The Center for Cartoon Studies

REQUEST FOR PROPOSALS (RFP)
FOR QUALIFIED ENVIRONMENTAL SERVICES
TO PERFORM
BROWNFIELD CLEANUP ACTIVITIES

Issued: October 14, 2024

Submittals must be received by: October 31, 2024

Version 1.0

Submit Proposals via email to:
Dave Lloyd
lloyd@cartoonstudies.org
802-295-3319

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1. INTENT

The Center for Cartoon Studies (CCS) has recently received a Brownfields Cleanup Grant by the State of Vermont and intends to hire a qualified firm or team of firms, hereinafter referred to as "Consultant/Contractor" to conduct environmental services for the CCS's Brownfields program. The Consultant/Contractor will be selected according to selected criteria outlined in the RFP/RFQ and will provide technical services to CCS with respect to the remediation of eligible properties (and other programs), including:

- Conduct environmental remediation activities meeting regulatory state requirements;
- Quality Assurance Project Plan (QAPP);
- Perform closure reporting;
- Conduct community outreach.

2. INTRODUCTION

CCS is an institution of higher education that offers courses of study that center on the creation and dissemination of comics, graphic novels and other manifestations of the visual narrative. Experienced and internationally recognized cartoonists, writers, and designers teach classes. CCS programs include a two-year Master of Fine Arts Degree, One- and Two-Year Certificates in Cartooning, and annual winter and summer workshops. The school is located in the historic downtown village of White River Junction, Vermont.

CCS, recognizing the central role that socially responsible businesses can play in a community, will initiate and be responsive to innovative ways to improve the local cultural and economic quality of life.

3. PROJECT DESCRIPTION

CCS recently received a Brownfields Cleanup Grant of up to $624,550 to conduct environmental cleanup in the target site located at 111 Gates Street in White River Junction, VT. CCS is seeking a Consultant/Contractor to serve as the environmental General Contractor to execute the Corrective Action Plan (CAP), approved on September 26, 2024, accompanying this RFP. Tasks include, but are not limited to:

Task 1. Cooperative Agreement Oversight. This task involves managing and overseeing contractors and subcontractors, including competitive procurement, personnel, and financial management, coordination with stakeholders, reporting to EPA/DEC and stakeholders, and participation in required training. The contracted consultant/contractor will assist in coordinating with stakeholders and with ACRES and other reporting requirements.

Task 2. Community Engagement. In this task, the agency, in coordination with the hired consultant/contractor, will actively reach out to local officials, residents, business interests, and other stakeholders, solicit their input, and update them as the program is implemented.

Task 3. Cleanup Planning. This task involved preparation for cleanup activities by the hired consultant/contractor to conduct the necessary pre-remedial testing; prepare the final remedial action report (RAP), analysis of brownfield cleanup alternatives (ABCA), and QAPP to meet federal and state requirements; and prepare the soil management plan and conduct the appropriate permitting for the disposal facilities.

Task 4. Cleanup activities and reporting. This task includes the cleanup activities to be conducted by the consultant/contractor including removal of oil tank and soil excavation, transportation, testing, and disposal. Additional clean soil backfill and hazardous building materials abatement are also activities included in this task together with closure reporting.

4. CONTRACTOR/CONSULTANT SCOPE OF SERVICES

CCS is seeking a Contractor/Consultant to serve as the General Contractor to execute the Corrective Action Plan (CAP), approved on September 26, 2024, accompanying this RFP. Tasks include, but are not limited to:

1. Provide technical assistance to the entity including attending meetings of the Advisory/Steering Committee and be available to respond to the questions of the agency, and municipal staff regarding the assessment process. Provide status reports on ongoing projects. (Supports Tasks 1 and 2 of the grant workplan).

2. Provide services on cleanup planning, including:
   a. Prepare remedial action plans, appropriate for each site, which can satisfy the requirements of the State's remediation regulations. The grant application estimated remedial planning on the target site in the first six months of the three-year EPA grant period.
   b. Prepare scope of work and cost estimate for review and approval the agency, before work begins. Incorporate sustainable practices in the reuse scoping and remediation planning scopes of work.

3. Provide remedial activities based on the remedial action plan provided. Oversee the work of the remediation contractor. The selected consultant/contractor will be responsible for preparing a QAPP. Oversee construction for soil excavation and removal, including backfilling with clean fill.

4. Perform confirmatory soil sampling after soil removal to verify regulatory compliance.

5. Prepare closure reports in accordance with the state and federal laws.

5. PROJECT SCHEDULE

The Consultant/Contractor should be prepared to enter into a contract and begin work as directed on or about June 30, 2025. It is anticipated that the contracted services as described in this RFP shall be completed by December 31, 2025.

6. GENERAL PROJECT REQUIREMENTS

1. The successful Consultant/Contractor shall comply with all applicable federal, state and local laws and regulations. Funding for this project is provided through the U.S. Environmental Protection Agency Brownfields Cleanup Grant Program. The Consultant/Contractor must take into account compliance with all regulations applicable to the EPA Brownfields Program, and will also be subject to the Terms and Conditions of the Brownfields Grant.

2. Respondents to this RFP/RFQ will represent a firm, company or team possessing experience and expertise in environmental risk assessment and management plans, quality assurance plans, groundwater, soil and building sampling, remediation strategies and clean-up programs, community outreach and education programs, and the professional standards thereof, to undertake and successfully complete the scope of work as outlined in this RFP. Staff assigned to this project are required to be Licensed Professionals (LSP) (applicable term for MA, ME, NH, VT, RI) or Licensed Environmental Professionals (LEP) (applicable term for CT).

3. Disadvantaged Business Enterprises/Minority Business Enterprises/Women Business Enterprises are encouraged to apply. The Center for Cartoon Studies is an equal opportunity employer.

7. PROPOSAL REQUIREMENTS

A. SUBMISSION

Proposals shall be submitted by 5 pm, October 31, 2024, via email at lloyd@cartoonstudies.org with the subject line "Brownfields LSP/LEP Proposal." Any responses received after this date and time will be rejected.

B. REQUEST OF ADDITIONAL INFORMATION

1. Questions concerning this proposal must be submitted in writing to:

   Dave Lloyd, Operations Manager
   lloyd@cartoonstudies.org

Questions are accepted before 5pm October 28, 2024. Questions may be emailed and written responses will be emailed to all proposers on record.

C. PROPOSAL RESPONSE CONTENTS

Respondents must submit complete responses to all of the information requested. Respondents who do not respond to the entire content of the RFP may be disqualified. Proposals should identify the Consultant/Contractor's planning processes, tasks, types and sources of information to be collected, and staff expected to be involved in the work. The proposal should also note how study results will be presented to the CCS.

Written proposals should include, at a minimum, the following information in the order requested:

1) **Cover Letter**. A letter signed by an officer of the firm binds the firm to all of the commitments made in the proposal. The cover letter should be addressed to Dave Lloyd, The Center for Cartoon Studies

2) **Contact Information**. The name, address, and contact person of the company submitting the proposal. Include telephone and fax numbers, as well as email and website addresses.

3) **Statement of Qualifications and Experience**. Please state the following:

   a. Give the company/firm/team history, background and relevant experience.

   b. The name(s), business address, phone number, e-mail address of firms and individuals proposed to participate in all tasks identified in the scope of work.

   c. The background, education and relevant experience of all team members proposed to participate in all tasks identified in the scope of work. The principal in charge and project manager shall be identified along with the roles of other significant project participants.

   d. Experience with brownfields remediation planning and remedial activities. Please provide a minimum of three references, giving the name of the project, description of project, project period, and project cost. (Include the names of clients, primary contact person and phone number).

   e. Experience with reuse scoping/planning and community outreach. Please provide a minimum of three references, giving the name of the project, description of project, project period, and project cost. (Include the names of clients, primary contact person and phone number).

   f. Quality Assurance Methods: Give a description of the quality assurance methods implemented by the Consultant/Contractor. Also, please state whether the firm has

prepared an EPA-approved generic Quality Assurance Project Plan.

4) **Scope of Work.** Proposed approach to the scope of work, which includes major tasks required to complete the remedial activities. The statement of approach should also include a discussion of quality control for each phase of work outlined in this RFP.

5) **Project Schedule.** Proposed project schedule in accordance with basic requirements of this RFP.

6) **Fee Proposal.** The fee proposal shall include costs associated with the delivery and provision of finished products and costs associated with carrying out all tasks specified in the Consultant/Contractor Scope of Work of this RFP, including pricing for staff, equipment, remedial work, and report preparation.

7) **Proposed Subcontractors.** The successful respondent will assume sole responsibility for the complete project as required in this RFP. CCS will consider only one individual/firm/company as the sole point of contact with regard to contract matters, whether or not subcontractors are used for one or more parts of this project. Respondents who intend to subcontract one or more elements of this project to other firms/individuals shall identify those work elements to be subcontracted and the firm/individual subcontractor. All subcontractors shall be included in the respondent's statement of qualifications. Subcontractors may not be substituted, nor any portions of the contract assigned to other parties, after contract award without the written consent of the CCS.

8) **Insurance Documents.** Documentation of insurance coverage required.

