

Town of Kingsville

5 Year Recommended Capital/Major Maintenance from 2017 to 2021.

The Ontario Clean Water Agency has identified the following capital projects/major maintenance for your review and approval.

Scope of Work	Cost Estimate					Potential Funding Program	Approved by Client	Rationale for Project
	2017	2018	2019	2020	2021			
Lakeshore West Wastewater Treatment Plant								
Rotork Valves		5,000	5,000	5,000	5,000	RATE/RESERVES	A.P.	Life cycle replacement - Many of the valves throughout the facility are original and are becoming unreliable which will have an impact on operations.
UV System Replacement Parts	6,000					RATE/RESERVES	A.P.	Preventative maintenance.
UV Bulbs	7,000	7,000	7,000	7,000	7,000	RATE/RESERVES	A.P.	Life cycle replacement - every 12,000 hours.
PLC/SCADA	75,000					RATE/RESERVES	A.P.	Life cycle replacement - many components are out dated and are becoming unreliable which will have an impact on operations.
LSW Main Breaker	6,000					RATE/RESERVES	A.P.	Life cycle replacement - main breaker at the plant is weakening and occasionally trips due to age - H&S risk.
Generator Batteries	4,000					RATE/RESERVES	A.P.	Biennial replacement.
Pump Station Improvements & Upgrades		12,000				RATE/RESERVES	A.P.	Improvements - includes pump resets, amperage meters and phase indicator lights moved to the front of the panels (also a H&S risk). Also install audible alarms if pumps are left in the off position.
Generator Connections at Pump Stations	4,000					RATE/RESERVES	A.P.	Improvements - ability for a back-up generator to be connected at pump station during power outages.
Waste Pump	6,000					RATE/RESERVES	A.P.	Repairs - current pump needs to be rebuilt.
Centrifuge Rebuild		80,000				RATE/RESERVES	A.P.	Repairs/Maintenance - send to Alpha Laval to be rebuilt. While the unit is out of service, liquid sludge will have to be hauled.
Pump Station #1 Safety Ladder/Gate	5,000					RATE/RESERVES	A.P.	H&S risk for operators working around pump station #1 when the hatches are open.
TSSA Fuel System Upgrades	30,000					RATE/RESERVES	A.P.	Upgrades are required to meet new TSSA certification standards. If not completed, the delivery of diesel fuel to the units will become an issue.
Roof Replacement			100,000			RATE/RESERVES	A.P.	Life cycle replacement - Roof periodically leaks.
UV System Replacement		100,000				CWWF	A.P.	Life cycle replacement - equipment is becoming unreliable and replacement parts are not always available which could potentially become a compliance risk. A new system would also be more energy efficient.
Scrubber System	15,000					RATE/RESERVES	A.P.	Life cycle replacement - current system requires 4 replacement probes (ORP & Redox) to be replaced and maintenance on the pumps.
Final Clarifier Sand Blasting & Painting		50,000	50,000			RATE/RESERVES	A.P.	Life cycle replacement - metal is rusting and paint peeling due to age in both final clarifiers.
MO Valve Control			70,000			RATE/RESERVES	A.P.	Improvement - the aeration system can be done by installing modulating valves that will control the air flow to each aeration tank and passes by implementing the Most Open Valve control philosophy.
Rake Arm & Bar Screen		200,000					A.P.	Life cycle replacement - the current bar screen rotating rake cleaning system could be replaced with a more efficient automatic screen. The screen only has one working rake and operates 24/7 - to minimize any potential mechanical malfunctions associated with equipment start-up. Spare parts for the equipment are also unavailable and must be custom made when required.
Advanced Odour Control			15,000			RATE/RESERVES	A.P.	Improvement - the air control scrubber is located inside the biosolids dewatering building and turns on when the centrifuge is dewatering. It is possible to install an H2S or odour meter to control the odour control's fan speed.
Arc Flash Assessment	6,000	6,000	6,000	6,000	6,000	RATE/RESERVES	A.P.	Third party assessment must be completed - H&S Risk for staff working on equipment. Assessments conducted at the main building and all pump stations.
Grit Blowers+VFD			85,000			RATE/RESERVES	A.P.	Life cycle replacement - blower is original and new blower and motor would be more energy efficient and less chance of breakdown occurring.
Clarifiers Stairs	10,000					RATE/RESERVES	A.P.	Life cycle replacement - a reinforced plate must be installed at the top of the landing on final clarfier #1 & #2 due to deteriaoration. Also becoming a H&S risk.
MCC Panel Replacement				150,000		CWWF	A.P.	Life cycle replacement - all panels are original. Increased risk of failure and also becoming a H&S risk to staff. New panels will also be more energy efficient.
Laboratory Equipment Replacement	8,000					RATE/RESERVES	A.P.	Life cycle replacement - DR/2000 which is used for in-house lab testing is beyond it's life expectancy and replacements are not available.
Total Estimate - Recommended Capital	182,000	460,000	338,000	168,000	18,000			

