May 22, 2026

Mayor and Council
Municipality of East Ferris
25 Taillefer Road
Corbeil, Ontario

Re: Concerns Regarding the Supplemental Hydrogeological Letter Prepared by Tulloch Engineering for the Proposed Degagne / Lavigne Road Subdivision

Dear Mayor and Members of Council,

I am writing to respectfully submit concerns regarding the May 2026 supplemental hydrogeological letter prepared by Tulloch in support of the proposed 41-lot estate subdivision on Degagne and Lavigne Roads.

While the supplemental letter attempts to address public concerns and defend the adequacy of the 2024 hydrogeological assessment, significant questions remain regarding whether the study satisfies the intent of Ontario Guideline D-5-5 and whether sufficient evidence exists for Council to confidently conclude that long-term groundwater impacts will be negligible.

My concerns are not based on opposition to development itself. Rather, they relate to the adequacy of the technical evidence being relied upon to protect existing and future residents who depend entirely on private groundwater supplies.

1. The Number of Test Wells Appears Inconsistent with D-5-5 Expectations
Ontario Guideline D-5-5 scales the expected number of test wells based on the size of the development property. For a property approximately 134 hectares in size, the guideline formula suggests that approximately ten test wells would normally be expected.
The Tulloch study completed only five test wells.
While D-5-5 is a guideline rather than a rigid regulation, the reduced number of test wells significantly lowers confidence that hydrogeologic conditions across the entire property were adequately characterized. This is especially important in fractured bedrock terrain where groundwater conditions can vary substantially over short distances.
With only five test wells:

- large portions of the site may not have been directly assessed,
- localized low-yield fracture zones may have been missed,
- and long-term cumulative impacts become more difficult to predict reliably.

The issue is not whether five wells can produce water. The issue is whether five wells are sufficient to confidently characterize a 134-hectare fractured bedrock system supporting 41 future homes on private wells and septic systems.

2. The Report Relies Heavily on Regional Assumptions Rather Than Detailed Site-Specific Modeling

The supplemental letter relies extensively on generalized recharge assumptions derived from the 2006 North Bay-Mattawa Conservation Authority groundwater study.

Regional recharge averages may be appropriate for broad watershed planning purposes, but they do not conclusively demonstrate:

- long-term aquifer sustainability,
- local fracture connectivity,
- cumulative well interference,
- or drought resilience at the subdivision scale.

The report repeatedly assumes that septic recharge will largely offset groundwater withdrawal. However, in fractured bedrock systems:

- recharge timing,
- recharge location,
- preferential fracture pathways,
- and seasonal variability

  can significantly affect actual aquifer recovery.

The conclusions therefore appear to rely substantially on extrapolation and assumption rather than detailed site-scale hydrogeologic modeling.

The 2006 Study Reflected a Very Different Development Environment

The Tulloch letter relies heavily on the NBMCA conclusion that:

groundwater use represented less than 1% of available recharge in 2006.

However, several important changes have occurred since then.

Growth Since 2006

Over the last two decades the region has experienced:

continued estate lot development,
increased year-round occupancy of former seasonal properties,
larger average homes,
more groundwater-intensive lifestyles,
expansion of rural subdivisions,
and cumulative private well development.

The acceleration of rural migration and housing demand after 2020 likely intensified these pressures significantly.

Even if individual wells remain functional, cumulative groundwater stress can increase gradually over decades without immediately producing widespread well failures.

That is important because fractured-bedrock systems often respond:

unevenly,
locally,
and with delayed effects.

The "Less Than 1% Use" Statistic May No Longer Reflect Current Reality

The Tulloch letter treats the 2006 groundwater surplus almost as proof that long-term supply concerns are negligible.

But that conclusion assumes:
groundwater demand has remained relatively static,
recharge patterns are stable,
and aquifer behavior has not materially changed.

Those assumptions are increasingly uncertain.

A groundwater system that appeared substantially underutilized in 2006 may still remain viable today — but the safety margin may be materially smaller after:
20 years of development,
cumulative groundwater extraction,
and changing climatic conditions.

Without updated regional groundwater budgeting, no one can confidently quantify:
how much groundwater demand has increased,
how recharge patterns may have shifted,
or whether local aquifer stress zones are emerging.

Climate Change Directly Affects Groundwater Recharge

One of the most important weaknesses in relying on a 2006 groundwater study is that climate assumptions have changed substantially.

Forecasted climate trends for northeastern Ontario generally include:
warmer average annual temperatures,
longer summer dry periods,
increased evapotranspiration,
more intense but less evenly distributed precipitation,
reduced snowpack persistence,
and greater seasonal variability.

These changes matter because groundwater recharge depends heavily on:
spring snowmelt infiltration,
soil moisture conditions,
evapotranspiration rates,
and the timing of precipitation events.

