1. PROJECT AREA DESCRIPTION AND PLANS FOR REVITALIZATION

Target Area and Brownfields

a. Overview of Brownfield Challenges and Description of Target Area

The Town of East Longmeadow, Massachusetts is a small, rural community bordering Springfield, the second largest city in Massachusetts, and is located approximately 90 miles west of Boston. The Town covers 13.4 square miles near the southwest corner of the Pioneer Valley in Hampden County and has a population of 16,430 according to the 2020 U.S. Decennial Census. Historically, East Longmeadow was known for its rich sandstone quarries, which shipped red and brown sandstone to locations across the United States via rail. East Longmeadow sandstone was used in the construction of the original Smithsonian Institution Building (also known as the Smithsonian Castle) on the National Mall in Washington, D.C. The Industrial Era included various manufacturing facilities for consumer products and plastics as well as many grist and saw mills. This industrialization led to economic growth in the late 1800s and early 1900s; however, by the early 20th century, these businesses significantly declined leaving behind many brownfields and their negative impacts of blight and contamination on the land. Even the railroad line that supported the fifty quarries and mills was abandoned by 1980s.

The Target Area for this cleanup grant is the Town of East Longmeadow's proposed Center Town District (CTD) – census tract (25013813403). The Target Area directly abuts the City of Springfield, which according to the Massachusetts Office of Energy & Environmental Affairs, is entirely within block groups designated as low-income, minority and/or otherwise disadvantaged. Some of the sensitive populations living in the Target Area include children, women of childbearing age, low-income, senior, and minority residents. **The CTD is being created as a special zoning area for mixed-use (commercial-residential) development**. The CTD is the primary walking and business corridor of the town and sits adjacent to the town's 1.7-mile pedestrian rail trail that is actively used by residents and visitors to the Town for recreational purposes. Maple Street is the main road that runs through the Target Area.

According to the Massachusetts Department of Environmental Protection (MassDEP) Data Portal for Waste Sites & Reportable Releases (website), there are 108 known contaminated release sites in East Longmeadow, amounting to approximately one release site per 150 residents. **The majority of these release sites are disproportionately located in the CTD Target Area**. Impacts at these release sites include soil and groundwater contaminated with metals, volatile and semi-volatile organic compounds (VOCs and SVOCs), polychlorinated biphenyls (PCBs), petroleum, hazardous building materials and historic fill. The presence of these brownfields has a negative impact on the community resulting in decreased property values and tax base, health and safety concerns, diminished local investment and redevelopment, and exposing the vulnerable populations that live, play, and/or work in the area, to these contaminants. The town desperately needs this cleanup grant, because without the support from the EPA, the target brownfields site will remain contaminated, and the longstanding environmental, economic, and health challenges faced by the community will persist.

b. Description of the Priority Brownfield Site(s)

The **Target Site, known as Carlin Combustion (Carlin)**, is located at **70 Maple Street** in the heart of the target community. The property encompasses approximately **4.1 acres (178,596 square feet)** and was formerly owned by R.E. Phelon Company, Inc. before being acquired by the Town through tax lien foreclosure in June 2023. The Site is currently zoned "Multiple" (Industrial and Municipal Improvement) and historically operated as a commercial-industrial manufacturing facility producing heat combustion products. Its strategic location along the North-South rail transport system supported decades of industrial activity.

Today, the Site consists of a vacant 80,452-square-foot, single-story commercial-industrial building constructed of concrete block with steel framing and a slab foundation. A later addition features vinyl board and batten siding. The building has a tar-and-gravel flat roof, and the remaining property is largely covered by asphalt pavement.

Historical operations and subsequent investigations have documented releases of **chlorinated volatile organic compounds (CVOCs), PCBs, and petroleum constituents**. Previous owners attempted partial response actions by relocating PCB-impacted shallow soils into the building interior. Upon taking ownership, the Town secured the building, padlocked doors, and installed fencing to restrict access. Following recommendations from MassDEP, additional fencing and signage were placed along the adjacent rail trail to protect users (pedestrians/cyclists/skaters/etc.) and pets from contaminated areas.

Recent assessments confirm that residual contamination in soil poses unacceptable risks to future residential and passive recreational users without extensive remediation. CVOC impacts to groundwater are migrating off-site, creating potential vapor intrusion risks for downgradient occupied buildings—one such incident has already occurred. These conditions present a significant barrier to the Town's redevelopment goals, which include **transforming the Site into mixed-use and multi-family housing development as part of a pedestrian-friendly, compact development corridor**.

In its current state, the Site threatens sensitive receptors, particularly the elderly, women of childbearing age, children and pets using the adjacent rail trail and vegetated areas. Without EPA cleanup funding, the Town cannot feasibly implement the remedial actions necessary to reduce risk and enable safe reuse. Federal support will prevent further migration of contaminants, protect public health, and unlock redevelopment opportunities that align with community priorities for housing and economic revitalization. Cleanup of this gateway parcel will catalyze investment in a larger mixed-use corridor, advancing long-term sustainability and livability goals.

Revitalization of the Target Area

c. **Reuse Strategy and Alignment with Revitalization Plans**

The Carlin Combustion Site is a key property in the primary walking and business corridor of the town. The property sits adjacent to the town's 1.7-mile multimodal Redstone Rail Trail that is actively used by residents for recreational purposes and is located on Maple St. which is a main traffic route in and out of town. The location will be incorporated into the mixed-use (commercial-residential) zoned corridor that will become East Longmeadow's Center Town District (currently under consideration by the Town Council and Planning Board, see attached map). With this goal in mind, **preliminary re-use plans developed by UConn-TAB (May 2025)** illustrate the Target Site's potential to accommodate three mixed-use, multi-family residential buildings with a density of 10- 12 units/acre, complimented by shared parking and open recreation areas. The Town is presently considering bylaw language to allow a density of between 15 and 20 units/acre, which is being supported by civil engineering renderings that demonstrate how these higher-density housing typologies can succeed in this area. These efforts reflect a proactive approach to meet housing needs while fostering sustainable development.

The reuse strategy aligns directly with **East Longmeadow's Resilient Master Plan (2021)**, which was developed through a community-driven process, and calls for a compact, mixed-use, and pedestrian-friendly Town Center as a means to low-impact, community development. The Target Site's central location in the CTD makes it a critical parcel for advancing the Town's economic and community development goals. Its proximity to the rail trail and transitional location between the established residential neighborhoods and future mixed-use district ensure that redevelopment will strengthen community connectivity and cohesion while enhancing livability.

Housing diversity is a top priority for East Longmeadow. The **Town's Housing Needs Assessment (November 2025**) and socioeconomic projections in the **PVPC 2024 Regional Transportation Plan** confirm increasing population trends and a growing demand for housing options in the area. Current zoning presently allows only for the development of single-family housing and multi-family dwellings are restricted to senior housing, assisted living, and nursing home facilities. Despite the passage of the Massachusetts Affordable Homes Act (February 2025), which mandated the by-right residential siting of Accessory Dwelling Units (ADUs), the Town has only received applications for two building permits for ADUs, which emphasizes the need for more impactful solutions. The Town recognizes that there is a clear and urgent need to provide more diverse and affordable housing for options for residents and views the creation of a dense, mixed-use, residential-commercial

corridor as a solution. By revising its current zoning and providing more housing at the center of town, close to amenities, with more variation in housing products and price points, the Town is aiming to retain more residents at every stage in an individual's life cycle. Housing diversity and density will allow more people to find housing options in town that suit their needs, such as young people returning home from college, or seniors who are looking to down-size their residences and "age in place," in the community with which they are most familiar. In accordance with the Town's **Open Space and Recreation Plan (2019)**, this dense, mixed-use development also has the additional benefit of preserving green and open spaces that contribute to the town's ability to manage storm water during extreme weather events and amplify its environmental resilience while also providing pedestrian connections to the existing rail trail. The Target Site is NOT located in a federally designated flood plain, further supporting is suitability for the proposed redevelopment.

d. **Outcomes and Benefits of the Reuse Strategy**

The benefits of unlocking the potential of brownfields in the Target Area are significant. Once the proposed site is cleaned up and mixed-use re-zoning complete, the parcel will be developed as an integral part of the East Longmeadow's Center Town District. The Town is in the process of a zoning and map amendment that would create a mixed-use, commercial-residential district with ample green space and pedestrian connections to the existing rail trail. The draft by-law is based on a Smart Growth approach to redevelopment that prioritizes dense commercial-residential development, in-fill development, historic preservation, and the preservation of green space. These principles all provide a scaffolding that supports community economic development and extreme weather resilience. A walkable town center with a mix of commercial and residential uses will stimulate economic development by creating more ground-floor commercial spaces near pedestrian and rail trail traffic that can support local storefronts and businesses. Dense housing, near amenities, is better at attracting younger and older generations of residents and it tends to retain its value over time. The buildout of this area will help stabilize the tax rate in the short-term, by supporting "new growth," and in the long-term, by increasing the tax base and number of residents contributing to the maintenance of municipal services. Focusing development within a dense, mixed-use, compact corridor is an opportunity to reduce infrastructure loads and conserve existing green and open spaces. It is also a risk mitigating strategy that helps protect local wetlands and other environmentally sensitive areas. Increased walkability and green amenities can help offset heat island effects, improve air quality, and, of course, lower greenhouse gas emissions. While the reuse strategy for the Target Site does not call for the siting of renewable energy sources, it is extremely likely that the mixed-use development projects that emerge will incorporate various energy efficiency measures. Since 2009, Massachusetts has utilized a "stretch energy code" (225 CMR 22.00 and 225 CMR 23.00) that ensures that new buildings are designed and constructed with energy efficiency in mind. The Carlin Site is not just a cleanup project, it is the cornerstone of the Town's strategy to revitalize its economic base, enhance livability, and create a resilient future. Federal investment will transform this brownfield from a source of risk into a driver of opportunity and much needed housing, benefiting residents, businesses, and the region for generations to come. The activities to be funded under this grant support the "Great American Comeback Initiative", specifically Pillar 1: Clean Air, Land, and Water for Every American by cleaning up a hazardous site which will reduce the potential for toxic air emissions and advance conservation as part of the proposed redevelopment while also fostering economic growth for families, as well as Pillar 3: Permitting Reform, Cooperative Federalism, and Cross-Agency by working together with the EPA and MassDEP.

