Analysis of Brownfields Cleanup Alternatives

Hartford McClung House 12 South Maple Street Hartford, Arkansas 72938



March 14, 2025

PRESENTED TO

Arkansas Department of Energy and Environment, Division of Environmental Quality 5301 Northshore Drive North Little Rock, Arkansas 72118 (501) 682 0771

(Im

Allie Cook Project Manager/Environmental Scientist

PRESENTED BY

Tetra Tech, Inc. 400 W Capitol, Suite 1700 Little Rock, AR 72201 (870) 656-1816

mike Williams

Mike Williams Program Manager/Principal Hydrogeologist

TABLE OF CONTENTS

1.0	INTRODUCTION1			
2.0	BACK	GROUND	AND DESCRIPTION	. 2
3.0	PREVIC	OUS INVE	STIGATIONS	3
4.0	PLANS	FOR FUT	URE USE	. 4
5.0	POTEN	ITIAL CLE	ANUP ALTERNATIVES	. 5
	5.1	EVALUA	ED CONTAMINATION	. 6
	5.2	EVALUA	TION OF CLEANUP ALTERNATIVES FOR ACM	. 6
		5.2.1 5.2.2 5.2.3	Alternative 1: No Action (Baseline) Alternative 2: Removal of all Debris as ACM Alternative 3: Segregation and Sampling of the Debris to Identify ACM	. 6 . 7 . 8
	5.3	RECOM	IENDED CLEANUP ALTERNATIVES	. 9
		5.3.1 5.3.2 5.3.3	Summary of ABCA Alternatives Recommended ABCA Alternative Total Cleanup Cost	10 10 10
6.0	REFER	ENCES		12

TABLES

TABLE 1	ACM ALTERNATIVE 2 – TOTAL COSTS	8
TABLE 2	ACM ALTERNATIVE 3 – TOTAL COSTS	9
TABLE 3	SUMMARY OF ABCA ALTERNATIVES1	0
TABLE 4	SUMMARY OF COSTS FOR RECOMMENDED ALTERNATIVE	1

APPENDICES

APPENDIX A: FIGURES

1.0 INTRODUCTION

The Arkansas Department of Energy and Environment, Division of Environmental Quality (ADEE-DEQ) tasked Tetra Tech, Inc. (Tetra Tech) to provide technical support to the ADEE-DEQ Brownfields Program under Contract 4600054308, AFIN: 66-01991. ADEE-DEQ requested that Tetra Tech conduct an Analysis of Brownfields Cleanup Alternatives (ABCA) of the Hartford McClung House (the Site) at 12 South Maple Street, Hartford, Sebastian County, Arkansas (<u>Appendix A</u>, <u>Figure 1</u>).

The Site previously hosted a residence that burned down in late 2023. The Site is within a mixed-use residential area, with residential properties adjacent to the north, east, and south, and a public school to the west. The Site appears on the Hartford, Arkansas U.S. Geological Survey (USGS) 7.5-minute topographic series map (USGS 1987) (Appendix A, Figure 1). Coordinates at the approximate center of the Site are 35.022528 degrees north latitude and 94.386513 degrees west longitude. The Site encompasses approximately 1.06 acres on one parcel of land. Figure 2 in Appendix A illustrates the Site boundaries.

Tetra Tech performed this ABCA based on the U.S. Environmental Protection Agency's (EPA) approval to clean up the Site, including collection and disposal of debris containing asbestos-containing material (ACM). All remaining debris from the late 2023 fire at the Site must be removed before the Site can be used and renovated.

The City of Hartford owns the Site and intends to use it as a park with a paved walking trail. This ABCA considered state and federal regulations regarding ACM. The federal Asbestos Hazard Emergency Response Act (AHERA) defines ACM as any material or product that contains more than 1 percent asbestos. Arkansas Pollution Control and Ecology Commission (APC&EC) regulations outline ACM inspection, reporting, and disposal requirements for demolition or renovation of buildings (APC&EC 2015).

2.0 BACKGROUND AND DESCRIPTION

The City of Hartford currently owns the Site, which is within a mixed-use residential area and bounded north by West Main Street, with residential properties beyond; east by residential properties, with Cherry Street beyond; south by Ludlow Street, with a residential property and undeveloped land beyond; and west by South Maple Street, with the Hartford High School beyond. The Site includes one approximately 2,000square-foot, burned down former house (fire occurred in late 2023) with debris confined to the previous cement foundation.

The Site lies within the city limits of Hartford, Arkansas. This discussion of the Site history derives from the Site's Arkansas Brownfields Program Application completed on November 20, 2024 (City of Hartford 2024). According to the Sebastian County Real Estate Property search, the year the house was built is not known; however, the first sale was reported in January 1960 (Sebastian County 2025). Reportedly, a local gospel singer-songwriter previously owned the Site. In March 2021, the City of Hartford purchased the Site (Sebastian County 2025).

