

August 22, 2025

BY EMAIL & REGISTRY

Client Services and Permissions Branch
Ministry of the Environment, Conservation and Parks
135 St Clair Ave West, 1st Floor
Toronto, ON M4V 1P5

Dear Sir/Madam:

**RE: RICHMOND LANDFILL (TOWN OF GREATER NAPANEE)
ERO NUMBER 019-4955 – PROPOSED HYDRAULIC CONTROL SYSTEM**

Please be advised that I am counsel for the Concerned Citizens' Committee of Tyendinaga & Environs ("CCCTE") in relation to the above-noted matter.

I have been instructed by my client to provide the Ministry of the Environment, Conservation and Parks ("Ministry") with the CCCTE's preliminary comments regarding the proposal described in ERO 019-4955 (amendments to ECA (Sewage) No. 1688-8HZNJG) in relation to the proposed Hydraulic Control System ("HCS") at the Richmond Landfill.

For the reasons outlined below, the CCCTE submits that the proposal to direct contaminated groundwater pumped from the HCS into the surface water system (via a forcemain into Stormwater Pond No. 3) creates considerable risk of adverse environmental impacts and is based on limited testing, inadequate modelling, and questionable assumptions by the proponent. Moreover, the risk of such impacts is not adequately addressed by the modest HCS modifications recently proposed by the proponent (i.e., aeration system and activated charcoal filter).

Accordingly, the CCCTE continues to recommend that the modified HCS proposal should not be approved by the Ministry at this time on the basis of the unpersuasive and incomplete supporting documentation submitted by the proponent to date.

This submission should be read in conjunction with the detailed comments which were previously filed by CELA and CCCTE in February 2022 with respect to the original HCS proposal. These comments were accompanied by an expert report prepared by CCCTE's independent hydrogeologist, Wilf Ruland P.Geo., which should also be considered in conjunction with this submission.

(a) Background: CCCTE Membership and Objectives

The CCCTE is a non-profit organization which is incorporated under the laws of Ontario. The CCCTE membership includes persons living in the Township of Tyendinaga, the Town of Greater

Canadian Environmental Law Association

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Napanee, the Town of Deseronto, and other local communities, and includes residents living near the Richmond Landfill Site.

The overall objectives of the CCCTE are to ensure that:

- the Richmond Landfill Site remains permanently closed, and is not expanded or re-opened for waste disposal purposes; and
- the environmental risks and impacts of the closed Richmond Landfill Site are carefully monitored, publicly reported, and effectively mitigated over its entire contaminating lifespan.

To achieve these objectives, the CCCTE has been actively engaged since the late 1990s in various administrative and legal proceedings involving the Richmond Landfill Site. Similarly, the CCCTE has attended public meetings, retained counsel and experts, corresponded with provincial and municipal officials, and reviewed countless documents prepared by the proponent, the Ministry, and other persons and agencies in relation to the Richmond Landfill Site.

In addition, the CCCTE was the appellant in the 2015 hearing before the Environmental Review Tribunal (“ERT”) that resulted in key amendments to ECA A371203. Among other things, the amendments ordered by the ERT strengthened the environmental monitoring regime and required the delineation of the off-site leachate plumes that originate from the Richmond Landfill Site.

Given this background, experience, and public interest perspective, the CCCTE has carefully reviewed the modified HCS proposal and the supporting documentation recently provided by the Ministry (see below). This ongoing review has identified numerous data gaps, questionable methodology, and unsubstantiated conclusions in the January 2022 ECA application and the August 13, 2025 “design” documentation filed by the proponent.

(b) The Ministry’s Delayed Disclosure of HCS Documentation

Over the years, the CCCTE has met and corresponded with Ministry officials about various concerns about the closed Richmond Landfill, including the HCS proposal when it first emerged as a possibility at the site.

To facilitate meaningful public consultations about the HCS proposal, the CCCTE and its counsel have repeatedly requested the Ministry to provide disclosure of the HCS documentation filed by the proponent. In response to such requests, the Ministry agreed in principle to provide the requested documentation in due course. However, no such records were provided to the CCCTE in 2022 or 2023.

In mid-2024, I wrote to the Ministry to again request disclosure of the requested materials to the CCCTE. In early 2025, I also filed a freedom-of-information request in order to obtain these and other records. This request remains outstanding at the present time.

