BRIEFING NOTES

COALITION: Belfountain Community Organization (BCO)
West Credit River Watch (WCRW)
Izaak Walton Fly Fishing Club (IWFFC)
Trout Unlimited Canada, Greg Clark Chapter (TUC)
Ontario Streams (OS)
Ontario Rivers Alliance (ORA)

ISSUE: The Town of Erin Urban Centre Wastewater Servicing Class Environmental Assessment Study Report (ESR) inadequately addressed several key issues that will have adverse effects on native Brook Trout and their habitat in the West Credit River.

REQUEST: Seeking your support in our Coalition's request for a federal review of the Town of Erin Wastewater Treatment Plant (EWWTP) and ESR by way of a federal environmental Impact Assessment (IA).

POSITION: Due to the multiple and significant information gaps, as well as environmental and consultation concerns that have not been adequately addressed in the ESR, the coalition is requesting a federal review under a federal environmental Impact Assessment.

EXECUTIVE SUMMARY:

We are a Coalition of organizations and concerned citizens raising significant environmental and consultation issues regarding the EWWTP which is currently in the design phase. We submit that, as proposed, the EWWTP is likely to cause significant adverse environmental effects on Brook Trout and their coldwater habitat in the West Credit River.

The West Credit River subwatershed supports headwater tributaries of the Credit River and is considered the crown jewel of coldwater Brook Trout fisheries in Ontario. The entire footprint of the project, including the network of underground sewers, will result in numerous crossings of first, second and third order streams.

This fishery significantly adds to the economic and social fabric of the province, with Ontario fisheries contributing a total of approximately $2.5 billion annually to the provincial economy.[1] MNRF's own documents predict that climate change will reduce the number of watersheds in Ontario with Brook Trout by 50% by 2050.[2]

The Town of Erin is located northeast of Guelph, Ontario, in Wellington County. The main urban centres within the Town, are Erin Village and Hillsburgh. Currently, almost all residences in these two communities are serviced by individual private septic systems. The existing residential population is approximately 4,500. The EWWTP was proposed by the Town to "*address the wastewater issues within the communities and to facilitate growth*"[3].

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[1] *Ontario's Provincial Fish Strategy: Fish for the Future. OMNRF, Fisheries Policy Section. ISBN #978-1-4606-5622-8. PDF P-8/68.*
[2] *The Conservation and Management of Brook Trout in Ontario: Past, Present, and Future, by Jacqueline Wood, Ph.D., Latornell Conservation Symposium, November 2017.*
[3] *ESR, Volume 1 of 3, ES-1 Background and Objective. PDF P-5/526.*

In August of 2019 the Ministry of Environment, Conservation and Parks (MECP) approved the ESR, and the EWWTP is to be situated southeast of Erin Village, with treated effluent to be discharged to the West Credit River at Winston Churchill Boulevard. See **Appendix 1 – Location Maps.**

Unfortunately, many people and organizations were not aware of the proposed EWWTP when it was going through the consultation and approvals process; however, there is great concern in the communities of Caledon and Erin over the potential affects it will have on this highly valued Brook Trout population in the West Credit River. This Coalition was formed as a result of those shared concerns.

We have completed a thorough review of the ESR, which is proposing to establish a new sewage treatment system to service the Towns of Erin and Hillsburgh. Our review examined the proposed discharge of treated effluent into the West Credit River at Winston Churchill Boulevard, and its potential impacts on Brook Trout and their coldwater habitat, both now and into the future. As we reviewed the ESR, there were several areas that we found lacked due diligence in addressing critical factors that will determine the fate of Brook Trout in the West Credit River ecosystem.

What follows is a detailed report on serious areas of concern that if left unchecked will have deadly consequences. Areas of concern include: no provision for limits and design objectives for effluent temperature, dangerous effluent quality as it enters the stream, **low ratio of stream flow to effluent flow**, inadequate attention to climate change and cumulative effects, narrow and weak temperature data, misleading population growth capacity and underestimated groundwater depletion causing reduction in stream flows, deficient notification and consultation with impacted landowners, and a basic lack of a clear and traceable path to understand how many key decisions and conclusions were made.

The Town of Erin, Ministry of Natural Resources & Forestry (MNRF), MECP and Credit Valley Conservation (CVC) all agree that "*the most productive Brook Trout spawning reaches and the best Brook Trout populations in the West Credit River are located downstream of Erin Village and the longest contiguous Brook Trout habitat in the Credit River watershed is the West Credit River between Erin and Belfountain*."[4],[5]

This quote from a Ministry staff representative during an LPAT hearing provides a window into our concerns:

> "*By way of necessary background, the Town of Erin has approached the MOE several times in the past to discuss the potential of a municipal sewage treatment plant that would discharge to the West Credit River. Proposals have not been supported by MOE, due in large part to consideration of the need to protect the high-quality aquatic ecosystem in this branch of the Credit River. This branch of the Credit River provides cold water habitat to one of the few remaining self-sustaining wild brook trout populations in southern Ontario. The Credit River above Inglewood up to the bottom of the Niagara Escarpment World Biosphere Reserve is home to a thriving population of resident brown trout. Rainbow Trout and Atlantic Salmon are also at the Forks Provincial Park. Water quality in this branch of the Credit River is exceptional.*" [6]

[4] *ESR, Volume 2 of 3, Part 1, Appendix D, West Credit River Assimilative Capacity Study & Thermal Impact Assessment, by Hutchinson Environmental Sciences Ltd., December 6, 2017, Section 1.1, Study Area. PDF P-106/317.*

[5] *ESR, Volume 2 of 3, Part 2, Appendix H, Natural Environment Report by Hutchinson Environmental Sciences Ltd., April 23, 2018, Executive Summary. PDF P-68/334.*

[6] *LPAT, Wellington County Hearing Documents, 22 February 2013 letter from Dwayne Evans, Municipal Services Office-Western, Ministry of Municipal Affairs & Housing to Mark Van Patter, County of Wellington Planning and Development. P-174/653.*

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TIMELINE:

- **1987** - Belfountain Community Organization founded.
- **1995 -** Class Environmental Assessment and a draft Environmental Study Report [ESR] for Sewage Works in Erin Village was prepared but not finalized.
- **2011 -** Erin Servicing and Settlement Master Plan (SSMP) classified the West Credit River as an MOE Policy 1 Stream – "*water quality parameters that are below their PWQO, some minimal degree of degradation may be accepted; however, degradation beyond the PWQO is not accepted*".[7]
- **2013** - Concerned Erin Citizens group formed. Started a petition and expressed concerns.
- **2014**, August 12 – SSMP recommended moving forward with a sanitary sewage system for the settlement areas of Erin Village and Hillsburgh. Assimilative Capacity Study (ACS) supported a population of **6000**.
- **2014** - ACS of West Credit River by BM Ross & Associates recommend a reduced serviced population of 6,000 and agree the Environmental Compliance Approval (ECA) issued by the **MECP include a maximum effluent temperature limit of 19°C and a maximum temperature objective of only 17°C, as requested by the MECP**.
- **2016**, April 13 - Notice of Commencement of Urban Centre Wastewater Servicing Class Environ-mental Assessment (UCWS Class EA).
- **2017** - ACS of West Credit River redone by Hutchinson & Ainley Consultants. The new ACS reviews the previous ACS by BM Ross and initially includes MECP's recommended maximum effluent temperature limit of 19°C and maximum temperature objective of only 17°C. **However, the final conclusion section of the Hutchinson/Ainley ACS drops the effluent temperature limit and objective without comment and without explanation**.
- **2018**, May 14 - Notice of Completion issued for a 30-day public review.
- **2019**, August 29 **-** Three Part II Order requests denied by Minister Yurek, MECP.
    - Belfountain Community Organization, 12 June 2018
    - Ann Seymour, 13 June 2018
    - Liz Armstrong, 13 June 2018
- **2019**, BCO letter and meeting with Caledon Mayor Thompson to discuss concerns and request support.
- **2019**, August 29 - Estimated average daily effluent flow was significantly increased (by almost 300%) in final ESR to accommodate a population equivalent of **18,873** persons.
- **2019**, November 2 - West Credit River Watch (WCRW) Facebook group created.
- **2020**, May – Town of Erin approves $1.5 million contract for WSP Canada for design.
- **2020**, June 23 - **ORA makes submission to Town of Erin**, MECP, MNRF, Department of Fisheries and Oceans (DFO), and supported by TUC, IWFFC, BCO and the WCRW.
- **2020**, October - Town of Erin drafts agreement to front-end development charges from 10 developers to pay for wastewater treatment plant (approx. cost $120 million).
- **2020**, November - Izaak Walton Fly Fishing Club letter to Town of Erin.
- **2020,** November 26 - West Credit River Watch and Belfountain Community Organization form a coalition with several other organizations to protect the West Credit River.
- **2021 - 17,200 + signatures on a Petition in opposition of the Erin WWTP**

