TOWN OF SMITHS FALLS
WATER POLLUTION CONTROL PLANT

2023 PERFORMANCE REPORT
Revision #1
Environmental Compliance Approval
Number 5671-AE7HFT

April 30th, 2024

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

Attention Mrs. Shannon Hamilton-Browne

Dear Mrs. Hamilton-Browne,

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 of Water & Wastewater ORO whose office is located at 43 Abbott Street North, Smiths Falls, and can be contacted at 613-283-4124 ext. 5501 or jbarlow@smithsfalls.ca. As of April 26th, 2024 the ORO for the facility is Tyler George, Chief Operator.

Regards,

Sarah E. Cooke
Water and Wastewater Compliance Coordinator
Tel: 613-283-4124 ext. 5502
Email: scooke@smithsfalls.ca

cc. Brenda Beaudoin, Water Inspector

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 2023 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 modification;
k) A report summarizing all modifications completed as a result of Schedule B, Section 1; and
l) Any other information the Water Supervisor requires from time to time.

In addition, this Annual Performance Report must be forwarded to the Ministry no later than March 31, 2024. The WPCP must comply with all the requirements, criteria contained in the ECA, along with all Acts, Regulations, and F-Series Procedures made concerning operation of facilities, licensing of facilities, licensing of operators and Legislation that pertains to the Sustaining of Water and Sewerage Facilities.

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Revision #1

- Page 12 effluent objective limits section revised due to incorrect information provided.

1.0 Introduction

This Annual Performance Report is for the period from January 1st to December 31st 2023 which is a legislative requirement under Condition 11 (4) of C of A number 5671-AE7HFT. This Annual Performance Report must be forwarded to the Ministry of Environment Conservation and Parks (MECP) no later than March 31st, 2024.

2.0 Facility and Process Overview

The 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 pipes that is conveyed by gravity and or pumped to the WPCP. A total of 2,736,344 cubic meters (m^3) of wastewater was treated in 2023.

The WPCP is a Class IV nitrifying tertiary treatment activated sludge plant with a rated capacity of 14,700 cubic meters per day (m^3/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. The final product 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 1,200 mm diameter gravity sewer which discharges into the wet well in head works.

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 teacups 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. Floatable materials 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 is 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^3 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 15 - 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 registered under The Canadian Food Inspection Agency's (CFIA) program 13: organic derived fertilizer program and are sampled once a year by CFIA. This sampling is to confirm the pellets meet the requirements of the Fertilizer Act and guidelines. The WPCP also does sampling of the pellets on every 11th bag processed.

On February 23rd, a CFIA inspector attended the WPCP to collect samples of pellets to confirm they meet the parameters. On March 7th, CFIA's results detected Salmonella and this bag was issued a Notice of Detention which meant this bag of pellets could not be sold or moved until it was found free of salmonella. On March 21st the inspector re-sampled and those sample results were found to be compliant and free from salmonella. A Notice of Release From Detention was issued on March 29th allowing the pellet bag to be moved or sold.

These pellets are sold to GFL Environmental Inc. 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.**

Production for 2023:

- 14,153 m^3 of sludge was processed
- 381 super sacks filled (approximately 631 kg/sack)
- 233,596 kg of pellets produced
- 2,223 pellet production hours

Production for 2022:

- 16,917 m^3 of sludge was processed
- 565 super sacks filled (approximately 631 kg/sack)

- 363,026 kg of pellets produced
- 2,538 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^3 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 2023, the Smiths Falls WPCP operated under amended Environmental Compliance Approval (ECA) Number 5671-AE7HFT which was issued on January 11th, 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^3/d. For 2023, the average daily flow was 7,591.1 m^3. For the reporting period of 2023, the WPCP operated at an average of 51.64% 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 would 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 2023 can be found in ***Appendix A.***

4.0 Monitoring Data

The ECA lists effluent limits for Carbonaceous Biochemical Oxygen Demand ($CBOD_5$), Total Suspended Solids (TSS), Total Phosphorus (TP), Total Ammonia Nitrogen (NH_3), 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 is 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 eleven (11) months out of the reporting period for monthly average concentrations and monthly average waste loadings for Carbonaceous Biochemical Oxygen Demand ($CBOD_5$), Total Ammonia Nitrogen (NH_3), pH and the monthly Geomean for E. coli.

Compliance was not met during the month of April for the below Final *"Effluent Limits"*

- Total Suspended Solids (TSS): 20.95 mg/L, Effluent Limit TSS: 15 mg/L
- TSS Loading: 288.33 kg/d, Effluent Limit TSS Loadings: 220.5 kg/d
- Total Phosphorus (TP): 0.39 mg/L, Effluent Limit TP: 0.30 mg/L

- TP Loading: 5.37 kg/d, Effluent Limit TP Loadings: 4.40 kg/d

This non-compliance was reported verbally to the Ministry on June 29th with written notification submitted on June 30th as per the ECA condition 11. This non-compliance was the result of two (2) secondary treatment bypass events. The first event (portal incident #230405-000012) started on April 5th and ended on April 9th, 2023. The second event (portal incident #230430-000012) started on April 30th and ended on May5th, 2023.

Compliance was also achieved with the Final *"Objective Limits"* during ten (10) months out of the reporting period for monthly average concentrations for Carbonaceous Biochemical Oxygen Demand ($CBOD_5$), Total Ammonia Nitrogen (NH_3), pH and the monthly Geomean for E. coli.

The final objective limit was not achieved for TSS during the month of January and TP during April due to a secondary treatment bypass events.

- Total Suspended Solids (TSS): 9.49 mg/L, Effluent Objective Limit TSS: 5 mg/L
- Total Phosphorus (TP): 0.39 mg/L, Effluent Objective Limit: 0.25 mg/L

ECA Objectives are non-enforceable effluent quality results which wastewater plants are obligated to use best efforts to achieve on an on-going basis.

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 2023, there were a total of three (3) secondary treatment by-passes, which lasted for a total duration of 205.98 hours and a total volume of 115,348.4 m^3 treated.

All secondary treatment by-pass events are reported verbally to the Ministry's Spills Action Centre (SAC) or use of the Ministry's online Bypass reporting portal. Agencies are notified via email or fax 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.

The Ministry now as an online reporting portal that secondary treatment bypass events can be reported too. The Town has also migrated the bypass forms into MESH.

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 10th, May 16th, August 14th, and November 10th.

The below table is a summary of the secondary treatment bypasses from 2019 to 2023

YEAR	Number of Secondary Treatment Bypasses	Total Duration (Hr)	Total Volume (m^3)
2019	6	121.9	27,114.0
2020	5	105.9	42,639.7
2021	0	0.0	0.0
2022	3	69.7	11,964.0
2023	3	205.98	115,348.43

Secondary treatment bypasses can be found in **Appendix C.**

6.0 Operational Problems & Corrective Actions

The was only one operational problem during the reporting period which did not cause any treatment plant issue with the ECA. The plant experienced an increase in rag build up (non-flushable wipes) that did cause some operational issues with buildup on process equipment such as mixers, pelletizer cyclone and screens.

7.0 On Call

The operators are provided with their own Town issued mobile phone. 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. Should an alarm fail to be answered or acknowledged, it will go through

the programmed WIN-911 list which the Manager is a part of and can take the required action if needed.

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) is also being used to track preventative and corrective maintenance activities.

Below are some of the major maintenance highlights:

- PLC upgrade project completed including pump stations & Old Mill CSO systems.
- Both Aeration tanks drained/cleaned and entire new diffuser heads installed.
- Bar screen replacement project started December 2023 ongoing.
- Installed new socks in pelletizer cyclone.
- Installed new muffin monster cutting components to eliminate rag issues.
- Actuator for Valve (209): Actuator replacement.
- South Primary Tank: replaced all cross-collector flights due to damage. Replaced parts as necessary and inspected all other parts on chains, drives etc.

A summary of 2023 Maintenance Records can be found in **Appendix D.**

8.1 Centre St Pumping Station

Although the Centre St pumping station is listed in the WPCP ECA #5671-AE7HFT, the Ministry approved on August 17th, 2022 the first Consolidated Linear Infrastructure (CLI) ECA for the Town's sewage collection system. As such all pumping stations are now included in this new ECA.

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 Effluent Flow meter and the Secondary Bypass Flow meter in

December 2023. There were also nine (9) flow meters that were verified in December 2023 as well.

10.0 Sludge Generation

Approximately, 14,153.4 m^3 of sludge was processed in 2023. 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 GFL Environmental Inc 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. Also, primary sludge and processed cake can be shipped to waste sites operated by GFL Environmental Inc. Only Ministry approved and licensed haulers are used to transport sludge or cake. Little to no change in sludge generation is anticipated over the next reporting period.

With the increase of rag build up (non-flushable wipes) that caused build up on process equipment including the pelletizer cyclone and screens, cake from the belt press was shipped via bins to GFL Environmental Inc sites for 20 days.

A summary of 2023 Sludge Solids Handling can be found in **Appendix E.**

11.0 Summary Complaints

There was one (1) complaint received during the reporting period in 2023 regarding the WPCP. A resident that lives close to the WPCP complaint of unpleasant sewage smells. The reason for the unpleasant odour was the result of primary tank maintenance to repair a broken cross collector as well as to perform an inspection and maintenance on this tank. Should a complaint be received immediate steps are taken to rectify the issue.

12.0 Ministry of Environment Conservation & Parks Communal Sewage Inspection Report

There was no Ministry inspection conducted during the inspection period.

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

MUMPs compliance reports are completed and submitted electronically to the Ministry. 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 2023 can be found in **Appendix F.**

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 G.**

16.0 Notice of Modifications (Limited Operational Flexibility)

There was one (1) notice of modifications (limited operational flexibility) completed for the reporting period. The LOF completed is to replace the two (2) existing bar screens and de-watering press along with associated upgrades to the screening disposal and hazardous gas detection system. This project began in December and is currently on-going.
The Notice of Modification to Sewage Works and supporting information (minus the report appendices) can be found in **Appendix H.**

17.0 Service Sustainability Review Performance Measures

Operational Cost per Cubic Meter Wastewater Treated

2023-	$0.632 (unaudited)	(2,736,344 m3) ($1,728,240*)
2022 -	$0.569	(2,773,433 m3) ($1,576,907*)
2021 -	$0.580	(2,882,833 m3) ($1,670,796*)
2020 -	$0.476	(3,676,930 m3) ($1,751,398*)
2019 -	$0.483	(3,768,236 m3) ($1,819,107*)

* Operational Only - Not inclusive of Transfer to reserve, capital, loan or interest payments

WPCP Secondary Treatment Bypass Events

	# Of Bypasses	Duration (hours)	Total Volume (m^3)
2023 -	3	205.98	115,348.43
2022 -	3	69.7	11,964.0
2021 -	0	0.0	0.0
2020 -	5	105.9	42,639.7
2019 -	6	121.9	27,114.0

Sludge/Pellets Processed

	Sludge (m^3)	Pellets (Tonnes)
2023 –	14,153	234
2022 –	16,491	358
2021 –	16,964	342
2020 –	17,261	358
2019 –	15,496	458

Chemical Costs (coagulant)

2023 - $136,864 (188,530 kg)
2022 - $78,127 (157,130 kg)
2021 - $68,674
2020 - $80,692
2019 - $102,826

Hydro Costs

2023 - $324,020 (2,192,350 kWh)
2022 - $298,731 (2,292,148 kWh)
2021 - $331,000
2020 - $379,009
2019 - $375,138

Natural Gas

2023 - $113,001
2022 - $103,043
2021 - $81,479
2020 - $90,232
2019 - $74,472

Complaints per 1000 persons served (8780 pop (2016))

2023 - 0.11 Complaints/1,000 (1 total complaints)
2022 – 0.11 Complaints/1,000 (1 total complaints)
2022 – 0 Complaints/1,000 (0 total complaints)
2021 – 0 Complaints/1,000 (0 total complaints)
2020 – 0 Complaints/1,000 (0 total complaints)
2019 – 0 Complaints/1,000 (0 total complaints)

APPENDIX A

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

Received January 13, 2017

Ontario

Ministry of the Environment and Climate Change
Ministère de l'Environnement et de l'Action en matière de changement climatique

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^3/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^3/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^3 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^3/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;

Girt Removal

- two (2) girt removal units, each with a Peak Flow Rate of 25,350 m^3/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^3/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^3/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^3/h, with automatic continuous backwash;

Supplementary Treatment

Phosphorus Removal

- two (2) 18.9 m^3 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 µW/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 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 m^3/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.

Table 1 - Effluent Objectives	
Effluent Parameter	**Concentration Objective** (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.

Table 2 - Final Effluent Limits		
Effluent Parameter	**Average Concentration** (milligrams per litre unless otherwise indicated)	**Average Waste Loading** (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:

Table 3 - Influent Monitoring		
Parameters	**Sample Type**	**Frequency**
BOD5	Composite	Weekly
Total Suspended Solids	Composite	Weekly
Total Phosphorus	Composite	Weekly
Total Kjeldahl Nitrogen	Composite	Weekly

Table 4 - Final Effluent Monitoring		
Parameters	**Sample Type**	**Frequency**
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 Guerrera 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;

hedule 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 c apacity, 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 <u>not</u> 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.

Ontario
Ministry of
the Environment

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)

Part 1 – Environmental Compliance Approval (ECA) with Limited Operational Flexibility

(Insert the ECA's owner, number and issuance date and notice number, which should start with "01" and consecutive numbers thereafter)

ECA Number	Issuance Date (mm/dd/yy)	Notice number (if applicable)

ECA Owner	Municipality

Part 2: Description of the modifications as part of the Limited Operational Flexibility

(Attach a detailed description of the sewage works)

Description shall include:
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.)
2. Confirmation that the anticipated environmental effects are negligible.
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.)

Part 3 – Declaration by Professional Engineer

I hereby declare that I have verified the scope and technical aspects of this modification and confirm that the design:
1. Has been prepared or reviewed by a Professional Engineer who is licensed to practice in the Province of Ontario;
2. Has been designed in accordance with the Limited Operational Flexibility as described in the ECA;
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.

I hereby declare that to the best of my knowledge, information and belief the information contained in this form is complete and accurate

Name (Print)	PEO License Number

Signature	Date (mm/dd/yy)

Name of Employer

Part 4 – Declaration by Owner

I hereby declare that:
1. I am authorized by the Owner to complete this Declaration;
2. The Owner consents to the modification; and
3. This modifications to the sewage works are proposed in accordance with the Limited Operational Flexibility as described in the ECA.
4. The Owner has fulfilled all applicable requirements of the *Environmental Assessment Act*.

I hereby declare that to the best of my knowledge, information and belief the information contained in this form is complete and accurate

Name of Owner Representative (Print)	Owner representative's title (Print)

Owner Representative's Signature	Date (mm/dd/yy)

EAB Form December 2, 2013

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**

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

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

Ontario

Ministry of Environment and Energy

Ministère de l'Environnement et de l'Énergie

CERTIFICATE OF APPROVAL
AIR
NUMBER 8-4041-93-006

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 louvre 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,

Ontario

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

LOCATION	VENT NUMBER	HEIGHT ABOVE ROOF (metre)	HEIGHT ABOVE GRADE (metre)	VOLUMETRIC FLOWRATE (normal cubic metre per second)
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
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
Pellitizer	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.

Ministry of Environment and Energy
Ministère de l'Environnement et de l'Énergie
Ontario

CERTIFICATE OF APPROVAL
AIR
NUMBER 8-4041-93-006

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.

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 proctocol.

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.

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.

Ontario Ministry of Environment and Energy / Ministère de l'Environnement et de l'Énergie

CERTIFICATE OF APPROVAL
AIR
NUMBER 8-4041-93-006

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

Ontario

AMENDMENT TO CERTIFICATE OF APPROVAL
AIR
NUMBER 8-4041-93-006

L020602

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

2023 Monitoring Data

Town of Smiths Falls
2023 Performance Assessment Report - WPCP
Works # 120000890
Conventional Tertiary Treatment UV Disinfection / Pelletization

	PLANT FLOWS				RAW INFLUENT													
MONTH	Minimum Day (m^3)	Maximum Day (m^3)	Average (m^3)	Total (m^3)	Alkalinity (mg/L)	BOD_5 (mg/L)	BOD_5 Loadings (kg/d)	$CBOD_5$ (mg/L)	$CBOD_5$ 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	5,678	29,181	10,758	333,511	250.00	122.00	1,312.52	49.00	527.16	190.00	2,044.10	1.83	17.70	4.69	0.068	7.71	8.60	3.770	0.241
February	5,587	17,101	9,811	271,594	232.00	201.00	1,971.91	68.00	667.11	255.00	2,501.68	3.46	21.00	6.02	0.035	7.52	8.00	2.160	0.311
March	6,402	17,446	10,310	300,773	234.00	139.00	1,433.03	43.00	443.31	154.00	1,587.68	2.56	17.50	7.65	0.061	7.52	8.60	2.580	0.245
April	6,248	51,419	13,761	403,592	234.00	96.00	1,321.08	32.00	440.36	118.00	1,623.83	1.71	18.20	7.84	0.130	7.53	9.40	2.593	26.132
May	4,939	45,140	10,708	331,939	237.00	113.00	1,209.98	72.00	770.96	187.00	2,002.36	3.30	17.60	7.51	0.033	7.44	9.10	1.660	0.120
June	3,322	7,754	4,687	140,598	224.00	191.00	895.16	83.00	389.00	236.00	1,106.06	2.44	26.10	15.20	0.062	7.49	9.70	0.907	0.151
July	4,008	14,372	5,672	175,821	228.00	151.00	856.43	74.00	419.71	312.00	1,769.57	4.91	28.90	12.80	0.070	7.44	11.50	1.239	0.310
August	4,373	9,396	5,906	183,091	229.00	141.00	832.75	82.00	484.29	310.00	1,830.86	5.60	27.70	9.88	0.081	7.55	11.40	1.240	0.140
September	2,334	6,533	4,466	133,983	222.00	237.00	1,058.47	97.00	433.21	606.00	2,706.46	5.70	34.30	15.40	0.080	7.53	9.00	1.490	0.136
October	3,519	6,013	4,181	129,604	216.00	234.00	978.31	79.00	330.28	395.00	1,651.42	6.20	36.90	18.10	0.098	7.53	8.80	2.000	0.182
November	3,575	5,818	4,029	120,866	231.00	217.00	874.27	82.00	330.37	287.00	1,156.29	5.37	34.00	18.50	0.099	7.54	8.90	2.966	0.260
December	4,201	15,077	6,806	210,972	234.00	149.00	1,014.02	60.00	408.33	200.00	1,361.10	4.48	25.20	12.02	0.070	7.58	7.90	1.210	0.132
TOTAL	54,184	225,249	91,093	2,736,344	2,771.00	1,991.00	13,757.93	821.00	5,644.10	3,250.00	21,341.40	47.56	305.10	135.61	0.89	90.38	110.90	23.82	28.36
AVERAGE	4,515	18,771	7,591	228,029	230.92	165.92	1,146.49	68.42	470.34	270.83	1,778.45	3.96	25.43	11.30	0.07	7.53	9.24	1.98	2.36
Max	6,402	51,419	13,761	403,592	250.00	237.00	1,971.91	97.00	770.96	606.00	2,706.46	6.20	36.90	18.50	0.130	7.71	11.50	3.770	26.132
Min	2,334	5,818	4,029	120,866	216.00	96.00	832.75	32.00	330.28	118.00	1,106.06	1.71	17.50	4.69	0.033	7.44	7.90	0.907	0.120

Annual average flow (m^3/d): 7,591.11
WPCP rate capacity (m3/d): 14,700
Peak flow (m^3/d): 51,419
Percentage of rated capacity (%): 51.64

	FINAL EFFLUENT																		
MONTH	Alkalinity (mg/L)	Ammonia (N) - Total (mg/L)	NH3 Loadings (kg/d)	Ammonia (N) - Unionized (mg/L)	BOD_5 (mg/L)	BOD_5 Loadings (kg/d)	$CBOD_5$ (mg/L)	$CBOD_5$ 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 Min	pH Avg	pH Max	Temperature (°C)	Nitrate (mg/L)	Nitrite (mg/L)	E. Coli Geomean
January	171.00	0.110	1.18	0.007	5.00	53.79	4.00	43.03	**9.49**	102.08	0.19	2.04	0.80	8.61	7.16	7.34	7.56	8.20	9.22	0.077	13.36
February	149.00	0.070	0.69	0.110	3.00	29.43	3.00	29.43	0.77	7.57	0.09	0.88	0.80	7.85	6.86	7.22	7.42	7.30	12.58	0.207	1.00
March	167.00	0.020	0.21	0.010	3.00	30.93	3.00	30.93	0.65	6.73	0.08	0.82	0.70	7.22	7.09	7.27	7.46	8.30	9.79	0.376	1.00
April	161.00	0.275	3.78	0.010	13.00	178.90	8.00	110.09	**20.95**	**288.33**	***0.39***	**5.37**	0.50	6.88	6.98	7.32	7.90	9.40	8.85	0.027	20.60
May	157.00	0.228	2.44	0.010	3.00	32.12	3.00	32.12	2.87	30.72	0.09	0.96	0.90	9.64	7.12	7.36	7.55	9.80	8.90	0.024	4.81
June	119.00	0.027	0.13	0.010	3.00	14.06	3.00	14.06	0.78	3.67	0.05	0.23	0.70	3.28	6.84	7.21	7.44	11.10	9.11	3.144	1.00
July	127.00	0.033	0.19	0.010	3.00	17.02	3.00	17.02	2.09	11.85	0.06	0.34	0.80	4.54	7.00	7.22	7.45	14.68	13.90	0.032	1.00
August	140.00	0.043	0.25	0.010	3.00	17.72	3.00	17.72	1.00	5.91	0.05	0.30	0.70	4.13	7.09	7.39	7.39	15.00	11.74	0.026	1.15
September	131.00	0.220	0.98	0.003	3.00	13.40	3.00	13.40	0.70	3.13	0.07	0.31	1.10	4.91	7.08	7.33	7.63	11.50	13.20	0.205	1.00
October	96.00	0.032	0.13	0.010	3.00	12.54	3.00	12.54	1.20	5.02	0.05	0.21	0.70	2.93	6.96	7.30	7.48	11.80	17.60	0.060	1.00
November	98.00	0.038	0.15	0.010	3.00	12.09	3.00	12.09	0.90	3.63	0.16	0.64	0.90	3.63	6.98	7.26	7.52	8.30	3.24	0.050	1.00
December	127.10	0.031	0.21	0.010	3.00	20.42	3.00	20.42	1.36	9.23	0.04	0.27	0.90	6.12	7.12	7.47	7.73	6.70	13.70	0.050	1.00
TOTAL	1,643.10	1.127	10.35	0.210	48.00	432.41	42.00	352.84	42.76	477.86	1.32	12.39	9.50	69.73	84.28	87.69	90.53	122.08	131.83	4.28	47.92
AVERAGE	136.925	0.094	0.863	0.018	4.000	36.034	3.500	29.404	3.564	39.821	0.110	1.033	0.792	5.811	7.023	7.308	7.544	10.173	10.986	0.357	3.993
Max	171.00	0.275	3.78	0.110	13.00	178.90	8.00	110.09	20.95	288.33	0.39	5.37	1.10	9.64	7.16	7.47	7.90	15.00	17.60	3.14	20.60
Min	96.00	0.02	0.13	0.00	3.00	12.09	3.00	12.09	0.65	3.13	0.04	0.21	0.50	2.93	6.84	7.21	7.39	6.70	3.24	0.02	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**		**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 condtion 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 objective due to secondary treatment bypass
April: Effluent objectives not met for TSS and TP. Effluent limits not met for TSS, TSS loadings, TP & TP loading due to secondary treatment bypass. Ministry verbally notified of effluent limit exceedances June 29 and written notification provided June 30, 2023