Kingsville Wastewater Lagoons								
Check Valve Replacement		12,000				RATE/RESERVES	A.P.	Life cycle replacement - original equipment.
Pump Replacement/Maintenance	15,000	15,000	15,000			OCWA Energy	A.P.	Life cycle replacement - several pumps at the pump stations are starting to meggar low.
Arc Flash Assessment	3,000	3,000	3,000	3,000	3,000	RATE/RESERVES	A.P.	Third party assessment must be completed - H&S Risk for staff working on equipment. Assessments conducted at the main building and all pump stations.
Pump Station Improvements & Upgrades		5,000				RATE/RESERVES	A.P.	Improvements - includes pump resets, amperage meters and phase indicator lights moved to the front of the panels (also a H&S risk). Also install audible alarms if pumps are left in the off position.
Soft Starts		2,000	2,000	2,000		RATE/RESERVES	A.P.	Improvements - motor soft starts for the raw pumps to assist in prolonging the life of the motors.
Lagoon Pump Replacement	40,000	40,000	40,000			CWWF/ OCWA Energy	A.P.	Life cycle replacement - pumps are original. New pumps would also be energy efficient and less chance of breakdown occurring.
TSSA Fuel System Upgrades	20,000					RATE/RESERVES	A.P.	Upgrades are required to meet new TSSA certification standards. If not completed, the delivery of diesel fuel to the units will become an issue.
Total Estimate - Recommended Capital	78,000	77,000	60,000	5,000	3,000			
Cottam Wastewater Lagoons								
I&I Study		10,000				RATE/RESERVES	A.P.	Improvements - serious infiltration issue during rain events.
Pump Station #1 Pumps	50,000	50,000				CWWF	A.P.	Life cycle replacement - pump replacement along with all associated piping.
Interconnect Valve Replacement		60,000				RATE/RESERVES	A.P.	Life cycle replacement - current interconnect between cell #1 and cell #2 is out of service, lagoons are not being operated as designed.
Alum Pumps					10,000	RATE/RESERVES	A.P.	Life cycle replacement.
Diesel Generator Replacement & Transfer Switch				90,000		RATE/RESERVES	A.P.	Life cycle replacement - generator is beyond life expectancy and replacement parts are obsolete. Currently using a temporary unit.
Arc Flash Assessment	3,000	3,000				RATE/RESERVES	A.P.	Third party assessment must be completed - H&S Risk for staff working on equipment. Assessments conducted at the main building and all pump stations.
Total Estimate - Recommended Capital	53,000	123,000	-	90,000	10,000			

CR = Compliance Risk H&SR = Health & Safety Risk R/M = Repair/Maintenance LR = Lifecycle Replacement I = Improvement SPI = Spare Parts Inventory

2017 Recommended Capital Presented by: Karen Burgess, Operations Manager

2017 Recommended Capital Approved by: