



**Planning &  
Economic Development**

70 Tapley Street Springfield, MA 01104 413.787.6020 413.787.6524

[www.springfieldplanning.org](http://www.springfieldplanning.org)

**IV.A. Narrative Information Sheet**

1. Applicant Identification

City of Springfield Office of Planning and Economic Development  
70 Tapley Street  
Springfield, MA 01104

2. Funding Requested

a. Grant Type: Single Site Cleanup

b. Federal Funds Requested

**\$5,000,000**

3. Location: Springfield, Hampden County, Massachusetts

4. Property Information

ES Pinevale  
Springfield, MA 01151

5. Contacts

a. Project Director

Wilson Darbin, Project Manager  
70 Tapley Street, Springfield, MA 01104  
413-750-2810  
[wdarbin@springfieldcityhall.com](mailto:wdarbin@springfieldcityhall.com)

b. Chief Executive/Highest Ranking Elected Official

Mayor Domenic Sarno  
36 Court Street  
Springfield, MA 01103  
[mayor@springfieldcityhall.com](mailto:mayor@springfieldcityhall.com)

6. Population: City of Springfield - 155,929

7. Other Factors

<b>Sample Format for Providing Information on the Other Factors</b>	<b>Page #</b>
Community population is 10,000 or less.	N/A

The applicant is, or will assist, a federally recognized Indian Tribe or United States Territory.	N/A
The proposed brownfield site(s) is impacted by mine-scarred land.	N/A
Secured firm leveraging commitment ties directly to the project and will facilitate completion of the remediation/reuse; secured resource is identified in the Narrative and substantiated in the attached documentation.	
The proposed site(s) is adjacent to a body of water (i.e., the border of the proposed site(s) is contiguous or partially contiguous to the body of water, or would be contiguous or partially contiguous with a body of water but for a street, road, or other public thoroughfare separating them).	N/A
The proposed site(s) is in a federally designated flood plain.	N/A
The reuse of the proposed cleanup site(s) will facilitate renewable energy from wind, solar, or geothermal energy.	N/A
The reuse of the proposed cleanup site(s) will incorporate energy efficiency measures.	Page 3
The proposed project will improve local climate adaptation/mitigation capacity and resilience to protect residents and community investments.	Page 3
The target area(s) is located within a community in which a coal-fired power plant has recently closed (2013 or later) or is closing.	N/A

Notes: NA = Not applicable

8. Letter from the State or Tribal Environmental Authority – Letter from MassDEP attached
9. Releasing Copies of Applications: Not Applicable



Commonwealth of Massachusetts  
Executive Office of Energy & Environmental Affairs

## Department of Environmental Protection

100 Cambridge Street Suite 900 Boston, MA 02114 • 617-292-5500

Maura T. Healey  
Governor

Kimberley Driscoll  
Lieutenant Governor

Rebecca L. Tepper  
Secretary

Bonnie Heiple  
Commissioner

November 3, 2023

*Via Email*

Wilson Darbin, Project Manager  
City of Springfield - Office of Planning and Economic Development  
70 Tapley Street  
Springfield, MA 0110

**RE: STATE LETTER OF ACKNOWLEDGMENT**

City of Springfield – Brownfields Cleanup Grant  
ES Pinevale Street, Springfield [RTN 1-00170]  
Assessor Map Identification Number 097550086

Dear Mr. Darbin:

I am writing to support the application submitted by the City of Springfield under the Fiscal Year 2024 U.S. Environmental Protection Agency (EPA) Brownfield Cleanup Grant Program. We understand that the City of Springfield is proposing to undertake cleanup activities at the subject property, ES Pinevale Street, which is a portion of the former Chapman Valve Manufacturing Company project area where historic manufacture of specialty metal valves (circa 1870's through 1990's) resulted in releases of contaminants to the environment on the property.

The City took ownership of the property through tax taking in 2013, and the property is enrolled in the Massachusetts voluntary cleanup program. According to information provided by the City and their consultant, the level of assessment conducted to date is sufficient to design and initiate the proposed cleanup activities.

In Massachusetts, state and federal agencies have developed strong partnerships and work together to ensure that parties undertaking Brownfield projects have access to available resources and incentives. The Massachusetts Department of Environmental Protection (MassDEP), through our regional offices, provides technical support to Brownfield project proponents when regulatory issues arise. If this proposal is selected, MassDEP will work with our state and federal partners to support the City of Springfield to help make this project a success.

We greatly appreciate EPA's continued support of Brownfield efforts in Massachusetts.

Sincerely,

David Foss, CPG, LSP

Statewide Brownfields Coordinator, Bureau of Waste Site Cleanup

cc: Dorrie Paar, US EPA  
Brian Connors, City of Springfield  
Caprice Shaw, MassDEP Western Regional Office

This information is available in alternate format. Please contact Melixza Esenyie at 617-626-1282.  
TTY# MassRelay Service 1-800-439-2370  
MassDEP Website: [www.mass.gov/dep](http://www.mass.gov/dep)

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#### IV.A. Narrative/Ranking Criteria

##### 1. PROJECT AREA DESCRIPTION AND PLANS FOR REVITALIZATION

###### a. Target Area and Brownfields

- i. Overview of Brownfield Challenges and Description of Target Area - Springfield, Massachusetts (the City) is in Hampden County on the eastern bank of the Connecticut River, 100 miles inland from the Atlantic Coast (Western Massachusetts). The City has a population of 155,929 covering an area of 33 square miles. Springfield is the 3rd largest city in the State; the 4th largest in New England. **Springfield is known as the “City of Firsts,”** a moniker earned through a history of innovation, including America’s first Armory and military arsenal and the first American made automobile. Springfield is also well known for two other innovations - the birthplace of basketball and Theodor Seuss Geisel (“Dr. Seuss”). *However, with a manufacturing history dating back to the 1700s, Springfield has also become known for its Brownfield challenges, and the contamination and negative impacts it has had on the health and welfare of its underserved communities.* According to the Massachusetts Office of Energy & Environmental Affairs, **100% of Springfield’s total population is in block groups designated as Environmental Justice neighborhoods due to low-income, minority and/or English fluency status.** Over the years, most of these former industries (textile, paper, distilleries, and metals, etc.) have disappeared, leaving many City residents living, working, and playing next to contaminated brownfields sites. **There are over 1,290 known hazardous release sites** in Springfield according to the Massachusetts Department of Environmental Protection (MassDEP), and the City estimates there are an **additional 250 Brownfield sites** – warehouses, abandoned mills, and former commercial buildings, gas stations, auto repair facilities and dry cleaners, tax foreclosed properties and vacant lots – from one to 10+ acres (**more than 200 acres total**). These properties are impacted with volatile organic compounds (VOCs), Polycyclic Aromatic Hydrocarbons (PAHs), heavy metals (lead, arsenic), petroleum, and/or hazardous building materials (HBM, e.g., asbestos, lead-based paint and PCBs), resulting in decreased property values, increased public health and safety risks, crime, blight, neglect and diminished local business investment and tax base. Brownfields have also contributed to the significant economic disparities and amplified exposure to the underserved communities in the area.

**The Target Area is the neighborhood of Indian Orchard, identified as census tract 25013800102.** In addition to the clusters or large brownfield sites located within Indian Orchard, there are also minority and other underserved populations that experience the negative effects of their contamination. **Indian Orchard is among the most impoverished neighborhoods in Massachusetts** and it lacks quality employment opportunities and access to healthy foods. The City is in desperate need of this Cleanup Grant which is critical to help reverse some of the environmental, economic, and health and welfare challenges the residents in the Target Area and City have been plagued with for decades.

- ii. Description of the Proposed Brownfield Site(s) - **ES Pinevale** is an approximately 16-acre vacant parcel of land located on the east side of Pinevale Street, north of Goodwin Street, in the Indian Orchard Target Area of Springfield. The Site was formerly part of a 54-acre property owned and operated by the Chapman Valve Manufacturing Company, circa 1874, and the Crane Company, manufacturers of specialty metal valves for federal agencies, until the 1980s. Chapman Valve also supplied valves to the Manhattan Project and the Atomic Energy Commission, according to the U.S. Department of Labor. Historical manufacturing uses included brass and iron foundries as well as steel and iron machine shops and may have also included rolling operations on uranium metal. Crane Co. dissolved the 54-acre property into numerous parcels, which were sold to various parties, except for the target 16-acre ES Pinevale Street parcel. Crane Co. demolished the original 12 factory buildings located at the Site between the 1980s and 1996. Concrete slabs from the foundations of the historical manufacturing buildings remain across the property. The Site went through various property transfers between 2003 and 2013 before the City acquired the Site through tax title taking in May 2013. Documented releases at the Site include metals, petroleum hydrocarbons, PAHs, asbestos-containing material (ACM), VOCs, SVOCs, and PCBs in soil; and petroleum hydrocarbons, metals, VOCs, and SVOCs in groundwater. Soils on Site consist of varying types and amounts of fill materials from two (2) to 10 feet below ground surface (bgs). The

primary sources of contamination are historical Underground Storage Tanks (USTs) and surficial releases from former manufacturing activities that have co-mingled and migrated into the soil and groundwater. Metals (i.e., **lead**) and **PAH** impacts may also be the result of industrial by-products included in the fill materials and/or historical Site. **Asbestos** is present in surficial soils – the result of disturbance to already damaged ACM during previous excavations, demolition activities, and/or natural degradation.

#### b. Revitalization of the Target Area

- i. Reuse Strategy and Alignment with Revitalization Plans – Currently a non-profit organization is proposing to develop an “**Eco-Industrial Park**” on the target property that will build upon an existing hydroponic greenhouse facility located on the northwest corner of the Site. The redevelopment vision is for a **zero-waste, closed-loop site with a food and sustainability focus that combines greenhouse production with recycling and material use, sustainable energy generation, a landscaping business and open space**. The site would also include a farm stand and café / kitchen as well as **educational space** and would put Springfield at the forefront of urban green development nationally. The project would **create jobs**, model cooperative, eco-industrial and permaculture practices, and connect and inspire people with ecological dynamics, nature, gardening, abundance, and each other. The Permaculture, Landscaping and Construction Co-op would design, install, and maintain permaculture landscapes. Landscape wastes would be used in the proposed biodigester or as compost. The biodigester would process organic waste from institutions and households to **produce sustainable energy** (methane gas and electricity) to power co-op businesses, with the effluent used for composting and fertilizer. A Mushroom Farm Co-op would grow mushrooms on cardboard, biodegradable packing material, junk mail, wood chip, and coffee ground substrate. The Compost Co-op would compost wood waste, tree trimmings, used mushroom substrate, greenhouse waste, etc. Effluent from the biodigester would speed the process of composting. Compost would be used in the greenhouses and community gardens. **The Community Gardens** would include individual plots providing space for fruit and vegetable production, **helping community members meet their basic needs, mentoring and support in food growing, and room to expand**. The greenhouses would grow lettuce and other produce to expand access to year-round locally grown **produce for local retail/institutional markets as well as food deserts in the Springfield region**. The cafe would serve healthy light fare, with a focus on local sourcing. The space would **allow for community gatherings; cooking, nutrition, and permaculture workshops**; as well food processing. The proposed site reuse aligns with Springfield’s **2017 Strong, Healthy & Just – Climate Action & Resilience Plan (CARP)** which seeks to increase community resilience through adaptation to and mitigation of climate change impacts with a focus on the city’s vulnerable populations, maintaining an ongoing commitment to and emphasis on climate justice throughout all current and planned work. *The CARP commits the City to maximizing energy efficiency in new and current construction and investing in sustainable energy.* The CARP also commits the City to reducing greenhouse gas emissions. The city is also currently embarking on **a series of Neighborhood Investment Plans with partner Pioneer Valley Planning Commission (PVPC)**, a project funded by American Rescue Plan Act funding that will result in a new neighborhood plan for 11 Springfield neighborhoods including Indian Orchard Target Area. PVPC has been conducting regular community engagement activities and plan drafting.
- ii. Outcomes and Benefits of Reuse Strategy - Springfield anticipates tremendous environmental, social, economic, and public health benefits from the proposed Site cleanup and redevelopment. **Addressing this large, 16-acre site that has lied vacant and underutilized for almost 30 years, will provide significant health benefits** to residents – through reduced environmental exposures to Site contamination and healthier food choices – and **social benefits**, including community investment, reduced blight, crime and vandalism, new jobs, and community pride. **Indian Orchard is a geographically isolated neighborhood far from the City’s government center, and one in need of a vast redevelopment of this major blemish in the community**. The addition of new commercial opportunities will reinvigorate the Target Area by providing easily assessable quality and community services and resources that will improve the community’s quality of life while also **stimulating the local economy by expanding the City’s tax base and creating new jobs**. The

proposed operations on the Site will encourage nearby residents to “buy local”, improve access to fresh foods, and add cash flow in the local economy. Each acre of Brownfields redeveloped will also increase community pride and nearby residential property values. During redevelopment, Site contaminants will be cleaned up providing significant **environmental benefits** through improved quality of soil, groundwater, and air; removal of exposure pathways; and minimized impacts to sensitive and downgradient receptors. The Site is at risk of increases in air and water temperature, extreme precipitation, and more frequent/intense extreme storm events. **The proposed project will improve local climate adaptation / mitigation capacity and resilience to protect residents and community investments by employing practices that minimize resource use, waste generation, energy use, and greenhouse gas emissions.** Specifically, the proposed reuse as a zero-waste, reduced carbon footprint redevelopment associated with the implementation of closed loop commercial/light industrial uses, renewable energy generation and energy efficiency and/or sustainable practices.