2023 Final Effluent GeoMean

Town of Smiths Falls

2023 Performance Assessment Report - WPCP
Works # 120000890
Conventional Tertiary Treatment UV Disinfection / Pelletization

JANUARY	Location		
3-Jan-23	Final Bypas Effluent	100	CFU/100mL
4-Jan-23	Final Effluent*	1	CFU/100mL
5-Jan-23	Final Bypass Effluent	3,800	CFU/100mL
6-Jan-23	Final Bypass Effluent	100	CFU/100mL
11-Jan-23	Final Effluent	2	CFU/100mL
18-Jan-23	Final Effluent*	1	CFU/100mL
25-Jan-23	Final Effluent*	1	CFU/100mL
GEO MEAN		13.36	CFU/100mL
Min		1	CFU/100mL
Max		3,800	CFU/100mL

FEBRUARY	Location		
1-Feb-23	Final Effluent*	1	CFU/100mL
8-Feb-23	Final Effluent*	1	CFU/100mL
15-Feb-23	Final Effluent*	1	CFU/100mL
22-Feb-23	Final Effluent*	1	CFU/100mL
			CFU/100mL
			CFU/100mL
GEO MEAN		1.00	CFU/100mL
Min		1	CFU/100mL
Max		1	CFU/100mL

MARCH	Location		
1-Mar-23	Final Effluent	1	CFU/100mL
8-Mar-23	Final Effluent*	1	CFU/100mL
15-Mar-23	Final Effluent*	1	CFU/100mL
22-Mar-23	Final Effluent*	1	CFU/100mL
			CFU/100mL
			CFU/100mL
			CFU/100mL
GEO MEAN		1.00	CFU/100mL
Min		1	CFU/100mL
Max		1	CFU/100mL

APRIL	Location		
5-Apr-23	Final Bypass Effluent	210,000	CFU/100mL
5-May-23	Final Effluent*	1	CFU/100mL
9-Apr-23	Final Effluent*	1	CFU/100mL
12-Apr-23	Final Effluent*	1	CFU/100mL
19-Apr-23	Final Effluent*	1	CFU/100mL
26-Apr-23	Final Effluent*	1	CFU/100mL
30-Apr-23	Final Bypass Effluent	7,500	CFU/100mL
GEO MEAN		20.60	CFU/100mL
Min		1	CFU/100mL
Max		210,000	CFU/100mL

MAY	Location		
3-May-23	Final Effluent	440	CFU/100mL
5-May-23	Final Bypass Effluent	28	CFU/100mL
10-May-23	Final Effluent*	1	CFU/100mL
17-May-23	Final Effluent*	1	CFU/100mL
24-May-23	Final Effluent*	1	CFU/100mL
31-May-23	Final Effluent*	1	CFU/100mL
GEO MEAN		4.81	CFU/100mL
Min		1	CFU/100mL
Max		440	CFU/100mL

JUNE	Location		
7-Jun-23	Final Effluent*	1	CFU/100mL
14-Jun-23	Final Effluent*	1	CFU/100mL
21-Jun-23	Final Effluent*	1	CFU/100mL
28-Jun-23	Final Effluent*	1	CFU/100mL
GEO MEAN		1.00	CFU/100mL
Min		1	CFU/100mL
Max		1	CFU/100mL

JULY	Location		
5-Jul-23	Final Effluent	1	CFU/100mL
12-Jul-23	Final Effluent	1	CFU/100mL
19-Jul-23	Final Effluent	1	CFU/100mL
26-Jul-23	Final Effluent	1	CFU/100mL
GEO MEAN		1.00	CFU/100mL
Min		1	CFU/100mL
Max		1	CFU/100mL

AUGUST	Location		
2-Aug-23	Final Effluent	2	CFU/100mL
9-Aug-23	Final Effluent	1	CFU/100mL
16-Aug-23	Final Effluent	1	CFU/100mL
23-Aug-23	Final Effluent	1	CFU/100mL
30-Aug-23	Final Effluent	1	CFU/100mL
			CFU/100mL
			CFU/100mL
			CFU/100mL
GEO MEAN		1.15	CFU/100mL
Min		1	CFU/100mL
Max		2	CFU/100mL

SEPTEMBER	Location		
6-Sep-23	Final Effluent	1	CFU/100mL
13-Sep-23	Final Effluent	1	CFU/100mL
20-Sep-23	Final Effluent	1	CFU/100mL
27-Sep-23	Final Effluent	1	CFU/100mL
GEO MEAN		1	CFU/100mL
Min		1	CFU/100mL
Max		1	CFU/100mL

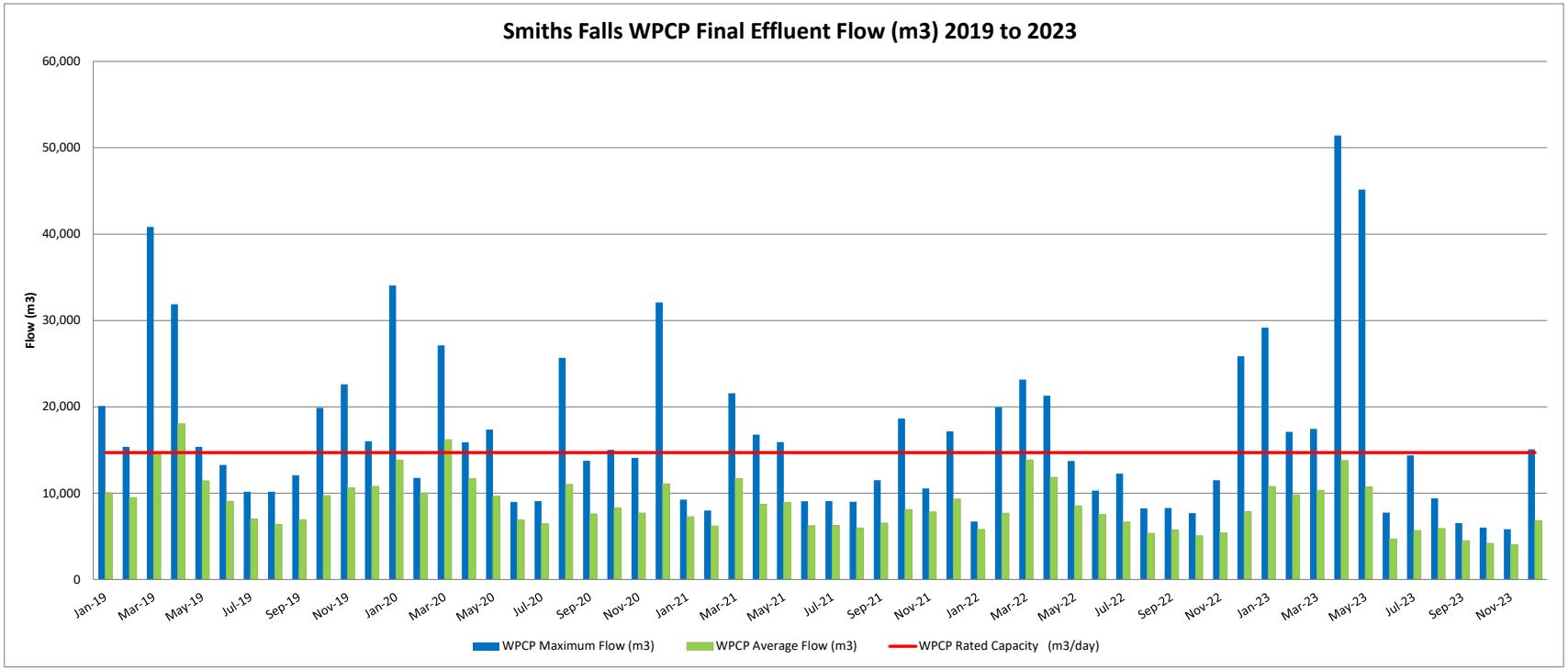
OCTOBER	Location		
4-Oct-23	Final Effluent*	1	CFU/100mL
11-Oct-23	Final Effluent*	1	CFU/100mL
18-Oct-23	Final Effluent*	1	CFU/100mL
25-Oct-23	Final Effluent*	1	CFU/100mL
GEO MEAN		1.00	CFU/100mL
Min		1	CFU/100mL
Max		1	CFU/100mL

NOVEMBER	Location		
8-Nov-23	Final Effluent*	1	CFU/100mL
15-Nov-23	Final Effluent*	1	CFU/100mL
22-Nov-23	Final Effluent*	1	CFU/100mL
29-Nov-23	Final Effluent*	1	CFU/100mL
GEO MEAN		1.00	CFU/100mL
Min		1	CFU/100mL
Max		1	CFU/100mL

DECEMBER	Location		
6-Dec-23	Final Effluent*	1	CFU/100mL
13-Dec-23	Final Effluent*	1	CFU/100mL
20-Dec-23	Final Effluent*	1	CFU/100mL
27-Dec-23	Final Effluent*	1	CFU/100mL
			CFU/100mL
			CFU/100mL
			CFU/100mL
GEO MEAN		1.00	CFU/100mL
Min		1	CFU/100mL
Max		1	CFU/100mL

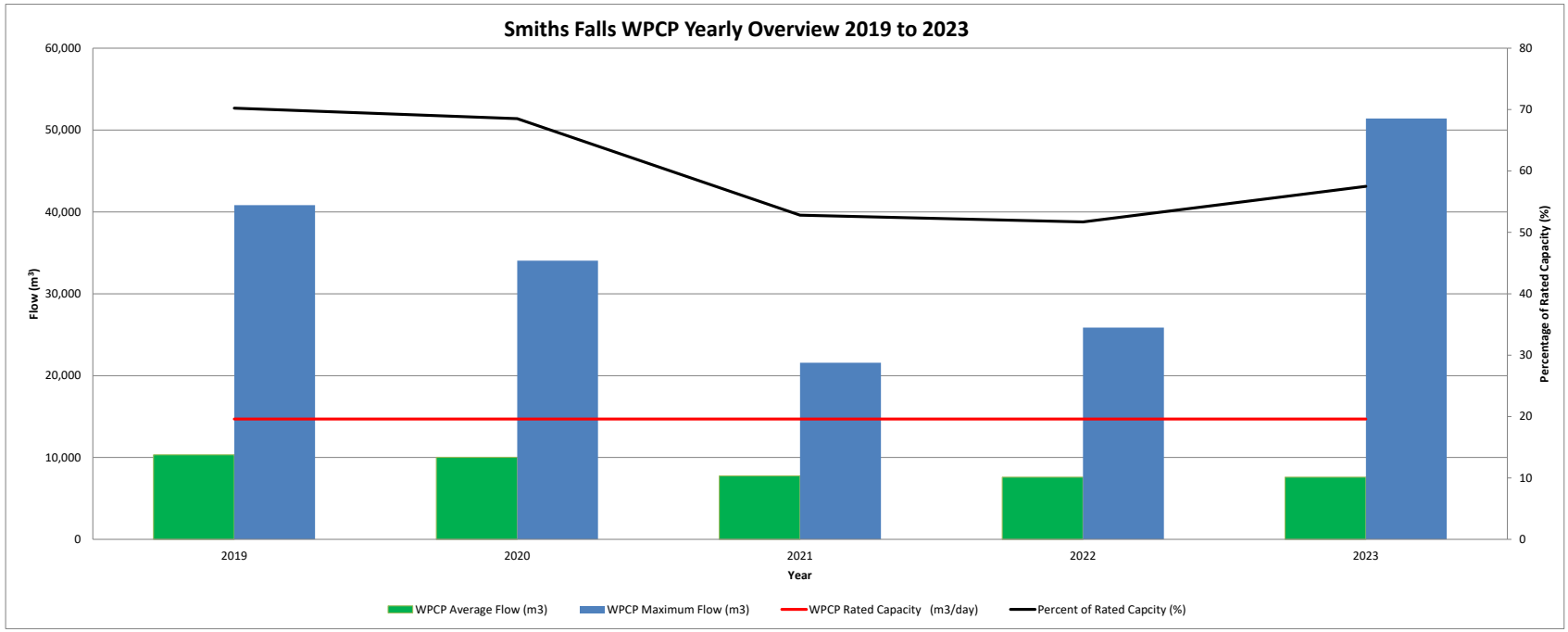
* indicates sample result was 0 cfu/100mL, round up to 1 for geomean calculation

Town of Smiths Falls
2023 Performance Assessment Report - WPCP
Works # 120000890
Conventional Tertiary Treatment UV Disinfection / Pelletization



Yearly Overview 2019 to 2023

Town of Smiths Falls
2023 Performance Assessment Report - WPCP
Works # 120000890
Conventional Tertiary Treatment UV Disinfection / Pelletization



APPENDIX C

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

2023 Secondary Treatment Bypass Report

Town of Smiths Falls
2023 Performance Assessment Report - WPCP
Works # 120000890
Conventional Tertiary Treatment UV Disinfection / Pelletization

Incident	Incident Event #	Notification	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^3)	Disinfected Type	Max Flow (L/s)	REASON CODE	Samples
1	1-2FXFCR	SAC	S. LaPlante	5-Jan-23	00:28:00	S. LaPlante	6-Jan-23	00:35:00	Secondary Treatment Bypass	24.10	3,370.2	UV Disinfection	68	1, 2	Yes
2	230405-000012	Portal	S. LaPlante	5-Apr-23	14:48:00	S. LaPlante	9-May-23	10:59:00	Secondary Treatment Bypass	82.88	57,939.0	UV Disinfection	410	1,2	Yes
3	230430-000012	Portal	S. LaPlante	30-Apr-23	22:13:00	T. George	5-May-23	08:13:00	Secondary Treatment Bypass	99.00	54,039.2	UV Disinfection	406	1	Yes
TOTALS										205.98	115,348.43				

Incident	Incident Event #	Start or End	Chain of Custody # or In house #	Report #	Sample Date (DD-MM-YYYY)	RAW WW E. Coli (cfu/100mL)	RAW WW BOD_5 (mg/L)	RAW WW $CBOD_5$ (mg/L)	RAW WW TSS (mg/L)	RAW WW TP (mg/L)	RAW WW NH_3 - TOTAL (mg/L)	RAW WW NH_3 -UNIONIZED (mg/L)	RAW WW pH	RAW WW Temp. °C
1	1-2FXFCR	Start	WW23-05	B23-00298	5-Jan-23	54,000	80.0	29	50	1.47	0.83	<0.01	7.67	9.90
1	1-2FXFCR	End	WW23.06	B23-00384	6-Jan-23	410,000	59.0	56	47	1.24	2.60	0.03	7.71	10.40
2	230405-000012	Start	WW23095	23-006539R0	5-Apr-23	70,000	57.0	6	82	0.82	0.81	<0.01	7.12	7.10
2	230405-000012	End	WW23099	23-006631R0	9-Apr-23	72,000	76.0	7	65	1.53	1.10	<0.01	7.58	9.90
3	230430-000012	Start	WW23120	23-008844R0	30-Apr-23	139,000	51.0	20	86	0.97	0.76	<0.01	7.22	12.40
3	230430-000012	End	WW23125	23-009580R0	5-May-23	140,000	91.0	22	100	2.28	4.31	<0.01	7.45	

Incident	MOECP Incident #	Start or End	Chain of Custody # or In house #	Report #	Sample Date (DD-MM-YYYY)	Primary Eff. E. Coli (cfu/100mL)	Primary Eff. BOD_5 (mg/L)	Primary Eff. $CBOD_5$ (mg/L)	Primary Eff. TSS (mg/L)	Primary Eff. TP (mg/L)	Primary Eff. NH_3 - TOTAL (mg/L)	Primary Eff. NH_3 -UNIONIZED (mg/L)	Primary Eff. pH	Primary Eff. Temp. °C	% Removal BOD_5	% Removal TSS
1	1-2FXFCR	Start	WW23-05	B23-00298	5-Jan-23	66,000	73.0	18	64	1.50	0.91	<0.01	7.54	7.90	8.75	-28.00
1	1-2FXFCR	End	WW23.06	B23-00384	6-Jan-23	164,000	52.0	26	52	1.15	2.14	0.03	7.51	11.00	11.86	-10.64
2	230405-000012	Start	WW23095	23-006539R0	5-Apr-23	120,000	166.0	42	360	6.46	1.61	<0.01	7.14	9.70	-191.23	-339.02
2	230405-000012	End	WW23099	23-006631R0	9-Apr-23	90,000	42.0	6	36	0.72	1.90	<0.01	7.49	12.60	44.74	44.62
3	230430-000012	Start	WW23120	23-008844R0	30-Apr-23	154,000	54.0	29	114	2.10	1.55	<0.01	6.92	12.40	-5.88	-32.56
3	230430-000012	End	WW23125	23-009580R0	5-May-23	30,000	55.0	10	48	0.92	2.93	<0.01	7.27	9.40	39.56	52.00
															#DIV/0!	#DIV/0!
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Incident	MOECP Incident #	Start or End	Chain of Custody # or In house #	Report #	Sample Date (DD-MM-YYYY)	Final Eff. E. Coli (cfu/100mL)	Final Eff. BOD_5 (mg/L)	Final Eff. $CBOD_5$ (mg/L)	Final Eff. TSS (mg/L)	Final Eff. TP (mg/L)	Final Eff. NH_3 - TOTAL (mg/L)	Final Eff. NH_3 -UNIONIZED (mg/L)	Final Eff. pH	Final Eff. Temp. °C
1	1-2FXFCR	Start	WW23-05	B23-00298	5-Jan-23	3.800	18	10	62	1.61	0.17	<0.01	7.25	9.90
1	1-2FXFCR	End	WW23.06	B23-00384	6-Jan-23	100	<3	<3	4	0.03	0.03	<0.01	7.51	11.00
2	230405-000012	Start	WW23095	23-006539R0	5-Apr-23	210,000	60	27	220	3.11	0.83	<0.01	7.15	9.50
2	230405-000012	End	WW23099	23-006631R0	9-Apr-23	0	<3	<3	<3	0.05	0.05	<0.01	7.27	9.90
3	230430-000012	Start	WW23120	23-008844R0	30-Apr-23	7,500	19	15	60	0.91	0.95	<0.01	7.07	13.70
3	230430-000012	End	WW23125	23-009580R0	5-May-23	28	<3	<3	<3	0.03	0.06	<0.01	7.27	10.60

ECA Submission Date	Date Submitted to MECP via email	
Feb-15	10-Feb-23	
May-15	15-May-23	2023-05-16 (revised)
Aug-15	14-Aug-23	
Nov-15	10-Nov-23	

REASON CODES:
1 = Heavy Precipitation
2 = Snow Melt
3 = Equipment Failure
4 = Eq. Maintenance
5 = Sewer Problems
6 = Power Failure
7 = Exceed Design Capity
0 = Others

NOTES:

All Secondary Treatment Bypass receive preliminary, primary and UV disinfection

APPENDIX D

Maintenance Records

Town of Smiths Falls
2023 Performance Assessment Report - WPCP
Works # 120000890
Conventional Tertiary Treatment UV Disinfection / Pelletization