[7] *Erin Servicing and Settlement Master Plan (SSMP) Environmental Component - Existing Conditions Report.*

1. BROOK TROUT CHARACTERIZATION

1.1 Oxygen
1.2 Ammonia
1.3 Chloride

BACKGROUND INFORMATION:

Brook Trout (*Salvelinus fontinalis*) are a native species of coldwater fish that thrive in pristine lakes, rivers, and streams in eastern North America. Their on-going presence is a strong biological indicator of a healthy aquatic environment. In southern Ontario, their geographic range and abundance has been declining since the 1800s as a result of deforestation, over harvest, water pollution, invasive species introductions, urbanization, groundwater extraction and construction of dams.

Where they were once widespread in the Credit River and other rivers of the Greater Toronto Area, their range has dwindled to the headwater regions of the Oak Ridges Moraine and Niagara Escarpment. There are a number of Brook Trout populations in southern Ontario that have suffered drastically as a result of poorly managed effluent discharge from wastewater treatment plants.

The West Credit River is well populated with Brook Trout and is currently at risk of drastic demise as a result of effluent from the Town of Erin's proposed Wastewater Treatment Plant.

1.1 Dissolved Oxygen

Dissolved oxygen in water is the life source for Brook Trout and other sensitive aquatic creatures in our rivers and streams. As water temperatures increase, the amount of dissolved oxygen decreases. A healthy Brook Trout stream flowing at 14-16°C in the summer months would be expected to have an oxygen concentration close to saturation in the range of 10 to 11 ppm. As water temperature increases in the summer months, the metabolic needs of the Brook Trout create a higher demand for dissolved oxygen.

Hence, the human impacts on dissolved oxygen and water temperature, as a result of treated sewage effluent, need to be managed effectively at the source prior to discharge, without reliance on a proposed plume of oxygen depleted warm water being dumped in the river.

The Town of Erin's sewage plant proposes to discharge effluent at 4ppm oxygen into the West Credit River, creating an oxygen depleted plume that may extend downstream for several hundred meters into Brook Trout nursery habitat. Federal guidelines for the protection of coldwater aquatic life cites 9.5ppm as the appropriate value to target given the local circumstances.

CCME Oxygen Guideline is found here.

1.2 Ammonia

The unionized fraction of Total Ammonia Nitrogen (Ammonia) is highly toxic to fish and other aquatic life. Ammonia is a highly regulated component of the effluent stream from wastewater treatment plants. The percentage of unionized ammonia is a function of the pH and temperature of the wastewater plant effluent. The higher the pH, and the higher the temperature of the effluent, the higher the percentage of unionized ammonia.

For a coldwater trout stream, unionized ammonia can be acutely toxic if it is not managed at the source to match the pH and temperature of the receiving stream. Ammonia can also have chronic exposure issues which cause gill lesions in fish.

According to modeling within the ACS, Provincial Water Quality Objectives (PWQO) for unionized ammonia will be achieved at the boundary of a contaminated plume of 153 m in length.[8] This means

[8] *ESR, Volume 2 of 3, Part 1, Assimilative Capacity Study, Table 27, Summary of CORMIX Mixing Zone Modeling Results. P-171/317.*

that the 153 m long plume will be too high for aquatic life for the river area it occupies, which could be up to 40% of the channel width. In addition, the proposed effluent limits of 1.2 and 0.6ppm at Stage 1a and full build out (respectively) are not consistent with federal guidelines. Federal guidelines cite 0.171 ppm as the appropriate value for summer months.

CCME Ammonia Guideline is found here.

Table 13 below, includes a summer full build out ammonia limit of only 0.6 mg/L. We submit that this limit may be impractically low and would not be surprised if the Town of Erin's consultants place pressure on MECP for a higher ammonia limit during the final design and approval phase. However, a higher ammonia limit, **combined with a more realistic future effluent temperature of 25°C,** will increase the percentage of unionized ammonia and reduce the available oxygen in the West Credit River within and downstream of the effluent plume.

Table 13. Proposed Erin WWTP Effluent Limits [9]

Parameter	Stage 1 (Effluent flow of 3,380 m^3/d)	Full Build Out (Effluent flow of 7,172 m^3/d)
pH	Within range of 7 – 8.6	
Total suspended solids	5 mg/L	
Total phosphorus	0.07 mg/L	0.045 mg/L
Total ammonia nitrogen	1.2 mg/L summer: 2 mg/L winter	0.6 mg/L summer: 2 mg/L winter
Nitrate nitrogen	5 mg/L	
E.coli	100 cfu/100 mL	
Dissolved oxygen	4 mg/L	
5-day carbonaceous biochemical oxygen demand (CBOD5)	5 mg/L	

In summary, as effluent and stream temperatures increase, the Brook Trout have less oxygen available in the water, yet their demand for it increases. As water temperatures and pH increases, so does the toxicity of ammonia.

Highly sensitive and valued fish habitat will be negatively impacted by an uninhabitable effluent plume. The federal Fisheries Act prohibits such negative impacts on habitat unless authorized under the Act.

1.3 Chloride

Chloride has been identified by the Canadian Council of Ministers of the Environment as a toxic substance to aquatic life. In their 2011 guideline, chronic and acute exposure limits are recommended, with the specific caveat that neither Environment Canada or CCME endorse the mixing zone method for determining toxicity.

Long-Term Exposure is 120 (mg Cl- /L) and Short-Term Exposure of 640 (mg Cl- /L) are recommended for freshwater systems in order to protect aquatic life. The Assimilative Capacity Study (ACS) recognized these values and assessed the potential effluent concentrations for a fully mixed 7Q20 flow condition for Phase 1 and Full Build-out scenarios. The modelled chloride effluent concentration was based on the average of four neighbouring WWTPs that monitor this parameter. Reported WWTP average values ranged from 197.25 to 500 mg/L. The predicted average chloride concentration at the point of discharge for the proposed WWTP is 396 mg/L. These values are presented in Appendix D of the ACS.

[9] *ESR, Volume 2 of 3, Part 2. Table 13 Proposed Erin WWTP Effluent Limits. P-154/341.*

However, in the ACS Mass Balance Modelling for chloride, a maximum value derived from the same four WWTP facilities is used, and forecasts "*The predicted downstream fully mixed chloride concentrations in the West Credit River are 121 mg/L and 180 mg/L for Phase 1 and Full Build Out respectively using the maximum effluent chloride concentration of 534 mg/L and 7Q20 conditions. The Phase 1 concentration is just above the chronic (long-term) CWQG of 120 mg/L, and the Full Build Out concentration of 180 mg/L is 60 mg/L above the chronic CWQG. Using average effluent chloride concentrations, the predicted chloride concentrations in the West Credit River are below the CWQG of 120 mg/L for Phase 1 (100 mg/L, Table 20), and 22 mg/L above the CWQG for Full Build Out (142 mg/L, Table 20). Under both conditions, the predicted receiver concentrations are well below the acute toxicity threshold of 640 mg/L.*"[10]

Hence, a mixing zone for chloride is proposed, and the average predicted concentration of chloride at point of discharge will be over four times the chronic CWQG and within 80% of the acute toxicity CWQG thresholds. This represents a high potential for significant adverse effects on aquatic invertebrates that both Brook Trout and the endangered Redside Dace rely on within the West Credit River.

