



DRAFT ANALYSIS OF BROWNFIELDS CLEANUP ALTERNATIVES AND CONCEPTUAL REMEDIAL ACTION PLAN

Former Waldo County Superior Court House
137 Church Street
Belfast, Maine 04915

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TRC Project No. 636923

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1.0 INTRODUCTION

1.1 Background

TRC Environmental Corporation (TRC) has prepared this Analysis of Brownfields Cleanup Alternatives (ABCA) and Conceptual Remedial Action Plan (RAP) on behalf of the City of Belfast (the “Client”) for the Former Waldo County Superior Court House property located at 137 Church Street in Belfast, Maine 04915 (the Site).

The ABCA is designed to summarize potential cleanup alternatives for addressing both hazardous building materials at the Site, as well as the management of impacted shallow/surficial soils identified during previous investigations. As such, the alternatives consider cleanup measures for both media (hazardous building materials and soil) for the proposed cleanup plan. The City of Belfast plans to renovate the Site for the expansion of municipal office space and community use.

The ABCA includes the following:

- Summary of the evaluation of potential Remedial Alternatives for the Site;
- Summary of the remedial options and evaluation criteria;
- Preliminary cost estimates;
- Evaluation of the degree of effectiveness of the Remedial Alternative;
- Evaluation for ease of implementation for each Remedial Alternative;
- Recommended selection of Remedial Alternative(s); and
- Discussion of the resiliency to extreme weather conditions for the Remedial Alternatives.

The primary purpose of the Conceptual RAP is to outline a structured approach for the selected or recommended cleanup alternative to address contamination at this Brownfields Site. The approach is designed to ensure the Site is safe for reuse and that actions are protective of human health and the environment.

Prior environmental investigations, including Phase I and Phase II Environmental Site Assessments (ESAs), and a Hazardous Building Materials Inventory (HBMI), have been completed for the Site, as summarized in Section 2.0. The prior ESAs and HBMI were designed to identify hazardous building materials, which would require proper abatement, management, and/or disposal prior to or during renovation and redevelopment of the Site. The HBMI activities identified the presence of asbestos in several materials (including ceiling plaster, floor tiles, mastics, and caulking materials), lead-containing paint on several surfaces throughout the structure (including walls, windows, doors, and trim), and universal wastes. Potential polychlorinated biphenyl (PCB)-laden materials were identified during the HBMI such as PCB-containing fluorescent light ballasts. Additionally, the Phase II ESA activities identified polycyclic aromatic hydrocarbons (PAHs) and metals impacts to shallow Site soils, and volatile organic compound (VOC)-impacted groundwater throughout the Site.

Given the above, this ABCA/RAP presents a summary of potential cleanup alternatives, the recommended cleanup alternative, and a conceptual cleanup plan for the selected or preferred remedial action(s) to address both hazardous building materials at the Site, as well as

management of shallow Site soils. The building materials alternatives also include the removal and proper disposal of universal waste that has accumulated at the Site or will result from the renovations of the Site structure.

1.2 Site Description

The Site consists of a 0.34-acre roughly rectangular-shaped parcel (Map 011, Lot 003) bounded by High Street to the north, Church Street to the south, Market Street to the west, and Belfast's City Hall property to the east. The Site property is currently developed with a two-story brick building, most of which was originally constructed in 1853, with the northern addition to the property structure being constructed between 1901 and 1912. The building's footprint encompasses approximately 5,450 square feet. The building was utilized as the Waldo County Superior Court House from its construction until the new Waldo County Superior Court House was constructed across Market Street in 2018. The Site building was most recently used for storage, record-keeping, and administrative purposes associated with the Waldo County Registry of Deeds and other County government operations.

A Site Location Plan identifying the general Site vicinity is provided as **Figure 1**. A Site Layout Plan illustrating the general features of the Site is provided as **Figure 2**.

1.3 Historical Site Use

Historical documents reviewed by TRC indicate that the Site building was originally constructed in 1853 and was utilized as the Waldo County Superior Court House until 2018. Based on information provided in interviews during the Phase I ESA completed for the Site by Ransom Consulting, LLC (Ransom), one or more fires occurred in the Site building, since its construction, and charred rafters were observed in the attic of the building during Ransom's Site reconnaissance. The Site building has most recently been used for storage and record keeping. The City of Belfast purchased the Site from Waldo County in May 2024, and the building has been unoccupied since the City's purchase.

1.4 Potential Future Site Use

The City of Belfast's plan for the Site is to renovate the former Waldo County Superior Court House building for municipal office space and community use. The Site renovations will include, but are not limited to, a covered walkway between the Site building and City Hall, an exterior elevator pad outside the building, handicapped-accessible parking area, new walkways and a handicapped-accessible entrance to the building, and landscaped areas.

1.5 Purpose and Scope of Services

The purpose of this ABCA/RAP is to evaluate potential cleanup remedial action alternatives to be implemented at the Site during the proposed redevelopment and recommend/select a proposed remedial option(s) based on the findings of previous investigations and the proposed future use of the Site (renovation for municipal office space and community use). The ABCA/RAP includes the following:

- Evaluation of the available remedial alternatives against evaluation criteria stated herein;

- Selection of the remedial alternative that best meets the objectives and considerations of the project and proposed end use; and
- Presentation of a general plan for implementation of the selected remedial alternative(s).

Prior to developing remedial alternatives for the Site, evaluation of the exposure scenarios to on-Site contaminants is also required, and presented herein, given the new proposed future use of the Site.

The cleanup will be funded, in part, by a United States Environmental Protection Agency (EPA) Brownfields Cleanup Grant No. 4B-00A01597.

1.6 Objectives

Based on the information collected during previous environmental investigations (listed in Section 2.0), remedial options were considered for the Site and evaluated based on feasibility and ease of implementation, resiliency to extreme weather conditions, effectiveness and reliability, preliminary cost and cost effectiveness, schedule and time to implement the remedy and reach an endpoint of “no further action.”

Remedial consideration was given to the following goals:

- Eliminate or reduce potential or current exposure to receptors, to the extent possible;
- Eliminate or reduce the risk of exposure to potential future site users, site workers, and trespassers to the contamination identified based on the proposed future reuse of the Site; and
- Eliminate or reduce potential environmental impacts to off-site receptors, including environmental receptors.

The remedial alternatives evaluated in this ABCA include:

- Alternative 1: No Action.
- Alternative 2: Targeted Hazardous Building Materials Removal and Soil Cover Systems. This alternative includes:
 - Targeted removal of asbestos-containing materials (ACM). Any ACM left in place will have restricted access and be managed under an Operation and Maintenance (O&M) program during future reuse.
 - Removal of all identified universal waste items to be properly recycled or disposed of.
 - Surfaces coated with lead-based paint would be stabilized via scraping of loose, flaking, and chipping paint, and encapsulated beneath subsequent paint layers and/or new building finishes, such as a new wall or ceiling barrier. Remaining lead-based paint would also be managed under an O&M program during future reuse. The O&M program would require periodic surveillance of encapsulated materials and outline best work practices during future renovation/disturbance.
 - Maintaining existing or constructing new Maine Department of Environmental Protection (MEDEP)-approved engineered soil cover systems over the entirety of

the exterior areas of the Site during construction/redevelopment activities to prevent direct human contact with impacted surficial soils during long-term use of the Site by the City of Belfast. Soil cover systems would be constructed to dovetail with Site redevelopment plans (i.e., handicapped-accessible parking areas, building entrance and walking paths, concrete slab foundations for the covered walkway and exterior elevator, hardscape and softscape landscaping, etc.). Certain subsurface utilities and clean corridors may also be installed as part of cleanup activities to minimize the need for excavating or disturbing cover systems during additional future Site redevelopment activities.

- Institutional controls would be developed to ensure that further construction, remediation, or landscaping at the Site would maintain the engineered cover systems and minimize disturbance of the underlying residual contaminated soil and groundwater identified at the property. These would likely include Deed restrictions, and an Environmental Media Management Plan (EMMP), including a Post-Closure Cover System Maintenance Plan.
- Alternative 3: Full Hazardous Building Materials Abatement & Soil Removal. This alternative involves:
 - The proper removal, transport, and offsite disposal of all identified hazardous building materials in the Site building, including asbestos-containing materials, lead-based paint, and universal wastes.
 - Excavation and off-site disposal of impacted surficial soils and fill materials identified across the site to a depth of two feet below grade (accessible impacted soils). Additional soil removal would be performed in areas where the proposed redevelopment plan necessitated the need for deeper excavations (i.e., walkway footings, subsurface utilities, etc.), as well as construction of clean corridors to facilitate future installation of subsurface utilities. Soils would be transported to a landfill as “special waste.” All excavation areas would be backfilled with clean fill to proposed redevelopment grades.
 - An EMMP would be prepared to ensure that future construction, remediation, or landscaping at the property minimizes the disturbance of subsurface contaminated soils at depths greater than two feet below ground surface (bgs) and describes measures to manage contaminated soil and groundwater identified at the Site.

For the purposes of the above Alternatives 2 and 3, soils that are excavated may be moved to an off-Site licensed disposal facility, with the remainder of site soils to be left in place and/or reused on-Site and then capped/covered by a MEDEP-approved engineered cover system.