8. SELECTION CRITERIA

The following table provides the relevant evaluation criteria

Evaluation Criteria	Points
Knowledge of regulations and remedial techniques in Vermont	25
Experience with environmental remediation under EPA brownfield cleanup grants and/or other federal and state programs	20
Project management capability	20
Staff qualifications and firm credentials	10
Incorporation of sustainable practices in the assessment and remediation planning process	10
Competitive fee	15
Total Points	100

9. PROCUREMENT SCHEDULE: SUMMARY OF KEY DATES

The following schedule has been proposed for this RFQ/RFP:

RFP Release Date: October 15, 2024

RFP Questions Due: October 28, 2024
Answers/Addendum Posted: October 29, 2024
Proposals Due: October 30, 2024

Selection/Notification of Successful Firm: On or before, November 7, 2024

10. ADDITIONAL TERMS AND CONDITIONS

In the event of an inconsistency or conflict between this RFP and the Corrective Action Plan (CAP), approved on September 26, 2024, accompanying this RFP, the inconsistency or conflict shall be resolved by giving precedence to the CAP.

Corrective Action Plan:
111 Gates Street,
White River Junction, Vermont
SMS# 20215041

September 16, 2024

PROJECT NO.

20211004

REVIEWED BY:

DTV 061924
KJM 070324

PREPARED FOR:

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SUBMITTED BY:

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802.552.3030

Acknowledgements

This Corrective Action Plan was prepared by Stone Environmental, Inc. for the Center for Cartoon Studies (CCS), the prospective purchaser, with funding provided by a Vermont Department of Environmental Conservation (VT DEC) Brownfields Response Program Grant.

The Phase II Environmental Site Assessment (ESA) and Supplemental Site Investigation (SSI) were funded by Two Rivers-Ottauquechee Regional Commission and were made possible in part by a grant from the State of Vermont through the Agency of Commerce and Community Development, Department of Economic Development (ACCD). Funding for the additional SSI was made possible by a brownfield assessment grant from the State of Vermont through the ACCD. Funding for the Evaluation of Corrective Action Alternatives (ECAA) was made possible by a US EPA brownfield grant through the VT DEC.

Title and Approval Page

Document Title
Corrective Action Plan: 111 Gates Street, White River Junction, Vermont, SMS# 20215041

September 16, 2024

Document Prepared by:
Stone Environmental, Inc., 535 Stone Cutters Way, Montpelier, VT 05602 (802) 229-4541

Document Preparer Approvals:

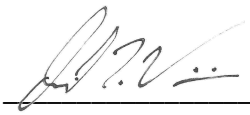
Sarah Rathay, Project Hydrogeologist, Stone Environmental, Inc.

July 11, 2024

Signature Date

Daniel Voisin, Senior Geologist, Environmental Assessment and Remediation Service Leader, Stone Environmental, Inc.

I certify under penalty of perjury that I am an environmental professional and that all content contained within this deliverable is to the best of my knowledge true and correct.



July 11, 2024

Signature Date

Katrina Mattice, P.E., Senior Engineer, Stone Environmental, Inc.

By my signature, as a Vermont Registered Engineer that I hereby certify that I have reviewed this document.

July 11, 2024

Signature Date

Executive Summary

Stone Environmental, Inc. (Stone) has prepared this Corrective Action Plan (CAP) under contract with Two Rivers-Ottauquechee Regional Commission (TRORC) and the Vermont Department of Environmental Conservation (VT DEC) on behalf of the Center for Cartoon Studies (CCS) for the property located at 111 Gates Street in the Village of White River Junction, Town of Hartford, Vermont (the Site). The Site is currently owned by Telephone Operating Company of VT LLC (d/b/a Consolidated Communications) and rented to the Center for Cartoon Studies (CCS) who is considered a *bona fide* prospective purchaser and is enrolled in the Vermont Brownfield Reuse Environmental Liability Limitation (BRELLA) Program. The VT DEC subsequently assigned Sites Management Section (SMS) #2021-5041 to the Site for the BRELLA enrollment. CCS intends to continue to occupy the Site building for non-residential use and will perform extensive renovations, including removal of most interior finishes.

The Site is currently part of one, 1.33-acre parcel, located at 111-119 Gates Street, which is planned to be sub-divided into two parcels. CCS proposes to purchase 111 Gates Street, hereafter referred to as the Site. The Site is occupied by a two-story building with a basement, constructed in 1918 with brick and wood interior, and is abutted by commercial and residential properties. The Site was improved with a dwelling prior to 1894, which was then demolished between 1906 and 1917. A telephone office (New England Telephone) was constructed at 111 Gates Street between 1918 and 1925. New England Telephone expanded to the north in 1960. Since that time, the site has been used exclusively by telecommunications companies, and more recently, rented by CCS for use as a cartoon school.

Prior environmental investigations of the site include a site investigation (Wehran Emcon Northeast, 2014), Phase I Environmental Site Assessment (ESA) (Stone, 2021), Phase II ESA (Stone, 2022), Supplemental Site Investigation (Stone, 2023a), lead-based paint inspection report (Clay Point Associates, Inc. (CPAI), 2023), asbestos containing materials inspection report (CPAI, 2023), asbestos containing materials supplemental inspection report (CPAI, 2023), Supplemental Site Investigation (Stone, 2023b), and Evaluation of Corrective Action Alternatives (ECAA) (Stone, 2024).

Through the analysis of data provided from previous Site investigations, remedial actions are necessary based on the following Site conditions:

- Volatile organic compounds (VOCs) are present in soil vapor below the Site building with tetrachloroethylene (PCE) and trichloroethylene (TCE) concentrations exceeding the VT DEC resident Vapor Intrusion Standard (VIS), and naphthalene concentrations exceeding the non-resident VIS.
- Polychlorinated biphenyls (PCBs) are present in building materials, including linoleum adhesive, carpet mastic, cove base adhesive, duct seam sealant, grout, paint, suspended ceiling tile glue, window caulking, and wood varnish sealant. PCBs are present at concentrations less than the Toxic Substances Control Act (TSCA) bulk product threshold of 50 mg/kg, except for in one type of linoleum adhesive (53 mg/kg) and carpet mastic (170 mg/kg).

- Asbestos-containing materials (ACM) are present in building materials in amounts greater than 1% by weight or area either alone or mixed with other fibrous or non-fibrous material, as defined by Vermont Regulations for Asbestos Control.

Corrective actions have been developed and are included in this CAP as follows:

- Abatement of material containing PCBs that present a risk to sensitive receptors.
  - Materials will be removed or encapsulated that contain PCBs at concentrations ≥ 10 mg/kg.
  - Bulk product will be disposed of at a Subtitle D landfill that is permitted to receive PCB excluded bulk product.
- Mitigation of vapor intrusion risk from VOCs via installation of a passive vapor barrier and establishment of an institutional control to the land record, documented on the Certificate of Completion (COC).
- Abatement of material that contains any type of asbestos in an amount greater than 1% by weight or area either alone or mixed with other fibrous or non-fibrous material (i.e. ACM). ACM will be disposed of at a Subtitle D landfill that is permitted to receive asbestos waste.
- Management of lead-based paint surfaces with a concentration of lead above 1.0 mg/cm2 during cleanup activities and renovations, in accordance with Vermont Regulations for Lead Control.

Corrective actions are planned to commence in spring 2025.

Corrective Action Plan: 111 Gates Street, White River Junction, Vermont, SMS# 20215041

Cover Photo: Photos taken by Stone Environmental, Inc., May 21, 2021

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Acronyms and Abbreviations

Term	Definition
ABCA	Analysis of Brownfield Cleanup Alternatives
ACCD	Agency of Commerce and Community Development
ACM	Asbestos Containing Materials
ANR	Agency of Natural Resources
ASTM	American Society for Testing and Materials
bgs	below ground surface
BRELLA	Brownfields Reuse and Environmental Liability Limitation Act
CAP	Corrective Action Plan
CACCR	Corrective Action Construction Completion Report
CCS	Center for Cartoon Studies
COC	Certificate of Completion
CPAI	Clay Point Associates, Inc.
CSM	Conceptual Site Model
CVOC	Chlorinated Volatile Organic Compounds
ECAA	Evaluation of Corrective Action Alternatives
EPA	Environmental Protection Agency
ESA	Environmental Site Assessment
HEPA	High Efficiency Particulate Air
IDW	Investigative Derived Wastes
I-Rule	Investigation and Remediation of Contaminated Properties Rule
$\mu g/cm^2$	micrograms per cubic centimeters
$\mu g/L$	micrograms per liter
$\mu g/m^3$	micrograms per cubic meter
mg/kg	milligrams per kilogram
mg/cm^2	milligram per square centimeter
ng/m^3	nanograms per cubic meter
NAPL	Non-Aqueous Phase Liquid
NELAP	National Environmental Laboratory Accreditation Program
O&M	Operation and Maintenance

