ASHBRIDGES BAY WASTEWATER TREATMENT PLANT

2025 Annual Report

March 31, 2026

EXECUTIVE SUMMARY

The Ashbridges Bay Treatment Plant (ABTP) is one of four wastewater treatment facilities operated by the City of Toronto. This facility, located at 9 Leslie St., has a rated capacity of 818,000 m^3/day, or 818 ML/day, and serves an equivalent population of approximately 1,394,000. The ABTP discharges into Lake Ontario and operated under Amended Environmental Compliance Approval (ECA) Sewage No. 0574-CQ6J5H, issued on May 2, 2023, and then under operated under Amended Environmental Compliance Approval (ECA) Sewage No. 3884-DPHH5K issued on December 19, 2025.

The average daily flow rate in 2025 was 552.98 ML/day. Influent concentrations of Biochemical Oxygen Demand (BOD_5), Total Phosphorus (TP) and Total Suspended Solids (TSS) averaged 277.3 mg/L, 8.6 mg/L, and 399.0 mg/L, respectively.

ABTP achieved the following Secondary Effluent quality and loading rates in 2025 in comparison to ECA limits:

Parameter	ECA[1]	2025 Secondary Effluent
Total Suspended Solids (TSS)	25.0 mg/L	19.7
Carbonaceous Biological Oxygen Demand ($CBOD_5$)	25.0 mg/L	7.6
Total Phosphorus (TP) – Monthly Average	1.0 mg/L	0.9
pH	6.0-9.5	7.0
TSS Loading Rate	20,450 kg/day	10,643
$CBOD_5$ Loading Rate	20,450 kg/day	4,123
TP Loading Rate	818 kg/day	498

[1] Referenced from ECA Sewage No. 3884-DPHH5K - Schedule C.

All ECA secondary effluent limits were met except for the monthly concentration limit for TP in September and November at 1.1 mg/L and December at 1.9 mg/L. As well, the October monthly concentration of 1.0 mg/L exceeded the ECA objective. However, the annual average concentration for TP stayed below 1.0 mg/L. The September and November exceedances were driven primarily by process interruptions related to essential capital improvement projects and significant snow melt events that occurred on November 30. The exceedance in December was due to unforeseen operational constraints, equipment breakdown and capital upgrades.

The plant sewershed includes combined sewers and is subject to extremely high flows in wet weather. The City is undertaking significant works to capture and treat combined sewers flows and reduce the peak flows to ABTP, enabling the plant to perform better.

During 2025, the biosolids generated at ABTP were managed through agricultural land application, landfilling, soil amendment use, pelletization, and mine reclamation. The total amount of biosolids generated at the plant in 2025 was 147,880 wet tonnes at an average of 25.84 % total solids (TS). The biosolids generated met all the metal and *E. coli* concentration requirements set out in O.Reg 267/03.

Ferrous chloride consumption for phosphorus removal totalled 1,876 tonnes as Fe. Polymer consumption in 2025 for waste activated sludge (WAS) thickening and sludge dewatering totalled 217.75 and 666 tonnes, respectively. Total sodium hypochlorite (12% w/v) consumption for disinfection totalled 3,700 m^3.

There were thirteen secondary treatment system bypass occurrences in 2025 where a portion of the flow did not receive secondary treatment, but still received primary treatment, and phosphorous before being disinfected and discharged into Lake Ontario. Total bypassed flows were estimated to be 4,237 ML.

The plant continued with numerous capital projects. Notable projects included: construction of a new ultraviolet (UV) disinfection facility; construction of a new influent pumping station; construction of a new WAS thickening facility; construction of a new plant outfall; construction of D Building Phase 2; design of secondary treatment upgrades, upgrade of OPS (old primary sedimentation tanks) and design of a new pelletizer. A variety of scheduled, preventative, predictive and reactive maintenance was performed, including annual calibration of effluent monitoring equipment.

Total annual consumption for potable water, hydro, and natural gas was 842,250 m^3, 133 GWh, and 6.0 M scm (standard cubic meter), respectively. Direct operating costs for 2025 totalled $80.2 M. In 2025, the ABTP had a staffing compliment of 141.5 full time equivalent (FTE) employees. As of March 5, 2026, there were four health and safety incidents and two lost time days due to work related injuries in 2025 (to December 31, 2025).

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GLOSSARY OF ABREVIATIONS

AAC	Annual Average Concentration
BOD5	Five-Day Biochemical Oxygen Demand
CBOD5	Five-Day Carbonaceous Biochemical Oxygen Demand
CEPT	Chemically Enhanced Primary Treatment
CEU	Continuing Education Units
CFU	Colony Forming Units
DAF	Dissolved Air Flotation
E. coli	*Escherichia coli*
ECA	Environmental Compliance Approval
Fe	Iron
HTP	Humber Treatment Plant
HRT	Hydraulic Retention Time
kg	Kilogram
kWh	Kilowatt-hour
MAC	Monthly Average Concentration
MGMD	Monthly Geometric Mean Concentration
MWh	Megawatt-hour
m3	Cubic metre
m3 /day	Cubic metre per day
mg/L	Milligrams per litre
mL	Millilitre
ML	Million litres
MECP	Ministry of the Environment, Conservation and Parks
Q	Flow Rate
RAS	Return Activated Sludge
SBS	Sodium Bisulphite
SBS (P)	Sodium Bisulphite Presence
scm	Standard cubic metre
SS	Suspended Solids
TCR	Total Residual Chlorine
TP	Total Phosphorus
TS	Total Solids
TSS	Total Suspended Solids
TVS	Total Volatile Solids
TWAS	Thickened Waste Activated Sludge
µg/L	Micrograms per litre
WAS	Waste Activated Sludge
% w/v	Percent concentration of components of a solution expressed as weight by volume
% w/w	Percent concentration of components of a solution expressed as weight by weight

Definitions

Bypass: Diversion of sewage around one or more treatment processes, excluding Preliminary Treatment System, within the Sewage Treatment Plant with the diverted sewage flows being returned to the Sewage Treatment Plant treatment train upstream of the Final Effluent sampling point(s) and discharged via the approved effluent disposal facilities.

Overflow: A discharge to the environment from the plant at a location other than the plant outfall downstream of the final effluent sampling station.

Spill: Defined within the meaning of Part X of the Environmental Protection Act. "Spill", when used in reference to a pollutant, means a discharge,

a) into the natural environment,
b) from or out of a structure, vehicle or other container, and
c) that is abnormal in quality or quantity considering the discharge.

Abnormal Discharge: A discharge of a pollutant designated by the regulations at a location designated by the regulations shall be deemed to be in a quantity or with a quality abnormal at the location. R.S.O. 1990, c. E.19, s. 91 (2).

$$Loading\left(\frac{kg}{day}\right) = Concentration\left(\frac{mg}{L}\right) \times Flow\left(\frac{ML}{day}\right)$$

$$Percent\ Removal\ (\%) = 1 - \frac{Concentration\ (Final)}{Concentration\ (Initial)}$$

$$Aeration\ Loading = \left(\frac{kg\ cBOD}{m^3\ aeration\ capacity}\right) = \frac{(Q_{Primary\ Effluent} + Q_{RAS}) \times [cBOD_{5\ primary\ effluent}]}{V_{aeration\ Tanks}}$$

$$Solids\ Capture\ (\%) = \frac{Centrifuge\ Feed\ TS - Centrate\ TSS}{Centrifuge\ Feed\ TS} \times 100$$

1 INTRODUCTION

The Ashbridges Bay Treatment Plant (ABTP) is one of four wastewater treatment facilities operated by the City of Toronto under the responsibility of the Wastewater Treatment section of Toronto Water. The facility is located at 9 Leslie St., in Toronto's east end and also includes two raw sewage pump stations located north of Lake Shore Boulevard at 1091 Eastern Ave. The ABTP services a sewershed of approximately 25,000 ha and an estimated connected population of 1,394,000[1]; bounded by Steeles Avenue on the north, the Humber sewershed on the west, the Highland Creek sewershed on the east, and the lakeshore on the south. The plant also provides production of biosolids for beneficial use, including the biosolids that are generated and transferred from the Humber and North Toronto Treatment Plants. The ABTP has a rated capacity of 818,000 m3/day, or 818 ML/day.

Major liquid treatment processes include screening and grit removal, primary treatment, secondary treatment, nutrient removal, and effluent disinfection. Treated effluent is discharged to Lake Ontario. Solids handling processes include waste activated sludge thickening, sludge stabilization by anaerobic digestion, dewatering using high speed centrifuges and biosolids management. Numerous auxiliary systems are required for proper operation of plant processes and include potable water, process water (i.e. "plant water"), heating, ventilation and air conditioning (HVAC), SCADA, odour control, electrical power distribution, natural gas, chemicals, and instrument air.

The Ministry of the Environment, Conservation and Parks (MECP) has classified the ABTP as a Class IV wastewater treatment facility under Regulation 129/04. In 2025, the plant operated under Amended Environmental Compliance Approval (ECA) Sewage No. ECA No. 0574-CQ6J5H, issued on May 2, 2023, and then operated under Amended Environmental Compliance Approval (ECA) Sewage No. 3884-DPHH5K issued on December 19, 2025.

This report is a summary of plant operations and performance in 2025. Highlights of the report include a discussion of effluent quality and summaries of process operations, maintenance, chemical and utility consumption, capital projects, operational costs and human resources.

[1] Population estimated by sewershed delineation and 2021 census data

2 PLANT PROCESS OVERVIEW

A description of the plant process is included below. A plant process flow diagram is available in Appendix A. Additional information on the plant's process can be found on the City of Toronto website[2].

2.1 Influent

The ABTP treats wastewater flows from the Mid-Toronto, High Level, Low Level, and Lakefront Interceptor Sewers, as well as the Queen Street and Coxwell Avenue Trunk Sewers. The Mid-Toronto Interceptor flows are pumped to the plant via the Pumping Station known as "T Building". The High Level and Low Level Interceptor Sewers, and the Queen Street Trunk Sewer flows are pumped to the plant via the Pumping Station known as '"M Building". The Lakefront Interceptor Sewer flows are pumped to the plant via the M Building or the T Building. The Coxwell Avenue Trunk Sewer flows come to the plant by gravity. Once wastewater enters the plant, it flows by gravity through the plant's processes.

Influent to the ABTP also includes sludge flows received from the Humber Treatment Plant and the North Toronto Treatment Plant via the Mid-Toronto Interceptor and Coxwell Sanitary Trunk Sewer, respectively.

2.2 Preliminary Treatment

Raw wastewater enters the Headworks (known as "P" and "D" Buildings) for grit and screenings removal. The P Building has six aerated grit channels and six mechanical screens. D Building has five mechanical screens and four aerated grit channels. The removed grit and screenings from P and D Buildings are hauled to a sanitary landfill site. Ferrous chloride is applied for nutrient removal (i.e. phosphorous removal) to the distribution conduits upstream of the aerated grit channels. Ferric chloride and polymer is applied to improve primary effluent quality during wet weather events when bypasses may occur, as part of Chemically Enhanced Primary Treatment in P Building.

2.3 Primary Treatment

Primary Treatment occurs in the Primary Clarification Tanks, where the flow velocity of the wastewater is reduced to allow heavier solids to settle to the bottom. There are 12 Primary Clarification Tanks. Sludge collectors in the tanks sweep the settled sludge, called primary or raw

[2] https://www.toronto.ca/services-payments/water-environment/managing-sewage-in-toronto/wastewater-treatment-plants-and-reports/

sludge, into sludge hoppers. Floating solids, called scum, are collected from the top of the water and swept into scum hoppers. The primary sludge and scum are then pumped out for further treatment and the wastewater, called primary effluent, continues onto secondary treatment.

2.4 Secondary Treatment

The primary effluent receives secondary treatment through a conventional, suspended biomass activated sludge process in the Aeration Tanks. The mixed liquor consists of primary effluent mixed with return activated sludge (RAS), which is removed from the Final Clarification Tanks and contains micro-organisms that naturally occur in wastewater and facilitate its degradation. In the presence of oxygen, these micro-organisms break down organic material in the wastewater. Air is supplied to the Aeration Tanks through 10 electrically driven blowers. There are a total of 11 Aeration Tanks that employ a step feed aeration process with four passes per tank. Aeration Tank No.1 and 3 – 9 are equipped with plastic disc coarse air bubble diffusers; Aeration Tank No. 10 and 11 are equipped with stainless steel coarse bubble diffusers; and Aeration Tank No. 2 is equipped with membrane fine bubble diffusers and was operated in Bio-P mode since February 2025. Ferrous chloride for phosphorus removal is applied at the end of the aeration tanks, except for Aeration Tank No. 2, to supplement dosing in preliminary treatment.

The mixed liquor from the Aeration Tanks flows to 11 large Final Clarification Tanks, where the activated sludge is allowed to settle. A controlled quantity of this sludge is returned to the Aeration Tanks as RAS to maintain a sufficient biomass concentration. The excess is removed as waste activated sludge (WAS).

The plant has 10 Dissolved Air Flotation (DAF) Tanks to thicken WAS with the use of air and a thickening polymer, which is used as a coagulant. The plant also has the capacity to co-settle WAS from the Final Clarification Tanks in the Primary Clarification Tanks. At the DAF facility, incoming WAS first enters an inlet splitter box, dividing the inlet flow between the DAF tanks in operations. This splitter box also contains an overflow pipe which allows the excess WAS flow to return to the Aeration Tanks.

2.5 Final Effluent

Through operating and maintaining preliminary, primary, and secondary treatment processes, final effluent is treated to meet Schedule B of the ECA (Sewage No. 3884-DPHH5K)

Sodium Hypochlorite is used to disinfect and kill pathogens in the final effluent.

The final effluent is discharged to Lake Ontario through an outfall pipe equipped with diffusers and extending approximately 1000 m into the lake from the shore. During periods of wet weather

flows, the plant also has the capability of discharging final effluent through the seawall gates to prevent flooding.

2.6 Solids Handling

All primary sludge, thickened WAS (TWAS), co-settled WAS from the Primary Clarification Tanks, and scum from the Primary and Secondary Clarification Tanks, collectively called "sludge", is treated, handled and disposed of in a similar manner, consisting of anaerobic digestion, dewatering and then hauled or pelletized for beneficial reuse.

Anaerobic digestion is the biological degradation (stabilization) of organic materials in the absence of oxygen – it reduces volume of solids, destroys pathogens and mitigates sludge odour. The process produces digester gas, made up predominantly of methane. This gas is used as a supplementary fuel for plant needs, including process and space heating, thereby reducing the plant's operating costs and carbon footprint. The digesters are operated in the mesophilic temperature range (34 – 38°C). The Digestion process at ABTP consists of 20 primary digesters.

The resulting anaerobically digested sludge, called "biosolids", is subsequently conditioned with a polymer and dewatered by centrifugation. Twelve solid bowl dewatering centrifuges are used to dewater the biosolids. The resulting biosolids "cake" is pumped either to the plant's Truck Loading Facility, or to the onsite pelletizer facility.

2.7 Solids Management

The dewatered biosolids are managed in several ways, including agricultural land application, third party process stabilization, pelletization, landfilling, and mine reclamation.

3 PROCESS SUMMARY

3.1 Process Parameters

A summary of key secondary treatment effluent and final effluent parameters against the ECA objectives and limits are shown in Table 1. Influent and effluent performance charts are available in Appendix B. Historical performance data is included in Appendix C.

Table 1: Secondary Effluent Parameters

Parameter	$cBOD_5$ [1] ,mg/L	TSS, mg/L	TP, mg/L	Total Residual Chlorine, mg/L	E-Coli, count/100mL	pH Min	pH Max
Secondary Effluent							
January	3.9	6.6	0.6	0.77	30	6.8	7.1
February	4.1	7.3	0.5	0.78	9	6.6	7.1
March	9.9	17.3	0.8	0.76	59	6.7	7.0
April	6.9	10.3	0.6	0.73	50	6.8	7.1
May	8.8	20.2	0.8	0.72	144	6.8	7.2
June	5.2	11.7	0.8	0.68	48	6.9	7.3
July	7.2	14.8	0.9	0.67	68	7.0	7.3
August	7.5	14.3	0.8	0.68	122	7.0	7.3
September	8.6	30.1	**1.1**	0.69	94	6.9	7.2
October	8.1	21.6	**1.0**	0.69	73	7.0	7.2
November	7.9	25.6	**1.1**	0.67	64	7.0	7.3
December	12.8	54.8	**1.93**	0.67	110	6.9	7.3
Annual Average Effluent Concentration	**7.6**	**19.7**	**0.9**	**0.71**	**73**	**7.0**	
Loading*[2]*, kg/d	4123	10643	498	N/A	N/A	N/A	N/A
Removal Efficiency ,%	97%	95%	89%	N/A	N/A	N/A	N/A
ECA Requirements [4,5]							
Final Effluent Objective	AAC: 25.0 mg/L	AAC: 25.0 mg/L	MAC: 1.0 mg/L	N/A	N/A	6.5-8.5	
Secondary Treatment Effluent Objective	AAC: 15.0 mg/L	AAC: 15.0 mg/L	MAC: 0.9 mg/L	N/A	N/A	6.5-8.5	
Secondary Treatment Effluent Limit	AAC: 25.0 mg/L	AAC: 25.0 mg/L	MAC: 1.0 mg/L	N/A	N/A	6.0-9.5	
Average Waste Loading Limit[3]	AAL: 20,450 kg/d	AAL: 20,450 kg/d	AAL: 818 kg/d	N/A	N/A	N/A	

[1] cBOD = 0.8 * BOD assumed for removal efficiency calculatons.
[2] Loading is calculated based on the flow rates as provided in Table 2.
[3] Loading is calculated based on the flow rates as provided in Table 2.
[4] Referenced from ECA Sewage 3884-DPHHH5K, issued on Dec. 19, 2025
[5] AAC refers to Annual Average Concentration, MAC refers to Monthly Average Concentration, MGMD refers to Monthly Geometric Mean Density, and AAL refers to Annual Average Daily Loading
Bolded values indicate months in which the MAC TP concentration exceeded the ECA objective only (Oct.) or objective and compliance limits (Sept., Nov., Dec.)

Influent and final effluent concentrations of 11 select heavy metals have been included in Appendix E. Any discharge into City sewers must meet the sewer use By-law limits. Final effluent concentrations are presented to assess the treatment plant's removal capacity.

A summary of the annual average of process parameters over the past three years is shown in *Table 2*.

Table 2: Process Parameters

Parameter	Units	2025	2024	2023
Influent Parameters				
Flow[1]	ML/day	553.0	576.3	610.0
Total Annual Flow[1]	ML	201,837	210,921	222,626
Total Suspended Solids (TSS)	mg/L	399.0	295.8	302.1
Biological Oxygen Demand (BOD_5)	mg/L	277.3	202.8	195.3
Total Phosphorus (TP)	mg/L	8.6	6.9	6.5
Transfer from Humber TP: liquid biosolids	Dry tonnes/day	42.6	54.5	63.7
Transfer from Humber TP: WAS	Dry tonnes/day	4.9	3.4	7.8
Transfer from North Toronto TP: sludge (primary sludge, WAS, and scum)	ML/day	0.56	0.43	0.56
Preliminary Treatment				
Grit and Screenings	Tonnes/day	4.7	6.5	6.1
Primary Treatment				
TSS	mg/l	252.6	203.7	206.8
cBOD5	mg/L	139.7	126.2	111.6
Secondary Treatment				
Aeration Loading	kg $CBOD^5/m^3$·day	0.41	0.38	0.36
Mixed Liquor Suspended Solids	mg/L	3,501	3,065	2,910
Flow through Seawall Gates	ML	2901	3452	4727
Solids Handling				
Primary Sludge Treated	m^3/day	4,196	3,979	4,298
Primary Sludge TS	%	1.9	2.1	2.2
Primary Sludge TVS	%	74.8	73.1	70.9

Parameter	Units	2025	2024	2023
WAS to Primary Treatment and Excess WAS to Aeration	m^3/day	7312	5729	4065
WAS to Thickening	m^3/day	9,250	9,509	9,100
WAS TS	%	1.01	1.02	0.98
TWAS Treated	m^3/day	2,963	2,594	2,495
TWAS TS	%	4.2	3.9	3.9
TWAS TVS	%	72.2	73.0	72.0
Volume to Digestion	m^3/day	7,159	6,572	6,793
Digesters Hydraulic Retention Time	days	21.0	19.3	18.1
Organic Loading to Digesters	TVS / m^3/day	1.0	1.1	1.1
Digester Gas Volume	m^3/day	47,891	51,066	56,288
Dewatering Centrifuge Feed TS	%	1.80	1.85	1.83
Dewatered Biosolids TS	%	25.85	26.05	27.07
Centrate Quality	mg/L	816.2	1057.6	755.5
Solids Capture Rate	%	95.6	94.3	95.8
Centrifuge Run-time	hours	52,716	49,340	49,030

Influent flow to the ABTP decreased by 4% in 2025. Influent strength of BOD, TSS, TP & TKN increased by 36.79%, 34.90%, 24.95% and 18.52%. Increases in several raw sewage parameters compared to last year can be partly attributed to process changes at Humber, where bio-phosphorus removal activities reduced the use of chemical phosphorus binding. This resulted in more unbound phosphorus being conveyed downstream to Ashbridge's Bay, contributing to the higher total phosphorus concentrations observed. Additionally, lower rainfall in 2025 compared to 2024 may have reduced wet-weather dilution, leading to higher influent constituent concentrations overall.

