Township of SEVERN

Collection System

Coldwater

2024 Annual Report

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Introduction

Township of Severn prepared the 2024 annual report for the Coldwater Wastewater Collection System in compliance with the Environmental Compliance Approval (ECA Number 148-W601, Issue 1, dated May 19, 2023). This report summarizes notable operating events, repair and maintenance, non- compliance issues, Influent quality, and flow data for 2024. This report is based on operating data collected and compiled by the Township of Severn. The Coldwater Wastewater Collection System consists of 5 sewage pump stations.

- Main SPS
- Reinbird SPS
- Hardware SPS
- Community Centre SPS
- Donlands SPS

All sewage pump stations have a control panel for pump and level controls. Two (2) submersible pumps are installed at each station and are run as lead lag, the exceptions being Reinbird SPS and the Main SPS. Reinbird SPS only contains one (1) submersible pump and Main SPS contains three (3) submersible pumps. All pump stations pump wastewater to one main pump station. The main pump station delivers wastewater to the Coldwater WPCP. Each station is equipped with a level transducer with float back-ups (lead and lag start) and a high-level float. In this system all stations are equipped with UPS battery backups and TOSIBOX for remote access and allows for communication with the Coldwater Water Pollution Control Plant so that trending can be monitored and to also receive station alarms. The Coldwater Water Pollution Control Plant has a SCADA program to trend pump station operations.

Generators

The Coldwater collection system has two (2) stand-alone generators. One is located at the Main SPS, and the other is located at Hardware SPS. Both are tested underload monthly. All stations have the capability to have portable generators connected for power outages in the system.

Raw Sewage Quality

Table 1 illustrates the monthly and annual average raw sewage quality results.

Table 1: 2024 Monthly Raw Influent Quality

Month	$CBOD_5$ (mg/L)	TSS (mg/L)	Total Phosphorus (mg/L)	TKN (mg/L)
January	67	78	2.43	22.6
February	86	88	2.41	26.1
March	37	61	1.54	17.4
April	49	66	1.56	20.8
May	52	71	2.10	22.2
June	187	182	5.95	53.2
July	173	154	4.83	44.1
August	168	220	6.49	45.6
September	196	220	5.24	49.5
October	254	260	7.15	65.7
November	161	209	5.70	53.1
December	115	160	2.77	25.6
Average	**129**	**148**	**4.00**	**37.0**

Pump Station Capacity and Flow

Main pump station is equipped with (3) submersible sewage pumps, with a pumping capacity of 18.8 L/s at 16m T.D.H. The pump station pumps directly to the Coldwater Water Pollution Control Plant.

Reinbird pump station is equipped with (1) submersible sewage pumps rated at 60Hz/230V/5hp/14 FLA/ 3phase. The station pumps via force main to the River Street sewer.

Hardware pump station is equipped with (2) submersible sewage pumps. Each rated for 5hp/60Hz/3phase. The station is pumped to the River Street sewer.

Community Centre pump station is equipped with (2) submersible sewage pumps. Each rated 60Hz/600V/5hp/ 5FLA/ 3phase. The station is pumped via force main to the Coldwater Road sewer.

Donlands pump station is equipped with (2) submersible sewage pumps. Each rated 2.28 L/s at 10.4m TDH. The station is pumped via force main to the Gray Street sewer.

Influent Flows

The rated capacity of the Coldwater WPCP is 921 m3/day (average daily flow) with a peak flow rate of 3,420 m3/day, as listed in the C of A.

Table 2 shows daily and monthly average influent flows.

Table 2: Summary of Influent Flows

Month	Total Monthly Flow (m^3)	Average Daily Flow (m^3/day)	Average Daily Flow (% of Rated Capacity)	Peak Daily Flow (m^3/day)	Peak Daily Flow (% of Rated Capacity)	Peak Daily Flow (% of Rated Peak Flow)
January	27513	888	96%	1217	132%	35%
February	29248	1009	109%	1352	146%	39%
March	34113	1100	119%	1353	146%	39%
April	40044	1335	144%	2185	237%	63%
May	20050	647	70%	1198	130%	35%
June	16212	540	58%	717	77%	20%
July	16206	523	56%	1050	114%	30%
August	12104	390	42%	541	58%	15%
September	10216	341	37%	453	49%	13%
October	9840	317	34%	414	44%	12%
November	10872	362	39%	551	59%	16%
December	23417	755	81%	1504	163%	43%
Average	20819	684		1044		
Max	40044	1335		2185		
Total	249835					

Charts

Figure 1: Coldwater WWTP 2024 total monthly flow total values are in (m3)

