



CREDERE ASSOCIATES, LLC

776 Main Street
Westbrook, Maine 04092
Phone: 207-828-1272
Fax: 207-887-1051

October 29, 2021

Mr. Andrew Port
Director of Planning & Development
City of Newburyport
60 Pleasant Street
Newburyport, Massachusetts 01950

**Subject: Phase II Environmental Site Assessment, Rev 1
Brown School - 42 Milk Street
Newburyport, Massachusetts 01950**

Dear Mr. Port:

This report has been prepared to present the results of a Phase II Environmental Site Assessment completed for the above referenced property (the Site). Sections 6 and 7 of the report include the conclusions and recommendations generated during the performance of this Phase II Environmental Site Assessment.

Please do not hesitate to contact me at (207) 828-1272 extension 30 if you have any questions, comments, or require additional information regarding this investigation.

Sincerely,

CREDERE ASSOCIATES, LLC

Richard Vandenberg, PG, LG
Senior Hydrogeologist/Project Manager



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Phase II Environmental Site Assessment, Rev 1

**Brown School
42 Milk Street
Newburyport, Massachusetts**

Prepared for:
**City of Newburyport
60 Pleasant Street
Newburyport, Massachusetts 01950**

October 29, 2021



Project Tracking Number:
21001628

EXECUTIVE SUMMARY

Credere Associates, LLC (Credere) was retained by the City of Newburyport, Massachusetts to conduct a Phase II Environmental Site Assessment (ESA) at the Brown School building located at 42 Milk Street in the City of Newburyport, Massachusetts (Site) to assess four previously identified environmental conditions and one other potential condition requested by the City. This work was completed in general conformance with the ASTM International (ASTM) E 1903-19 *Standard Practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process*.

The 1.21-acre Site is situated within the residentially zoned area of the City. The land consists of two separate lots (Lot 26 and Lot 3). Lot 26 is improved with one approximate 37,000-square foot Site building, known as the Brown Elementary School, a paved parking area, paved recess area, and a play area. Lot 3 is improved with a paved basketball court and is part of the recess area. The Site is accessed from Milk Street to the north, Lime Street to the west, and Prospect Street to the south.

The above referenced four environmental conditions identified as part of the February 5, 2021, Phase I ESA are paraphrased below:

- Recognized Environmental Condition (REC) #2: Long history of storage of petroleum in underground storage tanks (USTs) and threat of release associated with the in-place tank,
- Environmental Finding (EF) #1: Presence of asbestos-containing materials (ACM) in/on the Site building,
- EF #2: Suspected presence of lead paint in/on the Site building, and
- EF #3: Suspected presence of polychlorinated biphenyl (PCB)-containing building materials in/on the Site building.

The following condition was also requested by the City to be included in the scope of work and assessed:

- Potential presence of mold

In August & September 2021, Credere completed the Phase II ESA scope of work with a focus on meeting the above-described objectives. Environmental sampling consisted of the collection of four soil samples and three groundwater samples from boring drilled adjacent to the existing out-of-service UST, 111 suspect asbestos-containing samples, 14 suspect PCB-containing building materials, lead paint survey, 21 air samples, and 6 tape lift samples.

Credere's conclusions considering the results of the Phase II ESA work include the following:

- Data collected indicates that the UST has not released petroleum to the soil and groundwater in proximity of the tank. In fact, neither collected soil or groundwater samples contained any concentrations of petroleum constituents above laboratory method detection



limits or applicable Massachusetts reportable concentrations outlined in 310 Code of Massachusetts Regulations (CMR) 40.0000. As such, it is Credere's opinion that there is low risk that any significant petroleum impacted media (soil or groundwater) is present onsite around the tank.

