

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 Ails
Town of Erin
684 Trafalgar Road.
Hillsburgh, ON N0B 1Z0
Allan.ails@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 Ails & 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

Erin Wastewater Treatment Plant

Coalition for the West Credit River

27 January 2022



ONTARIO
RIVERS
ALLIANCE

Trout Unlimited Canada

7.3-5



Greg Clark Chapter



Izaak Walton
Fly Fishing Club



Judy Mabee, President Belfountain Community Organization

Coalition for the West Credit River

A community of organizations collaboratively involved with issues surrounding the proposed Town of Erin Wastewater Treatment Plant (Erin WWTP) and the health of the West Credit River.

Coalition is made up of the following:

- ▶ Belfountain Community Organization (Ward 1 Caledon)
- ▶ West Credit River Watch
- ▶ Izaak Walton Fly Fishing Club
- ▶ Trout Unlimited Canada - Greg Clark Chapter
- ▶ Ontario Streams
- ▶ Ontario Rivers Alliance

Coalition Goals

- ▶ Working to address:
 - ▶ Erin WWTP and its potential to impact water quality of the West Credit River
 - ▶ Conservation of West Credit River Brook Trout
 - ▶ Protection and improvement of habitat and stream resilience

Erin Wastewater Treatment Plant Project

- ▶ Communal wastewater treatment plant servicing the villages of Erin and Hillsburgh
- ▶ Plant to be situated on the north side of Wellington Rd. 52 and west of 10th Line
- ▶ Treated sewage effluent to be discharged into the West Credit River
 - ▶ West side of Winston Churchill Blvd directly into Ward 1 of Caledon
- ▶ Current population is approximately 4,500 and projected growth is over 24,000
- ▶ Effluent discharged at full build-out estimated to be 1/3 of base flow during drought periods