PCB	Polychlorinated Biphenyls
PCE	Tetrachloroethylene
PE	Professional Engineer
PG	Professional Geologist
PID	Photoionization Detector
ppm	Parts Per Millions
ppmv	Parts Per Million by Volume
QEP	Qualified Environmental Professional
RBCP	Risk-Based Cleanup Plan
REC	Recognized Environmental Condition
RL	Reporting Limit
SHWS	State Hazardous Waste Site
SI	Site Investigation
SMS	Sites Management Section
SSD	Sub-Slab Depressurization
SSI	Supplemental Site Investigation
Stone	Stone Environmental, Inc.
SVE	Soil Vapor Extraction
TCA	Trichloroethane
TCE	Trichloroethylene
TCLP	Toxicity Characteristic Leaching Procedure
TPH	Total Petroleum Hydrocarbons
TRORC	Two Rivers-Ottauquechee Regional Commission
TSCA	Toxic Substances Control Act
UST	Underground Storage Tank
VGES	Vermont Groundwater Enforcement Standards
VIS	Vapor Intrusion Standard
VOC	Volatile Organic Compound
VT DEC	Vermont Department of Environmental Conservation

1. Introduction

Stone Environmental, Inc. (Stone) has prepared this Corrective Action Plan (CAP) under contract with Two Rivers-Ottauquechee Regional Commission (TRORC) and the Vermont Department of Environmental Conservation (VT DEC) on behalf of the Center for Cartoon Studies (CCS) for the property located at 111 Gates Street in the Village of White River Junction, Town of Hartford, Vermont (the Site). The Site is currently owned by Telephone Operating Company of VT LLC (d/b/a Consolidated Communications) and rented to the Center for Cartoon Studies (CCS) who is considered a *bona fide* prospective purchaser and is enrolled in the Vermont Brownfield Reuse Environmental Liability Limitation (BRELLA) Program. The VT DEC subsequently assigned Sites Management Section (SMS) #2021-5041 to the Site for the BRELLA enrollment.

Based on previous Site investigations, remedial actions are necessary for the following Site conditions:

- Volatile organic compounds (VOCs) are present in soil vapor below the Site building with tetrachloroethylene (PCE) and trichloroethylene (TCE) concentrations exceeding the VT DEC resident Vapor Intrusion Standard (VIS), and naphthalene concentrations exceeding the non-resident VIS.
- Polychlorinated biphenyls (PCBs) are present in building materials, including linoleum adhesive, carpet mastic, cove base adhesive, duct seam sealant, grout, paint, suspended ceiling tile glue, window caulking, and wood varnish sealant. PCBs are present at concentrations less than the Toxic Substances Control Act (TSCA) bulk product threshold of 50 milligrams per kilogram (mg/kg), except for in one type of linoleum adhesive (53 mg/kg) and carpet mastic (170 mg/kg).
- Asbestos-containing materials (ACM) are present in building materials in amounts greater than 1% by weight or area either alone or mixed with other fibrous or non-fibrous material, as defined by Vermont Regulations for Asbestos Control.

This CAP details methods to mitigate the risk of exposure to Site users through inhalation of soil vapors, direct contact and inhalation of PCB-contaminated building materials, and inhalation of ACM. This CAP has been prepared in accordance with the VT DEC's *Investigation and Remediation of Contaminated Properties Rule* (IRule). A TSCA cleanup and disposal plan is not required for removal and disposal of PCB-containing building materials as PCBs are present in bulk product at the Site and no release of PCBs or evidence of spills have been observed. Therefore, all PCB-contaminated building materials are being managed in accordance with 40 CFR §761.62.

1.1. Site Description

The Site is located at 43.648485° north latitude and -72.320267° west longitude at an elevation of approximately 371 feet above sea level in the Village of White River Junction, Windsor County, Vermont (Figure 1, Appendix A). The Site is currently part of one, 1.33-acre parcel, located at 111-119 Gates Street, which is planned to be sub-divided into two parcels; CCS proposes to purchase 111 Gates Street, identified by

the Town of Hartford as parcel 45-155. This CAP has been prepared for 111 Gates Street. Following purchase of the Site, CCS intends to perform renovations to the building (see Section 1.3).

The Site is in the Central Business District in the Village of White River Junction and is abutted by commercial and residential properties (Figure 2, Appendix A). Immediately to the north and northwest is a telecommunication building (Consolidated Communications). Further to the northeast is a dental clinic and commercial businesses, and to the southeast is Currier Street, beyond which are restaurants and commercial businesses. To the south is Gates Street, beyond which is a performing art and recording studio (Northern Stage). To the southwest is a church and residence with a paved parking lot, and further to the northwest are residences.

The Site is occupied by a two-story building with a basement, constructed in 1918 with a brick and wood interior (Figure 3, Appendix A). A small strip of grass-covered lawn occupies the space between the building façade and the sidewalk bordering Gates Street. The Site is connected to municipal water and sewer and heated with electric heat. The building was formerly heated with hot water using heating fuel as the fuel source that relied on an underground storage tank (UST) previously located in the greenbelt south of the building. The building is accessed from Gates Street and currently occupied part-time by one member of the CCS staff, an educational institution.

Topography at the Site is flat, sloping downward slightly to the northeast. Across the Site, topography varies by approximately 5 feet.

1.2. Site Contact Information

The current Site owner is the Telephone Operating Company of VT LLC (d/b/a Consolidated Communications) of 770 Elm Street in Manchester, New Hampshire who can be contacted through:

Alicia Cochran
Consolidated Communications
Attn: Custodian of Records
PO Box 969, Roseville CA 95678
916-895-9674
Alicia.Cochran@consolidated.com

1.3. Redevelopment Plan

Following purchase of the Site, CCS intends to perform extensive renovations to the building, including removal of most interior finishes (Figure 8, Appendix A). Wall finishes (and floor finishes in the basement) that cannot be removed will be re-painted. Building improvements may include installing new windows, insulating the exterior walls on the outside, insulating the roof, and installing solar panels on the roof at a later date. The ventilation mechanical system will be segregated from 119 Gates Street by installing a new rooftop mechanical system.

1.4. Site History

The Site was improved with a dwelling prior to 1894, which was then demolished between 1906 and 1917. A telephone office (New England Telephone) was constructed at 111 Gates Street between 1918 and 1925. New England Telephone expanded to the north in 1960. Since that time, the site has been used exclusively by telecommunications companies, and more recently, rented by CCS.

1.5. Prior Environmental Investigations

Prior environmental investigation locations are shown on Figure 4, Appendix A. Samples results are shown on Figures 5 through 7, Appendix A. Analytical data tables are included in Appendix B.

1.5.1. Wehran Emcon Northeast, Environmental Site Assessment, July 2014

The address 111-119 Gates Street is listed as a State Hazardous Waste Site (SHWS; SMS #931530) for total VOCs detected with a handheld photoionization detector (PID) during removal of a 20,000-gallon diesel UST at 119 Gates Street on November 16, 1993. PID readings were detected up to 48 parts per million (ppm). In response, two soil borings were advanced to the southeast (SB-4) and northwest with the boring advanced to the northwest completed as a monitoring well (SB-5/MW-1). Soil samples collected from the borings detected total petroleum hydrocarbons (TPH) above the laboratory reporting limit in SB-4 (abutting 111 Gates Street) at 58 mg/kg. Neither TPH nor VOCs were detected in the soil sample from SB-5 or the groundwater sample above the laboratory reporting limit.

Impact to occupants was assessed in the former radio office and mechanical room of the 119 Gates Street building and a storage room within the 111 Gates Street building; these rooms are in the basement of these buildings and closest to the former 20,000-gallon UST. Indoor air was assessed via PID screening and found to be non-detect. Soil vapor was also screened by PID using two temporary vapor probes – one probe in the 111 Gates Street storage room (SB-7) and one in the radio room (SB-6). Soil vapor screening yielded results ranging from 11.0 to 84.0 ppm and no detections in ambient air. Soil gas samples were not collected for compound-specific analyses.

1.5.2. Stone Environmental, Inc., Phase I Environmental Site Assessment, August 24, 2021

Stone completed a Phase I Environmental Site Assessment (ESA) of the Site and 119 Gates Street on August 24, 2021 on behalf of CCS. The Phase I ESA was performed using the *Standard Practice for Environmental Site Assessments: Phase I ESA Assessment Process*, published by ASTM International as Standard Practice E1527-13. The assessment revealed the following evidence of recognized environmental conditions (RECs) in connection with the Subject Property (Figure 3, Appendix A). RECs were grouped by address (111 Gates Street and 119 Gates Street):

111 Gates Street

- REC #1.1: The Subject Property is listed as a State Hazardous Waste Site (SMS #931530) for a diesel fuel release from a former UST (UST-3).
- REC #1.2: The Subject Property was historically used as an automotive garage from approximately 1925 to 1935.
- REC #1.3: UST-7, a 12,000-gallon diesel fuel UST presents a risk of migration to the 111 Gates Street building in the event of a future release.
- REC #1.4: Two oil-powered generators were formerly located in the basement of the buildings.
- REC #1.5: Three floor drains were observed in the basement of 111 Gates Street.
- REC #1.6: Occurrence of five 16-ounce bottles of trichloroethane (1,1,1-TCA) and apparent past use of 1,1,1-TCA as a solvent on the Subject Property.
- REC #1.7: The abutting property to the south is listed as State Hazardous Waste Site (SMS #931527) for petroleum spills. Nine gasoline USTs have been recorded in historical and regulatory records on the site. A filling station was located on the adjacent property around 1964.

