



**BULLETIN 2014-002-ECT**

June, 2015

## **RESIDENTIAL UNDERGROUND STORAGE TANK REMOVAL**

The City of Vancouver (the City) has prepared this bulletin that supersedes the “Residential Underground Storage Tank Removal” bulletin issued in May 2014. The bulletin summarizes applicable By-laws and regulations, general underground storage tank (UST) removal activities, and reporting requirements.

### **RESIDENTIAL UNDERGROUND STORAGE TANK BACKGROUND**

Prior to natural gas becoming available in Vancouver in the early 1960s, most homes in Vancouver were heated by furnace oil. Furnace oil was primarily stored in Underground Storage Tanks (USTs) because aboveground tanks were not permitted. These USTs were typically small (1,125-1,350L), located in residence back-yards, and in close proximity to the furnace.

The estimated life-expectancy of USTs is about 20 to 25 years as they are susceptible to damage from corrosion. If damaged, furnace oil can be released into the ground causing contamination and potentially spreading via groundwater and vapours through preferred pathways (e.g., utility corridors, building perimeter drains).

### **BY-LAW REQUIREMENTS**

The City’s Fire By-law No. 8191 (sec.4.10.3) and Sewer and Watercourse By-law No. 8093 (sec.5.3) require that tanks which will not be reused or have been out of service for 2 years shall be removed. If the Fire Chief determines it impractical to remove the tank then it shall be emptied and filled with an inert material. Decommissioning in-place does not exempt any requirements (e.g., soil sampling) unless warranted for safety reasons.

The By-laws require that contaminated soils be removed and backfilled with clean fill. This work is often done in conjunction with tank removal activities; however it’s not mandatory. Residual contamination will be noted and these soils must be removed concurrent with future site redevelopment. The City relies on the BC Contaminated Sites Regulation (CSR) and Environmental Management Act (EMA) for the definition of contaminated soil and its appropriate management/disposal.

### **UNDERGROUND STORAGE TANK REMOVAL PROCESS**

A tank removal permit issued by the Fire Prevention Department must be obtained prior to any tank removal/decommissioning work. The Fire Prevention Office is at Suite 306, 456 West Broadway (telephone 311). A copy of the permit will be kept in the City's Permits and License's data resource centre. All conditions noted on the tank removal permit must be followed. Failure to meet these conditions could impact issuance of future permits until all tank removal permit conditions are met.

It is strongly recommended that consultants and contractors experienced in UST removals be contracted to conduct the work. The City cannot recommend specific contractors/consultants;

however, property owners should ensure the contractors/consultants have a valid City of Vancouver business license, WorkSafeBC coverage, and appropriate insurance. Experienced contractors have a good understanding of what's required for safe and effective UST removals. They have access to licensed haulers and disposal firms to assist in liquid and solid waste disposal in order to ensure compliance with applicable provincial and municipal regulations. For information/reference only, some typical procedures for tank removal include:

- Dipping the tank to determine if there is any remaining oil.
- Pumping/draining oil and disposing at an approved disposal/recycling facility.
- Assessing the tank for explosive conditions.
- Assessing the need for additional personal protective equipment.
- If necessary, purging combustible vapours with a venturi or dry ice.
- Once safe (e.g., <10% LEL) conditions are achieved, the tank and all associated piping can be excavated.
- Inspecting the tank for visual evidence of damage or leaks.
- Cleaning (e.g., dry-scraping) the tank and proper disposal of sludge offsite.
- Rendering the tank unfit for future use (e.g., cut, crushed) and proper offsite recycling/disposal.
- Observing (e.g., observations, soil gas measurements) if there is potential soil or groundwater contamination. Smelling soils to assess presence/absence of contamination MUST be avoided. Proper PPE must be followed in accordance with WorkSafeBC guidelines.
- If contamination is suspected, the environmental consultant will direct the contractor to remove suspect soils from the bottom and sides the tank-hold.
- Offsite disposal of suspect/confirmed contaminated soils at a facility licensed/approved to receive contaminated soil.
- Collecting soil samples to confirm the target level of cleanup is achieved. A minimum of five soil samples must be collected; one from each sidewall and base of the excavation. Samples must be analyzed by a CALA<sup>1</sup>-approved laboratory for suspect contaminants of concern. Sampling should be conducted in accordance with BC Ministry of Environment (MOE) Technical Guidance Document 1.
- If necessary, submit notifications to the MOE.

The above bullet list is not comprehensive and is provided for reference only. It should not be relied upon as complete or prescriptive about UST removal procedures. If the scope of work expands and exceeds your expected costs, it's recommended you pause work and seek a second opinion.

The City recommends a qualified environmental consultant be contracted to oversee the tank removal contractor and to confirm contaminated soils are properly assessed and removed/disposed. The consultant provides expertise that can result in effective management of contamination and sampling in accordance to industry practices/guidelines. The consultant can assist in preparing the Final Tank Removal/Closure Report which must be signed by a qualified professional (e.g., P.Eng, P.Geo, RPBio, PAg, and ASCT) as defined by the BC Ministry of Environment<sup>1</sup>.

### **Offsite Migration**

The MOE requires that if during any stage of the work, it is confirmed or there is reason to believe that contaminants have migrated onto a neighbouring property (including City property

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<sup>1</sup> Canadian Association of Laboratory Accreditation Inc.

such as roads), the owner of the neighbouring property must be notified within 15 days by the responsible person (e.g., source land owner) by issuing a Notice of Likely or Actual Offsite Migration (NOM). The responsible person must provide a NOM consistent with sections 57 and 60.1 of the *EMA CSR*.

Upon receipt of a NOM, the City will issue a letter to the source owner requesting additional information (e.g., contaminants, analytical results) and a proposed work plan to delineate and/or remediate contamination.

### **REPORTING REQUIREMENTS**

The City's Final Tank Removal/Closure Report template is provided with the permit and must be submitted electronically to the Environmental Contamination Team upon completion of the work ([ust.reporting@vancouver.ca](mailto:ust.reporting@vancouver.ca)). The report requires information such as: site sketch; tank information; disposal work completed; field observations; soil sampling completed and analytical results. Additional supporting information such as laboratory certificates of analysis and sample chain of custody must be attached to the report. A "Conclusion Statement" must be completed and stamped by a qualified professional, as defined by the BC MOE..

### **COMPLIANCE**

Once the Final Tank Removal/Closure Report has been received and confirmation is provided that all contamination was removed as per Bylaws/applicable legislation, the permit will be completed. Failure to comply with permit conditions will result in the permit being closed as incomplete. The presence of residual contamination will result in a note in city records that the site must be remediated at the time of redevelopment.

Residential property owners applying for a Development/Building Permit may be required to disclose the presence/absence of a UST on the subject property. A homeowner may be required to either provide documentation that a UST was removed and no soil contamination remains, or have the UST/contamination removed as a permit condition.

The City does not inspect, warrant or provide any assurance whatsoever that a UST or potential contamination was or has been removed in accordance with any standards.

Failure to meet any of the requirements in this bulletin may result in a stop work order.

For additional information regarding the UST Removal/Permitting process please contact 311 or refer to the City's website.