Additional activities and constants for each alternative considered:

- General waste (e.g., universal waste) cleanup Site wide, as needed.

The Evaluation of Remediation Alternatives (Section 5.0) includes a discussion of the requirements for each alternative.

2.0 PREVIOUS ENVIRONMENTAL INVESTIGATIONS

TRC reviewed the following previous environmental reports regarding the Site:

- April 1, 2024, *Phase I Environmental Site Assessment, Former Waldo County Superior Court House, 137 Church Street, Belfast, Maine*, prepared by Ransom;
- October 22, 2024, *Hazardous Building Materials Inventory, Former Waldo County Superior Court House, 137 Church Street, Belfast, Maine*, prepared by Ransom; and
- December 5, 2024, *Phase II Environmental Site Assessment, Former Waldo County Superior Court House, 137 Church Street, Belfast, Maine*, prepared by Ransom.

The above previous environmental investigations are summarized below for the Site, and in *italics*, where directly quoted.

2.1.1 Phase I Environmental Site Assessment (ESA) – April 1, 2024 – Ransom

Based on the findings of a Phase I ESA conducted for the Site by Ransom, the following Recognized Environmental Conditions (RECs) were identified.

- *Potential unknown and/or unreported fuel oil releases associated with the reported 6,000-gallon fuel oil tank (identified as a UST by MEDEP regulations) in the basement of the Subject Property Building. This conclusion is based on the location of the tank inside a sand-filled, concrete block containment structure, which prevented observations to the condition of the tank and evaluate whether there was evidence of release(s) of fuel oil or staining beneath the tank within the containment structure;*
- *The southwesterly adjoining property, the present-day Waldo County Court House (11 Market Street), was identified on MEDEP's Division of Remediation Sites List (REM02765) in connection with prior filling/service station operations and subsequent remedial efforts conducted under MEDEP's Voluntary Response Action Program (VRAP). Petroleum compounds including volatile petroleum hydrocarbons (VPH) and extractable petroleum hydrocarbons (EPH) were identified at concentrations exceeding MEDEP's applicable Remediation Guidelines for Petroleum Contaminated Sites in Maine (RAGs). Based on this previously documented groundwater contamination, proximity/upgradient locations of the site to the Subject Property and presence of rock drains in the vicinity of the properties, adverse impacts to environmental conditions at the Subject Property associated with the 11 Market Street site are possible; and*
- *The former Em Bee Cleaners property (126 Church Street), located approximately 120 feet southeast of the Subject Property, was identified on MEDEP's Division of Remediation Sites List (REM01891) in connection with former drycleaning operations and subsequent remedial efforts conducted under MEDEP's VRAP. The chlorinated solvent tetrachlorethylene (PCE) was identified in soil vapor at the property at a concentration exceeding MEDEP's Remedial Action Guideline (RAG) for the "Residential" exposure scenario. Based on the previously documented soil vapor contamination, proximity/upgradient location of the site to the Subject Property, and presence of rock drains in the vicinity of the properties, adverse impacts to environmental conditions at the Subject Property associated with the 126 Church Street site are possible.*

Additionally, Ransom identified other non-scope considerations that represented potential business environmental risks but were not considered RECs.

- *The Subject Property is situated in an urban area in the vicinity of historic figures that occurred in downtown Belfast in 1865 and 1873 and the Subject Property Building was formerly heated with a coal-fired heating system. Therefore, potential “urban fill” soils containing elevated concentrations of metals, polycyclic aromatic hydrocarbons (PAHs), and/or other HSPP may be present at the property associated with former, on-site coal-burning equipment and/or historic fires in downtown Belfast; and*
- *Based on the construction date of the Subject Property (1853), ACM, lead-based paint (LBP), polychlorinated biphenyl (PCB)-containing fluorescent light ballasts, mercury-containing fluorescent lamps, and/or other potential universal wastes may be present in/on the building. According to limited information provided by the MEDEP, ACM identified in select materials/substrates was abated in the Subject Property between 2007 and 2013; however, available site contacts could not confirm whether the entire building was evaluated for hazardous materials, or whether additional ACM remains onsite. These hazardous materials, if confirmed, may require abatement, special handling, and/or property management for disposal, prior to and/or during future renovation or demolition activities.*

Based on the above, Ransom recommended completion of a Phase II ESA, registering the reported 6,000-gallon fuel oil tank with the MEDEP Tanks Division and decommissioning in accordance with MEDEP Chapter 691 regulations when it is removed from the Site, and conducting a comprehensive hazardous building materials inventory for the Site.

2.1.2 Hazardous Building Materials Inventory (HBMI) – October 22, 2024 – Ransom

Ransom prepared a HBMI for the Site in October 2024. The HBMI included sampling for ACM, a LBP survey, sampling of caulk for PCBs, and an inventory of “universal” waste. The HBMI activities occurred from March 29 to August 8, 2024, and the findings of that work are summarized through the following conclusions:

1. *ACM was identified at the Site. Materials identified as ACM that may be impacted by the proposed renovations should be properly removed and disposed of by a licensed abatement contractor prior to or concurrent with demolition or renovation activities.*

The report identified the following materials which were positive ACM:

- Ceiling plaster rough coat – identified on ceilings on the first and second floors of the Site building. The extent of the asbestos-containing ceiling plaster is limited to the northern addition of the Site building;
- Vinyl cove base mastics, black and tan – identified in association with vinyl cove base present on walls in the basement and first floor offices;
- Vinyl stair tread, green – identified on the rear staircase from the basement offices to the first floor;
- Vinyl floor tile, brown and associated black mastic – identified under carpet on the first floor at the northern addition of the Site building;

- Vinyl floor tile, brown and associated black mastic – identified carpet and laminate flooring in offices on the first floor of the Site building; and
 - Caulk, gray/green – identified around old basement windows/doors on the Site building.
2. *The painted surfaces sampled contained lead at concentrations which would delineate the materials as “lead-based” according to U.S. Housing and Urban Development (HUD) guidelines. These guidelines apply to federal housing projects and are referenced for comparison purposes only. Facility maintenance staff or redevelopment contractors may perform maintenance, renovation, or demolition on surfaces coated with LBP or lead-containing coatings, provided that the handling of components coated with paint containing lead at any concentration (referred to as lead-containing paint) complies with the Occupational Safety and Health Administration’s (OSHA) lead standards.*

The report indicated lead paint exceeding HUD thresholds on the following surfaces:

- Light blue brick wall – basement wall;
 - Light green wooden window sill/trim/shutter – first floor, north office;
 - Light green metal vault door – first floor;
 - Brown wooden basement door – first floor;
 - Brown wooden window trim – courtroom entrance stairwell;
 - Brown wooden door staining/trim – courtroom entrance;
 - Brown wooden railing trim – courtroom;
 - Rose drywall – courtroom, SE corner room;
 - Brown wooden window trim – courtroom, SW corner room;
 - Brown wooden railing/judge desk – courtroom;
 - Taupe fabric wall – courtroom;
 - Light green plaster wall – third floor breakroom;
 - White plaster wall – third floor jury room;
 - White wooden floor trim – third floor library;
 - Beige floor trim – third floor library;
 - White wooden attic door – attic entrance;
 - Brown wooden stairs – attic stairwell and second story attic;
 - White tin ceiling – district attorney and probation officer offices
 - Bottom, middle, and top part of ceiling trim (beige, white, beige, respectively) – courtroom; and
 - Beige tin ceiling – courtroom.
3. *Ranson collected samples of suspect caulking and paints for analysis of PCBs. Analytical results did not identify PCB concentrations above their respective laboratory reporting limits in the building material samples collected during our HBMI. Therefore, building*

materials in/or the Site building are not subject to U.S. EPA's Toxic Substances Control Act (TSCA) regulations.

- 4. Ransom inventoried universal waste and items at the Site that may contain PCBs, mercury, or heavy metals. Disposal of these items is subject to hazardous and/or universal waste disposal requirements.*

The report also identified the presence of fluorescent light ballasts, fluorescent light tubes, thermostats, and emergency and/or exit lighting systems.

It should be noted that this HBMI did not include sampling of roofing materials, or areas of the Site building, which would have required “destructive” access to concealed or otherwise inaccessible spaces.