**c. Strategy for Leveraging Resources** - Springfield will use key funding resources, as needed, to support the completion of assessment, remediation, and site reuse: *i) Resources Needed for Site Characterization* – Supplemental Site characterization may be completed to help refine areas of asbestos and other impacts to further support remedial planning and design efforts. Therefore, the City may use part of its FY23 Community Wide Assessment Grant Funds and/or apply to MassDEP or PVPC for additional site assessment and/or cleanup planning activities. *ii) Resources Needed for Site Remediation* – Springfield is requesting EPA Brownfields Cleanup funding sufficient to complete the remediation at the ES Pinevale Site, obtain regulatory site closure under the state’s VCP, and ready the Site for reuse. In the event additional cleanup resources are needed, the City will utilize our strong relationships with MassDevelopment and/or MassDEP to find additional funds. *iii) 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;** although there is significant developer interests, no firm leveraging commitments are yet in place for the Site reuse. The City is currently working with the community to refine development objectives for the Site. The inclusion of an Eco-Industrial Park and open space is among the redevelopment objectives; as such Springfield anticipates and is committed to working with the selected developer 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   Is the Resource for Assessment, Cleanup, or Reuse Activities?	Is the Resource Secured or Unsecured? Additional Details or Information About the Resource
<i>EPA</i> <b>Assessment</b>	<b>Secured</b> - City’s \$500,000 FY23 Assessment grant may be used for assessment, public engagement and/or cleanup and reuse planning.
<i>PVPC</i> Assessment <b>Cleanup &amp; Reuse Planning</b>	<b>Unsecured / Pending</b> - Verbal commitment from PVPC’s FY23 Community Wide Assessment Grant, pending committee approval, to be used for cleanup & reuse planning. Additional funds may be requested for supplemental site characterization, if needed.
<ul style="list-style-type: none"> <li>• <i>MassDevelopment</i></li> <li>• <i>MassDEP</i></li> </ul> Assessment and/or <b>Remediation</b>	<b>Unsecured</b> - Funds generally up to ~\$250K in assessment and ~\$750k for cleanup available. Loans and/or grants will be applied for if needed, at applicable time.
<i>MA Brownfields Tax Credit Program</i> <b>Reuse</b>	<b>Unsecured</b> - Credit for cost incurred on a Brownfields remediation project. City will work with eligible developers / non-profit organizations as appropriate.
<i>MA New Market Tax Credit</i> <b>Reuse</b>	<b>Unsecured</b> - Created to stimulate business investment in designated low-income communities.
<i>MA Municipal Vulnerability Preparedness (MVP)</i> - Assessment, Cleanup and/or <b>Reuse</b>	<b>Unsecured</b> - Climate resiliency planning and adaptation implementation funding. May be applied for at appropriate time.

i. **Use of Existing Infrastructure** - The E/S Pinevale Site has complete access to municipal water, sewer, electrical, natural gas, public transit, and broadband services that are fully equipped to accommodate future growth. Springfield’s zoning ordinances uphold several of the City’s most important values – protecting community health and safety, promoting economic development, encouraging appropriate land use, and preserving the

City’s cultural, historical, architectural, and open space heritage. The City’s design standards require sustainable and green building design components and infrastructure (e.g., raingardens and/or bioswales for stormwater retention, etc.) and renewable energy to be incorporated during site redevelopment.

## **2. COMMUNITY NEED AND COMMUNITY ENGAGEMENT**

### **a. Community Need**

- i. **The Community’s Need for Funding - The Target Area is a designated Minority EJ population block group by the State of Massachusetts with the following characteristics: Minority population: 44.5%; and Median/Low household income: \$47,234, which is 49% of the MA MHHI. The City has a median household income of \$44,286** (adjusted for inflation) which is 46% of the MA MHHI. Along with low median incomes, events in recent years have adversely impacted the City’s fiscal health. According to the Mayor’s FY22 Recommended Budget, the COVID-19 pandemic and the resulting business shutdowns, **cost the City of Springfield \$10+ million in lost annual revenue**, leaving an impact on vital services and programs. Additionally, the rapidly escalating rate of inflation is also impacting the City and its residents’ ability to draw on other sources of funding to redevelop brownfields properties in the Target Area. Pandemic inflation rates have decreased since the all-time high of 9.1%, but as of September 2023, inflation is still high at 3.7%. Utility rates in Massachusetts are expected to see a significant increase for gas and electricity commencing this month as the long winter heating season begins. Massachusetts’s major utility companies, National Grid and Eversource, recently announced a 30% and 23% (respectively) increases in their utility prices. **Indian Orchard is in the 95% for housing costs exceeding 30% of household income and the 86% for households with income less than or equal to twice the federal poverty rate (CEJST)**. City resources are further strained by legacy costs from a category EF-3 tornado that damaged or destroyed 800 buildings and displaced over 300 families in the City in June 2011 as well as a November 2012 a major gas explosion that damaged dozens of buildings throughout the downtown. The City had to borrow ~\$300k for removal and disposal of 2,000 tires and waste drums, a Hazmat Survey, removal/disposal of asbestos, and removal of 2,300 gallons of oil/water from a former car crusher on an abandoned, tax-title property. The City also had over \$2M in costs in cleaning up from the fire that destroyed the former Chestnut Junior High School.
  - ii. **Threats to Sensitive Populations – (1) Health or Welfare of Sensitive Populations** - The Target Area has high concentrations of sensitive populations, including children (ages 0-14) 19.8% and seniors (ages 55 and older) 23.5%. Indian Orchard is also in the 70-95% for proximity to hazardous materials. 51.7% of Indian Orchard housing units are renter occupied, meaning that half of Indian Orchard residents are more likely to have less stable housing. Springfield also has significant health and welfare impacts from contaminated properties and environmental exposures. **According to the EPA’s EJSCREEN and CEJST, Indian Orchard is identified as an Underserved Community** due to low income (78% poverty) and high minority (60-90%) status. 19.4% of the individuals aged 25 and over in the Target Area do not have a high school degree. Target Area residents are exposed to contaminants daily via dermal contact, ingestion, and/or inhalation, including children passing sites on their way to school and runoff and/or air particulates during weather events, which are only expected to get worse from climate change. Due to the age of the City’s housing stock and other structures, many buildings in the city contain hazardous building materials such as asbestos, PCBs, and lead-based paint. The Target Area is in the 70-90% for presences of lead. Due to widespread structural damage to buildings in the city resulting from the tornado in 2011, more hazardous building materials were released to the environment, subjecting Springfield’s sensitive and disadvantaged populations to additional pollutants.
- (1) **Greater Than Normal Incidence of Disease and Adverse Health Conditions** - The Target Area is in the 77% for Low Life Expectancy and City residents have **experienced higher rates of health disparities including asthma, lead poisoning, and other illnesses**. Per EJSCREEN, most of the neighborhoods in Springfield, including Indian Orchard, are within the 95-100% for asthma occurrences. While it has made strides since recently being known as the “**Asthma Capital of the United States**” in 2019 by the Asthma and Allergy Foundation, Springfield still ranks as the 46th most challenging place to live with asthma in the country in the

latest report. Springfield residents of color are at substantially greater risk of experiencing complications from asthma. Latinx residents visited the emergency room for asthma-related emergencies at nearly five times the rate of white Springfield residents. Children ages 0-14 also experienced these inequities with the highest rates among Latinx children with rates double those of whites (PVAC). Asthma in older adults is a serious problem in Springfield, with the second highest rate of hospitalization of any age group and on the rise. Asthma-related incidents in Springfield account for twice the State average and are representative of unsafe conditions resulting from high number of Brownfield sites adjacent to residences. Type 2 diabetes is one of the City's most significant health problems, and the target neighborhood is in the 65% for type 2 diabetes occurrences (CEJST). Highways including Interstates 91 and 291 encompass the City and cross through several neighborhoods, including Indian Orchard, near schools increasing exposure to air pollution. The Target Area is in the 70-100% for traffic proximity and volume (CEJST). Springfield is defined as a **“high-risk” community for lead poisoning** by MA Department of Public Health. Approximately 90% of the houses in Springfield were built before 1979, so there is a significant presence of lead paint and other HBM. Although statistics are limited, it is reasonable to presume Target Area residents are adversely affected from exposure to PAHs (liver disorders; cancer), petroleum (nervous system, immune, liver, kidney, respiratory damage; cancer), heavy metals including lead (immune, cardiovascular, developmental, gastrointestinal, neurological, reproductive, respiratory, kidney damage; cancer), VOCs (liver, kidney, nervous system damage; birth defects; cancer) and HBM including asbestos (lung scarring, mesothelioma and lung cancer) and PCBs (immune, hormone and neurological system; liver and skin disease). Cleanup and redevelopment of the ES Pinevale Street site, which is located in a largely residential neighborhood surrounded by sensitive populations, will help address these problems and improve the overall health and wellbeing of Target Area residents by improving soil, groundwater and air quality at the site, decreasing the likelihood of residents encountering toxic substances and exposure to environmental contaminants and providing access to healthier foods, while also providing educational opportunities and access to other goods and services.

- (2) Environmental Justice - (a) Identification of Environmental Justice Issues: The Target Area maintains a high concentration of poverty and minority populations relative to remaining portions of the City and have been disproportionately impacted. **Springfield is a designated EJ community and consists of approximately 49% Latino, 21% African American, 3% Asian and 26.5% non-Latino white** (2022 American Community Survey). Approximately 39% of Springfield residents speak a language other than English in the home (2022 ACS). In addition to environmental impacts associated with Brownfields, Springfield suffers high unemployment, high poverty, extremely low median income, and low educational attainment. A study conducted by PVPC confirms that our education and transportation systems are two major contributing factors preventing City residents from attaining good-paying jobs. **Approximately 20% of our youth population (18 to 24) have not achieved a high school degree.** The Springfield Metropolitan Area unemployment rate, which has dropped significantly since the spike in unemployment from Covid-19, is now 4.4%, which is 69% higher than the state's (2.6%). Despite having Pioneer Valley's highest total employment opportunities, we currently experience higher unemployment rates. According to the New England Public Policy Center, the City's workforce participation, educational attainment, and homeownership are all extremely low. **Hampden County has the highest rate of childhood and overall food insecurity at 15.3% for children and 12.2% overall** ([foodbankwma.org](http://foodbankwma.org)). (b) Advancing Environmental Justice: **After cleaning up and redeveloping the Target Property, the opportunities for economic development at the Site will improve neighborhood conditions for the disadvantaged communities.** With additional tax base from the site, neighborhood improvements can be more readily made. The Target Site will provide much needed resources, including increasing job opportunities, eliminating food deserts by providing access to local fresh produce and healthy food options, providing educational opportunities and access to other goods and services. Remediation will improve soil, groundwater and air quality and decrease the likelihood of residents encountering toxic substances, improving their overall health and wellbeing. Based upon the City's successful brownfields redevelopment experience, **the City does not anticipate the proposed revitalization plans to cause displacement in the Target Area. Proper strategies and/or policies will be implemented to minimize the**



**displacement of residents and/or businesses if needed, such as community benefit agreements, small business preservation programs, inclusionary zoning, community land trusts, tax abatement and/or financial programs.** If relocation is needed, the Springfield Redevelopment Authority (SRA) will assist with managing relocation and the City will comply with State relocation mandates and regulations.