Strategy for Leveraging Resource

The Town has been very successful in leveraging funding from a variety of sources to complete the redevelopment of similar properties in the Target Area. The Town will continue to leverage essential funding resources, as necessary, to support the completion of assessment, remediation, and subsequent reuse of the Target Site.

e. **Resources Needed for Site Characterization**

In pursuit of these grant funds, the Town obtained assistance from MassDEP for site assessment activities totaling approximately $25,000. The Town has partnered with Pioneer Valley Planning Commission (PVPC) on various aspects of assessment, cleanup and reuse planning for the project. PVPC is committing approximately $75,000 of additional funding resources for site characterization from its EPA Assessment Grant.

f. **Resources Needed for Site Remediation**

In addition to the assessment funding MassDEP has already provided, it is committing an additional $250,000 to Site cleanup activities. The Town, through its Council, has also committed $250,000 to cleanup and/or reuse planning expenses. These expenses may include costs associated with regulatory reporting, remedial design, sampling and analysis of environmental media, building demolition, and/or the implementation, operation, and/or monitoring of the selected cleanup alternatives.

g. **Resources Needed for Site Reuse**

There is significant interest in the site from developers, but EPA Brownfields Cleanup funding is a critical first step to ensuring a financially feasible and successful development that aligns with the community's priorities; therefore, no additional firm leveraging commitments are yet in place for the site reuse. The Town is currently working with the community to refine development objectives for the site. The Town anticipates and is committed to working to pursue numerous leveraged resources to support the project which may include, but may not be limited to, resources identified in the following table:

Name of Resource	What Resource is For (e., f. or g.)?	Is Resource Secured or Unsecured?	Additional Details or Information About the Resource
PVPC (EPA Assessment)	Assessment (e.)	Secured - Written	$75,000; Assessment/remedial pre-characterization of soil and groundwater to be completed prior to June 2026
MassDEP	Assessment (e.) Cleanup (f.)	Secured - Complete Secured - Written	$25,000 $250,000; To fund a portion of site cleanup
Town of East Longmeadow	Cleanup and/or Reuse Planning (f./g.)	Secured – Written	$250,000; To fund a portion of the cleanup
MassDevelopment	Brownfield Redevelopment Fund and/or Site Readiness (f./g.)	Unsecured	Funds generally up to ~$750,000 for cleanup and/or up to $500,000 for reuse (preparation and pre-development activities). Loans and/or grants will be applied for if needed, at applicable time.
Mass Brownfields Tax Credit Program	Reuse	Unsecured	Credit for cost incurred on a Brownfields remediation project. City will work with eligible developers / non-profit organizations as appropriate.
Mass New Market Tax Credit	Reuse	Unsecured	Created to stimulate business investment in designated low-income communities.

h. **Use of Existing Infrastructure**

The Town will use existing infrastructure (water, sewer, gas, electricity, transit and internet) readily available in the Target Area and at the Target Site, as well as at the adjoining streetscape, to support the proposed redevelopment and reuse activities at the Site. Existing infrastructure has the capacity to handle this expansion and initiate redevelopment. The Town is actively revising its zoning regulations to enable the successful redevelopment of the Target Site and the broader Target Area (the CTD). To advance these efforts, the Town is allocating general purpose funds to cover the costs associated with drafting, reviewing, and implementing these zoning changes, ensuring that regulatory frameworks align with community-driven revitalization goals.

2. COMMUNITY NEED AND COMMUNITY ENGAGEMENT

Community Need

a. The Community's Need for Funding

Considered a "rural" community due to its population at just over 16,000, the Town of East Longmeadow cannot fund this cleanup on its own due its extremely limited tax base. For Fiscal Year 2026, the Town passed a $79 million general fund budget to cover all operating costs for the Town and Public Schools. The Town estimates remediation and reuse costs to be approximately $4 million, which represents 5% of our total budget expenses. The Town cannot take on this expense without shouldering significant cuts to Town staffing levels and services. Additionally, the Massachusetts Municipal Association (MMA) recently released a report that documents the

ways that municipal budgets are being squeezed by the cap imposed by MA Proposition 2 ½, which has not kept pace with post-COVID rates of inflation, and reductions in unrestricted (Federal and State) Aid. These pressures further limit the Town's ability to raise adequate revenues that respond to community needs. Due to the limited levy ceiling that Prop 2 ½ places on annual residential taxes increases, town residents have already moved to take on an added tax burden outside of the permanent tax rate by voting to fund the construction of a new high school and natatorium through a debt exclusion override. Therefore, town residents are not in a position to take on any additional tax burden to fund site cleanup. This grant will fulfill the community need for environmental remediation and support the public health and safety necessary for this community to overcome serious environmental threats and health disadvantages. The grant will make it possible to reuse the area for dense, mixed-use, and multi-family housing with recreational areas that are overwhelmingly absent throughout the town today.

b. Health or Welfare of Sensitive Populations

The Target Site is in census tract 25013813403 which has the presence of **two sensitive populations, unemployed individuals and older adults over 64 years, at greater rates of incidence than the national average**. Regionally, the loss of affordable housing, rising house prices and cost of living continue to exacerbate problems for older adults who are often on fixed incomes or unemployed. The reuse strategy for this property directly addresses the needs of these two sensitive populations. First, because the town is seeking to stimulate the local economy with mixed-use commercial-residential development on the site, there should be an increase in the number of job opportunities available to individuals who are willing and able to work. Second, by providing a dense, multi-family housing options at various price points in the center of town, there is an increased ability for older adults to downsize from a single-family home into a dwelling unit that is smaller and easier to maintain and more conveniently located close to amenities.

c. Greater Than Normal Incidence of Disease and Adverse Health Conditions

A query run on the Massachusetts Environmental Public Health Tracking (EPHT, https://matracking.ehs.state.ma.us/index.html, access 12/31/25) about **pediatric asthma** for boys and girls in East Longmeadow demonstrates that for the school year 2023-2024 the prevalence was 12.2, statistically significantly higher than the state prevalence, meaning that the high prevalence is unlikely due to chance alone. EPHT also shows Standard Rates of Incidence for **cancer** in East Longmeadow are 15-50% higher than expected rates of incidence for several cancers including brain and other nervous system cancers, Hodgkins lymphoma, and stomach cancer. It is reasonable to presume that the community is being adversely impacted by exposure to contaminants including **VOCs** (liver, kidney, nervous system damage; birth defects; cancer), **heavy metals** (immune, cardiovascular, developmental, gastrointestinal, neurological, reproductive, respiratory, kidney damage; cancer), **petroleum** (nervous system, immune, liver, kidney, respiratory damage; cancer), **SVOCs/PAHs** (liver disorders; cancer; cognitive disfunction, childhood asthma and other adverse birth affects), as well HBM including **asbestos** (lung scarring, mesothelioma and lung cancer) and **PCBs** (immune, hormone and neurological system; liver and skin disease). Due to the concentration of Brownfields in the Target Area, chronic health conditions can be exacerbated and disproportionately impact sensitive populations. The cleanup and redevelopment of the Target Site will reduce these threats and eliminate contaminant risks that can also worsen chronic health conditions such as lung ailments. This grant will directly facilitate the removal of contaminants and exposure pathways that adversely impact the health and wellbeing of our most vulnerable populations. It will provide instead, a clean space that will support mixed use development with various affordable housing options, employment opportunities, as well encourage healthy, outdoor activity and improve the overall health and well-being of the community.

d. Economically Impoverished/Disproportionately Impacted Populations

According to ACS 5-year estimates, median income of the high 65 & older population is disproportionately lower than average: East Longmeadow $63,244, MA $64,818, US $57,108. Many of these elderly residents are paying 35% or more as a percentage of household income in the past 12 months: East Longmeadow 31%, MA XX%, US 21%. The labor force is smaller (East Longmeadow 63.6%, MA 67.2%, US 63.5%) and the monthly housing costs are higher (East Longmeadow $1,769, MA $2,001, US $1,338, $1,435)The Town lacks the financial ability

to undertake this cleanup without substantial support from EPA. The Target Site continues to impact the town's revitalization potential, while health and welfare impacts continue to fall disproportionately on sensitive populations in town. This grant is vital to eliminate blight, advance cleanup at the site and to support the economically impoverished / disproportionately impacted vulnerable populations within the Target Area. This grant will enable the Town to transform the site into a vibrant community asset that provides much-needed affordable housing, job opportunities, and green spaces that will foster economic growth, attract investment, spark revitalization and increase property values throughout the target community.