Date	Asset Category	Asset Description	Maintenance Type	Maintenance Sub Type	Completed By	Comments (1)	Comments (2)
03-Jan-23	Belt Press	Belt Press Roller Bearings	Preventative	Clean and Inspect	Jacob Kerr		Greased all bearings.
04-Jan-23	Alarm	SFWWS2\WIN911	Preventative	Verification	Operators Waste Water Plant	Changed	Changed
04-Jan-23	Alarm	SFWWS1\WIN911	Preventative	Verification	Operators Waste Water Plant	Changed	Changed
05-Jan-23	Generator	Diesel Generator	Preventative	Genset operation	Operators Waste Water Plant		Generator Check Form Complete
05-Jan-23	WWTP	WPCP	Preventative	WPCP Pump Rotations	Operators Waste Water Plant		Rotate alum and HPEW pumps
05-Jan-23	Other	RAS (building)	Preventative	Clean and Inspect	Operators Waste Water Plant	Exercised	Exercised
09-Jan-23	Alarm	SFWWS2\WIN911	Preventative	Verification	Molly Buckland		Changed
09-Jan-23	Alarm	SFWWS1\WIN911	Preventative	Verification	Molly Buckland		Changed
09-Jan-23	Instrumentation	LAB Spectro WPCP	Preventative	Verification	Molly Buckland		
10-Jan-23	Sizer	M1430	Preventative	Clean and Inspect	Molly Buckland		Cleaned off hair balls
10-Jan-23	Other	Weirs (Primary Tanks)	Preventative	Clean and Inspect	Molly Buckland		Not completed
11-Jan-23	UV Lamps	M501	Preventative	Clean and Inspect	Jacob Kerr	Completed maintenance on remaining racks in up bank b.	Completed required maintenance.
12-Jan-23	WWTP	WPCP	Preventative	WPCP Pump Rotations	Molly Buckland		
12-Jan-23	Generator	Diesel Generator	Preventative	Genset operation	Molly Buckland		Generator Check Form Complete
13-Jan-23	Other	Watertrax Data	Preventative	Verification	Molly Buckland		Completed
13-Jan-23	WWTP	WPCP	Preventative	Alarm Testing	Operators Waste Water Plant		
16-Jan-23	Alarm	SFWWS2\WIN911	Preventative	Verification	Tyler George		Changed
16-Jan-23	Alarm	SFWWS1\WIN911	Preventative	Verification	Tyler George		Changed
17-Jan-23	Other	Weirs (Secondary Tank)	Preventative	Clean and Inspect	Tyler George		Clean
18-Jan-23	WWTP	WPCP	Preventative	WPCP Pump Rotations	Jacob Kerr		
18-Jan-23	Blower	M 401	Preventative	Clean and Inspect	Molly Buckland		Everything looks good
20-Jan-23	Other	Watertrax Data	Preventative	Verification	Molly Buckland		Completed
20-Jan-23	Generator	Diesel Generator	Preventative	Genset operation	Molly Buckland		Generator Check Form Complete
24-Jan-23	Alarm	SFWWS2\WIN911	Preventative	Verification	Steve LaPlante	Changed	Changed
24-Jan-23	Alarm	SFWWS1\WIN911	Preventative	Verification	Steve LaPlante	Done	Done
24-Jan-23	Bar Screen	screen1	Preventative	Clean and Inspect	Jacob Kerr		Greased all fittings on screen 1.
24-Jan-23	Bar Screen	screen2	Preventative	Clean and Inspect	Jacob Kerr		Greased all fittings on screen 2.
25-Jan-23	WWTP	WPCP	Preventative	WPCP Pump Rotations	Operators Waste Water Plant	Rotated	Rotated
26-Jan-23	Tank	Secondary collectors	Preventative	Clean and Inspect	Operators Waste Water Plant	Completed	Complete
26-Jan-23	Tank	Secondary collectors	Preventative	Clean and Inspect	Operators Waste Water Plant	Complete	Complete
26-Jan-23	Tank	Secondary collectors	Preventative	Clean and Inspect	Operators Waste Water Plant		Completed
26-Jan-23	Generator	Diesel Generator	Preventative	Genset operation	Operators Waste Water Plant		Ran generator on manual for weekly inspection.
27-Jan-23	Pelletizer	Pelletizer	Preventative	Clean and Inspect	Molly Buckland		Completed
27-Jan-23	Building	Raw Sludge (Building)	Preventative	Operational	Operators Waste Water Plant		Exercised valves on pumps 1 & 2
29-Jan-23	Generator	Diesel Generator	Preventative	Clean and Inspect	Operators Waste Water Plant	Completed	Completed
30-Jan-23	Alarm	SFWWS2\WIN911	Preventative	Verification	Molly Buckland		Completed
30-Jan-23	Alarm	SFWWS1\WIN911	Preventative	Verification	Molly Buckland		Completed
30-Jan-23	Other	Watertrax Data	Preventative	Verification	Molly Buckland		Entered
31-Jan-23	WWTP	WPCP	Preventative	WPCP Pump Rotations	Operators Waste Water Plant	Rotated	Rotated
31-Jan-23	Travelling Bridge	CP605	Preventative	Clean and Inspect	Molly Buckland		Completed
01-Feb-23	Other	Pelletcyclone	Preventative	Clean and Inspect	Tyler George		Checked, all in good shape
02-Feb-23	WWTP	WPCP	Preventative	WPCP Pump Rotations	Molly Buckland		
02-Feb-23	Generator	Diesel Generator	Preventative	Genset operation	Operators Waste Water Plant		Generator Check Form Complete
02-Feb-23	Tank	Secondary collectors	Preventative	Clean and Inspect	Operators Waste Water Plant		Inspected ok
02-Feb-23	Pump	M3020	Preventative	Clean and Inspect	Molly Buckland		Completed
03-Feb-23	Other	Watertrax Data	Preventative	Verification	Molly Buckland		Completed
06-Feb-23	Instrumentation	LT1210	Preventative	Clean and Inspect	Tyler George		Recently cleaned
06-Feb-23	Alarm	SFWWS2\WIN911	Preventative	Verification	Tyler George		Changed
06-Feb-23	Alarm	SFWWS1\WIN911	Preventative	Verification	Tyler George		Changed
07-Feb-23	Belt Press	Belt Press Roller Bearings	Preventative	Clean and Inspect	Tyler George		Greased
07-Feb-23	Sizer	M1430	Preventative	Clean and Inspect	Steve LaPlante	Inspected	All good
08-Feb-23	WWTP	WPCP	Preventative	Clean and Inspect	Tyler George		Completed
09-Feb-23	Other	Weirs (Primary Tanks)	Preventative	Clean and Inspect	Tyler George		Not in bad shape
09-Feb-23	Instrumentation	LAB Spectro WPCP	Preventative	Verification	Tyler George		
09-Feb-23	Generator	Diesel Generator	Preventative	Genset operation	Operators Waste Water Plant		Generator Check Form Complete
09-Feb-23	WWTP	WPCP	Preventative	WPCP Pump Rotations	Operators Waste Water Plant	Rotated	Rotated
13-Feb-23	Alarm	SFWWS2\WIN911	Preventative	Verification	Molly Buckland		Completed
13-Feb-23	Alarm	SFWWS1\WIN911	Preventative	Verification	Molly Buckland		Completed
13-Feb-23	WWTP	WPCP	Preventative	Alarm Testing	Operators Waste Water Plant		
13-Feb-23	Other	Watertrax Data	Preventative	Verification	Molly Buckland		Completed
16-Feb-23	WWTP	WPCP	Preventative	WPCP Pump Rotations	Molly Buckland		
17-Feb-23	Generator	Diesel Generator	Preventative	Genset operation	Molly Buckland		Generator Check Form Complete
21-Feb-23	Other	Watertrax Data	Preventative	Verification	Molly Buckland		Completed
21-Feb-23	WWTP	WPCP	Preventative	WPCP Pump Rotations	Molly Buckland		
21-Feb-23	Other	Weirs (Secondary Tank)	Preventative	Clean and Inspect	Molly Buckland		Not completed

21-Feb-23	Alarm	SFWWS1\WIN911	Preventative	Verification	Jacob Kerr		Changed on call list.
21-Feb-23	Alarm	SFWWS2\WIN911	Preventative	Verification	Jacob Kerr	Completed on call list	Changed in call list
23-Feb-23	Generator	Diesel Generator	Preventative	Genset operation	Steve LaPlante		Generator Check Form Complete
24-Feb-23	Travelling Bridge	CP605	Preventative	Clean and Inspect	Steve LaPlante	Disinfected	Disinfected
24-Feb-23	Travelling Bridge	CP605	Preventative	Filter Backwash	Steve LaPlante		Completed
27-Feb-23	Redler	Red1450	Preventative	Operational	Molly Buckland		Completed, no fines seeping through brushes
27-Feb-23	Alarm	SFWWS1\WIN911	Preventative	Verification	Tyler George		Changed
27-Feb-23	Alarm	SFWWS2\WIN911	Preventative	Verification	Tyler George		Changed
28-Feb-23	WWTP	WPCP	Preventative	WPCP Pump Rotations	Operators Waste Water Plant		Rotated
01-Mar-23	Generator	Diesel Generator	Preventative	Genset operation	Operators Waste Water Plant		Generator Check Form Complete
01-Mar-23	Pelletizer	Pelletizer	Preventative	Clean and Inspect	Operators Waste Water Plant		Inspected and oiled all chains on pelletizer.
03-Mar-23	Travelling Bridge	CP605	Preventative	Clean and Inspect	Tyler George		Completed
03-Mar-23	Other	Pelletcyclone	Preventative	Clean and Inspect	Tyler George		Checked
03-Mar-23	Pump	M3020	Preventative	Clean and Inspect	Tyler George		Greased
06-Mar-23	Alarm	SFWWS1\WIN911	Preventative	Verification	Molly Buckland		Completed
06-Mar-23	Alarm	SFWWS2\WIN911	Preventative	Verification	Molly Buckland		Completed
06-Mar-23	Travelling Bridge	CP604	Preventative	Clean and Inspect	Molly Buckland		Completed
06-Mar-23	Travelling Bridge	CP604	Preventative	Filter Backwash	Molly Buckland		Completed
06-Mar-23	Other	Watertrax Data	Preventative	Verification	Molly Buckland		Completed
07-Mar-23	Generator	Diesel Generator	Preventative	Genset operation	Molly Buckland		Generator Check Form Complete
07-Mar-23	Sizer	M1430	Preventative	Clean and Inspect	Operators Waste Water Plant	Removed debris from vibrating sifter.	Completed cleaning of vibrating sifter.
07-Mar-23	Belt Press	Belt Press Roller Bearings	Preventative	Clean and Inspect	Operators Waste Water Plant		Completed greasing of all fittings on belt press.
09-Mar-23	WWTP	WPCP	Preventative	WPCP Pump Rotations	Operators Waste Water Plant	Rotated	Rotated
10-Mar-23	Instrumentation	LAB Spectro WPCP	Preventative	Verification	Molly Buckland		
11-Mar-23	Other	Watertrax Data	Preventative	Verification	Molly Buckland		Completed
13-Mar-23	Alarm	SFWWS1\WIN911	Preventative	Verification	Steve LaPlante	Completed	Completed
13-Mar-23	Alarm	SFWWS2\WIN911	Preventative	Verification	Steve LaPlante	Completed	Completed
14-Mar-23	Other	Weirs (Primary Tanks)	Preventative	Clean and Inspect	Operators Waste Water Plant		N/a
14-Mar-23	WWTP	WPCP	Preventative	Alarm Testing	Operators Waste Water Plant		
14-Mar-23	Instrumentation	Drager Gas Detector	Preventative	Calibration	Tyler George		
14-Mar-23	Generator	Diesel Generator	Preventative	Genset operation	Operators Waste Water Plant		Generator Check Form Complete
15-Mar-23	Instrumentation	H2S BPR	Preventative	Calibration	Molly Buckland		
17-Mar-23	WWTP	WPCP	Preventative	WPCP Pump Rotations	Operators Waste Water Plant		Rotated
20-Mar-23	Alarm	SFWWS1\WIN911	Preventative	Verification	Jacob Kerr	Changed alarm call out list.	Changed list as required.
20-Mar-23	Alarm	SFWWS2\WIN911	Preventative	Verification	Jacob Kerr	Changed alarm call out list.	Changed on call list.
21-Mar-23	Other	Watertrax Data	Preventative	Verification	Jacob Kerr		Completed data entry into watertrax.
21-Mar-23	WWTP	WPCP	Preventative	WPCP Pump Rotations	Jacob Kerr		
21-Mar-23	Generator	Diesel Generator	Preventative	Genset operation	Molly Buckland		Generator Check Form Complete
24-Mar-23	Other	Watertrax Data	Preventative	Verification	Molly Buckland		Completed
24-Mar-23	Grit Removal	M111	Preventative	Clean and Inspect	Molly Buckland		Completed
27-Mar-23	Alarm	SFWWS1\WIN911	Preventative	Verification	Molly Buckland		Changed
27-Mar-23	Alarm	SFWWS2\WIN911	Preventative	Verification	Molly Buckland		Completed
28-Mar-23	WWTP	WPCP	Preventative	WPCP Pump Rotations	Molly Buckland		
28-Mar-23	Pelletizer	Pelletizer	Preventative	Clean and Inspect	Jacob Kerr	Inspected and oiled all chains and sprockets on Pelletizer	Completed oiling of all chains and sprockets.
28-Mar-23	Other	Pelletcyclone	Preventative	Clean and Inspect	Jacob Kerr		Inspected and replaced all mufflers that were plugged.
31-Mar-23	Other	Watertrax Data	Preventative	Verification	Molly Buckland		Completed
31-Mar-23	Generator	Diesel Generator	Preventative	Genset operation	Molly Buckland		Generator Check Form Complete
03-Apr-23	Alarm	SFWWS1\WIN911	Preventative	Verification	Steve LaPlante	Changed	Changed
03-Apr-23	Alarm	SFWWS2\WIN911	Preventative	Verification	Steve LaPlante	Changed	Changed
04-Apr-23	WWTP	WPCP	Preventative	WPCP Pump Rotations	Operators Waste Water Plant	Rotated	Rotated
06-Apr-23	Generator	Diesel Generator	Preventative	Genset operation	Operators Waste Water Plant		Generator Check Form Complete
11-Apr-23	Alarm	SFWWS2\WIN911	Preventative	Verification	Tyler George		Changed
11-Apr-23	Alarm	SFWWS1\WIN911	Preventative	Verification	Tyler George		Changed
11-Apr-23	Auger	Farm King Outdoor Auger	Preventative	Operational	Tyler George		In good condition
11-Apr-23	Sizer	M1430	Preventative	Clean and Inspect	Tyler George		Checked
11-Apr-23	Other	Watertrax Data	Preventative	Verification	Tyler George		Entered
12-Apr-23	Other	Weirs (Secondary Tank)	Preventative	Clean and Inspect	Molly Buckland		Completed
13-Apr-23	WWTP	WPCP	Preventative	WPCP Pump Rotations	Operators Waste Water Plant		
14-Apr-23	Generator	Diesel Generator	Preventative	Genset operation	Operators Waste Water Plant		Generator Check Form Complete
14-Apr-23	Travelling Bridge	CP605	Preventative	Clean and Inspect	Operators Waste Water Plant	Completed	Completed
15-Apr-23	Pump	M3020	Preventative	Clean and Inspect	Tyler George		Greased
17-Apr-23	WWTP	WPCP	Preventative	WPCP Pump Rotations	Molly Buckland		
17-Apr-23	WWTP	WPCP	Preventative	Alarm Testing	Operators Waste Water Plant		
17-Apr-23	Instrumentation	LAB Spectro WPCP	Preventative	Verification	Jacob Kerr		
17-Apr-23	Alarm	SFWWS2\WIN911	Preventative	Verification	Jacob Kerr		Switched on call list.
17-Apr-23	Belt Press	Belt Press Roller Bearings	Preventative	Clean and Inspect	Devin Wilkinson		Greased belt press.
17-Apr-23	Other	RAS (building)	Preventative	Clean and Inspect	Tyler George		Greased
18-Apr-23	Sampler	Samplers	Preventative	Calibration	Molly Buckland		Completed
18-Apr-23	Alarm	SFWWS1\WIN911	Preventative	Verification	Molly Buckland		Completed
20-Apr-23	Alarm	Fire Alarm System WPCP	Preventative	Operational	Molly Buckland		Completed on April 19

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21-Apr-23	Other	Watertrax Data	Preventative	Verification	Molly Buckland		Completed
21-Apr-23	Generator	Diesel Generator	Preventative	Genset operation	Jacob Kerr		Generator Check Form Complete
21-Apr-23	Other	Weirs (Primary Tanks)	Preventative	Clean and Inspect	Molly Buckland		Completed
24-Apr-23	Alarm	SFWWS1\WIN911	Preventative	Verification	Operators Waste Water Plant		Changed
24-Apr-23	Alarm	SFWWS2\WIN911	Preventative	Verification	Operators Waste Water Plant	Complete	Complete
24-Apr-23	WWTP	WPCP	Preventative	WPCP Pump Rotations	Operators Waste Water Plant	Rotated	Rotated
27-Apr-23	Bar Screen	screen1	Preventative	Clean and Inspect	Operators Waste Water Plant		Greased
27-Apr-23	Bar Screen	screen2	Preventative	Clean and Inspect	Operators Waste Water Plant		Greased
27-Apr-23	Generator	Diesel Generator	Preventative	Genset operation	Operators Waste Water Plant		Generator Check Form Complete
29-Apr-23	WWTP	WPCP	Preventative	WPCP Pump Rotations	Operators Waste Water Plant	Rotated	Rotated
01-May-23	Other	Pelletcyclone	Preventative	Clean and Inspect	Tyler George		Checked, in good condition
02-May-23	Alarm	SFWWS1\WIN911	Preventative	Verification	Operators Waste Water Plant	Changed	Changed
02-May-23	Alarm	SFWWS2\WIN911	Preventative	Verification	Operators Waste Water Plant	Changed	Changed
02-May-23	WWTP	WPCP	Preventative	WPCP Pump Rotations	Operators Waste Water Plant	Rotated	Rotated
02-May-23	Pelletizer	Pelletizer	Preventative	Clean and Inspect	Molly Buckland		Completed
02-May-23	Other	Watertrax Data	Preventative	Verification	Operators Waste Water Plant	Entered	Entered
02-May-23	Mixer	M920	Preventative	Clean and Inspect	Operators Waste Water Plant	Change oil	Change oil
05-May-23	Generator	Diesel Generator	Preventative	Genset operation	Operators Waste Water Plant		Generator Check Form Complete
05-May-23	Instrumentation	LT1210	Preventative	Clean and Inspect	Tyler George		Not needed at this time
08-May-23	Other	Watertrax Data	Preventative	Verification	Operators Waste Water Plant		Entered
08-May-23	Alarm	SFWWS1\WIN911	Preventative	Verification	Operators Waste Water Plant	Changed	Changed
08-May-23	Alarm	SFWWS2\WIN911	Preventative	Verification	Operators Waste Water Plant	Changed	Changed
08-May-23	WWTP	WPCP	Preventative	WPCP Pump Rotations	Operators Waste Water Plant	Rotated	Rotated
09-May-23	Generator	Diesel Generator	Preventative	Genset operation	Operators Waste Water Plant		Generator Check Form Complete
12-May-23	Sizer	M1430	Preventative	Clean and Inspect	Tyler George		Checked
15-May-23	WWTP	WPCP	Preventative	WPCP Pump Rotations	Operators Waste Water Plant	Rotated	Rotated
15-May-23	Alarm	SFWWS1\WIN911	Preventative	Verification	Operators Waste Water Plant	Change	Change
15-May-23	Alarm	SFWWS2\WIN911	Preventative	Verification	Operators Waste Water Plant	Change	Change
15-May-23	Other	Watertrax Data	Preventative	Verification	Operators Waste Water Plant	Entered	Entered
15-May-23	Building	Raw Sludge (Building)	Preventative	Operational	Operators Waste Water Plant	Exercised	Exercised
17-May-23	Travelling Bridge	CP605	Preventative	Clean and Inspect	Operators Waste Water Plant	Hosed filters	Hosed filters
18-May-23	Mixer	M930	Preventative	Maintenance (General)	Steve LaPlante	Down for tank cleaning, change oil.	Changed oil while down for tank cleaning.
19-May-23	Pump	M3020	Preventative	Clean and Inspect	Tyler George		Greased
23-May-23	WWTP	WPCP	Preventative	WPCP Pump Rotations	Operators Waste Water Plant	Rotated	Rotated
23-May-23	Alarm	SFWWS1\WIN911	Preventative	Verification	Operators Waste Water Plant	Change	Change
23-May-23	Belt Press	Belt Press Roller Bearings	Preventative	Clean and Inspect	Molly Buckland		Completed
23-May-23	WWTP	WPCP	Preventative	Alarm Testing	Operators Waste Water Plant		
23-May-23	Alarm	SFWWS2\WIN911	Preventative	Verification	Operators Waste Water Plant	Changed	Changed
23-May-23	Drive Unit	M1140A	Preventative	Maintenance (General)	Operators Waste Water Plant	Replaced	Replaced
24-May-23	Other	Weirs (Secondary Tank)	Preventative	Clean and Inspect	Jacob Kerr		Hosed all secondary weirs.
25-May-23	Generator	Diesel Generator	Preventative	Genset operation	Operators Waste Water Plant		Generator Check Form Complete
26-May-23	Other	Watertrax Data	Preventative	Verification	Operators Waste Water Plant	Entered	Entered
29-May-23	Alarm	SFWWS1\WIN911	Preventative	Verification	Molly Buckland		Completed
29-May-23	Alarm	SFWWS2\WIN911	Preventative	Verification	Molly Buckland		Completed
29-May-23	Instrumentation	LAB Spectro WPCP	Preventative	Verification	Molly Buckland		
29-May-23	WWTP	WPCP	Preventative	WPCP Pump Rotations	Molly Buckland		
02-Jun-23	Generator	Diesel Generator	Preventative	Genset operation	Operators Waste Water Plant		Generator Check Form Complete
02-Jun-23	Other	Watertrax Data	Preventative	Verification	Molly Buckland		Completed
05-Jun-23	Alarm	SFWWS1\WIN911	Preventative	Verification	Tyler George		Changed
05-Jun-23	Alarm	SFWWS2\WIN911	Preventative	Verification	Tyler George		Changed
06-Jun-23	WWTP	WPCP	Preventative	WPCP Pump Rotations	Molly Buckland		
07-Jun-23	Other	Weirs (Primary Tanks)	Preventative	Clean and Inspect	Molly Buckland		Completed
08-Jun-23	Generator	Diesel Generator	Preventative	Genset operation	Molly Buckland		Generator Check Form Complete
09-Jun-23	Other	Watertrax Data	Preventative	Verification	Molly Buckland		Completed
13-Jun-23	Alarm	SFWWS1\WIN911	Preventative	Verification	Operators Waste Water Plant	Changed	Changed
13-Jun-23	Alarm	SFWWS2\WIN911	Preventative	Verification	Operators Waste Water Plant	Changed	Changed
13-Jun-23	WWTP	WPCP	Preventative	WPCP Pump Rotations	Operators Waste Water Plant	Rotated	Rotated
15-Jun-23	Generator	Diesel Generator	Preventative	Genset operation	Operators Waste Water Plant		Generator Check Form Complete
18-Jun-23	Other	Watertrax Data	Preventative	Verification	Operators Waste Water Plant	Entered	Entered
19-Jun-23	Alarm	SFWWS1\WIN911	Preventative	Verification	Molly Buckland		Completed
19-Jun-23	Alarm	SFWWS2\WIN911	Preventative	Verification	Molly Buckland		Completed
21-Jun-23	WWTP	WPCP	Preventative	WPCP Pump Rotations	Molly Buckland		
22-Jun-23	Generator	Diesel Generator	Preventative	Genset operation	Jacob Kerr		Generator Check Form Complete
22-Jun-23	Pump	M3020	Preventative	Clean and Inspect	Jacob Kerr		Greased all fittings on pump with three pumps of grease.
23-Jun-23	Other	Watertrax Data	Preventative	Verification	Molly Buckland		Completeled
23-Jun-23	WWTP	WPCP	Preventative	Alarm Testing	Operators Waste Water Plant		
26-Jun-23	Alarm	SFWWS1\WIN911	Preventative	Verification	Tyler George		Changed
26-Jun-23	Alarm	SFWWS2\WIN911	Preventative	Verification	Tyler George		Changed
27-Jun-23	Belt Press	Belt Press Roller Bearings	Preventative	Clean and Inspect	Jacob Kerr		Checked all bearings and greased all pillow blocks.
28-Jun-23	Other	Weirs (Secondary Tank)	Preventative	Clean and Inspect	Molly Buckland		Completed
01-Jul-23	WWTP	WPCP	Preventative	WPCP Pump Rotations	Tyler George		
04-Jul-23	Alarm	SFWWS1\WIN911	Preventative	Verification	Molly Buckland		Completed
04-Jul-23	Alarm	SFWWS2\WIN911	Preventative	Verification	Molly Buckland		Completed

