



# **TOWN OF SMITHS FALLS WATER POLLUTION CONTROL PLANT**



**2020 PERFORMANCE REPORT  
Environmental Compliance Approval  
Number 5671-AE7HFT**



March 26<sup>th</sup>, 2021

Ministry of the Environment Conservation & Parks  
Ottawa District Office, Eastern Region  
2430 Don Reid Drive  
Ottawa, Ontario  
K1H 1E1

Attention Mr. Charlie Primeau

Dear Mr. Primeau,

Please find enclosed the Annual Performance Report and other supporting documents for the Smiths Falls Water Pollution Control Plant (WPCP), Works No.120000890 as per the Amended Environmental Compliance Approval Municipal and private Sewage Works Number 5671-AE7HFT January 11, 2017, prescribed by Condition 11 Subsection (4).

The Town of Smiths Falls is the owner and operator of the WPCP. The facility operated under the responsibility of Jason Barlow, Manager Water/Wastewater Treatment ORO whose office is located at 43 Abbott Street North, Smiths Falls, and can be contacted at 613-283-4124 ext. 5501 or faxed at 613-284-0427.

Regards,

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cc. Brenda Beaudoin, Water Inspector  
cc. Troy Dunlop, Director of Public Works and Utilities  
cc. Jason Barlow, Manager Water/Wastewater Treatment

## **Executive Summary**

The enclosed Annual Performance Report is prepared in accordance with Amended Environmental Compliance Approval (ECA) number 5671-AE7HFT, Condition 11 Reporting Subsection (4) for the Town of Smiths Falls Water Pollution Control Plant (WPCP) for submission to the Ministry of Environment Conservation and Parks (MECP). The secondary purpose of this 2020 Performance Report is to keep the Owner (Council) informed regarding the general operation, maintenance and, facility compliance regarding solids and liquid handling and disposal as per the ECA. Each year it is a requirement that the owner prepares and submits an annual Performance Report for the previous calendar year and must contain the following information:

- a) A summary and interpretation of all monitoring data and a comparison to the effluent limits in condition 7 in the Environmental Compliance Approvals (ECA), including an overview of the success and adequacy of the Works;
- b) A description of any operating problems encountered and corrective actions taken;
- c) A summary of all maintenance carried out on any major structure, equipment, apparatus, mechanism or thing forming part of the Works;
- d) A summary of any effluent quality assurance or control measures undertaken in the reporting period;
- e) A summary of the calibration and maintenance carried out on all effluent monitoring equipment;
- f) A description of efforts made and results achieved in meeting effluent objectives of Condition 6.
- g) A tabulation of quantity of sludge generated in the reporting period, an outline of anticipated quantities to be generated in the next reporting period and a summary of the locations to where the sludge was disposed;
- h) A summary of any complaints received during the reporting period and any steps taken to address the complaints;
- i) A summary of all by-pass, spill or abnormal discharge events;
- j) A copy of all Notice of Modifications submitted to the Water Supervisor as a result of Schedule B, Section 1, with a status report on the implementation of each modifications;
- k) A report summarizing all modifications completed as a result of Schedule B, Section 3; and
- l) Any other information the Water Supervisor requires from time to time.

In addition, this Annual Performance Report must be forwarded to the MECP no later than March 31, 2021. The WPCP must comply with all the requirements and criteria contained in the ECA, along with all Acts, Regulations and F-Series Procedures made with regards to operation of facilities, licensing of facilities, licensing of operators and Legislation that pertains to the Sustaining of Water and Sewerage Facilities.

## Table of Contents

Executive Summary.....	3
1.0 Introduction.....	7
2.0 Facility and Process Overview.....	7
2.1 Inlet Sewers.....	7
2.2 Head Works Building and Preliminary Treatment .....	7
2.3 Primary Treatment .....	8
2.4 Biological and Secondary Treatment .....	8
2.5 Tertiary Treatment .....	8
2.6 Disinfection & Outfall .....	8
2.7 Solids Handling .....	9
2.8 Combined Sewer Overflow Tank .....	9
3.0 Environmental Compliance Approval & Licensing .....	10
4.0 Monitoring Data .....	11
4.1 Performance of Effluent Quality Assurance or Control Measures.....	11
4.2 Meeting Final Effluent Limits & Objectives.....	11
5.0 Performance of Secondary Treatment By-pass Events.....	12
6.0 Operational Problems & Corrective Actions .....	13
7.0 On Call.....	13
8.0 Performance of all Maintenance.....	13
8.1 Centre St Pumping Station .....	14
9.0 Performance of Verification and or Maintenance on Effluent Monitoring Equipment.....	15
10.0 Sludge Generation.....	15
11.0 Summary Complaints.....	15
12.0 Ministry of Environment Conservation & Parks Communal Sewage Inspection Report.....	16
13.0 Waste Received From Outside Smiths Falls .....	18
14.0 Municipal Utility Monitoring Program (MUMPs) Report .....	18
15.0 Operator Licenses.....	18
16.0 Notice of Modifications (Limited Operational Flexibility).....	18

**APPENDICES**

Appendix A – Environmental Compliance Approval (ECA) #5671-AE7HFT (page 1 to 32)

Appendix B – Monitoring Data and Comparison to Effluent Limits (page 1 to 5)

Appendix C – Secondary Treatment By-passes (page 1 of 2)

Appendix D – Maintenance Records (page 1 of 6)

Appendix E – Solids Handling (page 1 of 3)

Appendix F – MECP Inspection (Page 1 of 101)

Appendix G – MUMPs Reports (page 1 to 25)

Appendix H – Operator Licenses (page 1 of 2)

## **1.0 Introduction**

This Annual Performance Report is for the period from January 1<sup>st</sup> to December 31<sup>st</sup> 2020 which is a legislative requirement under Condition 11 (4) of C of A number 5671-AE7HFT. This Annual Performance Report must also be forwarded to the Ministry of Environment Conservation and Parks (MECP) no later than March 31<sup>st</sup> 2021.

## **2.0 Facility and Process Overview**

Smiths Falls Water Pollution Control Plant (WPCP) is responsible for providing wastewater collection and treatment from industrial, commercial and residential users within the limits of the Town of Smiths Falls, as well as Atironto subdivision in Montague Township. The wastewater is collected in sanitary and combined sewer system pipes and conveyed by gravity and or pumped to the WPCP. A total of 3,676,930 cubic meters (m<sup>3</sup>) of wastewater was treated in 2020.

The WPCP is a Class IV nitrifying tertiary treatment activated sludge plant with a rated capacity of 14,700 cubic meters per day (m<sup>3</sup>/d). As such, the facility consists of a raw sewage lift station (head works building) including screening and grit removal/classification, primary treatment, secondary treatment including nitrification which removes nitrogen by a *nitrification/denitrification* process. The plant also has chemically assisted phosphorus removal, tertiary filtration and effluent disinfection by ultraviolet light irradiation (UV). Primary and thickened waste activated sludge is dewatered, dried and pelletized which is sold for off-site reuse.

### **2.1 Inlet Sewers**

The inlet sewers consist of one 600 mm diameter gravity sewer from the river crossing downstream at Old Slys Locks and one 900 mm diameter gravity sewer from the Highway 43 trunk sewer to the inlet sewer described above. Both of these collectors combine into a 1200 mm diameter gravity sewer which discharges into the wet well in headworks.

### **2.2 Head Works Building and Preliminary Treatment**

The head works building contains a 60 foot deep wet well where raw sewage is pumped (lifted) by three (3) sewage lift pumps up to the bar screens. There are two (2) additional sewage lift pumps onsite as backup pumps should one or more primary sewage lift pumps fail. Screening units consists of two (2) parallel bar screen channels which screen large

suspended or floating solids and materials from the raw sewage to prevent plugging and damage to equipment.

Grit removal is accomplished by using tea cups which use a vortex action that will cause the heavier particles of grit and sand to separate out of the wastewater which then flows to the primary tanks. The grit is then pumped to a bin for off-site disposal.

### **2.3 Primary Treatment**

The wastewater flows by gravity from the head works building to the primary clarifiers which consists of two (2) parallel rectangular clarifiers or tanks. The clarifiers consist of a chain and flight system which moves solids that have settled to the bottom of the clarifiers. These solids are later removed by processing into pellets. Floatables are skimmed from the surface and later landfilled.

### **2.4 Biological and Secondary Treatment**

The Biological and Secondary treatment occurs when primary treated wastewater is discharged into two (2) aeration basins, activated sludge (return activated sludge RAS) is mixed with the wastewater. Micro-organisms in the sludge provide biological treatment by consuming the colloidal and dissolved solids. A coagulant is added to the wastewater prior to wastewater entering the secondary clarifiers. This coagulant is added to help in the removal of phosphorus.

### **2.5 Tertiary Treatment**

Tertiary treatment is an advanced wastewater treatment process which further removes nutrients like phosphorus and a higher percentage of suspended solids by sand filtration from the effluent.

### **2.6 Disinfection & Outfall**

Disinfection of the final effluent was provided by two (2) in series banks of ultraviolet (UV) light irradiation. The use of UV lights is used to irradiate the pathogenic micro-organisms in the effluent prior to discharging to the outfall. The final effluent is discharged through a 1,050 mm diameter outfall sewer pipe to the receiving water body which is the Rideau River.

## 2.7 Solids Handling

Sludge from the primary and secondary treatment processes are pumped into one of two (2) 75 m<sup>3</sup> underground sludge storage tanks, the two tanks equalize through a common connection. The sludge is conveyed from the storage tanks to a belt filter press. The press produces a sludge cake with a minimum solids concentration of 18 - 22%.

The dewatered sludge is fed to a single train sludge dryer and pelletizer process to produce a granulated dried sludge at a solids concentration of 94%. The sludge pellets are recognized as a fertilizer product by the Canadian Food Inspection Agency and are regulated under the Federal Fertilizer Act. These pellets are sold to TerraPure Environmental or area farmers and, as such the marketed fertilizer pellets are used for agricultural (excluding crops for human consumption) or horticulture.

Monthly solids totals appear in **Appendix E Solids Handling**.

Cake was shipped through Terrapure Environmental to Third High Farms for eight days in June and one day in July. A total of 108.19 metric tonnes was shipped during this time. The pelletizer burner and drying drum were down for maintenance and repairs.

### **Production for 2020:**

- 17,216.1 m<sup>3</sup> of sludge was processed
- 492 super sacks filled (approximately 631 kg/sack)
- 358,891.2 kg of pellets produced
- 2,469.2 pellet production hours

### **Production for 2019:**

- 15,496.5 m<sup>3</sup> of sludge was processed
- 653 super sacks filled (approximately 631 kg/sack)
- 458,941.8 kg of pellets produced
- 2,373.1 pellet production hours

## 2.8 Combined Sewer Overflow Tank

Excessive storm water/snow melt flows are handled by temporary storage in the Combined Sewer Overflow Tank (CSO). The capacity of the tank is approximately 4,000 m<sup>3</sup> or 4 million liters. As storm water/snowmelt flows subside, the captured wastewater is fed back into the main process flows for treatment. Flows exceeding the capacity of the CSO tanks will bypass

secondary treatment (Aeration and Tertiary) via the bypass pipe and then blended with process flow which has received aeration, secondary clarification and filtration. This blended flow of bypass and process wastewater passes through UV treatment before discharge to the receiving water (Rideau River).

### **3.0 Environmental Compliance Approval & Licensing**

For the year 2020, the Smiths Falls WPCP operated under amended Environmental Compliance Approval (ECA) Number 5671-AE7HFT which was issued on January 11<sup>th</sup>, 2017. The facility has been designated as a Class IV facility under the *Licensing of Sewage Works Operators Regulation, O. Reg. 129/04* made under the *Ontario Water Resources Act*.

The ECA establishes terms and conditions which the WPCP must operate under at all times. These terms and conditions establish effluent objectives, effluent limits, operation and maintenance, monitoring and recording along with reporting requirements of the WPCP. Should these requirements not be met the facility is not complying with the ECA.

The ECA also establishes the *Rated Capacity* for the facility which is 14,700 m<sup>3</sup>/d. For 2020, the average daily flow was 10,046 m<sup>3</sup>. For the reporting period of 2020, the WPCP operated at an average of 68.34% of the rated capacity. Typically the average flows are between 60% and 70%.

The *Licensing of Sewage Works Operators Regulation, O. Reg. 129/04* requires the owner to ensure that everyone who works in the facility holds a license applicable to the type of facility. This regulation also requires the designation of an overall responsible operator (ORO) for the facility and that the ORO holds a license applicable to and of the same class as or higher than the class of the facility or one level below for no longer than six months out of a year. Both of these requirements are being met.

A copy of Environmental Compliance Approval number 5671-AE7HFT which the facility operated under in 2020 can be found in **Appendix A**.

#### **4.0 Monitoring Data**

The ECA lists effluent limits for Carbonaceous Biochemical Oxygen Demand (CBOD<sub>5</sub>), Total Suspended Solids (TSS), Total Phosphorus (TP), Total Ammonia Nitrogen (NH<sub>3</sub>), pH and E. coli. The limits are used to determine monthly compliance with the ECA and to determine if the process is functioning as per the ECA requirements.

##### **4.1 Performance of Effluent Quality Assurance or Control Measures**

The WPCP maintains a weekly sampling schedule of Raw Influent and Final Effluent as per the requirements listed in the monitoring and recording Condition of the ECA.

Analyses are performed in-house or sent to an accredited laboratory as part of a quality assurance program, and as such, the results are utilized to identify any process changes required. All such analysis are included as part of the monitoring data in this report. Plant performance data is stored both in-house as well as on an online repository known as WaterTrax®.

Monitoring data and a comparison to effluent limits can be found in **Appendix B.**

##### **4.2 Meeting Final Effluent Limits & Objectives**

During this reporting period the treatment train produced an effluent that overall met all limits as indicated in the ECA.

Compliance was achieved with the Final *"Effluent Limits"* during the reporting period for monthly average concentrations and monthly average waste loadings for Carbonaceous Biochemical Oxygen Demand (CBOD<sub>5</sub>), Total Suspended Solids (TSS), Total Phosphorus (TP), Total Ammonia Nitrogen (NH<sub>3</sub>), pH and the monthly Geomean for E. coli.

Compliance was also achieved with the Final *"Objective Limits"* during the reporting period for monthly average concentrations for Carbonaceous Biochemical Oxygen Demand (CBOD<sub>5</sub>), Total Phosphorus (TP), Total Ammonia Nitrogen (NH<sub>3</sub>), pH and the monthly Geomean for E. coli. ECA Objectives are non-enforceable effluent quality results which wastewater plants are obligated to use best efforts to achieve on an on-going basis.

The objective limit for Total Suspended Solids (TSS) was not achieved during the month of January due to a secondary treatment bypass event that last for 32 hours.

A summary and interpretation of all monitoring data and a comparison to the effluent limits in Condition 7 in the Environmental Compliance Approvals (ECA), including an overview of the success and adequacy of the Works can be found in **Appendix B.**

### **5.0 Performance of Secondary Treatment By-pass Events**

In 2020, there were a total of five (5) secondary treatment by-passes events which lasted for a total duration of 105.95 hours and a total volume of 42,639.67 m<sup>3</sup> treated.

All secondary treatment by-pass events were reported verbally to the MECP Spills Action Centre (SAC). Agencies notified via fax or email includes SAC, and the Leeds Grenville and Lanark District Health Unit. Samples of the by-pass events are collected and sent to our accredited laboratory when possible. Every effort is made to have each by-pass event sampled in accordance with the ECA, this could include driving samples to the laboratory or couriering them.

There can be no raw sewage by-passes to the environment at the WPCP. All wastewater entering the facility receives at a minimum, preliminary treatment, grit removal and primary treatment along with UV irradiation and blending with the secondary and tertiary effluent wastewater stream before discharge to the Rideau River.

The bypass summary was submitted to the Ministry on the following dates February 7<sup>th</sup>, May 8<sup>th</sup>, August 11<sup>th</sup> and November 13<sup>th</sup>.

The below table is a summary of the secondary treatment bypasses from 2016 to 2020

<b>YEAR</b>	<b>Number of Secondary Treatment Bypasses</b>	<b>Total Duration (Hr)</b>	<b>Total Volume (m<sup>3</sup>)</b>
2016	5	97.7	23,280.0
2017	7	912.4	317,655.0
2018	9	1,722.0	597,430.0
2019	6	121.9	27,114.0
2020	5	105.95	42,639.7

A summary of 2020 Secondary Treatment By-passes can be found in **Appendix C.**

## 6.0 Operational Problems & Corrective Actions

While there was no operational problems during the reporting period that caused the treatment plant issue with the ECA, the below items took several months to repair or are still on-going

- ◆ Pelletizer down for burner and dryer maintenance June/July, cake shipped off-site during this time.
- ◆ North Primary Tank out of service from April to July for emergency repairs as the chains on the South channel flights came off the sprockets which were destroyed beyond repair.
- ◆ High Pressure Effluent Pump (HPEW) VFD failed, out of service for three months due to the start of the COVID-19 pandemic. VFD was replaced under warranty.
- ◆ Auto transfer for diesel gen-set failed in December, manual transfer is required. This is being addressed by electrician and still an on-going issue.

## 7.0 On Call

The operators are provided a phone and tablet when they are on call. These lines of communication, allow the operator to connect to the SCADA (Supervisory Control and Data Acquisition) system and immediately take measures to monitor or correct abnormal operational issues. The on-call and back-up operator each have a tablet and cell phone. Should an alarm fail to be answered or acknowledged, the Manager is then called by the dialer system and can take required action.

## 8.0 Performance of all Maintenance

During the reporting period, reactive maintenance, preventative maintenance, and predictive maintenance was performed as required and, on a routine basis or, as recommended by the equipment manufacturer manuals.

An electronic work order management system (MESH) was also implemented in August 2020 to track preventative and corrective maintenance activities.

Below are some of the major maintenance highlights:

- ◆ Cleaning and maintenance of North primary settling tank
- ◆ Sewage lift pump rebuild
- ◆ Wet well cleaning
- ◆ Pelletizer furnace repairs

- Sludge mixing tank gear assembly replacement and tank cleaning
- Replaced steel piping on chemical tank fill lines with PVC
- Transformer and Infrared inspections on electrical switch gear

A summary of 2020 Maintenance Records can be found in [Appendix D.](#)

### **8.1 Centre St Pumping Station**

During the reporting period the following operating problems, issues and corrective actions were completed at the Centre St pumping station:

Operating problems, issues and corrective actions

- Jan 9: Lost communications, reset router
- Jan 22: Lost communications, reset router
- Feb 9: Lost communications, reset router
- Feb 22: Lost communications, reset router
- Feb 24: Lost communications, reset router
- Apr 18: Power outage, ran generator
- Apr 29: Lost communications, reset router
- May 9: Lost communications, reset router
- May 14: Lost communications, reset router
- May 16: Lost communications, reset router
- June 1: Power outage, power back on before generator hooked up
- June 22: Repeat alarm call outs from SCADA, possible overheating (heat wave) of communication system, door to panel left open until fan can be installed
- July 12: Lost communications, reset router
- Aug 6: Lost communications, reset router
- Sept 18: Power outage, generator hooked up
- Sept 27: Power outage, generator hooked up
- Oct 1: Low flow output pump#2, release check valve, all good

Maintenance or calibrations carried out on equipment

- Jan 10: Simulate power outage, alarm testing, run pump house from generator
- Apr 2: Test Amperage on Pump# 2 due to low flow output, open check valve, all good
- Apr 8: CWW clean wet well

- Sept 16: CWW clean wet well
- Sept 23: Replace Pump#1 with new pump, and flow verifications completed
- Oct 13: Remove and inspect Pump# 2

No complaints received during reporting period.

## **9.0 Performance of Verification and or Maintenance on Effluent Monitoring Equipment**

There are two Parshall Flumes in service at the WPCP. One measures Secondary Clarifier (SC) flow, and the other measures Final Effluent (FE) flow. Verifications were performed on the Final Effluent, Secondary Flow meter and the Secondary Bypass Flow meter in November and December 2020. There were also six (6) flow meters that were verified in December 2020 as well.

## **10.0 Sludge Generation**

Approximately, 17,216.1 m<sup>3</sup> of sludge was processed in 2020. Sludge generation is not anticipated to increase significantly during the next reporting period. The sludge generated is processed into pellets which are in turn sold to TerraPure Environmental to facilitate sales for farmers to spread on their fields as fertilizer. These pellets are regulated by the Canadian Food Inspection Agency (CFIA) under the Fertilizer Act. Exact locations of the farmers' disposal sites (fields) are decided by the farmer.

## **Contingency**

In the event that primary sludge must be hauled offsite, arrangements have been made with the Robert O. Picard Environmental Center (ROPEC) in Ottawa. As well, primary sludge and processed cake can be shipped to waste sites operated by TerraPure Environmental.

Only MECP approved and licensed haulers are used to transport the sludge or cake. Little to no change in sludge generation is anticipated over the next reporting period.

A summary of 2020 Sludge Solids Handling can be found in **Appendix E.**

## **11.0 Summary Complaints**

There were no complaints received during the reporting period in 2020 regarding the WPCP. Should a complaint be received immediate steps are taken to rectify the issue.

## **12.0 Ministry of Environment Conservation & Parks Communal Sewage Inspection Report**

This section outlines any non-compliance issues that were noted in the Ministry of the Environment Conservation and Parks (MECP) inspection report.

The 2019-2020 Wastewater System (WWS) inspection (report #1-NAWMJ) for the Smiths Falls WWS was conducted on March 11<sup>th</sup> and 13<sup>th</sup>, 2020. It should be noted that the previous inspection was conducted on February 11<sup>th</sup>, 2015. The final report was received November 19<sup>th</sup>, 2020 where eight (8) non-compliances items were noted in the inspection report.

The first three (3) non-compliance items were regarding not demonstrating compliance with limits noted in Environmental Compliance Approval (ECA) # 5671-AE7HFT for total suspended solids (TSS) in 2018, total phosphorous (TP) in 2018 and E. Coli Geomean in 2018. The Ministry did not require any further action at this time.

The three (3) non-compliances noted above were the result of the South Secondary tank being out of service for six (6) months due to extensive damage as well as an on-going secondary treatment bypass from snow melt causing high flows. As per the ECA the Town did provide verbal and written notification of the above noted non-compliances to the Ministry.

The fourth (4) non-compliance item was regarding the reporting time frame of the noted non-compliances. The Town will use best efforts to complete the monthly performance report to ensure non-compliances will be reported in a timely fashion. The Ministry did not require any further action at this time.

The fifth (5) non-compliance item was regarding the Annual Performance report did not include that parameters did not meet the objectives as noted in the ECA. The Town was made aware of this error and will ensure that all objectives exceeded will be noted in the Annual Performance report. The Ministry did not require any further action at this time.

The sixth (6) non-compliance item was regarding logs and other recording keeping mechanism did not comply with the requirements. During the inspection, the inspector observed Water Pollution Control Plant (WPCP) operators were not always recording the

time when an entry was made, noting operational items or departures from normal operating procedures or initialing their entries as per Section 19 of O. Reg. 129/04.

To address this non-compliance item a procedure for record keeping was created which has been reviewed by all WPCP operators on November 9<sup>th</sup>, 2020. Most WPCP operators as well attended a log book and record keeping course in February 2020. The Manager of WT/WWT has also verbally reviewed the requirements with WPCP operators.

The seventh (7) non-compliance item dealt with two (2) items. The first was regarding Conditions noted in the Wastewater Collection (WWC) pumping stations ECA where a procedure for receiving, responding and recording public complaints including follow up actions taken is required.

Although the Town has been using the electronic work order management system (MESH) to record WWC public complaints and follow-up actions, there was no procedure in place. A procedure was been created to address this item.

The second item in this non-compliance was regarding Conditions in the WPCP ECA for repair, maintenance programs and the frequency of the repair and maintenance. There was no formal maintenance program, schedule or reminder system in place at the time of the inspection. However, during the inspection some maintenance tasks were noted on the white board but there was no formalized program.

The WPCP has since migrated to an electronic work order management system (MESH). This program has been in place since the beginning of August 2020. The program can track all maintenance activities with dates as a reminder to the operator's complete tasks.

The eighth (8) and final non-compliance item was regarding a Condition in the ECA where the WPCP must complete a Notice of Modification to Sewage System describing the modification and submit the completed Notice to the Water Supervisor prior to implementing the modifications. Although the Town did complete and send in the Notice of Modification it was after the project was completed.

The Town is aware that the Notice of Modification is required to be completed and submitted prior to the installation as noted in the ECA. Future projects the Town will ensure that the Notice is submitted prior to the project implementation.

The inspection report can be found [Appendix F.](#)

### **13.0 Waste Received From Outside Smiths Falls**

No septage was received at the Smiths Falls WPCP during the reporting period.

### **14.0 Municipal Utility Monitoring Program (MUMPs) Report**

On a monthly basis a MUMPs compliance report is completed and submitted electronically to the MECP. This report contains the following information; monthly flows, secondary treatment by-pass flows (if an event occurred) and, Raw & Final effluent parameters. This report is to ensure the WPCP remains in compliance with the ECA. MUMPs reports from 2020 can be found in [Appendix G.](#)

### **15.0 Operator Licenses**

Section 14 (1) of O. Reg. 129/04 requires that the owner of the facility ensures that every operator employed or performing operational duties in the facility holds a valid license. A list of operator licenses can be found in [Appendix H.](#)

### **16.0 Notice of Modifications (Limited Operational Flexibility)**

No Notice of Modification to Sewage Works forms were completed during the reporting period.

**APPENDIX A**

**Certificate of Approval Number 5671-AE7HFT  
Certificate of Approval Number 8-4041-93-006**



**AMENDED ENVIRONMENTAL COMPLIANCE APPROVAL**

NUMBER 5671-AE7HFT  
Issue Date: January 11, 2017

The Corporation of the Separated Town of Smiths Falls  
77 Beckwith St N  
Post Office Box, No. 695  
Smiths Falls, Ontario  
K7A 4T6

Site Location: Smiths Falls Water Pollution Control Plant (WPCP)  
180 Queen St  
Smiths Falls, County of Lanark

*You have applied under section 20.2 of Part II.1 of the Environmental Protection Act, R.S.O. 1990, c. E. 19 (Environmental Protection Act) for approval of:*

municipal sewage works for the transmission and treatment of sanitary sewage from the Separated Town of Smiths Falls and disposal of effluent to Rideau River via a Sewage Treatment Plant (Smiths Falls WPCP) having a Rated Capacity of 14,700 m<sup>3</sup>/d, consisting of the following:

Previous Works

Centre Street Sewage Pumping Station

- one (1) 4.21 m x 1.5 m x 4.25 m SWD wetwell/drywell style sewage pumping station located at 57 Center Street, equipped with two (2) sewage pumps (one standby), each rated at 17.7 L/s at 9.86 m TDH and controlled by variable frequency drives;
- flow meter and station bypass pumping chamber;
- a 16 kW diesel generator set;
- a 150 mm diameter forcemain along Centre Street, discharging to manhole #368 at Centre Street and Elmsley Street and therefrom to the main truck sewer discharging at the Smiths Falls WPCP;

## Smiths Falls Water Pollution Control Plant

a conventional activated sludge process plant located at 180 Queen Street, having a Rated Capacity of 14,700 m<sup>3</sup>/d, discharging effluent to Rideau River.

### Inlet Sewers

- one (1) 900 mm and 1200 mm diameter gravity inlet sewer from the south side trunk sewer Rideau River underpass outlet to the raw sewage pumping station inlet chamber;
- one (1) 900 mm diameter gravity sewer from the Highway 43 trunk sewer to the inlet sewer described above;

### Raw Sewage Pumping Station

- a raw sewage pumping station with an inlet chamber and two wet wells, equipped with three (3) (one standby) submersible pumps, each rated at 352 L/s at 15.3 m TDH, discharging into a channel leading to the Preliminary Treatment;

### Wet Weather Flow Storage Tank

- one (1) 4000 m<sup>3</sup> tank to temporarily store wet weather flows that exceed the capacity of the secondary treatment system;
- two (2) tank discharge pumps (one standby) to return stored sewage back to the primary tank or aeration tank for treatment after the wet weather event, each pump rated at 44 L/s at 7.5 m TDH;

### Preliminary Treatment

#### Screening

- two (2) parallel screen channels, each with a Peak Flow Rate of 25,230 m<sup>3</sup>/d and equipped with an automatic self-cleaning screen with 25 mm (vertical) x 6 mm (horizontal) mesh, including a screw conveyor screenings de-watering press and screenings disposal bin;

#### Grit Removal

- two (2) grit removal units, each with a Peak Flow Rate of 25,350 m<sup>3</sup>/d with two (2) grit pumps, each rated at 15.8 to 20.5 L/s at 11.4 to 15.5 m TDH including a grit de-watering unit and grit disposal bin;

## Primary Sedimentation

- two (2) 38.1 m x 10.06 m x 3.72 m SWD twin-pass primary clarifiers, each with a Peak Flow Rate of 25,230 m<sup>3</sup>/d and equipped with sludge and scum removal mechanisms;
- two (2) primary sludge and scum pumps, each rated at 22.7 L/s at 34.75 m TDH;

## Secondary Treatment

### Biological Treatment

- two (2) 39.6 m x 12.5 m x 4.6 m SWD complete mix aeration tanks, equipped with fine bubble aeration systems;
- three (3) air blowers (two standby), rated at 64.3 m<sup>3</sup>/min at 51.7 kPa;

### Secondary Sedimentation

- two (2) 46.2 m x 12.2 m x 3.6 m SWD twin-pass secondary clarifiers, equipped with sludge and scum mechanisms;
- three (3) variable speed return activated sludge pumps (one standby), each rated at 37.8 to 86.5 L/s at 2.7 to 8.2 m TDH;
- two (2) variable speed waste activated sludge pumps, each rated at 6.3 L/s at 7.5 m TDH;

## Tertiary Treatment

- two (2) 18.9 m x 5.0 m x 2.4 m single media gravity type tertiary filters, each with a Peak Flow Rate of 25,230 m<sup>3</sup>/h, with automatic continuous backwash;

## Supplementary Treatment

### Phosphorus Removal

- two (2) 18.9 m<sup>3</sup> chemical storage tanks, equipped with four (4) metering pumps each rated at 19.5 to 215 L/h, with dosing points at the influent and the effluent channels of the secondary clarifier and in the flash mix tank;
- one (1) flash mix tank being a 2.7 m long section of the flocculation tank inlet channel, equipped with a 2.2 kW mixer;
- two (2) 6.45 m x 6.45 m x 5.1 m SWD flocculation tanks with overflow gates to the tertiary filter influent channel, each equipped with a 1.1 kW flocculator;

## Disinfection

- a 11 m x 1.75 m x 1.4 m deep UV disinfection system, equipped with an automatic liquid level controller on the outlet to the plant effluent channel, and a low pressure mercury vapour ultraviolet irradiation lamp system with 65% of the radiation output at the wave length of

253.7 nm and a nominal average intensity of radiation of  $6150 \mu\text{W}/\text{cm}^2$  at 65% transmission, consisting of three (3) in-series independently operated banks of removable lamp modules;

#### Effluent Outfall

- a 1,050 mm diameter outfall sewer extending approx. 145 m south from the end of the plant effluent channel to mid-stream Rideau River past the navigational channel (the river portion buried in the river bed), including a multi-port outfall structure on the outlet, and a valved emergency connection to the old outfall sewer;

#### Sludge Management

- two (2)  $75 \text{ m}^3$  mixed sludge (primary and thickened waste activated) holding tanks, each equipped with an mixer;
- one (1) filter press sludge feed pump rated at a 2.7 L/s at 296 kPa, equipped with variable speed drive, together with a 3 hp motor sludge mercerator on the pump's suction line;
- one (1) belt filter press rated at a sludge loading of  $7.0 \text{ m}^3/\text{h}$  at a solids concentration of 4%, together with a polymer solution preparation and metering unit, an in-line mixer, and a 0.55 L/s capacity variable speed drive sludge cake transfer pump;
- a sludge drying facility (the pelletizer) rated at a sludge loading rate of 1.71 m/h at a solids concentration of 25%, consisting of a twin shaft dryer feed mixer, a rotary drier, a cyclone type solids separator, a vibrating screen type sludge pellet classifier, two (2) final product cooling, and storage silos with a bagging facility;

#### Standby Power

- one (1) 600 kW standby power diesel engine generator set with one (1) 900 litre capacity fuel tank located in the pelletizer building;

all other controls, electrical equipment, instrumentation, piping, pumps, valves and appurtenances essential for the proper operation of the aforementioned Sewage Works;

all in accordance with the submitted supporting documents listed in Schedule A.

*For the purpose of this environmental compliance approval, the following definitions apply:*

"Approval" means this entire document and any schedules attached to it;

"Annual Average Daily Flow" means the cumulative total sewage flow to the sewage works during a calendar year divided by the number of days during which sewage was flowing to the sewage works that year;

"BOD5" (also known as TBOD5) means five day biochemical oxygen demand measured in an unfiltered sample and includes carbonaceous and nitrogenous oxygen demand;

"Bypass" means diversion of sewage around one or more unit processes 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 location, and discharging to the environment through the Sewage Treatment Plant outfall;

"CBOD5" means five day carbonaceous (nitrification inhibited) biochemical oxygen demand measured in an unfiltered sample;

"Daily Concentration" means the concentration of a contaminant in the effluent discharged over any single day, as measured by a composite or grab sample, whichever is required;

"Director" means a person appointed by the Minister pursuant to section 5 of the EPA for the purposes of Part II.1 of the EPA;

"*E. coli* " refers to the thermally tolerant forms of *Escherichia* that can survive at 44.5 degrees Celsius;

"Emergency Situation" means a structural, mechanical or electrical failure that causes a temporary reduction in the capacity of the Sewage Treatment Plant or an unforeseen flow condition that may result in:

- a. danger to the health or safety of any person; or,
- b. injury or damage to any property, or serious risk of injury or damage to any property; or
- c. treatment process biomass washout.

"EPA" means the *Environmental Protection Act* , R.S.O. 1990, c.E.19, as amended;

"Equivalent Equipment" means a substituted equipment or like-for-like equipment that meets the required quality and performance standards of a named equipment;

"Event" means an action or occurrence, at a given location within the Sewage Treatment Plant that causes a Bypass or Overflow. An Event ends when there is no recurrence of a Bypass or Overflow in the 12-hour period following the last Bypass or Overflow. Two Events are separated by at least 12 hours during which there has been no recurrence of a Bypass or Overflow. An Overflow and a Bypass are two separate reportable Events even when occurring concurrently;

"Final Effluent" means effluent discharged through the Final Effluent sampling location and via the Sewage Treatment Plant outfall to the environment;

"Geometric Mean Density" is the nth root of the product of multiplication of the results of n number of samples over the period specified;

"Limited Operational Flexibility" (LOF) means any modifications that the Owner is permitted to make to the Works under this Approval;

"Ministry" means the ministry of the government of Ontario responsible for the EPA and OWRA and includes

all officials, employees or other persons acting on its behalf;

"Monthly Average Concentration" means the arithmetic mean of all Daily Concentrations of a contaminant in the effluent sampled or measured, or both, during a calendar month;

"Monthly Average Daily Flow" means the cumulative total sewage flow to the sewage works during a calendar month divided by the number of days during which sewage was flowing to the sewage works that month;

"Monthly Average Loading" means the value obtained by multiplying the Monthly Average Concentration of a contaminant by the Monthly Average Daily Flow over the same calendar month;

"Owner" means The Corporation of the Separated Town of Smiths Falls and its successors and assignees;

"OWRA" means the Ontario Water Resources Act , R.S.O. 1990, c. O.40, as amended;

"Peak Flow Rate" means the maximum rate of sewage flow for which the plant or process unit was designed;

"Overflow" means a discharge to the environment from the Works at a location other than the Sewage Treatment Plant effluent outfall or into the effluent outfall downstream of the Final Effluent sampling location;

"Previous Works" means those portions of the sewage works previously constructed and approved under an approval;

"Rated Capacity" means the Annual Average Daily Flow for which the Sewage Treatment Plant is approved to handle;

"Sewage Treatment Plant" means the entire sewage treatment and effluent discharge facility;

"Water Supervisor" means the Water Compliance Supervisor for the Safe Drinking Water Branch (SDWB) for the Kingston, Ottawa, and Cornwall office of the Ministry; and

"Works" means the sewage works described in the Owner's application, and this Approval, and includes Previous Works, and modifications made under Limited Operational Flexibility.

*You are hereby notified that this environmental compliance approval is issued to you subject to the terms and conditions outlined below:*

## TERMS AND CONDITIONS

### 1. GENERAL PROVISIONS

(1) The Owner shall ensure that any person authorized to carry out work on or operate any aspect of the Works is notified of this Approval and the conditions herein and shall take all reasonable measures to ensure any such person complies with the same.

(2) Except as otherwise provided by these conditions, the Owner shall design, build, install, operate and

maintain the Works in accordance with the description given in this Approval, and the application for approval of the Works.

(3) Where there is a conflict between a provision of any document in the schedule referred to in this Approval and the conditions of this Approval, the Conditions in this Approval shall take precedence, and where there is a conflict between the documents in the schedule, the document bearing the most recent date shall prevail.

(4) Where there is a conflict between the documents listed in the Schedule A, and the application, the application shall take precedence unless it is clear that the purpose of the document was to amend the application.

(5) The Conditions of this Approval are severable. If any Condition of this Approval, or the application of any requirement of this Approval to any circumstance, is held invalid or unenforceable, the application of such condition to other circumstances and the remainder of this Approval shall not be affected thereby.

## 2. CHANGE OF OWNER

(1) The Owner shall notify the Water Supervisor and the Director, in writing, of any of the following changes within thirty (30) days of the change occurring:

- a. change of Owner;
- b. change of address of the Owner;
- c. change of partners where the Owner is or at any time becomes a partnership, and a copy of the most recent declaration filed under the Business Names Act, R.S.O. 1990, c.B17 shall be included in the notification to the Water Supervisor;
- d. change of name of the corporation where the Owner is or at any time becomes a corporation, and a copy of the most current information filed under the Corporations Information Act, R.S.O. 1990, c. C39 shall be included in the notification to the Water Supervisor;

(2) In the event of any change in ownership of the Works, other than a change to a successor municipality, the Owner shall notify in writing the succeeding owner of the existence of this Approval, and a copy of such notice shall be forwarded to the Water Supervisor and the Director.

## 3. RECORD DRAWINGS

(1) A set of as-built drawings showing the Works "as constructed" shall be prepared or updated. These drawings shall be kept up to date through revisions undertaken from time to time and a copy shall be retained at the Works for the operational life of the Works.

4. BYPASSES

(1) Any Bypass is prohibited, except:

- a. in an emergency situation when a structural, mechanical or electrical failure that causes a temporary reduction in the capacity of the Sewage Treatment Plant or in unexpected and/or unavoidable circumstance(s) that are likely to result in personal injury, loss of life, health hazard, basement flooding, severe property damage, equipment damage or treatment process upset;
- b. where the Bypass is a direct and unavoidable result of a planned maintenance procedure or other circumstance(s), the Owner having notified the Water Supervisor at least fifteen (15) days prior to the occurrence of Bypass, including an assessment of the potential adverse effects on the environment and the anticipated duration of the Bypass and the mitigation measures, and the Water Supervisor has given written consent of the Bypass;

(2) For any Bypass Event, the Owner shall forthwith notify the Spills Action Centre (SAC), and the local Medical Officer of Health. This notice shall include, at a minimum, the following information for each Event:

- a. the date(s), time(s) of the Bypass(es);
- b. the treatment process(es) Bypassed and the status of the disinfection;
- c. the reason(s) for the Bypass(es).

(3) After any Bypass Event, the Owner shall collect and record the following information:

- a. the duration of the Bypass Event;
- b. the measured or the estimated volume of Bypass(es) for each Event.

(4) The Owner shall use best efforts to collect a representative sample consisting of a minimum of two (2) grab samples of the Bypass and have it analysed for parameters outlined in Condition 7 using the protocol specified in Condition 9, one at the beginning of the Event and the second approximately near the end of the Event, to best reflect the effluent quality of such Bypass. For a specific situation when the facility is unmanned during the Event, a composite sample of the Final Effluent is accepted.

(5) The Owner shall submit a summary report of the Bypass Event(s) to the Water Supervisor on a quarterly basis, no later than each of the following dates for each calendar year: February 15, May 15, August 15, and November 15. The summary reports shall be in an electronic format, which shall contain, at a minimum, the types of information set out in Subsections (2), (3) and (4) for Bypass(es). The Water Supervisor may modify the reporting frequency at any time in writing.

5. OVERFLOWS

(1) Any Overflow is prohibited, except:

- a. in an emergency situation when a structural, mechanical or electrical failure that causes a temporary reduction in the capacity of the Sewage Treatment Plant or in unexpected and/or unavoidable circumstance(s) that are likely to result in personal injury, loss of life, health hazard, basement flooding, severe property damage, equipment damage or treatment process upset;
- b. where the Overflow is a direct and unavoidable result of a planned maintenance procedure or other circumstance(s), the Owner having notified the Water Supervisor at least fifteen (15) days prior to the occurrence of the Overflow, including an assessment of the potential adverse effects on the environment and the anticipated duration of the Overflow and any mitigation measures, and the Water Supervisor has given written consent of the Overflow.

(2) For any Overflow Event, the Owner shall forthwith notify the Spills Action Centre (SAC) and the local Medical Officer of Health. This notice shall include, at a minimum, the following information for each Event:

- a. the date(s), time(s) of the Overflow(s);
- b. the location(s) of the Overflow(s) and the receiver;
- c. the reason(s) for the Overflow(s); and
- a. the level of treatment the Overflow(s) has received and disinfection status of same.

(3) After any Overflow Event, the Owner shall collect and record the following information:

- a. the duration of the Overflow Event;
- b. the monitored or estimated volume of the Overflow(s); and
- c. the impact of Overflow(s) on the receiver.

(4) For each Overflow Event, the Owner shall collect samples, representative of the Event, consisting of a minimum of two (2) grab samples of the Overflow, one at the beginning of the Event and one approximately near the end of the Event, and every 4 hours for the duration of the Event, and have them analyzed for effluent parameters outlined in Effluent Limits condition. For raw sewage and primary treatment system Overflow, BOD5 shall be monitored instead of CBOD5 and monitoring of *E. coli* is not required.

(5) The Owner shall submit a summary report of the Overflow Event(s) to the Water Supervisor on a quarterly basis, no later than each of the following dates for each calendar year: February 15, May 15, August 15, and November 15. The summary report shall be in an electronic format, which shall contain,

at a minimum; the types of information set out in Subsections (2), (3) and (4) for Overflow(s). The Water Supervisor may modify the reporting frequency at any time in writing

6. EFFLUENT OBJECTIVES

(1) The Owner shall use best efforts to design, construct and operate the Works with the objective that the concentrations of the materials named below as effluent parameters are not exceeded in the effluent from the Sewage Treatment Plant.

<b>Table 1 - Effluent Objectives</b>	
<b>Effluent Parameter</b>	<b>Concentration Objective</b> (milligrams per litre unless otherwise indicated)
CBOD5	10
Total Suspended Solids	5
Total Phosphorus	0.25
Total Ammonia Nitrogen	2.0 (Jun 1 to Aug 31) 12.0 (Sept 1 to May 31)

(2) The Owner shall use best efforts to:

- a. maintain the pH of the effluent from the Works within the range of 6.5 - 8.5, inclusive, at all times;
- b. operate the works within the Rated Capacity of the Works;
- c. ensure that the effluent from the Works is essentially free of floating and settleable solids and does not contain oil or any other substance in amounts sufficient to create a visible film or sheen or foam or discolouration on the receiving waters.
- d. ensure that the effluent is continuously disinfected during the disinfection period so that the monthly Geometric Mean Density of *E. coli* does not exceed 150 organisms per 100 millilitres of effluent discharged from the Sewage Treatment Plant.

7. EFFLUENT LIMITS

(1) The Owner shall operate and maintain the Works such that the concentrations of the materials named below as effluent parameters are not exceeded in the effluent from the Sewage Treatment Plant.

<b>Table 2 - Final Effluent Limits</b>		
<b>Effluent Parameter</b>	<b>Average Concentration</b> (milligrams per litre unless otherwise indicated)	<b>Average Waste Loading</b> (kilograms per day unless otherwise indicated)
Column 1	Column 2	Column 3
CBOD5	15	220.5
Total Suspended Solids	15	220.5
Total Phosphorus	0.3	4.4
Total Ammonia Nitrogen	2.6 (Jun 1 to Aug 31) 14.0 (Sept 1 to May 31)	38.0(Jun 1 to Aug 31) 206.0 (Sept 1 to May 31)

(2) For the purposes of determining compliance with and enforcing subsection (1):

- a. The Monthly Average Concentration of a parameter named in Column 1 of subsection (1) shall not exceed the corresponding maximum concentration set out in Column 2 of subsection (1).
- b. The Monthly Average Loading of a parameter named in Column 1 of subsection (1) shall not exceed the corresponding maximum waste loading set out in Column 3 of subsection (1).

(3) The Owner shall operate and maintain the Works such that the pH of the effluent from the Sewage Treatment Plant is maintained within the range of 6.0 - 9.5, inclusive, at all times.

(4) Notwithstanding subsection (1), the Owner shall operate and maintain the Works such that the effluent is continuously disinfected so that the monthly Geometric Mean Density of *E. Coli* does not exceed 200 organisms per 100 millilitres of effluent discharged from the Works.

8. OPERATION AND MAINTENANCE

(1) The Owner shall exercise due diligence in ensuring that, at all times, the Works and the related equipment and appurtenances used to achieve compliance with this Approval are properly operated and maintained. Proper operation and maintenance shall include effective performance, adequate funding, adequate operator staffing and training, including training in all procedures and other requirements of this Approval and the Act and regulations, adequate laboratory facilities, process controls and alarms and the use of process chemicals and other substances used in the Works.

(2) The Owner shall prepare an operations manual, that includes, but not necessarily limited to, the following information:

- a. operating procedures for routine operation of the Works;
- b. inspection programs, including frequency of inspection, for the Works and the methods or tests employed to detect when maintenance is necessary;
- c. repair and maintenance programs, including the frequency of repair and maintenance for the Works;
- d. procedures for the inspection and calibration of monitoring equipment;
- e. a spill prevention control and countermeasures plan, consisting of contingency plans and procedures for dealing with equipment breakdowns, potential spills and any other abnormal situations, including notification of the Water Supervisor; and
- f. procedures for receiving, responding and recording public complaints, including recording any followup actions taken.

(3) The Owner shall maintain the operations manual current and retain a copy at the location of the Works for the operational life of the Works. Upon request, the Owner shall make the manual available to Ministry staff.

(4) The Owner shall provide for the overall operation of the Works with an operator who holds a licence that is applicable to that type of facility and that is of the same class as or higher than the class of the facility in accordance with Ontario Regulation 129/04.

## 9. MONITORING AND RECORDING

The Owner shall, upon commencement of operation of the Works, carry out the following monitoring program:

(1) All samples and measurements taken for the purposes of this Approval are to be taken at a time and in a location characteristic of the quality and quantity of the effluent stream over the time period being monitored.