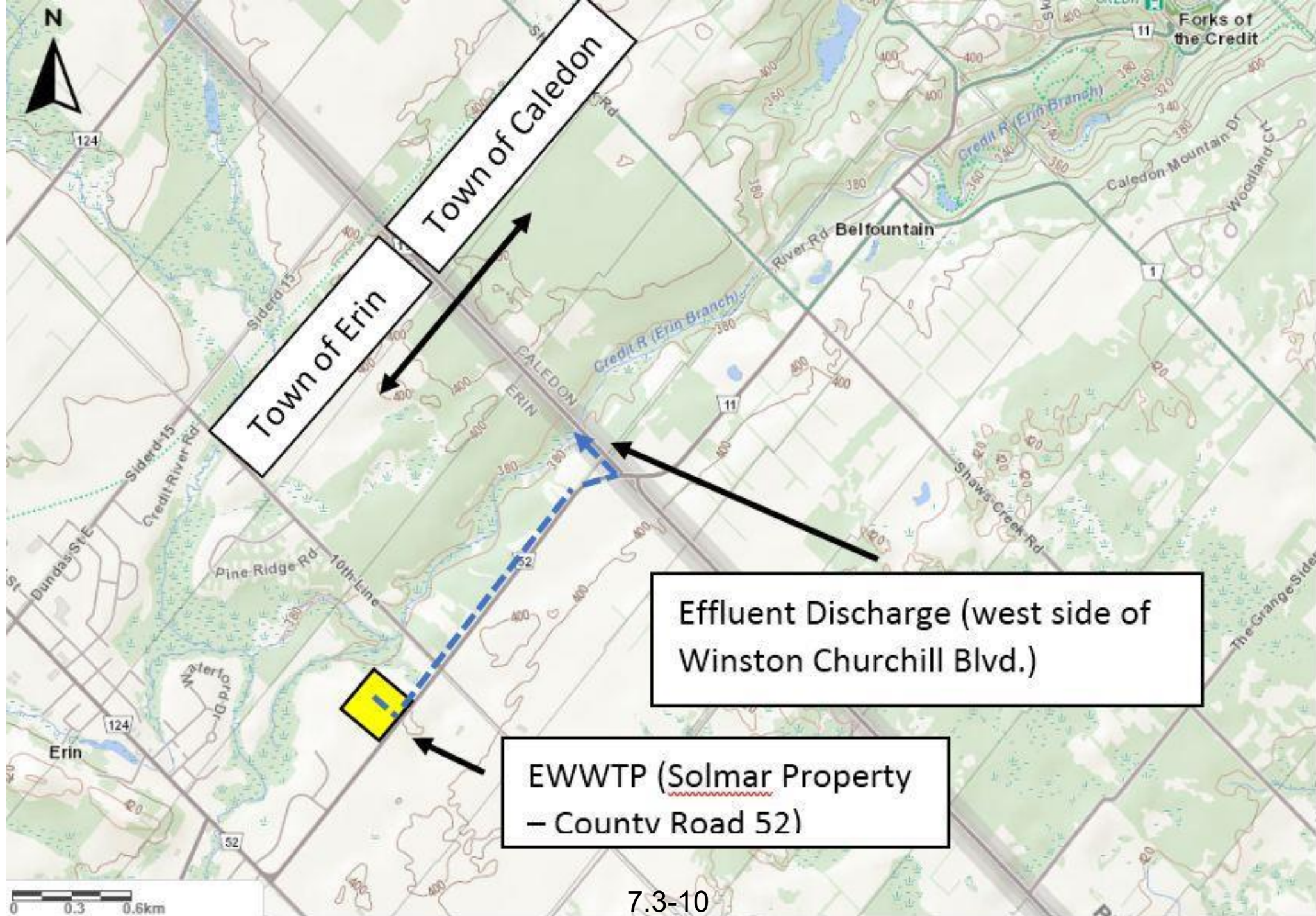




Photo: Steven Noakes

7.3-11

Mark Heaton, Senior Biologist

Ontario Streams

Brook Trout are a Sentinel Species

- a Canary in the Coal Mine

- ▶ A highly sensitive species requiring cold and pristine waters
- ▶ Survival relies on temperatures no greater than 19°C to 20°C for any sustained period.
- ▶ Temperatures below 9°C are needed to spawn.
- ▶ Optimum growth relies on temperatures between 13 and 16°C
- ▶ Upper incipient lethal temperature is 25.3°C
- ▶ 7-day maximum mean tolerance temperature of 22.3°C
- ▶ Brook Trout numbers over last 50 years in Ontario have undergone significant decline