However, on August 15, 2025, the Ministry provided the CCCTE with electronic copies of the original ECA application and the August 13, 2025 supporting document. This disclosure occurred exactly one week before the expiry of the public comment period on August 22, 2025.

In light of this delayed disclosure, the Ministry has indicated to CCCTE that it will accept comments on the proposed HCS until September 12, 2025. Accordingly, the CCCTE is continuing to review these materials, and reserves the right to file further submissions on or before the extended deadline.

In the meantime, the comments set out below are preliminary in nature, and they may be supplemented or modified by CCCTE's further submissions.

(c) CCCTE's General Comments about the HCS Proposal

Despite the recent modifications, the modified HCS is still intended to use three purge wells to intercept the on-site leachate plume from moving toward a neighbouring property. If the modified HCS is approved, the collected leachate effluent will be pumped via a forcemain into Stormwater Pond No. 3, which is designed to discharge surface water off-site into the Beechwood Road ditch south of the Richmond Landfill Site.

In the CCCTE's view, the proposed HCS continues to be an alarming and environmentally risky proposal. Similarly, Mr. Ruland has expressed grave concerns about purge well systems since 2018 when this concept was first raised as an option at the Richmond Landfill Site. For example, in his previous 2022 report (pages 7-11), Mr. Ruland provided several key reasons why the proposed HCS should not be approved by the MECF.

First, there was no apparent consideration of the likelihood that the leachate effluent quality will gradually worsen over time as the purge wells continuously pump groundwater to the stormwater pond. This is because the wells will serve as a new low point in the local groundwater flow system, which will induce inward flow of leachate contaminants toward the HCS and create the risk of upward hydraulic gradients that facilitate the upwelling of saline/briny water from deeper groundwater. Mr. Ruland further noted that the limited pump testing conducted by the proponent at the time was insufficient for the purposes of predicting the long-term quality of the effluent to be captured by the HCS or the efficacy of the HCS over time.

Second, the available evidence at the time indicated that it would not be appropriate to discharge the collected HCS effluent (about 4 million litres/year) into the surface water system. For example, Mr. Ruland's 2022 report (Table 1) revealed that for certain parameters (i.e., boron, zinc, and toluene), the HCS effluent did not meet Provincial Water Quality Objectives. At the time, it also appeared that the proponent had not comparatively assessed other options for managing the HCS effluent (i.e., collection and transportation for off-site treatment and disposal). Instead, in a non-transparent manner, the proponent selected the most objectionable (and least expensive) leachate option that has the greatest potential for causing adverse environmental effects.

Third, the pump testing and modelling results at the time appeared to confirm that the purge wells are drawing leachate-contaminated groundwater from one of the landfill's contaminant plumes

and causing well interference in other nearby monitoring wells. However, Mr. Ruland concluded that the proponent has not demonstrated that the HCS will work as predicted to cut off the leachate-contaminated groundwater flow to the neighbouring property.

For these and other reasons, Mr. Ruland's 2022 report (page 11) "strongly" recommended against Ministry approval of the proposed HCS. On the basis of the available evidence, and despite the recent HCS modifications, the CCCTE continues to support this recommendation and urges it upon the Ministry.

(d) CCCTE's Specific Comments on the HCS Supporting Document

This preliminary submission primarily focuses on BlueMetric Environmental's recent "design" document dated August 13, 2025 in relation to the modified HCS proposal.

As a general observation, this document appears to be surprisingly short, sparse, and incomplete, particularly since the CCCTE and other interested persons have literally been waiting for years for this information. More fundamentally, the document raises more questions than it answers, and it does not alleviate the CCCTE's concerns about the proposed HCS. The CCCTE's specific comments on the adequacy of this document, the methodology used to design the HCS, and the credibility of the proponent's claims about environmental protection are set out below.

Page 1 – The document states that the design is based on the results of field testing that was completed between 2018 and 2021, which was critically reviewed in Mr. Ruland's previous report. Since then, the proponent has not undertaken any additional field testing after the ECA application was submitted in January 2022, and document contains no new data to substantiate its claims about the efficacy of the modified HCS proposal.

