

ANALYSIS OF BROWNFIELDS CLEANUP ALTERNATIVES



Wahkonsa Annex Building

**City of Fort Dodge
Brownfield Cleanup Project
EPA Cooperative Agreement No. BF-97768901-0**

Prepared For:

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1.0 EXECUTIVE SUMMARY

The City of Fort Dodge (City) is currently participating in the U.S. Environmental Protection Agency's (EPA) Brownfield Cleanup Project. The City identified an approximate 0.39-acre parcel (parcel #07-20-316-011) of land located in downtown Fort Dodge (Appendix A) at 908 1st Avenue South as their target for this brownfields project. Hereinafter, this 0.44-acre parcel is referred to as the "Site." Impact7G, Inc. (Impact7G) was retained by the City to complete an Analysis of Brownfields Cleanup Alternatives (ABCA). After reviewing all the alternatives, Impact7G recommends the complete abatement of all asbestos containing materials within the building so it can be properly and safely demolished to ensure redevelopment of the Project Area. This ABCA will detail each alternative for cleanup.

2.0 INTRODUCTION

2.1 *Site Location*

The Site is comprised of one approximately 0.44-acre parcel located at 908 1st Avenue South in Fort Dodge, Iowa. The structure is 19,166 SF in area and is located in the center of downtown Fort Dodge. The Site is currently owned by the City of Fort Dodge and is a seven-story vacant building with an associated basement.

2.2 *Previous Site Use(s)*

The Site was originally constructed by the City's 'Commercial' Club in 1909-1910 and was claimed to be the "largest fireproof hostelry" in Iowa at the time of completion. The building operated as a first-class hotel for over 60 years (by various owners) until 1972 when it was converted into apartment housing for low-income residents. The site is situated on the corner of 1st Avenue South and South 10th Street. The Site building has been vacant since 1984 and has fallen into significant disrepair.

2.3 *Site Assessment Findings*

Impact7G completed a supplemental Asbestos Containing Materials (ACM) Inspection on March 6 and 7, 2017 of the entire building. The purpose of this ACM Inspection is to confirm and quantify the materials documented from a previous inspection and identify and sample potential areas missed by previous sampling.

Asbestos was detected in 94 of the 312 analyzed samples from the previous report. Impact7G detected asbestos in 11 of an additional 142 additional samples collected from various building components within the Property's interior and exterior. ACMs include:

- Black Wall Mastic Pucks
- Ceiling Texture
- White Popcorn Ceiling Texture
- Green Wall Mastic
- White Caulking
- Roofing Components
- Black Floor Mastic
- Ceiling Tiles
- Light Heat Shields
- HVAC Seam Tape
- Brown Bathroom Tile Mastic
- Dark Brown Ceiling Mastic Pucks
- Black Wall Mastic
- Pink Window Glazing
- Colored Floor Tiles
- Yellow Floor Glue
- Electrical Wiring
- Fire Doors
- Boiler TSI
- Brown Wood Panel Mastic
- Black Weatherproofing Tar
- Black Carpet Mastic
- White Window Glazing
- Black Wood Wall Mastic
- Pipe Insulation
- Sink Undercoating
- Transite Paneling

All building materials similar in appearance, color, and/or texture to those determined to contain asbestos must be assumed to contain asbestos throughout this building.

ACMs must be removed by a certified asbestos abatement contractor within a full containment and disposed of as asbestos waste prior to conducting demolition activities that may disturb them.

The asbestos containing materials inspection containing the documented locations and estimated amounts is included in Appendix B.

3.0 PROJECT GOAL

The Site is planned to be used for the City's new 500-stall Intermodal Hub that will connect the redeveloped Warden Plaza Building located to the west with the Recreation-Healthy Life Center located to the east, providing much needed parking for these multi-use facilities. The Intermodal Hub will span over South 10th Street accommodating sheltered drop-off and pick-up for the City's bus service for the Recreation-Healthy Life Center. The five-story Hub will also provide additional parking for downtown businesses and serve as the central location for a community-wide bike-sharing system. The Intermodal Hub will also allow access to both bicycle and vehicle electric charging stations. The Intermodal Hub is projected to reduce the number of vehicle miles traveled each year by a staggering 686,017 miles. That reduction of vehicle miles traveled will translate into reduced wear on local road systems, longer lasting vehicles, and less fuel consumption.

In addition to the above project goal, this project has a green and sustainable remediation goal to protect human health and the environment from contaminants. Utilizing the U.S. Environmental Protection Agency's Incorporating Sustainable Environmental Practices into Remediation of Contaminated Sites and the ASTM International's Standard Guide for Green Cleanups a best management practices plan has been developed for this project and is included in Appendix C. City officials and the Environmental Consultant for this project evaluated the following core elements of green remediation: Energy requirements in the treatment system; Air emissions; Water requirements and impacts on water resources; Land and ecosystem impacts; Material consumption and waste generation; Long-term stewardship actions and developed a comprehensive green and sustainable remediation best practices management plan for the removal of asbestos containing materials in the Wahkonsa Annex Building.

