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April 20, 2022

REGION OF PEEL
OFFICE OF THE REGIONAL CLERK

From: Ahmed, Aziz (MECP) <Aziz.Ahmed@ontario.ca>
Sent: April 20, 2022 9:28 AM
To: Iannicca, Nando <nando.iannicca@peelregion.ca>
Cc: Dedman, Kealy <kealy.dedman@peelregion.ca>; laura.hall@caledon.ca;
diana.rusnov@mississauga.ca; Peter.Fay@brampton.ca; Williamson, Lisa (MECP)
<Lisa.Williamson@ontario.ca>; Wei, Livia (MECP) <Livia.Wei@ontario.ca>; Burdon, Jeff (MECP)
<Jeff.burdon@ontario.ca>; Khan, Mohammad Sajjad (MECP) <mohammad.khan@ontario.ca>;
Gebrezghi, Tesfaye (MECP) <Tesfaye.Gebrezghi@ontario.ca>; Permissions Issues (MECP)
<Permissions.Issues@ontario.ca>
Subject: RE: Erin Wastewater Treatment Facility - Resolution Number 2022-38

Dear Nando Iannicca,

Further to the ministry's response to your email below dated March 22nd, attached is the proposed draft ECA for the Town of Erin Water Resources Recovery facility. I have highlighted the portions of the draft ECA that speak to your request for spills contingency planning, comprehensive water quality monitoring of effluent to the West Credit River, in-stream monitoring, and an Adaptive Management Plan to cover the operations of the facility.

Any comments that you have would be appreciated by April 27th, and please feel free to contact me at 416-712-7427 if you have any questions.

Best regards,

Aziz

Aziz S. Ahmed, P.Eng. | Manager
Municipal Water and Wastewater Permissions Section, Environmental Permissions Branch | Environmental Assessment and Permissions Division
Ministry of the Environment, Conservation and Parks | 40 St. Clair Ave. West, 2nd Floor, Toronto, ON M4V 1M2
Tel: 416.314.4625 | Cell: 416.712.7427 | Toll Free: 1-888-999-1305 | Fax: 416.314.1037 ✉: Aziz.Ahmed@ontario.ca

If you have any accommodation needs or require communication supports or alternate formats, please let me know.

Si vous avez des besoins en matière d'adaptation, ou si vous nécessitez des aides à la communication ou des médias substitués, veuillez me le faire savoir.

From: nando.iannicca@peelregion.ca <nando.iannicca@peelregion.ca>
Sent: February-11-22 5:17 PM
To: Minister.MECP@ontario.ca; Allan.alls@erin.ca; Quentin.hachard@cvc.ca
Cc: kealy.dedman@peelregion.ca; laura.hall@caledon.ca; diana.rusnov@mississauga.ca;
Peter.Fay@brampton.ca; clerks@erin.ca
Subject: Erin Wastewater Treatment Facility - Resolution Number 2022-38

REFERRAL TO _____
RECOMMENDED _____
DIRECTION REQUIRED _____
RECEIPT RECOMMENDED _____

CAUTION -- EXTERNAL E-MAIL - Do not click links or open attachments unless you recognize the sender.

Good afternoon,

Your attention is drawn to the attached letter and corresponding documents on behalf of the Peel Regional Council.

Kindest personal regards,
Nando

Nando Iannicca
Regional Chair & CEO
Regional Municipality of Peel
905.791.7800 x4310 | nando.iannicca@peelregion.ca



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

Environmental Permissions Branch
1st Floor
135 St. Clair Avenue W
Toronto ON M4V 1P5
Tel.: 416 314-8001
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**Ministère de l'Environnement, de la
Protection de la nature et des Parcs**

Direction des permissions
environnementales
Rez-de-chaussée
135, avenue St. Clair Ouest
Toronto ON M4V 1P5
Tél. : 416 314-8001
Télééc. : 416 314-845

357-2022-306

March 22, 2022

Nando Iannicca
Regional Chair and Chief Executive Officer
Regional Municipality of Peel
Email: nando.iannicca@peelregion.ca

Dear Nando Iannicca:

Thank you for your letter of February 11, 2022 to Minister Piccini in which you expressed the Region of Peel's concerns regarding the potential impact to the water quality of the West Credit River from the proposed wastewater treatment facility for the Town of Erin. I am pleased to respond.

The ministry and Credit Valley Conservation (CVC) had provided comments on the West Credit River (receiver) monitoring and contingency plan, and WSP (the Town's consultant) will be sending a revised version to the ministry within the coming weeks. The ministry is pleased to confirm that the following will be included in the revised plan as decided at the January 24, 2022 meeting between the Town of Erin, WSP, CVC and the ministry:

- There will be three real-time monitoring stations on the West Credit River near the outfall to evaluate impact on the receiver. One station will be upstream of the outfall to collect unimpacted background data, one will be immediately downstream of the outfall to collect near-field data, and the third one will be a far-field station near Shaws Creek Road, approximately 700 m from the outfall.
- All three real-time monitoring stations will monitor the following parameters: pH, temperature, dissolved oxygen, chloride, turbidity and conductivity.
- In addition to real-time monitoring, monthly grab samples will be collected at all three real-time monitoring stations to be analyzed for the following large suite of parameters: Biochemical Oxygen Demand, Total Suspended Solids, Total Ammonia Nitrogen, Nitrate-Nitrogen, Nitrite-Nitrogen, Total Kjeldahl Nitrogen, Total Nitrogen, Total Phosphorous, Dissolved Reactive Phosphorous, Chloride, Dissolved Oxygen, pH, temperature, and E.coli.

...2

Nando Iannicca
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- Water levels will also be monitored in real time at all three stations.
- Streamflow will also be measured manually each month as the time grab sampling is conducted.
- Further, a monitoring station will be established at the outfall before discharging to the West Credit River to monitor effluent temperature in real time. In addition, treated effluent will be monitored at the pumping station of the treatment plant for the following parameters: Biochemical Oxygen Demand, Total Suspended Solids, Total Ammonia Nitrogen, Nitrate-Nitrogen, Nitrite-Nitrogen, Total Kjeldahl Nitrogen, Total Nitrogen, Unionized Ammonia, Total Phosphorous, Dissolved Reactive Phosphorous, Chloride, Dissolved Oxygen, pH, temperature, and E.coli (weekly samples).
- Further to effluent, receiver water quality, flow, and water level monitoring, benthic invertebrate and fish community will be monitored upstream and downstream of the outfall.

In response to your request for the opportunity to provide input on the wastewater treatment facility effluent monitoring plan and facility spills contingency plan, the ministry can confirm that the Environmental Compliance Approval (ECA) will include sanitary sewage, septage, treated effluent, receiver monitoring and contingency conditions, as well as a standard spills contingency condition.

The final draft ECA will be shared with Peel Region for comments.

If you have any questions or require any further information, please do not hesitate to contact Aziz Ahmed, P.Eng., Manager of Municipal Water and Wastewater Permissions Section, at 416-712-7427 or Aziz.Ahmed@ontario.ca.

Thank you again for writing.

Yours sincerely,

Tes Gebrezghi

Tes Gebrezghi
Director, Environmental Permissions Branch

c: His Worship Allan Ails, Mayor, Town of Erin
Quentin Hanchard, Chief Administrative Officer, Credit Valley Conservation
Aziz Ahmed, Manager, Municipal Water and Wastewater Permissions Section, MECP

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The Corporation of the Town of Erin
5684 Trafalgar Road
Erin, Ontario
N0B 1Z0,

Site Location: 9682 Wellington Road 52
Town of Erin, County of Wellington
N0B 1T0

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:

establishment, usage and operation of new municipal sewage works, for the treatment of sanitary sewage and disposal of effluent to the West Credit River via a Sewage Treatment Plant (Erin Water Resource Recovery Facility) and Final Effluent disposal facilities as follows:

Classification of Collection System: Separate Sanitary Sewer System

Classification of Sewage Treatment Plant: Tertiary

Design Capacity of Sewage Treatment Plant

Design Capacity with All Treatment Trains in Operation	Interim (Upon Implementation of All Works)	Upon Successful Verification of Treatment Capability as set out in Condition 14
Rated Capacity	5,073 m ³ /d	7,172 m ³ /d

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Influent and Imported Sewage

Receiving Location	Types
In Collection System	Sanitary Sewage
At Sewage Treatment Plant	Septage

Erin Water Resource Recovery Facility

Influent Structure

- two (2) 300 mm diameter inlet pipes to an influent chamber;
- one (1) influent chamber with sluice gates, discharge sewage to inlet channel of the screens, or divert sewage to inlet channel of the grit removal units for bypass of the intermediate pumping station;

Imported Sewage Receiving Facilities

- a septage receiving station to receive truck delivered septage from the Town of Erin via a 300 mm pipe into a screening system including a rock trap and a mechanically cleaned coarse spiral screen with 6 mm openings, equipped with a screen spray system and screenings hygienic bagger;
- two (2) septage storage tanks, each with storage capacity of 70 m³ and each equipped with a mechanical mixer;
- two (2) submersible grinder pumps (one duty, one standby) with variable frequency drives (VFD), each rated at a flow rate of 1.5 L/s at a TDH of 12 m, discharge to the wet well of intermediate pumping station, or to the sludge blend tanks during low influent flows;

Preliminary Treatment System

- Screening
 - two (2) 600 mm wide and 2,500 mm deep channels in parallel, each equipped with mechanically cleaned bar screen with a 6 mm openings and a shaftless spiral, each with designed Peak Instantaneous Flow Rate of 224 L/s;
 - sluice gates to isolate any given screen for maintenance;
 - one (1) transport screening conveyor and one (1) disposal bin;
- Intermediate Pumping Station
 - one (1) submersible pumping station, complete with one (1) 13.5 m x 9 m x 4.1 m (depth) wet

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well equipped with three (3) submersible pumps (two duty, one standby) with VFDs, each rated at 112 L/s at a TDH of 24 m;

- a 350 mm diameter forcemain to influent channel of the grit removal units;
- Grit Removal
 - two (2) concrete vortex grit removal units in parallel, each with designed Peak Instantaneous Flow Rate of 224 L/s;
 - two (2) grit pumps, each rated at 10 L/s at a TDH of 11 m, two (2) dewatering screws, discharge grit to grit storage bin;
 - one (1) 1 m wide common channel to primary clarifiers;

Influent Flow Measurement and Sampling Point

- flow measurement device at the influent channel of grit removal units;
- automatic composite sampler at the influent channel of grit removal units;
- grab sample at the septage receiving station;