- ACM has been identified in numerous building materials that will require proper abatement in accordance 310 CMR 7.15 if these materials are planned to be impacted during future demolition or renovation activities. ACMs are listed in **Section 4.4** and include those identified during this assessment and those identified during previous Asbestos Hazard Emergency Response Act (AHERA) inspections. Based on the types of ACMs and asbestos containing waste material (ACWM) encountered and their locations, it is Credere's opinion that there is a strong likelihood that hidden ACM is also present within the building's walls on older pipe runs and fixtures that could not be assessed or quantified during this work without excessive destructive measures. Some of the ACM identified during this assessment, was identified to be damaged. Damaged ACM was identified in the boiler room on some of the fixtures there including pipe and joint insulation. As these materials are not accessible to the public, they are unlikely to pose an immediate danger to tenants within the building but should be repaired or abated when possible.
- Lead in paint is present on numerous surfaces throughout the Site building in the form of lead-containing paint (LCP) and lead-based paint (LBP). LBP was identified on numerous older finishes that appeared to be original to the Site building. Some of the identified LBP was noted to be deteriorated.
- PCBs are present in six (3 paint and 3 caulk samples) of the 14 materials sampled, that in Credere's opinion have an increased likelihood of containing these compounds, at concentrations greater than 1 mg/kg but less than 50 mg/kg. PCBs are present below 1 mg/kg in 4 other caulks sampled during this work. One sample (light yellow paint in the maintenance office – Room J-3) of the materials sampled is considered PCB bulk product waste in accordance with 40 Code of Federal Regulations (CFR) 761.3 because it contains PCB concentrations greater than 50 mg/kg. The federal Toxic Substance Control Act (TSCA) program considers materials meeting this classification to be excluded from use and requires proper management and disposal. The yellow paint covers an underlying brick structure in the maintenance office. PCBs are known to impact porous materials like brick. The brick was not sampled as a part of this assessment. Next steps will involve sampling the brick to determine if it has been impacted by the PCB-containing yellow paint. Further, while no other similar light-yellow painted surfaces were identified during this assessment, it is possible that this paint was used elsewhere in the building and is hidden behind sheetrock walls or other finishes, in more recently renovated areas.
- Aspergillus/Penicillium mold spores are present at five interior building locations at concentrations exceeding Site-specific calculated reference standards in accordance with International Institute for Building-Biology & Ecology, Inc., Healthy Home Standard, Conventional Construction guidance. The exceedances are coincident with areas of the building where water use/water related issues were observed by Credere staff. Additionally, during roof sampling work (for asbestos) the roofers retained indicated the



sheathing under roof was observed to be wet indicating a problem with parts of the roof system.

Based on the conclusions of this investigation, Credere makes the following recommendations:

- Abatement of ACM and ACWM, identified from this work and previous AHERA work, is only required in areas that will be impacted during future building renovation or demolition. Relative to undamaged ACM/ACWM, it is Credere's opinion, based on our understanding of the materials present and their current condition and the current use scenario of the building, that there is a low risk of exposure to these materials to the building occupants and transient users. We do recommend inventorying the ACM that were observed to be damaged (primarily in the boiler room) and repairing it. Review of prior work indicates that some ACM pipe wrap has been repaired in the past via application of 'dip lag' which is a re-wettable canvas wrapping material used to repair insulation on heat components. Any and all repairs or abatement should be completed in accordance with Massachusetts Department of Labor Standards 453 CMR 6.00: The Removal, Containment, or Encapsulation of Asbestos and Massachusetts DEP 310 CMR 7.15: Asbestos. If during renovations uncover any untested or hidden suspect materials, they should also be sampled and analyzed for asbestos or presumed positive and abated.
- For the identified deteriorated LBP observed during this work, Credere recommends that the loose and flaking painted finishes be scraped by an appropriately trained contractor and stabilized with a liquid stabilizing encapsulant. This will serve to reduce any lead dust in building and better protect current occupants of the building.

All painted surfaces should be considered to be LCP or LBP. Contractors performing future renovations or demolition involving these surfaces should employ proper health and safety practices and do proper worker notifications to prevent exposure to lead in paint. Proper measures should be taken by employers to protect worker health according to the US Occupational Safety and Health Administration (OSHA) lead in construction standards in 29 CFR 1926.62.

As an interim measure prior to addressing the deteriorated LBP or encapsulating the stable LCP/LBP, routine wet wipe cleaning of horizontal work surfaces in occupied portions of the building will reduce any lead dust that might accumulate in these areas. Painted finishes that are in deteriorated condition should not be impacted/wet wiped until appropriately scraped/stabilized by a lead contractor.

