

Feasibility Study  
for the  
**Allen Avenue School**  
North Attleborough, MA

April 8, 2021



▲  
ANNINO

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125 NORTH WASHINGTON STREET  
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# 3-YEAR AHERA RE-INSPECTION REPORT AUGUST 2016

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Allen Elementary School  
290 Allen Avenue  
North Attleborough, Massachusetts

**Prepared For:**

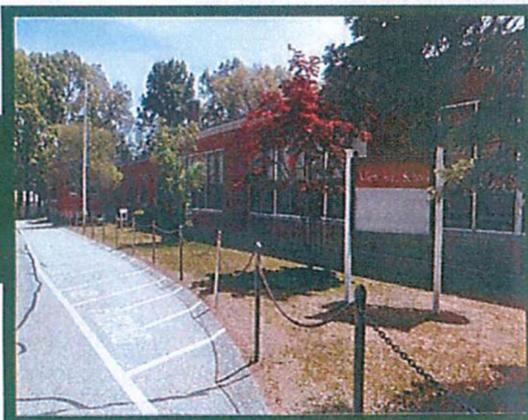
North Attleborough Public Schools  
6 Morse Street  
North Attleborough, Massachusetts 02760  
Attention: Mr. Kyle Kummer

**Prepared By:**

The VERTEX Companies, Inc.  
400 Libbey Parkway  
Weymouth, MA 02189  
781-952-6000

Project No: 41326

September 2016



**VERTEX®**

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### Introduction

The Vertex Companies, Inc. (VERTEX) conducted an Asbestos Hazard Emergency Response Act (AHERA) 3-Year Re-inspection on August 24, 2016 at the Allen Elementary School located in North Attleborough, Massachusetts. The purpose of the re-inspection was to comply with the Environmental Protection Agency (EPA) 40 Code of Federal Regulations (CFR) Part 763 AHERA. This regulation requires that each Local Education Agency (LEA) conduct a re-inspection of all friable and non-friable known or assumed asbestos-containing building materials (ACBM) in each school building that they lease, own, or otherwise use as a school building. The AHERA re-inspection is to be performed by an accredited inspector at least once every three years from the time of implementation of the original management plan. In addition, six-month surveillance inspections are to be conducted between the 3-year re-inspection to note any changes in the conditions (i.e. no change, damaged, abated, etc.) of the identified ACBM.

The previous AHERA re-inspections were performed in 2001, 2004 and 2007 were performed by Diversified Environmental Corporation (DEC). The April 2010 and December 2013 re-inspections were conducted by VERTEX, as well as the required periodic six-month surveillance inspections. From the previous re-inspections, the Management Plan was updated for the Allen Elementary School. The current AHERA 3-Year Re-inspection Report prepared by VERTEX is presented to North Attleborough Public Schools as an addendum to the original Management Plan and should be incorporated into the school's Management Plan folder.

The North Attleborough Public Schools may use the information obtained from the AHERA Re-inspection and the data compiled within the existing Management Plan to effectively manage the ACBMs present in the Allen Elementary School in North Attleborough, Massachusetts. However, VERTEX recommends conducting a comprehensive asbestos containing materials survey prior to any renovation/demolition activities at the school.

## Section 1

### Inspection Report

#### **Re-inspection Protocol**

Massachusetts Certified Asbestos Inspectors, Christopher McKenna (AI#900664) and Luke Krzyzewski (AI#900665) performed the AHERA Re-inspection. The updated Management Plan was developed by Massachusetts Certified Asbestos Management Planner, Jason Mohre (AP#000080). The purpose of the inspection was to re-assess the conditions and hazard potentials of the, ACBM or assumed ACBM, since the last inspection, and to identify, sample and assess any suspect materials not listed in the original management plan. As required by the AHERA regulation, the re-inspection survey procedures must include visual re-inspection and re-assessment of the condition of all known locations of friable and non-friable ACBMs. The visual inspection consists of touching ACBM which was previously considered non-friable to determine whether the ACBM has become friable since the last inspection. It should be noted that under AHERA regulations only ACBM is inspected, other asbestos containing materials (ACM) may be associated with the school that do not fall under ACBM definitions. Examples of other materials which have been found to be ACM include exterior window caulking and roofing material. Prior to school renovations any suspect materials not sampled or listed under AHERA must be tested prior to disturbance. Documentation for subsequent surveys not related to AHERA should be included in the overall Management Plan.