- REC #2.1: The Subject Property is listed as a State Hazardous Waste Site (SMS #931530) for a documented diesel fuel release from a former UST (UST-3).
- REC #2.2: The Subject Property was historically used as an automotive garage from approximately 1925 to 1935.
- REC #2.3: Current and past use of USTs at the Subject Property:
  - The status and condition of and potential releases from a historical gasoline UST in the northeast corner of the Subject Property (UST-1) are unknown.
  - The in-use 12,000-gallon diesel UST (UST-7) presents a material threat of release to the Subject Property.
- REC #2.4: Two oil-powered generators were formerly located in the basement of the buildings.
- REC #2.5: One pad-mounted transformer is in the parking lot in the northwestern portion of the Subject Property.
- REC #2.6: The building at 119 Gates Street contains a hydraulic elevator with storage tanks that present a material threat of release to building materials and the environment.
- REC #2.7: A diesel-powered emergency generator and 100-gallon day tank are located on the rooftop of the building at 119 Gates Street.
- REC #2.8: Three floor drains were observed in the basement of 119 Gates Street.
- REC #2.9: Five 16-ounce bottles of 1,1,1-TCA were stored on the first floor of 119 Gates Street.
- REC #2.10: The abutting property to the south is listed as State Hazardous Waste Site (SMS #931527) for petroleum spills. Nine gasoline USTs have been recorded in historical and regulatory records on the site. A filling station was located on the adjacent property around 1964.

Stone recommended further assessment to determine whether the RECs in connection with 111 Gates Street constitute an actual release to the environment at the property. However, REC #1.3 did not require further assessment as the REC constitutes a risk of possible future occurrence with no current evidence of a release. The UST (UST-7) has a monitoring system for leak detection, two monitoring wells on either side, and is inspected monthly. No issues have been recorded since the tank was installed in 1993.

1.5.3. Stone Environmental, Inc., Phase II ESA, September 26, 2022

Stone conducted a Phase II ESA to determine whether RECs identified in association with 111 Gates Street during the Phase I ESA constitute an actual release to the environment or pose a threat to sensitive receptors. Fieldwork was completed between April 20 and June 3, 2022 and included dig-safe utility clearance, an inventory of potential PCB-containing building materials, a soil vapor assessment, and an assessment of PCBs in indoor air.

Based on observations and data collected during the Phase II ESA, Stone presented the following results and conclusions:

- Chloroform[1] and PCE were detected in soil vapor above the resident VIS, but below the non-resident VIS. Several other petroleum and chlorinated VOCs were detected below the resident VIS.

[1] Chloroform VIS was removed from the IRule, effective February 23, 2024.

  - PCE concentrations were highest underlying the slab in the northwestern portion of the Site building and may be attributed to historical use of 119 Gates Street as an automotive garage or releases of chlorinated solvents at the Site during cleaning of telecommunications equipment.
  - Chloroform was identified in the northwestern, central, and southwestern portion of the Site, including at one location slightly exterior to the Site building. Chloroform was most likely released at the Site as a disinfection byproduct from the chlorinated public water supply that serves the building.
- The method detection limit for naphthalene exceeded the non-resident VIS.
- Potential PCB-containing materials were identified in all 15 of the rooms surveyed within the Site building, plus the main stairwell.
  - Potential PCB-containing materials included two air conditioning units, linoleum adhesive, carpet mastic, circuit breakers, cove base adhesive, duct seam sealant, a fire control system, an ice-making machine, grout, light ballasts, paint, suspended ceiling tiles, window caulking, and wood varnish sealant.
- PCBs were detected as Aroclor 1232 in all nine of the indoor air samples with concentrations ranging from 110 to 180 nanograms per cubic meter (ng/m^3).
  - No other Aroclors were detected above laboratory reporting limits.
  - Aroclor 1232 is most commonly associated with hydraulic fluids, plasticizers (including paint), and adhesives.
  - Given the ubiquitous occurrence of PCBs in indoor air, it is apparent that a source of PCBs is present within the building. The most likely source of PCBs in indoor air is from emission of PCBs from contaminated building materials or appliance components.

Based on these results and conclusions, Stone made the following recommendations:

- No further action is required for VOCs in soil gas as VOC concentrations are present below the non-resident VIS. The elevated method detection limit for naphthalene will be managed through an institutional control on the Certificate of Completion (COC).
- An assessment of PCBs in building materials should be performed to help identify the source of PCBs to indoor air.
  - All potential PCB-containing building materials should be sampled, including variations of paint, carpet mastic, cove bases, duct seam sealant, grout, tile types, and window caulking.
  - For electrical components that cannot be sampled, including air conditioning units, circuit breakers, the fire control system, light ballasts, and the ice-making machine, covers should be removed and the capacitors should be examined to determine their manufacture date and if they are labeled as non-PCB.
- Concurrent with the assessment of PCBs in indoor air, interim measures should be performed to mitigate risk of exposure to occupants. Interim measures, as described in US EPA's P*ractical Actions for Reducing Exposure to PCBs in Schools and Other Buildings* (2015), should include the following:
  - Increase ventilation of the indoor space to decrease the accumulation of PCBs in breathing zones.
  - Clean indoor spaces frequently to reduce dust and residues.
    - Use a wet or damp cloth or mop to clean surfaces.
    - Use vacuums with high efficiency particulate air (HEPA) filters.
    - Do not sweep with dry brooms or use dry cloths for dusting.
  - Wash hands frequently with soap and water, particularly before eating.

- Once source materials are identified, remove materials during planned upcoming renovations. Contaminated source materials should be disposed of appropriately according to the type of waste.
- Following completion of source removal but prior to re-installation of fixtures, indoor air should be reassessed for PCBs to ensure reduction of indoor air concentrations to below the Indoor Air regulatory action level.

1.5.4. Stone Environmental, Inc., Supplemental Site Investigation, April 24, 2023

Given the universal occurrence of PCBs in indoor air, Stone carried out a SSI in February 2023 to determine which building materials or appliance components are emitting PCBs into indoor air. SSI field work consisted of collecting 48 composite building material samples, examining the capacitors of sealed or live electrical components to determine their manufacture date and if they were labeled as non-PCB, and collecting four wipe samples from electrical components where signs were visible of oil leakage. For building material samples, one composite sample was collected from each building material type within each group assignment, in accordance with the VT DEC technical guidance document titled, *Indoor Air Testing for Polychlorinated Biphenyls in Non-School Buildings*.

Based on the results of the SSI, Stone made the following conclusions:

- PCBs in building materials were detected above laboratory reporting limits in 45 of the 48 samples with concentrations ranging from 0.095 to 170 mg/kg. PCB concentrations are the highest concentrations in cove base mastic, linoleum adhesive, carpet mastic, and paint. One linoleum adhesive and one carpet mastic sample exceeded the TSCA bulk product threshold of 50 mg/kg at concentrations of 53 and 170 mg/kg, respectively.
- Non-porous wipe samples were collected from areas where oil-containing electrical components appear to have leaked. Total PCBs in wipe samples were detected at concentrations ranging from 0.0097 to 3.0 micrograms per cubic centimeters ($\mu g/cm^2$), below the TSCA non-porous media high occupancy walkway threshold of 10 $\mu g/cm^2$.
- Light ballasts in Room 24 and the decommissioned air conditioning unit in Room 11 have not been ruled out as potential PCB sources due to lack of adequate labeling.

Based on these conclusions and data collected, Stone made the following recommendations:

- A CAP is required to access funding for cleanup of PCB-containing materials through the ACCD. If ACCD funds are not pursued, a CAP is not required.
- An institutional control, documented within an institutional control plan (or CAP) and on the COC is required due to elevated concentrations of VOCs in soil gas above the resident VIS, but below the non-resident VIS.
- Light ballasts not labeled as non-PCB should be removed.
- Based on the age of the Site building, observations made during current and prior fieldwork, and potential future Site renovations, an asbestos and lead assessment is recommended.

1.5.5. Clay Point Associates, Inc., Report of Lead-Based Paint Inspection, August 10, 2023

Clay Point Associates, Inc (CPAI) performed on-site testing for lead-based paint using a portable X-Ray Fluorescence Analyzer (XRF) on June 20, 2023. The Vermont Regulations for Lead Control, V.S.A. Title 18, Chapter 38, Effective October 2, 1994, amended May 1, 2001, defines lead-based paint in target housing and daycare facilities as "paint or other surface coatings that contain lead in excess of 1.0 milligram per square centimeter (mg/cm^2) or 0.5 percent by weight (5,000 ppm). Components that tested positive for lead included beige, brown, cream, grey, white, blue, yellow, tan, and green paint on doors, a door casing, a door stop, a stair

stringer, a stair riser, a railing vertical support, a railing baluster, window casings, window sashes, window wells, window jambs, window parting beads, window blind stops, sinks, the ceiling, and walls.

1.5.6. Clay Point Associates, Inc., Inspection for Asbestos Containing Materials, August 1, 2023

CPAI collected 107 bulk samples from suspect ACM on June 20, 2023. All bulk samples were submitted to a Vermont certified analytical service (Optimum Analytical and Consulting, LLC) of which 98 were analyzed by Polarized Light Microscopy, Visual Estimation Method, according to EPA Method 600/R-93/116. Nine samples were not analyzed in accordance with the "Stop Positive" protocol. ACM was identified in the following materials: wall/ceiling plaster, joint compound associated with gypsum wallboard, suspended ceiling tile, various vinyl floor tiles, corrugated pipe insulation, mudded pipe joint insulation, adhesive associated with two types of vinyl floor tiles and ceramic wall tile, block type pipe insulation, and roofing tar/adhesive.