Photo: Steven Noakes

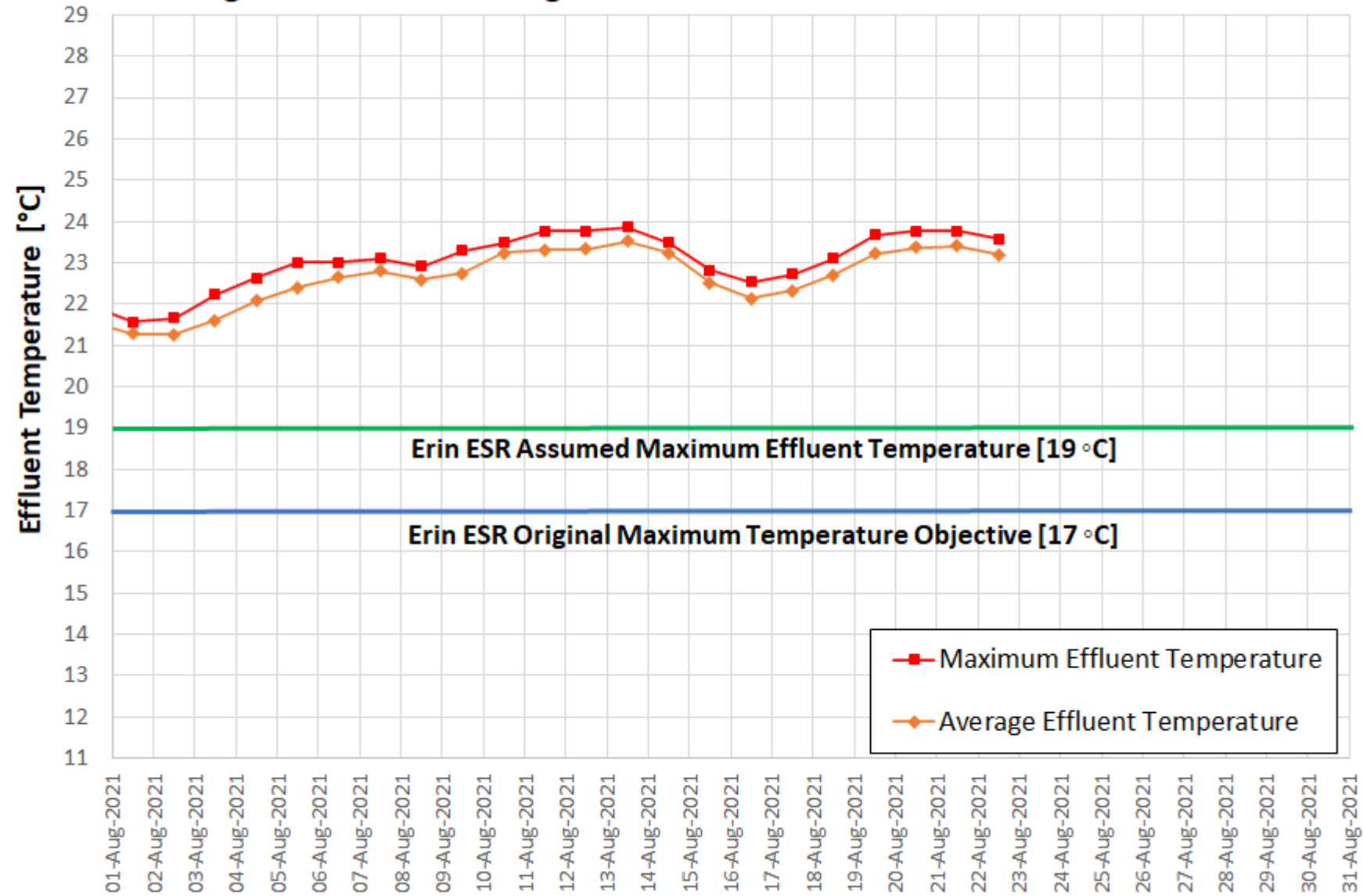
West Credit River Brook Trout

- ▶ One of the last remaining native Brook Trout populations in Southern Ontario
- ▶ Best Brook Trout populations are located downstream of Erin Village through to Belfountain village in Caledon
- ▶ Some of the most productive Brook Trout spawning reaches in the entire Credit River watershed
- ▶ ESR reported Brook Trout spawning sites were extremely abundant in study reach
- ▶ Study area provides habitat for this critical life stage

Downstream Impact of Current Design

- ▶ 7.2 million liters of sewage effluent released daily into Brook Trout habitat
- ▶ Potentially toxic and oxygen depleted plume could extend into nursery habitat
- ▶ As water temperature and pH increase so does toxicity of ammonia on Brook Trout
- ▶ Chloride concentration will be chronically toxic at full build out
- ▶ Brook Trout habitat immediately downstream of effluent discharge will be uninhabitable
- ▶ Consultants report effluent temperature will not increase beyond 19°C
- ▶ Data from other local sewage plants contradict this and show summer effluent temperatures will exceed 23°C

Figure 5. Average and Maximum Effluent Temperature of the Georgetown WWTP in August 2021



Project Planning Errors

- ▶ MECP approved the ESR although many comments were missing in the report
- ▶ Agencies agreed a maximum effluent temperature limit and design objective should be included in the final ESR
 - ▶ No limits or design objectives were included in the final ESR
 - ▶ Used only 1 year of data from a cooler year to assess thermal impact
 - ▶ Thermal Assessment estimated effluent temperature would significantly affect stream temp
- ▶ MNRF document recommending key mitigation criteria left out of the ESR
 - ▶ Consultant's response to those recommendations also left out of the ESR
- ▶ 10% reduction in stream flow was applied to account for climate change
 - ▶ Yet failed to consider influence of a warming climate on effluent and stream temperatures
- ▶ Stream temperature is crucial given its influence on:
 - ▶ Oxygen depletion and ammonia toxicity
 - ▶ Critically important to Brook Trout survival

Current Project Status

- ▶ Application for Environmental Compliance Approval has been filed with MECP
- ▶ Detailed design has been completed
- ▶ Land has been secured
- ▶ Town of Erin is advertising for a construction contractor
- ▶ Slated for construction to begin in second quarter of 2022
- ▶ Coalition is asking MECP to recognize:
 - ▶ Effluent discharge temperature threshold of 19°C
 - ▶ Stringent water quality monitoring program
 - ▶ Adaptive Management Plan to address potential brook trout and water quality issues relating to effluent discharge into Caledon

How Peel Region Can Help

- ▶ Write a letter to the Minister of Environment, Conservation and Parks supporting the use of the Coalition's Monitoring and Adaptive Management Plan (AMP) recommendations in their approval of the waste water plant (attached)
- ▶ Financially support the Credit Valley Conservation in the acquisition and operation of a Real-Time Water Quality Monitoring Station immediately downstream of Winston Churchill Blvd., consistent with other stations in their watershed network



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Fly Fishing Club



Trout Unlimited Canada



Greg Clark Chapter

Coalition for the West Credit River (CWCR)

Recommendations for Monitoring and Adaptive Management Plan (AMP) - to be included in the Environmental Compliance Approval (ECA).