2.1.3 Phase II ESA – October 22, 2024 – Ransom

Ransom conducted a Phase II ESA for the Site, as summarized below. This investigation included collection and analysis of soil, groundwater, soil vapor, and indoor air samples from several areas of the Site. Based on the results of the Phase II ESA, Ransom made the following recommendations related to the Site:

- 1. The Phase I ESAs, Phase II ESA, and HBMI completed for the Site should be submitted to the MEDEP Voluntary Response Action Program (VRAP). The MEDEP VRAP is a voluntary program that offers technical review of environmentally impacted sites and ultimately provides state liability protections for interested parties, including a “No Action Assurance” (NAA) letter, “No Further Action Assurance” (NFAA) letter, and/or a “Certificate of Completion” letter (i.e., no further action required), provided that proper and appropriate environmental assessment and cleanup/remedial actions are completed, as approved by the MEDEP. This is a pay-to-participate program with the State of Maine which currently has a participation fee of 1% of the property's assessed value.*
- 2. The risk of human exposure to PAH- and metals-impacted surficial/accessible soils and VOC-impacted groundwater (including pesticide and chlorinated solvent VOCs) should be mitigated in accordance with the guidance and approval of MEDEP's VRAP. Mitigation measures to reduce exposure to impacted soils/groundwater will likely include institutional controls, targeted excavations and/or engineering controls consisting of soil cover systems or other barrier systems (e.g., pavement, concrete, building foundations, landscaping with adequate soil cover) in order to reduce contact and exposure to impacted soils/groundwater if they are disturbed in the future. These remedial actions may be conducted in conjunction with proposed future Site redevelopment.*
- 3. As a condition of VRAP approval, MEDEP will likely require a deed restriction and/or institutional controls in the form of a Declaration of Environmental Covenant (DEC). The DEC will likely have conditions which prohibit extraction of groundwater at the Site without MEDEP's prior notification and approval; restrict/prohibit off-Site disposal of impacted soils at the Site without proper MEDEP notification and approvals; require the preparation and implementation of an Environmental Media Management Plan (EMMP); and (if applicable) require the preparation and implementation of a Post-Closure Cover System Maintenance Plan.*

4. *If applicable, a Site-Specific Conceptual Remedial Action Plan (RAP) should be prepared for MEDEP VRAP review and approval, prior to building renovation activities. If U.S. EPA Brownfields Cleanup funding under a Grant, Subgrant, and/or Loan will be utilized for cleanup of the Site, a Site-specific Analysis of Brownfields Cleanup Alternatives (ABCA) will also need to be completed for review and approval by MEDEPVRAP and U.S. EPA prior to future Site cleanup and redevelopment activities.*
5. *Hazardous building materials identified in the Site building will need to be properly removed, handled, disposed, and/or abated according to the recommendations provided in Ransom's HBMI report, if these materials are disturbed during future Site redevelopment.*

3.0 SITE SUMMARY AND CLEAN-UP GOALS

ACM, lead paint, and universal wastes were identified at the Site through prior HBMI activities (see Section 2.1.2). Additionally, PAHs and metals in shallow/accessible soils were identified during the prior Phase II ESA activities (Section 2.1.3). The proposed redevelopment and renovation requires management of hazardous building materials during renovation activities and the management of impacted soils disturbed during site redevelopment earthwork surrounding the building footprint.

3.1 Site Use and Site Classification

The City of Belfast intends to remediate and renovate the Site for reuse as expanded municipal office space and community use. Redeveloping this Brownfields Site with sustainable development goals will be beneficial for the City of Belfast through the beneficial reuse and repurposing of a currently vacant former commercial property.

3.2 Applicable Cleanup Goals

Due to the commercial reuse as municipal office and community space, the evaluation of cleanup alternatives considers the MEDEP Remedial Action Guidelines (RAGs) for the Commercial Worker exposure scenario for surficial/accessible soils (0-2 feet bgs), and the MEDEP RAGs for the Construction Worker exposure scenario for all Site soils. Public water is supplied to the Site and the vicinity. As such, the MEDEP RAGs for the Construction Worker exposure scenario would be the most applicable guidance standard for groundwater.

Based on the data included in the 2024 Phase II ESA, samples collected from on-Site surficial/accessible soils contained concentrations of arsenic and lead exceeding the MEDEP RAG for the Commercial Worker Scenario, and the PAH benzo(a)pyrene was detected at a concentration exceeding the applicable MEDEP RAG for the Construction Worker scenario. The presence of lead and benzo(a)pyrene could be associated with historical urban fill at the Site, coal ash from former coal-burning equipment that were utilized at the Site and vicinity, and/or other, unidentified/unreported releases. As such, these contaminants of concern are being considered for the entire Site and the entire Site would then need to be considered for MEDEP-approved engineered cover systems, if disturbed.

Hazardous building materials in the form of ACM, LBP, and/or universal waste are additional contaminants of concern for the Site, but do not have applicable cleanup goals that require listing herein beyond the appropriate removal or management of such materials, in accordance with local and State regulations, if disturbed during renovation and/or demolition activities. Abatement activities will be conducted in accordance with state (MEDEP) and federal (EPA and OSHA) guidelines and regulations.

3.3 Risk Evaluation

A comprehensive risk assessment was not performed as part of the previous assessments. However, this section contains a brief overview of the findings for groundwater, soil, and hazardous building materials and a discussion of potential environmental risks based on a comparison to standards.

3.3.1 Groundwater

TRC reviewed public/private water supply wells within a 2,500-foot radius of the Site. Two private domestic wells were identified within the search radius. Well No. 26765 is approximately 300 feet to the north-northwest of the Site and is presumed cross gradient to the Site. Well No. 59669 is located approximately 750 feet to the east-northeast, in a presumed downgradient direction relative to the Site. Due to the distance and direction of these wells, likely risks to these wells from the Site are minimal. In addition, public water is supplied to the Site and vicinity.

The Site is outside of the 1,000-foot buffer for water supply wells and associated mapped source water protection areas.

Since groundwater extraction will not be conducted at the Site and will likely be a prohibited condition under the MEDEP VRAP, groundwater risks are limited, except for potential contact by construction and excavation workers.

3.3.2 Soil

Soil screening was performed as part of the 2024 Phase II ESA. This investigation identified the presence of lead, arsenic, and PAHs (benzo(a)pyrene) in shallow urban fill soils above their corresponding MEDEP's Commercial Worker and/or Construction Worker RAGs.

The presence of these shallow/surficial soil impacts could pose a potential risk to public health (e.g., exposure through direct contact); therefore, risk-reduction measures will need to be implemented during site renovation and redevelopment activities, such as on-Site management of surface soils (if disturbed) and installation of clean soil cover systems to prevent or minimize exposure through direct contact to soils. In addition, a risk-based approach will need to be utilized, including, but not limited to, adherence to the existing soil & groundwater management plan (and deed restrictions, if applicable).

3.3.3 Hazardous Building Materials

As summarized in Section 2.1.2, LBP and ACM were also identified on and in building materials throughout the Site building during previous HBMI investigation activities. ACM was identified in plaster, flooring materials, mastics, and caulking. Lead levels meeting or exceeding the HUD published level identified as potentially dangerous were detected through laboratory analysis of samples collected from exterior surfaces and several interior locations throughout the structure, inclusive of wall paneling, windowsills, and door trims. The presence of these hazardous building materials could pose a potential risk to public health and future occupants in the Site building; therefore, proper abatement will need to occur prior to or during renovation activities during Site redevelopment. Abatement activities may occur prior to renovation activities, which would require installation and maintenance of temporary covers to protect the building from the elements, or concurrently with renovations, which would help to preserve the building envelope integrity.

4.0 DESCRIPTION OF EVALUATION CRITERIA

Each remedial alternative was evaluated with respect to the comparative evaluation criteria, including effectiveness, short- and long-term reliability, difficulty of implementation, cost, potential risks, timeliness, non-pecuniary effects, and resiliency to extreme weather conditions. The preliminary cost estimates presented in this document are based on soil quantities calculated utilizing proposed Site grades and the extent of soil contamination, as well as the extent of contamination from hazardous building materials (HBMs), as identified in previous Site investigations. It was prepared utilizing published data from RS Means, an engineering and construction cost estimating tool, and includes a 25% contingency to allow for the relative comparison of the identified alternatives. Actual cleanup costs and cost estimates from cleanup contractors may vary from these preliminary engineering costs estimates generated at this time and will ultimately be dependent on final remedial action plans, bid specifications, and competitive contractor bids/quotes to be obtained in the future as part of future cleanup and redevelopment planning activities.

4.1 Identification and Initial Screening of Remedial Technologies

The process for identified viable remedial actions focused on technologies that exhibited the potential to eliminate or significantly reduce exposure to the elevated levels of metals in shallow/surficial soil and hazardous building materials at the Site. The remediation technologies to be employed by the alternative were considered using the following:

- Effectiveness
- Reliability
- Ability to Implement
- Feasibility
- Risk Reduction (Toxicity, Mobility, Quantity)
- Preliminary Costs
- Resiliency to Extreme Weather Conditions

No Action

No Action assumes no additional efforts are undertaken to eliminate potential future exposures to surface and subsurface soil contaminant impacts at the Site. In terms of Site soils, this alternative would not remove contamination and would not reduce, mitigate, or eliminate compounds identified in the soil. Therefore, the potential exposure to human health and the environment from metals and PAH contaminated soil would remain at the Site. This alternative would also not abate hazardous building materials in the building and would not reduce, mitigate, or eliminate hazardous compounds identified in the building materials. Therefore, the potential exposure to human health and the environment from asbestos and lead-impacted building materials would remain at the Site.

This alternative is not protective of human health and the environment. This alternative will not achieve a “No Further Action” criteria from the MEDEP, and therefore, would not meet the requirements of VRAP and a Certificate of Completion. However, this alternative will continue to be evaluated as a remedial alternative in this analysis.