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04-Jul-23	WWTP	WPCP	Preventative	WPCP Pump Rotations	Molly Buckland		
05-Jul-23	Instrumentation	LAB Spectro WPCP	Preventative	Verification	Molly Buckland		
05-Jul-23	Pelletizer	Pelletizer	Preventative	Clean and Inspect	Jacob Kerr		Oiled all Pelletizer chains and sprockets.
06-Jul-23	WWTP	WPCP	Preventative	WPCP Pump Rotations	Molly Buckland		
06-Jul-23	Generator	Diesel Generator	Preventative	Genset operation	Molly Buckland		Generator Check Form Complete
08-Jul-23	Other	Weirs (Primary Tanks)	Preventative	Clean and Inspect	Molly Buckland		Completed by Bernie
10-Jul-23	Other	Pelletcyclone	Preventative	Clean and Inspect	Tyler George		Changed
10-Jul-23	Sizer	M1430	Preventative	Clean and Inspect	Tyler George		Inspected and cleaned
10-Jul-23	Alarm	SFWWS1\WIN911	Preventative	Verification	Tyler George		Changed
10-Jul-23	Alarm	SFWWS2\WIN911	Preventative	Verification	Tyler George		Changed
10-Jul-23	Travelling Bridge	CP605	Preventative	Clean and Inspect	Tyler George		Cleaned
10-Jul-23	Other	Watertrax Data	Preventative	Verification	Molly Buckland		Entered
17-Jul-23	Alarm	SFWWS1\WIN911	Preventative	Verification	Molly Buckland		Completed
17-Jul-23	Alarm	SFWWS2\WIN911	Preventative	Verification	Molly Buckland		Completed
18-Jul-23	WWTP	WPCP	Preventative	WPCP Pump Rotations	Molly Buckland		
20-Jul-23	Generator	Diesel Generator	Preventative	Genset operation	Molly Buckland		Generator Check Form Complete
20-Jul-23	Other	Watertrax Data	Preventative	Verification	Molly Buckland		Complete
21-Jul-23	Tank	WET WELL	Preventative	Clean and Inspect	Tyler George		Wetwell in good shape, will revisit in late summer/fall
21-Jul-23	Grit Removal	M111	Preventative	Clean and Inspect	Molly Buckland		Completed
21-Jul-23	Other	RAS (building)	Preventative	Clean and Inspect	Molly Buckland		Completed
21-Jul-23	Pump	M3020	Preventative	Clean and Inspect	Molly Buckland		Completed
21-Jul-23	Blower	M 401	Preventative	Clean and Inspect	Molly Buckland		Completed
24-Jul-23	Alarm	SFWWS1\WIN911	Preventative	Verification	Tyler George		Changed
24-Jul-23	Alarm	SFWWS2\WIN911	Preventative	Verification	Tyler George		Changed
26-Jul-23	WWTP	WPCP	Preventative	WPCP Pump Rotations	Tyler George		
27-Jul-23	Generator	Diesel Generator	Preventative	Genset operation	Jacob Kerr		Generator Check Form Complete
28-Jul-23	Bar Screen	screen1	Preventative	Clean and Inspect	Tyler George		Not needed
28-Jul-23	Bar Screen	screen2	Preventative	Clean and Inspect	Tyler George		Not needed
29-Jul-23	Other	Weirs (Secondary Tank)	Preventative	Clean and Inspect	Tyler George		Cleaned
30-Jul-23	Belt Press	Belt Press Roller Bearings	Preventative	Clean and Inspect	Tyler George		Completed
31-Jul-23	Alarm	SFWWS1\WIN911	Preventative	Verification	Molly Buckland		Completed
31-Jul-23	Alarm	SFWWS2\WIN911	Preventative	Verification	Molly Buckland		Completed
01-Aug-23	WWTP	WPCP	Preventative	WPCP Pump Rotations	Molly Buckland		
01-Aug-23	WWTP	WPCP	Preventative	Alarm Testing	Molly Buckland		
03-Aug-23	WWTP	WPCP	Preventative	WPCP Pump Rotations	Molly Buckland		
03-Aug-23	Generator	Diesel Generator	Preventative	Genset operation	Jacob Kerr		Generator Check Form Complete
04-Aug-23	Pelletizer	Pelletizer	Preventative	Clean and Inspect	Molly Buckland		Completed by AS
04-Aug-23	UV Lamps	M501	Preventative	Clean and Inspect	Molly Buckland		Completed by JK
04-Aug-23	Other	Watertrax Data	Preventative	Verification	Molly Buckland		Entered
09-Aug-23	Alarm	SFWWS1\WIN911	Preventative	Verification	Tyler George		Changed
09-Aug-23	Alarm	SFWWS2\WIN911	Preventative	Verification	Tyler George		Changed
09-Aug-23	WWTP	WPCP	Preventative	WPCP Pump Rotations	Tyler George		
09-Aug-23	Instrumentation	LT1210	Preventative	Clean and Inspect	Tyler George		Cleaned with Tower Electronics
09-Aug-23	Generator	Diesel Generator	Preventative	Clean and Inspect	Tyler George		Completed
12-Aug-23	Travelling Bridge	CP605	Preventative	Clean and Inspect	Tyler George		Cleaned
12-Aug-23	Sizer	M1430	Preventative	Clean and Inspect	Tyler George		No damage
14-Aug-23	Generator	Diesel Generator	Preventative	Genset operation	Jacob Kerr		Generator Check Form Complete
14-Aug-23	Other	Watertrax Data	Preventative	Verification	Tyler George		Entered
14-Aug-23	Alarm	SFWWS1\WIN911	Preventative	Verification	Molly Buckland		Completed
14-Aug-23	Alarm	SFWWS2\WIN911	Preventative	Verification	Molly Buckland		Completed
14-Aug-23	Instrumentation	LAB Spectro WPCP	Preventative	Verification	Molly Buckland		
14-Aug-23	Other	Pelletcyclone	Preventative	Clean and Inspect	Tyler George		Mufflers working well
16-Aug-23	WWTP	WPCP	Preventative	WPCP Pump Rotations	Molly Buckland		
18-Aug-23	Other	Watertrax Data	Preventative	Verification	Molly Buckland		Completed
19-Aug-23	Alarm	SFWWS1\WIN911	Preventative	Verification	Tyler George		Changed
19-Aug-23	Alarm	SFWWS2\WIN911	Preventative	Verification	Tyler George		Changed
21-Aug-23	UV Lamps	UV632	Preventative	Clean and Inspect	Jacob Kerr		Bank B now completed racks 1-9, lamp #2 on rack 8 replaced.
22-Aug-23	Pump	M3020	Preventative	Clean and Inspect	Jacob Kerr		Greased press feed pump.
22-Aug-23	Generator	Diesel Generator	Preventative	Genset operation	Jacob Kerr		Generator Check Form Complete
22-Aug-23	Building	Raw Sludge (Building)	Preventative	Operational	Jacob Kerr		Exercised all valves in raw sludge building.
23-Aug-23	Other	Weirs (Primary Tanks)	Preventative	Clean and Inspect	Jacob Kerr		Andrew completed hosing of primary weirs.
24-Aug-23	WWTP	WPCP	Preventative	WPCP Pump Rotations	Tyler George		
27-Aug-23	Other	Watertrax Data	Preventative	Verification	Tyler George		Entered
28-Aug-23	Alarm	SFWWS1\WIN911	Preventative	Verification	Molly Buckland		Completed
28-Aug-23	Alarm	SFWWS2\WIN911	Preventative	Verification	Molly Buckland		Completed
31-Aug-23	Other	Weirs (Secondary Tank)	Preventative	Clean and Inspect	Molly Buckland	Completed	Completed
31-Aug-23	Travelling Bridge	CP605	Preventative	Clean and Inspect	Molly Buckland		Completed
31-Aug-23	Travelling Bridge	CP605	Preventative	Filter Backwash	Molly Buckland		Completed
01-Sep-23	WWTP	WPCP	Preventative	WPCP Pump Rotations	Molly Buckland		
01-Sep-23	Generator	Diesel Generator	Preventative	Genset operation	Molly Buckland		Generator Check Form Complete
01-Sep-23	Other	Watertrax Data	Preventative	Verification	Molly Buckland		Completed
01-Sep-23	Travelling Bridge	CP604	Preventative	Clean and Inspect	Molly Buckland		Completed
01-Sep-23	Travelling Bridge	CP604	Preventative	Filter Backwash	Molly Buckland		Completed
01-Sep-23	WWTP	WPCP	Preventative	Alarm Testing	Molly Buckland		

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05-Sep-23	Belt Press	Belt Press Roller Bearings	Preventative	Clean and Inspect	Tyler George		Greased
05-Sep-23	Alarm	SFWWS1\WIN911	Preventative	Verification	Tyler George		Changed
05-Sep-23	Alarm	SFWWS2\WIN911	Preventative	Verification	Tyler George		Changed
06-Sep-23	WWTP	WPCP	Preventative	WPCP Pump Rotations	Molly Buckland		
06-Sep-23	WWTP	WPCP	Preventative	WPCP Pump Rotations	Molly Buckland		Complete
11-Sep-23	Alarm	SFWWS1\WIN911	Preventative	Verification	Molly Buckland		Completed
11-Sep-23	Alarm	SFWWS2\WIN911	Preventative	Verification	Molly Buckland		Completed
12-Sep-23	Pelletizer	Pelletizer	Preventative	Clean and Inspect	Andrew Stoll		Oiled all chains. All chains in good condition.
12-Sep-23	Travelling Bridge	CP605	Preventative	Clean and Inspect	Molly Buckland		Completed by TG
12-Sep-23	Generator	Diesel Generator	Preventative	Genset operation	Molly Buckland		Generator Check Form Complete
14-Sep-23	WWTP	WPCP	Preventative	WPCP Pump Rotations	Molly Buckland		
15-Sep-23	Other	Watertrax Data	Preventative	Verification	Molly Buckland		Completed
15-Sep-23	Instrumentation	LAB Spectro WPCP	Preventative	Verification	Molly Buckland		
18-Sep-23	Sizer	M1430	Preventative	Clean and Inspect	Molly Buckland		Completed. Only hair no insulation
18-Sep-23	Other	Pelletcyclone	Preventative	Clean and Inspect	Molly Buckland		All looked okay, did not need to change
19-Sep-23	Alarm	SFWWS1\WIN911	Preventative	Verification	Tyler George		Changed
19-Sep-23	Alarm	SFWWS2\WIN911	Preventative	Verification	Tyler George		Changed
21-Sep-23	Generator	Diesel Generator	Preventative	Genset operation	Molly Buckland		Generator Check Form Complete
21-Sep-23	WWTP	WPCP	Preventative	WPCP Pump Rotations	Molly Buckland		
22-Sep-23	Other	Weirs (Primary Tanks)	Preventative	Clean and Inspect	Molly Buckland		Completed
25-Sep-23	Alarm	SFWWS1\WIN911	Preventative	Verification	Molly Buckland		Completed
25-Sep-23	Alarm	SFWWS2\WIN911	Preventative	Verification	Molly Buckland		Completed
25-Sep-23	Other	Watertrax Data	Preventative	Verification	Molly Buckland		Completed
26-Sep-23	Pump	M3020	Preventative	Clean and Inspect	Molly Buckland		Greased and tightened packing
26-Sep-23	Generator	Diesel Generator	Preventative	Genset operation	Molly Buckland		Generator Check Form Complete
29-Sep-23	Other	Watertrax Data	Preventative	Verification	Molly Buckland		Entered
29-Sep-23	WWTP	WPCP	Preventative	WPCP Pump Rotations	Molly Buckland		
02-Oct-23	Alarm	SFWWS1\WIN911	Preventative	Verification	Tyler George		Changed
02-Oct-23	Alarm	SFWWS2\WIN911	Preventative	Verification	Tyler George		Changed
05-Oct-23	Other	Weirs (Secondary Tank)	Preventative	Clean and Inspect	Tyler George		Cleaned
07-Oct-23	WWTP	WPCP	Preventative	WPCP Pump Rotations	Tyler George		
07-Oct-23	WWTP	WPCP	Preventative	WPCP Pump Rotations	Tyler George		Hpew changed #2 duty
10-Oct-23	Alarm	SFWWS1\WIN911	Preventative	Verification	Molly Buckland		Changed
10-Oct-23	Alarm	SFWWS2\WIN911	Preventative	Verification	Molly Buckland	Changed	Changed
10-Oct-23	Pelletizer	1510 - Dust Collector	Preventative	Clean and Inspect	Molly Buckland		Not completed, will inspect once sludge levels are down
10-Oct-23	Other	Pelletcyclone	Preventative	Clean and Inspect	Jacob Kerr		Replaced all mufflers on Pelletizer last Thursday.
10-Oct-23	Pelletizer	Pelletizer	Preventative	Clean and Inspect	Jacob Kerr		Oiled all Pelletizer chains
11-Oct-23	Generator	Diesel Generator	Preventative	Genset operation	Molly Buckland		Generator Check Form Complete
11-Oct-23	WWTP	WPCP	Preventative	Alarm Testing	Andrew Stoll		
13-Oct-23	WWTP	WPCP	Preventative	WPCP Pump Rotations	Molly Buckland		
13-Oct-23	Other	Watertrax Data	Preventative	Verification	Molly Buckland		Completed
13-Oct-23	Travelling Bridge	CP605	Preventative	Clean and Inspect	Molly Buckland		Completed by AS
16-Oct-23	Alarm	SFWWS1\WIN911	Preventative	Verification	Tyler George		Changed
16-Oct-23	Alarm	SFWWS2\WIN911	Preventative	Verification	Tyler George		Changed
16-Oct-23	Pelletizer	Pelletizer	Preventative	Run Time Hours	Tyler George		Completed
18-Oct-23	Pelletizer	Pelletizer	Preventative	Maintenance (General)	Jacob Kerr		Greased all equipment on dry side.
18-Oct-23	Pelletizer	Pelletizer	Preventative	Clean and Inspect	Jacob Kerr	Cleaned drying drum area.	Completed sweep of drying drum area.
18-Oct-23	Pelletizer	Pelletizer	Preventative	Clean and Inspect	Jacob Kerr		.
18-Oct-23	Pelletizer	Pelletizer	Preventative	Maintenance (General)	Jacob Kerr		Checked all oil reservoirs.
18-Oct-23	Pelletizer	Pelletizer	Preventative	Clean and Inspect	Jacob Kerr		Clean belt press room floor with bleach.
18-Oct-23	Pelletizer	Pelletizer	Preventative	Clean and Inspect	Jacob Kerr		Uses pressurized air to clean compressor filter.
18-Oct-23	Pelletizer	Pelletizer	Preventative	Maintenance (General)	Jacob Kerr		Emptied compressor oil bucket into 55 gallon drum.
20-Oct-23	Pelletizer	Pelletizer	Preventative	Clean and Inspect	Molly Buckland		Completed
20-Oct-23	Other	Watertrax Data	Preventative	Verification	Molly Buckland		Completed
23-Oct-23	Alarm	SFWWS1\WIN911	Preventative	Verification	Molly Buckland		Changed
23-Oct-23	Alarm	SFWWS2\WIN911	Preventative	Verification	Molly Buckland		Changed
24-Oct-23	Facility	Laboratory	Preventative	Lab (WPCP)	Harrison Leitch		
24-Oct-23	WWTP	WPCP	Preventative	WPCP Pump Rotations	Molly Buckland		
24-Oct-23	Facility	Laboratory	Preventative	Lab (WPCP)	Molly Buckland		
25-Oct-23	Belt Press	Belt Press Roller Bearings	Preventative	Clean and Inspect	Andrew Stoll	All pillow blocks greased.	Inspect all pillow blocks. Good.
25-Oct-23	Facility	Laboratory	Preventative	Lab (WPCP)	Molly Buckland		
25-Oct-23	Pelletizer	Pelletizer	Preventative	Run Time Hours	Jacob Kerr		Completed daily totals from September 22nd to October 13.
25-Oct-23	Pelletizer	Pelletizer	Preventative	Clean and Inspect	Jacob Kerr		Ensured bathroom was correctly stocked and cleaned.
26-Oct-23	Generator	Diesel Generator	Preventative	Genset operation	Molly Buckland		Generator Check Form Complete
26-Oct-23	Other	RAS (building)	Preventative	Clean and Inspect	Tyler George		Greased
26-Oct-23	Other	Weirs (Primary Tanks)	Preventative	Clean and Inspect	Tyler George		Cleaned
27-Oct-23	Facility	Laboratory	Preventative	Lab (WPCP)	Molly Buckland		
27-Oct-23	Sizer	M1430	Preventative	Clean and Inspect	Molly Buckland		Completed by As
30-Oct-23	Alarm	SFWWS1\WIN911	Preventative	Verification	Tyler George		Changed
30-Oct-23	Alarm	SFWWS2\WIN911	Preventative	Verification	Tyler George		Changed
30-Oct-23	Bar Screen	screen1	Preventative	Clean and Inspect	Tyler George		Done
30-Oct-23	Bar Screen	screen2	Preventative	Clean and Inspect	Tyler George		Done
31-Oct-23	Pelletizer	Pelletizer	Preventative	Clean and Inspect	Molly Buckland		completed

2023 Preventative Maintenance

01-Nov-23	Pelletizer	Pelletizer	Preventative	Run Time Hours	Molly Buckland		completed October 23-31
01-Nov-23	Pelletizer	Pelletizer	Preventative	Maintenance (General)	Molly Buckland		completed
01-Nov-23	Pump	M3020	Preventative	Clean and Inspect	Molly Buckland		completed
02-Nov-23	Facility	Laboratory	Preventative	Lab (WPCP)	Tyler George		
02-Nov-23	Generator	Diesel Generator	Preventative	Genset operation	Tyler George		Generator Check Form Complete
02-Nov-23	Pelletizer	Pelletizer	Preventative	Clean and Inspect	Tyler George		Completed
02-Nov-23	Other	Watertrax Data	Preventative	Verification	Tyler George		Completed
02-Nov-23	WWTP	WPCP	Preventative	WPCP Pump Rotations	Tyler George		
03-Nov-23	Facility	Laboratory	Preventative	Lab (WPCP)	Tyler George		Completed
04-Nov-23	Facility	Laboratory	Preventative	Lab (WPCP)	Tyler George	Final 0.625, Jakey was correct	Complete
06-Nov-23	Alarm	SFWWS1\WIN911	Preventative	Verification	Molly Buckland		Completed
06-Nov-23	Alarm	SFWWS2\WIN911	Preventative	Verification	Molly Buckland		Completed
06-Nov-23	Facility	Laboratory	Preventative	Lab (WPCP)	Molly Buckland		
06-Nov-23	Instrumentation	LAB Spectro WPCP	Preventative	Verification	Molly Buckland		
06-Nov-23	Sampler	Samplers	Preventative	Calibration	Molly Buckland		Completed
06-Nov-23	Grit Removal	M111	Preventative	Clean and Inspect	Molly Buckland		Completed
07-Nov-23	WWTP	WPCP	Preventative	WPCP Pump Rotations	Molly Buckland		
08-Nov-23	Facility	Laboratory	Preventative	Lab (WPCP)	Molly Buckland		
08-Nov-23	Pelletizer	Pelletizer	Preventative	Clean and Inspect	Jacob Kerr		Cleaned all drying drum wheels and swept floor surface in downstairs of building.
09-Nov-23	WWTP	WPCP	Preventative	WPCP Pump Rotations	Molly Buckland		
09-Nov-23	Pelletizer	Pelletizer	Preventative	Run Time Hours	Jacob Kerr		Completed previous week and current week daily totals.
10-Nov-23	Facility	Laboratory	Preventative	Lab (WPCP)	Molly Buckland		
10-Nov-23	Other	Watertrax Data	Preventative	Verification	Molly Buckland		Completed
10-Nov-23	Generator	Diesel Generator	Preventative	Genset operation	Molly Buckland		Generator Check Form Complete
10-Nov-23	Pelletizer	Pelletizer	Preventative	Clean and Inspect	Molly Buckland		Completed
10-Nov-23	WWTP	WPCP	Preventative	Alarm Testing	Molly Buckland		
14-Nov-23	Pelletizer	Pelletizer	Preventative	Clean and Inspect	Andrew Stoll		Cleaned
14-Nov-23	Alarm	SFWWS1\WIN911	Preventative	Verification	Tyler George		Changed
14-Nov-23	Alarm	SFWWS2\WIN911	Preventative	Verification	Tyler George		Changed
14-Nov-23	Pelletizer	Pelletizer	Preventative	Maintenance (General)	Andrew Stoll	Emptied bucket into barrel.	Bucket was 3/4 full
16-Nov-23	Facility	Laboratory	Preventative	Lab (WPCP)	Tyler George		
16-Nov-23	Generator	Diesel Generator	Preventative	Genset operation	Tyler George		Generator Check Form Complete
17-Nov-23	Travelling Bridge	CP605	Preventative	Clean and Inspect	Tyler George		Cleaned
17-Nov-23	WWTP	WPCP	Preventative	WPCP Pump Rotations	Tyler George		
17-Nov-23	Other	Watertrax Data	Preventative	Verification	Tyler George		Completed
20-Nov-23	Alarm	SFWWS1\WIN911	Preventative	Verification	Molly Buckland		Completed
20-Nov-23	Alarm	SFWWS2\WIN911	Preventative	Verification	Molly Buckland		Completed
20-Nov-23	Facility	Laboratory	Preventative	Lab (WPCP)	Molly Buckland		
21-Nov-23	Building	Raw Sludge (Building)	Preventative	Operational	Molly Buckland		Completed
21-Nov-23	Pelletizer	Pelletizer	Preventative	Maintenance (General)	Jacob Kerr		Checked all oil reservoirs ensuring proper levels.
21-Nov-23	Pelletizer	Pelletizer	Preventative	Clean and Inspect	Jacob Kerr		Cleaned bathroom.
21-Nov-23	Other	Pelletcyclone	Preventative	Clean and Inspect	Jacob Kerr		All mufflers are still good as they are larger than previous mufflers and were done not long ago.
21-Nov-23	Pelletizer	Pelletizer	Preventative	Clean and Inspect	Jacob Kerr		Oiled all chains in Pelletizer building.
22-Nov-23	Facility	Laboratory	Preventative	Lab (WPCP)	Molly Buckland		
23-Nov-23	Instrumentation	LT1210	Preventative	Clean and Inspect	Tyler George		Completed
23-Nov-23	Pelletizer	Pelletizer	Preventative	Maintenance (General)	Tyler George		Completed
23-Nov-23	WWTP	WPCP	Preventative	WPCP Pump Rotations	Molly Buckland		
23-Nov-23	Other	Weirs (Secondary Tank)	Preventative	Clean and Inspect	Andrew Stoll		Hosed off weirs.
23-Nov-23	Pelletizer	Pelletizer	Preventative	Clean and Inspect	Molly Buckland		Completed
23-Nov-23	Pelletizer	Pelletizer	Preventative	Clean and Inspect	Jacob Kerr		Completed full sweep of downstairs and pressure washed belt press room.
23-Nov-23	Pelletizer	Pelletizer	Preventative	Run Time Hours	Jacob Kerr		Entered previous weeks daily totals.
23-Nov-23	Pelletizer	Pelletizer	Preventative	Clean and Inspect	Jacob Kerr		Completed pressure washing of room
23-Nov-23	Pelletizer	Pelletizer	Preventative	Clean and Inspect	Jacob Kerr		Sprayed downstairs channel.
24-Nov-23	Generator	Diesel Generator	Preventative	Genset operation	Molly Buckland		Completed
24-Nov-23	Facility	Laboratory	Preventative	Lab (WPCP)	Molly Buckland		
24-Nov-23	Other	Watertrax Data	Preventative	Verification	Molly Buckland		Completed
27-Nov-23	Alarm	SFWWS2\WIN911	Preventative	Verification	Molly Buckland		TG on call
27-Nov-23	Alarm	SFWWS1\WIN911	Preventative	Verification	Molly Buckland		TG on call
28-Nov-23	Facility	Laboratory	Preventative	Lab (WPCP)	Tyler George		
28-Nov-23	Sizer	M1430	Preventative	Clean and Inspect	Tyler George		Completed
30-Nov-23	Instrumentation	H2S BPR	Preventative	Calibration	Tyler George		
30-Nov-23	Belt Press	Belt Press Roller Bearings	Preventative	Clean and Inspect	Jacob Kerr		Greased and inspected belt press.
30-Nov-23	Pelletizer	Pelletizer	Preventative	Clean and Inspect	Jacob Kerr		Bathroom cleaned and toilet paper replaced.
30-Nov-23	Other	Weirs (Primary Tanks)	Preventative	Clean and Inspect	Andrew Stoll		Hosed down all weirs.
01-Dec-23	Generator	Diesel Generator	Preventative	Genset operation	Molly Buckland		Generator Check Form Complete
01-Dec-23	Pelletizer	Pelletizer	Preventative	Clean and Inspect	Molly Buckland		Completed
01-Dec-23	WWTP	WPCP	Preventative	WPCP Pump Rotations	Molly Buckland		
01-Dec-23	Pump	M3020	Preventative	Clean and Inspect	Molly Buckland		Greased
01-Dec-23	Facility	Laboratory	Preventative	Lab (WPCP)	Molly Buckland		
01-Dec-23	Other	Watertrax Data	Preventative	Verification	Molly Buckland		Completed
04-Dec-23	Alarm	SFWWS2\WIN911	Preventative	Verification	Molly Buckland		Changed