Monitoring Protocol:

- Conduct Ontario Streams Assessment Protocol (OSAP) modules for fish community benthic invertebrates and channel geomorphology to standard stations located at least 150 meters upstream of the point of effluent discharge and at least 150 meters downstream of the point of discharge.
- Both stations are to be located outside of the influence of beaver dams.
- OSAP modules for fish community and benthic invertebrates to be conducted annually during the last two weeks of August of each year under similar river flow conditions.
- To measure background river conditions, a water quality monitoring station should be located 150m upstream of point of effluent discharge.
- To detect the downstream influence, the mixing zone is expected to extend 153m from point of effluent discharge, so similar water quality monitoring station should be located 175m downstream of point of discharge.
- To measure effluent discharge in terms of continuous monitoring for all parameters, including effluent temperature, an effluent quality monitoring station should be located close to the point of discharge into the river, but before the diffuser.
- The operator must ensure the monitoring of effluent quality and quantity is compliant with the Fisheries Act and Wastewater Systems Effluent Regulation SOR/2012-139.
- Effluent flow is in real time (l/s).
- Upstream, downstream, and last manhole real-time measurement of the following parameters:
 - Temperature
 - Chloride
 - Dissolved oxygen
 - pH

Probe Maintenance and Calibration:

- Installation, calibration, and maintenance of the in-river probes is an ongoing activity that is best managed by an accredited public agency having previous experience with water quality monitoring in real time. Credit Valley Conservation (CVC) is recommended. CVC already maintains real-time public data for [several water quality monitoring stations](#), and these upstream and downstream water quality monitoring stations should be added to their network.
- The Toronto and Region Conservation Authority also maintain a [number of stations](#) with real time publicly available data - a best practice for Conservation Authorities.
- The effluent quality monitoring station will need to be installed by the proponent and maintained by the wastewater facility operator.

Critical Temperature Condition Triggering Mitigation:

- When effluent temperature exceeds 19°C for 3 hours at the effluent quality monitoring station, an effluent temperature mitigation procedure shall be triggered to effectively return effluent temperature to 19°C within the following 3 hours. The effluent temperature mitigation protocol should be described in the ECA.
- Once effluent temperature exceeds 19°C more than 6 times in a summer, permanent mitigation measures must be implemented in a timely manner to ensure effluent temperature does not continue to exceed the critical threshold.

Critical Effluent Objectives at Discharge Triggering Mitigation:

- The operator must ensure the monitoring of effluent is compliant with the Fisheries Act and Wastewater Systems Effluent Regulation SOR/2012-139.
- Acute lethality testing is to be performed matching the water temperature of the river at time of sampling.
- When effluent exceeds objective parameters mitigation procedures shall be triggered to effectively return effluent conditions to ECA objectives within the following 3 hours. The chemical mitigation procedures should be described in the ECA.
- Once chloride exceeds the objective more than 6 times in a summer, permanent mitigation measures must be implemented in a timely manner to ensure effluent chloride concentration does not continue to exceed the CCME critical threshold.

Parameter	ESR – Stage 1	Objective	Critical Threshold
Oxygen	4 ppm	9.5 ppm (CCME)	6 ppm
Un-ionized Ammonia		0.02 mg/L (PWQO)	
pH	6.5 – 8.5	6.5 – 8.5 (ESR)	<6.5 or 8.5>
Chloride		<120 ppm (CCME)	640 ppm
Phosphorus	0.07 mg/L	0.004 mg/L (ECCC)	

Data Availability:

- To ensure transparency, all data should be made available to the public in real time, as well as all monthly and annual wastewater treatment and sewage bypass reports.

Rationale:

- It is the Coalition's understanding that a 3-degree upstream/downstream temperature differential has been proposed as a "trigger" condition. This is not an appropriate threshold as it is not supported by fisheries research.
- The 2014 BM Ross & Associates Assimilative Capacity Study recommended the Environmental Compliance Approval include a maximum effluent temperature limit of 19°C and a maximum temperature objective of only 17°C, as recommended by MECP.¹
- The difference between 1°C and 4°C is not a concern, but the difference between 19°C and 22°C is substantial and concerning.

¹ 2014 – Burns Ross West Credit River Assimilative Capacity Study – August 2014, Table 3, Effluent Quality Criteria. P-13/123.

- An ideal scenario would be 2 years of pre-development monitoring data to establish background stream characteristics and to troubleshoot the technology being used.

DRAFT