Declaration of Environmental Covenant (DEC) / Institutional Controls

Institutional controls establish restrictions on the use of a site that would otherwise result in exposure to the contaminants of concern that remain. This alternative would not be selected alone because it does not fully address existing exposure to contaminated soils at the Site. However, a deed restriction may be used in conjunction with other technologies to achieve a reduction of harm to human health and the environment by limiting the future exposure at the Site. Institutional controls are commonly used to limit the current and future activities and uses. The DEC would prohibit alteration or extraction of groundwater, excavation or disturbance of soil, and access to sub-basement areas without prior notice and approval by MEDEP. Anticipated future use of this Site is as municipal office and community use. Therefore, institutional controls continue to be evaluated as a remedial alternative in this analysis.

Soil Containment

Containment measures are designed to isolate contaminants to prevent direct contact, erosion, and, depending on the chemicals of concern, leaching. The alternative of excavating and disposing of soil off-site can be difficult and expensive, particularly when the volume of impacted soil is large. Capping/encapsulating generally provides a cost-effective and proven method of containment for managing large volumes of impacted soil.

A containment remedy (cap) could consist of a layer of soil which will eliminate or minimize direct contact with the underlying soils and will address contaminants. When containment is selected for a remedial solution, it is implemented in conjunction with an institutional control (deed restriction) that would require cap maintenance and prohibit uncontrolled cap removal or penetration. Containment continues to be evaluated as a remedial alternative in this analysis.

Soil Consolidation and Containment

Consolidation measures are designed to limit the onsite footprint of contaminated soils and minimize the area requiring containment. Consolidation also allows for use of the remainder of the property without restriction.

When consolidation is selected as a remedial solution, it is implemented in conjunction with a containment remedy (cap) and institutional controls. The combination of consolidation and containment continues to be evaluated as a remedial alternative in this analysis.

Soil Excavation / Removal

Physical removal addresses risk-driving compounds in soil by physically removing impacted media from the Site for disposal or recycling at an appropriately licensed off-Site facility.

Excavation and off-site disposal is a proven and commonly used method of site remediation that addresses all contaminants. This alternative often targets small volumes due to the increased costs associated with excavation, transportation, and disposal. In addition, site restoration would be necessary, thereby further increasing costs.

Given the proven performance of excavation as a remedy at similar sites, this technology continues to be evaluated as a remedial alternative in this analysis.

Hazardous Building Material Abatement

Abatement, via removal/disposal and/or encapsulation, of hazardous building materials would eliminate the possibility of exposure for a potential future use of the Site. The alternative to abate the building and renovate the building separately can be expensive due to separate contractor mobilization costs. However, when these remedies are combined, the cost can be significantly reduced.

Abatement and renovation involves hiring experienced contractors to identify and remove or encapsulate hazardous building materials from the project Site. Since an HBMI has already been performed for the Site, the process can likely be expedited.

Remedial Action Alternatives Development and Evaluation

The proposed redevelopment includes the management of impacted soil during earthwork. Certain subsurface utilities and clean corridors may also be installed as part of cleanup activities to minimize the need for excavating or disturbing contaminated soils at the Site. In the event that contaminated soils will be disturbed during earthwork, technologies were identified that have the potential to eliminate direct contact with contaminated soils at the Site. TRC identified the following potentially applicable technologies to achieve these objectives, which are:

- **Reuse of any disturbed Site soils on-Site and cover via a MEDEP-approved engineered cover system, with a DEC** – This alternative uses a combination of limited soil excavation to facilitate utility installations, consolidation and reuse of these soils on-Site, the implementation of engineering controls (i.e., a cap/cover system), and institutional controls (i.e., deed restrictions). This alternative allows a limited area of the Site to be subject to engineering controls and institutional controls.
- **Off-site disposal of disturbed Site soils, cover of remaining soil via a MEDEP-approved engineered cover system, and a DEC** – This alternative uses a combination of limited soil excavation to facilitate utility installations, off-Site disposal of these soils, the implementation of engineering controls on the remaining soil (i.e., a cap/cover system), and institutional controls (i.e., deed restrictions).

The proposed redevelopment includes interior renovations that will impact and disturb identified hazardous building materials. Technologies were identified that have the potential to eliminate direct contact with hazardous building materials at the Site and/or remove hazardous materials to achieve or approach background/reuse conditions to the extent feasible. TRC identified the following potentially applicable technology to achieve these objectives, which is:

- **Abatement and off-Site disposal and/or Encapsulation on-Site** – This alternative includes the abatement of hazardous building materials for disposal off-Site and/or encapsulation of hazardous building materials, which remain on-Site in order to eliminate potential exposure to those materials.

The remedial alternatives identified above were evaluated with respect to the comparative evaluation criteria including effectiveness, short and long-term reliability, difficulty of implementation, cost, potential risks, timeliness, non-pecuniary effects, and resiliency to extreme weather conditions.

As previously noted, the preliminary cost estimates presented in this document are based on soil quantities calculated utilizing proposed site grades and the extent of soil contamination as identified in previous Site investigations. They are also based on the extent of hazardous building materials identified in during previous Site investigations. They were prepared utilizing published data from RS Means, a construction cost estimating tool, and includes a 25% contingency to allow for the relative comparison of the identified alternatives. Actual cleanup costs may vary from these preliminary engineering costs estimates generated at this time and will ultimately be dependent on final remedial action plans, bid specifications, and competitive contractor bids/quotes to be obtained in the future, as part of future cleanup and redevelopment planning activities. Preliminary remedial costs are included in **Appendix A**.

5.0 EVALUATION OF REMEDIATION ALTERNATIVES

Based on the evaluation criteria presented in Section 4.0, potential exposure pathways evaluated during the Phase II ESA and HBMI and summaries presented herein, the remedial action alternatives selected for the Site should accomplish the following objectives.

- Minimize the potential for direct contact or incidental ingestion or inhalation of metals-impacted and benzo(a)pyrene-impacted soils;
- Reduce the potential for construction worker exposure to hazardous building materials; and
- Remove the hazardous building materials from the Site.

To achieve these objectives, a total of three remedial options were considered to address the environmental conditions previously described and are discussed below.

5.1 Considered Remediation Alternatives for Site Soils and HBMs

To address contaminated soils and hazardous building materials identified at the Site, and in consideration of the proposed building renovations, three different cleanup alternatives were considered and are described below:

- Alternative 1: No Action.
- Alternative 2: Targeted Hazardous Building Materials Removal and Soil Cover Systems. This alternative includes:
 - Removal of all identified asbestos-containing materials.
 - Removal of all identified universal waste items to be properly recycled or disposed of.
 - Surfaces coated with lead-based paint would be stabilized via scraping of loose, flaking, and chipping paint, and encapsulated beneath subsequent paint layers and/or new building finishes, such as a new wall or ceiling barrier. Remaining lead-based paint would also be managed under an O&M program during future reuse. The O&M program would require periodic surveillance of encapsulated materials and outline best work practices during future renovation/disturbance.
 - This cleanup alternative also includes maintaining existing and/or constructing new MEDEP-approved engineered soil cover systems over the entirety of exterior areas at the Site to prevent direct human contact with impacted surficial soils during long-term use of the Site by the City of Belfast. Soil cover systems would be constructed to dovetail with Site redevelopment plans (i.e., handicapped-accessible parking areas, building entrance and walking paths, concrete slab foundations for the covered walkway and exterior elevator, hardscape and softscape landscaping, etc.). Certain subsurface utilities and clean corridors may also be installed as part of cleanup activities to minimize the need for excavating or disturbing cover systems during additional future Site redevelopment activities.
 - Institutional controls would be developed to ensure that further construction, remediation, or landscaping at the Site would maintain the engineered cover systems and minimize disturbance of the underlying residual contaminated soil

and groundwater identified at the property. These would likely include Deed restrictions, and an EMMP including a Post-Closure Cover System Maintenance Plan.

- Alternative 3: Full Hazardous Building Materials Abatement & Soil Removal. This alternative involves
 - The proper removal, transport, and offsite disposal of all identified hazardous building materials in the Site building, including asbestos-containing materials, lead-based paint and universal wastes.
 - Excavation and off-site disposal of impacted surficial soils and fill materials identified across the site to a depth of two feet below grade (accessible impacted soils). Additional soil removal would be performed in areas where the proposed redevelopment plan necessitated the need for deeper excavations (i.e., walkway footings, subsurface utilities, etc.), as well as construction of clean corridors to facilitate future installation of subsurface utilities. Soils would be transported to a landfill as “special waste.” All excavation areas would be backfilled with clean fill to proposed redevelopment grades.
 - An EMMP would be prepared to ensure that future construction, remediation, or landscaping at the property minimized the disturbance of subsurface contaminated soils at depths greater than two feet bgs and describes measures to manage contaminated soil and groundwater identified at the Site.

5.1.1 Alternative #1: No Action

A “No Action” alternative indicates that no remedial activities will be conducted at the Site. The “No Action” alternative does not include activities to mitigate, eliminate or reduce exposure to contaminated material; therefore, the potential for human exposure through direct contact, ingestion, and inhalation has not been controlled and therefore continues to exist for potential future Site users, visitors, workers (construction/utility), and or trespassers.

The “No Action” alternative does not involve any remedial activities; therefore, the “No Action” response is not protective of human health and the environment and does not meet the threshold criteria as previously discussed. However, this alternative has been included to demonstrate a comparison between the alternatives.