2023 Preventative Maintenance

04-Dec-23	Alarm	SFWWS1\WIN911	Preventative	Verification	Molly Buckland	Changed
04-Dec-23	Facility	Laboratory	Preventative	Lab (WPCP)	Molly Buckland	
04-Dec-23	Instrumentation	LAB Spectro WPCP	Preventative	Verification	Molly Buckland	
05-Dec-23	Generator	Diesel Generator	Preventative	Genset operation	Molly Buckland	Generator Check Form Complete
06-Dec-23	Facility	Laboratory	Preventative	Lab (WPCP)	Molly Buckland	
07-Dec-23	WWTP	WPCP	Preventative	WPCP Pump Rotations	Molly Buckland	
08-Dec-23	Facility	Laboratory	Preventative	Lab (WPCP)	Molly Buckland	
08-Dec-23	Other	Watertrax Data	Preventative	Verification	Molly Buckland	Completed
08-Dec-23	Pelletizer	Pelletizer	Preventative	Clean and Inspect	Molly Buckland	Completed
08-Dec-23	Pelletizer	Pelletizer	Preventative	Run Time Hours	Jacob Kerr	All reports are up to date
08-Dec-23	Pelletizer	Pelletizer	Preventative	Clean and Inspect	Jacob Kerr	Sprayed down channel downstairs.
08-Dec-23	Pelletizer	Pelletizer	Preventative	Maintenance (General)	Jacob Kerr	Emptied out compressor oil bucket.
12-Dec-23	Alarm	SFWWS2\WIN911	Preventative	Verification	Tyler George	Changed
12-Dec-23	Alarm	SFWWS1\WIN911	Preventative	Verification	Tyler George	Changed
12-Dec-23	Facility	Laboratory	Preventative	Lab (WPCP)	Andrew Stoll	Complete
12-Dec-23	Flow Meter	FT507	Preventative	Calibration	Tyler George	Completed
12-Dec-23	Flow Meter	FT617	Preventative	Calibration	Tyler George	Completed
12-Dec-23	Instrumentation	FT128	Preventative	Calibration	Tyler George	Completed
12-Dec-23	Pelletizer	Pelletizer	Preventative	Clean and Inspect	Andrew Stoll	Complete
14-Dec-23	Facility	Laboratory	Preventative	Lab (WPCP)	Andrew Stoll	Complete
14-Dec-23	Travelling Bridge	CP605	Preventative	Clean and Inspect	Andrew Stoll	Complete
16-Dec-23	WWTP	WPCP	Preventative	WPCP Pump Rotations	Tyler George	
16-Dec-23	Instrumentation	Drager Gas Detector	Preventative	Calibration	Tyler George	Not due yet
17-Dec-23	Facility	Laboratory	Preventative	Lab (WPCP)	Tyler George	
18-Dec-23	Alarm	SFWWS2\WIN911	Preventative	Verification	Molly Buckland	Completed
18-Dec-23	Alarm	SFWWS1\WIN911	Preventative	Verification	Molly Buckland	Completed
18-Dec-23	Facility	Laboratory	Preventative	Lab (WPCP)	Molly Buckland	
19-Dec-23	Pelletizer	Pelletizer	Preventative	Maintenance (General)	Jacob Kerr	Dry side greased less than two weeks ago.
19-Dec-23	Pelletizer	Pelletizer	Preventative	Clean and Inspect	Jacob Kerr	Sweeping of full building completed two weeks ago, still up to standards.
19-Dec-23	Generator	Diesel Generator	Preventative	Genset operation	Jacob Kerr	Generator ran last week. Test.
19-Dec-23	Pelletizer	Pelletizer	Preventative	Maintenance (General)	Jacob Kerr	Emptied compressor oil bucket.
22-Dec-23	WWTP	WPCP	Preventative	WPCP Pump Rotations	Molly Buckland	
22-Dec-23	Facility	Laboratory	Preventative	Lab (WPCP)	Molly Buckland	
22-Dec-23	Other	Watertrax Data	Preventative	Verification	Molly Buckland	Entered
27-Dec-23	Alarm	SFWWS2\WIN911	Preventative	Verification	Tyler George	Changed
27-Dec-23	Alarm	SFWWS1\WIN911	Preventative	Verification	Tyler George	Changed
28-Dec-23	Facility	Laboratory	Preventative	Lab (WPCP)	Tyler George	
29-Dec-23	Pelletizer	Pelletizer	Preventative	Maintenance (General)	Jacob Kerr	Oil levels still good.
29-Dec-23	Sizer	M1430	Preventative	Clean and Inspect	Tyler George	Cleaned
29-Dec-23	Pelletizer	Pelletizer	Preventative	Maintenance (General)	Tyler George	Completed
29-Dec-23	Pelletizer	Pelletizer	Preventative	Clean and Inspect	Jacob Kerr	Blew out compressor filter.
29-Dec-23	Pelletizer	Pelletizer	Preventative	Clean and Inspect	Tyler George	Cleaned
29-Dec-23	Pelletizer	Pelletizer	Preventative	Clean and Inspect	Jacob Kerr	Cleaned trough.
29-Dec-23	Other	Pelletcyclone	Preventative	Clean and Inspect	Tyler George	No change needed
29-Dec-23	Pelletizer	Pelletizer	Preventative	Clean and Inspect	Jacob Kerr	Floor has been swept.
29-Dec-23	Generator	Diesel Generator	Preventative	Genset operation	Jacob Kerr	Ran generator on test for 30 minutes.
29-Dec-23	Pump	M3020	Preventative	Clean and Inspect	Jacob Kerr	Press feed pump greased.
31-Dec-23	Facility	Laboratory	Preventative	Lab (WPCP)	Tyler George	

Town of Smiths Falls
2023 Performance Assessment Report - WPCP
Works # 120000890
Conventional Tertiary Treatment UV Disinfection / Pelletization

Date	Asset Category	Asset Description	Maintenance Type	Maintenance Sub Type	Completed By	Description of Maintenance Required	Comments (1)	Comments (2)
09-Jan-23	Pump	P101	Corrective	Repair	Steve LaPlante, Jake Kerr	Earth fault, send out for o/h	Rebuilt - Hewitts, wired by Solid State.	
20-Jan-23	Pump	M3050	Corrective	Repair	S.L. TG. MB JK	Pump binding up, not turning freely. Dismantle entire pump end to end. Joint between drive and auger is worn and cylinder pin broken into three pieces. Replace joint parts. Pin holding auger in place also broken - replace. Replace auger and coupling rods and pins both ends. Reuse rotor and stator. Inspect inside gear box, ok. Change oil.		
26-Jan-23	Tank	Secondary collectors	Corrective	Inspection	S.LaPlante		Inspect sprockets bushings etc.	Leaving down for winter, but back in service Dec 23/22 for high flows
26-Jan-23	Tank	Primary tanks	Corrective	Repair	Tyler	South Primary tank Drain, Remove grit. Replace sprockets, bushings, 23 flights, change oil. Out of service sept 16,2022.	Oil change not complete	
06-Feb-23	Fan	M1120Fan	Corrective	Repair	S. LaPlante	Replace 2 B45 belts	Replace 2 B45 belts	
07-Feb-23	Decanter	Beltpress	Corrective	Repair	TG/SL/JK	Changed top belt		
07-Feb-23	Drive Unit	M1140C	Corrective	Repair	SL,Jk, Dw	.....		
08-Mar-23	Odour Control	SCRUB101	Corrective	Repair	SL, JK	Replace B42 belt	Replace belt and grease bearings	
14-Mar-23	Pump	M 202	Corrective	Repair	S LaPlante, J Kerr	Ring gear @ drive end stripped. Isolate pump and drain. Remove guard, drive belt and wheel. Replaced gear ball, ring gear, gear joint seal, secondary and primary thrust plate and seal support. Fill with grease and reassemble. Grease bearing and stuffing box. Replace rotor stator, clean and grease gear joint.		N/c
30-Mar-23	Pump	M 201	Corrective	Repair	SL, Jk, MB, DW	Replace seal. Tighten drive belt.		
31-Mar-23	Pump	P101	Corrective	Repair	SL	Tried to start pump, VFD showing nothing. Reboot VFD then pushed start in bypass, tripped the main breaker. Lock out call SSE for Monday.	Pump P 101 out of service.	
04-Apr-23	UV	UV631	Corrective	Repair	SL, MB, DW	Bad ballast on module 8, lamps 1 & 2		
11-Apr-23	Decanter	Beltpress	Corrective	Repair	MB/SL/TG/JK	Changed top belt on belt press		
19-Apr-23	Drive Unit	M1140A	Corrective	Repair	Kilmarnock	Wheel worn. Replaced wheel, shaft and bearings. Reused coupling		
19-Apr-23	Drive Unit	M1140B	Corrective	Repair	Kilmarnock	Broken wheel - replace wheel, shaft and bearings.		
02-May-23	Pelletizer	Pelletizer	Corrective	Repair	MB/JK	Replace gasket around inlet of drying drum		
03-May-23	Pump	M406	Corrective	Repair	S. LaPlante	Coupling is loose, realign motor an pump, replace 2 hubs, grid and grid cover. Fill with Falk grease.		
23-May-23	Grinder	Grind3020	Corrective	Repair	S.LaPlante, M. Buckland	Muffin monster clogged with hair. Clean out thru port on inlet side.		
18-Jun-23	VFD	VFD405	Corrective	Repair	S LaPlante	Cooling fan overheating, needs replacement		
05-Jul-23	Tank	Primary tanks	Corrective	Repair	Tyler	Cross Collectors damaged, chain off sprockets, 6 Long collectors broken		Replaced all broken cross Collectors, replaced long connectors, replaced idler sprockets on cross collector
10-Jul-23	Pelletizer	Pelletizer	Corrective	Repair	MB/Kilmarnock	Changed valve V1280 on pelletizer, condensate discharge valve	Completed	
10-Jul-23	Valve	V417	Corrective	Repair	TG/MB/kilmarnock	Replaced WAS Valve done by kilmarnock		Completed
31-Jul-23	Travelling Bridge	CP605	Corrective	Repair	MB	Pillow block lost bolt causing wheel to come off track. Kilmarnock onsite to repair		

2023 Corrective Maintenance

29-Aug-23	Decanter	Beltpress	Corrective	Repair	MB/AS	Changed bottoms belt	
07-Sep-23	Decanter	Beltpress	Corrective	Repair	MB	EFP replaced all air lines on belt press	
11-Sep-23	Decanter	Beltpress	Corrective	Repair	MB/TG/JK/AS	Changed bottom belt	
14-Sep-23	Pump	M 201	Corrective	Repair	MB	Replaced packing using 9/16 packing	Completed by JPB
14-Sep-23	Pump	M 202	Corrective	Repair	MB	Isolated pump and drained out to replace packing using 9/16 packing.	Completed by JPB
19-Sep-23	Odour Control	SCRUB101	Corrective	Repair	MB	Repaired broken belt (B42)	
20-Oct-23	Pelletizer	Pelletizer	Corrective	Repair	MB/JK	Cleaned out airlock M1512, full of rags which was causing the augur M1511 to jam	
20-Oct-23	Decanter	Beltpress	Corrective	Repair	MB/JK	Changed top belt	
20-Oct-23	Decanter	Beltpress	Corrective	Repair	MB/TG/JK	Changed bottom belt	
05-Dec-23	Decanter	Beltpress	Corrective	Repair	AS/ JPB	Replaced shaft and T bar roller. Replaced taper locks	

APPENDIX E

Solids Handling

2023 Solids Handling

Town of Smiths Falls

2023 Performance Assessment Report - WPCP

Works # 120000890

Conventional Tertiary Treatment UV Disinfection / Pelletization

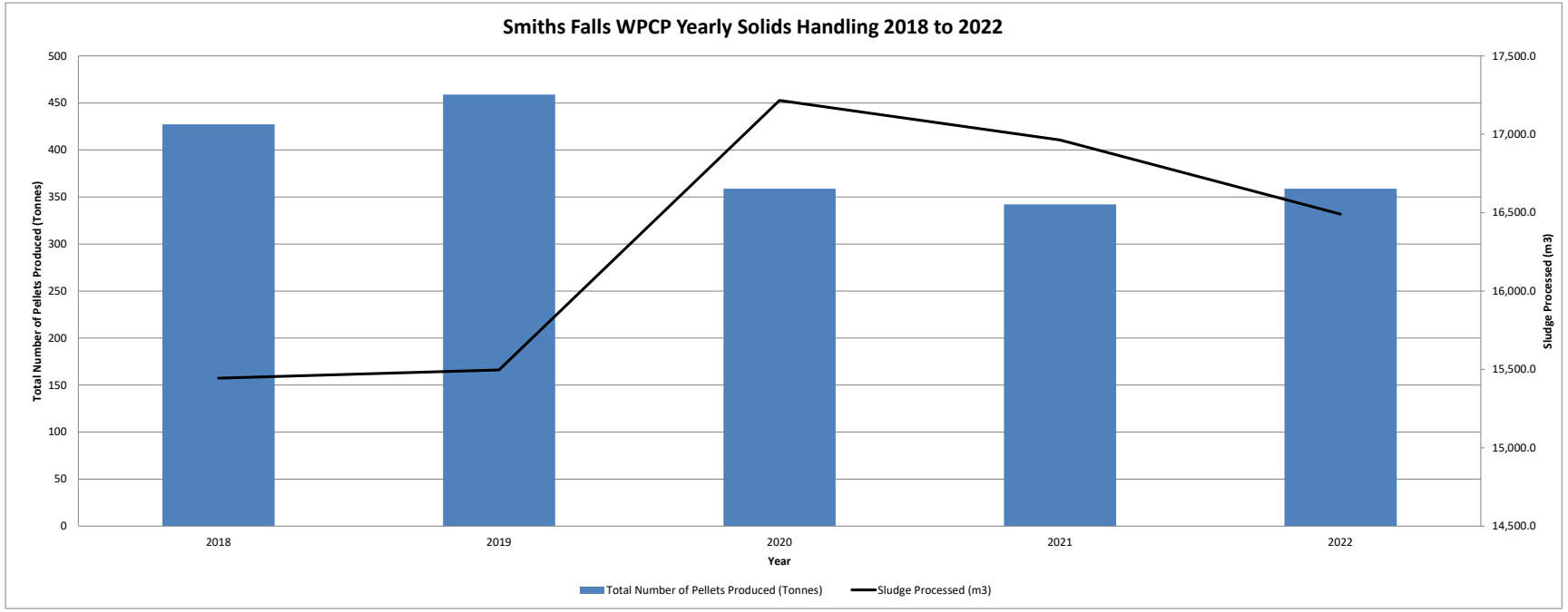
Year	Run Time (Hrs)	Sludge Processed (m^3)	Total Number of Pellet bags filled	Total Number of Pellets Produced (Kg)	Total Number of Pellets Produced (Tonnes)
Jan-23	189.9	1,254.0	48	28,982.5	29.0
Feb-23	238.8	1,607.6	58	34,946.5	34.9
Mar-23	183.7	1,046.9	32	18,690.0	18.7
Apr-23	219.8	1,219.1	51	26,173.0	26.2
May-23	179.1	967.3	36	21,494.5	21.5
Jun-23	183.6	1,289.0	8	4,712.0	4.7
Jul-23	142.3	832.3	16	10,704.0	10.7
Aug-23	142.8	791.0	16	10,093.5	10.1
Sep-23	252.8	1,773.8	32	20,954.5	21.0
Oct-23	258.4	1,756.2	36	25,783.5	25.8
Nov-23	147.0	1,147.3	32	21,314.0	21.3
Dec-23	84.3	469.0	16	9,747.5	9.7
Totals	**2,222.6**	**14,153.4**	**381.0**	**233,595.5**	**233.6**

Year	Run Time Hours	Sludge Processed cubic meters	Total Number of Pellet bags filled	Total Number of Pellets Produced kg	Total Number of Pellets Produced (Tonnes)
2019	2,373.1	15,496.5	653.0	458,941.8	458.9
2020	2,469.2	17,216.1	492.0	358,891.2	358.9
2021	2,224.8	15,614.3	481.0	326,732.5	326.7
2022	2,457.7	16,490.8	557.0	358,821.9	358.8
2023	2,222.6	14,153.4	381.0	233,595.5	233.6

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.

Yearly Solids Handling 2018 to 2022

Town of Smiths Falls
2022 Performance Assessment Report - WPCP
Works # 120000890
Conventional Tertiary Treatment UV Disinfection / Pelletization



APPENDIX F

2023 Municipal Utility Monitoring Program (MUMPS)

Ontario

Ministry of the Environment, Conservation and Parks

Municipal Utility Monitoring Program R1
Mechanical Plants

Fields marked with an asterisk (*) are mandatory.

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	K7A 5B8

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	K7A 4T6

File No. (1–2)	Works Number * (3–11)	Data Period * Month (16–17)	Data Period * Year (18–19)	Days (20–21)	Discharge Type (22)	Update Code (80)
46	120000890	01	2023	31	2	R

C.P. (12–13)			Parameter Code (30–34)	Dec. (35)	Monthly Results (36–38)	# of Occurrences
01	**Flows**					
	Total Flow	(10^3 m^3)	50010	3	333.511	
	Average Daily Flow	(10^3 m^3/d)	50015	3	10.758	
	Maximum Daily Flow	(10^3 m^3/d)	50020	3	29.181	
26	**Bypass**					# of Occurrences
	Plant Bypass Volume	(10^3 m^3)	50026	3		
	Duration	(hours)	80563	1		
	Secondary Bypass Volume	(10^3 m^3)	50040	3	3.370	1
	Duration	(hours)	80565	1		
03	**Raw Sewage**					# of Samples
	BOD_5	(mg/L)	00001	0	122	7
	Suspended Solids	(mg/L)	00006	0	190	10
	TKN	(mg/L)	00020	2	17.70	4
	Total Phosphorus	(mg/L)	00033	1	1.8	9
04	**Final Effluent**					
	BOD_5	(mg/L)	00001	1	5.0	7
	$CBOD_5$	(mg/L)	00002	1	4.0	7
	Suspended Solids	(mg/L)	00006	1	9.5	14
	Ammonia + Ammonium	(mg/L)	00019	2	0.11	8
	TKN	(mg/L)	00020	2	0.80	4
	Total Phosphorus	(mg/L)	00033	2	0.19	14
07	**Disinfection**					
	Chlorine Used	(kg as Cl_2)	50100	1		
	Chlorine Dosage	(mg/L as Cl_2)	80410	1		
	Chlorine Residual	(mg/L as Cl_2)	80420	1		

Operator Telephone Number
613-283-4124

Operator Email Address *
scooke@smithsfalls.ca

Comments
UV disinfection, **revised to included bypass**

Return completed form to:

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Ministry Contact Email Address *
brenda.beaudoin@ontario.ca

Ontario

Ministry of the Environment, Conservation and Parks

Municipal Utility Monitoring Program R2
Mechanical Plants

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 * Month	Data Period * Year	Days	Discharge Type	Update Code
46	120000890	01	2023	31	2	R
1 2	3 11	16	19	20 21	22	80

C.P.		Parameter Code	Dec	Monthly Average Results	# of Samples
03	Raw Sewage				
12 13		30 34	35	38	

C.P.			Parameter Code	Dec	Monthly Average Results	# of Samples
04	Final Effluent					
12 13	Alkalinity, Total	(mg/L)	00051	4		
	Conductivity 25°C	(µS/cm)	91004	4		
	E. Coli	(CT/100ml)	91000	4	13.0000	7
	Nitrate, Unfiltered reactive	(mg/L)	00022	4		
	Nitrite, Unfiltered reactive	(mg/L)	00021	4		
	pH		80770	4	7.3400	8
	Temperature, Water	(°C)	80250	4	8.2000	11
	Un-ionized Ammonia	(mg/L)	91012	4	0.0100	5
	Dissolved Oxygen	(mg/L)	00003	4		
	Hydrogen Sulphide	(mg/L)	83008	4		
	pH min		80770	4	7.1600	8
	pH max		80770	4	7.5600	8
			30 34	35	38	

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Ontario

Ministry of the Environment, Conservation and Parks

Municipal Utility Monitoring Program R1
Mechanical Plants

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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	K7A 5B8

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	K7A 4T6

File No. (1–2)	Works Number * (3–11)	Data Period * Month (16–17)	Data Period * Year (18–19)	Days (20–21)	Discharge Type (22)	Update Code (80)
46	120000890	02	2023	28	2	R

C.P. (12–13)			Parameter Code (30–34)	Dec. (35)	Monthly Results (36–38)	
01	**Flows**					
	Total Flow	(10^3 m^3)	50010	3	271.594	
	Average Daily Flow	(10^3 m^3/d)	50015	3	9.811	
	Maximum Daily Flow	(10^3 m^3/d)	50020	3	17.101	
26	**Bypass**					# of Occurrences
	Plant Bypass Volume	(10^3 m^3)	50026	3		
	Duration	(hours)	80563	1		
	Secondary Bypass Volume	(10^3 m^3)	50040	3		0
	Duration	(hours)	80565	1		
03	**Raw Sewage**					# of Samples
	BOD_5	(mg/L)	00001	0	201	4
	Suspended Solids	(mg/L)	00006	0	255	7
	TKN	(mg/L)	00020	2	21.00	4
	Total Phosphorus	(mg/L)	00033	1	3.4	6
04	**Final Effluent**					
	BOD_5	(mg/L)	00001	1	3.0	4
	$CBOD_5$	(mg/L)	00002	1	3.0	4
	Suspended Solids	(mg/L)	00006	1	0.7	11
	Ammonia + Ammonium	(mg/L)	00019	2	0.07	6
	TKN	(mg/L)	00020	2	0.80	4
	Total Phosphorus	(mg/L)	00033	2	0.09	9
07	**Disinfection**					
	Chlorine Used	(kg as Cl_2)	50100	1		
	Chlorine Dosage	(mg/L as Cl_2)	80410	1		
	Chlorine Residual	(mg/L as Cl_2)	80420	1		