Primary Treatment System

- three (3) 20 m x 5 m x 4 m side water depth (SWD) primary clarifiers in parallel, equipped with perforated fiberglass baffle plate at the inlet of each primary clarifier, longitudinal collector, scum trough, effluent baffle, and effluent weir at the outlet;
- two (2) sludge pumps (one duty, on standby) for each clarifier (total six (6) sludge pumps) with VFDs, each rated at 2.87 L/s at a TDH of 12 m, discharge to sludge blend tanks;
- one (1) 2 m wide common channel to the biological nutrient removal system;
- one (1) 0.92 m diameter x 1.7 m scum tank with a conical bottom, two (2) scum pumps (one duty, one standby), each rated at 2.87 L/s at a TDH of 12 m, discharge to sludge blend tanks;

Secondary Treatment Systems

- Biological Treatment
 - three (3) biological nutrient removal reactors (four-stage Bardenpho) in parallel, each consisting of the following:
 - one (1) 38 m x 3.5 m x 4 m SWD first anoxic zone (Anoxic 1), equipped with submersible

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mixers;

- one (1) 95 m x 3.5 m x 4 SWD first aerobic zone (Aerobic 1), equipped with fine bubble diffuser aeration system, two (2) mixed liquor return pumps (one duty, one standby), each rated at 215 L/s at a TDH of 0.4 m for internal recycle from the Aerobic 1 to the Anoxic 1;
- one (1) 38 m x 3.5 m x 4 m SWD second anoxic zone (Anoxic 2), equipped with submersible mixers;
- one (1) 8 m x 3.5 m x 4 SWD second aerobic zone (Aerobic 2), equipped with fine-bubble diffuser aeration system;
- four (4) blowers (three duty, one standby), each rated at 40.41 m³/min at 97.2 kPa;
- a 1.0 m wide common channel via flow distribution structures/pipes to the secondary clarifiers;
- Secondary Sedimentation
 - three (3) 19.8 m diameter x 4 m SWD conical bottom secondary clarifiers in parallel, each equipped with sludge and scum removal mechanisms;
 - two (2) return activated sludge (RAS) pumps (one duty, one standby) for each secondary clarifier (total six (6) RAS pumps) with VFDs, each with a capacity range of 18 L/s to 72 L/s, discharging to upstream of the Anoxic-1 zone;
 - one (1) 0.6 m diameter x 1.5 m secondary clarifier scum tank with a conical bottom for each of the two (2) RAS chambers, each with two scum transfer pumps (one duty, one standby), each rated at 2.12 L/s at a TDH of 26.4 m, discharge to the sludge blend tanks;
 - branch-off line with actuated plug valves from the RAS line for waste activated sludge (WAS), discharging to the sludge blend tanks;
 - a 600 mm common discharge header pipe to the flocculation tank of the ultrafiltration membrane system;

Tertiary Treatment System

- Ultrafiltration Membrane System
 - one (1) flocculation tank equipped with one (1) flocculator and four (4) pumps (three duty, one standby) with VFDs, each rated at 276 m³/h at a TDH of 42.1 m via two (2) micro screens (one duty, one standby) with 0.5 mm openings to the ultrafiltration membrane system;
 - two (2) coagulated/precipitated phosphorous sludge pumps (one duty, one standby), each rated at

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15 L/s at a TDH of 9.8 m to sludge blend tanks;

- pressurized hollow fibre ultrafiltration membrane system with a total membrane surface area of 20,000 m², consisting of three (3) trains of ultrafiltration membrane process in parallel with designed Peak Hourly Flow Rate of 748 m³/h;
- backpulse system, recirculation/neutralization system, chemical cleaning system, air compressors and reject drain system;

Supplementary Treatment Systems

- Phosphorus Removal
 - two (2) liquid alum storage tanks, each with a storage capacity of 22.8 m³;
 - two (2) diaphragm metering pumps (one duty, one standby) each rated at 363 L/h, for a single dosing point into a gravity pipe feeding flocculation chamber downstream of the secondary clarifiers;
 - two (2) diaphragm metering pumps (one duty, one standby) each rated at 12.5 L/h for a trim dose into the feed to the membrane trains;
- Carbon Source Addition
 - two (2) MicroC2000® solution storage tanks, each with a storage capacity of 22.8 m³,
 - four (4) diaphragm metering pumps (three duty, one standby), each rated at 117 L/h, adding supplemental carbon source to the biological nutrient removal reactors;
- Alkalinity Addition
 - one (1) magnesium hydroxide slurry storage tank with a storage capacity of 22.8 m³;
 - four (4) peristaltis metering pumps (three duty, one standby), each rated at 22 L/h, adding supplemental alkalinity source to the biological nutrient removal reactors;
 - one (1) centrifugal pump to recirculate the storage tank slurry with capacity range of 1.8 - 4.44 L/s at a TDH between 2.5 m and 3.8 m;
- pH Control
 - one (1) sodium hydroxide storage tank with a storage capacity of 22.8 m³;
 - two (2) diaphragm metering pumps (one duty, one standby), each rated at 64 L/h for a single

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dosing point into a gravity pipe feeding the flocculation chamber;

Disinfection System

- two (2) closed vessels in parallel (one duty, one standby), each with twelve (12) low pressure, high intensity ultraviolet (UV) lamps capable of providing a minimum UV dosage of 30 mJ/cm² at designed Peak Hourly Flow Rate of 748 m³/h and a UV transmission of 80%, complete with online UV sensors and automatic cleaning system;

Re-Aeration

- one (1) 0.5 m cascade step in the outlet channel of the biological nutrient removal system common drop shaft;
- one (1) 0.5 m cascade step in the outlet of the hydraulic shaft feeding each secondary clarifier;
- one (1) 0.5 m cascade step in the outlet channel of each secondary clarifier;
- one (1) cascade four-step aerator for final aeration discharge to the membrane backwash tank that overflows to the wet well of effluent pumping station;

Effluent Sewage Pumping Station

- one (1) wet well type effluent sewage pumping station, equipped with three (3) submersible pumps (two duty, one standby) with VFDs, each rated at 86 L/s at TDH of 32 m;
- two (2) 350 mm diameter connections (flow side stream outlet and return) located on the effluent pump header to allow flow via the effluent cooling system to the outfall;

Effluent Cooling System

- one (1) effluent cooling system, designed to reduce effluent temperature;

Final Effluent Flow Measurement and Sampling Point

- flow measurement device at effluent pumping station;
- automatic composite sampler at effluent pumping station;
- grab sample at the effluent pumping station;
- real time sampling probe at the effluent pumping station discharge header for temperature (one duty, one standby) and dissolved oxygen;
- real time sampling probe at the outfall for temperature (one duty, one standby) and dissolved

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oxygen;

Sludge Management System

- Sludge Storage
 - two (2) aerated blend tanks, each with a diameter of 16.2 m, a SWD of 6.6 m and a working volume of 1,393 m³;
 - three (3) blowers (two duty, one standby), each rated at 44.72 m³/min and 97.2 kPa;
- Lystek System
 - two (2) rotary lobe blended sludge transfer pumps (one duty, one standby) with VFDs, each with a capacity range of 0.1 m³/h to 118 m³/h at TDH of 6.8 m and discharge pressure of 344.7 kPa;
 - one (1) inline grinder rated at 125 m³/h;
 - one (1) dewatering centrifuge with a rated capacity range of 600 kg/h to 1,000 kg/h of dry solids;
 - one (1) 2.4 m diameter with a conical bottom dewatered sludge storage tank/cake hopper with a nominal volume of 9.3 m³, equipped with one (1) progressive cavity pump, rated at 9.46 L/s and a discharge pressure of 448 kPa for 15% - 20% solids;
 - one (1) 2.4 m diameter Lystek Process Reactor with a nominal volume of 12.6 m³, complete with potassium hydroxide and low pressure steam injection, a top mounted single shaft mixer as a disperser;
 - two (2) rotary lobe LysteGro product pumps, each rated at 25.2 L/s and a discharge pressure of 414 kPa for 15% biosolids;
- Biosolids Storage and Disposal
 - two (2) LysteGro storage tanks, each with a diameter of 27.3 m, SWD of 8.1 m and a working volume of 4,755 m³, each with pressure relief and flame arrester;
 - one (1) biosolids truck loading facility with a self-adjusting stair gangway and platform with safety cage;

Final Effluent Disposal Facilities

- two (2) 350 mm diameter effluent forcemains along Wellington Road 52 to a sanitary manhole near the

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intersection of Wellington Road and Winston Churchill Boulevard;

- one (1) 375 mm gravity sanitary sewer along Winston Churchill Boulevard to a manhole located on the bank of West Credit River;
- one (1) 5 m long, 375 mm diameter stainless steel piping with 75 mm vertical diameter diffuser ports complete with 50 mm diameter orifice, discharging to the West Credit River;

including all other mechanical system, electrical system, instrumentation and control system, standby power system, piping, pumps, valves and appurtenances essential for the proper, safe and reliable operation of the Works in accordance with this Approval, in the context of process performance and general principles of wastewater engineering only;

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

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

1. "Annual Average Daily Influent Flow" means the cumulative total sewage flow of Influent to the Sewage Treatment Plant during a calendar year divided by the number of days during which sewage was flowing to the Sewage Treatment Plant that year;
2. "Approval" means this environmental compliance approval and any schedules attached to it, and the application;
3. "BOD5" (also known as TBOD5) means five day biochemical oxygen demand measured in an unfiltered sample and includes carbonaceous and nitrogenous oxygen demands;
4. "Bypass" means diversion of sewage around one or more treatment processes, excluding Preliminary Treatment System, within the Sewage Treatment Plant with the diverted sewage flows being returned to the Sewage Treatment Plant treatment train upstream of the Final Effluent sampling point(s) and discharged via the approved effluent disposal facilities;
5. "CBOD5" means five day carbonaceous (nitrification inhibited) biochemical oxygen demand measured in an unfiltered sample;
6. "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;
7. "District Manager" means the District Manager of the appropriate local district office of the Ministry where the Works is geographically located;
8. "*E. coli*" refers to coliform bacteria that possess the enzyme beta-glucuronidase and are capable of cleaving a fluorogenic or chromogenic substrate with the corresponding release of a fluorogen or chromogen, that produces fluorescence under long wavelength (366 nm) UV light, or color development, respectively. Enumeration methods include tube, membrane filter, or multi-well procedures. Depending on

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the method selected, incubation temperatures include 35.5 ± 0.5 °C or 44.5 ± 0.2 °C (to enumerate thermotolerant species). Depending on the procedure used, data are reported as either colony forming units (CFU) per 100 mL (for membrane filtration methods) or as most probable number (MPN) per 100 mL (for tube or multi-well methods);