Community Engagement

e. Project Involvement / f. Project Roles

The Town has hosted several meetings to share information and gather feedback on the proposed cleanup and reuse of the Site, including a presentation of the draft cleanup plan and ABCA. Community engagement for the Site is robust and ongoing. The Town has built strong partnerships with community organizations and will continue to collaborate with non-governmental community leaders to ensure residents remain actively engaged throughout the process:

Name of Organization & Point of Contact	Entity's Mission and Specific Involvement in the Project or Assistance Provided
Pioneer Valley Planning Commission - PVPC Erica Johnson *413-781-6045* *ejohnson@pvpc.org*	**Regional Planning Commission** - Assisting the Town with environmental assessment and cleanup and reuse planning activities as part of its EPA Community Wide Brownfields Assessment Grant. As a **Brownfields Advisory Committee (BAC) member**, will participate in QEP selection and assist with outreach and cleanup / reuse planning activities.
MassDevelopment Richard Griffin *413-731-8848* www.massdevelopment.com	**Economic Development Agency** - A significant **Brownfields funding partner for the region,** MassDevelopment may assist through financial resources and by providing expertise to advance the future redevelopment and reuse of the site. **BAC Member**.
Westmass Area Development Corporation Sean O'Donnell *413-374-0378* www.westmassdevelopment.com	**Non-Profit Economic & Real Estate Development Organization** – Will provide cleanup and reuse planning assistance to the Town to support the redevelopment of the Site. Will provide funding strategy assistance and redevelopment and visioning expertise to the Town to advance the future reuse of the site. **BAC Member / QEP Selection / Outreach.**

f. Incorporating Community Input

The Town has a comprehensive and well-established program for public engagement and soliciting community input. The Town has conducted surveys to solicit the community's feedback and input into the redevelopment and reuse planning for the proposed CTD and will continue to do so for the Site as part of the grant. Community feedback will be actively solicited thoughtfully considered and integrated into the decision-making process at every stages. The Town plans to notify the Target Area and general community by conducting the following: Websites: The Town website will include notice of public meetings, meeting minutes, project updates, reports and solicit input and provide opportunity for community feedback. Partner organizations will also have information or links on their websites. Information Repository: Town Hall, located adjacent to the Target Area, will serve as the location for hard copies of all program-related documents for review by the public. Public Meetings: Meetings will be held virtually (on-line, conference calls, etc.) or hosted in the Target Area and held outside of normal working hours to increase participation. Any public meetings held in person will take place in a facility that is handicap accessible. Newspapers: Announcement of grant funding, public meetings, and success stories will be publicized. Brochures & Flyers: The Town will distribute Brownfield brochures and meeting flyers at municipal offices, chambers of commerce, and a pdf will be available on the Town website and social media platforms. E-Mail: Town and project partners will use e-mail to announce and promote the program, communicate progress, solicit input, provide feedback, and advertise meetings. Social Media: Town will use Facebook pages to promote the program, communicate progress, solicit input, advertise meetings, and highlight successful Brownfield redevelopment. Although language barriers are not anticipated, if any arise, the Town will provide translation services and will accommodate any communication or other barriers identified. If necessary, the Town will canvas the Target Area to notify and engage residents.

3. TASK DESCRIPTIONS, COST ESTIMATES, AND MEASURING PROGRESS

a. Proposed Cleanup Plan

The goal of the project is to protect human health and the environment while redeveloping a 4.1-acre property for residential housing and mixed commercial use. The remedial plan includes the targeted removal and off-site disposal of materials which pose the highest exposure risk to Site users. This includes the removal and off-Site disposal of 650 cubic yards (cy) of soil with PCB concentrations ≥1 mg/kg and operation, maintenance, and monitoring of the existing soil vapor extraction system. Confirmatory sampling of both soil and groundwater will be conducted to verify remedial objectives have been achieved. A Method 3 Risk Characterization will be conducted to evaluate regulatory closure. Remaining Site-wide contaminant concentrations may not be removed to below the threshold for unrestricted use; therefore, institutional controls in the form of a deed restriction known as An Activity and Use Limitation (AUL) will be recorded on the deed for the entire property to prevent disturbances to the cap and potential exposure to any remaining impacted materials. AUL will be required to mitigate exposure to remaining impacted soils and maintain a condition of NSR under the MCP. Since all contamination will be removed, abated and/or capped, the exposure pathways will be eliminated. This approach will enable the site's reuse and redevelopment and achieve regulatory closure under the state VCP and federal regulations.

Description of Tasks/Activities and Outputs

Task #1 – Cooperative Agreement Oversight
b. Project Implementation - EPA funded tasks/activities: Manage and conduct cooperative agreement (CA) oversight activities: Reporting (ACRES, FFR and Quarterly Reports, Close Out); Competitively procure and manage qualified environmental professional (QEP) and remediation contractors; Conduct financial reporting and drawdowns; Maintain project files; Project coordination with stakeholders; Ensure program remains on schedule and budget and in compliance with requirements such as Davis Bacon and BABA. Travel/attend National Brownfields Conference, as well we regional and local events. **Non- EPA grant resources needed:** Town will perform CA oversight activities as in-kind services (in the form of staff time/salary, travel, materials) for activities not budgeted as part of this task.
c. Anticipated Project Schedule: Task will be completed over four (4) year performance period. Complete procurement of QEP by December 31, 2026. Kick off program January 2027. Quarterly stakeholder mtgs. Quarterly reports will be submitted within 30 days of end of each quarter (Jan/April/July/Oct), and FRR reports annually by Oct. 30 each grant year. ACRES will be updated quarterly and at regular intervals as project cleanup and redevelopment milestones are achieved and/or new information is available. Monthly status check-in meetings with Town, QEP, EPA and MassDEP. Final closeout report will be submitted within 90-days after the end of the CA period.
d. Task/Activity Lead(s): Town will lead CA oversight tasks to ensure compliance with Brownfields Programmatic Requirements. QEP will be Town's partner and provide technical support, updates to ACRES and annual reports, and general programmatic assistance.
e. Output(s): EPA Reporting (ACRES/FRR reports, 16 Quarterly Reports, Closeout Report), prepare Request For Qualifications for QEP & remedial contractor procurement, drawdown requests, 16 BAC Meetings, general CA oversight and attend the National Brownfields Conferences in 2027, as well as regional / local brownfield events. Monthly status mtgs with EPA, MassDEP, Town and QEP.
Task #2 - Community Outreach & Engagement
b. Project Implementation - EPA funded tasks/activities: Town will conduct extensive outreach & communication with Target Area residents & community stakeholders throughout project implementation. The Town has an established website and online information repository for this project and will designate a Community Relations Spokesperson. The QEP, in collaboration with the Town, will prepare a Community Involvement Plan (CIP) which will detail the steps to ensure adequate public notice and the opportunity for the community to provide input / feedback on the proposed cleanup/reuse plan and response to comments, etc. Reports and other materials will be posted to the project's website. Public notice of the updated draft ABCA will be provided and presented at a public meeting with a 30-day comment period for members of the community to review and provide their input. Written responses to public comments will be provided and incorporated into the finalized CIP and ABCA. The Town will closely coordinate with project partners to ensure target area community input on the proposed remediation and redevelopment. **Non-EPA grant resources needed:** The Town will provide activities as in-kind services (staff time, mailings, postage, travel, materials, etc.).
c. Anticipated Project Schedule: Activities are anticipated to commence Spring 2027 with generation of CIP and are expected to occur over the following approx. two years throughout project implementation, until after cleanup related field

activities are completed. Outreach anticipated to be conducted at the following project milestones: 1) ***Spring 2027***: Post CIP and present updated draft ABCA. 2) ***Spring 2028***: Pre-cleanup and solicit feedback from the community regarding proposed redevelopment. 3) ***Spring 2029:*** During Cleanup to discuss status of remediation and reuse planning update. 4) ***Spring 2030***: Post cleanup and next steps.
d. Task/Activity Lead(s): Town will lead community engagement activities including translation services for meetings and materials. QEP will be the Town's partner and generate the CIP and ABCA and provide technical expertise and support at meetings. Town will review deliverables to ensure compliance with state/federal programmatic requirements.
e. Output(s): Outreach materials, website updates, public notices, meeting presentation materials, social media posts. Four (4) public meetings held at key project milestones to share information, schedules, and solicit input and feedback.
Task #3 – Site Specific Cleanup Activities, Oversight and Cleanup Completion Reports
b. Project Implementation - EPA funded tasks/activities: QEP will prepare documentation required for cleanup implementation, including a Health and Safety Plan (HASP), Quality Assurance Project Plan (QAPP), Remediation / Engineering Plans & Specifications, and EPA / MassDEP VCP required documents and Release Abatement Measure (RAM) Plan. Town will prepare a public bid package with support from QEP for the procurement of a cleanup contractor in accordance with state regulations. QEP will provide bid support to the Town during competitive procurement process. Cleanup contractor will implement cleanup tasks with oversight from QEP. During site remediation, the QEP will observe and document activities in the field to ensure cleanup is performed in compliance with the EPA approved ABCA/RAM Plan and state VCP requirements. QEP will prepare and submit state required Remedial Action Plans, Status Reports, and Cleanup Completion reports to MassDEP and EPA. Site will be surveyed for as-built plan and institutional controls; AUL will be recorded. QEP will issue closure report to MassDEP and EPA. **Non- EPA grant resources needed:** Town will provide in-kind services (staff time, travel, materials, etc.) to carry out site specific cleanup, and oversight and cleanup completion reporting related activities. Leveraged funding will be provided by Town and MassDEP. If necessary, Town will apply for supplemental funds from MassDevelopment and/or other resources.
c. Anticipated Project Schedule: ***Summer 2027***: Generate cleanup plans, obtain necessary approvals, finalize remediation / engineering designs and specifications. ***Winter 2027/2028****: Issue invitation for bids for cleanup contractor* ***Spring 2028***: award cleanup contractor, secure permits. ***Summer 2028*****:** Commence site remediation. **Fall/Winter 2029:** Complete site remediation related field tasks. ***Spring 2030:*** *As built survey, AUL, final documentation and Cleanup Completion report completed.*
d. Task/Activity Lead(s): Town will lead procurement of the cleanup contractor with QEP support. QEP will prepare ABCA, QAPP, EPA & State VCP reports, and remedial engineering plans & specifications; and provide bidding support. Town will review deliverables to ensure compliance with state/federal Brownfields requirements. Cleanup contractor will obtain permits and implement specified cleanup tasks with QEP support / oversight. QEP will provide technical oversight, provide documentation for materials required to be disposed of off-site, and document remedial activities for compliance with applicable MassDEP/EPA standards & requirements. Town will review deliverables to ensure compliance with state/federal regulatory and programmatic requirements and record AUL with the Registry of Deeds.
e. Output(s): HASP, QAPP, EPA & State VCP report(s), remedial engineering plans & specifications, bid documents, site remediation & restoration. Excavation and removal of ~650 cy of soil with PCB concentrations 1 mg/kg and a significant reduction in groundwater CVOC concentrations. Bills of Lading/Manifest, Remedial Action Plans, Status Reports, Cleanup Completion & Closure Report, and AUL (deed restriction). Regulatory closure under state VCP through a Permanent Solution with Conditions (PSC). 4.1 acres ready for mixed-use that does not pose a threat to human health or environment.