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Comments
UV disinfection

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Ontario

Ministry of the Environment, Conservation and Parks

Municipal Utility Monitoring Program R2
Mechanical Plants

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. (1–2)	Works Number * (3–11)	Data Period * Month (16–17)	Data Period * Year (18–19)	Days (20–21)	Discharge Type (22)	Update Code (80)
46	120000890	02	2023	28	2	R

C.P. (12–13)		Parameter Code (30–34)	Dec (35)	Monthly Average Results (38)	# of Samples
03	Raw Sewage				

C.P. (12–13)			Parameter Code (30–34)	Dec (35)	Monthly Average Results (38)	# of Samples
04	Final Effluent					
	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	7.2200	10
	Temperature, Water	(°C)	80250	4	7.3000	14
	Un-ionized Ammonia	(mg/L)	91012	4	0.1100	6
	Dissolved Oxygen	(mg/L)	00003	4		
	Hydrogen Sulphide	(mg/L)	83008	4		
	pH min		80770	4	6.8600	10
	pH max		80770	4	7.4200	10

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Ontario

Ministry of the Environment, Conservation and Parks

Municipal Utility Monitoring Program R1
Mechanical Plants

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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	K7A 5B8

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	K7A 4T6

File No. (1–2)	Works Number * (3–11)	Data Period * Month (16–17)	Data Period * Year (18–19)	Days (20–21)	Discharge Type (22)	Update Code (80)
46	120000890	03	2023	31	2	R

C.P. (12–13)		Parameter Code (30–34)	Dec. (35)	Monthly Results (36–38)	# of Occurrences
01	**Flows**				
	Total Flow (10^3 m^3)	50010	3	300.773	
	Average Daily Flow (10^3 m^3/d)	50015	3	10.310	
	Maximum Daily Flow (10^3 m^3/d)	50020	3	17.446	
26	**Bypass**				# of Occurrences
	Plant Bypass Volume (10^3 m^3)	50026	3		
	Duration (hours)	80563	1		
	Secondary Bypass Volume (10^3 m^3)	50040	3		0
	Duration (hours)	80565	1		
03	**Raw Sewage**				# of Samples
	BOD_5 (mg/L)	00001	0	139	4
	Suspended Solids (mg/L)	00006	0	154	8
	TKN (mg/L)	00020	2	17.50	4
	Total Phosphorus (mg/L)	00033	1	2.4	5
04	**Final Effluent**				
	BOD_5 (mg/L)	00001	1	3.0	4
	$CBOD_5$ (mg/L)	00002	1	3.0	4
	Suspended Solids (mg/L)	00006	1	0.7	14
	Ammonia + Ammonium (mg/L)	00019	2	0.02	7
	TKN (mg/L)	00020	2	0.70	4
	Total Phosphorus (mg/L)	00033	2	0.08	13
07	**Disinfection**				
	Chlorine Used (kg as Cl_2)	50100	1		
	Chlorine Dosage (mg/L as Cl_2)	80410	1		
	Chlorine Residual (mg/L as Cl_2)	80420	1		

Operator Telephone Number
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Operator Email Address *
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Comments
UV disinfection

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Ministry Contact Email Address *
brenda.beaudoin@ontario.ca

Ontario

Ministry of the Environment, Conservation and Parks

Municipal Utility Monitoring Program R2
Mechanical Plants

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 * Month	Data Period * Year	Days	Discharge Type	Update Code
46	120000890	03	2023	31	2	R
1 2	3 11	16	19	20 21	22	80

C.P.		Parameter Code	Dec	Monthly Average Results	# of Samples
03	Raw Sewage				
12 13		30 34	35	38	

C.P.			Parameter Code	Dec	Monthly Average Results	# of Samples
04	Final Effluent					
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	7.2700	12
	Temperature, Water	(°C)	80250	4	8.3000	16
	Un-ionized Ammonia	(mg/L)	91012	4	0.0100	5
	Dissolved Oxygen	(mg/L)	00003	4		
	Hydrogen Sulphide	(mg/L)	83008	4		
	pH min		80770	4	7.0900	12
	pH max		80770	4	7.4600	12
			30 34	35	38	

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UV disinfection

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Ontario

Ministry of the Environment, Conservation and Parks

Municipal Utility Monitoring Program R1
Mechanical Plants

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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	K7A 5B8

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	K7A 4T6

File No. (1–2)	Works Number * (3–11)	Data Period * Month (16–17)	Data Period * Year (18–19)	Days (20–21)	Discharge Type (22)	Update Code (80)
46	120000890	04	2023	30	2	R

C.P. (12–13)			Parameter Code (30–34)	Dec. (35)	Monthly Results (36–38)	# of Occurrences
01	**Flows**					
	Total Flow	(10^3 m^3)	50010	3	403.592	
	Average Daily Flow	(10^3 m^3/d)	50015	3	13.761	
	Maximum Daily Flow	(10^3 m^3/d)	50020	3	51.419	
26	**Bypass**					# of Occurrences
	Plant Bypass Volume	(10^3 m^3)	50026	3		
	Duration	(hours)	80563	1		
	Secondary Bypass Volume	(10^3 m^3)	50040	3	111.978	2
	Duration	(hours)	80565	1	181.8	
03	**Raw Sewage**					# of Samples
	BOD_5	(mg/L)	00001	0	96	7
	Suspended Solids	(mg/L)	00006	0	118	12
	TKN	(mg/L)	00020	2	18.20	4
	Total Phosphorus	(mg/L)	00033	1	1.7	9
04	**Final Effluent**					
	BOD_5	(mg/L)	00001	1	13.0	7
	$CBOD_5$	(mg/L)	00002	1	8.0	7
	Suspended Solids	(mg/L)	00006	1	20.9	12
	Ammonia + Ammonium	(mg/L)	00019	2	0.27	10
	TKN	(mg/L)	00020	2	0.50	4
	Total Phosphorus	(mg/L)	00033	2	0.39	12
07	**Disinfection**					
	Chlorine Used	(kg as Cl_2)	50100	1		
	Chlorine Dosage	(mg/L as Cl_2)	80410	1		
	Chlorine Residual	(mg/L as Cl_2)	80420	1		

Operator Telephone Number
613-283-4124

Operator Email Address *
scooke@smithsfalls.ca

Comments
UV disinfection

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Ontario

Ministry of the Environment, Conservation and Parks

Municipal Utility Monitoring Program R2
Mechanical Plants

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 * Month	Data Period * Year	Days	Discharge Type	Update Code
46	120000890	04	2023	30	2	R
1 2	3 11	16	19	20 21	22	80

C.P.		Parameter Code	Dec	Monthly Average Results	# of Samples
03	Raw Sewage				
12 13		30 34	35	38	

C.P.	Final Effluent		Parameter Code	Dec	Monthly Average Results	# of Samples
04	Alkalinity, Total	(mg/L)	00051	4		
	Conductivity 25°C	(µS/cm)	91004	4		
	E. Coli	(CT/100ml)	91000	4	20.6000	7
	Nitrate, Unfiltered reactive	(mg/L)	00022	4		
	Nitrite, Unfiltered reactive	(mg/L)	00021	4		
	pH		80770	4	6.9800	10
	Temperature, Water	(°C)	80250	4	9.4000	17
	Un-ionized Ammonia	(mg/L)	91012	4	0.0100	7
	Dissolved Oxygen	(mg/L)	00003	4		
	Hydrogen Sulphide	(mg/L)	83008	4		
	pH min		80770	4	6.9800	10
	pH max		80770	4	7.9000	10
12 13		30 34	35	38		

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Municipal Utility Monitoring Program R1
Mechanical Plants

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Project Name
Smiths Falls Water Pollution Control Plant

Facility Address

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	180	Queen Street	

Municipality/City/Town	Province	Postal Code
Town of Smiths Falls	ON - Ontario	K7A 5B8

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Municipality/City/Town	Province	Postal Code
Town of Smiths Falls	ON - Ontario	K7A 4T6

File No. (1–2)	Works Number * (3–11)	Data Period * Month (16–17)	Data Period * Year (18–19)	Days (20–21)	Discharge Type (22)	Update Code (80)
46	120000890	05	2023	31	2	R

C.P. (12–13)		Parameter Code (30–34)	Dec. (35)	Monthly Results (38)	# of Occurrences
01	**Flows**				
	Total Flow (10^3 m^3)	50010	3	340.692	
	Average Daily Flow (10^3 m^3/d)	50015	3	10.711	
	Maximum Daily Flow (10^3 m^3/d)	50020	3	45.150	
26	**Bypass**				# of Occurrences
	Plant Bypass Volume (10^3 m^3)	50026	3		
	Duration (hours)	80563	1		
	Secondary Bypass Volume (10^3 m^3)	50040	3		0
	Duration (hours)	80565	1		
03	**Raw Sewage**				# of Samples
	BOD_5 (mg/L)	00001	0	113	6
	Suspended Solids (mg/L)	00006	0	187	9
	TKN (mg/L)	00020	2	17.60	5
	Total Phosphorus (mg/L)	00033	1	3.3	7
04	**Final Effluent**				
	BOD_5 (mg/L)	00001	1	3.0	6
	$CBOD_5$ (mg/L)	00002	1	3.0	6
	Suspended Solids (mg/L)	00006	1	2.8	12
	Ammonia + Ammonium (mg/L)	00019	2	0.22	8
	TKN (mg/L)	00020	2	0.90	5
	Total Phosphorus (mg/L)	00033	2	0.90	11
07	**Disinfection**				
	Chlorine Used (kg as Cl_2)	50100	1		
	Chlorine Dosage (mg/L as Cl_2)	80410	1		
	Chlorine Residual (mg/L as Cl_2)	80420	1		

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Municipal Utility Monitoring Program R2
Mechanical Plants

Project Name
Smiths Falls Water Pollution Control Plant

Facility Address

Unit Number	Street Number	Street Name	PO Box
	180	Queen Street	

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Town of Smiths Falls	ON - Ontario	K7A5B8

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Town of Smiths Falls	ON - Ontario	K7A4T6

File No.	Works Number *	Data Period * Month	Data Period * Year	Days	Discharge Type	Update Code
46	120000890	05	2023	31	2	R
1 2	3 11	16	19	20 21	22	80

C.P.		Parameter Code	Dec	Monthly Average Results	# of Samples
03	Raw Sewage				
12 13		30 34	35	38	

C.P.			Parameter Code	Dec	Monthly Average Results	# of Samples
04	Final Effluent					
12 13	Alkalinity, Total	(mg/L)	00051	4		
	Conductivity 25°C	(µS/cm)	91004	4		
	E. Coli	(CT/100ml)	91000	4	4.8100	6
	Nitrate, Unfiltered reactive	(mg/L)	00022	4		
	Nitrite, Unfiltered reactive	(mg/L)	00021	4		
	pH		80770	4	7.3600	9
	Temperature, Water	(°C)	80250	4	9.8000	15
	Un-ionized Ammonia	(mg/L)	91012	4	0.0100	6
	Dissolved Oxygen	(mg/L)	00003	4		
	Hydrogen Sulphide	(mg/L)	83008	4		
	pH min		80770	4	7.1200	9
	pH max		80770	4	7.5500	9
		30 34	35	38		

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Mechanical Plants

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File No. (1–2)	Works Number * (3–11)	Data Period * Month (16–17)	Data Period * Year (18–19)	Days (20–21)	Discharge Type (22)	Update Code (80)
46	120000890	06	2023	30	2	R

C.P. (12–13)			Parameter Code (30–34)	Dec. (35)	Monthly Results (36–38)	# of Occurrences
01	**Flows**					
	Total Flow	(10^3 m^3)	50010	3	129.557	
	Average Daily Flow	(10^3 m^3/d)	50015	3	4.688	
	Maximum Daily Flow	(10^3 m^3/d)	50020	3	7.755	
26	**Bypass**					# of Occurrences
	Plant Bypass Volume	(10^3 m^3)	50026	3		
	Duration	(hours)	80563	1		
	Secondary Bypass Volume	(10^3 m^3)	50040	3		0
	Duration	(hours)	80565	1		
03	**Raw Sewage**					# of Samples
	BOD_5	(mg/L)	00001	0	191	4
	Suspended Solids	(mg/L)	00006	0	236	6
	TKN	(mg/L)	00020	2	26.10	4
	Total Phosphorus	(mg/L)	00033	1	2.4	5
04	**Final Effluent**					
	BOD_5	(mg/L)	00001	1	3.0	4
	$CBOD_5$	(mg/L)	00002	1	3.0	4
	Suspended Solids	(mg/L)	00006	1	0.7	13
	Ammonia + Ammonium	(mg/L)	00019	2	0.03	5
	TKN	(mg/L)	00020	2	0.70	4
	Total Phosphorus	(mg/L)	00033	2	0.50	13
07	**Disinfection**					
	Chlorine Used	(kg as Cl_2)	50100	1		
	Chlorine Dosage	(mg/L as Cl_2)	80410	1		
	Chlorine Residual	(mg/L as Cl_2)	80420	1		

Operator Telephone Number
613-283-4124

Operator Email Address *
scooke@smithsfalls.ca

Comments
UV disinfection

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Ministry Contact Email Address *
brenda.beaudoin@ontario.ca

Ontario

Ministry of the Environment, Conservation and Parks

Municipal Utility Monitoring Program R2
Mechanical Plants

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 * Month	Data Period * Year	Days	Discharge Type	Update Code
46	120000890	06	2023	30	2	R
1 2	3 11	16	19	20 21	22	80

C.P.		Parameter Code	Dec	Monthly Average Results	# of Samples
03	Raw Sewage				
12 13		30 34	35	38	

C.P.	Final Effluent		Parameter Code	Dec	Monthly Average Results	# of Samples
04	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	7.2100	10
	Temperature, Water	(°C)	80250	4	11.1000	14
	Un-ionized Ammonia	(mg/L)	91012	4	0.0100	5
	Dissolved Oxygen	(mg/L)	00003	4		
	Hydrogen Sulphide	(mg/L)	83008	4		
	pH min		80770	4	6.8400	10
	pH max		80770	4	7.4400	10
12 13		30 34	35	38		

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Ontario

Ministry of the Environment, Conservation and Parks

Municipal Utility Monitoring Program R1
Mechanical Plants

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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	K7A 5B8

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	K7A 4T6

File No. (1–2)	Works Number * (3–11)	Data Period * Month (16–17)	Data Period * Year (18–19)	Days (20–21)	Discharge Type (22)	Update Code (80)
46	120000890	07	2023	31	2	R

C.P. (12–13)		Parameter Code (30–34)	Dec. (35)	Monthly Results (36–38)	# of Occurrences
01	**Flows**				
	Total Flow (10^3 m^3)	50010	3	175.821	
	Average Daily Flow (10^3 m^3/d)	50015	3	5.672	
	Maximum Daily Flow (10^3 m^3/d)	50020	3	14.372	
26	**Bypass**				# of Occurrences
	Plant Bypass Volume (10^3 m^3)	50026	3		
	Duration (hours)	80563	1		
	Secondary Bypass Volume (10^3 m^3)	50040	3		0
	Duration (hours)	80565	1		
03	**Raw Sewage**				# of Samples
	BOD_5 (mg/L)	00001	0	151	4
	Suspended Solids (mg/L)	00006	0	312	6
	TKN (mg/L)	00020	2	28.90	4
	Total Phosphorus (mg/L)	00033	1	4.9	5
04	**Final Effluent**				
	BOD_5 (mg/L)	00001	1	3.0	4
	$CBOD_5$ (mg/L)	00002	1	3.0	4
	Suspended Solids (mg/L)	00006	1	2.1	10
	Ammonia + Ammonium (mg/L)	00019	2	0.03	4
	TKN (mg/L)	00020	2	0.80	4
	Total Phosphorus (mg/L)	00033	2	0.06	10
07	**Disinfection**				
	Chlorine Used (kg as Cl_2)	50100	1		
	Chlorine Dosage (mg/L as Cl_2)	80410	1		
	Chlorine Residual (mg/L as Cl_2)	80420	1		

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Ministry of the Environment, Conservation and Parks

Municipal Utility Monitoring Program R2
Mechanical Plants

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 * Month	Data Period * Year	Days	Discharge Type	Update Code
46	1200008902	07	2023	31	2	R
1 2	3 11	16	19	20 21	22	80

C.P.		Raw Sewage	Parameter Code	Dec	Monthly Average Results	# of Samples
12	13					
			30 34	35	38	

C.P.		Final Effluent		Parameter Code	Dec	Monthly Average Results	# of Samples
12	13						
0	4	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	7.2200	9
		Temperature, Water	(°C)	80250	4	14.7000	9
		Un-ionized Ammonia	(mg/L)	91012	4	0.0100	4
		Dissolved Oxygen	(mg/L)	00003	4		
		Hydrogen Sulphide	(mg/L)	83008	4		
		pH min		80770	4	7.0000	9
		pH max		80770	4	7.4500	9
				30 34	35	38	

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Ministry of the Environment, Conservation and Parks

Municipal Utility Monitoring Program R1
Mechanical Plants

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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	K7A 5B8

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	K7A 4T6

File No. (1–2)	Works Number * (3–11)	Data Period * Month (16–17)	Data Period * Year (18–19)	Days (20–21)	Discharge Type (22)	Update Code (80)
46	120000890	08	2023	31	2	R

C.P. (12–13)		Parameter Code (30–34)	Dec. (35)	Monthly Results (36–38)	# of Occurrences
01	**Flows**				
	Total Flow (10^3 m^3)	50010	3	183.091	
	Average Daily Flow (10^3 m^3/d)	50015	3	5.906	
	Maximum Daily Flow (10^3 m^3/d)	50020	3	9.396	
26	**Bypass**				# of Occurrences
	Plant Bypass Volume (10^3 m^3)	50026	3		
	Duration (hours)	80563	1		
	Secondary Bypass Volume (10^3 m^3)	50040	3		0
	Duration (hours)	80565	1		
03	**Raw Sewage**				# of Samples
	BOD_5 (mg/L)	00001	0	141	5
	Suspended Solids (mg/L)	00006	0	310	6
	TKN (mg/L)	00020	2	27.70	5
	Total Phosphorus (mg/L)	00033	1	5.6	5
04	**Final Effluent**				
	BOD_5 (mg/L)	00001	1	3.0	5
	$CBOD_5$ (mg/L)	00002	1	3.0	5
	Suspended Solids (mg/L)	00006	1	1.0	11
	Ammonia + Ammonium (mg/L)	00019	2	0.04	6
	TKN (mg/L)	00020	2	0.70	5
	Total Phosphorus (mg/L)	00033	2	0.05	7
07	**Disinfection**				
	Chlorine Used (kg as Cl_2)	50100	1		
	Chlorine Dosage (mg/L as Cl_2)	80410	1		
	Chlorine Residual (mg/L as Cl_2)	80420	1		

Operator Telephone Number
613-283-4124

Operator Email Address *
scooke@smithsfalls.ca

Comments
UV disinfection

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Ministry Contact Email Address *
brenda.beaudoin@ontario.ca

Ontario

Ministry of the Environment, Conservation and Parks

Municipal Utility Monitoring Program R2
Mechanical Plants

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 * Month	Data Period * Year	Days	Discharge Type	Update Code
46	120000890	08	2023	31	2	R
1 2	3 11	16	19	20 21	22	80

C.P.		Parameter Code	Dec	Monthly Average Results	# of Samples
03	Raw Sewage				
12 13		30 34	35	38	

C.P.			Parameter Code	Dec	Monthly Average Results	# of Samples
04	Final Effluent					
12 13			30 34	35	38	
	Alkalinity, Total	(mg/L)	00051	4		
	Conductivity 25°C	(µS/cm)	91004	4		
	E. Coli	(CT/100ml)	91000	4	1.1500	5
	Nitrate, Unfiltered reactive	(mg/L)	00022	4		
	Nitrite, Unfiltered reactive	(mg/L)	00021	4		
	pH		80770	4	7.3900	10
	Temperature, Water	(°C)	80250	4	15.0000	10
	Un-ionized Ammonia	(mg/L)	91012	4	0.0100	5
	Dissolved Oxygen	(mg/L)	00003	4		
	Hydrogen Sulphide	(mg/L)	83008	4		
	pH min		80770	4	7.0900	10
	pH max		80770	4	7.3900	10

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Ontario

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Municipal Utility Monitoring Program R1
Mechanical Plants

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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	K7A 5B8

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	K7A 4T6

File No. (1–2)	Works Number * (3–11)	Data Period * Month (16–17)	Data Period * Year (18–19)	Days (20–21)	Discharge Type (22)	Update Code (80)
46	120000890	09	2023	30	2	R

C.P. (12–13)			Parameter Code (30–34)	Dec. (35)	Monthly Results (36–38)	
01	**Flows**					
	Total Flow	(10^3 m^3)	50010	3	133.983	
	Average Daily Flow	(10^3 m^3/d)	50015	3	4.466	
	Maximum Daily Flow	(10^3 m^3/d)	50020	3	6.533	
26	**Bypass**					# of Occurrences
	Plant Bypass Volume	(10^3 m^3)	50026	3		
	Duration	(hours)	80563	1		
	Secondary Bypass Volume	(10^3 m^3)	50040	3		0
	Duration	(hours)	80565	1		
03	**Raw Sewage**					# of Samples
	BOD_5	(mg/L)	00001	0	237	4
	Suspended Solids	(mg/L)	00006	0	606	5
	TKN	(mg/L)	00020	2	34.30	4
	Total Phosphorus	(mg/L)	00033	1	5.7	5
04	**Final Effluent**					
	BOD_5	(mg/L)	00001	1	3.0	4
	$CBOD_5$	(mg/L)	00002	1	3.0	4
	Suspended Solids	(mg/L)	00006	1	0.7	11
	Ammonia + Ammonium	(mg/L)	00019	2	0.22	6
	TKN	(mg/L)	00020	2	1.10	4
	Total Phosphorus	(mg/L)	00033	2	0.07	12
07	**Disinfection**					
	Chlorine Used	(kg as Cl_2)	50100	1		
	Chlorine Dosage	(mg/L as Cl_2)	80410	1		
	Chlorine Residual	(mg/L as Cl_2)	80420	1		

Operator Telephone Number
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Operator Email Address *
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UV disinfection