9. "EPA" means the *Environmental Protection Act*, R.S.O. 1990, c.E.19, as amended;
10. "Equivalent Equipment" means alternate piece(s) of equipment that meets the design requirements and performance specifications of the piece(s) of equipment to be substituted;
11. "Event" means an action or occurrence, at a given location within the Works that causes a Bypass or Overflow. An Event ends when there is no recurrence of Bypass or Overflow in the 12-hour period following the last Bypass or Overflow. Overflows and Bypasses are separate Events even when they occur concurrently;
12. "Final Effluent" means effluent that is discharged to the environment through the approved effluent disposal facilities, including all Bypasses, that are required to meet the compliance limits stipulated in the Approval for the Sewage Treatment Plant at the Final Effluent sampling point(s);
13. "Imported Sewage" means sewage hauled to the Sewage Treatment Plant by licensed waste management system operators of the types and quantities approved for co-treatment in the Sewage Treatment Plant, including hauled sewage within the meaning of R.R.O. 1990, Regulation 347: General – Waste Management, as amended;
14. "Influent" means flows to the Sewage Treatment Plant from the collection system and Imported Sewage;
15. "Limited Operational Flexibility" (LOF) means the conditions that the Owner shall follow in order to undertake any modification that is pre-authorized as part of this Approval;
16. "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;
17. "MNRF" means the Ministry of Natural Resources and Forestry of the government of Ontario and includes all officials, employees or other persons acting on its behalf;
18. "Monthly Average Effluent Concentration" is the mean of all Single Sample Results of the concentration of a contaminant in the Final Effluent sampled or measured during a calendar month, calculated and reported as per the methodology specified in Schedule F;
19. "Monthly Average Daily Effluent Flow" means the cumulative total Final Effluent discharged during a calendar month divided by the number of days during which Final Effluent was discharged that month;
20. "Monthly Average Daily Effluent Loading" means the value obtained by multiplying the Monthly Average Effluent Concentration of a contaminant by the Monthly Average Daily Effluent Flow over the same calendar month;

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21. "Monthly Geometric Mean Density" is the mean of all Single Sample Results of *E. coli* measurement in the samples taken during a calendar month, calculated and reported as per the methodology specified in Schedule F;
22. "Normal Operating Condition" means the condition when all unit process(es), excluding Preliminary Treatment System, in a treatment train is operating within its design capacity;
23. "Operating Agency" means the Owner or the entity that is authorized by the Owner for the management, operation, maintenance, or alteration of the Works in accordance with this Approval;
24. "Overflow" means a discharge to the environment from the Works at designed location(s) other than the approved effluent disposal facilities or via the effluent disposal facilities downstream of the Final Effluent sampling point;
25. "Owner" means The Corporation of the Town of Erin and its successors and assignees;
26. "OWRA" means the *Ontario Water Resources Act*, R.S.O. 1990, c. O.40, as amended;
27. "Peak Hourly Flow Rate" (also referred to as maximum hourly flow or maximum hour flow) means the largest volume of flow to be received during a one-hour period for which the sewage treatment process unit or equipment is designed to handle;
28. "Peak Instantaneous Flow Rate" means the instantaneous maximum flow rate as measured by a metering device for which the sewage treatment process unit or equipment is designed to handle;
29. "Preliminary Treatment System" means all facilities in the Sewage Treatment Plant associated with screening and grit removal;
30. "Primary Treatment System" means all facilities in the Sewage Treatment Plant associated with the primary sedimentation unit process and includes chemically enhanced primary treatment;
31. "Professional Engineer" means a person entitled to practice as a Professional Engineer in the Province of Ontario under a license issued under the Professional Engineers Act;
32. "Rated Capacity" means the Annual Average Daily Influent Flow for which the Sewage Treatment Plant is designed to handle;
33. "Sanitary Sewers" means pipes that collect and convey wastewater from residential, commercial, institutional and industrial buildings, and some infiltration and inflow from extraneous sources such as groundwater and surface runoff through means other than stormwater catch basins;
34. "Secondary Treatment System" means all facilities in the Sewage Treatment Plant associated with biological treatment, secondary sedimentation and phosphorus removal unit processes;
35. "Separate Sewer Systems" means wastewater collection systems that comprised of Sanitary Sewers while

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runoff from precipitation and snowmelt are separately collected in Storm Sewers;

36. "Sewage Treatment Plant" means all the facilities related to sewage treatment within the sewage treatment plant site excluding the Final Effluent disposal facilities;
37. "Single Sample Result" means the test result of a parameter in the effluent discharged on any day, as measured by a probe, analyzer or in a composite or grab sample, as required;
38. "Storm Sewers" means pipes that collect and convey runoff resulting from precipitation and snowmelt (including infiltration and inflow);
39. "Works" means the approved sewage works, and includes 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 terms and conditions herein and shall take all reasonable measures to ensure any such person complies with the same.
2. The Owner shall design, construct, operate and maintain the Works in accordance with the conditions of this Approval.
3. Where there is a conflict between a provision of any document referred to in this Approval and the conditions of this Approval, the conditions in this Approval shall take precedence.
4. The issuance of, and compliance with the conditions of, this Approval does not:
 - a. relieve any person of any obligation to comply with any provision of any applicable statute, regulation or other legal requirement, including, but not limited to, the obligation to obtain approval from the local conservation authority/MNRF necessary to construct or operate the sewage works; or
 - b. limit in any way the authority of the Ministry to require certain steps be taken to require the Owner to furnish any further information related to compliance with this Approval.

2. CHANGE OF OWNER AND OPERATING AGENCY

1. The Owner shall, within thirty (30) calendar days of issuance of this Approval, prepare/update and submit to the District Manager the Municipal and Local Services Board Wastewater System Profile

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Information Form, as amended (Schedule G) under any of the following situations:

- a. the form has not been previously submitted for the Works;
 - b. this Approval is issued for extension, re-rating or process treatment upgrade of the Works;
 - c. when a notification is provided to the District Manager in compliance with requirements of change of Owner or Operating Agency under this condition.
2. The Owner shall notify the District Manager and the Director, in writing, of any of the following changes within thirty (30) days of the change occurring:
- a. change of address of Owner;
 - b. change of Owner, including address of new 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. B.17*, as amended, shall be included in the notification;
 - 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. C.39*, as amended, shall be included in the notification.
3. The Owner shall notify the District Manager, in writing, of any of the following changes within thirty (30) days of the change occurring:
- a. change of address of Operating Agency;
 - b. change of Operating Agency, including address of new Operating Agency.
4. In the event of any change in ownership of the Works, the Owner shall notify the succeeding owner in writing, of the existence of this Approval, and forward a copy of the notice to the District Manager.
5. The Owner shall ensure that all communications made pursuant to this condition refer to the environmental compliance approval number.

3. CONSTRUCTION OF WORKS

1. All Works in this Approval shall be constructed and installed and must commence operation within five (5) years of issuance of this Approval, after which time the Approval ceases to apply in respect of any portions of the Works not in operation. In the event that the construction, installation and/or operation of any portion of the Works is anticipated to be delayed beyond the time period stipulated, the Owner shall submit to the Director an application to amend the Approval to extend this time period, at least six (6) months prior to the end of the period. The amendment application shall include the reason(s) for the

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delay and whether there is any design change(s).

2. The Owner shall not commence construction of any portion under the effluent cooling system of the Works which are only approved in principle, until detailed design drawings, specifications and an engineer's report containing detailed design calculations for those portions of the Works have been submitted to and approved by the Director through an amendment to the Approval.
3. Within thirty (30) days of commencement of construction, the Owner shall prepare and submit to the District Manager a schedule for the completion of construction and commissioning operation of the Works. The Owner shall notify the District Manager within thirty (30) days of the commissioning operation of any Works. Upon completion of construction of the Works, the Owner shall prepare and submit a statement to the District Manager, certified by a Professional Engineer, that the Proposed Works are constructed in accordance with this Approval.
4. Within one (1) year of completion of construction of the Works, a set of record drawings of the Works 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 readily accessible for reference at the Works.

4. TEMPORARY EROSION AND SEDIMENT CONTROL

1. The Owner shall install and maintain temporary sediment and erosion control measures during construction and conduct inspections once every two (2) weeks and after each significant storm event (a significant storm event is defined as a minimum of 25 millimetres of rain in any 24 hours period). The inspections and maintenance of the temporary sediment and erosion control measures shall continue until they are no longer required and at which time they shall be removed and all disturbed areas reinstated properly.
2. The Owner shall maintain records of inspections and maintenance which shall be made available for inspection by the Ministry, upon request. The record shall include the name of the inspector, date of inspection, and the remedial measures, if any, undertaken to maintain the temporary sediment and erosion control measures.

5. BYPASSES

1. Any Bypass is prohibited, except:
 - a. an emergency Bypass when a structural, mechanical or electrical failure causes a temporary reduction in the capacity of a treatment process or when an unforeseen flow condition exceeds the design capacity of a treatment process that is likely to result in personal injury, loss of life, health hazard, basement flooding, severe property damage, equipment damage or treatment process upset, if a portion of the flow is not bypassed;
 - b. a planned Bypass that is a direct and unavoidable result of a planned repair and maintenance procedure or other circumstance(s), the Owner having notified the District Manager in writing at least fifteen (15) days prior to the occurrence of Bypass, including an estimated quantity and duration of the Bypass, an assessment of the impact on the quality of the Final Effluent and the

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- mitigation measures if necessary, and the District Manager has given written consent of the Bypass;
2. Notwithstanding the exceptions given in Paragraph 1, the Operating Agency shall undertake everything practicable to maximize the flow through the downstream treatment process(es) prior to bypassing.
 3. At the beginning of a Bypass Event, the Owner shall immediately notify the Spills Action Centre (SAC), Credit Valley Conservation (CVC) and the local Medical Officer of Health. This notice shall include, at a minimum, the following information:
 - a. the type of the Bypass as indicated in Paragraph 1 and the reason(s) for the Bypass;
 - b. the date and time of the beginning of the Bypass;
 - c. the treatment process(es) gone through prior to the Bypass and the treatment process(es) bypassed;
 - d. the effort(s) done to maximize the flow through the downstream treatment process(es) and the reason(s) why the Bypass was not avoided.
 4. Upon confirmation of the end of a Bypass Event, the Owner shall immediately notify the Spills Action Centre (SAC), CVC and the local Medical Officer of Health. This notice shall include, at a minimum, the following information:
 - a. the date and time of the end of the Bypass;
 - b. the estimated or measured volume of Bypass.
 5. For any Bypass Event
 - a. the Owner shall collect daily sample(s) of the Final Effluent, inclusive of the Event and analyze for all effluent parameters outlined in Compliance Limits condition that require composite samples, following the same protocol specified in the Monitoring and Recording condition for the regular samples. The sample(s) shall be in addition to the regular Final Effluent samples required under the monitoring and recording condition. If the Event occurs on a scheduled monitoring day, the regular sampling requirements prevail. If representative sample for the effluent parameter(s) that require grab sample cannot be obtained, they shall be collected after the Event at the earliest time when situation returns to normal.
 - b. in addition, the Owner shall assess the parameters obtained from real time monitoring stations U-001, D-001, and D-002 as outlined in Schedule D, for the duration of the Bypass Event.
 6. The Owner shall submit a summary report of the Bypass Event(s) to the District Manager and CVC 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 contain, at a minimum, the types of information set out in Paragraphs (3), (4) and (5) and either a statement of compliance or a summary of the non-compliance notifications submitted as required under Paragraph 1 of Condition 13. If there is no

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Bypass Event during a quarter, a statement of no occurrence of Bypass is deemed sufficient.

