



Niagara  
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Port Colborne Quarries - Pit 3 Extension Regional Official Plan Amendment (ROPA) application is being considered for approval by the Region's Planning Economic Development Committee on January 10, 2024 at 1:00 p.m.

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Submission to Regional Municipality of Niagara  
Planning and Economic Development Committee  
ROPA for Port Colborne Quarries Pit 3 Extension  
RE: LANDS KNOWN AS HUMBERSTONE SPEEDWAY

## Contamination and Clean-up of Humberstone Speedway Lands: (JART)

The issue of soil contamination and the potential for environmental impacts was again raised by several councillors and members of the public through the consultation process undertaken as part of the Statutory Public Meetings. A primary point of concern was that there was no firm timeframe associated with the additional work.

There was a desire to see this work completed as early as possible, potentially before any extraction were to occur on the Pit 3 extension lands.

The Site Plans were then updated to include a condition which states that extraction will not occur east of the former Carl Road right-of-way until such time that all remediation has occurred on the speedway lands.

**NWPA Question: When?**

**NWPA COMMENT:**

We, the Board Members of the Niagara Water Protection Alliance are pleased to see that **The Joint Agency Review Team** has introduced the above condition (also referencing Plan Note #33 – Phase 2 ESA) with respect to the clean-up (remediation) of the lands known as “Humberstone Speedway”.

However, there is a critical shortfall in the recommendation. It is our opinion that a realistic timeline for the remediation process must be part of the above condition as the migration of contamination from the speedway has already impacted significant areas.

The Phase 1 ESA is already outdated as a significant amount of time has transpired. ***The following must be imbedded in the recommendation.***

Timing of the Phase 2 ESA must be expedited and to coincide with the remediation start date of the Speedway Lands. ***Establishing a firm date for both is imperative.***

***The clock is ticking.***

Overtime, as the working face of the Pit 3 expansion progresses to Carl Road, it is reasonable to expect that those contaminants identified and possibly some not identified, could or will have migrated by way of groundwater seepage (transmissivity) to other areas of the speedway property and adjacent lands.

Thus, creating additional risk to above and below ground water.

The current working face of Pit 3 is within one (1) kilometer of the cone of influence. The cone of influence expands slowly, at a rate of about 22 m/yr.

Time factor of cone of influence c/w math formula ( $7 \times 10^{-7}$  meter/sec) {Reference slide 10}



### Ground Water Seepage – Seasonal Impact - Dry Season



Commonly, heavy clay-silt soils develop cracks in the dry season as the soil profile dries out. Example of deep cracks and fissures in clay-silt soils that form annually in the Niagara Area. These are especially evident in wetlands impacted by drainage. **CREDIT** :Yagi and Blott These cracks / fissures tend to fill with silt and increase transmissivity.





Seasonal Impact – Wet Season – Exposed Rock Face

Figure 4. Example of Water Seepage from exposed rock face (visible as dark areas and ice), more visible during winter or spring conditions. Wetlands above karst forming systems and likely vernal pool wetlands that are impacted by drainage, may form cracks through the clay to the bedrock. In addition, bedrock is karst forming at this site which increases recharge rate from wetlands and may also explain hydroperiod length. **CREDIT** :Yagi and Blott

**PLEASE NOTE: Proof is in the pudding.**

The next three (3) slides numbered 8, 9 and 10 will support all of the statements and concerns we, The NWPA have made today and in “all” of our previous presentations at both the City and Regional levels.

The slides also support our statements and concerns that Pit 3 dewatering has already impacted the groundwater levels in the wetland / wetlands.

They reveal in detail exactly what we have presented. The slides are taken from a hydro-geotechnical report that clearly show groundwater flow (contours) and elevations.

Made available by Port Colborne Quarries Inc. for public viewing as part of their Pit 3 expansion requests.

The information in these three (3) slides ***cannot be disputed*** by Port Colborne Quarries Inc. as they have been authored, prepared and submitted for Port Colborne Quarries Inc. by GOLDER.



# Ground water elevations - Overburden as per GOLDER



Spot elevations showing shallow and deep rock – decreasing to the excavation face.



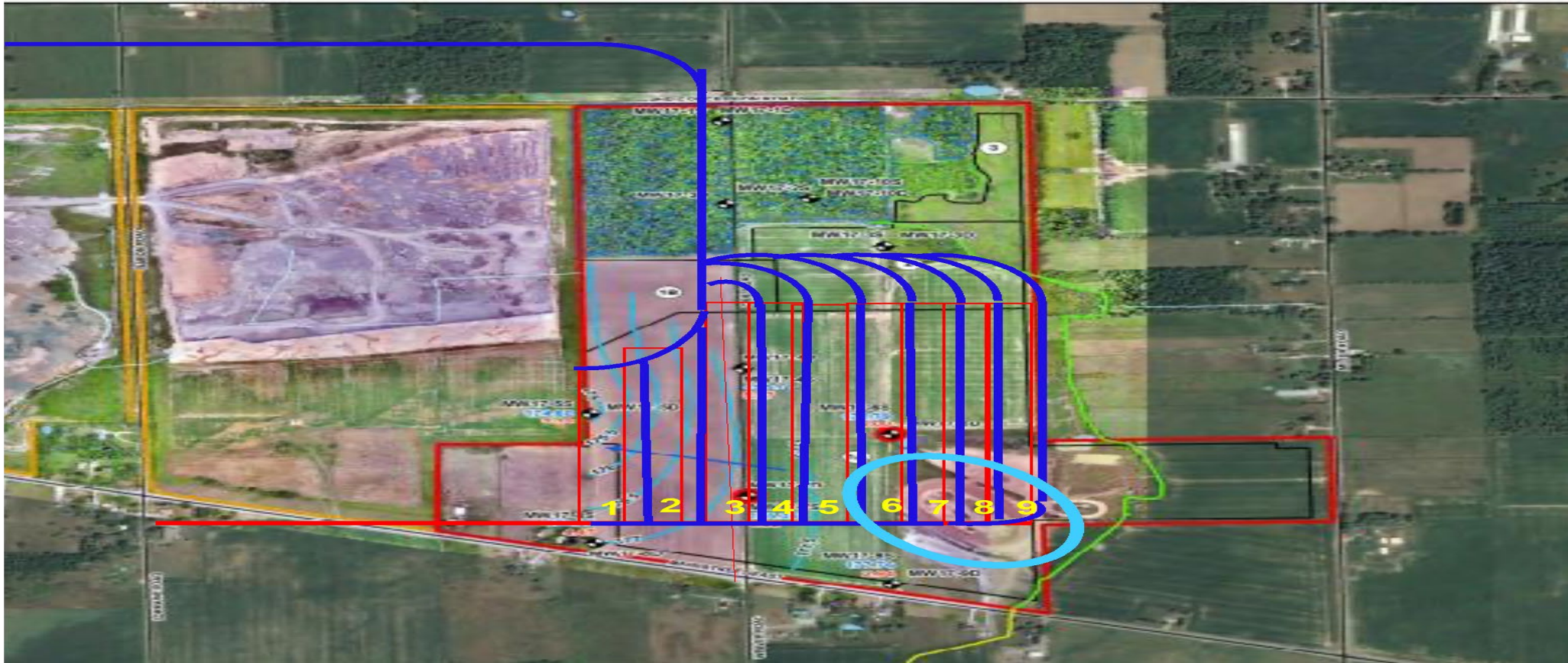
Ground water flow as per GOLDER

NOTE: wetlands already effected



The Blue Lines



**TRANSMISSIVITY****NOTE: Humberstone Speedway water movement****Goulder Final Hydrogeological Assessment**

Hydraulic Conductivity  $7 \times 10^{-7} \text{m/s}$  (measured in meter per second but impact is over 50 plus years)

1 Year 22.08m      5 Years 110.38m      10 Years 220.8m      50 Years 1,100m or 1.1 Kilometer

Projected out over the life of the quarry to be 1,000m

Yellow numbers represent the years of excavation

— Represents the yearly distance from the excavation face the ground water is impacted.

If the overburden is not removed prior to excavation of minerals contaminated ground water from the Speedway ( — ) is predicted to be encountered in the 5<sup>th</sup> year of excavations at the latest based on the Hydraulic Conductivity provided by PCQ