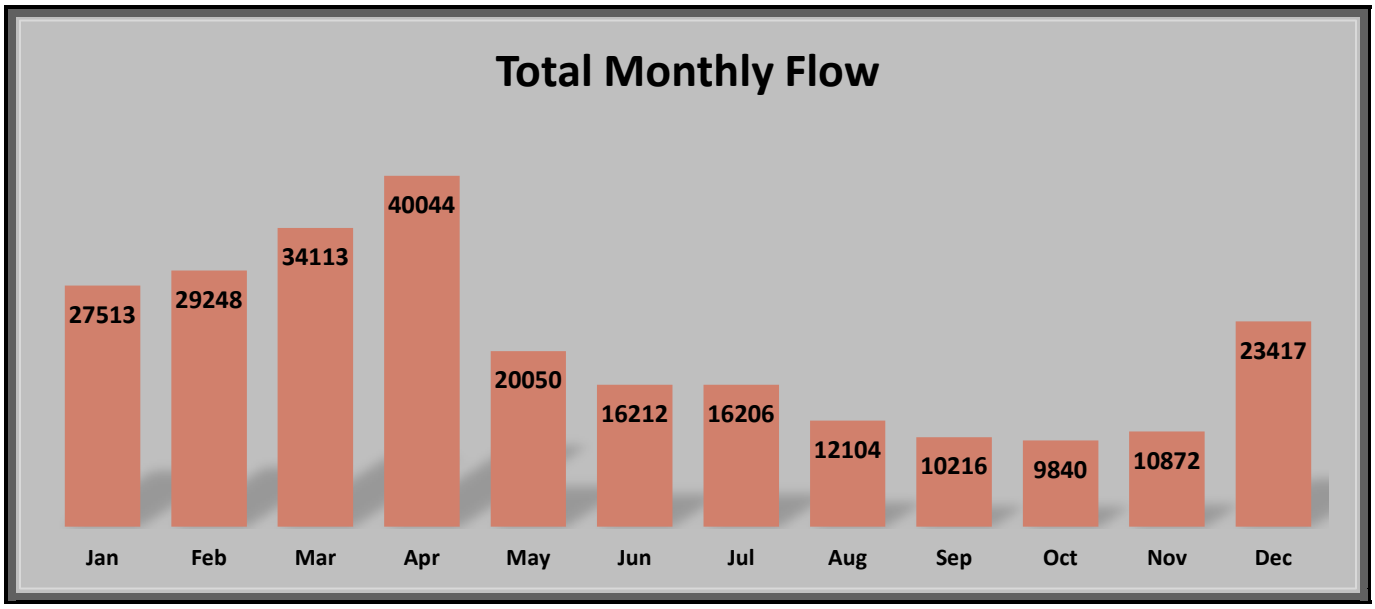
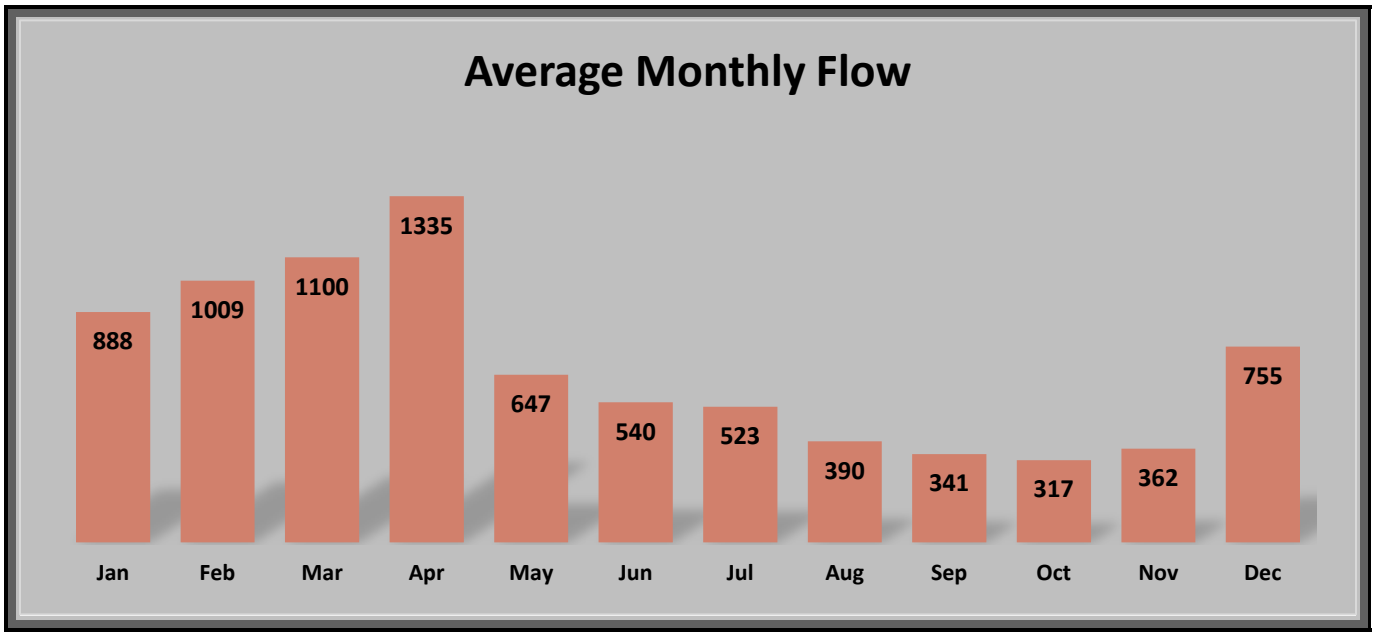


Figure 2: Coldwater WWTP 2024 average monthly flow total values are in (m3)



Maintenance Summary

Collection System

All maintenance in 2024 on major structures, apparatus and/or mechanical equipment is summarized below. The following is a list of preventative and emergency maintenance completed on the sewer system in 2024:

- Sewage Pump stations cleaned to remove grease, grit, and other debris.
- All sewage pumping station alarms were tested monthly.
- All floats in the sewage pumping stations were inspected and cleaned monthly.
- Debris removed from pumps in the sewage pumping stations as warranted.
- Approximately 25% of maintenance holes were inspected.
- All generators were serviced.
- Flushed approximately 2314 m of sewer main.
- Inspected 1135 m of sewer main by video camera to identify necessary repairs.

Summary of Complaints

There were no complaints in 2024 related to Municipal infrastructure.

Summary of Calibration and Maintenance on Effluent Monitoring Equipment

Magnetic flow meters were calibrated by a certified technician on February 27, 2024. All in-house and collection system monitoring equipment is calibrated based on the manufacturer's recommendations.

Summary of By-Pass, Spills or Abnormal Discharge Events

There were no bypasses, spills, or abnormal discharge events in 2024.

System Alterations

There were no system alterations in 2024.