f. Cost Estimates

The Town is requesting $4,000,000 to complete the tasks above. Costs have been estimated based upon past experience and estimates from environmental contractors and in consultation with the EPA's Interim General Budget Development Guidance for Applicants and Recipients of EPA Financial Assistance guidelines. **Please note, no personnel, fringe, indirect, equipment, supply, other costs or Administrative Costs are requested.** **Task 1**: Travel: $5,000 (registration, air fare and/or mileage, lodging, per diem = $2,500 avg per conference X 2 conferences). Contractual: $39,750 [General Cooperative Agreement oversight and programmatic assistance, monthly status meetings with Town, EPA and MassDEP, Quarterly Reports (16), ACRES updates, grant closeout reporting, compliance assistance with BABA, Section 106 Historic Preservation, etc. (~5hrs/mo x ~45mo @ ~$176/hr average)]. **Task 2**: Contractual: $35,000 [QEP (~$3,500/mtg x 4 public meetings) + $5,000 for CIP + $12,000 draft and final ABCA, which will include a resiliency assessment to evaluate the extent to which current

and forecasted climate conditions pose a risk to the effectiveness of each site cleanup alternative + $4,000 for production of outreach materials (~24hrs @ $165/hr average)] **Task 3**: Contractual: $341,130 [QEP: $298,000 (1,700 hrs @ ~$175/hr average) for HASP, QAPP, and EPA & MassDEP/VCP required remedial action plans and up to cleanup status related documents + $2,016,240 for the operation and maintenance of the groundwater barrier and SVE system (12,300 hrs @ $150/hr average for on-site operations + $32,500 for spent filter media disposal + $90,000 subcontractor costs for system decommissioning + $49,000 subcontractor costs for sheet piling and fencing removal + $25,000 in replacement equipment + $414,075 engineering design plans & Site survey) + $272,160 (1,512 hrs @180/hr) for engineering design related to the barrier and SVE systems + $147,550 (843 hrs @175/hr) for Remediation / Engineering Design Plans & Specifications, including public bidding assistance for soil removal + $72,000 (600 hrs @120/hr) for ~15 weeks of full-time remediation oversight and construction administration services for soil removal + $167,050 for remedial design characterization & confirmatory sampling (soil and groundwater; including disposal characterization)]; Construction: $1,027,010 [$125,250 in contractor costs (including mobilization / demobilization and site preparation expenses {i.e., erosion controls, debris removal, dust controls, wash pad, utilities/site trailer, windscreens, etc.}) + $65,000 in site preparation and excavation (including clearing and grubbing, perimeter and hot spot excavation) + $745,860 in impacted soil transportation, and disposal (1,500 tons PCB soil @ ~$500/ton) + $40,150 in site restoration ($26,325 for import of clean backfill {585cy @ ~$45/cy} + $8,780 for BABA-compliant geotextile demarcation barrier {10,975sf @ ~0.80/sf} + $2,470 for loam and hydroseed) + $39,500 for bond (@ approx. 4% cost)]

Budget Categories		**Project Tasks ($)**				
		1 - Cooperative Agreement Oversight	2 - Community Engagement	3 - Site Specific Cleanup, Oversight & Reporting	4 – Administrative Costs	**Total**
Direct Costs	Personnel					$0
	Fringe Benefits					
	Travel	$5,000				$5,000
	Equipment					
	Supplies					
	Contractual	$39,750	$35,000	$415,500		$490,250
	Construction			$3,504,750		$3,504,750
	Other					
Total Direct Costs		$44,750	$35,000	$3,920,250	$0	$4,000,000
Total Indirect Costs		$0	$0	$0	$0	$0
Total Budget		$44,750	$35,000	$3,920,250	$0	$4,000,000

g. Plan to Measure and Evaluate Environmental Progress and Results

The Town, in collaboration with the QEP, will closely monitor and evaluate project progress. Quarterly reporting and internal project management and tracking systems will be used to ensure that all funds are expended within the four-year grant period and in full compliance with federal requirements, including the Davis-Bacon Wage Act and the Build America, Buy America (BABA) Act. Project data and performance measures will be entered into ACRES and updated quarterly, documenting key outcomes such as construction jobs created, leveraged investment, acres of greenspace created for the community, and the volume of soil remediated. An established, EPA-approved work plan will guide project implementation, with progress assessed against defined milestones to ensure timely and effective use of grant resources. This approach has been successfully used on other grants and projects and has proven both efficient and reliable. If any component of the project falls behind schedule, the issue will be recorded in the quarterly report and corrective actions will be implemented immediately.

4. PROGRAMMATIC CAPABILITY AND PAST PERFORMANCE

Programmatic Capability

a. Organizational Structure / b. Description of Key Staff

The Town of East Longmeadow is a Council-Manager form of government with a highly professionalized staff that includes a Town Manager, Deputy Town Manager, and 18 department heads. The transition to this form of government eight years ago has increased the Town's capacity to use a data-based approach to strategic planning and development and leverage additional resources. As Deputy Town Manager, Dr. Rebecca Lisi, is responsible for Community and Economic Development. Dr. Lisi is the Town's lead grant writer and administrator. In FY 2025, Dr. Lisi secured over $800,000 in grant funding across ten individual grant awards and was responsible for administering and reporting for eight of the ten grants. At this point in FY 2026, Dr. Lisi has secured almost $650,000 in grant funding across 12 grant awards and is responsible for administering five grants. As the recipient of a FY25 Energy Efficiency and Conservation Block Grant Program (EECBG) From the Department of Energy (DOE) via the Massachusetts Department of Energy Resources (DOER), Dr. Lisi has experience with federal grants and their associated programmatic and reporting requirements. East Longmeadow's Planning Department is staffed by a professional planner, a full-time conservation coordinator and a part-time clerk. In the event of staff turnover, the Town Administrator would be responsible for ongoing compliance/completion for the duration of the Grant period. The Department is additionally supported by the regional planning agency, Pioneer Valley Planning Commission (PVPC), through direct local technical assistance.

c. Acquiring Additional Resources

The town will hire a QEP/MassDEP-approved Licensed Site Professional (LSP) through a competitive, qualifications-based selection process, adhering to Town policies and Massachusetts law. LSP oversight is required to ensure work performed on brownfields sites is completed in accordance with state regulations. This process will comply with all relevant requirements under 2 CFR Part 200, 2 CFR Part 1500, 40 CFR Part 33, and EPA's Best Practice Guide for Procuring Services, Supplies, and Equipment. The EPA Cooperative Agreement Terms and Conditions will be included in the RFP and the final contract. Additionally, a qualified remedial contractor will be competitively procured to conduct cleanup activities at the site in the same manner. The town emphasizes local hiring and procurement, aiming to utilize local workforce as much as possible. This priority will be clearly stated in the RFP. The Town has experience with all these procurement requirements.

Past Performance and Accomplishments

e. Has Not Received an EPA Brownfields Grant but has Received Other Federal or Non-Federal Assistance Agreements

(1) Purpose and Accomplishments

In FY25, East Longmeadow was the recipient of an Energy Efficiency and Conservation Block Grant Program (EECBG) from the Department of Energy (DOE) via the Massachusetts Department of Energy Resources (DOER). The award was for $21,685 which helped leverage another state grant (MA Green Communities Grant for $160,170) and utility incentives ($20,382) for HVAC and energy efficiency improvements totaling more than $200,000 at the Town's DPW Service Station.

(2) Compliance with Grant Requirements

This funding was used for Building Envelope Improvements at the DPW Service station which was one of the Town's high energy consumption facilities. The weatherization improvements included insulation on the interior of a roof in the DPW building, as well as the insulation and air-sealing of the roof-wall joint in the Break Room/lunch area. These building envelope improvements had to be made before the Town could mobilize grant funding for the installation of eight additional heat pump retrofits. The building envelope improvements along with the heat pump retrofits are estimated to generate over $4,000 in annual cost savings, as well as save 252 MMBtu and 18 metric tons of Green House Gas emissions, annually.

DRAFT Analysis of Brownfields Cleanup Alternatives
Carlin Combustion Site
70 Maple Street
East Longmeadow, Massachusetts

I. Introduction & Background

This Analysis of Brownfields Cleanup Alternatives (ABCA) has been prepared to evaluate cleanup alternatives for the Carlin Combustion Site located at 70 Maple Street in East Longmeadow, Massachusetts (the Site).

1. Site Location

The Site encompasses two parcels, separated by a private driveway, totaling 4.1-acres parcel of land located on Maple Street in East Longmeadow, Massachusetts. The larger 3.6-acre parcel contains a vacant 80,452 square foot single story building constructed in phases between 1950 and 1978 of concrete block and steel frame, slab-on-grade, and a tar and gravel flat roof. Two dilapidated garages are located on the smaller 0.5-acre parcel. The Site is abutted to the north by Maple Street followed by primarily industrial and commercial properties, with one residential property. A multi-use paved recreation path, formerly a rail line, abuts the Site to the east. East of the rail trail is a vacant lot formerly occupied by Community Feed Stores, Inc. (Community Feed), Jos. Chapdelaine Builders & Sons (Chapdelaine), and Hampden Engineering Corporation. South of the Property is land owned by W.J. Quinn Company, Inc. (Quinn) which operates a construction contractor business. Residential properties abut the Site to the west and northwest.