**b. Community Engagement**

**i. Project Involvement / ii. Project Roles**

ORGANIZATION / POINT of CONTACT	SPECIFIC INVOLVMENT IN PROJECT/ASSISTANCE
<b>Indian Orchard Citizens Council</b> Zaida Govan 413-209-8240 <a href="mailto:IOCC.council@gmail.com">IOCC.council@gmail.com</a>	<b>Liaison between City and Target Area residents.</b> Neighborhood organization that will perform education and outreach about the Site and the role of brownfields redevelopment in the community. Will assist the City by engaging the public for input with respect to the decisions associated with the cleanup and future reuse of the Site. Will provide meeting notice to Target Area residents and space for public meetings as needed. Commit to participate in QEP selection process with City and Brownfields Committee.
<b>Pioneer Valley Planning Commission - PVPC</b> <i>(Regional Planning Commission for County)</i> Erica Johnson 413-781-6045 <a href="mailto:ejohnson@pvpc.org">ejohnson@pvpc.org</a>	<b>Contracted with city to produce Target Area neighborhood plan</b> including community engagement in the Target Neighborhoods. As a <b>Brownfields Advisory Committee (BAC) member</b> , will participate in QEP selection and assist the with cleanup and reuse planning activities.
<b>MassDevelopment</b> Richard Griffin 413-731-8848 <a href="http://www.massdevelopment.com">www.massdevelopment.com</a>	A significant <b>Brownfields funding partner for the city</b> , MassDevelopment provided assessment money to the site and will assist through financial resources and expertise to advance the future reuse of the site. <b>BAC Member.</b>
<b>Springfield Redevelopment Authority</b> Amanda Pham 413-787-6020 <a href="mailto:apham@springfieldcityhall.com">apham@springfieldcityhall.com</a>	Quasi agency separate from City responsible for Urban Renewal Planning. Will <b>assist the City with community engagement</b> and provide support to the city and future developer with respect to reuse planning efforts. <b>BAC Member.</b>
<b>Wellspring Cooperative</b> Fred Rose 413-461-8203 <a href="mailto:fred.rose@wellspringcoop.org">fred.rose@wellspringcoop.org</a>	Local nonprofit and project abutter with interest in purchasing the site post-cleanup. <b>Has conducted community engagement &amp; surveys related to proposed reuse of site and will be involved with community engagement.</b>

ii. Incorporating Community Input - Springfield has a strong track record using the resources of our community-based organizations and forming partnerships within the local target community and area developers to achieve brownfields success. In 2022, the city embarked on a significant neighborhood planning process with PVPC that will result in the development of distinct neighborhood plans for each of our 17 neighborhoods, including the Target Area of this application. Through this process we will include information on the Brownfields program and gather community feedback on cleanup and reuse plans, as well as potential impacts and opportunities. We are fortunate there are active neighborhood organizations as well as non-profit groups to assist in the community engagement portion of projects. Throughout the grant, community involvement will include **BAC Meetings**: Quarterly virtual, in-person or hybrid meetings to discuss cleanup and reuse planning activities and alternatives. **Public Meetings**: We intend to hold up to four (4) public meetings at various project milestones (e.g., pre-cleanup to discuss Phase II results and proposed remedial alternative, during remediation to discuss project progress and reuse planning, and post cleanup to discuss next steps and redevelopment planning). Meetings will be hybrid, when feasible. The public meetings will be held at different times during the day in person and/or via Zoom to accommodate working parents, seniors and others. Recordings will be available online for those who were unable to attend. In-person meetings will be at handicapped accessible spaces with access to transit. **Outreach Materials**: Program flyers and other educational materials will be distributed at in person community events to meet the residents where they are, such as at local farmers market or other community gatherings. **Website & Social Media**: Updates regarding program, public meeting notices, online repository of project files and reports, etc. **Surveys**: Solicit community feedback and input on proposed cleanup and redevelopment plans, as well as the needs/desires of community & Target Area residents. **Translation Services**: As Spanish is the second most spoken language in the Target Area, translation services will be provided for meetings and materials.

**3. TASK DESCRIPTIONS, COST ESTIMATES, AND MEASURING PROGRESS**

a. **Proposed Cleanup Plan** - The goals of the project are to protect and improve human health and the environment and bring a vacant and underutilized property back to beneficial use for the community. The site is not currently suitable for reuse due to the presences of comingled lead, PAH and asbestos contaminated soils at the Site. Regulatory closure can be achieved if the source of impacts is eliminated or controlled. Therefore, the proposed cleanup plan is to install an engineered control in the form of a cover system, consisting of an 18-inch clean soil cap underlain with a geotextile barrier, to prevent access to contaminated soils that pose the greatest potential exposure risk to future users of the Site. Institutional controls in the form of an Activity and Use Limitation (AUL) deed restriction will be required to prohibit disturbances to the cap to prevent potential exposure to impacted soils. The proposed remedial alternative will allow for future Site redevelopment and will attain and maintain a condition of “No Significant Risk” under the Massachusetts MCP; 310 CMR 40.0000 – the state of Massachusetts’ voluntary cleanup program (VCP) and achieve regulatory Site closure by effectively removing the contaminant exposure pathways from soil.

**b. Description of Tasks/Activities and Outputs**

**i. Project Implementation / ii. Anticipated Project Schedule/iii. Task Activity Lead/iv. Outputs**

<b>Task #1 – Cooperative Agreement Oversight</b>
<b>EPA funded tasks/activities:</b> Manage and conduct cooperative agreement (CA) oversight activities which include: EPA Reporting (ACRES, MBE/WBE, FFR and Quarterly Reports, Close Out); Competitively procure and manage qualified environmental professional (QEP) and remediation contractors; Conduct financial reporting and drawdowns; Establish information repository, public website and maintain project files; Project coordination with stakeholders and BAC; Ensure program remains on schedule and budget. Travel/attend National Brownfields Conference and local events.
<b>Non- EPA grant resources needed:</b> City will provide in-kind services (in the form of staff time, travel, materials) for any additional activities not budgeted as part of this task.
<b>Anticipated Project Schedule:</b> Task will be completed over the four (4) year grant performance period. Springfield anticipates completing the procurement of a QEP by December 31, 2024. Kick off program January 2025. Quarterly BAC mtgs. Quarterly reports will be submitted within 30 days of end of each quarter (Jan April/July/Oct), and MBE/WBE and FRR reports annually by Oct. 30 each grant year. ACRES will be updated upon grant award and at regular intervals as project cleanup and redevelopment milestones are achieved and/or new information available. Final closeout report will be submitted within 90-days after the end of the C.A. performance period (no later than 12/30/28).
<b>Task/Activity Lead(s):</b> Springfield will lead CA oversight tasks to ensure compliance with Brownfields Programmatic Requirements. QEP will be Springfields partner and provide technical support, as well as information and updates to ACRES and annual reports, and general programmatic assistance related tasks and activities.
<b>Output(s):</b> EPA Reporting (ACRES/DBE/FRR reports, 16 Quarterly Reports, Closeout Report), prepare Request For Qualifications for QEP & remedial contractor procurement, drawdown requests, 16 BAC Meetings, general C.A. oversight and attend National Brownfields Conference and local brownfield events.
<b>Task #2 - Community Outreach &amp; Engagement</b>
<b>EPA funded tasks/activities:</b> City will conduct extensive outreach & communication with Target Area residents & community stakeholders throughout project implementation. The City will establish an information repository at the City’s Office of Planning and Economic Development and will designate a Community Relations Spokesperson. The QEP, in collaboration with the City of Springfield, will prepare a community involvement plan (CIP) which will detail the steps to ensure adequate public notice and opportunity for the community to provide input / feedback on the proposed cleanup/reuse plan and response to comments, etc. Reports and other materials will also be posted to the City’s website. Public notice of the updated draft ABCA and CRP 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 comment will be provided and incorporated into the finalized CRP and ABCA. The City will closely coordinate with project partners to ensure target area community input on the proposed remediation and redevelopment.
<b>Non- EPA grant resources needed:</b> The City will provide in-kind services (staff time, mailings, postage, travel, materials, etc.) for any additional activities not budgeted as part of this task.
<b>Anticipated Project Schedule:</b> Outreach activities are anticipated commence in the Spring 2025 with the generation of the CIP and occur over the following three (3) years throughout project implementation, until cleanup related filed work is completed, estimated to be Spring 2028. Outreach anticipated to be conducted at the following project

<p>milestones: 1) <b>Spring 2025</b>: Post CIP and present updated draft ABCA. 2) <b>Spring 2026</b>: Pre-cleanup and to solicit feedback from the community regarding proposed redevelopment. 3) <b>Fall 2027</b>: During Cleanup to discuss status of remediation and reuse planning update. 4) <b>Spring 2028</b>: Post cleanup and next steps.</p>
<p><b>Task/Activity Lead(s)</b>: Springfield will lead community engagement activities. QEP will be the City’s partner and generate the CIP and ABCA and provide technical expertise and support at meetings. Springfield will review deliverables to ensure compliance state/federal Brownfields Programmatic Requirements. The City will provide translation services in-house.</p>
<p><b>Output(s)</b>: Outreach materials, website updates, public notices, meeting presentation materials, social media posts. Four (4) public meetings held at key project milestones to share information, solicit feedback.</p>
<p><b>Task #3 – Site Specific Cleanup Activities</b></p>
<p><b>EPA funded tasks/activities</b>: QEP will prepare documentation required for cleanup implementation, including a Health and Safety Plan (HASP), Quality Assurance Project Plan (QAPP), Remediation / Engineering Plans &amp; Specifications, and MCP/VCP required documents and Remedial Action Plans. Springfield will prepare a public bid package with support from QEP for the procurement of a cleanup contractor. QEP will provide bid support to the City during competitive procurement process. Cleanup contractor will implement cleanup tasks with oversight from QEP.</p>
<p><b>Non- EPA grant resources needed</b>: Springfield will provide in-kind services (staff time &amp; materials) for any additional support activities not budgeted as part of this task. If necessary, City will apply for supplemental funds from MassDevelopment and/or MassDEP and/or other resources.</p>
<p><b>Anticipated Project Schedule</b>: <b>Spring 2025</b>: Coordination with potential developer to ensure final cleanup plan supports site reuse design features. <b>Spring to Winter 2025</b>: Generate cleanup plans, remediation / engineering designs and specifications, issue invitation for bids for cleanup contractor. <b>Winter 2025 to Spring 2026</b>: award cleanup contractor, secure permits. <b>Spring/Summer 2026</b>: Commence site remediation. <b>Spring/Summer 2027</b>: Complete site remediation related field tasks.</p>
<p><b>Task/Activity Lead(s)</b>: Springfield will lead procurement of cleanup contractor with QEP support. QEP will prepare ABCA, QAPP, MCP/VCP reports and remedial engineering plans &amp; specifications. Springfield will review deliverables to ensure compliance state/federal Brownfields requirements. Cleanup contractor will obtain permits and implement specified cleanup tasks with QEP support / oversight.</p>
<p><b>Output(s)</b>: HASP, QAPP, MCP/VCP report(s), remedial engineering plans &amp; specifications, site remediation &amp; restoration. Engineered control / cap installation over soils: import of 15,200 cy of clean soil (clean backfill and loam) over 200,000 sq yds orange demarcation layer. Risk to reuse removed.</p>
<p><b>Task #4 - Site Cleanup Oversight and Cleanup/Completion Reports</b></p>
<p><b>EPA funded tasks/activities</b>: During site remediation, the QEP will perform observation activities and document activities in the field to ensure cleanup is performed in compliance with the EPA approved ABCA and the MCP / state VCP requirements. The QEP will prepare and submit state required Remedial Action Plan, Remedial Status Reports, and Cleanup Completion reports to the MassDEP and EPA. The QEP will review construction of the cover system is consistent with the drawings and specifications. Site will be surveyed for as-built plan and institutional controls; AUL deed restriction will be recorded. QEP will issue closure report to MassDEP and EPA.</p>
<p><b>Non- EPA grant resources needed</b>: Springfield will provide in-kind services (staff time, travel, materials) for additional activities not budgeted as part of this task.</p>
<p><b>Anticipated Project Schedule</b>: Cleanup activities and oversight are expected to occur <b>Spring/Summer 2026 – Spring/Summer 2027</b>. Final documentation and Cleanup Completion report is anticipated in <b>Spring 2028</b>.</p>
<p><b>Task/Activity Lead(s)</b>: QEP will provide technical oversight, conduct disposal characterization sampling for materials required to be disposed of off-site following grubbing / clearing, and document remedial activities for compliance with applicable MassDEP/EPA standards &amp; requirements. Springfield will review deliverables to ensure compliance state/federal Brownfields Programmatic Requirements and record AUL with the Registry of Deeds.</p>
<p><b>Output(s)</b>: Bills of Lading/Manifest, Remedial Action Plan, three (3) Status Reports, and Cleanup Completion &amp; Closure Report. AUL. Regulatory closure under MCP/VCP through a Permanent Solution Statement with Conditions (PSC). 16-acres ready for reuse that does not pose a threat to human health or the environment completed in 4 years.</p>