4.0 APPLICABLE REGULATIONS AND CLEANUP STANDARDS

4.1 *Cleanup Oversight Responsibility*

Impact7G will oversee the cleanup in accordance with local, state and federal regulations. Impact7G will provide on-site guidance of regulations and observations during the cleanup process. Impact7G will provide air monitoring services and project observation, which will include the collection and analysis of personal air samples, short term excursion limit air samples, and field blanks as required by OSHA. In addition, area air samples by each removal area, air samples at each entrance to a containment area, and HEPA exhaust air samples will be collected and analyzed daily in order to document any potential fiber releases. These samples will be analyzed via the Phase Contrast Microscopy (PCM) method. At the completion of the asbestos removal and upon the passing of a visual inspection, final clearance air samples will be collected and analyzed using the PCM method. All documents prepared during cleanup activities will be compiled into a final cleanup report.

4.2 *Cleanup Standards for Major Contaminants*

Asbestos is the major contaminant of concern. Prior to the demolition of the structure, an Iowa licensed asbestos abatement contractor will remove and dispose of identified ACM pursuant to National Emissions Standards Hazardous Pollutants (NESHAP) regulations. The asbestos NESHAP regulations specify work practices for asbestos to be followed during demolitions and renovations of all structures, installations, and buildings (excluding residential buildings that have four or fewer dwelling units). The regulations require the owner of the building or the operator to notify the appropriate state agency before any demolition, or before any renovations of buildings that could contain a certain threshold amount of asbestos or asbestos-containing material. In addition, particular manufacturing and fabricating operations either cannot emit visible emissions into the outside air or must follow air cleaning procedures, as well as follow certain requirements when removing asbestos-containing waste.

(<https://www.epa.gov/asbestos/asbestos-laws-and-regulations#ashara>)

4.3 *Laws & Regulations Applicable to the Cleanup*

Laws and regulations that are applicable to this cleanup include the NESHAP standards, Federal Small Business Liability Relief and Brownfields Revitalization Act, Federal Davis-Bacon Act, and City of Fort Dodge by-laws. Federal, state, and local laws regarding the procurement of contractors to conduct the cleanup will be followed.

The Site building is listed on the National Register of Historic Places. When federal funds are used on projects that will disturb historic structures or the ground associated with these structures, the State Historic Preservation Office (SHPO) must review the project under Section 106 of the National Historic Preservation Act. This Section 106 review will be submitted and approved prior to commencement of cleanup work at the Site.

All appropriate permits (i.e. IDNR 10-Day Notification, Iowa One-Call, Disposal, etc.) will be obtained prior to commencement of work.

5.0 EVALUATION OF CLEANUP ALTERNATIVES

5.1 Cleanup Alternatives Considered

To address the widespread asbestos contamination within the structure, two different alternatives were considered:

- Alternative #1 – No Action
- Alternative #2 – Full abatement and proper disposal of ACMs

5.2 Cost Estimate of Cleanup Alternatives

To satisfy EPA requirements, the effectiveness, ability to implement, and cost of each alternative must be considered prior to selecting a recommended cleanup alternative.

5.2.1 Effectiveness

- Alternative #1 – No Action:
 - A “No Action” alternative signifies that no remediation activities would be implemented at the Site. The “No Action” alternative does not include a means for mitigating or eliminating potential exposure to asbestos containing building materials both during and following redevelopment. This would also inhibit future redevelopment initiatives as this building must be removed prior to constructing the Intermodal Hub. Therefore, the potential for human exposure would continue to exist for future residents, construction workers, commercial workers and patrons.
- Alternative #2 – Full Abatement of ACM:
 - This alternative would utilize standard techniques to remove the ACM. ACM would be removed by a state certified asbestos abatement contractor and properly disposed at a licensed and permitted facility. The Site building would be free of asbestos containing materials with this alternative.

5.2.2 Implementability

- Alternative #1 – No Action:
 - Easy to implement, since no actions will be conducted.
- Alternative #2 Full Abatement of ACM:
 - Moderately difficult to implement followed by the demolition and redevelopment of the Site into the Intermodal Hub; however, the end product would be the most advantageous to the community at large.

5.2.3 Cost

- Alternative #1 – No Action
 - \$0 (No Cost)
- Alternative #2 – Full Abatement of ACM:
 - Estimated \$600,000 for ACM abatement. The cost of redeveloping the Site into the Intermodal Hub is not included in this estimate.

6.0 RECOMMENDED CLEANUP ALTERNATIVE

Each of the alternatives and the comparison criteria are summarized below in **Table 1**. Based on the evaluation of remedial alternatives presented above, the recommended alternative is Alternative #2, full abatement and disposal of ACM. The full abatement and disposal of ACM was selected because it eliminates exposure while allowing site redevelopment.