1.5.7. Clay Point Associates, Inc., Supplemental Inspection for Asbestos Containing Materials, October 18, 2023

Supplemental inspection activities were carried out to evaluate previously inaccessible areas and to collect additional samples of joint compound associated with gypsum wallboard in designated areas. On September 18, 2023, CPAI collected 10 bulk samples from building materials suspected to contain ACM using the same sampling and analytical method, and analytical service as during the initial June 20, 2023 inspection. ACM was identified in joint compound associated with gypsum wallboard, carpet adhesive, and adhesive associated with yellow ceramic wall tiles.

1.5.8. Stone Environmental, Inc., Evaluation of Corrective Action Alternatives & Analysis of Brownfield Cleanup Alternatives, May 6, 2024

The Evaluation of Corrective Action Alternatives (ECAA) & Analysis of Brownfield Cleanup Alternatives (ABCA) report was prepared to evaluate remedial alternatives to address VOC contamination in sub-slab soil vapor beneath 111 Gates Street. The report included findings and conclusions from an additional SSI, referred to as the 2023 SSI, conducted to re-evaluate whether naphthalene is present in soil vapor at concentrations exceeding the resident or non-resident vapor intrusion standard (VIS). Four soil vapor samples were collected, two beneath the building slab and two from exterior locations between the Site building and Gates Street, plus one ambient air and analyzed for VOCs by Method TO-15. The 2023 SSI made the following conclusions germane to soil vapor contamination:

1. PCE and TCE concentrations exceed the resident VIS underlying the northern portion of the Site building slab. Naphthalene concentrations exceed the resident VIS throughout the Site and the non-resident VIS underlying the northwestern portion of the slab.
    i. Due to the urban nature of the Site and lengthy history of development, VOC contamination in soil gas could be attributed to numerous sources, among which the most likely include historical use of 119 Gates Street as an automotive garage and releases from historical USTs located adjacent to the Site.

The following remedial alternatives were considered in the ECAA/ABCA to prevent exposure to naphthalene, PCE, and TCE in indoor air through vapor intrusion:

- Alternative 1: No action.
- Alternative 2: Installation of a vapor barrier with an institutional control.
- Alternative 3: Installation of a sub-slab depressurization system with an institutional control.

Based on the conclusions and results of the ECAA/ABCA, the recommended corrective action to mitigate vapor intrusion of VOCs is Alternative 2: Installation of a passive vapor barrier with an institutional control.

Building material samples were also collected during the 2023 SSI to characterize three additional materials and to determine appropriate waste streams for disposal of bulk product containing adhesive and mastic with PCB concentrations > 50 mg/kg during anticipated upcoming cleanup activities. Building material samples included composite black paint, composite brown paint, and a grab adhesive sample, which were collected and analyzed for PCBs by EPA Method 8082 with manual Soxhlet extraction. Two bulk product samples, one of adhesive and underlying substrate and one of mastic and underlying substrate, were collected, pulverized by the analytical laboratory, and analyzed for Toxicity Characteristic Leaching Procedure (TCLP) of PCBs. Based on analytical results, PCB containing materials with concentrations greater than 50 mg/kg will be removed and disposed of as PCB bulk product during cleanup and can be disposed of in a non-hazardous solid waste landfill.

2. Conceptual Site Model

The following Conceptual Site Model (CSM) provides a set of working hypotheses that describe key aspects of the Site. As with any hypothesis, the CSM will require additional testing to arrive at the desired level of confidence. The CSM includes a discussion of the physical, geologic, and hydraulic attributes of the Site and surrounding area, how chemicals were released at the Site, their transport pathways, fate mechanisms, and potential routes of exposure to ecological and human receptors. The CSM provides the context from which the site investigation is developed and a framework to make sound Site management decisions.

2.1. Geology

2.1.1. Bedrock Geology

According to the Bedrock Geologic Map of Vermont (Ratcliffe et al., 2011) the primary bedrock type below the Site is metavolcanic. The bedrock is described as a heterogeneous unit of metamorphosed volcanic, volcaniclastic, and sedimentary rocks dominated by tuff to tuff-breccia of basalt to sodic rhyolite. Sedimentary protoliths include gray sulfidic shale, ironstone, siltstone, graywacke, and volcanic conglomerate. Bedrock outcrops were not observed at the Site during Stone's site visits or fieldwork.

2.1.2. Surficial Geology

According to the Vermont Agency of Natural Resources (ANR) Natural Resources Atlas, surficial geology at the Site consists of glaciolacustrine deposits (lake sand). The deposits consist of well-sorted sand with no pebbles or boulders.

Soils encountered at 111 and 119 Gates Street during soil boring advancement by Wehran Emcon Northeast (Wehran), identified well graded sand with gravel to a depth of 32 feet below ground surface (bgs) where exploration was terminated.

2.2. Hydrology and Hydrogeology

The Site is located on the southeastern tip of the White River Watershed where the White River flows into the Connecticut River. The White River is 0.12 miles northeast of the Site; the confluence of the two rivers is approximately 0.18 miles to the east. No surface water bodies or wetlands are present within the boundaries of the Site. As the Site is primarily covered by a building and impervious space, runoff is expected to flow toward storm drains, the roadways, or the foundation of the building.

According to Wehran, depth to groundwater on-Site is approximately 26 feet bgs and flows to the northeast toward the White River. Groundwater was not encountered during Stone's fieldwork.

2.3. Contaminant Distribution, Fate, and Transport

The following sections describe the sources, magnitude, nature, and extent of VOCs and PCBs, identified as the contaminants of concern.

2.3.1. Volatile Organic Compounds

2.3.1.1. *Distribution*

Petroleum compounds present in soil vapor include 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, benzene, ethylbenzene, m-, p-xylene, naphthalene, and toluene with naphthalene concentrations exceeding the non-resident VIS. In general, petroleum VOC concentrations appear highest in the northwestern portion of the Site building sub-slab but are also diffused throughout the Site. Based on the distribution of contamination, diesel USTs formerly located near the east side door of 119 Gates Street and removed (or filled in place) in 1988 are a likely source of petroleum VOC contamination. Other potential sources include:

- Historical use of 119 Gates Street as an automotive garage. If operations at the garage included automotive maintenance, general use could have resulted in spills or direct discharge of automotive fuels and motor oil to the concrete slab, through cracks within the concrete slab, releases from subsurface components of potential former hydraulic lift systems, and through direct discharge to the ground surface such as from leaking automobiles. Releases of petroleum and chlorinated solvents could have migrated to the Site via soil vapor or groundwater.
- The former presence of an oil-powered generator in the basement of the Site building. Spills to the concrete slab could enter the subsurface through cracks in the concrete slab, cracks in the floor drain system, or floor drains not connected to the sewer system.
- Releases of petroleum compounds from an unknown, offsite source that migrated to the Site via soil vapor.

Based on lower concentrations of VOCs in the southeastern corner of the Site, the abutting SHWS to the south (SMS #931527) does not appear to be an off-Site source of soil vapor contamination.

Several chlorinated VOCs, most notably TCE and PCE, are present in soil vapor underlying the northern half of the Site building. TCE and PCE concentrations exceed the resident VIS and are highest underlying the northwestern portion of the Site building sub-slab. Presence of chlorinated VOCs may be attributed to:

- Historical use of 119 Gates Street as an automotive garage, particularly since it abutted the Site to the north.
- Releases of chlorinated solvents at the Site during cleaning of telecommunications equipment by prior occupants.
  - During Stone's Phase I ESA, five bottles of 1,1,1-TCA were observed in the building at 119 Gates Street. 1,1,1-TCA was likely also used as a solvent at 111 Gates Street, and other solvents may also have been used to clean telecommunications equipment.
  - Chlorinated VOCs used as refrigerants, such as carbon disulfide, dichlorodifluoromethane, and freon 22 were identified at low concentrations and could be due to any number of sources in an urban environment.
  - Elevated concentrations of chloroform may be attributed to leaks from the chlorinated public water supply that serves the building as chloroform is a disinfection byproduct of chlorine.

If the presence of chlorinated solvents in Site soil gas is due to an on-Site release, then potential pathways for chlorinated solvents to enter the subsurface include cracks in the concrete slab, the floor drain system, or through direct discharge to the ground surface.

The extent of petroleum and chlorinated VOC contamination has not been fully delineated off-Site.

2.3.1.2. *Fate and Transport*

In general, once released to the subsurface, petroleum compounds and chlorinated solvents can partition into four phases 1) vapor (i.e., soil gas), 2) aqueous (dissolved in pore water or groundwater), 3) sorbed (to soil minerals and organic matter), and 4) remain as non-aqueous phase liquid (NAPL), either residual or mobile. Once released to the subsurface, the phase portioning and migration of VOCs depends on several factors including: the volume of the release, the physical and chemical properties of the individual VOC, and the physical and chemical properties of the media that the VOCs were released into. Petroleum related compounds are typically readily sorbed to soil and organic matter, have a relatively low aqueous solubility, and are biodegradable under both aerobic and anaerobic conditions. There is currently no evidence of NAPL or aqueous phase contamination at the Site.