CCME Chloride Guideline is found here

Aquatic life in the mixing zone will be adversely affected because the mixing zone will always contain chloride concentrations above the aquatic chronic chloride limit of 120 mg/L. Near the point of discharge the chloride concentrations will approach the acutely toxic chloride limit for aquatic life.

At low flow conditions and full build-out the fully mixed river will exceed the chronic aquatic chloride limit of 120 mg/L as shown in the Table below. This will have negative effects on Brook Trout, Redside Dace and aquatic invertebrates downstream of the mixing zone.

Table: Summary of Low Flow Chloride Concentration in the Fully Mixed River:

Case Description	Chloride Concentration in Effluent [mg/L]	River Flow 7Q20 [L/s]	Chloride Concentration when fully mixed Phase 1 [mg/L]	Chloride Concentration when fully mixed Phase 2 [mg/L]
Average Chloride concentration from WWTP Design	396	225	100	**142**
Maximum Chloride concentration from 4 existing WWTP	534	225	**121**	**180**

Red shading indicates chronic chloride exposure limit for aquatic life of 120 mg/L is exceeded.

[10] *ESR, Volume 2 of 3, Part 2. West Credit Assimilative Capacity Study Final - December 2017. P-227/341.*

2. CLIMATE CHANGE

2.1 Climate Change Not Adequately Addressed
2.2 Brook Trout Upper Temperature Limits Exceeded

BACKGROUND INFORMATION:

Climate change represents a major threat to coldwater stream ecology and Brook Trout in southern Ontario. The ESR failed to adequately address climate change and its influence on rising background stream temperature, rising effluent temperature, rising ground and groundwater temperatures, and its cumulative effects on the ecology of the West Credit River and Brook Trout survival over the short and long-term.

2.1 Climate Change Not Adequately Addressed

Climate change was addressed in the ESR only so far as reducing the 7Q20 stream flow estimate by 10% for low flow modeling. However, there was no mention in the ESR of the cumulative effects of a warming climate and its predicted increase over the years on average ambient air temperature, effluent temperature, stream temperature, ground and groundwater temperatures and its thermal effects on Brook Trout and fish habitat. However, the following letter did address climate change, but it was left out of the ESR:

12 June 2018: Tara McKenna, MNRF letter to Ainley Group – Temperature Assessment:

- *Climate change: It is noted that a "correction" was applied to 7Q20 to account for climate change, but what about for stream temperatures? Given the importance of temperature to Brook Trout life history, as well as the influence of temperature on ammonia speciation, MNRF recommends that this should be considered and simulated.*
- *Assumptions about effluent temperature based on Elora WWTP – does this facility service the same number of residents? Employ the same treatment technology as what is being proposed for Erin WWTP?"*[11] **(McKenna letter not included in ESR)**

It is unacceptable that this letter was not made available in the ESR for public review. However, it does show that the MNRF continued to raise concerns that a correction to flow was not sufficient to satisfy climate change mitigation, and that effluent temperature and stream temperature, as well as ammonia speciation, should be considered and simulated. Temperature is a crucial consideration when the unionized component of ammonia is toxic to aquatic life, and higher temperatures result in a higher fraction of unionized ammonia.

The following response to Tara McKenna's Climate Change comment above was also not included for public review in the ESR:

31 October 2018: Ainley Group, HECL response to Tara McKenna, Climate Change

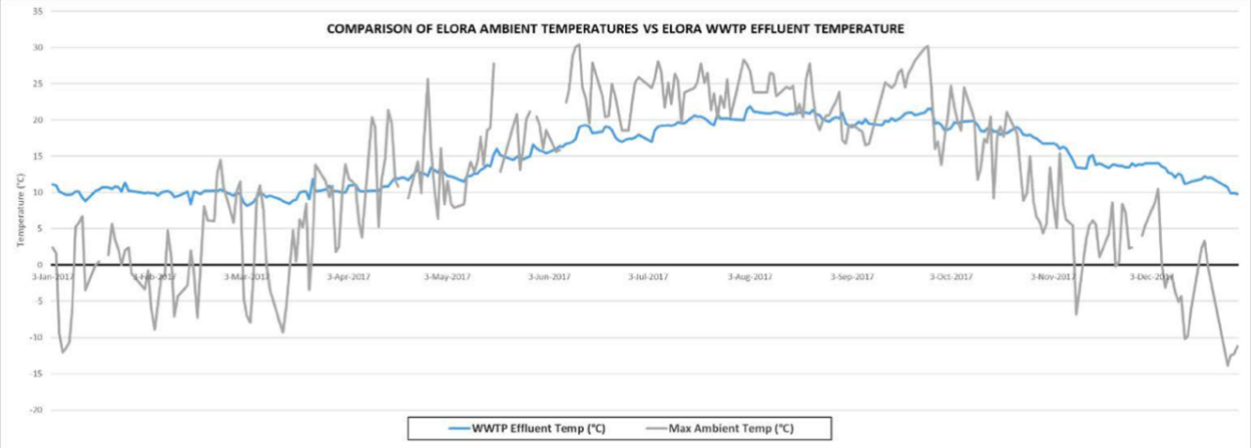
"HESL [Hutchinson Environmental Sciences Limited] is not aware of any provincial or federal guidance with respect to responses of water temperatures in groundwater fed rivers to climate change. If MNRF is aware of any work or research in this area, we will review this documentation, and determine if our temperature assessment for ammonia in the ACS requires updating."[12] **(Ainley Response Not included in ESR)**

There is no indication in the ESR whether there was any follow-up on Ainley's comments; however, there have been numerous government sponsored studies and reports indicating the need to consider climate change in every aspect of planning and development to ensure freshwater health and resilience. The simple fact is that the influence of climate change on effluent and stream temperatures was not addressed in the ESR.

[11] *12 June 2018 letter from Tara McKenna, District Planner, MNRF, to Preya Balgobin, Senior Project Manager, Ainley Group – Temperature Assessment.*
[12] *31 October 2018 – Ainley Group – HESL response to Tara McKenna, MNRF District Planner. P-14/31*

However, the ESR did point out that warmer weather does have an impact on effluent temperature when it included the chart in Figure 2 below. It shows that air temperature does not have much effect in its daily temperature swings; but, as you can see, it does raise the effluent temperature significantly over the seasons [13] and, we submit, will also raise temperatures over the coming years in a warming climate:

Figure 2. Comparison of Elora Ambient Air Temperatures with Elora WWTP Effluent Temps.



If due diligence had been done, the Thermal Assessment would have included an assumption for the increase in river and effluent temperatures over the life of the plant to ensure this coldwater Brook Trout habitat would not be adversely impacted.

A City of Toronto Climate Driver Study (Toronto is within 100 km of the Town of Erin) was conducted to help inform present and future infrastructure and service decisions. The Study revealed that "*on average in 2040-2049, warmer annual average temperatures of 4.4°C are expected. For seasonal averages, winter temperatures are projected to increase by 5.7°C and summer temperatures by 3.8°C. Extreme daily maximum temperatures are projected to increase by 7.6°C, but extreme daily minimum temperatures are projected to also rise by 13°C (i.e., becomes less cold)*."[14]

ORA's **23 June 2020 submission to the Town of Erin, MECP, MNRF and DFO**[15], takes great exception to Erin's position that the summer temperature of the treated effluent will be no warmer than 19°C. The Figure 2 graph above from the Elora treatment plant already shows the summer effluent temperature exceeding 20°C for what appears to be many weeks during the summer of 2017 and appears to approach 21°C. We also point out that the summer of 2017 was significantly cooler than previous summers (2015/2016) and subsequent summers (2018/2019) based on careful assessment of daily maximum air temperatures for Alliston, Ontario. The ORA submission also includes actual temperature measurements of 21°C to 22°C recorded from the Orangeville WWTP and the Shelburne WWTP.

In short, we submit that Erin's assertion that effluent temperature will be no warmer than 19°C is based on thin and faulty data at best. At worst, they could be simply ignoring the very likely case that summer effluent temperatures will be well above the temperature limit of 19°C required to protect the West Credit River and Brook Trout. ORA also projects that effluent temperatures will increase to 25°C[16] over the coming years if average air temperatures increase by 4°C due to climate change.

