Water/wastewater	Powerware	Eaton		
		Water/wastewater	SOLAHD	Emerson		
Voltage and Current Transducer		Water/wastewater	Phoenix Contact			
		Water/wastewater	Pribusin			

## Crane and Hoist

Equipment Type	Brand Name	Owner / Supplier Name	Model	Code, Criteria and Restrictions
Trolleys, Hoist, Chain, and Controls		Columbus McKinnon		
		Demag		
		Richards-Wilcox		
		Zelus	Steelway Material Handling	

## Electric

Equipment Type	Brand Name	Owner / Supplier Name	Model	Code, Criteria and Restrictions
Control Relay	GE Multilin Relays			
Electric Motor	Baldor			For all applications
	TECO Westinghouse Motors			1. Service Factor: 1.15 2. Frame and Bracket: Cast Iron
	Toshiba			3. Enclosure >40°C Ambient <90°C, ODP >40°C Ambient <80°C, TEFC
	WEG		Single Phase and Three Phase	4. Electric motor used for VFD application must be inverter rated
	U.S. Motors	Nidec Motor Corp.		5. Guaranteed minimum full load efficiency. Typical efficiency values are now in the range of 92-95% depending on model selected. 6. The motor is to meet or exceed the following % Guarantee Minimum Full Load Power Factor: 88.3 7. Inverter duty motor rating. Motor meeting all applicable requirements of NEMA MG 1, Section IV, Parts 30 and 31 8. 75 kW and larger to be suitable for solid state reduced voltage starting
Motor Control Centre	Allen-Bradley	Rockwell Automation		All analog signals to be split out in a separate area of the panel.  Arc Resistant per IEEE C37.20.7 Low voltage MCC IP20 Finger Safe
	Eaton		Freedom 2100	
	Siemens			
	Square D	Schneider Electric		
	ABB	ABB	Evolution E9000	

Equipment Type	Brand Name	Owner / Supplier Name	Model	Code, Criteria and Restrictions
<b>Soft Start/Soft Stop Controls</b>	Allen-Bradley	Rockwell Automation		
	Benshaw			
	Eaton			
<b>Surge Protection Device</b>	Total Protection Solution Canada	Innosys Power		
<b>Variable Frequency Drives</b>	ABB			
	Allen-Bradley	Rockwell Automation		
	Danfoss			

## Emergency Standby Power

Equipment Type	Brand Name	Owner / Supplier Name	Model	Code, Criteria and Restrictions
<b>Automatic Transfer Switch</b>	ASCO	Emerson		
	Thomson Power Systems			
<b>Engine/Generator</b>	Caterpillar			Standard prime mover is diesel engine. Natural gas engine to be used by exception only.
	Cummins			
	MTU			
<b>Switchgear</b>	ABB			
	Eaton			
	SandC			
	Square D	Schneider Electric		

## Process Equipment

Sub Category	Equipment Type	Equipment Sub-Type	Water / Wastewater	Brand Name	Owner / Supplier Name	Model	Code, Criteria and Restrictions
Aeration	Air Blower	Centrifugal	Wastewater	Hibon	Ingersoll-Rand		
			Wastewater	Hoffman and Lamson	Gardner Denver		
		Positive Displacement	Wastewater	Aerezen			
			Wastewater	HSI	Atlas Copco		
			Wastewater	Hibon	Ingersoll-Rand		
		Turbo Blower	Water/wastewater	APG Neuros	APG Neuros		Air Foil Bearing
	Fine Bubble Aeration System		Wastewater	Aquarius			
			Wastewater	OTT			
			Wastewater	Sanitaire	Xylem		
			Wastewater	Tideflex	Syntec Process Equipment	Tideflex Bubble Aeration	
Clarifier	Collector Chain	Non-Metallic	Wastewater	Envirex/Viking	Evoqua		
			Wastewater	Polychem	Brentwood		
			Wastewater	Banyan			
	Sludge and Scum Removal Equipment		Wastewater	Envirex	Evoqua		
			Wastewater	WesTech		COP WW Clarifier	
			Wastewater	Ovivo	Ovivo	C3(Diagonal Plow) C4D (Spiral Blade) C3D (Suction Header) C3S (Suction Pipe)	