Chlorinated VOCs are typically sorbed to soil and organic matter, have moderate to low aqueous solubility, and generally biodegrade only under anaerobic conditions. Under aerobic conditions, degradation generally occurs very slowly. At the Site, CVOCs are present in the vapor phase underlying the northern half of the Site building and may originate from sources including the former automotive garage, former site uses, or off-site sources to the north of the building. The presence of CVOCs in sorbed or aqueous phases is unknown. In the vapor phase, migration of CVOCs in the subsurface will be in response to pressure gradients, variations in stratigraphy, and preferential pathways such as back fill within buried utility trenches or along foundations. The Site building and those in the surrounding area will induce negative interior pressure relative to the subsurface by way of the stack effect. In winter heating months, the stack effect will be greater and may lead to a greater risk of vapor intrusion into the Site building.

2.3.2. Polychlorinated Biphenyls

PCBs are a group of structurally similar man-made chemicals that were manufactured in the United States from 1929 until 1979, when manufacturing was banned. PCBs were commonly used as plasticizers in building products, such as paint, caulk, and window glazing, and in adhesives in construction and renovations of large buildings, such as schools and manufacturing plants, between approximately 1950 and 1979. If present in these materials, PCBs can diffuse into adjacent porous materials, such as brick and masonry, and serve as a secondary source of contamination— often re-contaminating new caulks and adjacent materials through back diffusion. Weathered and degraded building materials containing PCBs can impact adjacent surface soil.

PCBs as Aroclor 1232 were identified at elevated concentrations in indoor air in all nine Site rooms sampled by Stone in June 2022. Building materials containing PCBs and possibly contributing to elevated indoor air concentrations include linoleum adhesive, carpet mastic, cove base adhesive, duct seam sealant, grout, paint, window caulking, and wood varnish sealant. Potential additional sources include light ballasts and an air conditioning unit that did not contain adequate labeling to be ruled out as PCB sources.

2.4. Sensitive Receptor Evaluation

Contamination from Site sources has been evaluated for its potential to adversely affect sensitive receptors. Table 1 presents the potentially affected media, potential pathways, and potential receptors.

Table 1: Sensitive Receptors Evaluation

Potentially Affected Media	Potential Pathways	Sensitive Receptors	Relative Level of Risk
Surface Soil	Direct contact to impacted soils via dermal adsorption, ingestion, and inhalation.	Construction workers, Site users, Building occupants.	VOCs: Low – Soil data from two borings indicates the risk is low. PCBs: Medium – Most of the site is covered with a building, eliminating the current direct contact risk.
Sub Surface Soil	Direct contact to subsurface soils if future disturbances for Site improvements. Source of soil gas contamination and vapor intrusion into nearby buildings.	Construction workers, Site users, Building occupants.	VOCs: Medium – Soil data collected in two locations shows TPH detected from 9 to 11 feet bgs at 58 mg/kg abutting 111 Gates Street. PCBs: Low
Groundwater	Dissolved phase VOCs migrating in groundwater.	Downgradient receptors, White and Connecticut Rivers. Indoor air if dissolved VOCs are present in shallow groundwater.	VOCs: Low – No VOCs were detected in one monitoring well installed near the leaking UST at 119 Gates Street. Migration of VOCs onto the Site from the property to the south (74-76 Gates Street, SMS #931527) is not occurring. PCBs: Low. There is low likelihood of impact to groundwater from PCBs in bulk product.
Surface Water	Discharge of potential groundwater plume to the White and Connecticut Rivers.	Recreational users, benthic organisms.	VOCs: Low due to distance from river and previous environmental assessment of groundwater on-Site. PCBs: Low. There is low likelihood of impact to surface water from PCBs in bulk product.
Indoor Air	Impact to indoor air from intrusion of VOC-contaminated soil gas. Impact to indoor air from off-gassing of PCB-containing building materials.	Building occupants, Construction workers.	VOCs: High – VOCs present in soil gas with naphthalene exceeding non-resident VIS, VI pathway is likely complete. PCBs: High – PCBs are present in indoor air.
Building Materials	Direct contact via dermal adsorption, ingestion, and inhalation of PCB-containing building materials, lead-based paint, and ACM.	Construction workers, Site users, Building occupants.	PCBs: High – Highest concentrations are present in adhesive and mastic underlying linoleum and carpet. Lead and ACM: High – If unabated, disturbance of building materials containing

Potentially Affected Media	Potential Pathways	Sensitive Receptors	Relative Level of Risk
			ACM would result in an unacceptable risk of exposure.

Using the Vermont Agency of Natural Resources (ANR) Natural Resources Atlas, a qualitative receptor analysis was completed to evaluate the occurrence of potential receptors relative to the Site.

2.4.1. Drinking Water Supplies

There is one private drinking water supply well mapped within 0.25 miles of the Site (WRN#53). The mapped well is 0.2 miles northeast of the Site on the opposite side of the White River. It is owned by the State of Vermont Department of Water Resources.

2.4.2. Surface Water and Groundwater Source Protection Areas

No Surface Water or Groundwater Source Protection Areas were identified within 0.25 miles of the Site.

2.4.3. Buildings with Basements

The Site building has a basement. Information concerning nearby properties is not readily available, but it is likely that nearby structures have basements.

2.4.4. Wetlands

According to the ANR Natural Resources Atlas, two mapped Class II wetlands are situated within 0.25 miles of the Site. The wetlands are approximately 0.22 miles to the southwest (ANR Atlas Object IDs 3013/14246) and 0.15 miles to the northeast (Object ID 48633).

2.4.5. Sensitive Ecological Areas

No sensitive ecological areas, including deer wintering yards, significant natural communities, VT Fish and Wildlife managed lands, and Indiana Bat hibernacula were identified within 0.25 mile of the Site.

2.4.6. Rare, Threatened, and Endangered Species

Two rare, threatened, or endangered species are identified within 0.25 miles of the Site. One state-protected species has been identified approximately 0.13 miles to the northwest. An endangered species has been identified in the Connecticut River, 0.22 miles to the east.

2.4.7. Adjoining Landowners

Property owners adjoining the Site are summarized in Table 2, below, and will be notified of proposed corrective actions in accordance with § 35-607(b)(1) of the IRule.

Table 2: Adjoining Landowners

E911 Property Address	Parcel ID	Direction from Site	Owner	Contact Information
101 CURRIER STREET	45-181	SOUTH	THE VILLAGE AT WHITE RIVER JUNCTION	541 ELY ROAD, FAIRLEE, VT, 05045
106 GATES STREET	45-154	SOUTHWEST	UNITED METHODIST CHURCH OF WHITE RIVER JUNCTION	106 GATES STREET, WHITE RIVER JCT, VT, 05001-1965
128 GATES STREET	45-153	SOUTHWEST	B-P HOLDINGS LLC	116 SCHOOLVIEW DRIVE, WOODSTOCK, VT, 05091

E911 Property Address	Parcel ID	Direction from Site	Owner	Contact Information
140 GATES STREET	45-152	SOUTHWEST	NORTHERN STAGE COMPANY	76 GATES STREET, WHITE RIVER JCT, VT, 05001-4287
151 GATES STREET	45-115	WEST	COOLIDGE APARTMENTS CORPORATION C/O STEWART PROPERY MGMT	P O BOX 10540, BEDFORD, NH, 03110-0000
39 SOUTH MAIN STREET	45-157	EAST	NORTHERN HOSPITALITY LTD PARTNERS	P O BOX 515, WHITE RIVER JCT, VT, 05001-0515
40 CURRIER STREET	45-156	NORTHEAST	LANDON MARCIA	P O BOX 191, WILDER, VT, 05088-0191
42 NORTH MAIN STREET	45-122	NORTH	HALLGREN WENDY TRUSTEE	1439 TUCKER HILL RD, THETFORD CENTER, VT, 05075
58 NORTH MAIN STREET	45-119-WRL-1	NORTH	DREAMLAND ENTERPRISES LLC	85 NORTH MAIN STREET #200, WHITE RIVER JCT, VT, 05001
75 NORTH MAIN STREET	45-118	NORTHWEST	GOOD NEIGHBOR HEALTH CLINIC INC	70 NORTH MAIN STREET, WHITE RIVER JCT, VT, 05001
76 GATES STREET	45-182	SOUTHEAST	NORTHERN STAGE COMPANY	76 GATES STREET, WHITE RIVER JCT, VT, 05001-4287
80 NORTH MAIN STREET	45-117	NORTHWEST	B-P HOLDINGS LLC	116 SCHOOLVIEW DRIVE, WOODSTOCK, VT, 05091
98 NORTH MAIN STREET	45-114	NORTHWEST	FOGG JR NELSON D FOGG VICKY F	1327 CHRISTIAN STREET, WHITE RIVER JCT, VT, 05001

3. Corrective Action Plan

This section describes the recommended design elements for management of VOC-contaminated soil vapor, PCB-contaminated building materials, lead-based paint, and ACM. Corrective actions will be performed by contractors under the supervision of a Qualified Environmental professional (QEP). This cleanup plan has been prepared as a CAP in accordance with the VT DEC IRule and 40 CFR § 761.62. Disturbance of contaminated building materials shall not commence until approval of this CAP by the VT DEC.

3.1. Performance Standards

Corrective action objectives described within this CAP are designed to mitigate exposure to the following known Site contaminants and exposure pathway:

1. Inhalation of naphthalene, PCE, and TCE through the vapor intrusion pathway into the Site building,
2. Inhalation and direct contact with PCB-contaminated building materials,
3. Direct contact with lead-based paint during Site cleanup and renovations,
4. Inhalation of ACM.

