Brownfields Phase II Environmental Site Assessment
Site-Specific Quality Assurance Project Plan Addendum
Partial Building Demolition

48 Elm Street
Brattleboro, Vermont 05301

DEC SMS Site #2008-3834
EPA RFA 19093

March 30, 2021

LE·Environmental

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LEE Project #17-096

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Section A: Title and Approval Page

48 Elm Street, Brattleboro, Vermont
Brownfields Site Specific Quality Assurance Project Plan Addendum
March 30, 2021

LEE Brownfields Project Manager: Alan Liptak

Signature

LEE Brownfields QA Officer: Angela Emerson

Signature

U.S. EPA Project Manager: Karen Place

Signature

U.S. EPA QA Officer: Bryan Hogan

Signature

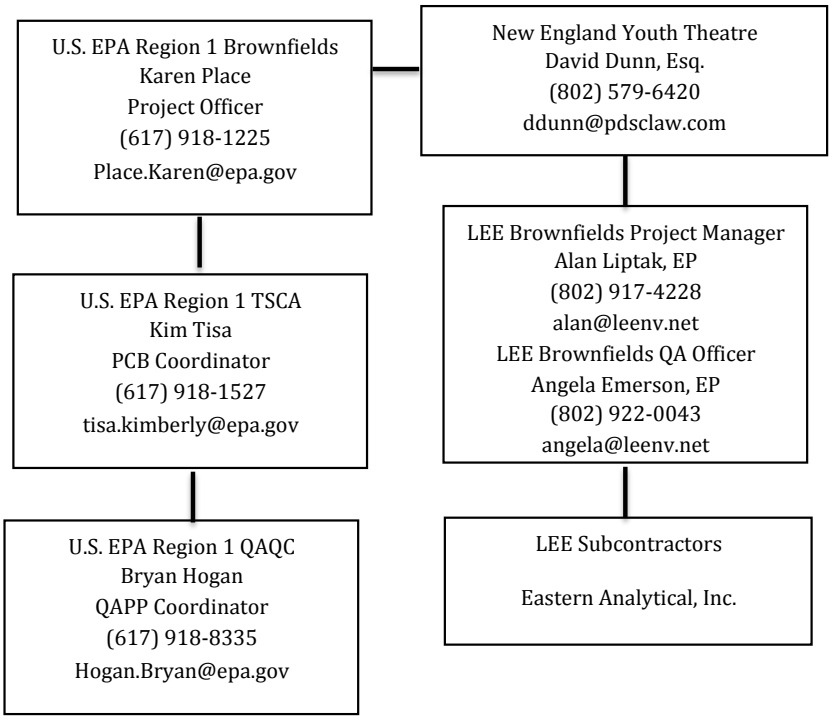
Introduction

This Brownfields Site-Specific Quality Assurance Project Plan Addendum (Site-Specific QAPP addendum) was prepared by LE Environmental LLC (LEE) of Waterbury, Vermont for conducting sampling and laboratory testing following partial building demolition at 48 Elm Street in Brattleboro, Vermont. A Site location map is included in Appendix 1. This work is being performed for the New England Youth Theatre (NEYT). This site-specific QAPP was prepared using rules and guidance provided by USEPA and the Vermont Department of Environmental Conservation (DEC):

- Vermont Hazardous Waste Management Regulations, December 2016
- TSCA PCB Regulation at 40 CFR Part 761.

Section B: Project Organization

Communications during the planning and implementation of the Brownfields Phase II ESA will be performed according to the following organization flow chart.



Section C: Problem Definition

The property consists of an approximately 0.17 acre parcel at 48 Elm Street (formerly known as 64 Elm Street), Brattleboro, Vermont (see Appendix 1). The property coordinates are 42° 50' 59" north latitude and 72° 33' 41" west longitude. The property contains one brick and wood frame structure with two stories and a basement. This structure was built in the late 1880's and has been a paper mill, machine ship, manufacturing plant, paint factory, and theater storage building.[1]

The building has a cinder block addition on its north end, which was built sometime after 1950 based on Sanborn Insurance Mapping. This addition has no basement. The addition appears to have been used for offices and administrative functions. The cinder block addition is failing structurally, and the third floor has already been removed due to structural failure. The owner needs to remove the rest of the cinder block addition, because it is also failing. Building materials associated with the cinder block addition have been tested in previous investigations.