(2) For the purposes of this condition, the following definitions apply:

- a. Weekly means once each week;

(3) Samples shall be collected at the following sampling points, at the frequency specified, by means of the specified sample type and analyzed for each parameter listed and all results recorded:

<b>Table 3 - Influent Monitoring</b>		
<b>Parameters</b>	<b>Sample Type</b>	<b>Frequency</b>
BOD5	Composite	Weekly
Total Suspended Solids	Composite	Weekly
Total Phosphorus	Composite	Weekly
Total Kjeldahl Nitrogen	Composite	Weekly

<b>Table 4 - Final Effluent Monitoring</b>		
<b>Parameters</b>	<b>Sample Type</b>	<b>Frequency</b>
CBOD5	Composite	Weekly
Total Suspended Solids	Composite	Weekly
Total Phosphorus	Composite	Weekly
Total Ammonia Nitrogen	Composite	Weekly
E. coli	Grab	Weekly
pH	Grab	Weekly
Temperature	Grab	Weekly
Unionized Ammonia	Calculated	Weekly

(4) The methods and protocols for sampling, analysis and recording shall conform, in order of precedence, to the methods and protocols specified in the following:

- a. the Ministry's Procedure F-10-1, "Procedures for Sampling and Analysis Requirements for Municipal and Private Sewage Treatment Works (Liquid Waste Streams Only), as amended from time to time by more recently published editions;
- b. the Ministry's publication "Protocol for the Sampling and Analysis of Industrial/Municipal Wastewater" (January 1999), ISBN 0-7778-1880-9, as amended from time to time by more recently published editions;
- c. the publication "Standard Methods for the Examination of Water and Wastewater" (21st edition), as amended from time to time by more recently published editions;

(5) The temperature and pH of the effluent from the Works shall be determined in the field at the time of sampling for Total Ammonia Nitrogen. The concentration of un-ionized ammonia shall be calculated using the total ammonia concentration, pH and temperature using the methodology stipulated in "Ontario's Provincial Water Quality Objectives" dated July 1994, as amended, for ammonia (un-ionized).

(6) The Owner shall install and maintain (a) continuous flow measuring device(s), to measure the flowrate of the influent to the Sewage Treatment Plant with an accuracy to within plus or minus 15 per cent (+/- 15%) of the actual flowrate for the entire design range of the flow measuring device, and record

the flowrate at a daily frequency.

(7) The Owner shall retain for a minimum of five (5) years from the date of their creation, all records and information related to or resulting from the monitoring activities required by this Approval.

10. LIMITED OPERATIONAL FLEXIBILITY(MODIFICATIONS TO THE WORKS)

(1) The Owner may make modifications to the Works in accordance with the Terms and Conditions of this Approval and subject to the Ministry's "Limited Operational Flexibility Criteria for Modifications to Sewage Works ", included under Schedule B of this Approval, as amended.

(2) Sewage works proposed under Limited Operational Flexibility shall adhere to the design guidelines contained within the Ministry's publication "Design Guidelines for Sewage Works 2008", as amended.

(3) The Owner shall ensure at all times, that the Works, related equipment and appurtenances which are installed or used to achieve compliance are operated in accordance with all Terms and Conditions of this Approval.

(4) For greater certainty, the following are not permitted as part of Limited Operational Flexibility:

- a. Modifications to the Works that result in an increase of the approved Rated Capacity of the Works;
- b. Modifications to the Works that may adversely affect the approved effluent quality criteria or the location of the discharge/outfall;
- c. Modifications to the treatment process technology of the Works, or modifications that involve construction of new reactors (tanks) or alter the treatment train process design;
- d. Modifications to the Works approved under s.9 of the EPA, and
- e. Modifications to the Works pursuant to an order issued by the Ministry.

(5) Implementation of Limited Operational Flexibility is not intended to be used for piecemeal measures that result in major alterations or expansions.

(6) If the implementation of Limited Operational Flexibility requires changes to be made to the Emergency Response, Spill Reporting and Contingency Plan, the Owner shall, as deemed necessary in consultation with the Water Supervisor, provide a revised copy of this plan to the local fire services authority prior to implementing Limited Operational Flexibility.

(7) For greater certainty, any modification made under the Limited Operational Flexibility may

only be carried out after other legal obligations have been complied with, including those arising from the *Environmental Protection Act*, *Niagara Escarpment Planning and Development Act*, *Oak Ridges Moraine Conservation Act*, *Lake Simcoe Protection Act* and *Greenbelt Act*.

(8) Prior to implementing Limited Operational Flexibility, the Owner shall complete a Notice of Modifications describing any proposed modifications to the Works and submit it to the Water Supervisor.

## 11. REPORTING

(1) The Owner shall report to the Water Supervisor orally as soon as possible any non-compliance with the effluent criteria, and in writing within seven (7) days of non-compliance.

(2) In addition to the obligations under Part X of the Environmental Protection Act, the Owner shall, within ten (10) working days of the occurrence of any reportable spill as defined in Ontario Regulation 675/98, bypass or loss of any product, by-product, intermediate product, oil, solvent, waste material or any other polluting substance into the environment, submit a full written report of the occurrence to the Water Supervisor describing the cause and discovery of the spill or loss, clean-up and recovery measures taken, preventative measures to be taken and schedule of implementation.

(3) The Owner shall, upon request, make all manuals, plans, records, data, procedures and supporting documentation available to Ministry staff.

(4) The Owner shall prepare and submit a performance report to the Water Supervisor on an annual basis, by March 31 of the year following the end of the period being reported upon. The first such report shall cover the first annual period following the commencement of operation of the Works and subsequent reports shall be submitted to cover successive annual periods following thereafter. The reports shall contain, but shall not be limited to, the following information:

- a. a summary and interpretation of all monitoring data and a comparison to the effluent limits outlined in Condition 7, including an overview of the success and adequacy of the Works;
- b. a description of any operating problems encountered and corrective actions taken;
- c. a summary of all maintenance carried out on any major structure, equipment, apparatus, mechanism or thing forming part of the Works;
- d. a summary of any effluent quality assurance or control measures undertaken in the reporting period;
- e. a summary of the calibration and maintenance carried out on all effluent monitoring equipment; and
- f. a description of efforts made and results achieved in meeting the Effluent Objectives of

Condition 6.

- g. a tabulation of the volume of sludge generated in the reporting period, an outline of anticipated volumes to be generated in the next reporting period and a summary of the locations to where the sludge was disposed;
- h. a summary of any complaints received during the reporting period and any steps taken to address the complaints;
- i. a summary of all By-pass, spill or abnormal discharge events;
- j. a copy of all Notice of Modifications submitted to the Water Supervisor as a result of Schedule B, Section 1, with a status report on the implementation of each modification;
- k. a report summarizing all modifications completed as a result of Schedule B, Section 3; and
- l. any other information the Water Supervisor requires from time to time.

(5) The Owner shall, within thirty (30) calendar days of issuance of this Approval, submit a Municipal and Local Services Board Wastewater System Profile Information Form, and shall resubmit the updated document every time a notification is provided to the Water Supervisor in compliance with requirements of change of ownership under this Approval.

*The reasons for the imposition of these terms and conditions are as follows:*

1. Condition 1 is imposed to ensure that the Works are built and operated in the manner in which they were described for review and upon which approval was granted. This condition is also included to emphasize the precedence of Conditions in the Approval and the practice that the Approval is based on the most current document, if several conflicting documents are submitted for review. The condition also advises the Owners their responsibility to notify any person they authorized to carry out work pursuant to this Approval the existence of this Approval.
2. Condition 2 is included to ensure that the Ministry records are kept accurate and current with respect to the approved works and to ensure that subsequent owners of the Works are made aware of the Approval and continue to operate the Works in compliance with it.
3. Condition 3 is included to ensure that record drawings of the Works “as constructed” are maintained for future references.
4. Condition 4 is included to indicate that By-pass of untreated or partially treated sewage to the receiving watercourse is prohibited, save in certain limited circumstances where the failure to By-pass could result in greater injury to the public interest than the Bypass itself where a By-pass will not violate the approved effluent requirements, or where the By-pass can be limited or otherwise mitigated by handling it in accordance with an approved contingency plan. The notification and documentation requirements allow the Ministry to take action in an informed manner and will ensure the Owner is aware of the extent and

frequency of By-pass events.

5. Condition 5 is included to indicate that Overflows of untreated or partially treated sewage to the receiving watercourse is prohibited, save in certain limited circumstances where the failure to Overflow could result in greater injury to the public interest than the Overflow itself or where the Overflow can be limited or otherwise mitigated by handling it in accordance with an approved contingency plan. The notification and documentation requirements allow the Ministry to take action in an informed manner and will ensure the Owner is aware of the extent and frequency of Overflow events.
6. Condition 6 is imposed to establish non-enforceable effluent quality objectives which the Owner is obligated to use best efforts to strive towards on an ongoing basis. These objectives are to be used as a mechanism to trigger corrective action proactively and voluntarily before environmental impairment occurs and before the compliance limits of Condition 7 are exceeded.
7. Condition 7 is imposed to ensure that the effluent discharged from the Works to the environment meets the Ministry's effluent quality requirements thus minimizing environmental impact on the receiver and to protect water quality, fish and other aquatic life in the receiving water body.
8. Condition 8 is included to require that the Works be properly operated, maintained, funded, staffed and equipped such that the environment is protected and deterioration, loss, injury or damage to any person or property is prevented. As well, the inclusion of a comprehensive operations manual governing all significant areas of operation, maintenance and repair is prepared, implemented and kept up-to-date by the Owner and made available to the Ministry. Such a manual is an integral part of the operation of the Works. Its compilation and use should assist the Owner in staff training, in proper plant operation and in identifying and planning for contingencies during possible abnormal conditions. The manual will also act as a benchmark for Ministry staff when reviewing the Owner's operation of the Works.
9. Condition 9 is included to enable the Owner to evaluate and demonstrate the performance of the Works, on a continual basis, so that the Works are properly operated and maintained at a level which is consistent with the design objectives and effluent limits specified in the Approval and that the Works does not cause any impairment to the environment.
10. Condition 10 is included to provide a performance record for future references, to ensure that the Ministry is made aware of problems as they arise, and to provide a compliance record for all the terms and conditions outlined in this Approval, so that the Ministry can work with the Owner in resolving any problems in a timely manner.
11. Condition 11 is included to ensure that the Works are operated in accordance with the application and supporting documentation submitted by the Owner, and not in a manner which the Director has not been asked to consider. These Conditions are also included to ensure that a Professional Engineer has reviewed the proposed modifications and attests that the modifications are in line with that of Limited Operational Flexibility, and provide assurance that the proposed modifications comply with the Ministry's requirements stipulated in the Terms and Conditions of this Approval, MOE policies, guidelines, and industry engineering standards and best management practices.

## Schedule A

1. All previous application and supporting documentation including the environmental study report, pre-design report, and plans and specifications prepared by Gore & Storrie Limited, and Thornburn Penny Limited;
2. Application for Approval of Municipal and Private Sewage Works submitted by Tony Guerrero of The Greer Galloway Group Inc received May 28, 2010, including Town of Smiths Falls Pollution Prevention and Control Class Environmental Assessment Project File Report prepared by AECOM, Centre Street Sewage Pumping Station Design Report and final engineering plans for the CSO Tank and Centre Pumping Station Upgrade prepared by Greer Galloway Group.
3. Application for Approval of Municipal and Private Sewage Works, submitted by M.G. Christie of XIE (environmental) received on August 4, 2016, including an application and accompanying transmittal form for the Request for Limited Operational Flexibility;

## chedule B

### **Limited Operational Flexibility Criteria for Modifications to Municipal Sewage Works**

1. The modifications to sewage works approved under an Environmental Compliance Approval (Approval) that are permitted under the Limited Operational Flexibility (LOF), are outlined below and are subject to the LOF conditions in the Approval, and require the submission of the Notice of Modifications. If there is a conflict between the sewage works listed below and the Terms and Conditions in the Approval, the Terms and Conditions in the Approval shall take precedence.

#### 1.1 Sewage Pumping Stations

- a. Alter pumping capacity by adding or replacing equipment where new equipment is located within an existing sewage treatment plant site or an existing sewage pumping station site, provided that the modifications do not result in an increase of the sewage treatment plant Rated Capacity and the existing flow process and/or treatment train are maintained, as applicable.
- b. Forcemain relining and replacement with similar pipe size where the nominal diameter is not greater than 1,200 mm.

#### 1.2 Sewage Treatment Process

- a. Installing additional chemical dosage equipment including replacing with alternative chemicals for pH adjustment or coagulants (non-toxic polymers) provided that there are no modifications of treatment processes or other modifications that may alter the intent of operations and may have negative impacts on the effluent quantity and quality.
- b. Expanding the buffer zone between a sanitary sewage lagoon facility or land treatment area and adjacent uses provided that the buffer zone is entirely on the proponent's land.
- c. Optimizing existing sanitary sewage lagoons with the purpose to increase efficiency of treatment operations provided that existing sewage treatment plant rated capacity is not exceeded and where no land acquisition is required.
- d. Optimizing existing sewage treatment plant equipment with the purpose to increase the efficiency of the existing treatment operations, provided that there are no modifications to the works that result in an increase of the approved Rated Capacity, and may have adverse effects to the effluent quality or location of the discharge.
- e. Replacement, refurbishment of previously approved equipment in whole or in part with Equivalent Equipment, like-for-like of different make and model, provided that the firm capacity, reliability, performance standard, level of quality and redundancy of the group of equipment is kept the same or exceeded. For clarity purposes, the following equipment can

be considered under this provision: pumps, screens, grit separators, blowers, aeration equipment, sludge thickeners, dewatering equipment, UV systems, chlorine contact equipment, bio-disks, and sludge digester systems.

### 1.3 Sewage Treatment Plant Outfall

- a. Replacement of discharge pipe with similar pipe size or diffusers provided that the outfall location is not changed.

### 1.4 Sanitary Sewers

- a. Pipe relining and replacement with similar pipe size within the Sewage Treatment Plant site, where the nominal diameter is not greater than 1,200 mm.

### 1.5 Pilot Systems

- a. Installation of pilot systems for new or existing technologies provided that:
  - i. any effluent from the pilot system is discharged to the inlet of the sewage treatment plant or hauled off-site for proper disposal,
  - ii. any effluent from the pilot system discharged to the inlet of the sewage treatment plant or sewage conveyance system does not significantly alter the composition/concentration of the influent sewage to be treated in the downstream process; and that it does not add any inhibiting substances to the downstream process, and
  - iii. the pilot system's duration does not exceed a maximum of two years; and a report with results is submitted to the Director and Water Supervisor three months after completion of the pilot project.

2. Sewage works that are exempt from section 53 of the OWRA by O. Reg. 525/98 continue to be exempt and are not required to follow the notification process under this Limited Operational Flexibility.
3. Normal or emergency operational modifications, such as repairs, reconstructions, or other improvements that are part of maintenance activities, including cleaning, renovations to existing approved sewage works equipment, provided that the modification is made with Equivalent Equipment, are considered pre-approved.
4. The modifications noted in section (3) above are not required to follow the notification protocols under Limited Operational Flexibility, provided that the number of pieces and description of the equipment as described in the Approval does not change.

**Notice of Modification to Sewage Works**

RETAIN COPY OF COMPLETED FORM AS PART OF THE ECA AND SEND A COPY TO THE WATER SUPERVISOR (FOR MUNICIPAL) OR DISTRICT MANAGER (FOR NON-MUNICIPAL SYSTEMS)

<b>Part 1 – Environmental Compliance Approval (ECA) with Limited Operational Flexibility</b> <i>(insert the ECA's owner, number and issuance date and notice number, which should start with "01" and consecutive numbers thereafter)</i>		
ECA Number	Issuance Date (mm/dd/yy)	Notice number (if applicable)
ECA Owner		Municipality

<b>Part 2: Description of the modifications as part of the Limited Operational Flexibility</b> <i>(Attach a detailed description of the sewage works)</i>
<p>Description shall include:</p> <ol style="list-style-type: none"> <li>1. A detail description of the modifications and/or operations to the sewage works (e.g. sewage work component, location, size, equipment type/model, material, process name, etc.)</li> <li>2. Confirmation that the anticipated environmental effects are negligible.</li> <li>3. List of updated versions of, or amendments to, all relevant technical documents that are affected by the modifications as applicable, i.e. submission of documentation is not required, but the listing of updated documents is (design brief, drawings, emergency plan, etc.)</li> </ol>

<b>Part 3 – Declaration by Professional Engineer</b>						
<p>I hereby declare that I have verified the scope and technical aspects of this modification and confirm that the design:</p> <ol style="list-style-type: none"> <li>1. Has been prepared or reviewed by a Professional Engineer who is licensed to practice in the Province of Ontario;</li> <li>2. Has been designed in accordance with the Limited Operational Flexibility as described in the ECA;</li> <li>3. Has been designed consistent with Ministry's Design Guidelines, adhering to engineering standards, industry's best management practices, and demonstrating ongoing compliance with s.53 of the Ontario Water Resources Act; and other appropriate regulations.</li> </ol> <p>I hereby declare that to the best of my knowledge, information and belief the information contained in this form is complete and accurate</p>						
<table border="1"> <tr> <td>Name (Print)</td> <td>PEO License Number</td> </tr> <tr> <td>Signature</td> <td>Date (mm/dd/yy)</td> </tr> <tr> <td colspan="2">Name of Employer</td> </tr> </table>	Name (Print)	PEO License Number	Signature	Date (mm/dd/yy)	Name of Employer	
Name (Print)	PEO License Number					
Signature	Date (mm/dd/yy)					
Name of Employer						

<b>Part 4 – Declaration by Owner</b>				
<p>I hereby declare that:</p> <ol style="list-style-type: none"> <li>1. I am authorized by the Owner to complete this Declaration;</li> <li>2. The Owner consents to the modification; and</li> <li>3. This modifications to the sewage works are proposed in accordance with the Limited Operational Flexibility as described in the ECA.</li> <li>4. The Owner has fulfilled all applicable requirements of the <i>Environmental Assessment Act</i>.</li> </ol> <p>I hereby declare that to the best of my knowledge, information and belief the information contained in this form is complete and accurate</p>				
<table border="1"> <tr> <td>Name of Owner Representative (Print)</td> <td>Owner representative's title (Print)</td> </tr> <tr> <td>Owner Representative's Signature</td> <td>Date (mm/dd/yy)</td> </tr> </table>	Name of Owner Representative (Print)	Owner representative's title (Print)	Owner Representative's Signature	Date (mm/dd/yy)
Name of Owner Representative (Print)	Owner representative's title (Print)			
Owner Representative's Signature	Date (mm/dd/yy)			

**Upon issuance of the environmental compliance approval, I hereby revoke Approval No(s).  
5076-86NKAG issued on July 12, 2010.**

*In accordance with Section 139 of the Environmental Protection Act, you may by written Notice served upon me and the Environmental Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. Section 142 of the Environmental Protection Act provides that the Notice requiring the hearing shall state:*

1. The portions of the environmental compliance approval or each term or condition in the environmental compliance approval in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

*Pursuant to subsection 139(3) of the Environmental Protection Act, a hearing may not be required with respect to any terms and conditions in this environmental compliance approval, if the terms and conditions are substantially the same as those contained in an approval that is amended or revoked by this environmental compliance approval.*

*The Notice should also include:*

3. The name of the appellant;
4. The address of the appellant;
5. The environmental compliance approval number;
6. The date of the environmental compliance approval;
7. The name of the Director, and;
8. The municipality or municipalities within which the project is to be engaged in.

*And the Notice should be signed and dated by the appellant.*

*This Notice must be served upon:*

The Secretary\*  
Environmental Review Tribunal  
655 Bay Street, Suite 1500  
Toronto, Ontario  
M5G 1E5

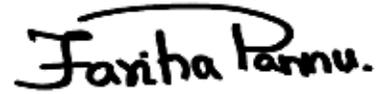
AND

The Director appointed for the purposes of Part II.1 of  
the Environmental Protection Act  
Ministry of the Environment and Climate Change  
135 St. Clair Avenue West, 1st Floor  
Toronto, Ontario  
M4V 1P5

**\* Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 212-6349, Fax: (416) 326-5370 or [www.ert.gov.on.ca](http://www.ert.gov.on.ca)**

*The above noted activity is approved under s.20.3 of Part II.1 of the Environmental Protection Act.*

DATED AT TORONTO this 11th day of January, 2017

A handwritten signature in black ink that reads "Fariha Pannu." The signature is written in a cursive style with a large, sweeping initial 'F'.

---

Fariha Pannu, P.Eng.

Director

appointed for the purposes of Part II.1 of the  
*Environmental Protection Act*

RY/

c: DWMD Supervisor, MOECC Ottawa  
Ted Joynt, Town of Smith Falls

RECEIVED SEP 20 1993



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## CERTIFICATE OF APPROVAL

AIR

NUMBER 8-4041-93-006

Page 1 of 6

Rec'd DWL  
SEP 23 1993

*To the Applicant:*

Town of Smiths Falls  
191 Beckwith Street, Box 695  
Smiths Falls, Ontario  
K7A 4T6

*Located at:*

Smiths Falls Waste Water Treatment Facility,  
Highway 43 and Hershey Road,  
Smiths Falls, Ontario.

*The Applicant has applied in accordance with Section 9 of the Environmental Protection Act for approval of:*

a waste water treatment facility with the following associated exhaust systems:

- one (1) exhaust system serving the screen channels, screens, screening conveyors and screening bins, equipped with one (1) carbon adsorption unit, having 143 kilograms of activated carbon, exhausting into the atmosphere at a volumetric flowrate of 140 litres per second, through a louver having a cross sectional area of 0.16 square metre, located at 7.5 metres above grade,
- one (1) standby diesel generator, having a continuous rating of 600 kilowatts, fuelled by No. 2 diesel oil at a maximum rate of 145 litres per hour. The combustion products are discharged into the atmosphere through a stack having an exit diameter of 0.2 metre, extending 1.0 metre above the roof and 13.0 metres above grade. The diesel generator is equipped with noise control measures as specified in the "Environmental Noise Impact Study", dated November 27, 1992 and prepared by Barman Swallow Associates.
- one (1) sludge pelletizer unit, equipped with:
  - one (1) natural gas fired burner having a maximum heat input of 3,838,045 kilojoules per hour;
  - one (1) baghouse dust collector serving the drying circuit, having a filtering velocity of 2.0 centimetres per second, equipped with Ryton/Rastex-PTFE filter bags and air pulse cleaning devices;
  - one (1) baghouse dust collector serving the cooling circuit, having a filtering velocity of 2.0 centimetres per second, equipped with Dralon T filter bags and air pulse cleaning devices;

The exhaust gases are discharged into the atmosphere at a volumetric flowrate of 1.6 normal cubic metres per second, through a stack having an exit diameter of 0.3 metre, extending 13.0 metres above grade; and,



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Ministère de  
l'Environnement  
et de l'Énergie

**CERTIFICATE OF APPROVAL**

**AIR**

**NUMBER 8-4041-93-006**

Page 2 of 6

- twenty six (26) exhaust fans to provide general ventilation. They are as follows:

LOCATION	VENT NUMBER	HEIGHT		VOLUMETRIC FLOWRATE (normal cubic metre per second)
		ABOVE ROOF (metre)	ABOVE GRADE (metre)	
Raw Sludge Pump Station	EF1	0.4	1.5	0.34
	EF2	0.4	1.5	1.30
Screen and Degrit Building				
Screen Room	EF3	0.4	6.9	0.67
Pump Room	EF4	0.4	6.9	2.80
	EF5	0.4	6.9	2.80
	EF6	0.4	6.9	0.64
Basement	EF6	0.4	6.9	0.64
Grit Pump Room	EF7	0.4	1.5	0.30
Blower Building				
Blower Room	EF8	0.4	1.7	1.15
	EF9	0.4	1.7	8.00
MCC Room	EF10	0.4	4.6	2.33
	EF11	-	3.0	0.09
Filter Room	EF12	0.4	4.6	1.57
	EF13	0.4	4.6	1.57
Administration Building				
Mens Locker Room	EF14	0.4	5.9	0.35
	EF15	0.4	5.9	0.35
	EF16	0.4	5.9	0.35
Main Exhaust	EF17	0.4	5.9	0.35
	EF18	0.4	5.9	0.35
Ladies Locker Room	EF19	0.4	5.9	0.35
	EF20	0.4	5.9	0.35
Janitorial Room	EF21	0.4	5.9	0.35
Laboratory	EF22	0.4	5.9	0.35
Pelletizer Building				
Maintenance Room	EF23	-	4.0	0.22
Washroom	EF24	0.4	10.9	0.022
Pelletizer	EF25	-	8.0	5.18
	EF26	-	8.0	2.59

all in accordance with the application for a Certificate of Approval (Air) dated April 8, 1993, signed by C. Kowalewski and other supporting information prepared and submitted by Thornburn Penny.



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**CERTIFICATE OF APPROVAL**

**AIR**

**NUMBER 8-4041-93-006**

**Page 3 of 6**

*The Applicant is hereby notified that this approval is issued subject to the following terms and conditions outlined below:*

**TERMS AND CONDITIONS**

**DEFINITIONS**

1. For the purpose of this Certificate of Approval:
  - a. "Act" means the Environmental Protection Act;
  - b. "Certificate" means this Certificate of Approval, issued in accordance with Section 9 of the Environmental Protection Act;
  - c. "Company" means Town of Smiths Falls;
  - d. "Burner" means the natural gas fired burner serving the sludge drying and pelletizing unit described in this Certificate;
  - e. "Diesel Generator" means the diesel generator set described in this Certificate;
  - f. "Director" means any Ministry employee appointed by the Minister pursuant to Section 5 of the Act;
  - g. "District Officer" means the District Officer, Ottawa District Office, Southeastern Region of the Ministry;
  - h. "Equipment" means the carbon adsorption unit, the baghouse dust collectors and the burner described in the Company's application, this Certificate and in the supporting documentation referred to herein, to the extent approved by this Certificate;
  - i. "Ministry" means the Ontario Ministry of Environment and Energy;
  - j. "Point of Impingement" means any point in the natural environment. The point of impingement for the purposes of verifying compliance with the Act shall be chosen as the point at which the highest concentration is expected to occur, when that concentration is calculated in accordance with the Appendix to Regulation 346 written under the Act, or any other method accepted by the Director;
  - k. "Pre-test Information" means the information outlined in Section 1.1. of the Source Testing Code;
  - l. "Source Testing Code" means the Source Testing Code, Version 2, Report No. ARB-66-80, dated November 1980, prepared by the Ministry, as amended;
  - m. "Source Testing" means sampling and testing to measure emissions resulting from operating the equipment under conditions which yield the worst case emissions within the approved operating range of the equipment.



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l'Environnement  
et de l'Énergie

CERTIFICATE OF APPROVAL

AIR

NUMBER 8-4041-93-006

Page 4 of 6

- n. "Supervisor" means the Supervisor, Source Assessment and Technology Unit, or any other person who represents and carries out the duties of the Supervisor, Source Assessment and Technology Unit, as those duties relate to the conditions of this Certificate;
- o. "Test Contaminants" means total hydrocarbon, total reduced sulphur and total suspended particulate.

**MAINTENANCE**

- 2. The Company, shall ensure that the Equipment is properly operated and maintained at all times. The Company shall, as a minimum:
  - a. prepare not later than three (3) months after the commencement of operation of the Equipment and update, as necessary, a manual outlining the operating procedures and a maintenance program for the Equipment;
  - b. implement the recommendations of the operating and maintenance manual; and
  - c. retain, for a minimum of two (2) years from the date of their creation, all records on the maintenance, repair and inspection of the Equipment.

**SOURCE TESTING**

- 3. The Company shall monitor the emissions and operation of the Burner as follows:
  - a. The Company shall perform Source Testing, to determine the rate of emission of the Test Contaminants from the Burner.
  - b. The Company shall submit, not later than three (3) months after the commencement of operation of the Equipment, to the Supervisor a test protocol, including the Pre-Test Information for the Source Testing required by the Source Testing Code. The Company shall finalize the test protocol in consultation with the Supervisor.
  - c. The Company shall not commence the Source Testing until the Supervisor has accepted the test protocol.
  - d. The Company shall complete the Source Testing not later than three (3) months after the Supervisor has accepted the test protocol.
  - e. The Company shall notify the District Officer and the Supervisor in writing of the location, date and time of any impending Source Testing required by this Certificate, at least fifteen (15) days prior to the Source Testing.



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et de l'Énergie

CERTIFICATE OF APPROVAL

AIR

NUMBER 8-4041-93-006

Page 5 of 6

- f. The Company shall submit a report on the Source Testing to the District Officer and the Supervisor not later than two (2) months after completing the Source Testing. The report shall be in the format described in the Source Testing Code, and shall also include, but not be limited to:
- i. an executive summary;
  - ii. records of operating conditions,
  - iii. the results of dispersion calculations in accordance with Regulation 346 indicating the maximum concentration of the Test Contaminants at the Point of Impingement.
- g. The Director may not accept the results of the Source Testing if:
- i. the Source Testing Code or the requirements of the Supervisor were not followed; or
  - ii. the Company did not notify the District Officer and the Supervisor of the Source Testing; or
  - iii. the Company failed to provide a complete report on the Source Testing.
- h. If the Director does not accept the results of the Source Testing, the Director may require re-testing.
4. The Company shall ensure that the noise emissions from the Diesel Generator comply with the limits determined in accordance with Publication NPC-105 of the Model Municipal Noise Control By-Law, Final Report, August 1978, as amended.
5. The Company shall restrict the periodic testing of the Diesel Generator to the daytime period of 7 a.m. to 5 p.m.

*The reasons for the imposition of these terms and conditions are as follows:*

1. Condition No. 1 is included to define the special terms that are used throughout the Certificate.
2. Condition No. 2 is included on the Certificate to emphasize that the Equipment must be maintained and operated according to a procedure that will result in compliance with the Environmental Protection Act, the regulations and this Certificate.

In addition, the Company is required to keep records to assist the Director, Section 9 of the Environmental Protection Act, in determining whether or not the Equipment is being inspected and maintained as required by the Environmental Protection Act, the Regulations and this Certificate.



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l'Environnement  
et de l'Énergie

## CERTIFICATE OF APPROVAL

A I R

NUMBER 8-4041-93-006

Page 6 of 6

3. Condition No. 3 is included to require the Company to gather accurate information so that the environmental impact and subsequent compliance with the Act, the regulations and this Certificate can be verified.
4. Condition No. 4 is included to provide the minimum performance requirement considered necessary to prevent an adverse effect resulting from the operation of the Diesel Generator.
5. Condition No. 5 is included to ensure that the proposed operation of the Diesel Generator is not extended beyond day-time hours. Operation outside these hours, when ambient sound levels are significantly lower, may result in non-compliance with the established sound level limits.

*The Applicant may by written notice served upon me and the Environmental Appeal Board within 15 days after receipt of this Notice, require a hearing by the Board. Section 142 of the Environmental Protection Act, R.S.O. 1990, Chapter E.19, provides that the Notice requiring the hearing shall state:*

1. The portions of the approval or each term or condition in the approval in respect of which the hearing is required, and;
2. The grounds on which the Applicant intends to rely at the hearing in relation to each portion appealed.

*The Notice should also include:*

3. The name of the appellant;
4. The address of the appellant;
5. The Certificate of Approval number;
6. The date of the Certificate of Approval;
7. The name of the Director;
8. The municipality within which the works are located;

*And the Notice should be signed and dated by the appellant.*

*This Notice must be served upon:*

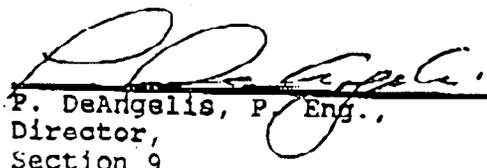
The Secretary,  
Environmental Appeal Board,  
112 St. Clair Avenue West,  
Suite 502,  
Toronto, Ontario.  
M4V 1N3

AND

The Director,  
Section 9, Environmental Protection Act,  
Ministry of Environment and Energy,  
250 Davisville Avenue, 3rd Floor,  
Toronto, Ontario.  
M4S 1H2

*The above noted works are approved under Section 9 of the Environmental Protection Act.*

DATED AT TORONTO this 7th day of September, 1993.

  
P. DeAngelis, P. Eng.,  
Director,  
Section 9,  
Environmental Protection Act.

QN/an

CC:-Mr. R. Dunn, MOEE, Ottawa District Officer



Ministry of Environment and Energy

Ministère de l'Environnement et de l'Énergie

AMENDMENT TO CERTIFICATE OF APPROVAL

A I R

NUMBER 8-4041-93-006

Page 1 of 2

L020602

B

NOTICE

MINISTRY OF ENVIRONMENT & ENERGY

OCT 10 1995

OTTAWA

Town of Smiths Falls  
77 Beckwith Street North, Box 695  
Smiths Falls, Ontario  
K7A 4T6

You are hereby notified that the approval issued under Certificate of Approval No. 8-4041-93-006, dated September 7, 1993, is amended as follows:

Condition No. 3.f. is amended to read:

- f. The Company shall submit a report on the Source Testing to the District Officer and the Supervisor not later than four (4) months after completing the Source Testing. The report shall be in the format described in the Source Testing Code, and shall also include, but not be limited to:
  - i. an executive summary;
  - ii. records of operating conditions;
  - iii. the results of dispersion calculations in accordance with Regulation 346 indicating the maximum concentration of the Test Contaminants at the Point of Impingement.

All in accordance with the Application for Approval (Air) and supporting information submitted by the Town of Smiths Falls, dated August 28, 1995, signed by B. Symondson.

All other Terms and Conditions remain unchanged.

This Notice shall constitute part of the approval issued under Certificate of Approval No. 8-4041-93-006, dated September 7, 1993.

In accordance with Section 139 of the Environmental Protection Act, R.S.O. 1990, Chapter E-19, as amended, you may by written notice served upon me and the Environmental Appeal Board within 15 days after receipt of this Notice, require a hearing by the Board. Section 142 of the Environmental Protection Act, provides that the Notice requiring the hearing shall state:

1. The portions of the approval or each term or condition in the approval in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

*The Notice should also include:*

3. The name of the appellant;
4. The address of the appellant;
5. The Certificate of Approval number;
6. The date of the Certificate of Approval;
7. The name of the Director;
8. The municipality within which the works are located;

*And the Notice should be signed and dated by the appellant.*

*This Notice must be served upon:*

The Secretary,  
Environmental Appeal Board,  
112 St. Clair Avenue West,  
Suite 502,  
Toronto, Ontario.  
M4V 1N3

AND

The Director,  
Section 9, *Environmental Protection Act*,  
Ministry of Environment and Energy,  
250 Davisville Avenue, 3rd Floor,  
Toronto, Ontario.  
M4S 1H2

*The above noted works are approved under Section 9 of the Environmental Protection Act.*

*DATED AT TORONTO this 18th day of September, 1995*

*THIS IS A TRUE COPY OF THE  
ORIGINAL NOTICE OF AMENDMENT  
SIGNED BY  
P. DEANGELIS, P. ENG.*

*MAILED ON \_\_\_\_\_*

*BY \_\_\_\_\_*

SJ/fn

cc: District Manager, MOEE Ottawa District Office ✓

## **APPENDIX B**

### **Monitoring Data and Comparison to Effluent Limits**

## 2020 Monitoring Data

Town of Smiths Falls  
 2020 Performance Assessment Report - WPCP  
 Works # 120000890  
 Conventional Tertiary Treatment UV Disinfection / Pelletization

MONTH	PLANT FLOWS				RAW INFLUENT														
	Minimum Day (m <sup>3</sup> )	Maximum Day (m <sup>3</sup> )	Average (m <sup>3</sup> )	Total (m <sup>3</sup> )	Alkalinity (mg/L)	BOD <sub>5</sub> (mg/L)	BOD <sub>5</sub> Loadings (kg/d)	CBOD <sub>5</sub> (mg/L)	CBOD <sub>5</sub> Loadings (kg/d)	TSS (mg/L)	TSS Loadings (kg/d)	TP (mg/L)	TKN (mg/L)	Ammonia (N) - Total (mg/L)	Ammonia (N) - Unionized (mg/L)	pH	Temperature (°C)	Nitrate (mg/L)	Nitrite (mg/L)
January	10,436	34,044	13,822	428,482	167.00	94.00	1,299.27	38.00	525.24	233.00	3,220.53	2.43	13.00	6.09	0.036	7.64	7.20	1.540	0.195
February	9,211	11,771	10,020	290,583	155.00	134.00	1,342.68	53.00	531.06	233.00	2,334.66	3.24	18.70	9.85	0.129	7.63	7.10	0.810	0.125
March	10,675	27,119	16,190	501,867	173.00	73.00	1,181.87	29.00	469.51	133.00	2,153.27	1.50	10.70	5.15	0.032	7.66	9.00	2.200	0.109
April	9,036	15,891	11,677	350,335	186.00	110.00	1,284.47	39.00	455.40	165.00	1,926.71	3.68	14.00	5.47	0.051	7.70	8.70	1.650	0.098
May	7,067	17,370	9,632	298,585	177.00	110.00	1,059.52	48.00	462.34	287.00	2,764.38	5.33	17.00	7.21	0.092	7.87	9.40	1.490	0.135
June	6,178	8,985	6,906	207,172	174.00	168.00	1,160.21	88.00	607.73	326.00	2,251.36	6.48	23.80	12.23	0.093	7.51	11.20	0.760	0.139
July	5,103	9,079	6,455	200,117	163.00	177.00	1,142.54	81.00	522.86	323.00	2,084.97	5.00	25.20	14.27	0.147	7.51	15.90	0.840	0.108
August	5,297	25,676	11,000	341,004	181.00	48.00	528.00	33.00	363.00	151.00	1,661.00	1.55	12.40	5.26	0.047	7.52	11.80	1.560	0.145
September	5,249	13,752	7,592	227,750	214.00	143.00	1,085.66	78.00	592.18	287.00	2,178.90	4.25	22.20	17.34	0.132	7.45	12.40	2.130	0.243
October	5,683	15,016	8,295	257,153	212.00	152.00	1,260.84	71.00	588.95	215.00	1,783.43	3.44	22.80	16.40	0.072	7.44	9.00	0.947	0.149
November	5,573	14,089	7,684	230,532	230.00	161.00	1,237.12	69.00	530.20	212.00	1,629.01	3.36	20.40	18.10	0.083	7.45	8.70	1.470	0.207
December	6,455	32,089	11,076	343,350	219.00	112.00	1,240.51	41.00	454.12	140.00	1,550.64	3.19	15.90	7.53	2.465	7.41	8.16	2.600	0.257
TOTAL	85,963	224,881	120,349	3,676,930	2,251.00	1,482.00	13,822.68	668.00	6,102.56	2,705.00	25,538.84	43.45	216.10	124.90	3.379	90.79	118.56	17.997	1.910
AVERAGE	7,164	18,740	10,029	306,411	187.58	123.50	1,151.89	55.67	508.55	225.42	2,128.24	3.62	18.01	10.41	0.282	7.57	9.88	1.500	0.159
Max	10,675	34,044	16,190	501,867	230.00	177.00	1,342.68	88.00	607.73	326.00	3,220.53	6.48	25.20	18.10	2.465	7.87	15.90	2.600	0.257
Min	5,103	8,985	6,455	200,117	155.00	48.00	528.00	29.00	363.00	133.00	1,550.64	1.50	10.70	5.15	0.032	7.41	7.10	0.760	0.098
Annual average flow (m <sup>3</sup> /d): <b>10,046</b> WPCP rate capacity (m <sup>3</sup> /d): <b>14,700</b> Peak flow (m <sup>3</sup> /d): <b>34,044</b> Percentage of rated capacity (%): <b>68.34</b>																			

MONTH	FINAL EFFLUENT																					
	Alkalinity (mg/L)	Ammonia (N) - Total (mg/L)	NH3 Loadings (kg/d)	Ammonia (N) - Unionized (mg/L)	BOD <sub>5</sub> (mg/L)	BOD <sub>5</sub> Loadings (kg/d)	CBOD <sub>5</sub> (mg/L)	CBOD <sub>5</sub> Loadings (kg/d)	TSS (mg/L)	TSS Loadings (kg/d)	TP (mg/L)	TP Loadings (kg/d)	TKN (mg/L)	TKN Loadings (kg/d)	pH			Temperature (°C)	Nitrate (mg/L)	Nitrite (mg/L)	E. Coli Geomean	
January	127.00	0.090	1.24	0.007	7.00	96.75	5.00	69.11	<b>7.60</b>	105.05	0.12	1.66	0.60	8.29	7.12	7.38	7.73	6.30	6.89	0.078	13.89	
February	113.00	0.610	6.11	0.008	3.00	30.06	3.00	30.06	1.20	12.02	0.04	0.40	1.10	11.02	6.97	7.32	7.63	5.90	5.94	0.237	1.00	
March	139.00	0.710	11.49	0.008	4.00	64.76	3.00	48.57	2.04	32.96	0.06	0.97	1.00	16.19	7.10	7.41	7.68	7.40	5.68	0.058	2.04	
April	144.00	0.010	0.12	0.006	3.00	35.03	3.00	35.03	1.15	13.37	0.03	0.35	0.60	7.01	7.26	7.42	7.76	6.90	6.62	0.010	1.00	
May	126.00	0.030	0.29	0.006	3.00	28.90	3.00	28.90	1.50	14.45	0.04	0.39	0.80	7.71	7.42	7.61	7.81	8.60	8.15	0.100	1.00	
June	111.00	0.180	1.24	0.011	3.00	20.72	3.00	20.72	1.31	9.05	0.05	0.35	0.90	6.22	7.07	7.51	7.88	10.30	9.63	0.062	1.00	
July	94.00	0.020	0.13	0.020	3.00	19.37	3.00	19.37	1.50	9.68	0.05	0.32	0.70	4.52	7.21	7.48	7.70	14.00	10.49	0.061	1.38	
August	126.00	0.200	2.20	0.006	4.00	44.00	4.00	44.00	4.20	46.20	0.10	1.10	0.60	6.60	7.19	7.51	7.79	11.20	6.99	0.028	50.15	
September	153.90	0.020	0.15	0.002	3.00	22.78	3.00	22.78	0.51	3.88	0.04	0.30	0.60	4.56	6.82	7.45	7.45	10.80	9.62	0.024	1.00	
October	128.00	0.010	0.08	0.002	3.00	24.89	3.00	24.89	0.50	4.15	0.04	0.30	0.60	4.98	6.92	7.40	7.59	8.70	9.41	0.047	1.00	
November	148.70	0.030	0.23	0.010	3.00	23.05	3.00	23.05	0.41	3.15	0.06	0.46	0.70	5.38	7.02	7.32	7.59	12.10	10.53	0.053	1.00	
December	165.00	0.100	1.11	0.010	4.00	44.30	4.00	44.30	4.39	48.62	0.15	1.66	0.70	7.75	6.71	7.23	7.38	11.50	8.11	0.038	7.20	
TOTAL	1,575.60	2.010	24.40	0.096	43.00	454.60	40.00	410.77	26.30	302.58	0.78	8.26	8.90	90.22	84.81	89.04	91.99	113.70	98.06	0.80	81.66	
AVERAGE	131.300	0.168	2.033	0.008	3.583	37.883	3.333	34.231	2.192	25.215	0.065	0.688	0.742	7.518	7.068	7.420	7.666	9.475	8.172	0.066	6.805	
Max	165.00	0.710	11.49	0.020	7.00	96.75	5.00	69.11	7.60	105.05	0.15	1.66	1.10	16.19	7.42	7.61	7.88	14.00	10.53	0.24	50.15	
Min	94.00	0.01	0.08	0.00	3.00	19.37	3.00	19.37	0.41	3.15	0.03	0.30	0.60	4.52	6.71	7.23	7.38	5.90	5.68	0.01	1.00	
LIMITS		2.6/14.0	38.0/206.0					15.00	220.50	15.00	220.50	0.30	4.40			6.0 to 9.5						200
OBJECTIVES		2.0/12.0						10.00	5.00	5.00	0.25					6.5 to 8.5						150

NOTE: if cell is highlighted in yellow with red text this is a non-compliance monthly average. Ministry must be notified (verbal & written) as per ECA condition 10(3)

NOTE: if cell is highlighted in orange with bold text this value is above the objectives noted in ECA

Comments:  
 January TSS over the objective due secondary treatment bypass event

## 2020 Final Effluent GeoMean

Town of Smiths Falls  
 2020 Performance Assessment Report - WPCP  
 Works # 12000890  
 Conventional Tertiary Treatment UV Disinfection / Pelletization

JANUARY			
Location			
2-Jan-20	Final Effluent *	1	CFU/100mL
8-Jan-20	Final Effluent *	1	CFU/100mL
11-Jan-20	Final Effluent Bypass Start	10,000	CFU/100mL
12-Jan-20	Final Effluent Bypass End	10,000	CFU/100mL
15-Jan-20	Final Effluent *	1	CFU/100mL
22-Jan-20	Final Effluent *	1	CFU/100mL
30-Jan-20	Final Effluent *	1	CFU/100mL
<b>GEO MEAN</b>		13.89	CFU/100mL
<b>Min</b>		1	CFU/100mL
<b>Max</b>		10,000	CFU/100mL

FEBRUARY			
Location			
5-Feb-20	Final Effluent *	1	CFU/100mL
12-Feb-20	Final Effluent *	1	CFU/100mL
19-Feb-20	Final Effluent *	1	CFU/100mL
26-Feb-20	Final Effluent *	1	CFU/100mL
<b>GEO MEAN</b>		1.00	CFU/100mL
<b>Min</b>		1	CFU/100mL
<b>Max</b>		1	CFU/100mL

MARCH			
Location			
4-Mar-20	Final Effluent *	1	CFU/100mL
10-Mar-20	Final Effluent Bypass Start	24	CFU/100mL
11-Mar-20	Final Effluent *	1	CFU/100mL
11-Mar-20	Final Effluent Bypass End	3	CFU/100mL
18-Mar-20	Final Effluent	1	CFU/100mL
25-Mar-20	Final Effluent	1	CFU/100mL
<b>GEO MEAN</b>		2.04	CFU/100mL
<b>Min</b>		1	CFU/100mL
<b>Max</b>		24	CFU/100mL

APRIL			
Location			
1-Apr-20	Final Effluent *	1	CFU/100mL
8-Apr-20	Final Effluent *	1	CFU/100mL
15-Apr-20	Final Effluent *	1	CFU/100mL
22-Apr-20	Final Effluent *	1	CFU/100mL
29-Apr-20	Final Effluent *	1	CFU/100mL
<b>GEO MEAN</b>		1.00	CFU/100mL
<b>Min</b>		1	CFU/100mL
<b>Max</b>		1	CFU/100mL

MAY			
Location			
6-May-20	Final Effluent *	1	CFU/100mL
13-May-20	Final Effluent *	1	CFU/100mL
20-May-20	Final Effluent *	1	CFU/100mL
27-May-20	Final Effluent *	1	CFU/100mL
<b>GEO MEAN</b>		1.00	CFU/100mL
<b>Min</b>		1	CFU/100mL
<b>Max</b>		1	CFU/100mL

JUNE			
Location			
3-Jun-20	Final Effluent *	1	CFU/100mL
10-Jun-20	Final Effluent *	1	CFU/100mL
17-Jun-20	Final Effluent *	1	CFU/100mL
24-Jun-20	Final Effluent *	1	CFU/100mL
<b>GEO MEAN</b>		1.00	CFU/100mL
<b>Min</b>		1	CFU/100mL
<b>Max</b>		1	CFU/100mL

JULY			
Location			
2-Jul-20	Final Effluent	5	CFU/100mL
8-Jul-20	Final Effluent *	1	CFU/100mL
15-Jul-20	Final Effluent *	1	CFU/100mL
22-Jul-20	Final Effluent *	1	CFU/100mL
29-Jul-20	Final Effluent *	1	CFU/100mL
<b>GEO MEAN</b>		1.38	CFU/100mL
<b>Min</b>		1	CFU/100mL
<b>Max</b>		5	CFU/100mL

