

Brownfield Redevelopment in the Toronto Port Lands

Toronto Hydro Service Centre - 500 Commissioners Street



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Between 1935 and 1992, Shell Canada used the 6.9 hectare site at 500 Commissioners Street as a petroleum fuels terminal, blending facility and distribution centre. When Shell's lease came to an end, the company was looking to leave the site contaminated with fuels, lube oils, pesticides and traces of arsenic, lead, zinc and copper. The initial estimates to clean up the site involved the removal of 63,000 cubic metres of soil at a cost of several million dollars.

Toronto Hydro expressed interest in the site for a new Service Centre and required the facility to open in 1997. This provided an incentive for implementing a fast-tracked construction and remediation process. TPLC agreed to allow Shell to do a Site Specific Risk Assessment (SSRA) based clean-up with Shell retaining responsibility for any future clean-up requirements.

The remediation plan involved the removal of fuel contaminated liquid at the groundwater table and soils that were likely to contain contaminants that might migrate into the groundwater. The soil above the groundwater that was likely to produce a vapour with a concentration at or above the Lower Explosive Limit (LEL) were remediated. Soils containing high levels of arsenic, aldrin, dieldrin and endrin were to be removed from the site for disposal.

Almost 55,000 tons of contaminated soil was excavated from the site. Roughly twenty per cent was treated off-site by a process known as Low Temperature Thermal Desorption (LTTD) and returned to the excavated areas. The remainder of the soil containing arsenic and pesticides

that could not be treated under the LTTD process was disposed off-site at a licensed landfill. Granular fill was brought in to the site to replace the excavated volumes.

A Waterloo Barrier System was installed along the south and west boundaries of the property to prevent recontamination of the soils from off-site contaminants entering the property. A gas collection system was installed under the new Toronto Hydro Service Centre building. The gas system is a horizontal network of perforated pipes connected by a manifold, installed below grade above the groundwater table. This system collects and dissipates vapours that might build up beneath the surface as a result of natural methane or residual petroleum in the soil.

The clean-up programme began in September 1994 and was completed by April 1995. The Toronto Hydro Service Centre now employs 1000 workers on site.

TPLC is the largest property owner in the port lands area of Toronto with roughly 400 acres in its portfolio. The lands reclaimed from Lake Ontario were used for a number of heavy industrial activities since 1917 which have contaminated the soil and groundwater. Environmental stewardship is a key undertaking of TPLC as part of the City of Toronto's redevelopment vision for the port lands area.