

2023 MUNICIPAL SEWAGE COLLECTION SYSTEM ANNUAL REPORT

WELLINGTON NORTH
SEWAGE COLLECTION
SYSTEM



For the period of
January 1st, 2023 to December 31st, 2023

Prepared for The Township of Wellington North by the Ontario Clean Water Agency



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1. Municipal Sewage Collection System- Annual Performance Report

This report was prepared in accordance with the requirements of the Environmental Compliance Approval for a Municipal Sewage Collection Systems, Schedule E, Section 4.6.1.

Municipal Sewage Collection System ECA #	113-W601, Issue 1
Sewage Works	Township of Wellington North Sewage Collection System
Collection System Owner	The Corporation of the Township of Wellington North
Reporting Period	January 1, 2023 to December 31, 2023

Is the Annual Report available to the public at no charge on a website on the Internet?

Yes

Note: As per Schedule E, Section 4.7.1 of CLI-ECA #113-W601, the annual performance report must be made available, on request and without charge, to members of the public who are served by the Authorized System; and 4.7.2 must be made available, by June 1st of the same reporting year, to members of the public without charge by publishing the report on the Internet, if the Owner maintains a website on the Internet.

Location where Annual Performance Report required under CLI-ECA #113-W601 Schedule E will be available for inspection. (CLI-ECA #113-W601, Schedule E, Section 4.6.1 & 4.7.1):

- Township of Wellington North Public Works Office, 7490 Sideroad 7 West, Kenilworth, Ontario, N0G 2E0
- <http://www.wellington-north.com>

Pursuant to Schedule E, sections 4.6.3 to 4.6.9, this Annual Performance Report shall:

- a) If applicable, includes a summary of all required monitoring data along with an interpretation of the data and any conclusion drawn from the data evaluation about the need for future modifications to the Authorized System or system operations.
- b) If applicable, include a summary of any operating problems encountered and corrective actions taken.
- c) Includes a summary of all calibration, maintenance, and repairs carried out on any major structure, Equipment, apparatus, mechanism, or thing forming part of the Municipal Sewage Collection System.
- d) Include a summary of any complaints related to the Sewage Works received during the reporting period and any steps taken to address the complaints.
- e) Include a summary of all Alterations to the Authorized System within the reporting period that are authorized by this Approval including a list of Alterations that pose a Significant Drinking Water Threat.
- f) Include a summary of all Collection System Overflow(s) and Spill(s) of Sewage, including:
 - i. Dates;
 - ii. Volumes and durations;

- iii. If applicable, loadings for total suspended solids, BOD, total phosphorus and total Kjeldahl nitrogen, and sampling results for E.Coli;
 - iv. Disinfection, if any; and
 - v. Any adverse impact(s) and any corrective actions, if applicable.
- g) Includes a summary of efforts made to reduce Collection System Overflows, Spills, STP Overflows, and/or STP Bypasses, including the following items, as applicable:
- i. A description of projects undertaken and completed in the Authorized System that result in overall overflow reduction or elimination including expenditures and proposed projects to eliminate overflows with estimated budget forecast for the year following that for which the report is submitted.
 - ii. Details of the establishment and maintenance of a PPCP, including a summary of project progresses compared to the PPCP's timelines.
 - iii. An assessment of the effectiveness of each action taken.
 - iv. An assessment of the ability to meet Procedure F-5-1 or Procedure F-5-5 objectives (as applicable) and if able to meet the objectives, an overview of next steps and estimated timelines to meet the objectives.
 - v. Public reporting approach including proactive efforts.

1.1 Description of the Works

The Township of Wellington North Municipal Sewage Collection System is owned by Corporation of the Township of Wellington North and operated on behalf of the Owner by the Ontario Clean Water Agency. The Township of Wellington North Sewage Collection System includes two separate systems; one to serve the distinct urban area of Arthur (Arthur Sewage Collection System) and the other to serve the distinct urban area of Mount Forest (Mount Forest Sewage Collection System).