The cinder block building and the brick building share a brick wall. The brick wall is painted and once the cinder block building is demolished, the painted brick will be an exterior facing wall. The contractor will remove the paint from the brick wall after demolition is complete. This will be performed from construction lifts and/or scaffolding with containment and appropriate PPE. Paint removal will be performed using sandblasting techniques with either sand or with dry ice. PCB concentrations in paint on the brick wall may or may not be ≥50 ppm. Pilot testing at the Site in 2009 demonstrated that sandblasting the brick to remove the paint was effective in reducing PCB concentrations in the brick to below 1 ppm in areas with PCB paint in the 0.7-4.6 ppm range.

Section D: Project Objectives

The first project objective is to generate confirmation data to prove the effectiveness of sandblasting paint removal at removing PCBs to below regulatory standards in the remaining brick surface. The second objective is to characterize paint removal wastes for disposal. The Sampling Design set forth in Section E provides sufficient work scope to characterize PCB concentrations in the remaining brick wall, and to determine the PCB concentrations in the paint removal waste stream.

Section E: Sampling Design

Verification sampling and testing will be performed on the brick wall once the paint is removed (PCB Verification Sampling Locations Plan in Appendix A). A ten-foot grid will be laid out, and 7 brick samples and 1 duplicate brick sample will be collected and tested

[1] KAS, May 2009.

(>5% collection rate). A hammer drill and masonry bit will be used to obtain brick samples from 0-1/8" deep. The drill bit will be decontaminated with an Alconox-water mixture before the first use, between uses, and after the last use. The confirmation samples will be containerized (amber 4-ounce jars), labeled, and shipped to Eastern Analytical Inc. (EAI) using chain of custody procedures for testing of PCBs via EPA Method 8082 with Soxhlet extraction. Results will be requested on a one-week turnaround time. The verification brick sample PCB testing results will be tabularized and compared with the TSCA threshold of 1 ppm.

Waste characterization samples will be collected from individual drums of paint removal waste. An effort will be made to obtain a representative sample from each drum using a glass sampling tube. LEE estimates that 10, 55-gallon drums of paint waste may be generated. Depending on the specific disposal facility requirements (to be determined pending competitive procurement), fewer than one sample per drum may be required. The waste characterization data will be submitted to the proposed disposal facility for waste acceptance.

Data Verification and Reporting

Following completion of all field work and laboratory analysis, a Brownfields Construction Completion report will be prepared. The report will contain summary of the methods, findings, conclusions and recommendations. LEE using standard methodology for verification will evaluate all laboratory data and field data. LEE will issue an opinion regarding data quality objectives and data usability. Data quality issues (if any) will be discussed and their potential effect on the findings, conclusions and recommendations will be discussed.

Implementation Schedule

The work is forecast to take place according to the following implementation schedule.

- QAPP Submittal: March 31, 2021.
- QAPP Approval by April 30, 2021.
- Fieldwork: July-September 2021.
- Laboratory analysis September 2021.
- Reporting in September 2021.

Section F: Sampling and Analytical Method Requirements

Parameter & Matrix	Number of Samples	Analytical Method (Section G)	Sampling SOP (Form F-1)	Containers per Sample (number, size and type)	Preservation	Extraction Hold Time	Post Extraction Hold Time
PCB in Brick PCB in paint waste	7+1 Duplicate 10	EPA Method 8082 with Soxhlet Extraction EPA Method 3540C	J	1-4 ounce amber glass	Cool 0-6°C	14 days	40 days
RCRA Metals in Paint Waste	10	EPA Method 6020	J	1-4 ounce clear glass	Cool 0-6°C	6 months 28 days Mercury	6 months 28 days Mercury

Section G: Methods and SOP Reference Table

Following is a description of LEE and laboratory methods and standard operating procedures to be employed during this work. LEE and laboratory SOPs are included in LEE's generic QAPP document, Exhibits A & B, respectively.