7. The Owner shall develop a notification procedure in consultation with the District Manager, SAC and CVC, and notify the public and downstream water users that may be adversely impacted by any Bypass Event.

6. OVERFLOWS

1. Any Overflow is prohibited, except:

- a. an emergency Overflow in an emergency situation when a structural, mechanical or electrical failure causes a temporary reduction in the capacity of the Works or when an unforeseen flow condition exceeds the design capacity of the Works that is likely to result in personal injury, loss of life, health hazard, basement flooding, severe property damage, equipment damage or treatment process upset, if a portion of the flow is not overflowed;
- b. a planned Overflow that is a direct and unavoidable result of a planned repair and maintenance procedure or other circumstance(s), the Owner having notified the District Manager in writing at least fifteen (15) days prior to the occurrence of Overflow, including an estimated quantity and duration of the Overflow, an assessment of the impact on the environment and the mitigation measures if necessary, and the District Manager has given written consent of the Overflow;

2. Notwithstanding the exceptions given in Paragraph 1, the Operating Agency shall undertake everything practicable to maximize the flow through the downstream treatment process(es) and Bypass(es) prior to overflowing.

3. At the beginning of an Overflow Event, the Owner shall immediately notify the Spills Action Centre (SAC), CVC and the local Medical Officer of Health. This notice shall include, at a minimum, the following information:

- a. the type of the Overflow as indicated in Paragraph 1 and the reason(s) for the Overflow;
- b. the date and time of the beginning of the Overflow;
- c. the point of the Overflow from the Works, the treatment process(es) gone through prior to the Overflow, the disinfection status of the Overflow and whether the Overflow is discharged through the effluent disposal facilities or an alternate location;
- d. the effort(s) done to maximize the flow through the downstream treatment process(es) and Bypass(es) and the reason(s) why the Overflow was not avoided.

4. Upon confirmation of the end of an Overflow Event, the Owner shall immediately notify the Spills Action Centre (SAC), CVC and the local Medical Officer of Health. This notice shall include, at a minimum, the following information:

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- a. the date and time of the end of the Overflow;
- b. the estimated or measured volume of the Overflow.

5. For any Overflow Event

- a. in the Sewage Treatment Plant, the Owner shall collect grab sample(s) of the Overflow, one near the beginning of the Event and one every eight (8) hours for the duration of the Event, and have them analyzed at least for CBOD5, total suspended solids, total phosphorus, total ammonia nitrogen, nitrate as N, total Kjeldahl nitrogen, *E. coli* , except that raw sewage and primary treated effluent Overflow shall be analyzed for BOD5, total suspended solids, total phosphorus and total Kjeldahl nitrogen only.
- b. in addition, the Owner shall assess the parameters obtained from real time monitoring stations U-001, D-001, and D-002 as outlined in Schedule D, for the duration of the Overflow Event.

6. The Owner shall submit a summary report of the Overflow Event(s) to the District Manager and CVC 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 contain, at a minimum, the types of information set out in Paragraphs (3), (4) and (5). If there is no Overflow Event during a quarter, a statement of no occurrence of Overflow is deemed sufficient.

7. The Owner shall develop a notification procedure in consultation with the District Manager, SAC and CVC, and notify the public and downstream water users that may be adversely impacted by any Overflow Event.

7. DESIGN OBJECTIVES

1. The Owner shall design and undertake everything practicable to operate the Sewage Treatment Plant in accordance with the following objectives:
 - a. Final Effluent parameters design objectives listed in the table(s) included in Schedule B.
 - b. Final Effluent is essentially free of floating and settleable solids and does not contain oil or any other substance in amounts sufficient to create a visible film or sheen or foam or discoloration on the receiving waters.
 - c. Annual Average Daily Influent Flow is within the Rated Capacity of the Sewage Treatment Plant.

8. COMPLIANCE LIMITS

1. The Owner shall operate and maintain the Sewage Treatment Plant such that compliance limits for the Final Effluent parameters listed in the table(s) included in Schedule C are met.

9. OPERATION AND MAINTENANCE

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1. The Owner shall ensure 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 staffing and training, including training in all procedures and other requirements of this Approval and the OWRA 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 and maintain the operations manual for the Works **in consultation with CVC**, within six (6) months of completion of construction of the Works, that includes, but not necessarily limited to, the following information:
 - a. operating procedures for the Works under Normal Operating Conditions;
 - 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. operating procedures for the Works to handle situations outside Normal Operating Conditions and emergency situations such as a structural, mechanical or electrical failure, or an unforeseen flow condition, including procedures to minimize Bypasses and Overflows;
 - f. a spill prevention and contingency plan, consisting of procedures and contingency plans, including notification to the District Manager and CVC, to reduce the risk of spills of pollutants and prevent, eliminate or ameliorate any adverse effects that result or may result from spills of pollutants;
 - g. procedures for receiving, responding and recording public complaints, including recording any followup actions taken;
 - h. an operations plan for the operation of the effluent cooling system in consultation with Ministry of Northern Development, Mines, Natural Resources and Forestry (MNDMNR), CVC and the ministry, to maintain receiver temperature to support successful spawning, egg development and growth of Brook Trout.
3. The Owner shall maintain the operations manual up-to-date and make the manual readily accessible for reference at the Works.
4. The Owner shall ensure that the Operating Agency fulfills the requirements under O. Reg. 129/04, as amended for the Works, including the classification of facilities, licensing of operators and operating standards.

10. MONITORING AND RECORDING

1. The Owner shall, upon commencement of operation of the Works, carry out a scheduled monitoring

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program of collecting samples at the required sampling points, at the frequency specified or higher, by means of the specified sample type and analyzed for each parameter listed in the tables under the monitoring program included in Schedule D and record all results, as follows:

- a. all samples and measurements are to be taken at a time and in a location characteristic of the quality and quantity of the sewage stream over the time period being monitored.
 - b. definitions and preparation requirements for each sample type are included in document referenced in Paragraph 3.b.
 - c. definitions for frequency:
 - i. Daily means once every day;
 - ii. Weekly means once every week;
 - iii. Monthly means once every month;
 - iv. Quarterly means once every three months;
 - d. a schedule of the day of the week/month for the scheduled sampling shall be created. The sampling schedule shall be revised and updated every year through rotation of the day of the week/month for the scheduled sampling program, except when the actual scheduled monitoring frequency is three (3) or more times per week.
2. In addition to the scheduled monitoring program required in Paragraph 1
- a. the Owner shall collect daily sample(s) of the Final Effluent, on any day when there is any situation outside Normal Operating Conditions, and analyze for all effluent parameters outlined in Compliance Limits condition that require composite samples, following the same protocol specified in this condition for the regular samples. If the Event occurs on a scheduled monitoring day, the regular sampling requirements prevail. If representative sample for the effluent parameter(s) that require grab sample cannot be obtained, they shall be collected after the Event at the earliest time when situation returns to normal.
 - b. the Owner shall assess and report on the parameters obtained from real time monitoring stations U-001, D-001 and D-002 as outlined in Schedule D, on any day when there is any situation outside Normal Operating Conditions.
3. The methods and protocols for sampling, analysis and recording shall conform, in order of precedence, to the methods and protocols specified in the following documents and all analysis shall be conducted by a laboratory accredited to the ISO/IEC:17025 standard or as directed by the District Manager:
- 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;

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- b. the Ministry's publication "Protocol for the Sampling and Analysis of Industrial/Municipal Wastewater Version 2.0" (January 2016), PIBS 2724e02, as amended;
 - c. the publication "Standard Methods for the Examination of Water and Wastewater", as amended.
 - d. the Environment Canada publications "Biological Test Method: Reference Method for Determining Acute Lethality of Effluents to Rainbow Trout" (EPS 1/RM/13 Second Edition - December 2000) and "Biological Test Method: Reference Method for Determining Acute Lethality of Effluents to *Daphnia magna*" (EPS 1/RM/14 Second Edition - December 2000), as amended, subject to the following:
 - i. the use of pH stabilization in the determination of acute lethality of Final Effluent to Rainbow Trout in accordance with the Environment Canada publication "Procedure for pH Stabilization during the Testing of Acute Lethality of Wastewater Effluent to Rainbow Trout (EPS 1/RM/50)" (2008), as amended, is permitted only if:
 - a. all the three criteria stipulated in the Environment Canada EPS 1/RM/50 are met; and
 - b. the Final Effluent is not discharged to a receiver in which the Final Effluent contributes more than 50% of the total flow in the receiving water, unless the District Manager, having reviewed additional information submitted regarding the Final Effluent and the receiving water approves on the use of RM50 on a site-specific basis.
4. The Owner shall monitor and record the flow rate and daily quantity using flow measuring devices or other methods of measurement as approved below calibrated to an accuracy within plus or minus 5 per cent (+/- 5%) of the actual flowrate of the following:
 - a. Influent flow to the Sewage Treatment Plant by continuous flow measuring devices and instrumentations/pumping rates, or in lieu of an actual installation of equipment, adopt the flow measurements of the Final Effluent for the purpose of estimating Influent flows if the Influent and Final Effluent streams are considered not significantly different in flow rates and quantities;
 - b. Final Effluent discharged from the Sewage Treatment Plant by continuous flow measuring devices and instrumentations/pumping rates, or in lieu of an actual installation of equipment, adopt the flow measurements of the Influent for the purpose of estimating Final Effluent flows if the Influent and Final Effluent streams are considered not significantly different in flow rates and quantities;
 - c. each type of Imported Sewage received for co-treatment at the Sewage Treatment Plant by flow measuring devices/pumping rates/haul truck manifests;
 5. 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.
 6. The Owner shall post near real time data to the Town of Erin website or partner agency, with a delay of no more than two (2) weeks to verify and quality control the data according to standard data quality objectives.

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7. The Owner shall conduct biological monitoring for fish and benthic communities in the surface water upstream and downstream of the outfall in accordance with the ministry approved plan attached in Schedule D.

