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August 12, 2022  
File No. 03.0034957.00

Mr. Thomas J. Kravitz  
City Planning Director  
Warwick City Hall  
3275 Post Road  
Warwick, Rhode Island 02886

Re: Opinion of Probable Cost  
Hazardous Building Materials Abatement and Demolition Opinion of Probable Cost  
Aldrich Junior High  
789 Post Road, Warwick, Rhode Island

Dear Mr. Kravitz:

GZA GeoEnvironmental, Inc. (GZA) is pleased to provide the attached Opinion of Probable Cost for asbestos containing materials abatement, universal waste removal, and building demolition for the former Aldrich Junior High School Building located at 789 Post Road, Warwick, Rhode Island. GZA's opinion of probable cost is subject to the Limitations in **Attachment A**.

The attached **Table 1** present GZA's preliminary order of magnitude cost opinions for abatement of asbestos and other hazardous materials that are likely to be encountered during building demolition planned by the City of Warwick. This cost estimate table was prepared by GZA based on the findings of our asbestos and hazardous building materials survey (HBM Survey Report) which was prepared for the property and submitted to the City of Warwick under separate cover dated August 11, 2022. The HBM Survey Report was based on information provided by the City of Warwick that all site structures were proposed for demolition. Abatement estimates were developed based on unit cost assumptions as explained in **Table 1**. Demolition and disposal cost opinions were provided by AA Wrecking and Asbestos Abatement Co., Inc. and are based on remote observations of the property and their experience with similar demolition projects in the Rhode Island area.

The City of Warwick should obtain quotes for abatement and demolition services from qualified contractors prior to initiating the work. Contractor cost estimates may vary from GZA's preliminary cost opinions, depending on market conditions and changes in regulatory requirements, if any, that are in place at the time bids are solicited by the City of Warwick.

The abatement of asbestos-containing materials requires the development and submission of a Rhode Island Department of Health (RIDOH) Asbestos Abatement Plan prior to the start of work. GZA can assist the City in the development of a Plan in the format of a specification so the City of Warwick can incorporate the Abatement Plan into the overall project specifications that the City will develop for the demolition.



We trust this information addresses your current needs. If you need any additional information or assistance in preparing project specifications for the overall building abatement/demolition, or if you need assistance with administration of the bidding process for asbestos and hazardous building materials abatement, please call us at (401) 230-8747.

Very truly yours,

GZA GEOENVIRONMENTAL, INC.

A handwritten signature in blue ink, appearing to read 'Erik Beloff'.

Erik M. Beloff  
Project Manager

A handwritten signature in blue ink, appearing to read 'Jeffrey Rowell'.

Jeffrey Rowell, PE  
Reviewer/Consultant

A handwritten signature in blue ink, appearing to read 'Edward A. Summerly'.

Edward A. Summerly, PG<sup>NY, KY</sup>  
Sr. Principal/District Office Manager

Attachments: Cost Opinion Table  
Remedial Cost Opinion Limitations

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## **REMEDIAL COST OPINION LIMITATIONS**



## REMEDIAL COST OPINION LIMITATIONS

### Use of Report

1. GeoEnvironmental, Inc. (GZA) prepared this Report on behalf of, and for the exclusive use of our Client at the stated time for the stated purpose(s) and location(s) identified in the Report. Use of this Report, in whole or in part, at other locations, or for other purposes, may lead to inappropriate conclusions; and we do not accept any responsibility for the consequences of such use(s). Further, reliance by any party not identified in the agreement, for any use, without our prior written permission, shall be at that party's sole risk, and without any liability to GZA.

### Standard of Care

2. GZA's findings and conclusions are based on the work conducted as part of the Scope of Services set forth in the Report and/or proposal, and reflect our professional judgment. These findings and conclusions must be considered not as scientific or engineering certainties, but rather as our professional opinions concerning the limited data gathered during the course of our work.
3. GZA's services were performed using the degree of skill and care ordinarily exercised by qualified professionals performing the same type of services at the same time, under similar conditions, and at the same or a similar property. No warranty, expressed or implied, is made.

### Basis of Opinion of Cost

4. GZA's opinion of cost is based on limited data which may not be sufficient to identify each and every condition existing at the site which may constitute noncompliance with applicable governmental statutes, rules, and regulations or constitute a release of oil or hazardous materials and/or may require remediation.
5. The costs on which the preliminary opinion of cost is based are limited to those conditions which were described in the Report.
6. Observations described in the Report were made under the conditions stated therein. Where access to portions of a structure or site was unavailable or limited, GZA renders no opinion as to the condition of those portions of the site or structure.
7. 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 the Client.