In addition, hazard assessment of known friable materials and newly determined friable materials must be recorded and submitted to the school's Designated Person. Assessment of potential asbestos hazards is subject to each individual inspector's judgment, and as a result, hazard assessments may vary.

Also, the LEA Designated Person should assume that potential asbestos-containing pipe & fitting insulation may be located behind walls & ceilings not accessible. Any renovation/demolition work that may penetrate these areas should be inspected.

All available documentation of asbestos abatement projects, which have occurred since the initial AHERA inspection should be included with the re-inspection report. Appendix D contains the Certification Page for Inspectors and Management Planner involved with the re-inspection of the school, as well as a copy of the LEA's Designated Person's training.

Locations of ACBM's with quantities observed, conditions assessed and changes since the original report are presented in Appendix A of this report. It should be noted that room numbers associated with the locations of assumed ACM's which were reported within original AHERA inspections may have been changed. VERTEX has made reasonable efforts to update the changes within the current 3-year re-inspection report.

## Section 1

### Inspection Report (continued)

#### **Bulk Sampling Methodology**

Bulk samples of suspect materials were not collected in the AHERA inspection. In some cases, materials in good condition were assumed to contain asbestos (i.e. floor tile and mastic), since sampling may compromise the material's condition. Reasons for sampling may be due to the detection of suspect materials, which are friable, plans for renovation of a material, or when the inspector determines that samples are required in order to determine whether a material is ACM or non-ACM. Materials such as floor tile & mastic and chalkboards in generally good condition were assumed to contain asbestos and must be treated as asbestos until bulk analysis proves otherwise.

Bulk samples are collected and analyzed in accordance with AHERA section 763.86 and section 763.87. For friable surfacing materials; either, 3, 5, 7, or 9 random samples are taken to determine asbestos content. The actual number of samples is determined by the amount of material in the homogeneous area. For non-friable surfacing materials, 3 or more random samples are taken to determine asbestos content. To determine asbestos content for thermal system insulation, 1 sample is taken if the amount of the material in the homogenous area is less than 6 feet; and 3 or more samples are taken if the amount is greater than 6 feet. For friable and non-friable miscellaneous materials, 2 or more samples are taken to determine asbestos content. Sampling locations for surfacing materials are determined using a random numbers table, which is a non-systematic, random method of collecting bulk samples. This method is designed to reduce potential bias in bulk sample collection and analysis. Sampling locations for thermal system insulation are chosen using "convenience sampling", which indicated that samples were collected at locations where minimal damage would be inflicted on the insulation or at locations where there are exposed ends, damaged areas, or where the protective covering or jacket was missing.

**No additional bulk sampling was performed.**

**Section 1**

**Inspection Report (cont.)**

**Updated Hazard Assessment**

All known locations of friable and non-friable ACBM were re-inspected to determine whether a change in the ACBM's condition has occurred since the initial AHERA inspection. From the re-inspection, an asbestos hazard assessment was performed. Factors considered when assessing asbestos hazard include;

1. The friability of the material;
2. The condition of material including type, severity and extent of damage;
3. The material's potential for disturbance including accessibility and air flow;
4. The material's potential for damage.

The actual amounts of material, condition and specific locations are presented in Appendix A. The following is an assessment for each homogeneous area of asbestos-containing materials within the school.

**Homogeneous Area Assessment**

**Homogeneous Area #1- 12" x 12" Beige Floor Tile and Mastic, Various Locations**

**Classification: Non -Friable surfacing or miscellaneous ACBM**

12" x 12" Beige Floor Tile and Mastic is located within rooms 1 through 6, the cafeteria and kitchen of the school. The 12" x 12" Beige Floor Tile and Mastic is in generally good condition, non-friable and presents potential for damage. The floor tile and mastic are assumed to be asbestos-containing.