2. Previous Site Use(s) and Any Previous Cleanup / Remediation

The Site was historically operated by R.E. Phelon from the 1950s until the early 1990s for manufacturing of small engine ignition system components and die casting. Carlin Combustion Technologies, Inc. (Carlin) operated the facility from 1994 to 2014 for the manufacturing of gas and oil-fired burners, components, controls and igniters for small residential to medium size industrial heating systems. The Town of East Longmeadow took ownership of the Site in 2023 through municipal tax foreclosure. Since taking ownership as a Municipality with Exempt Status, as defined by Massachusetts General Law (MGL) Chapter 21E, Section 2, the Town has not conducted response actions at the Site due to a lack of funding.

Environmental assessments completed for the Site between 2009 and 2018 identified five conditions requiring Immediate Response Actions (IRAs). IRAs and associated response actions are summarized as follows:

1. Dense non-aqueous phase liquid (DNAPL) at monitoring well MW-48: On April 19, 2011, 18-inches of DNAPL was measured in monitoring well MW-48. DNAPL gauging and removal were performed regularly (monthly and then quarterly) between July 2011 and January 2020. A groundwater containment system (Waterloo Barrier®) surrounding a chlorinated volatile organic compounds (CVOC) source area, inclusive of MW-48, was completed in May 2018. Dewatering of the containment system was performed between December 2018 and October 2019. Recovered groundwater was treated with granular activated carbon (GAC) prior to discharge to

the Town sewer under a temporary discharge permit from the Springfield Water Sewer Commission (SWSC). A soil vapor extraction (SVE) system was operated within the containment area from April 2019 to January 2020 to remove CVOCs from unsaturated soils.

2. Detections of CVOCs in surface water samples collected from Pecousic Brook: CVOCs were detected in surface water samples collected from the Pecousic Brook on October 12, 2012 in the area where Site groundwater was expected to discharge to surface water. Surface water sampling was conducted on a semi-annual basis until December 2019 when there were no detections of CVOCs in surface water samples.

3. Vapor intrusion at 34 and 36 Center Square: Indoor air sampling at several nearby properties conducted in 2013 and 2014 identified trichloroethene (TCE) in indoor air at 34 and 36 Center Square exceeding the MassDEP Imminent Hazard concentration. Response actions included adjusting the heating, ventilation, and air conditioning (HVAC) systems, sealing cracks/penetrations in the floor, installation of a subslab depressurization system (SSDS), and additional indoor air sampling. Subsequent indoor air sample results and SSDS monitoring completed through 2020 indicate that the SSDS are effectively mitigating vapor intrusion and the Immediate Hazard condition no longer existed.

4. Detections of TCE in exceedance of the Massachusetts Contingency Plan (MCP) Method 1 GW-2 standard in monitoring well 82S, which is in close proximity to a two-family residence: Based on Weston & Sampson's review of historical Site assessment and cleanup reports, no remedial actions specific to this IRA have been taken.

5. Presence of soil with polychlorinated biphenyls (PCBs) exceeding the MCP Imminent Hazard (IH) threshold: In October and November 2018, approximately 200 cubic yards of PCB-impacted soil were excavated from within the groundwater containment system area and stockpiled on-Site. The excavation area was backfilled and covered with an ethylene propylene diene monomer (EPDM) membrane prior to paving the entire area, which is within the groundwater barrier. A fence was installed around the groundwater barrier area and soil stockpile in November 2018 to restrict access. Removal of PCB-impacted soil has not been completed and the soil stockpile was reportedly moved to inside the Site building.

3. Site Assessment Findings

The Site has been assigned two Release Tracking Numbers (RTNs) by MassDEP. The following subsections include summaries of environmental assessments for each RTN since 2009. Tables and figures for the response actions summarized below are presented in the following Tighe & Bond reports available via the EEA Data Portal for Waste Sites & Reportable Releases:

RTN 1-17724
https://eeaonline.eea.state.ma.us/portal/dep/wastesite/results?queryString=rtn:1-0017724

RTN 1-20607
https://eeaonline.eea.state.ma.us/portal/dep/wastesite/results?queryString=rtn:1-0020607

i. Phase I Environmental Site Assessment (ESA) – 2009

In February 2009, O'Reilly, Talbot & Okun Associates (OTO) of Springfield, Massachusetts completed a Phase I (ESA) of the Site. The Phase I ESA identified the historical use of chlorinated solvents at the Site from the 1960s to the early 1990s as a Recognized Environmental Condition (REC). In addition, chlorinated solvents have been historically detected at a location downgradient of the Site (45 Baldwin Street, RTN 1-10061). The source of the chlorinated solvents has not been identified.

ii. Phase II ESA – 2009

In September 2009, Woodard & Curran of Andover, Massachusetts completed a Phase II ESA at the Site in association with a potential commercial real estate transaction. The Phase II ESA identified tetrachloroethene (PCE) in soil and groundwater and TCE in groundwater at the Site at concentrations that exceed the applicable MCP Reportable Concentrations (RCs) for soil (RCS-1) and groundwater (RCGW-2). W&C attributed the source of PCE and TCE to historical use and storage of industrial solvents at the Site. MassDEP was notified of the release on February 2, 2010, and RTN 1-17724 was assigned to the Site.

iii. Phase I Initial Site Investigation and Tier Classification – 2011

Tighe & Bond, Inc. of Westfield, Massachusetts (T&B) completed a Phase I Initial Site Investigation and Tier Classification for DP Properties, the former Site owner, in February 2011. Initial Site Investigation field activities were completed between December 2009 and October 2010 and included:

- In December 2009, twelve subslab soil gas samples (SG-1 through SG-12) were collected from below the main Site building for VOC analysis
- Twelve groundwater monitoring wells were constructed in December 2009 at interior locations within soil borings B-1 through B-12. Soil samples were collected in two foot intervals from each boring and analyzed for VOCs on-Site by a mobile laboratory. Groundwater samples were collected from each well using a foot valve and analyzed for VOCs by an on-Site laboratory with three duplicates analyzed for VOCs by a fixed laboratory.
- In January 2010, seven indoor air samples and two exterior ambient air samples were collected at the Site for VOC analysis.
- Eleven soil borings (B-13 through B-23) were completed as groundwater monitoring wells in January 2010. Soil samples were collected from borings and analyzed for VOCs as described above for interior soil borings. Two split soil samples were submitted to a fixed laboratory for VOC analysis. Groundwater samples were also collected from the eleven new wells as described above for interior wells and analyzed for VOCs by a mobile laboratory with a subset of duplicates collected for confirmation by a fixed laboratory. Two temporary wells (TMW-13 and TMW-23) were advanced to evaluate CVOC concentrations in deeper groundwater.
- In March 2010, groundwater samples were collected from seven interior wells (MW-1 through MW-5, MW-10, and MW-11), five exterior on-Site wells (WC-1, WC-3, WC-5, WC-7, and WC-9), and four off-Site wells (CF-10, CF-11, CF-21, and PE-1). Groundwater samples were analyzed for VOCs by EPA Method 8260.

- In June 2010, groundwater samples were collected from two depths at twelve temporary monitoring well locations (TMW-24 through TMW-35). Groundwater samples were analyzed for VOCs by EPA Method 8260.
- Seven indoor air samples and one outdoor ambient air sample were collected from the Site in July 2010 and analyzed for VOCS by EPA Method TO-15.
- In September 2010, ten temporary monitoring wells (TMW-37 through TMW-46) were installed to delineate elevated PCE and TCE groundwater concentrations previously identified in temporary monitoring well TMW-26. Eleven soil samples were collected from soil borings prior to temporary well installation. Groundwater samples were collected from the temporary wells and monitoring well MW-36. Soil and groundwater samples were analyzed for VOCs by EPA Method 8260.
- Based on previous soil and groundwater results, permanent groundwater monitoring wells were installed in October 2010. Four wells, MW-47S (shallow), MW-47I (intermediate), MW-47D (deep), and MW-47T (till/bedrock interface), were installed at depths of 15, 25, 34, and 44 feet below grade, respectively and co-located with former temporary well TMW-33. Monitoring well MW-48 was installed to be co-located with former temporary wells TMW-26 and TMW-37. Soil and groundwater samples were analyzed for VOCs by EPA Method 8260.

PCE and TCE were detected in soil samples collected from locations near the southern property boundary at concentrations that exceed MCP Method 1 reporting standards. In groundwater, PCE, TCE, 1,1-dichloroethene (1,1-DCE), cis-1,2-dichloroethene (cis-1,2-DCE), and 1,1,1-trichloroethane (TCA) were detected at concentrations that exceeded the applicable MCP standards. Vinyl chloride (VC) was also detected along with other CVOCs at concentrations lower than the applicable MCP standards. In soil gas, PCE, TCE, 1,1-dichloroethane (1,1-DCA), 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE and TCA were detected. In indoor air PCE, TCE, 1,1-DCE, carbon tetrachloride, chloroform, chloromethane, 1,2-dichlorbenzene, dichlorodifluoromethane, methylene chloride, trichlorofluoromethane, and 1,1,2-trichloro-1,2,2-triluroethane were detected. A focused evaluation of commercial work risk by inhalation was conducted and determined a condition of No Significant Risk by inhalation of indoor air existed.

iv. Phase II Comprehensive Site Assessment – 2015

Phase II ESA activities conducted at the Site between 2009 and 2015 included soil boring advancement and sampling, temporary and permanent monitoring well installation, groundwater sampling, water supply well sampling, surface water sampling, sediment sampling, soil vapor screening, soil gas sampling, and indoor air sampling. These activities are reported by T&B in their 2015 Phase II Comprehensive Site Assessment (CSA) report prepared for REPC Holdings, Inc and summarized below.