Four (4) years May 2024 – 88.32m

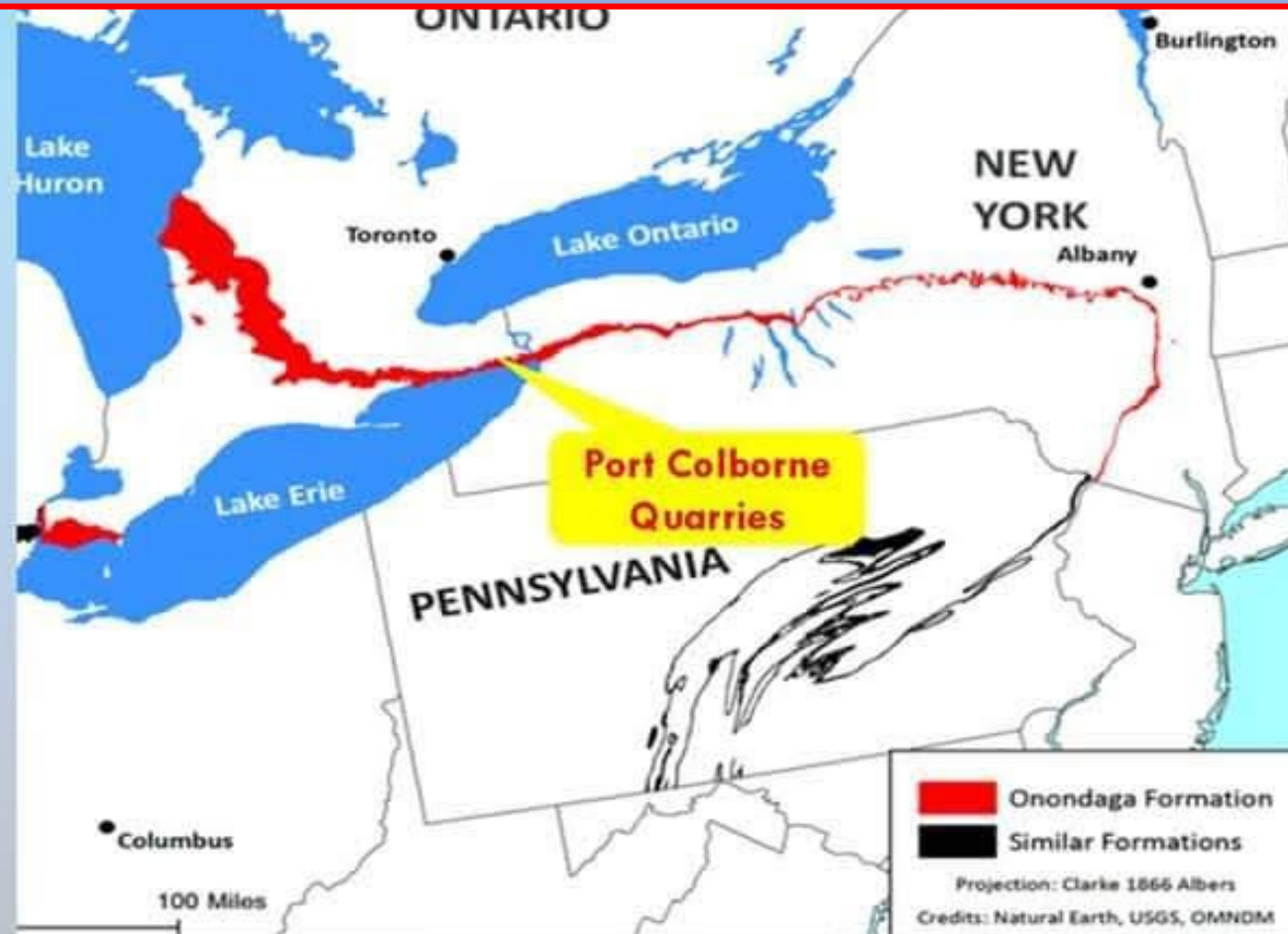




# AQUIFER IMPACTED BY PCQ

## RISK OF CONTAMINATION FROM HUMBERSTONE SPEEDWAY

The risk of ground water contamination is not limited to the immediate areas surrounding the Speedway Lands.



**The complete remediation / cleanup of the Speedway Lands in a “timely” manner must be made a priority.**

**The risk of ground water contamination is far too great to ignore as it has the potential to effect so many people reliant on ground water for personal use and for agricultural use.  
As per slide 11.**

**Thank you.**



## APPENDIX:

### LIST OF KNOWN CONTAMINANTS:

- ☐ Leaded and unleaded gasoline (various grades)
- ☐ Performance specific racing fuels
- ☐ Performance enhancing Octane boosting products
- ☐ Various grades of engine oil including synthetic
- ☐ Various engine oil additives
- ☐ Automatic transmission fluids
- ☐ Automatic transmission additives
- ☐ Power Steering fluids
- ☐ Power Steering additives
- ☐ Various grades of gear oil including synthetic
- ☐ Gear oil additives
- ☐ Ethylene glycol (antifreeze)
- ☐ Coolant (ethylene glycol) additives
- ☐ Including contamination risks from materials that were imported and deposited on site:
  - Asphalt road grindings containing hydro carbons, traffic marking paint, salt
  - Industrial byproducts from the Pulp and Paper Industry