

# Brownfield Redevelopment of the Former Blodgett Oven Factory, 44-50 Lakeside Avenue, Burlington, Vermont

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ENVIRONMENTAL  
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## Services / Expertise

Complex Cleanup of Industrial Site in a Dense Urban Setting on the Shore of Lake Champlain  
Environmental Due Diligence  
Phase I ESA (ASTM E1527-13)  
Phase II ESA (ASTM E1903-11)  
Vermont DEC Work Plan  
Site-Specific Health and Safety Plan  
Soil Gas, Soil, and Building Material Sampling  
Supplemental Site Investigation/Phase III ESA  
Vapor Intrusion Investigation  
Building Material Assessment (PCBs)  
High Resolution Site Characterization  
Remedial Action Planning – ECAA and CAP  
TSCA Self-Implementing, Risk-Based, and Performance-Based Cleanup, and Disposal Plans  
Preparation of Plans, Specifications, and Engineering Documents  
Green and Sustainable Remediation  
Soil Management Plan

## Markets

Private Developer  
Commercial  
Site / Property Owner  
Regional Planning Commission

## Project Location

Burlington, Vermont

## Date Completed

2017–2021

## Project ID#

17-070

## Project Team

Daniel Voisin; Katrina Mattice, PE; Laura Rajnak; Barbara Patterson; Branden Martin, PE

## Subcontractors

Phoenix Environmental Labs, US Ecology (NRC), Absolute Spill Response, Myers Services, US Ecology, S.D. Ireland, Inc.



*Project site seen from Lake Champlain. The rooftop of 50 Lakeside Ave. has been outfitted with solar panels.*

**IN JUNE 2017**, Stone was hired by a private developer to perform an ASTM E1527-13 Phase I Environmental Site Assessment (ESA) of the former Blodgett Ovens factory on Lakeside Avenue in Burlington, Vermont. Lakeside Ovens, the prospective purchaser, redeveloped the lakefront property for a mixed-use commercial development and business incubator in 2019–2020. The site is a 16.5-acre parcel with three buildings: offices (32 Lakeside); a former warehouse and office building (44 Lakeside) and the former manufacturing building (50 Lakeside).

The Phase I ESA identified 10 recognized environmental conditions (RECs) associated with property use, as well as evidence of past releases, the presence of polycyclic aromatic hydrocarbons (PAHs) in subsurface soil, the site's proximity to the Pine Street Barge Canal Superfund Site, and potential for contaminant migration from adjacent sites and surrounding rail operations.

In October 2018, Stone reported findings from a Phase II ESA to evaluate whether RECs identified in the previous study resulted in contamination to environmental media at the site. The Phase II ESA included: assessment of building materials for polychlorinated biphenyl (PCB) contamination; assessment of soils that would be disturbed during realignment of the access drive, parking lot, utility trenches, and bike path spur; and vapor intrusion pathway assessments for the 44 and 50 Lakeside Avenue buildings.

The Phase II report identified PCBs in several caulk samples but demonstrated that the contaminant had not diffused from window caulk into adjoining masonry or impacted surface soil directly below windows. Stone prepared a removal specification for abatement contractors to follow that prevented the spread of PCBs and protected



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workers. PCBs were also detected in the concrete slab of the 50 Lakeside building at concentrations that required cleanup under the Environmental Protection Agency's (EPA) Toxic Substance Control Act. Surface soil in portions of the site contained PAHs at concentrations requiring either off-site disposal or on-site capping. The results of a vapor intrusion assessment ruled out a complete vapor intrusion pathway into the former manufacturing building. Therefore, no further assessment or cleanup related to vapor intrusion was recommended.

Stone conducted a Supplemental Phase II ESA between November 2018 and February 2019 to determine the extent of PCB contamination in 50 Lakeside Avenue building materials and evaluate soil quality at the property. The investigation identified areas of the wall and slab that were contaminated due to spills of hydraulic fluids or were coated in paint containing PCBs. PAH-contaminated soil was determined to be limited in extent to the area immediately north of the building.

Based on all previous investigations, Stone prepared an Evaluation of Corrective Action Alternatives to prevent direct contact with contaminated building materials and soil. Stone also prepared a Self-Implementing/Risk-Based Disposal and Cleanup Plan for approval by the EPA TSCA Enforcement Program. The selected actions included:

- Removal of select PCB-contaminated walls from the 50 Lakeside Avenue building,
- Removal of all slab concrete containing PCBs at concentrations equal to or greater than 10 milligrams per kilogram for off-site disposal,
- Removal and off-site disposal of PCB-contaminated slab below proposed raised wood floor systems, areas that require structural reinforcement, and other site features such as tree planters, electrical conduit, and a water fountain,
- Encapsulating remaining PCB-contaminated slab with a vapor barrier and six-inch concrete cap,
- Management of PAH-contaminated on-site soil through regrading and installation of engineered barriers,
- Periodic maintenance and monitoring of the barriers,
- Implementation of an institutional control on the site property deed in the form of a Certificate of Completion under the Vermont Brownfields Reuse and Environmental Liability (BRELLA) program.

After cleanup plan approval from the VT DEC and EPA, Stone oversaw the completion of remedial actions to ensure compliance with cleanup plans throughout the redevelopment of the property from July 2019 through March 2020. Stone completed additional environmental assessment and cleanup as environmental conditions were discovered during redevelopment. These have included a performance-based PCB cleanup of a subsurface piping structure that was hydraulically connected to Lake Champlain and associated with weapons manufacturing on the adjoining property, in-place closure of a former heating fuel underground storage tank, and a release of heating fuel that occurred during removal of the former heating system.

Stone submitted a report summarizing completed cleanup activities for Vermont DEC and EPA review in April 2020, and the property received a Certificate of Completion through BRELLA on August 31, 2020.

Stone subsequently prepared a plan to manage soils that will be disturbed during planned renovations to the 32 Lakeside Avenue building that contain low-level PCB contamination due to the weathering of window caulk and glazing. The soil management plan has been approved by VT DEC. Plans to renovate the 32 Lakeside Avenue building are on hold.