Sub Category	Equipment Type	Equipment Sub-Type	Water / Wastewater	Brand Name	Owner / Supplier Name	Model	Code, Criteria and Restrictions
Digester	Digester Cover		Wastewater	OTI			
			Wastewater	Westech			
	Digester Waste Gas Burner	Enclosed Gas Burner	Wastewater	Varec	Westech	97311T Enclosed Burner with Touch Screen Control Pad	
			Wastewater	Shand and Jurs	Vector Process Equipment		
	Heat Exchanger	Rectangle	Wastewater	DDI	Directrik		
		Tube-in-tube	Wastewater	Claro			
			Wastewater	Napier Reid			
	Sludge Dewatering/ Thickening	Gravity Belt Thickener	Wastewater	Andritz			
			Wastewater	Alfa-Laval			
			Wastewater	Phoenix Process Equipment		Belt Filter Press Models LC,MC, WX-E/G/H, WXG-W, WXH-W	
		Belt Filter Press	Wastewater	Charter Machine Company			
	Boilers	Dual Gas System	Wastewater	Cleaver-Brook			
		Dual Gas System	Wastewater	Boiler Smith			
		Dual Gas Condensing System	Wastewater	Riello RTC Condensing Boiler	Albino Moose Sales and Marketing Inc.		

Sub Category	Equipment Type	Equipment Sub-Type	Water / Wastewater	Brand Name	Owner / Supplier Name	Model	Code, Criteria and Restrictions
Headworks	Screenings	Multi Rake	Wastewater	Duperon			
			Wastewater	Headworks		Mahr Bar Screen	
			Wastewater	Huber Technology Inc.		Rake Max-Multi Rake	
		Step	Wastewater	Claro Environmental	Claro Environmental	Claro Fine Step Screen	
	Screenings Dewatering	Spiral Wash Press	Wastewater	Vulcan	Aquafy Water Technologies	Model EWP	
			Wastewater	Arlat Technology			
	Grinder/ Comminutor		Wastewater	Franklin Miller			
			Wastewater	Netsch Macerator Grinder	Syntec Process Equipment		
			Wastewater	JWC		Muffin Monster	
			Wastewater	Moyno		For light duty applications	
			Wastewater	Vogelsang	Directrik		
	Grit Collection Systems	Shaftless Screw	Wastewater	Arlat Technology			
			Wastewater	MLM Conveying Systems	MLM Conveying Systems		
			Wastewater	Mabarec		Vistex Grit Removal Classifier	
			Wastewater	Metcan	Veolia	MectanV	
			Wastewater	WEMCO	Weir		
			Wastewater	WTP Equipment Corp.		Vortex Grit Removal System	



Sub Category	Equipment Type	Equipment Sub-Type	Water / Wastewater	Brand Name	Owner / Supplier Name	Model	Code, Criteria and Restrictions
Headworks	Grit Collection Systems		Wastewater	Grit Cleanse	Hydro International		
			Wastewater	TeaCup / Grit Snail	Hydro International		
			Wastewater	Grit King	Hydro International	Vortex Grit Removal System	

## Pumps

Sub Category	Equipment Type	Water / Wastewater	Brand Name	Owner / Supplier Name	Model	Code, Criteria and Restrictions
Displacement Rotary Pumps	Electronically Actuated Diaphragm	Water/wastewater	Grundfos			Reciprocating, for chemical metering
			Prominent			
	Multiple Rotor	Wastewater	Netzsch – Tornado Rotary Lobe Pump	Syntec Process Equipment	T2	
			Vogelsang	Directrik		Lobe
			LobePro Rotary Pumps	LobePro Rotary Pumps		Lobe
	Progressive Cavity	Wastewater	Moyno			Screw
			Seepex			
		Water/wastewater	Netzsch – Nemo	Syntec Process Equipment		
			Watson Marlow			
Dynamic Centrifugal Pumps	Chopper	Wastewater	Hayward Gordon		CHOPX Chopper Pump	
			Vaughan			
			WSP	Weir		

Sub Category	Equipment Type	Water / Wastewater	Brand Name	Owner / Supplier Name	Model	Code, Criteria and Restrictions
Dynamic Centrifugal Pumps	Modified Radial Flow: Vertical Turbine	Wastewater	Byron Jackson	Flowserve		
		Water/wastewater	Sulzer			
		Water	Peerless	Grundfos		
			Ruhrpumpen			
			Worthington	Flowserve		
	Radial Flow, Mixed Flow and Standard Centrifugal	Wastewater	Gorman Rupp			
			Grundfos			
			Hayward Gordon		Torus Recessed Impeller Vortex Pump	
		Water	Ruhrpumpen		Horizontal Split Case	
	Screw	Wastewater	Hayward Gordon		XCS	
			Hidrostal	Directrik		
			WEMCO	Trillium Flow Technologies		
	Submersible Pump	Water	Hidrosta			For dry and wet pit
		Water/wastewater	Grundfos			
			Sulzer			
			Xylem			