Final effluent annual average concentration for cBOD, TSS, and TP was 8.4 mg/L, 20.82 mg/L, and 0.94 mg/L, respectively and met the average effluent concentration specified in Schedule B of the ECA throughout 2025, except for TP in September, November and December. In addition, in October the average effluent concentration for TP exceeded the ECA objective. The reasons for the high effluent TP concentrations are discussed below. Secondary effluent pH remained between the range of 6.0 – 9.5 throughout the course of 2025.

The exceedance in September was primarily due to a significant rainfall event on the 4th which caused high flows over a short period. The high flow (1754 MLD at peak) exceeded the rated secondary clarifier design capacity and resulted in a secondary treatment bypass event and solids washout from the secondary clarifiers.

The effluent also exceeded the ECA objective in October. Although there were no significant bypasses events, effluent wash out was observed on days with high peak flows with associated high effluent TSS and TP concentrations.

The exceedance in November was driven primarily by process interruptions related to essential capital improvement projects and a significant snow melt event that occurred on November 30. Runoff from snow melt on November 30 contributed to an increase in plant flow (1907MLD at peak) which exceeded the rated secondary clarifier design capacity and resulted in a secondary treatment bypass event. The pelletizer was shut down in late November for repairs.

The exceedance in December was due to unforeseen operational constraints, equipment breakdown and capital upgrades. Operational constraints included biosolids haulage constraints, shutdown of three aerations tanks to support emergency RAS line replacement, and shutdown of two primary tanks to support bridge repairs. This reduced treatment capacity also caused solids carryover, contributing to excessive solids accumulation and washout. Additionally, the pelletizer was shut down in early December to support a capital upgrade.

The reasons for the high effluent TP concentrations at the end of 2025 were due to capital upgrade works, operational constraints, equipment breakdown and emergency repairs.

- Most significantly, the pelletizer was offline for several weeks at the end of November and beginning of December for critical repairs necessary to improve reliability until the new Pelletizer facility, which is currently in design, is constructed.
- The retrofitting of the D Building primary clarifiers and the emergency repair of two other primary tanks impaired primary treatment performance.
- Three aeration tanks were shut down to facilitate emergency repairs to a RAS line.

During the pelletizer shutdown, the contracted biosolids service providers were unable to make up the haulage deficit, resulting in solids buildup in the liquid train, increasing susceptibility to washout. During this period, some biosolids were sent to landfill to minimize solids buildup in the liquid processes.

In response to the high effluent TP concentrations, the plant implemented enhanced control measures and investigated potential solutions and as follows:

- Enhanced process monitoring, tracking, and communication between key work areas.
- Ferrous chloride dosages were increased by 26% compared to the previous year to improve settleability and final effluent quality (average TP dosages of 9.41 mg/L in 2025, 7.47 mg/L in 2024).

- Explored the feasibility of managing solids at the Humber Plant for a short period of time to reduce loadings at ABTP. This option is still being explored, and if determined to be feasible will become a tool that could be used, if necessary, in the future.
- Explored the feasibility of intercepting WAS being sent to co-thickening, dewatering with portable equipment, and direct haulage off site. This option remains a tool to be used in the future if necessary.

For a long-term solution - addressing the root cause of high flow conditions due to combined sewer infrastructure remains the priority. The City continues progress on the Don River and Central Waterfront & connected projects – this program will not only virtually eliminate combined sewer overflows throughout the collection system but also reduce and attenuate peak storm flows at the ABTP that can lead to reduced treatment efficacy and instances of non-compliance, such as this one.

Projects and investigations already underway at the plant will improve its capability to perform well under wet weather conditions and reliably meet effluent TP limits. The WAS thickening process upgrades will eliminate co-thickening (under construction) and improve primary treatment performance. Biological Phosphorus Removal (BPR), which is currently being trialled in Aeration Tank No. 2, has demonstrated good potential to improve settling in the secondary clarifiers and make the plant less susceptible to solids wash-out. If proven, BPR will be incorporated into the secondary treatment upgrades project which is in design. In addition, the secondary treatment upgrades project is exploring adding hydro-cyclones to retain good settling sludge in the process and improve settling.

There was no deviation from the monitoring schedule in 2025. In 2025, *E. Coli* sampling was scheduled every Thursday. *E. coli* sampling is conducted weekly, so it has been moved to Wednesday in 2026. All other parameters specified in *Schedule D - Monitoring Program* of the ECA exceed the sampling frequency of three times/week specified by Condition 9(1)(b), negating the requirement for future sampling forecasts and scheduling.

3.2 Biosolids Management

The flow projections for 2025 do not exceed the plant rated capacity of 818 ML/day and are expected to generate a sludge volume that will be +/- 5% of the volume generated in 2025.

Biosolids analyses are included in Appendix F and compared against *Ontario Regulation 267/03* under the *Nutrient Management Act*, which governs the maximum acceptable metal concentration in biosolids that are applied to land. The average metal and *E. coli* concentrations met all criteria as designated in O. Reg 267/03.

Biosolids management from the ABTP in 2025 totalled 147,880 wet tonnes and was managed as follows.

3.2.1 Agricultural Land Application

A total of 46,970 tonnes of biosolids were sent to approved agricultural land application sites in Ontario. During the 2025 land application season, the City contracted an independent field inspector to monitor the practices of the City's land appliers. The independent field inspector observed the application of biosolids on numerous agricultural land sites in Ontario. The inspector was responsible for ensuring the Nutrient Management Act and accompanying Regulations were adhered to, site specific requirements were followed, and monitoring and recording of odour measurements were taken before, during and after application.

3.2.2 Third Party Process Stabilization (Soil Amendment)

In 2025, a total of 34,556 wet tonnes of biosolids were further processed off-site by licensed external service providers and beneficially used as Class A biosolids and soil amendments.

3.2.3 Pelletization

The operation and maintenance of the ABTP pelletizer facility and marketing of pellets is managed by an outside contractor. 54,582 wet tonnes of biosolids were processed by the on-site pelletizer in 2025. Pellet quality in 2025 met the standards set out by the Canadian Fertilizers Act. The pelletizer processed less solids than typical in 2025 as it was offline for critical repairs to improve its reliability.

3.2.4 Landfill Management of Biosolids

A total of 1,523 wet tonnes of biosolids were transported to landfill sites in 2025. This was a temporary measure to make up disposal capacity lost due to the pelletizer being off-line for repairs.

3.2.5 Mine Reclamation

A total of 10,249 wet tonnes of biosolids were utilized at mine reclamation sites. *Table 3* below summarizes the biosolids management methods utilized and the total amount of biosolids sent to each management option.

Table 3: Biosolids Management Methods

Biosolids Management Method / Wet Tonnes	2025	2024	2023
Agricultural Land Application	46,970	43,418	42,397

Alkaline Stabilization	34,556	25,451	29,739
Pelletization	54,582	68,793	72,765
Landfill	1,523	0	0
Mine Reclamation	10,249	9,520	7,176
TOTAL	**147,880**	**147,182**	**152,077**

3.3 Chemical Usage

Several chemicals are used during the treatment process at the plant. *Table 4* outlines the chemical consumption for the current and previous year. Costs listed exclude applicable taxes and reflect a significant increase in the cost of ferrous chloride. The ferrous chloride dosage increased by 26% in 2025 compared to 2024 to improve settleability.

Table 4: Chemical Usage Summary

Process	Chemical	Parameters	2025	2024	2023
Phosphorus Removal	Ferrous Chloride as Fe	Dosage (mg/L)	9.41	7.47	7.53
		Consumption (tonnes)	1,876	1,549	1,678
		Cost ($)	$5,017,639	$1,935,951	$2,074,253
Disinfection[1]	Sodium Hypochlorite (12% w/v)	Dosage (mg/L)	2.20	2.59	2.23
		Consumption (m3)	3,700	4,587	4,110
		Cost ($)	$2,113,110	$2,657,745	$4,118,946
WAS Thickening	Polymer	Dosage (kg/DT)	6.38	5.61	4.57
		Consumption (tonnes)	217.75	198.00	148.50
		Cost ($)	$1,072,016	$1,111,604	$710,561
Biosolids Dewatering	Polymer	Dosage (kg/DT)	16.65	16.80	15.00
		Consumption (tonnes)	666	683	644
		Cost ($)	$3,517,375	$4,522,944	$4,563,089
CEPT	Ferric Chloride as FE	Dosage (kg/DT)	-	-	0.20
		Consumption (tonnes)	85.21	105.39	44
		Cost ($)	$444,720	$309,952	$129,459
CEPT	Polymer	Dosage (kg/DT)	N/A	N/A	N/A
		Consumption (tonnes)	4.50	4.50	1.50
		Cost ($)	$28,757	$28,757	$9,586

3.4 Bypasses, Overflows, Spills, and Abnormal Discharge Events

3.4.1 Bypasses

There were thirteen bypass events in 2025; all were secondary treatment bypasses. The total volume of bypass flow was 4,237 ML, or 2.14 % of the annual flow. Table 5 summarizes the bypass events that occurred in 2025.

Bypass flows do not receive secondary treatment (i.e. the Aeration Tanks) but receive preliminary treatment, primary treatment, nutrient removal, as well as disinfection before the final effluent sampling point. All bypass flows are blended with fully treated plant effluent prior to discharge. Secondary bypasses result from high wet weather flows that exceed the plant's secondary treatment capacity. Each instance was reported to the MECP's Bypass and Overflow Reporting Portal and recorded in the plant's Monthly report. Total precipitation in the Toronto area[3] was 706.2 mm in 2025, an 24% decrease compared to 2024.

Table 5: Bypass Summary

No.	Date	Start of Event	End of Event	Duration (hrs)	Volume (m^3)	Average Chlorine Dose (mg/L)
1	March 5th	8:56 AM	9:40 PM	10.3206	251,770	9.96
2	March 16th	11:19 AM	6:01 PM	6.7083	126,320	9.67
3	April 2nd-3rd	6:44 PM	6:46 PM	24.0419	1,211,680	9.84
4	May 21st-23rd	9:01 PM	1:13 AM	28.2053	1,082,800	10.06
5	July 13th	12:07 PM	12:35 PM	0.4747	22,190	9.49
6	July 20th	5:40 AM	10:40 AM	4.9989	179,770	9.96
7	August 20th	12:24 AM	3:05 AM	2.6842	115,860	9.94
8	September 9th[4]	11:17 AM	1:47 PM	1.1144	50	32.7
9	September 21st-22nd	10:50 PM	2:23 PM	6.7066	262,430	9.87
10	September 25th	2:26 AM	3:30 PM	6.2922	204,590	9.89
11	October 19th	6:30 PM	8:35 PM	2.0856	30,870	9.67
12	November 30th	1:32 PM	6:25 PM	4.8833	127,240	9.96
13	December 28th-29th	7:55 PM	6:10 AM	10.2408	676,150	9.47

3.4.2 Overflows

There were no overflow events at the ABTP in 2025. An overflow is defined as a discharge to the environment from the plant at a location other than the plant outfall downstream of the final effluent sampling station.

[3] *Adapted from http://climate.weather.gc.ca/historical_data/search_historic_data_e.html, Toronto City Station*
[4] *Dosage is estimated, volume was mixed with secondary effluent, impact on final effluent was negligible.*

3.4.3 Spills

There were seven spills reported to the MECP in 2025; they are summarized below.

Table 6: Spill Summary

Date	Volume (m^3)	Nature of event	Description
March 18, 2025	0.1	Equipment failure	This spill was due to a failed sump pump within Blower building. Upon noticing this spill, plant staff plugged in a portable sump pump and were able to stop the spill in 20 minutes. The portable sump pump stayed in the sump pit until the sump pump within Blower Building was fixed.
March 24, 2025	NA	Programming error	During the ABTP Pelletizer electrical upgrade project, a programmer error resulted in the Pelletizer dryer A stack opening from 10:49 - 10:58hrs. This issue was resolved.
March 27, 2025	NA	Aging underground pipe	A leak of plant water was noticed from underground adjacent to a Plant Water hydrant. Plant Water at ABTP is chlorinated final effluent that is distributed throughout the facility for non-potable purposes. The leak was caused by an underground pipe, and the leaking section of the pipe was replaced later.
May 29, 2025	0.1	Equipment failure	At approximately 10:00 hours on May 29, 2025, a small leak of black liquid was noted in a grassy area south of the headworks. It was quickly recognized that the source of the leak was from a buried pipe, which connected the discharge pumps in the truck unloading bay to the influent channel of the headworks. The truck unloading at the time the spill occurred was cleaning digested sludge from an equalization tank. The affected area was cleaned, disinfected, and SAC was updated when the cleanup was completed. The leak only occurs when actively pumping from the truck unloading bay. As such, the bay was taken out of service immediately once the spill was noticed and remained as such until the underground section of piping was repaired.

Date	Volume (m^3)	Nature of event	Description
September 22, 2025	35	Wet Weather	At approximately between 02:10 and 03:10 hours on September 22, 2025, a flood occurred inside D building due to three screens failure during a wet weather event, and some raw sewage went on the road outside of D building and entered a catch basin. The affected area was cleaned, disinfected, and SAC was updated when the cleanup was completed.
October 6, 2025	5	Equipment malfunction	On Oct. 6, 2025, plant staff were notified of spilled raw sewage that went onto a construction site outside of D-building which occurred over the weekend. Based on SCADA trend on Oct. 4, it shows that at approximately 12:45 hours, one of the main pumps in T-building was started and its speed control malfunctioned, causing a surge of influent to D-building which resulted in a spill of raw sewage outside D-building. Plant staff reported to SAC once the plant became aware of the spill, and the affected area was cleaned and disinfected.
November 9, 2025	NA	Equipment failure	On Nov. 9, 2025, plant staff noticed sodium hypochlorite leaking from the exterior sodium hypochlorite storage tank containment area and went into a catch basin outside of containment. The staff turned the valve off inside the containment area stopping the spill. The liquid collected in the catch basin connected to the containment area catch basin was pumped out and put back to the treatment process. To determine if any sodium hypochlorite went to the lake, three (3) samples were collected from the downstream catch basins and all three came back with negative for chlorine. Therefore, it is deemed that no hypochlorite went into the lake. The plant was able to hold the spilled material in our large storm water system on site and pump it back into the system. This exterior sodium hypochlorite storage tank was repaired later.

3.4.4 Abnormal Discharge Events

There were no abnormal discharge events at the ABTP in 2025. An abnormal discharge event is defined within the meaning of Part X of the Environmental Protection Act. For additional information, please refer to Section 7.6 – MECP/MOL Correspondence.

3.5 Complaints

The ABTP investigated 5 odour related complaint in 2025 and found 3 were not related to plant operation. There were no noise related complaints received in 2025. All complaints were recorded, investigated by Toronto Water staff, reported to MECP, and when possible, followed up with the complainant.

3.6 MECP Procedures F-5-1 and F-5-5

Condition 11 (4)(m) of the ECA describes requirements to summarize efforts to achieve conformance with MECP Procedure F-5-1 – Determination of Treatment Requirements for Municipal and Private Sewage Works and MECP Procedure F-5-5 – Determination of Treatment Requirements for Municipal and Private Combined and Partially Separated Sewer Systems.

In reference to procedure F-5-1, the plant utilizes the activated sludge treatment process to meet secondary or equivalent treatment and consistently achieves effluent quality at or beyond the objectives outlined in the ECA.

Furthermore, Toronto Water is committed to efforts to control the frequency and volume of CSO discharges and bypass events referenced in Procedure F-5-5. The City is currently implementing a 25-year plan related to its Wet Weather Flow Master Plan (WWFMP), which aims to reduce and eliminate the adverse impacts of storm water runoff and CSO discharges associated with wet weather events. It is expected that the on-going implementation of capital projects related to the City's WWFMP will eliminate CSO discharges and ultimately improve plant effluent.

3.7 Effluent Quality Assurance and Control Measures

Analytical tests to monitor required parameters are performed by the Toronto Water Laboratory which is accredited to ISO/IEC 17025 by Canadian Association for Laboratory Accreditation Inc. Plant operation and performance is monitored by licensed operators as well as by the facility management team. Standard Operating Procedures, emergency plans, equipment preventative and predictive maintenance, and a network of support staff, help ensure a rapid and effective response to issues, and maintain the high quality of the effluent and biosolids. An Integrated Quality Management System emphasizing environmental, and health and safety objectives is also

in the early implementation stages across Toronto Water and is expected to further standardize facility operations and improve facility performance.

4 CAPITAL PROJECTS

Under Toronto Water's capital program, the ABTP commenced or continued with the capital works projects and studies listed in Table 7 in 2025.

Table 7: Capital Projects

Project Name	Project Description	Project Stage (Dec 31, 2025)	Estimated Completion
D Building Phase 2 Upgrade	Upgrades to existing systems including screening handling and ferrous chloride dosing. Includes chemically enhanced primary treatment and upgrades to enhance maintainability of equipment.	Construction	2027
D Building Solar Roof	Installation of solar energy cells on the roof of D Building.	Completed	2025
Effluent Disinfection	New UV disinfection facility. Also includes new secondary west bypass conduits, plant water station upgrades, seawall substation upgrades, and seawall gate refurbishment.	Construction	2027
IPS	Preliminary civil work for the future IPS, replacement of M&T pumping station with new Integrated sewage/wet weather flow pumping station located South of Lakeshore.	Construction	2038
Outfall	New plant outfall that includes a new effluent drop shaft, new outfall pipe with diffusers.	Construction	2026
Polymer Upgrades	Replacement of dewatering polymer system, dewatering centrifuges, upgrades to sludge feed system, centrate storage, as well as the WAS polymer system.	Design	2032
WAS Thickening and South Station Upgrades	New WAS thickening facility using centrifuges and overhaul of South Substation.	Construction	2029
Heating and Air Systems - Contract 1	Replacement of hot water boilers.	Completed	2025
Heating and Air Systems - Contract 2	Replacement of compressors, dryers and chillers.	Design	2030
Pelletizer 2.0	Construction of a new Pelletizer based on Pelletizer Design project.	Design	2033
Secondary Treatment Upgrades	Addition of 2 new secondary treatment trains including aeration tanks and final tanks, conversion of tank 11 to fine bubble with complete replacement of associated equipment, new blower building and air header, misc. upgrades to supporting systems and installation of blower 12.	Design	2037
Elevator Modernization Project	Upgrade of existing elevators.	Design	2027

Project Name	Project Description	Project Stage (Dec 31, 2025)	Estimated Completion
Digester 1-4 Cleaning	Cleaning and rehabilitation of Digesters 1 to 8. Upgrade associated equipment as needed.	Construction	2028
Digester 5-8 Cleaning	Cleaning and rehabilitation of Digesters 1 to 8. Upgrade associated equipment as needed.	Design	2032
Old PS Upgrades	Complete upgrade of the original primary sedimentation tank 1 to 6, including process equipment replacement, scum and sludge pumping stations upgrade to improve working and operating conditions.	Design	2031
Digester Capacity Study	Evaluate the Digester Capacity at ABTP by identifying and assessing alternatives to upgrade, intensify and/or expand the capacity of the existing Anaerobic Digesters for long-term stability of the plant's biosolids management program.	Design	2026
M Building Critical Repairs III	Refurbishment/ repair of critical infrastructure in M Building such as Pumps, isolation valves/gates, check valves.	Construction	2026
Landform	Landform Project is intended to provide erosion and sediment control in Ashbridges Bay and new ABTP property for the construction of a future combined sewer overflow High Rate Treatment Facility.	Completed	2025
Grit Study	Study seeks to understand the performance of the grit removal system by computational fluid dynamics (CFD) modeling and field grit sampling.	Completed?	2025
T Building Pump Refurbishment Project	Refurbishment of T Building Pumps to extend life until IPS is fully commissioned.	Design	2029

5 MAINTENANCE

Staff from the ABTP performed a variety of scheduled, preventative, predictive and reactive maintenance activities on a diverse spectrum of equipment. Equipment availability and reliability ensure operational objectives are achieved.

The annual calibration and maintenance records of flow meters and on-line analysers was completed in 2025 and found to be within acceptable limits. A summary of calibration and maintenance of regulated monitoring equipment performed in 2025 is included in Table 8.