**c. Cost Estimates - The City is requesting \$5,000,000 to be used 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 fringe, indirect, equipment, supply or other costs are requested.** **Task 1:** Personnel = \$12,500 (~4hrs/mo x 48 mo x \$65/hr); Travel: \$9,000 Brownfield

Conferences – 2 attendees (registration, air travel, lodging, per diem = \$2,500/pp for national conference + \$1,000/pp for registration/mileage/hotel/per diem per regional event for 2 events). Contractual = \$34,320 [General Cooperative Agreement Assistance, Quarterly Reports (16) and ACRES updates (~5hrs/mo x 45 mo @ \$152.50/hr average)]. **Task 2: Personnel** = \$5,200 (80hrs x \$65/hr); Contractual = \$34,000 [QEP (~\$2,500/mtg x 4 public meetings) + \$8,000 for CRP and ABCA + \$7,000 for production of outreach materials (40 hrs @ \$175/hr average) + \$9,000 Translation Services (~\$1000/mtg for live interpretation + ~\$1000/mtg for materials + ~\$1000 for public survey)]. **Task 3: Personnel** = \$3,140 (~8 hrs/mo x 6mo x \$65/hr); Contractual: \$214,375 [QEP =1225 hrs @ \$175/hr average for: HASP, QAPP, Remediation/Engineering Plans & Specifications, and MCP/VCP required documents and Remedial Action Plans]; Construction: Remediation Contractor \$4,498,210 [*\$1,178,010 in remediation contractor costs* {including mobilization (\$214,500), site preparation expenses (\$700,000 for erosion controls, clearing & grubbing, dust controls/air monitoring, utilities/site trailer, silt curtain/catch basin protection, windscreens, etc.), and permits (\$57,000)} for 16 acre site; + *\$701,700 in on-site consolidation of asbestos containing soil* {including non-traditional asbestos abatement work plan, HASP by certified Industrial Hygienist, Excavation and Relocation, and transportation and disposal of non-consolidation materials such as rootballs, etc.} + *\$2,618,500 in cover system construction* {\$854,400 geotextile barrier (79,111 sy @ ~\$10.80/sy) + \$1,764,100 import and placement clean material [\$1,015,260 clean backfill (30,765 CY of @ \$33/cy) + \$664,860 loam placement {(79,150 sy @ \$8.40/sy) + \$56,700 grading + \$27,110 seeding}]. **Task 4: Personnel** = \$4,160 (~8 hrs/mo x 8 mo x \$65/hr); Contractual = \$185,095 [QEP = \$105,600 (960hrs @ \$110/hr average) for ~8 months of remediation oversight &/or construction administration services plus \$30,000 for survey required for AUL / institutional controls; plus \$49,495 (365 hours @ \$135/hr for AUL and regulatory cleanup completion/closeout report for compliance with MassDEP/EPA requirements].

Budget Categories		Project Tasks (\$)				Total
		Cooperative Agreement Oversight	Community Engagement	Site Specific Cleanup Activities	Cleanup Oversight & Report	
Direct Costs	Personnel	\$12,500	\$5,200	\$3,140	\$4,160	\$25,000
	Travel <sup>1</sup>	\$9,000				\$9,000
	Contractual	\$34,320	\$34,000	\$214,375	\$185,095	\$467,790
	Construction <sup>3</sup>			\$4,498,210		\$4,498,210
Total Direct Costs <sup>4</sup>		\$55,528	\$39,200	\$4,715,725	\$189,255	\$5,000,000
<b>Total Budget</b>		\$55,820	\$39,200	\$4,715,725	\$189,255	\$5,000,000

**d. Plan to Measure and Evaluate Environmental Progress and Results** - The City will track and measure progress with support from the QEP. The Project Manager will utilize project management software in conjunction with quarterly reporting to track timelines, expenditures, and project progress. The collected data will be entered into ACRES at appropriate milestones as well as long-term outcomes such as the number of jobs created, funding leveraged, the number of acres made ready for reuse, and volume of soil remediated. A work plan will be prepared that details those project milestones, and the City will track and measure progress against the work plan and goals to ensure grant funds are expended as planned within the three-year grant period. This process has been followed in the past and has been both successful and effective. If a project is not on schedule or track with Work Plan, the issue will be documented in the quarterly report and a corrective action plan will be implemented immediately. Reports prepared to satisfy state VCP requirements will further document cleanup activities and the effectiveness of the selected remedial action.

**4. PROGRAMMATIC CAPABILITY AND PAST PERFORMANCE**

**a. Programmatic Capability**

i. Organizational Structure / ii. Description of Key Staff - The city has not encountered any adverse audit findings. We have an excellent record of management and compliance on all grants. The Office of Planning & Economic Development (OPED) shall serve as the project lead. **Project Manager, Wilson**

**Darbin** has 4 years of experience within grant and project management. Wilson will oversee the performance of cleanup activities ensuring the timely and successful expenditure of funds and the completion of all technical, administrative, and financial requirements of grant. **Cathy Buono, Director of Administration and Finance**, will assist Wilson by managing and monitoring all financial transactions. Cathy has managed federal grant funds for the City for over 25 years, including HUD, EPA, and EDA funding. **Brian Connors, Deputy Director of OPED**, is our liaison between OPED and other City, state, and federal partners. He will serve as interim or replacement project manager in the event of project manager loss or re-assignment. Brian has over 20 years combined experience in directing EPA Brownfields programs and successfully managed several EPA Brownfields grants. He currently provides a support role offering technical guidance and assistance while overseeing the performance of assigned directives. Springfield has experienced staff throughout these departments as backup should staff turnover occur. The **City's Law Department** will review contracts with QEP and remedial contractor and provide legal assistance. iii. Acquiring Additional Resources - The City will hire a QEP/MassDEP-approved Licensed Site Professionals (LSPs) using a competitive qualifications-based selection (RFP) process in accordance with City policies and Massachusetts law. The City's bidding requirements are consistent with 40 CFR Part 30. The City of Springfield also requires public construction projects be compliant with its Responsible Employer Ordinance (REO) minimum requirement percentages for employment opportunities for Springfield residents, minorities, women, and veterans. The EPA Cooperative Agreement Terms and Conditions will be included in the RFP and as part of the final contract. Translation services are expected to be competitively procured as part of QEP services. In addition, a qualified remedial contractor will also be competitively procured to conduct cleanup activities at the Site. The City prioritizes local hiring and procurement; the cleanup and anticipated redevelopment for the site will necessitate a variety of contractors and vendors, and the City plans to utilize local workforce as frequently as possible. Language about this priority will be incorporated into the RFP. The City will provide its own translation services.

#### **b. Past Performance and Accomplishments**

##### **i. Currently Has or Previously Received an EPA Brownfields Grant**

The City of Springfield has received 12 EPA grants dating back to the program's inception in 1998, most recently receiving a FY2023 Community-Wide Assessment Grant of \$500,000 for site assessments throughout the City. The City has successfully managed all grants to closure. **(1) Accomplishments:** Springfield has successfully managed EPA Brownfields grants since 1998. The City has accomplished many projects with Brownfields funding in recent years, including: 2019 Community-Wide Assessment Grant: Four (4) Phase I / Phase II ESAs have been completed. 2014 Petroleum and Hazardous Waste Assessment Grant: 6 Phase I ESAs and 1 Phase II ESA have been completed. 2011 Cleanup Grant: \$95 million cleanup, restoration and redevelopment of historic Union Station on Frank B. Murray Street in downtown Springfield was completed in 2017, which integrated multiple transit modes (local and inter-city bus; Amtrak inter-city and planned New Haven, Hartford, Springfield commuter rail; and taxi, bicycle and pedestrian travel in one state-of-the-art transportation complex. *The Union Station project won the Phoenix Award for Region 1 and the grand prize for best Brownfields redevelopment project in the Nation in 2017, awarded at the National Brownfields Conference in Pittsburgh, PA.* **(2) Compliance with Grant Requirements:** The City's compliance has remained consistent throughout the reward periods. Assessments were completed in accordance with all applicable state and federal regulations. Overall, programs completed in accordance with workplan, schedule and terms and conditions. All funds, with the except of minor 'leftover change' were expended by the end of the grant periods. The city prepared and submitted all quarterly reports, ACRES reporting, FFR, WBE/MBE measures and status reports on time. Accomplishments, including leveraged funding, was entered into ACRES and updated regularly. Cleanup activities were complete and closure under the MA VCP.

### III.A. 4 Threshold Criteria for Cleanup Grants

#### 1. Applicant Eligibility

- a) **The City of Springfield, Massachusetts, Office of Planning and Economic Development (OPED), is an eligible applicant as a “General Purpose Units of Local Government” as defined under 40 CFR Part 31. The Mayor of the City of Springfield has designated OPED to represent the city for this grant application.**
- b) The City of Springfield is not an organization exempt from Federal taxation under section 501(c)(4) of the Internal Revenue Code.

#### 2. Previously Awarded Cleanup Grants

The proposed site has not received funding from a previously awarded EPA Brownfields Cleanup Grant.

#### 3. Expenditure of Existing Multipurpose Grant Funds

The City of Springfield, MA, does not have an open Multipurpose Grant.

#### 4. Site Ownership

The City of Springfield, MA is the current sole owner of the site, which was acquired through tax title in May 2013, as recorded in the Registry of Deeds in Hampden County Registry of Deeds, Springfield, Massachusetts, Book 19822 Page 136 (copy attached).

#### 5. Basic Site Information

- a) The site name is ES Pinevale.
- b) The address of the site is ES Pinevale St, Springfield, MA 01151.

#### 6. Status and History of Contamination at the Site

- a) Contamination: The Site is contaminated by Hazardous Materials.

- b) Operational History and Current Use:

The Site historically operated as the former Chapman Valve Manufacturing Company for approximately 85 years between at least 1874 and 1959. Chapman Valve primarily manufactured valves for the Navy. In 1959, Crane Company acquired Chapman Valve and continued to manufacture valves at the Site until the 1980s. Crane Co. demolished the original 12 factory buildings located at the Site between the 1980s and 1996, leaving the slabs and foundations in place. The Site went through various property transfers between 2003 and 2013 before the City of Springfield acquired the property through a municipal tax taking, which was finalized in May 2013.