[13] *ESR, Volume 2 of 3 - Part 1. Figure 2. Comparison of Elora Ambient Air Temperatures. P 278 - 279/317.*
[14] *Toronto's Future Weather & Climate Driver Study: Outcomes Report. P-15*
[15] *23 June 2020 – ORA submission to Town of Erin, MECP, MNRF and DFO - Concerns & recommendations over Erin WWTP concerns. P-11/41.*
[16] *23 June 2020 – ORA submission to Town of Erin, MECP, MNRF and DFO - Concerns & recommendations over Erin WWTP concerns. P-10/41.*

ORA also offered several temperature mitigation recommendations such as removing 2 upstream online dams (Churchill Lane Dam and Charles Street Dam) to help reduce stream temperatures and improve stream resiliency, and a number of cost effective and practical design innovations for the sewage infrastructure that would reduce the summer temperature of the effluent. ORA also requested that effluent temperature limits and objectives be included in the ECA.[17] However, the **Town of Erin, in their 10 September 2020 response**, dismissed ORA's concerns and recomm-endations.

Through modern sewage treatment technology, Erin proposes to discharge a very large flow of effluent into the relatively small West Credit River. The estimated low summer flow in the West Credit River is 225 l/s. The proposed effluent discharge rate is 83 L/s (7,172,000 L/d). These flow rates result in minimal dilution of only 2.7 parts stream flow to 1 part effluent flow. The lack of adequate effluent dilution magnifies the water quality concerns raised in this submission, especially when we should be building resilience into our stream to mitigate the effects of a warming climate.

How will the cumulative effects of the EWWTP and a warming climate, over even the next 5 years, impact on West Credit River Brook Trout and their coldwater habitat when their upper temperature limit is 19° C?

It is a significant gap in the ESR when no allowances or mitigation measures were made for the potential of an increasingly warming climate on effluent temperature and water temperature, and ultimately its influence on Brook Trout and their coldwater habitat.

The current population of The Town of Erin and area is 4,500. The ESR was approved in August of 2019 for a population equivalent of 18,873.[18]

Nowhere in the ESR were the cumulative effects of the full scope of the planned EWWTP, and all that entails, adequately considered, such as the significant increase in hardened surfaces, heat island effect from increased density, traffic, road salt, industry, stormwater runoff, and a warming climate. The cumulative effects of this development and these multiple overlapping stresses will place an extremely heavy environmental burden on this very small receiving stream and its sensitive ecosystem, potentially eliminating this native Brook Trout population.

2.2 Brook Trout Upper Temperature Limits Exceeded

The Thermal Assessment study made a startling conclusion that *"the maximum natural river temperature recorded at Winston Churchill Blvd. is 24.3°C. This indicates that Brook Trout in this area have acclimatized to temperatures up to 24.3°C."*[19]

This assumption, that West Credit River Brook Trout could withstand sustained water temperatures of 5°C warmer than the upper threshold of all other Brook Trout is not supported by any study that we are aware of. The upper tolerance temperature limit for Brook Trout is 19°C. It is one thing for Brook Trout to withstand temperatures of 24.3°C for a short period of time, but quite another to acclimatize to those kinds of temperatures for any sustained period of time.

There have been numerous studies regarding the thermal tolerances of coldwater species. Brook Trout are acutely sensitive to warming water with climate change and point-source warm effluents being major threats to their existence. Optimum growth temperatures are between 13 and 16 °C, upper incipient lethal temperature is 25.3 °C[20], and the 7-day maximum mean tolerance temperature

[17] *23 June 2020 – ORA submission to Town of Erin, MECP, MNRF and DFO - Concerns & recommendations over Erin WWTP concerns. P16-20/41.*
[18] *ESR, Volume 1 of 3 – Table 14 – Full Build Out Average Day Flow Summary. P-66/526.*
[19] *ESR, Volume 1 of 3 – 14.8 Effluent Temperature. P 179/526.*
[20] *Chadwick and McCormick, (2017) Journal of Experimental Biology (2017) 220, 3976-3987 doi:10.1242/jeb.161224*.

is 22.3 ^{o}C.[21] However, Brook Trout stress response to water temperatures greater than 21 ^{o}C has been detected with increased plasma glucose, cortisol and heat shock protein-70 concentrations.[22]

Most natural rivers display diurnal temperature variations, being warmer in the day and cooling off overnight. This overnight temperature recovery is critical for Brook Trout survival in rivers that warm up during the day above optimal temperatures. In contrast, wastewater plant effluents display little diurnal variation.[23] Once treatment plant effluent warms up in late spring, they discharge consistently warm effluent during the night as well as the day. When dilution of warm effluent is minimal, such as with the proposed EWWTP project, the warm nighttime effluent could easily overwhelm the natural, overnight cooling in the West Credit River.

Additionally, "*Overly warm water temperatures can reduce growth, lower sperm motility, inhibit ovulation, and reduce egg viability. In Maryland, extirpations of Brook Trout have coincided with substantial increases in water temperature, indicating the inability for this species to adapt to warmer water conditions*"[24].

As noted above, climate change is predicted to increase annual ambient air temperatures by several degrees over the coming years, and yet the ESR assumes that the Brook Trout will just acclimatize. It is vitally important that Brook Trout in the West Credit River thrive, now, and into the future.

It is a major failing that neither the ESR nor the Minister's decision letter adequately addressed climate change by requiring effective mitigation measures such as innovative sewage plant design features to keep the effluent cold, effluent temperature limits and objectives, and other key measures such as the removal of two online dams in the Town of Erin. Measures to reduce stream temperatures and ensure water and effluent temperatures must be kept within environmentally sustainable parameters to support a healthy Brook Trout population.

[21] *Eaton, J. & McCormick, J. & Goodno, B. & O'Brien, D. & Stefan, Heinz & Hondzo, M. & Scheller, Robert. (1995). A Field Information-Based System for Estimating Fish Temperature Tolerances. Fisheries. 20. 10-18. 10.1577/1548-8446(1995)020<0010:AFISFE>2.0.CO;2.*

[22] *Chadwick JG Jr, Nislow KH, McCormick SD (2015) Thermal onset of cellular and endocrine stress responses correspond to ecological limits in brook trout, an iconic cold-water fish. Conserv Physiol 3(1): cov017; doi:10.1093/conphys/cov017.*

[23] *23 June 2020 – ORA submission to Town of Erin, MECP, MNRF and DFO - Concerns & recommendations over Erin WWTP concerns – P12 /41.*

[24] *Di Rocco R.T., N.E. Jones and C. Chu. 2015. Past, present and future summer stream temperature in the Lake Simcoe watershed: brook trout (Salvelinus fontinalis) habitat at risk. Ontario Ministry of Natural Resources and Forestry, Science and Research Branch, Peterborough, Ontario. Climate Change Research Report CCRR-45.*

3. EFFLUENT TEMPERATURE IMPACTS ON WEST CREDIT RIVER AND BROOK TROUT

3.1 No Effluent Temperature Limits or Objectives Required
3.2 Deficient Thermal Assessment Data

BACKGROUND INFORMATION:

The ESR did not adequately address effective mitigating measures or compliance limits to ensure reduced effluent temperatures or to offset its influence on stream temperature and Brook Trout. However, the ESR does point out that adult "*Brook Trout are sensitive to changes in water temperature because they do not tolerate water temperatures greater than 19^{o}C – 20^{o}C for long*"[25].

Additionally, the data used in the Thermal Assessment was insufficient as it only represented one year of data from a particularly cooler year, and the results did not accurately reflect the annual variation in sewage plant effluent.

