Analysis of Brownfield Cleanup Alternatives (ABCA)

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Brownfields/Voluntary Cleanup Program
Objective

Based on past environmental assessments, an ABCA report will be prepared that identifies objectives of a future cleanup and provide an analysis of cleanup alternatives based on effectiveness, implementability, and cost.
What that really means

• The purpose of the ABCA is to compare cleanup alternatives based on site-specific conditions, technical feasibility, and preliminary cost evaluations.
Background

- Site description and previous site assessment findings
- Summarizes the site location, physical setting, and current and past uses of the site
- Summarizes the findings of previous site assessments
Effectiveness

• Will the cleanup protect public health and the environment?
• Remove or minimize contaminants
• Prevent exposure
• Long-term effectiveness
Implementability

• Is the cleanup easy to implement?
• Are there problems that would make it difficult to implement?
• Administratively and technically feasible.
EIERA

BROWNFIELD CLEAN-UP SITE

For more information contact LOCLG at 573-346-5692

Lake of the Ozarks Council of Local Governments

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Cost

• What is the cost for this cleanup?
• How much $$ would it take to remove this boiler from the building?
Evaluation of cleanup alternatives

- This section will discuss the cleanup alternatives for contaminants.

- Each alternative is evaluated to determine its estimated cost.

- Evaluations will be developed with specific consideration to BVCP procedural requirements and Missouri Risk-Based Corrective Action (MRBCA) Technical Guidance.
Example Brownfield Building

If a building is involved:
Usually lead-based paint and asbestos are present.
Asbestos

Alternative #1: No Action

• No active remedial action

• Leaves site in its current condition
• Not effective—does not protect environment or address reuse

• No cost

• Easy to implement
Asbestos

Alternative #2: Abatement of Asbestos-Containing Material (ACM)

• Proper abatement of ACM associated with the building. Abatement would be conducted in accordance with local, state and federal regulations by a registered abatement contractor. A post-abatement inspection would be obtained.
Lead-Based Paint

Alternative #1: No Action

• No active remediation
• Easy to implement
• Not effective to protect environment and/or public health
• Cannot redevelop or reuse
Alternative #2:

Lead-Based Paint removed by wet and/or chemical stripping.

• LBP is removed and controls are not required

• This alternative is effective because risk to human health posed by LBP has been removed
Alternative #2 continued:

• Abatement would be conducted by a registered lead paint contractor
• Complete removal of LBP can be difficult and not always economically feasible
• LBP would be removed and disposed offsite as a special waste or hazardous waste
Alternative #3

Lead-Based Paint Removal by Demolition

- Remove lead painted building components or
- Building demolition
- Loose paint must be removed first
In accordance with state regulations, the condition of the LBP surfaces should be inspected and loose paint is required to be removed.
Kemper K Building ABCA

- The primary objective of the remedial action is to remove and properly dispose of ACM that could impede demolition/redevelopment.
<table>
<thead>
<tr>
<th>Material</th>
<th>Location*</th>
<th>Estimated Quantity</th>
<th>Asbestos Result (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>12”x 12” Floor Tile (on concrete) – Brown</td>
<td>3rd Floor- All Rooms -</td>
<td>9,350 ft²</td>
<td>Tile – 2% Chrysotile Mastic – 3% Chrysotile</td>
</tr>
<tr>
<td>12”x 12” Floor Tile (on concrete) – Brown</td>
<td>1st Floor</td>
<td>11,000 ft²</td>
<td>Tile – 3% Chrysotile Mastic – 5% Chrysotile</td>
</tr>
<tr>
<td>12”x 12” Floor Tile (on concrete) – Brown</td>
<td>2nd Floor-</td>
<td>11,000 ft²</td>
<td>Tile – 3% Chrysotile Mastic – 5% Chrysotile</td>
</tr>
<tr>
<td>12”x 12” Floor Tile (on concrete) – Brown</td>
<td>Basement</td>
<td>3,500 ft²</td>
<td>Tile – 3% Chrysotile Mastic – 4% Chrysotile</td>
</tr>
<tr>
<td>12”x 12” Floor Tile (on concrete) – White with Tan Streaks</td>
<td>Basement</td>
<td>3,500 ft²</td>
<td>Tile – 3% Chrysotile Mastic – 4% Chrysotile</td>
</tr>
<tr>
<td>12”x 12” Floor Tile (on concrete) – Gray</td>
<td>3rd Floor - Hallway</td>
<td>1,650 ft²</td>
<td>Tile – No Asbestos Present Mastic – 4% Chrysotile</td>
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<tr>
<td>12”x 12” Floor Tile (on concrete) – White</td>
<td>Room 339</td>
<td>35 ft²</td>
<td>Tile – No Asbestos Present Mastic – 3% Chrysotile</td>
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<tr>
<td>Ceiling Texture</td>
<td>1st, 2nd, and 3rd Floor Rooms</td>
<td>28,000 ft²</td>
<td>3% Chrysotile</td>
</tr>
<tr>
<td>Vibration Dampener**</td>
<td>Storage Room</td>
<td>2 Each</td>
<td>60% Chrysotile</td>
</tr>
<tr>
<td>Mudded Fittings</td>
<td>Boiler Room</td>
<td>250 Fittings</td>
<td>20% Chrysotile</td>
</tr>
<tr>
<td>Material</td>
<td>Location</td>
<td>Estimated Quantity</td>
<td>Cost/Unit</td>
</tr>
<tr>
<td>-----------------------------------</td>
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<td>-----------</td>
</tr>
<tr>
<td>12” X 12” Floor Tile/Mastic</td>
<td>Throughout Building</td>
<td>38,350 ft²</td>
<td>$2.00/ft²</td>
</tr>
<tr>
<td>12” X 12” Floor Tile Mastic</td>
<td>3rd Floor</td>
<td>1,650 ft²</td>
<td>$2.00/ft²</td>
</tr>
<tr>
<td>Ceiling Texture</td>
<td>1st, 2nd, and 3rd Floor Rooms</td>
<td>28,000 ft²</td>
<td>$6.00/ft²</td>
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<tr>
<td>Vibration Dampeners</td>
<td>Storage Room</td>
<td>2 Each</td>
<td>$375.00/each</td>
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<tr>
<td>TSI Mudded Joints</td>
<td>Boiler Room</td>
<td>250</td>
<td>$20.00/each</td>
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<tr>
<td>Magblock Duct Insulations</td>
<td>Boiler Room</td>
<td>800 ft²</td>
<td>$20.00/ft²</td>
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<td>Boiler Opening Mud</td>
<td>Boiler Room</td>
<td>15 lf</td>
<td>$20.00/lf</td>
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<td>Tank Insulations</td>
<td>Boiler Room</td>
<td>825 ft²</td>
<td>$20.00/ft²</td>
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<tr>
<td>Spray-on Fireproofing</td>
<td>Boiler Room-Ceiling</td>
<td>2,400 ft²</td>
<td>$20.00/ft²</td>
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<tr>
<td>Drywall with Joint Compound</td>
<td>Basement</td>
<td>650 ft²</td>
<td>$7.50/ft²</td>
</tr>
</tbody>
</table>

**Total ACM Abatement Cost**  **$339,425**
• Total abatement cost of the ACM is estimated at $339,425.
• Additional costs to be considered include preparation of a final cleanup report.
• Estimated cost for the final cleanup report is $3,500.
The ABCA report follows the guidelines outlined in the Environmental Protection Agency’s (EPA) example at https://www.epa.gov/sites/production/files/2015-01/document/abca_example_for_cleanup_proposals.pdf.
If you have any questions you may contact me at:
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