LE Environmental Standard Operating Procedures to be used during this work:

J Building Materials Sample Collection

Summary of Laboratory Analytical Procedures to be used during this work:

Matrix and Analytes	Laboratory Analytical Procedures
PCBs in Building Materials	Standard Operating Procedure PCB Analysis EPA Method 608 and 8082; February 28, 2013, Revision #10, Eastern Analytical, Inc.
Soxhlet Extraction	Standard Operating Procedure Solid Sample Extraction by Soxhlet, Method 3540C; January 29, 2015, Revision #7, Eastern Analytical, Inc.

Section H: Field Equipment Calibration and Corrective Action

Data contained in LEE Generic QAPP V1 (RFA 19093), Section H.

Section I: Lab Equipment Calibration and Corrective Action

Data contained in LEE Generic QAPP V1 (RFA 19093), Section I.

Section J: Sample Handling and Custody Requirements

Data contained in LEE Generic QAPP V1 (RFA 19093) Section J.

Section K: Analytical Sensitivity and Project Criteria

The following form K tables were compiled based on the project's sampling design, analytical requirements, and relevant regulatory criteria. The criteria have been checked to verify that the numbers presented herein are current.

Compound or Analyte	Laboratory Reporting Limit	Relevant Criteria	Criteria Reference
Total PCB	0.02 mg/kg	1 ppm (TSCA jurisdiction) 50 ppm (EPA Remediation Waste and Vermont Hazardous Waste)	Vermont Hazardous Waste Management Regulations and 40 CFR Part 761.
Total Arsenic	0.5 mg/kg (0.025 mg/l)	5.0 mg/l	Relevant criteria based on TCLP "Rule of 20" for conversion of metals concentration in solid matrix to maximum theoretical extraction concentration during TCLP.
Total Barium	0.5 mg/kg (0.025 mg/l)	100 mg/l	
Total Cadmium	0.5 mg/kg (0.025 mg/l)	1.0 mg/l	
Total Chromium	0.5 mg/kg (0.025 mg/l)	5.0 mg/l	
Total Lead	0.5 mg/kg (0.025 mg/l)	5.0 mg/l	
Total Mercury	0.1 mg/kg (0.005 mg/l)	0.2 mg/l	
Total Selenium	0.5 mg/kg (0.025 mg/l)	1.0 mg/l	
Total Silver	0.5 mg/kg (0.025 mg/l)	5.0 mg/l	

Section L: Field Quality Control Requirements

Field quality control measures are included in Section F per guidance presented in LEE's Generic QAPP document (RFA 19093), Section L.

Section M: Laboratory Quality Control Requirements

Laboratory quality control requirements are included in laboratory SOPs presented in LEE's Generic QAPP document (RFA 19093), Exhibit 2.

Section N: Data Management and Documentation

Data management and documentation requirements are presented in LEE's Generic QAPP document (RFA 19093), Section N.

Section O: Assessment and Response Actions

Assessment and Response Actions are presented in LEE's Generic QAPP document (RFA 19093), Section O.

Section P: Project Reports

Upon receipt of the laboratory data, a report will be prepared to address data usability and any sampling problems or modifications and will provide a quality assurance and quality control of the field and laboratory data collected and received. The report will include the specific sample locations, field observations, laboratory data summary tables, and conclusions relating to building materials. Reports will be submitted to the DEC and the EPA Project Officer for review.

Section Q: Field Data Evaluation

The project manager and QA reviewer will evaluate field data collected during assessment activities. The field data will be reviewed for accuracy, completeness, precision and compliance with LEE SOP requirements and site-specific QAPP addendum work scope requirements. The evaluation will be documented in the project quality assurance report, which will be an appendix or attachment to the project report.