Table 8: Summary of Regulated Monitoring Equipment Calibration and Maintenance

Calibration and/or Maintenance Record	Completion Date
Pocket Colorimeter II Chlorine System - TAB-DIS-METR-3017 Calibration	1/2/2025
Pocket Colorimeter II Chlorine System - TAB-DIS-METR-3016 Calibration	1/2/2025
Effluent Flow Meter - South Conduit - TAB-STR-FIT-8003 - Verification	1/14/2025
Effluent Flow Meter - North Conduit - TAB-STR-FIT-8004 - Verification	1/14/2025
Online pH Analyzer (CL 17sc) - TAB-DIS-AIT-3004 - North - Calibration	2/3/2025
Online pH Analyzer (CL 17sc) - TAB-DIS-AIT-3003 - South - Calibration	2/3/2025
Effluent Flow Meter - South Conduit - TAB-STR-FIT-8003 - Verification	3/24/2025
Effluent Flow Meter - North Conduit - TAB-STR-FIT-8004 - Verification	3/24/2025
Online Chlorine Analyzer (CL 17sc) - North - Calibration	7/21/2025
Online Chlorine Analyzer (CL 17sc) - South - Calibration	7/21/2025
Online pH Analyzer (CL 17sc) - TAB-DIS-AIT-3004 - North - Calibration	8/21/2025
Online pH Analyzer (CL 17sc) - TAB-DIS-AIT-3003 - South - Calibration	8/21/2025
Online pH Analyzer (CL 17sc) - TAB-DIS-AIT-3004 - North - Calibration	8/21/2025
Online pH Analyzer (CL 17sc) - TAB-DIS-AIT-3003 - South - Calibration	8/21/2025
Influent Flow Meter - D Building - Channel 11 - TAB-PLT-FIT-1103 - Verification	11/6/2025
Influent Flow Meter - D Building - Channel 10 - TAB-PLT-FIT-1003 - Verification	11/6/2025
Influent Flow Meter - D Building - Channel 09 - TAB-PLT-FIT-0903 - Verification	11/6/2025
Influent Flow Meter - D Building - Channel 08 - TAB-PLT-FIT-0803 - Verification	11/6/2025
P Building - Grit Tank Flow Meter - Tank 1 - TAB-PLT-FIT-0101 - Verification	11/6/2025
P Building - Grit Tank Flow Meter - Tank 2 - TAB-PLT-FIT-0201 – Verification	11/6/2025
P Building - Grit Tank Flow Meter - Tank 3 - TAB-PLT-FIT-0301 - Verification	11/6/2025
P Building - Grit Tank Flow Meter - Tank 4 - TAB-PLT-FIT-0401 – Verification	11/6/2025
P Building - Grit Tank Flow Meter - Tank 5 - TAB-PLT-FIT-0501– Verification	11/6/2025
P Building - Grit Tank Flow Meter - Tank 6 - TAB-PLT-FIT-0601– Verification	11/6/2025
Effluent Flow Meter - South Conduit - TAB-STR-FIT-8003 - Verification	11/18/2025
Effluent Flow Meter - North Conduit - TAB-STR-FIT-8004 - Verification	11/18/2025
Influent Flow Meter - P Building - Grit Diversion- TAB-PLT-FIT-0033 - Verification	12/2/2025
Influent Flow Meter - P Building – Screening Diversion - TAB-PLT-FIT-0031 - Verification	12/2/2025

Calibration and/or Maintenance Record	Completion Date
Bypass Flow Meter - West - TAB-STR-PIT-0004X - Verification	12/2/2025
Bypass Flow Meter - East - TAB-STR-PIT-0003X - Verification	12/2/2025
Final Effluent - Autosampler - North - TAB-STR-SP-3132 Verification	Monthly
Final Effluent - Autosampler - South - TAB-STR-SP-3334 Verification	Monthly
Autosampler - West Bypass - TAB-STR-SP-4001 - Verification	Monthly
Autosampler - East Bypass - TAB-STR-SP-3001 - Verification	Monthly
Influent Sampler - TAB-PLT-SP-0500 - D Building - Calibration	Quarterly
Influent Sampler - TAB-PLT-SP-0041 - P Building - Calibration	Quarterly

In 2025, there were a total of 38,570 work orders completed on routine maintenance and emergency repairs; refer to Appendix H for a summary of major maintenance activities as per Condition 11(4) of the ECA.

6 UTILITIES

A summary of monthly utility consumption for the previous three years at ABTP is provided in Figure 1. Table 9 below summarizes the total cost and average unit cost for water, hydro, and natural gas. Total annual consumption for potable water, hydro, and natural gas was 842,250 m^3, 133 GWh, and 6.0 M scm, respectively.

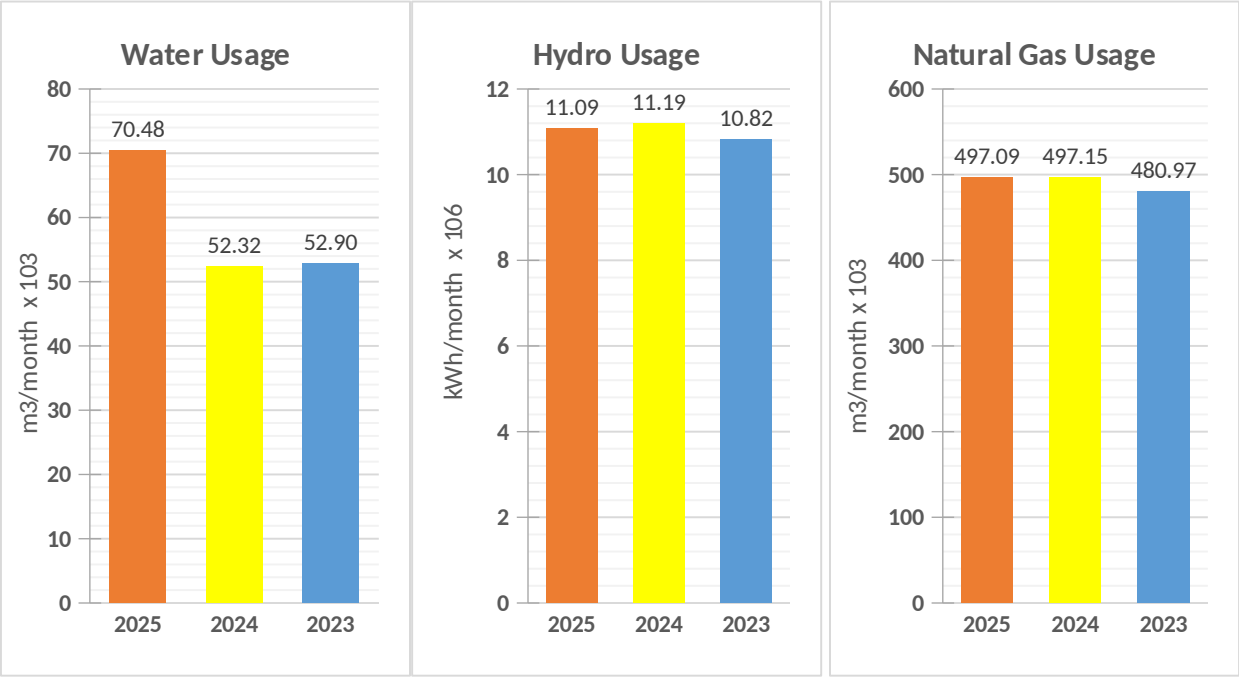


Figure 1: Annual Utility Consumption (Water, Hydro, Gas)

Table 9: Average Unit and Total Utility Cost

Utility	2025	2024	2023
Water Unit Cost ($/$m^3$)	$4.93	$4.76	$4.61
Water Total Cost ($/year)	$4.16M	$2.99M	$2.92M
Hydro Unit Cost ($/kWh)	$0.12	$0.10	$0.10
Hydro Total Cost ($/year)	$15.34M	$13.19M	$12.36M
Natural Gas Unit Cost ($/$m^3$)	$0.35	$0.42	$0.41
Natural Gas Total Cost ($/year)	$2.12M	$2.48M	$2.39M

7 ADMINISTRATION

7.1 Operations and Maintenance Costs

The 2025 plant direct operational costs are broken down into five categories: Salaries and Benefits, Materials and Supplies, New Equipment, Services and Rents, and Inter-Divisional Charges. Materials and Supplies is further segregated into Utilities, Machine & Equipment Parts, Chemicals and Other Materials and Supplies. A breakdown of annual operations and maintenance costs for the past three years is illustrated in Figure 2. Overall, operational costs increased by 9.3 % from 2024. Over half of the increased operations and maintenance cost was due to an increase in the cost of chemicals.

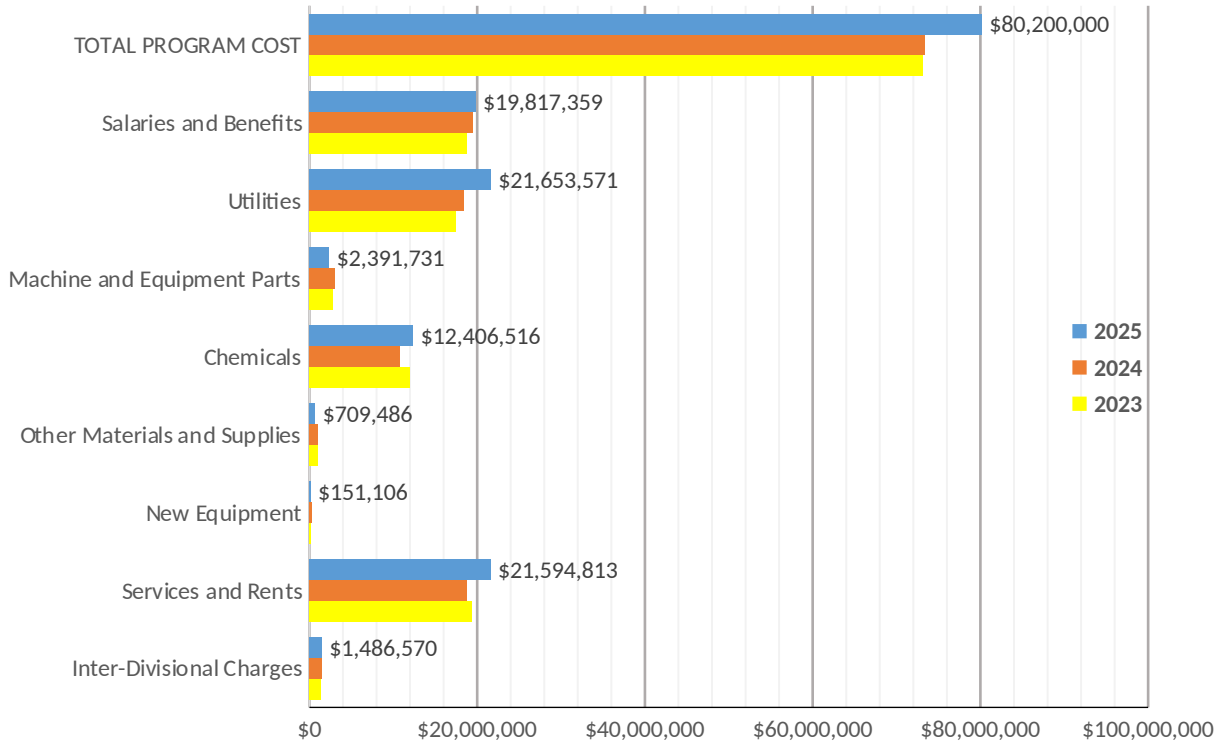


Figure 2: Operations and Maintenance Cost Breakdown

7.2 Human Resources

Plant Staffing at the ABTP in 2025 is shown in Table 10.

Table 10: Plant Staffing

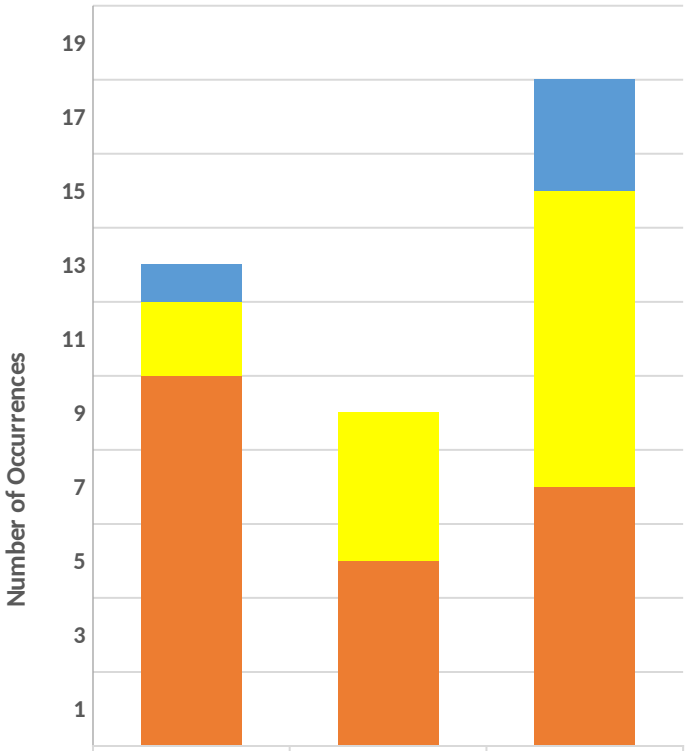
Position	Number of FTE 2025
Sr. Plant Manager	1
Manager, Engineering Services	2
Superintendent, Plant Process and Operations	2
Senior Engineer	3
Engineer	1
Area Supervisor Plant Operations and Maintenance	8
Supervisor, Operational Support	1
Co-Ordinator Business Support	1
Supervisor, Operating Engineers A/R-C	1
Stationary Engineer Operator	10
Electrical Instrumentation Specialist	2
Engineering Technologist Technician	2
Plant Technician/Wastewater	35
Industrial Millwrights	37
EICT	23
Support Assistant	2
Materials Management Assistant	3
Wastewater Plant Worker	4
Technical Trainee	0.3
Labourer 2	3.2
Total FTE Positions	**141.5**

[1] FTE refers to Full Time Equivalent staff. Seasonal staff are considered 0.5 FTE staff.

7.3 Occupational Health & Safety

Continuous efforts are made to ensure a safe working environment at the ABTP. The Joint Health and Safety Committee (JHSC) assists management in resolving issues through regular meetings and monthly workplace inspections. Plant Health and Safety statistics for the ABTP are included in Figure 3[4].

As of December 31, 2025, there were five health and safety incidents, and a total of two lost time days due to work related injuries.



	2025	2024	2023
Non Reportable Injuries	10	5	7
Medical Aid	2	4	8
Lost Time	1	0	3

Figure 3: ABTP Health & Safety Injury Summary

[4] The previously reported values for 2024 and 2023 have been changed to reflect the status of those WSIB claims as of February 27th, 2026

7.4 Staff Training and Development

The Strategic Planning and Workforce Development unit of Toronto Water facilitates a comprehensive training program for all staff.

Training attended by ABTP operations and skilled trades staff in 2025 includes the list of courses shown in Appendix I. Some of these courses were eligible for Continuing Education Units (CEU's) as specified by the Ontario Water and Wastewater Certification Office. Additional training related to the start-up and commissioning of new equipment/systems installed as part of the capital program was provided as required.

7.5 Utility Operator Certification

Toronto Water trains and provides the required resources to ensure all operators achieve and maintain Class IV certifications. In addition, all skilled trade positions are required to achieve and maintain a Class I operator's licence. As part of this initiative, general operational/process training was delivered to prepare staff for any certification examination that they need to write. Table 11 summarizes the status of operator certification at the ABTP in 2025.

Table 11*: Wastewater Treatment Certificates*

Class Level	Licensed
Class I	59
Class II	11
Class III	5
Class IV	36
OIT	21
Total	**132**

7.6 MECP Correspondence

There were no orders issued by the Ministry of the Environment, Conservation and Parks (MECP).

Table 12 summarizes the correspondence submitted to the MECP for the ABTP. Correspondence related to spills and bypasses can be referenced in Section 3.4.

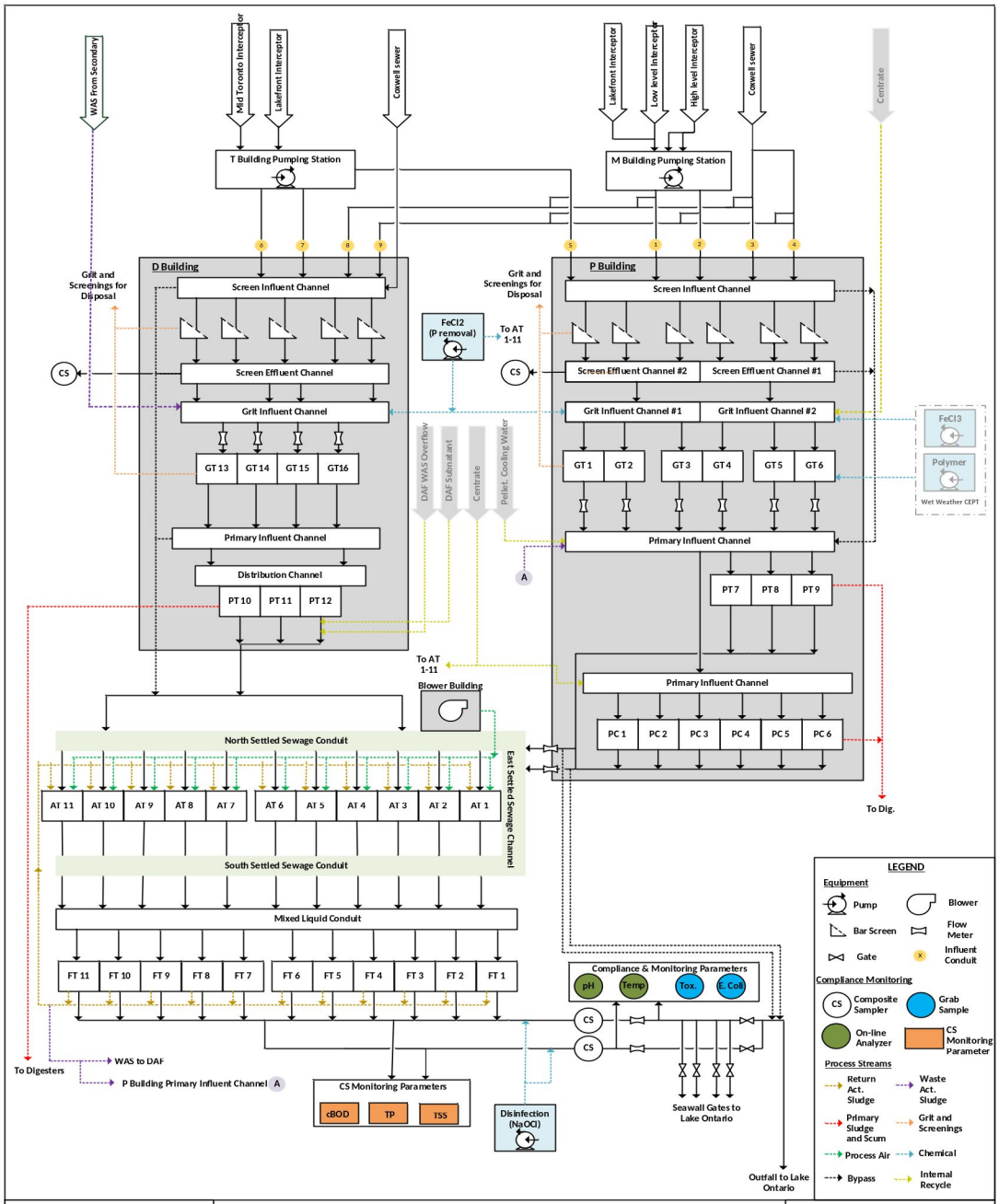
Table 12: Correspondence submitted to the MECP

Event Date	Type	Description	Resolution	Resolution Date
Complaints				

Event Date	Type	Description	Resolution	Resolution Date
Jan. 3, 2025	Odor complaint	An odour complaint was received on Jan. 3rd,2025. An investigation was completed and no possible source of odour was identified at the plant.	NA	NA
Jun. 25, 2025	Odor complaint	A potential reason for the odour complaint was due to extended heat wave with much higher ambient temperatures causing equipment not responding well in the aeration system.	No action required.	NA
Jul. 28, 2025	Odor complaint	The potential reason for the odour complaint was due to an equipment failure at primary tank.	The equipment was fixed.	Aug. 11th, 2025
Aug. 21, 2025	Odor complaint	The location of complaint was too far from the plant and there was no possible source of odour identified during the investigation.	NA	NA
Sept.14, 2025	Odor complaint	an odour complaint on September 14th, 2025. The plant staff conducted investigation and no possible source of odor was identified.	NA	NA
Consent Letters				
Jun. 13, 2025	Request for Consent	Planned releases of primary effluent due to bypass gates annual maintenance.	Consent was granted.	Aug. 27th, 2025
Notice of Modification to Sewage Works				
Feb. 21, 2025	Notice of Modification to Sewage Works	During execution of upgrade works (as detailed in ECA #0574-CQ6J5H) the City of Toronto will operate a temporary manual ferrous chloride addition system while new permanent ferrous chloride storage and dosing equipment are installed and commissioned. The temporary system is expected to be needed for approximately 8 months, following which, it will be removed. As the temporary ferrous chloride dosing system supplements chemical dosing points throughout ABTP, any effect of operation of the temporary system will be negligible to overall plant effluent quality.	Pending construction	TBD

Event Date	Type	Description	Resolution	Resolution Date
Nov. 3, 2025	Notice of Modification to Sewage Works	After reviewing the current ECA documentation against AECOM's design documents and specifications, it was found that the current ECA wording should be updated, for clarity and consistency, with specific reference to the Disinfection System – Ultraviolet Irradiation (UV) section. Specifically, this section of the ECA is meant to define UV treatment equipment objectives, and as such, the modification to the ECA wording involves removal of mention to UV dosing in this section of the ECA, as disinfection criteria and final effluent parameters (e.g. coliform count) are already defined in Schedule B – Final Effluent Design Objectives.		
Notification on Construction of Proposed Works				
NA	NA	NA	NA	NA
Notification on Commissioning				
NA	NA	NA	NA	NA
Notification on Completion of Proposed Works				
NA	NA	NA	NA	NA
MECP Inspection				
NA	NA	NA	NA	NA