AUGUST			
Location			
5-Aug-20	Final Effluent *	1	CFU/100mL
12-Aug-20	Final Effluent *	1	CFU/100mL
19-Aug-20	Final Effluent *	1	CFU/100mL
23-Aug-20	Final Effluent Bypass Start	20,000	CFU/100mL
24-Aug-20	Final Effluent Bypass End	10,000	CFU/100mL
26-Aug-20	Final Effluent *	1	CFU/100mL
29-Aug-20	Final Effluent Bypass Start	1,000	CFU/100mL
31-Aug-20	Final Effluent Bypass End	200	CFU/100mL
<b>GEO MEAN</b>		50.15	CFU/100mL
<b>Min</b>		1	CFU/100mL
<b>Max</b>		20,000	CFU/100mL

SEPTEMBER			
Location			
2-Sep-20	Final Effluent *	1	CFU/100mL
9-Sep-20	Final Effluent *	1	CFU/100mL
16-Sep-20	Final Effluent *	1	CFU/100mL
23-Sep-20	Final Effluent *	1	CFU/100mL
30-Sep-20	Final Effluent *	1	CFU/100mL
<b>GEO MEAN</b>		1	CFU/100mL
<b>Min</b>		1	CFU/100mL
<b>Max</b>		1	CFU/100mL

OCTOBER			
Location			
7-Oct-20	Final Effluent *	1	CFU/100mL
14-Oct-20	Final Effluent *	1	CFU/100mL
21-Oct-20	Final Effluent *	1	CFU/100mL
28-Oct-20	Final Effluent *	1	CFU/100mL
<b>GEO MEAN</b>		1.00	CFU/100mL
<b>Min</b>		1	CFU/100mL
<b>Max</b>		1	CFU/100mL

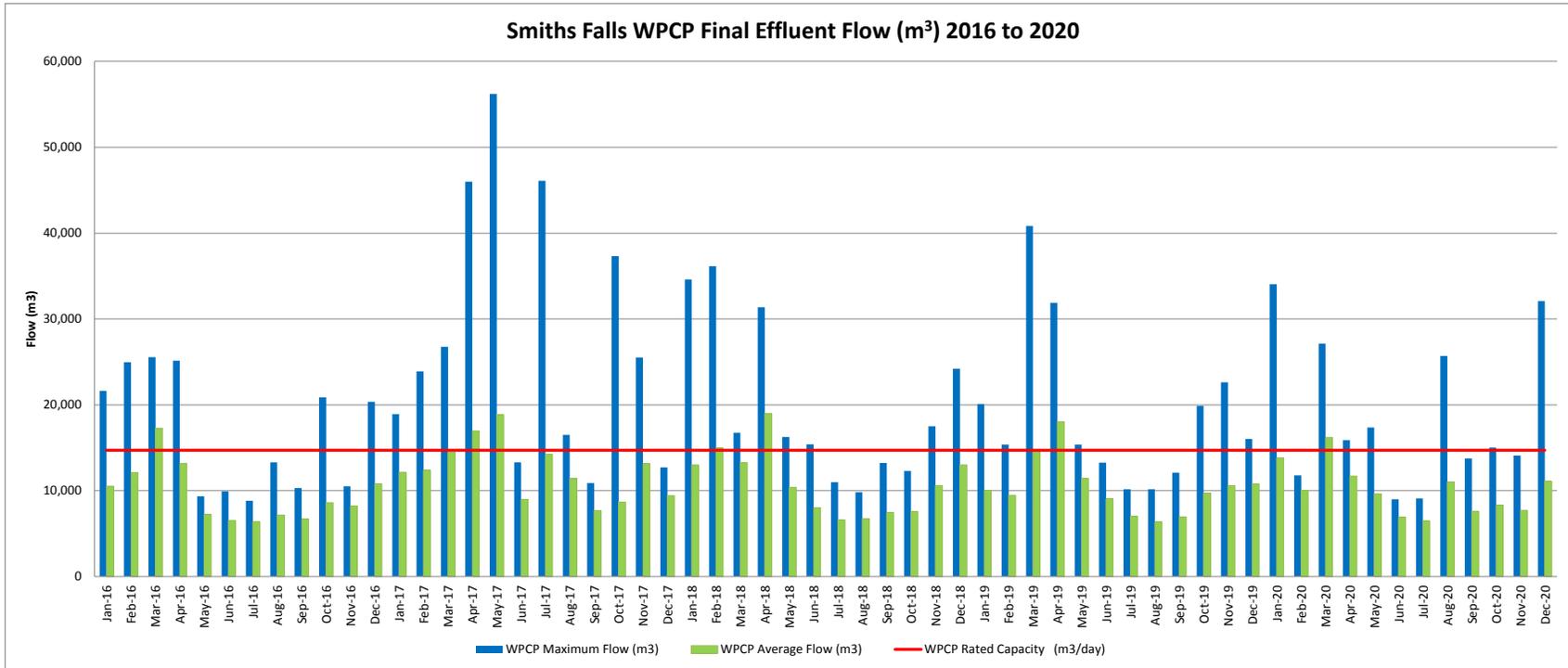
NOVEMBER			
Location			
4-Nov-20	Final Effluent *	1	CFU/100mL
12-Nov-20	Final Effluent *	1	CFU/100mL
18-Nov-20	Final Effluent *	1	CFU/100mL
25-Nov-20	Final Effluent *	1	CFU/100mL
<b>GEO MEAN</b>		1.00	CFU/100mL
<b>Min</b>		1	CFU/100mL
<b>Max</b>		1	CFU/100mL

DECEMBER			
Location			
2-Dec-20	Final Effluent *	1	CFU/100mL
9-Dec-20	Final Effluent *	1	CFU/100mL
16-Dec-20	Final Effluent *	1	CFU/100mL
23-Dec-20	Final Effluent *	1	CFU/100mL
25-Dec-20	Final Effluent Bypass Start	10,000	CFU/100mL
25-Dec-20	Final Effluent Bypass End	100	CFU/100mL
30-Dec-20	Final Effluent *	1	CFU/100mL
<b>GEO MEAN</b>		7.20	CFU/100mL
<b>Min</b>		1	CFU/100mL
<b>Max</b>		10,000	CFU/100mL

\* indicates sample result was 0 cfu/100mL, round up to 1 for geomean calculation

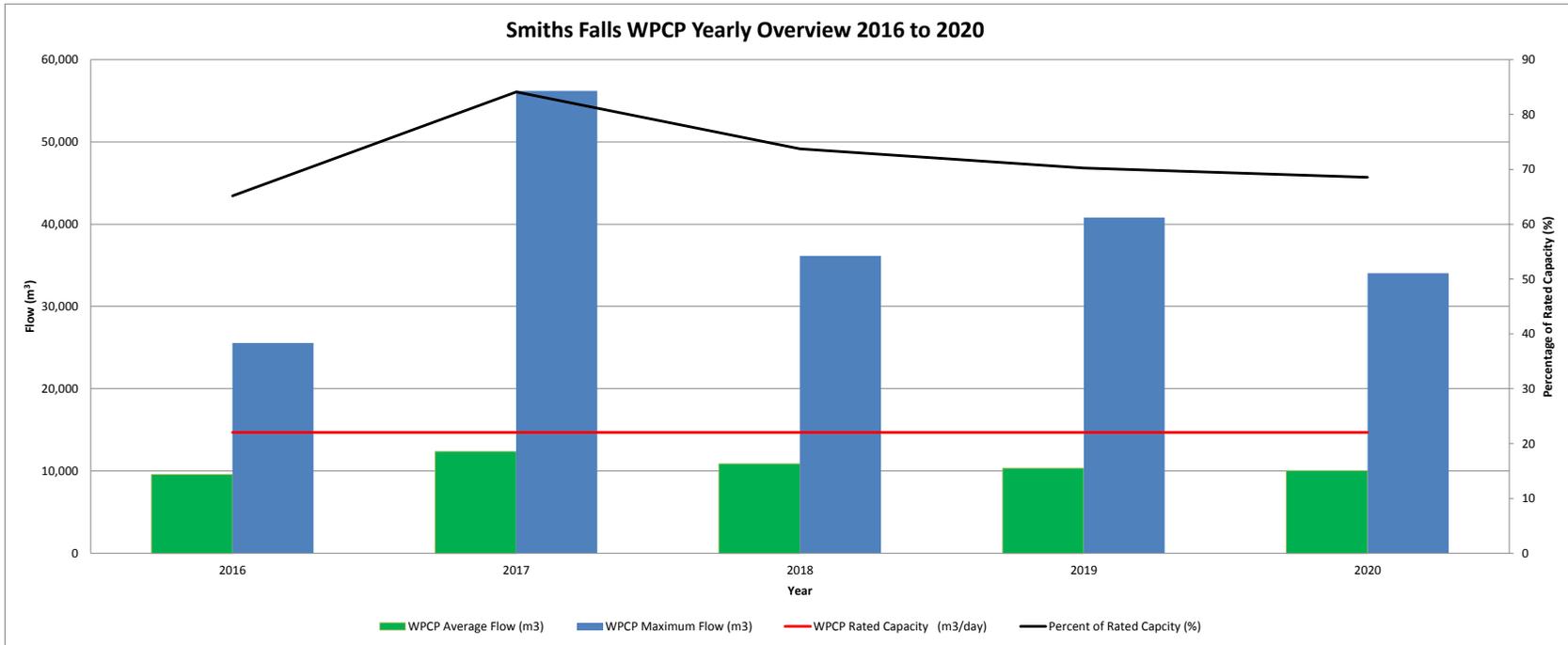
# Final Effluent Flow (m<sup>3</sup>) 2016 to 2020

Town of Smiths Falls  
 2020 Performance Assessment Report - WPCP  
 Works # 120000890  
 Conventional Tertiary Treatment UV Disinfection / Pelletization



# Yearly Overview 2016 to 2020

Town of Smiths Falls  
2020 Performance Assessment Report - WPCP  
Works # 12000890  
Conventional Tertiary Treatment UV Disinfection / Pelletization



## APPENDIX C

**A summary of all by-pass, spill or abnormal discharge  
events**

WPCP SECONDARY TREATMENT BYPASS REPORT 2020

Town of Smiths Falls  
 Works # 12000890  
 2020 Secondary Treatment Bypass Report  
 Conventional Tertiary Treatment UV Disinfection / Pelletization

Incident	MECP Incident #	Operator Reporting Bypass Start	Date Bypass Started (DD/MM/YY)	Time Bypass Started	Operator Reporting Bypass Ended	Date Bypass Ended (DD/MM/YY)	Time Bypass Ended	Type	Duration (hrs)	Volume (m <sup>3</sup> )	Disinfected Type	Max Flow (L/s)	REASON CODE	Samples
1	903988	TG	11-Jan-20	14:30:00	SL	13-Jan-20	22:30:00	Secondary Treatment Bypass	32.00	20,882.0	Yes	410.5	1	Yes
2	904181	AMacN	10-Mar-20	16:09:00	AMacN	11-Mar-20	10:58:00	Secondary Treatment Bypass	18.15	2,333.0	Yes	86.0	1.2	Yes
3	904698	SL	23-Aug-20	22:55:00	MM	24-Aug-20	12:26:00	Secondary Treatment Bypass	13.52	3,572.4	Yes	250.4	1	Yes
4	904729	MM	29-Aug-20	10:21:00	AMacN	31-Aug-20	13:07:00	Secondary Treatment Bypass	26.77	8,211.5	Yes	389.3	1	Yes
5	904878	MM	25-Dec-20	03:08:00	MM	25-Dec-20	18:44:00	Secondary Treatment Bypass	15.51	7,640.7	Yes	318.9	1	Yes
<b>TOTALS</b>									<b>105.95</b>	<b>42,639.67</b>				

Incident	MECP Incident #	Start or End Bypass Sampling	Chain of Custody # or In house #	Report #	Sample Date (DD-MM-YY)	RAW WW E. Coli (cfu/100mL)	RAW WW BOD <sub>5</sub> (mg/L)	RAW WW CBOD <sub>5</sub> (mg/L)	RAW WW TSS (mg/L)	RAW WW TP (mg/L)	RAW WW NH <sub>3</sub> - TOTAL (mg/L)	RAW WW NH <sub>3</sub> - UNIONIZED (mg/L)	RAW WW pH	RAW WW Temp. °C
1	903988	Start	WW20-011A	B20-00956	11-Jan-20	50,000	36.0	6	100	1.14	0.90	<0.01	7.50	6.4
1	903988	End	WW20-012B	B20-00958	12-Jan-20	310,000	83.0	26	1,140	2.31	1.67	0.01	7.72	6.0
2	904181	Start	WW20-070A	B20-06808	10-Mar-20	200,000	44.0	18	100	0.97	1.37	<0.01	7.62	7.0
2	904181	End	WW20-071C	B20-06809	11-Mar-20	580,000	41.0	21	65	1.17	2.43	0.03	7.81	9.6
3	904698	Start	WW20267-A	B20-25174	23-Aug-20	240,000	17.0	14	60	0.49	0.62	<0.01	7.50	20.6
3	904698	End	WW20267-B	B20-25183	24-Aug-20	550,000	67.0	67	155	1.59	1.28	0.02	7.33	20.5
4	904729	Start	WW20242-A	B20-25978	29-Aug-20	680,000	27.0	26	48	0.96	2.71	0.03	7.54	19.1
4	904729	End	WW20244-A	B20-26007	31-Aug-20	800,000	22.0	23	120	1.40	1.56	0.01	7.65	10.7
5	904878	Start	WW20-360A	B20-40318	25-Dec-20	90,000	46.0	15	135	1.18	0.41	<0.01	7.11	8.8
5	904878	End	WW20-360A	B20-40319	25-Dec-20	280,000	97.00	31	110	2.23	1.77	<0.01	7.33	9.7

Incident	MECP Incident #	Start or End Bypass Sampling	Chain of Custody # or In house #	Report #	Sample Date (DD-MM-YY)	Primary Eff. E. Coli (cfu/100mL)	Primary Eff. BOD <sub>5</sub> (mg/L)	Primary Eff. CBOD <sub>5</sub> (mg/L)	Primary Eff. TSS (mg/L)	Primary Eff. TP (mg/L)	Primary Eff. NH <sub>3</sub> - TOTAL (mg/L)	Primary Eff. NH <sub>3</sub> - UNIONIZED (mg/L)	Primary Eff. pH	Primary Eff. Temp. °C	% Removal BOD <sub>5</sub>	% Removal TSS
1	903988	Start	WW20-011A	B20-00956	11-Jan-20	300,000	81.0	46	225	3.37	1.37	<0.01	7.23	6.0	-125.00	-125.00
1	903988	End	WW20-012B	B20-00958	12-Jan-20	2,500,000	36.0	10	50	0.90	1.81	0.02	7.81	6.1	56.63	95.61
2	904181	Start	WW20-070A	B20-06808	10-Mar-20	120,000	51.0	19	56	1.23	1.66	<0.01	7.52	6.8	-15.91	44.00
2	904181	End	WW20-071C	B20-06809	11-Mar-20	280,000	38.0	15	54	1.25	2.38	0.03	7.77	9.9	7.32	16.92
3	904698	Start	WW20267-A	B20-25174	23-Aug-20	360,000	27.0	17	105	1.47	1.45	0.02	7.52	20.1	-58.82	-75.00
3	904698	End	WW20267-B	B20-25183	24-Aug-20	440,000	42.0	29	58	1.15	3.24	0.03	7.27	21.2	37.31	62.58
4	904729	Start	WW20242-A	B20-25978	29-Aug-20	860,000	28.0	16	42	1.20	2.70	0.03	7.41	18.7	-3.70	12.50
4	904729	End	WW20244-A	B20-26007	31-Aug-20	470,000	38.0	13	56	1.17	2.66	0.02	7.58	10.5	-72.73	53.33
5	904878	Start	WW20-360A	B20-40318	25-Dec-20	100,000	57.0	18	100	1.77	0.90	<0.01	6.38	9.7	-23.91	25.93
5	904878	End	WW20-360A	B20-40319	25-Dec-20	160,000	40.0	15	38	0.94	1.92	<0.01	7.25	9.2	58.76	65.45

Incident	MECP Incident #	Start or End Bypass Sampling	Chain of Custody # or In house #	Report #	Sample Date (DD-MM-YY)	Final Eff. E. Coli (cfu/100mL)	Final Eff. BOD <sub>5</sub> (mg/L)	Final Eff. CBOD <sub>5</sub> (mg/L)	Final Eff. TSS (mg/L)	Final Eff. TP (mg/L)	Final Eff. NH <sub>3</sub> - TOTAL (mg/L)	Final Eff. NH <sub>3</sub> - UNIONIZED (mg/L)	Final Eff. pH	Final Eff. Temp. °C
1	903988	Start	WW20-011A	B20-00956	11-Jan-20	10,000	29	19	120	1.80	0.67	<0.1	7.03	6.5
1	903988	End	WW20012B	B20-00958	12-Jan-20	10,000	<3	<3	3	0.03	0.07	<0.01	7.04	6.9
2	904181	Start	WW20-070A	B20-06808	10-Mar-20	24	6	3	12	0.19	0.51	<0.01	7.10	9.0
2	904181	End	WW20-071C	B20-06809	11-Mar-20	3	6	<3	7	0.14	0.29	<0.01	7.64	8.5
3	904698	Start	WW20267-A	B20-25174	23-Aug-20	20,000	7.0	7	22	0.46	0.55	<0.01	6.83	21.1
3	904698	End	WW20267-B	B20-25183	24-Aug-20	10,000	<3	<3	<3	0.03	0.02	<0.01	6.98	21.3
4	904729	Start	WW20242-A	B20-25978	29-Aug-20	1,000	7.0	6	16	0.40	0.82	<0.01	7.37	19.2
4	904729	End	WW20244-A	B20-26007	31-Aug-20	200	<3	<3	<3	0.05	0.02	<0.01	7.79	10.1
5	904878	Start	WW20-360A	B20-40318	25-Dec-20	10,000	13.0	10	34	0.81	0.41	<0.01	6.71	9.8
5	904878	End	WW20-360A	B20-40319	25-Dec-20	100	<3	<3	<3	0.03	0.04	<0.01	6.87	9.8

ECA Submission Date	Date Submitted to MECP via email	REASON CODES:
Feb-15	7-Feb-20	1 = Heavy Precipitation
Mar-15	8-Mar-20	2 = Snow Melt
Aug-15	11-Aug-20	3 = Equipment Failure
Nov-15	13-Nov-20	4 = Eq. Maintenance
		5 = Sewer Problems
		6 = Power Failure
		7 = Exceed Design Capacity
		0 = Others

**APPENDIX D**  
**Maintenance Records**

## 2020 Maintenance Records

**Town of Smiths Falls  
Works # 12000890**

**Conventional Tertiary Treatment UV Disinfection / Pelletization**

Date (DD-MM-YYYY)	Planned or Unplanned Maintenance	Equipment	Issue	Cause	Description of Work Performed	Equipment ID/Tag #	Operator(s)	Contractor	List Parts Used	Total Hours
2-Jan-2020		HVAC Alum Bldg	Worn Pulley		Replace Pulley		SL		Pulley, belt	3
7-Jan-2020	unplanned	Alum Pump 2	Plugged	alum build up	Clean		SL		NA	5
8-Jan-2020	unplanned	Linde Fork Lift	Dead	Battery	Replace Battery		TG, AM		Battery	2
10-Jan-2020	unplanned	VFD # 615	Will not start	VFD	Replace VFD	VFD 615		Broder Elect.	VFD	4
15-Jan-2020	unplanned	Cake Pump	Not pumping	Worn	Replace Stator	M3050	MM, MB		Stator	4
15-Jan-2020	unplanned	Poly blend	Not pumping	Clogged	Clean Polyblend	M3030	MM, MB			4
15-Jan-2020	unplanned	RPU Headworks	Battery		Change UPS and AA Batteries	RPU 100	SL		UPS and 2 AA's	1
17-Jan-2020	Planned	Raw, Final Sampler			Change Dessicant		MB			2
20-Jan-2020	unplanned	Unit heater, B.P. Room	Thermostat	age	Change thermostat			Francis HVAC	Thermostat	2
20-Jan-2020	unplanned	Thermostats admin.	Not operating		Change thermostat			Francis HVAC	Thermostats	1
20-Jan-2020	unplanned	Belt Press	Ripped Belt		Replace top belt	M3010	MM,SL,TG,JY		Top Belt	2
23-Jan-2020	unplanned	Secondary sampler	heater shorting out	Faulty heater in top	Disconnect top heater		SL		NA	4
27-Jan-2020	unplanned	Belt Press	Ripped belt		Replace bottom belt	M3010	MM, MB, SL		Bott. Belt	2
27-Jan-2020	planned	Secondary sampler	Dessicant		Replace dessicant		MB		NA	1
28-Jan-2020	unplanned	Auger 1030	Plugged	dry build up	clean out	M1030	all	na	na	5
29-Jan-2020	unplanned	Dryer motor #4	High amps	?	Change motor	M1140	MM, SL	NA	Elect. Motor	3
30-Jan-2020	planned	Dry Product Conveyor 1410	Chain is worn		Replace chain	M1410	MM, SL	NA	New chain	3
4-Feb-2020	unplanned	Dryer drum Drive #3	Coupling worn out		Replace coupling	M1140	SL	NA	Coupling	4
5-Feb-2020	unplanned	Press feed pump #3020	Seized	Moisture	Rebuild pump	M3020		Fedorki	bearings/shaft	16
5-Feb-2020	Planned	Cyclone # 1150 filters	Dirty filters	Build up of dust	Change 110 Filters	M1150	SL, Amacn, MB		110 filters	10
7-Feb-2020	unplanned	Clothes Dryer	Broken Belt		Change drum Belt	NA	SL		Belt	3
7-Feb-2020	unplanned	Dryer drum	High amps		Check amp draw	M1140		Em-Tech		1
11-Feb-2020	unplanned	Dryer Drum	Worn	Time	Replace wheel	M1140	SL, TG		1 wheel	10
11-Feb-2020	unplanned	Air Lock	sprockets came loose	?	Re install sprockets	M1151	SL, MB		NA	2
14-Feb-2020	unplanned	Dryer Drum	Drum will not run	Bad relay	Replace relay	M1140		Em-Tech	Relay	2
14-Feb-2020	unplanned	Odour Control Unit	Belt Broken		Replace belt		SL		Belt	2
18-Feb-2020	Planned	Teacup Valves			Grease fittings	V112, V113	AM			1
19-Feb-2020	Planned	Sludge Tank Mixer 2	Mixer Maintenance		Clean sludge Tank	M 930		Terrapure		3
21-Feb-2020	Planned	Condensate Tower	solids build up	Sludge build up	Clean probe and tower base	1210	AM, TG			3
24-Feb-2020	unplanned	Alum pump #3	Leak at Discharge line	?	Replace PVC Nipple	M 423	SL		4" nipple	3
26-Feb-2020	unplanned	Hot water return line	Leak	?	Repair leak in copper line			Publows		4
28-Feb-2020	Planned	Raw Sludge pumps 1, 2	PM		Grease Pumps	M201, M202	MB, TG			1
2-Mar-2020	Planned	Raw sludge Pump # 1	Faulty breaker		Replace breaker	M201		Crosbie Electric		3

## 2020 Maintenance Records

3-Mar-2020	unplanned	Sludge Tank Mixer 2	Broken and leaking housing		Replace Mixer	M930		Fedorki, Solid State		5
3-Mar-2020	Planned	UV Banks	PM		Replace seals	UV 631, 632	AM, Amac, SL		Seals	8
4-Mar-2020	Planned	Electrical Panel-Pelletizer	Install		Install New Panel			Crosbie Electric	Elec. Panel	8
6-Mar-2020	unplanned	Furnace - Admin. Ldg	Repaired					Francis HVAC	?	2
11-Mar-2020	Planned	Fire system	Trouble code		Repaired			Chubb Edwards		2
17-Mar-2020	unplanned	Cake Pump	Not pumping	wear	Replace Stator	M3050	SL, MM, TG		Stator	3
17-Mar-2020	unplanned	Belt Press	Torn Belt		Replace top belt	M3010	SL, MM, TG		Top Belt	2
18-Mar-2020	Planned	Bar Screen	PM		Grease Bearings	M106, M107	TG, JY		N/A	1
18-Mar-2020	Planned	Raw Sludge Pumps	PM		Grease bearings/ Packing	M201, M202	TG, JY		N/A	1
18-Mar-2020	Planned	R.A.S. Pumps	PM		Grease bearings	M404, M405, M4	TG, JY		N/A	1
18-Mar-2020	unplanned	Belt Press	Ripped Belt		Replace bottom belt	M3010	MM, TG, SL		Bott. Belt	2
23-Mar-2020	unplanned	Sludge Discharge Line	Pipe disintegrated		Replace s.s. pipe to sludge tank 2			Fedorki	S.S. Pipe	6
24-Mar-2020	planned	Sludge Tank mixer 1	Settled solids		Clean out tank	920		Terrapure		4
25-Mar-2020	Planned	P'tizer - All equipment	P.M.		Grease all fittings		MB, TG		N/A	2
30-Mar-2020	unplanned	Alum pump #3	Clogged		Dis assemble and clean	M423	SL		N/A	5
6-Apr-2020	unplanned	Cake Pump	Not pumping		Replace Stator	M3050	MM, MB		Stator	4
6-Apr-2020	Planned	Grit pump discharge valve	Will not stop flow		Replace valves on Grit discharge line - 1 and 2	PV 101, PV 104	SL, AMacN		Plug Valves	5
21-Apr-2020	Planned	Raw Sludge Pumps	P.M.		Grease Bearings	M201, M202	SL		NA	1
23-Apr-2020	unplanned	North Primary Tank	Broken Flights	Ice	Repl.chain,flights,sprockets and wear Strips/shoes			Fedorki		5 days
25-Apr-2020	unplanned	Cake Pump	Will not pump	Worn Stator	Replace Stator	M3050	MM, TG		Stator	4.00
30-Apr-2020	unplanned	Sludge Tank Mixer 2	Housing Cracked	?	Replace mixer	M930		Fedorki	Mixer	4.00
6-May-2020	unplanned	Wash Pump	No power	Blown fuse	Replace fuses	M3000		Em-Tech Elec.	Fuse	1.00
8-May-2020	planned	Belt Press	Extra spray bar req'd		Add Spray Bar	M 3010		Fedorki	Copper Pipe	4.00
11-May-2020	unplanned	Belt Press	Ripped Belt		Replace Bottom Belt	M3010	TG, MB, AMacN		Bottom Belt	2.00
11-May-2020	unplanned	Cake Pump	Will not pump	Worn Stator	Replace Stator	M3050	TG, MB, AMacN		Stator	4.00
13-May-2020	Planned	All Weigh Scales	P.M.		Calibrate all scales			GTR Scales		2.00
20-May-2020	unplanned	Diesel Pump 4"	Will not pump	Wear	Replace Impeller and Mech Seal			Kilmarnock	Impeller/ Mech seal	5.00
21-May-2020	unplanned	North Primary Tank	Tank Maintenance		Clean sludge from tank floor			Terrapure		4.00
21-May-2020	Planned	Raw Sludge Pumps 1 & 2	P.M.		Grease bearings and packing	M 201, M 202	AM		NA	1.00
21-May-2020	unplanned	Screenings Conveyor	Clogged		Flush conveyor	M 108	AM, MM			3.00
22-May-2020	unplanned	Cake pump	Not pumping	Worn rotor and stator	Replace rotor and stator	M 3050	MM, AM		Rotor and stator	5.00
24-May-2020	Planned	UV Banks			Yearly Maintenance	631, 632	AM, MB			8.00
27-May-2020	unplanned	North Primary Tank			Remove grit		AM, MB			5.00
28-May-2020	Planned	Air Compressor	P.M.		6 month service			Eastern Fluid Power		3.00
29-May-2020	unplanned	UV banks	Lamps out	Replace lamps	#5 & 6 Mod.4, bank 2	632	AM, MB		2 lamps	3.00
2-Jun-2020	unplanned	Diesel Pump 4"	Dead battery		Replace Battery		AM, TG		12 Volt Battery	2.00

## 2020 Maintenance Records

2-Jun-2020	Planned	Raw Sludge Pump # 2	Pumping below capacity		Replace rotor and stator					
9-Jun-2020	Planned	All Equipment - Pelletizer	P.M.		Grease all bearings	all	MB		NA	2.00
12-Jun-2020	Planned	South Filter	P.M.		Disinfect filter				Sodium HypoChl.	20.00
15-Jun-2020	Planned	Main Burner-Pelletizer	P.M.	Check Burner/Safeties	Check Refractory	M 1140		Black & MacDonald	?	10.00
16-Jun-2020	unplanned	Distilled Water system	Tank change		Change Tanks		SL, MM		Both Tanks	1.00
16-Jun-2020	unplanned	Belt Press	Ripped Belt		Change Bottom Belt	M 3010	MM, AMacN, SL		Bottom Belt	2.00
18-Jun-2020	unplanned	UV Lamps	Ballasts		Change 2 ballasts	631, 632		Em-Tech	2 Ballasts	2.00
22-Jun-2020	Planned	North Filter	P.M.		Disinfect Filter		Amac			4.00
23-Jun-2020	Planned	#1 Wetwell	P.M.		Clean out wetwell	Wetwell 1		CWW		10.00
25-Jun-2020	Planned	#1 Wetwell	P.M.		Wire up pump (#1) in #3 position.	M103		Em-Tech		2.00
29-Jun-2020	Planned	#2 Wetwell	P.M.		Clean wetwell	Wetwell 2		CWW		10.00
6-Jul-2020	unplanned	Cyclone	Loss of air pressure	Faulty Diaphragm	Replace diaphragm	1150	MB, TG		1 diaphragm	3.00
6-Jul-2020	Planned	Long collectors S Primary	P.M.		Change oil (Synth. 220)		AM, SL		OIL	5.00
9-Jul-2020	unplanned	#1 Sludge Tank Mixer	Loose anchors	Broken Bolt	Install new hold down bracket	M920	TG			4.00
13-Jul-2020	Planned	Raw Sludge Pump 2	leaking around packing		Install New Packing	M 202	AM		Packing Material	3.00
13-Jul-2020	unplanned	Alum pump 3	Leaking suction valve		Install new Ball Valve		SL, MB		Ball Valve	3.00
15-Jul-2020	Planned	Sludge Tank Mixer 2	Impeller swaying	Rag build up	Spray off Impeller	M920	SL		NA	2.00
17-Jul-2020	unplanned	HPEW Line- East wall	Leak		Replace Ball Valve			Publows	Ball valve/pipe	2.00
21-Jul-2020	unplanned	Belt Press	Ripped Belt		Replace top belt	M 3010	SL, HL, MB, AM		Top Belt	2.00
24-Jul-2020	unplanned	Emergency Light-Admin	Dead Battery		Replace Battery		AM		Battery	1.00
27-Jul-2020	unplanned	Belt Press	Ripped Belt		Replace Bottom Belt	M 3010	MB, MM, SL		Bottom Belt	2.00
6-Aug-2020	Planned	Tertiary Filters			Hose Filters		HL		NA	2.00
17-Aug-2020	unplanned	Cyclone- Solenoids 5,8,9	3 Solenoids not firing		Replace 3 solenoid valves	1150	SL		# solenoids	2.50
18-Aug-2020	Planned	Linde Forklift	Running Rough		Repaired			Hansler		2.00
18-Aug-2020	Planned	Diesel Pump 4"	P.M.		Change oil and Filter		AM		Oil and Filter	2.00
20-Aug-2020	Planned	HVAC - All buildings	P.M.		6 month inspection			Francis HVAC		4.50
1-Sep-2020	unplanned	Prim. Lng. Collector 2A	Broken Shear Pin		Replace Shear Pin		AMacN, MB		Shear Pin	1.00
4-Sep-2020	Planned	Forklifts	P.M.		Yearly Inspection			Hansler		3.00
8-Sep-2020	unplanned	Belt Press	Ripped Belt		Replace bottom belt	M 3010	SL, Amac, MM, MB		Bottom Belt	2.00
11-Sep-2020	unplanned	Belt Press	Bad Bearing		Install Bearing on adjustment Roller	M 3010	MB, SL		Bearing	1.50
14-Sep-2020	unplanned	Cyclone	Low Air Pressure	Faulty Diaphragm(s)	Replace 2 Diaphragms	1150	AM, MB		2 Diaphragms	2.00
15-Sep-2020	Planned	MSA Gas Detector	Not reading	Faulty Sensor	Replace Oxygen Sensor & Calibrate		AM, SL, TG		Oxygen Sensor	2.00
16-Sep-2020	Planned	MSA Gas Detector	P.M.		Calibrate all Sensors- Hdworks, Raw Sludge,Ptizer		AM, SL		Calibrate	3.00
22-Sep-2020	Planned	Plug Valve-teacup 2	Leaky Valve Stem	Worn	Replace Plug Valve	V113	TG, AM		Plug Valve	8.00
23-Sep-2020	Planned	Filters - Air Blowers			Replace 3 Filters		AM		3 Filters	1.00
30-Sep-2020	unplanned	SCADA - Grit Page	Debug pop up		Correct 'Debug pop up' @ Grit Sequence			Eramosa		4.00

## 2020 Maintenance Records

### Started Using Electronic Work Order System (MESH)

Date Time	Asset Category	Asset Description	Maintenance Type	Maintenance Sub Type	Comments	Completed By	Measurement
26-Oct-20	Wastewater Treatment	Comprespellet	Corrective	Action	EFP contacted time look at dryer	Tanner(EFP) , AM, SL	-
26-Oct-20	Bar Screen	screen2	Preventative	Clean and Inspect	-	Operators Waste Water	Greased all bearings - All ok
26-Oct-20	Bar Screen	screen1	Preventative	Clean and Inspect	-	Operators Waste Water	Greased all bearings - All ok
26-Oct-20	-	SCRUB101	Corrective	Action	Aerofil onsite for media changeout	Chris Aeroflot	-
26-Oct-20	Building	Raw Sludge (Building)	Preventative	Operational	-	Operators Waste Water	Exercised all applicable valves- all okay
29-Oct-20	-	V112	Corrective	Action	Austin,Molly and Steve replaces plug Valve	Austin M and Molly B	-
30-Oct-20	Generator	Diesel Generator	Preventative	Operational	-	Operators Waste Water	Good
30-Oct-20	Generator	Diesel Generator	Preventative	Louvers	-	Operators Waste Water	Ok
30-Oct-20	Generator	Diesel Generator	Preventative	Generator Check Form	Ran 12 mins. No load.	Operators Waste Water	All good
02-Nov-20	Other	Pelletcyclone	Preventative	Clean and Inspect	Do not over tighten	Operators Waste Water	Changed 11 mufflers
02-Nov-20	Wastewater Treatment	Beltpress	Corrective	Repair	-	TG, AMacN	-
03-Nov-20	WWTP	WPCP	Preventative	Clean and Inspect	No critical issues found requiring immediate repair. Report to follow with deficiencies.	Operators Waste Water	Completed by GP Tech, and Crosbie Electric.
04-Nov-20	Instrumentation	LT1210	Preventative	Clean and Inspect	-	Operators Waste Water	-
06-Nov-20	Drive Unit	M207	Corrective	Repair	-	AM, MB	-
06-Nov-20	Other	Weirs (Primary Tanks)	Preventative	Clean and Inspect	-	Operators Waste Water	Weird nosed down of all scum and organic.
06-Nov-20	Drive Unit	M207	Preventative	Operational	-	Operators Waste Water	Repaired
06-Nov-20	Drive Unit	M207	Preventative	Operational	-	Operators Waste Water	Replaced by MB and AMacN
06-Nov-20	Drive Unit	M207	Preventative	Operational	All ok	Operators Waste Water	Replaced with new.
06-Nov-20	Generator	Diesel Generator	Preventative	Louvers	-	Operators Waste Water	All okay
06-Nov-20	Generator	Diesel Generator	Preventative	Generator Check Form	-	Operators Waste Water	All okay
10-Nov-20	Generator	Diesel Generator	Preventative	Operational	Informed em-tech to look into issue	Operators Waste Water	Issue when operating. Power seemed to transfer
12-Nov-20	Flow Meter	FT617	Preventative	Calibration	Calibrated	Operators Waste Water	Tested
12-Nov-20	Flow Meter	FT507	Preventative	Calibration	Calibrated	Operators Waste Water	Tested
12-Nov-20	WWTP	WPCP	Preventative	Alarm Testing	-	Operators Waste Water	-
17-Nov-20	Pump	-	Preventative	Clean and Inspect	Greased and inspected. All ok	Operators Waste Water	All ok
18-Nov-20	Generator	Diesel Generator	Preventative	Operational	Please note, unit has caused an undesirable power interruption to plant causing equipment shutdown. Will	Operators Waste Water	Unit tested not under load.
18-Nov-20	Belt Press	Belt Press Roller Bearings	Preventative	Clean and Inspect	-	Operators Waste Water	All okay
20-Nov-20	Other	Weirs (Secondary Tank)	Preventative	Clean and Inspect	All ok	Operators Waste Water	Weirs hosed and cleaned
23-Nov-20	Generator	Diesel Generator	Preventative	Clean and Inspect	Completed	Operators Waste Water	100% awesome
23-Nov-20	Generator	Diesel Generator	Preventative	Operational	Installed new batteries in CPU	Operators Waste Water	Ran Without knocking out power.
26-Nov-20	Instrumentation	LAB Spectro WPCP	Preventative	Verification	-	Operators Waste Water	-
02-Dec-20	Pump	-	Preventative	Clean and Inspect	-	Operators Waste Water	All okay
02-Dec-20	Other	Pelletcyclone	Preventative	Clean and Inspect	All good.	Operators Waste Water	Inspected

### 2020 Maintenance Records

02-Dec-20	Generator	Diesel Generator	Preventative	Operational	All Good	Operators Waste Water	Tested
11-Dec-20	Generator	Diesel Generator	Preventative	Operational	-	Operators Waste Water	Ran genset not under load. Good start up
14-Dec-20	Belt Press	Belt Press Roller Bearings	Preventative	Clean and Inspect	-	Operators Waste Water	Checked all bearings and greased. Water coming out
14-Dec-20	Pump	M3020	Preventative	Clean and Inspect	-	Operators Waste Water	Greased and tightened packing
15-Dec-20	WWTP	WPCP	Preventative	Alarm Testing	-	Operators Waste Water	-
18-Dec-20	Generator	Diesel Generator	Preventative	Operational	-	Operators Waste Water	Ran well on manual
22-Dec-20	Other	Weirs (Primary Tanks)	Preventative	Clean and Inspect	-	Operators Waste Water	Not req'd
23-Dec-20	Instrumentation	FT128	Preventative	Calibration	-	Operators Waste Water	-
23-Dec-20	Other	Weirs (Secondary Tank)	Preventative	Clean and Inspect	-	Andrew MacNaughton	Not required.
23-Dec-20	Pump	M3020	Preventative	Clean and Inspect	Not required due to down time	Jason Barlow	N/A

**APPENDIX E**  
**Solids Handling**

# 2020 Solids Handling

Town of Smiths Falls

Works # 120000890

2020 Solids Handling

Conventional Tertiary Treatment UV Disinfection / Pelletization

## 2020 Pelletizer Production

Month	Run Time (hrs)	Sludge Processed (m <sup>3</sup> )	Total Number of Pellet bags filled	Total Number of Pellets Produced (kg)
January	237.8	1,580.8	51.0	37,231.5
February	199.4	1,309.1	39.0	28,275.0
March	166.2	1,117.2	37.0	30,897.5
April	248.2	1,638.9	54.0	39,824.0
May	232.2	1,472.2	46.0	33,310.0
June	264.3	1,888.1	24.0	17,509.5
July	165.3	1,303.8	40.0	29,737.5
August	164.3	1,573.7	44.0	32,874.0
September	172.4	1,159.0	31.0	20,832.0
October	237.1	1,577.4	40.0	27,363.0
November	215.7	1,493.7	50.0	35,414.7
December	166.3	1,102.2	36.0	25,622.5
<b>Total</b>	<b>2,469.2</b>	<b>17,216.1</b>	<b>492.0</b>	<b>358,891.2</b>

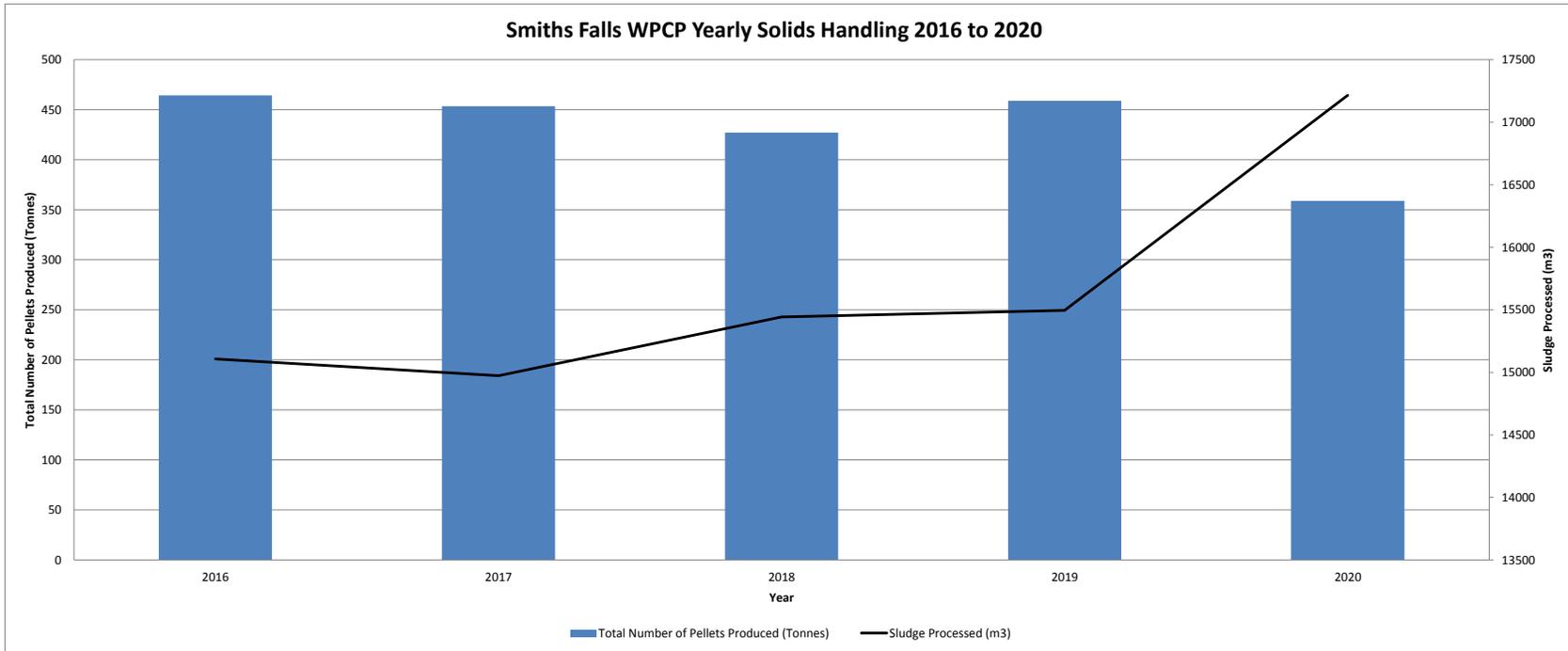
## Pelletizer Production 2016 to 2020

Month	Run Time (hrs)	Sludge Processed (m <sup>3</sup> )	Total Number of Pellet bags filled	Total Number of Pellets Produced (kg)
2016	2,795.0	15,108.0	689.0	464,211.0
2017	2,464.0	14,758.9	628.0	453,370.0
2018	2,564.5	15,378.9	614.0	427,256.0
2019	2,373.1	15,496.5	653.0	458,941.8
2020	2,469.2	17,216.1	492.0	358,891.2

Note: The weight of the pellets depends on the bulk density of the pellets. The bulk density changes depending on how the pellets are processed (i.e. temperature during processing, amount of poly used etc.). This is why sometimes there is more sludge processed but a lighter pellet weight. It is important to that each year the volume of sludge is trending up.

# Yearly Solids Handling 2016 to 2020

Town of Smiths Falls  
2020 Performance Assessment Report - WPCP  
Works # 12000890  
Conventional Tertiary Treatment UV Disinfection / Pelletization



## APPENDIX F

### 2020 Ministry of Environment Conservation and Parks Inspection

**Ministry of the  
Environment,  
Conservation and Parks**  
Eastern Region  
Ottawa District Office  
2430 Don Reid Drive, Suite 103  
Ottawa ON K1H 1E1  
Phone: 613.521.3450  
or 800.860.2195  
Fax: 613.521.5437

**Ministère de l'Environnement,  
de la Protection de la nature  
et des Parcs**  
Région de l'Est  
Bureau du district d'Ottawa  
2430, promenade Don Reid unité 103  
Ottawa (Ontario) K1H 1E1  
Tél: 613 521-3450  
ou 800 860-2195  
Télééc: 613 521-5437



November 19, 2020

**Sent by Email: scooke@smithsfalls.ca**

The Corporation of the Town of Smiths Falls  
Public Works & Utilities  
43 Abbott Street North, PO Box 695  
Smiths Falls, Ontario  
K7A 4T6

Attention: Sarah Cooke, Water & Wastewater Compliance Coordinator

Dear Sarah:

Re: 2019-2020 Wastewater Inspection Report

---

The enclosed report documents findings of the inspection that was performed at the Smiths Falls Water Pollution Control Plant Wastewater System on March 11, 2020 and March 13, 2020.

Two sections of the report, namely "Non-Compliance with Regulatory Requirements and Actions Required" and "Summary of Recommendations and Best Practice Issues" will cite due dates for the submission of information or action plans to my attention.

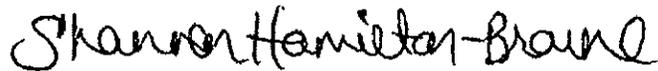
Please note that "Non-Compliance with Regulatory Requirements and Actions Required" are linked to incidents of non-compliance with regulatory requirements contained within an Act, a Regulation, or site-specific approvals, orders, or instructions. Such violations may result in the issuance of mandatory abatement instruments which could include orders, tickets, penalties, or referrals to the ministry's Environmental Investigations and Enforcement Branch.

"Summary of Recommendations and Best Practice Issues" convey information that the owner or operating authority should consider implementing to advance efforts already in place to address such issues as preventative equipment maintenance, alarm testing, flow measurement and conformance with existing and emerging industry standards. Please note that items which appear as recommended actions do not, in themselves, constitute violations.

Please be aware that you are required to comply with the actions required by the due dates cited in Wastewater System Inspection Report Number 1-NAWMJ.

Thank you for the assistance provided during the compliance assessment. Should you have any questions regarding the content of the enclosed report, please do not hesitate to contact me.