Section R: Laboratory Data Evaluation

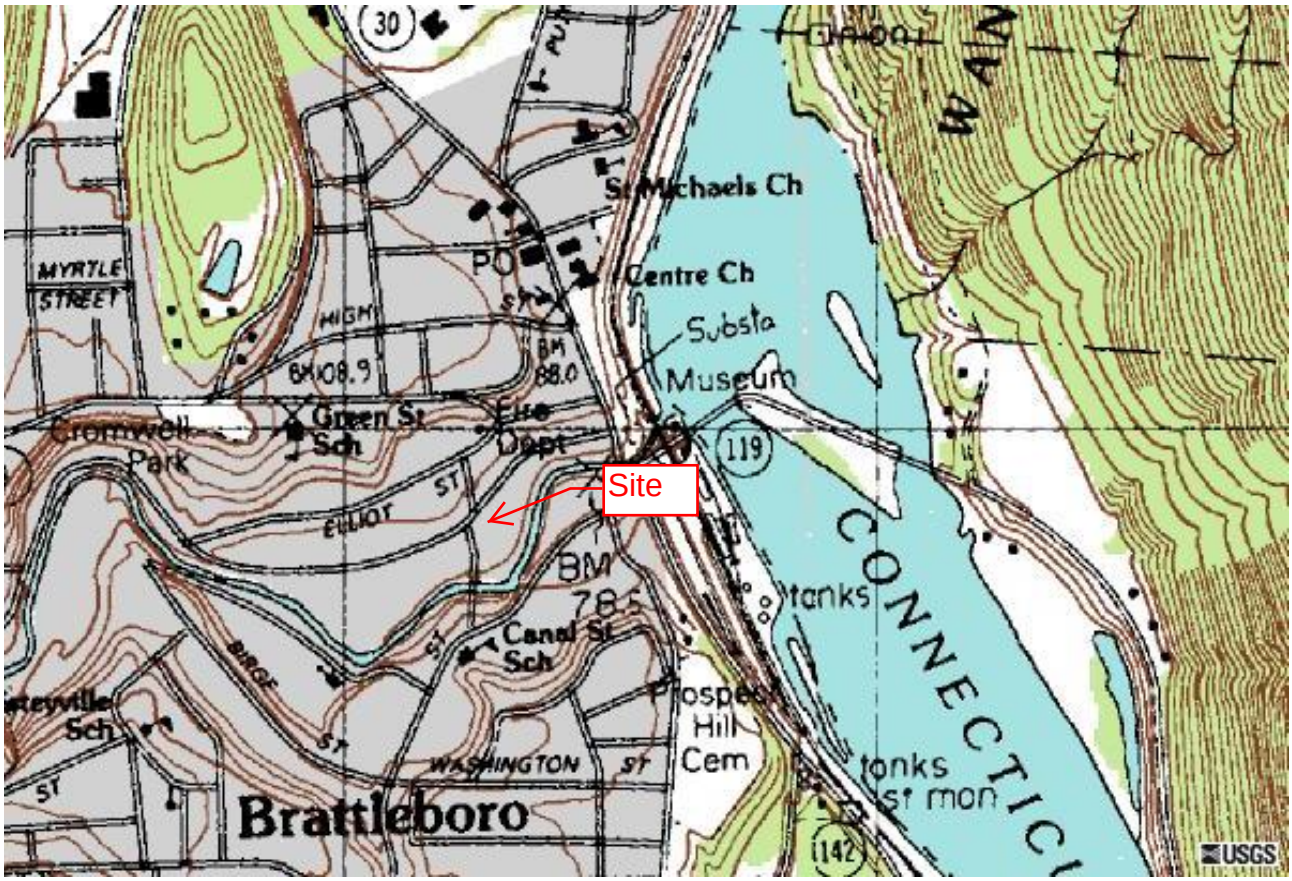
The laboratory analytical results will be verified by the QA reviewer per LEE Generic QAPP (RFA 19093) Section R.

Section S: Data Usability and Project Evaluation

Assessment of data usability will be performed per LEE Generic QAPP (RFA 19093) Section S.