3.1 No Effluent Temperature Limits or Objectives Required

Despite several agency representatives expressing similar concerns regarding effluent temperature, no limits or objectives or effective mitigation measures were included in the ESR. For example:

- **3 August 2017: Barbara Slattery, MOECC letter to Ainley Group:**
  "*Effluent temperature should be included as an additional parameter to protect the most productive Brook Trout spawning habitat immediately downstream of the proposed discharge. A compliance limit and a design objective for effluent temperature to protect cold water fishery downstream should be proposed."*[26]

- **Table H1 [Ainley Group] Response to MOECC Comments of August 3, 2017**:
  "There is no economically feasible means to adjust effluent temperature."[27]

- **12 June 2018: Tara McKenna, MNRF Comments to Ainley Group (Not in ESR):**
  "*MNRF staff recommend modelling for full range of effluent temperature scenarios – include diurnal/seasonal variation in effluent temperature – not just 75th percentile.*
  "No mitigation for potential thermal impacts appears to have been identified. Is there an option to cool the effluent before discharging into the river?"[28]

- **14 June 2018: Barbara Slattery, MOECC Comments to Titan Engineering and Ainley[29]:**
  "MNRF has expressed many concerns with the manner in which the outfall location was chosen and about the assumptions and methodology used in the assimilative capacity determination due to concerns as to the impacts to Brook Trout and their spawning habitat. It is our expectation that the consultants will provide additional information/response to these concerns."

- **27 June 2018: Liam Marry, CVC Comments to Ainley Group[30]:**
  "CVC has no objection to the proposed outfall location at Winston Churchill Boulevard. For a variety of reasons, the existing stream temperatures in the West Credit River at the proposed discharge location are already warmer than preferred. To reduce the possibility of warming the watercourse further, as part of detail design, opportunities to cool the discharge should be reviewed."

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[25] *ESR, Volume 2 of 3, Part 1 - Appendix D, Assimilative Capacity Study & Thermal Impact Assessment, Table 1, Water Temperature Considerations for Brook Trout at Various Life Stages. PDF P-275 & 276/317.*
[26] *ESR, Volume 2 of 3, Part 1 – P-253/317, Table H1.*
[27] *ESR, Volume 2 of 3, Part 1, Table H1 Response to MOECC August 3, 2017 Comments. P-256/317*
[28] *12 June 2018 letter from Tara McKenna, District Planner, MNRF, to Preya Balgobin, Senior Project Manager, Ainley Group.*
[29] *ESR, Volume 3 of 3, Part 2, Appendix W, ESR Review Comments, Part II Order Requests & Resolutions P-282/384.*
[30] *ESR, Volume 3 of 3, Part 2, Appendix W, ESR Review Comments, Part II Order Requests & Resolutions P-276 & 334/384.*

- **5 March 2019: Tara McKenna, MNRF Comments to, Ainley Group**[31]:
  "As acknowledged by the project team, Brook Trout are highly sensitive to thermal impacts. Taking this sensitivity into consideration, *MNRF suggests that it would be beneficial to develop as mitigation strategy (or other approach) to address exceedances in the predicted temperature levels. This may be important to ensure the Brook Trout population would not be adversely impacted under such circumstances*."

It must again be noted that Tara McKenna's key comments in her 12 June 2018 correspondence were excluded from the ESR, and not available for public review.

Additionally, after the response in Table H1 where Ainley Group indicated "*there is no economically feasible means to adjust effluent temperature*", it is puzzling that by 14 June 2018, Barbara Slattery had completely dropped the effluent temperature limits and design objectives criteria that she had requested in her 3 August 2017 comments when she wrote:

> *"With respect to assimilative capacity and outfall selection, we are satisfied that the ESR has included effluent criteria, thermal assessment on Brook Trout and chloride monitoring that have been agreed upon during previous discussions and reviews."*[32]

There is currently a great deal of provincial government pressure placed on Agency staff to follow a streamlined pro-development policy and process.

As all Agency staff have stated above, Brook Trout are highly sensitive to thermal impacts; therefore, it is crucial that effluent temperature limits and objectives are included in the ECA to protect Brook Trout and their coldwater habitat now, and into the future.

3.2 Deficient Thermal Assessment Data

The purpose of the Thermal Assessment is to provide an assessment of the potential effect of the Erin WWTP on the water temperatures in the West Credit River during all times of the year for both Phase 1 and Full Build Out, 20-year horizon of the WWTP project to assess potential impacts to Brook Trout.[33] The approach of the Thermal Assessment is to use *"A mass balance model (i.e., conservative approach) to estimate water temperatures after complete mixing of effluent within the cree*k"[34]

The results of the assessment state that *"During Full Build Out, fully mixed 75th percentile water temperatures are predicted to decrease in May by 0.2^{o}C and increase between 0.1 to 1.8^{o}C between June and April.*"[35]

The Thermal Assessment concludes that this increase is acceptable because, "*Except for July, water temperatures will remain below their [Brook Trout's] upper tolerance thresholds for the various life stages. In July, the 75th percentile water temperature is predicted to be 19.4^{o}C, above the threshold of 19^{o}C, but only 0.1^{o}C above the existing 75th percentile water temperature of 19.3^{o}C*."[35]

This may be just above the upper limits for Brook Trout survival in 2017 temperatures; however, as set out in the above climate change section, all temperature estimates must be assessed and mitigated to allow for a warming climate. Effective mitigation measures would increase stream resilience and keep effluent and stream temperatures at optimum levels for Brook Trout survival.

The Provincial Water Quality Objective (PWQO) for water temperature states: "*The natural thermal regime of any body of water shall not be altered so as to impair the quality of the natural environment. In particular, the diversity, distribution and abundance of plant and animal life shall not be significantly*

[31] ESR, Volume 3 of 3, Part 2, Appendix W, ESR Review Comments, Part II Order Requests & Resolutions. P-286/384.
[32] ESR, Volume 3 of 3, Part 2, Appendix W, ESR Review Comments, Part II Order Requests & Resolutions P-282/384.
[33] ESR, Volume 2 of 3, Part 1, Thermal Assessment, Appendix A – West Credit River Temperature Assessment. P-275/317.
[34] ESR, Volume 2 of 3, Part 1, Thermal Assessment, Approach. P-278/317.
[35] ESR, Volume 2 of 3, Part 1, Thermal Assessment, Mass Balance Model Results 280/317.

changed (MOE 1994) ."[36] The PWQO are intended to provide guidance for water management decisions.

Effluent temperature is a key input for calculating mixed river temperature. A miscalculation could result in temperatures at higher levels than assumed in the Thermal Assessment and could place temperature sensitive Brook Trout at risk.

The Thermal Assessment makes narrow and weak assumptions and claims when **the effluent temperatures used as the basis for the Thermal Assessment were from only one year of data (2017) from the Elora WWTP**.[37] We submit that 2017 was a colder summer and should not be the only year used in the thermal assessment. (Figure 1 and Table 1). **All data provided here.**