The Wellington North Municipal Sewage Collection System contains no combined sewage pumping stations, no combined sewage storage structures or combined storage tanks. The authorized collection system also contains no authorized combined sewer collection system overflow points and three (3) authorized sanitary sewer overflow points under emergency conditions as needed (including pumping stations). They include:

- Fredrick St. SPS bypass (overflow) chamber- where the overflow location is an inlet sewer under extreme flow events discharging to Conestogo River.
- North Water St SPS - where the overflow location is an outfall sewer discharging to Saugeen River.
- Durham St SPS - where the overflow location is a overflow sewer discharging to and overflow pipe to adjacent manhole (MH5) and ultimately to Saugeen River.

Below you will find a description of each of the two separate systems that combine to form the Wellington North Municipal Sewage Collection System.

The Arthur Sewage Collection System

The Arthur Sewage Collection System serves the distinct urban area of Arthur and consists of works for the collection and transmission of sewage, consisting of trunk sewers, separate sewers, sewage pumping stations and forcemains, with discharge to the Arthur Wastewater Treatment Plant (WWTP) and effluent storage lagoon facilities. Treated effluent from the WWTP is discharged to the Conestogo River during the discharge period (October 1st to May 31st inclusive) provided there is adequate flow in the river and is stored in the lagoons during the non-discharge period (June 1st to September 30th inclusive), until discharging to the Conestogo River is permitted. The sewage pumping Stations in the Authorized Arthur Sewage Collection System include:

- Frederick St SPS – which receives the majority of sewage flows by gravity from the community of Arthur. The SPS pumps directly into the Arthur WWTP via forcemain. The SPS consists of a wet well, emergency storage (for overflow/bypass), three variable speed pumps, MCC, PLC based control system and high levels floats and alarms. A standby diesel generator is one site to supply the SPS with power in the case of emergencies.
- Wells St SPS - which receives primarily industrial sewage flows by gravity from user located in west Arthur flows from the community of Arthur. The SPS pumps to a maintenance hole which consists of a trunk sewer that pumps to Arthur WWTP. The SPS consists of a wet well, emergency storage, two submersible pumps and is connected to a discharge forcemain with three flushing connections.

The Mount Forest Sewage Collection System

The Mount Forest Sewage Collection System serves the distinct urban area of Mount Forest and consists of works for the collection and transmission of sewage, consisting of trunk sewers, separate sewers, sewage pumping stations and forcemains, with discharge to the Mount Forest WWTP. Treated effluent from the WWTP is discharged to the South Saugeen River. The sewage pumping Stations in the Authorized Mount Forest Sewage Collection System include:

- Cork St SPS - which receives sewage flows by gravity from the west portion of the community of Mount Forest, including sewage from Perth St. SPS. The SPS pumps to the Arthur St. SPS via forcemain. The SPS consists of a wet well, two submersible speed VFD pumps, electrical and electronic control system and high levels floats and alarms. A standby diesel generator is one site to supply the SPS with power in the case of emergencies.
- Durham St SPS - which receives sewage flows by gravity from the most northern portion of the community of Mount Forest. The SPS pumps to the North Water St. SPS via forcemain. The SPS consists of a wet well, three submersible pumps, electrical and electronic control system, high levels floats and alarms and emergency overflow pipe. A standby diesel generator is one site to supply the SPS with power in the case of emergencies.

- Perth St. SPS - which receives sewage flows by gravity from the Perth St. Industrial area in the community of Mount Forest. The SPS pumps to the Cork St. SPS via forcemain. The SPS consists of a wet well and two submersible pumps.
- North Water St SPS - which receives sewage flows by gravity from all serviced area in the community of Mount Forest, including from all other SPSs. The SPS pumps directly to the influent Works building at mount Forest WWTP via forcemain. The SPS consists of a wet well and variable speed pumps, emergency storage, flow metering chamber and surge vessel. A standby diesel generator is one site to supply the SPS with power in the case of emergencies.
- South Water St SPS – is not currently constructed. It is design to service the Avila subdivision and South Water St and will pump to the North Water SPS via forcemain.