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Ontario

Ministry of the Environment, Conservation and Parks

Municipal Utility Monitoring Program R2
Mechanical Plants

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 * Month	Data Period * Year	Days	Discharge Type	Update Code
46	120000890	09	2023	30	2	R
1 2	3 11	16	19	20 21	22	80

C.P.		Dec	Monthly Average Results	# of Samples
03	Raw Sewage — Parameter Code			
12 13	30 34	35	38	

04	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	7.3300	11
	Temperature, Water	(°C)	80250	4	11.5000	15
	Un-ionized Ammonia	(mg/L)	91012	4	0.0030	7
	Dissolved Oxygen	(mg/L)	00003	4		
	Hydrogen Sulphide	(mg/L)	83008	4		
	pH min		80770	4	7.0800	11
	pH max		80770	4	7.6300	11
	30	34	35	38		

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Municipal Utility Monitoring Program R1
Mechanical Plants

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Project Name
Smiths Falls Water Pollution Control Plant

Facility Address

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	180	Queen Street	

Municipality/City/Town	Province	Postal Code
Town of Smiths Falls	ON - Ontario	K7A 5B8

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	77	Beckwith Street	695

Municipality/City/Town	Province	Postal Code
Town of Smiths Falls	ON - Ontario	K7A 4T6

File No. (1–2)	Works Number * (3–11)	Data Period * Month (16–17)	Data Period * Year (18–19)	Days (20–21)	Discharge Type (22)	Update Code (80)
46	120000890	10	2023	31	2	R

C.P. (12–13)		Parameter Code (30–34)	Dec. (35)	Monthly Results (36–38)	# of Occurrences
01	**Flows**				
	Total Flow (10^3 m^3)	50010	3	129.604	
	Average Daily Flow (10^3 m^3/d)	50015	3	4.181	
	Maximum Daily Flow (10^3 m^3/d)	50020	3	6.013	
26	**Bypass**				# of Occurrences
	Plant Bypass Volume (10^3 m^3)	50026	3		
	Duration (hours)	80563	1		
	Secondary Bypass Volume (10^3 m^3)	50040	3		0
	Duration (hours)	80565	1		
03	**Raw Sewage**				# of Samples
	BOD_5 (mg/L)	00001	0	234	4
	Suspended Solids (mg/L)	00006	0	395	6
	TKN (mg/L)	00020	2	36.90	4
	Total Phosphorus (mg/L)	00033	1	6.2	5
04	**Final Effluent**				
	BOD_5 (mg/L)	00001	1	3.0	4
	$CBOD_5$ (mg/L)	00002	1	3.0	4
	Suspended Solids (mg/L)	00006	1	1.2	9
	Ammonia + Ammonium (mg/L)	00019	2	0.03	6
	TKN (mg/L)	00020	2	0.70	4
	Total Phosphorus (mg/L)	00033	2	0.05	10
07	**Disinfection**				
	Chlorine Used (kg as Cl_2)	50100	1		
	Chlorine Dosage (mg/L as Cl_2)	80410	1		
	Chlorine Residual (mg/L as Cl_2)	80420	1		

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Municipal Utility Monitoring Program R2
Mechanical Plants

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

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Town of Smiths Falls	ON - Ontario	K7A4T6

File No.	Works Number *	Data Period * Month	Data Period * Year	Days	Discharge Type	Update Code
46	120000890	10	2023	31	2	R
1 2	3 11	16	19	20 21	22	80

C.P.		Parameter Code	Dec	Monthly Average Results	# of Samples
03	Raw Sewage				
12 13		30 34	35	38	

C.P.			Parameter Code	Dec	Monthly Average Results	# of Samples
04	Final Effluent					
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	7.3000	9
	Temperature, Water	(°C)	80250	4	11.8000	9
	Un-ionized Ammonia	(mg/L)	91012	4	0.0100	6
	Dissolved Oxygen	(mg/L)	00003	4		
	Hydrogen Sulphide	(mg/L)	83008	4		
	pH min		80770	4	6.9600	9
	pH max		80770	4	7.4800	9
			30 34	35	38	

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Municipality/City/Town	Province	Postal Code
Town of Smiths Falls	ON - Ontario	K7A 4T6

File No. (1–2)	Works Number * (3–11)	Data Period * Month (16–17)	Data Period * Year (18–19)	Days (20–21)	Discharge Type (22)	Update Code (80)
46	120008090	11	2023	30	2	R

C.P. (12–13)			Parameter Code (30–34)	Dec. (35)	Monthly Results (38)	
01	**Flows**					
	Total Flow	(10^3 m^3)	50010	3	120.866	
	Average Daily Flow	(10^3 m^3/d)	50015	3	4.029	
	Maximum Daily Flow	(10^3 m^3/d)	50020	3	5.818	
26	**Bypass**					# of Occurrences
	Plant Bypass Volume	(10^3 m^3)	50026	3		
	Duration	(hours)	80563	1		
	Secondary Bypass Volume	(10^3 m^3)	50040	3		0
	Duration	(hours)	80565	1		
03	**Raw Sewage**					# of Samples
	BOD_5	(mg/L)	00001	0	217	5
	Suspended Solids	(mg/L)	00006	0	287	7
	TKN	(mg/L)	00020	2	34.00	5
	Total Phosphorus	(mg/L)	00033	1	5.4	5
04	**Final Effluent**					
	BOD_5	(mg/L)	00001	1	3.0	5
	$CBOD_5$	(mg/L)	00002	1	3.0	5
	Suspended Solids	(mg/L)	00006	1	1.9	11
	Ammonia + Ammonium	(mg/L)	00019	2	0.04	7
	TKN	(mg/L)	00020	2	0.90	5
	Total Phosphorus	(mg/L)	00033	2	0.16	10
07	**Disinfection**					
	Chlorine Used	(kg as Cl_2)	50100	1		
	Chlorine Dosage	(mg/L as Cl_2)	80410	1		
	Chlorine Residual	(mg/L as Cl_2)	80420	1		

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 And
2. Your Environmental Officer at your local District/Area MECP Office.

Ministry Contact Email Address *
brenda.beaudoin@ontario.ca

Ontario

Ministry of the Environment, Conservation and Parks

Municipal Utility Monitoring Program R2
Mechanical Plants

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 * Month	Data Period * Year	Days	Discharge Type	Update Code
46	120000890	11	2023	30	2	R
1 2	3 11	16	19	20 21	22	80

C.P.		Parameter Code	Dec	Monthly Average Results	# of Samples
03	Raw Sewage				
12 13		30 34	35	38	

C.P.	Final Effluent		Parameter Code	Dec	Monthly Average Results	# of Samples
04	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	7.2600	10
	Temperature, Water	(°C)	80250	4	8.3000	10
	Un-ionized Ammonia	(mg/L)	91012	4	0.0100	7
	Dissolved Oxygen	(mg/L)	00003	4		
	Hydrogen Sulphide	(mg/L)	83008	4		
	pH min		80770	4	6.9800	10
	pH max		80770	4	7.5200	10
12 13			30 34	35	38	

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Ontario

Ministry of the Environment, Conservation and Parks

Municipal Utility Monitoring Program R1
Mechanical Plants

Fields marked with an asterisk (*) are mandatory.

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	K7A 5B8

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	K7A 4T6

File No. (1–2)	Works Number * (3–11)	Data Period * Month (16–17)	Data Period * Year (18–19)	Days (20–21)	Discharge Type (22)	Update Code (80)
46	120000890	12	2023	31	2	R

C.P. (12–13)		Parameter Code (30–34)	Dec. (35)	Monthly Results (38)	# of Occurrences
01	**Flows**				
	Total Flow (10^3 m^3)	50010	3	210.972	
	Average Daily Flow (10^3 m^3/d)	50015	3	6.806	
	Maximum Daily Flow (10^3 m^3/d)	50020	3	15.077	
26	**Bypass**				# of Occurrences
	Plant Bypass Volume (10^3 m^3)	50026	3		
	Duration (hours)	80563	1		
	Secondary Bypass Volume (10^3 m^3)	50040	3		0
	Duration (hours)	80565	1		
03	**Raw Sewage**				# of Samples
	BOD_5 (mg/L)	00001	0	149	4
	Suspended Solids (mg/L)	00006	0	200	5
	TKN (mg/L)	00020	2	25.20	4
	Total Phosphorus (mg/L)	00033	1	4.4	5
04	**Final Effluent**				
	BOD_5 (mg/L)	00001	1	3.0	4
	$CBOD_5$ (mg/L)	00002	1	3.0	4
	Suspended Solids (mg/L)	00006	1	1.4	13
	Ammonia + Ammonium (mg/L)	00019	2	0.03	6
	TKN (mg/L)	00020	2	0.90	4
	Total Phosphorus (mg/L)	00033	2	0.04	13
07	**Disinfection**				
	Chlorine Used (kg as Cl_2)	50100	1		
	Chlorine Dosage (mg/L as Cl_2)	80410	1		
	Chlorine Residual (mg/L as Cl_2)	80420	1		

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Ontario

Ministry of the Environment, Conservation and Parks

Municipal Utility Monitoring Program R2
Mechanical Plants

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. (1-2)	Works Number * (3-11)	Data Period * Month (16-17)	Data Period * Year (18-19)	Days (20-21)	Discharge Type (22)	Update Code (80)
46	120000890	12	2023	31	2	R

C.P. (12-13)		Parameter Code (30-34)	Dec (35)	Monthly Average Results (38)	# of Samples
03	Raw Sewage				

C.P. (12-13)			Parameter Code (30-34)	Dec (35)	Monthly Average Results (38)	# of Samples
04	Final Effluent					
	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	7.4700	12
	Temperature, Water	(°C)	80250	4	6.7000	12
	Un-ionized Ammonia	(mg/L)	91012	4	0.0100	6
	Dissolved Oxygen	(mg/L)	00003	4		
	Hydrogen Sulphide	(mg/L)	83008	4		
	pH min		80770	4	7.1200	12
	pH max		80770	4	7.7300	12

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APPENDIX G

Operators Licenses

Wastewater Operator Licenses

Smiths Falls Water Polluction Control Plant Class 4
Certificate #1974, Issued March 8, 1993
Works # 120000890
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-25	WWT	ORO
Tyler George	90054012	4	68240	31-Jan-25	WWT	OIC/ORO alternative
Molly Buckland	90087406	2	112084	30-Apr-24	WWT	OIC
Jacob Kerr	90091849	1	126039	28-Feb-27	WWT	OIC
Andrew Stoll	90095128	OIT	OT123572	31-Aug-26	WWT	
Taylor Corney	90096051	OIT	OT124979	31-Dec-26	WWT	
Other Departments						
Andrew MacNaughton	90053135	4	92617	30-Apr-24	WWT	OIC
Sarah E. Cooke	90010541	OIT	42740	30-Sep-24	WWT	
Harrison Leitch	90086060	OIT	OT102399	30-Sep-24	WWT	
Peter Wansbrough	90065604	OIT	OT120562	31-Jan-26	WWT	

APPENDIX H

Notice of Modifications to Sewage Works

Ontario

Ministry of the Environment, Conservation and Parks

Notice of Modification to Sewage Works

RETAIN COPY OF COMPLETED FORM AS PART OF THE ECA ON-SITE PRIOR TO THE SCHEDULED IMPLEMENTATION DATE.

Part 1 – Environmental Compliance Approval (ECA) with Limited Operational Flexibility

(Insert the ECA's owner, number and issuance date and notice number, which should start with "01" and consecutive numbers thereafter)

ECA Number	Issuance Date (mm/dd/yy)	Notice number (if applicable)
5671-AE7HFT	01/11/2017	

ECA Owner	Municipality
Corporation of the Separated Town of Smiths Falls	Smiths Falls

Part 2: Description of the modifications as part of the Limited Operational Flexibility

(Attach a detailed description of the sewage works)

The project involves replacement of the two (2) existing screens and de-watering press, along with associated upgrades to the screenings disposal bin and hazardous gas detection system. There are no changes to the rated capacity of the screening system, and the upgrades are undertaken due to the existing equipment reaching end of life. See the appended preliminary design report for further details.

Description shall include:

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.)
2. Confirmation that the anticipated environmental effects are negligible.
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.)

Part 3 – Declaration by Professional Engineer

I hereby declare that I have verified the scope and technical aspects of this modification and confirm that the design:

1. Has been prepared or reviewed by a Professional Engineer who is licensed to practice in the Province of Ontario;
2. Has been designed in accordance with the Limited Operational Flexibility as described in the ECA;
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.

I hereby declare that to the best of my knowledge, information and belief the information contained in this form is complete and accurate

Name (Print)	PEO License Number
Cameron Wood	100173798
Signature: Digitally signed by Cameron Wood DN: cn=Cameron Wood, c=CA, o=R.V. Anderson Associates Limited, ou=Ottawa Office, email=cwood@rvanderson.com Date: 2023.10.16 10:20:54 -04'00'	Date (mm/dd/yy) 10/16/23

Name of Employer

R. V. Anderson Associates Ltd.

Part 4 – Declaration by Owner

I hereby declare that:

1. I am authorized by the Owner to complete this Declaration;
2. The Owner consents to the modification; and
3. This modifications to the sewage works are proposed in accordance with the Limited Operational Flexibility as described in the ECA.
4. The Owner has fulfilled all applicable requirements of the *Environmental Assessment Act*.

I hereby declare that to the best of my knowledge, information and belief the information contained in this form is complete and accurate

Name of Owner Representative (Print)	Owner representative's title (Print)
Owner Representative's Signature	Date (mm/dd/yy)

Smiths Falls WWTP Bar Screen Replacement

Preliminary Design Report

FINAL

August 13, 2020

Prepared for:

arva

BEST MANAGED COMPANIES
Platinum member

SMITHS FALLS
RISE AT THE FALLS

Smiths Falls WWTP
Bar Screen Replacement

Preliminary Design Report

FINAL

Town of Smiths Falls

RVA 194444

August 13, 2020

Smiths Falls WWTP Bar Screen Replacement
Preliminary Design Report

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APPENDICES

1.0 INTRODUCTION

1.1 Background

The Smiths Falls wastewater treatment plant (WWTP) is a conventional activated sludge process plant with rated capacity of 14,700 m^3/d and a peak flow of 50,700 m^3/d. The existing screening system is located in the Raw Sewage Pumping Station and Headworks Building. There are two parallel screen channels equipped with automatic self-cleaning screens (6 mm bar spacing), each rated for a peak flow of 25,230 m^3/d. Screenings are transferred to a bin for disposal via a screw conveyor with a de-watering press.

1.2 Project Objectives

R.V. Anderson Associates Limited (RVA) was retained to undertake design of the WWTP bar screen replacement.

The key project objectives and desired outcomes include:

- **Life-cycle replacement of the existing screens:** the replacement will be "like-for-like", in that the new screens will have the same capacity and screen size as the existing system.
- **Maintaining discharge criteria during construction:** construction staging requirements are thought out in advance and appropriately coordinated with operations staff to mitigate risk of unplanned shutdowns.

1.2.1 Scope of Preliminary Design

The purpose of the Preliminary Design Report (PDR) is to summarize the design basis for replacement of the screening equipment, to document equipment pre-selection, and to identify key design considerations for the screen replacement.

2.0 DESIGN BASIS

2.1 Existing Conditions

The existing two (2) bar screens are Aqua Guard screens (model AG-MN-A) with dimensions of 3 ft wide x 11 ft discharge height, constructed of 304 SS construction with NEMA 4X control panels. The screening system is original to the facility construction in 1993 and it is reaching the end of its useful life due to age. As such, the lifecycle replacement of the existing screens is essential to maintain reliability and robustness of the preliminary treatment system.

Town noted that conveyor system is in good working condition, with the most recent rehabilitated approximately 10 years ago, except for the compactor and gearbox which are original equipment. While replacement of the conveyor and compactor is not required, the Town will evaluate the best value for replacement of the screening system, which may include replacement of the conveyance system.

Preliminary screening is an essential part of the wastewater treatment process, as it protects downstream treatment processes from damage due to debris and foreign objects.

2.2 Design Parameters

The screen replacement will be a like-for-like replacement, with no increase in capacity. The Town of Smiths Falls has indicated that the existing screen size (6mm bar spacing) has generally been adequate. As such, the original design parameters have been used in the evaluation of available technologies and product. The parameters for design basis are summarized in the table below.

Table 2.1 – Design Basis

Design Parameters	
Quantity of Screens	2
Screen Type	Multi-Rake Bar Screen
Design Flow per Screen	25,230 m^3/d (peak)
Bar Spacing	6 mm
Channel Width	915 mm
Channel Depth	1800 mm
Water Depth in Channel at Peak Flow	900 mm
Existing Discharge Height	3353 mm

2.3 Hydraulics

Wastewater from the pumping station discharges to a single concrete channel to the Screen and Grit Room where the main channel splits into two equal-sized, smaller channels. These two smaller channels are the screening channels, as shown in **Figure 2.1**. Each channel is 915 mm wide by 1800 mm deep. Based on the site visit, the channel wall seems to be in good condition. No channel modification is anticipated to accommodate new screening equipment of the same capacity. As such there would be are no anticipated changes to the hydraulics through the screen channels or to upstream processes.

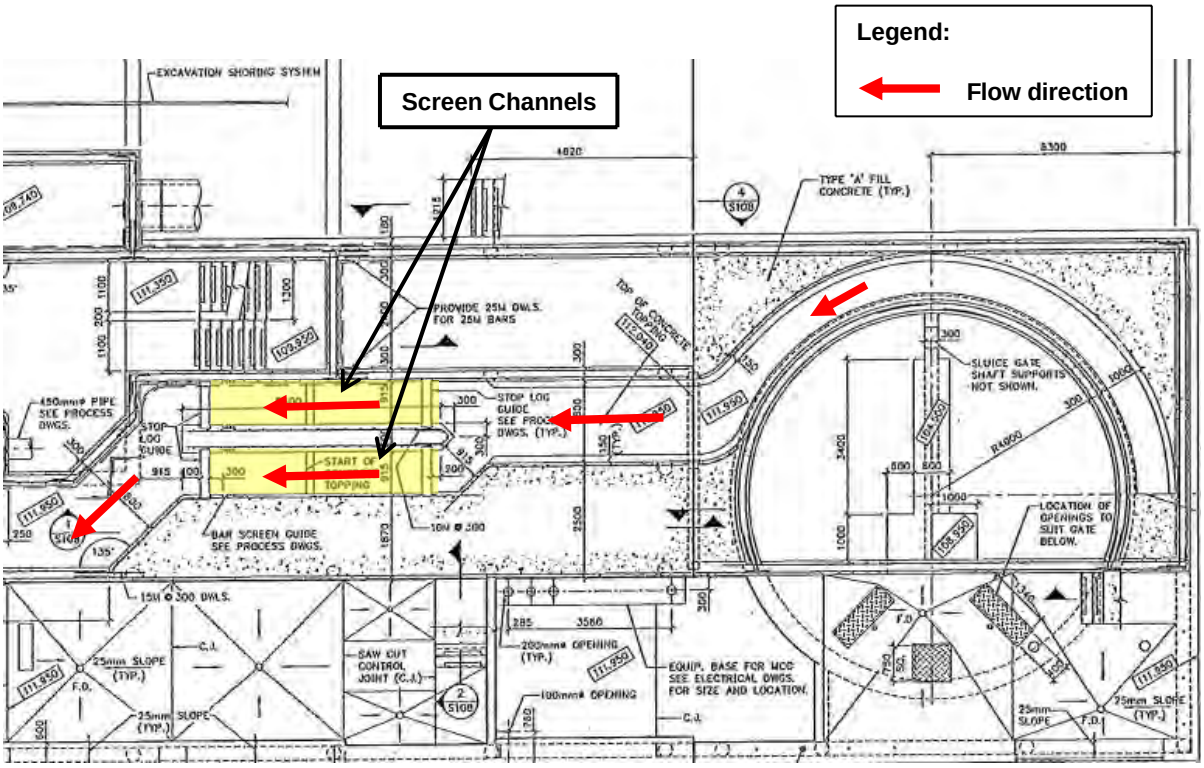

Figure 2.1 – Screen Channel Configuration

3.0 PROCESS EQUIPMENT REVIEW

Primary screens and associated components are reviewed in this section in order to determine the most appropriate technology and best value for the Town of Smiths Falls.

3.1 Procurement

Equipment pre-selection can be used to protect our client's interests and obtain increased levels of quality in many cases. Without a pre-selection process, it can be difficult to list equivalent items of equipment where each manufacturer has pros or cons when compared to the others. This is especially true for screens, where the selected manufacturer can have significant impacts on other components of the design, such as modifications to the screen channel, electrical connections and system controls. Pre-selection of the screening package will reduce risks to the Town during design and construction, allow for selection of a screen which does not require channel modifications, and reduce overall project costs.

The procurement option for the screens would have the first name based on the Town's preferred manufacturer/model in the tender package with options for alternatives. If the contractor proposes an alternative other than the tender package, they will have to provide justification which will be evaluated at that time considering the design implications.

3.2 Screen Types

3.2.1 Mechanical Bar Screens

The existing screens at the Smiths Falls WWTP are mechanical bar screens with 6 mm bar spacing. Mechanical bar screens generally consist of vertical bars with defined spacing that sit within the wastewater channel. Automatic rakes remove debris from the screen and transfer it to the conveyance system for disposal. Mechanical bar screens have been in use for several decades for primary screening and are considered a robust and proven technology, with relatively simple operations and maintenance.

3.2.2 Step Screens

Step screens consist of vertical bars with defined spacing that sit within the wastewater channel. Screenings collect on the front of the screen and automatic 'steps' collect the screenings when a defined head loss threshold is achieved and move the screening upwards, clearing the bottom of the screen. This process is shown schematically in **Figure 3.1**. This process continues and screenings are transferred to the conveyance system for disposal.

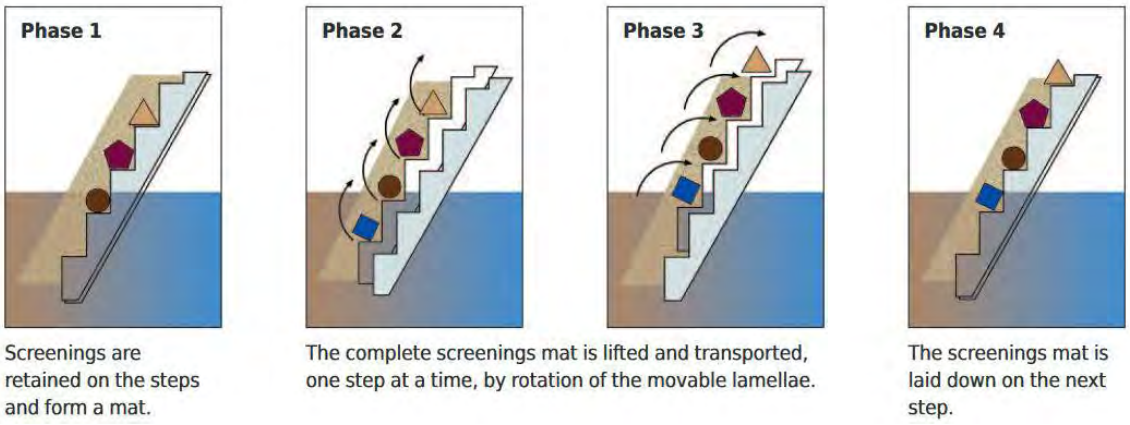

Figure 3.1 – Step Screen Schematic (Huber Technology)

Step screens are used in similar applications as mechanical bar screens and may offer some advantages over bar screens, as follows:

- Screenings capture ratio (SCR) for step screens is higher.
- Step screens have lower head loss compared to multi-rake bar screens.
- Step screens are usually fully enclosed with option for baggers for hygienic operation and odour control.
- Low operation time for step screens compared to multi-rake bar screens resulting in lower operational cost (energy savings) and lower mechanical wear & tear.
- The step screen system avoids maintenance-prone elements such as brushes, pulling spirals, chains, belts, tensioners, scrapers, scraper springs, and lower bearings that are exposed to unscreened influent and grit.
- Step screens produce a drier screenings product, and a compactor may not be required.

