PERITUS
ENVIRONMENTAL CONSULTANTS INC.

ENVIRONMENTAL SITE REMEDIATION




Former Foundry

Cambridge, Ontario

"A stratified remediation program allowed the developer to apply for a Record of Site Condition and construct numerous townhomes on the former industrial property."

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Fig. 1—Groundwater settling tank

The Problem

A former industrial property was purchased by a developer for the purpose of residential redevelopment. At the time of purchase, the Site was zoned industrial/ commercial and was used as a foundry to manufacture electronic parts. To redevelop the Site from industrial to residential use, a Record of Site Condition was required as per Ontario Regulation 153/04, as amended; however, the cost to remediate the soil to meet the Ministry of Environment (MOE) full depth standards would be significantly expensive. An elaborate stratified remediation program was required to remediate the soil.

The Solution

The soil remediation program involved the excavation, segregation, stockpiling and management of approximately 83,100 tonnes of material from the Site. A total of six excavations were used to fully remove the impacted soil. Soil samples were collected along the base and walls of the completed excavations to verify that all impacted soil had been removed and the soil satisfied MOE Table 4 standards.

The impacted soil removed from the excavations was meticulously segregated and sorted into different stockpiles. Excavated soil was segregated by visual inspection, smell and with the field screening tools such as a Photo-ionization Detector and an X-Ray Fluorescence meter.

Representative soil samples from the stockpiles were submitted to the lab and tested for petroleum hydrocarbon (PHCs) and metals to determine the final placement of these stockpiled materials. Based on the data, approximately 55,800 tonnes of stockpiled soil satisfied the MOE Table 4 surficial soil standards and was suitable for placement anywhere on the Site. An additional 15,600 tonnes of stockpiled soil satisfied the MOE Table 4 subsurface soil standards. This additional soil was placed at depth and covered with at least 1.5 m of clean soil. Approximately 11,700 tonnes of soil exceeded the MOE Table 4 standards and was transported off-site for treatment/disposal.

To verify that the soil and groundwater were fully remediated, a series of test pits were dug and post-remediation groundwater samples were collected. The test pits verified that the contaminated soil had been appropriately remediated and the groundwater analytical data satisfied the MOE Table 4 standards.

The stratified remediation program allowed the developer to successfully apply for a RSC and construct numerous townhomes on the former industrial property.