Prior to January 10, 2023, three of the seven pumping stations were captured under the WWTP CoA while the following SPS were captured under ECA numbers:

- Cork St SPS - ECA 8755-7WZKNW
- Durham St SPS - ECA 1899-873P7E
- Perth St SPS - ECA 3-1843-98-996
- South Water St SPS - ECA 0618-BV4T7S

On January 10, 2023, Municipal Sewage Collection System ECA Number 113-W601, Issue 1, was issued to the Wellington North Sewage Collection System incorporating all Pumping Stations, sewers, separate sewers and forcemains into one Consolidated Linear Infrastructure ECA. As such, all prior ECAs, issued by the Director for Sewage Works are considered revoked and replaced by ECA Number 113-W601.

1.2 Summary of Monitoring Data and Interpretation

No monitoring data was collected or required within the municipal sewage collection system for the reporting period.

1.3 Summary of Operating Problems Encountered and Corrective Actions Taken

There were no operating problems encountered within the municipal sewage collection system for the reporting period.

1.4 Summary of Calibration, Maintenance, and Repairs

All in-house monitoring equipment is calibrated/verified as per manufacturer's recommendations. Monitoring and metering equipment is also calibrated by a third party on an annual basis. Preventative maintenance is scheduled for all equipment at the sewage treatment plant and pumping stations at regular frequency (frequency depends on the equipment and type of maintenance). Maintenance activities are scheduled within the work management system

Maximo, upon completion, Operators set the work order to complete. On a monthly basis, preventative work orders are reviewed for completion.

Indus Control was contracted to calibrate flow measuring equipment within the Sewage Pump Stations on September 15, 2023. Copies of these calibration reports can be found in **Appendix A** of this report.

For the reporting period the following maintenance and repairs were completed

1.4.1 Maintenance and Repairs at Mount Forest SPSs and Collection System

- Manhole inspections
- Sewer main flushing
- Cork St. SPS
 - Annual pump inspections
 - 3rd Party generator inspection and load testing
 - Annual Wet Well Inspection and Clean out
- Durham St. SPS
 - Annual pump inspections
 - 3rd Party generator inspection and load testing
 - Annual Wet Well Inspection and Clean out
- North Water St. SPS
 - Annual pump inspections
 - 3rd Party generator inspection and load testing
 - Annual Wet Well Inspection and Clean out
- Perth St. SPS
 - Annual pump inspections
 - PLC upgrades
 - Annual Wet Well Inspection and Clean out
- South Water St. SPS - is not currently constructed. It is design to service the Avila subdivision and South Water St and will pump to the North Water SPS via forcemain.

1.4.2 Maintenance and Repairs at Arthur SPSs and Collection System

- Manhole inspections
- Sewer main flushing
- Frederick St. SPS
 - Annual pump inspections
 - 3rd Party generator inspection and load testing
 - Annual Wet Well Inspection and Clean out
- Wells St. SPS
 - Annual pump inspections

- 3rd Party generator inspection and load testing
- Annual Wet Well Inspection and Clean out
- Emergency Forcemain repair to the elbow at the bottom of the wet well

1.5 Community Complaints Received in Relation to the Sewage Works

A standard operating procedure (SOP) is in place for addressing complaints received from the community. All complaints are addressed and documented in the facility logbook. Community complaint information is entered in OCWA's WMS database system "Maximo". This system contains all the required information and history of all complaints.

There were no complaints reported during the reporting period.

1.6 Alterations to the Authorized System

There were no alterations to the authorized system that occurred during the reporting period.

1.7 Summary of Collection System Overflow(s) and Spill(s) of Sewage

There were no collection system overflow(s) or spill(s) events that occurred during the reporting period.