11. ADAPTIVE MANAGEMENT AND CONTINGENCY PLAN

1. Temperature

- a. Temperature in the final effluent (measured at the outfall in manhole #10) shall always be maintained at or below the objective of 19 degrees Celsius (4-day moving average) to ensure end-of-pipe non-lethal ammonia toxicity. If 4-day moving average temperature exceeds 19 degrees Celsius, effluent cooling system shall be turned on to bring the effluent temperature to the objective of 19 degrees Celsius (4-day moving average).
- b. The Owner shall develop a plan for operation of the effluent cooling system, in consultation with MNDMNRF, CVC and the ministry, to maintain the receiver temperature to support successful spawning, egg development and growth of Brook Trout, and include the plan in the operations manual as per Condition 9.

2. Dissolved Oxygen

- a. Dissolved oxygen in the final effluent shall always be maintained above 4 mg/L. If dissolved oxygen level in the effluent drops below 4 mg/L and sustained for more than 12 hours, air shall be introduced into the effluent at the final effluent pumping station to bring the dissolved oxygen level in the effluent above 4 mg/L (subject to oxygen solubility criteria and measured at the outfall in manhole #10 real time).

3. Chloride

- a. Chloride level in the final effluent shall not exceed 640 mg/L (4-day moving average). If chloride concentration exceeds that threshold, the Owner shall notify the District Manager and CVC of this exceedance and its duration. The Owner shall investigate the cause and examine if all measures as identified in the receiver monitoring plan have been properly implemented and enforced to bring the chloride level below 640 mg/L. If all source control measures are exhausted, the Owner shall discuss with the ministry and CVC to explore further avenues for chloride reduction in the influent.

12. LIMITED OPERATIONAL FLEXIBILITY

1. The Owner may make pre-authorized modifications to the sewage pumping stations and Sewage Treatment Plant in Works in accordance with the document "Limited Operational Flexibility - Protocol for Pre-Authorized Modifications to Municipal Sewage Works" (Schedule E), as amended, subject to the following:
 - a. the modifications will not involve the addition of any new treatment process or the removal of an existing treatment process, including chemical systems, from the liquid or solids treatment trains as

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originally designed and approved.

- b. the scope and technical aspects of the modifications are in line with those delineated in Schedule E and conform with the Ministry's publication "Design Guidelines for Sewage Works 2008", as amended, Ministry's regulations, policies, guidelines, and industry engineering standards;
 - c. the modifications shall not negatively impact on the performance of any process or equipment in the Works or result in deterioration in the Final Effluent quality;
 - d. where the pre-authorized modification requires notification, a "Notice of Modifications to Sewage Works" (Schedule E), as amended shall be completed with declarations from a Professional Engineer and the Owner and retained on-site prior to the scheduled implementation date. All supporting information including technical memorandum, engineering plans and specifications, as applicable and appropriate to support the declarations that the modifications conform with LOF shall remain on-site for future inspection.
2. The following modifications are not pre-authorized under Limited Operational Flexibility:
- a. Modifications that involve addition or extension of process structures, tankages or channels;
 - b. Modifications that involve relocation of the Final Effluent outfall or any other discharge location or that may require reassessment of the impact to the receiver or environment;
 - c. Modifications that involve addition of or change in technology of a treatment process or that may involve reassessment of the treatment train process design;
 - d. Modifications that require changes to be made to the emergency response, spill prevention and contingency plan; or
 - e. Modifications that are required pursuant to an order issued by the Ministry.

13. REPORTING

1. The Owner shall report to the District Manager orally as soon as possible any non-compliance with the compliance limits, and in writing within seven (7) days of non-compliance.
2. The Owner shall, within fifteen (15) days of occurrence of a spill within the meaning of Part X of the EPA, submit a full written report of the occurrence to the District Manager describing the cause and discovery of the spill, clean-up and recovery measures taken, preventative measures to be taken and schedule of implementation, in addition to fulfilling the requirements under the EPA and O. Reg. 675/98 "Classification and Exemption of Spills and Reporting of Discharges".
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 performance reports on a calendar year basis and submit to the District

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Manager and publish to the Town of Erin's website for public viewing by March 31 of the calendar year following the period being reported upon. The reports shall contain, but shall not be limited to, the following information pertaining to the reporting period:

- a. a summary and interpretation of all Influent, Imported Sewage monitoring data, and a review of the historical trend of the sewage characteristics and flow rates;
- b. a summary and interpretation of all Final Effluent monitoring data, including concentration, flow rates, loading and a comparison to the design objectives and compliance limits in this Approval, including an overview of the success and adequacy of the Works;
- c. a summary of all normal and emergency repairs and maintenance activities carried out on any major structure, equipment, apparatus or mechanism forming part of the Works;
- d. a summary of any effluent quality assurance or control measures undertaken;
- e. a summary of the calibration and maintenance carried out on all Influent, Imported Sewage and Final Effluent monitoring equipment to ensure that the accuracy is within the tolerance of that equipment as required in this Approval or recommended by the manufacturer;
- f. a summary of efforts made to achieve the design objectives in this Approval, including an assessment of the issues and recommendations for pro-active actions if any are required under the following situations:
 - i. when any of the design objectives is not achieved more than 50% of the time in a year, or there is an increasing trend in deterioration of Final Effluent quality;
 - ii. when the Annual Average Daily Influent Flow reaches 80% of the Rated Capacity;
- g. a tabulation of the volume of sludge generated, 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 and any steps taken to address the complaints;
- i. a summary of all Bypasses, Overflows, other situations outside Normal Operating Conditions and spills within the meaning of Part X of EPA and abnormal discharge events;
- j. a summary of all Notice of Modifications to Sewage Works completed under Paragraph 1.d. of Condition 12, including a report on status of implementation of all modification;
- k. a summary of efforts made to achieve conformance with Procedure F-5-1 including but not limited to projects undertaken and completed in the sanitary sewer system that result in overall Bypass/Overflow elimination including expenditures and proposed projects to eliminate Bypass/Overflows with estimated budget forecast for the year following that for which the report is submitted;

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- l. any changes or updates to the schedule for the completion of construction and commissioning operation of major process(es) / equipment groups in the Works;
 - m. a summary of any deviation from the monitoring schedule and reasons for the current reporting year and a schedule for the next reporting year;
 - n. interpretation of all receiver monitoring data (i.e., surface water quality, fish and benthic communities data) in accordance with the ministry approved receiver monitoring plan included in Schedule D.
5. The Owner shall prepare summary of all operating issues and corrective actions taken on a quarterly basis and submit to the District Manager and CVC, no later than each of the following dates for each calendar year: February 15, May 15, August 15, and November 15, and publish to the Town of Erin's website for public viewing. If there is no operating issues during a quarter, a statement of no operating issues is deemed sufficient.

14. VERIFICATION OF TREATMENT CAPABILITY - PROCESS TESTING

1. The Owner shall within eighteen (18) months of the implementation of the Works but before the Annual Average Daily Influent Flow reaches 5,073 m³/d, carry a process testing of the Works for a minimum of one (1) year to simulate conditions representative of the Annual Average Daily Influent Flow of 7,172 m³/d and Peak Hourly Flow Rate of 748 m³/h to verify treatment capability of the Works in meeting the effluent requirements under this Approval.
2. At least (6) months prior to the scheduled commencement of the process testing for the verification of treatment capability of the ultrafiltration membrane process and the rest of the Works, the Owner shall prepare and submit to the Director a detailed Terms of Reference and implementation plan for review and approval.
3. Within six (6) months of the completion of the process testing, the Owner shall prepare a final report including a summary of all pertinent data, assessment and analysis, conclusions and recommendations for the treatment capability of the Works, and submit to the Director for review and concurrence.

15. CHLORIDE MANAGEMENT AT SOURCE

1. The Owner shall develop an education program to address the use of home water softeners with the aim of reducing the chloride discharges to the sewer system, and a plan to reduce road salt discharges to the West Credit River, and submit to the ministry by January 31, 2023.
2. Upon agreement by the ministry, the Owner shall implement the items in Paragraph 1, and update these as required.

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

1. Condition 1 regarding general provisions is imposed to ensure that the Works are constructed and operated

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in the manner in which they were described and upon which approval was granted.

2. Condition 2 regarding change of Owner and Operating Agency is included to ensure that the Ministry records are kept accurate and current with respect to ownership and Operating Agency of the 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 regarding construction of Works is included to ensure that the Works are constructed in a timely manner so that standards applicable at the time of Approval of the Works are still applicable at the time of construction to ensure the ongoing protection of the environment, and that prior to the commencement of construction of the portion of the Works that are approved in principle only, the Director will have the opportunity to review detailed design drawings, specifications and an engineer's report containing detailed design calculations for that portion of the Works, to determine capability to comply with the Ministry's requirements stipulated in the terms and conditions of the Approval, and also ensure that the Works are constructed in accordance with the Approval and that record drawings of the Works "as constructed" are updated and maintained for future references.
4. Condition 4 is included as installation, regular inspection and maintenance of the temporary sediment and erosion control measures is required to mitigate the impact on the downstream receiving watercourse during construction until they are no longer required.
5. Condition 5 regarding Bypasses is included to indicate that Bypass is prohibited, except in circumstances where the failure to Bypass could result in greater damage to the environment than the Bypass itself. 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 Bypass Events.
6. Condition 6 regarding Overflows is included to indicate that Overflow of untreated or partially treated sewage to the receiver is prohibited, except in circumstances where the failure to Overflow could result in greater damage to the environment than the Overflow itself. 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.
7. Condition 7 regarding design objectives is imposed to establish non-enforceable design objectives to be used as a mechanism to trigger corrective action proactively and voluntarily before environmental impairment occurs.
8. Condition 8 regarding compliance limits is imposed to ensure that the Final Effluent discharged from the Works to the environment meets the Ministry's effluent quality requirements.
9. Condition 9 regarding operation and maintenance 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. 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

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as a benchmark for Ministry staff when reviewing the Owner's operation of the Works.

10. Condition 10 regarding monitoring and recording 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 compliance limits.
11. Condition 11 regarding adaptive management and contingency plan is imposed to ensure that the Owner shall take corrective measures to protect the receiver from adverse effects when trigger criteria for contingency is met.
12. Condition 12 regarding Limited Operational Flexibility is included to ensure that the Works are constructed, maintained and operated in accordance with the Approval, and that any pre-approved modification will not negatively impact on the performance of the Works.
13. Condition 13 regarding reporting 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 this Approval.
14. Condition 14 is included to ensure that sufficient data is available to verify that the proposed ultrafiltration membrane process and the rest of the Works is capable of achieving the design objectives and the effluent compliance criteria on a long-term basis and under a range of operating conditions that will be encountered during full-scale operation.
15. Condition 15 is included to ensure aquatic life in the receiver is protected from adverse effects of chloride.