## Valves

Sub Category	Equipment Type	Water / Wastewater	Brand Name	Owner / Supplier Name	Model	Code, Criteria and Restrictions
Check Valves	Duck Bill	Water/wastewater	EVR			
		Water/wastewater	Tideflex	Red Valve		
	Flexible Disc	Wastewater	Crispin		Rubber Flapper	
		Water/wastewater	Pratt		RD Series	
		Water/wastewater	Val-Matic		Swing Flex Check Valve	
	Tilting Disc	Water	Pratt			
		Water	APCO			
		Water	GA Industries			
		Water	Val-Matic			
	Inline	Water/wastewater	WaPro	Devine and Associates Limited	Inline WaStop DN300 Check Valve	
		Water/wastewater	Tideflex Technologies	Syntec Process Equipment	Tideflex Checkmate Inline Check Valve	
Isolation Valves	Ball	Water/wastewater	Chemline			PVC
		Water/wastewater	Ipex			
		Water/wastewater	Asahi/America			
	Butterfly AWWA	Water/wastewater	Clow			Replaceable/Adjustable seat required for valves greater than or equal to 600mm.

Sub Category	Equipment Type	Water / Wastewater	Brand Name	Owner / Supplier Name	Model	Code, Criteria and Restrictions
Isolation Valves	Butterfly AWWA	Water/wastewater	Dezurik			
		Water/wastewater	Pratt			
		Water/wastewater	Val-Matic			
	Butterfly Valves Aeration	Water/wastewater	Bray	Devine and Associates Ltd		
		Water/wastewater	Dezurik			
		Water/wastewater	At Controls			
		Water/wastewater	Sure Seal			
	Gate	Water	AVK			6" and larger
		Water	Clow			
		Water	J&S			
		Water	Mueller			
	Globe	Water/wastewater	Jenkins	Crane Co.	≤75mm Fig. 106A ≤75mm Fig. 108A (Angle) ≥75mm Fig. 142 (Angle)	
	Knife Gate	Wastewater	Dezurik		Styles KGC-BD & KGN- RSB	
		Wastewater	Orbinox			
		Wastewater	Stafsjo		MV-A	
		Wastewater	Trueline			

Sub Category	Equipment Type	Water / Wastewater	Brand Name	Owner / Supplier Name	Model	Code, Criteria and Restrictions
<b>Isolation Valves</b>	Plug	Wastewater	Dezurik			
		Wastewater	Homestead		Eccentric Plug Valve	
		Wastewater	Milliken	Pratt		
		Wastewater	Val-Matic			
	Sluice/Slide Gate	Wastewater	B.N.W			Product is NOT NSF-61 Approved (but uses 316 S.S)
		Water/wastewater	Fontaine Aquanox		Series S	Product is NSF Approved
		Water/wastewater	Orbinox	Devine and Associates Limited	MU, CC, RB, AG, SL, RC, RR	Approved NSF 61 and NSF 372
<b>Miscellaneous Valves</b>	Air	Water/wastewater	A.R.I.			
		Water/wastewater	Cla-Val			
		Water/wastewater	Val-Matic			
		Water/wastewater	H-Tec	Syntec Process Equipment	Model 992 HaVent Auto Air Valve Set	
		Water/wastewater	Vent-Tech Air Valves	Devine and Associates Limited	SWG-145 psi Series C WTW-363 psi Series C	
	Hydraulic Control Valves	Water	Cla-Val			
		Water	Singer			
	Backflow Preventer	Wastewater	Watts			
	Electric Valve Actuator	Water/wastewater	Auma			
		Water/wastewater	Limitorque	Flowserve		

Sub Category	Equipment Type	Water / Wastewater	Brand Name	Owner / Supplier Name	Model	Code, Criteria and Restrictions
<b>Miscellaneous Valves</b>		Water/wastewater	Rotork			
		Water/wastewater	Harold Beck & Sons	Provan Controls		
	Inflow Preventer	Water	Val-Matic	Syntec Process Equipment	Floodsafe	
	Relief	Water	Cla-Val			Distribution
		Water	Singer	Syntec Process Equipment		Distribution
		Water/wastewater	Singer			

## Ventilation / Heating Equipment

Equipment Type	Brand Name	Owner / Supplier Name	Model	Code, Criteria and Restrictions
Air Conditioning/Heating	Carrier	United Technologies		
	Trane	Igersoll Rand		
	Engineered Air		FW / DJ	
Air Vents (Recirculation System)	Armstrong			
	Spirax-Sarco			
Custom Air Handling and Energy Recovery Ventilators	Engineered Air			
	Haakon			
Motorized Damper	Belimo			cUL (CSA 22.2) CSA Class 4813 certified
	Honeywell			

## Miscellaneous Equipment

Equipment Type	Brand Name	Owner / Supplier Name	Model	Code, Criteria and Restrictions
Hatch Covers	Bilco			
	EJ			
	MSU Mississauga Limited			