1.8 Efforts Made to Reduce Collection System Overflows, Spills, STP Overflows, and/or STP Bypasses

The sewage pump stations are equipped with alarm monitoring for high flow events. Preventative maintenance procedures are in place to ensure the sewage pump stations are operating as designed and include:

- Annual pump inspections and life cycle replacements
- 3rd Party generator inspection and load testing
- Annual Wet Well Inspection and Clean outs

**2023 Municipal Sewage Collection System - Annual Performance Report
Environmental Compliance Approval for a Municipal Sewage Collection Systems:
113-W601**

Appendix A

Sewage Pump Station Calibration Reports

2023



IndusControl Inc.
3170 Ridgeway Drive Unit 11
Mississauga, ON, L5L 5R4

VERIFICATION REPORT
FLOW MEASUREMENT

Customer Name: OCWA-Georgian Highlands Region
Plant Name: Mount Forest WWTP

Site/Plant Address: 650 Cork Street
Mount Forest, ON

Device Information
Make: Endress + Hauser
Model: Promag 50
Serial No.: D6020C16000
Ocwa Id: 0000205529
Job Location: Cork St Station Flow

Service Information
Verification Date: September 15, 2023
Report No: CO1481-2308-09

Clamp ON Sensor Parameters
Line size: 200 mm
Pipe Material: Stainless Steel

Customer Device Information
Unit: l/s
Flow Range: NA
Current Output: 4-20 mA
4 mA Set Point: NA
20 mA Set Point: NA

Inst. Reading	AS FOUND	AS LEFT
Totalizer (m3)	1854681	1854681
Flow (L/s)	0.0	0.0

Maintenance Checklist	Remarks
Visual Inspection: <input checked="" type="checkbox"/> OK <input type="checkbox"/> NOT OK	
Electrical Inspection: <input type="checkbox"/> OK <input type="checkbox"/> NOT OK	NA
Sensor Installation: <input type="checkbox"/> OK <input type="checkbox"/> NOT OK	NA
Transmitter Installation: <input type="checkbox"/> OK <input type="checkbox"/> NOT OK	NA


Instrument Test Information and Results		
Test 1 : Sensor on Side	Clamp ON Meter	Flowmeter Display
Instantaneous Flow Reading (l/s)	46.34	47.85
Error Instantaneous Reading (%)	+3.26	
Instantaneous Flow Reading (l/s)	60.02	61.89
Error Instantaneous Reading (%)	+3.12	

Information of Tools used for Verification of the Instruments
Device Description: Clamp ON Calibrator
Manufacturer: E+H
Model No: Prosonic Flow 93P

* Refer Calibration Tools Certificates submittal for more Information

Verification Test Result: **Passed** **Fail** **Not Verified**

Comments: N/A

Service Technician : Tushar Patel Stamp/Signature 
Printed Date: September 15, 2023



Induscontrol Inc
3170 Ridgeway Drive, Unit #11
Mississauga, ON L5L 5R4

VERIFICATION REPORT - KHRONE ELECTRO-MAGNETIC FLOW MEASUREMENT

Customer Name: OCWA-Georgian Highlands Region
Plant Name: Mount Forest WWTP

Site/Plant Address: 304 Foster st,
Mount Forest, ON

Device Information
Make: Khrone
Model: IFC 100W
Order Code: NA
Serial No.: C104591
Tag: FIT1
Job Location: Foster street PS Flow
Asset ID: 205530

Service Information
Date: September 15, 2023
Report No: CO1481-2308-10
Job No: CO1481-2308

Sensor Details
Line size: 12"
GK: 7.9112
Mounting: Remote

Flow Details
Unit: l/sec
Flow Range: 0-250
Current Output: 4-20 mA
4 mA Set Point: 0
20 mA Set Point: 250