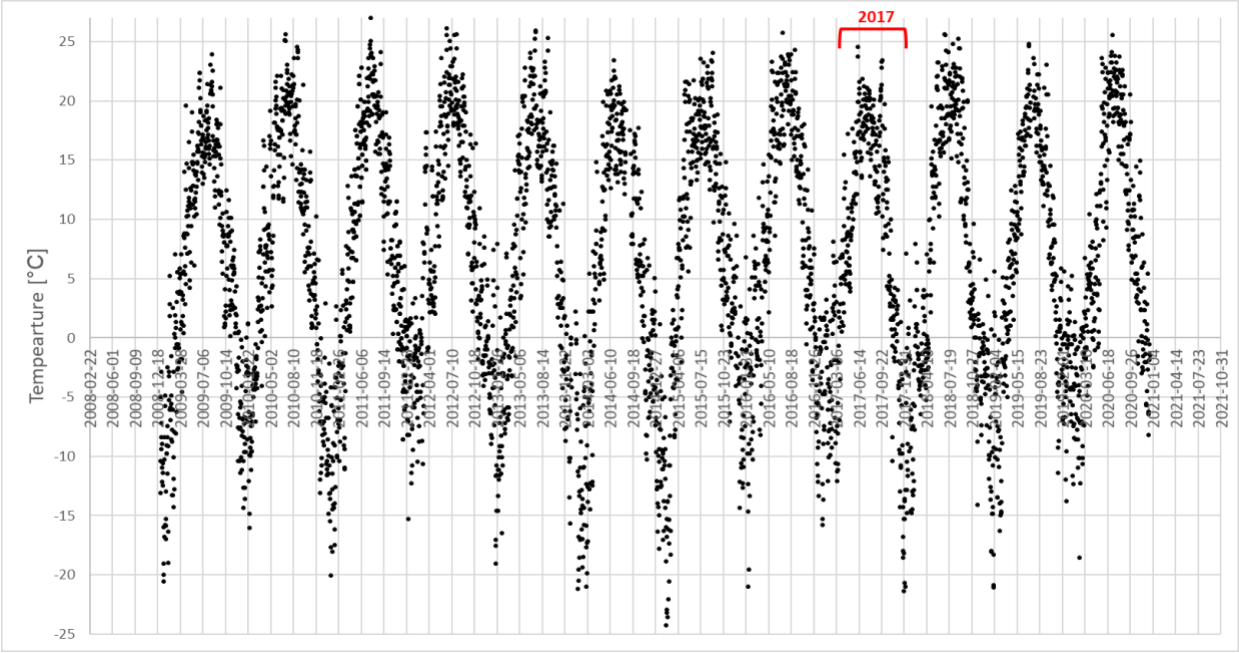

Figure 1. Daily Average Air Temperatures at Elora Environment Canada Weather Station RCS Weather Station. (Station ID 6142286)[38] The summer of 2017 is a colder than other years.

Table 1. Number of days with Ambient Air Temperatures over 20 °C in July and August.

Year	2009	2010	2011	2012	2013	2014	2015	2016	**2017**	2018	2019	2020
Days over 20°C In July & Aug	13	28	30	27	23	6	15	32	**12**	31	16	34

[36] *ESR, Volume 2 of 3, Part 1, Thermal Assessment, Conclusions. P-283/317.*
[37] *ESR, Volume 2 of 3, Part 1, Thermal Assessment, Approach. P-278/317.*
[38] *Environment Canada Historical Data from Elora RCS - Station ID 6142286*

4. MUNICIPAL CLASS EA & ESR DEFICIENCIES

4.1 Lack of Transparency and Traceability
4.2 Growth Capacity Underestimated
4.3 Underestimated Impacts of Increased Groundwater Pumping & Reduced Stream Flow

BACKGROUND INFORMATION:

The Erin Municipal Class Environmental Assessment (MCEA) and the resulting ESR, were deficient in crucial ways. This section will outline specific areas of concern where the ESR failed to adequately follow the MCEA process for municipal sewage and water projects. The scope of the ESR was deficient, given inadequate consideration of the expanded population growth. Also, as mentioned in earlier sections, there was a lack of consideration for a warming climate on water and effluent temperatures, uncertainty because of incomplete and narrow data, and a lack of limits and objectives for effluent temperature. These failures have the potential to result in serious and significant ongoing affects to the sensitive aquatic habitat of Brook Trout in the West Credit River.

4.1 Lack of Transparency and Traceability

The clear intent of the MCEA process is to provide a transparent and traceable ESR that clearly explains and includes all information that demonstrates how the proponent reached all decisions and outcomes.

The issue of temperature limits and objectives is crucial and fully detailed in Section 3.1 of this submission. As noted in that section, all Agency staff were concerned about thermal impacts on Brook Trout and MECP specifically recommended effluent temperature limits and objectives be included in the ESR effluent quality requirements.

However, these key temperature requirements and limits were excluded from the ESR and failed to provide a clear, transparent and traceable path detailing the reasons. It is a crucial failure, given the very large volume of warm and potentially damaging effluent to be released into a relatively small stream during the low flow summer months. This could be lethal to the coldwater Brook Trout fishery of the West Credit River. The thermal affects will only worsen with the warming effects of climate change.

4.2 Growth Capacity Underestimated

The ESR does not limit the number of people that can connect to the EWWTP, it only limits the discharge to 7,172,200 L/d. The ESR used 380 L/d per person (including an allowance of 90 L/d per person for infiltration) to estimate that the plant could service a population equivalent of 18,873. However, the actual average water usage in Ontario is 200 L/d[39]. If the same allowance for infiltration is included (90 L/d per person), a smaller, more realistic estimate of sewage flow of 290 L/d per person is estimated.

This means the plant could actually service a significantly larger population equivalent of 24,731[40]. An even higher population equivalent could connect to the EWWTP if actual infiltration rates proved to be lower than 90 L/d per person. Nonetheless, a population equivalent of 24,731 represents a very large increase from the current population of 4,500.

The original 2014 ACS proposed a limited effluent discharge of only 2,610,000 L/d. This was subsequently increased dramatically to 7,172,000 L/d by the 2017 ACS by introducing membrane treatment to the EWWTP. This membrane technology substantially reduces total phosphorus concentrations in the final effluent and therefore allows Erin to discharge a much greater volume of effluent to the West Credit River.

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[39] *ESR, Volume 2 of 3, Part 1, System Capacity and Sewage Flows, 4.1, Flows from Existing Development Communities. P-59/317.*

[40] *Expanded explanation for the calculation of a potential population equivalent of 24,731.*

At issue is the policy on the effluent discharge volumes. ECAs issued by the MECP do not limit the number of people, or homes, or businesses, that can actually connect to a wastewater treatment plant. The ECA only limits the average daily effluent flow discharged from a WWTP to the receiving stream. In the case of Erin, the proposed effluent flow will be 7,172,000 L/d to the West Credit River.

Consequently, the EWWTP could allow Erin to grow 550% to a population equivalent of over 25,000. Such a massive increase in the physical size of the urban area will bring a multitude of damaging urban impacts, such as stormwater run-off, loss of natural rain and snowmelt infiltration into local aquifers, urban heat island effects, increased litter and non-point source waste loadings. This will be highly damaging to the sensitive ecology of the West Credit River.

4.3 Underestimated Impacts of Increased Groundwater Pumping & Reduced Stream Flow

As detailed above, the ESR indicates the new EWWTP will have a greatly increased average daily effluent flow capacity of 7,120,000 L/d. This is based on a per capita water use (and sewage flow) estimate of 380 L/d per person. At this rate, Erin's current population of 4,500 persons would have a water demand of approximately 1,710,000 L/d.

Currently, Erin and Hillsburgh are serviced by septic systems. The septic systems discharge to the shallow groundwater which filters through into the West Credit. The ESR estimates the current sewage flow as being approximately 2,000,000 L/d and close to the estimate above of 1,710,000 L/d. This flow of 2,000,000 L/d equates to 23 L/s. While this does not sound like a lot, it would represent almost 10% of the low summer flow into the West Credit of 225 L/s[41].

Therefore, connecting these 4,500 residents to the Erin WWTP, could drop the stream flow by 23 L/s, as the septic effluents would be eliminated from the river flow when sewage flows are instead piped to the new EWWTP.

In this scenario, population growth will require more groundwater pumping and eventually another 5,120,000 L/d of water will be required (7,120,000 L/d less the current water used of approx. 2,000,000 L/d). The new water demand of 5,120,000 L/d (equal to 59 L/s) will be pumped from groundwater and thus the additional ground water demand of 59 L/s will likely cause the same loss in groundwater springs that currently feed the West Credit River.

While 10 hydrogeologists might have 10 different opinions, this extra 59 L/s currently goes somewhere, and the only place it can logically go is into spring water that makes up a good part of the base flow of the West Credit.

Therefore, the increased groundwater pumping will undoubtably result in new wells being drilled and equipped. The proposed 7,172,000 L/d of effluent flow is equal to 82 L/s. This means there is only 2.7 parts stream flow per one part of effluent flow, assuming a low summer stream flow of 225 L/s and an effluent flow of 82 L/s. It is entirely possible the sewer and sewage plant project will cause the low summer flow in the West Credit River to drop by 82 L/s from 225 L/s to 143 L/s. This is the sum of the current septic system flows to the West Credit River (23 L/s) plus the flow equal to the new groundwater demand for drinking water of 59 L/s.

This potential very large drop in summer river flows has tremendous potential to harm the delicate ecology of the West Credit River. The thermal impact of the potentially very large effluent flow (82 L/s) on the reduced summer river flow (143 L/s) results in almost no dilution in the West Credit to absorb and mitigate the effects of effluent temperature, potentially damaging effects of unionized ammonia and dilution of other trace pollutants in the final effluent.