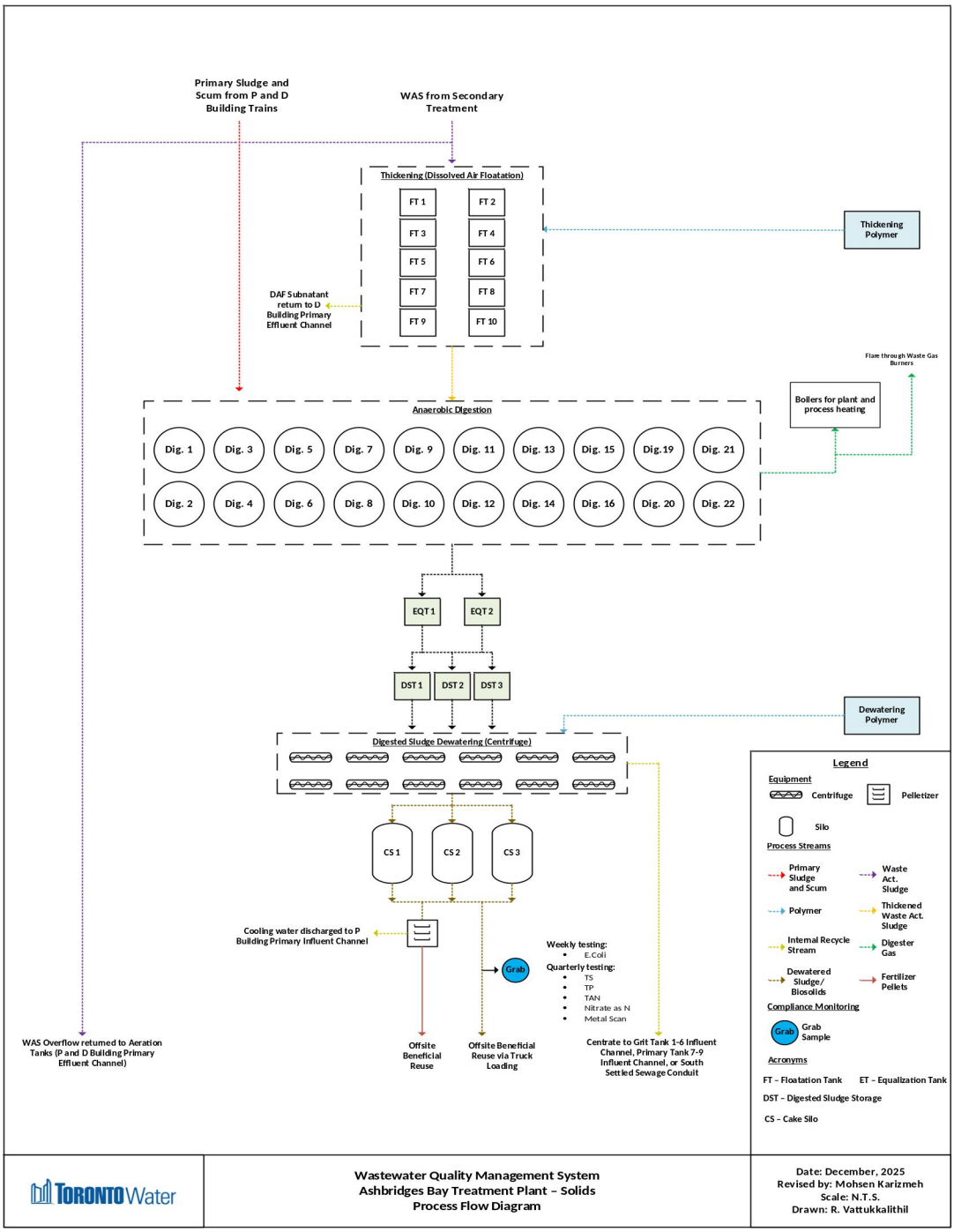
APPENDIX A – Plant Schematic



TORONTO Water

Wastewater Quality Management System
Ashbridges Bay Treatment Plant - Liquids
Process Flow Diagram

Date: December 2025
Revised by: Mohsen Karizmeh
Scale: N.T.S.
Drawn: R. Vattukkalithil



TORONTO Water

Wastewater Quality Management System
Ashbridges Bay Treatment Plant – Solids
Process Flow Diagram

Date: December, 2025
Revised by: Mohsen Karizmeh
Scale: N.T.S.
Drawn: R. Vattukkalithil

APPENDIX B – Influent and Effluent 2025 Performance Charts

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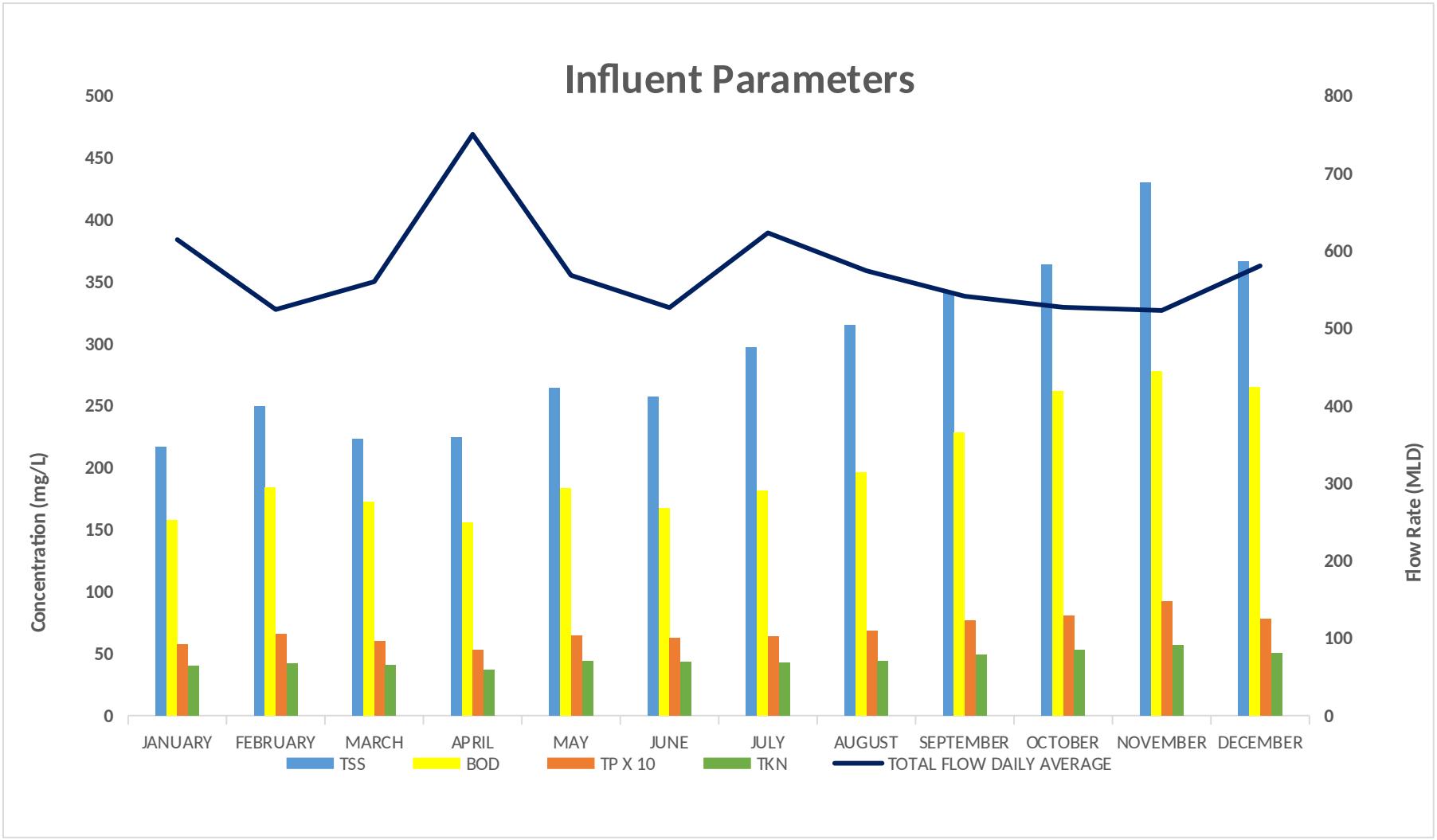

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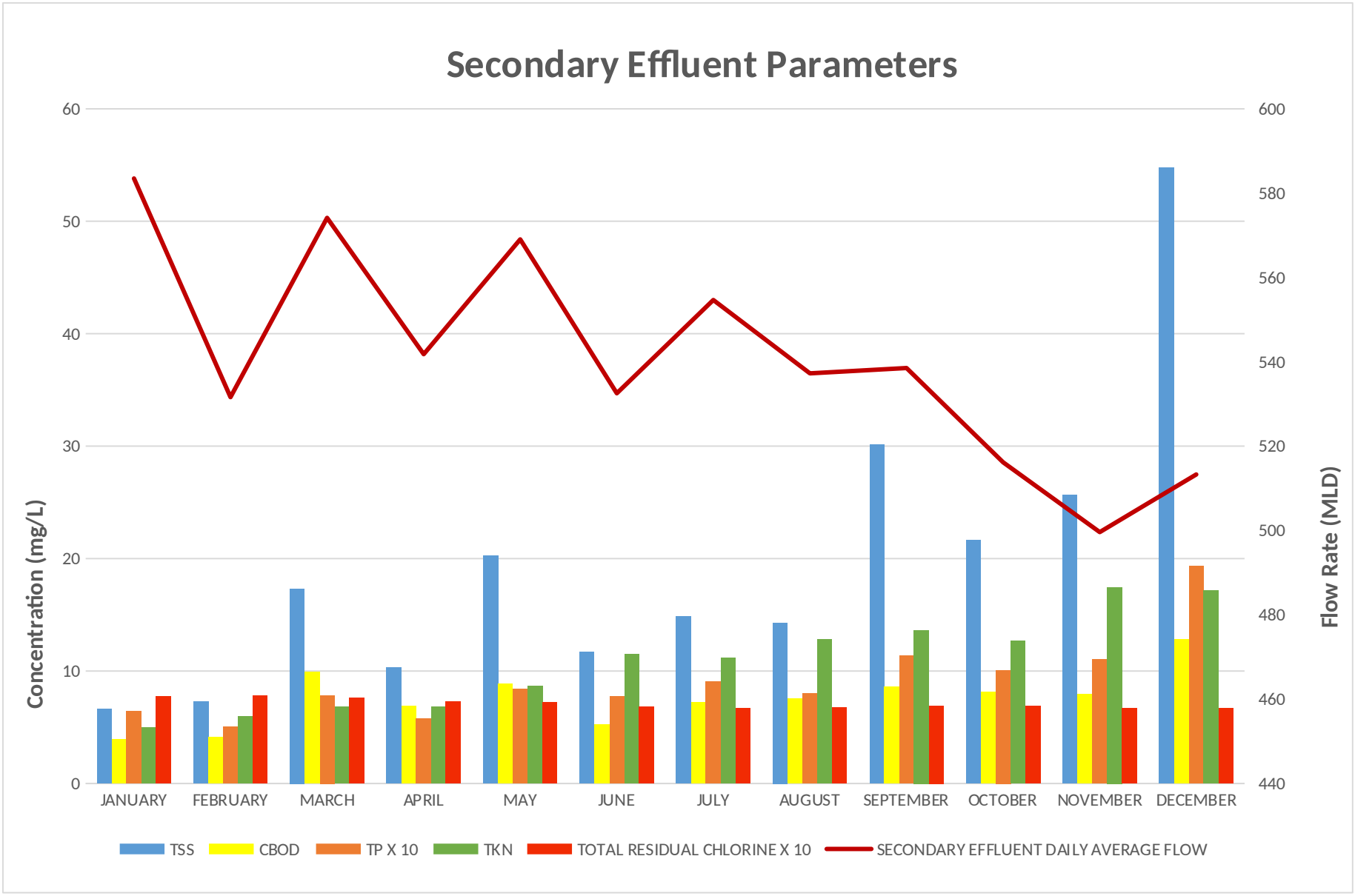

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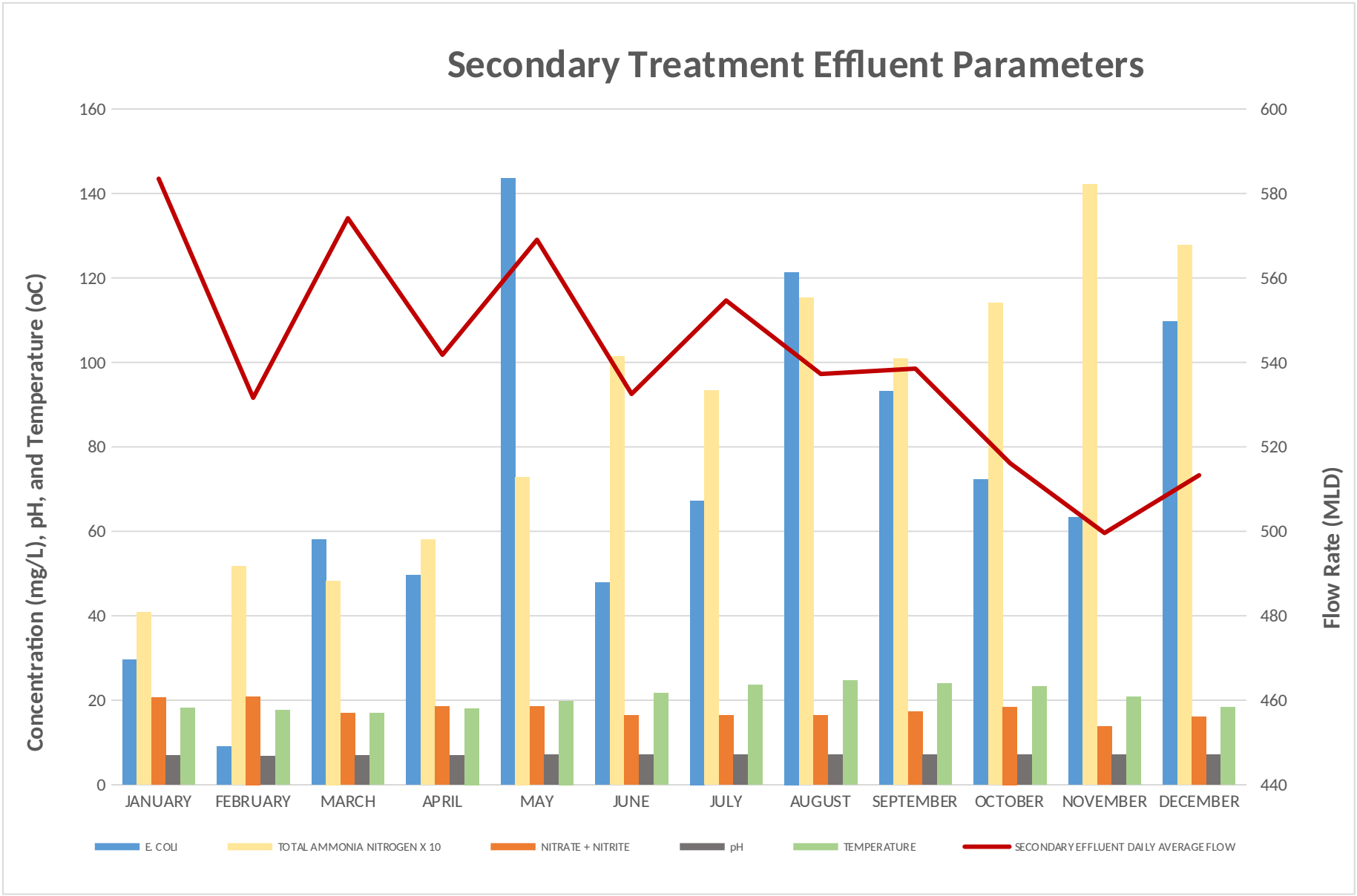

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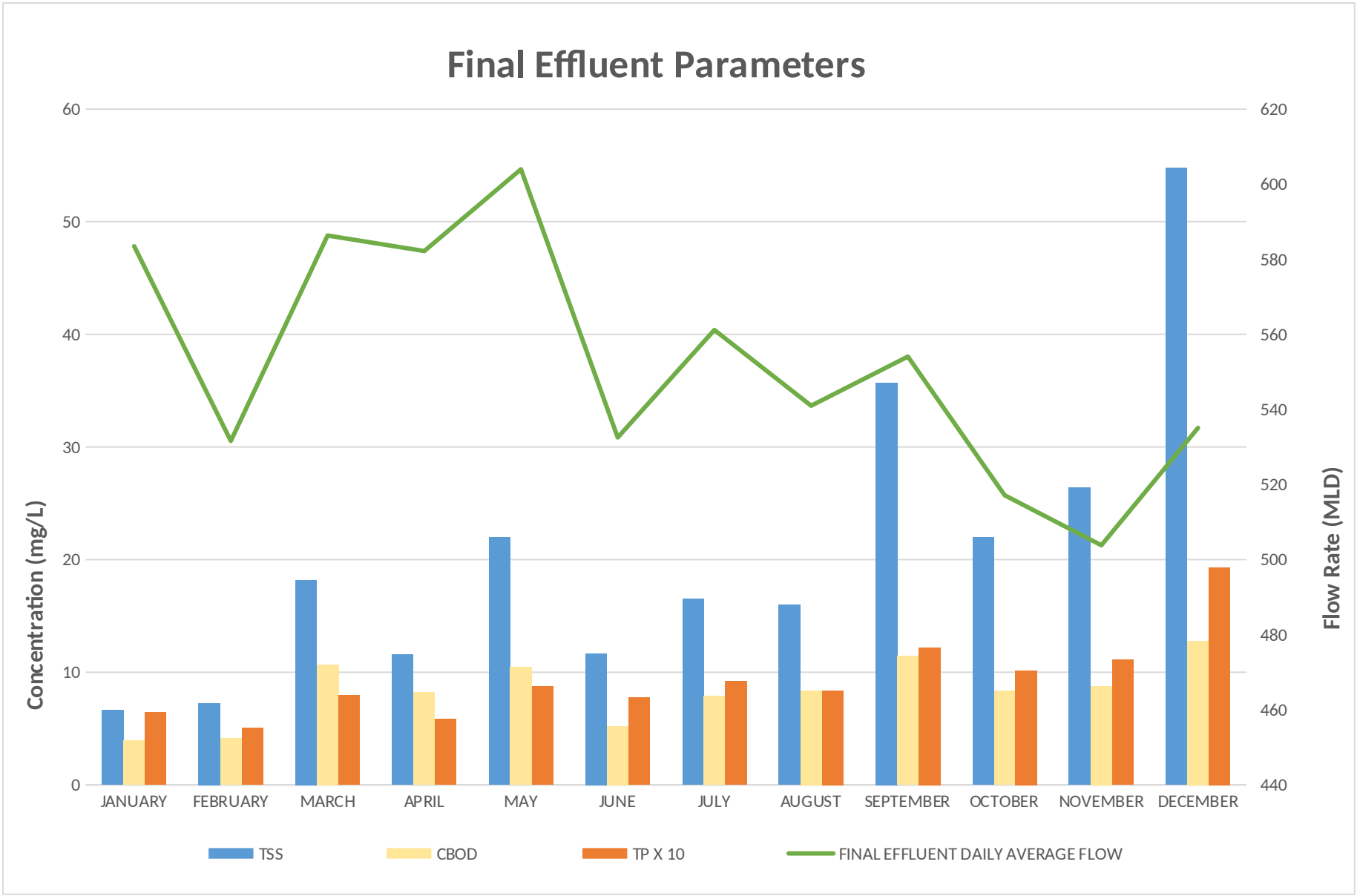

APPENDIX C – Historical Performance Data

APPENDIX C – Historical Performance Data

Parameters	Units	2025	2024	2023	2022	2021	2020	2019	2018	2017	2016	2015
Influent												
Flow	ML/day	553.0	576.3	610.2	570.4	512.8	556.3	651.5	563.9	659.8	549.8	585.2
Total Annual Flow	ML	201,837	210,921	222,626	208,083	187,270	203,657	237,723	205,750	240,817	201,229	212,831
Total Suspended Solids (TSS)	mg/L	399.0	295.8	302.2	324.1	329.7	252.9	207.8	303.7	279.5	318.6	334.6
Biochemical Oxygen Demand (BOD_5)	mg/L	277.3	202.8	195.5	203.1	218.5	179.3	153.8	207.9	201.9	244.6	274.9
Total Phosphorus (TP)	mg/L	8.6	6.9	6.5	6.5	6.3	5.6	4.9	6.3	6.4	7.5	7.5
Total Kjeldahl Nitrogen (TKN)	mg/L	53.8	45.4	42.3	44.9	42.8	38.2	37.2	42.6	40.3	45.4	43.7
Preliminary Treatment												
Grit and Screenings	tonnes/day	4.7	6.5	6.1	5.1	5.0	4.7	4.6	4.9	5.5	5.7	5.6
Primary Effluent												
TSS	mg/L	252.6	203.7	206.9	250.8	246.2	186.0	99.8	89.3	142.9	123.9	233.3
Carbonaceous Biochemical Oxygen Demand (cBOD5)	mg/L	139.7	126.2	111.7	118.6	132.5	117.0	99.8	89.3	68.7	84.3	98.9
Secondary Treatment												
Aeration Loading	kg $CBOD_5$/ m^3.day	0.41	0.38	0.36	0.36	0.37	0.35	0.35	0.27	0.25	0.25	0.32
Mixed Liquor Suspended Solids	mg/L	3501	3065	2,908	2994	2899	2933	3,285	3389	2,372	2,643	2,969
Flow through Seawall Gates	ML	2907	3452	4727	2101	1462	1732	3,834	3278	3,187	2,004	2,908
Secondary Treatment Effluent												
Secondary Effluent Daily Average Flow	ML/day	541.2	555.6	597.5	562.5	509.3	549.5	637.3	559.6	654.9	548.7	576.9
TSS	mg/L	19.7	15.9	12.9	13.5	13.2	11.8	14.7	8.0	5.2	6.4	10.1
TSS Loading Rate	kg/day	10643	8827	7732	7567	6732	6465	9,336	4453	3,415	3,489	5,021
cBOD5	mg/L	7.6	7.3	6.6	5.8	5.5	4.6	7.3	4.7	4.1	4.3	5
cBOD5 Loading Rate	kg/day	4123	4079	3963	3257	2814	2509	4,668	2627	2,668	2,381	2,838
TP	mg/L	0.9	0.8	0.7	0.7	0.7	0.7	0.8	0.7	0.7	0.7	0.8
TP Loading Rate	kg/day	498	425	415	407	368	359	487	376	458	365	495
Escherichia Coli (E. Coli)	CFU/100 mL	73.0	179.0	112.0	60.0	29.0	17.0	32.0	25.6	53	36.8	66.5
pH	-	7.0	7.1	7.2	7.1	7.0	6.9	7.1	7.0	6.8	6.8	7.0
Total Residual Chlorine	mg/L	0.7	0.7	0.6	0.5	0.5	0.55	0.54	0.59	0.60	0.60	0.50