Inst. Reading	AS FOUND	AS LEFT
FLOW (l/sec)	0.01	0.05

Maintenance Checklist			Remarks
Visual Inspection:	<input checked="" type="checkbox"/> OK	<input type="checkbox"/> NOT OK	
Electrical Inspection:	<input checked="" type="checkbox"/> OK	<input type="checkbox"/> NOT OK	
Sensor Installation:	<input checked="" type="checkbox"/> OK	<input type="checkbox"/> NOT OK	
Transmitter Installation:	<input checked="" type="checkbox"/> OK	<input type="checkbox"/> NOT OK	

Instrument Test Information and Results					
Set-Point as Per Calibration KIT	Calculated Flow (l/sec)	Calculated O/P (mA)	UUT Display (l/sec)	UUT Measured Output (mA)	Deviation (l/sec)
0	0.00	4.00	0.04	4.05	0.04
A	42.61	6.73	42.73	6.79	0.12
B	85.22	9.45	86.11	9.53	0.89
C	170.45	14.91	170.87	14.97	0.42

Information of Tools used for Verification of the Instruments			
Details	Tool/Kit 1	Tool/Kit 2	Tool/Kit 3
Device Description:	Calibrator	Electrical Multimeter	N/A
Manufacturer:	Khrone	Fluke	N/A
Model No:	GS8B	179	N/A

* Refer Calibration Tools Certificates submittal for more Information

Verification Test Result: **Passed** **Fail** **Not Verified**

Overall Remarks: Measurement Works within Specification.

Service Technician : Tushar Patel

Stamp/Signature 

Printed Date: September 15, 2023



Induscontrol Inc
3170 Ridgeway Drive, Unit #11
Mississauga, ON L5L 5R4

VERIFICATION REPORT - KHRONE ELECTRO-MAGNETIC FLOW MEASUREMENT

Customer Name: OCWA-Georgian Highlands Region
Plant Name: Mount Forest WWTP

Site/Plant Address: 650 Cork Street,
Mount Forest, ON

Device Information

Make: Khrono
Model: IFC 300W
Order Code: NA
Serial No.: C080273
Tag: FIT-401
Job Location: Pump Station Flow
Asset ID: 205535

Service Information

Date: September 15, 2023
Report No: CO1481-2308-12
Job No: CO1481-2308

Flow Details

Unit: l/sec
Flow Range: 0-300
Current Output: 4-20 mA
4 mA Set Point: 0
20 mA Set Point: 300

Sensor Details

Line size: 12"
GK: 3.6471
GKL: 7.295
Mounting: Remote

Inst. Reading	AS FOUND	AS LEFT
FLOW (l/sec)	42.89	43.02

Maintenance Checklist

Visual Inspection:	<input checked="" type="checkbox"/> OK	<input type="checkbox"/> NOT OK
Electrical Inspection:	<input checked="" type="checkbox"/> OK	<input type="checkbox"/> NOT OK
Sensor Installation:	<input checked="" type="checkbox"/> OK	<input type="checkbox"/> NOT OK
Transmitter Installation:	<input checked="" type="checkbox"/> OK	<input type="checkbox"/> NOT OK

Remarks

Instrument Test Information and Results

Set-Point as Per Calibration KIT	Calculated Flow (l/sec)	Calculated O/P (mA)	UUT Display (l/sec)	UUT Measured Output (mA)	Deviation (l/sec)
0	0.00	4.00	0.04	4.04	0.04
A	39.29	6.10	39.32	6.14	0.03
B	78.58	8.19	78.61	8.23	0.03
C	157.15	12.38	157.25	12.45	0.10

Information of Tools used for Verification of the Instruments

Details	Tool/Kit 1	Tool/Kit 2	Tool/Kit 3
Device Description:	Calibrator	Electrical Multimeter	N/A
Manufacturer:	Khrono	Fluke	N/A
Model No:	GS8B	179	N/A

* Refer Calibration Tools Certificates submittal for more Information

Verification Test Result: **Passed** **Fail** **Not Verified**

Overall Remarks: Measurement Works within Specification.

Service Technician : Tushar Patel

Stamp/Signature

Printed Date: September 15, 2023