3.1.1. Relevant Regulatory Criteria

Regulatory guidelines applicable to contaminated media at the Site include:

- Soil Vapor: VT DEC Vapor Intrusion Standard (VIS) values for sub-slab soil gas for resident and non-resident properties included in Appendix A §35-APX-A2 of the IRule, effective February 23, 2024.
- PCB Bulk Product: Disposal criteria for PCB bulk products as presented in 40 CFR §761.62.
- ACM: Vermont Regulations for Asbestos Control (V.S.A. Title 18, Chapter 26 Amended November 1995).
- Lead-Based Paint: Vermont Regulations for Lead Control (V.S.A. Title 18, Chapter 38).

3.1.1.1. *Vermont Vapor Intrusion Standards*

Soil gas samples from Stone's Phase II ESA and 2023 SSI were compared to resident and non-resident sub-slab soil gas VIS included in Appendix § 35-APX-A2 of the IRule. The basis for vapor intrusion corrective actions is the presence of PCE and TCE in sub-slab soil vapor at concentrations exceeding the resident sub-slab VIS, and the presence of naphthalene at concentrations exceeding the non-resident sub-slab VIS. Table 3 summarizes maximum concentrations for VOCs that have been found to exceed the VIS. Note that chloroform, which has been detected in soil vapor, is no longer a regulated compound in soil gas in Vermont.

Table 3: Site Contaminants of Concern – Soil Vapor

Contaminant of Concern	Resident VIS (µg/m³)	Non-Resident VIS (µg/m³)	Sample Location	Result (µg/m³)
Naphthalene	1.0	8.0	SG-101	**12**
Tetrachloroethylene (PCE)	21	170	SG-101	**81**
Trichloroethylene (TCE)	6.7	23	SG-102	**6.9**

Notes: µg/m³ – micrograms per cubic meter; bold indicates analyte was detected; shaded result indicates exceedance of resident Vapor Intrusion Standard (VIS); orange border indicates exceedance of non-resident VIS

3.1.1.2. *PCB-Contaminated Building Materials*

PCBs are regulated by the EPA under 40 CFR Part 761, under the authority of TSCA. PCBs are present at concentrations ≥ 50 mg/kg in mastic underlying gray carpet on the second floor and adhesive underlying linoleum on the first floor (G2-CM-G and G1-LA; Figure 7), requiring removal and disposal as a PCB bulk product waste in accordance with 40 CFR §761.62(b)(i).

3.1.1.3. *Vermont PCB Regulations*

PCB indoor air assessment performed during the 2022 Phase II ESA had detections of Aroclor 1232, with concentrations ranging from 110 to 180 ng/m³. The Remedial Action Limit for PCB impacted indoor air from VI for both residential and commercial releases is 22.5 ng/m³. Based on the CSM, there is no reason to suspect that the indoor air concentrations were the result of vapor intrusion, but rather because of off-gassing from building materials. Vermont does not regulate PCBs in indoor air in non-school buildings if the release is due to off-gassing from building materials.

3.1.1.4. *Asbestos-Containing Materials*

Samples collected during CPAI's site inspections were considered ACM if materials contained any type of asbestos in an amount greater than 1% by weight or area either alone or mixed with other fibrous or non-fibrous material, as defined by Vermont Regulations for Asbestos Control. An inventory of ACM is included in Appendix C. Abatement of ACM will achieve corrective action objectives by eliminating exposure to ACM prior to disturbance during Site renovations. Abatement activities will be performed in accordance with Vermont Department of Health and Asbestos Hazard Emergency Response Act protocols.

3.1.2. Corrective Action Objectives

Corrective actions must achieve the following corrective action objectives:

1. Mitigation of vapor intrusion risk from VOCs through installation of a passive vapor barrier and establishment of an institutional control to the land record, documented on the COC.
2. Abatement of material containing PCBs that present a risk to sensitive receptors. Material will be removed or encapsulated that contain PCBs at concentrations ≥ 10 mg/kg. Excluded bulk product contains PCBs at concentrations < 50 mg/kg, and bulk product contains PCBs at concentrations > 50 mg/kg. A TCLP analysis was performed on the bulk product waste and the leachable concentrations of PCBs is < 10 micrograms per liter (µg/L). Both the excluded bulk product and the bulk product will be disposed of at a Subtitle D landfill that is permitted to receive PCB bulk product.
3. Abatement of material that contains any type of asbestos in an amount greater than 1% by weight or area either alone or mixed with other fibrous or non-fibrous material (i.e. ACM). ACM will be disposed of at a Subtitle D landfill that is permitted to receive asbestos waste.
4. Management of lead-based paint surfaces with a concentration of lead above 1.0 mg/cm² during cleanup activities and renovations, in accordance with Vermont Regulations for Lead Control.

3.2. Permits

Stone anticipates the following permits will be required for the corrective actions:

- Hartford Fire Department Construction Permit from the Town of Hartford
- Approved special waste profile from disposal facility
- Project Permit from the Vermont Department of Health (asbestos abatement)
- Notification of Demolition/Renovation to the U.S. EPA Region 1 (asbestos abatement)

3.3. Redevelopment and Reuse Plan

The current Site redevelopment plan is provided as Figure 8 and described in Section 1.3.

3.4. Remedial Construction Plan

3.4.1. Passive Vapor Barrier

The basis of design for the passive vapor barrier is to ensure that indoor air concentrations of VOCs will not exceed the non-resident IAS. A passive vapor barrier will be applied over the Site building concrete slab and foundation walls in the basement.

Prior to installation of the passive vapor barrier, floor drains present in the basement will be closed with hydraulic cement to prevent contaminant migration along preferential pathways. A layer of an epoxy-based resin material (Retro-Coat™ or similar) will be applied over the approximately 4,000 square-foot concrete floor slab as a vapor barrier and to seal cracks and perforations in the concrete that may act as preferential pathways for vapor intrusion of naphthalene, PCE, and TCE in soil gas. To apply the epoxy, the concrete slab will need to be cleaned, free of debris, and slightly porous. The epoxy will be installed by a certified professional in accordance with the manufacturer's specifications, which typically involves roughening (scarification, diamond grinding, etc.) or chemical etching the slab, and curing under appropriate moisture and temperature conditions. Roughening the slab will generate debris, which will be characterized and disposed according to chemical constituency. The epoxy-based resin will consist of two layers of contrasting colors to determine when the topcoat is worn and needs to be repaired.

Approximately 2,000-square feet of foundation walls will also be covered with waterproof paint to serve as a vapor barrier. The barrier will be applied from the base to the top of the foundation wall in accordance with the manufacturer's recommendations to mitigate VOC advection from the surrounding subsurface through the walls.

Vapor barriers shall meet ASTM F3010-13, moisture vapor permeance, and reduce moisture transmission to no more than 0.1 perm. The manufacturer must specify mil thickness required to meet the 0.1 perm rating.

3.5. Contaminated Building Materials Abatement

PCB bulk product and ACM abatement will occur simultaneously in accordance with the Design Document for Removal of Asbestos and PCB Containing Materials (Design Document), provided in Appendix C.

3.5.1. Pre-Abatement Activities

During Stone's 2023 SSI, five additional potential PCB-containing materials were noted during fieldwork. These materials included:

- Grey paint under brown paint on the radiators throughout the 1st and 2nd floor,
- Black vinyl tile under new vinyl tile in the west portion of the first-floor main area,
- Black vinyl tile under carpet in the second-floor game room/den,
- Dark green paint under dark grey paint on the basement slab, and
- Linoleum under carpet in the second-floor storage area.

Stone proposes to collect representative samples of these materials, plus four contingent samples if additional PCB-containing materials are uncovered during abatement, for a total of 10 samples. Surfaces will be decontaminated prior to sampling using a d-limonene-based cleaner. Samples will then be removed using hand tooling (e.g., cold chisel, utility knife, or other as appropriate), collected on dedicated aluminum foil, and transferred into sample containers or collected directly into sample containers. Samples will be submitted to a National Environmental Laboratory Accreditation Program (NELAP)-accredited laboratory for PCB analysis by EPA Method 8082 with manual Soxhlet extraction.

3.5.2. PCB Bulk Product

PCB-containing materials with concentrations ≥ 10 mg/kg will either be removed, along with underlying substrate, or encapsulated. These materials include linoleum adhesive, carpet mastic, cove base mastic, and paint (Table 2, Appendix C) and any additional items identified during the pre-abatement assessment. Underlying substrate includes plaster, gypsum wallboard, wood paneling, wood subfloor, wood door and casing, and linoleum flooring. Duct work associated with the ventilation system where PCBs were identified in duct seam sealant at a concentration of 3.8 mg/kg will also be removed during abatement.

For painted surfaces where it is not feasible to remove the substrate (i.e. concrete slab, brick walls, concrete masonry unit walls, and window components), paint will be scraped to refusal and encapsulated with two contrasting colors of lead encapsulating paint (Table 3, Appendix C). Note that for the concrete slab of the basement, PCB-contaminated paint will be removed during roughening, wipe samples will be collected on a 20-foot grid to confirm that PCBs have not diffused into the underlying concrete, and the surface will be encapsulated via a passive vapor barrier system (Section 3.4.1).

