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

STONE ENVIRONMENTAL

**Services / Expertise**
Environmental Due Diligence
Phase I ESA (ASTM E1527-13)
Complex Cleanup of Industrial Site in a Dense Urban Setting on the Shore of Lake Champlain
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 & CAP
TSCA Self-Implementing, Risk-Based, and Performance-Based Cleanup & Disposal Plans
Stormwater Assessment
Preparation of Plans, Specifications, and Engineering Documents
Green & Sustainable Remediation

**Markets**
Private Developer
Commercial
Site / Property Owner

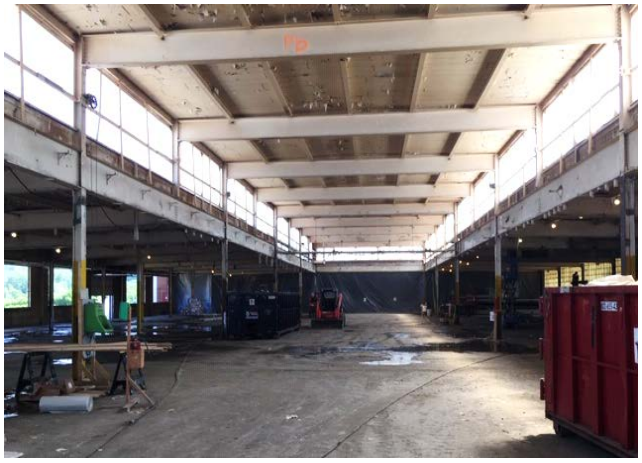
**Project Location**
Burlington, Vermont

**Date Completed**
2017—Present

**Project Owner**
Lakeside Ovens, LLC (c/o WND&WVS)

**Project ID#**
17-070

**Project Team**
Lee Rosberg (Project Manager), Daniel Voisin, Kim Watson, David Abrahamson, PE, Katrina Mattice, PE, Daniel Curran, Laura Rajnak, Warren Rich, Barbara Patterson, Branden Martin, PE



*Left: East side of the former Blodgett Ovens factory. Right: Building's manufacturing space undergoing redevelopment.*

**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, LLC, the bona fide prospective purchaser, is currently redeveloping the lakefront property for a mixed-use commercial development and business incubator. The site consists of a 16.5-acre parcel with three buildings: one used for offices (32 Lakeside), a former warehouse and office building (44 Lakeside), and the former manufacturing building (50 Lakeside).

Due to the pending transfer of title, Stone completed the Phase I ESA within 36 hours of assignment and identified ten recognized environmental conditions (RECs) associated with past property use, as well as evidence of past releases, the presence of polycyclic aromatic hydrocarbons (PAHs) in subsurface soil, the site's proximity to Pine Street Barge Canal Superfund Site, and potential for contaminant migration from adjacent, contaminated sites and surrounding rail operations. In addition, Stone believed that a previously performed Phase II ESA did not adequately assess the presence of PCBs within building materials, and that further assessment of PCBs in caulk, glazing, and other materials was warranted.

On October 25, 2018, Stone completed a Phase II ESA to evaluate whether the RECs identified in Stone's Phase I ESA Report—as well as remaining data gaps following a previous Phase II ESA—may have resulted in contamination to environmental media at the Site. Stone's Phase II ESA included assessment of building materials for PCB contamination, a soil quality 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.

While the Phase II ESA Report identified PCBs in several caulk samples, our findings demonstrated that the PCBs had not diffused from window caulk into adjoining masonry or impacted surface soil directly below windows. Based on PCB concentrations in window

caulk and the date of application, PCB-contaminated window caulk at the Lakeside site was considered an excluded PCB product by EPA and, while continued use was allowed, Stone prepared a removal procedure for contractors to follow that prevents the spread of PCB-contaminated window caulk and is protective of the workers. PCBs were identified in the concrete slab of the 50 Lakeside building at concentrations that required cleanup.

PAHs were identified in surface soil at concentrations exceeding Vermont Soil Screening Values (SSVs). No other site contaminants of concern were identified in surface soil or subsurface soil samples collected along the proposed utility corridor at concentrations requiring corrective actions. In addition, Several volatile organic compounds (VOCs) were detected in soil gas samples, but none occurred at concentrations exceeding vapor intrusion screening values (VISV) for industrial sites. VOCs were not detected in vapor samples designed to assess whether chlorinated solvents were released to the concrete slab and are off-gassing into the indoor air environment. Based on these results, a complete vapor intrusion pathway was ruled out and Stone recommended no further assessment or cleanup related to vapor intrusion.

Stone conducted a Supplemental Phase II ESA between November 2018 and February 2019 to determine the extent of PCB contamination exceeding TSCA criteria in 50 Lakeside Avenue building materials and evaluate soil quality within newly proposed parking areas, stormwater retention basins, utility corridors, and along the rail corridor. The Supplemental Phase II ESA identified widespread PCB contamination in the former manufacturing and maintenance areas of the 50 Lakeside Avenue building at concentrations requiring cleanup. Stone was able to delineate areas of the wall and slab that are PCB-contaminated due to spills of hydraulic fluids and those that are coated with PCB-containing paint. PAH-contaminated soil was determined to be limited in extent to the area immediately north of the 50 Lakeside Avenue building.

Based on the all previous environmental investigation results, Stone prepared an Evaluation of Corrective Action Alternatives (ECAA) to evaluate cleanup alternatives to prevent direct contact with PCB-contaminated building materials and PAH-contaminated soil. Stone also prepared a Self-Implementing/Risk-Based Disposal and Cleanup Plan (SI/RBCP) for approval by the US EPA Toxic Substance Control Act Division (TSCA). The selected remedial approaches were presented in a Corrective Action Plan and Self-Implementing/Risk Based Cleanup Plan and 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 (mg/Kg) 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 soil on-Site through regrading and installation of engineered barriers;
- Periodic maintenance and monitoring of the barriers; and
- Implementation of an institutional control on the Site Property deed in the form of a Certificate of Completion under the State of Vermont Brownfields Reuse Environmental Liability Limitation Program (BRELLA).

The cleanup plans were approved by the Vermont DEC and EPA on April 15, 2019. Stone oversaw the completion of remedial actions to ensure compliance with the cleanup plans throughout redevelopment of the property from July 2019 through March 2020. Stone has since performed a Performance-Based PCB cleanup of a subsurface piping structure and an in-place closure of a former heating fuel underground storage tank submitted a report summarizing all cleanup activities completed at the property for VT DEC and EPA review in April 2020. Pending acceptance of the cleanup report by the regulatory agencies, the property will receive a Certificate of Completion through BRELLA.