**Homogeneous Area #2- 9"x 9" Rust Floor Tile and Mastic, Various Locations**

**Classification: Non -Friable surfacing or miscellaneous ACBM**

9"x 9" Rust Floor Tile and Mastic is located within the hallways, Library, computer room, teachers room, kindergarten room and Principals Office of the school. The 9"x 9" Rust Floor Tile and Mastic is covered by carpet and with the exception of the Principles Room. The 9"x 9" Rust Floor Tile and Mastic is in generally good condition, non-friable and presents potential for damage. The floor tile and mastic are assumed to be asbestos-containing.

**Section 1**

**Inspection Report (continued)**

**Updated Hazard Assessment**

**Homogeneous Area #3- Breeching Insulation, Boiler Room**

**Classification: Thermal System Insulation**

Asbestos-containing breeching Insulation is located in the boiler room of the school. The breeching insulation is in generally good condition, friable and presents potential for damage.

**Homogeneous Area #4- Pipe Insulation, Boiler Room, Generator Room, Kitchen**

**Classification: Thermal System Insulation**

Asbestos-containing Pipe Insulation is located in the boiler room, generator room, and kitchen office of the school. The pipe insulation is in generally good condition, friable and presents potential for damage.

**Homogeneous Area #5- Heat Exchanger Insulation, Generator Room**

**Classification: Thermal System Insulation**

Asbestos-containing Heat Exchanger Insulation is located in the generator room of the school. The heat exchanger insulation is in generally good condition, friable and presents potential for damage.

**Homogeneous Area #6- Fire Doors, Boiler Room**

**Classification: Non -Friable Miscellaneous**

Asbestos-containing Fire Doors are located in the boiler room of the school. The fire doors are in generally good condition, non-friable and present potential for damage.

**Homogeneous Area #7- Roof Drain Insulation, Cafeteria**

**Classification: Thermal System Insulation**

Asbestos-containing Roof Drain Insulation is located in the cafeteria of the school. The roof drain insulation is in generally good condition, friable and presents potential damage.

## Section 2

### Response Action Determination

The following is based on the Decision Tree for Thermal System Insulation Type ACM. The recommended response actions are determined utilizing the "decision tree" approach for Response Action Determination as outlined in EPA's "Asbestos Hazard Emergency Response Act," (AHERA) 40 CFR 763. Because of defined friability factors associated with surfacing and miscellaneous materials versus thermal system insulation, separate decision trees are utilized for each group of materials.

Decision Trees are used to estimate the risk associated with exposure to asbestos in a given homogeneous area, and to recommend certain response actions, which are consistent with regulatory requirements. Eight response actions are recommended for both thermal system insulation and for surfacing/miscellaneous insulation. The response section number given to each homogeneous area indicates a priority for action, the lower the number, the more serious the hazard. Most response actions call for an operations and maintenance program, assuming that this is the least burdensome method which still protects human health and environment. This does not prohibit the building owner from removal of ACM at any time, if that is the preferred response action.

Recommended response actions are based upon the material condition, disturbance, air-flow and the potential for damage. Potential response actions include the following:

1. Significantly Damaged Thermal System Insulation: Response Action 1. Isolate the area and restrict access to the area. ACM should be removed as soon as possible.
2. Damaged Thermal System Insulation with High Disturbance: Response Action 2. Continue O&M program and remove the ACM as soon as possible or reduce the potential for disturbance.
3. Damaged Thermal System Insulation with Moderate Disturbance and in the Presence of an Air Stream: Response Action 2. Continue with O&M Program and remove the ACM as soon as possible or reduce the potential for disturbance.
4. Damaged Thermal System Insulation with Moderate Disturbance: Response Action 3. Repair ACM, continue with O&M Program.
5. Damaged Thermal System Insulation with Low Disturbance and in the Presence of an Air Stream: Response Action 4. Repair ACM, continue with O&M Program.
6. Damaged Thermal System Insulation with Low Disturbance: Response Action 5. Repair ACM, continue with O&M Program.
7. Undamaged Thermal System Insulation with High Disturbance: Response Action 6. Continue with O&M Program and take preventative measures to reduce disturbance.
8. Undamaged Thermal System Insulation with Moderate Disturbance: Response Action 7. Continue with O&M Program and take preventative measure to reduce disturbance.
9. Undamaged Thermal System Insulation with Low Disturbance: Response Action 7. Continue with O&M Program and take preventative measure to reduce disturbance.