### Cost Assumptions

8. While the preliminary opinion of cost represents our professional judgment in this matter, actual conditions encountered during remediation may result in higher or lower costs.
9. The preliminary opinion of cost includes only those cost items identified, and should not be assumed to include other costs such as legal, administrative, permitting or others. The preliminary opinion of cost also does not include any costs with respect to third-party claims, fines, penalties, or other charges which may be assessed against any responsible party because of either the existence of present conditions or the future existence or discovery of any such

conditions.

10. The Report contains approximate cost opinions for purposes of evaluating alternative remedial programs. These estimates involve approximate quantity evaluations. Actual quantities and unit costs may vary. A preliminary cost opinion of this nature is likely to vary substantially from Contractors' Bid Prices and is not to be considered the equivalent of nor as reliable as Contractors' Bid Prices. Prices for similar work undertaken in the future will be subject to variations in market pricing, which are not within GZA's control. Detailed quantity and cost estimating should be performed by professional, experienced cost estimators to determine actual cost.

#### Reliance on Information provided by Others

11. In preparing the Report, GZA may have relied on certain information provided by the Client, state and local officials, and other parties referenced therein available to GZA at the time of the evaluation. GZA did not attempt to independently verify the accuracy or completeness of all information reviewed or received during the course of this evaluation.

#### Codes and Regulations

12. GZA used reasonable care in identifying and interpreting codes and regulations which are relevant to the costs estimated. These codes and regulations are subject to various, and possibly contradictory, interpretations. Compliance with codes and regulations by other parties is beyond our control.
13. Governmental agencies' interpretations, requirements, and enforcement policies vary from region to region, district office to district office, from state to state, and between federal and state agencies. In addition, statutes, rules, standards, and regulations may be legislatively changed and inter-agency and intra-agency policies may be changed from present practices. GZA has used its experience and judgment in making assumptions as to how anticipated changes in regulatory policies may affect remediation costs.

#### Additional Services

14. It is recommended that GZA be retained to provide engineering services during any final design, construction and/or implementation of any remedial measures recommended in this report. This will allow us the opportunity to: i) observe conditions and compliance with our design concepts and opinions; ii) allow for changes in the event that conditions are other than anticipated; iii) provide modifications to our design; and iv) assess the consequences of changes in technologies and/or regulations.



## **COST OPINION TABLE**

**TABLE 1  
PRELIMINARY ORDER OF MAGNITUDE ABATEMENT DEMOLITION COST ESTIMATE  
Aldrich Junior High School  
Warwick, Rhode Island**

ASBESTOS ABATEMENT AND DISPOSAL					
MATERIAL DESCRIPTION	MATERIAL LOCATION*	HAZARD	ESTIMATED QUANTITY	ESTIMATED UNIT COST	ESTIMATED COST
12"x12" tile, brown	Interior, 2nd floor, hallways, floor	2% Chrysotile	4,500 SF	\$5 per SF	\$22,500
12"x12" tile, gray	Interior, ground floor, hallways, floor	2% Chrysotile	4,500 SF	\$5 per SF	\$22,500
Insulation, brown/gray	Ground floor, kitchen, walk-in refrigerator	3% Chrysotile	500 SF	\$10 per SF	\$5,000
Thermal pipe insulation, gray/white	Throughout	Presumed	5,000 LF	\$25 per LF	\$125,000
Transite paneling, gray	2nd floor, science room, closet	Presumed	40 SF	\$10 per SF	\$400
Chalkboard, green/gray	Interior, classrooms, wall, throughout	Presumed	53 EA	\$250 EA	\$13,250
Joint caulk, beige	Exterior, main building, between concrete window sill	2% Chrysotile	240 LF	\$6 per LF	\$1,440
Glazing, beige	Exterior, northeast, main building, front, windows, wood frame	2% Chrysotile	100 LF	\$6 per LF	\$600