- CVOC impacts were identified in two primary areas; a “northern impacted area (NIA)” located beneath the former Site building and a “southern impacted area (SIA)” located near the south end of the Site. Site-related CVOCs included PCE with lesser amounts of TCE, TCA, 1,1-DCA, 1,1-dichloroethene (1,1-DCE), cis-1,2-DCE, and VC.

- Soil: One hundred forty four (144) soil samples were collected from 123 soil borings advanced throughout the Site and adjoining properties and analyzed for volatile organic compounds (VOCs). CVOCs (predominantly PCE with lesser amounts of TCE) were identified primarily in the

south end of the Site at depths ranging from 1.5 feet below grade to greater than 10 feet below grade.

- Groundwater:
    - One hundred (100) groundwater samples were collected from 57 temporarily installed monitoring wells and analyzed for VOCs. CVOCs, primarily PCE with lesser amounts of TCE, were primarily identified in the south end of the Site.

    - Sixty four (64) permanent monitoring wells were installed at the Site and adjoining properties including co-located wells at various depths installed at 15 locations to evaluate the vertical extent of CVOCs within the glaciofluvial overburden aquifer and within bedrock. Several rounds of groundwater sampling occurred between 2009 and 2014. CVOCs, consisting primarily of PCE and its degradation products TCE and cis-1,2-DCE were detected in overburden monitoring wells with the highest concentration occurring in the southern extent of the Site (MW-48) where DNAPL was observed. CVOC concentrations generally reduce with depth in the overburden aquifer. Monitoring wells installed in the bedrock aquifer have shown the presence of site-specific CVOCs, consisting primarily of TCE with lesser amounts of PCE.

    - Groundwater samples were collected from select monitoring wells (BMW-1, BMW-2, BMW-3, MW-36, MW-48, MW-82D, MW-87D, MW-92, MW-96D, and WC-3) in December 2013, January 2014, and January 2015 for microbial analyses to aid in the evaluation of groundwater remedial technologies. Aerobic conditions and lack of organic carbon content available to drive reductive dechlorination processes were identified in the glaciofluvial aquifer, however, a dehalococcoides determination of 61.3 cells/mL was observed at the base of the aquifer at MW-87D. Therefore, it was decided that a groundwater biological pilot test should be initiated in the southern impacted area at the Site. In-situ biological injections were performed between March 10 and 17, 2015.

- DNAPL Gauging, Sampling, and Management: In April 2011, 18-inches of DNAPL was measured in monitoring well MW-48, located on the south end of the Site. A DNAPL sample was collected and analyzed for VOCs and total petroleum hydrocarbons (TPH) with fingerprint and oil & grease. The DNAPL was found to be comprised of PCE (51%), TCA (0.01%), TCE (0.56%), and oil & grease. Fingerprint analysis of the DNAPL identified a C9 to C36 hydrocarbon fraction matching mineral spirits and a heavier hydrocarbon fraction in the range of motor oil with a TPH concentration of 270,000 mg/kg (27%). A total of 5.93 gallons of DNAPL were removed during 45 DNAPL gauging and extraction events performed between July 2011 and January 2015. During this time, DNAPL thickness reduced to trace amounts. In April 2013 monitoring well MW-92 was installed west of MW-48 as a potential second DNAPL recovery well and gauging was generally performed concurrent with activities at MW-48. No measurable DNAPL has been observed in MW-92.

- Water Supply: One water supply sample was collected from one of the three on-Site industrial water supply wells and analyzed for VOCs. No VOCs were detected above laboratory detection limits.

- Surface Water & Sediment: Surface water samples were collected from Pecousic Brook in October 2012 at locations inferred to be upstream, midstream, and downstream of the discharge point for groundwater migrating from the Site. PCE was detected in the midstream sample exceeding the Environmental Protection Agency (EPA) National Recommended Water Quality Criteria (NRWQC) for consumption of water and organism. Cis-1,2-DCE was also detected in the midstream sample and does not have a EPA NRWQC standard. Upstream, midstream, and downstream surface water samples collected quarterly or semi-annually between October 2012 and February 2015 returned detectable concentrations of CVOCs. CVOCs were not detected in sediment samples that were collocated with surface water samples in February 2013.

- Vapor Intrusion Assessments: Vapor intrusion assessments at the Site and 22 nearby commercial and residential properties included the collection and analysis of soil gas and indoor air samples for CVOC analysis. These assessments indicated no significant risk attributable to site-specific CVOCs at the Site or nearby properties except for at 34 and 36 Center Square. An SSDS was installed at 34 and 36 Center Square and subsequent indoor air assessments have indicated that the SSDS is effectively mitigating vapor intrusion.

Based on these environmental conditions, T&B recommended identifying, evaluating, and selecting remedial action alternatives as part of Phase III activities.

v. Southern Impacted Area Phase III and Phase IV – 2016

T&B prepared the Phase III Remedial Action Plan (RAP) and Phase IV Remedy Implementation Plan for REPC Holdings, Inc. to address the contamination in the Southern Impacted Area "source zone" considered to be primarily responsible for the CVOC groundwater plume that flows north of Maple Street and discharges to Pecousic Brook. The selected Remedial Action Alternatives (RAAs) was groundwater containment using sheet piles (barrier wall), dewatering and SVE. Implementation of the selected RAA began in August 2017.

The Waterloo Barrier® (i.e., sheet piles) was completed in May 2018 to restrict the migration of contaminated groundwater away from the Southern Impacted Area. Dewatering of the containment system was performed between December 2018 and October 2019 with recovered groundwater treated with GAC prior to discharge to the Town sewer under a temporary discharge permit from the Springfield Water Sewer Commission (SWSC). A soil vapor extraction (SVE) system was operated within the containment area from April 2019 to January 2020 to remove CVOCs from unsaturated soils.

In January and February 2019, 38 SVE points (air inlet and extraction wells) were installed to the top of the till layer throughout the area within the barrier wall. These points were connected to an extraction and treatment system which commenced soil vapor extraction operations in April 2019. Except for interruptions due to maintenance work and power outages, the SVE system operated continuously up to at least February 2020.

REPC Holdings Inc, received Financial Inability status from MassDEP in December 2020 and subsequently ceased participation in response actions.

Groundwater sampling was conducted across the Site as part of Phase IV activities. As of December 2019, all CVOC detections in bedrock and the alluvial aquifer were less than GW-3 standards. In the shallow alluvial aquifer, December 2019 PCE and TCE concentrations exceeded the GW-2 standards in monitoring well WC-1.

vi. Northern Impacted Area RAM Completion Report – 2017

In November 2015, T&B oversaw the installation of a SVE system within the NIA below the main Site building. The SVE system was installed and operated to reduce CVOC concentrations in soil to levels approaching background and/or below the MCP RCS-1 Reportable Concentrations. The SVE system was operated intermittently from December 2015 until March 2017 with periodic influent and effluent sampling performed to monitor CVOC removal. In February 2017, only TCA was detected in SVE influent. CVOCs detected in subslab soil gas samples collected from four monitoring points after a temporary SVE shutdown in February 2016 were below MassDEP Commercial/Industrial Sub-Slab Soil Gas Screening Values, indicating that the SVE system effectively reduced the CVOCs within the building footprint of the NIA.

In May 2017, twelve soil borings (SB-1 through SB-12) were advanced to 10 feet below grade to evaluate the need for future soil management below the main Site building. One soil sample was collected from each boring for CVOC analysis. PCE was detected in six borings (SB-3, SB-4, SB-5, SB-6, SB-11 and SB-12) TCA was detected in three borings (SB-4, SB-5, and SB-12), and TCE was detected in two borings (SB-4 and SB-12). All CVOC concentrations were below the MCP S-1/GW-2 standards. Based on these results, the objective of the RAM was achieved.

vii. PCBs and Extractable Petroleum Hydrocarbons (RTN 1-20607) – 2018

In February 2018, PCBs and extractable petroleum hydrocarbons (EPH) were detected in soils up to two feet below grade within the footprint of the proposed Waterloo Barrier® at concentrations greater than the MCP RCS-1. In April and May 2018, additional samples of soil, groundwater, and DNAPL were collected from the Southern Impacted Area to evaluate the potential source and approximate extent of the PCBs. Additional soils were identified with PCBs above the RCS-1. DNAPL collected from MW-48 contained 223 milligrams per kilogram (mg/kg) of PCBs. In May 2018 samples of groundwater and light non-aqueous phase liquid (LNAPL) were collected from MW-48. The LNAPL was assumed to be the result of emulsified edible oil, which had collected in the well following a biological remediation pilot that was performed in the area in 2015. Analytical results identified PCBs at 298 mg/kg in the LNAPL sample and at 0.00217 milligrams per liter (mg/L) in the groundwater sample. The PCB concentration detected in the groundwater sample is below the applicable MCP GW-2 and 3 standards of 0.005 mg/L and 0.010 mg/L, respectively. In July 2018, a 120-day Release Notification Form was submitted to MassDEP under RTN 1-17724 regarding the findings of the PCB and EPH exceedances.