Schedule A

1. Application for Environmental Compliance Approval submitted by The Corporation of the Town of Erin received on May 21, 2021 for the proposed Town of Erin Water Resource Recovery Facility, including all supporting design documentation and information, final plans and specifications.

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Schedule B

Final Effluent Design Objectives

Concentration Objectives prior and upon Successful Verification of Treatment Capability

Final Effluent Parameter	Averaging Calculator	Objective
CBOD5	Monthly Average Effluent Concentration	3 mg/L
Total Suspended Solids	Monthly Average Effluent Concentration	3 mg/L
Total Phosphorus	Monthly Average Effluent Concentration	0.03 mg/L
Total Ammonia Nitrogen	Monthly Average Effluent Concentration	0.3 mg/L (May 15 - October 31) 1 mg/L (November 1 - May 14)
Nitrate Nitrogen	Monthly Average Effluent Concentration	4 mg/L
<i>E. coli</i>	Monthly Geometric Mean Density	*100 CFU/100 mL
pH	Single Sample Result	6.5 - 8.0 inclusive
Dissolved Oxygen	Single Sample Result	minimum 5 mg/L
Toxicity to Rainbow Trout and <i>Daphnia magna</i>	Single Sample Result	Non-acutely lethal
Temperature	4-Day Average	19 degrees Celsius

*If the MPN method is utilized for *E. coli* analysis the objective shall be 100 MPN/100 mL

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Schedule C

Final Effluent Compliance Limits

Concentration Limits prior and upon Successful Verification of Treatment Capability

Final Effluent Parameter	Averaging Calculator	Limit
CBOD5	Monthly Average Effluent Concentration	5 mg/L
Total Suspended Solids	Monthly Average Effluent Concentration	5 mg/L
Total Phosphorus	Monthly Average Effluent Concentration	0.045 mg/L
Total Ammonia Nitrogen	Monthly Average Effluent Concentration	0.6 mg/L (May 15 - October 31) 2 mg/L (November 1 - May 14)
Nitrate Nitrogen	Monthly Average Effluent Concentration	5 mg/L
<i>E. coli</i>	Monthly Geometric Mean Density	*100 CFU/100 mL
pH	Single Sample Result	between 6.5 - 8.5 inclusive
Dissolved Oxygen	Single Sample Result	minimum 4 mg/L
Toxicity to Rainbow Trout and <i>Daphnia magna</i>	Single Sample Result	Non-acutely lethal (no more than 50% mortality)

*If the MPN method is utilized for *E. coli* analysis the limit shall be 100 MPN/100 mL

Loading Limits

Final Effluent Parameter	Averaging Calculator	Limit (maximum unless otherwise indicated)
CBOD5	Monthly Average Daily Effluent Loading	35.86 kg/d
Total Suspended Solids	Monthly Average Daily Effluent Loading	35.86 kg/d
Total Phosphorus	Monthly Average Daily Effluent Loading	0.32 kg/d
Total Ammonia Nitrogen	Monthly Average Daily Effluent Loading	4.3 kg/d (May 15 - October 31) 14.34 kg/d (November 1 - May 14)
Nitrate Nitrogen	Monthly Average Daily Effluent Loading	35.86 kg/d

Schedule D

Monitoring Program

Influent - Influent sampling point

Parameters	Sample Type	Minimum Frequency
BOD5	24 hour composite	Weekly
Total Suspended Solids	24 hour composite	Weekly
Total Phosphorus	24 hour composite	Weekly
Total Kjeldahl Nitrogen	24 hour composite	Weekly
Dissolved Reactive Phosphorous	24 hour composite	Weekly
Chloride	24 hour composite	Weekly
Temperature	Grab/Probe	Weekly

Imported Sewage - Imported Sewage Receiving Station

Parameters	Sample Type	Minimum Frequency*
BOD5	Grab	Monthly
Total Suspended Solids	Grab	Monthly
Total Phosphorus	Grab	Monthly
Total Kjeldahl Nitrogen	Grab	Monthly

*When the septage receiving station receives septage.

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Final Effluent - Final Effluent sampling point

Parameters	Sample Type	Minimum Frequency
CBOD5	24 hour composite	Weekly
Total Suspended Solids	24 hour composite	Weekly
Total Phosphorus	24 hour composite	Weekly
Dissolved Reactive Phosphorus	24 hour composite	Weekly
Total Ammonia Nitrogen	24 hour composite	Weekly
Total Kjeldahl Nitrogen	24 hour composite	Weekly
Nitrate as Nitrogen	24 hour composite	Weekly
Nitrite as Nitrogen	24 hour composite	Weekly
<i>E. coli</i>	Grab	Weekly
Acute Lethality to Rainbow Trout and <i>Daphnia magna</i>	Grab	Quarterly
Chloride	Grab/Probe/Analyzer	Weekly (Daily)
Dissolved Oxygen	Grab/Probe/Analyzer	Weekly
pH*	Grab/Probe/Analyzer	Weekly
Temperature*	Grab/Probe/Analyzer	Weekly
Un-ionized Ammonia**	As Calculated	Weekly

*pH and temperature of the Final Effluent shall be measured 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.

Final Effluent - Final Effluent Real Time sampling point (Manhole #10)

Parameters	Sample Type	Minimum Frequency
Dissolved Oxygen	Probe	Every 15 Minutes
Temperature	Probe	Every 15 Minutes

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Sludge/Biosolids – holding tank/truck loading bay

Parameters	Sample Type	Minimum Frequency
Total Solids	Grab	Quarterly
Total Phosphorus	Grab	Quarterly
Total Ammonia Nitrogen	Grab	Quarterly
Nitrate as Nitrogen	Grab	Quarterly
Metal Scan	Grab	Quarterly
- Arsenic		
- Cadmium		
- Cobalt		
- Chromium		
- Copper		
- Lead		
- Mercury		
- Molybdenum		
- Nickel		
- Potassium		
- Selenium		
- Zinc		

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Surface Water - Surface Water Manual Monitoring at Stations U-001, D-001 and D-002

Parameters	Sample Type	Minimum Frequency
CBOD5	Grab	Monthly
Total Suspended Solids	Grab	Monthly
Total Ammonia Nitrogen	Grab	Monthly
Total Kjeldahl Nitrogen	Grab	Monthly
Nitrate Nitrogen	Grab	Monthly
Nitrite Nitrogen	Grab	Monthly
Total Nitrogen	Grab	Monthly
Total Phosphorous	Grab	Monthly
Dissolved Reactive Phosphorous	Grab	Monthly
Chloride	Grab	Monthly
<i>E. coli</i>	Grab	Monthly
Dissolved Oxygen*	Grab/Probe	Monthly
pH*	Grab/Probe	Monthly
Temperature*	Grab/Probe	Monthly
Specific Conductivity*	Grab/Probe	Monthly
Un-ionized Ammonia**	As Calculated	Monthly
Stream Flow***	Manual Measurement	Monthly
Water Level***	Manual Measurement	Monthly

U-001: approximately 250 m upstream of the outfall

D-001: approximately 150 m downstream of the outfall

U-002: approximately 700 m downstream of the outfall

*Dissolved oxygen, pH, temperature and specific conductivity of the Surface Water shall be measured in the field.

*pH and temperature of the Surface Water shall be measured 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.

***Stream Flow shall be manual measured at the time of collection of grab samples.

***Water Level shall be manual measured at the time of collection of grab samples.

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Surface Water - Surface Water Real Time Monitoring at Stations U-001, D-001 and D-002

Parameters	Sample Type	Minimum Frequency
Chloride	Probe	Every 15 Minutes
Dissolved Oxygen	Probe	Every 15 Minutes
pH	Probe	Every 15 Minutes
Temperature	Probe	Every 15 Minutes
Specific Conductivity	Probe	Every 15 Minutes
Turbidity	Probe	Every 15 Minutes
Water level	As Measured Above Mean See Level	Every 15 Minutes

U-001: approximately 250 m upstream of the outfall

D-001: approximately 150 m downstream of the outfall

U-002: approximately 700 m downstream of the outfall

Schedule E

Limited Operational Flexibility

Protocol for Pre-Authorized Modifications to Municipal Sewage Works

1. General

1. Pre-authorized modifications are permitted only where Limited Operational Flexibility has already been granted in the Approval and only permitted to be made at the pumping stations and sewage treatment plant in the Works, subject to the conditions of the Approval.
2. Where there is a conflict between the types and scope of pre-authorized modifications listed in this document, and the Approval where Limited Operational Flexibility has been granted, the Approval shall take precedence.
3. The Owner shall consult the District Manager on any proposed modifications that may fall within the scope and intention of the Limited Operational Flexibility but are not listed explicitly or included as an example in this document.
4. The Owner shall ensure that any pre-authorized modifications will not:
 - a. adversely affect the hydraulic profile of the Sewage Treatment Plant or the performance of any upstream or downstream processes, both in terms of hydraulics and treatment performance;
 - b. result in new Overflow or Bypass locations, or any potential increase in frequency or quantity of Overflow(s) or Bypass(es).
 - c. result in a reduction in the required Peak Flow Rate of the treatment process or equipment as originally designed.

2. Modifications that do not require pre-authorization:

1. Sewage works that are exempt from Ministry approval requirements;
2. Modifications to the electrical system, instrumentation and control system.

3. Pre-authorized modifications that do not require preparation of “Notice of Modification to Sewage Works”

1. Normal or emergency maintenance activities, such as repairs, renovations, refurbishments and replacements with Equivalent Equipment, or other improvements to an existing approved piece of equipment of a treatment process do not require pre-authorization. Examples of these activities are:
 - a. Repairing a piece of equipment and putting it back into operation, including replacement of minor

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components such as belts, gear boxes, seals, bearings;

- b. Repairing a piece of equipment by replacing a major component of the equipment such as motor, with the same make and model or another with the same or very close power rating but the capacity of the pump or blower will still be essentially the same as originally designed and approved;
 - c. Replacing the entire piece of equipment with Equivalent Equipment.
2. Improvements to equipment efficiency or treatment process control do not require pre-authorization. Examples of these activities are:
- a. Adding variable frequency drive to pumps;
 - b. Adding on-line analyzer, dissolved oxygen probe, ORP probe, flow measurement or other process control device.