The Site encompasses a 15.93-acre parcel of land located on Pinevale Street in Springfield, Massachusetts. The former facility ceased operations over 40 years ago and the property has sat vacant for the last approximately 30 years. Currently, the Site is heavily vegetated with tall grasses and trees. Concrete slabs from the foundations of the original factory buildings remain across the Site, several of which are covered below a layer of soil and vegetation. Evidence of historical uses are present at the Site and include wood block flooring within concrete slab foundations, an exposed subsurface vault in the northwestern corner, historical railroad tracks, and various debris piles associated. Debris piles consist of mainly concrete with some brick and metal rebar, and several stockpiled debris piles

appear to be covered in vegetation. A chain link fence is present along the entire perimeter of the Site, with a locked access gate located at the middle of the western section of the fence on Pinevale Street.

- c) Environmental Concerns: Documented releases of oil and hazardous materials (OHM) at the Site include metals, PAHs, asbestos-containing material (ACM), PCBs, and petroleum hydrocarbons (co-mingled VOCs and SVOCs) in soil; and metals and petroleum hydrocarbons (VOCs and SVOCs) in groundwater. Numerous response actions including underground storage tank (UST) removal, impacted soil removal, and asbestos impacted soil and C&D debris removal have been conducted at the property. Residual impacts to soil include metals, PAHs, PCBs, petroleum constituents (co-mingled), and asbestos.
- d) How Site Became Contaminated/Nature and Extent of Contamination: In general, soils across the Site consist of varying types and amounts of fill materials to depth ranging from two (2) to 10 feet below ground surface (bgs). The primary source of contamination at the Site is believed to be related to releases from USTs and other surficial releases from the former manufacturing activities that have co-mingled and migrated into the soil and groundwater. Metals (i.e., lead) and PAH impacts may also be the result of industrial by-products included in the fill materials and/or historical Site use as a valve manufacturing facility. ACM impacts in surficial soils may be the result of disturbance to already damaged ACM insulation and building materials at the Site during previous investigations, excavations, demolition activities, and/or natural degradation.

## 7. Brownfield Site Definition

The site meets the EPA's definition of Brownfield under CERCLA § 101(39) as described in the Information on Sites Eligible for Brownfields Funding under CERCLA § 104(k). Additionally, the site is not:

- a) listed or proposed for listing on the National Priorities List;
- b) subject to unilateral administrative orders, court orders, administrative orders on consent, or judicial consent decrees issued to or entered into by parties under CERCLA; or
- c) subject to the jurisdiction, custody, or control of the U.S. government.

## 8. Environmental Assessment Required for Cleanup Grant Applications

An ASTM E1903-19 equivalent Phase II Environmental Site Assessment (ESA) was performed for the site in summer 2023. The Phase II ESA Report was delivered to the City of Springfield on October 25, 2023. The report summarizes historical investigations, the ESA activities conducted in 2023, presents data collected from soil and groundwater at the site, and includes a site-specific risk characterization (Method 3) conducted in accordance with the Massachusetts Department of Environmental Protection (MassDEP) voluntary cleanup program known as the Massachusetts Contingency Plan (MCP), 310 CMR 40.0000.

## 9. Site Characterization

- b) Attached to this application is a current letter from the MassDEP supporting the City's application for the FY24 Cleanup Grant application and indicating:
  - i. That the site is eligible to be enrolled in the state voluntary response program.
  - ii. That the site is currently enrolled in the state voluntary response program (under

RTN 1-170).

- iii. That there is a sufficient level of site characterization from the environmental site assessment performed to date for the remediation work to begin on the site.

**10. Enforcement or Other Actions**

There are no known ongoing or anticipated environmental enforcement or other actions related to the site for which Brownfields Grant funding is sought.

**11. Sites Requiring a Property-Specific Determination**

The site does not meet any of the criteria of special classes that require a “Property-Specific Determination” from the EPA to be eligible for funding.

**12. Threshold Criteria Related to CERCLA/Petroleum Liability**

a) **Property Ownership Eligibility – Hazardous Substance Sites**

- i. Property Ownership Eligibility – Hazardous Substances Site: The City of Springfield is eligible for a Brownfields Grant to address hazardous substances at this site because the City is exempt from CERCLA liability.

- (1) Exemptions to CERCLA Liability

- 3) Property Acquired Under Certain Circumstances by Units of State and Local Government

- a) The parcel was acquired through tax delinquency.
      - b) The tax taking was finalized on May 15, 2015.
      - c) The disposal of all of hazardous substances occurred prior to the City of Springfield taking ownership of the site.
      - d) The City of Springfield has not caused or contributed to any release of hazardous substances at the site, and:
      - e) The City of Springfield has not, at any time, arranged for the disposal of hazardous substances at the site or transported hazardous substances to the site.

**13. Cleanup Authority and Oversight Structure**

- a) The Site is a known release site (RTN 1-170) with the Massachusetts Department of Environmental Protection (MassDEP) and is therefore currently enrolled in the voluntary Massachusetts Contingency Plan (MCP) cleanup program. A qualified environmental professional (QEP) and Massachusetts Licensed Site Professional (LSP) will oversee the cleanup. These services will be solicited using competitive procurement practices and in accordance with all federal (2 CFR §200.317 through 200.327) and state requirements. The City of Springfield has established procedures include seeking statements of qualifications and price. Professionals with previous EPA Brownfields experience will be encouraged to compete. This technical expertise will be in place prior to beginning any cleanup activities. The QEP/LSP will comply with and submit all required state and federal requirements to ensure that the cleanup project protects human health and the environment. A QEP/LSP will also develop review and necessary design and institutional control plans, as needed.

- b) The City of Springfield has ownership with complete access to the Site and does not expect to require access to adjacent or neighboring properties. If access becomes



necessary for other properties, OPED will work with the property owners to develop an acceptable access agreement for completing any necessary activities.

#### **14. Community Notification**

OPED published a public meeting notice and notice of intent to apply an EPA Cleanup grant and requested comments on the draft application and draft Analysis of Brownfield Cleanup Alternatives (ABCA) in The Republican, a local newspaper, on October 27, 2023. The draft application, ABCA, narrative and other documentation along with public meeting information was also posted on the OPED website at [www.springfield-ma.gov/planning/](http://www.springfield-ma.gov/planning/) and on the City of Springfield's Development Services Division Facebook page at <https://www.facebook.com/SpringfieldDevelopmentServicesDivision/> on October 26, 2023.

The public meeting was held on November 1, 2023, at 4:00 pm at 70 Tapley Street in Springfield, MA. Information about the site, draft application, and ABCA were presented, and residents were given the opportunity to comment and ask questions about the application as well as potential future uses of the remediated site. Assistance for non-English speaking and/or hearing-impaired residents was provided if requested at least four (4) business days prior to the scheduled meeting.

No public comments were received at the meeting or during the comment period. Therefore, a summary of comments is not included as part of this application because it is not applicable. Additionally, a response to comments is not included as part of this application, as it is not applicable.

Attached to the proposal are the following documents:

- A copy of the draft ABCA
- A copy of the public meeting notices soliciting community feedback
- A summary of the public meeting and public comments
- A sign-in/participation list

#### **15. Contractors and Named Subrecipients**

- Contractors: Not applicable. Contractors will be selected in compliance with the fair and open competition requirements in 2 CFR Part 200 and 2 CFR Part 1500 prior to award. OPED will follow public procurement best practices per the EPA's Best Practice Guide and the City of Springfield guidelines and ordinances, including equitable procurement regulations.
- Named Subrecipients: There are no named subrecipients. Not applicable.

[SEAL]

COMMONWEALTH OF MASSACHUSETTS  
LAND COURT  
DEPARTMENT OF THE TRIAL COURT

Case No.: 09 TL 139184

JUDGMENT IN TAX LIEN CASE

City of Springfield

vs.

Goodwin Realty LLC

This case came on to be heard and was argued by counsel, and thereupon, upon consideration thereof, it is

**ADJUDGED and ORDERED** that all rights of redemption are forever foreclosed and barred under the following deed(s) given by and/or the tax taking(s) made by the Collector of Taxes for the City of Springfield in Hampden County and said Commonwealth:

<u>Land Type</u>	<u>Tax Taking Date</u>	<u>Book No.</u>	<u>Page No.</u>	<u>Document No.</u>	<u>Certificate of Title No.</u>
Recorded	12/29/2008	17633	298		

By the Court: Deborah J. Patterson

Bk 19822 Pg 136 #30302  
05-15-2013 @ 03:38p

Attest:

A TRUE COPY  
ATTEST:

*Deborah J. Patterson*  
RECORDER

\_\_\_\_\_  
Deborah J. Patterson  
Recorder

Entered: May 3, 2013

DONALD E. ASHE, REGISTER  
HAMPDEN COUNTY REGISTRY OF DEEDS

Office of Planning and Economic Development

70 Tapley Street, Springfield, MA 01104

FY2024 ENVIRONMENTAL PROTECTION AGENCY BROWNFIELDS PROGRAM PUBLIC MEETING AND  
PUBLIC COMMENTS  
CITY OF SPRINGFIELD – CLEANUP GRANT APPLICATION FOR ES PINEVALE IN INDIAN ORCHARD

**DATE/TIME:** November 1, 2023 at 4:00 PM

**LOCATION:** 70 Tapley Street, Springfield, MA 01104

The Office of Planning and Economic Development held the public meeting on November 1, 2023 to solicit public comment on the City of Springfield's FY2024 EPA Brownfield Cleanup Grant for ES Pinevale in Indian Orchard.

Present City employees were Wilson Darbin, Brian Connors and Evan Mastroianni. No community members attended the meeting and no public comments were received.

No public comments were received during the comment period as well.



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**The Office of Planning and Economic Development**

70 Tapley Street ([map](#))  
 Springfield, MA 01104  
 Exit 4 off I-291, Free parking  
 M-F 8:15 a.m. - 4:30 p.m.  
 Phone: (413)787-6020  
 Fax: (413)787-6524

Office of Planning and Economic Development » Economic Development » *Brownfields Redevelopment Program*

**Brownfields Redevelopment Program**

NEWS (October 26, 2023)

**PUBLIC NOTIFICATION FOR EPA BROWNFIELDS CLEANUP GRANT**

The Public is hereby notified that the City of Springfield Office of Planning and Economic Development (OPED) will apply for a Brownfield Cleanup Grant from the U.S. Environmental Protection Agency's (EPA) Brownfields Program. The grant would provide funding for the cleanup of the site located at ES Pinevale Street in Indian Orchard in Springfield, Massachusetts. The application includes an Analysis of Brownfields Cleanup Alternatives (ABCA) for the site.

Draft project information including the draft ABCA is available below on this page for public review and comment beginning October 26, 2023. Please submit comments on the application and questions about the public meeting by contacting Wilson Darbin, OPED Project Manager at [wdarbin@springfieldcityhall.com](mailto:wdarbin@springfieldcityhall.com) or 413-787-6020. All comments must be received by 4:00 PM on November 6, 2023.

An in-person public meeting will be held on November 1, 2023 at 4:00 PM to present the application and ABCA and to solicit input from the public, prior to submittal of the final application on or before November 13, 2023. The meeting will take place in the Video Conference Room at 70 Tapley Street, Springfield, MA 01104.

Assistance for non- English speaking or hearing impaired residents will be provided if requested at least 48 hours prior to the scheduled meeting.

**Draft files for review:**

[Draft Analysis of Brownfields Cleanup Alternatitves \(ABCA\)](#)

[Draft Narrative Inforamtion Sheet](#)

[Draft Ranking Criteria](#)

GENERAL INFORMATION

**Program Goals:**

This program was created in 1995 with the goal to promote the sustainable reuse existing brownfields and preventing the creation of additional ones. Redeveloping brownfields shifts development pressures away from undeveloped land, improving and protecting the environment. Further, brownfields redevelopment returns non-productive real estate assets to productive use, promoting economic development.

The City of Springfield's Brownfields Program is managed by the Office of Planning and Economic Development. The Office of Community Development also plays a critical role by managing the funds for the program.