Yours truly,



Shannon Hamilton-Browne  
Water Inspector / Provincial Officer, Badge #802  
Water Compliance  
Drinking Water and Environmental Compliance Division  
Tel. Office: 613-521-3450 Ext. 242  
Tel. Toll Free: 1-800-860-2195 Ext. 242  
Fax: 613-521-5437  
Email: shannon.hamiltonbrowne@ontario.ca  
SHB

Enclosure

- ec: Jason Dalglish, Public Works & Utilities Supervisor, Public Works & Utilities, Corporation of the Town of Smiths Falls, Email: [jdalglish@smithsfalls.ca](mailto:jdalglish@smithsfalls.ca)
  - Jason Barlow, Manager Water/Wastewater Treatment, Public Works & Utilities, Corporation of the Town of Smiths Falls, Email: [jbarlow@smithsfalls.ca](mailto:jbarlow@smithsfalls.ca)
  - Troy Dunlop, Director of Public Works & Utilities, Public Works & Utilities, Corporation of the Town of Smiths Falls, Email: [trdunlop@smithsfalls.ca](mailto:trdunlop@smithsfalls.ca)
  - Jane Lyster, Director, Health Protection, Leeds, Grenville and Lanark District Health Unit, Email: [jane.lyster@healthunit.org](mailto:jane.lyster@healthunit.org)
  - Sommer Casgrain-Robertson, General Manager, Rideau Valley Conservation Authority, Email: [sommer.casgrain-robertson@rvca.ca](mailto:sommer.casgrain-robertson@rvca.ca)
- c: File SI-LA-SF-QU-441 (2019-2020), Smiths Falls Water Pollution Control Plant (WPCP) Wastewater System, 180 Queen Street, Smiths Falls, Works #120000890



**Ministry of the Environment, Conservation and Parks**

**WW SMITHS FALLS WPCP  
Inspection Report**

<b>Site Number:</b>	120000890
<b>Inspection Number:</b>	1-NAWMJ
<b>Date of Inspection:</b>	Mar 11, 2020
<b>Inspected By:</b>	Shannon Hamilton-Browne

**Table of Contents:**

<b>OWNER INFORMATION</b>	<b>2</b>
<b>CONTACT INFORMATION</b>	<b>2</b>
<b>INSPECTION DETAILS</b>	<b>2</b>
<b>COMPONENTS DESCRIPTION</b>	<b>3-8</b>
<b>INSPECTION SUMMARY</b>	<b>9</b>
Introduction	9
Authorizing/Control Documents	10
Capacity Assessment	10
Treatment Processes	13
Effluent Quality and Quantity	19
Monitoring Requirements	24
Reporting Requirements	27
Bypasses and Overflows	30
Wastewater Collection Systems	34
Biosolids Management	35
Certification and Training	37
Logbooks	40
Operations Manuals	42
Contingency/Emergency Planning	44
Other Inspection Findings	45
<b>NON-COMPLIANCE WITH REGULATORY REQUIREMENTS AND ACTIONS REQUIRED</b>	<b>48</b>
<b>SUMMARY OF BEST PRACTICE ISSUES AND RECOMMENDATIONS</b>	<b>53</b>
<b>SIGNATURES</b>	<b>55</b>
<b>APPENDIX A – AUDIT SAMPLE RESULTS</b>	
<b>APPENDIX B – ENVIRONMENTAL COMPLIANCE APPROVAL(S)</b>	
<b>APPENDIX C - STAKEHOLDER SUPPORT</b>	

## OWNER INFORMATION:

<b>Company Name:</b>	SMITHS FALLS, TOWN OF	<b>Unit Identifier:</b>	
<b>Street Number:</b>	77		
<b>Street Name:</b>	BECKWITH ST N		
<b>City:</b>	SMITHS FALLS	<b>Postal Code:</b>	K7A 4T6
<b>Province:</b>	ON		

## CONTACT INFORMATION

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<b>Title:</b>	Water & Wastewater Compliance Coordinator, Public Works & Utilities, Town of Smiths Falls		

<b>Type:</b>	Main Contact	<b>Name:</b>	Jason Barlow
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<b>Type:</b>	Municipality	<b>Name:</b>	Troy Dunlop
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<b>Type:</b>	Public Health Unit	<b>Name:</b>	Jane Lyster
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<b>Title:</b>	Director, Health Protection, Leeds, Grenville and Lanark District Health Unit		

<b>Type:</b>	Conservation Authority	<b>Name:</b>	Sommer Casgrain-Robertson
<b>Phone:</b>	(613) 692-3571	<b>Fax:</b>	(613) 692-0831
<b>Email:</b>	sommer.casgrain-robertson@rvca.ca		
<b>Title:</b>	General Manager, Rideau Valley Conservation Authority		

## INSPECTION DETAILS:

<b>Site Name:</b>	WW SMITHS FALLS WPCP
<b>Site Address:</b>	180 QUEEN Street SMITHS FALLS ON K7A 5B8
<b>County/District:</b>	SMITHS FALLS
<b>MECP District/Area Office:</b>	Ottawa District
<b>Health Unit:</b>	LEEDS, GRENVILLE AND LANARK DISTRICT HEALTH UNIT
<b>Conservation Authority:</b>	

**MNR Office:**  
**Site Number:** 120000890  
**Inspection Type:** Announced  
**Inspection Number:** 1-NAWMJ  
**Date of Inspection:** Mar 11, 2020  
**Date of Previous Inspection:** Feb 11, 2015

**COMPONENTS DESCRIPTION**

**Site (Name):** Smiths Falls WPCP  
**Type:** Mechanical Sewage Treatment System      **Sub Type:** Pre-treatment

**Comments:**

Inlet Sewers consist of a 900 mm and 1200 mm diameter gravity inlet sewer from the south side trunk sewer Rideau River underpass outlet to the raw sewage pumping station inlet chamber; a 900 mm diameter gravity sewer from the Highway 43 trunk sewer to the inlet sewer described above.

Raw Sewage Pumping Station and Headworks consist of a raw sewage pumping station consisting of an inlet chamber and two (2) wet wells and equipped with three (3) (two in one well, one in the other) submersible pumps, each rated at 352 L/s at 15.3 m TDH, discharging into a channel leading to the screens; two (2) parallel screen channels each equipped with an automatic self-cleaning screens with 25 mm (vertical) x 6 mm (horizontal) mesh, including a screw conveyor screenings dewatering press and screenings disposal bin; two (2) vortex hydrocyclone type degriters (teacup grit removal unit - washed, cleaned), each with a Peak Flow Rate of 25,350 m<sup>3</sup>/d with two (2) grit pumps each rated at 15.8 to 20.5 L/s at 11.4 to 15.5 m TDH including a grit dewatering unit and grit disposal bin. It was reported that there is a scrubber for odour control.

It was reported that the screens can be bypassed; and that the teacups can be isolated.

It was reported that air is fed in the channel, pre-screens. It was reported that the dewatered grit is taken to landfill for disposal. It was reported that there are two hydrogen sulphide (H<sub>2</sub>S) sensors for the headworks building not specific to the degriters (teacups). One is located down by the degriters (tea cups) and the other is monitoring the wet wells.

It was reported that the wet wells are cleaned once a year. It was advised that the grit removal units are cleaned when they're full and it varies based on flows.

**Site (Name):** Smiths Falls WPCP  
**Type:** Mechanical Sewage Treatment System      **Sub Type:** Primary Treatment

**Comments:**

Primary Clarifiers consist of two (2) 38.1 m x 10.06 m x 3.72 m SWD twin-pass primary clarifiers and each with chain and flight type collectors for sludge and scum; and a primary sludge and scum pumping station equipped with two (2) pumps rated at 22.7 L/s at 34.75 m TDH.

Aeration Tanks consist of two (2) 39.6 m x 12.5 m x 4.6 m SWD complete mix aeration tanks, each equipped with a fine bubble aeration system, three (3) multi-stage centrifugal air blowers, each having a capacity of 64.3 m<sup>3</sup>/min at 51.7 kPa.

**Site (Name):** Smiths Falls WPCP  
**Type:** Mechanical Sewage Treatment System      **Sub Type:** Secondary Treatment

**Comments:**

Secondary Clarifiers consist of two (2) 46.2 m x 12.2 m x 3.6 m SWD twin-pass secondary clarifiers and each with chain and flight type collectors for sludge and scum; and three (3) variable speed return activated sludge pumps, each rated at 37.8 to 86.5 L/s at 2.7 to 8.2 m TDH, two (2) variable speed return activated sludge pumps, each rated at 6.3 L/s at 7.5 m TDH.

**Site (Name):** Smiths Falls WPCP  
**Type:** Mechanical Sewage Treatment System      **Sub Type:** Tertiary Treatment

**Comments:**  
 Tertiary Filters consist of two (2) 18.9 m x 5.0 m x 2.4 m automatic continuous backwash single-media (sand) gravity type tertiary filters.

The Plant Control System consists of an integrated SCADA system consisting of a central facility located in the administration building; and integrated remote processing units with associated monitoring and control equipment, and local computer workstations installed at individual plant facilities.

It was reported that the SCADA system for the WPCP comprises an IFIX SCADA system, which monitors the flows and levels including wet well levels. It was reported that the alarms for the sewage pumping stations are connected to the WPCP SCADA system.

It was advised that there are 2 SCADA computers in the WPCP Control Room (1-primary and 2-backup) and another SCADA computer in the Pelletizer building, with the computer in the Pelletizer building being independent of the computer located in the WPCP Control Room. It was advised that the data is backed up to SCADA rack (no tapes) equipped with a UPS; and that the operators can run the WPCP from either the Control Room or the Pelletizer Building.

It was advised that all the PLCs are equipped with UPS. It was reported that the alarms for the WPCP consist of high flows and equipment failure.

**Site (Name):** Smiths Falls WPCP  
**Type:** Mechanical Sewage Treatment System      **Sub Type:** Chemical Addition

**Comments:**  
 Phosphorus Removal Facilities consist of two (2) 18.9 m capacity liquid coagulant storage tanks, four (4) chemical metering pumps, each rated at 19.5 to 215 L/h, with dosing points at the influent and the effluent channels of the secondary clarifier and in the flash mix tank; a flash mix tank being a 2.7 m long section of the flocculation tank inlet channel, equipped with a 2.2 kW mixer; two (2) 6.45 m x 6.45 m x 5.1 m SWD flocculation tanks with overflow gates to the tertiary filter influent channel, each equipped with a 1.1 kW flocculator. It was reported that the Town uses PAX-XL6 as coagulant and that coagulant is paced to flow. It was reported that when the duty coagulant pump fails, that one of the three standby coagulant pumps starts up. The Town switched to using PAX-XL6 in 2019 and that they are dosing at half of what they dosed using PAS-8, and it was advised that the sludge is not as dense with less aluminum.

**Site (Name):** Smiths Falls WPCP  
**Type:** Plant Classification      **Sub Type:** Class IV

**Comments:**  
 The Smiths Falls Water Pollution Control Plant (WPCP) is classified as a Class IV (4) Wastewater Treatment System, Issued February 4, 1993.

**Site (Name):** Smiths Falls Wastewater Collection System  
**Type:** Sewage Collection System      **Sub Type:** Combined Sewer

**Comments:**

The Town of Smiths Falls comprises the following infrastructure: 27.34 km of sanitary sewers, constructed of various materials (asbestos cement, vitrified clay, concrete and PVC) installed between the years of 1900-2014; 22.70 km of storm sewers, constructed of concrete or PVC material and installed between the years of 1953 and 2014; 30.49 km of combined sanitary and storm sewers and constructed of various materials (asbestos cement, vitrified clay, concrete and PVC) and placed between the years of 1899 to 1988. There are three pumping stations (Centre Street (1950), Union Street (2011) and Queen Street (2012)).

It was reported that under budgetary constraints, that the Town currently has been slip lining (CIPP trenchless technology) existing sewers or Council has been deferring works due to the shortage of funds and funding available.

The Smiths Falls Wastewater Collection System provides wastewater collection and movement from industrial, commercial and residential users within the limits of the Town of Smiths Falls, as well as the Atironto subdivision in the Township of Montague.

The Town's Asset Management Plan was accepted by municipal council as presented by Greer Galloway Group reformulation of infrastructure. Structures, roads, sewers and watermains were addressed in the first phase of the Plan; and the Town continues with Facilities and equipment breakdown in Phase II.

There is a continuous deflective separation unit on Code Crescent and stormceptors at Abbott & Ferrera Streets and at the CSO on Old Mill Road. Please refer to the Annual Summary Reports for the Wastewater Collection System and the WPCP for a complete list of works/upgrades/equipment changes completed during the inspection period. It was reported that flushing of the wastewater collection system is conducted annually with certain sections of the system done each year. The flushing program is a 4-year program that ended in 2010 and that all sewers had been flushed by 2010. It was reported that spot checks of the sewers are conducted weekly by operators for flows. It was reported that a contracted sewer vacuum truck performs the annual flushing of the wastewater collection system and that they remove debris from the system and take it to their own site for disposal. It was advised that problem areas are identified and prioritized, if deemed imminent failure then it is added to the list for relining/ replacement pending on the budget/funding, and the area is checked again the following year. It was noted that the daily checks on the sewers conducted by operators are recorded on log sheets. It was reported that the manholes are checked by operators daily, and that the flows are monitored, so if the flow is reduced then there is a problem.

The Public Works Department maintains the following logs: Sewer Cleaning Report; Sewer Main Inspection Report (sewer main inspection routes done each month); and Weekly CSO Monitoring at Old Mill Road.

**Site (Name):** Smiths Falls Wastewater Collection System  
**Type:** Collection System Component      **Sub Type:** Pumping station

**Comments:**

Centre Street Sewage Pumping Station (off-site) consists of an existing wet/dry well type pumping station located approximately 50 m south of Centre Street on an easement between 57 and 69 Centre Street retrofitted with two (2) new sewage pumps (one standby), each rated at 17.7 L/s at 9.86 TDH and controlled by variable frequency drives; new flow meter and station bypass pumping chamber; and upgrading of power system to accommodate new pumps and portable emergency generator. It was reported that the station is not equipped with a bypass pumping chamber. The drawings were checked and it was confirmed that there is no station bypass pumping chamber. The ECA should be updated to reflect this.

There is not an automatic transfer switch for the generator set. It was advised that once a year, operators connect the portable generator set and run it.

**Site (Name):** Old Mill Road Overflow Structure  
**Type:** Collection System Component      **Sub Type:** Other

**Comments:**

ECA Number 5719-A6QSRS was issued on March 24, 2016 an amendment to the stormwater management Works proposed as part of the Old Mill Road Reconstruction, in the Town of Smiths Falls to remove the previously approved oil and grit separator and to include two new oil and grit separators for the treatment and disposal of stormwater runoff from a total catchment area of 14.5 hectares, to provide Enhanced Level water quality control, discharging to the Rideau River comprising of:

- oil and grit separator 1 (catchment area 5.61 ha): one (1) oil and grit separator (Contech model Vortechs 9000 or Equivalent) located on the west side of Old Mill Road south of Main Street West and just upstream of the existing MH 6 having a sediment storage capacity of approximately 3.67 m<sup>3</sup>, an oil storage capacity of approximately 2019 L, a total storage volume of approximately 11.47 m<sup>3</sup>, and a maximum treatment flow rate of approximately 396 L/s, discharging via a 600 mm diameter outflow pipe, to existing storm sewers on Old Mill Road;
- oil and grit separator 2 (catchment area 8.21 ha): one (1) oil and grit separator (Contech model Vortechs 16000 or Equivalent) located east of the eastern extremity of Strathacona Street approximately 10 m west of Old Mill Road having a sediment storage capacity of approximately 5.43 m<sup>3</sup>, an oil storage capacity of approximately 3175 L, a total storage volume of approximately 18.35 m<sup>3</sup>, and a maximum treatment flow rate of approximately 708 L/s, discharging via a 600 mm diameter outflow pipe, to existing storm sewers.

It was reported that only oil grit separator (OGS) 1 has been installed. OGS 2 has yet to be installed.

The overflow structure is monitored for flows. Overflows occur due to high precipitation events, snow melt and blockages in the line upstream within the easement between Old Mill Road and Beckwith Street. The flow monitoring device is now connected to AC power and a phone line with alarm (using an autodialer) to alert staff of an overflow event and trigger immediate response. The Town would like to connect the alarm to the WPCP SCADA system, so then staff can connect and download the data without having to go to the CSO structure and connect the computer. It was advised that this is not in the immediate future, but the Town would like it connected to the WPCP SCADA.

It was reported that the alarm system for the CSO at Old Mill Road is tested annually.

**Site (Name):** Combined Sewer Overflow Tank  
**Type:** Collection System Component      **Sub Type:** Other

**Comments:**

Combined Sewer Overflow Tank consisting of one (1) 4000 m<sup>3</sup> tank to temporarily store wet weather flows that exceed the capacity of the secondary treatment system; and two (2) tank discharge pumps (one standby) to return stored sewage back to the headworks or head of the primary tanks for treatment after the wet weather event, each pump rated at 44 L/s at 7.5 m TDH.

**Site (Name):** Smiths Falls WPCP  
**Type:** Effluent Discharge Receiver      **Sub Type:** Surface Water

**Comments:**

The Plant Outfall Works consists of a 1,050 mm diameter outfall sewer extending approx. 145m south from the end of the plant effluent channel to mid-stream Rideau River past the navigational channel (the river portion buried in the river bed), including a multi-port outfall structure on the outlet, and a valved emergency connection to the old outfall sewer. It was reported that there is no valved emergency connection to the old outfall sewer.

**Site (Name):** Smiths Falls WPCP  
**Type:** Method of Disinfection      **Sub Type:** Ultraviolet

**Comments:**

The Effluent Disinfection Facility consists of a 10 m x 1.75 m x 1.4 m deep UV disinfection channel, equipped with an automatic level controller on the outlet to the plant effluent channel, and an ultraviolet (UV) irradiation lamp system (Trojan System UV3000Plus) at minimum 65% UV transmittance, consisting of two (2) UV banks (9 modules per bank, 6 lamps per module). The TrojanUV3000Plus™ uses energy efficient amalgam lamps, which are high output lamps that automatically dim when flow demand drops or when the water quality changes.

The Trojan UV3000Plus™ disinfection unit is designed as a gravity flow-through system, with the channel level controlled by an automatic level controller (ALC) at the end of the channel. Operation of the lamps, automatic cleaning system, and ALC is controlled by the local vendor-supplied control panel. The control panel will operate the two (2) UV banks automatically to provide the minimum UV dose based on the measured flow rate and UV transmittance.

Lamps will automatically dim when flow drops or when water quality changes. The quartz sleeves will be automatically cleaned by Trojan's ActiClean-VW™ automatic chemical/mechanical cleaning system. This eliminates the need to remove modules from the channel for cleaning maintenance.

Although remote SCADA manual operation is an available option, standard operation of the Trojan UV system generally occurs via REMOTE-AUTO where the control of the systems takes place locally at the vendor supplied PLC. This functionality allows the power level for the lamps to be controlled automatically to meet the specific UV dosing requirements based on logic within the UV system PLC. This REMOTE-AUTO function does allow standard data to be monitored from SCADA.

**Site (Name):** Smiths Falls WPCP  
**Type:** Effluent Discharge Frequency      **Sub Type:** Continuous  
**Comments:**  
 Effluent discharge is continuous.

**Site (Name):** Smiths Falls WPCP  
**Type:** Biosolids Stabilization Process      **Sub Type:** Other  
**Comments:**  
 The Sludge Processing Facilities (Pelletizer Building) consists of one (1) gravity belt thickener rated at a maximum solids loading of 272 kg/h and maximum hydraulic loading of 845.6 L/min, together with a polymer solution preparation and metering unit; two (2) 75 m³ mixed sludge (primary and thickened waste activated - settled sludge) holding tanks, each equipped with a mixer; one (1) filter press sludge feed pump rated at a 2.7 L/s at 296 kPa, equipped with variable speed drive, together with a 3 hp motor sludge mercerator on the pump's suction line; one (1) belt filter press rated at a sludge loading of 7.0 m³/h at a solids concentration of 4% (~2.5%-3%), together with a polymer solution preparation and metering unit, an in-line mixer, and a 0.55 L/s capacity variable speed drive sludge cake transfer pump; a sludge drying facility (the pelletizer) rated at a sludge loading rate of 1.71 m/h at a solids concentration of 25% (18-19%), consisting of a twin shaft dryer feed mixer, a rotary drier, a cyclone type solids separator, a vibrating screen type sludge pellet classifier, two (2) final product cooling and storage silos with a bagging facility.

**Site (Name):** Smiths Falls WPCP  
**Type:** Stand-by Power Generation      **Sub Type:** STP Generator  
**Comments:**  
 The Standby Power Generation Facility consists of one (1) 600 kW standby power diesel engine generator set with one (1) 900 litre capacity fuel tank located in the pelletizer building and capable of providing emergency (backup) power for the entire facility. It was reported that the generator set is equipped with an automatic transfer switch and that a contracted service provider inspects and tests the generator set on a semi-annual basis. It was also reported that the WPCP operators test the generator set, and that it is supposed to be tested on a monthly basis based on pelletizer run time.

It was reported that there is an Uninterrupted Power Supply (UPS) for the SCADA system.

**Site (Name):** VIA Rail Canada Wastewater Pumping Station

**Type:** Collection System Component      **Sub Type:** Pumping station

**Comments:**

The existing sanitary sewer and the existing sanitary sewage pumping station (Smiths Falls VIA Rail Canada Wastewater Pumping Station), including the existing sanitary forcemain, to serve the Smiths Falls VIA Rail Canada passenger depot in the Separated Town of Smiths Falls, having a peak design flow capacity of 4.3 L/s, consisting of the following:

- the existing 200 mm diameter and 3 m long sanitary sewer located along Union Street, from approximately 46 m south of the entrance to the Smiths Falls VIA Rail Canada passenger depot to approximately 49 m south of the entrance to the Smiths Falls VIA Rail Canada passenger depot, discharging to the existing sanitary sewage pumping station (Smiths Falls VIA Rail Canada Wastewater Pumping Station);
- the existing 1.2 m diameter and 5 m deep prefabricated fibreglass sanitary sewage pumping station (Smiths Falls VIA Rail Canada Wastewater Pumping Station) located at 46 Union Street, approximately 49 m south of the entrance to the Smiths Falls VIA Rail Canada passenger depot, housing two (2) submersible sewage pumps (one duty and one standby), each pump capable of handling 4.3 L/s against a total dynamic head (TDH) of 7.4 m, complete with a 200 mm diameter inlet gravity sewer, an access ladder, two (2) access hatches, a 100 mm diameter vent with screened opening, discharge piping, fittings and valves, a level regulator float control system and a flashing light alarm system with high level, voltage surcharge, seal leakage and thermal motor conditions (over heating) alarms relayed via a telephone system to the Town of Smiths Falls standby operator, discharging via the existing 100 mm diameter sanitary forcemain located along Union Street, from the pumping station to the existing sanitary manhole located on Union Street approximately 79 m south of the entrance to the Smiths Falls VIA Rail Canada passenger depot; and all other associated appurtenances, pipings, fittings, valves, electrical, instrumentation and control systems.

**Site (Name):** Queen Street Sewage Pumping Station  
**Type:** Sewage Collection System      **Sub Type:** Pumping station

**Comments:**

A sanitary sewage pumping station located on Queen Street designed for 10 year peak flow and upgradeable to 20 year peak flow (future 40.37 hectare area) comprising:

- one (1) sanitary sewage pumping station located on Queen Street (County Road 43) is located between Hershey Drive and the Galipeau Centre (Rideau Regional Centre Road). The pumping station is closer to the Galipeau Centre intersection. The station is designed for a peak flow of 24 L/s, consisting of a 3.05 metre diameter, 8.6 metre deep wet well, equipped with two (2), 7.5 horsepower submersible pumps model Flygt NP3127.090 HT, one for duty and one for standby, each pump has a rated capacity of 26 L/s at a total dynamic head of 10.33 metres, complete with electrical and manufacturer supplied automatic control PLC system, ultrasonic level sensors and backup float switches, communication relay to Town of Smiths Falls Water Pollution Control Plant, discharge piping, check valve, a 16 Kilowatt portable standby diesel generator set, and all other appurtenances necessary to have a complete and operable pumping station, discharging to the 200 mm diameter forcemain.

## **INSPECTION SUMMARY:**

### Introduction

- The primary focus of this inspection is to confirm compliance with Ministry of the Environment, Conservation and Parks (MECP) legislation as well as evaluating conformance with ministry policies and guidelines during the inspection period.

This wastewater treatment and collection system is subject to the legislative requirements of the Ontario Water Resources Act (OWRA) and the Environmental Protection Act (EPA) and regulations made therein. This inspection has been conducted pursuant to Section 15 of the OWRA and Section 156 of the EPA.

This inspection report does not suggest that all applicable legislation and regulations were evaluated. It remains the responsibility of the owner to ensure compliance with all applicable legislative and regulatory requirements.

On March 11, 2020 and March 13, 2020, Shannon Hamilton-Browne, Water Inspector/Provincial Officer (Ministry Inspector), Badge #802 visited the Smiths Falls Water Pollution Control Plant (WPCP) for the purpose of performing a scheduled inspection to assess compliance with applicable Ministry of the Environment, Conservation and Parks legislative requirements (Acts and Regulations), Environmental Compliance Approvals (ECA), as well as conformance with Ministry guidelines and procedures.

The Smiths Falls Wastewater Collection System (WWCS) and Smiths Falls Water Pollution Control Plant, which together constitute the sewage or wastewater system, are owned and operated by the Corporation of the Town of Smiths Falls. The Smiths Falls WPCP and the wastewater collection system (sanitary and stormwater sewer mains, manholes and connections) and Sewage Pumping Stations (SPS) are operated and overseen by the Town's Public Works & Utilities Department. The Smiths Falls WPCP services a population of approximately 8,780 persons (2016).

Information supporting the completion of the inspection was supplied by Jason Barlow, Manager Water/Wastewater Treatment; Sarah Cooke, Water & Wastewater Compliance Coordinator; Jason Dalgleish, Public Works Supervisor; Steve LaPlante, WPCP Operator; Andrew MacNaughton, WPCP Operator, and Kim Mulrooney, Public Works Administrative Assistant.

The wastewater system inspection included a physical inspection of the WPCP during which the Ministry Inspector was accompanied by Andrew MacNaughton, Wastewater Operator and Sarah Cooke, Water & Wastewater Compliance Coordinator.

Documentation was reviewed for the period covering February 13, 2015 to March 13, 2020; a time frame that will hereafter be referred to as the "inspection period."

Audit samples of the final effluent were collected on March 11, 2020 and shipped to the Ministry's Laboratory Services Branch (located in Etobicoke, Ontario) for testing. A copy of the audit samples test results is included in Appendix A to this report.

System management and operating staff were interviewed to gain insight into operating procedures and best practices employed in the system.

The previous inspection conducted on February 11, 2015 and February 13, 2015, identified twelve (12) issues of non-compliance with regulatory requirements and actions required and made eleven (11) recommendations. Any issues outstanding from previous inspections are discussed in the body of this report and/or summarized in the last two sections of this report.

**Introduction**

For clarity within this report, it should be noted that the Ministry of the Environment, Conservation and Parks has restructured their approvals process. All Certificates of Approval will be referred to as Environmental Compliance Approvals (ECA).

**Authorizing/Control Documents**

- **The owner had a valid Environmental Compliance Approval for the sewage works.**

Environmental Compliance Approval (ECA) Number 5671-AE7HFT was issued on January 11, 2017 for the Smiths Falls Water Pollution Control Plant (WPCP) and revokes Approval No. 5076-86NKAG issued on July 12, 2010. The purpose for the issuance of ECA Number 5671-AE7HFT was for Limited Operational Flexibility (LOF). A copy of the ECAs are included in the appendices to this report.

ECA Number 5671-AE7HFT includes previous works:

Centre Street Sewage Pumping Station (off-site):

- one wet well/drywell style sewage pumping station located at 57 Centre Street, equipped with two (2) sewage pumps (one standby), each rated at 17.7 L/s at 9.86 m TDH and controlled by variable frequency drives;
- flow meter and station bypass pumping chamber (NO);
- a 16 kW portable diesel emergency generator set;
- a 150 mm diameter forcemain along Centre Street, discharging to manhole #368 at Centre Street and Elmsley Street and therefrom to the main trunk sewer discharging at the Smiths Falls WPCP.

The Smiths Falls WPCP is a conventional activated sludge process plant located at 180 Queen Street, having a Rated Capacity of 14,700 m<sup>3</sup>/d, discharging effluent to Rideau River.

The Smiths Falls WPCP includes a Wet Weather Flow Storage Tank comprised of:

- one (1) 4000 m<sup>3</sup> tank to temporarily store wet weather flows that exceed the capacity of the secondary treatment system;
- two (2) tank discharge pumps (one standby) to return stored sewage back to the primary tank or aeration tank for treatment after the wet weather event, each pump rated at 44 L/s at 7.5 m TDH.

ECA (Air) Number 8-4041-93-006 dated September 18, 1995 was issued for the exhaust system, standby diesel generator and sludge pelletizer unit.

ECA Number 5704-8KSK3U was issued for the Queen Street Sewage Pumping Station.

ECA Number 6126-98FR68 was issued for the Smiths Falls VIA Rail Canada Wastewater Pumping Station.

ECA Number 5719-A6QSRS issue date March 24, 2016 was issued for the Old Mill Road stormwater management works as part of the Old Mill Road Reconstruction.

The following ECAs were issued for the wastewater collection system storm and sanitary sewer mains.

Certificate of Approval Number	Date Issued	
3-0970-97-007	August 20, 1997	Storm & Sanitary
3-1167-96-006	October 21, 1996	Storm & Sanitary
3-0113-95-006	March 5, 1995	Storm & Sanitary
3-0397-94-006	May 11, 1994	Storm & Sanitary
3-0204-94-006	April 5, 1994	Storm & Sanitary
3-0292-93-006	May 7, 1993	Storm & Sanitary
3-1388-92-006	December 2, 1992	Storm & Sanitary

**Capacity Assessment**

- **The annual average daily flow was not approaching the rated capacity of the sewage works.**

The Smiths Falls WPCP has been approved to treat sewage at the following rates:

Average daily flow during dry weather: 14,700 m<sup>3</sup>/d Peak hourly flow (sewage treatment rates):

- Screening (two parallel screen channels) each with a peak flow rate of 25,230 m<sup>3</sup>/d
- Grit Removal (two grit removal units) each with a peak flow rate of 25,350 m<sup>3</sup>/d
- Primary Sedimentation (two twin-pass primary clarifiers) each with a peak flow rate of 25,230 m<sup>3</sup>/d
- Tertiary Treatment (two sand gravity type tertiary filters) each with peak flow rate of 25,230 m<sup>3</sup>/d
- Wet Weather Flow Storage Tank one 4000 m<sup>3</sup> tank to temporarily store wet weather flows that exceed the capacity of the secondary treatment system.

Based on a review of the plant flow data, the WPCP complied with its rated capacity. For 2019, the annual average daily flow was 10,323.93 m<sup>3</sup>/d. In 2019, the Smiths Falls WPCP was operating at 70.23% of the rated capacity of 14,700 m<sup>3</sup>/d, based on the annual average daily flow.

For 2018, the total flow for the WPCP was 3,956,349 m<sup>3</sup>. The reported annual average daily flow for 2018 was 10,878 m<sup>3</sup>/d, which is 74% of the rated capacity of the sewage works.

For 2017, the total flow for the WPCP was 4,513,518 m<sup>3</sup>. The reported annual average daily flow for 2017 was 12,359 m<sup>3</sup>/d, which is 84% of the rated capacity of the sewage works. In 2017, the maximum day flows occurred in May, due to heavy precipitation.

In 2016, the total flow for the WPCP was 3,495,752 m<sup>3</sup>. The reported annual average daily flow for 2016 was 9,555 m<sup>3</sup>/d, which is 65% of the rated capacity of the sewage works.

A total of 3,272,674 cubic meters of wastewater was treated in 2015. For 2015, the annual average daily flow was 8,971 m<sup>3</sup>/d. In 2015, the Smiths Falls WPCP operated at 61% of the rated capacity of 14,700 m<sup>3</sup>/d, based on the annual average daily flow.

- **The owner was in conformance with the designed rated capacity for average daily flow into the sewage works.**

Condition 6(2)(b) of ECA Number 5671-AE7HFT states that the Owner shall use best efforts to operate the works within the Rated Capacity of the Works. ECA Number 5671-AE7HFT states that the Smiths Falls WPCP has a Rated Capacity of 14,700 m<sup>3</sup>/d.

"Rated Capacity" means the Annual Average Daily Flow for which the Sewage Treatment Plant is approved to handle.

"Annual Average Daily Flow" means the cumulative total sewage flow to the sewage works during a calendar year divided by the number of days during which sewage was flowing to the sewage works that year.

For 2019, the total flow for the WPCP was 3,768,236 m<sup>3</sup>. The reported annual average daily flow for 2019 was 10,326 m<sup>3</sup>/d, which is 70.24% of the rated capacity of the sewage works. If you divide the total flow of 3,768,236 m<sup>3</sup> by 365 days, it equals an annual average daily flow of 10,323.93 m<sup>3</sup>/d. This flow value is 70.23% of the rated capacity.

The 2019 Smiths Falls WPCP Monitoring Data enclosed with the 2019 Performance Report shows for 2019, the maximum day flow was 40,820 m<sup>3</sup>/d in March 2019 and that the peak flow was 14,699.30 m<sup>3</sup>/d.

The maximum day flow and maximum average day flow in March 2019 and April 2019 respectively were a result of the combined sewer overflow (CSO) tank at the WPCP working to capacity, as a result of high flows from heavy precipitation, rapid snow melt and possibly a high groundwater table infiltrating into the wastewater collection

system. 2019 saw heavier than normal rain periods and snow melt during the spring. Typically, the average flows are between 60% and 70%.

- **The owner of the sewage works had prepared a written statement certified by a Professional Engineer confirming that the proposed works were constructed in accordance with the Environmental Compliance Approval.**

Condition 3 (1) of ECA No. 5671-AE7HFT states that a set of as-built drawings showing the Works "as constructed" shall be prepared or updated. These drawings shall be kept up to date through revisions undertaken from time to time and a copy shall be retained at the Works for the operational life of the Works.

The Greer Galloway Group Inc. prepared a letter dated June 20, 2011, and "Form 6 Certificate of Substantial Completion" dated June 17, 2011, stating that the upgrades at the Smiths Falls WPCP (Combined Sewer Overflow (CSO) Tank) and the Centre Street Sewage Pumping Station have been substantially completed.

It was reported that "as-built" drawings showing the sewage works "as constructed" are available on-site at the Smiths Falls WPCP, and were updated within the timeline prescribed by the ECA after substantial completion of the proposed works.

- **Flow measuring devices were installed, calibrated and maintained in accordance with the requirements of the Environmental Compliance Approval.**

Condition 9(6) of ECA No. 5671-AE7HFT states that the Owner shall install and maintain (a) continuous flow measuring device(s), to measure the flowrate of the influent to the Sewage Treatment Plant with an accuracy to within plus or minus 15 per cent (+/- 15%) of the actual flowrate for the entire design range of the flow measuring device, and record the flowrate at a daily frequency.

Please note that calibration or verification records must include variance values, and that those variance values are within the acceptable limit set by the ECA of accuracy to within plus or minus 15% (+/- 15%).

Calibration of flow measuring devices is required at regular intervals not exceeding one year to ensure their accuracy to within margin of error prescribed by the ECA.

The WPCP is equipped with a nested parshall flume located in the effluent channel to continuously measure the final effluent flow. It was noted that the flow meter is in a straight location, i.e. no bends or elbows and that it is not affected by turbulence; and that at the time of the inspection, there was no foam or ice in the measurement area. It was reported that there is no continuous flow measuring device to measure the flowrate of the influent to the plant. It is recommended that the Owner consider installing a flow meter to measure the flowrate of the influent to the WPCP.

It was reported that the Bypass flows are also continuously measured.

The final effluent flow meter was most recently verified on November 26, 2019 by Em-Tech. The final effluent flow meter was previously verified on October 19, 2018 by Em-Tech. The secondary flow meter and the secondary bypass flow meter were also most recently verified on November 26, 2019 by Em-Tech.

The CSO (overflow) bypass datalogger at Old Mill Road was most recently verified on September 19, 2019 by Em-Tech. It was reported that the CSO at Old Mill Road is not connected to the WPCP SCADA system. It was advised that the alarm dialer for the CSO (overflow event) at Old Mill Road pages out to both the Public Works Supervisor and Foreman, then they assign a wastewater operator to respond to take samples; and that the alarm dialer continues to call continuously even if they acknowledge it until the level goes back down below the setpoint.

- **Flow rates were recorded at a frequency prescribed by the Environmental Compliance Approval.**

Operators can view the daily final effluent flows on the SCADA system at the WPCP, which prints out the Daily

Report automatically every 24 hours. The Daily Report shows the final effluent flows and other flows including secondary bypass flows and CSO tank discharge flows for the previous 24 hours with the trends (including the minimum, maximum, average and total flows).

**Treatment Processes**

- **All monitoring equipment other than flow monitoring devices were installed, calibrated and maintained in accordance with any Environmental Compliance Approval.**

Condition 8(1) of ECA No. ECA No. 5671-AE7HFT states that the Owner shall exercise due diligence in ensuring that, at all times, the Works and the related equipment and appurtenances used to achieve compliance with this Certificate are properly operated and maintained. Proper operation and maintenance shall include effective performance, adequate funding, adequate operator staffing and training, including training in all procedures and other requirements of this Certificate and the Act and regulations, adequate laboratory facilities, process controls and alarms and the use of process chemicals and other substances used in the Works.

Condition 8(2)(d) of ECA No. ECA No. 5671-AE7HFT states that the Owner shall, within 6 months of Substantial Completion of the Proposed Works, update the existing operations manual that includes, but not necessarily limited to, the following information: procedures for the inspection and calibration of monitoring equipment.

It was reported that there are no online continuous analyzers at the Smiths Falls WPCP. It was reported that the WPCP is equipped with autosamplers (composite autosamplers) for raw influent (raw sewage) and effluent monitoring. It was reported that the Smiths Falls WPCP is also equipped with bench top analyzers. It was advised that the samplers are running 24 hours.

It was reported that the pH meter is calibrated every time that it is used with the calibration results recorded in a log book for the pH meter; and that the Dissolved Oxygen sensor is changed on an annual basis. Operators also use a Spectrophotometer to conduct in-house tests.

It was reported that the composite samplers are not verified or calibrated, but that routine maintenance is performed on the samplers. It was advised in 2014 the final effluent sampler was changed to a HACH SD900 refrigerated; 2017 the secondary sampler was changed to a HACH AS950 all weather sampler; 2018 raw wastewater sampler was changed to a HACH AS950 refrigerated sampler; and the primary effluent is the only location left to install a new sampler. It is recommended that monitoring equipment, including samplers is maintained and calibrated/verified in accordance with the procedures and frequencies specified in the plant's operation manual and/or manufacturers instructions.

It was advised that in-house bench tests are conducted by operators approximately three times per week, typically on Monday, Wednesday and Friday; and that samples are sent to Caduceon Environmental Laboratories for analysis typically on Wednesday. It was reported that in-house bench tests for all processes are conducted on Wednesdays and that in-house bench tests are conducted only on the raw sewage and final effluent on Mondays and Fridays. It was reported that rounds are conducted once daily and recorded on the Rounds Sheet and that the on-call operator comes into the WPCP on weekends and conducts a visual inspection.

It was reported that in-house bench tests consist of nitrates (nitrate/nitrite), ammonia, alkalinity, Total Suspended Solids (TSS), Total Phosphorus (TP), calculated ammonia (unionized), temperature and pH. It was reported that TSS, TP, temperature and pH are typically tested in-house on the raw sewage and final effluent; and that TSS, temperature and pH are typically tested in-house on the primary clarifier, mixed liquor, and secondary clarifier. A review of In-House Bench Sheets showed:

- Raw wastewater - composite TSS, TP, pH, temp, COD, Nitrite, Nitrate
- Aeration Tanks (mixed liquor) - grab TSS, pH, temp., DO
- Primary Clarifier - composite TSS, pH, temp.
- Secondary Clarifier - composite TSS, pH, temp.

Treatment Processes

Final Effluent - composite TSS, TP, pH, temp., Total Ammonia, COD, Nitrite, Nitrate

The Sampling Schedule for the First Quarter 2020 showed the following:

Process In-House:

Raw WW - BOD5, CBOD5, Alkalinity, TSS, Nitrate, Nitrite, TP, TKN, Total Ammonia, Unionized Ammonia

Primary Effluent - BOD5, CBOD5, TSS, TP, TKN, Total Ammonia, Unionized Ammonia

Aeration Centre - Mixed Liquor Total Suspended Solids

Secondary Effluent - BOD5, CBOD5, TSS, TP, TKN, Total Ammonia, Unionized Ammonia

Final Effluent - BOD5, CBOD5, Alkalinity, TSS, Nitrate, Nitrite, TP, TKN, Total Ammonia, Unionized Ammonia, E. Coli

It was reported that sludge is sampled and tested monthly; and that MISA sampling and testing is not being done. Toxicity tests are collected on an annual basis and sent to Pollutech for analysis. Pellets are sampled every 10th bag and on a quarterly basis and sent to A&L Laboratories for analysis.

- **The owner had ensured that all equipment/components associated with the works was installed in accordance with the Environmental Compliance Approval.**

During the inspection, the Ministry Inspector confirmed that all equipment was installed in accordance with ECA No. 5671-AE7HFT. However, the following differences/observations were noted:

The Disinfection System needs to be updated for the new UV disinfection system in the ECA Works description.

It was reported that the primary coagulant is operated paced to flow (flow proportional, run on local control); and that the chemical metering pumps are equipped with automatic switchover capability. It was reported that in August 2019, the Town ran a pilot project using PAX-XL6 from PAS-8 as coagulant and switched to using PAX-XL6 in mid-September 2019.

It was reported that the standby/backup power generator set is equipped with an automatic transfer switch.

It was reported that for the Plant Outfall Works, there is no valved emergency connection to the old outfall sewer.

Regarding sludge management, the belt filter press operates at a solids concentration of 2.5-3% and the sludge drying facility (the pelletizer) operates at a solids concentration of 18-19%.

During the inspection, it was advised that the Town is currently having the engineering completed for a SCADA upgrade (replacement of the Bristol systems and SCADA packs) and replacement of the bar screens.

It was reported that at the Centre Street Sewage Pumping Station (SPS), there is no station bypass pumping chamber. It was reported that the Town changed the pump out in the Fall of 2019 at the Centre Street SPS as the pump failed.

It was reported by the Town's Public Works Department that the Town is switching to wireless communication for SCADA due to loss of communication issues at the pumping stations. It was also advised that damage was done to the communication system maintained at the Town's Water Tower.

It was advised that the Old Mill Road CSO works is not connected to the Town's SCADA system. It was advised that there was one major gap in data at the CSO Old Mill Road which lasted 4-5 days due to a contractor cutting power to the building housing the equipment; but that there were no overflow events during this time.

During the inspection, it was reported that the work done on the main trunk line on Beckwith Street is now completed. It was also reported that the new stormceptor at Beckwith & Chambers Streets was installed 2 years

### Treatment Processes

ago, but it is not in service until the tie-ins/connections are completed.

- **The works, related equipment and appurtenances were being operated and maintained to achieve compliance prescribed by the Environmental Compliance Approval.**

Condition 8(1) of ECA No.5671-AE7HFT states that the Owner shall exercise due diligence in ensuring that, at all times, the Works and the related equipment and appurtenances used to achieve compliance with this Certificate are properly operated and maintained.

It was reported that there have been no equipment failures that occurred at the WPCP during the inspection period. It was reported that the sludge tank was taken out of service in 2019 and that in 2018 the secondary clarifier tank was out of service. During the inspection, it was also reported there have been no process upsets, but that there was a disruption to the coagulant system in 2019 as the tank froze. It was also reported that there were no power failures at the WPCP; and it was advised that there were alarms activated.

It was reported that the Town has not developed a formal maintenance program or schedule for the WPCP, and that there is no reminder system in place for preventative maintenance.

There are no work orders issued for maintenance. It was advised that the operators have an informal maintenance schedule recorded on a white board in one of the offices at the WPCP, and that maintenance activities are recorded on an Excel spreadsheet "Equipment Maintenance Records" and in the WPCP Log Book. It was reported that the 2018 Service Review included a recommendation for a maintenance program. It is recommended that the Town develop and implement a formal electronic maintenance program and schedule for the WPCP.

It was noted that the Operational Procedures consist of procedures for the operation and maintenance of equipment. It was advised that maintenance frequency typically occurs on a monthly basis. A maintenance program and schedule may include the following: tank inspection, pump chamber inspection, grease trap inspection, and clean-out schedule.

During the inspection, it was noted that the scum pit was cleaned out last year. It was noted that skimming of scum removal is a problem. Following the inspection, it was advised that the scum pit filling up was due to a leaking gasket along the weirs which was leaking back to the scum pit. Prior to skimming the primaries, the scum pit would have to be drained using SCADA via manual operation. This has since been removed and is no longer leaking back to the scum pit.

During the inspection, it was advised by the WPCP operator that one of the weirs for the two primary clarifiers is sagging, although they did not specify which weir; and that floc was visible with lots of growth on the secondary clarifiers indicating that maintenance is required. It was advised that there has been not as much foam on the surface of the clarifiers; that there has been some ice formation on the secondary clarifiers; and that there was a lower mixed liquor level this year.

It was also reported that there was a loss of data during the inspection period. It was advised that the Town is currently upgrading the WPCP's SCADA system noting it will have the same capabilities; that e.RIS (Eramosa Reporting and Information System) has been added, but that it is not being used, with e.RIS training to occur the following week.

During the inspection, it was reported that in 2020 the Town plans to complete the engineering for the SCADA upgrade (Bristols and SCADA packs); complete the engineering for the bar screens; mixing tank gear assembly replacement is almost completed; refurbishment of the sewage lift pumps, which is done on an annual basis; and taking the tanks down for inspection and cleaning.

- **The owner of the sewage works had complied with all additional requirements of the Environmental**

## Treatment Processes

### **Compliance Approval pertaining to the operation and maintenance of the sewage works.**

Condition No. 2 of ECA (Air) Number 8-4041-93-006 dated September 18, 1995 for the exhaust system, standby diesel generator and sludge pelletizer unit states that the Town of Smiths Falls shall ensure that the equipment is properly operated and maintained at all times and that the Town shall, as a minimum: prepare a manual outlining the operating procedures and a maintenance program for the Town; implement the recommendations of the operating and maintenance manual; and, retain for a minimum of 2 years from the date of their creation, all records on the maintenance, repair and inspection of the equipment.

Condition No. 5.1 of ECA Number 5704-8KSK3U for the Queen Street Sewage Pumping Station states that the Owner shall exercise due diligence in ensuring that, at all times, the Works and the related equipment and appurtenances used to achieve compliance with this Certificate are properly operated and maintained.

Condition No. 4.1 of ECA Number 6126-98FR68 for the Smiths Falls VIA Rail Canada Wastewater Pumping Station states that the Owner shall exercise due diligence in ensuring that, at all times, the Works and the related equipment and appurtenances used to achieve compliance with this Approval are properly operated and maintained.

Condition No. 4.4 of ECA Number 0171-8DGL49 for the Old Mill Street Reconstruction states that the Owner shall carry out and maintain an annual inspection and maintenance program on the operation of the oil-grit separator in accordance with the manufacturer's recommendation.

Condition No. 4.6 of ECA Number 0171-8DGL49 states that the Owner shall undertake an inspection of the condition of the stormwater management Works, at least once a year, and undertake any necessary cleaning and maintenance as per the documentation submitted with the application and specifications of the manufacturer, to ensure that sediment, debris and excessive decaying vegetation are removed from the above noted stormwater management Works to prevent the excessive build-up of sediment, debris and/or decaying vegetation to avoid reduction of capacity of the Works. The Owner shall also regularly inspect and clean out the inlet to and outlet from the Works to ensure that these are not obstructed. It was reported that an oil-grit separator on Old Mill Street was installed.