5.1.2 Alternative #2: Targeted Hazardous Building Materials Removal and Soil Cover Systems

Hazardous building materials debris would be removed from the Site and disposed of off-Site. Abatement of hazardous building materials will reduce exposure risks for any potential future use. The prior HBMI activities revealed the presence of asbestos in several building materials, including plaster, flooring materials, mastics, and caulking. Lead levels meeting or exceeding the HUD published level identified as potentially dangerous were identified in samples collected from several locations throughout the structure.

An environmental contractor that specializes in hazardous building material abatement would be hired to perform the removal work. Due to the physical extent of the contaminated materials,

workers must wear appropriate personal protective equipment (PPE). Other environmental personnel would be present during Site activities to oversee the abatement.

In the case of this alternative, a separate contractor would mobilize to the Site after abatement of hazardous materials had been completed to perform the renovation of the building. The hazardous material debris would be taken off-Site and disposed of before the commencement of the renovation work.

Site soil disturbed during earthwork related to redevelopment (e.g., utility installations, building additions, and/or upgrades to sidewalks and parking areas) would be re-used on-Site and covered-in-place. If necessary, cover in-place and/or excavation of previously identified soil “hotspots” (e.g., where metals impacts were observed above the MEDEP RAGs during the Phase II ESA) followed by relocation of those soils to another area of the Site for grading, compacting, and encapsulation via a paved parking area or other MEDEP-approved soil cover system could also occur under this alternative. On-Site encapsulation would eliminate exposure. Environmental personnel would be present during Site activities to oversee the excavation, movement, and encapsulation of soil.

5.1.3 Alternative #3: Full Hazardous Building Materials Abatement and Soil Removal

This alternative is similar to Alternative #2 regarding abatement of hazardous building materials. Hazardous building materials would be removed from the Site and disposed of off-Site and/or encapsulated in place to reduce the risk of exposure for any future Site uses.

Under this alternative, however, shallow accessible surficial soils across the entire Site would be excavated and shipped off-Site for disposal at an appropriate receiving facility rather than reused on-Site. Additional soil removal would be performed in areas where the proposed redevelopment plan necessitated the need for deeper excavations (i.e., walkway footings, subsurface utilities, etc.), as well as construction of clean corridors to facilitate future installation of subsurface utilities. All excavation areas would be backfilled with clean fill to proposed redevelopment grades. Remaining impacted soil not excavated to facilitate redevelopment would be encapsulated under a MEDEP-approved cap and cover system, similar to Alternative #2. This alternative would eliminate exposure. Environmental personnel would be present during Site activities to oversee the excavation, stockpiling, and off-Site transport of soil. During excavation, excavated soils will be visually examined for the presence of contamination.

Prior to excavation, estimates and calculations will be performed to estimate the quantities of soil leaving the Site. Large portions of the Site may be excavated and disturbed. Soil may be stockpiled pending disposal characterization/facility acceptance or may be directly loaded onto trucks for transportation to the disposal facilities. When characterization of the soil is required, the soil will be stockpiled on polyethylene sheeting and sampled for characterization parameters as required by the selected facilities. A row of hay bales will be placed around the stockpile and the bottom layer of plastic sheeting will be draped over the hay bales to create a berm to contain the soil and storm water run-off. The soil stockpile will be covered with polyethylene sheeting that will be held in place using hay bales, or a similar weighting object.

5.1.4 Effectiveness, Feasibility, and Cost of Alternatives

The effectiveness, feasibility, and cost of each alternative were considered prior to selecting a recommended cleanup alternative, in accordance with the EPA requirements.

5.1.5 Effectiveness

- Alternative #1 (No action): This alternative is not effective in controlling or preventing the exposure of receptors to contamination at the Site, or in the elimination of a potential continuing contaminant source at the Site. This alternative does not provide a reduction in risk.
- Alternative #2 (Targeted HBM Removal and Soil Cover System): This alternative is an effective way to eliminate and/or significantly reduce the potential risk of exposure to future Site employees and visitors by removing all identified asbestos-containing materials and all identified universal wastes. Lead-based painted surfaces disturbed during this process would be abated, encapsulated, and managed in-place, thereby mitigating exposure risks. This alternative is also an effective way to reduce the potential risk of exposure to future site visitors and/or occupants by covering accessible contaminated soils at the Site.

This alternative improves the resilience of the Site to climate change in that it prevents contaminated soils from leaving the site through erosion, runoff, or dust from increased rainfall. Cover systems that dovetail with proposed redevelopment plans can help promote Site redevelopment by providing basic Site infrastructure (i.e., handicapped-accessible parking areas, building entrance and walking paths, concrete slab foundations for the covered walkway and exterior elevator, hardscape and softscape landscaping, etc.).

- Alternative #3 (Full HMB Abatement and Soil Removal): This is an effective way to eliminate the potential risk of exposure to future site visitors and/or occupants by removing all hazardous building materials and impacted surficial/accessible soils from the Site. This alternative improves the resilience of the Site to climate change in that it prevents contaminated soils from leaving the site through erosion, runoff, or dust from increased rainfall.

5.1.6 Feasibility and Ease of Implementation

- Alternative #1 (No action): This alternative would be easy to implement as no remedial actions will be conducted at the Site.
- Alternative #2 (Targeted HBM Removal and Soil Cover System): This remedial alternative is relatively easy to implement. The necessary services and materials to complete the remedial tasks are readily available, including the necessary equipment and contractors. This remedial alternative would utilize standard earthwork, excavation, and transportation techniques for encapsulation impacted soils in-place and/or moving soils to other areas of the redevelopment site for on-Site management and encapsulation via paved parking or other MEDEP-approved soil cover system. This alternative is technically practical, easily implementable at the Site, and does not require the coordination of off-Site soil transport.
- Alternative #3 (Full HBM Abatement and Soil Removal): This remedial alternative would also be relatively easy to implement. This remedial alternative would utilize standard excavation and transportation techniques for impacted soil containerization, off-Site

transport, and disposal. This alternative is technically practical and easily implementable at the Site. The collection and analysis of verification and field screening samples, if necessary, from the remainder of the Site would be easily conducted using standard environmental sampling techniques.

5.1.7 Cost Effectiveness

- Alternative #1 (No action): No cost as no remedial activities will be implemented.
- Alternative #2 (Targeted HBM Removal and Soil Cover System): Cost of Alternative #2 is estimated to be approximately \$1,202,500. Assumptions for preliminary costing purposes include:
 - Asbestos and lead abatement of the Site building (including lead-based paint encapsulation)
 - Site building renovation
 - Temporary structures and closure measures
 - Soil cover systems
 - Engineering, construction oversight, & reporting
 - Mobilization
- Alternative #3 (Full HBM Removal and Soil Removal): Cost of Alternative #3 is estimated to be approximately \$1,630,000. Assumptions for preliminary costing purposes include:
 - Asbestos and lead abatement of Site buildings
 - Site building renovation
 - Temporary structures and closure measures
 - Off-Site disposal of impacted surficial soils and importing excavation backfill
 - Engineering, construction oversight, & reporting
 - Mobilization

5.1.8 Overall Comparison of Comparative Evaluation Criteria

This section presents a relative comparison of the selected remedial alternatives.

Effectiveness – Alternative #3 is the most effective means to mitigate potential issues with the Site building and exposure to soil contamination as all hazardous building materials and shallow/accessible impacted soils will be removed from the Site. Alternatives #1 and #2 do not include the removal and disposal of impacted soil from the Site. However, Alternative #2 may include excavation of soil “hotspots” for on-Site management under an engineered cap/cover system, which is also an effective mitigation measure; however, additional inspections and adherence to an EMMP would be required. Therefore, Alternative #3 is considered slightly more effective than Alternative #2. Alternative #1 is considered the least effective as exposure is not mitigated.

Reliability – Alternatives #2 and #3 are more reliable than Alternative #1 in preventing exposure to future users of the Site because the HBMs are removed and Site soils are either removed or isolated. Alternative #1 is not reliable as no remedial action is implemented. Because of the

relatively simple nature of the excavation work and design and construction of a cap/cover system, there is low potential for failure associated with Alternatives #2 and #3. Alternative #2 requires future inspection and maintenance of the cover systems to ensure long-term reliability, however. Alternative #1 is not reliable as no remedial action is implemented. Therefore, Alternative #3 is considered slightly more reliable than Alternative #2.

Difficulty of Implementation – There is no difficulty associated with Alternative #1, as no actions are taken. There is more difficulty associated with Alternative #2 than Alternative #3, as additional measures are required to cover the soils which remain on-Site. Alternative #3 is relatively easy to implement as off-Site disposal occurs concurrently or immediately following excavation.

Cost-Benefit – There is no cost associated with Alternative #1 as no remedial activities would occur. The cost to implement Alternative #3 is significantly higher than Alternative #2 due to the costs associated with conducting a full HBM abatement and off-Site disposal of impacted soils.

Resiliency to Extreme Weather Events – Alternative #1 is not effective from an extreme weather event resiliency standpoint, as no actions are taken. Alternative #3 provides resiliency to extreme weather conditions by minimizing exposure to the weather/elements during abatement and soil management activities as off-Site soil disposal is quicker than on-Site soil management. For the Site area, such weather conditions include days of extreme precipitation and/or season precipitation above the 33% average (per CMRA).