3.0 PREVIOUS INVESTIGATIONS

No previous investigations are known to have occurred at the Site.

TETRA TECH

4.0 PLANS FOR FUTURE USE

The City of Hartford currently owns the Site, which is within a mixed-use residential area, with residential properties adjacent to the north, east, and south, and with a public school to the west. The Site includes a pile of burned down debris from the former house on the Site confined within the former house's paved foundation.

Given that ACM waste remains on the Site, confined to the paved foundation there, remediation appears warranted. ACM waste should be appropriately addressed prior to the City's plan to use the property as a park with a paved walking trail. No remedial activities have occurred at the Site.

5.0 POTENTIAL CLEANUP ALTERNATIVES

The overall goal of any brownfields cleanup action is to address environmental conditions preventing or impeding the preferred type of Site redevelopment, and to do so in a manner protective of human health and the environment. This ABCA considered presence of ACM at the Site, applied AHERA definitions, and conformed to APC&EC requirements for ACM inspection, reporting, and disposal for demolition or renovation of commercial buildings.

Because a Phase I Environmental Site Assessment (ESA) had not been completed prior to the fire on the Site, a Phase II ESA has not occurred at the Site. As a result, no contaminated environmental media have been identified. Therefore, this ABCA considers only alternatives for cleanup of ACM waste.

The purpose of this ABCA was to present viable cleanup alternatives based on Site-specific conditions, technical feasibility, and preliminary cost evaluations.

The following sections describe brownfields cleanup alternatives for addressing presence of ACM, including a "No Action" alternative. Following the description, each alternative is evaluated in terms of its effectiveness, implementability, and cost. Purposes of evaluating each alternative were to determine its advantages and disadvantages relative to the other alternatives, and to identify key tradeoffs that would affect selection of a preferred alternative.

Effectiveness of an alternative refers to its ability to meet objectives of a brownfields cleanup. Criteria applied to assess effectiveness of an alternative include all the following:

- Overall protection of human health and the environment
- Long-term effectiveness
- Reduction of toxicity, mobility, or volume through treatment/removal
- Short-term effectiveness.

Criteria applied to assess implementability of an alternative are all the following:

- Technical feasibility
- Administrative feasibility
- Availability of services and materials required during implementation of the alternative
- State acceptance
- Community acceptance.

Each alternative is evaluated to determine its estimated cost. The evaluations compare the alternatives' respective direct capital costs, which include equipment, services, and contingency allowances, as well as longer-term institutional controls (ICs), engineering controls (ECs), and operations and maintenance (O&M)

TETRA TECH TŁ

costs. Again, purposes of evaluating each alternative were to determine its advantages and disadvantages relative to other alternatives, and to identify key tradeoffs that would affect selection of the preferred alternative.

5.1 EVALUATED CONTAMINATION

This section discusses contaminants and materials identified at the Site. Given presence of burned down debris at the Site and no completion of a prior asbestos inspection, currently all debris at the Site is considered ACM waste. According to the APC&EC Rule No. 21 Arkansas Asbestos Abatement Rule, the owner or operator of a building need not remove ACM before demolition if it was not accessible for testing and was, therefore, not discovered until after demolition began, and as a result of the demolition, the material cannot be safely removed (APC&EC 2015). If not removed for safety reasons, the exposed regulated asbestos-containing materials (RACM) and any asbestos-containinated debris must be treated as asbestos-containing waste material and adequately wetted at all times until disposal (APC&CE 2015). The debris is contained to an approximately 2,000-square-foot cement foundation left over from the former house.

5.2 EVALUATION OF CLEANUP ALTERNATIVES FOR ACM

Evaluations of cleanup alternatives are based on potential future use scenarios at the Site. Tetra Tech developed three cleanup alternatives for ACM to indicate alternatives for abatement of all ACM waste, as well as segregating out and individually sampling the debris.

Regarding ACM, three options were evaluated: (1) no action, (2) removal and disposal of all debris as ACM, and (3) segregation and sampling of the debris to identify ACM. Alternatives 2 and 3 are expected to achieve clearance criteria under APC&EC requirements.

Notably, cost assumptions for Alternatives 2 and 3 assume contingencies and should not be considered as actual cost estimates. Costs may depend on contractor availability, scheduling, material availability, labor issues, or other factors. Therefore, the cost estimates shown below are presented only for comparison of alternatives. Project management and administrative costs are not included.

5.2.1 Alternative 1: No Action (Baseline)

The no action alternative is included as a baseline for comparison to the other proposed alternatives. Alternative 1 (No Action) would leave ACM in place at the Site.