Pages 2 and 5 – The document confirms that the "complementary aquifer testing" in 2021 only consisted of pumping three wells for 57 hours over a three day period in late summer. For the purposes of designing and implementing an effective HCS, the CCCTE submits that this limited testing is wholly insufficient. For example, this testing approach did not determine the impact of the pumping on the actual contamination of the neighbouring property. In short, short-term measurements of the drawdown during testing of the purge well system does not indicate the off-site effect that this pumping may have on the neighbouring property. Similarly, the short duration of the testing does not acknowledge or address Mr. Ruland's concern about the upwelling of saline groundwater known to exist below the intermediate level aquifer. The final paragraph on page 5 suggests that the proponent is now belatedly adding pre-treatment features (i.e., aerator and activated carbon filter) as an afterthought rather than an integral component of the proposal, particularly since pre-treatment was not initially part of the proposed HCS. The CCCTE submits that the claimed benefits of pond aeration are merely hypothetical until actually tested in the real-life conditions at the Richmond Landfill. Additional CCCTE concerns about the activated charcoal filter are discussed below.

Pages 5 and 8 – The document confirms that the groundwater quality testing results for boron (all four samples) exceeded Provincial Water Quality Objective ("PWQO") for this parameter (0.2 mg/L). However, the document goes on to propose a new "compliance limit" for boron of 1.5 mg/L,

which is based on the 16 year-old Canadian Water Quality Guideline. While the document claims this higher concentration level is “most appropriate for use” at the Richmond Landfill, it fundamentally fails to explain why this is the case or why the HCS, if approved, cannot meet the current PWQO limit. In the CCCTE’s view, the document provides no persuasive justification for avoiding or replacing the PWQO limit for boron.

Pages 6 and 9 – The document contends that 1,4 dioxane will be removed by Granulated Activated Charcoal (GAC), provided that the flow rate remains low. No details, references, or evidence is provided in the document to substantiate this contention, and there appears to be no quantification of what the “low” rate must be in order for GAC to remain functional in relation to 1,4 dioxane.

Page 9 – There appears to be a math terminology error on this page in relation to predicted concentrations of 1,4 dioxane. The document mentions “0.46 µg/L, which is over 40 times less than the PWQO of 20 µg/L”. Strictly speaking, it is not possible for a figure to be “40 times less” than another figure. The CCCTE assumes that what is meant is that 0.46 µg/L is less than 1/40th of the PWQO. In any event, 0.46 µg/L is not that far from the Reasonable Use Limit (“RUL”) (1 µg/L) for this chemical at this site. The CCCTE further notes that the document frequently jumps from mg/L to µg/L units of measurement, which could lead to confusion on the part of readers.

Page 10 – The document asserts that if higher pumping rates are needed (e.g. during increased precipitation events or spring melt) when concentrations diluted by increased water volume, then these two effects will effectively “offset” each other and contaminant concentrations will remain more or less constant. This hypothesis is unsupported by any data or references contained in the document and remains unproven at this time. In the CCCTE’s view, a considerable amount of testing over a significant period of time is needed to confirm the document’s questionable claim that concentration levels will remain “relatively constant” at the Richmond Landfill.

Page 11 – The document suggests that the HCS can be “optimized” by adjusting pumping rates at the extraction wells as may be required to maintain hydraulic control of groundwater. While there are many variables to consider when adjusting the pumping rates, the document fails to specify precisely who will be deciding how and when (or on what basis) to change pumping rates to manage groundwater. The document refers to unnamed “operators” who will run and monitor the HCS, but it is unclear whether they (or the proponent’s consultants) will be determining pumping rates. The qualifications for, and training of, the operators are also unaddressed in the document.

Pages 12 to 15 – The document’s discussion of performance monitoring and contingency measures effectively confirms that the HCS proposal is, at best, an “experiment” since the limited testing to date has not demonstrated the HCS will work as predicted. The CCCTE submits that a number of dubious (and risky) assumptions are being made in relation to the HCS (e.g. that no upwelling of saline groundwater will occur, that the HCS will block further contamination of the neighbouring property, etc.) without empirical evidence demonstrating that it will be successful. Groundwater flow systems featuring fractured bedrock are highly complex and hard to predict, and assumptions about current or future environmental conditions are made with great risk and are subject to considerable uncertainty. Decades-long experience at the Richmond Landfill clearly confirms this reality. The CCCTE further notes that the contingency discussion fails to address potential

operational failures (e.g., power failure, freezing, spills/leaks, or mechanical issues) that the HCS may experience at the site.