Based on a review of data and other information provided by the Town during the inspection period, it appears that these conditions are being met.

It was reported that maintenance activities consist mostly of reactive maintenance for the wastewater collection system, with the exception of annual flushing and cleaning/maintenance of sewers and manholes, and CCTV camera inspection of the WWCS.

It is recommended that the Town develop and implement a formal written and/or electronic preventative maintenance program and schedule for the wastewater collection system, including the Sewage Pumping Stations, and the wastewater treatment system (WPCP).

It was reported that the UV system is not connected to the WPCP SCADA system, and that operators cannot control the UV system from the SCADA system. It was previously reported that the operators tested the failure of the UV system to verify that it is dialed out through the alarm communication system.

It was advised that there are process controls and alarms (alarm setpoints) in place; process chemicals used (coagulant, polymer for the belt press); and records of chemical quantities purchased and used are maintained by the Town.

- **The operator-in-charge had ensured that all equipment used in the processes was monitored, maintained, inspected, tested and evaluated.**

Treatment Processes

Subsection 18(1) of Ontario Regulation 129/04, made under the Ontario Water Resources Act states that an operator-in-charge (OIC) is authorized to,

- (a) set operational parameters for the facility or for a process that controls the effectiveness or efficiency of the facility; and
- (b) direct or supervise operators in the facility.

Subsection 18(2) of Ontario Regulation 129/04 states that an operator-in-charge shall,

- (a) take all steps reasonably necessary to operate the processes within his or her responsibility in a safe and efficient manner in accordance with the relevant operations manuals;
- (b) ensure that the processes within his or her responsibility are measured, monitored, sampled and tested in a manner that permits them to be adjusted when necessary;
- (c) ensure that records are maintained of all adjustments made to the processes within his or her responsibility; and
- (d) ensure that all equipment used in the processes within his or her responsibility is properly monitored, inspected and evaluated and that records of equipment operating status are prepared and available at the end of every operating shift.

The Smiths Falls WPCP is staffed Monday to Friday, with an operator on-call during weekday evenings and weekends, and if needed, that there is an evening shift for pelletizer operation from Monday to Friday.

The Smiths Falls WPCP processes and equipment are physically inspected (rounds) by a certified operator approximately daily from Monday to Friday, with in-house analysis performed approximately three (3) times per week, typically on Mondays, Wednesdays and Fridays. The operators maintain "Daily In-House Analysis" sheets for the checks to be performed during daily rounds and/or in-house analysis.

A bound record book with numbered pages entitled "WPCP Operation Log Book" is maintained by operators within the WPCP. Operators document the date, times, shift times, names of operators on duty, ORO, OIC, OIT, operator initials and details. Details include maintenance activities performed, data entry, facility inspection, chemical orders, sampling (sample collection for in-house analysis and lab (Caduceon)), bypass reporting (start time, reported to SAC, Incident Report #/AWQI #) and bypass sampling, review of SCADA Daily Report, enabling/disabling of alarms, checking of SCADA trending, rotating pump operation, running of the pelletizer, rotating UV duty, sludge depths, sampling of sludge/cake and pellets, septic vac truck removing sludge from sludge tank #2, in-house bench tests, bypass numbers, sludge tank #2 drive replacement, testing of the alarm dialer, high flow redirect to CSO tank, with the time of entry recorded and operator initials.

It was noted that on August 7, 2019, the WPCP switched coagulant from PAS-8 to PAX-XL6 as per ORO pilot project. It was also noted that H2Flow serviced the UV units on December 2, 2019; and that on November 27, 2019 there was a fire in which foam was used, not toxic, environmentally friendly.

It was noted that for secondary bypasses, the start times, end times and call outs are recorded.

The log book includes a legend with the operator's names and initials. It was reported that when the ORO for the WPCP is on-site at the WPCP that he signs in to the Operation Log Book. It was reported that the OIT notifies the OIC and/or ORO of process issues and only makes adjustments to the treatment equipment as per the OIC and/or ORO's instructions.

It was noted that "no process changes needed at this time" is sometimes recorded in the Operations Log Book.

It was noted that the WPCP operators maintain a "SCADA Process Changes" log book at the WPCP, which is a spiral bound/ringed log book with dated pages to record SCADA process changes. Entries include details, times and operator initials, but it was observed that many entries made into the Process Changes log book were not initialed in 2019. Details included UV bank lead, sludge cycles, rotate duty, sludge depths. The SCADA Process

**Treatment Processes**

Changes log book includes an operator legend, which was added during the inspection showing the operator name, operator signature, operator initials and printed initials.

An "On Call" Log Book is also maintained by WPCP operational staff, which is a bound record book with no numbered pages and an operator legend, in which operators record the date, time, initials, alarm condition, action taken, no calls, channel #, high flows, CSO tank level, bypass flows and bypass starting.

It was noted that a log book is maintained at each of the Sewage Pumping Stations (bound with numbered pages in which operators record the date, time, operator initials, details including the pump hours / pump settings); and that the stations are inspected on a weekly basis, with the inspections documented in the log books.

- **The owner/operating authority was able to demonstrate that best efforts were used to achieve the objectives listed in the Environmental Compliance Approval conditions.**

Condition 6(1) of ECA Number 5671-AE7HFT states that the Owner shall use best efforts to design, construct and operate the Works with the objective that the concentrations of the materials named below as effluent parameters are not exceeded in the effluent from the Sewage Treatment Plant.

CBOD5 - 10.0 mg/L;

Total Suspended Solids (TSS) - 5 mg/L;

Total Phosphorus (TP) - 0.25 mg/L;

Total Ammonia Nitrogen (TAN) - 2.0 mg/L (June 1 to August 31); 12.0 mg/L (September 1 to May 31);

Condition 6(2) of the ECA states that the Owner shall use best efforts to:

(a) maintain the pH of the effluent from the Works within the range of 6.5 to 8.5, inclusive, at all times;

(b) operate the works within the Rated Capacity of the Works;

(c) ensure that the effluent from the Works is essentially free of floating and settleable solids and does not contain oil or any other substance in amounts sufficient to create a visible film or sheen or foam or discoloration on the receiving waters;

(d) ensure that the effluent is continuously disinfected during the disinfection period so that the monthly Geometric Mean Density of E. coli does not exceed 150 organisms per 100 millilitres of effluent discharged from the Sewage Treatment Plant.

Condition 11(4) (f) requires the annual performance report to include a description of efforts made and results achieved in meeting the Effluent Objectives of Condition 6.

Based on a review of effluent data for 2015, compliance with the effluent objectives and the effluent limits have been met, with the exception of the effluent limit for the monthly Geometric Mean Density for E. coli. During the month of June 2015, there were six secondary treatment bypass events results from heavy rain.

Based on a review of data for 2016, compliance with the effluent objectives and the effluent limits was met.

Based on a review of data for 2017, compliance with the effluent objectives and the effluent limits were met, with the exception of TSS. The months of March, April, May and July 2017 exceeded the concentration objective of 5 mg/L for TSS.

Based on a review of data for 2018, compliance with the effluent objectives and the effluent limits were not met for Total Suspended Solids (TSS), Total Phosphorus (TP) and E. Coli. In 2018, compliance was not met during the month of April for TSS concentration effluent limit and the TSS effluent loading limit. In April, the monthly average for TSS was 19.47 mg/L exceeding the effluent limit of 15 mg/L; and the TSS Loading was 369.5 kg/d exceeding the effluent limit of 220.5 kg/d. It was reported that the non-compliance was the result of the South Secondary Tank being out of service for 6 months due to extensive damage along with on-going secondary treatment bypasses due to high flows from snow melt and rain. The non-compliance was reported verbally to the MECP on June 20, 2018

**Treatment Processes**

with a revised written notification submitted on July 11, 2018 as per Condition 11 of the ECA. In 2018, conformance was not met during the months of January to May for TSS. The monthly averages for TSS exceeded the effluent objective of 5 mg/L in January to May 2018 with results ranging from 5.94 mg/L to 19.47 mg/L.

In April 2018, the Total Phosphorus (TP) Loading effluent limit and the TP concentration effluent objective were exceeded with monthly averages of 5.31 kg/d and 0.28 mg/L, exceeding the loading limit of 4.40 kg/d and the objective of 0.25 mg/L. In April 2018, the monthly geometric mean density of E. Coli was exceeded with a result of 519.94 organisms/100 mL. The effluent limit is 200 organisms/100 mL. The objective is 150 organisms/100 mL.

Based on a review of data for 2019, compliance with the effluent objectives and the effluent limits have been met, with the exception of pH. In June 2019 the minimum pH was 6.29 and in July 2019 the minimum pH was 6.14, both below the effluent objective of 6.5-8.5.

In 2019, the monthly average concentration of CBOD5 in the final effluent was 3.00 mg/L in each month, meeting both the ECA final effluent concentration objective and concentration limit. In 2019, the monthly average loading for CBOD5 in the final effluent ranged from 19.11 kg/d to 54.12 kg/d, meeting the ECA final effluent monthly average waste loading limit.

In 2019, the monthly average concentration of TSS in the final effluent ranged from 1.10 mg/L to 4.20 mg/L, meeting both the ECA final effluent concentration objective and concentration limit. In 2019, the monthly average loading for TSS in the final effluent ranged from 7.65 kg/d to 75.76 kg/d, meeting the ECA final effluent monthly average waste loading limit. In 2019, the monthly average concentration of TP in the final effluent ranged from 0.01 mg/L to 0.15 mg/L, meeting both the ECA final effluent concentration objective and concentration limit. In 2019, the monthly average loading for TP in the final effluent ranged from 0.108 kg/d to 2.706 kg/d, meeting the ECA final effluent monthly average waste loading limit. In 2019, the monthly average concentration of TAN in the final effluent ranged from 0.02 mg/L to 0.450 mg/L, meeting both the ECA final effluent concentration objective and concentration limit. In 2019, the monthly average loading for TAN in the final effluent ranged from 0.14 kg/d to 6.53 kg/d, meeting the ECA final effluent monthly average waste loading limit. In 2019, the pH in the final effluent ranged from 6.14 to 8.09 meeting the effluent limit. In 2019, the monthly geometric mean density of E. Coli ranged from 1.00 organisms/100 mL to 30.44 organisms/100 mL meeting both the final effluent limit of 200 organisms per 100 millilitres and the effluent objective of 150 organisms per 100 mL.

- **The sewage works effluent was essentially free of foreign substances on the day of the inspection.**

On the day of the inspection, there was no visible film or sheen or foam or discolouration, and the effluent was free of foreign substances. The effluent on the day of the inspection was considered to be 'normal' for the WPCP.

**Effluent Quality and Quantity**

- **The sewage works effluent limits were prescribed by the Environmental Compliance Approval.**

Condition 7(1) of ECA Number 5671-AE7HFT states that the Owner shall operate and maintain the Works such that the concentrations of the materials named below as effluent parameters are not exceeded in the effluent from the Sewage Treatment Plant. Table 2 lists the Final Effluent Limits as the following:

Monthly Average Concentration and Monthly Average Waste Loading:

CBOD5 - 15 mg/L and 220.5 kg/d

Total Suspended Solids (TSS) - 15 mg/L and 220.5 kg/d

Total Phosphorus (TP) - 0.3 mg/L and 4.4 kg/d

Total Ammonia Nitrogen (TAN) - 2.6 mg/L and 38.0 kg/d (June 1 to August 31) and 14.0 mg/L and 206.0 kg/d (September 1 to May 31)

Condition 7(3) of the ECA states that the Owner shall operate and maintain the Works such that the pH of the

Effluent Quality and Quantity

effluent from the Sewage Treatment Plant is maintained within the range of 6.0 - 9.5, inclusive, at all times.

Condition 7(4) of the ECA states that notwithstanding subsection (1), the Owner shall operate and maintain the Works such that the effluent is continuously disinfected so that the monthly Geometric Mean Density of E. Coli does not exceed 200 organisms per 100 millilitres of effluent discharged from the Works.

- **The sewage works effluent sample results demonstrated compliance with BOD5 or CBOD5 limits prescribed by the Environmental Compliance Approval.**

Condition 7 EFFLUENT LIMITS of ECA Number 5671-AE7HFT states that the Owner shall operate and maintain the Works such that the concentrations of the materials named below as effluent parameters are not exceeded in the effluent from the Sewage Treatment Plant.

Table 2 - Final Effluent Limits: The Monthly Average Concentration of CBOD5 shall not exceed 15 mg/L.

"Monthly Average Concentration" means the arithmetic mean of all Daily Concentrations of a contaminant in the effluent sampled or measured, or both, during a calendar month.

Condition 6 EFFLUENT OBJECTIVES of ECA Number 5671-AE7HFT states that the Owner shall use best efforts to design, construct and operate the Works with the objective that the concentrations of the materials named below as effluent parameters are not exceeded in the effluent from the Sewage Treatment Plant.

Table 1 - Effluent Objectives of ECA Number 5671-AE7HFT states that the Concentration Objective for CBOD5 is 10 mg/L based on an Monthly Average Concentration.

In 2019, the monthly average concentration of CBOD5 in the final effluent was 3.00 mg/L in each month, meeting both the ECA final effluent concentration objective and concentration limit.

Table 2 - Final Effluent Limits: Average Waste Loading (kilograms per day) states that the Monthly Average Loading of CBOD5 shall not exceed maximum waste loading of 220.5 kg/day. "Monthly Average Loading" means the value obtained by multiplying the Monthly Average Concentration of a contaminant by the Monthly Average Daily Flow over the same calendar month.

In 2019, the monthly average loading for CBOD5 in the final effluent ranged from 19.11 kg/d to 54.12 kg/d, meeting the ECA final effluent monthly average waste loading limit.

- **The sewage works effluent sample results did not demonstrate compliance with total suspended solids limits prescribed by the Environmental Compliance Approval.**

Condition 7 EFFLUENT LIMITS of ECA Number 5671-AE7HFT states that the Owner shall operate and maintain the Works such that the concentrations of the materials named below as effluent parameters are not exceeded in the effluent from the Sewage Treatment Plant.

Table 2 - Final Effluent Limits: The Monthly Average Concentration of Total Suspended Solids (TSS) shall not exceed 15 mg/L.

Condition 6 EFFLUENT OBJECTIVES of ECA Number 5671-AE7HFT states that the Owner shall use best efforts to design, construct and operate the Works with the objective that the concentrations of the materials named below as effluent parameters are not exceeded in the effluent from the Sewage Treatment Plant.

Table 1 - Effluent Objectives of ECA Number 5671-AE7HFT states that the Concentration Objective for TSS is 5 mg/L based on an Monthly Average Concentration.

**Effluent Quality and Quantity**

In 2019, the monthly average concentration of TSS in the final effluent ranged from 1.10 mg/L to 4.20 mg/L, meeting both the ECA final effluent concentration objective and concentration limit.

Table 2 - Final Effluent Limits: Average Waste Loading (kilograms per day) states that the Monthly Average Loading of TSS shall not exceed maximum waste loading of 220.5 kg/day.

In 2019, the monthly average loading for TSS in the final effluent ranged from 7.65 kg/d to 75.76 kg/d, meeting the ECA final effluent monthly average waste loading limit.

In 2018, compliance was not met during the month of April for Total Suspended Solids (TSS) and TSS Loading Limits. In April, the monthly average for TSS was 19.47 mg/L exceeding the effluent limit of 15 mg/L; and the TSS Loading was 369.5 kg/d exceeding the effluent limit of 220.5 kg/d.

It was reported that the non-compliance was the result of the South Secondary Tank being out of service for 6 months due to extensive damage along with on-going secondary treatment bypasses due to high flows from snow melt and rain. The non-compliance was reported verbally to the MECP on June 20, 2018 with a revised written notification submitted on July 11, 2018 as per Condition 11 of the ECA.

The sewage works did not conform to effluent total suspended solids concentration and/or loading objectives in the months of January to May 2018. The monthly averages for TSS exceeded the effluent objective of 5 mg/L in January to May 2018, with results ranging from 5.94 mg/L to 19.47 mg/L.

The 2017 Annual Report for the WPCP shows that the monthly average concentration for TSS in the final effluent ranged from 0.99 mg/L to 10.01 mg/L, with an annual average of 3.697 mg/L. The months of March, April, May and July 2017 exceeded the concentration objective of 5 mg/L for TSS.

- **The sewage works effluent sample results did not demonstrate compliance with total phosphorous limits prescribed by the Environmental Compliance Approval.**

Condition 7 EFFLUENT LIMITS of ECA Number 5671-AE7HFT states that the Owner shall operate and maintain the Works such that the concentrations of the materials named below as effluent parameters are not exceeded in the effluent from the Sewage Treatment Plant.

Table 2 - Final Effluent Limits: The Monthly Average Concentration of Total Phosphorus (TP) shall not exceed 0.3 mg/L.

Condition 6 EFFLUENT OBJECTIVES of ECA Number 5671-AE7HFT states that the Owner shall use best efforts to design, construct and operate the Works with the objective that the concentrations of the materials named below as effluent parameters are not exceeded in the effluent from the Sewage Treatment Plant.

Table 1 - Effluent Objectives of ECA Number 5671-AE7HFT states that the Concentration Objective for TP is 0.25 mg/L based on an Monthly Average Concentration.

In 2019, the monthly average concentration of TP in the final effluent ranged from 0.01 mg/L to 0.15 mg/L, meeting both the ECA final effluent concentration objective and concentration limit.

Table 2 - Final Effluent Limits: Average Waste Loading (kilograms per day) states that the Monthly Average Loading of Total Phosphorus (TP) shall not exceed maximum waste loading of 4.4 kg/day.

In 2019, the monthly average loading for TP in the final effluent ranged from 0.108 kg/d to 2.706 kg/d, meeting the ECA final effluent monthly average waste loading limit.

**Effluent Quality and Quantity**

In April 2018, the Total Phosphorus (TP) Loading effluent limit was exceeded with a monthly average of 5.31 kg/d exceeding the limit of 4.40 kg/d.

In April 2018, the Total Phosphorus (TP) concentration effluent objective was exceeded with a monthly average of 0.28 mg/L, exceeding the objective of 0.25 mg/L.

- **The sewage works effluent sample results demonstrated compliance with total ammonia/total ammonia nitrogen/unionized ammonia limits prescribed by the Environmental Compliance Approval.**

Condition 7 EFFLUENT LIMITS of ECA Number 5671-AE7HFT states that the Owner shall operate and maintain the Works such that the concentrations of the materials named below as effluent parameters are not exceeded in the effluent from the Sewage Treatment Plant.

Table 2 - Final Effluent Limits: The Monthly Average Concentration of Total Ammonia Nitrogen (TAN) shall not exceed 2.6 mg/L (Jun 1 to Aug 31) and 14.0 mg/L (Sept 1 to May 31).

Condition 6 EFFLUENT OBJECTIVES of ECA Number 5671-AE7HFT states that the Owner shall use best efforts to design, construct and operate the Works with the objective that the concentrations of the materials named below as effluent parameters are not exceeded in the effluent from the Sewage Treatment Plant.

Table 1 - Effluent Objectives of ECA Number 5671-AE7HFT states that the Concentration Objective for TAN is 2.0 mg/L (Jun 1 to Aug 31) and 12.0 mg/L (Sept 1 to May 31) based on an Monthly Average Concentration.

In 2019, the monthly average concentration of TAN in the final effluent ranged from 0.02 mg/L to 0.450 mg/L, meeting both the ECA final effluent concentration objective and concentration limit.

Table 2 - Final Effluent Limits: Average Waste Loading (kilograms per day) states that the Monthly Average Loading of Total Ammonia Nitrogen (TAN) shall not exceed maximum waste loading of 38.0 kg/day (Jun 1 to Aug 31) and 206.0 kg/day (Sept 1 to May 31).

In 2019, the monthly average loading for TAN in the final effluent ranged from 0.14 kg/d to 6.53 kg/d, meeting the ECA final effluent monthly average waste loading limit.

- **The sewage works effluent sample results did not demonstrate compliance with microbiological parameter limits prescribed by the Environmental Compliance Approval.**

Condition 7(4) of ECA Number 5671-AE7HFT states that notwithstanding subsection (1), the Owner shall operate and maintain the Works such that the effluent is continuously disinfected so that the monthly Geometric Mean Density of E. Coli does not exceed 200 organisms per 100 millilitres of effluent discharged from the Works.

Condition 6(2)(d) of ECA Number 5671-AE7HFT states that the Owner shall use best efforts to ensure that the effluent is continuously disinfected during the disinfection period so that the monthly Geometric Mean Density of E. coli does not exceed 150 organisms per 100 millilitres of effluent discharged from the Sewage Treatment Plant.

In 2019, the monthly geometric mean density of E. Coli ranged from 1.00 organisms/100 mL to 30.44 organisms/100 mL meeting both the final effluent limit and the effluent objective.

In April 2018, the monthly geometric mean density of E. Coli was exceeded with a result of 519.94 organisms/100 mL.

E.coli levels are calculated as the geometric mean where the concentrations of E. coli indicator in each of the previous weekly samples (i.e. four samples) collected during the month are multiplied together and the fourth root of the resulting product is calculated.

**Effluent Quality and Quantity**

- **The sewage works effluent sample results demonstrated compliance with pH limits prescribed by the Environmental Compliance Approval.**

Condition 7(3) of ECA Number 5671-AE7HFT states that Owner shall operate and maintain the Works such that the pH of the effluent from the Sewage Treatment Plant is maintained within the range of 6.0 - 9.5, inclusive, at all times.

In 2019, the pH in the final effluent ranged from 6.14 to 8.09 meeting the effluent limit.

Condition 6(2) of ECA Number 5671-AE7HFT states that the Owner shall use best efforts to:

- a. maintain the pH of the effluent from the Works within the range of 6.5 - 8.5, inclusive, at all times.

In 2019, the pH in the final effluent ranged from 6.14 to 8.09. In June 2019 the minimum pH was 6.29 and in July 2019 the minimum pH was 6.14, both below the effluent objective of 6.5-8.5.

- **The sewage works effluent sample results did not meet the effluent objectives stated in the Environmental Compliance Approval.**

The sewage works did not conform to effluent total suspended solids concentration and/or loading objectives in the months of January 2018 to May 2018. The monthly averages for TSS exceeded the effluent objective of 5 mg/L in January to May 2018, with results ranging from 5.94 mg/L to 19.47 mg/L.

The 2017 Annual Report for the WPCP shows that the monthly average concentration for TSS in the final effluent ranged from 0.99 mg/L to 10.01 mg/L, with an annual average of 3.697 mg/L. The months of March, April, May and July 2017 exceeded the concentration objective of 5 mg/L for TSS.

In April 2018, the Total Phosphorus (TP) concentration effluent objective was exceeded with a monthly average of 0.28 mg/L, exceeding the objective of 0.25 mg/L. In April 2018, the effluent objective for monthly geometric mean density of E. Coli was exceeded with a result of 519.94 organisms/100 mL.

Condition 6 (2) of ECA Number 5671-AE7HFT states that the Owner shall use best efforts to:

- a. maintain the pH of the effluent from the Works within the range of 6.5 - 8.5, inclusive, at all times.

In 2019, the pH in the final effluent ranged from 6.14 to 8.09. In June 2019 the minimum pH was 6.29 and in July 2019 the minimum pH was 6.14, both below the effluent objective of 6.5-8.5.

- **The inspector collected audit samples during the inspection.**

On March 11, 2020, a final effluent sample was taken from the effluent channel by the WPCP Operator on behalf of the Ministry Inspector for the Smiths Falls WPCP for audit purposes.

The sample was collected in accordance with the Ministry's Standard Operating Procedure (SOP) "Collection and Submission of Audit and Legal Samples". The samples were shipped to the Ministry's Laboratory Services Branch in Etobicoke, Ontario for testing of health related microbiological and chemical parameters. The test results from the Ministry Audit Samples are included in Appendix B to this report.

- **The results of audit samples collected by the Inspector met the effluent limits or operational guidelines.**

The results of the audit samples met the effluent limits of the ECA and the guidelines of the Provincial Water Quality Objectives.

The Ministry Inspector received the audit results on March 27, 2020. A review of the analytical results for the Ministry Audit Samples showed an E. coli count of <4.0 CFU/100mL and Enterococci/ Fecal Streptococci count of

**Effluent Quality and Quantity**

<4.0 CFU/100 mL. The Provincial Water Quality Objective (PWQO) for E. coli is 100 E. coli per 100 mL based on a geometric mean of at least 5 samples. The ECA effluent limit based on a monthly geometric mean density for E. coli is 200 organisms/100 mL. The ministry audit results showed the following concentrations: 1.9 mg/L as O<sub>2</sub> for BOD - carbonaceous (ECA effluent limit is 15 mg/L); 4.3 mg/L for suspended solids (ECA effluent limit is 15 mg/L); 0.279 mg/L for Nitrogen ammonia+ ammonium (ECA effluent limit is 14.0 mg/L); and 94.6 ug/L (0.0946 mg/L) for Total Phosphorus (ECA effluent limit is 0.3 mg/L). Please note that the ECA effluent limits are based on a monthly average concentration.

**Monitoring Requirements**

- **The sampling requirements were prescribed by the Environmental Compliance Approval.**

Condition 9 Monitoring and Recording of ECA No. 5671-AE7HFT states that the Owner shall, upon commencement of operation of the Works, carry out the following monitoring program:

- (1) All samples and measurements taken for the purposes of this Approval are to be taken at a time and in a location characteristic of the quality and quantity of the effluent stream over the time period being monitored.
- (2) For the purposes of this condition, the following definitions apply:

a. Weekly means once each week;

- (3) Samples shall be collected at the following sampling points, at the frequency specified, by means of the specified sample type and analyzed for each parameter listed and all results recorded:

Table 3 - Influent Monitoring: Weekly composite samples for BOD<sub>5</sub>, Total Suspended Solids (TSS), Total Phosphorus (TP), Total Kjeldahl Nitrogen (TKN)

Table 4 - Effluent Monitoring: Weekly composite samples for CBOD<sub>5</sub>, TSS, TP, Total Ammonia Nitrogen (TAN); Weekly grab samples for E. Coli, pH, Temperature; and weekly calculated samples for Unionized Ammonia.

The temperature and pH of the effluent from the Works shall be determined in the field at the time of sampling for Total Ammonia Nitrogen. The concentration of unionized ammonia shall be calculated using the total ammonia concentration, pH and temperature using the methodology stipulated in "Ontario's Provincial Water Quality Objectives" dated July 1994, as amended, for ammonia (unionized).

Condition 4(4) of ECA Number 5671-AE7HFT states that the Owner shall use best efforts to collect a representative sample consisting of a minimum of two (2) grab samples of the Bypass and have it analysed for parameters outlined in Condition 7 using the protocol specified in Condition 9, one at the beginning of the Event and the second approximately near the end of the Event, to best reflect the effluent quality of such Bypass. For a specific situation when the facility is unmanned during the Event, a composite sample of the Final Effluent is accepted.

Condition 5(4) of ECA Number 5671-AE7HFT states that for each Overflow Event, the Owner shall collect samples, representative of the Event, consisting of a minimum of two (2) grab samples of the Overflow, one at the beginning of the Event and one approximately near the end of the Event, and every 4 hours for the duration of the Event, and have them analyzed for effluent parameters outlined in Effluent Limits condition. For raw sewage and primary treatment system Overflow, BOD<sub>5</sub> shall be monitored instead of CBOD<sub>5</sub> and monitoring of E.coli is not required.

- **All sewage works effluent sampling requirements prescribed by the Environmental Compliance Approval were met.**

A review of the monitoring data and Annual Performance Reports for the inspection period showed that all sewage works effluent sampling requirements prescribed by the ECA are being met.

- **All sewage works influent (raw sewage) sampling requirements prescribed by the Environmental Compliance Approval were met.**

A review of the monitoring data and Annual Performance Reports for the inspection period showed that all sewage works influent sampling requirements prescribed by the ECA are being

**Monitoring Requirements**

met.

Please note that if there ever is an issue with the composite sampler for the raw sewage samples, that the operators should take a manual composite sample (i.e. grab samples taken typically taken at equally spaced time intervals and combined (composited) once all sub-samples have been collected) instead of a single grab sample.

It was reported that for raw wastewater samples, samples are taken every cubic metre to form a 24-hour composite sample.

The Daily In-House Analysis sheets showed that in-house tests are performed by operators in addition to the analysis being completed by a licensed laboratory.

- **All sampling requirements for the wastewater collection system prescribed by the Environmental Compliance Approval were met.**

Condition 5 Monitoring and Recording of ECA No. 5719-A6QSRS dated March 24, 2016 for Old Mill Road states that the Owner shall carry out the following monitoring program:

- (1) All samples and measurements taken for the purposes of this Approval are to be taken at a time and in a location characteristic of the quality and quantity of the effluent stream over the time period being monitored.
- (2) Samples shall be collected at the following sampling points, at the frequency specified, as soon as practical after the commencement of an event, by means of the specified sample type and analyzed for each parameter listed and all results recorded:

Table 1 - Effluent Monitoring at the existing outfall structure during discharge events from the overflow chamber located at the intersection of Old Mill Street and Maple Avenue, which is anticipated to occur during wet weather events

- CBOD5 - Grab sample every event
- Total Suspended Solids (TSS) - Grab sample every event
- Total Phosphorus (TP) - Grab sample every event
- Total Ammonia Nitrogen (TAN) - Grab sample every event
- E. Coli - Grab sample every event
- pH - Grab sample every event
- Temperature - Grab sample every event
- Unionized Ammonia - Calculated every event

In 2019, there were nine (9) CSO events at Old Mill Road. Note that 70% of the Town's infrastructure is combined sewers resulting in a large quantity of stormwater runoff entering the WPCP for treatment. The CSO events were due to heavy precipitation, with one CSO event due to sewer problems (it was reported that as part of the Beckwith St. reconstruction project, the contractor caused a blockage in the main collector, which caused the CSO event).

During the inspection period, samples were taken from the CSO Manhole during each CSO event and analyzed in accordance with ECA Number 5719-A6QSRS. It was reported that none of the CSO events at Old Mill Road were disinfected. It was reported that no samples were collected from the CSO outfall for the CSO events at Old Mill Road due to health and safety concerns. All the samples were taken from the CSO manhole for health and safety reasons.

In 2019, there were six (6) secondary bypass events at the WPCP and to date in 2020, there have been two (2) secondary bypass events at the WPCP. The secondary bypass events were due to heavy precipitation, snow melt or equipment maintenance. When the secondary treatment bypass events occurred, a portion of sewage only received primary treatment and then blended with the fully tertiary treated sewage at the final effluent chamber. During the secondary treatment bypass events, the final effluent was sampled and consisted of a combined final

### Monitoring Requirements

effluent of tertiary and primary treated effluent.

- **The owner had maintained the monitoring records for the period prescribed by the Environmental Compliance Approval.**

Condition 8(1) of ECA Number 5719-A6QSRS for the CSO at Old Mill Road states that the Owner shall retain for a minimum of five (5) years from the date of their creation, all records and information related to or resulting from the operation and maintenance activities required by this Approval.

Condition 2(c) of ECA Air Number 8-4041-93-006 for the exhaust system, standby diesel generator and the sludge pelletizer unit, states that the Town shall ensure that the Equipment is properly operated and maintained at all times and shall as a minimum retain, for a minimum of 2 years from the date of their creation, all records on the maintenance, repair and inspection of the Equipment.

It was reported that the Town has maintained for at least five (5) years from the date of their creation all operation and maintenance related records and monitoring records.

- **The owner had maintained the monitoring records since the date of the last inspection.**
- **All exceedances of any prescribed parameters were not reported in accordance with the Environmental Compliance Approval.**

Condition 11(1) of ECA Number 5671-AE7HFT states that the Owner shall report to the Water Supervisor orally as soon as possible any non-compliance with the effluent criteria, and in writing within seven (7) days of non-compliance.

In 2018, compliance was not met during the month of April for Total Suspended Solids (TSS) and TSS Loading. In April, the monthly average for TSS was 19.47 mg/L exceeding the effluent limit of 15 mg/L; and the TSS Loading was 369.5 kg/d exceeding the effluent limit of 220.5 kg/d. It was reported that the non-compliance was the result of the South Secondary Tank being out of service for 6 months due to extensive damage along with on-going secondary treatment bypasses due to high flows from snow melt and rain.

In April 2018, the Total Phosphorus (TP) Loading effluent limit was exceeded with a monthly average of 5.31 kg/d exceeding the limit of 4.40 kg/d.

In April 2018, the monthly geometric mean density of E. Coli was exceeded with a result of 519.94 organisms/100 mL. The effluent limit is 200 organisms/100 mL. The objective is 150 organisms/100 mL.

The non-compliance with the effluent limits in April 2018 were verbally reported to the MECP on June 20, 2018 with a written notification submitted on June 26, 2018 and a revised written notification submitted on July 11, 2018. The non-compliances occurred for the month of April 2018, but were not reported to the MECP until June 20, 2018. It was reported that the non-compliance was only realized when updating data. To prevent late notification from happening again, staff will be more diligent in monitoring data.

It was reported that conditional formatting was previously added to the annual performance assessment report spreadsheet to alert staff when there is a non-compliance with the effluent limits. It was also reported that a reminder has been placed in the Microsoft Outlook calendar one week following the last sample date for the previous month. It was reported that sample results are typically received in a week's time from the private laboratory.

In 2015, the monthly Geometric Mean Density for E. coli did not meet the limit of 200 colony forming units per 100 milliliter. During the month of June, there were six secondary treatment bypass events results from heavy rain.

**Reporting Requirements**

- **The reporting requirements were prescribed by an Environmental Compliance Approval.**

Condition 11 Reporting of ECA Number 5671-AE7HFT states the following:

(1) The Owner shall report to the Water Supervisor orally as soon as possible any non-compliance with the effluent criteria, and in writing within seven (7) days of non-compliance.

(2) In addition to the obligations under Part X of the Environmental Protection Act, the Owner shall, within ten (10) working days of the occurrence of any reportable spill as defined in Ontario Regulation 675/98, bypass or loss of any product, by-product, intermediate product, oil, solvent, waste material or any other polluting substance into the environment, submit a full written report of the occurrence to the Water Supervisor describing the cause and discovery of the spill or loss, clean-up and recovery measures taken, preventative measures to be taken and schedule of implementation.

(3) The Owner shall, upon request, make all manuals, plans, records, data, procedures and supporting documentation available to Ministry staff.

(4) The Owner shall prepare and submit a performance report to the Water Supervisor on an annual basis, by March 31 of the year following the end of the period being reported upon. The first such report shall cover the first annual period following the commencement of operation of the Works and subsequent reports shall be submitted to cover successive annual periods following thereafter. The reports shall contain, but shall not be limited to, the following information:

- a summary and interpretation of all monitoring data and a comparison to the effluent limits outlined in Condition 7, including an overview of the success and adequacy of the Works;
- a description of any operating problems encountered and corrective actions taken;
- a summary of all maintenance carried out on any major structure, equipment, apparatus, mechanism or thing forming part of the Works;
- a summary of any effluent quality assurance or control measures undertaken in the reporting period;
- a summary of the calibration and maintenance carried out on all effluent monitoring equipment; and
- a description of efforts made and results achieved in meeting the Effluent Objectives of Condition 6.
- a tabulation of the volume of sludge generated in the reporting period, an outline of anticipated volumes to be generated in the next reporting period and a summary of the locations to where the sludge was disposed;
- a summary of any complaints received during the reporting period and any steps taken to address the complaints;
- a summary of all By-pass, spill or abnormal discharge events;
- a copy of all Notice of Modifications submitted to the Water Supervisor as a result of Schedule B, Section 1, with a status report on the implementation of each modification;
- a report summarizing all modifications completed as a result of Schedule B, Section 3; and
- any other information the Water Supervisor requires from time to time.

(5) The Owner shall, within thirty (30) calendar days of issuance of this Approval, submit a Municipal and Local Services Board Wastewater System Profile Information Form, and shall resubmit the updated document every time a notification is provided to the Water Supervisor in compliance with requirements of change of ownership under this Approval.

- **All annual performance reports did not meet the submission and contents requirements of the Environmental Compliance Approval.**

Condition 11(4) Reporting of ECA Number 5671-AE7HFT states that the Owner shall prepare and submit a performance report to the Water Supervisor on an annual basis, by March 31 of the year following the end of the period being reported upon. The first such report shall cover the first annual period following the commencement of operation of the Works and subsequent reports shall be submitted to cover successive annual periods following thereafter. The reports shall contain, but shall not be limited to, the following information:

**Reporting Requirements**

- a. a summary and interpretation of all monitoring data and a comparison to the effluent limits outlined in Condition 7, including an overview of the success and adequacy of the Works;
- b. a description of any operating problems encountered and corrective actions taken;
- c. a summary of all maintenance carried out on any major structure, equipment, apparatus, mechanism or thing forming part of the Works;
- d. a summary of any effluent quality assurance or control measures undertaken in the reporting period;
- e. a summary of the calibration and maintenance carried out on all effluent monitoring equipment; and
- f. a description of efforts made and results achieved in meeting the Effluent Objectives of Condition 6.
- g. a tabulation of the volume of sludge generated in the reporting period, an outline of anticipated volumes to be generated in the next reporting period and a summary of the locations to where the sludge was disposed;
- h. a summary of any complaints received during the reporting period and any steps taken to address the complaints;
- i. a summary of all By-pass, spill or abnormal discharge events;
- j. a copy of all Notice of Modifications submitted to the Water Supervisor as a result of Schedule B, Section 1, with a status report on the implementation of each modification;
- k. a report summarizing all modifications completed as a result of Schedule B, Section 3; and
- l. any other information the Water Supervisor requires from time to time.

The 2015-2019 Annual Reports for the Smiths Falls Water Pollution Control Plant (WPCP) were received by the Ministry by March 31 of each year. The Annual Reports for the Smiths Falls WPCP met most of the submission and content requirements of the ECA.

The 2019 Annual Performance Report for the Smiths Falls WPCP was submitted to the MECP on March 27, 2020 and met the submission and content requirements of the ECA, except that Sections 4.2 of the 2019 Performance Report did not indicate that the effluent objective of 6.5 to 8.5 for pH was not met in June 2019 and July 2019. The monthly minimum pH in June 2019 was 6.29 and the monthly minimum pH in July 2019 was 6.14, both below the effluent objective range. The Owner was advised of the error and will make note of it for future annual performance reports.

The 2018 Annual Performance Report for the Smiths Falls WPCP was submitted to the MECP on March 25, 2019. It was noted that Sections 4.2 & 6.0 of the 2018 Annual Report did not indicate that the effluent objective of 0.25 mg/L for Total Phosphorus (TP) concentration was not met in April 2018.

There were a few issues that were not identified in the 2017 Performance Report for the Smiths Falls WPCP, including that the WPCP did not meet the Effluent Objective for TSS in 2017 and the annual average daily flow was greater than 80% (84%) of the rated capacity for the WPCP.

Condition 6 of ECA Number 5719-A6QSRS for CSO Old Mill Road states:

- (1) The Owner shall prepare, and submit to the Water Supervisor, a performance report, on an annual basis, within ninety (90) days following the end of the period being reported upon. The reports shall contain, but shall not be limited to, the following information:
  - (a) a summary and interpretation of all monitoring data, including an overview of the success and adequacy of the Works;
  - (b) a description of any operating problems encountered and corrective actions taken; (c) a summary of all maintenance carried out on any major structure, equipment, apparatus, mechanism or thing forming part of the Works;
  - (d) a summary of any complaints received during the reporting period and any steps taken to address the complaints;
  - (e) any other information the Water Supervisor requires from time to time.

**Reporting Requirements**

The Annual Performance Reports for the Old Mill Road Sewage Works CSO (overflow chamber) were received by the Ministry by March 31 of each year, and the annual reports met the submission and content requirements of ECA Number 5719-A6QSRS. The 2019 Annual Performance Report for the Old Mill Road Sewage Works CSO was submitted on March 30, 2020 and the 2018 Annual Performance Report for the Old Mill Road Sewage Works CSO was submitted on March 7, 2019.

The 2015-2019 Annual Summary Reports for the Smiths Falls Wastewater Collection System (WWCS) were received by the Ministry by March 31 of each year. The 2019 Annual Summary Report for the Smiths Falls Wastewater Collection System submitted on February 12, 2020, met the requirements of the Certificate of Approvals issued to the Town of Smiths Falls for storm and sanitary sewer mains.

Each year, it is a requirement that the Owner submit an annual summary report for the previous calendar years activities for the below Certificate of Approvals (ECAs). The Annual Summary Report is prepared in accordance with the following ECAs for the Town of Smiths Falls Wastewater Collection System. There have been no additions or changes with regards to the other Approvals noted below:

- 3-0970-97-007 August 20, 1997 Storm & Sanitary
- 3-1167-96-006 October 21, 1996 Storm & Sanitary
- 3-0113-95-006 March 5, 1995 Storm & Sanitary
- 3-0397-94-006 May 11, 1994 Storm & Sanitary
- 3-0204-94-006 April 5, 1994 Storm & Sanitary
- 3-0292-93-006 May 7, 1993 Storm & Sanitary
- 3-1388-92-006 December 2, 1992 Storm & Sanitary

- **All other reporting requirements prescribed by the Environmental Compliance Approval were met.**

Condition 11(5) of ECA Number 5671-AE7HFT states that the Owner shall, within thirty (30) calendar days of issuance of this Approval, submit a Municipal and Local Services Board Wastewater System Profile Information Form, and shall resubmit the updated document every time a notification is provided to the Water Supervisor in compliance with requirements of change of ownership under this Approval.

On April 29, 2020, the Owner submitted to the Ministry an updated Wastewater Profile Information form for the Town of Smiths Falls (Works #120000890).

In addition to the reporting requirements specified in the Environmental Compliance Approvals, the Town also submits Municipal Utility Monitoring Program (MUMP) reports to the Ministry on a routine basis.

- **The owner/operator maintained a logbook and/or records of all bypasses/overflows which occurred from any portion of the sewage works in accordance with the Environmental Compliance Approval.**

Condition 4(2) of ECA Number 5671-AE7HFT states that for any Bypass Event, the Owner shall forthwith notify the Spills Action Centre (SAC), and the local Medical Officer of Health. This notice shall include, at a minimum, the following information for each Event:

- a. the date(s), time(s) of the Bypass(es);
- b. the treatment process(es) Bypassed and the status of the disinfection;
- c. the reason(s) for the Bypass(es).

(3) After any Bypass Event, the Owner shall collect and record the following information:

- a. the duration of the Bypass Event;
- b. the measured or the estimated volume of Bypass(es) for each Event.

Condition 5(2) of ECA Number 5671-AE7HFT states that for any Overflow Event, the Owner shall forthwith notify the Spills Action Centre (SAC) and the local Medical Officer of Health. This notice shall include, at a minimum, the

### Reporting Requirements

following information for each Event:

- a. the date(s), time(s) of the Overflow(s);
  - b. the location(s) of the Overflow(s) and the receiver;
  - c. the reason(s) for the Overflow(s); and
  - a. the level of treatment the Overflow(s) has received and disinfection status of same.
- (3) After any Overflow Event, the Owner shall collect and record the following information:
- a. the duration of the Overflow Event;
  - b. the monitored or estimated volume of the Overflow(s); and
  - c. the impact of Overflow(s) on the receiver.

It was reported that all bypasses are recorded in the WPCP Operations Log Book. A review of the WPCP Operations Log Book documents the bypasses - reporting of the bypasses and samples taken, including the date and time for reporting of the bypass to the Ministry's Spills Action Centre, bypass start time, Incident Report #/AWQI #, bypass sampling, bypass end time.

It was noted that the On Call Log Book (bound record book with an operator legend) documents alarm calls, date, time, initials, alarm condition, action taken, channel numbers, details (high flows, CSO tank level, bypass flows, bypass starting), and also indicates if there were no calls.

It was reported that the operators also complete a "Secondary Treatment By-pass Event Reporting" form that is submitted to the Ministry and the report includes the date reported to SAC, time reported to SAC, name of person contacted at SAC, name of operator reporting event, incident number, date bypass started, start time of bypass, date bypass stopped, end time of bypass, total duration (hours & minutes), maximum flow (L/s), total volume (m<sup>3</sup>), treatment received, reasons / contributing factors (heavy precipitation, snow melt, equipment maintenance, equipment failure, sewer problems, power failure, exceed design capacity), receiving water, downstream users, samples collected (yes/no and in-house/ laboratory), chain of custody #, health unit notified, notes (CSO tank full, south primary clarifier out of service for maintenance), form started by/form completed by and Manager/ORO Signature. It was noted that the Town's Secondary Treatment Bypass Event Reporting Form includes the authority for the Bypass pursuant to Condition 4 (1) (a) of the ECA.

The Combined Sewer Overflow Event Reporting Forms submitted to the Ministry include the date and time reported to the Ministry (SAC), name of person contacted at SAC, operator reporting event, Ministry Incident Number, date of event, location (CSO @17 Old Mill Rd), start and end times of event, single or multiple event, receiving water, total duration (hours), maximum flow (L/s), total flow (m<sup>3</sup>), treatment received, type of bypass (manhole supercharging, combined sewer overflow), reasons / contributing factors (heavy precipitation, snow melt, equipment maintenance, sewer problems), samples collected, form started/ completed by, notes, and supervisor signature and date. The CSO Event log sheets state "report all CSO events immediately" and records the date, time, temp., weather conditions, overflow Y/N, flow level, operator name and ORO signature & date (flow level ").

It was reported that sewage spills to the road / ground can occur at the Sewage Pumping Stations, but that the only overflow is at the Old Mill Road CSO.

### Bypasses and Overflows

- **Bypasses/overflows had occurred at the sewage works during the inspection period.**

In 2019, there were a total of 6 secondary treatment bypass events, which lasted for a total duration of 121.86 hours and a total volume of 27,114 m<sup>3</sup> treated. In 2018, there were a total of 9 secondary treatment by-passes with a total bypass volume of 597,430 m<sup>3</sup>. One of these bypasses was a planned bypass, from which the Town received MECP approval to initiate a bypass in order to perform maintenance. In 2017, there were a total of 7 secondary treatment bypass events (volume of 317,655 m<sup>3</sup>). In 2016, there were 5 secondary treatment bypass events (volume of 23,280 m<sup>3</sup>). All secondary treatment bypass events were reported verbally and in writing to the MECP SAC. It was reported that the bypass incidents were due to either Heavy Precipitation; Snow Melt; and/or

### Bypasses and Overflows

Equipment Maintenance. Agencies notified via fax include SAC, and the Leeds, Grenville and Lanark District Health Unit. Samples of the bypass events were collected and sent to the Town's accredited laboratory. It was reported that if samples cannot make it to the laboratory due to sample holding times, in-house samples are collected. An operator at the WPCP will then test the bypass samples in-house for TSS & TP. However, every effort is made to have each bypass event sampled in accordance with the ECA, this could include driving samples to the laboratory or couriering them. There can be no raw sewage bypasses to the environment at the WPCP. All wastewater entering the facility receives at a minimum, preliminary treatment, grit removal and primary treatment along with UV irradiation and blending with the secondary and tertiary effluent wastewater stream before discharge to the Rideau River.