Examination of the very significant increase in groundwater pumping to supply the water for a much larger urban area, and the very possible negative environmental effect of the greater groundwater

[41] *23 June 2020 – ORA submission to Town of Erin, MECP, MNRF and DFO – Point "d", P-7.*

pumping on reducing the low summer river flows, should have been part of the Terms of Reference, and addressed in the ESR.

In hindsight, the Terms of Reference (TOR) for the Erin Class EA were far too narrow given the very large population growth that will result once the proposed sanitary sewer system and wastewater treatment plant are completed. The new infrastructure will result in a very large increase in the urban population and size of the Town of Erin. The MCEA only considered the impact of the treated effluent on the ecology of the West Credit River but excluded other indirect impacts which will accompany the very large increase in the urban area and the significantly greater urban footprint.

5. INADEQUATE PUBLIC CONSULTATION

5.1 Lack of Comprehensive Notification

5.2 Lack of Notification and Consultation with Directly Affected Riverfront Landowners

BACKGROUND INFORMATION:

The MCEA clearly sets out the mandatory requirements for public notification and consultation: *"Proponents must develop an approach to consultation which incorporates the minimum mandatory requirements while reflecting the needs of the specific project, the community in which it is located, and potentially affected and interested stakeholders."* [42] The Town of Erin failed to meet these requirements.

5.1 Lack of Comprehensive Notification

The ESR's List of Public Contacts and Review Agencies was not a comprehensive list as it did not include directly affected riparian landowners or interest groups such as conservation organizations (e.g., Trout Unlimited Canada) and well-established citizen and ratepayer groups such as the Belfountain Community Organization.

"*Notices were distributed directly to key contacts through two local papers: The Wellington Advertiser and Erin Advocate*", and to each person who requested inclusion in the Notice List.[43] However, these publications were not circulated to Town of Caledon residents. There were also no direct mailings of Notices to local citizens' mailboxes unless they were on the Notice List, and it was necessary to request to be placed on the Notice List. Therefore, if you didn't read the newspaper you would not necessarily know about the Project in order to request to be placed on the Notice List.

There is no mention in the ESR of how, when or whether Town of Caledon residents within the zone of influence of the proposed WWTP and effluent discharge pipe were notified. However, there were no notices published in the two Caledon newspapers, the Caledon Enterprise and the Caledon Citizen.

The ESR lists the Town of Caledon in Table 1 – List of Public Contacts and Review Agencies and goes on to state:

> "*The list of Agencies, that all Notices and letters were sent to, included the Town of Caledon and the Region of Peel (which the community of Belfountain is within). In response to the multiple Notices throughout the Class EA, no comments were received from the Town of Caledon. There was no response from Belfountain residents to the Notice of Project Commencement or to either of the notifications of the two Public Information Centres. Also, no residents of Belfountain or members of the Belfountain Community Organization requested their names to be added to the project contact list."*[44]

In addition, the Town of Erin did not notify residents of the Town of Caledon of the EWWTP project, when they will be receiving the downstream effluent. Instead, it notified the Town of Caledon and appears to have assumed the Town would notify its citizens of the proposed EWWTP. This however was not done, because that responsibility lies solely with the Town of Erin. Consequently, residents of Caledon, particularly those in Belfountain, were not notified by the project team at the various key stages of stakeholder participation.

The notification process was insufficient as there was no indication of any attempt to contact those directly affected downstream Caledon residents, either by mail or by local Caledon newspapers.

5.2 Lack of Notification and Consultation with Directly Affected Riverfront Landowners

[42] *Municipal Class Environmental Assessment, 2015. Appendix 5, Section 5.1, Consultation Plan.*
[43] *ESR, Volume 1 of 3 – 5.3 Notices to the Public and PICs. P 51-52/526.*
[44] *ESR, Volume 3 of 3, Part 2, Appendix W, ESR Review Comments, Part II Order Requests & Resolutions P-308/384.*

Notification and consultation with landowners along the shores of the West Credit River, and potentially the most impacted by the project, did not receive the mandatory notification or consultation. The MCEA specifies that, "*notices mailed to persons directly affected (mandatory)*" .[45] Additionally, the MECA also says, "First Mandatory point of contact: *Schedule B and C projects – two (2) published notices. In addition, where appropriate, notices mailed, delivered or posted to all proper-ties abutting the project and to all persons who might reasonably have an interest in the project*"[46].

Our Collaboration team conducted a telephone and door-to-door survey in December 2020 and January 2021 of 14 riverfront property owners between the 10th Line and the village of Belfountain. The survey revealed a general dissatisfaction with the lack of awareness of the project, revealing a gross lack of notification and consultation by the EWWTP project team.

Of particular note are two Town of Erin riparian landowners on either side of the West Credit River, and immediately adjacent to Winston Churchill Blvd. The property owner on the south side of the River was not aware that the proposed discharge outfall was to be located immediately adjacent to (abutting) his property. The property owner on the north side stated:

> *"The Town sent me mail and asked whether I had any concerns about a neighbour down the road who wants to build an extension to his garage which I can't even see from my property..... but they can't be bothered letting me know about the sewage plant or the fact that the effluent pipe might be built on the edge of my property?"*

Another property owner on the east side of the West Credit River, directly affected by the effluent plume, was not notified or consulted. See **Appendix 2** for a Location Map showing all three riparian landowners.

Consultation is a core mandatory function of the MCEA process, and our survey effort reveals an egregious lack of fulfillment of Section 5 of the MCEA's mandatory requirements.

Direct mail and/or flyers should have been used to ensure affected and potentially affected downstream landowners were made aware of the proposed project and invited to engage in the consultation process.

The Town of Erin failed to provide a transparent and traceable process of engaging all potentially affected and interested citizens.

[45] *Municipal Class Environmental Assessment, 2015. Appendix 5, Section 5.2.*
[46] *Municipal Class Environmental Assessment, 2015. A.3.5.3 Public Notices.*