APPENDIX 1

SITE LOCATION MAP



N
W E
S

48 Elm Street
Brattleboro, Vermont

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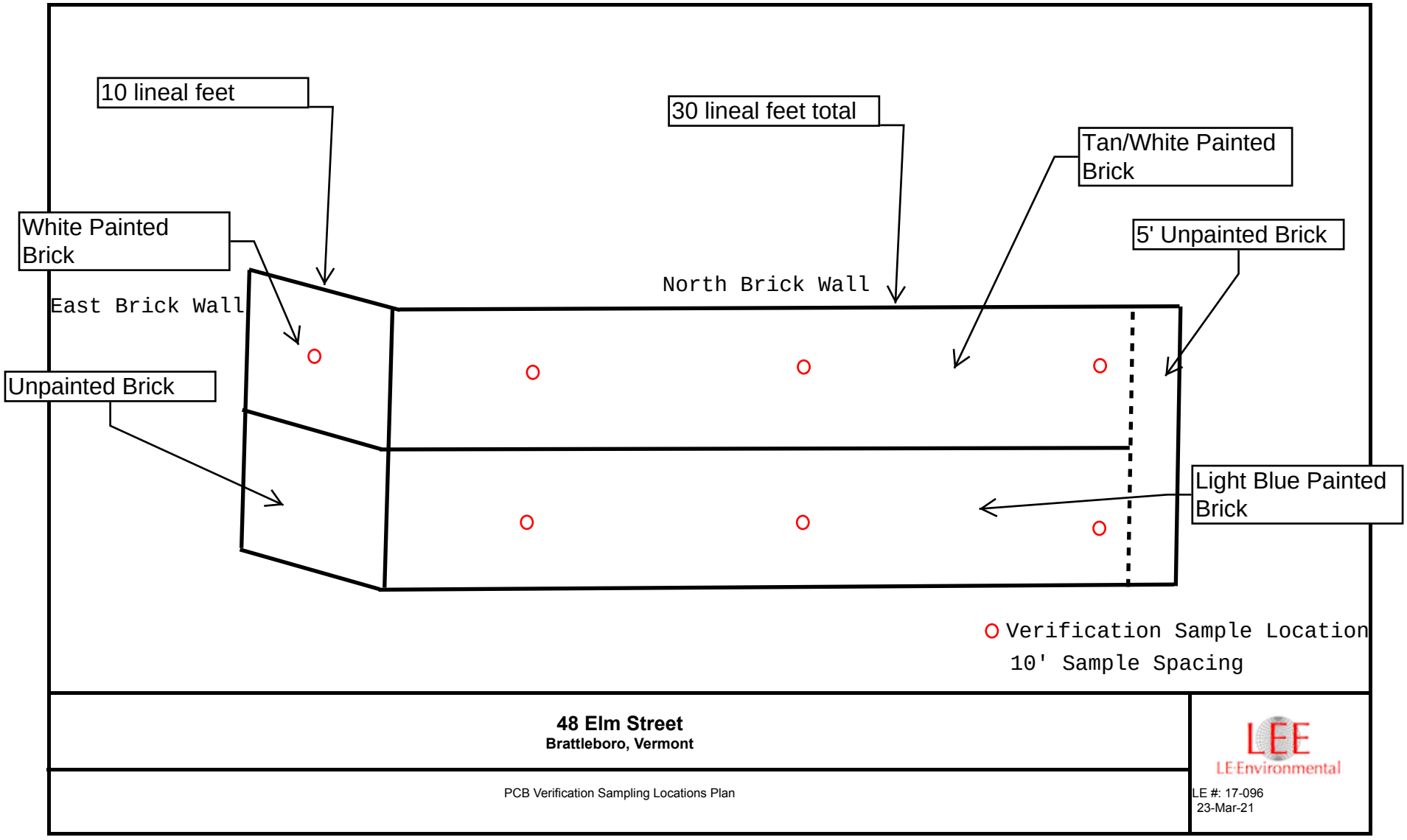
1984 USGS Map

LE #: 17-096
Date: October 10, 2017
Source: MSRmaps.com

APPENDIX 2

VERIFICATION SAMPLING MAP



48 Elm Street
Brattleboro, Vermont

PCB Verification Sampling Locations Plan

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