Potential Risks – The potential short-term and long-term risks associated with each alternative are considered low, with the exception of Alternative #1, which is a No Action Alternative, and therefore no remedial activities are conducted. Potential short-term risks associated with Alternative #3 soil excavation/disposal include possible accidental spills of contaminated soil during soil transport, which could result in short-term exposure to the contaminated soil by surrounding human populations. However, any accidental spill of contaminated soil would be immediately remediated, and therefore, the duration of potential human exposure to the contaminated soil would be extremely short-term. Alternative #2 requires future inspection and maintenance of the cover systems to prevent potential risks. Assuming those inspections and maintenance are completed there is a low potential risk associated with that alternative.

Timeliness – The following estimated time frames are associated with implementation of each alternative:

- Alternative #1: No associated timeframe.
- Alternative #2: Estimated two to three months (dependent on selected contractors and concurrent cleanup and redevelopment schedules).
- Alternative #3: Estimated two to three months (dependent on selected contractors and concurrent cleanup and redevelopment schedules).

Based on the above, Alternative #1 is the timeliest of the alternatives. However, the additional time required for Alternatives #2 and #3 are associated with greater protection of future Site use and protection of Site construction workers.

Conclusion – Alternatives #2 and 3 are nearly equally effective and reliable. Excluding Alternative #1 (which is not recommended because it does not address the risks posed by the hazardous

building materials and soil contamination), Alternative #3 is the least difficult to implement and has low potential risks. However, Alternative #2 also has a relatively low difficulty of implementation, low potential risk, and is much more cost-effective. Therefore, Alternative #2 is the recommended selection.

Green and Sustainable Remediation – The following measures will be implemented where applicable, beneficial or feasible to improve the overall sustainability of the proposed remedial alternative as recommended by the U.S. EPA Region 1 Green and Sustainable Remediation Guidance.

Administrative

- Green remediation principles will be incorporated into the contracting process, as possible.
- Interim and final documents will be submitted in digital rather than hardcopy format, unless otherwise requested by EPA or required by law, to save paper. This is especially applicable to voluminous data reports.
- Optimize the use of electronic and centralized communication and outreach to the local community.

General Site Operations

- Use energy efficient equipment
- Reuse or recycle waste in the visual and access control berms
- Protect and conserve water
- Use alternative fuel vehicles (e.g., hybrid-electric, biodiesel, and/or ultra-low sulfur diesel)
- Carpool for Site visits and project meetings and/or use public transportation
- Schedule activities efficiently to minimize travel to and from the Site

Remediation Operations

- Encourage use of fuel-efficient / alternative fuel vehicles and equipment
- Minimize mobilizations
- Provide for erosion control to minimize runoff into environmentally sensitive areas
- Encourage use of diesel engines that meet the most stringent EPA on-road emissions standards available upon time of project's implementation
- Have idle reduction policy and idle reduction devices installed on machinery
- Use ultra-low sulfur diesel and/or fuel-grade biodiesel as fuel on machinery
- Maximize use of machinery equipped with advanced emission controls
- Maximize efficiency in transport/disposal of soils and backfill, utilizing practices such as backloading.

5.2 Additional Permitting

Final local and State permits, as necessary, will be obtained prior to initiating the selected/proposed cleanup alternatives.

5.3 Recommended Cleanup Alternative

Alternative #2 is the recommended cleanup alternative for the abatement of hazardous building materials in the Site building and for the mitigation of exterior shallow/surficial impacted soils at the Site, as it is the most cost-effective and equally effective and reliable in comparison to Alternative #3.

Alternative #1 is not recommended because it does not address the risks posed by the hazardous building materials or soil contamination.

Alternative #3 is not recommended because it is not cost-effective.

5.3.1 Evaluation and Comparison of Alternatives

Table 1 (on the following page) provides Evaluation and Comparison Summaries of the Remedial Alternatives.

Table 1. Evaluation and Comparison Summary of Alternatives

Remedial Action	<u>Alternative #1:</u> No Action	<u>Alternative #2:</u> Targeted HBM removal and reuse of any disturbed Site soils on-Site and cover via a MEDEP-approved engineered cover system, with a DEC	<u>Alternative #3:</u> Full HBM abatement and off-Site disposal of disturbed Site soils, cover of remaining soil via a MEDEP-approved engineered cover system, and a DEC
Overall protection of Human Health and the Environment	Not protective of human health and the environment. Does not meet threshold criteria.	Provides protection of human health and the environment concerns through mitigating/eliminating the risk of exposure to humans and the environment to the hazardous building materials and impacted soil identified on the Site.	Provides protection of human health and the environment concerns through mitigating/eliminating the risk of exposure to humans and the environment to the hazardous building materials and impacted soil identified on the Site.
Technical Practicality	Not Applicable.	Completing the remedial alternative identified is technically practical.	Completing the remedial alternative identified is technically practical.
Ability to Implement	Not Applicable.	Containment of the in-place contaminated soil is technically feasible and is an effective action for reducing or eliminating the risk of direct contact to contamination. The activities and materials to complete the alternative are readily available. Equipment and contactors are available and have the expertise to complete.	Off-Site disposal of contaminated soil at the Site is technically feasible and is an effective action for reducing or eliminating the risk of direct contact to contamination. The activities and materials to complete the alternative are readily available. Equipment and contactors are available and have the expertise to complete.

Table 1. Evaluation and Comparison Summary of Alternatives

Remedial Action	<u>Alternative #1:</u> No Action	<u>Alternative #2:</u> Targeted HBM removal and reuse of any disturbed Site soils on-Site and cover via a MEDEP-approved engineered cover system, with a DEC	<u>Alternative #3:</u> Full HBM abatement and off-Site disposal of disturbed Site soils, cover of remaining Site soils, cover of remaining soil via a MEDEP-approved engineered cover system, and a DEC
Reduction of Toxicity, Mobility, and Volume	No Reduction.	Alternative achieves a reduction risk of contact.	Alternative achieves a reduction of contamination footprint and eliminates risk of contact.
Short Term Effectiveness	Not Applicable.	Cover placement reduces the risk of contact but limits the future development options for the Site.	Removal eliminates risk of contact and cover reduces risk of contact, but limits future development options for the Site.
Estimated Cost	Not Applicable.	\$1,202,500	\$1,630,000

6.0 CONCLUSIONS AND RECOMMENDATIONS

Hazardous building materials including ACM, LBP, and universal wastes along with shallow/accessible soils impacted with lead, arsenic, and PAHs have been identified at the Site . While the proposed reuse/renovation of the Site is for municipal office space and community use, remedial actions are necessary to mitigate the identified contamination at the Site, in accordance with State of Maine and MEDEP cleanup guidelines.

The three total remedial alternatives evaluated in this ABCA include:

- Alternative 1: No Action.
- Alternative 2: Targeted Hazardous Building Materials Removal and Soil Cover Systems.
- Alternative 3: Full Hazardous Building Materials Abatement & Soil Removal.

Alternative #2 is the recommended cleanup alternative for the abatement of the Site building and the mitigation of shallow/surficial impacted soils at the Site, as it is the most cost-effective and equally effective and reliable in comparison to Alternative #3. Alternative #2 is also considered to be an equally practical alternative to mitigate the risk posed by the contamination considering the proposed renovation scenario from a feasibility and ease of implementation standpoint.

7.0 CONCEPTUAL REMEDIAL ACTION PLAN

Potential remedial action alternatives were outlined, evaluated, compared to one another for feasibility, cost, and implementation ability in this ABCA/RAP. The selected remedial actions have been outlined herein. The purpose of the selected remedial actions is to address the identified environmental concerns identified in the prior assessment activities, as outlined above. Media addressed by these actions includes shallow soils and hazardous building materials.

1. Shallow Soils – The prior Phase II ESA investigations identified PAHs and metals in shallow/accessible soils on-Site. The identified contaminant concentrations in soils exceeded their corresponding applicable MEDEP RAGs. Existing soils and/or cover systems (asphalt-paved parking areas and/or landscaped areas), which are disturbed during Site redevelopment, will either be covered in-place with a MEDEP-approved soil cover system and/or removed and consolidated to another portion of the Site property to be regraded and then covered by an asphalt parking lot and/or other MEDEP-approved soil cover system. Proper erosion and sedimentation controls and soil stockpile management (Best Management Practices) will be implemented during earthwork, as applicable. A Deed Restriction will be put in place prohibiting the disturbance of the encapsulated soil. Periodic inspections of the cover systems will be a requirement of this remedial action to ensure that a good cover remains in place over the impacted soils to reduce potential for exposure.
2. Hazardous Building Materials Abatement – TRC will assist the City with obtaining quotes for the abatement of hazardous building materials (e.g., ACM, LBP, etc.) identified at the Site during previous assessment activities. TRC will also assist the City in the selection of reputable and qualified abatement contractors. The abatement of hazardous building materials is expected to occur concurrently with the renovation and redevelopment of the Site building, and will be conducted in accordance with state (MEDEP) and federal (EPA and OSHA) guidelines and regulations.
3. EMMP – A Site-specific EMMP will be prepared and adhered to, which will guide 1) the management of impacted soils (if disturbed during Site redevelopment), 2) the management of groundwater (if encountered) during disturbance of the Site subsurface, and 3) the on- and off-Site management of hazardous building materials. The EMMP additionally outlines notifications of Site owner and MEDEP personnel in the instance that media are disturbed, as well as appropriate personal protective equipment to be considered during the redevelopment activities.
4. Deed Restriction and Declaration of Environmental Covenant – Once the remedial actions are completed, a DEC will serve as a deed restriction for the Site, which will notify future owners/occupants of the existence and location of the installed MEDEP-approved engineered cover systems (e.g., parking lot and concrete sidewalk, landscape areas), prohibition of digging into subsurface soils or extraction of groundwater on Site, adherence to the EMMP, and a long-term monitoring schedule for the soil cover systems and LBP encapsulant systems, as applicable. The EMMP will be updated to include as-builts and/or other relevant Site information, as requested by the MEDEP.