4. Pre-Authorized Modifications that require preparation of “Notice of Modification to Sewage Works”

1. Pumping Stations

- a. Replacement, realignment of existing sewers including manholes, valves, gates, weirs and associated appurtenances provided that the modifications will not add new influent source(s) or result in an increase in flow from existing sources as originally approved.
- b. Extension or partition of wetwell to increase retention time for emergency response and improve station maintenance and pump operation;
- c. Replacement or installation of inlet screens to the wetwell;
- d. Replacement or installation of flowmeters, construction of station bypass;
- e. Replacement, reconfiguration or addition of pumps and modifications to pump suctions and discharge pipings including valve, gates, motors, variable frequency drives and associated appurtenances to maintain firm pumping capacity or modulate the pump rate provided that the modifications will not result in a reduction in the firm pumping capacity or discharge head or an increase in the peak pumping rate of the pumping station as originally designed;
- f. Replacement, realignment of existing forcemain(s) including valves, gates, and associated appurtenances provided that the modifications will not reduce the flow capacity or increase the total dynamic head and transient in the forcemain.

2. Sewage Treatment Plant

1. Sewers and appurtenances

- a. Replacement, realignment of existing sewers (including pipes and channels) or construction of new

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sewers, including manholes, valves, gates, weirs and associated appurtenances within the a sewage treatment plant, provided that the modifications will not add new influent source(s) or result in an increase in flow from existing sources as originally approved and that the modifications will remove hydraulic bottlenecks or improve the conveyance of sewage into and through the Works.

2. Flow Distribution Chambers/Splitters

- a. Replacement or modification of existing flow distribution chamber/splitters or construction of new flow distribution chamber/splitters, including replacements or installation of sluice gates, weirs, valves for distribution of flows to the downstream process trains, provided that the modifications will not result in a change in flow distribution ratio to the downstream process trains as originally designed.

3. Imported Sewage Receiving Facility

- a. Replacement, relocation or installation of loading bays, connect/disconnect hook-up systems and unloading/transferring systems;
- b. Replacement, relocation or installation of screens, grit removal units and compactors;
- c. Replacement, relocation or installation of pumps, such as dosing pumps and transfer pumps, valves, piping and appurtenances;
- d. Replacement, relocation or installation of storage tanks/chambers and spill containment systems;
- e. Replacement, relocation or installation of flow measurement and sampling equipment;
- f. Changes to the source(s) or quantity from each source, provided that changes will not result in an increase in the total quantity and waste loading of each type of Imported Sewage already approved for co-treatment.

4. Preliminary Treatment System

- a. Replacement of existing screens and grit removal units with equipment of the same or higher process performance technology, including where necessary replacement or upgrading of existing screenings dewatering washing compactors, hydrocyclones, grit classifiers, grit pumps, air blowers conveyor system, disposal bins and other ancillary equipment to the screening and grit removal processes.
- b. Replacement or installation of channel aeration systems, including air blowers, air supply main, air headers, air laterals, air distribution grids and diffusers.

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5. Primary Treatment System

- a. Replacement of existing sludge removal mechanism, including sludge chamber;
- b. Replacement or installation of scum removal mechanism, including scum chamber;
- c. Replacement or installation of primary sludge pumps, scum pumps, provided that the modifications will not result in a reduction in the firm pumping capacity or discharge head that the primary sludge pump(s) and scum pump(s) are originally designed to handle.

6. Secondary Treatment System

1. Biological Treatment

- a. Conversion of complete mix aeration tank to plug-flow multi-pass aeration tank, including modifications to internal structural configuration;
- b. Addition of inlet gates in multi-pass aeration tank for step-feed operation mode;
- c. Partitioning of an anoxic/flip zone in the inlet of the aeration tank, including installation of submersible mixer(s);
- d. Replacement of aeration system including air blowers, air supply main, air headers, air laterals, air distribution grids and diffusers, provided that the modifications will not result in a reduction in the firm capacity or discharge pressure that the blowers are originally designed to supply or in the net oxygen transferred to the wastewater required for biological treatment as originally required.

2. Secondary Sedimentation

- a. Replacement of sludge removal mechanism, including sludge chamber;
- b. Replacement or installation of scum removal mechanism, including scum chamber;
- c. Replacement or installation of return activated sludge pump(s), waste activated sludge pump(s), scum pump(s), provided that the modifications will not result in a reduction in the firm pumping capacity or discharge head that the activated sludge pump(s) and scum pump(s) are originally designed to handle.

7. Post-Secondary Treatment System

- a. Replacement of filtration system with equipment of the same filtration technology, including feed pumps, backwash pumps, filter reject pumps, filtrate extract pumps, holding tanks associated with the pumping system, provided that the modifications will not result in a reduction in the capacity of the filtration system as originally designed.

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8. Disinfection System

1. UV Irradiation

- a. Replacement of UV irradiation system, provided that the modifications will not result in a reduction in the design capacity of the disinfection system or the radiation level as originally designed.

2. Chlorination/Dechlorination and Ozonation Systems

- a. Extension and reconfiguration of contact tank to increase retention time for effective disinfection and reduce dead zones and minimize short-circuiting;
- b. Replacement or installation of chemical storage tanks, provided that the tanks are provided with effective spill containment.

9. Supplementary Treatment Systems

1. Chemical systems

- a. Replacement, relocation or installation of chemical storage tanks for existing chemical systems only, provided that the tanks are sited with effective spill containment;
- b. Replacement or installation of chemical dosing pumps provided that the modifications will not result in a reduction in the firm capacity that the dosing pumps are originally designed to handle.
- c. Relocation and addition of chemical dosing point(s) including chemical feed pipes and valves and controls, to improve phosphorus removal efficiency;
- d. Use of an alternate chemical provided that it is a non-proprietary product and is a commonly used alternative to the chemical approved in the Works, provided that the chemical storage tanks, chemical dosing pumps, feed pipes and controls are also upgraded, as necessary..

10. Sludge Management System

1. Sludge Holding and Thickening

- a. Replacement or installation of sludge holding tanks, sludge handling pumps, such as transfer pumps, feed pumps, recirculation pumps, provided that modifications will not result in reduction in the solids storage or handling capacities;

2. Sludge Digestion

- a. Replacement or installation of digesters, sludge handling pumps, such as transfer pumps, feed pumps, recirculation pumps, provided that modifications will not result in reduction in the solids

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storage or handling capacities;

b. replacement of sludge digester covers.

3. Sludge Dewatering and Disposal

a. Replacement of sludge dewatering equipment, sludge handling pumps, such as transfer pumps, feed pumps, cake pumps, loading pumps, provided that modifications will not result in reduction in solids storage or handling capacities.

4. Processed Organic Waste

a. Changes to the source(s) or quantity from each source, provided that changes will not result in an increase in the total quantity already approved for co-processing.

11. Standby Power System

1. Replacement or installation of standby power system, including feed from alternate power grid, emergency power generator, fuel supply and storage systems, provided that the existing standby power generation capacity is not reduced.

12. Pilot Study

1. Small side-stream pilot study for existing or new technologies, alternative treatment process or chemical, provided:

a. all effluent from the pilot system is hauled off-site for proper disposal or returned back to the sewage treatment plant for at a point no further than immediately downstream of the location from where the side-stream is drawn;

b. no proprietary treatment process or propriety chemical is involved in the pilot study;

c. the effluent from the pilot system returned to the sewage treatment plant does not significantly alter the composition/concentration of or add any new contaminant/inhibiting substances to the sewage to be treated in the downstream process;

d. the pilot study will not have any negative impacts on the operation of the sewage treatment plant or cause a deterioration of effluent quality;

e. the pilot study does not exceed a maximum of two years and a notification of completion shall be submitted to the District Manager within one month of completion of the pilot project.

3. Final Effluent Disposal Facilities

a. Replacement or realignment of the Final Effluent channel, sewer or forcemain, including manholes, valves and appurtenances from the end of the treatment train to the discharge outfall section, provided

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that the sewer conveys only effluent discharged from the Sewage Treatment Plant and that the replacement or re-aligned sewer has similar dimensions and performance criteria and is in the same or approximately the same location and that the hydraulic capacity will not be reduced.

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This page contains an image of the form entitled "Notice of Modification to Sewage Works". A digital copy can be obtained from the District Manager.



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		
<i>(Insert the ECA's owner, number and issuance date and notice number, which should start with "01" and consecutive numbers thereafter)</i>		
ECA Number	Issuance Date (mm/dd/yy)	Notice number (if applicable)
ECA Owner		Municipality

Part 2: Description of the modifications as part of the Limited Operational Flexibility
<i>(Attach a detailed description of the sewage works)</i>
<p>Description shall include:</p> <ol style="list-style-type: none"> 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				
<p>I hereby declare that I have verified the scope and technical aspects of this modification and confirm that the design:</p> <ol style="list-style-type: none"> 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. <p>I hereby declare that to the best of my knowledge, information and belief the information contained in this form is complete and accurate</p>				
<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;">Name (Print)</td> <td style="width: 50%; border: none;">PEO License Number</td> </tr> <tr> <td style="border: none;">Signature</td> <td style="border: none;">Date (mm/dd/yy)</td> </tr> </table>	Name (Print)	PEO License Number	Signature	Date (mm/dd/yy)
Name (Print)	PEO License Number			
Signature	Date (mm/dd/yy)			
Name of Employer				

Part 4 – Declaration by Owner				
<p>I hereby declare that:</p> <ol style="list-style-type: none"> 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 <i>Environmental Assessment Act</i>. <p>I hereby declare that to the best of my knowledge, information and belief the information contained in this form is complete and accurate</p>				
<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;">Name of Owner Representative (Print)</td> <td style="width: 50%; border: none;">Owner representative's title (Print)</td> </tr> <tr> <td style="border: none;">Owner Representative's Signature</td> <td style="border: none;">Date (mm/dd/yy)</td> </tr> </table>	Name of Owner Representative (Print)	Owner representative's title (Print)	Owner Representative's Signature	Date (mm/dd/yy)
Name of Owner Representative (Print)	Owner representative's title (Print)			
Owner Representative's Signature	Date (mm/dd/yy)			

Schedule F

**Methodology for Calculating and Reporting
Monthly Average Effluent Concentration, Annual Average Effluent Concentration and
Monthly Geometric Mean Density**