Excessive storm water/snow melt flows are handled by temporary storage in the Combined Sewer Overflow Tank (CSO) at the WPCP. The capacity of the tank is approximately 4,000 cubic metres (m<sup>3</sup>) or 4 million litres. Flows exceeding the capacity of the CSO tanks will bypass secondary treatment (aeration and tertiary) via the bypass pipe and then blend with process flow which has received aeration, secondary clarification and filtration. This blended flow of bypass and process wastewater passes through UV disinfection before discharge to the Rideau River.

There was one MECP approved planned bypass during the inspection period for the UV upgrade (Oct. 1/18-Nov. 2/18).

It was reported that the WPCP SCADA system continuously records the bypass flows, secondary flows, secondary bypass flows, CSO tank discharge flows and CSO level. It was reported that the CSO tank has reduced the number of secondary treatment bypasses.

In 2019, it was reported that there were 9 Combined Sewer Overflows (CSO) events at the Old Mill Road CSO location with 2,294.7 m<sup>3</sup> of untreated wastewater discharged to the Rideau River. In 2018, there were 13 CSO events at the Old Mill Road CSO location with 2,351.40 m<sup>3</sup> of untreated wastewater discharged to the Rideau River. In 2017, there were 13 CSO events at the Old Mill Road CSO location with 14,249 m<sup>3</sup> of untreated wastewater discharged to the Rideau River. In 2016, there were a total of 8 CSO events at the Old Mill Road CSO location. All CSO incidents at the Old Mill Road CSO were reported to the MECP's SAC and to the Leeds, Grenville & Lanark District Health Unit. It was reported that the CSO incidents were due to Heavy Precipitation, with one exception. In November 2019, as part of the Beckwith St. reconstruction project, the contractor caused a blockage in the main sewer collector, the obstruction was cleared and the sewer line began running normal (Incident Report #6326-BJ9MHJ). No further action was required.

An alarm will be generated when a CSO event is triggered. This alarm will notify the Public Works Supervisor via an automatic dialer. The Supervisor will then dispatch an on-call wastewater collection system operator to attend the site and to collect samples of the event. It was reported that the alarm system is tested annually. A flow monitoring device is installed at the overflow weir to record all CSO events. The data includes such items as dates, times, temperature, m<sup>3</sup>/sec, CSO duration and total flow. Samples were taken from the CSO Manhole during each event and analyzed in accordance with ECA Number 5719-A6QSRS. No samples were taken from the CSO outfall due to health and safety concerns.

In 2018, samples were taken during each event and analyzed in accordance with ECA Number 5719-A6QSRS, with the following exceptions:

- Event #3: No CBOD5 result, insufficient sample volume bottle only filled half way;
- Event #4: No E. Coli results as bottle not provided to operator for sampling;
- Event #11: No CSO event, alarm triggered by some unknown cause, upon arrival the operator did not notice any evidence of an overflow. After down loading of the CSO data, the logger did not show that a CSO event occurred.

The CSO at Old Mill Road is the only location in the wastewater collection system with the capability to overflow

**Bypasses and Overflows**

raw sewage as it consists of an overflow weir located in an overflow chamber to direct wet weather events 1,589 L/s to the combined sewer located across the intersection of Old Mill Road and Maple Avenue, and convey flows above the 1,589 L/s to the storm sewer located along Old Mill Road.

- **For all bypasses/overflows which occurred from the sewage treatment plant, samples were collected and analyzed in accordance with the Environmental Compliance Approval.**

Condition 5(2) of ECA Number 5719-A6QSRS for Old Mill Street CSO states that samples shall be collected at the following sampling points, at the frequency specified, as soon as practical after the commencement of an event, by means of the specified sample type and analyzed for each parameter listed and all results recorded:

Table 1 - Effluent Monitoring at the existing outfall structure during discharge events from the overflow chamber located at the intersection of Old Mill Street and Maple Avenue, which is anticipated to occur during wet weather events

CBOD5 - Grab sample every event  
 Total Suspended Solids (TSS) - Grab sample every event  
 Total Phosphorus (TP) - Grab sample every event  
 Total Ammonia Nitrogen (TAN) - Grab sample every event  
 E. Coli - Grab sample every event  
 pH - Grab sample every event  
 Temperature - Grab sample every event  
 Unionized Ammonia - Calculated every event

Condition 5(4) of ECA Number 5719-A6QSRS states the temperature and pH of the effluent from the Works shall be determined in the field at the time of sampling for Total Ammonia Nitrogen. The concentration of un-ionized ammonia shall be calculated using the total ammonia concentration, pH and temperature using the methodology stipulated in "Ontario's Provincial Water Quality Objectives" dated July 1994, as amended, for ammonia (un-ionized).

It was reported that samples are taken from the manhole during CSO events at Old Mill Road, and that samples are only taken from the outfall when 2 operators are available as it is not safe to do so otherwise, and when safe conditions exist (i.e. when it's not raining). It was reported that there is a PVC pipe located inside the pipe next to the outfall and that the overflow weir catches the overflow so that samples can be taken. It was also reported that a make shift sampler (bucket) is set up to collect samples if an operator doesn't make to the site before the CSO event ends. It was reported that all CSO samples taken during the inspection period were taken from the manhole and that samples are taken for every CSO event.

Condition 4(4) of ECA Number 5671-AE7HFT for the Smiths Falls WPCP states the Owner shall use best efforts to collect a representative sample consisting of a minimum of two (2) grab samples of the Bypass and have it analysed for parameters outlined in Condition 7 using the protocol specified in Condition 9, one at the beginning of the Event and the second approximately near the end of the Event, to best reflect the effluent quality of such Bypass. For a specific situation when the facility is unmanned during the Event, a composite sample of the Final Effluent is accepted.

Grab samples of the Bypass events were taken in accordance with the ECA during the inspection period.

- **Disinfection was provided in accordance with the Environmental Compliance Approval for all bypasses/overflows which occurred from any portion of the sewage works.**

It was reported that at the WPCP the primary effluent is discharged to the CSO tank bypassing aeration tanks and secondary treatment; and that the secondary bypass effluent is blended with the final effluent in the UV channel and it is disinfected by the UV light system before being discharged to the Rideau River. Disinfection was provided in accordance with the ECA for all bypasses which occurred from the WPCP, with the exception of the planned

**Bypasses and Overflows**

bypass of the UV disinfection system in order to replace the UV disinfection system. It was indicated that the planned bypass was necessary to facilitate the replacement of existing UV reactors with newer, more reliable and serviceable models. In correspondence dated November 20, 2017, the MECP provided consent to the proposed actions cited in R.V. Anderson Associates Limited's Technical Memorandum and Preliminary Design Report provided to the ministry on November 15, 2017, as augmented by clarifications contained within the correspondence dated November 20, 2017 and April 25, 2018.

It was reported that none of the CSO events at Old Mill Road that occurred in during the inspection period were disinfected.

- **Notices and written reports of all bypasses/overflows were provided to the Ministry in accordance with the Environmental Compliance Approval.**

Condition 4(5) of ECA Number 5671-AE7HFT states that the Owner shall submit a summary report of the Bypass Event(s) to the Water Supervisor on a quarterly basis, no later than each of the following dates for each calendar year: February 15, May 15, August 15, and November 15. The summary reports shall be in an electronic format, which shall contain, at a minimum, the types of information set out in Subsections (2), (3) and (4) for Bypass(es). The Water Supervisor may modify the reporting frequency at any time in writing.

Condition 4(2) b of ECA Number 5671-AE7HFT states where the Bypass is a direct and unavoidable result of a planned maintenance procedure or other circumstance(s), the Owner having notified the Water Supervisor at least fifteen(15) days prior to the occurrence of Bypass, including an assessment of the potential adverse effects on the environment and the anticipated duration of the Bypass and the mitigation measures, and the Water Supervisor has given written consent of the Bypass.

Written reports of all bypasses, including the planned UV bypass were provided to the Ministry in accordance with the ECA. The Town submitted to the Ministry a "Secondary Treatment ByPass Event Reporting" and "Combined Sewer Overflow Event Reporting Form" for all bypasses and overflow events.

Quarterly summary reports of the bypass events were submitted to the Ministry in accordance with the ECA.

The Town submitted a Bypass Report excel spreadsheet to the MECP on February 11, 2019, May 16, 2019, August 8, 2019, November 14, 2019 and February 7, 2020. The Bypass Reporting spreadsheet contains all the information required by Condition 4 (5) of the ECA.

The Town submitted the 2019 MUMP reports for January to September to the MECP on November 19, 2019 and the 2019 MUMP reports for October to December to the MECP on February 28, 2020.

The Town submitted the 2018 MUMP reports to the MECP on March 14, 2019.

The Town submitted a Bypass Report excel spreadsheet to the MECP on February 11, 2019, November 15, 2018, August 15, 2018 and June 11, 2018. The Bypass Reporting spreadsheet contains all the information required by Condition 4 (5) of the ECA. The bypass report submitted on June 11, 2018, was submitted late as it was due May 15, 2018. It was reported that the Town added/adjusted Outlook Calendar reminders so that they do not miss the required dates.

- **All required verbal notifications of spills were provided forthwith as per O. Reg. 675/98 section 13.**

Condition 11(2) of ECA Number 5671-AE7HFT states that in addition to the obligations under Part X of the Environmental Protection Act, the Owner shall, within ten (10) working days of the occurrence of any reportable spill as defined in Ontario Regulation 675/98, bypass or loss of any product, by-product, intermediate product, oil, solvent, waste material or any other polluting substance into the environment, submit a full written report of the occurrence to the Water Supervisor describing the cause and discovery of the spill or loss, clean-up and recovery

**Bypasses and Overflows**

measures taken, preventative measures to be taken and schedule of implementation.

All discharges and spills that would require a notification under Section 13 of Ontario Regulation 675/98 were provided forthwith to SAC after the Owner became aware of the condition. The required information was provided.

O. Reg. 675/98 Section 10 defines a Class X Spills as non-reportable spills (e.g. small chemical spills on-site at the Plant that can be easily remediated). O. Reg. 675/98 Class IV Planned Spills are exempt from the requirement to provide forthwith notification under Section 92 of the EPA. Many bypasses and overflows may be considered to be spills or discharges. Note that dry-weather events are considered spills; a discharge of a contaminant that is out of the normal course of events and causes or is likely to cause an adverse effect is a reportable discharge under subsection 15(1) of the EPA); a discharge of a pollutant that is abnormal in quality or quantity in light of all the circumstances of the discharge is a reportable spill as per subsection 92(1) of the EPA.

**Wastewater Collection Systems**

- **The plant received sewage from a combined sewer collection system.**

It was reported that approximately >70% of the wastewater collection system is combined sewers.

The installation of the CSO Tank at the Smiths Falls WPCP has reduced the number of secondary treatment bypasses and the works to be completed at Old Mill Road overflow is anticipated to reduce the number of raw sewage overflows.

The Town continues with their efforts in the wastewater collection system with a cleaning and flushing program, CCTV program, manhole checks and sealing, sewer separation, sewer relining, installation of stormceptors, CSO monitoring, and identifying high risk areas and sewer replacements. The Town conducts annual flushing and cleaning of the wastewater collection system and camera (CCTV) of all sewer lines on a 4-5 cycle, with spot checks of sewers conducted for flows on a regular basis (typically daily, but depends on staffing).

- **The Pollution Prevention and Control Plan (PPCP) is being implemented.**

The Town of Smiths Falls Pollution Prevention and Control Plan (PPCP) Technical Report dated December 2007 was prepared by TSH. It was reported that that the plan is being implemented.

It was reported that the Town includes a yearly update on the Town's PPCP in the wastewater collection system annual summary report.

The Town has a capital forecast to assist in the upgrading of their system. The Town has utilized both staff visual assessments and Closed Circuit Television (CCTV). The entire collection system has been CCTV'd with continued spot checks every year. Flushing of the WWCS is conducted annually with certain sections of the system done each year by Clean Water Works, who removes the debris from the system and take it to their own site for disposal. It was reported that spot checks of the sewers are conducted weekly by operators for flows. In 2019, approximately 14 tonnes of material was removed from the North East quadrant of Town (Alexander – Chambers / Rideau to Eimsley). In 2018, approximately 21 tonnes of material was removed from the North East quadrant of Town (Alexander – Chambers / Rideau to Eimsley). In 2017, approximately 10,000 m of combined sewers were cleaned and 5 tonnes of material was removed from the WWCS. In 2016, approximately 14 tonnes of material was removed from the WWCS. In 2015, approximately 8.51 tonnes of material was removed from the WWCS.

In 2018, ECA Number 3-0113-95-006 Lorne St. asbestos cement sanitary sewer received a new structural liner, all service laterals were replaced as well as a new storm sewer installed. This project was all funded through the Clean Water and Wastewater Funding grant.

**Wastewater Collection Systems**

The following work/maintenance was completed at the CSO Old Mill Road during the inspection period:

- Work to repair the outfall and placement of an oil grease separator began in the Fall of 2015, and Phase 2 was completed in the Spring of 2019;
- Phase 1 works will be completed at a later date due to property revitalization plans and improvements to the area of the outlet. Decisions on where improvements are to be made are on-going at this time. Original works planned were to connect to the existing 750mm Corrugated Steel Pipe (CSP) culvert outlet a new 1050 mm concrete pipe/arch and a 2400 mm by 1800 mm manhole on the west side of Old Mill Road. Along with a 1200 mm manhole on the east side of Old Mill Road for sampling access as well as catch basin improvements in the area.
- Phase 2 works (oil and grit separator 2) involved work higher up on Old Mill Road adjacent to a Municipal storage building where a storm water treatment unit will be installed as per Tender 18-PW-013. Construction and completion of Phase 2 was accomplished in the Spring of 2019. The new storm water treatment unit is to capture storm water from the Strathcona Street area storm sewer. Work also include the removal of an existing concrete box chamber and the termination of a bypass pipe from the new sanitary sewer realignment. A section of a 150mm ductile watermain was be relocated to facilitate the installation of the new Vorteck 16000 treatment unit. As noted in the ECA, another oil and grit separator is indicated for placement to treat storm water flows from upstream in the Maple/Main area will be placed at a later date when new storm sewers are placed at this location.

The following is some of the maintenance work that was completed at the WPCP during the inspection period:

- Wet well cleaning (2019)
- CSO cleanout (2019)
- CWW on-site to clean out wet wells at Centre Street Pumping Station (every year).

The annual performance reports include details on the maintenance activities performed in the WWCS, CSO Old Mill Road and at the WPCP each year.

Completion of the CSO Tank at the WPCP in 2011 has reduced bypasses. Yearly CCTV and flushing on the wastewater collection system, along with wet wells being cleaned out has been a standard practice. Problem areas identified in the CCTV are part of the consideration of the condition rating and where repairs are needed.

It was advised that the 2015 Sewer Use Bylaw has not been updated, but that the Town is reviewing it.

The Town must continue in their efforts to implement the Town's PPCP and in their efforts to reduce the number of overflows and bypasses. It was reported that the Town is limited in completing the works necessary to further reduce the number of bypasses and overflows due to budgetary constraints and the lack of funding. The Town must continue to apply for funding to complete the necessary works to reduce the number of bypasses and overflows. It is recommended that the Town continue to request letters of support from the Ministry in their attempts to secure funding.

A progress report of the implementation of the Town's PPCP is needed.

The plans for 2020 at the WPCP include engineering for SCADA system upgrade (Bristols, SCADA packs); engineering for the bar screens; mixing tank gear assembly is almost completed; refurbishment of sewage lift pumps done on an annual basis); and taking the tanks down for inspection and cleaning.

- A characterization study had been undertaken.

**Biosolids Management**

- The facility did not receive sludge or biosolids from another location.

### Biosolids Management

It was reported that the Smiths Falls WPCP did not receive septage (holding tank waste and portable toilet waste) from septic haulers. Septage receiving was suspended due to primary sludge accumulation/depths.

In 2018, the Town of Smiths Falls was approached by the Village of Westport seeking permission to discharge final lagoon wastewater into their collection system in early 2018 (January and February). Westport had previously discharged in Smiths Falls in 2014, 2015 and 2016; this was a repeat of what occurred in those years (breakdown of the snofluent plant and high wastewater levels in lagoons). A total of 8,764 cubic meters of wastewater was discharged and treated at the WPCP.

On December 24, 2015 the Town of Smiths Falls was approached by the Village of Westport seeking permission to discharge final lagoon wastewater into our collection system in early 2016 (January). Westport had discharged in Smiths Falls in 2014 and 2015; this was a repeat of what occurred in those years (breakdown of snofluent plant and high wastewater levels in lagoons). Similar plans and contingencies were put in place for 2016. There were two different discharge periods between January 20, 2016 and the end of April 2016. A total of 36,811 cubic meters of wastewater was discharged and treated at the WPCP.

- **Records confirm that biosolids were transferred to a Ministry approved facility for disposal or utilization.**

Sludge from the primary treatment process is pumped into one of two (2) 75 m<sup>3</sup> underground sludge storage tanks, the two tanks equalize through a common connection. The sludge is conveyed from the storage tanks to a belt filter press. The press produces a sludge cake. The dewatered sludge is fed to a single train sludge dryer and pelletizer process to produce a granulated dried sludge. The sludge pellets are recognized as a fertilizer product by the Canadian Food Inspection Agency (CFIA) and are regulated under the Federal Fertilizer Act. These pellets are sold to area farmers and, as such the marketed fertilizer pellets are used for agricultural (excluding crops for human consumption) or horticulture.

In 2019, approximately, 15,496.5 cubic meters of sludge was processed. Sludge generation is not anticipated to increase during the next reporting period. The sludge generated is processed into pellets which are in turn sold to TerraPure Environmental to facilitate sales for farmers to spread on their fields as fertilizer. Exact locations of the farmers' disposal sites (fields) are decided by the farmer. The pellets do not need to go to an OWRA, EPA or NMA approved facilities. Approximately, 15,378 cubic meters of sludge was processed in 2018. Approximately, 14,758.9 cubic meters of sludge was generated in 2017. Approximately 15,108 cubic meters of raw primary sludge was generated in 2016.

In the event that primary sludge must be hauled offsite, arrangements have been made with the Robert O. Picard Environmental Center (ROPEC) in Ottawa. The Town submits monthly sludge results to ROPEC. As well, processed cake can be shipped to a waste site operated by TerraPure Environmental. Only MECP approved and licensed haulers are be used to transport the sludge or cake.

It was reported that the pelletizer was not working in 2015 due to an issue with the heat exchanger. It was reported that the Town hauled sludge cake to Third High Farms (TerraPure) in 2015. Please note that Third High Farms was sold to Terrapure Environmental. Third High Farms/TerraPure is an MECP approved waste disposal site.

It was reported that if the pelletizer belt press is still operational then the Smiths Falls WPCP would ship cake, but if that part of the process is not working, then they would ship raw primary sludge (pump sludge out of the tanks). Testing is conducted by Caduceon Environmental Laboratories and A&L Canada Laboratories Inc. which are accredited laboratories. It was reported that in-house testing is conducted by operators for volatiles (% volatiles) on the sludge, cake, pellets, mixed liquor and return activated sludge; 30 minute settling; SVI; Suspended Solids; Total Phosphorus on the raw sewage, final effluent, primary clarifier, and mixed liquor; Dissoived Oxygen on the aeration tanks; and pH and temperature on multiple treatment processes.

The Town also maintains a "Self-Monitoring Submission Form - Sludge" documenting the sample date, test date

**Biosolids Management**

and test results for total solids, volatile solids, pH, nitrogen to metals ratio, aerobic metals, metals concentrations, aluminum, total phosphorus and BOD. The form includes the pass requirement and indicates a pass or fail. This form is submitted to the City of Ottawa as a requirement for the Town's Special Discharge Agreement - Sludge to discharge sludge at ROPEC in the event of equipment failure.

Every 10th bag of pellets and once every quarter pellet samples are sent to A&L Labs for analysis.

- **Records confirm that biosolids were transported for disposal or utilization by Ministry approved haulers.**
- **The owner of the facility had written contingency plans or other management methods in place to be used in the event that the facility's sludge storage capacity was not sufficient.**

It was reported that the Town's sludge storage capacity at the WPCP is 150 m<sup>3</sup> in the sludge storage tanks plus the volume of sludge that can be held in the primary tanks. The primary tanks have a depth of 3.72 m; however, sludge can be stored to possible depth of 3.62 m. It was advised that sludge from the primary tanks is discharged into one of two (2) 75 m<sup>3</sup> underground sludge storage tanks. The sludge storage tanks are connected by an overflow pipe allowing both tanks to fill resulting in 150 m<sup>3</sup> of active storage.

It was advised that the pelletizer can operate at any depth of primary sludge as long as there is sludge available. Optimal depth of sludge in the primary tanks is 0.5 to 1 meter.

The Town's contingency plan in the event that their sludge capacity is insufficient is to haul sludge to the City of Ottawa's Robert O. Pickard Environmental Centre (ROPEC). It was reported that the Town has a Special Discharge Agreement - Sludge with the City of Ottawa's ROPEC in the event that the pelletizer breaks down and that the agreement is automatically renewed each year. As part of the agreement, even during the months when sludge is not being discharged at the ROPEC, monthly primary sludge results must still be forwarded to the Sewer Use Program. Analysis must be completed for 19 parameters; and the "Self Monitoring Submission Form - Sludge", along with copies of the Certificate of Analysis are to be submitted to the Sewer Use Program on a monthly basis.

It was reported that monthly tests of the raw primary sludge are conducted for all of the required parameters, with the exception of E. coli.

The final pelletized product (pellets) is sampled twice a month (bi-weekly) for bulk density, Fecal Coliform, and Salmonella spp. and quarterly for metals, PCBs, volatile solids, and nutrients in accordance with the requirements of the CFIA. The analysis is conducted by an accredited licensed laboratory.

**Certification and Training**

- **The classification certificates of the subsystems were conspicuously displayed at the workplace or at premises from which the subsystem was managed.**

The Smiths Falls Water Pollution Control Plant (WPCP) is classified as a Class IV (4) Wastewater Treatment System, Facility Number 12000890, issued on February 4, 1993. The facility classification certificate along with the operator certificates are posted on the wall inside the main hallway at the WPCP.

The Town of Smiths Falls Wastewater Collection System (WWCS) is classified as a Class II (2) system, Certificate Number 2603, issued on October 17, 1997; and the operator and facility classification certificates are displayed on the walls inside the hallway of the main entrance to the Works & Utilities offices.

- **Operator licences were displayed in a conspicuous location at the workplace or at the premises from which the subsystem was managed.**
- **The overall responsible operator had been designated for the wastewater treatment and collection works.**

### Certification and Training

The Town provides the overall operation of the Works with an operator who holds a licence that is applicable to that type of facility and that is of the same class as or higher than the class of the facility in accordance with Ontario Regulation 129/04. If the designated overall responsible operator (ORO) is absent or unable to act, an operator who holds a licence that is applicable to that type of facility and that is not more than one class lower than the class of the facility may be designated as overall responsible operator. Please note that a person who holds an operator-in-training (OIT) licence cannot act as an operator-in-charge (OIC) or to be designated as overall responsible operator.

It was previously reported that effective February 1, 2019, the Manager Water/Wastewater Treatment for the Town of Smiths Falls is designated as the ORO for the Smiths Falls WPCP. JWWC (Joynt Water Wastewater Compliance) will be Back up ORO until March 29, 2019 and this designation, if required as Primary ORO at any point in time will be presented in writing so that all personnel are aware of the change. This will also be true moving forward for any change to the ORO responsibilities as they will be in writing and distributed to all Water Wastewater Treatment employees so they are aware of who is assuming the Overall Reasonable Operator position for the Town of Smiths Falls and so that they know who to contact if required. The Manager Water/Wastewater Treatment holds a valid Class 4 Wastewater Treatment Facility (WWT) operator licence and a valid Class 3 Wastewater Collection (WWC) operator's certificate.

Previous to February 1, 2019 for the inspection period, the Water & Wastewater Operations Superintendent was designated as the ORO for the Smiths Falls WPCP. He held a valid Class 4 WWT operator licence and a valid Class 2 WWC operator's certificate.

During the inspection, it was advised that the backup ORO is one of the Class 4 WWT operators. The Town's SOP "ORO – OIC – OIT Wastewater Treatment" states that the Manger Water/Wastewater Systems is designated as the ORO. When the Manager is absent, cannot be contacted, or, unable to act for any period of time a Wastewater Systems Operator with a Class IV Wastewater Treatment License (O. Reg 129/04 sec 15 (2)) may be appointed ORO in writing (email, memo, etc.) and notification of such appointment will be forwarded to the Wastewater Treatment Operations Staff and Director Public Works. During the inspection, it was advised that staff are notified by email of the backup ORO.

The SOPs are maintained in the Operations & Maintenance Manual for the WPCP (Policies & Procedures). During the inspection, it was noted that the ORO and OIC are identified in the WPCP Operations Log Book.

The Supervisor of Public Works is designated as the ORO for the Smiths Falls Wastewater Collection System (WWCS). The Supervisor of Public Works holds a valid Class 2 WWC operator licence. The Wastewater Collection Operations Manual includes procedures for ORO and designates the Supervisor of Public Works as the Primary ORO for the WWCS and the Foreman as the Alternative ORO.

Since the Town of Smiths Falls wastewater system is classified as a Class 2 WWCF and a Class 4 WWTF, they possess applicable certificates that are of the same class or higher than the class of the facilities they have responsibility for.

- **An adequately licensed operator was designated to act in place of the overall responsible operator when the overall responsible operator was unable to act.**
- **All operators had the appropriate level of licences for the wastewater treatment and collection works.**

A review of the Town's Operators License spreadsheets and the OWWCO's Operator Listing Report showed that all operators had the appropriate level of licences for the wastewater treatment and collection works.

- **All operators have the appropriate level of training and or experience for the wastewater treatment and**

### Certification and Training

collection facilities in accordance with the requirements of the Environmental Compliance Approval.

- **Only licenced operators made adjustments to the treatment equipment.**

Clause (c) of Subsection 18(2) to O. Reg. 129/04 requires the OIC to ensure that records are maintained of all adjustments made to the processes within his or her responsibility.

The log book demonstrates that only certified operators make adjustments to the treatment equipment at the WPCP.

It was noted that one of the Town's Wastewater Treatment (WPCP) operators is certified as an Operator-in-Training (OIT) and that two of the WTP operators are certified as an OIT in Wastewater Treatment (WWT). Note that an OIT cannot act as an Operator-in-Charge (OIC). During the inspection, it was advised that the WPCP OIT is not on call yet, but that starting in April 2020 they will be on call with another certified operator. It was advised that the OIT communicates with the ORO or OIC before making adjustments and requires permission from the Manager, ORO or OIC prior to entering information in the WPCP Operations Log Book. It was noted that there is a part in the log book "Reviewed By" with the operator's initials.

Process changes are recorded in the "SCADA Process Changes" log book including coagulant dosage changes, UV bank now lead, sludge cycles, rotate duty, sludge depths; and documents the date, time, operator initials and details. It was reported that there is only a change in coagulant dosage when the phosphorus concentration gets high. A review of the SCADA Process Changes log book during the inspection showed that many entries were not initialed in 2019.

During the inspection, an operator legend was added to the SCADA Process Changes log book including the name, signature, initials and printed initials.

- **Operators-in-charge were designated for the wastewater treatment plant and all associated collection works.**

Subsection 17(1) of O. Reg. 129/04 states that the owner of a facility or a person authorized by the owner shall designate one or more licensed operators as operators-in-charge of the facility.

The Supervisor of Public Works is designated as the ORO and Operator in Charge (OIC) for the WWCS.

The Town's Wastewater Collection Operations Manual includes a standard operating procedure (SOP) for ORO/OIC coverage which lists the Supervisor of Public Works as the ORO and the alternate ORO designate as the Foreman of Public Works. The SOP states that all operators are considered an OIC (there are no OITs on staff for the WWCS). In the event that the ORO is absent or unable to act as ORO, the Public Works Foreman is the ORO Designate (backup ORO) for the WWCS. It was also advised that the Supervisor of Public Works is always the ORO and the OIC for the WDS, unless it is noted in the log book.

A review of the Collection Log Book confirmed that the ORO is identified in the log book (ORO on duty and indicates when the ORO is off-site, but available).

The Town's SOP "ORO – OIC – OIT Wastewater Treatment" states that all Wastewater Treatment Staff who hold a Class I-IV Wastewater Treatment license are considered as OIC for their shift. This is also noted in the Operators License excel spreadsheet.

It was noted that the OIC for the Smiths Falls WPCP is identified in the WPCP Operations Log Book.

Subsection 17 (2) of O. Reg. 129/04 requires the owner or a person authorized by the owner to ensure that records

**Certification and Training**

are maintained of the amount of time each operator works as an operator-in charge. It was reported that the Town uses time sheets to log and serve as a record of the amount of time (in hours) each operator works as an operator-in-charge (OIC). It should be noted that time sheets can be considered as logs of all operators on duty for any given time period.

- **The operator-in-charge ensured that records were maintained of all adjustments made to the processes within his or her responsibility.**

Subsection 18(1) of O. Reg. 129/04 states that an operator-in-charge (OIC) is authorized to,  
(a) set operational parameters for the facility or for a process that controls the effectiveness or efficiency of the facility; and  
(b) direct or supervise operators in the facility.

Subsection 18(2) of O. Reg. 129/04 states that an OIC shall,  
(a) take all steps reasonably necessary to operate the processes within his or her responsibility in a safe and efficient manner in accordance with the relevant operations manuals;  
(b) ensure that the processes within his or her responsibility are measured, monitored, sampled and tested in a manner that permits them to be adjusted when necessary;  
(c) ensure that records are maintained of all adjustments made to the processes within his or her responsibility; and  
(d) ensure that all equipment used in the processes within his or her responsibility is properly monitored, inspected and evaluated and that records of equipment operating status are prepared and available at the end of every operating shift.

The WPCP and equipment are physically inspected by a certified operator on a daily basis Monday to Friday, with full rounds and in-house sampling and analysis conducted approximately three (3) times per week, typically on Mondays, Wednesdays and Fridays, and recorded on the "Daily In-House Analysis" sheets; and it was reported that samples are collected typically on Wednesday and sent to Caduceon Environmental Laboratories for analysis.

As previously indicated, all adjustments made to the processes are recorded in the WPCP Operations Log Book and on the "SCADA Process Changes" log book.

It was reported that the WPCP is staffed daily Monday to Friday with an operator on-call during evenings, weekends and holidays (with the operator on-call from Monday to the following Monday). It was noted that there is also an evening shift from Monday to Friday for pelletizer operation.

It was reported that all the Sewage Pumping Stations (SPS) are visited by certified operators on a weekly basis, and that these site visits are documented in the Station Log Books. The SOPs for the SPS indicates that operator inspections are conducted for the SPS weekly, monthly and quarterly.

**Logbooks**

- **The logs and other record keeping mechanisms did not comply with the record keeping requirements.**

Subsections 19(2) through to 19(5) of O. Reg. 129/04 prescribe the minimum record keeping standards for logs. The logs are to include the following information on each operating shift:

- the date, the time of day the shift began and ended and the number or designation of the shift;
- the names of all operators on duty during the shift;
- any departures from normal operating procedures that occurred during the shift and the time they occurred;
- any special instructions that were given during the shift to depart from normal operating procedures and the person who gave the instructions;
- any unusual or abnormal conditions that were observed in the facility during the shift, any action that was taken and any conclusions drawn from the observations; and,
- any equipment that was taken out of service or ceased to operate during the shift and any action taken to maintain

Logbooks

or repair equipment during the shift.

Condition 5.4 of ECA #5704-8KSK3U for Queen Street Sanitary Sewage Pumping Station states that the Owner shall maintain a logbook to record the results of these inspections and any maintenance operations undertaken, and shall make the logbook available for inspection by the Ministry upon request. The logbook shall include, but not necessarily be limited to the following information: (a) the name of the Works; and, (b) the date and results of each inspection and maintenance activity.

Condition 4(3) of ECA #5719-A6QSRS for CSO Old Mill Road states that the Owner shall maintain a logbook to record the results of these inspections and any cleaning and maintenance operations undertaken, and shall keep the logbook at the Owner's office for inspection by the Ministry. The logbook shall include the following:

- (a) the name of the Works; and
- (b) the date and results of each inspection, maintenance and cleaning, including an estimate of the quantity of any materials removed.

It was observed that a bound log book with numbered pages is maintained at each Sewage Pumping Station on which the operators record the date, times, operator initials and details. Details include pump hours, pump settings, alarms, alarm testing, check pumps, check well levels, cycle pumps, test generator under load (OPP/Queen St.), power outages, pump fault switch, flow meter calibration, maintenance and issues (wet well surcharged, pumps not on, no high alarm - controller issue, flooded manhole, communication issues (Centre St. SCADA alarm/lost communications)). Each time a site visit is performed at the SPSs and/or WPCP, an entry is made in the respective log book, including such details as date, time, initials of operators, work performed and any unusual occurrences noted.

It was advised that the OPP SPS and Centre St. SPS are connected to the SCADA system and can be viewed remotely on a cell phone or iPad.

The CSO Event log sheets record the date, time, temp., weather conditions, overflow (Y/N), flow level, operator name, ORO signature & date. The CSO Old Mill Road log book records the dates, times, initials, alarm tests, overflows (CSO events) and download data.

The Collection System Log Book is a bound record book with numbered pages and includes the date, times, ORO on shift, operators on duty, shift times, activities performed such as check main sewers, camera sewer lateral, check manholes, no activities, repairs, CWW cleaned sewer, and CSO sample collection. Other details recorded include ORO on duty, operator initials, ORO off site but available. Only the ORO or OIC make entries in the Collection System Log Book and initial each entry made.

The WPCP Operations Log Book consists of a bound record book with numbered pages. Operators typically record the date, operator initials, shift times, time of entry, names of operators on duty, ORO, OIC, OIT and details. Details include maintenance, date entry, facility inspections, chemical orders, sampling, bypass reporting, bypass sampling, review of Daily Report, enabling/disabling of alarms, checking SCADA trending, rotate pumps, run Pelletizer, rotate UV duty, sludge depths, sludge/sludge cake/pellet sampling, bench tests, alarm dialer testing, and chemical adjustments. There is a legend with the operator names and initials on the inside of the Operations Log Book. However, during the inspection it was noted that operators are not always recording the time when entries are made in the log book and operators do not always note operational items or departures from normal operating procedures. The log books shall include any departures from normal operating procedures that occurred during the shift and the time they occurred; any special instructions that were given during the shift to depart from normal operating procedures and the person who gave the instructions; and any unusual or abnormal conditions that were observed in the facility during the shift, any action that was taken and any conclusions drawn from the observations. The person who makes the entry must be clearly identified on the record.

Logbooks

The SCADA Process Changes Log Book is a spiral bound/ringed book with dated pages in which operators record the times, operator initials and details; however, during the inspection it was noted that many entries in 2019 were not initialed by operators. The log books and other records must allow the reader to unambiguously identify the person making an entry.

Other logs include: WPCP - Daily In-House Analysis sheets; chain of custody / lab submission forms; Hauled Sewage Record; SCADA Reports; and WWCS - Sewer Main Reports; Sewer Main Inspection Report log sheets; Catch Basin Inspection Reports; Complaint/Inquiry Forms; Catch Basin / Manhole Repairs; and Sewer Main Cleaning Reports. These logs typically document the date, time, operator names or initials, location, work required, equipment used, comments/ remarks, readings.

- **Logs and other record keeping mechanisms were available for at least two (2) years.**

Subsection 19(6) of O. Reg. 129/04 requires the Owner to ensure that logs and other record keeping mechanisms are accessible in the facility for at least two (2) years after each entry in it was made.

It was reported that logs and other record keeping mechanisms are available on-site for at least 2 years after each entry in it was made.

Operations Manuals

- **The operations and maintenance manuals did not meet the requirements of the Environmental Compliance Approval.**

Condition 8(2) of ECA No.5671-AE7HFT for the WPCP, Condition 5.2 of ECA No. 5704-8KSK3U for Queen St. SPS and Condition 4.2 of ECA No. 6126-98FR68 for VIA Rail SPS states that the Owner shall prepare an operations manual, that includes, but not necessarily limited to, the following information:

- (a) operating procedures for routine operation of the Works;
- (b) inspection programs, including frequency of inspection, for the Works and the methods or tests employed to detect when maintenance is necessary;
- (c) repair and maintenance programs, including the frequency of repair and maintenance for the Works;
- (d) procedures for the inspection and calibration of monitoring equipment;
- (e) a spill prevention control and countermeasures plan, consisting of contingency plans and procedures for dealing with equipment breakdowns, potential spills and any other abnormal situations, including notification of the District Manager; and
- (f) procedures for receiving, responding and recording public complaints, including recording any follow up actions taken.

The operations manuals for the Queen St. SPS and VIA Rail SPS meet the requirements of the ECAs, with the exception of a complaints procedure. The ECAs state that proper operation and maintenance shall include adequate operator staffing and training, including training in all procedures, process controls and alarms. The ECAs state that the Owner shall maintain the operations manual current.

The WPCP's Operational Procedures is maintained in the offices of the WPCP. The Operational Policies & Procedures include sections/procedures for the operation and maintenance of the WPCP; operating under high flows (CSO Event); Complaints Procedure & Complaint Form; ORO-OIC-OIT WWT (ORO designation and ORO absent or unable to act); Procedure for Reporting Secondary Treatment Bypasses; UV System Failure; Alarm Testing Procedure; In House Process Lab; Data Entry; Regulatory Sampling; Operational Parameters; Routine Rounds & Checks; and a Spill Response Plan. The Town also maintains a Process Control Narrative for the WPCP; an Emergency Management Plan for the WPCP and WWCS; and Pelletizer Operations.

It was reported that there is no formal maintenance program for the WPCP. There is not a formal schedule or reminder system for maintenance activities at the WPCP. It was previously reported that the Town wants to create

### Operations Manuals

a computerized maintenance system. It was noted that there is a printed list of 2019 maintenance items that were completed, which included UV Maintenance; wet well cleaning; South Primary Tank maintenance and oil changes; North Secondary tank and oil changes; disinfect filters; and CSO Tank cleaning. There is an informal maintenance schedule recorded on a white board in one of the offices at the WPCP, which is used to track certain pieces of equipment / tanks/ UV banks; and that there are maintenance sheets that are filled out and then put into an excel spreadsheet. It was advised that operators follow what is noted in the operation equipment manuals for a particular piece of equipment.

There were no complaints received during the reporting period in 2019 regarding the WPCP. Should a complaint be received immediate steps are taken to rectify the issue.

It was reported that all the SPSs are equipped with high level alarms (ultrasonic level and/or float systems), which are paged out and recorded in the log books.

It was reported that complaints for the WWCS are documented on the Complaint/Inquiry Form, which is done on 'MESH' with the calls coming into Town Hall or to the Public Works Admin staff and it is assigned to the Supervisor or Foreman and they then assign it to an operator. The form is completed and saved. There is no written procedure for receiving, responding and recording public complaints for the WWCS.

Typically complaints are made each year with respect to sewer backups/blockages and odours for the WWCS. It was advised that the Town will inspect the sewer main, but that the homeowner is responsible for plumbing up to the curb stop. There were no complaints received during 2019 for the CSO at Old Mill Road.

Standard Operating Procedures (SOPs) for the WWC include: WWC Maintenance and Repairs; ORO/OIC and Logbooks; CSO Weir & Flow Monitoring Device at 17 Old Mill Rd.- CSO Operator Inspections (Daily, Weekly-Oil, Fuel or Chemical Spill and Rain/Snow Melt Events, Monthly, Quarterly); Bypass Overview; Weekly CSO Monitoring; Flow Calculator User Guide; Procedure for Reporting CSO Events; and CSO Sampling Protocol. The WWC Operations Manual includes copies of the municipal bylaws including the Sewer Use Bylaws; Procedure F-5-5; OWRA; O. Reg. 129/04; and the federal Wastewater Effluent Regulations; SOPs for Sewer Mains, Sewer Services, Catch Basins and Manholes (installation, repairs, cleaning, inspection, blockages); Minimum CSO Controls. There is also Spill Prevention Control and Countermeasures Plan (containment, control methods, recovery & cleanup); a Salt Management Plan; Wastewater System Emergency Plan; and SOPs for each SPS (inspections weekly/monthly/quarterly, Spills - Notification; Containment; Control Methods; Recovery & Cleanup; Spill Site Posting).

- **Operators and maintenance personnel had ready access to operations and maintenance manuals.**

Alarms are called out through a dialer first to the On Call Operator's cell phone followed by the Backup Operator's cell phone if no answer; and then to the Manager's cell phone if no answer. Operators have VPN on their cell phones and a viewer to view the WPCP's SCADA system. The Ministry Inspector was provided with a copy of the Alarm List, which includes Secondary High/Low Flow Alarm; Secondary Bypass High/Low Flow Alarm; Diesel Generator Fault; Wet Well High/Low Level; UV System Off; Alum Tank Level Low; Alum Spill in Pump Area; All Alum Pumps Unavailable; and Final Effluent High Flow. The WPCP SCADA system has an Alarm Enable Page which shows the alarms for each stage of the process, tag, description, if they are enabled/disabled, setpoint, delay(s), channel, and status.

There is an SOP for Alarm Testing (WW-SOP19-1) for the testing of critical alarms and RACO Dialer Systems for the WPCP, which states "On or around the 15th of each month the On-Call (duty operator) will ensure that the critical alarms listed below (but not limited to) are tested and operation is verified. The Dialer system will also be tested for operation during the testing of each of the alarm set points. Information with regards to the alarm set point verification and RACO dialer testing will be documented in the log book. Alarms that are activated within the regular alarm parameters can be documented and used as verification that the alarms and dialer are operational as long as it is documented in the log book with times, duration and all affected locations." The critical alarms include

Operations Manuals

wet well level, secondary flow high/low, bypass flow alarm, finished flow high/low, final effluent flow, CSO high level and blower air pressure. However, during the inspection it was reported that alarms are not being formally tested, and that they are supposed to be tested monthly and recorded in the log book. It was advised that alarms are being tested when activated/enabled for operational purposes on a daily basis. It is recommended that the duty operator test the critical alarms on a monthly basis and record the testing in the log book as directed by the Town's SOP.

It was reported that the SPSs are equipped with high level alarms and backup floats and that the alarms for the SPSs and the CSO at Old Mill Road are tested.

- **The operations and maintenance manuals contained up-to-date plans, drawings and process descriptions sufficient for the safe and efficient operation of the system.**

Subsection 20(1) of O. Reg. 129/04 states that the owner of a facility shall ensure that operators and maintenance personnel in the facility have ready access to comprehensive operations and maintenance manuals that contain plans, drawings and process descriptions sufficient for the safe and efficient operation of the facility.

Condition 4.2 of ECA No. 5704-8KSK3U for Queen St. states that within one year of the substantial completion of the works, a set of as-built drawings showing the works "as constructed" shall be prepared. These drawings shall be kept up to date through revisions undertaken from time to time and a copy shall be retained at the Works for the operational life of the Works. "As-built" drawings for the completed works cited in the ECA are available at the offices of the Town's Public Works Department.

Condition 3(1) of ECA Number 5671-AE7HFT for the Smiths Falls WPCP states that a set of as-built drawings showing the Works "as constructed" shall be prepared or updated. These drawings shall be kept up to date through revisions undertaken from time to time and a copy shall be retained at the Works for the operational life of the Works. As-built drawings are located on-site at the Smiths Falls WPCP. "As constructed" and "As-built" drawings for the completed works cited in the ECA are available on-site at the WPCP.

Subsection 20(2) of O. Reg. 129/04 states that the owner shall ensure that the manuals are reviewed and updated at least once every 2 years.

The Wastewater Collection Operations Manual Binder 1 was reviewed by all but one wastewater collection system operator in 2020, with the operators signing off on their review, including the name, date of review and signature. The reviews were completed between January and March 2020. The Manual was most recently updated on January 29, 2020 and January 6, 2020.

For the WPCP, the High Flow (CSO) Event, Wet Well Cleaning and Primary Clarifier Maintenance procedures were reviewed and signed off by operators in September 2019 and October 2019. The Alarm Testing SOP was created in January 2019 and signed off by operators and staff.

Contingency/Emergency Planning

- **Spill containment was provided for the process chemicals and/or standby power generator fuel.**

It was reported that the diesel fuel storage tank located in the Pelletizer building is double-walled; and that secondary containment is provided for the coagulant solution.

It was reported that the WPCP is equipped with spill kits comprising of spill pads, peat moss and other absorbent materials.

It was reported that spills within the WPCP and all drains located within the WPCP discharge to the headworks.

**Contingency/Emergency Planning**

It was reported that sewage spills to the road and/or ground can occur at each of the sewage pumping stations. It was reported that the Town's Public Works Department maintains spill kits containing absorb-all, which are kept at the shop.

- **The owner had provided security measures for the facility.**

It was reported that the WPCP is visited by a WWT operator on a daily basis Monday to Friday, with rounds conducted daily (check operational status of treatment equipment, UV lights, etc.) and that full rounds are conducted three times per week. The site visits and daily/weekly inspections are documented in the WPCP Operation Log Book and on the Daily In-House Sheets.

The WPCP is surrounded by perimeter security fencing and locked access gates. The entrance doors to the WPCP are locked, and the administrative building is equipped with intrusion alarms (for unauthorized entry). The WPCP is equipped with security lighting. The administrative building is equipped with motion detectors.

There is "No Trespassing" signage installed at the Smiths Falls WPCP warning of trespassing and restricting trespassing, thereby limiting the Town's liability under the Trespass to Property Act and the Occupier's Liability Act.

It was reported that the WPCP is alarmed for power failure and that backup power is provided at the WPCP. It was advised that there is a panic button in the Belt Press Room and it is tested by operators; that there is a Working Alone Panic Pendant; and that these alarms and the intrusion alarms for the building are all connected to Advanced Alarms. It was noted that there is an audible horn alarm for the Pelletizer, and that the other alarms are not audible in the WPCP as they are connected to an auto dialer (RACO), which calls the on-call (duty) operator's cell phone and follows the call list.

It was reported that the sewage pumping stations are all locked and equipped with warning signage "No Trespassing". The Queen St. SPS is equipped with security fencing and a locked access gate; and the access hatches and panel are all locked. The Centre Street SPS is equipped with a locked entrance door and security lighting. The VIA Rail (Union St.) SPS is equipped with a locked panel and access hatches. It was reported that no alarms for unauthorized entry are provided at the stations. The housing for the SCADA Pack equipment and alarm system for the Old Mill Road CSO is locked.

It was reported that operators inspect the SPSs once a week. It was reported that the stations are equipped with high and/or low level alarms. It was noted that some of the stations are equipped with an Uninterrupted Power Supply (UPS) for power failure.

It was reported that there was no acts of vandalism at the WPCP, but that there was vandalism within the wastewater collection system in which someone dumped a garbage bag down a catchbasin.

**Other Inspection Findings**

- **The following issues were also noted during the inspection:**

1. It was reported that process critical alarms for the WPCP are not tested and not always recorded in accordance with Condition 8(1) of ECA Number 5671-AE7HFT. Condition 8(1) of ECA No. 5671-AE7HFT requires the Owner to exercise due diligence in ensuring that, at all times, the Works and the related equipment and appurtenances used to achieve compliance with this Approval are properly operated and maintained. Proper operation and maintenance shall include effective performance, adequate funding, adequate operator staffing and training, including training in all procedures and other requirements of this Approval and the Act and regulations, adequate laboratory facilities, process controls and alarms and the use of process chemicals and other substances used in the Works.