**Environmental Site Assessments:**

The City of Springfield's Brownfields Program facilitates Phase I/II Environmental Site Assessments and Phase III Cleanup Plans on priority redevelopment sites. The site assessments have been primarily funded through the City's EPA grants, or from Targeted Brownfields

**Current Redevelopment Projects:**

- Bay & Tapley - Former Scrap Metal/ Junk Yard
- 135-155 Lyman Street - Former Warehouses/Distribution Centers
- 469 Walnut Street - Former Impoco's Poultry Market
- 53 Wilbraham Road - Former Tire Manufacture

**Successful Brownfield Redevelopment Projects in Springfield:**

- Wellspring Harvest Greenhouse - the first commercial hydroponic greenhouse in the City of Springfield, located at 121 Pinevale Street in the Indian Orchard neighborhood.
- Springfield Smith & Wesson Industrial Park - Springfield Performance Food Group moved into this site after environmental remediation was completed and later solar panels added to the property.
- 126 Memorial Drive. Redeveloped for a new Astro Logistics facility.
- Former Springfield DPW yard, Taylor Street. Redeveloped for the new Hampden-Zimmerman showroom and expansion of Springfield Foods facility.
- Former Carew Street School, Carew Street. Redeveloped for a new Head Start facility.
- Plainfield Street Soccer Facility, Plainfield Street. Formerly a junk yard, this site has been cleaned and is now a soccer facility for the Brightwood Neighborhood.
- Bing Theater, Sumner Avenue. Formerly a gasoline filling station and auto repair shop, the theater will be redeveloped as an arts center.

Page last updated: Wednesday, August 8, 2018 11:17 am



RESIDENTS

BUSINESS

LEISURE

GOVERNMENT

CALENDAR

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## City of Springfield, MA - Development Services Division

Published by Brian Connors · October 26 at 3:56 PM · 🌐



### PUBLIC NOTIFICATION FOR EPA BROWNFIELDS CLEANUP GRANT

The Public is hereby notified that the City of Springfield, MA, Office of Planning and Economic Development (OPED) will apply for a Brownfield Cleanup Grant from the [United States Environmental Protection Agency](#) Brownfields Program. The grant would provide funding for the cleanup of the site located at ES Pinevale Street in Indian Orchard in Springfield, Massachusetts. The application includes an Analysis of Brownfields Cleanup Alternatives (ABCA) for the site.

Draft project information including the draft ABCA is available (see link below) for public review and comment beginning October 26, 2023. Please submit comments on the application and questions about the public meeting by contacting Wilson Darbin, OPED Project Manager at [wdarbin@springfieldcityhall.com](mailto:wdarbin@springfieldcityhall.com) or 413-787-6020. All comments must be received by 4:00 PM on November 6, 2023.

An in-person public meeting will be held on November 1, 2023 at 4:00 PM to present the application and ABCA and to solicit input from the public, prior to submittal of the final application on or before November 13, 2023. The meeting will take place in the Video Conference Room at 70 Tapley Street, Springfield, MA 01104.

Assistance for non-English speaking or hearing-impaired residents will be provided if requested at least 48 hours prior to the scheduled meeting.

Draft project information: <https://www.springfield-ma.gov/.../brownfields...>






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City of Springfield  
Office of Planning and  
Economic Development  
70 Tapley Street  
Springfield, MA 01104  
**PUBLIC NOTIFICATION  
FOR EPA BROWNFIELDS  
CLEANUP GRANT**

The Public is hereby notified that on November 1, 2023, City of Springfield Office of Planning and Economic Development (OPED) will apply for a Brownfield Cleanup Grant from the U.S. Environmental Protection Agency's (EPA) Brownfields Program. The grant would provide funding for the cleanup of the site located at ES Pinevale Street in Indian Orchard in Springfield, Massachusetts. The application includes an Analysis of Brownfields Cleanup Alternatives (ABCA) for the site. A copy of the draft application, including the draft ABCA, will be available on the City website on the OPED page ([www.springfield-ma.gov/planning/](http://www.springfield-ma.gov/planning/)) for public review and comment beginning October 26, 2023. Please submit comments on the application and questions about the public meeting by contacting Wilson Darbin, OPED Project Manager at [wdarbin@springfieldcityhall.com](mailto:wdarbin@springfieldcityhall.com) or 413-787-6020. All comments must be received by 10:00 AM on November 1, 2023.

An in-person public meeting will be held on November 1, 2023 at 4:00 PM to present the application and ABCA and to solicit input from the public, prior to submittal of the draft application on November 9, 2023. The meeting will take place in the Video Conference Room at 70 Tapley Street, Springfield, MA 01104.

(October 27)





**DRAFT Analysis of Brownfields Cleanup Alternatives  
Former Chapman Valve Manufacturing Company  
ES Pinevale Street  
Springfield, Massachusetts**

## **I. Introduction & Background**

This Analysis of Brownfields Cleanup Alternatives (ABCA) has been prepared to evaluate cleanup alternatives for the former Chapman Valve property located at ES Pinevale Street in the Indian Orchard neighborhood of Springfield, Massachusetts (the Site). The ABCA is a condition of the City of Springfield's application for a United States Environmental Protection Agency (EPA) Brownfields Cleanup Grant.

### **1. Site Location**

The Site encompasses a 15.93-acre parcel of land located on Pinevale Street in Springfield, Massachusetts, where Chapman Valve formerly operated. Currently, the Site is heavily vegetated with tall grasses and trees. Concrete slabs from the foundations of the original factory buildings remain across the Site, several of which are covered below a layer of soil and vegetation. Evidence of historical uses are present at the Site and include wood block flooring within concrete slab foundations, an exposed subsurface vault in the northwestern corner, historical railroad tracks, and various debris piles associated. Debris piles consist of mainly concrete with some brick and metal rebar, and several stockpiled debris piles appear to be covered in vegetation. A chain link fence is present along the entire perimeter of the Site, with a locked access gate located at the middle of the western section of the fence on Pinevale Street.

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

The Site was historically operated as the former Chapman Valve Manufacturing Company for approximately 85 years between at least 1874 and 1959. Chapman Valve primarily manufactured valves for the Navy, but also worked under contract with the Atomic Energy Commission (AEC) to manufacture uranium metal for Manhattan Engineering District (MED) projects. In 1959, Crane Company acquired Chapman Valve and continued to manufacture valves at the Site until the 1980s. Crane Co. demolished the original 12 factory buildings located at the Site between the 1980s and 1996, leaving the slabs and foundations in place. The Site went through various property transfers between 2003 and 2013 before the City of Springfield acquired the property through a municipal tax taking in May 2013.

Since taking ownership as a Municipality with Exempt Status, as defined by Massachusetts General Law (MGL) Chapter 21E, Section 2, the City has not conducted response actions at the Site due to a lack of funding. In 2023, the City, through a Brownfields Assessment Grant from MassDEP, engaged Weston & Samson to conduct a Phase II Environmental Site Assessment (ESA) at the Site, which included an evaluation of the release history and an updated Method 3 Risk Characterization. Weston & Sampson completed the Phase II ESA in October of 2023.

### **3. Site Assessment Findings**

The following subsections include summaries of response actions conducted at the Site since 1986. Tables and figures for the response actions summarized below are presented in Weston & Sampson's 2023 Phase II ESA, and most are available via the EEA Data Portal for Waste Sites & reportable Release (<https://eeonline.eea.state.ma.us/portal#!/wastesite/1-0000170>).

**i. Phase I ESA - 1986**

ERT, Inc. of Laurel, Maryland (ERT), conducted a Phase I ESA in October 1986 at the Site, on behalf of Crane Co. At the time, the Site consisted of a 16-acre fenced property containing 13 buildings. A 20-acre landfill, which was part of the larger Chapman Valve/Crane facility, existed south of the Site. During this investigation, asbestos-containing materials (ACM), lead paint, silica sand and blasting dust (free silica), fuel oil, solvents, probable polychlorinated biphenyl (PCB) oil, and various unknown substances were noted throughout the Site. Based on the findings of the Phase I ESA, ERT recommended the following:

- Assessment and removal/repair of asbestos insulation by a licensed asbestos contractor.
- Filling or sealing the pipe tunnel located on the Site, or leaving as is.
- Underground storage tank (UST) inventory and removal.
- Assessment of possible PCB oil containing transformers for off-site disposal.
- Assessment and disposal of unknown substances located throughout the Site.

**ii. Underground Storage Tank Removal - 1987**

In February 1987, Clean Harbors Environmental Services of Kingston, Massachusetts (CHES), was contracted by Crane Co. to empty, clean, excavate, remove, and dispose of the USTs identified in the 1986 Phase I ESA by ERT. Nineteen (19) USTs of various capacities and containing various products were removed from the Site. A summary table of the UST characteristics are summarized below:

Tank #	Location	Total Capacity (gal)	Amount of product (in)	Product Type
1	Old Power House	25,000	47	#4 Oil
2	Old Power House	25,000	91	#4 Oil
3	Old Power House	25,000	13	#6 Oil
4	Old Power House	25,000	65	Waster/Sludge
5	Pattern Storage	100	Unknown	Alcohol
6	Brass Foundry No. 1	3,000	46	#2 Oil
7	Brass Foundry No. 2	3,000	76	#2 Oil
8	Lot Essex & Pinevale	650	8	Gasoline
9	Department 40	8,000	Unknown	#2 Oil
10	New Power House No. 1	20,000	13	#4 Oil
11	New Power House No. 2	20,000	11	Water/Sludge
12	Department 7 Hill No. 1	20,000	94	#2 Oil
13	Department 7 Hill No. 2	20,000	6	Water/Oil
14	Department 7 Hill No. 3	20,000	6	Water/Oil
15	Department 7 Hill No. 4	20,000	60	Water/#6 Oil Sludge
16	Department 7 Hill No. 5	20,000	6	#6 Oil Sludge
17	Department 7 Hill No. 6	20,000	6	#6 Oil Sludge
18	Department 7 Shipment	3,000	0	Not Recorded
19	Department 40	8,000	Unknown	#2 Oil

During UST removal activities, free product, oily soil, and/or oily groundwater were observed in multiple excavation areas, including Tanks 1 – 4, Tanks 6 – 7, and Tanks 10 – 11. ERT proposed to perform limited subsurface investigation activities to determine the most cost and environmentally effective way to remediate these areas of contamination, including soil borings, monitoring well installations, the collection of soil boring samples, excavation/stockpile samples, and groundwater samples, and assessing/sampling a cistern located to the west of Tanks 1 – 4.

### iii. Remedial Investigations - 1987

In April 1987, ERT prepared a scope of work on behalf of Crane Co. following a Notice of Responsibility (NOR) by Massachusetts DEQE (Department of Environmental Quality Engineering – now the Department of Environmental Protection) to perform remedial investigations at the Site. The remedial investigations were implemented and presented in an October 1987 ERT report titled “Remedial Investigations for Indian Orchard Facility.” The following actions were taken at the Site:

- A subsurface exploration program, including the advancement of 25 soil borings and installation of 25 monitoring wells at each boring location. Several borings were located along the railroad tracks and adjacent to UST excavations (Tanks 1-4 and Tanks 10-11) and the Building 48 yard. Soil samples were collected and analyzed for petroleum hydrocarbons and PCBs. Groundwater samples (and surface water samples from within the Tank 1-4 excavation) were collected and analyzed for petroleum hydrocarbons, volatile organic compounds (VOCs), and PCBs.
- Samples of water within a cistern adjacent to the Tank 1-4 excavation area were collected and analyzed. A temporary discharge permit was approved and all the water within the cistern was pumped into the municipal sewer system.
- Inspections of potential past spill areas across the Site

Based on the findings of these remedial investigations, ERT recommended the following:

- Identify locations of oily soil for removal and disposal by a clean-up contractor.
- Assess the Tank 1-4 excavation areas and design a long-term oil removal system.
- Removal of soils within the excavations of Tanks 1-4, 6-7, and 10-11 with elevated concentrations of petroleum hydrocarbons.
- Removal of surficial soils at the Dept #7 yard with elevated concentrations of petroleum hydrocarbons.