Table 1 – Summary of Remedial Alternatives for Asbestos		
Evaluation Criteria	Alternative #1 No Action	Alternative #2 Full Abatement
Effectiveness & Reliability	Not Effective or Reliable.	Removal of asbestos containing materials, removes the exposure pathways and is proven to be an effective and reliable form of remediation. Long-term maintenance is not required.
Feasibility & Ease of Implementation	Not feasible but easily implementable.	Utilizes standard construction, remedial, and abatement techniques. Therefore, this alternative is technically practical and easily implementable. Historically significant building materials will not be able to be reused.
Risk Reduction & Green and Sustainable Remediation	No reduction in risks to human health and the environment. No reduction in contaminant mobility or toxicity. No green and sustainable remediation benefits.	Risk to human health by exposure to ACM are permanently eliminated by abatement/removal.
Costs	No cost	\$600,000
Time to Reach Permanent Solution	Will not be achieved.	12 to 18 months.

SIGNATURES OF ENVIRONMENTAL PROFESSIONALS

Signatures of the environmental professionals responsible for this report:



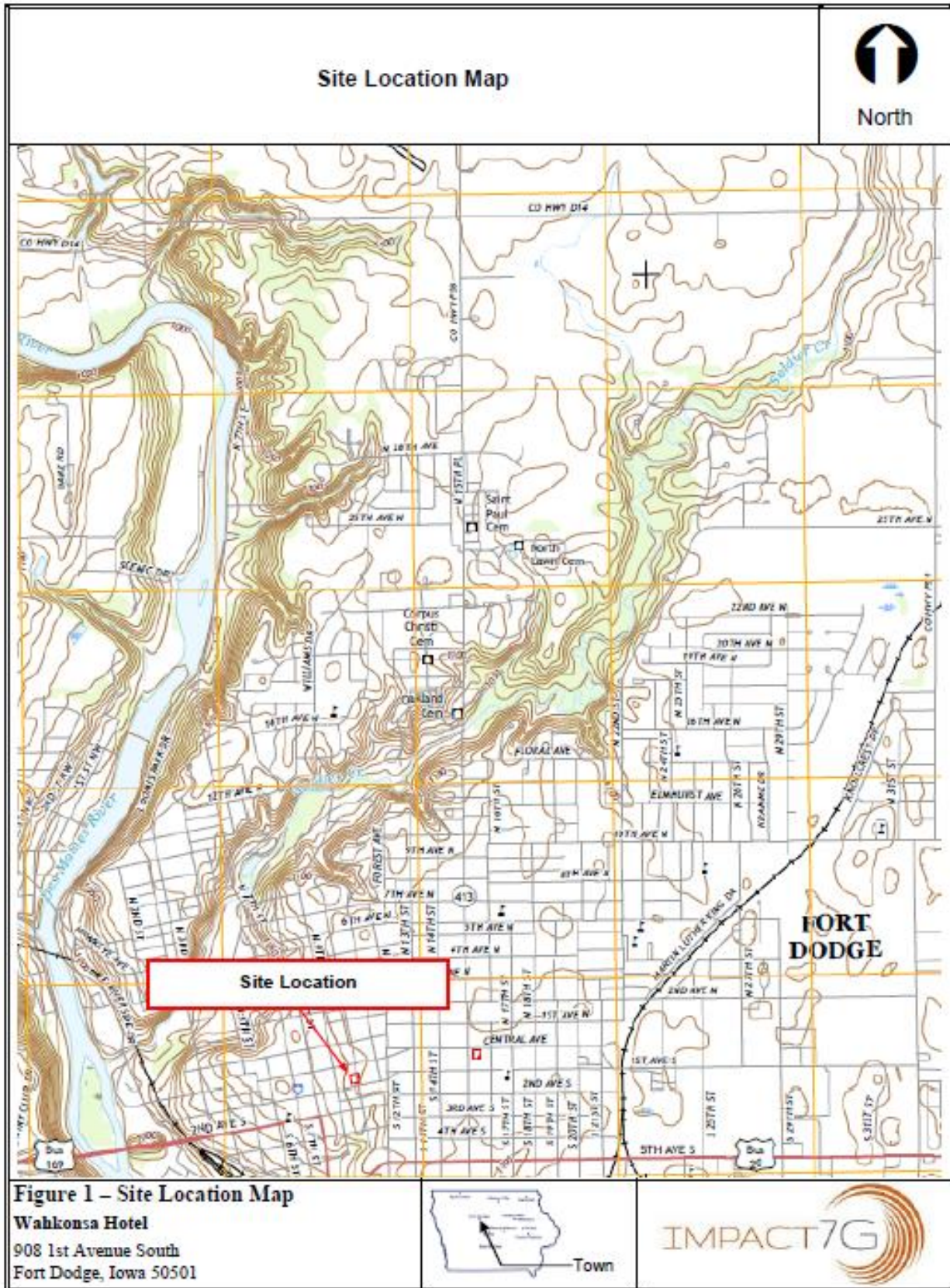
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APPENDIX A

Site Vicinity Map



APPENDIX B

Asbestos Containing Materials Inspection Report

APPENDIX C

Green and Sustainable Remediation Best Management Practices Plan

