PERITUS
ENVIRONMENTAL CONSULTANTS INC.

RISK ASSESSMENT

Former Landfill and Industrial Property

Toronto, Ontario

"A combination of strategic remediation and risk assessment allowed the developer to rezone a former landfill without prohibitive costs."

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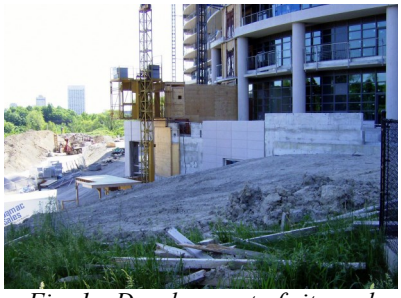

Fig. 1—Development of site and adjacent residential buildings

The Problem

A developer proposed to develop a property for parkland use, which is adjacent to residential buildings. The soil beneath the Site had been previously impacted by the placement of fill of unknown quality. In addition, materials in an adjacent landfill presented the potential for the migration of landfill gases (specifically methane) through the soil vapour and into the future buildings of the adjacent development. For residential development of the Site, a Record of Site Condition was required as per Ontario Regulation 153/04, as amended (O.Reg.153/04); however, the cost and the schedule of the remediation would be significantly expensive and time-consuming. The combination of a Risk Assessment (RA) and strategic remediation were required.

Fig. 2—Installation of passive venting system

The Solution

Based on the Phase Two Environmental Site Assessment, the importation of fill of unknown quality resulted in an area that was contaminated with trichloroethylene (TCE) and petroleum hydrocarbons. Our Project Team developed a cost effective combination of strategic remediation and RA.

The remediation involved the removal of the highest concentrations of TCE impacted soil that could not be adequately managed within the RA. This removal of the contamination "hot spot" allowed the development of property specific standards for the remaining contaminants as part of a RA in accordance with O.Reg.153/04. By assessing the unique hydrogeological conditions at the Site, the proposed future land use of the Site and adjacent properties, risk management measures (RMMs) were developed to ensure human and ecological receptors would not be exposed to any of the remaining soil and groundwater contaminants. The acceptable soil vapour screening levels and the modified ecological protection option ensures that human and ecological receptors on-site are fully protected. The RMM of a passive venting system was installed to ensure the off-site human receptors in the adjacent condominium are not exposed to potentially impacted soil vapour (specifically methane) through the vapour intrusion pathway.

The RA combined with the strategic remediation allowed the developer to apply for a RSC without the prohibitive cost of removing all contaminated soils across the Site.