APPENDIX C – Historical Performance Data

Parameters	Units	2025	2024	2023	2022	2021	2020	2019	2018	2017	2016	2015
Total Kjeldahl Nitrogen (TKN)	mg/L	10.8	10.7	8.0	6.6	4.4	3.8	10.4	6.2	5.0	3.8	6.7
Total Ammonia Nitrogen	mg/L	8.9	9.8	7.5	5.9	3.2	3.0	10.9	6.0	4.6	3.3	5.3
Nitrate + Nitrite	mg/L	17.5	15.8	17.5	19.1	17.8	17.5	14.4	17.4	17.1	18.5	17.0
Temperature	degrees Celsius	20.6	20.9	20.4	20.8	18.8	20.8	19.7	21.0	20.2	20.9	20.1
Final Effluent												
TSS	mg/L	20.8	18.2	14.9	13.8	13.7	11.9	15.0	8.1	5.4	6.5	10.4
cBOD5	mg/L	8.4	8.8	7.7	6.4	5.6	4.7	7.9	4.7	4.1	4.4	5.2
TP	mg/L	0.9	0.8	0.7	0.7	0.7	0.7	0.8	0.7	0.7	0.7	0.8
Solids Handling												
Primary Sludge Treated	m^3/day	4,196	3,979	4,298	3,822	3,357	4,874	5,429	5,978	5,640	6,420	4,440
Primary Sludge Total Solids (TS)	%	1.9	2.1	2.2	2.5	1.9	2.4	2.3	2.3	2.5	2.6	3
Primary Sludge Total Volatile Solids (TVS)	%	74.8	73.1	70.9	70.1	69.1	73.7	71.6	73.9	73	73.8	73.5
Waste Activated Sludge (WAS) co-settled in Primary Clarification Tanks or excess WAS to Aeration	m^3/day	7,312	5,729	4,059	4,778	3,430	1,816	1,795	911	1,260	2,130	1,240
WAS to Thickening	m^3/day	9,250	9,509	9,099	8,222	8,266	7,787	7,910	6,944	7,380	7,360	8,470
WAS TS	mg/L	1.0	1.0	1.0	1.0	1.1	0.9	0.9	0.8	0.7	0.7	0.8
Thickened WAS (TWAS) Treated	m^3/day	2,963	2,594	2,494	2,258	2,527	2,257	2,119	1,952	1,440	1,600	2,090
TWAS TS	%	4.2	3.9	3.9	3.8	3.3	3.4	3.5	3.6	3.7	3.4	3.3
TWAS TVS	%	72.2	73.0	72.0	70.4	70.4	70.7	73.8	73.9	73.2	71.6	71
Volume to Digestion	m^3/day	7,159	6,572	6,556	6,080	5,885	7,131	7,548	7930	7,080	8,020	6,530
Digesters Hydraulic Retention Time	days	21.0	19.3	18.1	20.2	20.9	17.3	20.0	19.3	20.2	18.1	23.3
Organic Loading to Digesters	TVS per m3 of digester capacity per day	1.0	1.1	1.1	1.0	0.8	1.1	1.0	1.0	0.9	1.1	1.0
Digester Gas Volume	m^3/day	47,891	51,066	56,288	54,497	52,682	59,945	65,698	61,856	61,640	62,330	64,560
Dewatering Centrifuge Feed TS	%	1.8	1.9	1.8	1.9	1.7	1.8	1.7	1.6	1.7	1.8	1.8
Dewatered Biosolids TS	%	25.8	26.1	27.1	28.0	27.0	26.9	27.7	27.9	27.9	28.1	27.7
Centrate Quality	mg/L	816	1058	754	475	985	635	626	428	299	319	665.32

APPENDIX C – Historical Performance Data

Parameters	Units	2025	2024	2023	2022	2021	2020	2019	2018	2017	2016	2015
Solids Capture Rate	%	96	94	96	97	94	96	96	97	98	98	96.44
Centrifuge Run Time	hours	52,716	49,340	49,030	48,372	48,347	47,578	51,226	52,790	52,400	52,329	48,049
Biosolids Management	wet tonnes/year	147,880	147,182	152,077	155,604	140,518	148,357	154,656	155,756	159,288	149,733	145,321

APPENDIX D – Secondary Treatment Effluent Parameters (Leachate Related)

APPENDIX D – Secondary Treatment Effluent Parameters (Leachate Related)

Quarterly Average	Boron	Cobalt	Magnesium	Manganese	Potassium	Strontium	Bis(2-ethlhexyl) Phthalate
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L
Q1	0.078	<0.004	11.5	0.0686	12.2	0.251	<0.25
Q2	0.072	<0.004	12.6	0.0592	11.1	0.279	<0.25
Q3	0.0781	<0.004	11.4	0.0711	12.7	0.236	<0.25
Q4	0.0741	<0.004	12	0.0856	14.2	0.213	<0.25

Values in red are half the MDL

Units are mg/l except for Bis Phthalate which is ug/l

APPENDIX E - Influent and Effluent Metal Concentrations

APPENDIX E - Influent and Effluent Metal Concentrations

Influent (Daily Composite tested once/month for metals)

Parameters	Arsenic	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Mercury	Nickel	Zinc
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
January	0.005	0.002	0.00742	0.002	0.1690	4.56	0.0051	0.07820	0.000050	0.0064	0.192
February	0.005	0.002	0.00759	0.002	0.1640	5.28	0.0068	0.08120	0.000149	0.0074	0.200
March	0.005	0.002	0.00670	0.002	0.1510	4.47	0.0068	0.07650	0.000050	0.0063	0.165
April	0.005	0.002	0.00790	0.002	0.1780	4.97	0.0073	0.09320	0.000050	0.0074	0.192
May	0.005	0.002	0.00870	0.002	0.1940	5.08	0.0071	0.10100	0.000050	0.0074	0.217
June	0.005	0.002	0.00990	0.002	0.1830	4.67	0.0088	0.09560	0.000327	0.0080	0.218
July	0.005	0.002	0.00800	0.002	0.1770	4.11	0.0078	0.08900	0.000160	0.0070	0.229
August	0.005	0.002	0.00970	0.002	0.1960	4.41	0.0079	0.09340	0.000127	0.0075	0.244
September	0.005	0.002	0.00650	0.002	0.1710	3.35	0.0073	0.07410	0.000113	0.0069	0.194
October	0.005	0.002	0.00880	0.002	0.1760	3.69	0.0074	0.07650	0.000050	0.0077	0.197
November	0.005	0.002	0.01110	0.002	0.2190	4.65	0.0072	0.09480	0.000174	0.0101	0.249
December	0.005	0.002	0.01730	0.002	0.1760	3.53	0.0067	0.08750	0.000110	0.0089	0.209
Annual Average	0.005	0.002	0.00913	0.002	0.1795	4.40	0.0072	0.08675	0.000118	0.0076	0.209

Data in red are half the MDL

APPENDIX E - Influent and Effluent Metal Concentrations

Final Effluent (Daily Composite tested once/month for metals)

Parameters	Arsenic	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Mercury	Nickel	Zinc
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
January	0.005	0.002	0.002	0.002	0.008	0.416	0.0025	0.0686	0.00005	0.0025	0.0421
February	0.005	0.002	0.002	0.002	0.008	0.460	0.0025	0.0737	0.00005	0.0025	0.0326
March	0.005	0.002	0.002	0.002	0.012	0.905	0.0025	0.0550	0.00005	0.0025	0.0355
April	0.005	0.002	0.002	0.002	0.008	0.600	0.0025	0.0592	0.00005	0.0025	0.0279
May	0.005	0.002	0.002	0.002	0.012	1.070	0.0025	0.0605	0.00005	0.0025	0.0355
June	0.005	0.002	0.002	0.002	0.007	0.811	0.0025	0.0597	0.00005	0.0025	0.0335
July	0.005	0.002	0.002	0.002	0.009	0.935	0.0025	0.0711	0.00005	0.0025	0.0389
August	0.005	0.002	0.002	0.002	0.008	0.941	0.0025	0.0955	0.00005	0.0025	0.0383
September	0.005	0.002	0.002	0.002	0.020	2.010	0.0025	0.0904	0.00005	0.0025	0.0470
October	0.005	0.002	0.002	0.002	0.011	1.120	0.0025	0.0856	0.00010	0.0025	0.0424
November	0.005	0.002	0.002	0.002	0.013	1.720	0.0025	0.0512	0.00005	0.0025	0.0423
December	0.005	0.002	0.002	0.002	0.031	3.350	0.0025	0.1140	0.00005	0.0025	0.0587
Annual Average	0.005	0.002	0.002	0.002	0.012	1.195	0.0025	0.0737	0.00005	0.0025	0.0058

Data in red are half the MDL

APPENDIX F – Biosolids Analysis

Appendix F – Biosolids Analysis

Ashbridges Bay Treatment Plant - Summary of Dewatered Biosolids Analysis for 2025

Dewatered Cake	January	February	March	April	May	June	July	August	September	October	November	December	Max Allowable Dry Wt Conc mg/Kg [1]	Annual Average
TKN	65,500	65,150	64,650	62,050	68,550	61,650	55,100	59,550	60,600	59,950	67,100	65,000		62904
Ammonia(N)	6,350	6,995	6,105	7,555	6,560	6,130	5,860	5,095	5,230	4,760	5,045	4,195		5,823
Nitrate as N	0.25	0.76	0.52	0.66	0.25	0.70	0.41	0.25	0.78	1.77	1.35	0.25		0.66
Nitrite as N	0.62	1.15	0.94	0.83	0.35	0.72	1.07	0.35	1.19	0.95	1.06	0.35		0.80
As	0.50	0.50	2.87	3.22	3.37	3.78	3.34	3.39	3.21	3.04	2.92	2.79	**170**	2.83
B	25.3	21.3	23.9	22.0	19.5	21.9	22.8	27.2	28.0	27.0	26.8	26.3		24.3
Cd	1.04	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	**34**	0.55
Cr	63	61	75	80	65	76	72	90	87	81	77	75	**2,800**	75
Co	7.14	3.88	3.80	3.82	3.53	3.91	3.69	3.83	3.84	3.48	3.32	3.33	**340**	3.96
Cu	765	691	753	752	719	787	772	798	747	718	687	730	**1,700**	743
Pb	31.2	26.0	28.7	31.7	28.8	32.3	33.0	38.3	33.1	29.8	25.4	25.6	**1,100**	30.3
Mn	275	267	266	269	270	280	287	328	334	316	294	303		290
Hg	0.38	0.45	0.34	0.37	0.37	0.38	0.35	0.54	0.55	0.51	0.54	0.57	**11**	0.4
Mo	10	9	9	9	12	11	11	12	11	11	12	12	**94**	11
Ni	25	23	23	24	22	25	24	25	25	25	25	25	**420**	24
Total P	34800	33650	33050	34600	35000	36750	34700	36300	35200	34800	34750	38100		35142
K	1225	1120	1180	1340	1300	1355	1250	1205	1330	1115	1070	1170		1222
Se	4.5	5.0	5.1	5.4	5.4	6.4	5.0	5.1	5.3	5.1	4.7	5.2	**34**	5
Zn	726	638	687	696	671	765	782	802	738	682	647	677	**4,200**	709
TS%	25.0	25.0	26.0	25.4	25.6	25.9	26.2	26.7	26.7	26.2	25.5	25.5		25.81
VS%	67.4	67.3	66.8	63.9	66.1	64.9	66.0	65.0	65.8	63.9	66.2	67.9		65.9
E. Coli[2]	889,968	249,650	837,767	381,288	329,602	1,223,015	559,098	649,492	659,524	203,374	215,095	240,095	**2,000,000**	451,605

Values in red are 1/2 or less than MLD values.

[1]As per MECP Regulations for Biosolids Utilization on Agricultural lands.

[2]CFU/g dry weight.

APPENDIX G – Maintenance Activities

APPENDIX G – Maintenance Activities

7.7 Raw Sewage Pumping, Preliminary and Primary Treatment

Preliminary and Primary Treatment includes two raw sewage pumping stations (M and T Buildings), preliminary treatment areas (P and D Buildings), and three primary treatment areas (Primary Clarification Tanks No. 1 to 6, Tanks No. 7 to 9, and Tanks No. 10 to 12). The following maintenance was completed in 2025.

Raw Sewage Pumping:

Bi-Weekly activities:

- Calibration of level transmitters.
- Perform an IR temperature reading of the capacitor bank connections.
- Check pump motor coupling bolt for looseness.
- Check the pump speed controller cable connections, pump speed controller control cabinet relay contacts, control wiring connections for looseness.
- Check the pump volute for wear and clean the pump speed controller control cabinet.
- Inspect the pump bearing cooling lines, pump motor windings and pump speed controller.
- Perform a megger test of the motor winding insulation.
- Service the pump speed controller contact and test the pump motor E-Stop push button.
- Visual inspection of the pump coupling assembly inserts for separation.

Monthly activities:

- Inspection of Submersible Pump discharge check valves, discharge line, pump suction, sump pump control panel Inspection, sump pump cable inspection and test of mechanical floats.
- Calibrate the oil level and pressure switch for hydraulic fluid reservoir.
- Exercise and lubricate manual valves.
- Combustible Gas detectors & Alarm Testing.
- Inspect Odour Control Fans and Charcoal Filters in M & T Buildings.
- Check and clean the grit chamber screen.
- Functional test of the hydraulic oil reservoir low level switch and temperature probe.
- Inspection of the capacitor bank cabinet for dust and dirt.

Quarterly:

- Testing of Biofilter Media moisture content and pH.
- Functional test of the scrubber fan E-stop function and fan inlet pressure gauge alarms.
- Inspect the scrubber motor/blower bearings.
- Visual inspection of the scrubber drive belts.
- Zero check the media differential pressure gauge.
- Calibration of the pressure transmitter.
- Dry well foundation inspection.
- Functional test of the scrubber system.
- Test and check the UPS for RPU - M&T Buildings.
- Verify the emergency and exit lighting operation.

APPENDIX G – Maintenance Activities

Bi-annual activities:

- Calibration of the air flow transmitter.
- Clean soft start controller and check for electrical connections for looseness.
- Inspection and lubrication of the soft start controller internal components.
- M Building and T Building Knife Gate Valve Exercise.
- Sample and test scrubber media.
- Check the oil level in the hydraulic fluid reservoir.
- Visual inspection of the hydraulic hoses and fittings.
- Visual inspection of the reservoir sight glass banjo fittings.

Annual activities:

- Busbar/MCC Panel Single line Diagram Update Inspection.
- Test the local controls for starting, stopping and speed adjust of all Raw Sewage Pumps.

Preliminary:

Weekly activities

- Inspection of aeration blower air and drive motor inlet filter for build up of dirt.
- Inspection of Washer Compactor.
- Screen Spray water line Y Strainer cleaning.
- Grit Tank and Channel Blowers Weekly Inspection.
- Grit Conveyor and Classifier Inspection.
- Perforated Plate Screen Inspection and lubrication.

o Monthly activities

- Screw Conveyor Inspection and Maintenance.
- Pneumatic Actuated Knife Gate Valves Exercise.
- Exercise and inspect actuated sluice gates.
- Perforated Plate Screen Inspection & Lubrication and Spray Nozzle Cleaning.
- Screen Actuated Sluice Gate Exercise and Inspection.
- P Building - Elevator routine inspection and maintenance.
- Grit Tank and Channel Blower Inspection & Maintenance.
- Solenoid Valve testing and inspection.
- Dewatering Pump Inspection & Maintenance.
- Grit and Screenings Conveyor Inspection.
- Plant Water Strainer Reducer Oil Level Inspection.
- Grit Tank Actuated Sluice Gate Exercise and Inspection.
- Hydrocyclone Inspection.
- Washer Compactor Inspection & Maintenance.
- Inspect Odour Control Dampers and fan discharge expansion joints.
- Leak check of the isolation valve packing.
- Perform a megger test on the fan motor winding insulation.
- Inspection of VFDs for dust.
- Wet Well Grinder Control Panel Inspection.
- Inspect the sump pit pump flanges.
- Perforated Plate Screen Motor Megger Test.
- Combustible and H2S Gas detectors & Alarm Testing.

APPENDIX G – Maintenance Activities

- Washer Compactor Motor Megger Test, Washer Compactor Control Panel Inspection, Motor Lubrication, Control Panel Light Inspection, Washer Compactor Inspection.
- Test and verify the actuated damper emergency shutdown circuit.
- Classifier cleaning and inspection of belt, control panel, control panels lights and testing of e-stop.
- Classifier gearbox oil replacement, guard inspection, megger test, motion detection cleaning, motor bearing lubrication, safety contact test, seal leakage inspection and valve inspection.
- Cyclone cleaning, hardware inspection, cyclone liner inspection, cyclone vortex finder inspection.
- Functional test of the PLC battery fault alarm circuit operation.
- Inspection of conveyor connection welds, conveyor motor to gearbox flexible element, conveyor screw, conveyor trough liner.
- Inspect the damper actuator gearbox and discharge chute.
- Inspect the level indicating transmitter electrical connections.
- Inspect the motor variable frequency drive cabinet cooling fan bearings for signs of excessive vibration, heat, and noise.
- Inspect the sump pit pump impellers & pump oil seals.
- Inspection of the fan pillow block lip seal.
- Lubricate the Biofilter fan bearings.
- Inspection of Grit Air Blower Flow Transmitter.
- Perforated Plate Screen Baldor Motor Lubrication.
- Inspection of perforated plate screen control panel, control panel lights, Tactile Inspection, TECO Motor Lubrication.
- Inspection of Submersible Pump Control Panel Inspection, Submersible Pump Current Draw, Submersible Pump Inspect Cables, Submersible Pump Megger Testing.
- Test the actuated gate emergency shutdown circuit and actuated valve emergency shutdown circuit.
- Test the gate & damper actuator RAM battery.
- Test the fan E-stop button.
- Vacuum truck unloading bay basket screen cleaning.
- Valve Inspection and Back Flushing of system.
- Verification checks of the differential pressure transmitters, pressure transmitters, temperature transmitters and level indicating transmitters.
- Verify the damper actuator closed limit setting, gate actuator closed limit setting and valve actuator closed limit setting.
- Visually inspect the grit channel air piping & diffuser condition.
- Inspection of Washer Compactor Bar Screen Inspection, Washer Compactor Clean Outside of Unit, Washer Compactor Corrosion Inspection, Washer Compactor Gearbox Oil Change, Washer Compactor Housing Inspection, Washer Compactor Test the E-Stop.
- Wet Well Grinder Control Panel Light Inspection and Wet Well Grinder Megger Test.

Quarterly activities:

- Lubricate the pump motor bearings.
- Leak check of the pump suction valve packing.
- Inspect the pump mechanical seal plastic sight tubing.
- Grit Tank and Channel Blowers Quarterly maintenance.
- Flow Transmitter Sensor Cleaning.
- Pump Inspection for Obstructions.

APPENDIX G – Maintenance Activities

- Perforated Plate Screen Inspection & Maintenance.
- Test and check the UPS for RPU.
- Conduit Flow Transmitter Verification.
- Actuated Butterfly valve Maintenance and Exercise.
- Washer Compactor Inspection & Maintenance.
- Visual inspection of the pump/motor coupling.
- Check and check Conveyor Outlet gate valve instrument air filter, gate valve instrument air filter.
- Classifier Motor Inspection and Screen Lubrication.
- Influent Sampler Inspection and Maintenance.
- Dewatering Pumps Lubrication and Inspection.
- Sump Pumps Lubrication and Inspection.
- Inspect the oil level in the Screw conveyor gearbox.
- Inspect the oil level in the grit conveyor gearbox.
- Classifier wearing shoe inspection.
- Change the conveyor gearbox oil and conveyor screw flange welds.
- Grit Tank and Channel Blower Coupling Screw Inspection.
- Inspect and verify air transmitters - flow meters, pressure, and temperature instrumentation.
- Leak check of the pump discharge valve packing.
- Sampler Refrigerator Cleaning.
- Visual Inspection of Biofilter Humidifier.
- Washer Compactor Brush Reset, Washer Compactor Tighten Wear Strip, Washer Compactor Worm Blade Wear Inspection.

PRM Maintenance Tasks

Monthly activities

- Submersible Sump Pump Operational Inspection.
- Functional test of the gas detector high alarm -Transmitter & Control Panel.
- Check Hazardous Gas Monitor and Sensors.
- Auditory check of odour control air handler unit fan bearings for wear.
- P Building - Coagulant Metering Pump Inspection.
- P Building Dry Polymer Chemical Feeder Inspection.
- P Building, Dry Polymer Mixer Disperser maintenance.

Bi-Monthly activities

- Lubricate odour control air handler fan bearings.
- Inspect the scum pump motor and pump drive belt and scum pump sheave for signs of wear.

Quarterly activities:

- Test and check UPSs for RPUs.
- Pump Drive Casing Bearing Greasing & Shaft seal Inspection.
- Visual Inspection of media filter.
- Raw sludge pump mechanical seal water line check.
- Lubricate odour control air handler fan bearings.
- Sampler Inspection and Maintenance.
- Primary Tank Gate Inspection, Exercise and Lubrication.
- P Building Angle Valve inspection and Maintenance.