Page 13 – The document’s discussion of the evolution of sampling frequency includes a note that individual extraction wells will be sampled “if warranted,” such as when “unexpected results” are found. However, there are no definitions, benchmarks, or criteria to identify what might constitute “unexpected results,” nor is there any mention of public review of such results or, more importantly, of the overall success (or failure) of the HCS to actually achieve its stated goals. On this latter point, the document does not mention public reporting or notification about HCS testing results or operational performance.

Appendix A – This appendix (preliminary purge well system evaluation dated 2018) describes the installation and testing of the four purge wells and the arguments leading to choosing three wells and the pumping rates. The appendix specifically describes the need for further testing to determine (among other parameters) pumping rate, radius of influence, quality of the discharge, and the economic evaluation of discharge options. Other concerning aspects of this 7 year-old document in Appendix A include:

- proposing to use a concentration level for boron which is not the Ontario limit
- referring to the 1,4 dioxane levels and comparing them to a PWQO of 2 mg/L which is NOT the applicable standard for this landfill
- concluding that discharge to surface water can be considered without requiring treatment (which no longer seems to be the proposal by the proponent)
- showing a predicted 1,4 dioxane concentration in the pond, but it is unclear whether these calculations are correct and, more importantly, CCCTE submits that dilution of the primary leachate indicator by the stormwater pond is not necessarily protective of the downstream environment from the overall or cumulative effect all leachate contaminants, even if many are in trace amounts

Given the above-noted concerns about various gaps, assumptions, and shortcomings in the “design” document, the CCCTE submits that the modified HCS proposal is effectively inviting the Director to “approve first, test later.” In the CCCTE’s view, this misguided approach is the antithesis of the precautionary principle as discussed below, and should be rejected by the Director.

Similarly, there is no commitment in the document to obtain baseline groundwater conditions (e.g., quality, elevation, etc.) at the neighbouring property, or to regularly obtain groundwater testing results over time in order to assess whether contaminant concentrations in the existing leachate plume on the neighbouring property is decreasing, increasing, or staying the same when the HCS (if approved) is operating.

(e) CCCTE’s Conclusion on the Modified HCS Proposal

For the foregoing reasons, the CCCTE submits that the proposed HCS should not be approved at this time. In the CCCTE’s view, more field work, analysis, consultation, and reporting by the proponent should be required before the Ministry can make an informed decision on the modified HCS proposal.

The CCCTE further submits that sending the proponent back to the drawing board is entirely consistent with the important principles (i.e., ecosystem approach, cumulative effects consideration, public consultation, etc.) that the Ministry has committed to in its Statement of Environmental Values (“SEV”) under the *Environmental Bill of Rights*.

For example, the SEV indicates that the Ministry will undertake a “precautionary, science-based approach” when making environmentally significant decisions. On the facts of this case, the CCCTE submits that it is neither prudent nor precautionary for the Ministry to approve the proposed HCS infrastructure and related activities when there is still considerable uncertainty and insufficient data regarding the nature, extent, and significance of potential effects upon groundwater and surface water quality (i.e., upwelling of saline groundwater, downstream surface water impacts, etc.).

In addition, the CCCTE notes that the proponent has still not withdrawn its stale-dated application for approval under the *Environmental Assessment Act* (“EAA”) for the much larger Beechwood Road Environmental Centre (“BREC”) landfilling proposal beside the Richmond Landfill Site. To the CCCTE’s knowledge, there appears to be no consideration by the Ministry of the potential additive or cumulative effects of the HCS proposal and the BREC if approved.

We trust that the CCCTE’s comments and concerns about the modified HCS proposal will be considered and acted upon by the Ministry. Please contact the undersigned if you have any questions arising from this submission.

Yours truly,

CANADIAN ENVIRONMENTAL LAW ASSOCIATION



Richard D. Lindgren
Counsel

cc. Ian Munro, CCCTE Chair
Chief R. Don Maracle, Mohawks of the Bay of Quinte