### iv. Phase II ESA - 1991

Con-Test, Inc. of East Longmeadow, Massachusetts (Con-Test), on behalf of Crane Co., conducted a Phase II ESA investigation between October and December 1990 at the Site. Investigation activities included a wood block subfloor investigation, oily surface verification, site security analysis, and monitoring well installation, sampling, and analysis. The findings of the Phase II ESA are summarized below:

- Total Petroleum Hydrocarbons (TPH) were detected in soil samples collected from beneath portions of concrete subfloors associated with Buildings 23, 25, and 48. TPH concentrations

range from not detected (ND) to 3,000 milligrams per kilogram (mg/kg) at Building 23, ND to 730 mg/kg at Building 25, and ND to 100 mg/kg at Building 48. Semi-volatile Organic Compounds (SVOCs) were detected at low concentrations in some soil samples collected beneath Buildings 23, 25, and 48. Fluorene was detected at 6 mg/kg at the eastern end of Building 23. VOCs were not detected in soil samples collected at beneath these buildings.

- VOCs were detected in groundwater at low concentrations in MW-1, MW-19, CMW-30, and the December 6, 1990, trip blank. SVOCs were detected in groundwater at low concentrations in MW-1, MW-7, MW-12, MW-14, MW-19, CMW-31S and the November 30, 1990, trip blank. TPH was detected in groundwater at 1.2 mg/L at CMW-30.
- The presence of oil under Building 23 may be attributable to a spill of #4 oil from Tanks 10 and 11.
- TPH, TCLP barium, and TCLP lead were detected at concentrations of 140 to 3100 mg/kg, 0.65 mg/L, and 0.56 mg/L, respectively, in various composite samples collected from Oily Soil Area #2. Trace concentrations of VOCs and SVOCs were detected.
- TPH, anthracene, benzo(a)anthracene, benzo(b)fluoranthene, fluoranthene, phenanthrene, 1,2,4-trichlorobenzene, TCLP barium, and TCLP lead were detected at concentrations of 110 to 780 mg/kg, 6 mg/kg, 8 mg/kg, 8 mg/kg, 23 mg/kg, 18 mg/kg, 15 mg/kg, 0.40 mg/L, and 0.09 mg/L, respectively, in various composite samples collected from Oily Soil Area #3.
- Bedrock was identified at depths ranging from 2 to 20 feet below ground surface (bgs) in three (3) monitoring wells (CMW-30, CMW-31S, and CMW-31D) and three (3) subfloor borings beneath Building 23. Two (2) bedrock cores were collected and identified as the Portland Formation.
- A radiological survey of the Site was requested by MassDEP due to the disposal of uranium metallic dust and/or waste or plant equipment contaminated with uranium or uranium oxides in shallow burials. The contamination is associated with work conducted in Building 23 for the Manhattan Project in the 1940s by Chapman Valve. The survey was to be completed by the U.S. Department of Energy (DOE) in 1995 (see below).

#### **v. Post-Remedial Action Report - 1996**

Bechtel National, Inc of Reston, Virginia (BNI), on behalf of the DOE, assisted in the planning and implementation of remedial activities for radioactive contamination at the Site from July to September 1995. Residual uranium contamination was present in the western third of Building 23 from operations conducted for the AEC in 1948.

Remedial activities included the decontamination of a bridge crane, overhead trusses, horizontal wall surfaces, wooden block and concrete floor pads, underlying soils, and a drain line. A portion of the decontaminated material were left onsite, including concrete monoliths, wooden decking from the crane, wooden blocks, and concrete pads. Post-remediation surveys performed in the area indicated levels of radioactivity below the applicable DOE cleanup guidelines.

#### **vi. Phase II ESA Addendum - 1998**

In May 1998, ATC Associates, Inc. of Woburn, Massachusetts (ATC), on behalf of Crane Co., completed an addendum to the Phase II ESA performed by Con-Test in 1991. Supplemental assessment and investigation activities included soil boring and monitoring well installation, additional analytical

characterization, product recovery testing of culvert wells, disposal of on-Site transformers and switches, transformer pad confirmation sampling, disposal of PCB contaminated woodblocks, interim measures (i.e., gauging and bailing, test pitting, oily soil excavation and removal, NAPL extraction and dewatering activities), and risk characterization. The findings of the supplemental investigation included:

- The investigations and monitoring indicated minimal impact to soil and groundwater from historical Site operations.
- Interim measure activities listed above have addressed UST releases to subsurface and surficial soils Site-wide.
- Residual petroleum-impacted soils surrounding the tank grave associated with Tanks 1-4 are located beneath substantial, permanent, concrete structures and are considered inaccessible, apparently limited in quantity, and isolated. Petroleum-impacts are associated with #4 and #6 oil. The permanent concrete structures are proposed to be left in place and limit the potential migration of residual petroleum impacts.
- Constituents of concern included VOCs, PCBs, and ten (10) metals in groundwater, SVOCs and selenium in soil only, and TPH and PCBs in both soil and groundwater.

A Method 3 Risk Characterization was performed to evaluate the potential for site-specific risk to employees of Crane Co., trespassers, potential construction or utility workers, and future residential populations. Based on the results of the Method 3 Risk Characterization and the Interim Measures performed at the Site, a condition of No Significant Risk (NSR) was achieved in association with the documented release conditions.

#### **vii. Post-Audit Completion Statement and Risk Characterization - 2003**

Between September and October 2003, ATC, on behalf of Crane Co., conducted supplement field assessment activities in response to a Notice of Audit Findings/Notice of Non-Compliance (NOAF/NON) issued by MassDEP on July 1, 2003. In the NOAF/NON, MassDEP asserted that the 1998 Phase II ESA Addendum did not establish the horizontal and vertical extent of metals and petroleum impacts in soil and groundwater. MassDEP required additional assessment and an updated Method 3 Risk Characterization.

Assessment activities included a metals assessment program, "black-stained soil" assessment, indoor air sampling, and a surficial oil staining assessment. The findings of the supplemental field assessment are summarized below:

- Soil samples were collected in the vicinity of former monitoring well locations and in areas of the former Iron Machine Shop and Brass Foundry. Laboratory analytical results indicated that antimony, beryllium, lead, copper, and zinc were detected at elevated concentrations. Arsenic, barium, cadmium, chromium, mercury, nickel, and silver were also detected.
- "Black-stained soil" was identified near a manhole cover west of the Tank 1-4 excavation during a Site inspection conducted by MassDEP on June 11, 2003. The "black-stained soil" had a mild organic odor and was presumed to have been stained from regular foundry activities. Petroflag™ kits were used to screen two near-surface soil samples for TPH; TPH readings were recorded as 163 mg/kg and 320 mg/kg. Additional soil samples (S-1 and S-2) were collected by ATC on

September 11, 2003, and analyzed for volatile petroleum hydrocarbons (VPH), extractable petroleum hydrocarbons (EPH), and PAHs. Laboratory analytical results showed various EPH and PAH compounds above laboratory detection limits. Additionally, polarized light microscopy (PLM) and scanning electron microscope (SEM)/energy dispersive x-ray (EDX) examination was performed on the samples and a moderate amount of anthracite coal and coal ash were identified in the samples. The “black-stained soil” was determined by ATC to be exempt from the MCP and was therefore left out of the risk characterization conducted for the Site.

- During groundwater sampling conducted in 1987 and 1988 by ERT, two (2) groundwater monitoring wells MW-8 and MW-27 were found to have TPH at concentrations high enough to pose a risk of vapor intrusion to the occupied buildings. Six (6) vapors points were installed between August and September 2003 and soil gas was screened using a photoionization detector (PID) with results ranging from ND to 28.9 ppmv. On September 12, 2003, four soil vapor samples were collected for air-phase petroleum hydrocarbons (APH) and sent to Con-Test Analytical Laboratories (Con-Test Analytical) for analysis. Laboratory analytical results indicated various compounds above laboratory detection limits. Petroleum hydrocarbon vapors were found to not have the potential to significantly impact indoor air in the occupied buildings down gradient of the impacted wells.
- Surficial oil staining was identified near the eastern end of former Building 10 and several locations in the footprint of Building 23 during a Site inspection conducted by MassDEP on June 11, 2003. The stained materials generally consisted of a sand, gravel, brick, and wood fragment mixture that was likely used to cut material associated with oil spills from former equipment operations. Additionally, a concrete containment bin located in the area was observed to have an oily sheen after sediments within the containment bin were disturbed. Clean up activities were conducted by ATC within the identified areas. Oily water and materials, such as soil, debris, and wooden blocks, were generated and disposed of off Site at appropriate facilities.

Risk characterization results were amended with the additional metal results and did not significantly impact the risk characterization results reported in the 1992 Phase II ESA Addendum submitted in May 1998.

#### **viii. Release Abatement Measure (RAM) Plan - 2007**

On January 4, 2007, WjF GeoConsultants, Inc. (WjF), on behalf of Goodwin Realty, LLC, submitted a Release Abatement Measure (RAM) Plan for the discovery of contamination during environmental assessment activities performed by O’Reilly, Talbot & Okun (OTO), on behalf of Western Area Development Corporation. The environmental assessment performed by OTO was completed as a due diligence investigation for a potential purchaser. The objective of the RAM plan was to reduce the concentrations of EPH and PCBs below risk-based standards in the area of the former machine shop (Building 10). Additional contaminants identified above MassDEP Reportable Concentrations S-1 (RCS-1) standards during OTO’s assessment were VPH, SVOCs, arsenic, and lead detected in samples collected from beneath the former brass foundry (Building 5) and former iron foundry (Building 16).

#### **ix. RAM Completion Report - 2009**

In December 2006, WjF conducted a soil boring program to delineate the EPH and PCB impacts at the Site. Delineation of EPH impacted soil was only partially successful as former foundations and utility

tunnels provided excavation limits to the east and south but soil samples at the north and west extents of the excavation detected EPH concentrations above the Method 1 S-1 GW-2/GW-3 standards. During the June and October 2007 soil excavation program, the north and west extents of EPH impacted soil were delineated. Contaminated soils and concrete foundations in the former machine shop building were excavated and stockpiled on Site. Contaminated soils were sampled for disposal characterization parameters. In June 2008, approximately 160 tons of contaminated soil and concrete rubble was disposed of at Ondrick Construction Company.

**x. Asbestos Assessment - 2010**

In 2010, OTO completed an asbestos assessment on behalf of Springfield Redevelopment Authority. The purpose of the assessment was to identify ACM that may have remained on site or were left in place when the former foundry buildings were demolished, and to identify areas of asbestos in soil. The asbestos assessment primarily focused on surface level construction debris piles and soil piles, but subgrade exploration was performed at the boiler room and the main north/south utility tunnel. Representative bulk samples of suspected ACM were collected from the ground surface and from limited subsurface structures. ACM, such as transite pipe, transite panels, black building construction paper, black pipe insulation, various roofing materials, resilient floor tiles, and adhesive mastic, were identified in construction debris and soil piles as well as the boiler room and utility tunnel. An approximate 1,850 cubic yards of ACM construction debris and 31,625 cubic yards of ACM soil was estimated to be present at the Site.

**xi. Environmental Site Assessment - 2010**

In April 2012, OTO completed an ESA at the Site on behalf of Springfield Redevelopment Authority. The purpose of the ESA was to assess the nature and extent of OHM materials in soil and groundwater at the Site. During assessment activities, OTO identified thirteen (13) locations that require additional response actions summarized in the table below. OTO estimated response actions would cost up to \$105,000 to address the 13 areas and to conduct one (1) Method 3 Risk Assessment and a Response Action Outcome (RAO) Report.