**Other Inspection Findings**

2. It was reported that there is not a formal maintenance program for the WPCP. It was advised that the 2018 Service Review included a recommendation for a maintenance program. It was reported that every summer for the Wastewater Collection System (WWCS) a maintenance list is prepared, including a list of areas set for cleaning, flushing/inspection.

3. It was reported that progress on implementation of the Town's Pollution Prevention Control Plan (PPCP) to reduce bypasses and overflows is incorporated into the Town's Annual Summary Reports. It was reported that flushing of the sanitary sewer mains and CCTV inspections of the sanitary sewer mains has been conducted each year as part of the Town's PPCP. However, a progress report on the progress of implementation of the Town's PPCP has not been completed. During the inspection, it was reported that the Town is conducting sewer separation dependent on funding; sewer relining is not occurring; manhole sealing is contracted out; and no further work has been done on roof leaders/ drains and illegal connections.

4. It was reported that the Town of Smiths Falls' Sewer Use Bylaw has not been updated, but that Town staff are looking into updating it.

5. During the inspection, it was noted that the Town's Public Works SOP for CSO Controls - Monitoring, Recording & Reporting at Old Mill Road maintained in the Wastewater Collection Operations Manual needs to be updated for the samples to be collected and the requirement to report incidents to MECP's Spills Action Centre.

6. During the inspection, it was noted that floc was visible on the secondary clarifiers and there was lots of growth indicating that maintenance is required. It was also noted that skimming of scum removal is a problem. Following the inspection, it was advised that the scum pit filling up was due to a leaking gasket along the weirs, which was leaking back to the scum pit. Prior to skimming the primaries the scum pit would have to be drained using SCADA via manual operation. This has since been removed and no longer leaking back to the scum pit.

7. Condition 9(6) of ECA No. 5671-AE7HFT states that the Owner shall install and maintain (a) continuous flow measuring device(s), to measure the flowrate of the influent to the Sewage Treatment Plant with an accuracy to within plus or minus 15 per cent (+/- 15%) of the actual flowrate for the entire design range of the flow measuring device, and record the flowrate at a daily frequency. The WPCP is equipped with a nested parshall flume located in the effluent channel to continuously measure the final effluent flow. It was reported that there is no continuous flow measuring device to measure the flowrate of the influent to the plant.

8. The ECA states that the Centre Street SPS is equipped with a bypass pumping chamber. The drawings were checked and it was confirmed that there is no station bypass pumping chamber. The ECA states that the WPCP's effluent outfall includes a multi-port outfall structure on the outlet, and a valved emergency connection to the old outfall sewer. It was reported that there is no valved emergency connection to the old outfall sewer.

- **The following instances of non-compliance were also noted during the inspection:**

The description of the Disinfection system contained in ECA Number 5671-AE7HFT for the Smiths Falls WPCP needs to be updated as the system was replaced in September-October 2018 with a newer, more reliable and serviceable model (Trojan UV3000Plus UV disinfection system rated at 220 L/s, manual UVT 65%, UV Dose 24.9 mW/cm<sup>2</sup> for each UV bank comprising of 2 UV banks, 9 modules per bank and 6 lamps per module). There is a UV sensor on each UV bank.

The replacement of the UV disinfection system at the Smiths Falls WPCP qualified under Condition 10 - Limited Operational Flexibility (Modifications to the Works) of ECA Number 5671-AE7HFT.

In accordance with Condition 10(8) of ECA Number 5671-AE7HFT, the Owner of the sewage works must complete the "Notice of Modification to Sewage Works" describing the modification, and submit the completed Notice to the Water Compliance Supervisor prior to implementing the modifications. As indicated on the Notice, retain a copy of

Other Inspection Findings

the completed form as part of the ECA and send a copy to the Water Supervisor.

The "Notice of Modification to Sewage Works" was completed for the replacement of the UV disinfection system, with the Declaration by Professional Engineer completed on February 21, 2019 and the Declaration by Owner completed on February 22, 2019. The Notice of Modification to Sewage Works should have been completed and submitted to the Water Supervisor before replacing the UV disinfection system. The Notice was submitted to the Ministry on February 22, 2019, after implementing the modifications.

**NON-COMPLIANCE WITH REGULATORY REQUIREMENTS AND ACTIONS REQUIRED**

This section provides a summary of all non-compliance with regulatory requirements identified during the inspection period, as well as actions required to address these issues. Further details pertaining to these items can be found in the body of the inspection report.

- 1. The sewage works effluent sample results did not demonstrate compliance with total suspended solids limits prescribed by the Environmental Compliance Approval.**

Condition 7 EFFLUENT LIMITS of ECA Number 5671-AE7HFT states that the Owner shall operate and maintain the Works such that the concentrations of the materials named below as effluent parameters are not exceeded in the effluent from the Sewage Treatment Plant.

Table 2 - Final Effluent Limits: The Monthly Average Concentration of Total Suspended Solids (TSS) shall not exceed 15 mg/L.

Condition 6 EFFLUENT OBJECTIVES of ECA Number 5671-AE7HFT states that the Owner shall use best efforts to design, construct and operate the Works with the objective that the concentrations of the materials named below as effluent parameters are not exceeded in the effluent from the Sewage Treatment Plant.

Table 1 - Effluent Objectives of ECA Number 5671-AE7HFT states that the Concentration Objective for TSS is 5 mg/L based on an Monthly Average Concentration.

In 2019, the monthly average concentration of TSS in the final effluent ranged from 1.10 mg/L to 4.20 mg/L, meeting both the ECA final effluent concentration objective and concentration limit.

Table 2 - Final Effluent Limits: Average Waste Loading (kilograms per day) states that the Monthly Average Loading of TSS shall not exceed maximum waste loading of 220.5 kg/day.

In 2019, the monthly average loading for TSS in the final effluent ranged from 7.65 kg/d to 75.76 kg/d, meeting the ECA final effluent monthly average waste loading limit.

In 2018, compliance was not met during the month of April for Total Suspended Solids (TSS) and TSS Loading Limits. In April, the monthly average for TSS was 19.47 mg/L exceeding the effluent limit of 15 mg/L; and the TSS Loading was 369.5 kg/d exceeding the effluent limit of 220.5 kg/d.

It was reported that the non-compliance was the result of the South Secondary Tank being out of service for 6 months due to extensive damage along with on-going secondary treatment bypasses due to high flows from snow melt and rain.

**Action(s) Required:**

No action is required at this time.

- 2. The sewage works effluent sample results did not demonstrate compliance with total phosphorous limits prescribed by the Environmental Compliance Approval.**

Condition 7 EFFLUENT LIMITS of ECA Number 5671-AE7HFT states that the Owner shall operate and maintain the Works such that the concentrations of the materials named below as effluent parameters are not exceeded in the effluent from the Sewage Treatment Plant.

Table 2 - Final Effluent Limits: The Monthly Average Concentration of Total Phosphorus (TP) shall not exceed 0.3 mg/L.

Condition 6 EFFLUENT OBJECTIVES of ECA Number 5671-AE7HFT states that the Owner shall use best efforts to design, construct and operate the Works with the objective that the concentrations of the materials named below as effluent parameters are not exceeded in the effluent from the Sewage Treatment Plant.

Table 1 - Effluent Objectives of ECA Number 5671-AE7HFT states that the Concentration Objective for TP is 0.25 mg/L based on an Monthly Average Concentration.

In 2019, the monthly average concentration of TP in the final effluent ranged from 0.01 mg/L to 0.15 mg/L, meeting both the ECA final effluent concentration objective and concentration limit.

Table 2 - Final Effluent Limits: Average Waste Loading (kilograms per day) states that the Monthly Average Loading of Total Phosphorus (TP) shall not exceed maximum waste loading of 4.4 kg/day.

In 2019, the monthly average loading for TP in the final effluent ranged from 0.108 kg/d to 2.706 kg/d, meeting the ECA final effluent monthly average waste loading limit.

In April 2018, the Total Phosphorus (TP) Loading effluent limit was exceeded with a monthly average of 5.31 kg/d exceeding the limit of 4.40 kg/d.

In April 2018, the Total Phosphorus (TP) concentration effluent objective was exceeded with a monthly average of 0.28 mg/L, exceeding the objective of 0.25 mg/L.

**Action(s) Required:**

No action is required at this time.

**3. The sewage works effluent sample results did not demonstrate compliance with microbiological parameter limits prescribed by the Environmental Compliance Approval.**

Condition 7 (4) of ECA Number 5671-AE7HFT states that notwithstanding subsection (1), the Owner shall operate and maintain the Works such that the effluent is continuously disinfected so that the monthly Geometric Mean Density of E. Coli does not exceed 200 organisms per 100 millilitres of effluent discharged from the Works.

Condition 6 (2) (d) of ECA Number 5671-AE7HFT states that the Owner shall use best efforts to ensure that the effluent is continuously disinfected during the disinfection period so that the monthly Geometric Mean Density of E. coli does not exceed 150 organisms per 100 millilitres of effluent discharged from the Sewage Treatment Plant.

In 2019, the monthly geometric mean density of E. Coli ranged from 1.00 organisms/100 mL to 30.44 organisms/100 mL meeting both the final effluent limit and the effluent objective.

In April 2018, the monthly geometric mean density of E. Coli was exceeded with a result of 519.94 organisms/100 mL.

**Action(s) Required:**

No action is required at this time.

**4. All exceedances of any prescribed parameters were not reported in accordance with the Environmental Compliance Approval.**

Condition 11 (1) of ECA Number 5671-AE7HFT states that the Owner shall report to the Water Supervisor orally as soon as possible any non-compliance with the effluent criteria, and in writing within seven (7) days of non-compliance.

In 2018, compliance was not met during the month of April for Total Suspended Solids (TSS) and TSS Loading. In April, the monthly average for TSS was 19.47 mg/L exceeding the effluent limit of 15 mg/L; and the TSS Loading was 369.5 kg/d exceeding the effluent limit of 220.5 kg/d. The non-compliance was reported verbally to the MECP

on June 20, 2018 with a revised written notification submitted on July 11, 2018 as per Condition 11 of the ECA.

In April 2018, the Total Phosphorus (TP) Loading effluent limit was exceeded with a monthly average of 5.31 kg/d exceeding the limit of 4.40 kg/d.

In April 2018, the monthly geometric mean density of E. Coli was exceeded with a result of 519.94 organisms/100 mL. The effluent limit is 200 organisms/100 mL. The objective is 150 organisms/100 mL.

The non-compliance with the effluent limits in April 2018 were verbally reported to the MECP on June 20, 2018 with a written notification submitted on June 26, 2018 and a revised written notification submitted on July 11, 2018. The non-compliances occurred for the month of April 2018, but were not reported to the MECP until June 20, 2018. It was reported that the non-compliance was only realized when updating data. To prevent late notification from happening again, staff will be more diligent in monitoring data.

It was reported that conditional formatting was previously added to the annual performance assessment report spreadsheet to alert staff when there is a non-compliance with the effluent limits. It was also reported that a reminder has been placed in the Microsoft Outlook calendar one week following the last sample date for the previous month.

**Action(s) Required:**

No further action is required at this time.

**5. All annual performance reports did not meet the submission and contents requirements of the Environmental Compliance Approval.**

Condition 11(4) Reporting of ECA Number 5671-AE7HFT states that the Owner shall prepare and submit a performance report to the Water Supervisor on an annual basis, by March 31 of the year following the end of the period being reported upon. The first such report shall cover the first annual period following the commencement of operation of the Works and subsequent reports shall be submitted to cover successive annual periods following thereafter. The reports shall contain, but shall not be limited to, the following information:

- a. a summary and interpretation of all monitoring data and a comparison to the effluent limits outlined in Condition 7, including an overview of the success and adequacy of the Works;
- f. a description of efforts made and results achieved in meeting the Effluent Objectives of Condition 6.

The 2019 Annual Performance Report for the Smiths Falls WPCP was submitted to the MECP on March 27, 2020 and met the submission and content requirements of the ECA, except that Sections 4.2 of the 2019 Performance Report did not indicate that the effluent objective of 6.5 to 8.5 for pH was not met in June 2019 and July 2019. The monthly minimum pH in June 2019 was 6.29 and the monthly minimum pH in July 2019 was 6.14, both below the effluent objective range. The Owner was advised of the error and will make note of it for future annual performance reports.

**Action(s) Required:**

The Owner was advised of the error and will make note of it for future annual performance reports. No further action is required at this time.

**6. The logs and other record keeping mechanisms did not comply with the record keeping requirements.**

Subsection 19(1) of O. Reg. 129/04 requires the owner of a facility to ensure that logs or other record-keeping mechanisms are provided to record information concerning the operation of the facility. Subsections 19(2) through to 19(5) of O. Reg. 129/04 prescribe the minimum record keeping standards for logs. The logs are to include the following information on each operating shift:

- the date, the time of day the shift began and ended and the number or designation of the shift;
- the names of all operators on duty during the shift;

- any departures from normal operating procedures that occurred during the shift and the time they occurred;
- any special instructions that were given during the shift to depart from normal operating procedures and the person who gave the instructions;
- any unusual or abnormal conditions that were observed in the facility during the shift, any action that was taken and any conclusions drawn from the observations; and,
- any equipment that was taken out of service or ceased to operate during the shift and any action taken to maintain or repair equipment during the shift.

The person who makes the entry must be clearly identified on the record. During the inspection it was noted that WPCP operators are not always recording the time when entries are made in the log book; WPCP operators do not always note operational items or departures from normal operating procedures; WPCP operators do not always initial their entries or record the time when entries are made in the log book.

**Action(s) Required:**

By no later than December 15, 2020, provide to the undersigned Provincial Officer a written action plan for ensuring that the WPCP Operations Log Book and SCADA Process Changes Log Book record the following information in accordance with Section 19 of O. Reg. 129/04.

The logs are to include at minimum the following information on each operating shift:

- the date, the time of day the shift began and ended and the number or designation of the shift;
- the names of all operators on duty during the shift;
- any departures from normal operating procedures that occurred during the shift and the time they occurred;
- any special instructions that were given during the shift to depart from normal operating procedures and the person who gave the instructions;
- any unusual or abnormal conditions that were observed in the facility during the shift, any action that was taken and any conclusions drawn from the observations; and,
- any equipment that was taken out of service or ceased to operate during the shift and any action taken to maintain or repair equipment during the shift.

The log books and other records must allow the reader to unambiguously identify the person making an entry. The person who makes the entry must be clearly identified on the record.

The WPCP operators shall make note of operational items and departures from normal operating procedures and initial their entries made in the log book.

It is recommended that the WPCP operators record the time when entries are made in the log book.

**7. The operations and maintenance manuals did not meet the requirements of the Environmental Compliance Approval.**

Condition 8(2) of ECA No.5671-AE7HFT for the WPCP, Condition 5.2 of ECA No. 5704-8KSK3U for Queen St. SPS and Condition 4.2 of ECA No. 6126-98FR68 for VIA Rail SPS states that the Owner shall prepare an operations manual, that includes, but not necessarily limited to, the following information:

- (c) repair and maintenance programs, including the frequency of repair and maintenance for the Works; and
- (f) procedures for receiving, responding and recording public complaints, including recording any follow up actions taken.

The WWCS has a complaint form, but does not have written procedures for receiving, responding and recording public complaints, including recording any follow up actions taken.

It was reported that there is no formal maintenance program for the WPCP. There is not a formal schedule or reminder system for maintenance activities at the WPCP. It was previously reported that the Town wants to create a computerized maintenance system. It was noted that there is a printed list of 2019 maintenance items that were

completed, which included UV Maintenance; wet well cleaning; South Primary Tank maintenance and oil changes; North Secondary tank and oil changes; disinfect filters; and CSO Tank cleaning. There is an informal maintenance schedule recorded on a white board in one of the offices at the WPCP, which is used to track certain pieces of equipment / tanks/ UV banks; and that there are maintenance sheets that are filled out and then put into an excel spreadsheet. It was advised that operators follow what is noted in the operation equipment manuals for a particular piece of equipment.

**Action(s) Required:**

By no later than December 15, 2020, provide to the undersigned Provincial Officer, a written action plan for developing and implementing the following:

- (a) Written procedures for receiving, responding and recording public complaints within the Wastewater Collection System, including recording any follow up actions taken; and,
- (b) Repair and maintenance programs, including the frequency of repair and maintenance for the WPCP.

**8. The following instances of non-compliance were also noted during the inspection:**

The description of the Disinfection system contained in ECA Number 5671-AE7HFT for the Smiths Falls WPCP needs to be updated as the system was replaced in September-October 2018 with a newer, more reliable and serviceable model (Trojan UV3000Plus UV disinfection system rated at 220 L/s, manual UVT 65%, UV Dose 24.9 mW/cm<sup>2</sup> for each UV bank comprising of 2 UV banks, 9 modules per bank and 6 lamps per module). There is a UV sensor on each UV bank.

The replacement of the UV disinfection system at the Smiths Falls WPCP qualified under Condition 10 - Limited Operational Flexibility (Modifications to the Works) of ECA Number 5671-AE7HFT.

In accordance with Condition 10(8) of ECA Number 5671-AE7HFT, the Owner of the sewage works must complete the "Notice of Modification to Sewage Works" describing the modification, and submit the completed Notice to the Water Compliance Supervisor prior to implementing the modifications. As indicated on the Notice, retain a copy of the completed form as part of the ECA and send a copy to the Water Supervisor.

The "Notice of Modification to Sewage Works" was completed for the replacement of the UV disinfection system, with the Declaration by Professional Engineer completed on February 21, 2019 and the Declaration by Owner completed on February 22, 2019. The Notice of Modification to Sewage Works should have been completed and submitted to the Water Supervisor before replacing the UV disinfection system. The Notice was submitted to the Ministry on February 22, 2019, after implementing the modifications.

**Action(s) Required:**

By no later than December 15, 2020, provide to the undersigned Provincial Officer a written action plan ensuring that in accordance with Condition 10(8) of ECA Number 5671-AE7HFT, prior to implementing Limited Operational Flexibility, the Owner shall complete a Notice of Modifications describing any proposed modifications to the Works and submit it to the Water Supervisor.

## SUMMARY OF RECOMMENDATIONS AND BEST PRACTICE ISSUES

This section provides a summary of all recommendations and best practice issues identified during the inspection period. Details pertaining to these items can be found in the body of the inspection report. In the interest of continuous improvement in the interim, it is recommended that owners and operators develop an awareness of the following issues and consider measures to address them.

**1. The sewage works effluent sample results did not meet the effluent objectives stated in the Environmental Compliance Approval.**

The sewage works did not conform to effluent total suspended solids concentration and/or loading objectives in the months of January 2018 to May 2018. The monthly averages for TSS exceeded the effluent objective of 5 mg/L in January to May 2018, with results ranging from 5.94 mg/L to 19.47 mg/L.

The 2017 Annual Report for the WPCP shows that the monthly average concentration for TSS in the final effluent ranged from 0.99 mg/L to 10.01 mg/L, with an annual average of 3.697 mg/L. The months of March, April, May and July 2017 exceeded the concentration objective of 5 mg/L for TSS.

In April 2018, the Total Phosphorus (TP) concentration effluent objective was exceeded with a monthly average of 0.28 mg/L, exceeding the objective of 0.25 mg/L. In April 2018, the effluent objective for monthly geometric mean density of E. Coli was exceeded with a result of 519.94 organisms/100 mL.

Condition 6 (2) of ECA Number 5671-AE7HFT states that the Owner shall use best efforts to:

a. maintain the pH of the effluent from the Works within the range of 6.5 - 8.5, inclusive, at all times.

In 2019, the pH in the final effluent ranged from 6.14 to 8.09. In June 2019 the minimum pH was 6.29 and in July 2019 the minimum pH was 6.14, both below the effluent objective of 6.5-8.5.

**Recommendation:**

The Owner shall continue to use best efforts to operate the Works with the objective of meeting the effluent objectives as stated in ECA Number 5671-AE7HFT.

**2. The following issues were also noted during the inspection:**

1. It was reported that process critical alarms for the WPCP are not tested and not always recorded in accordance with the ECA. The ECA states that proper operation and maintenance shall include effective performance, adequate process controls and alarms used in the Works.

2. It was reported that there is not a formal maintenance program for the WPCP. It was advised that the 2018 Service Review included a recommendation for a maintenance program.

3. It was reported that progress on implementation of the Town's PPCP to reduce bypasses and overflows is incorporated into the Town's Annual Summary Reports. It was reported that flushing of the sanitary sewer mains and CCTV inspections of the sanitary sewer mains has been conducted each year as part of the Town's PPCP. However, a progress report on the progress of implementation of the Town's PPCP has not been completed.

4. It was reported that the Town of Smiths Falls' Sewer Use Bylaw has not been updated.

5. It was noted that the Town's SOP for CSO Controls - Monitoring, Recording & Reporting at Old Mill Road maintained in the WWC Operations Manual needs to be updated for the samples to be collected and the requirement to report incidents to MECP's SAC.

6. It was noted that floc was visible on the secondary clarifiers and there was lots of growth indicating that

maintenance is required. It was also noted that skimming of scum removal is a problem.

7. Condition 9(6) of the ECA states that the Owner shall install and maintain a continuous flow measuring device to measure the flowrate of the influent to the STP and record the flowrate daily.

8. The ECA should be updated to reflect these differences in the descriptions of the works.

**Recommendation:**

1. It is recommended that the critical process alarms for the Smiths Falls WPCP are tested on a regular basis to confirm proper functioning and that this testing is documented as detailed in the Town's SOP for Alarm Testing (WW-SOP19-1).

2. It is recommended that the Town develop and implement a formal preventative maintenance program (electronic/computerized) for the Smiths Falls WPCP. It is recommended that the preventative maintenance program include a written/electronic maintenance schedule with reminder system or electronic/printed work orders.

3. The Town must continue in their efforts to reduce the number of overflows and bypasses; and the Town must ensure that the progress report on the Town's PPCP is prepared and included in the Annual Reports. A progress report of the implementation of the Town's PPCP is needed.

4. It is recommended that the Town of Smiths Falls continue reviewing and updating the Town's Sewer Use Bylaw.

5. It is recommended that the Town's SOP for CSO Controls - Monitoring, Recording & Reporting at Old Mill Road maintained in the Wastewater Collection Operations Manual be updated regarding sample collection and the reporting requirements.

6. It is recommended that WPCP operators perform regular maintenance on the secondary clarifiers when floc and growth is visible.

7. It is recommended that the Town consider installing a flow meter to measure the flowrate of the influent to the WPCP.

8. It is recommended that the ECA be updated to reflect these differences in the descriptions of the works (no station bypass pumping chamber at Centre Street SPS and the WPCP effluent outfall does not include a valved emergency connection to the old outfall sewer). The Ministry Inspector will submit a Field Alert to the MECPE Environmental Permissions Branch to make note of these differences in the ECA.

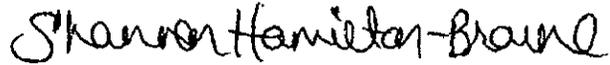
**SIGNATURES**

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Inspected By:

Shannon Hamilton-Browne

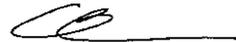
Signature: (Provincial Officer)



Reviewed & Approved By:

Charlie Primeau

Signature: (Supervisor)



Review & Approval Date: 19/11/2020

Note: This inspection does not in any way suggest that there is or has been compliance with applicable legislation and regulations as they apply or may apply to this facility. It is, and remains, the responsibility of the owner and/or operating authority to ensure compliance with all applicable legislative and regulatory requirements.

**APPENDIX A**  
**AUDIT SAMPLE RESULTS**

Login: C264309

Program Code 130752401  
Program: MOE OPERATIONS DIVISION  
Study: SEWAGE, COMMUNAL (INCLUDES SMP)  
Project: EASTERN REGION - OTTAWA DIST.  
Activity: IMPACT STUDIES  
Organization: ER-SDWB-CORNWALL/KINGSTON DISTR. OFFICE

Org. Id: 410802

Mail this copy to :

HAMILTON-BROWNE, SHANNON  
MOE - CORNWALL AREA OFFICE  
113 AMELIA STREET  
CORNWALL, ONT  
K6H 3P1

Final reports to : HAMILTON-BROWNE, SHANNON  
MAHONEY, JIM  
WELLS, SUSAN

Approved for release by : TERESA SWITZER Manager, Spectroscopy and Physical Chemistry Section

Approved date : Mar. 27, 2020

Inquiries to : DAVE MORSE  
CHUNYAN HAO

Telephone : 416-235-5989  
Telephone : 416-235-6033

**LOGIN DESCRIPTION: SMITH FALLS WATER POLLUTION CONTROL PLANT**

The results relate only to items tested.

To provide customer service feedback on this report and/or other services provided by LaSB, please contact the LaSB HelpDesk at 416-235-6030 or the Customer Service Manager at 416-235-5831

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Please note that IBC3196 (Ion balance) and LIC3274 (Saturation index) are calculated only if all required parameters were requested/measured

Login: C264309

Print Date: Mar. 27, 2020 12:35 PM By REPORTADMIN

\*\*\*\* REPRINTED \*\*\*\*

Field ID SF02  
 Station ID 120000890

Sample ID C264309-0001

LIMS Products Requested:

TE E3182A BODC3182  
 TE E3274A LIC3274  
 TE E3371A EC3371  
 TE E3537 META3537

Sample Location Description  
 SMITH FALLS WPCP - FIANL EFFLUENT

Sample Comment Description  
 TPM CONTAINER NOT SENT

Sampling Date  
 11 MAR 2020 16:30

Time  
 16:30

Zone  
 5

Sampler Information

TE E3188B SS3188 IBC3196  
 TE E3302A ASSE3302 DISNUT3364  
 TE E3371A FS3371 HG3526  
 TE E3558 TPM3558 TE E3567 TN3567

Field ID: SF02  
 Sample ID: C264309-0001  
 MOE\*LIMS ID: 2020TE11-00004  
 Station ID: 120000890  
 Collect Date: 11 MAR 2020  
 Sample Location Description: SMITH FALLS WPCP - FIANL EFFLUENT

Sample Comments Description: TPM CONTAINER NOT SENT

Listid	Parname	Value	Units	Qual	Rmk1	Rmk2	MDL	Analysis Date
3182L2	Oxygen demand;BOD-carbonaceous	1.9	mg/L as O2				1	18-MAR-2020
3188L3	Solids; suspended	4.3	mg/L	<=W			1	26-MAR-2020
3302L4	Arsenic	.0005	mg/L	<=W			.001	26-MAR-2020
	Selenium	.0005	mg/L	<=W			.001	26-MAR-2020
3364L1	Nitrogen; ammoni+ammonium	0.279	mg/L				.02	18-MAR-2020
	Nitrogen; nitrite	0.047	mg/L				.001	18-MAR-2020
	Nitrogen; nitrate+nitrite	4.27	mg/L				.04	18-MAR-2020
	Phosphorus; phosphate	0.0243	mg/L				.003	18-MAR-2020
3371L3	Escherichia coli	4.0	CFU/100m L	<	>10C			16-MAR-2020
3371L4	Enterococci/ Fecal Streptococci	4.0	CFU/100m L	<	>10C			16-MAR-2020
3526L1	Mercury	5	ng/L	<MDL			5	17-MAR-2020
3537L4	Aluminum	0.228	mg/L	<MDL			.03	23-MAR-2020
	Antimony	0.0500	mg/L	<MDL			.05	23-MAR-2020
	Arsenic	0.0500	mg/L	<MDL			.05	23-MAR-2020
	Barium	0.0652	mg/L	<MDL			.005	23-MAR-2020
	Beryllium	0.00400	mg/L	<MDL			.004	23-MAR-2020
	Boron	0.200	mg/L	<MDL			.2	23-MAR-2020
	Cadmium	0.00300	mg/L	<MDL			.003	23-MAR-2020
	Calcium	69.8	mg/L	<MDL			.02	23-MAR-2020
	Chromium	0.0100	mg/L	<MDL			.01	23-MAR-2020
	Cobalt	0.00500	mg/L	<MDL			.005	23-MAR-2020
	Copper	0.00500	mg/L	<MDL			.005	23-MAR-2020
	Iron	0.0500	mg/L	<MDL			.05	23-MAR-2020
	Lead	0.0200	mg/L	<MDL			.02	23-MAR-2020
	Magnesium	15.8	mg/L	<MDL			.02	23-MAR-2020
	Manganese	0.0386	mg/L	<MDL			.003	23-MAR-2020
	Molybdenum	0.0100	mg/L	<MDL			.01	23-MAR-2020
	Nickel	0.0100	mg/L	<MDL			.01	23-MAR-2020
	Potassium	5.26	mg/L	<MDL			.2	23-MAR-2020
	Selenium	0.0500	mg/L	<MDL			.05	23-MAR-2020
	Silver	0.00600	mg/L	<MDL			.006	23-MAR-2020
	Sodium	92.5	mg/L	<MDL			.1	23-MAR-2020
	Strontium	0.182	mg/L	<MDL			.005	23-MAR-2020
	Titanium	0.00500	mg/L	<MDL			.005	23-MAR-2020

Login: C264309

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Field ID:  
 Sample ID:  
 MOE/LIMS ID:  
 Station ID:  
 Collect Date:  
 Sample Location Description:

SF02  
 C264309-0001  
 2020TE11-00004  
 120000890  
 11 MAR 2020  
 SMITH FALLS WPCP - FIANL EFFLUENT

Sample Comments Description:

Value	Units	Qual	TPM	Container	Rmk1	Rmk2	MDL	Analysis Date
0.00500	mg/L	<MDL		NOT SENT			.005	23-MAR-2020
0.0241	mg/L						.005	23-MAR-2020
239.	mg/L						1	
94.6	ug/L						.5	18-MAR-2020
5.66	mg/L						.1	18-MAR-2020

3537L4 Vanadium  
 Zinc  
 Hardness  
 3558L1 Phosphorus; total  
 3567L1 TN

**CODE DESCRIPTION**

>10C RECD>10C. DATA MAY NOT REFLECT THAT OF ORIG.SAMPLE  
 NDID NO DATA: INSUFFICIENT DATA TO PERFORM CALC.  
 <=W NO MEASURABLE RESPONSE (ZERO); <REPORTED VALUE  
 < ACTUAL RESULT IS LESS THAN THE REPORTED VALUE  
 <MDL LESS THAN METHOD DETECTION LIMIT

**TEXT COMMENTS**

**Product Completion**

Sample ID	Matrix	Method	Product	Analytical Department	Completion Date
C264309-0001	TE	E3182A	BODC3182	5217	19-MAR-20
C264309-0001	TE	E3188B	SS3188	5122	26-MAR-20
C264309-0001	TE	E3302A	ASSE3302	6342	27-MAR-20
C264309-0001	TE	E3364A	DISNUT3364	5313	19-MAR-20
C264309-0001	TE	E3371A	EC3371	6515	16-MAR-20
C264309-0001	TE	E3371A	FS3371	6515	16-MAR-20
C264309-0001	TE	E3526	HG3526	6314	18-MAR-20
C264309-0001	TE	E3537	META3537	6411	26-MAR-20
C264309-0001	TE	E3558	TPM3558	5317	19-MAR-20
C264309-0001	TE	E3567	TN3567	5317	19-MAR-20

**LaSB Method Summary**

Method	Method Description	Status	Status Description
E3182A	THE DETERMINATION OF BIOCHEMICAL OXYGEN DEMAND IN SURFACE WATER AND SEWAGE EFFLUENTS BY DISSOLVED OXYGEN METER	ROUTINE	Method has been fully validated, is deemed fit for purpose and has the associated uncertainty information available upon request
E3188B	THE DETERMINATION OF SOLIDS IN LIQUID MATRICES BY GRAVIMETRY	ROUTINE	Method has been fully validated, is deemed fit for purpose and has the associated uncertainty information available upon request
E3196A	LIMS CALCULATIONS-ION BALANCE	ROUTINE	Method has been fully validated, is deemed fit for purpose and has the associated uncertainty information available upon request
E3274A	LIMS CALCULATIONS-SATURATION INDEX AT THE LABORATORY	ROUTINE	Method has been fully validated, is deemed fit for purpose and has the associated uncertainty information available upon request
E3302A	THE DETERMINATION OF ARSENIC, SELENIUM AND ANTIMONY IN LIQUID INDUSTRIAL WASTE AND LANDFILL LEACHATES BY HYDRIDE -FLAMELESS ATOMIC ABSORPTION SPECTROPHOTOMETRY (HYD-FAAS)	ROUTINE	Method has been fully validated, is deemed fit for purpose and has the associated uncertainty information available upon request
E3364A	THE DETERMINATION OF AMMONIA NITROGEN, NITRITE NITROGEN, NITRATE PLUS NITRATE NITROGEN AND REACTIVE ORTHO-PHOSPHATE IN SURFACE WATER, DRINKING WATER AND PRECIPITATION BY COLOURIMETRY	ROUTINE	Method has been fully validated, is deemed fit for purpose and has the associated uncertainty information available upon request

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E3371A	A MEMBRANE FILTRATION METHOD FOR THE DETECTION AND ENUMERATION OF TOTAL COLIFORM, ESCHERICHIA COLI, PSEUDOMONAS AERUGINOSA AND FECAL STREPTOCOCCI	ROUTINE	Method has been fully validated, is deemed fit for purpose and has the associated Uncertainty information available upon request
E3371A	A MEMBRANE FILTRATION METHOD FOR THE DETECTION AND ENUMERATION OF TOTAL COLIFORM, ESCHERICHIA COLI, PSEUDOMONAS AERUGINOSA AND FECAL STREPTOCOCCI	ROUTINE	Method has been fully validated, is deemed fit for purpose and has the associated Uncertainty information available upon request
E3526	THE DETERMINATION OF MERCURY IN AQUEOUS SAMPLES BY COLD VAPOUR ATOMIC FLUORESCENCE SPECTROMETRY (CV-AFS)	ROUTINE	Method has been fully validated, is deemed fit for purpose and has the associated Uncertainty information available upon request
E3537	THE DETERMINATION OF METALS IN LIQUID WASTE, EFFLUENTS, AND LEACHATES USING HOT BLOCK ACID DIGESTION AND ANALYSIS BY INDUCTIVELY COUPLED PLASMA - OPTICAL EMISSION SPECTROMETRY (ICP-OES)-EXP	ROUTINE	Method has been fully validated, is deemed fit for purpose and has the associated Uncertainty information available upon request
E3558	COLORIMETRIC DETERMINATION OF TRACE LEVEL TOTAL PHOSPHORUS USING AUTOCLAVE DIGESTION	ROUTINE	Method has been fully validated, is deemed fit for purpose and has the associated Uncertainty information available upon request
E3567	DETERMINATION OF TOTAL NITROGEN (TN) BY COMBUSTION WITH CHEMILUMINESCENCE DETECTION	ROUTINE	Method has been fully validated, is deemed fit for purpose and has the associated Uncertainty information available upon request

\*\*\* End of Report \*\*\*

**APPENDIX B**

**ENVIRONMENTAL COMPLIANCE APPROVAL(S)**

**APPENDIX C**

**STAKEHOLDER SUPPORT**

**WASTWATER OPERATOR LICENSING**  
**[CLICK FOR LINK TO GUIDANCE MATERIAL]**

**ONTARIO REGULATION 129/04 (LICENSING OF SEWAGE**  
**WORKS OPERATORS)**  
**[CLICK FOR LINK TO LEGISLATION]**

**DESIGN CONSIDERATIONS FOR SEWAGE TREATMENT**  
**PLANTS**  
**[CLICK FOR LINK TO GUIDANCE MATERIAL]**

# Helpful Resources for Municipal Wastewater Owners and Operators

Many useful materials are available to help you operate your wastewater system. Below is a list of key materials owners and operators of municipal wastewater systems frequently use. To access these materials online click on their titles in the table below or use your web browser to search for their titles. Contact the Ministry if you need assistance or have questions at:

1-866-793-2588 or  
[AskMECPWastewaterCompliance@ontario.ca](mailto:AskMECPWastewaterCompliance@ontario.ca).

For more information on wastewater visit  
[www.ontario.ca/page/wastewater-operators-training-and-licences](http://www.ontario.ca/page/wastewater-operators-training-and-licences)



PUBLICATION TITLE	PUBLICATION NUMBER
Protocol for the Sampling and Analysis of Industrial/Municipal Wastewater	Website
Guide to Applying for an Environmental Compliance Approval	Website
Environmental Registration – Standby Power Systems Fact Sheet	8544E
F-5-1 Determination of Treatment Requirements for Municipal and Private Sewage Treatment Works Discharging to Surface Waters	Website
F-8 Provision And Operation Of Phosphorus Removal Facilities At Municipal, Institutional And Private Sewage Treatment Works	Website
F-10-1 Procedures for Sampling and Analysis Requirements for Municipal and Private Sewage Treatment Works (Liquid Waste Streams Only)	Website
Water Management, Policies, Guidelines: Provincial Water Quality Objectives	Website
Licensing Guide for Operators of Wastewater Treatment Facilities	Website

# Ressources utiles pour les propriétaires et les exploitants d'installations municipales d'eaux usées

De nombreux documents utiles peuvent vous aider à exploiter votre installation d'eaux usées. Vous trouverez ci-après une liste de documents que les propriétaires et exploitants d'installations municipales d'eaux usées utilisent fréquemment.

Pour accéder à ces documents en ligne, cliquez sur leur titre dans le tableau ci-dessous ou faites une recherche à l'aide de votre navigateur Web.

Communiquez avec le ministère au 1-866-793-2588, ou encore à

[AskMECPWastewaterCompliance@ontario.ca](mailto:AskMECPWastewaterCompliance@ontario.ca)

si vous avez des questions ou besoin d'aide.

Pour plus de renseignements sur l'eau potable en Ontario, consultez le site

<https://www.ontario.ca/fr/page/exploitants-de-reseaux-deaux-usees-formation-et-permis>



PUBLICATION/TITRE	PUBLICATION NUMBER
Protocole sur l'échantillonnage et l'analyse des eaux usées industrielles et municipales	Site Web
Guide pour soumettre une demande d'autorisation environnementale	Site Web
Environmental Registration – Standby Power Systems Fact Sheet (en anglais seulement)	8544F
F-5-1 Établissement des exigences visant le traitement des effluents d'usines de traitement des eaux usées municipales ou privées lorsque ces effluents se déversent dans les eaux de surface	Site Web
F-8 Fournitures et utilisation d'installations d'élimination du phosphore dans les usines de traitement des eaux d'égout municipales, institutionnelles et privées	Site Web
F-10-1 Procédures d'échantillonnage et d'analyse des eaux provenant d'usines de traitement des eaux d'égouts municipales, institutionnelles ou privées (flux de déchets liquides seulement)	Site Web
Gestion de l'eau : politiques, lignes directrices, objectifs provinciaux de qualité de l'eau	Site Web
Guide sur l'accréditation des exploitants d'installations d'eaux usées	Site Web

Via email

December 14, 2020

Shannon Hamilton-Browne  
Inspector, Safe Drinking Water Branch  
Ministry of Environment, Conservation and Parks

Dear Shannon Hamilton-Browne;

**RE: 2020 Smiths Falls Wastewater Inspection #1-NAWMJ Non-Compliance**

This action plan is to address eight (8) non-compliance items noted in the above referenced Wastewater Inspection Report that covered a period from 2016 to 2020.

The first three (3) non-compliance items were regarding not demonstrating compliance with limits noted in Environmental Compliance Approval (ECA) # 5671-AE7HFT for total suspended solids (TSS) in 2018, total phosphorous (TP) in 2018 and E. Coli Geomean in 2018. The Ministry is not requiring any further action at this time.

It should be noted that the 3 non-compliance noted above were the result of the South Secondary tank being out of service for 6 months due to extensive damage as well as an on-going secondary treatment bypass from snow melt causing high flows. As per the ECA the Town did provide verbal and written notification of the above noted non-compliances to the Ministry.

The fourth (4) non-compliance item was regarding the reporting time frame of the noted non-compliances. The Town will use best efforts to complete the

monthly performance report to ensure non-compliances will be reported in a timely fashion. The Ministry is not requiring any further action at this time.

The fifth (5) non-compliance item was regarding the Annual Performance report did not include that parameters did not meet the objectives as noted in the ECA. The Town was made aware of this error and will ensure that all objectives exceeded will be noted in the Annual Performance report. The Ministry is not requiring any further action at this time.

The sixth (6) non-compliance item was regarding logs and other recording keeping mechanism did not comply with the requirements. During the inspection, the inspector observed Water Pollution Control Plant (WPCP) operators were not always recording the time when an entry was made, noting operational items or departures from normal operating procedures or initialing their entries as per Section 19 of O. Reg. 129/04.

To address this non-compliance item a procedure for record keeping was created which has been reviewed by all WPCP operators on November 9<sup>th</sup>, 2020. Most WPCP operators as well attended a log book and record keeping course in February 2020. The Manager of WT/WWT has also verbally reviewed the requirements with WPCP operators. The procedure is attached for review.

The seventh (7) non-compliance item dealt with two (2) items. The first was regarding Conditions noted in the Wastewater Collection (WWC) pumping stations ECA where a procedure for receiving, responding and recording public complaints including follow up actions taken is required.

Although the Town has been using the electronic work order management system (MESH) to record WWC public complaints and follow-up actions, there was no procedure in place. A procedure has been created which is attached for review.

The second item in this non-compliance was regarding Conditions in the WPCP ECA for repair, maintenance programs and the frequency of the repair and maintenance. There was no formal maintenance program, schedule or reminder system in place at the time of the inspection. However, during the inspection some maintenance tasks were noted on the white board but there was no formalized program.

The WPCP has since migrated to an electronic work order management system (MESH). This program has been in place since the beginning of August 2020. The program can track all maintenance activities with dates as a reminder to the operator's complete tasks.

The eighth (8) and final non-compliance item was regarding a Condition in the ECA where the WPCP must complete a Notice of Modification to Sewage System describing the modification and submit the completed Notice to the Water Supervisor prior to implementing the modifications. Although the Town did complete and send in the Notice of Modification it was after the project was completed.

The Town is aware that the Notice of Modification is required to be completed and submitted prior to the installation as noted in the ECA. Future projects the

Town will ensure that the Notice is submitted prior to the project implementation.

I hope the above action plan meets your approval, should you require more information please do not hesitate to contact me.

Yours Truly,



Sarah E. Cooke  
Town of Smiths Falls  
Water and Wastewater Compliance Coordinator  
Phone: 613-283-4124 ext. 5502  
Backdoor phone: 613-284-2220  
Email: [scooke@smithsfalls.ca](mailto:scooke@smithsfalls.ca)

cc: W. Troy Dunlop, Director Public Works & Utilities  
cc: Jason Barlow, Manager Water/Wastewater Treatment  
cc: Jason Dalglish, Supervisor of Public Works & Utilities

Attachments:

- 101 Procedure for Record Keeping WW
- WW-SOP Complaint Inquiry

**Ministry of the  
Environment,  
Conservation and Parks**  
Eastern Region  
Ottawa District Office  
2430 Don Reid Drive, Suite 103  
Ottawa ON K1H 1E1  
Phone: 613.521.3450  
or 800.860.2195  
Fax: 613.521.5437

**Ministère de l'Environnement,  
de la Protection de la nature  
et des Parcs**  
Région de l'Est  
Bureau du district d'Ottawa  
2430, promenade Don Reid unité 103  
Ottawa (Ontario) K1H 1E1  
Tél: 613 521-3450  
ou 800 860-2195  
Télé: 613 521-5437



December 23, 2020

**Sent by Email: scooke@smithsfalls.ca**

The Corporation of the Town of Smiths Falls  
Public Works & Utilities  
43 Abbott Street North, PO Box 695  
Smiths Falls, Ontario  
K7A 4T6

Attention: Sarah Cooke, Water & Wastewater Compliance Coordinator

Dear Sarah:

Re: 2019-2020 Wastewater System Inspection Report

---

I am writing to confirm receipt of emailed correspondence dated December 14, 2020 to which you have included a response to address required actions cited in Wastewater System Inspection Report (Inspection Number 1-NAWMJ), issued November 18, 2020.

The response that has been prepared satisfactorily addresses the required actions within the timelines specified in the inspection report. The inspection report documents the findings of a compliance assessment performed at the Smiths Falls Water Pollution Control Plant Wastewater System on March 11, 2020 and March 13, 2020.

I am satisfied that the response that has been prepared meets the required actions cited in the inspection report. If you have not already done so, please proceed with implementing these action plans.

In the "Procedure for Record Keeping (Document #WW-SOP101)" it states "The regulation also states that entries into a log or record keeping mechanism shall be completed in a manner that permits the person to be unambiguously identified as the marker or the entry. This requires that all entries are legible, so it is evident who made the entry. At the front of all logbooks there is a signatures page which identifies the operator with their name, signature and initials." Please ensure that entries into a log or record keeping mechanism are initialed so that the person can be unambiguously identified as the marker of the entry.

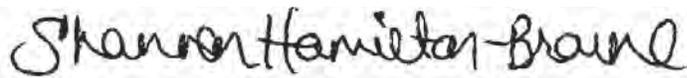
Please consider implementing the recommendations made in the inspection report in order to advance efforts already in place to address such issues as alarm testing, flow measurement and conformance with existing and emerging industry standards.

Thank you for your cooperation in taking the necessary steps to resolve the non-compliance issues cited in the inspection report.

Please accept and retain this correspondence as a record attesting to the Ministry's receipt and satisfaction with the above-cited response.

Please do not hesitate to contact me should you have any questions regarding the inspection report and/or the contents of this letter.

Yours truly,



Shannon Hamilton-Browne  
Water Inspector / Provincial Officer, Badge #802  
Water Compliance  
Drinking Water and Environmental Compliance Division  
Tel. Office: 613-521-3450 Ext. 242  
Tel. Toll Free: 1-800-860-2195 Ext. 242  
Fax: 613-521-5437  
Email: shannon.hamiltonbrowne@ontario.ca  
SHB

- ec: Jason Dalgleish, Public Works & Utilities Supervisor, Public Works & Utilities, Corporation of the Town of Smiths Falls, Email: [jdalgleish@smithsfalls.ca](mailto:jdalgleish@smithsfalls.ca)
- Jason Barlow, Manager Water/Wastewater Treatment, Public Works & Utilities, Corporation of the Town of Smiths Falls, Email: [jbarlow@smithsfalls.ca](mailto:jbarlow@smithsfalls.ca)
- Troy Dunlop, Director of Public Works & Utilities, Public Works & Utilities, Corporation of the Town of Smiths Falls, Email: [trdunlop@smithsfalls.ca](mailto:trdunlop@smithsfalls.ca)
  
- c: File SI-LA-SF-QU-441 (2019-2020), Smiths Falls Water Pollution Control Plant (WPCP) Wastewater System, 180 Queen Street, Smiths Falls, Works #120000890

## APPENDIX G

### 2020 Municipal Utility Monitoring Program (MUMPS)

Project Name

Smiths Falls WPCP

Mailing Address

Unit No.	Street No.	Street Name	PO Box
	180	Queen Street	

Municipality/City/Town	Province	Postal Code
Town of Smiths Falls	ON	K7A 5B8

Operating Authority

Town of Smiths Falls

Mailing Address

Unit No.	Street No.	Street Name	PO Box
	77	Beckwith Street North	695

Municipality/City/Town	Province	Postal Code
Smiths Falls	ON	K7A 4T6

File No.	Works Number	Data Period Month Year	Days	Discharge Type	Update Code
4 6	1 2 0 0 0 8 9 0	0 1 2 0	3 1	2	R

C.P.  
0 1

**FLOW S**

Total Flow  
Average Daily Flow  
Maximum Daily Flow

Parameter Code
(10 <sup>3</sup> m <sup>3</sup> ) 5 0 0 1 0
(10 <sup>3</sup> m <sup>3</sup> /d) 5 0 0 1 5
(10 <sup>3</sup> m <sup>3</sup> /d) 5 0 0 2 0

Dec.  
3  
3  
3

Monthly Results
4 2 8 . 4 8 2
1 3 . 8 2 2
3 4 . 0 4 4

2 6

**BYPASS**

Plant Bypass Volume  
Duration  
Secondary Bypass Volume  
Duration

(10 <sup>3</sup> m <sup>3</sup> ) 5 0 0 2 6
(hrs) 8 0 5 6 3
(10 <sup>3</sup> m <sup>3</sup> ) 5 0 0 4 0
(hrs) 8 0 5 6 5

3  
1  
3  
1

.
2 0 . 8 2 2
3 2 . 0

# of Occurrences
1

0 3

**RAW SEWAGE**

BOD<sub>5</sub>  
Suspended Solids  
TKN  
Total Phosphorus

(mg/L) 0 0 0 0 1
(mg/L) 0 0 0 0 6
(mg/L) 0 0 0 2 0
(mg/L) 0 0 0 3 3

0  
0  
2  
1

9 4
2 3 3
1 3 . 0 0
2 . 4

# of Samples
7
1 7
5
1 4

0 4

**FINAL EFFLUENT**

BOD<sub>5</sub>  
Suspended Solids  
Ammonia + Ammonium  
TKN  
Total Phosphorus

(mg/L) 0 0 0 0 1
(mg/L) 0 0 0 0 6
(mg/L) 0 0 0 1 9
(mg/L) 0 0 0 2 0
(mg/L) 0 0 0 3 3

1  
1  
2  
2  
2

7 . 0
7 . 6
0 . 0 9
. 6 0
0 . 1 2

7
2 1
1 1
5
2 0

0 7

**DISINFECTION**

Chlorine Used (kg as Cl<sub>2</sub>)  
Chlorine Dosage (mg/L as Cl<sub>2</sub>)  
Chlorine Residual (mg/L as Cl<sub>2</sub>)  
(representative of final discharge)

5 0 3 2 0
8 0 4 1 0
8 0 4 2 0

1  
1  
1

.
.
.