In July 2018, soil borings (P-9 through P-43) were advanced to further assess the nature and extent of PCBs and EPH impacts to soil. Soil samples were collected in one-foot intervals to 5 feet below grade. PCBs were detected in surficial soil at concentrations of greater than 10 mg/kg within 500 feet of a recreation area (Redstone Rail Trail, located east of the Site). MassDEP assigned RTN 1-20607 to the Imminent Hazard (IH) condition. On July 26, 2018, temporary fencing was installed around the entire barrier wall area to restrict potential exposure to the elevated PCB concentrations in surficial soil. In

August 2018, additional soil samples (P-44 through P-51) and soil pile samples (P-43A and P-43B) were collected to further delineate the vertical and horizontal extent of PCB and EPH impacts in the Southern Impacted Area and to the east in the vicinity of the rail trail. Soil samples were collected in one-foot intervals to 5 feet below grade and one boring was advanced to 10 ft below grade. The samples were analyzed for PCB and EPH analysis. Concentrations of PCBs and EPH exceeded S-1/GW-2 and S-1/GW-3 Cleanup Standards in some of the samples but did not exceed the IH condition in any samples.

In October 2018, three areas were excavated to 2 feet below grade and two areas were excavated to 1 foot below grade. Approximately 200 cubic yards of soil were excavated from the Waterloo Barrier® area. PCBs remain within the excavated area at concentrations up to 20.9 mg/kg at P-34 (3-4 ft below grade). The excavation area was backfilled with clean fill, an EPDM membrane was placed over the fill, and the area within the barrier wall was paved. Excavated soils were stored onsite encapsulated with polyethylene sheeting and covered with a tarp. A permanent fence was installed around the barrier wall area and stockpiled soil in November 2018. MassDEP has indicated that the stockpile was moved to within the building, likely in 2020.

Additional soil samples were collected for EPH and/or PCB analysis in January and February 2019. PCBs were detected in subsurface soils (4 to 21 ft) at locations within the barrier wall area at concentrations below 1 mg/kg (S-1/GW-1). Also, EPH was detected at 14 to 16 feet at a concentration below the S-1/GW-1 (3,000 mg/kg). As part of Phase IV activities, additional soil sampling was completed at locations east of the barrier (P-58 to P-75) in November and December 2019. Samples were collected from 0 to 1, 1-2, and 2-3 feet below ground surface. Some of the samples had concentrations of PCBs and/or EPH compounds that exceeded the S-1/GW-2 and GW-3 standards. One sample located within the barrier fence (P-65, 1-2 feet) had PCB concentrations that exceeded the IH.

In February 2025, soil samples were collected from the stockpile within the Site building.

4. Project Goal

The goals of the project are to protect human health and the environment and to redevelop an underutilized property for mixed commercial and residential reuse including the demolition of the existing Site building and construction of three new buildings. The new buildings conceptually include up to 6,700 square feet of commercial space on the ground floor with up to forty apartments of various sizes on the second and third floors. Outdoor areas will include recreation spaces and parking The objective is to remove or contain targeted impacted soil and groundwater that pose a potential exposure risk to future users of the Site. Once complete, a Permanent Solution Statement with Conditions (PSC) will be filed to close response actions under the Massachusetts Contingency Plan (MCP; 310 CMR 40.0000).

5. Regional and Site Vulnerabilities

The northeastern United States, including the East Longmeadow area, experiences warm and often humid summers and cold winters. Rainfall can be severe with summer thunderstorms common and severe weather resulting from regional nor'easter anticyclone storms and/or hurricanes. Winter conditions can also be severe with ice storms and heavy snow common.

According to the US Global Change Research Program (USGCRP), the northeastern United States can expect increased temperatures and temperature variability and extreme precipitation events . USGCRP notes that "Urban residents still face increased exposure to extreme heat events, flooding, and episodes of poor air quality. Likewise, rural areas are still susceptible to droughts, and floods that affect agricultural productivity and ecosystem function. These events still pose compounding threats to aging transportation, water, and wastewater infrastructure. The communities most vulnerable to extreme weather risks remain those that are historically overburdened and disadvantaged in both rural and urban areas." Increased precipitation will increase stormwater runoff, which is applicable to the cleanup and redevelopment of the Site for residential reuse and open space. Additionally, once developed, the Site is expected to include improved stormwater infrastructure which will account for increasing precipitation.

According to FEMA Flood Zone Maps 25013C0409E and 25013C0417E the Site is not located within a Special Flood Hazard Area or Other Areas of Flood Hazard. Based on the location of the Site, other factors related to extreme weather change, such as changing temperature, rising sea levels, wildfires, changing dates of ground thaw/freezing, changing ecological zone, etc.) are unlikely to impact the Site in a significant way.

II. Applicable Regulations and Cleanup Standards

1. Cleanup Oversight Responsibility

The cleanup will be overseen by a Commonwealth of Massachusetts Licensed Site Professional (LSP) in accordance with Massachusetts General Law Chapter 21E and the MCP. In addition, required regulatory documents prepared for this Site will be submitted to the Massachusetts Department of Environmental Protection (MassDEP) electronically and tracked under the Release Tracking Numbers (RTN) issued for the Site by MassDEP (RTN 1-17724 and RTN 1-20607). All documents will be in the public record.

2. Cleanup Standards

MassDEP is the state authority that regulates cleanup of sites in the Commonwealth of Massachusetts. The MCP, 310 CMR 40.0000, includes risk-based cleanup standards for use in screening-level and semi-site-specific risk characterizations (Method 1 and Method 2 Risk Characterizations) to evaluate risk to human health and the environment. The MCP also outlines a Method 3 Risk Characterization, in which site-specific cleanup standards and characteristics and/or limitations on use and activity are used to evaluate risk. Under the MCP, regardless of the approach or type of risk characterization, a condition of No Significant Risk (NSR) to human health and the environment must be documented for the Site to achieve regulatory closure.

PCBs are regulated by the United States Environmental Protection Agency (EPA) under 40 CFR Part 761, under the authority of the Toxic Substance Control Act (TSCA). PCBs present within Site soil require cleanup as a PCB remediation waste because PCBs are present at levels above 1.0 milligrams per kilogram (mg/kg) and have been released from a source with unknown PCB concentrations $>$ 50 mg/kg. PCB cleanup levels include:

- High occupancy without a cap: $\leq$ 1.0 mg/kg

- High occupancy with a cap: < 1.0 mg/kg but ≤ 10 mg/kg.
- Low occupancy without a cap: ≤ 25 mg/kg
- Low occupancy without a cap but with signage indicating the presence of PCBs: > 25 mg/kg but ≤ 50 mg/kg.
- Low occupancy with a cap: > 25 mg/kg but ≤100 mg/kg

A high occupancy area is defined as any area where occupancy for any individual not wearing dermal and respiratory protection for a calendar year is greater than 840 hours (an average of 16.8 hours or more per week). A low occupancy area is defined as any area where occupancy for any individual not wearing dermal and respiratory protection for a calendar year is less than 840 hours (an average of 16.8 hours or more per week). Site reuse is generally considered high occupancy, however, exterior areas where occupancy is transitory, such as parking lots, could be considered low occupancy areas. PCB cleanup plans must be prepared in accordance with 40 CFR Part 761.61. MassDEP defers PCB cleanup authority to the EPA Region 1 PCB Coordinator.

3. Laws and Regulations

Laws and regulations that are applicable to this cleanup include the Federal Small Business Liability Relief and Brownfields Revitalization Act, the Federal Davis-Bacon Act, the MCP, and Town of East Longmeadow by-laws. Federal, state, and local laws regarding procurement of contractors to conduct the cleanup will be followed. As described all cleanup will be in accordance with the MCP; 310 CMR 40.0000. All applicable permits and documentation (e.g., Building Permit, Dig Safe, soil transport/ disposal manifests) will be obtained prior to the work commencing, and all work will be conducted in accordance with the conditions for approval.

III. Evaluation of Cleanup Alternatives

1. Cleanup Alternatives Considered

EPA requires that this ABCA includes the evaluation of a minimum of three (3) remedial alternatives. To address the remediation of CVOC impacted soil and groundwater at the Site, the following alternatives were considered:

- Alternative #1 – No Action
- Alternative #2 – Operation, maintenance, and monitoring of the existing Waterloo Barrier® and SVE system
- Alternative #3 – In-Situ Chemical Oxidation (ISCO)
- Alternative #4 – Vapor barriers and subslab depressurization systems (SSDS).

To address the remediation of PCB impacted soil at the Site, the following two (2) alternatives were considered in addition to Alternative #1 – No Action:

- Alternative #5 – Removal, Transport & Off-Site Disposal of all PCB Remediation Wastes
- Alternative #6 – Target Removal, Transport & Off-Site Disposal and On-Site Soil Disposal, Capping, and Activity Use Limitation (AUL).

2. Cost Estimate of Cleanup Alternatives

To satisfy EPA requirements, the effectiveness, implementability, and cost of each alternative must be considered prior to selecting a recommended cleanup alternative.

Effectiveness – Including Vulnerability/Resiliency Considerations

- Alternative #1: No Action is not effective in controlling or preventing exposure of receptors to soil and groundwater impacts during or after redevelopment.

- Alternative #2: Operation, maintenance, and monitoring of the existing Waterloo Barrier® and SVE system. Under this alternative, remedial actions include the long-term maintenance and monitoring of the Waterloo Barrier® and operation/maintenance of the SVE system for as long as needed to reduce CVOC concentrations in soil and groundwater until a condition of NSR is demonstrated. The Waterloo Barrier® and SVE system would be decommissioned once the NSR condition is reached.

  Groundwater monitoring following historical barrier dewatering and SVE operation have demonstrated significant reductions in CVOC groundwater concentrations both on-Site and downgradient of the Site, therefore, this alternative has already been demonstrated to be effective.