- PCB-containing light-yellow paint identified containing greater than 50 mg/kg PCBs in the maintenance room is required to be removed and disposed at a facility disposal at a facility that is licensed to accept this waste. Additional testing of the brick substrate is also required to assess if the brick has been impacted with PCBs. This work must be managed under specific requirements of the TSCA program in accordance with 40 CFR Part 761. If during renovations any untested or hidden suspect materials are encountered, they should also be sampled and analyzed for PCBs or presumed positive to allow for proper handling. Prior to addressing this paint, it is our opinion that the relative risk of exposure to most building



occupants or transient users is low as this paint is present in a low occupancy area of the building (i.e., Maintenance office). For the maintenance staff that use the office, Credere recommends relocating the office to another room in the building, posting a notice at the room entrances, and restricting access to the room.

- Comingled PCBs less than 50 mg/kg and LCP/LBP can be addressed in a similar to LCP/LBP. Any loose and flaking painted finished can be scrapped by an appropriately trained contractor and stabilized with a liquid stabilizing encapsulant. Any whole component removal will need to be disposed at a facility licensed to accept this waste material. Identified PCB caulk under 50 mg/kg can remain in service; however, once removed it will need to be disposed at a facility licensed to accept this waste material. The wet wipe cleaning of horizontal surfaces recommended above will reduce any PCB-containing dust that accumulates; thereby, reducing the risk of exposure.
- To address the identified mold, below general recommendations that should be undertaken in accordance with Massachusetts Department of Health and Industrial Hygiene Guidelines. Recommendations may be altered/eliminated based on changing Site conditions and should be adjusted to properly match the most appropriate mitigation procedure.
 - Eliminate the water intrusion issues to prevent future moisture infiltration (i.e., fix water leaks and address the noted water intrusion problem identified with the roof)
 - Retain a mold remediation company to remediate mold growth in the boiler room, gym/cafeteria, kitchen, and boy's and girl's locker rooms consistent with the general procedures listed below:
 - Repair/replace moisture-impacted contents and building materials
 - Properly dry wood crossbeams and wood supports, then wipe with a fungicide cleaning agent
 - Use wet cleaning methods to capture all mold-impacted dust
 - Perform confirmatory air sampling to document the efficacy of mold removal practices

Mold is difficult to give guidance on from an exposure perspective as it relates to continued use of the building or portions of the building that have been documented to exceed the calculated reference standard because sensitivities vary significantly amongst those that encounter it. Interim measures before stopping the water intrusion should include posting a visible notice at the doorways to affected rooms for building occupants/users along with dehumidification of rooms where mold in air exceeds its calculated reference standard.

Credere developed budgetary estimates by hazard type to manage/mitigate the identified environmental conditions. For asbestos and LCP/LBP, the first bullets below are items that could be implemented to stabilize the hazard and keep the building in use. For PCBs, light-yellow paint identified in maintenance office (Room J-3) cannot remain in service and must be remediated. Addressing water leaks and mold identified in the building is considered necessary to continue use of the building. Budgetary estimates are as follows:



Asbestos

- Repair of damaged ACM, to make it safe, is estimated at \$5,500.
- Proper abatement of all identified ACM/ACWM is estimated to cost between \$125,000 and \$150,000

LCP/LBP

- Stabilizing interior deteriorated LBP is estimated to cost \$38,600 to \$45,000. This assumes 2 weeks of labor. Depending on the number of actual locations that require scraping and encapsulation, the actual cost may be lower than presented above.
- Future encapsulation of LBP/LCP on all painted finishes is estimated to cost between \$136,000 to \$150,000. This does not account for the stabilization work above. If the LBP is stabilized first then this budgetary estimate would be lower.

PCBs

- Remediation of the light-yellow paint in the maintenance office (Room J-3) PCBs is estimated to cost between \$15,000 to \$20,000. Required additional assessment of the brick substrate is estimated to cost \$3,500 and development of necessary TSCA documents prior to remediation is estimated at \$6,000.