Area	Associated Samples	Constituents > RCS-1 in Soil	Constituents > RCGW-2 in GW	Proposed Response Actions
RC-1	BT-E, DP-1	Petroleum	N/A	Delineate extent of impacted soil, localized soil excavation (assume 100 cubic yards), Method 3 Risk Assessment, RAO
RC-2	CM-22	Petroleum	None	Delineate extent of impacted soil, Method 3 Risk Assessment, RAO
RC-3	CM-38	Petroleum	Petroleum, Lead	Consider petroleum in groundwater consistent with waiver completion, resample groundwater for total and dissolved lead, assume that condition will not be reportable and document with MassDEP
RC-4	CM-39	Lead	None	Delineate extent of impacted soil, localized soil excavation (assume 100 cubic yards), Method 3 Risk Assessment, RAO
RC-5	CM-40, CM-53, CM-54	Barium, Cadmium, Lead	N/A	Delineate extent of impacted soil, localized soil excavation (assume 50 cubic yards), Method 3 Risk Assessment, RAO



RC-6	CM-43	Petroleum	Petroleum, Lead	Resample groundwater for total and dissolved metals, assume that condition will not be reportable
RC-7	CM-45	None	Lead	Resample groundwater for total and dissolved metals, assume that condition will not be reportable
RC-8	CM-52	Cadmium	None	Delineate extent of impacted soil, localized soil excavation (assume 50 cubic yards), Method 3 Risk Assessment, RAO
RC-9	DP-2	Polycyclic Aromatic Hydrocarbons	N/A	Perform microscopic analysis on soil, assume that condition will not be reportable due to coal/ash
RC-10	MW-205	None	Cadmium	Resample groundwater for total and dissolved metals, assume that condition will not be reportable
RC-11	OTP-4	Polycyclic Aromatic Hydrocarbons	N/A	Perform microscopic analysis on soil, assume that condition will not be reportable due to coal/ash
RC-12	OTP-6	Polycyclic Aromatic Hydrocarbons	N/A	Perform microscopic analysis on soil, assume that condition will not be reportable due to coal/ash
RC-13	OTP-8	Polycyclic Aromatic Hydrocarbons	N/A	Perform microscopic analysis on soil, assume that condition will not be reportable due to coal/ash

**xii. Preliminary Geotechnical Findings - 2010**

In April 2010, a preliminary geotechnical assessment was completed by OTO in April 2010, on behalf of Springfield Redevelopment Authority, to assess the geotechnical suitability of on-Site soils for future redevelopment into a business/office park. The investigation found that two (2) main issues were present on-Site that would result in premium costs for construction of single story or two to three story buildings. One issue involves the presence of non-engineered fill consisting of ash and building debris and organic soils throughout portions of the Site that would need to be removed and replaced with engineered fill. The other issue involves the presence of concrete floor slabs, foundations, and buried debris that would need to be removed prior to development. Additionally void, basements, tunnels, and improperly abandoned utilities were found to be present in some portions of the Site and would need to be removed from any proposed building footprint and replaced with engineered fill prior to building construction.

**xiii. Pollution Report No. 1 - 2015**

In March 2011, an investigation to determine the extent of asbestos contamination in on-Site soil and debris piles was requested by MassDEP Western Regional Office (WERO) with assistance from the USEPA Region I Emergency Planning and Response Branch (EPRB). On August 17, 2015, USEPA, Superfund Technical Assessment Team (START), and Emergency Rapid Response Service (ERRS) mobilized to the Site and established work zones, developed a staging area, and prepared for Site excavation at three (3) piles, five (5) surface areas, and four (4) surface soil grids. Excavation activities commenced on August 24, 2015, and were completed on September 2, 2015. Site excavations and analytical results were reviewed with MassDEP WERO and confirmed that excavation activities were complete. Approximately 2,500 tons of soil and debris were excavated and stockpiled on Site pending transportation and disposal. USEPA demobilized from the Site on September 2, 2015.

#### **xiv. Removal Program After Action Report - 2015**

The Removal Program After Action Report summarized the activities recorded in Pollution Report No. 1 by the USEPA. ACM impacted soil from the primary stockpile staged on-Site created during the August and September 2015 excavation activities was loaded for disposal at the Seneca Meadow, Inc. Disposal Facility in Waterloo, New York. Between October 26 and 30, 2015, 21 trucks were loaded with ACM soil and between November 2 and 3, 2015, an additional 9 trucks were loaded with ACM soil. The final Site Walk was completed on November 2, 2015, with USEPA, START, and MassDEP and all activities were completed on November 4, 2015. Six (6) of 18 confirmatory soil samples collected post-excavation showed detectable asbestos in soil. No additional soil removal was conducted.

#### **xv. Phase II ESA - 2023**

Weston & Sampson performed a Phase II subsurface investigation at the Site in May and August 2023. Subsurface investigation activities included the advancement of 34 soil borings; the collection of soil samples from each soil boring location; the installation of four (4) groundwater monitoring wells; and the collection of groundwater samples from the four (4) newly installed wells and three (3) existing wells. Soil analytical results for samples collected by Weston & Sampson for the 2023 Phase II ESA indicated SVOCs and EPH were present in multiple locations at concentrations exceeding the Method Cleanup Standards. Low-level metals and VPH concentrations were also detected in multiple locations. Groundwater analytical results showed no concentrations of metals VOCs, or SVOCs exceeding the applicable Method 1 GW-3 Cleanup Standards.

The Method 3 Risk Characterization conducted by Weston & Sampson indicated a condition of NSR does not exist at the Site for current and future use due to elevated concentrations of lead and PAHs in soils at discrete locations, as well as ACM in shallow soil in the central portion of the Site.

Weston & Sampson concluded that Regulatory closure can be achieved at the Site if the source of impacts (lead, PAHs, and asbestos) is eliminated or controlled. This may include a combination of soil remediation (removal and off-site disposal of impacted soil), construction and installation of a cover system to prevent access to residual soil impacts, and/or the implementation of an Activity and Use Limitation (AUL). The 2023 Phase II ESA recommended an analysis of remedial alternatives, including conceptual costs, be conducted for the Site.

#### **4. Project Goal**

The goals of the project are to protect human health and the environment and to redevelop an underutilized property for commercial reuse. The objective is to remove or contain targeted impacted soils 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 Springfield 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 (see Attachment A). USGCRP notes that “heat waves, coastal flooding, and river flooding will pose a growing challenge to the region’s environmental, social, and economic systems. This will increase the vulnerability of the region’s residents, especially its most disadvantaged populations.” Increased precipitation will increase stormwater runoff, which is applicable to the cleanup and redevelopment of the Site for residential reuse and open space. Cleanup of the Site will reduce the impervious surface area by breaking up and/or removing former building slabs. Additionally, once developed, the Site is expected to include improved stormwater infrastructure which will account for increasing precipitation.

According to FEMA Flood Zone Maps 25013C0217E, 25013C0236E, 25013C0219E, and 25013C0240E the Site is not located within a Special Flood Hazard Area or Other Areas of Flood Hazard (see Attachment B). Based on the location of the Site and its proposed reuse, other factors related to climate 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 Number (RTN) issued for the Site by MassDEP (RTN 1-170). 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.

### **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 City of Springfield 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 four (4) remedial alternatives. To address the remediation of impacted soil at the Site, the following four (4) alternatives were considered, including:

- Alternative #1 – No Action
- Alternative #2 – Impacted soil removal to an average of 15 feet bgs, complete foundation and subsurface utility corridor demolition
- Alternative #3 – Impacted soil removal to an average of 3 feet bgs, complete foundation removal, partial subsurface utility corridor demolition and implementation of Activity and Use Limitation (AUL).
- Alternative #4 – 18-inch Soil Cap with Geotextile Barrier and implementation of 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 impacts.
- Alternative #2: Extensive soil removal, transport, and off-site disposal of all impacted soil up to 15 ft. bgs with complete removal of former building foundations and subsurface utility corridors is an effective way to eliminate risk at the Site, since most/all contamination will be removed and the exposure pathways will no longer exist.
- Alternative #3: Under this alternative, targeted removal of 71,300 cubic yards of asbestos-impacted soils, up to 3 ft. bgs, that pose the greatest potential exposure risk to future users of the Site will be completed. Impacted soils will be disposed of at licensed facilities in accordance with local, state, and federal laws. Prior to soil removal activities, surficial debris, former building foundations, and portions of the subsurface utility corridors will be required to be removed to access contamination. This material will be transported off-Site for disposal in accordance with state and federal regulations. Confirmatory sampling will be required to evaluate remaining soil conditions and associated risk. A Method 3 Risk Characterization will be conducted using post-remediation data. 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 an AUL will be required to mitigate exposure to remaining impacted soils and maintain a condition of NSR under the MCP, the state of Massachusetts' voluntary cleanup program (VCP).
- Alternative #4: Under this alternative, the top 18-inches of impacted soils would be regraded, a geotextile demarcation would be installed, and 18 inches of clean-soil cover would be placed on top of the geotextile demarcation barrier. Surficial debris will be removed from the Site. Former

building foundations will be left in place, but will be broken up, and subsurface utility corridors will be backfilled. 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.

### Implementability

- Alternative #1: No Action is easy to implement since no actions will be conducted.
- Alternative #2: Extensive soil removal with off-site disposal and complete removal of the former building foundations and utility corridors is moderately to highly difficult to implement. Although this alternative will not require ongoing maintenance and monitoring, greater coordination (e.g., dust suppression and monitoring) during cleanup activities and disturbance to the community (e.g., trucks transporting contaminated soils and backfill) are anticipated. Additionally, this alternative is less in line with EPA's Greener Cleanup goals and objectives.
- Alternative #3: Removal of asbestos-impacted, up to 3 ft. bgs, with off-site disposal and complete removal of former building foundations and partial removal of utility corridors is easy to moderately difficult to implement. This alternative would require ongoing maintenance and monitoring of the soil cover system, greater coordination to maintain environmental controls (e.g., dust suppression and monitoring) during remediation, and disturbance to the community (e.g., trucks transporting contaminated soils and backfill). In addition, this alternative may require the implementation of an AUL on the property; however, this is moderately easy to implement.
- Alternative #4: Regrading of the top 18-inches of impacted soil, installing a geotextile barrier, and capping with 18-inches of loam is moderately easy to implement. This alternative would require ongoing maintenance and monitoring of the cover system, greater coordination to maintain environmental controls (e.g., dust suppression and monitoring) during remediation, and disturbance to the community (e.g., trucks transporting backfill). In addition, this alternative will require the implementation of an AUL on the property; however, this is moderately easy to implement.

### Cost

- Alternative #1: There are no costs associated with No Action.
- Alternative #2: The removal of most/all impacted soil and removal of the former building foundations and utility corridors is expected to cost approximately \$212,565,000.
- Alternative #3: The removal of 71,300 cubic yards of impacted soil, removal of the former building foundations, and partial removal of subsurface utility corridors, and implementation of an AUL is expected to cost approximately \$45,850,000.
- Alternative #4: The regrading, installation of a geotextile demarcation barrier, loam cover, and implementation of an AUL is expected to cost approximately \$4,940,000.

### 3. Recommended Cleanup Alternative

Alternative #1: No Action cannot be recommended because it does not address site risk and doesn't allow for the Site to be used in a beneficial way to the City or the surrounding community. Alternative #2: Extensive Removal, Transport, and Off-Site Disposal of Impacted Soil, while effective at eliminating the exposure pathways at the Site, the cost to implement such a remedy could approximately be 5-42 times or more than the cost of controlling the exposure risks in Alternatives #3 and #4. Additionally, Alternative #2 will require many more trucks, will increase impacts to the neighborhood, will take up more space in landfills, and will take more time to implement.

Alternative #3: Target Removal, Transport and Off-Disposal of Impacted soil, would be more cost effective and control exposure risks; however, to implement this remedy could cost approximately 10 times or more than the cost of Alternative #4. Additionally, Alternative #3 will require many more truck, will increase impacts to the neighborhood, will take up more space in landfills, and will take more time to implement. Alternative #4 is a more sustainable approach in line with EPA's Clean and Green Cleanup guidelines.

Therefore, Alternative #4, while more expensive than no action, allows for the reuse and redevelopment of the site and is capable of reducing risk while having the smallest impact on the surrounding community and the environment. For these reasons, the recommended cleanup alternative is Alternative #4: 18-inch Soil Cap with Geotextile Barrier and AUL.

#### Green and Sustainable Remediation Measures for Selected Alternative

The selected alternative is the most sustainable alternative and requires less trucking and no disposal of impacted soil. The City of Springfield 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.