- Alternative #3: ISCO includes the introduction of oxidants into target areas of the subsurface to reduce CVOC mass and concentrations through oxidation. ISCO can be completed as a stand-alone remediation technology or in combination with other technologies, such as in-situ bioremediation (ISB), which involves the introduction of amendments, and sometimes strains of bacteria, to the subsurface to encourage native or introduced bacteria to metabolize CVOCs. The effectiveness of ISCO and ISB technologies are determined by Site-specific physical and chemical conditions that control whether the amendments, oxidants, or bacteria can be dispersed throughout the contaminated zone such that they directly contact the contaminant. A remedial design investigation (RDI) would be required to collect the data necessary to determine whether ISCO. RDIs may include further source area delineation, soil-oxygen demand determination, hydraulic conductivity determination, grain size distribution, and conducting bench-scale and/or field-scale pilot treatability tests.

  In addition to the additional data required and challenges with delivering the oxidant to the source area, chemical oxidation can result in increased CVOC concentrations by destroying carbon on the soil skeleton that the CVOCs would previously adsorb to. For these reasons, ISCO is unlikely to be an effective remedial alternative.

- Alternative #4: Installation of vapor barriers and SSDS would be completed following the removal of the existing Site building and during construction of proposed building foundations (estimated 10,000 square feet based on preliminary redevelopment plans). Vapor barriers operate passively to limit the migration of contaminants into a structure by providing a physical barrier to vapor intrusion. A vapor barrier does not reduce the mass of contaminant beneath the buildings. To be effective, a vapor barrier must seal around all floor penetrations, cracks, and gaps and must

be resistant to future wear and penetration. Vapor barriers would be installed below the building slabs and could be installed by several methods, including a vapor-proof membrane, a spray-applied multi-layer epoxy coating, or spray-applied membrane.

Sub-slab depressurization would be achieved by passive or active venting beneath vapor barriers and provides additional surety regarding reduction of potential vapor intrusion. With an SSDS, vapor intrusion is mitigated by depressurization of the soil pore space beneath the building slab. This removes the driving force for soil gas transport through the building slab. SSDS extraction piping would consist of slotted piping installed within four to six inches of coarse engineered fill materials below the vapor barrier. The venting piping is plumbed through the roof and either connected to a turbine ventilator for passive ventilation or an electric blower for mechanical ventilation. The combination of vapor barriers and subslab depressurization would be very effective at mitigating vapor intrusion into the proposed buildings but would not reduce CVOC concentrations in soil and groundwater to achieve a condition of NSR.

Alternative #5: Removal, Transport & Off-Site Disposal of PCB Remediation Wastes. Under this alternative, all PCB remediation wastes with concentrations ≥1 mg/kg would be characterized and disposed of off-Site under a self-implementing and/or risk-based cleanup plan. Known PCB remediation wastes include at least 200 cubic yards of stockpiled soil and an estimated 450 cubic yards of in-situ soil. Once PCB remediation wastes are delineated, excavation and off-site disposal is an effective way to eliminate risk at the Site, since contamination will be removed and the exposure pathways will no longer exist.

- Alternative #6: Target Removal, Transport & Off-Site Disposal and On-Site Soil Disposal, Capping, and Activity Use Limitation (AUL). Under this alternative, approximately 175 cubic yards of soil with PCB concentrations ≥10 mg/kg and 200 cubic yards of stockpiled soil would be excavated for off-Site disposal. Approximately 275 cubic yards of soil with PCB concentrations < 10 mg/kg would be disposed of on-Site below a cap. This approach would allow for high occupancy reuse of the entire Site. PCB remediation waste disposed of on-Site would be placed in a designated area, presumably below a parking area in the southern end of the Site where PCBs remain in soil at concentrations exceeding the MCP Method 1 Cleanup Standards. The on-Site disposal area would be approximately 5,000 square feet. A geotextile demarcation would be installed over the impacted soil. The cap would be constructed of a minimum 10-inches of clean soil then a typical asphalt section. A Method 3 Risk Characterization will be conducted to evaluate Site closure. Remaining Site-wide contaminant concentrations will not be removed to below the threshold for unrestricted use; therefore, institutional controls in the form of a deed restriction known as AUL will be required to mitigate exposure to remaining impacted soils and maintain a condition of NSR under the MCP.

  The cap would require maintenance and may degrade over time requiring replacement. This alternative would be effective at removing the exposure pathway as long as the cap is maintained. On-Site disposal would limit the reuse alternatives to an estimated 5,000 square feet of the southern extent of the property to use as a parking lot.

Implementability

- Alternative #1: No Action is easy to implement since no actions will be conducted.

- Alternative #2: Operation, maintenance, and monitoring of the existing Waterloo Barrier® and SVE system would be easy to implement since these remedial systems have already been constructed. A monitoring well network is already in place and could be utilized to monitor CVOC concentrations in groundwater. Implementing this alternative would require minimal disturbance to the community. However, continued operation and maintenance of the Waterloo Barrier® and SVE system would either reduce the developable area in the southern extent of the Site or require reconfiguration of SVE piping and treatment equipment.

- Alternative #3: As described above, challenges to implementing ISCO to remediate CVOCs include additional site characterization/pilot testing, difficulty in achieving direct contact between the oxidant and CVOCs, and the potential that CVOCs adsorbed to soil could be mobilized exacerbating the problem. CVOC mobilization could be mitigated if ISCO injections are limited to inside the Waterloo® Barrier. However, we anticipate that ISCO injections would be required outside of the Waterloo® Barrier in order to achieve remedial goals in a reasonable amount of time for Site redevelopment. In addition to these challenges, ISCO injections would require lengthy field work that would be disruptive to the community. This alternative is considered difficult to implement.

- Alternative #4: Construction of vapor barriers and SSDS is easy to incorporate and implement with new construction. The primary challenge to this alternative are ensuring that the vapor barrier and SSDS designs are incorporated into the overall project design from an early stage.

- Alternative #5: Excavation and off-Site disposal of PCB remediation wastes is relatively easy to implement. Previously excavated soils are accessible in the building. In-situ PCB contaminated soils extend off-Site to the south-southeast approaching the recreational path, requiring additional coordination and Site controls. Excavation depths are relatively shallow, 2-6 feet below ground surface, and would not require dewatering. This alternative requires coordination to maintain environmental controls (e.g., dust suppression and monitoring) during removal activities.

- Alternative #6: Targeted removal and on-Site disposal of PCB remediation wastes would be moderately easy to implement with access to off-Site PCB impacted soil and control of the off-Site areas during remediation as the primary challenges. This alternative would require ongoing maintenance and monitoring of the cap , greater coordination to maintain environmental controls (e.g., dust suppression and monitoring) during remediation, and disturbance to the community (e.g., trucks transporting backfill and cover materials). In addition, this alternative will require the implementation of an AUL on the property; however, the AUL is moderately easy to implement.

Cost

- Alternative #1: No Action are limited to the regulatory reporting required under the MCP; however, it is believed that regulatory closure cannot be achieved with no action. Estimated Cost, approximately $50,000.
- Alternative #2: The operation, maintenance, and monitoring of the existing Waterloo Barrier® and SVE system for five years is expected to cost approximately $3,000,000. The primary cost drivers include groundwater extraction and SVE monitoring, long-term groundwater monitoring,
- Alternative #3: The implementation of the ISCO alternative is expected to cost approximately $5,100,000. The primary cost drivers include ISCO design, installations, injections, and monitoring.
- Alternative #4: The installation of 10,000 square feet of vapor barriers and SSDS for all three of the proposed buildings is expected to cost approximately $400,000. The primary cost drivers are the 6-inch coarse backfill material, SSDS pipe materials and installation, and 20-mil vapor barrier materials, installation, and leak testing.
- Alternative #5: The removal, transport, and off-Site disposal of PCB remediation wastes is expected to cost approximately $1,500,000. The primary cost driver is transport and disposal of up to approximately 1,500 tons of soil at a hazardous waste landfill.
- Alternative #6: The targeted removal of 475 cubic yards of soil with PCB concentrations $\geq$ 10 mg/kg, on-Site disposal of 175 cubic yards of soil with PCB concentrations $<$ 10 mg/kg, and construction of a 10-inch soil cap topped with 3.5-inches of asphalt is expected to cost approximately $1,750,000.

3. Recommended Cleanup Alternative

Alternative #1: No Action cannot be recommended because it does not address Site risk and does not allow for the Site to be used in a beneficial way to the Town or the surrounding community. Alternative #3: ISCO, may not be effective at eliminating the CVOC exposure pathways at the Site and the cost to implement such a remedy could be approximately two times more than the cost of controlling the exposure risks to CVOCs in Alternative #2. Additionally, Alternative #3 will increase impacts to the neighborhood and will take more time to implement. Alternative #2: Operation, maintenance, and monitoring of the existing Waterloo Barrier® and SVE system, would be more cost effective and control exposure risks to CVOCs both on and off-Site and is the recommended cleanup alternative to address the CVOC exposure pathways to soil and groundwater. Alternative #4 is recommended to address potential exposure to CVOCs through the vapor intrusion pathway since including vapor barrier and SSDS construction in the new buildings would be easy and cost effective to implement while significantly reducing exposure risk.

Alternative #6 eliminates the PCB exposure pathway but would require an AUL with costly long-term maintenance and monitoring requirements. Additionally, this alternative limits the reuse alternatives for the southern area of the Site. Alternative #5, Removal, Transport & Off-Site Disposal of PCB Remediation Wastes would be simple and cost effective to implement and is the recommended cleanup alternative to address the PCB exposure pathway.

In summary, the recommended remedial actions are Alternative #2 and Alternative #5.

Green and Sustainable Remediation Measures for Selected Alternative

The Town of East Longmeadow will refer to ASTM Standard E-2893: Standard Guide for Greener Cleanups, EPA's Principles for Greener Cleanups, and MassDEP's Greener Cleanup Guidance (WSC #14-150) to incorporate practices and procedures that reduce carbon emissions, burning of fossil fuels, and the impact on the environment. This will include standard specifications prohibiting equipment idling, encouraging the selection of disposal facilities that are not at excessive distance, and requiring reuse/recycling/treatment over disposal when available.

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