APPENDIX 1

LOCATION MAPS

Figure 1 General Location

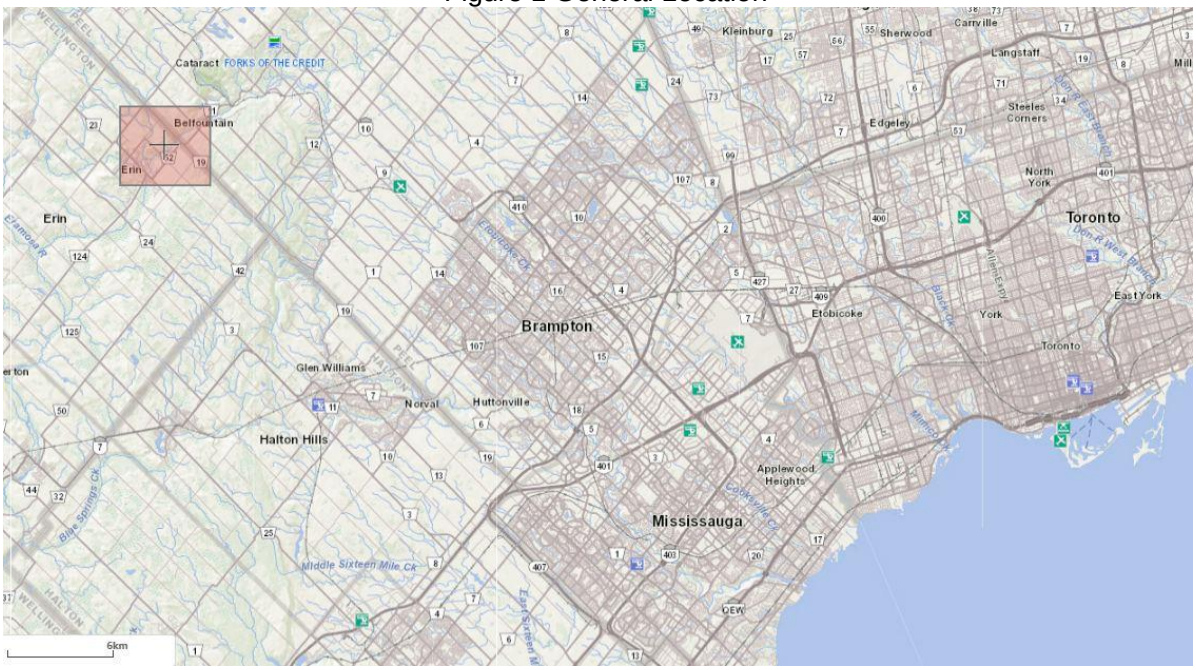
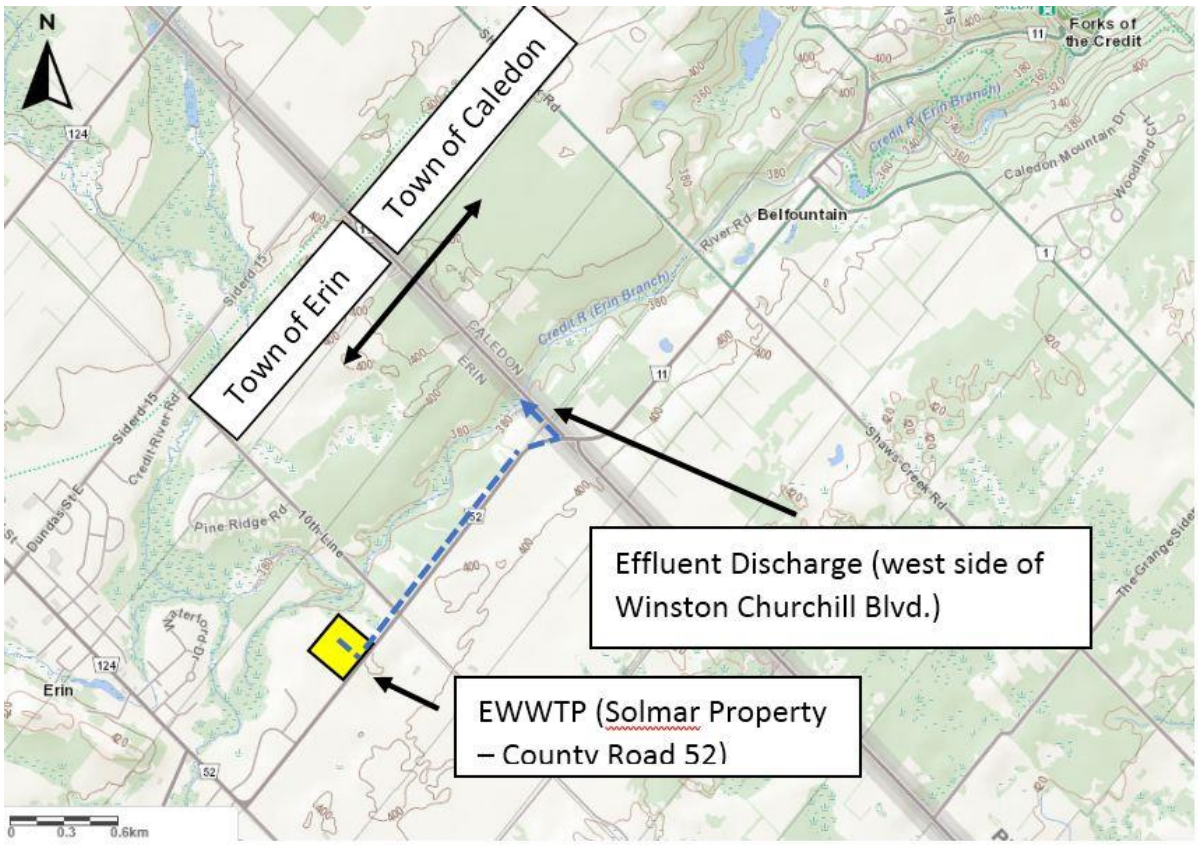


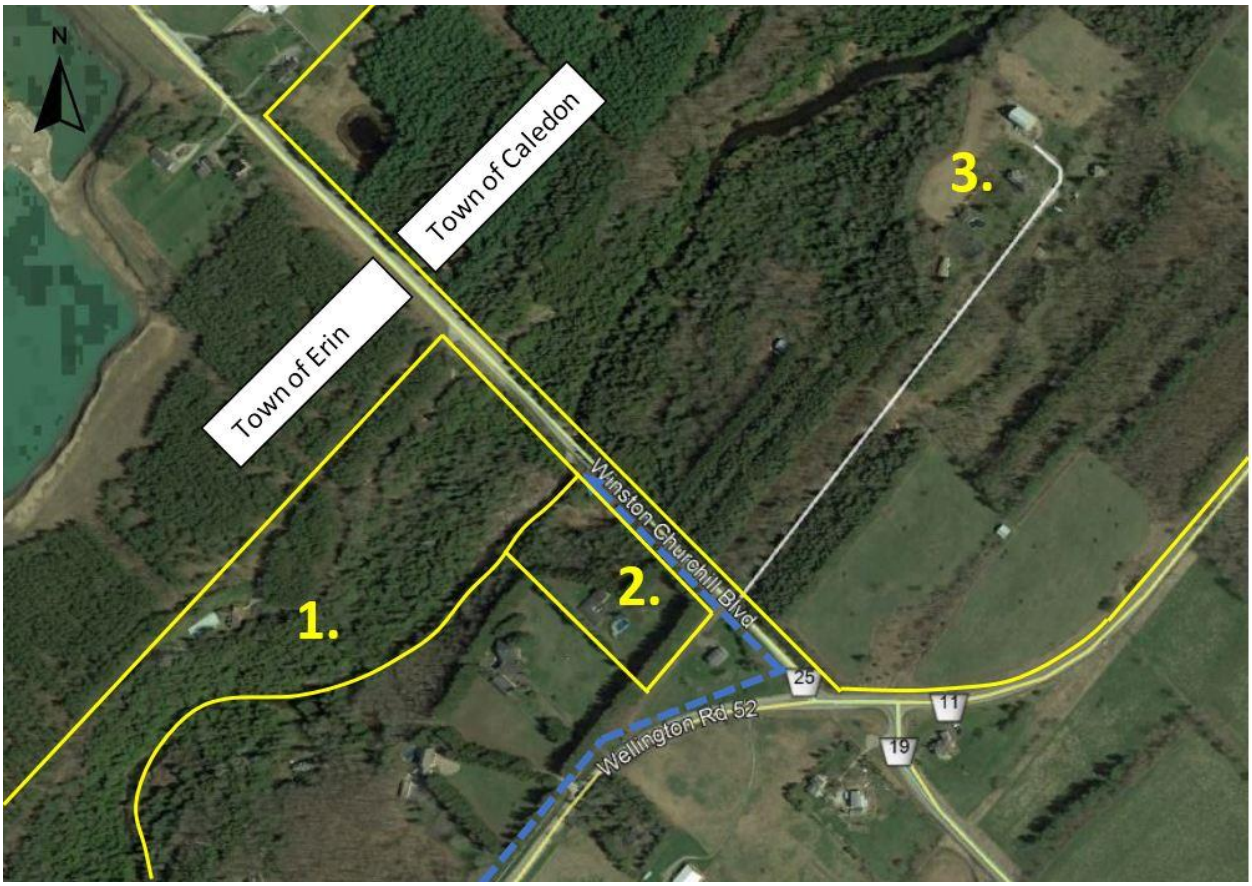
Figure 2 – Proposed Locations of EWWTP and Sewage Effluent Discharge



APPENDIX 2

LOCATION MAP

RIPARIAN LANDOWNERS ABUTTING PROJECT SITE
ON WEST CREDIT RIVER
WERE NOT NOTIFIED OR CONSULTED



1. Landowner on North side of the West Credit River - 43°46'56.3"N 80°02'19.9"W
2. Landowner on South side of the West Credit River - 43°46'56.2"N 80°02'04.7"W
3. Landowner on East side of Winston Churchill Blvd. - 43°47'11.6"N 80°01'44.5"W