8.0 CLOSING

8.1 Schedule

Upon issuance and acceptance by MEDEP of this draft ABCA and Conceptual RAP, a conditional NAA letter will be issued from VRAP for the Site. The owner plans to begin remedial actions in Spring of 2026, once the cleanup contractors have been procured over the Winter 2025/2026. The remedial actions outlined herein are anticipated to be the first activities to occur for this redevelopment, with an anticipated completion of initial cleanup activities in 2026/2027. The remainder of the redevelopment activities will likely continue through 2027/2028.

8.2 Completion and Closure

Following issuance of a final NAA letter and once the proposed remedial actions are completed to the satisfaction of the VRAP, the MEDEP VRAP will issue a Closure Report and a Certificate of Completion for the Site. The owner (and their members and/or assigns) will thereby be granted liability protections provided by 38 M.R.S. §343-E.1. for the Site and the MEDEP will take no action against the City (or its members and/or assigns), as identified in 38 M.R.S. §343-E.6.

9.0 LIMITATIONS

TRC's study was performed in accordance with generally accepted practices of other consultants undertaking similar studies at the same time and in the same geographical area, and TRC observed that degree of care and skill generally exercised by other consultants under similar circumstances and conditions. TRC's findings and conclusions must be considered not as scientific certainties, but rather as our professional opinion concerning the significance of the limited data gathered during the course of the study. No other warranty, express or implied is made. Specifically, TRC does not and cannot represent that the subject property contains no hazardous material, oil, or other latent condition beyond that observed by TRC during its study. Additionally, TRC makes no warranty that any response action or recommended action will achieve all of its objectives or that the findings of this study will be upheld by a MEDEP audit.

The observations described in this report were made under the conditions stated therein. The conclusions presented in the report were based solely upon the services described therein, and not on scientific tasks or procedures beyond the scope of described services or the time and budgetary constraints imposed by Client. The work described in this report was carried out in accordance with the Terms and Conditions referenced in our contract with the Client.

In preparing this report, TRC has relied on certain information obtained from previous reports, and on information contained in the files of state and/or local agencies available to TRC at the time of the study. Although there may have been some degree of overlap in the information provided by these various sources, TRC did not attempt to independently verify the accuracy or completeness of all information reviewed or received during the course of this evaluation.

No specific attempt was made to check on the compliance of present or past owners or operators of the Site with federal, state, or local laws and regulations, environmental or otherwise. The conclusions and recommendations contained in this report are based in part upon the data obtained from a limited number of soil samples and groundwater samples obtained from widely spread subsurface explorations. The nature and extent of variations between these explorations may not become evident until further exploration. If variations or other latent conditions then appear evident, it will be necessary to reevaluate the conclusions and recommendations of this report.

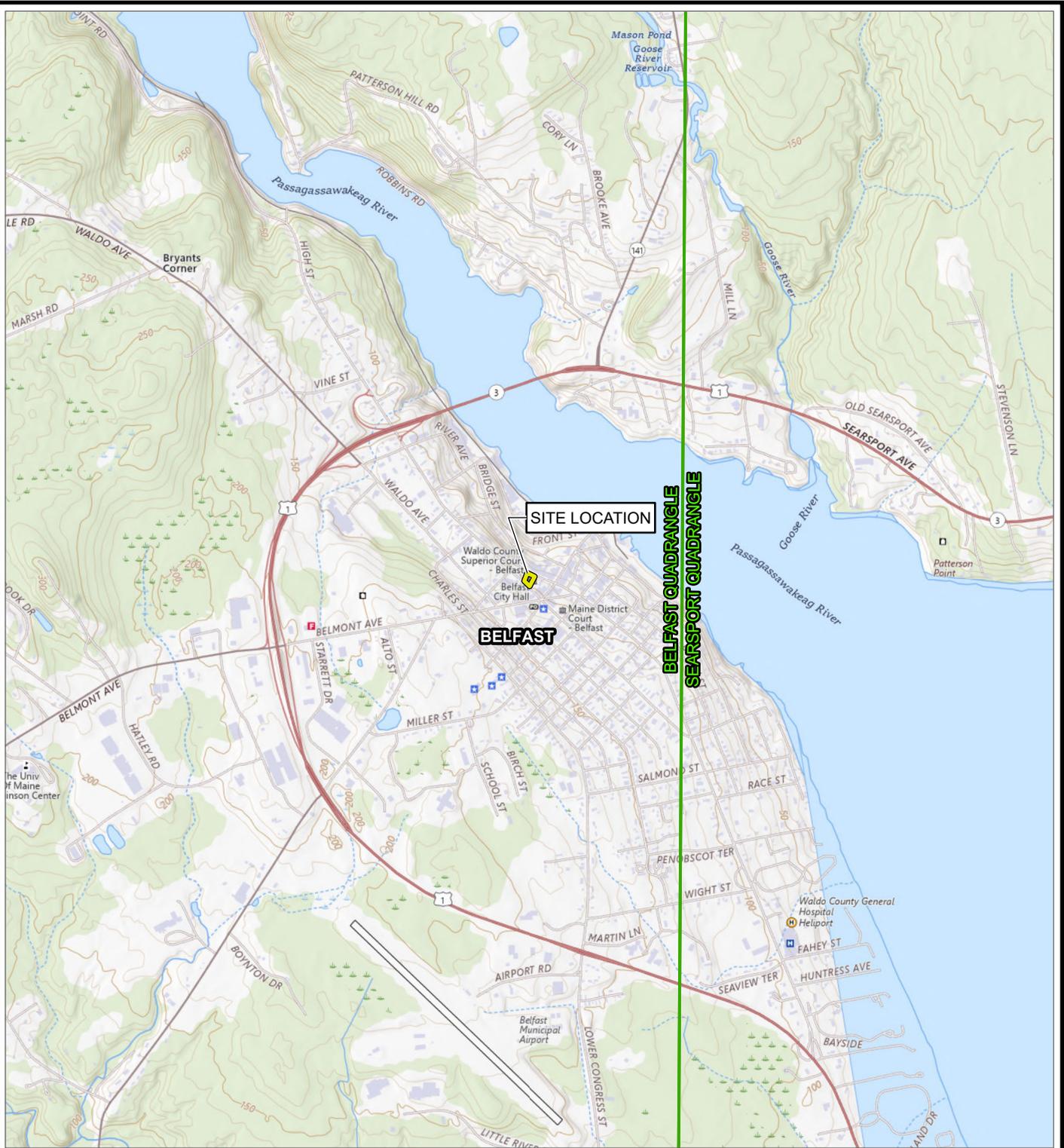
TRC has relied upon the quantitative laboratory analyses data provided by various laboratories and has not conducted an independent evaluation of the reliability of these data.

The conclusions and recommendations contained in this report are based in part upon various types of chemical data and are contingent upon their validity. These data have been reviewed and interpretations made in the report. Moreover, it should be noted that variations in the types and concentrations of contaminants and variations in their migration pathways may occur due to seasonal water table fluctuations, past disposal practices, the passage of time, and other factors. Should additional chemical data become available in the future, these data should be reviewed by TRC and the conclusions and recommendations presented herein modified accordingly.

Historic chemical analyses have been performed for specific parameters as described in the text. However, it should be noted that additional chemical constituents not searched for during the referenced studies might be present at the subject property. Nothing herein limits, changes or modifies TRC's contract with the Client.