Bi-annual activities:

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- P Building Sampler Thermal Sensor verification and Calibration.
- P Building Suspended solid analyzer cleaning.
- Inspection of sump pumps, suction, and discharge lines, check valves, switches and floats.
- Bridge cog wheel drive shaft bearing automatic lubricator replacement.
- Bridge rail wheel wear check.
- Check for looseness on the bridge driven sprocket retaining collar.
- Flow Transmitter inspection and Sensor Cleaning.
- Check for looseness on the bridge collector control panel wiring.
- Inspection of the scum collector emergency shutdown pushbutton.
- Polymer Motorized Valve inspection.
- Pump Drive Casing Bearing Greasing & Shaft seal Inspection.
- Valve Inspection and exercise.
- Polymer Dilution Water Solenoid Valve Inspection.
- P Building-Propeller Mixer Lubrication.
- Primary Tank Valve inspection and exercise.

Annual activities:

- Verification/check of pressure switches- Low & High.
- Calibration of fixed gas detectors.
- Inspect the scum pump motor sheave for signs of wear.
- Scum pump motor and pump alignment check and gearbox oil level check.
- Bridge travel stop switch functional test.
- Check for looseness on the bridge collector stop limit switch striker plate bolts.
- Verification and testing of Primary Effluent Auto Sampler.
- Inspect the sump pit pump impellers and sump pit pump oil seals.
- Bridge rail wheel bearing wear and bridge collector drive tooth assembly checks.
- Scum pump high discharge pressure switch calibration and suction pressure switch calibration.
- Bridge cog wheel drive sprocket assembly checks.
- Bridge collector rail mounting hardware checks.
- Cog wheel drive roller assembly corrosion check.
- Bridge drive gearbox oil level check.
- Lubricate the bridge cog wheel drive sprocket/chain assembly, bridge collector scraper arm pivot point, bridge drive coupling and bridge main drive bearing.
- Bridge collector scraper hoist motor brake check.
- Bridge collector cable hoist drum cable wear check.
- Lubricate the bridge collector cable hoist sheave bearings.
- Bridge collector cable hoist gearbox oil level check.
- Bridge drive assembly alignment check.
- Bridge collector cable hoist sheave wear check.
- Bridge collector sludge rubber scraper blade wear check.
- Bridge collector sludge scraper wear shoe check.
- Bridge scum skimmer blade wear check.
- Bridge collector drive teeth wear check.
- Bridge drive gearbox oil change.
- Bridge collector cable hoist gearbox lubricant change.
- Verification checks of the raw sludge magnetic flow meters.

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- Scum tank ultrasonic level sensor cleaning.
- 600 VAC power strip trolley brush replacement.
- Primary treatment tank safety rail mounting support check.
- Sludge pump discharge valve actuator closed limit setting.
- Busbar/MCC Panel Single line Diagram Update Inspection.
- Scum pump mechanical seal water line check.
- Scum pump mechanical seal oil level check.
- Lubricate the dewatering pump bearings.
- Inspect the dewatering pump mechanical seal plastic sight tubing.
- Temperature transmitter verification and maintenance.
- Level Transmitter Sensor Cleaning and verification.
- Verification checks of Flow switch low.
- Scum collector skimmer plate spring torque check.
- Functional test of the odour control air handler low pressure alarm.
- Inspection of the scum pump motor gearbox oil level and seals.
- Inspect the scum collector motor sheave/gearbox drive belt.
- Propeller Mixer motor Insulation Checks.

Secondary Treatment

Secondary Treatment includes eleven Aeration Tanks, eleven Final Clarification Tanks, and the Plant Water System. The following maintenance was completed in 2025.

Daily activities:

- Inspection of aeration blower air and drive motor inlet filter for build up of dirt.
- Inspection of blower main lubricating pump.
- Flush the water side of the oil heat exchange.
- Observe the glycol pump outlet pressure and record and analyze vibration data for all bearings.

Weekly activities:

- Bi-weekly exercise and lubrication of aeration tank sluice gates.
- Inspect the activated sludge valve packing glands for signs of wear.
- Inspect the aeration tank sluice gate stem covers for signs of cracking and deterioration and mechanical drive.
- Inspection of scum skimmer driver gearbox.
- Verification and testing of autosamplers.
- Verification of aeration air flow meters.
- Verification/check of the gas detector (Bump Testing).
- Testing of eye wash stations.

Monthly activities:

- Inspection of the clarifier tank RAS and WAS pumps.
- Testing of hazardous gas monitors.
- Clean RAS motor variable frequent drives (VFDs).

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- Clean WAS motor variable frequent drives (VFDs).
- Emergency/Exit light inspections.
- Functional test the ground fault interrupters.
- Perform a megger test of the RAS/WAS pumps and blower motor winding insulation.
- Oil analysis of the heat exchanger oil.
- Perform an accuracy test for the RAS and WAS flow meters.
- Perform an accuracy test for the WAS suspended solids analyzer.

Bi-Monthly activities:

- Lubricate final clarifier scum skimmer collector mechanism bearings.
- Inspection of RAS, WAS, Scum pump's motor.
- Inspection of sludge collection drive, chains, flight shoes, etc.
- Verify the operation of the bearing lubrication oil low level alarm circuit.
- Replace the bearing lubricating oil for the blowers/motors.

Quarterly activities:

- Test and check UPSs for RPUs.
- Calibration of gas detectors.
- Maintenance and calibration of final effluent flow meters.
- Exercise of inspection of the effluent bypass gates.
- Inspection of the dry well foundation.
- Conduit flow transmitter verification.

Bi-annual activities:

- Inspection of sump pumps, suction, and discharge lines, check valves, wiring, switches and floats.
- Inspection of A/C equipment.
- Inspection of fans for damage, wear on belt driver fan motor belts.
- Primary Pump Suction Diffuser Strainer Inspection and Service.

Annual activities:

- Replacement of TSS/pH/Temp Electrode for AT2.
- Calibration of final effluent turbidity indication transmitter.
- Maintenance and calibration of final effluent flow meters.
- D Building Plant Water Self cleaning strainer inspection & maintenance.
- Conduit flow transmitter calibration.
- Inspection of door, building, roof, insulation.
- Update of Busbar/MCC SLD inspection.
- Verification of the seal water pressure indicating transmitter.
- Clean seal water tank mechanical floats.
- Fire Detection & Alarm System Test and Inspections.
- Perform a Calibration test for the Mixed Liquor flow meter.
- Inspection, Cleaning, Maintenance & lubrication of the soft start controller.
- Inspection of the wet well foundation.

APPENDIX G – Maintenance Activities

Phosphorous Removal:

Daily activities:

- Inspection of the chemical feed pumps.
- Inspections of the ferrous chloride tanks.
- Inspection of the ferrous chloride sump pumps.

Quarterly activities:

- Test sump pump control wiring, mechanical floats, etc.
- Inspection of the ferrous chloride tanks & containment Areas.
- Verify ferrous chloride instrumentation, FITs, LITs, LSL, LSH, LSHH.
- Test and check UPSs for RPUs.
- Bag strainer Inspection and maintenance.
- Exercise of 3-way valves for bag strainers.

Bi-annual activities:

- Inspection of Chemical Tank heat tracing system.
- Inspection of PRS flow meters for secondary dosing.
- FIT inspection of secondary treatment dosing flow meters.
- Inspection of sump pumps, suction, and discharge lines, check valves, switches and floats.

Annual activities:

- Phosphorous System Inspection and exercise of all valves.

Dewatering

Dewatering includes the Centrifuges, Schwing Silo Pumps, Polymer/Sludge Feed Pumps and all electrical control equipment for dewatering operations. The following maintenance was completed in 2025.

Weekly activities:

- Check and exercise actuated System ball valves.
- Verify accuracy of sludge transfer density transmitter.
- Check visually for any damage or wear on equipment.
- Sludge Feed Sampling Station Inspection
- Inspection and Maintenance of Fan and Fan Motor
- Inspect and Clean Polymer Feeder Screw
- Inspect odour control canister and replace medium if necessary
- Lubricate and exercise gas three-way valves
- Check for damage on the fan, lubricate all levers and linkages
- Inspection of Sludge Transfer pumps
- Visually check tank level and pressure transmitter for any damage or wear
- Check and tighten, if necessary, the stuffing the stuffing box
- Check oil level in Screw Feeder Gear Box
- Check the function of the emergency controls and emergency cord
- Drain condensate water from the hydraulic oil tank

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- Exercise gate valves to fully open and close position
- Filter the oil using an external filtration unit
- Inspect the condition of the loop filter
- Remove the sump pump suction debris, inspect sump pump discharge line, sump pump start float switch, sump pump discharge check valve, sump pump stop float switch, sump pump control wiring and sump pump high float switch
- Auditory inspection of the grinder unit
- Check grinder ACC buffer fluid level
- Visual inspection of the grinder unit
- Lubricate and Exercise Actuated Plug Valves
- Check and ensure the automatic greasers are working properly
- Check the bearing temperature using infrared thermometer and check the bearing fastener
- Check the sludge pump bearing lubrication oil level, oil seal of the polymer metering pump, oil seal of the dewatering centrate pump, centrate pump bearing lubrication oil level
- Inspection of the sliding frame gland and ensure there are no leaks
- Lubricate and exercise gas isolation valves
- Inspect and clean the flame arrester baffle for signs of deterioration

Monthly activities:

- Lubricate and Exercise Actuated Knife Gate Valves
- Check the polymer storage and mixing tank level indicating transmitter electrical connections and level indicating transmitter accuracy
- Flush and clean drains remove any obstructions
- Inspect odour control canister and replace medium if necessary
- Check Gas Monitor
- Inspection and verification of instrumentation
- Perform a megger test of the polymer feed pump motor
- Visual inspection on the polymer metering pump motor variable speed drive start/stop/reset/jog contacts for corrosion, polymer metering pump motor emergency shutdown circuit, check the polymer metering pump high discharge pressure shutdown circuit
- Functional test of the sludge transfer pump discharge to centrifuge pressure indicator
- Inspection of the centrifuge bowl discharge end wear saddles, centrifuge frame liners, centrifuge lid wear liner, oil level in the centrifuge back drive gearbox
- Change the conditioning loop filter
- Check the condition of the screw feeder oil and replace if necessary
- Check the setting of the throttle valves
- Check the strainer on the water/oil cooler inlet and clean if necessary
- Lubricate the pillow block bearing
- Replace the return line hydraulic oil filter
- Take a sample of the hydraulic oil from the hydraulic tank for analysis
- Replace the tension bar thrust bearing
- Record and analyze vibration data of all bearings/
- Verify the pressure setting of the pressure switch
- Inspect, lubricate and service the electric motor
- Replace Rams on Schwing Pumps
- Check the pressure setting of the relief valves
- Lubricate and Exercise Valves on the system
- Inspection of Activated Carbon for Odour Control Systems

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- Quarterly activities
- Check the equalization tank odor control fan drive pulley belt
- Inspection the centrifuge bowl, centrifuge conveyor accelerator, centrifuge conveyor feed nozzles, centrifuge conveyor flights, centrifuge conveyor inserts and retainers, chute section between main conveyor and transfer conveyor
- Inspect the digested sludge flame arresters baffles for signs of deterioration
- Lubricate the equalization tank odor control fan shaft bearings
- Oil analysis of the centrifuge back drive gearbox oil

Bi-annual activities:

- Check the extraction conveyor coupling
- Inspect the recirculating oil system reservoir breather cap strainer
- Replace the centrifuge main motor bearing automatic greaser
- Inspection of the recirculating system flexible feed oil lines
- Calibration and Recertification of the Portable Gas Detectors
- Clean and Inspect Centrate Wet Well Tank
- Drain, pump out and clean Sludge Holding tank using vacuum truck
- Exercise and Lubricate System Valves
- Centrifuge oil analysis
- Check the condition of the extraction conveyor gearbox oil
- Change the gate valve actuator oil and power pack hydraulic oil
- Check and repair the internal walls of the sludge storage silos
- Drain, pump out and clean Equalization tanks using vacuum truck
- Check for wear from the sliding frame hold downs

Annual activities:

- Calibration check of the polymer powder suction pressure indicating transmitter and sludge holding tanks pressure differential transmitter
- Check the hydraulic oil level and temperature
- Inspect the back drive system flexible element
- Inspect the centrifuge back drive toothed driven pulley
- Inspect the centrifuge flexible connector to cake drop chute
- Inspect the centrifuge flexible connector to centrate drop chute
- Inspect the centrifuge main motor drive belts and motor drive pulley
- Inspect the centrifuge toothed drive pulley
- Fire Detection & Alarm System Test and Inspections
- Check auto lubricator on Screw Feeder and Agitator Hopper and replace if necessary.
- Check Hydraulic Oil Level and Temperature and panel lights
- Check water to drain for signs of contamination
- Check/Adjust screw feeder packing

Digestion, Dissolved Air Flotation, and Biogas

Digestion, Air floatation, and Biogas include twenty Anaerobic Digesters, ten DAF tanks and five Waste Gas Burners. The following maintenance were completed in 2025.

APPENDIX G – Maintenance Activities

Dissolved Air Flotation

Weekly activities:

- Inspection of Flotation Tank Chains
- Scheduled restoration of the dissolved air floatation (DAF) tank flight chain oiler needle valve drippers
- Lubricate the dissolved air floatation (DAF) tank top skimmer flight inboard shaft bearings.
- Inspection of the dissolved air floatation (DAF) tank top skimmer flight rubbers for wear and tank top skimmer flight support pipe mounting brackets
- Biweekly Leak check of the polymer metering pumps
- Check, clean and verify Polymer tanks Level Transmitter, Pressure Transmitters, and the DAF Tank Level Transmitter

Monthly activities:

- Verification checks of DAF Tanks flow meters
- Replace the TWAS transfer pump gearbox oil
- Testing of hazardous gas monitors
- Inspection of the polymer metering pump high discharge pressure shutdown circuit, polymer metering pump motor emergency shutdown circuit, and polymer metering pump motor variable speed drive components condition for corrosion
- Inspection of the polymer metering pump inlet pneumatically operated isolation valve instrument feed air filter
- Inspection of the polymer metering pump run dry shutdown circuit and the k the polymer metering pump system pneumatically operated discharge isolation valve instrument feed air filter condition
- Replace oil in the dissolved air floatation (DAF) tank top skimmer main gearbox
- Perform a megger test of the dissolved air floatation tank subnatant recirculating pump motor winding insulation
- Perform a megger test of the polymer mixing tank motor winding insulation and the mixing tank transfer pump motor winding insulation
- Perform a megger test of the TWAS transfer pump motor winding insulation
- Lubricate the TWAS pump gearbox to pump coupling, the TWAS transfer motor bearings and the TWAS transfer pump bearing
- Inspection for wear of the dissolved air floatation (DAF) tank top skimmer drive chain,
- Inspection of the DAF flight skimmer drive motor emergency shutdown circuit
- Inspection of the dissolved air floatation (DAF) tank hopper level indicating transmitter, tank hopper level indicating transmitter electrical connection for corrosion
- Check the dissolved air floatation (DAF) tank inlet isolation plug valve instrument feed air filter
- Flush the dissolved air floatation (DAF) tank air distribution subnatant header.
- Flush the subnatant recycle pump circuit
- Inspection of the subnatant recirculating pump motor emergency shutdown circuit, subnatant recirculation pump motor high-high discharge pressure. Shutdown, subnatant recirculation pump motor low-low discharge pressure shutdown, subnatant recycle pump seal water 'Y' strainer for dirt build-up
- Inspection of the dissolved air floatation (DAF) tank pneumatically operated plant water fill valve instrument feed air filter, dissolved air floatation (DAF) tank subnatant recirculating pump inlet isolation plug valve instrument air feed filter for dirt, Check the dissolved air

floatation (DAF) tank subnatant recirculating pump pneumatically operating discharge isolation valve instrument air feed filter
- Check the dissolved air floatation (DAF) tank subnatant recycle pump discharge valves
- Check the dissolved air floatation (DAF) tank top skimmer flight rubbers for wear, skimmer flight support pipe mounting brackets and the dissolved air floatation (DAF) tanks flow control valve instrument feed air filter condition
- Check the TWAS pump seal water 'Y' strainer for dirt build-up
- Inspection of the TWAS transfer pump high discharge pressure shutdown circuit function, pump motor emergency shutdown circuit, TWAS transfer pump performance, and the TWAS transfer pump run dry shutdown circuit

Bi-Monthly activities:

- Inspection of the mixing tank polymer transfer pump performance
- Leak check/inspection of the dissolved air floatation (DAF) knife gate valves and unwatering valves
- Inspection of the polymer mixing tank high-high level polymer batching system shutdown circuit
- Verification of the polymer mixing tank level indicating transmitter accuracy
- Check the tension on the dissolved air floatation (DAF) tank top skimmer flight chain

Quarterly activities:

- Test and check UPSs for RPUs
- Replace the TWAS transfer pump gearbox oil, polymer mixing tank mixer gearbox oil and the polymer mixing tank polymer transfer system gearbox oil
- Replace the oil for the dissolved air floatation (DAF) tank top skimmer intermediate gearbox
- Lubricate of the TWAS pump motor to gearbox coupling
- Inspection of the polymer mixing tank polymer transfer pump air operated outlet isolation valve instrument feed air filter, transfer pump inlet isolation valve air filter and polymer mixing tank to day tank pneumatically operated rerouting valve inlet air filter
- Inspection of the polymer day tank pneumatically operated inlet isolation valve instrument feed air filter and polymer metering pump system pneumatically operated routing valve instrument feed air filter
- Inspection of the polymer mixing tank transfer pump stuffing box
- Inspect the sump pit pump flanges, impellers, and oil seals
- Inspection of the Vogelsang pump pressurized lubrication system pressure
- Inspection of polymer mixing tank polymer transfer system gearbox oil level

Bi-annual activities:

- Inspection of the dissolved air floatation (DAF) tank top skimmer motor variable speed drive potentiometer for corrosion, tank top skimmer motor variable speed drive start/stop/reset/jog contacts for corrosion and tanks top skimmer motor variable speed drive components for corrosion
- Performance check on the dissolved air floatation (DAF) tank subnatant recirculating pump
- Inspection of the dry polymer feed auger fail safe shutdown circuit, dry polymer feed auger polymer build-up above eductor shutdown circuit

APPENDIX G – Maintenance Activities

- Check the mixing tank level indicating transmitter, mixing tank polymer transfer pump high discharge pressure shutdown circuit
- Inspection of the TWAS transfer pump gearbox condition oil level
- Inspection of the polymer mixing tank mixer gearbox oil level, polymer mixing tank polymer transfer system gearbox oil level
- Inspection of the polymer mixing tank level indicating transmitter sensor, mixing tank low-low level polymer batching system shutdown circuit, mixing tank level indicating transmitter electrical connections, mixing tank transfer pump to drive motor coupling flexible element
- Check the polymer transfer pump motor emergency shutdown circuit
- Check the polymer metering pump pneumatically operated rerouting valve inlet air filter
- Check the mixing tank polymer transfer pump seal water ' Y' Strainer Ref
- Check the mixing tank transfer pump run dry shutdown circuit
- Inspection of the polymer day tank level indicating transmitter accuracy, the polymer day tank level indicating transmitter sensor, polymer day tank level indicating transmitter wiring connection for corrosion
- Inspection of the polymer metering pump seal water ' Y ' strainer and the polymer mixing tank for wear

Annual activities:

- Visual inspection on the polymer metering pump motor variable speed drive potentiometer for corrosion and start/stop/reset/jog contacts for corrosion
- Submersible Pump Inspection
- Check the dry polymer auger feeders for wear

Digestion/Biogas:

Weekly activities:

- Drain the condensate from the primary digester header condensate trap and the condensate from the primary digester mixing header
- Drain the digester gas compressor condensate trap
- Lubricate and exercise the digester gas isolation valves
- Inspection of the Check Mixing Pump and Recirculating Pump
- Functional test of the gas detector high alarm circuit operation
- Functional test of the gas detection audible and visual annunciating devices
- Inspection of digester linear motion mixer
- Lubrication of mixer lower and linear bearing lubrication

Monthly activities:

- Atmosphere Monitoring Alarm Testing
- Calibration of the digester dome pressure indicating transmitter
- Clean and inspect the digester gas compressor inlet thermal valve seat for signs of corrosion.
- Clean the digester dome pressure indicating transmitter orifice
- Functional test of the gas detector high alarm circuit operation control Panel and transmitter

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- Inspect and clean the compressor flame arrester baffle for signs of deterioration
- Inspect and lubricate the isolation valve gearbox
- Inspect the digester dome pressure indicating transmitter wire connections for signs of corrosion and looseness
- Inspect the digester gas compressor inlet thermal fuse and valve pin for signs of corrosion.
- Visual inspection of the digester gas compressor inlet flexible anti vibration joints for signs of fatiguing
- Visually inspect digester gas sediment and condensate tank sight glass for signs of deterioration
- Clean the digester gas compressor pressure switch orifice
- Verify the calibration of the digester gas compressor pressure switch
- Lubricate and exercise the digester gas dome relief gas isolation valve
- Remove the sump pump suction debris, test the sump pump start float switch, sump pump high float switch, sump pump stop float switch
- Inspect the sump pump discharge check valve and sump pump discharge line and test the sump pump control wiring
- Check for looseness of the digester gas compressor mounting bolts
- Lubrication of the duty digester gas compressor/motor coupling
- Clean the condensate tank and sediment accumulator
- Inspect the digester gas compressor drive motor cooling fan blade for signs of cracking or fatigue
- Perform a megger test of the digester gas compressor motor winding insulation
- Record and analyze vibration data of all bearing
- Verify the digester gas low pressure trip circuit operation
- Verify the temperature trip circuit operation

