

Risk Assessment for 200 Weber Street, Waterloo, Ontario

Client

Uniweber Property Inc.

Location

200 Weber Street,
Waterloo, Ontario

Date Completed

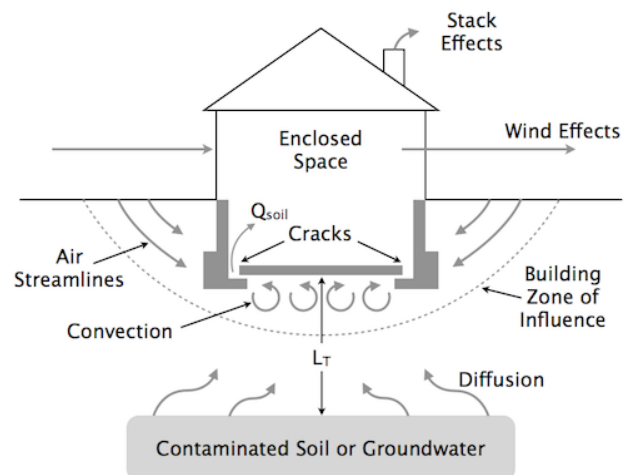
2012

NovaTox was retained by Uniweber Properties to complete a risk assessment to support the filing of a Record of Site Condition (RSC) at 200 Weber Street in Waterloo.

The property was historically used for the Waterloo North Hydro operations (considered to be industrial land use). The historical operations included the handling of transformer oils and PCBs. In 1982, White Rose took possession of the Site and used it for commercial purposes (as a retail sales of flowering plants and other gardening equipment). The new land owner (Uniweber Property) purchased the site with the intention of redeveloping the property as a commercial oil change facility. Several remediation projects were completed at the site, but none were successful in removing all contaminants. It was NovaTox's opinion that risk assessment would be the most favourable path forward for the client to address residual contamination issues at the site.

Soils at the site were highly contaminated with petroleum hydrocarbons, including lighter fractions that are considered to be mobile (i.e., PHC F1 and F2) and metals as a result of historic industrial and commercial activities from previous uses. The COCs included carcinogenic polycyclic aromatic hydrocarbons (PAHs) which were present throughout the site.

NovaTox health scientists completed a Tier III human and ecological risk assessment. Potential human health risks associated with exposure to metals, PAHs, and petroleum hydrocarbons in the F1 and F2 fractions in groundwater were assessed, including volatilization to indoor air. Vapour modeling was developed using a modified version of the Johnson & Ettinger sub-surface vapour intrusion model.



The ecological risk assessment evaluated direct contact pathways for plants and soil organisms, as well as ingestion pathways for wildlife. Because the site was adjacent to a small stream/ditch, the potential for discharge of contaminants from the site to the stream were also evaluated in the ERA. The Domenico 2-D subsurface dispersion model was used to estimate the maximum concentrations of contaminants discharging from the site.

The risk assessment identified unacceptable risks as a result of PHC F1 fractions in soil off-gassing to indoor air as a result of sub-surface vapour intrusion, as well as unacceptable risks to terrestrial plants and soil invertebrates from direct contact with PHCs in contaminated soil. Property Specific Standards were identified for all COCs. The owner of the property opted to remediate the PHC impacts in areas exceeding the PSS values during the redevelopment of the Site.

The RA submission was highly scrutinized by MOE, including detailed reviews of all aspects related to the ecological and human health risk assessment components. In 2012, the Ontario Ministry of the Environment accepted the risk assessment and the Property Specific Standards, which were then used to support the Record of Site Condition filing, allowing the client to proceed with the development.

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