

Geology & Groundwater - Key Findings



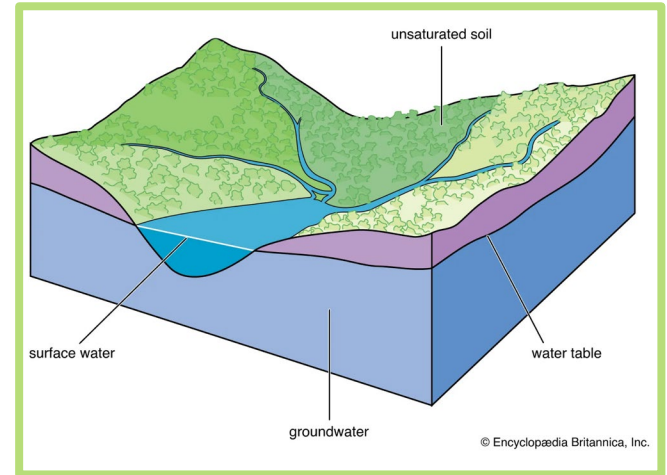
- The Limited Phase I Environmental Site Assessment Area is comprised of the Project Footprint plus an additional 100 metres from the perimeter of the Project Footprint and an additional 250 metres from the approximate centre point of the GO station locations.
- Lake Ontario is located close to the Assessment Area, while Goodman Creek, Oshawa Creek, Farewell Creek, Harmony Creek, an Unnamed Tributary, Robinson Creek, Tooley Creek, Darlington Creek and Darlington Creek Tributaries intersect the Assessment Area.
- Several highly vulnerable aquifers* were identified along the rail corridor and at the four proposed GO station locations.
- Two Event Based Areas** were identified, one at the proposed Thornton's Corners East GO Station location and one at the segment of CP Railway corridor crossing Oshawa Creek.
- The Assessment Area consists primarily of Darlington loam and Whitby loam, sandy silt to silt till and/or silt and clay with minor sand. Bedrock in area of the Project consists of shale, limestone, dolostone and/or siltstone.
- A Limited Phase I Environmental Site Assessment (ESA) was conducted to determine if current and/or former Potentially Contaminating Activities (PCAs) have contributed to potential environmental contamination within the Assessment Area. The findings suggest that there are PCAs that may have contributed to soil and/or groundwater contamination within the Phase I ESA Assessment Area.



Geology & Groundwater - Potential Effects



- The Project is not expected to result in changes to landforms, physiography, soils and bedrock geology. There is a potential for temporary effects to groundwater during construction and operations (i.e. accidental spills).
- Construction activities could release existing contaminated groundwater, if present.
- Accidental spills and releases may affect groundwater through contamination.
- No effects to landforms or physiography / geology components are anticipated as a result of construction activities.
- No direct or indirect effects to groundwater, landforms and physiography are anticipated during operations as there will be no changes to the overall landscape once construction is complete.



Geology & Groundwater - Mitigation Measures



- Non-soil materials (e.g., railway bedding, railway ties, or ballast materials) and contaminated soils exposed during construction will require waste classification as documented by testing where applicable to determine management and disposal requirements.
- Potential impacts to groundwater-dependent natural features and/or private groundwater supply wells (if present) can be mitigated with measures such as avoidance of dewatering requirements, limiting dewatering and/or utilizing groundwater cut-off techniques to physically exclude groundwater from flowing into excavations in advance of construction.
- Refueling of equipment will occur at least 30 metres away from any watercourse and refueling itself will be done within refueling stations lined with appropriate material to prevent seepage and fuel discharge.
- No mitigation measures are required during operations as no potential effects are anticipated.
- Plans to be developed and implemented include:
 - Soil and Excavated Materials Management Plan
 - Groundwater Management and Dewatering Plan
 - Spill Prevention and Contingency Plan

Oshawa to Bowmanville Rail Service Extension

Thank You for Attending!

We appreciate the time you have taken to learn about the EPR Addendum, and we value your opinions. Please provide input online from **June 8 to June 21, 2023** via slido or by emailing DurhamRegion@metrolinx.com.

Let us know if you have questions or comments regarding:

- Project Assessment Area
- Existing conditions or potential environmental effects
- EPR Addendum and TPAP process
- A Notice of EPR Addendum is anticipated to be issued in Fall of 2023 where:
 - Final EPR Addendum and supporting technical documents will be made available for a 30-day review period
 - Following 30-day public review period, the Minister of Environment, Conservation and Parks (MECP) has 35 days to review
 - MECP will issue a notice allowing the proposed Project to proceed or a notice requiring further work to address concerns
 - Statement of Completion will be posted on the Metrolinx website

Stay involved with the Bowmanville Extension by reaching out to the Durham Community Engagement Team below:

- Email us at DurhamRegion@metrolinx.com
- Call us at (416) 202-3900
- Visit our website www.metrolinx.com/bowmanville

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