FIGURES

COORDINATE SYSTEM: NAD 1983 STATEPLANE MAINE EAST FIPS 1801 FEET, MAP ROTATION: 0
 - SAVED BY: RBARBER ON 9/10/2025, 06:58:39 AM; FILE PATH: T:\1-PROJECTS\CITY OF BELFAST, ME\518531 - BELFASTCOURTHOUSE2-APPRX\BELFASTCOURTHOUSE.APRX; LAYOUT NAME: COURTNEYCLEANERS FIG1 SITE LOCATION MAP



LEGEND

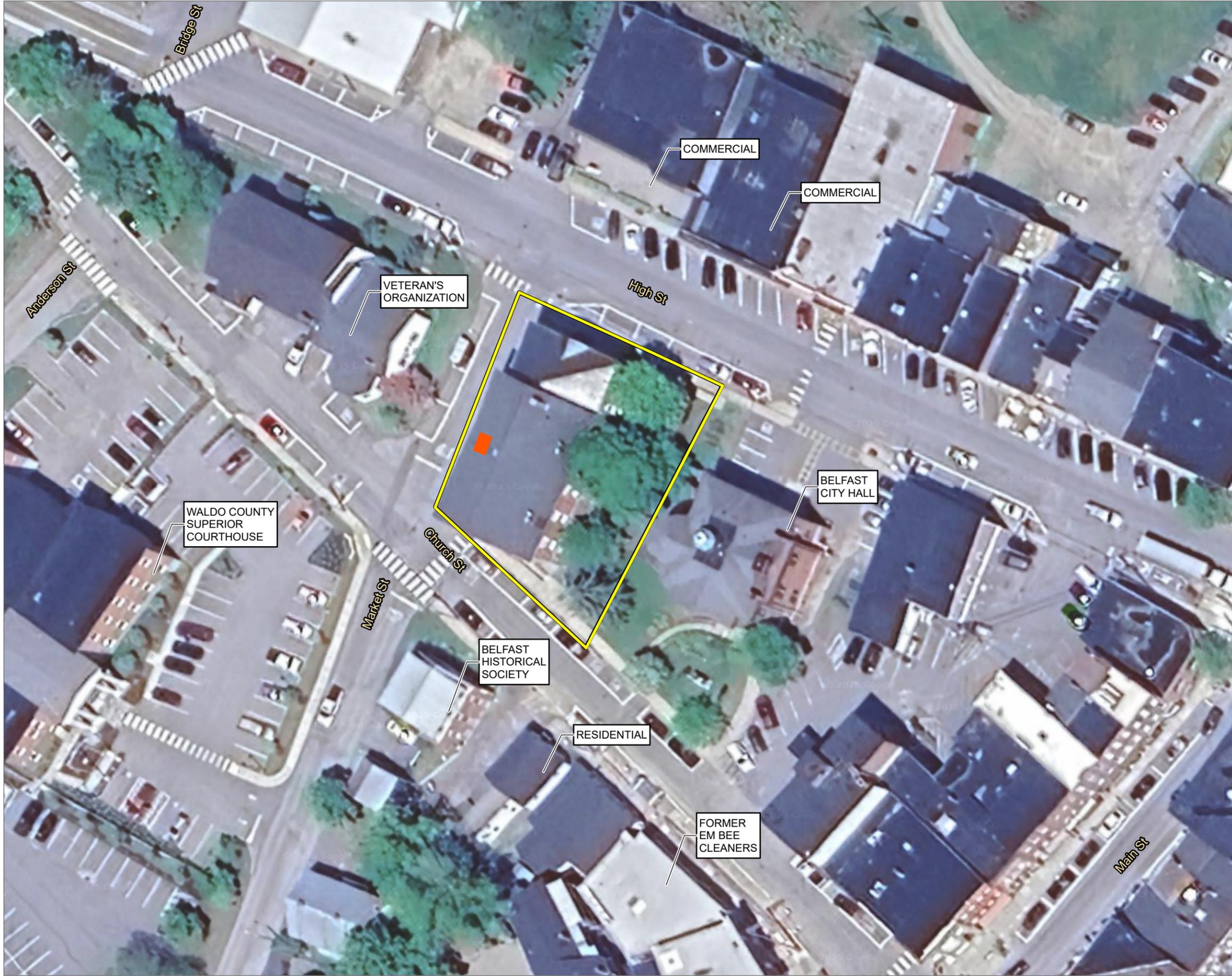
- SITE BOUNDARY
- USGS 7.5 MINUTE QUADRANGLE MAP BOUNDARY

BASE MAP: USGS NATIONAL MAP
 DATA SOURCES: ESRI, USGS, TRC, MEGIS

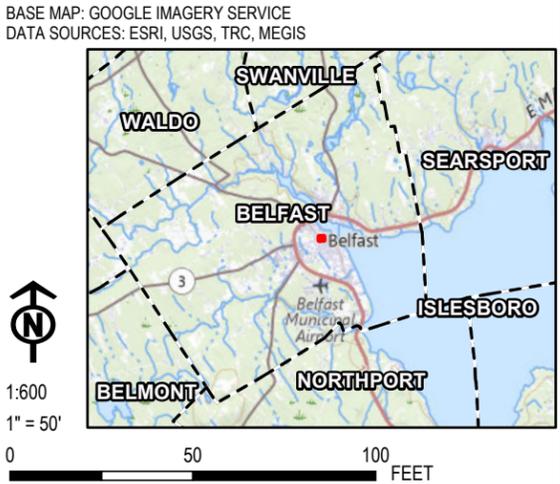
0 1,000 2,000
 FEET
 1:24,000 1" = 2,000'

PROJECT: BELFAST COURTHOUSE 137 CHURCH STREET BELFAST, MAINE	
TITLE: SITE LOCATION MAP	
DRAWN BY: R. BARBER	PROJ. NO.: 518531.0000.0000
CHECKED BY: J. FREDENBURG	FIGURE 1
APPROVED BY: G. MCKENNEY	
DATE: SEPTEMBER 2025	
63 MARGINAL WAY 4TH FLOOR PORTLAND, ME 04101 PHONE: 207.879.1930	
FILE:	BELFASTCOURTHOUSE

Coordinate System: NAD 1983 StatePlane Maine East FIPS 1801 Feet, Map Rotation: 0
 Drawn By: R BARBER on 9/10/2025, 06:56:39 AM, File Path: T:\PROJECTS\CITY OF BELFAST, ME\518531 BELFAST COURTHOUSE.aprx, Layout Name: Courtney Cleaners Fig2 Site Layout Plan



- APPROXIMATE LOCATION OF 6,000-GALLON FUEL OIL STORAGE TANK (IN BASEMENT)
- SITE BOUNDARY



PROJECT:		BELFAST COURTHOUSE 137 CHURCH STREET BELFAST, MAINE	
TITLE: SITE LAYOUT PLAN			
DRAWN BY:	R. BARBER	PROJ. NO.:	518531.0000.0000
CHECKED BY:	J. FREDENBURG	FIGURE 2	
APPROVED BY:	G. MCKENNEY		
DATE:	SEPTEMBER 2025		
		63 MARGINAL WAY 4TH FLOOR PORTLAND, ME 04101 PHONE: 207.879.1930	
FILE:	BelfastCourthouse.aprx		

Appendix A: Remedial Alternatives Costing

Table 1: Summary of Estimated Remediation Costs
Targeted Hazardous Building Materials Abatement and Soil Cover Systems Alternative
Former Waldo County Superior Court House
137 Church Street, Belfast, Maine

Targeted Hazardous Building Materials Abatement & Soil Cover Systems Alternative	Number	Units	Unit Cost	Total
Asbestos Abatement	1	LS	\$437,500	\$437,500
Removal & Replacement of Lead-Impacted Windows	40	Ea	\$9,413	\$376,500
Lead-Based Paint Encapsulation	1	LS	\$62,500	\$62,500
Off-Site Disposal of Impacted Surficial Soils	400	CY	\$200	\$80,000
Soil Cover Systems	400	CY	\$350	\$140,000
Fuel Oil Tank Removal	1	LS	\$31,250	\$31,250
Remediation Engineering Design/Oversight/Closure Report				
VRAP Application	1	LS	\$15,000	\$15,000
Cooperative Agreement	1	LS	\$7,250	\$7,250
Community Relations Plan & Public Meetings	1	LS	\$7,500	\$7,500
Design, Bidding Documents & Cleanup Planning	1	LS	\$15,000	\$15,000
Cleanup Oversight	1	LS	\$20,000	\$20,000
Closure Reporting & Grant Closesout	1	LS	\$10,000	\$10,000
TOTAL				\$1,202,500

Assumptions and Footnotes:

1 - Engineering cost estimates based on recent comparable projects in Maine.

Table 2: Summary of Estimated Remediation Costs
Full Hazardous Building Materials Abatement and Soil Removal Alternative
Former Waldo County Superior Court House
137 Church Street, Belfast, Maine

Full Hazardous Building Materials Abatement & Soil Removal Alternative	Number	Units	Unit Cost	Total
Asbestos Abatement	1	LS	\$437,500	\$437,500
Removal & Replacement of Lead-Impacted Windows	40	Ea	\$9,413	\$376,500
Lead-Based Paint Removal	1	LS	\$250,000	\$250,000
Off-Site Disposal of Impacted Surficial Soils	1,200	CY	\$200	\$240,000
Excavation Backfill (Installed & Compacted)	1,200	CY	\$150	\$180,000
Fuel Oil Tank Removal	1	LS	\$31,250	\$31,250
Remediation Engineering Design/Oversight/Closure Report				
VRAP Application	1	LS	\$15,000	\$15,000
Cooperative Agreement Oversight	1	LS	\$7,250	\$7,250
Community Relations Plan & Public Meetings	1	LS	\$7,500	\$7,500
Design, Bidding Documents & Cleanup Planning	1	LS	\$35,000	\$35,000
Cleanup Oversight	1	LS	\$40,000	\$40,000
Closure Reporting & Grant Closesout	1	LS	\$10,000	\$10,000
TOTAL				\$1,630,000

Assumptions and Footnotes:

1 - Engineering cost estimates based on recent comparable projects in Maine.