Step screens were considered herein as an alternative to mechanical bar screens.

3.3 Screening Packages

The primary screening will generally consist of screens and a conveyance system to bins for disposal. The conveyance system may include a screenings washer to minimize organics, and a compactor to remove water and produce drier screenings.

For the purpose of evaluating appropriate screening packages, RVA has contacted various suppliers and obtained quotes for screening packages from eight different manufacturers based on the design parameters presented in Section 2. All quotes

obtained are for replacement of screens with the same capacity and screening size as the existing system. Quotes have been obtained for the following types of screening packages:

- Replacement of screens only
- Replacement of screens and conveyance system

Quotes have been obtained for both mechanical bar screens and step screens.

3.3.1 Comparison

A comparison of nine different screens from different manufacturers is presented in **Table 3.1**. Preliminary pricing presented in the table includes the features of the screens to be considered for the comparison. Detailed quotes and data sheets for each screen proposal are provided in the appendices.

Table 3.1 – Screening Package Comparison

	Bar Screens							Step Screens		
Manufacturer	**Aqua Guard**	**Duperon® FlexRake® (5º from vertical)**	**Duperon® FlexRake® (15º from vertical)**	**JWC Environmental**	**Huber Bar Screen**	**Headworks International**	**Veolia**	**Claro**	**Andersson Stair Screens**	**Huber Step Screen® Flexible Series**
Model	1. The Original Aqua Guard 2. The Aqua Guard UltraClean	FPFS-F - Full Penetration, Fine Screen, Flexor Option 915 mm x 4878 mm	FPFS, Full Penetration, Fine Screen 914 mm x 4385 mm	MCR (Monster® Chain and Rake) 5029.4mm x 615.55mm	RakeMax (3520x675/6)	Bar Screen MS2 (4340 x 870)	CONT-FLO ® Type ER Multi-Rake Bar Screen Model ERS6-28XA (4222.8 mm X 720 mm)	Fine Step Screen, Model 2200-700-6mm (860 wide x 2270 discharge height)	**Option A** – Model PSS 2600-700-2 (2mm) **Option B-** Model ASS 2300-700-6 (6mm)	Model SSF-HE 5000x726/6mm
Screen Type	Multi-rake bar screen	Multi-Rake Bar Screen	Multi-Rake Bar Screen	Multi-Rake Bar Screen	Multi-Rake Bar Screen	Multi-Rake Bar Screen	Multi-Rake Bar Screen	Step-Screen	Step -Screen	Step-Screen
Discharge Height (m)	3.353 (11')	Match Existing (3.353m)	Match Existing (3.353)	Match existing height (3.353m)	3.24m (Cost to match existing height = $10,000)	Will match existing height	Will Match existing height (3.353m)	2.270m	**Option A –** 2.560m **Option B–** 2.15m to 2.32m	3.111
Screen Weight (kg)	*Not provided*	*Not provided*	1607.5	1352	1108	1245.95	1320	1000	**Option A –** 3400 **Option B–** 1800	1600
Installation Angle	85º	85º	75º	85º	80º	85º	75º	50º	**Option A** – 40º-45º **Option B** – 50º	45º
Screen Drive Motor	½ HP (Original Aqua Guard) 1 HP (AquaGuard UltraClean)	1/2 HP	1/2 HP	2 HP constant speed motor with a 380:1 speed reducer	1.5 HP	3 HP, 575 V	0.75 HP, 575V / 3Ph / 60Hz (main power supply)	SEW 1.5 kW (2 HP), CSA 575V, 60Hz, 3 phase	**Option A** – 3 HP **Option B** – 2HP	2 HP
Control Panel	NEMA 4X Cost adder for two local explosion proof panels - $5400*	NEMA 4X with 1 Local Push Button NEMA 4/7/9 Enclosure	NEMA 4X with 1 Local Push Button NEMA 4/7/9 Enclosure	Main NEMA 4X and 2 Local NEMA 7	Main NEMA 4X & Local NEMA 7	Main NEMA 4X & Local NEMA 7 Price adder for NEMA 4X is $8340*	Main NEMA 4X & Local NEMA 7	NEMA 4/12, Local NEMA 7 HOA Stations	Main NEMA 4X and two local explosion proof push buttons	NEMA 4X and One (1) 3-hole, NEMA7 LCS
Head loss	254 mm (maximum design head loss)	91 mm @ 25% Blinding	*Not Provided*	220 mm @ 30% Blinding	111 mm @ 30% Blinding	265 mm @ 0.9 m/s channel velocity 231 mm @ 0.6 m/s channel velocity	220.67 mm @ 50% Blinding, [~110 mm @ 30 % Blinding from graph]	85 mm @ 35% screen blockage	*Not Provided*	45 mm @ 30% blinding
Supply cost (CAD)	$255,340* for Aqua Guard Original without new conveyor system $343,090* with new conveyor system ($87,750* Cost adder for Aqua Wash Press unit model AWP10-5) + $33,776* for UltraClean screen model	$268,650* (without new conveyor system) Includes Spare parts, On-site Technical Assistance *No price adder provided for washer-compactor for this model*	$271,350* including one Duperon® Washer Compactor of model WC3.A2.5	$202,538* (without new conveyor system) Includes start-Up Assistance and Training	$ 353,500 (without new conveyor system)	$ 245,124* (without new conveyor system) Includes Start-Up and Operator Training	$143,450 without new conveyor system $174, 250 with new conveyor system ($30,800 cost adder for conveyor system) Includes Factory Start-Up Service and Freight Charges to Site DEDUCT applicable for standard discharge height (1.204m) is $3500	2 screens each with dedicated Wash Press Arrangement- $242,000 2 screens with 1 common Wash Press Arrangement- $230,000 Could provide taller step screens to match the existing conveyor & wash press but cost will increase approx. $15,000-$20,000	2 screens (Option A) each with dedicated Wash Press Compactors (Model WPC 200-600) feeding the common conveyor - $305,000 2 screens (Option B) with common Wash Press Compactor (Model WPC 250-600) feeing the common conveyor - $240,000	$290,250* (for one screen and one wash press)

	Bar Screens							Step Screens		
Manufacturer	**Aqua Guard**	**Duperon® FlexRake® (5º from vertical)**	**Duperon® FlexRake® (15º from vertical)**	**JWC Environmental**	**Huber Bar Screen**	**Headworks International**	**Veolia**	**Claro**	**Andersson Stair Screens**	**Huber Step Screen® Flexible Series**
Standard Warranty	2 year standard warranty	1 year Standard material & workmanship and 5 years on rotating parts of Flex rake	1 year Standard material & workmanship and 5 years on rotating parts of Flex rake	1 year standard warranty	12 months from date of start-up or 18 months after shipment whichever occurs first	12 months from date of start-up or 18 months after shipment whichever occurs first	12 months from date of start-up or 18 months after shipment whichever occurs first	5 years standard warranty	12months after preliminary commissioning (first wastewater intake) or 18 months after delivery	12 months from date of start-up or 18 months after shipment whichever occurs first
Lead Time	Submittal 4-6 weeks Delivery 12-14 weeks after approval	Submittal 4-6 weeks Delivery 8-12 weeks after approval	Submittal 4-6 weeks Delivery 8-12 weeks after approval	Submittal 4-6 weeks Delivery 14 weeks after approval	*Not provided*	Delivery 16-20 weeks after approval of shop drawings	Submittal 4-6 weeks Delivery 14-16 weeks after approval	Submittal 4 weeks Delivery 12-16 weeks after approval	Submittals 2-3 weeks Delivery 10-14 weeks after approval	*Not Provided*
References	Currently existing screen at WPCP	*Not provided*	*Not provided*	*Not provided*	*Not provided*	City of London, City of Greater Sudbury, Region of Niagara, Norfolk County, and most recently the Municipality of Nation	Not provided	Petawawa WWTP (ongoing), Chalk River (just completed), Mississippi Mills ON (2012), Alliston WWTP ON (2014)	*Not provided*	*Not provided*
Maintenance	- Annual inspections for wear and adjustment of brush chain every 2 or 3 months depending upon the operating hours are the regularly scheduled maintenance. - UltraClean reduces routine maintenance by up to 75% over the original version.	- Checking for wear and gearbox oil change in every 24 months are the only regularly scheduled maintenance.	- Checking for wear and gearbox oil change in every 24 months are the only regularly scheduled maintenance.	- Checking for wear and annual inspections of the level transmitters (gearbox lubrication) are the only regularly scheduled maintenance.	- No information provided	- No Lower Bearing Maintenance (The lower sprocket assembly is an exclusive self-lubricating ceramic bearing). - Annual inspection for wear and changing gear box oil are the only regularly scheduled maintenance. - Units have been in operation for over 10 years without a single part being replaced	- All wearing surfaces should be lubricated every three (3) months - Chain must be checked as a minimum twice per year for wear (recommended once a year)	- Pivots out of channel for ease of access & maintenance without ladders - Low operation times / low mechanical wear-&-tear - Minimal maintenance or spare parts req'd (no brushes, pulling spirals, chains, belts, tensioners, scrapers, and lower bearings exposed to unscreened influent and grit) - 24-hour Claro hotline for O&M advice	- Low operation times/low mechanical wear & tear - Scheduled maintenance includes: - Checking for wear and gearbox oil change monthly/yearly depending on gearbox size - Checking channel wall seals twice a year	- Low operation times/low mechanical wear & tear - No lower bearing and completely enclosed

**Price quoted in USD and converted to Canadian dollars at rate of $1.35CAD per USD*
Note: The material of construction for screens from all manufacturers is 304 SS.

3.4 Evaluation

3.4.1 Technical

A technical evaluation matrix was developed based on the following criteria to determine the most suitable type of screen:

- **Rake Design:** screen capturing ratio and efficiency of screen is dependent on rake design.
- **Head Loss**: factor to determine the technical performance of the bar screen.
- **Discharge Height Requirement:** it was assumed that the Town prefers to use the existing screening compactor and conveyor. As such, it is required to match the existing discharge height to avoid any modifications or custom fabrication.
- **Ease of Maintenance and Warranty:** frequency of routine maintenance and provided warranty plays a vital role on the overall lifecycle cost of the screening package.
- **Power Requirement:** operational cost depends on the power requirement of the screen drive motor and estimate run time.

For each of the evaluation criterion, a score from 1 to 10 was assigned for every screen package. A weight was also assigned to each criterion based on the value and importance. A total weighted technical score was then calculated for each screen package. The technical evaluation matrix is shown in **Table 3.2**. The evaluation of options will be reviewed with the Town and scores may be adjusted based on specific preferences and operations requirements.

Based on the Technical Evaluation, step screens generally scored higher than bar screens due to the improved screen design (more robust rake design with fewer moving parts), lower head loss through the screen as screenings accumulate on the surface of the bars, lower maintenance requirements and lower energy costs due to shorter screen run time. The Claro Fine Step Screen achieved the highest technical score with the primary differentiator being an extended warranty of 5 years and local references.

Aqua Guard Original was the highest scoring bar screen package, primarily due to the ease of maintenance and power requirements, compared to other bar screens. Screen packages from Duperon scored the next highest among bar screens.

Table 3.2 – Technical Evaluation Matrix

	Rake Design		Discharge Height Req's		Head Loss		Ease of Maintenance & Warranty		Power Req's / O&M Cost		Total Score	Rank
Weighting:	7		5		5		10		10			
	Score	Weighted Score	Score	Weighted Score	Score	Weighted Score	Score	Weighted Score	Score	Weighted Score		
Bar Screens												
Aqua Guard	7	49	10	50	6	30	8	80	8	80	**289**	4
Duperon (5˚ from Vertical)	7	49	10	50	7	35	7	70	8	80	**284**	5
Duperon (15˚ from Vertical)	7	49	10	50	7	35	7	70	8	80	**284**	5
JWC Environmental	7	49	10	50	6	30	6	60	5	50	**239**	9
Huber	7	49	5	25	7	35	6	60	7	70	**239**	9
Headworks International	7	49	10	50	6	30	8	80	4	40	**249**	8
Veolia	7	49	10	50	7	35	7	70	7	70	**274**	7
Step Screens												
Claro Fine Steps Screens	8	56	10	50	8	40	10	100	9	90	**336**	1
Andersson Stair Screens	8	56	10	50	7	35	9	90	9	90	**321**	3
Huber Step Screens	8	56	10	50	9	45	9	90	9	90	**331**	2

3.4.2 Financial Scoring

Upon completion of the technical evaluation, supply cost was factored into the evaluation of screening packages. Supply cost is a factor for the selection of screen based on available budget and funding. The financial score was calculated based on the percentage difference between the supply cost and the lowest supply cost from all suppliers. The lowest supply cost received the highest score (10/10 points) and other suppliers received points based on the extent to which they deviated from the lowest offer.

In order to compare packages with and without conveyance systems, a total score was assigned for each package with a conveyance system included and for screen replacement only (where applicable).

Note that all step screen packages include replacement of the conveyor system as the standard step screen design is generally shorter and does not work with the existing discharge height to the conveyance system.

The weighted technical and weighted financial scores were added to assign final rankings based on the best value to the Town. The preliminary evaluation matrix is shown in **Table 3.3**.

Table 3.3 – Financial Evaluation Matrix

		Screening Package with Conveyor Replacement				Screen Replacement Only			
		Weight = 6		Total Score	Rank	Weight = 6		Total Score	Rank
	Technical Score	Score	Weighted Score			Score	Weighted Score		
Bar Screens									
Original Aqua Guard	**289**	9.0	54	**343**	**4**	9.4	56	**345**	**1**
Duperon (5˚ from Vertical)	**284**	*N/A*	*N/A*			9.3	56	**340**	**2**
Duperon (15˚ from Vertical)	**284**	9.4	57	**341**	**5**	*N/A*	*N/A*		
JWC Environmental	**239**	*N/A*	*N/A*			9.7	58	**297**	**5**
Huber Bar Screen	**239**	*N/A*	*N/A*			8.8	53	**292**	**6**
Headworks International	**249**	*N/A*	*N/A*			9.4	56	**305**	**4**
Veolia	**274**	10.0	60	**334**	**6**	10.0	60	**334**	**3**
Step Screens									
Claro Fine Steps Screens	**336**	9.7	58	**394**	**1**	N/A	*N/A*		
Andersson Stair Screens	**321**	9.6	58	**379**	**3**	N/A	*N/A*		
Huber Step Screens	**331**	9.3	56	**387**	**2**	N/A	*N/A*		

3.4.3 Evaluation Summary

Based on the combined evaluation matrix (technical and financial scores), the screening package that provides the best value to the Town is the Claro Step Screen, which includes replacement of the conveyance system and wash-press. The operational cost for the proposed step screen would be lower than the multi-rake bar screen due to lower runtimes (10-30 minutes less on average per 24-hour cycle). It would also require less maintenance as it has fewer maintenance-prone elements such as brushes, pulling spirals, chains, belts, tensioners, scrapers, scraper springs, and lower bearings that are exposed to unscreened influent and grit. In addition, a 5-year standard warranty is included for this screen package. Detailed information and quote from the supplier are provided in **Appendix 2**.

If replacement of the conveyance system is not preferred, then the highest scoring screen package (without conveyor) is the Aqua Guard screen. The Original Aqua Guard bar screen is a replacement model for the existing screens in the facility and would have similar operation and maintenance requirements. Detailed information and quote from the supplier are provided in **Appendix 1**.

4.0 OTHER DESIGN CONSIDERATIONS

4.1 Building Classification & Fire Protection

All equipment to be supplied for the proposed upgrades will be compliant with the most recent NFPA 820 and OESC standards. However, given that this facility was constructed in 1992, there are compliance issues with current NFPA 820 standards (Standard for Fire Protection in Wastewater Treatment and Collection Facilities) and the Ontario Electrical Safety Code (OESC) for existing equipment and systems within the headworks building. While the purpose of this project is simply like-for-like replacement of the screens, RVA's past experience indicates that the Electrical Safety Authority (ESA) may review non-compliant items beyond the scope of the project.

To fully understand the scope of changes required to comply with NFPA 820 and the OESC, a classification study should be performed to fully detail all compliance issues. Based on a preliminary, high-level review of as-built drawings and site visits to the WWTP, we have identified the following key issues:

- All equipment within screening area & pump room must be rated for Class 1, Zone 1.
    - Includes items like motors, lights, electric garage door openers, control panels, HVAC equipment, etc.
- The mechanical room is directly connected to the screening room & pump rooms.
    - This would require everything within the mechanical room to be rated for Class 1, Zone 1. As this is typically not feasible, the building would require modification to isolate the mechanical room from the screening & pump rooms.
- Regulatory requirements include combustible gas detection, fire extinguishers, and hydrant protection.

There are likely further non-compliance issues which would be discovered during a classification study. All drawings produced by RVA will indicate the appropriate area classification for the location. In our experience, ESA may require facility modifications be made to comply with the current NFPA 820 and OESC standards, within a specified time period.

RVA has experience conducting classification studies to identify code compliance issues and can recommend solutions to ensure code compliance. If requested, RVA can provide a proposal to perform a classification study of the headworks building.

4.2 Electrical

4.2.1 Existing Power Supply

The existing screens are powered through Motor Control Center (MCC) #1, specifically buckets F5C and F5D. These buckets each contain a 15A breaker, which powers the screen control panels.

4.2.2 Power Requirements for New Systems

Power draw for the replacement screens varies from 0.5HP – 3HP per screen, depending on the selected screen. The existing breakers are of suitable size to power any of the new screen options presented herein and will not require modifications to the MCC. Once a screen is selected, detailed design will examine the impact (if any) of the replacement screens on the overall plant electrical system, including confirmation that the existing generator is suitable for a minor load increase (if required). Given that the load size increase will be minimal to none depending on the selected screen, overall impacts to the electrical system are expected to be minimal.

4.3 Instrumentation & Controls

4.3.1 Existing Controls

The existing screen control panels are located directly adjacent to the existing screens. The control panels contain a disconnect and a local start/stop switch. The local control panel has inputs from the RPU for remote start/stop functionality, and outputs local status, motor status, and an alarm signal. A level transmitter within the combined inlet channel is tied directly back to the RPU.

4.3.2 Proposed

The new screens would contain the same control functionality as the existing screen, allowing for both local operation and remote operation, with appropriate status and alarm signals returning to the RPU. Depending on the selected screen, additional alarm and control functionality may be available; however, ability to implement additional functionality will depend on the existing plant control system (available spare inputs for use, etc.). All the screens that were evaluated can operate based on the existing inputs/outputs available and any additional functionality is optional.

The existing level transmitter within the screen channel is tied back to the RPU. Given the location of the transmitter, it will likely require removal during installation of the new screens. It would be possible to re-instate the transmitter, however the control packages

for each of the screens evaluated includes appropriate level control devices for operation of the screens and replacement is recommended.

Further to the Hazardous Area Classification discussion in Section 4.1, in order to ensure that the proposed works are in compliance with current standards, new control panels must meets these requirements (designed as explosion proof) or be located in a separated area such as the electrical room. The panels will be placed within the electrical room with an appropriately rated local operator panel located near the screens to provide local control.

4.4 Constructability Review

4.4.1 Removal and Installation

Access to the screening room for construction will be through the two existing overhead doors in "Loading Bay II", which are used to remove the screenings and grit bins during normal operation. The existing doors are approximately 3.6m high and 3.2m wide, which is sufficient for both removal of the existing screening equipment and installation of the new screening equipment. A forklift could be used to lift the new equipment up to the floor level of the screen room, at which point a temporary A-Frame crane could be used to install the new equipment within the channels. The screen area was noted to be relatively free from obstructions during the site visit, which will facilitate easier installation of the screens as compared to a congested area.

4.4.2 Construction Sequencing

Proper sequencing of construction activities will be essential for this project. As the plant will remain in operation during construction, installation of the new screens will be done in a staged approach. The first screen to be replaced will be isolated, removed, and the new screen installed and commissioned before work on the second screen begins. It may be required to disable the screenings conveyor briefly during construction in order to facilitate installation of the new screen and tie in of the new screen to the conveyor; during such a time the contractor would be responsible for making alternate arrangements for screenings from the in-use screen. This could include a temporary bagging setup which the contractor would manually deposit into the bin, or other arrangements as required.

4.4.3 Lifting of Equipment

Currently, there is no permanently installed lifting equipment for the screens. At this point in time, it is important to consider if a permanent lifting solution should be provided to allow for future maintenance of the screens. Based on Town's request, supply of an

A-frame gantry crane would be included in the contract, which would be moved on an as-needed basis for screen maintenance. A portable crane would be limited in that it would not be able to lift equipment directly to the overhead double doors but would assist in removing heavy screen components for replacement or maintenance. It is not expected that a crane would be required on a frequent basis for maintenance purposes.

5.0 APPROVALS

It is anticipated the following approvals and permits will be required prior to construction:

- **ECA:** The proposed works can be completed under the Town's Limited Operational Flexibility of the existing ECA, Schedule B (1.2, e). The MECP Water Supervisor must be notified with a description of the proposed modifications. Additional consultation with the MECP is not expected to be required.
- **ESA**: Appropriate consultation and inspection by ESA will be required. As noted above, this may trigger a review of area classification compliance of the entire headworks building.

6.0 RECOMMENDATIONS / CONCLUSIONS

Based on the evaluation presented herein, the Claro Step Screen package offers the best value to the Town, including replacement of the conveyance system and wash-press. Detailed design be based on the Claro Step Screen package, as descried herein and in accordance with the information provided by the supplier (refer to Appendix 2-1). The Town's preference is to use one common conveyor and wash-press to serve both screens.

Upgrades to the screening system will include the following:

- Replacement of the two existing 6 mm bar screens with two 6 mm step screens.
- Replacement of the existing screenings conveyor and wash-press.
- Replacement of screen control panels and associated wiring (control panels to be located in the electrical room, with an appropriately rated local control panels provided near the screens to provide local control).
- Supply of A-frame gantry crane to facilitate maintenance activities.