1. Monthly Average Effluent Concentration

- Step 1: Calculate the arithmetic mean of all Single Sample Results of the concentration of a contaminant in the Final Effluent sampled or measured during a calendar month and proceed as follows depending on the result of the calculation:
- a. If the arithmetic mean does not exceed the compliance limit for the contaminant, then report and use this arithmetic mean as the Monthly Average Effluent Concentration for this parameter where applicable in this Approval;
 - b. If the arithmetic mean exceeds the compliance limit for the contaminant and there was no Bypass Event during the calendar month, then report and use this arithmetic mean as the Monthly Average Effluent Concentration for this parameter where applicable in this Approval;
 - c. If the arithmetic mean exceeds the compliance limit for the contaminant and there was Bypass Event(s) during the calendar month, then proceed to Step 2;
 - d. If the arithmetic mean does not exceed the compliance limit for the contaminant and there was Bypass Event(s) during the calendar month, the Owner may still elect to proceed to Step 2 calculation of the flow-weighted arithmetic mean.
- Step 2: Calculate the flow-weighted arithmetic mean of all Single Sample Results of the concentration of a contaminant in the Final Effluent sampled or measured during a calendar month and proceed depending on the result of the calculation:
- a. Group No Bypass Days (**NBPD**) data and Bypass Days (**BPD**) data during a calendar month separately;
 - b. Calculate the arithmetic mean of all Single Sample Results of the concentration of a contaminant in the Final Effluent sampled or measured on all NBPD during a calendar month and record it as **Monthly Average NBPD Effluent Concentration**;
 - c. Obtain the “**Total Monthly NBPD Flow**” which is the total amount of Final Effluent discharged on all NBPD during the calendar month;
 - d. Calculate the arithmetic mean of all Single Sample Results of the concentration of a contaminant in the Final Effluent sampled or measured on all BPD during a calendar month and record it as **Monthly Average BPD Effluent Concentration**;

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- e. Obtain the “**Total Monthly BPD Flow**” which is the total amount of Final Effluent discharged on all BPD during the calendar month;
- f. Calculate the flow-weighted arithmetic mean using the following formula:

$$\frac{[(\text{Monthly Average NBPD Effluent Concentration} \times \text{Total Monthly NBPD Flow}) + (\text{Monthly Average BPD Effluent Concentration} \times \text{Total Monthly BPD Flow})]}{(\text{Total Monthly NBPD Flow} + \text{Total Monthly BPD Flow})}$$

It should be noted that in this method, if there are no Bypass Event for the month, the calculated result would be the same as the non-flow-weighted arithmetic mean method;

- g. Report and use the lesser of the flow-weighted arithmetic mean obtained in Step 2 and the arithmetic mean obtained in Step 1 as the Monthly Average Effluent Concentration for this parameter where applicable in this Approval.

2. Annual Average Effluent Concentration

Step 1: Calculate the arithmetic mean of all Single Sample Results of the concentration of a contaminant in the Final Effluent sampled or measured during a calendar year and proceed as follows depending on the result of the calculation:

- a. If the arithmetic mean does not exceed the compliance limit for the contaminant, then report and use this arithmetic mean as the Annual Average Effluent Concentration for this parameter where applicable in this Approval;
- b. If the arithmetic mean exceeds the compliance limit for the contaminant and there was no Bypass Event during the calendar year, then report and use this arithmetic mean as the Annual Average Effluent Concentration for this parameter where applicable in this Approval;
- c. If the arithmetic mean exceeds the compliance limit for the contaminant and there was Bypass Event(s) during the calendar year, then proceed to Step 2;
- d. If the arithmetic mean does not exceed the compliance limit for the contaminant and there was Bypass Event(s) during the calendar year, the Owner may still elect to proceed to Step 2 calculation of the flow-weighted arithmetic mean.

Step 2: Calculate the flow-weighted arithmetic mean of all Single Sample Results of the concentration of a contaminant in the Final Effluent sampled or measured during a calendar year and proceed depending on the result of the calculation:

- a. Group No Bypass Days (**NBPD**) data and Bypass Days (**BPD**) data during a calendar year separately;
- b. Calculate the arithmetic mean of all Single Sample Results of the concentration of a contaminant in the Final Effluent sampled or measured on all NBPD during a calendar year

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and record it as **Annual Average NBPD Effluent Concentration**;

- c. Obtain the “**Total Annual NBPD Flow**” which is the total amount of Final Effluent discharged on all NBPD during the calendar year;
- d. Calculate the arithmetic mean of all Single Sample Results of the concentration of a contaminant in the Final Effluent sampled or measured on all BPD during a calendar year and record it as **Annual Average BPD Effluent Concentration**;
- e. Obtain the “**Total Annual BPD Flow**” which is the total amount of Final Effluent discharged on all BPD during the calendar year;
- f. Calculate the flow-weighted arithmetic mean using the following formula:

$$[(\text{Annual Average NBPD Effluent Concentration} \times \text{Total Annual NBPD Flow}) + (\text{Annual Average BPD Effluent Concentration} \times \text{Total Annual BPD Flow})] \div (\text{Total Annual NBPD Flow} + \text{Total Annual BPD Flow})$$

It should be noted that in this method, if there are no Bypass Event for the calendar year, the calculated result would be the same as the non-flow-weighted arithmetic mean method;

- g. Report and use the lesser of the flow-weighted arithmetic mean obtained in Step 2 and the arithmetic mean obtained in Step 1 as the Annual Average Effluent Concentration for this parameter where applicable in this Approval.

3. Monthly Geometric Mean Density

Geometric mean is defined as the n^{th} root of the product of n numbers. In the context of calculating Monthly Geometric Mean Density for *E. coli*, the following formula shall be used:

$$\sqrt[n]{x_1 x_2 x_3 \cdots x_n}$$

in which,

" n " is the number of samples collected during the calendar month; and

" x " is the value of each Single Sample Result.

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For example, four weekly grab samples were collected and tested for *E. coli* during the calendar month. The *E. coli* densities in the Final Effluent were found below:

Sample Number	<i>E. coli</i> Densities* (CFU/100 mL)
1	10
2	100
3	300
4	50

The Geometric Mean Density for these data:

$$\sqrt[4]{10 \times 100 \times 300 \times 50} = 62$$

*If a particular result is zero (0), then a value of one (1) will be substituted into the calculation of the Monthly Geometric Mean Density. If the MPN method is utilized for *E. coli* analysis, values in the table shall be MPN/100 mL.

February 11, 2022

Hon. David Piccini
Minister of Environment, Conservation and Parks
College Park, 5th Floor
777 Bay Street
Toronto, ON M7A 2J3
minister.mecp@ontario.ca

Mayor Allan Alls
Town of Erin
684 Trafalgar Road.
Hillsburgh, ON N0B 1Z0
Allan.alls@erin.ca

Mr. Quentin Hanchard
Chief Administrative Officer
Credit Valley Conservation
1255 Old Derry Road
Mississauga, ON L5N 6R4
Quentin.hachard@cvc.ca

Dear Minister Piccini, Mayor Alls & Mr. Hanchard,

**Re: Comprehensive Water Quality Monitoring of the Credit River
Downstream of the Future Wastewater Treatment Facility for the Town of
Erin (Resolution Number 2022-38)**

I am writing to you on behalf of Regional Council to draw your attention to a number of recommendations to address Peel's concerns regarding the potential impact to the water quality of the West Credit River from the future wastewater treatment facility for the Town of Erin.

Following the delegation by Judy Mabee, President, Belfountain Community Organization and Mark Heaton, Senior Biologist, Ontario Streams at its meeting held on January 27, 2022, Regional Council approved Resolution Number 2022-38 (attached) in support of the recommendation that the Coalition for the West Credit River's *Monitoring and Adaptive Management Plan* be included in the Ministry of the Environment, Conservation and Parks' Environmental Compliance Approval (ECA).

It is our understanding that the Ministry is currently working with Credit Valley Conservation and the Town of Erin on the ECA requirements for the future wastewater treatment facility, and it is essential that the recommendations provided by the Coalition for the West Credit be included in the ECA to address the concerns of area residents and protect this important, but sensitive environmental asset.

Nando Iannicca
Regional Chair & CEO

10 Peel Centre Dr.
Suite A, 5th Floor
Brampton, ON L6T 4B9
905-791-7800 ext. 4310

Further, the Region supports Credit Valley Conservation's long-term real-time water quality monitoring station network and believes that additional stations will be needed to monitor impacts that may result from the future wastewater treatment facility. As such, Regional Council also requests the installation of at least one additional water quality monitoring station immediately downstream of Winston Churchill Boulevard to be funded by the Town of Erin as a condition of the ECA to ensure the protection of the current condition of the environment.

Finally, given the potential impacts on Peel communities, I would like to take this opportunity to reiterate our request that Regional staff be consulted on the Town of Erin wastewater treatment facility effluent monitoring plan and facility spills contingency plan prior to the approval of the ECA, as previously requested through the Environmental Assessment process. As your partner in environmental protection, we would welcome the opportunity to provide our support and local expertise as development of the facility proceeds.

Thank you for your consideration of these requests that, if implemented, will help minimize the impacts of the future wastewater treatment facility on West Credit River. If you have any questions or require any further information, please do not hesitate to contact me directly at (905) 791-7800 ext. 4310. I look forward to hearing from you.

Kindest personal regards,



Nando Iannicca
Regional Chair and Chief Executive Officer

Att: Resolution Number 2022-38
Coalition for the West Credit River's *Monitoring and Adaptive Management Plan*
Coalition for the West Credit River Council Delegation Presentation

CC: Kealy Dedman, Commissioner of Public Works
Laura Hall, Town Clerk, Town of Caledon
Diana Rusnov, City Clerk, City of Mississauga
Peter Fay, City Clerk, City of Brampton
Lisa Campion, Town Clerk, Town of Erin

**APPROVED AT REGION COUNCIL
January 27, 2022**

7. Delegations

7.3 Mark Heaton, Senior Biologist, Ontario Streams

Regarding the Installation and Operation of a Real-Time Surface Water Quality Monitoring Station at the West Credit River, Winston Churchill Boulevard, Town of Caledon - Ward 1

Resolution Number 2022-38

Moved by Councillor Sinclair
Seconded by Councillor Thompson

Whereas a communal wastewater treatment plant has been proposed to service substantial new population growth in the Town of Erin villages of Erin and Hillsburgh;

And whereas, 7.2 million liters of sewage effluent per day is to be piped to the eastern boundary of the Town of Erin/Region of Peel at Winston Churchill Blvd. and released into West Credit River;

And whereas, the West Credit River and Main Credit River extending down to the Village of Inglewood is a pristine habitat for Brook Trout, Atlantic Salmon and Brown Trout due to the purity of the waters;

And whereas, the effluent will create a toxic and oxygen depleted plume extending into cold water fishery habitat and contribute increased temperature, increased pH levels, increased chlorides far downstream;

Therefore be it resolved, that the Council of The Regional Municipality of Peel support the Coalition for the West Credit River's Monitoring and Adaptive Management Plan be included in the Ministry of the Environment, Conservation and Parks Environmental Compliance Approval, EA File No. 18061;

And further, that the Regional Chair, on behalf of Regional Council, write a letter to the Minister of the Environment, Conservation and Parks, Credit Valley Conservation, and the Town of Erin, supporting the use of the Coalition's Monitoring and Adaptive Management Plan recommendations in the approval of the wastewater plant, EA File No. 18061;

And further, that the Region of Peel request a Real-Time Water Quality Monitoring Station immediately downstream of Winston Churchill Blvd., consistent with other stations in the CVC watershed network.

Carried