Quarterly activities:

- Clean digester gas compressor pressure indicating transmitter orifices
- Exercise and Lubricate Digester Gas Valves
- Functional test of the PLC battery fault alarm circuit operation and test the RPU UPS low battery alarm circuit operation
- Inspect and clean the flame arrester trap for signs of deterioration
- Inspect digester gas pressure relief valves
- Inspect the digester gas compressor condensate trap for signs of plugging
- Inspect the digester gas compressor pressure indicating transmitter wire connections for signs of corrosion and looseness
- Inspect the gas compressor lubrication drive motor fan cooling shroud screen for signs of plugging with debris
- Leak inspection of the routing and isolation valve flange gaskets
- Lubricate the gas compressor inboard and outboard motor bearings
- Measure the resistance of the influent flow meter to digestion tanks
- Observe the sludge recirculation pump discharge pressure
- Replace the RPU UPSs
- Verify the calibration of the digester gas compressor pressure indicating transmitter

Bi-annual activities:

- Calibrate Gas monitor and certify

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- Check Digester Level Indicating Transmitter Electrical Connections
- Check recirculation pump seal water line
- Check the main digester gas burner regulating valve diaphragm for signs of leakage
- Cleaning of the hot water boiler digester/natural gas flow control butterfly valve
- Flush the digester gas scrubber water line and spray nozzles
- Inspect the digester check valve axle shaft for signs of corrosion
- Inspect the digester compressor check valve hinge pin for signs of wear, check valve seat, spring for signs of fatigue
- Inspect the digester gas flame arrester bank assembly
- Inspect the hot water boiler combustion air fan impeller for signs of contamination
- Lubricate the gas compressor inboard and outboard motor bearing
- Measure the resistance of the digester sludge flow meter element to the equalization tanks
- Measure the resistance of the digester sludge transfer pump flow meter element
- Measure the resistance of the overflow flowmeter
- Perform leak test of the digester/natural gas boiler pressure regulating valve diaphragm
- Remove and clean the digester gas compressor low lubrication pressure switch
- Replace digester/natural gas boiler pressure regulating sensing line filter
- Replace the gas compressor mechanical seals
- Test the digester gas compressor bypass valve
- Verify the pressure alarm circuit operation
- Accuracy checks of the mixing gun gas flow gauge
- Clean and inspect the digester gas inlet thermal valve seat for signs of corrosion
- Clean the digester gas low pressure switch orifice
- Clean the gas compressor lubrication system strainer
- Inspect and clean the flame arrester baffle for signs of deterioration
- Inspect the digester content tank sludge temperature probe
- Inspect the digester gas inlet thermal fuse and valve pin for signs of corrosion
- Lube oil vacuum pressure switch calibration
- Lubricate and exercise digester gas compressor outlet isolation valve
- Lubricate the hot water boiler digester/natural gas flow control valve actuator mechanism
- Lubricate the sludge transfer pump bearings
- Oil analysis of the sludge mixing pump, sludge recirculation pump and analysis of the sludge transfer pump bearing
- Operational test of the digester gas compressor lubrication flow switch shutdown circuit
- Seal and operate the digester/natural gas plug valve
- Tactile inspection of the MSA panel connections for looseness
- Validate the digester gas compressor low lubrication pressure switch and shutdown circuit operation
- Verify Calibration Accuracy of Level Indicating Transmitter
- Verify the boiler gas safety shut off valve shut off integrity

Annual activities:

- Busbar/MCC Panel Single line Diagram Update Inspection
- Calibration and Recertification of the Portable Gas Detectors-MSA
- Calibration checks of the digester gas regulating valve and flow meter transmitter
- Clean and inspect the digester gas inlet thermal valve seat for signs of corrosion
- Fire Detection & Alarm System Test and Inspection
- Functional test of the low seal water flow switch trip circuit operation

APPENDIX G – Maintenance Activities

- Functional test of the primary sludge transfer pump failed to start alarm circuit operation
- Functional test of the recirculation pump failed to start alarm circuit operation
- Functional test of the sludge mixing pump failed to start alarm circuit operation
- Functional test of the transfer valve failed to close alarm operation
- Inspect and clean the flame arrester baffle for signs of deterioration
- Inspect the digester gas inlet thermal fuse and valve pin for signs of corrosion
- Inspect the digester gas compressor temperature transmitter wire connections for signs of corrosion and looseness
- Inspect the hot water recirculation pump discharge check valve pin, check valve seat or flapper
- Inspect the sludge mixing motor/pump drive belts, sheaves and discharge check valve pin
- Inspect the sludge transfer pump discharge check valve pin, check valve seat and/or flapper
- Leak inspection of the routing and isolation valve packing glands
- Leak inspection of the sludge recirculation valves
- Exercise Automatic Safety Shutoff Hydramotor valves
- Sludge mixing pump oil level check
- Ultrasound inspection of the digester condensate/sediment tank and digester gas scrubber tank for signs of corrosion
- Isolation Valve Exercise and Lubrication
- Verification checks of MASS flow meter, control valve and the low seal water flow switch
- Verification checks of the sludge mixing pump discharge pressure alarm switch
- Verification checks of the sludge transfer pump discharge pressure alarm switch
- Verify the calibration of the digester gas compressor temperature transmitter
- Visual inspection of digester gas pipe flange gaskets or valve "O" rings for deterioration

Solids Handling:

Solids Handling includes the Biosolids Storage Silos, Sludge Cake Transfer Pumps, Truck Loading Facility and Biofilters, Odour Control Building, and maintenance for the Lab Building. The following maintenance was completed in 2024.

Weekly activities:

- Lubricate Conveyor Shaft Packing
- Check and top up grease for the auto greaser and other lubrication points

Monthly activities:

- Change the conditioning loop filter
- Check all the bolts and nuts for tightness and wear
- Check the condition of the screw feeder oil and replace if necessary
- check the condition of the spiral screw
- Check the condition of the trough and casing with the end partitions and any trough sections
- Check the condition of the trough lids and safety provisions
- Check the poppet valves for wear, the setting of the throttle valves
- Check the valve operating cylinder for leakage at the seal and piston cups
- Lubricate the pillow block bearing
- Take a sample of the hydraulic oil from the hydraulic tank for analysis
- Combustible, Hydrogen Sulfide Gas & Oxygen Detectors & Alarm Test- Monthly

APPENDIX G – Maintenance Activities

- Lubrication and Exercise of System Knife Gate Valves
- Record and analyze vibration data of all bearing
- Replace the return line hydraulic oil filter
- Check all pneumatic connections are in good condition and not leaking
- Check for leakage around the packing of the gate
- Check that no foreign material is jammed in the screw
- Check that the trough sections bolts are tight enough
- Check the connection at the drive shaft that the bolts are tight enough
- Check the drive gearbox oil level
- Check the gate operating cylinder yoke connection
- check the gate rollers for wear and seizure
- Check the screw drive gearbox and motor mounting bolts ensuring that they are tight enough
- Check the stuffing box and gland packing for leakage and lubricate
- Check the trough welded joints for cracks and various welded joints on the screw for cracks
- Remove cover and check the auto lubricators
- Visually check for leakage around the gate valves
- Visually inspect the limitorque actuator

Quarterly activities:

- Check for debris build-up on the HVAC unit filters
- Check the condition of the spiral screws in conveyors
- Check the connection of the trough and casing with the end partitions and any trough sections
- Check the valve actuating cylinder for leakage at the seal and piston cups and check the condition of the trough lids and the safety provisions
- Check the gate rollers for wear and seizure
- Remove the conveyors covers and examine the liners for wear
- Check and clean the oil cooler if necessary
- Check the pressure setting of the pressure switch, pressure setting of the pump relief valve, the setting of the throttle valve and service the pump electric motors

Bi-annual activities:

- Calibrate Gas monitor and certify
- Change the gate valve actuator and power pack hydraulic oil
- Check and repair the internal walls of the cake storage silo
- Check for debris build-up on the HVAC unit filter (East) and HVAC unit filter (West)
- Check for wear from the sliding frame hold downs
- Check the condition of the extraction conveyor gearbox oil, extraction conveyor coupling
- Check the function & setting of safety and emergency stop
- Check the pressure setting of the relief valve
- Check the screw feeder end bearing, screw feeder shaft and flights for wear
- Check the tension on the HVAC unit blower motor belts
- Check for corrosion on the HVAC unit blower motor contactor contacts
- Check for damage on the HVAC unit structure
- Check for fatigue on the HVAC unit electrical wiring insulation
- Check for looseness on the terminal screws for air handler unit control panel
- Inspect the air handler unit for moisture infiltration
- Inspect the sump pit pump flanges, impellers, oil seals

APPENDIX G – Maintenance Activities

- Remove the covers and examine the liners for wear

Annual activities:

- Check and tighten stuffing boxes as needed
- Check for damage on the fan, wear on the belt driven fan motor belts and lubricate fan bearings
- Remove debris from the belt driven fan inlet/outlet screen
- Flush and clean air handling unit heating coil
- Internal flushing of heating coil tubes
- Take an oil sample from the conveyor gearbox for analysis

Boilers, Air Compressors, and HVAC

Boilers, Air Compressors, and HVAC include the plant-wide hot water system, heating, ventilation, and air conditioning (HVAC), and instrument air compressors (Auxiliary Building). The following maintenance was completed in 2025.

Boilers/HVAC:

Weekly:

- Remove the debris build-up from the cooling unit evaporator coils
- Corrosion checks three-way hot water valve linkage
- Calibration of the three-way hot water valve
- Internal flushing of heating coil tubes
- Flush and clean air handling unit heating coil
- Inspect Fire Pump Skid Alarm Panel
- Check for fatigue on the cooling unit condenser fan blades
- Inspect, maintain, and test air conditioning equipment
- Check for debris in the HVAC unit condensate drain lines
- Inspect, test and power down the actuators
- Visually inspection of discharge pressure, temperature & mechanical seals for leakage

Monthly:

- Verification of Flow Indicating Transmitters
- Visual inspect the gas level indicators
- Functional test of the gas detector high alarm circuit operation
- Observe the primary loop pump VFD cabinet fan for unusual noise
- Visual inspection of hot water recirculation pump for mechanical seal leak
- Calibration of the pressure transmitter & gas detector
- Check the tension on the HVAC unit blower motor belts
- Check for corrosion on the HVAC unit blower motor contactor contacts
- Check for fatigue on the HVAC unit electrical wiring insulation
- Inspect the air handler unit for moisture infiltration

APPENDIX G – Maintenance Activities

- Check for looseness on the terminal screws for air handler unit control panel
- Remove debris from the belt driven fan inlet screen
- Lubricate the fan bearings
- Check for wear on the HVAC unit damper linkage
- Inspection of VFD Cabinet Fan and cleaning

Quarterly:

- Lift tests the pressure relief valves
- Lubricate motor bearings
- Lubricate the hot water recirculation pump bearings
- Visual inspection of the hot water recirculation pump bearing cover seal
- Verify the operation of natural gas pilot safety shut off valve
- Perform a megger test of the steam/hot water heat exchanger feed water pump motor winding insulation
- Verify the operation of the natural gas pilot safety vent valve
- Check the hot water recirculation pump/motor coupling lubricant
- Check for debris build-up on the HVAC unit filter
- Check calibration of refrigerant monitor system
- Visual inspection of the hot water boiler burners for proper alignment and refractory condition

Bi-Annually:

- Fan Lubrication and Inspection Tasks for all Fans across facility
- Accuracy test of the boiler feed water outlet temperature transmitter
- Check for debris in the HVAC unit condensate drain lines
- Visually inspect the steam/hot water heat exchanger feed water pump mechanical seals for leakage
- Visual inspection of the hot water boiler burners for proper alignment and refractory condition
- Check for the wear on the HVAC unit damper linkages
- Visually inspect the primary loop pump mechanical seals for leakage
- Calibration test of the boiler flue gas analyzers
- Exercise the digester three-way hot water valves
- Replace the primary loop pump variable frequency drive (VFD) cabinet filters.
- Verification checks of the digester three-way hot water valve
- Verification checks on boiler instrument low air pressure trip switch operation
- Verification checks on the digester gas high pressure cut out switch
- Accuracy test of the combustion air low pressure cut-out switch
- Verification checks on the digester gas low pressure cut out switch
- Verification of the primary loop pump discharge check valve operation
- Verification test of the boiler stack temperature thermocouple
- Verify the uptake draft actuator operation
- Verify of the inlet damper start limit switch circuit operation
- Flush and clean heat exchanger
- Verify the boiler digester gas flow control valve low fire start position switches/circuit operation
- Lubricate the hot water recirculation pump bearings

APPENDIX G – Maintenance Activities

- Verify the boiler instrument air low pressure trip switch and circuit operation
- Calibration test of the boiler flue gas analyzer
- Verify the boiler stack discharge damper limit switch and circuit function
- Calibration checks of the combustion/stack uptake pressure transmitter
- Verify the boiler stack O2 analyzer alarm and shut down circuit operation
- Lubricate hot water boiler combustion air fan drive motor bearings
- Verify the digester gas high pressure trip switch/circuit operation
- Lubricate the hot water boiler air inlet vane bearings
- Verify the digester gas low pressure cut out switch and circuit operation
- Verification checks of the boiler stack temperature transmitter
- Verify the feed pump low flow trip switch and trip circuit operation
- Lubricate the boiler outlet damper
- Verify the inlet damper actuator low fire position limit switch and circuit operation.
- Internal flushing of heat exchanger tubes
- Verify the inlet damper low purge pressure switch and circuit operation
- Lubricate the hot water recirculation pump bearings
- Verify the inlet damper purge limit switch and circuit operation

Annually:

- Calibration test of the boiler flue gas analyzers
- Calibrate Gas monitor and certify
- Check for damage on the fan unit structures
- Calibrate the pressure switch
- Inspect Filters
- Visually inspect the filter feed pump mechanical seal for signs leakage
- Inspect the air separator automatic vent valve for signs of contamination
- Inspect the primary loop pump drive coupling for signs of wear
- Replace the local control panel UPS cabinet filter and RPU filters
- Test the central heating panel (CP-H) UPS battery
- Calibration checks of the primary loop discharge header pressure transmitter
- Verification checks of the primary loop flow indicating transmitter
- Verification test of the low-pressure switch and the level alarm circuit operation
- Verify the control circuit for the primary loop discharge header pressure switch high-high alarm and locking circuit
- Inspection of Glycol System

Service Air Compressors:

Monthly Activities:

- Comairco service air compressor recommended monthly maintenance
- Emergency / Exit light inspections
- Quarterly activities
- Test and check UPSs for RPUs
- Glycol Conductivity meter Calibration verification

Bi-annual Activities:

APPENDIX G – Maintenance Activities

- Inspection of Auxiliary building sump pumps, seals, flanges, impellers suction, and discharge lines, check valves, wiring, switches, and floats
- Electrical inspection of training center sewage pump
- Comairco service air compressor recommended bi-annual maintenance
- Flow Switch Calibration and verification
- Trim Cooler Heat Exchanger Cleaning

Annual activities:

- Inspection of motorized door and maintenance
- Fire detection and fire alarm systems
- Comairco service air compressor recommended annual maintenance
- Pressure switch adjustment of service air setpoint
- Pressure differential switch setpoint check and adjustment
- Service Air compressor's Benshaw RC-130A wye-delta starter maintenance
- Roof Top Dry Air Cooler Maintenance.
- Primary Glycol Pump Inspection & Maintenance.

Consumables, Mechanical and Welding, Grounds Keeping and Licensed Vehicles

The following maintenance was completed in 2025 for consumables, mechanical and welding, grounds keeping and licensed vehicles.

Machine Shop

- Fabricated parts in welding shop for various work areas
- Fabricated bronze nuts for various gate valves

City Water System & Backflow Preventers (BFP)

- Attending all service calls and repairing done on priority basis
- Installation of oil filled pressure gauges at all main water feed lines

Grounds keeping

- Snow plowing and salting throughout the plant
- Spills clean up, retaining and disinfecting throughout the plant
- Ensured that waste oil is removed from work areas pump into holding tank in a safe manner and scheduled pickup
- Scheduled annual maintenance inspection and repairs for all RTVs, Pick-up truck, boom truck, case tractor forklifts
- Scheduled annual maintenance inspection and repairs for all lifting devices in the plant
- Implemented a comprehensive program across the plant with signs installed at the gate entrance, office entrance, along the roadway, in the washroom, meeting rooms, workshops, elevators etc. These signs provided information on social distancing, limitation of the number of persons inside a location the use of masks, hand washing hand sanitizing and other related safety requirements
- Sanitizing stations were installed at various locations across the plant
- Implemented new policy of disinfecting twice per day all offices and common rooms including change rooms, training room and stairwells

APPENDIX G – Maintenance Activities

- Scheduling waste oil pickup, ensure all empty drums, paint cans, etc., are in the storage area so they can be removed from the plant. All waste oil manifest copy is sent to the appropriate personnel
- Reviewed and upgraded overhead crane maintenance operation and maintenance program

APPENDIX H – Staff Training Courses

APPENDIX H – Staff Training Courses

Training attended by Ashbridges Bay Treatment Plant operations and skilled trades staff in 2025 includes the list of courses below.

Capital Projects Training

- N/A

Health and Safety Training

- ABTP - MOBILE ELEVATING WORK PLATFORMS-SCISSORS LIFT & ZOOM BOOM TRAINING
- AIR PURIFYING RESPIRATORS (2023) CEU
- ARC FLASH FOR NON-QUALIFIED PERSONS (CEU)
- ASBESTOS AWARENESS (CEU)
- CHAINSAW SAFETY AWARENESS (CEU)
- CHLORINE SAFETY / B KIT -CEU (2022-2024)
- CONFINED SPACE AWARENESS 1/2 DAY (CEU)
- CONFINED SPACE ENTRY AND RESCUE - 2 DAY (CEU)
- DESIGNATED SUBSTANCES AWARENESS (CEU)-2025
- DOMESTIC/INTIMATE PARTNER VIOLENCE FOR EMPLOYEES
- DOMESTIC/INTIMATE PARTNER VIOLENCE FOR SUPERVISORS
- ELECTRICAL AWARENESS
- ELECTRICAL SAFETY AWARENESS (CEU)
- FALL PROTECTION AWARENESS
- FALL PROTECTION IN AN INDUSTRIAL WORK SETTING (CEU)
- FIRE SAFETY AND EXTINGUISHER USE (CEU)
- FIRE SAFETY AT WORK
- FORKLIFT - SAFETY PROCEDURE (SP 23)
- FUNDAMENTALS OF LADDER SAFETY AWARENESS (CEU) -2025
- HAZARDOUS NOISE IN THE WORKPLACE
- HEALTH AND SAFETY ASPECTS OF CONTRACTS FOR SERVICES
- HEALTH AND SAFETY ORIENTATION TRAINING PROGRAM - PART B
- HOT WORK PERMIT SYSTEM AWARENESS
- INCIDENT REPORTING
- JHSC MODULE 1: CERTIFICATION PROCESS
- JHSC MODULE 2: OHS IMPORTANCE, ROLES & IRS
- JHSC PRE-COURSE INFORMATION MODULE
- JOINT HEALTH AND SAFETY COMMITTEE (JHSC) CERTIFICATION TRAINING – CERTIFICATION REFRESHER
- JOINT HEALTH AND SAFETY COMMITTEES - (JHSC) CERTIFICATION TRAINING PART I - BASIC
- LOCK OUT, TAG OUT & TEST AWARENESS (CEU) -2024
- MMR – SELF-CONTAINED BREATHING APPARATUS (CEU) 2025
- MOULD AWARENESS
- MTLD - CONCLUSION
- MTLD - EMPLOYEE RELATIONS
- MTLD - OCCUPATIONAL HEALTH & SAFETY
- MTLD - OVERVIEW
- MTLD - P&E POLICIES & PAYROLL
- MTLD - PICKETING ACTIVITY DURING A LABOUR DISRUPTION
- MTLD - SECURITY
- MTLD - STRATEGIC PUBLIC AND EMPLOYEE COMMUNICATIONS
- MTLD REDEPLOYMENT
- MUSCULOSKELETAL DISORDER (MSD) AWARENESS ELEARNING COURSE
- QUATROSAFETY TRAINING FOR CITY OF TORONTO SUPERVISORY STAFF
- QUICK CUT SAW SAFETY AWARENESS (CEU)
- RESPIRATOR PROTECTION - SELECTION, USE & CARE OF AIR PURIFYING RESPIRATORS (APRS)

APPENDIX H – Staff Training Courses

- RESPIRATORY PROTECTION TEST
- RIGGING SAFETY AWARENESS
- SAFETY IN OVERHEAD CRANE OPERATION (CEU)
- SCAFFOLD SAFETY TRAINING
- SITE INCIDENT MANAGEMENT TEAM TRAINING
- STANDARD FIRST AID LEVEL C, CPR & AED -2 DAYS
- TRAFFIC CONTROL ROADWAY WORK
- TRAFFIC CONTROL
- TRANSPORTATION OF DANGEROUS GOODS
- TRENCHING AND EXCAVATION AWARENESS
- WHMIS 2015 ELEARNING MODULE
- WHMIS ELEARNING MODULE
- WORKER HEALTH AND SAFETY AWARENESS IN 4 STEPS
- WORKING AT HEIGHTS
- WORKING AT HEIGHTS REFRESHER (CEU) 2022-2025
- WORKPLACE VIOLENCE LEGISLATION & POLICY REVIEW