. More Rain Does Not Necessarily Mean More Recharge

A common misunderstanding is:

“If annual precipitation increases, groundwater recharge must increase.”

That is not necessarily true.

In many climate projections:
rainfall becomes more intense and episodic,
more water runs off rapidly,
and less infiltrates deeply into fractured bedrock aquifers.

At the same time:
hotter summers increase evapotranspiration losses,
vegetation consumes more moisture,

and recharge windows may shrink.

So even if total annual rainfall remains stable or increases slightly:
effective groundwater recharge may decline.

That becomes particularly important for rural subdivisions entirely dependent on private wells.

Fractured Bedrock Aquifers Are More Sensitive to Recharge Variability

The proposed subdivision appears to rely largely on fractured bedrock groundwater systems.

These aquifers are often:
highly variable,
storage-limited,
and dependent on ongoing recharge.

Unlike large sand and gravel aquifers, fractured bedrock systems may have:
limited groundwater storage capacity,
preferential flow paths,
and localized yield variability.

As a result, they can be more vulnerable to:
prolonged drought,
seasonal recharge failure,
and cumulative interference from many dispersed wells.

This means that:
even if current wells function adequately,
long-term resilience under future climate stress may still be uncertain.

Why This Matters for the Tulloch Conclusions

The Tulloch supplemental letter effectively assumes:
historical recharge conditions remain valid,
the 2006 groundwater surplus still applies,
and future recharge will continue offsetting groundwater withdrawals.

However, the letter does not appear to include:
updated climate-adjusted recharge analysis,
drought sensitivity modeling,
future build-out demand projections,
or cumulative climate risk assessment.

3. The Nearby Aggregate Operation Was Dismissed Without Demonstrating Hydraulic Separation

The Tulloch letter concludes that the nearby aggregate operation will have no impact because it is approximately one kilometre away and separated by a stream valley.
However, no supporting evidence was provided demonstrating:

- groundwater contour mapping,

- fracture connectivity analysis,
- tracer testing,
- or calibrated groundwater modeling.

In fractured bedrock aquifers, hydrogeologic influence is determined by groundwater connectivity rather than simple radial distance.

Ontario Guideline D-5-5 does not establish a strict 500 metre cutoff beyond which groundwater impacts can automatically be dismissed. The guideline instead requires evaluation of land uses and activities that may reasonably influence groundwater conditions.

Without a demonstrated hydrogeologic separation analysis, the aggregate operation should not be categorically dismissed as irrelevant to cumulative groundwater conditions.

4. The Treadlightly Comparison Is Anecdotal Rather Than Scientific

The supplemental letter relies heavily on the assertion that there are "no known" groundwater supply issues within the Treadlightly subdivision.

However, absence of documented complaints is not equivalent to:

- demonstrated aquifer sustainability,
- monitored long-term performance,
- or proof that future cumulative impacts will not occur elsewhere.

No long-term monitoring data, drawdown analysis, or groundwater trend information was provided to support the comparison.

5. The Report Does Not Address Long-Term Build-Out Timing or Adaptive Monitoring

The supplemental letter does not provide:

- a projected build-out timeline,
- staged monitoring requirements,
- adaptive management triggers,
- or contingency mitigation measures if groundwater impacts emerge over time.

Guideline D-5-5 specifically recognizes that phased developments may require reassessment because cumulative groundwater impacts may not become evident immediately.

Council is therefore being asked to rely on a single assessment without a clear framework for:

- future monitoring,
- reassessment,
- or corrective action should groundwater problems arise after approval.

6. Independent Peer Review Would Be Reasonable and Appropriate

Given:

- the scale of the development,
- the reliance on private wells,
- the reduced number of test wells,
- the fractured bedrock setting,
- nearby aggregate extraction activity,
- and unresolved public concerns,

I respectfully submit that an independent peer review would be prudent and appropriate.

A peer review would not prevent development. Rather, it would help ensure that:

- Council's decision is based on robust and defensible technical evidence,
- long-term groundwater risks are properly evaluated,
- and both existing and future residents are adequately protected.

7. Council's Responsibility

Council has an obligation under the Planning Act and Provincial Planning Statement to ensure that development decisions:

- are supported by adequate technical information,
- protect water resources,
- and safeguard public health and safety.

Where significant uncertainty remains regarding groundwater sustainability, Council should apply a precautionary approach before approving permanent residential dependence on private wells.

I respectfully request that Council consider:

- requiring an independent hydrogeological peer review,
- requesting clarification regarding D-5-5 test well expectations,
- requiring cumulative impact analysis and long-term monitoring provisions,
- and ensuring that nearby aggregate operations and broader groundwater system interactions are more fully evaluated before any final approval is granted.

Thank you for your consideration of these concerns.

Respectfully submitted,

Philip Koning
Corbeil