3.5.3. Asbestos-Containing Material

Under contract with Stone, CPAI has prepared the Design Document provided in Appendix C. ACM to be abated include wall/ceiling plaster and/or joint compound associated with gypsum wallboard, suspended ceiling tiles, vinyl floor tile, tile adhesive, carpet adhesive, pipe insulation, and roofing tar/adhesive (Table 1, Appendix C).

3.6. Waste Management

3.6.1. Asbestos Waste

Asbestos waste will be containerized and disposed of as described in the Design Document (Appendix C). All wastewater generated during abatement shall be disposed of as asbestos waste or filtered using a minimum 5-micron filter fabric prior to discharge into the municipal wastewater system. All surfaces in the abatement work area will be cleaned using wet cleaning methods and vacuums equipped with high efficiency particulate air (HEPA) filtration.

3.6.2. PCB Bulk Product Waste

PCB-contaminated bulk product removed from the Site building will be either loaded into lined and covered, roll-off dumpsters or other suitable canisters given the volume of material generated and transported for disposal in accordance with 40 CFR §761.62(b). Based on analytical and waste characterization results

(Section 1.5), materials either contain PCBs at concentrations < 50 mg/kg or contain PCBs at concentrations > 50 mg/kg with leachable PCB concentrations of < 10 ug/L. Materials with PCB concentrations < 50 mg/kg will be disposed of as PCB excluded bulk product at a Subtitle D landfill permitted to receive this category of waste. Materials with PCB concentrations > 50 mg/kg with leachable PCB concentrations of < 10 ug/L will be disposed of at a Subtitle D landfill permitted to receive this category of waste. PCB and asbestos materials will be co-mingled.

If during additional sampling and waste characterization, materials are determined to contain PCBs at concentrations > 50 mg/kg with leachable concentrations of PCBs > 10 ug/L, the waste stream will be disposed of as PCB bulk product at a facility approved to receive this category of waste (e.g., Republic Services Landfill in Wayne Michigan).

3.6.3. PCB Cleanup Wastes

Remediation derived wastes will include fluids from abatement and confirmatory sampling tooling decontamination, personal protective equipment (PPE), polyethylene sheeting, and sampling consumables. Decontamination fluids will be contained in appropriately sized, DOT-approved, labeled containers for characterization and disposal according to their chemical constituency in accordance with 40 CFR § 761.79(b)(1).

Disposable solids will be placed in DOT-approved containers and transported to a Subtitle D landfill permitted to accept PCB excluded bulk product and asbestos waste.

3.6.4. Lead-Containing Paint Waste

Lead-based paint was identified on several trim types that are slated for removal. Per the VT DEC Lead-Containing Paint Waste Fact Sheet, one sample of the lead abatement waste stream (e.g., paint chips generated while scraping PCB-containing paint to refusal) will be collected and characterized for lead using toxicity characteristics leaching procedure (TCLP) to evaluate whether it requires management as hazardous waste.

3.6.5. Universal Waste

The Site building contains materials that, if not properly managed, could result in the release of contaminants to the environment or breathing space of the building. So-called universal wastes include, at a minimum, light ballasts, fluorescent light bulbs, and an air conditioning unit. CCS may choose to hire a general contractor outside of this CAP to dispose of these items. If managed within the CAP, Stone proposes to conduct an inventory of universal waste during pre-abatement activities.

Prior to commencing abatement activities, universal waste will be consolidated and sorted in a single accumulation area, contained in US DOT-approved containers, manifested, and transported from the Site for disposal.

3.7. Quality Assurance/Quality Control Plan

Sample collection and data management activities will be performed in accordance with Stone's Standard Operation Procedures (SOPs) which are available upon request:

- SEI-4.2.8: Chain of Custody Procedures
- SEI-4.5.12: Data Handling, Storage, Retrieval and Error Coding
- SEI-5.1.7: Maintenance and Decontamination of Field Equipment
- SEI-5.41.4: Handling, Collection and Transportation of Samples

- SEI-5.64.0: Sampling Porous Surfaces for PCBs
- SEI-5.99.0: Procedure for Wipe Sample Collection to Assess PCB Concentrations on Material Surfaces

3.7.1. PCB Bulk Product Verification Samples

Following removal of the wood subfloor underlying linoleum adhesive and carpet mastic with PCB concentrations > 50 mg/kg, Stone will perform cleanup verification sampling to determine whether the underlying material is to be considered PCB remediation waste. Floor joists are expected to be encountered upon removal of the wood subfloors. Cleanup verification samples will be collected from the floor joists along a 20-foot grid. Wipe samples will be collected from the floor joists within 100 cm^2 areas using laboratory prepared hexane wipes. The floor joists material, orientation, and locations are unknown, and the cleanup verification sample locations will be determined following the removal of the subfloor. We assume 21 samples will be collected based on the square footage of the three rooms.

Field duplicates, and matrix spike and matrix spike duplicate (MS/MSD) samples will be collected at a 5% frequency (1 in 20). Samples will be submitted to a NELAP-accredited laboratory for analysis of PCB Aroclors by EPA Method 8082 with manual Soxhlet extraction.

Sampling devices will be decontaminated between sample locations using a phosphate-free detergent scrub, isopropyl alcohol rinse, and clean water triple rinse. At least one equipment blank will be collected for each day cleanup verification sampling is conducted by wiping decontaminated sampling equipment surfaces with a laboratory-provided hexane wipe. Equipment blanks will be submitted to a NELAP-accredited laboratory for analysis of PCB Aroclors by EPA Method 8082 with manual Soxhlet extraction.

3.8. Institutional Control

As a BRELLA participant, CCS will receive a COC upon completion of corrective actions described in this CAP. Prior to receiving the COC, subdivision, a new Phase I ESA, and property transfer of 111 Gates Street to CCS is required. Resubmission of the BRELLA application is also required following subdivision to update the property metes and bounds.

The COC will be drafted by the VT DEC and filed on the Property title in the Town of Hartford, Vermont land records by CCS. The COC shall be filed with Town of Hartford, Vermont land records within one week of receipt, and proof of filing provided to VT DEC and EPA within 10 days of its recording. Institutional control elements from this CAP that will be included in the COC will, at a minimum, require that:

- The Site owner submit a certification to the VT DEC that the COC has been recorded on the Site Property deed,
- A brief description of the release of hazardous materials,
- A brief description of the corrective actions that were implemented on the property,
- The location of contaminated soil vapor that remains on-Site and a restriction that prevents residential use of the Site,
- The epoxy barriers encapsulating PCB paint are maintained in perpetuity in such a manner as to prevent direct contact and inhalation exposure of Site users to PCBs,
- The passive vapor barrier is maintained in perpetuity in such a manner as to prevent inhalation risk of Site users to VOCs or until a VI pathway no longer exists,

- VT DEC be notified prior to any future Site renovations that could potentially affect the barriers or disturb remaining PCB-contaminated building materials (e.g., replacement of windows with PCB-contaminated caulk).

3.9. Long-Term Monitoring and Operations and Maintenance

Operation and maintenance (O&M) activities required to ensure the continued effectiveness of the barriers include:

- Periodic inspection for visual indications of physical damage, to evaluate its continued effectiveness.
- Prompt repair of any damage within 30 days and as noted in the periodic inspections.
- Annual reporting of inspection and repair activities to VT DEC for the passive vapor barrier.

An annual inspection form for the passive vapor barrier is included as Appendix D.

3.10. Health and Safety

Due to the presence of contamination at the Site, cleanup activities should be performed using appropriate health and safety precautions. Contractors selected for cleanup activities shall perform those services under the auspices of their own site-specific health and safety plan, to be developed for the project. The contractors must make their own determinations as to the appropriate level of health and safety protection required for each of the activities described in this plan.

3.11. Reporting

Following completion of cleanup activities, a Corrective Action Construction Completion Report (CACCR) will be prepared in accordance with §35-608 of the IRule and submitted to the VT DEC Sites Management Section. The completion report will include a description of Site activities including dates of work, field notes, figures, a discussion and tables of cleanup verification sample results, and recommendations for additional remedial activities, if necessary.

3.12. Schedule

CAP implementation will be dependent on regulatory/funding agency reviews, contractor availability and securing funding for implementation. A proposed project schedule is summarized in Table 4, below, assuming funding has been secured by the end of the National Environmental Policy Act (NEPA) review process.

Table 4: Proposed Schedule

Task	Duration	Anticipated Start Date	Anticipated Completion Date	Deliverable
CAP				
Draft CAP			July 11, 2024	Draft CAP
TRORC Review	1 week	July 12, 2024	July 19, 2024	Draft CAP
VT DEC Review	30 days	July 22, 2024	August 21, 2024	Comments
Revised CAP	2 weeks	August 22, 2024	September 5, 2024	Revised CAP
Public Comment Period	30 days	September 6, 2024	October 6, 2024	Comments
Final CAP	2 weeks	October 7, 2024	October 21, 2024	Final CAP
NEPA Review	6 months	July 22, 2024	January 22, 2025	NBRC Grant
Contractor Procurement	2 months	February 1, 2025	April 1, 2025	Bid Documents
Contracting	2 weeks	April 1, 2025	April 15, 2025	Contract Documents