Site Specific Training

- ABTP - 5KV SWITCHGEAR TRAINING
- ABTP - CONTRACTOR SAFETY MANAGEMENT PROGRAM
- ABTP - ENTERING & WORKING IN CLASS/DIVISION/ HAZARDOUS LOCATIONS
- ABTP - HYDROSTAL PUMPS
- ABTP - ORO TRAINING
- ABTP - TWAS PROJECT - TRANSFORMER TRAINING
- ABTP - VAUGHAN PUMPS
- ABTP MANUAL - DIGESTER OPERATIONS
- AREA 4: UPS MAINTENANCE
- ABTP - INTEGRATED QUALITY MANAGEMENT (IQMS) AUDIT PREPARATION
- ABTP - WEBINAR - PFAS IN WASTEWATER AND BIOSOLIDS – RISK MANAGEMENT AND TREATMENT STRATEGIES
- ABTP-WEBINAR-ARTIFICIAL INTELLIGENCE ADOPTION FRAMEWORK FOR WATER AND WASTEWATER UTILITIES. THE WATER RESEARCH FOUNDATION
- ABTP-WEBINAR-BLUE GREEN INFRASTRUCTURE – DESIGNING FOR A SUSTAINABLE FUTURE
- ABTP-WEBINAR-IMPLEMENTING MACHINE LEARNING PROCESS CONTROLS AT WATER RESOURCE

Mandatory Tailgate

- ABTP - TAILGATE - CORPORATE SECURITY -SURVIVING AN ACTIVE ATTACKER
- ABTP - TAILGATE - THREE POINT CONTACT
- ABTP - TAILGATE AIR QUALITY AND YOUR HEALTH
- ABTP - TAILGATE CIVILITY IN THE WORKPLACE
- ABTP - TAILGATE DISTRACTED DRIVING
- ABTP - TAILGATE EQUIPMENT SAFETY INSPECT IT BEFORE YOU USE IT
- ABTP - TAILGATE ERGONOMICS INJURIES -SIMPLE PRECAUTIONS
- ABTP - TAILGATE EYEWASH STATION AND EMERGENCY SHOWER
- ABTP - TAILGATE GIANT HOGWEED'S & SIMILAR PLANTS
- ABTP - TAILGATE HAND TOOLS
- ABTP - TAILGATE HEAD PROTECTION HARD HATS/SAFETY SHOES/FLASH UNIFORM
- ABTP - TAILGATE HEAT STRESS
- ABTP - TAILGATE PREVENTING BACK INJURIES
- ABTP - TAILGATE PSYCHOSOCIAL PROGRAM AND RISK ASSESSMENTS
- ABTP - TAILGATE SAFE LIFTING PRACTICES
- ABTP - TAILGATE SAFETY ON THE ROAD
- ABTP - TAILGATE SEWAGE WORKS AND SURFACE WATER SPILL RESPONSE

APPENDIX H – Staff Training Courses

- ABTP - TAILGATE SLIPS, TRIPS AND FALLS
- ABTP - TAILGATE TW EMERGENCY PLAN AWARENESS
- ABTP - TAILGATE- VISION ZERO-SAFETY GUIDE FOR SCHOOL CHILDREN & PARENTS
- ABTP - TAILGATE WINTER DRIVING SAFETY
- ABTP - TAILGATE WORKPLACE VIOLENCE
- CHEMICAL SAFETY AND ACCESSING SAFETY DATA SHEETS WITH SDS RISK ASSIST (TORONTO WATER'S AUGUST 2025 E-LEARNING MANDATORY TAILGATE)
- CHEMICAL SAFETY AND ACCESSING SAFETY DATA SHEETS - TORONTO WATER'S AUG 2025 MANDATORY TAILGATE
- COLD AND WINTER HAZARDS SAFETY TALK- E-LEARNING TORONTO WATER MANDATORY TAILGATE NOV 2025
- COLD AND WINTER HAZARDS SAFETY TALK- TORONTO WATER NOV 2025 MANDATORY TAILGATE
- CYBER SECURITY AWARENESS TAILGATE SESSION MATERIALS
- ELECTRIC VEHICLE ORIENTATION
- EMERGENCY EQUIPMENT (FIRST AID KIT, EYE WASH, FIRE EXTINGUISHER) TORONTO WATER'S NOVEMBER 2024 MANDATORY TAILGATE E-LEARNING
- EMERGENCY PLAN AWARENESS SAFETY TALK - TORONTO WATER'S MAY 2025 MANDATORY TAILGATE
- SAFETY TALK: HEAT STRESS
- TORONTO WATER EMERGENCY PLAN AWARENESS-MAY 2025 MANDATORY TAILGATE E-LEARNING
- WHAT TO DO IF A VEHICLE BREAKS DOWN (FEBRUARY 2025 MANDATORY TAILGATE -TORONTO WATER)
- WHAT TO DO IF A VEHICLE BREAKS DOWN SAFETY TALK (FEBRUARY 2025 MANDATORY TAILGATE FOR TORONTO WATER)

Technical Training

- PORTABLE FIRE EXTINGUISHERS
- 2024 ONTARIO ELECTRICAL SAFETY CODE NEW & AMENDED REQUIREMENTS
- ABTP - CSA Z462 24 WORKPLACE ELECTRICAL SAFETY
- FIRE HYDRANT & VALVE - OPERATION, INSPECTION, MAINTENANCE & INSTALLATION (CEU)
- AGILE: AGILE PRINCIPLES AND METHODOLOGIES
- EXCEL 2019 (WINDOWS): CREATING CHARTS & GRAPHICS IN EXCEL 2019 FOR WINDOWS
- EXCEL 2019 (WINDOWS): FINDING & GROUPING DATA IN EXCEL 2019 FOR WINDOWS
- EXCEL 2019 (WINDOWS): FORECASTING & SOLVING PROBLEMS IN EXCEL 2019 FOR WINDOWS
- ORGANIZING YOUR E-MAIL
- 2025 CYBER SECURITY: BUSINESS EMAIL COMPROMISE (BEC)
- 2025 CYBER SECURITY: EMAIL ACCOUNT COMPROMISE
- 2025 CYBER SECURITY: MALICIOUS DIGITAL QR CODES
- 2025 CYBER SECURITY: RANSOMWARE
- 2025 CYBER SECURITY: REAL OR NOT REAL? HOW DEEP IS THE FAKE?
- 2025 CYBER SECURITY: RISKY USB
- 2025 CYBER SECURITY: SECURING THE HOME OFFICE
- 2025 CYBER SECURITY: SENIOR LEADERSHIP EMAIL IMPERSONATION
- RECOVERY FACILITIES, THE WATER RESEARCH FOUNDATION
- ACCESSING ONEDRIVE FOR BUSINESS
- AGILE MANAGEMENT AND ADAPTIVE PLANNING
- AGILE MANIFESTO PRINCIPLES
- AGILE METHODS AND FRAMEWORKS
- AGILE PLANNING AND ESTIMATION
- AGILE PROBLEM RESOLUTION AND QUALITY MANAGEMENT
- AGILE PROJECT MANAGEMENT OVERVIEW
- AGILE PROJECT SCOPE AND PRIORITIZATION
- ALL NEW ADOBE CAPTIVATE WORKSHOP
- BACKFLOW PREVENTION AWARENESS (CEU) - 2025
- BASIC VIBRATION ANALYSIS

APPENDIX H – Staff Training Courses

- CLASSROOM REVIEW OF COMMON WEAR ITEMS FOR PLANT MACHINERY (CEU)
- CONSTRUCTION ACT TRAINING - VIRTUAL SESSION
- CONTENT SERVER BASICS - PART 3
- CONTENT SERVER BASICS - PART 4
- CONTENT SERVER BASICS - PART 5
- CONTENT SERVER BASICS - PART 6
- DISCOVERING CYBERSECURITY
- DISCOVERING DATA SCIENCE
- DISINFECTION OF POTABLE WATER PIPING (CEU)
- DRINKING WATER QUALITY MANAGEMENT STANDARD (CEU)
- EFFLUENT DISINFECTION -CEU
- EXCEL 365 - ANALYZING DATA WITH LOOKUP FUNCTIONS
- EXCEL 365 INTERMEDIATE
- EXCEL TABLES EXPLAINED IN EXCEL
- EXTERNAL TRAINING FOR END-USERS
- G PERMIT - MODULE 1: INTRODUCTION
- G PERMIT - MODULE 2: FUELING
- G PERMIT - MODULE 3: COLLISION REPORTING
- G PERMIT - MODULE 4: INFRACTIONS
- G PERMIT - MODULE 5: OPERATING CONDITIONS
- G PERMIT - MODULE 6: CVOR
- G PERMIT - MODULE 7: PREVENTATIVE MAINTENANCE
- G PERMIT - MODULE 8: COMPLIANCE MONITORING
- G PERMIT - MODULE 9: CONCLUSION
- G PERMIT VEHICLE OPERATOR ORIENTATION
- GEN102 FINAL COURSE SUMMARY
- GEN104 SAP ARIBA B&I BASIC NAVIGATION
- GETTING STARTED WITH OUTLOOK WEB APP AND DESKTOP APP
- GIS - BRING YOUR ADDRESS DATA TO LIFE BY GEOCODING - VIRTUAL INSTRUCTOR LED TRAINING (VILT)
- IN-SERVICE HEALTH AND SAFETY ORIENTATION- PART C- TORONTO WATER DIVISION 2025
- INTERMEDIATE EXCEL WORKSHOP (LEVEL 2)
- INTERMEDIATE MAPPING WITH QGIS - VIRTUAL INSTRUCTOR-LED TRAINING (VILT)
- INTRODUCTION TO AI AND MICROSOFT CHAT FOR CITY STAFF
- INTRODUCTION TO IT DISASTER RECOVERY
- INTRODUCTION TO QGIS - VIRTUAL INSTRUCTOR-LED TRAINING (VILT)
- JUST THE FACTS: MALWARE
- JUST THE FACTS: WORKING REMOTELY
- LOCKOUT, TAG OUT AND TEST AWARENESS
- LOGBOOK ENTRY (CEU)
- MATHEMATICS FOR OPERATORS: MODULE 1 (CEU)
- MATHEMATICS FOR OPERATORS: MODULE 2 (CEU)
- MEDALLIA AGILE RESEARCH: SURVEYS - VIRTUAL INSTRUCTOR-LED TRAINING (VILT)
- MODULE 1 - INTRODUCTION TO GETTING STARTED WITH WINDOWS 11
- MODULE 1: GEN101 INTRODUCTION AND OVERVIEW OF S4HANA AND FIORI
- MODULE 1: GEN102 OVERVIEW OF REPORTING
- MODULE 2 - WINDOWS 11 RE-DESIGN AND LAYOUT
- MODULE 2: GEN101 HOW TO LOG ON TO FIORI AND FIRST LOOK
- MODULE 2: GEN102 FILTERING REPORTS
- MODULE 3 - WINDOWS 11 SNAP LAYOUTS
- MODULE 3: GEN101 SAP FIORI LAUNCHPAD CUSTOMIZATION
- MODULE 3: GEN102 REPORT NAVIGATION
- MODULE 4 - WINDOWS 11 TASKS AND VIRTUAL DESKTOP
- MODULE 4: GEN101 SAP USER PREFERENCES
- MODULE 4: GEN102 VIEWS AND PERSONALIZED TILES

APPENDIX H – Staff Training Courses

- MODULE 5: GEN101 ACCESSIBILITY
- MODULE 5: GEN102 EXPORTING DATA
- MODULE 6: GEN101 FILTERING DATA IN S4HANA APPS
- MODULE 6: GEN102 CUSTOM ANALYTICAL REPORTING
- NEW EMPLOYEE ORIENTATION: TECHNOLOGY ONBOARDING - VIRTUAL INSTRUCTOR LED TRAINING (VILT)
- OIT EXAM IN ALL 4 DISCIPLINES (WATER TREATMENT, WATER DISTRIBUTION, WASTEWATER TREATMENT, AND WASTEWATER COLLECTION).
- PCI COMPLIANCE AWARENESS TRAINING
- SCADA CYBERSECURITY TRAINING
- SURFACE WATER TREATMENT AND QUALITY (CEU)
- TORONTO WATER ORIENTATION
- WASTEWATER DIGESTER OPERATION & CONTROL
- WASTEWATER TREATMENT EXAM PREP LEVEL 1 & 2 (4 DAYS)
- WASTEWATER TREATMENT EXAM PREP LEVEL 3 & 4 (4 DAYS)
- WATER SYSTEM REPAIRS: INTRODUCTION TO OXY-ACETYLENE CUTTING AND STICK WELDING -2 DAY (CEU)
- WATER VALVE OPERATION AND MAINTENANCE (CEU)
- WMS AVANTIS WORKSHOP
- WORK BYTES - INTRODUCTION
- WORK BYTES - PASSWORD SECURITY
- WORK BYTES - PHISHING
- WORK BYTES - PHYSICAL SECURITY
- WORK BYTES - PUBLIC WI-FI
- WORK BYTES - SOCIAL ENGINEERING
- WORK BYTES - SOCIAL MEDIA BEST PRACTICES
- WORK BYTES: BUSINESS EMAIL COMPROMISE
- WORK BYTES: INTERNET OF THINGS
- WORK BYTES: MOBILE SECURITY
- WORK BYTES: WORKING REMOTELY
- WORKING WITH PRESSURIZED SYSTEMS (CEU)

Other Training

- BASIC ACCOUNTING CONCEPTS FOR NON-FINANCIAL PROFESSIONALS
- BUILDING UP YOUR EMOTIONAL INTELLIGENCE
- CLARITY AND CONCISENESS IN BUSINESS WRITING
- DEVELOPING A PLAN TO FURTHER YOUR CAREER
- 10 MISTAKES LEADERS SHOULD AVOID
- 10 STEPS TO A PROFESSIONAL COVER LETTER
- 13 THINGS MENTALLY STRONG PEOPLE DON'T DO | AMY MORIN
- 168 HOURS
- 6 TIPS TO ACHIEVE WORK-LIFE BALANCE
- 8 STEPS TO EFFECTIVE TEAM MEETINGS
- A DAY IN THE LIFE OF A DATA SCIENTIST
- A SIMPLE LAMBDA IN EXCEL
- A TRICK TO VIRAL MARKETING
- ACCEPTABLE USE OF INFORMATION TECHNOLOGY ASSETS POLICY
- ACCESS TO INFORMATION AND PROTECTION OF PRIVACY
- ACCESSIBILITY 101
- ALLOW YOUR PEOPLE TO BRING THEIR HUMANITY TO WORK: WHAT LEADERS CAN DO TO IMPROVE EMPLOYEE ENGAGEMENT
- BUSINESS EMAIL COMPROMISE
- CEREMONIAL PRACTICE OF BURNING OF INDIGENOUS MEDICINES (SMUDGING) POLICY
- CIMPL- ORDER A NEW SERVICE

APPENDIX H – Staff Training Courses

- CIMPL- ORDER HARDWARE WITH EXISTING MOBILE
- CITY BENEFITS SEMINARS
- CITY STORES WEB FORM - HOW TO CREATE AN ORDER
- COACHING PERFORMANCE FOR YOUR TEAM
- CONFLICT RESOLUTION & NEGOTIATION SKILLS
- COPING WITH SHIFT WORK
- CREATING GREAT CUSTOMER CONVERSATIONS
- DIVISIONAL PURCHASE ORDER TRAINING
- ELI PRIVACY ACKNOWLEDGMENT
- EMAIL ETIQUETTE: 01. TO EMAIL OR NOT TO EMAIL?
- EMAIL ETIQUETTE: 02. SPELLING AND GRAMMAR CHECK
- EMAIL ETIQUETTE: 03. SUBJECT LINE
- EMAIL ETIQUETTE: 04. SCHEDULING EVENTS AND CALLS THROUGH EMAIL
- EMAIL ETIQUETTE: 05. SENDING ATTACHMENTS
- EMAIL ETIQUETTE: 06. REPLY TIME
- EMAIL ETIQUETTE: 07. WHEN TO CC AND BCC
- EMAIL ETIQUETTE: 08. USING REPLY ALL
- EMAIL ETIQUETTE: 09. FORWARDING EMAILS
- EMOTIONAL INTELLIGENCE CRASH COURSE: SOCIAL AWARENESS
- EMPLOYEE ORIENTATION (VIRTUAL INSTRUCTOR-LED SESSION)
- ESS/MSS ETIME SELF-REPORTING VIRTUAL INSTRUCTOR-LED TRAINING (VILT)
- ESSENTIALS IN CREATING ACCESSIBLE DOCUMENTS: WORD - VIRTUAL INSTRUCTOR LED TRAINING (VILT)
- GIVING FEEDBACK SKILLBOOK
- GUIDANCE FOR THE RESPONSIBLE USE OF GENERATIVE ARTIFICIAL INTELLIGENCE
- HAND TOOL SAFETY
- HOW MENTAL HEALTH PRESENTS
- HUMAN RIGHTS 101
- HUMAN RIGHTS AND WORKPLACE HARASSMENT ESSENTIALS FOR MANAGEMENT
- IMAGE LIBRARY INTRODUCTORY TRAINING (MS TEAMS)
- INDIGENOUS AWARENESS TRAINING: TRUTH AND RECONCILIATION
- INTRODUCTION TO INDIGENOUS LEARNING
- LD CONFIDENTIALITY AGREEMENT
- LEAD WITH COMPASSION
- LEADERSHIP: PRACTICAL LEADERSHIP SKILLS
- LEARNING AND LEADING WITH HUMAN RIGHTS
- LET'S TALK ABOUT ALLYSHIP
- LET'S TALK ABOUT BIAS
- LET'S TALK ABOUT COLONIALISM
- LET'S TALK ABOUT EQUITY
- LET'S TALK ABOUT PRIVILEGE
- LET'S TALK ABOUT SYSTEMIC INJUSTICE
- MENTAL HEALTH, WELLNESS AND RESILIENCE IN THE WORKPLACE
- MORE WAYS OF PROMOTING WELLBEING IN THE WORKPLACE
- ONENOTE FOR MICROSOFT 365 - VIRTUAL INSTRUCTOR LED TRAINING (VILT)
- OUTLOOK SEARCH MADE EASY
- P2P303 ARIBA B&I MANAGE PURCHASE REQUISITIONS
- P2P305A ARIBA B&I MANAGE PO-BASED INVOICES
- P2P306 ARIBA B&I MANAGING GOODS RECEIPTS & SERVICE ENTRY SHEETS
- PASSWORD SECURITY BRIEF
- PAYROLL, PENSIONS & EMPLOYEE BENEFITS DURING A LABOUR DISRUPTION
- PERFORMANCE MANAGEMENT: OBJECTIVE SETTING
- PROTECTING PRIVACY ON THE JOB
- RESPECT IN OUR WORKPLACE -2025
- RESPECT IN OUR WORKPLACE ELEARNING

APPENDIX H – Staff Training Courses

- RETIREMENT PLANNING SEMINARS
- SAFE DRINKING WATER ACT AND APPLICABLE DRINKING WATER REGULATIONS (CEU)
- SAP INTRODUCTION: NAVIGATION AND REPORTS
- SAP INVENTORY MANAGEMENT
- SAP NAVIGATION & REPORTING FOR CENTRAL BUYER
- SAP PROCUREMENT
- SAP PROCUREMENT APPROVER
- SAP S/4HANA A2R101: ACQUIRE TO RETIRE OVERVIEW COURSE
- SAP S/4HANA A2R202: TCA CAPITALIZATION PROCESS COURSE
- SAP S/4HANA FM101: FUNDS MANAGEMENT OVERVIEW COURSE
- SAP S/4HANA FM201: MANAGE FUNDS MANAGEMENT (FM) MASTER DATA AND MASTER DATA GROUPS COURSE
- SAP S/4HANA FM203: FUNDS MANAGEMENT BUDGETING COURSE
- SAP S/4HANA FM208: FUNDS MANAGEMENT REPORTING COURSE
- SAP S/4HANA GEN101: FIORI OVERVIEW AND BASIC NAVIGATION COURSE
- SAP S/4HANA GEN102: REPORTING GENERAL OVERVIEW COURSE
- SAP S/4HANA P2P101: PROCURE TO PAY OVERVIEW COURSE
- SAP S/4HANA P2P204: MANAGE REQUISITIONS COURSE
- SAP S/4HANA P2P205: MANAGE PURCHASE ORDERS (PO) COURSE
- SAP S/4HANA P2P206: MANAGE RECEIPTS COURSE
- SAP S/4HANA PC101: PCARD COURSE FOR XPONENTIAL S/4 SYSTEM
- SAP S/4HANA R2R101: RECORD TO REPORT OVERVIEW COURSE
- SAP S/4HANA R2R201: MANAGE TRANSACTION PROCESSING COURSE
- SAP S/4HANA R2R211: SUPPLIER REPORTS COURSE
- SAP S/4HANA S2C101: SERVICE TO CASH OVERVIEW COURSE
- SAP S/4HANA TRM101: TREASURY MANAGEMENT OVERVIEW COURSE
- SEARCH FOLDERS IN OUTLOOK
- SETTING SMART GOALS FOR SUCCESS
- SHARING KNOWLEDGE FOR SUCCESS (2024)
- SMART GOALS
- TAKE OWNERSHIP OF YOUR CAREER
- TELLING STORIES WITH MULTIPLE CHARTS
- THE TORONTO PUBLIC SERVICE BY-LAW ELEARNING
- THE TORONTO PUBLIC SERVICE COMPETENCIES MODEL
- TIME MANAGEMENT OVERVIEW
- UNCONSCIOUS BIAS FOR PEOPLE LEADERS
- VACATION SAVINGS PAY: CUPE L79, L416 AND NON-UNION EMPLOYEES