Effectiveness

This alternative would be ineffective in achieving the goal of reducing health risks. In accordance with NESHAP regulations, renovation of the Site cannot proceed before proper abatement. Any redevelopment of areas containing ACM would have to be restricted to ensure that those materials remain undisturbed.

Therefore, no demolition activities during renovation of areas with ACM could occur if this alternative would be selected.

Implementation

Implementation of this alternative is straightforward—ACM left in place. Future redevelopment would have to consider the location and condition of the ACM, and ensure that those materials remain undisturbed.

<u>Cost</u>

This alternative would not involve any direct costs.

5.2.2 Alternative 2: Removal of all Debris as ACM

Alternative 2 would involve proper removal of all the Site's debris as ACM waste. Removal of the Site's debris as ACM waste by a licensed State of Arkansas asbestos abatement contractor would accord with applicable local, state, and federal regulations and a pre-approved Remedial Action Plan (RAP). Area air sampling would occur according to a pre-approved quality assurance project plan (QAPP), and APC&EC possibly would conduct pre/post-abatement visual inspections (if required).

Effectiveness

Removal of all debris as ACM under Alternative 2 would meet the applicable or relevant and appropriate requirements (ARARs) established by the NESHAP regulation and APC&EC, and would address the risk to human health posed by ACM. In addition, debris removal as ACM waste would allow redevelopment of the Site without restrictions pertaining to disturbance of ACM.

Implementation

Debris removal as ACM waste by a licensed State of Arkansas asbestos abatement contractor would accord with applicable local, state, and federal regulations. EPA, state, and Occupational Safety and Health Administration (OSHA) requirements must be met during removal of ACM. A Health and Safety Plan would address these regulations.

<u>Cost</u>

<u>Table 1</u> breaks down the total cost for this alternative. Estimated total cost of Alternative 2 is \$43,294.50. Estimated abatement costs were gathered from local vendors. Listed costs include removal and disposal. Estimated cost for removal of all debris as ACM waste associated with the Site buildings is \$21,994.50. This estimate does not include restoration costs. Additional costs to be considered include those for three technical reports (RAP, QAPP, and Final Abatement Report) and for abatement oversight, air monitoring, and clearance activities. Estimated cost of technical plans/reports is \$3,800 per plan/report (costs of plans include consideration of all environmental issues to be addressed by cleanup activities). Additional costs for oversight and clearance sampling are considered variable based on requirements and duration of abatement. Estimated cost associated with oversight and clearance is \$9,900.

TABLE 1

ACM ALTERNATIVE 2 – TOTAL COSTS

Line Item	Cost
Abatement of asbestos-containing material (ACM)	\$21,995
Development of Remedial Action Plan (RAP)	\$3,800
Development of Quality Assurance Project Plan (QAPP)	\$3,800
Final Abatement Report	\$3,800
Oversight and clearance sampling	\$9,900
Total Alternative 2 Cost	\$43,295

5.2.3 Alternative 3: Segregation and Sampling of the Debris to Identify ACM

Alternative 3 would involve segregating the debris into categories based homogeneous materials, sampling the materials for ACM, and then removing positive ACM and sending it for disposal accordingly. Segregation and sampling would be completed by a licensed State of Arkansas asbestos inspector. Samples would be sent to and analyzed by a National Voluntary Laboratory Accreditation Program (NVLAP) laboratory, accredited under the International Laboratory Accreditation Cooperation (ILAC). Samples would be analyzed via Polarized Light Microscopy (PLM). Sampling by a licensed State of Arkansas asbestos inspector would accord with applicable local, state, and federal regulations and a pre-approved QAPP.

After identification of ACM and non-ACM materials on the Site, abatement of ACM would take place. Abatement is required before any ACM is disturbed or removed. Abatement by a licensed State of Arkansas asbestos abatement contractor would accord with applicable local, state, and federal regulations and a preapproved RAP. Regulatory area air sampling would occur according to a QAPP, and APC&EC possibly would conduct pre/post-abatement inspections (if required).

Effectiveness

Segregation, sampling, and removal of all identified ACM under Alternative 3 would meet the ARARs established by the NESHAP regulation and APC&EC, and would address the risk to human health posed by ACM. This alternative would be effective without necessity to treat all debris as ACM waste. This alternative would also be effective in achieving the goal of reducing health risks and would allow redevelopment of the Site.

Implementation

Implementation of this alternative would include a longer timeframe before debris on the Site could be removed because of needs to collect samples and analyze them. Sampling of materials by a licensed State of Arkansas asbestos inspector and analysis of samples by an NVLAP accredited lab would accord with applicable local, state, and federal regulations.