## Section 2

### Response Action Determination (continued)

The following is based on the Decision Tree for Surfacing and Miscellaneous ACM. Recommended response actions are based upon friability, material condition, disturbance, air flow and the potential for damage. Potential response actions include the following:

1. Friable Surfacing or Miscellaneous ACM with Significant Damage: Response Action 1: Isolate the area and restrict access to the area. Remove the ACM as soon as possible.
2. Friable Surfacing or Miscellaneous ACM with Damage and a High Disturbance: Response Action 2: Continue with O&M Program and remove ACM as soon as possible or reduce the potential for disturbance.
3. Friable Surfacing or Miscellaneous ACM with Damage, Moderate Disturbance and in the Presence of an Air Stream: Response Action 2: Continue with O&M Program and remove ACM as soon as possible or reduce the potential for disturbance.
4. Friable Surfacing or Miscellaneous ACM with Damage and Moderate Disturbance: Response Action 3: Continue with O&M Program and schedule removal when practical and cost-effective
5. Friable Surfacing or Miscellaneous ACM with Damage, Low Disturbance and in the Presence of an Air Stream: Response Action 4: Continue with O&M Program and schedule removal when practical and cost-effective
6. Friable Surfacing or Miscellaneous ACM with Damage and Low Disturbance: Response Action 5. Continue with O&M Program and schedule removal when practical and cost-effective
7. Friable Surfacing or Miscellaneous ACM with No Damage and High Disturbance: Response Action 6. Take preventative measures to reduce the disturbance.
8. Friable Surfacing or Miscellaneous ACM with No Damage and Moderate Disturbance: Response Action 7. Take preventative measure to reduce the disturbance.
9. Friable Surfacing or Miscellaneous ACM with No Damage and Low Disturbance: Response Action 8. Take preventative measure to reduce the disturbance.
10. Non-Friable Surfacing or Miscellaneous ACM: Response Action 8: Continue with O&M until major renovation or demolition requires removal under the EPA NESHAPS, or until hazard assessment factors change.

**Section 2**

**Response Action Determination (continued)**

**Advantages and Disadvantage to Abatement Alternatives**

The decision trees outlined in EPA's "Asbestos Hazard Emergency Response Act," (AHERA) 40 CFR 763 are used to provide the "best" alternative for the specific conditions in each homogeneous area.

Below is a discussion of the alternative approaches to asbestos management in a building.

**Long Term Operation & Maintenance Program**

**Advantages:**

- \*Low initial cost for implementation
- \*Good interim plan
- \*An O&M program may be implemented and carried out by in house trained personnel.

**Disadvantages:**

- \*Asbestos remains in the building
- \*Condition of the asbestos must be monitored
- \*Cost of training and special work procedures may be significant
- \*Effectiveness may be limited where control of the building occupants is difficult

**Encapsulation**

**Advantages:**

- \*Reduces the risk of release of asbestos fibers
- \*Initial cost is lower than the cost of asbestos removal
- \*ACM may still serve its initial purpose
- \*Quick temporary means of repair

**Disadvantages:**

- \*Asbestos remains in the building and encapsulant makes removal more difficult
- \*Improper encapsulation may cause the material to delaminate or pull away from substrate
- \*ACM must have an O&M program
- \*Similar preparation for asbestos removal is required for encapsulation
- \*Long term cost may be greater than asbestos removal is periodic reapplication of the encapsulant is required

Section 2

**Response Action Determination (continued)**

**Enclosure**

Advantages:

- \*Enclosure reduces immediate exposure
- \*Initial cost of enclosure is lower than the cost of asbestos removal
- \*ACM may still serve its initial purpose
- \*Quick temporary means of repair

Disadvantages:

- \*Asbestos remains in place and later removal is more difficult
- \*If maintenance is required of the systems insulated with asbestos, the asbestos will be exposed
- \*An O&M program will have to be implemented for the ACM
- \*Similar preparation for asbestos removal is required for enclosure

**Removal**

Advantages

- \*ACM is eliminated from the building
- \*There is no need for an O&M plan
- \*Initial cost is great, but the future costs are eliminated

Disadvantages:

- \*Re-insulation, re-fireproofing, or replacement of materials may be required
- \*Improper removal may raise levels of airborne fibers higher than background levels
- \*The initial cost of removal is very high
- \*Areas of the building involved in asbestos removal may not be occupied during removal

### Section 3

#### **Updated Recommended Response Actions**

The updated recommended response actions are for all the homogenous areas found within the school. The response actions are determined utilizing the decision tree approach for Response Action Determination as described in Section 2.