48	51
----	----

Operator Telephone Number  
613 283-4124

E-mail address  
scooke@smithsfalls.ca

Comments  
UV disinfection

Return completed form to:

- Environmental Monitoring and Reporting Branch, MOE, at WasteWaterReporting@ontario.ca AND
- Your Environmental Officer at your local District/Area MOE Office. (Find your local MOE office: <http://www.ene.gov.on.ca/environment>)



Project Name

Smiths Falls WPCP

Mailing Address

Unit No.	Street No.	Street Name	PO Box
	180	Queen Street	

Municipality/City/Town	Province	Postal Code
Town of Smiths Falls	ON	K7A 5B8

Operating Authority

Town of Smiths Falls

Mailing Address

Unit No.	Street No.	Street Name	PO Box
	77	Beckwith Street North	695

Municipality/City/Town	Province	Postal Code
Smiths Falls	ON	K7A 4T6

File No.	Works Number	Data Period Month Year	Days	Discharge Type	Update Code
4 6	1 2 0 0 0 8 9 0	0 2 2 0	2 9	2	R
1 2	3 11	16 19	20 21	22	60

C.P.	0 1	<b>FLOWS</b>	Parameter Code	Dec.	Monthly Results
12 13		Total Flow	(10 <sup>3</sup> m <sup>3</sup> ) 5 0 0 1 0	3	2 9 0 . 5 8 3
		Average Daily Flow	(10 <sup>3</sup> m <sup>3</sup> /d) 5 0 0 1 5	3	1 0 . 0 2 0
		Maximum Daily Flow	(10 <sup>3</sup> m <sup>3</sup> /d) 5 0 0 2 0	3	1 1 . 7 7 1
			30 34	35	38 46

2 6	<b>BYPASS</b>	Parameter Code	Dec.	Monthly Results	# of Occurrences
12 13	Plant Bypass Volume	(10 <sup>3</sup> m <sup>3</sup> ) 5 0 0 2 6	3	.	
	Duration	(hrs) 8 0 5 6 3	1	.	
	Secondary Bypass Volume	(10 <sup>3</sup> m <sup>3</sup> ) 5 0 0 4 0	3	.	0
	Duration	(hrs) 8 0 5 6 5	1	.	
		30 34	35	38	

0 3	<b>RAW SEWAGE</b>	Parameter Code	Dec.	Monthly Results	# of Samples
12 13	BOD <sub>5</sub>	(mg/L) 0 0 0 0 1	0	1 3 4	4
	Suspended Solids	(mg/L) 0 0 0 0 6	0	2 3 3	9
	TKN	(mg/L) 0 0 0 2 0	2	1 8 . 7 0	4
	Total Phosphorus	(mg/L) 0 0 0 3 3	1	3 . 2	7
		30 34	35	38	

0 4	<b>FINAL EFFLUENT</b>	Parameter Code	Dec.	Monthly Results	# of Samples
12 13	BOD <sub>5</sub>	(mg/L) 0 0 0 0 1	1	3 . 0	4
	Suspended Solids	(mg/L) 0 0 0 0 6	1	1 . 2	1 4
	Ammonia + Ammonium	(mg/L) 0 0 0 1 9	2	0 . 6 1	1 0
	TKN	(mg/L) 0 0 0 2 0	2	1 . 1 0	4
	Total Phosphorus	(mg/L) 0 0 0 3 3	2	0 . 0 4	1 4
		30 34	35	38	

0 7	<b>DISINFECTION</b>	Parameter Code	Dec.	Monthly Results	# of Occurrences
12 13	Chlorine Used	(kg as Cl <sub>2</sub> ) 5 0 3 2 0	1	.	
	Chlorine Dosage	(mg/L as Cl <sub>2</sub> ) 8 0 4 1 0	1	.	
	Chlorine Residual	(mg/L as Cl <sub>2</sub> ) 8 0 4 2 0	1	.	
	(representative of final discharge)	30 34	35	38	

Operator Telephone Number	613 283-4124
E-mail address	scooke@smithsfalls.ca
Comments	UV disinfection

Return completed form to:

- Environmental Monitoring and Reporting Branch, MOE, at WasteWaterReporting@ontario.ca AND
- Your Environmental Officer at your local District/Area MOE Office. (Find your local MOE office: <http://www.ene.gov.on.ca/environment>)



Project Name  
**Smiths Falls WPCP**

Mailing Address  
Unit No. | Street No. | Street Name | PO Box  
**180** | **Queen Street**

Municipality/City/Town | Province | Postal Code  
**Town of Smiths Falls** | **ON** | **K7A 5B8**

Operating Authority  
**Town of Smiths Falls**

Mailing Address  
Unit No. | Street No. | Street Name | PO Box  
**77** | **Beckwith Street North** | **695**

Municipality/City/Town | Province | Postal Code  
**Smiths Falls** | **ON** | **K7A 4T6**

File No. | Works Number | Data Period (Month | Year) | Days | Discharge Type | Update Code  
**4 6** | **1 2 0 0 0 8 9 0** | **0 3 | 2 0** | **3 1** | **2** | **R**

C.P. **0 1** **FLOWs**  
Total Flow (10<sup>3</sup> m<sup>3</sup>) | Parameter Code | Dec. | Monthly Results | # of Occurrences  
**5 0 0 1 0** | **3** | **5 0 1 . 8 6 7** | **3**

**2 6** **BYPASS**  
Plant Bypass Volume (10<sup>3</sup> m<sup>3</sup>) | Duration (hrs) | Secondary Bypass Volume (10<sup>3</sup> m<sup>3</sup>) | Duration (hrs) | # of Occurrences  
**5 0 0 2 6** | **8 0 5 6 3** | **5 0 0 4 0** | **8 0 5 6 5** | **3 1 3 3 1**

**0 3** **RAW SEWAGE**  
BOD<sub>5</sub> (mg/L) | Suspended Solids (mg/L) | TKN (mg/L) | Total Phosphorus (mg/L) | # of Samples  
**0 0 0 0 1** | **0 0 0 0 6** | **0 0 0 2 0** | **0 0 0 3 3** | **7 3 1 3 3 1 0 1 5**

**0 4** **FINAL EFFLUENT**  
BOD<sub>5</sub> (mg/L) | Suspended Solids (mg/L) | Ammonia + Ammonium (mg/L) | TKN (mg/L) | Total Phosphorus (mg/L) | # of Samples  
**0 0 0 0 1** | **0 0 0 0 6** | **0 0 0 1 9** | **0 0 0 2 0** | **0 0 0 3 3** | **4 . 0 2 . 1 0 . 7 1 1 . 0 0 0 . 0 6**

**0 7** **DISINFECTION**  
Chlorine Used (kg as Cl<sub>2</sub>) | Chlorine Dosage (mg/L as Cl<sub>2</sub>) | Chlorine Residual (mg/L as Cl<sub>2</sub>) (representative of final discharge) | # of Samples  
**5 0 3 2 0** | **8 0 4 1 0** | **8 0 4 2 0** | **1 1 1**

Operator Telephone Number  
**613 283-4124**  
E-mail address  
**scooke@smithsfalls.ca**  
Comments  
**UV disinfection**

Return completed form to:  
1. Environmental Monitoring and Reporting Branch, MOE, at WasteWaterReporting@ontario.ca AND  
2. Your Environmental Officer at your local District/Area MOE Office. (Find your local MOE office: <http://www.ene.gov.on.ca/environment>)



Project Name  
**Smiths Falls WPCP**

Mailing Address  
Unit No. | Street No. | Street Name | PO Box  
**180** | **Queen Street**

Municipality/City/Town | Province | Postal Code  
**Town of Smiths Falls** | **ON** | **K7A 5B8**

Operating Authority  
**Town of Smiths Falls**

Mailing Address  
Unit No. | Street No. | Street Name | PO Box  
**77** | **Beckwith Street North** | **695**

Municipality/City/Town | Province | Postal Code  
**Smiths Falls** | **ON** | **K7A 4T6**

File No. <b>4 6</b>	Works Number <b>1 2 0 0 0 8 9 0</b>	Data Period Month   Year <b>0 4 2 0</b>	Days <b>3 0</b>	Discharge Type <b>2</b>	Update Code <b>R</b>
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C.P. <b>0 1</b>	<b>FLOWS</b>	Parameter Code	Dec.	Monthly Results
	Total Flow (10 <sup>3</sup> m <sup>3</sup> )	<b>5 0 0 1 0</b>	<b>3</b>	<b>3 5 0 . 3 3 5</b>
	Average Daily Flow (10 <sup>3</sup> m <sup>3</sup> /d)	<b>5 0 0 1 5</b>	<b>3</b>	<b>1 1 . 6 7 7</b>
	Maximum Daily Flow (10 <sup>3</sup> m <sup>3</sup> /d)	<b>5 0 0 2 0</b>	<b>3</b>	<b>1 5 . 8 9 1</b>

<b>2 6</b>	<b>BYPASS</b>	Parameter Code	Dec.	Monthly Results	# of Occurrences
	Plant Bypass Volume (10 <sup>3</sup> m <sup>3</sup> )	<b>5 0 0 2 6</b>	<b>3</b>		
	Duration (hrs)	<b>8 0 5 6 3</b>	<b>1</b>		
	Secondary Bypass Volume (10 <sup>3</sup> m <sup>3</sup> )	<b>5 0 0 4 0</b>	<b>3</b>		<b>0</b>
	Duration (hrs)	<b>8 0 5 6 5</b>	<b>1</b>		

<b>0 3</b>	<b>RAW SEWAGE</b>	Parameter Code	Dec.	Monthly Results	# of Samples
	BOD <sub>5</sub> (mg/L)	<b>0 0 0 0 1</b>	<b>0</b>	<b>1 1 0</b>	<b>5</b>
	Suspended Solids (mg/L)	<b>0 0 0 0 6</b>	<b>0</b>	<b>1 6 5</b>	<b>1 5</b>
	TKN (mg/L)	<b>0 0 0 2 0</b>	<b>2</b>	<b>1 4 . 0 0</b>	<b>5</b>
	Total Phosphorus (mg/L)	<b>0 0 0 3 3</b>	<b>1</b>	<b>3 . 7</b>	<b>7</b>

<b>0 4</b>	<b>FINAL EFFLUENT</b>	Parameter Code	Dec.	Monthly Results	# of Samples
	BOD <sub>5</sub> (mg/L)	<b>0 0 0 0 1</b>	<b>1</b>	<b>3 . 0</b>	<b>5</b>
	Suspended Solids (mg/L)	<b>0 0 0 0 6</b>	<b>1</b>	<b>1 . 1</b>	<b>1 5</b>
	Ammonia + Ammonium (mg/L)	<b>0 0 0 1 9</b>	<b>2</b>	<b>0 . 0 1</b>	<b>1 4</b>
	TKN (mg/L)	<b>0 0 0 2 0</b>	<b>2</b>	<b>0 . 6 0</b>	<b>5</b>
	Total Phosphorus (mg/L)	<b>0 0 0 3 3</b>	<b>2</b>	<b>0 . 0 3</b>	<b>1 5</b>

<b>0 7</b>	<b>DISINFECTION</b>	Parameter Code	Dec.	Monthly Results	# of Samples
	Chlorine Used (kg as Cl <sub>2</sub> )	<b>5 0 3 2 0</b>	<b>1</b>		
	Chlorine Dosage (mg/L as Cl <sub>2</sub> )	<b>8 0 4 1 0</b>	<b>1</b>		
	Chlorine Residual (mg/L as Cl <sub>2</sub> )	<b>8 0 4 2 0</b>	<b>1</b>		

(representative of final discharge)

Operator Telephone Number  
**613 283-4124**

E-mail address  
**scooke@smithsfalls.ca**

Comments  
**UV disinfection**

Return completed form to:

- Environmental Monitoring and Reporting Branch, MOE, at WasteWaterReporting@ontario.ca AND
- Your Environmental Officer at your local District/Area MOE Office. (Find your local MOE office: <http://www.ene.gov.on.ca/environment>)



Project Name

Smiths Falls WPCP

Mailing Address

Unit No.	Street No.	Street Name	PO Box
	180	Queen Street	

Municipality/City/Town	Province	Postal Code
Town of Smiths Falls	ON	K7A 5B8

Operating Authority

Town of Smiths Falls

Mailing Address

Unit No.	Street No.	Street Name	PO Box
	77	Beckwith Street North	695

Municipality/City/Town	Province	Postal Code
Smiths Falls	ON	K7A 4T6

File No.	Works Number	Data Period Month Year	Days	Discharge Type	Update Code
4 6	1 2 0 0 0 8 9 0	0 5 2 0	3 1	2	R

C.P.	Flows	Parameter Code	Dec.	Monthly Results
0 1	Total Flow (10 <sup>3</sup> m <sup>3</sup> )	5 0 0 1 0	3	2 9 8 . 5 8 5
	Average Daily Flow (10 <sup>3</sup> m <sup>3</sup> /d)	5 0 0 1 5	3	9 . 6 3 2
	Maximum Daily Flow (10 <sup>3</sup> m <sup>3</sup> /d)	5 0 0 2 0	3	1 7 . 3 7 0

2 6	BYPASS	Parameter Code	Dec.	Monthly Results	# of Occurrences
	Plant Bypass Volume (10 <sup>3</sup> m <sup>3</sup> )	5 0 0 2 6	3	.	
	Duration (hrs)	8 0 5 6 3	1	.	
	Secondary Bypass Volume (10 <sup>3</sup> m <sup>3</sup> )	5 0 0 4 0	3	.	0
	Duration (hrs)	8 0 5 6 5	1	.	

0 3	RAW SEWAGE	Parameter Code	Dec.	Monthly Results	# of Samples
	BOD <sub>5</sub> (mg/L)	0 0 0 0 1	0	1 1 0	4
	Suspended Solids (mg/L)	0 0 0 0 6	0	2 8 7	1 0
	TKN (mg/L)	0 0 0 2 0	2	1 7 . 0	4
	Total Phosphorus (mg/L)	0 0 0 3 3	1	5 . 3	8

0 4	FINAL EFFLUENT	Parameter Code	Dec.	Monthly Results	# of Samples
	BOD <sub>5</sub> (mg/L)	0 0 0 0 1	1	3 . 0	4
	Suspended Solids (mg/L)	0 0 0 0 6	1	1 . 5	1 3
	Ammonia + Ammonium (mg/L)	0 0 0 1 9	2	0 . 0 3	7
	TKN (mg/L)	0 0 0 2 0	2	0 . 8 0	4
	Total Phosphorus (mg/L)	0 0 0 3 3	2	0 . 0 4	1 0

0 7	DISINFECTION	Parameter Code	Dec.	Monthly Results	# of Samples
	Chlorine Used (kg as Cl <sub>2</sub> )	5 0 3 2 0	1	.	
	Chlorine Dosage (mg/L as Cl <sub>2</sub> )	8 0 4 1 0	1	.	
	Chlorine Residual (mg/L as Cl <sub>2</sub> )	8 0 4 2 0	1	.	

(representative of final discharge)

Operator Telephone Number  
613 283-4124

E-mail address  
scooke@smithsfalls.ca

Comments  
UV disinfection

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- Your Environmental Officer at your local District/Area MOE Office. (Find your local MOE office: <http://www.ene.gov.on.ca/environment>)



Project Name

Smiths Falls WPCP

Mailing Address

Unit No.	Street No.	Street Name	PO Box
	180	Queen Street	

Municipality/City/Town	Province	Postal Code
Town of Smiths Falls	ON	K7A 5B8

Operating Authority

Town of Smiths Falls

Mailing Address

Unit No.	Street No.	Street Name	PO Box
	77	Beckwith Street North	695

Municipality/City/Town	Province	Postal Code
Smiths Falls	ON	K7A 4T6

File No.	Works Number	Data Period Month Year	Days	Discharge Type	Update Code
4 6	1 2 0 0 0 8 9 0	0 6 2 0	3 0	2	R
1 2	3 11	16 19	20 21	22	60

C.P.	Parameter Code	Dec.	Monthly Results
0 1			
12 13			
<b>FLOWS</b>			
Total Flow	(10 <sup>3</sup> m <sup>3</sup> )	3	2 0 7 . 1 7 2
Average Daily Flow	(10 <sup>3</sup> m <sup>3</sup> /d)	3	6 . 9 0 6
Maximum Daily Flow	(10 <sup>3</sup> m <sup>3</sup> /d)	3	8 . 9 8 5
	30 34	35	38 45

2 6	Parameter Code	Dec.	Monthly Results	# of Occurrences
12 13				
<b>BYPASS</b>				
Plant Bypass Volume	(10 <sup>3</sup> m <sup>3</sup> )	3	.	
Duration	(hrs)	1	.	
Secondary Bypass Volume	(10 <sup>3</sup> m <sup>3</sup> )	3	.	0
Duration	(hrs)	1	.	
	30 34	35	38	

0 3	Parameter Code	Dec.	Monthly Results	# of Samples
12 13				
<b>RAW SEWAGE</b>				
BOD <sub>5</sub>	(mg/L)	0	1 6 8	4
Suspended Solids	(mg/L)	0	3 2 6	1 1
TKN	(mg/L)	2	2 3 . 8 0	4
Total Phosphorus	(mg/L)	1	6 . 5	9
	30 34	35	38	

0 4	Parameter Code	Dec.	Monthly Results	# of Samples
12 13				
<b>FINAL EFFLUENT</b>				
BOD <sub>5</sub>	(mg/L)	1	3 . 0	4
Suspended Solids	(mg/L)	1	1 . 3	1 2
Ammonia + Ammonium	(mg/L)	2	0 . 1 8	7
TKN	(mg/L)	2	0 . 9 0	4
Total Phosphorus	(mg/L)	2	0 . 0 5	1 2
	30 34	35	38	

0 7	Parameter Code	Dec.	Monthly Results	# of Samples
12 13				
<b>DISINFECTION</b>				
Chlorine Used	(kg as Cl <sub>2</sub> )	1	.	
Chlorine Dosage	(mg/L as Cl <sub>2</sub> )	1	.	
Chlorine Residual	(mg/L as Cl <sub>2</sub> )	1	.	
(representative of final discharge)	30 34	35	38	45 51

Operator Telephone Number	613 283-4124
E-mail address	scooke@smithsfalls.ca
Comments	UV disinfection

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Project Name

Smiths Falls WPCP

Mailing Address

Unit No.	Street No.	Street Name	PO Box
	180	Queen Street	
Municipality/City/Town			Province
Town of Smiths Falls			ON
			Postal Code
			K7A 5B8

Operating Authority

Town of Smiths Falls

Mailing Address

Unit No.	Street No.	Street Name	PO Box
	77	Beckwith Street North	695
Municipality/City/Town			Province
Smiths Falls			ON
			Postal Code
			K7A 4T6

File No.	Works Number	Data Period Month Year	Days	Discharge Type	Update Code
4 6	1 2 0 0 0 8 9 0	0 7 2 0	3 1	2	R
1 2	3 11	16 19	20 21	22	80

C.P.	Flows	Parameter Code	Dec.	Monthly Results
0 1	Total Flow	(10 <sup>3</sup> m <sup>3</sup> ) 5 0 0 1 0	3	2 2 0 . 1 1 7
	Average Daily Flow	(10 <sup>3</sup> m <sup>3</sup> /d) 5 0 0 1 5	3	6 . 4 5 5
	Maximum Daily Flow	(10 <sup>3</sup> m <sup>3</sup> /d) 5 0 0 2 0	3	9 . 0 7 9
12 13		30 34	35	38 46

2 6	BYPASS	Parameter Code	Dec.	Monthly Results	# of Occurrences
	Plant Bypass Volume	(10 <sup>3</sup> m <sup>3</sup> ) 5 0 0 2 6	3	.	
	Duration	(hrs) 8 0 5 6 3	1	.	
	Secondary Bypass Volume	(10 <sup>3</sup> m <sup>3</sup> ) 5 0 0 4 0	3	.	0
	Duration	(hrs) 8 0 5 6 5	1	.	
12 13		30 34	35	38	

0 3	RAW SEWAGE	Parameter Code	Dec.	Monthly Results	# of Samples
	BOD <sub>5</sub>	(mg/L) 0 0 0 0 1	0	1 7 7	5
	Suspended Solids	(mg/L) 0 0 0 0 6	0	3 2 3	1 3
	TKN	(mg/L) 0 0 0 2 0	2	2 5 . 2 0	5
	Total Phosphorus	(mg/L) 0 0 0 3 3	1	5 . 0	1 0
12 13		30 34	35	38	

0 4	FINAL EFFLUENT	Parameter Code	Dec.	Monthly Results	# of Samples
	BOD <sub>5</sub>	(mg/L) 0 0 0 0 1	1	3 . 0	5
	Suspended Solids	(mg/L) 0 0 0 0 6	1	1 . 5	1 5
	Ammonia + Ammonium	(mg/L) 0 0 0 1 9	2	0 . 0 2	1 0
	TKN	(mg/L) 0 0 0 2 0	2	0 . 7 0	5
	Total Phosphorus	(mg/L) 0 0 0 3 3	2	0 . 0 5	1 5
12 13		30 34	35	38	

0 7	DISINFECTION	Parameter Code	Dec.	Monthly Results	# of Samples
	Chlorine Used	(kg as Cl <sub>2</sub> ) 5 0 3 2 0	1	.	
	Chlorine Dosage	(mg/L as Cl <sub>2</sub> ) 8 0 4 1 0	1	.	
	Chlorine Residual	(mg/L as Cl <sub>2</sub> ) 8 0 4 2 0	1	.	
	(representative of final discharge)				
12 13		30 34	35	38	48 51

Operator Telephone Number	613 283-4124
E-mail address	scooke@smithsfalls.ca
Comments	UV disinfection

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Project Name

Smiths Falls WPCP

Mailing Address

Unit No.	Street No.	Street Name	PO Box
	180	Queen Street	

Municipality/City/Town	Province	Postal Code
Town of Smiths Falls	ON	K7A 5B8

Operating Authority

Town of Smiths Falls

Mailing Address

Unit No.	Street No.	Street Name	PO Box
	77	Beckwith Street North	695

Municipality/City/Town	Province	Postal Code
Smiths Falls	ON	K7A 4T6

File No.	Works Number	Data Period Month Year	Days	Discharge Type	Update Code
4 6	1 2 0 0 0 8 9 0	0 8 2 0	3 1	2	R

C.P.
0 1

**FLOWS**  
Total Flow  
Average Daily Flow  
Maximum Daily Flow

Parameter Code
(10 <sup>3</sup> m <sup>3</sup> ) 5 0 0 1 0
(10 <sup>3</sup> m <sup>3</sup> /d) 5 0 0 1 5
(10 <sup>3</sup> m <sup>3</sup> /d) 5 0 0 2 0

Dec.
3
3
3

Monthly Results
3 4 1 . 0 0 4
1 1 . 0 0 0
2 5 . 6 7 6

2 6
-----

**BYPASS**  
Plant Bypass Volume  
Duration  
Secondary Bypass Volume  
Duration

(10 <sup>3</sup> m <sup>3</sup> ) 5 0 0 2 6
(hrs) 8 0 5 6 3
(10 <sup>3</sup> m <sup>3</sup> ) 5 0 0 4 0
(hrs) 8 0 5 6 5

3
1
3
1

.
1 1 . 7 8 4
4 0 . 3

# of Occurrences
2

0 3
-----

**RAW SEWAGE**  
BOD<sub>5</sub>  
Suspended Solids  
TKN  
Total Phosphorus

(mg/L) 0 0 0 0 1
(mg/L) 0 0 0 0 6
(mg/L) 0 0 0 2 0
(mg/L) 0 0 0 3 3

0
0
2
1

4 8
1 5 1
1 2 . 4 0
1 . 6

# of Samples
8
1 2
4
1 1

0 4
-----

**FINAL EFFLUENT**  
BOD<sub>5</sub>  
Suspended Solids  
Ammonia + Ammonium  
TKN  
Total Phosphorus

(mg/L) 0 0 0 0 1
(mg/L) 0 0 0 0 6
(mg/L) 0 0 0 1 9
(mg/L) 0 0 0 2 0
(mg/L) 0 0 0 3 3

1
1
2
2
2

4 . 0
4 . 2
0 . 2 0
0 . 6 0
0 . 1 0

8
1 5
8
4
1 4

0 7
-----

**DISINFECTION**  
Chlorine Used  
Chlorine Dosage  
Chlorine Residual  
(representative of final discharge)

(kg as Cl <sub>2</sub> ) 5 0 3 2 0
(mg/L as Cl <sub>2</sub> ) 8 0 4 1 0
(mg/L as Cl <sub>2</sub> ) 8 0 4 2 0

1
1
1

.
.
.

48
51

Operator Telephone Number  
613 283-4124

E-mail address  
scooke@smithsfalls.ca

Comments  
UV disinfection

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Fields marked with an asterisk (\*) are mandatory.

Project Name  
**Smiths Falls Water Pollution Control Plant**

**Facility Address**

Unit Number	Street Number <b>180</b>	Street Name <b>Queen Street</b>	PO Box
Municipality/City/Town <b>Town of Smiths Falls</b>		Province <b>ON - Ontario</b>	Postal Code <b>K7A 5B8</b>
Operating Authority <b>Town of Smiths Falls</b>			

**Mailing Address**

Unit Number	Street Number <b>77</b>	Street Name <b>Beckwith Street</b>	PO Box <b>695</b>
Municipality/City/Town <b>Town of Smiths Falls</b>		Province <b>ON - Ontario</b>	Postal Code <b>K7A 4T6</b>

File No.	Works Number *	Data Period *		Days	Discharge Type	Update Code
<b>4 6</b>	<b>1 2 0 0 0 8 9 0</b>	Month <b>0 9</b>	Year <b>2 0 2 0</b>	<b>3 0</b>	<b>2</b>	<b>R</b>
1 2	3 11	16	19	20 21	22	80

C.P.  
**0 1**

Flows	Parameter Code	Dec.	Monthly Results
Total Flow (10 <sup>3</sup> m <sup>3</sup> )	<b>50010</b>	<b>3</b>	<b>227.750</b>
Average Daily Flow (10 <sup>3</sup> m <sup>3</sup> /d)	<b>50015</b>	<b>3</b>	<b>7.592</b>
Maximum Daily Flow (10 <sup>3</sup> m <sup>3</sup> /d)	<b>50020</b>	<b>3</b>	<b>13.752</b>

Bypass	# of Occurrences
Plant Bypass Volume (10 <sup>3</sup> m <sup>3</sup> )	
Duration (hours)	
Secondary Bypass Volume (10 <sup>3</sup> m <sup>3</sup> )	<b>0</b>
Duration (hours)	

Raw Sewage	# of Samples
BOD <sub>5</sub> (mg/L)	<b>5</b>
Suspended Solids (mg/L)	<b>9</b>
TKN (mg/L)	<b>5</b>
Total Phosphorus (mg/L)	<b>5</b>

Final Effluent	# of Samples
BOD <sub>5</sub> (mg/L)	<b>5</b>
CBOD <sub>5</sub> (mg/L)	<b>5</b>
Suspended Solids (mg/L)	<b>11</b>
Ammonia + Ammonium (mg/L)	<b>6</b>
TKN (mg/L)	<b>5</b>
Total Phosphorus (mg/L)	<b>9</b>

Disinfection	# of Samples
Chlorine Used (kg as Cl <sub>2</sub> )	
Chlorine Dosage (mg/L as Cl <sub>2</sub> )	
Chlorine Residual (mg/L as Cl <sub>2</sub> )	

Operator Telephone Number  
**613-283-4124**

Operator Email Address \*  
**scooke@smithsfalls.ca**

Comments  
**UV disinfection**

**Return completed form to:**

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2. Your Environmental Officer at your local District/Area MECP Office.

Ministry Contact Email Address \*  
**bbeaudoin@ontario.ca**

**Project Name**

Smiths Falls Water Pollution Control Plant

**Facility Address**

Unit Number	Street Number 180	Street Name Queen Street	PO Box
Municipality/City/Town Town of Smiths Falls		Province ON - Ontario	Postal Code K7A5B8
Operating Authority Town of Smiths Falls			

**Mailing Address**

Unit Number	Street Number 77	Street Name Beckwith Street	PO Box 695
Municipality/City/Town Town of Smiths Falls		Province ON - Ontario	Postal Code K7A4T6

File No.	Works Number *	Data Period *		Days	Discharge Type	Update Code
4 6	1 2 0 0 0 8 9 0	Month 0 9	Year 2 0 2 0	3 0	2	R
1 2	3 11	16	19	20 21	22	80

C.P.	Raw Sewage	Parameter Code	Dec	Monthly Average Results	# of Samples
0 3					
12 13					

0 4	Final Effluent	Parameter Code	Dec	Monthly Average Results	# of Samples
12 13	Alkalinity, Total (mg/L)	00051	4		
	Conductivity 25°C (µS/cm)	91004	4		
	E. Coli (CT/100ml)	91000	4	1.0000	5
	Nitrate, Unfiltered reactive (mg/L)	00022	4		
	Nitrite, Unfiltered reactive (mg/L)	00021	4		
	pH	80770	4		
	Temperature, Water (°C)	80250	4	10.8000	8
	Un-ionized Ammonia (mg/L)	91012	4	0.0020	4
	Dissolved Oxygen (mg/L)	00003	4		
	Hydrogen Sulphide (mg/L)	83008	4		
	pH min	80770	4	6.8200	9
	pH max	80770	4	7.8400	9

Operator Telephone Number  
613-283-4124

Operator Email Address  
scooke@smithsfalls.ca

Comments  
UV disinfection

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Fields marked with an asterisk (\*) are mandatory.

Project Name  
**Smiths Falls Water Pollution Control Plant**

**Facility Address**

Unit Number	Street Number <b>180</b>	Street Name <b>Queen Street</b>	PO Box
Municipality/City/Town <b>Town of Smiths Falls</b>		Province <b>ON - Ontario</b>	Postal Code <b>K7A 5B8</b>

Operating Authority  
**Town of Smiths Falls**

**Mailing Address**

Unit Number	Street Number <b>77</b>	Street Name <b>Beckwith Street</b>	PO Box <b>695</b>
Municipality/City/Town <b>Town of Smiths Falls</b>		Province <b>ON - Ontario</b>	Postal Code <b>K7A 4T6</b>

File No.	Works Number *	Data Period *		Days	Discharge Type	Update Code
<b>4 6</b>	<b>1 2 0 0 0 8 9 0</b>	Month <b>1 0</b>	Year <b>2 0 2 0</b>	<b>3 1</b>	<b>2</b>	<b>R</b>
1 2	3 11	16	19	20 21	22	80

C.P. <b>0 1</b>		<b>Flows</b>		Parameter Code	Dec.	Monthly Results	
12	13	Total Flow	(10 <sup>3</sup> m <sup>3</sup> )	<b>50010</b>	<b>3</b>	<b>257.153</b>	
		Average Daily Flow	(10 <sup>3</sup> m <sup>3</sup> /d)	<b>50015</b>	<b>3</b>	<b>8.295</b>	
		Maximum Daily Flow	(10 <sup>3</sup> m <sup>3</sup> /d)	<b>50020</b>	<b>3</b>	<b>15.016</b>	
				30 34	35	38	
<b>2 6</b>		<b>Bypass</b>					# of Occurrences
12	13	Plant Bypass Volume	(10 <sup>3</sup> m <sup>3</sup> )	<b>50026</b>	<b>3</b>		
		Duration	(hours)	<b>80563</b>	<b>1</b>		
		Secondary Bypass Volume	(10 <sup>3</sup> m <sup>3</sup> )	<b>50040</b>	<b>3</b>		<b>0</b>
		Duration	(hours)	<b>80565</b>	<b>1</b>		
				30 34	35	38	
<b>0 3</b>		<b>Raw Sewage</b>					# of Samples
12	13	BOD <sub>5</sub>	(mg/L)	<b>00001</b>	<b>0</b>	<b>152</b>	<b>4</b>
		Suspended Solids	(mg/L)	<b>00006</b>	<b>0</b>	<b>215</b>	<b>10</b>
		TKN	(mg/L)	<b>00020</b>	<b>2</b>	<b>33.70</b>	<b>4</b>
		Total Phosphorus	(mg/L)	<b>00033</b>	<b>1</b>	<b>3.4</b>	<b>6</b>
				30 34	35	38	
<b>0 4</b>		<b>Final Effluent</b>					
12	13	BOD <sub>5</sub>	(mg/L)	<b>00001</b>	<b>1</b>	<b>3.0</b>	<b>4</b>
		CBOD <sub>5</sub>	(mg/L)	<b>00002</b>	<b>1</b>	<b>3.0</b>	<b>4</b>
		Suspended Solids	(mg/L)	<b>00006</b>	<b>1</b>	<b>0.5</b>	<b>11</b>
		Ammonia + Ammonium	(mg/L)	<b>00019</b>	<b>2</b>	<b>0.01</b>	<b>8</b>
		TKN	(mg/L)	<b>00020</b>	<b>2</b>	<b>0.60</b>	<b>4</b>
		Total Phosphorus	(mg/L)	<b>00033</b>	<b>2</b>	<b>0.04</b>	<b>11</b>
				30 34	35	38	
<b>0 7</b>		<b>Disinfection</b>					
12	13	Chlorine Used	(kg as Cl <sub>2</sub> )	<b>50100</b>	<b>1</b>		
		Chlorine Dosage	(mg/L as Cl <sub>2</sub> )	<b>80410</b>	<b>1</b>		
		Chlorine Residual	(mg/L as Cl <sub>2</sub> )	<b>80420</b>	<b>1</b>		
				30 34	35	38	

Operator Telephone Number  
**613-283-4124**

Operator Email Address \*  
**scooke@smithsfalls.ca**

Comments  
**UV disinfection**

**Return completed form to:**

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Ministry Contact Email Address \*  
**bbeaudoin@ontario.ca**

Project Name  
**Smiths Falls Water Pollution Control Plant**
**Facility Address**  
 Unit Number | Street Number | Street Name | PO Box  
 | 180 | Queen Street |  
 Municipality/City/Town | Province | Postal Code  
 Town of Smiths Falls | ON - Ontario | K7A5B8

 Operating Authority  
 Town of Smiths Falls

**Mailing Address**  
 Unit Number | Street Number | Street Name | PO Box  
 | 77 | Beckwith Street | 695  
 Municipality/City/Town | Province | Postal Code  
 Town of Smiths Falls | ON - Ontario | K7A4T6

File No.	Works Number *	Data Period *		Days	Discharge Type	Update Code
4 6	1 2 0 0 0 8 9 0	Month	Year	3 1	2	R
1 2	3 11	1 0	2 0 2 0	20 21	22	80

C.P.	Raw Sewage	Parameter Code	Dec	Monthly Average Results	# of Samples
0 3					
12 13					

0 4	Final Effluent	Parameter Code	Dec	Monthly Average Results	# of Samples
12 13	Alkalinity, Total (mg/L)	00051	4		
	Conductivity 25°C (µS/cm)	91004	4		
	E. Coli (CT/100ml)	91000	4	1.0000	4
	Nitrate, Unfiltered reactive (mg/L)	00022	4		
	Nitrite, Unfiltered reactive (mg/L)	00021	4		
	pH	80770	4		
	Temperature, Water (°C)	80250	4	8.7000	10
	Un-ionized Ammonia (mg/L)	91012	4	0.0020	6
	Dissolved Oxygen (mg/L)	00003	4		
	Hydrogen Sulphide (mg/L)	83008	4		
	pH min	80770	4	6.9200	8
	pH max	80770	4	7.5900	8

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 Operator Email Address  
 scooke@smithsfalls.ca  
 Comments  
 UV disinfection

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Project Name  
**Smiths Falls Water Pollution Control Plant**

**Facility Address**

Unit Number	Street Number <b>180</b>	Street Name <b>Queen Street</b>	PO Box
Municipality/City/Town <b>Town of Smiths Falls</b>		Province <b>ON - Ontario</b>	Postal Code <b>K7A 5B8</b>
Operating Authority <b>Town of Smiths Falls</b>			

**Mailing Address**

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Municipality/City/Town <b>Town of Smiths Falls</b>		Province <b>ON - Ontario</b>	Postal Code <b>K7A 4T6</b>

File No.	Works Number *	Data Period *		Days	Discharge Type	Update Code
<b>4 6</b>	<b>1 2 0 0 0 8 9 0</b>	Month <b>1 1</b>	Year <b>2 0 2 0</b>	<b>3 0</b>	<b>2</b>	<b>R</b>
1 2	3 11	16	19	20 21	22	80

C.P.
<b>0 1</b>
12 13

**Flows**

Total Flow (10<sup>3</sup> m<sup>3</sup>)  
Average Daily Flow (10<sup>3</sup> m<sup>3</sup>/d)  
Maximum Daily Flow (10<sup>3</sup> m<sup>3</sup>/d)

Parameter Code	Dec.	Monthly Results
<b>50010</b>	<b>3</b>	<b>230.532</b>
<b>50015</b>	<b>3</b>	<b>7.684</b>
<b>50020</b>	<b>3</b>	<b>14.089</b>

<b>2 6</b>
12 13

**Bypass**

Plant Bypass Volume (10<sup>3</sup> m<sup>3</sup>)  
Duration (hours)  
Secondary Bypass Volume (10<sup>3</sup> m<sup>3</sup>)  
Duration (hours)

Parameter Code	Dec.	Monthly Results
<b>50026</b>	<b>3</b>	
<b>80563</b>	<b>1</b>	
<b>50040</b>	<b>3</b>	
<b>80565</b>	<b>1</b>	

# of Occurrences
<b>0</b>

<b>0 3</b>
12 13

**Raw Sewage**

BOD<sub>5</sub> (mg/L)  
Suspended Solids (mg/L)  
TKN (mg/L)  
Total Phosphorus (mg/L)

Parameter Code	Dec.	Monthly Results
<b>00001</b>	<b>0</b>	<b>161</b>
<b>00006</b>	<b>0</b>	<b>212</b>
<b>00020</b>	<b>2</b>	<b>20.40</b>
<b>00033</b>	<b>1</b>	<b>3.4</b>

# of Samples
<b>4</b>
<b>11</b>
<b>4</b>
<b>7</b>

<b>0 4</b>
12 13

**Final Effluent**

BOD<sub>5</sub> (mg/L)  
CBOD<sub>5</sub> (mg/L)  
Suspended Solids (mg/L)  
Ammonia + Ammonium (mg/L)  
TKN (mg/L)  
Total Phosphorus (mg/L)

Parameter Code	Dec.	Monthly Results
<b>00001</b>	<b>1</b>	<b>3.0</b>
<b>00002</b>	<b>1</b>	<b>3.0</b>
<b>00006</b>	<b>1</b>	<b>0.4</b>
<b>00019</b>	<b>2</b>	<b>0.03</b>
<b>00020</b>	<b>2</b>	<b>0.70</b>
<b>00033</b>	<b>2</b>	<b>0.06</b>

<b>4</b>
<b>4</b>
<b>13</b>
<b>7</b>
<b>4</b>
<b>12</b>

<b>0 7</b>
12 13

**Disinfection**

Chlorine Used (kg as Cl<sub>2</sub>)  
Chlorine Dosage (mg/L as Cl<sub>2</sub>)  
Chlorine Residual (mg/L as Cl<sub>2</sub>)

Parameter Code	Dec.	Monthly Results
<b>50100</b>	<b>1</b>	
<b>80410</b>	<b>1</b>	
<b>80420</b>	<b>1</b>	


Operator Telephone Number  
**613-283-4124**

Operator Email Address \*  
**scooke@smithsfalls.ca**

Comments  
**UV disinfection**

**Return completed form to:**

1. Environmental Monitoring and Reporting Branch, MECP, at [WasteWaterReporting@ontario.ca](mailto:WasteWaterReporting@ontario.ca) And
2. Your Environmental Officer at your local District/Area MECP Office.

Ministry Contact Email Address \*  
**bbeaudoin@ontario.ca**



Fields marked with an asterisk (\*) are mandatory.

Project Name  
**Smiths Falls Water Pollution Control Plant**

**Facility Address**

Unit Number	Street Number <b>180</b>	Street Name <b>Queen Street</b>	PO Box
Municipality/City/Town <b>Town of Smiths Falls</b>		Province <b>ON - Ontario</b>	Postal Code <b>K7A 5B8</b>
Operating Authority <b>Town of Smiths Falls</b>			

**Mailing Address**

Unit Number	Street Number <b>77</b>	Street Name <b>Beckwith Street</b>	PO Box <b>695</b>
Municipality/City/Town <b>Town of Smiths Falls</b>		Province <b>ON - Ontario</b>	Postal Code <b>K7A 4T6</b>

File No.	Works Number *	Data Period *	Days	Discharge Type	Update Code
<b>4 6</b>	<b>1 2 0 0 0 8 9 0</b>	Month: <b>1 2</b> Year: <b>2 0 2 0</b>	<b>3 1</b>	<b>2</b>	<b>R</b>
1 2	3 11	16 19	20 21	22	80

C.P.						
<b>0 1</b>	<b>Flows</b>		Parameter Code	Dec.	Monthly Results	
12 13	Total Flow	(10 <sup>3</sup> m <sup>3</sup> )	<b>50010</b>	<b>3</b>	<b>343.350</b>	
	Average Daily Flow	(10 <sup>3</sup> m <sup>3</sup> /d)	<b>50015</b>	<b>3</b>	<b>11.076</b>	
	Maximum Daily Flow	(10 <sup>3</sup> m <sup>3</sup> /d)	<b>50020</b>	<b>3</b>	<b>32.089</b>	
			30 34	35	38	
<b>2 6</b>	<b>Bypass</b>					# of Occurrences
12 13	Plant Bypass Volume	(10 <sup>3</sup> m <sup>3</sup> )	<b>50026</b>	<b>3</b>		
	Duration	(hours)	<b>80563</b>	<b>1</b>		
	Secondary Bypass Volume	(10 <sup>3</sup> m <sup>3</sup> )	<b>50040</b>	<b>3</b>	<b>7.640</b>	<b>1</b>
	Duration	(hours)	<b>80565</b>	<b>1</b>	<b>15.1</b>	
			30 34	35	38	
<b>0 3</b>	<b>Raw Sewage</b>					# of Samples
12 13	BOD <sub>5</sub>	(mg/L)	<b>00001</b>	<b>0</b>	<b>112</b>	<b>7</b>
	Suspended Solids	(mg/L)	<b>00006</b>	<b>0</b>	<b>140</b>	<b>12</b>
	TKN	(mg/L)	<b>00020</b>	<b>2</b>	<b>15.90</b>	<b>5</b>
	Total Phosphorus	(mg/L)	<b>00033</b>	<b>1</b>	<b>3.1</b>	<b>10</b>
			30 34	35	38	
<b>0 4</b>	<b>Final Effluent</b>					
12 13	BOD <sub>5</sub>	(mg/L)	<b>00001</b>	<b>1</b>	<b>4.0</b>	<b>7</b>
	CBOD <sub>5</sub>	(mg/L)	<b>00002</b>	<b>1</b>	<b>4.0</b>	<b>7</b>
	Suspended Solids	(mg/L)	<b>00006</b>	<b>1</b>	<b>4.3</b>	<b>13</b>
	Ammonia + Ammonium	(mg/L)	<b>00019</b>	<b>2</b>	<b>0.10</b>	<b>8</b>
	TKN	(mg/L)	<b>00020</b>	<b>2</b>	<b>0.70</b>	<b>5</b>
	Total Phosphorus	(mg/L)	<b>00033</b>	<b>2</b>	<b>0.15</b>	<b>13</b>
			30 34	35	38	
<b>0 7</b>	<b>Disinfection</b>					
12 13	Chlorine Used	(kg as Cl <sub>2</sub> )	<b>50100</b>	<b>1</b>		
	Chlorine Dosage	(mg/L as Cl <sub>2</sub> )	<b>80410</b>	<b>1</b>		
	Chlorine Residual	(mg/L as Cl <sub>2</sub> )	<b>80420</b>	<b>1</b>		
			30 34	35	38	

Operator Telephone Number  
**613-283-4124**

Operator Email Address \*  
**scooke@smithsfalls.ca**

Comments  
**UV disinfection**

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- Your Environmental Officer at your local District/Area MECP Office.

Ministry Contact Email Address \*  
[bbeaudoin@ontario.ca](mailto:bbeaudoin@ontario.ca)



**APPENDIX H**  
**Operators Licenses**

## Wastewater Operator Licenses

### Smiths Falls Water Pollution Control Plant Class 4

Works # 12000890

Conventional Tertiary Treatment UV Disinfection / Pelletization

Operator	Operator ID	Class	License #	Expiry Date (DD/MM/YY)	Type	ORO/ OIC
Jason Barlow	90010987	4	12448	30-Apr-22	WWT	ORO
Steve Laplante	90001222	4	13358	31-Jan-24	WWT	OIC/ORO alternative
AustIn Mitchell	90072859	4	87723	31-Jan-22	WWT	OIC/ORO alternative
Tyler George	90054012	4	68240	30-Nov-21	WWT	OIC/ORO alternative
Andrew MacNaughton	90053135	3	92617	31-May-22	WWT	OIC
Matt Mensen	90084215	1	104423	31-Mar-22	WWT	OIC
Molly Buckland	90087406	1	112084	31-Dec-23	WWT	OIC
Jenni Yuill	90072270	OIT	OT80043	31-May-22	WWT	N/A
<b>Other Departments</b>						
Sarah Cooke	90010541	OIT	42740	30-Sep-21	WWT	N/A