Abatement of ACM by a licensed State of Arkansas asbestos abatement contractor would accord with applicable local, state, and federal regulations. EPA, state, and OSHA requirements must be met during removal of ACM. A Health and Safety Plan would address these regulations.

<u>Cost</u>

<u>Table 2</u> breaks down the total cost for Alternative 3. Estimated cost of completing the segregation, asbestos inspection, and analysis described above would be \$6,500. Estimated abatement costs for ACM waste were gathered from local vendors. Estimated cost for abatement of ACM waste within the subject property foundation is \$30,000. This estimate does not include restoration costs. Additional costs to be considered include those for three technical reports (RAP, QAPP, and Final Abatement Report) and for clearance sampling. Estimated cost of technical plans/reports is \$3,800 per plan/report (cost of plans includes consideration of all environmental issues to be addressed by cleanup activities). Additional costs for oversight and clearance sampling are considered variable based on requirements and duration of abatement. Estimated cost associated with oversight and clearance is \$12,500. Estimated total cost of Alternative 3 is \$60,400.

TABLE 2

ACM ALTERNATIVE 3 – TOTAL COSTS

Line Item	Cost
ACM sampling and analysis	\$6,500
Abatement of ACM waste and non-ACM waste	\$30,000
Development of RAP	\$3,800
Development of QAPP	\$3,800
Final Abatement Report	\$3,800
Oversight and clearance sampling	\$12,500
Total Alternative 3 Cost	\$60,400

5.3 RECOMMENDED CLEANUP ALTERNATIVES

This section summarizes and recommends cleanup alternatives for ACM at the Site.

5.3.1 Summary of ABCA Alternatives

Table 3 summarizes cleanup alternatives for ACM at the Site.

TABLE 3

SUMMARY OF ABCA ALTERNATIVES

Criterion	Alternative 1 No Action	Alternative 2 Removal of All Debris as ACM Waste	Alternative 3 Segregation and Sampling to Identify ACM
Effectiveness	Poor	Excellent	Excellent
Protection of human health and the environment	Not protective	Protective	Protective
Long-term effectiveness	Poor	Excellent	Excellent
Reduction of toxicity, mobility, or volume	Poor	Excellent	Good
Short-term effectiveness	Excellent	Excellent	Poor
Implementability	Excellent	Very good	Good
Technical feasibility	Excellent	Very good	Good
Administrative feasibility	Not applicable	Good	Good
Availability of services	Not applicable	Excellent	Excellent
State acceptance	Poor	Meets goal	Meets goal
Community acceptance	Poor	Excellent	Good
Cost	\$0	\$43,295	\$60,400

5.3.2 Recommended ABCA Alternative

Alternative 2 (Removal of all Debris as ACM Waste) is the recommended cleanup alternative for ACM. Removal of all ACM waste found within the foundation on the Site would be required prior to initiation of any substantial renovation activities.

5.3.3 Total Cleanup Cost

<u>Table 4</u> summarizes cleanup costs for the recommended alternative assuming future non-residential land use. Estimated total cleanup cost of the recommended cleanup alternative is \$43,294.50. As stated above, costs for new construction, Site restoration, and any associated disposal costs for addressing construction and demolition waste materials have not been included in this ABCA.

TABLE 4

SUMMARY OF COSTS FOR RECOMMENDED ALTERNATIVE

Contaminant / Material	Recommended Alternative	Action – Cost	Total Cost
	Alternative 2 – Removal of all	Abatement - \$21,995	
Asbestos-containing		Oversight and Clearance Sampling - \$9,900	
	Waste	Technical Reporting – \$11,400	
Total Cost			

6.0 **REFERENCES**

- Agency for Toxic Substance and Disease Registry (ATSDR). 2008. "Asbestos: Health Effects." Accessed December 13, 2012. <u>http://www.atsdr.cdc.gov/asbestos/asbestos/health_effects</u>
- Arkansas Pollution Control and Ecology Commission (APC&EC). 2015. Regulation No. 21. Arkansas Asbestos Abatement Regulation. September 11.

City of Hartford. 2024. McClung House, Arkansas Brownfields Program Application Form. November 20.

- Sebastian County. 2025. Real Estate Records Search, City of Hartford, 12 S Maple. Accessed on February 28, 2025. https://www.arcountydata.com/parcel.asp?item=34FA6C&Page=1&countycode=SEBTAX
- U.S. Geological Survey (USGS). 1987. Hartford, Arkansas Quadrangle. USGS 7.5-Minute Topographic Series.

APPENDIX A: FIGURES



FIGURE 1 SITE LOCATION MAP



FIGURE 2 SITE LAYOUT MAP