HAZARDOUS MATERIALS REMOVAL AND DISPOSAL							
Fluorescent light bulb -2'		Mercury	32	Units	\$12	EA	\$384
Fluorescent light bulb -4'		Mercury	1,217	Units	\$12	EA	\$14,604
Fluorescent light bulb -8'		Mercury	34	Units	\$12	EA	\$408
Fluorescent light ballast		PCBs/DEHP	696	Units	\$30	EA	\$20,880
Refrigerator		CFCs	1	Unit	\$100	EA	\$100
Emergency/exit light battery		Lead acid batteries	153	Units	\$12	EA	\$1,836
Switches/Fuse box		Mercury	25	Units	\$30	EA	\$750
Mercury Thermostats		Mercury	90	Units	\$20	EA	\$1,800
Hydraulic door closers		Oils	20	Units	\$60	EA	\$1,200
Halogen bulb		Mercury/Iodine/Bromine	69	Units	\$12	EA	\$828
Smoke detector		Radioactive Materials	177	Units	\$12	EA	\$2,124
Underground Storage Tank (UST)		Fuel Oil	1	Unit	\$15,000	EA	\$15,000
Hydraulic elevator		Oils	1	Unit			\$100
A/C units		CFCs	8	Units	\$80	EA	\$640
Furnace		Flammable/Oils	4	Units	\$5,000	EA	\$20,000
Water heater		Mercury	2	Units	\$100	EA	\$200
Air Compressor		Flammable/Oils	1	Unit			\$200
Fire extinguisher		Compressed Gas/Liquid	14	Units	\$45	EA	\$630

<b>Estimated Contractor Total for Abatement and Disposal</b>	<b>\$272,374</b>
Project Monitoring & Management	\$70,000
<b>Abatement Subtotal (Rounded to the Nearest \$1,000)</b>	<b>\$343,000</b>
Contingency for unexpected abatement difficulties, not including multiple phasing (~20%).	\$69,000

BUILDING DEMOLITION AND DISPOSAL	
Demolition and disposal of structure	\$450,000
Remove existing asphalt surfaces (assumes 3-inches over 57,163 SF = 527 CY) (\$20/CY)	\$10,540
Disposal of asphalt debris (~1,100 Tons)(\$50/ton)	\$55,000
Site restoration (loam and seed)	\$10,000
<b>Demolition Subtotal (Rounded to the Nearest \$1,000)</b>	<b>\$526,000</b>
Contingency for unexpected demolition difficulties, not including multiple phasing (~20%).	\$106,000
<b>TOTAL COST ESTIMATE</b>	<b>\$1,044,000</b>

**NOTES:**

1. LF = Linear Feet, SF = Square Feet, LS = Lump Sum, EA = Each
2. This summary includes the location, material type, and approximate quantities of accessible asbestos identified in the site building. Quantities of materials were assessed by a non-calibrated wheeled tape measure or visual estimation and should be considered as approximate values. It should be noted that these are only estimates, and are based on limited visual observations of accessible areas of the site.
3. Unless otherwise stated, our opinions of cost are only for comparative and general planning purposes. These opinions are based on the limited data and the conditions and assumptions described in the Hazardous Building Materials Report and the attached Opinion of Probable Cost cover letter. The cost estimates may involve approximate quantity evaluations and are not intended to be sufficiently accurate to develop construction bids, or to predict the actual cost of work addressed in the Hazardous Building Materials Report and the attached Opinion of Probable Cost cover letter. Further, since we have no control over when the work will take place nor the labor and material costs required to plan and execute the anticipated work, our cost opinions were made by relying on our experience, the experience of others, and other sources of readily available information. Actual costs may vary over time and could be significantly more, or less, than stated above.
4. Cost opinions presented above are based on a combination of sources and may include published RS Means Cost Data; past bid documents; cost data from federal, state or local transportation agency web sites; discussions with local experienced contractors; and GZA's experience with costs for similar projects at similar locations. GZA did not attempt to independently verify the accuracy or completeness of all information reviewed or received during the course of this evaluation. Actual costs will likely vary depending on the quantity of materials and condition; field conditions; geographic location; access restrictions; phasing of the work; subcontractors mark-ups; quality of the contractor(s); project management exercised; and the availability of time to thoroughly solicit competitive pricing. In view of these limitations, the costs presented in the Report should be considered "order of magnitude" and used for budgeting and comparison purposes only. Detailed quantity and cost estimating should be performed by experienced professional cost estimators to evaluate actual costs. The opinions of cost in the Report should not be interpreted as a bid or offer to perform the work. Unless stated otherwise, all costs are based on present value.
5. The opinion of costs are based only on the quantity and/or cost items identified in the Hazardous Building Materials Report and the attached Opinion of Probable Cost cover letter, and should not be assumed to include other costs such as legal, administrative, permitting or others.