#### **Homogeneous Area #1- 12" x 12" Beige Floor Tile and Mastic**

**Response Action 8:** The 12"x 12" Beige Floor Tile and Mastic is located within rooms 1 through 6, the cafeteria and kitchen of the school the school is in generally good condition. Continue the O&M Program until major renovations or demolition requires the removal of this material, or until the hazard assessment factors change. Projects can be performed by a non-asbestos abatement contractor with 16-hour O&M training, as long as the tile & mastic is not made friable, however not recommended. Examples of causing tile & mastic to become friable include breaking, sanding, grinding, or cutting. Prior to renovation/demolition the material must be removed if it will be disturbed and any disposal of the material must be treated in accordance with all applicable agency protocols. The floor tile & mastic are assumed to be asbestos containing and should be tested prior to any renovation or demolition work.

#### **Homogeneous Area #2- 9"x 9" Rust Floor Tile and Mastic**

**Response Action 8:** The 9"x 9" Rust Floor Tile and Mastic is located in the hallways, Library, computer room, teachers room, kindergarten room and Principals Office of the school is in generally good condition. Continue the O&M Program until major renovations or demolition requires the removal of this material, or until the hazard assessment factors change. Projects can be performed by a non-asbestos abatement contractor with 16-hour O&M training, as long as the tile & mastic is not made friable, however not recommended. Examples of causing tile & mastic to become friable include breaking, sanding, grinding, or cutting. Prior to renovation/demolition the material must be removed if it will be disturbed and any disposal of the material must be treated in accordance with all applicable agency protocols. The floor tile & mastic are assumed to be asbestos containing and should be tested prior to any renovation or demolition work.

#### **Homogeneous Area #3- Breeching Insulation, Boiler Room**

**Response Action 7:** The Breeching Insulation located in the boiler room is in generally good condition and above the ceiling tile. Limit the potential for disturbance and continue the O&M Program until major renovations or demolition requires the removal of this material, or until the hazard assessment factors change. An asbestos abatement contractor licensed and certified in the Commonwealth of Massachusetts must perform projects, which involve greater than 3 linear or 3 square feet of ACM. Personnel who have been trained as Associated Project Workers, which is a required 16-hour training course, may perform O&M activities, which involve less than three linear or square feet. Prior to renovation/demolition the material must be removed if it will be disturbed.

### Section 3

#### Updated Recommended Response Actions (continued)

##### Homogeneous Area #4- Pipe Insulation, Boiler Room, Generator Room, Kitchen

**Response Action 2:** The pipe insulation located in the generator and boiler room had some damage. Remove or repair damaged fittings and continue the O&M Program until major renovations or demolition requires the removal of all this material, or until the hazard assessment factors change. An asbestos abatement contractor licensed and certified in the Commonwealth of Massachusetts must perform projects, which involve greater than 3 linear or 3 square feet of ACM. Personnel who have been trained as Associated Project Workers, which is a required 16-hour training course, may perform O&M activities, which involve less than three linear or square feet. Prior to renovation/demolition the material must be removed if it will be disturbed.

**Response Action 7:** The pipe insulation located within the remainder of the school is in good condition. Limit the potential for disturbance and continue the O&M Program until major renovations or demolition requires the removal of this material, or until the hazard assessment factors change. An asbestos abatement contractor licensed and certified in the Commonwealth of Massachusetts must perform projects, which involve greater than 3 linear or 3 square feet of ACM. Personnel who have been trained as Associated Project Workers, which is a required 16-hour training course, may perform O&M activities, which involve less than three linear or square feet. Prior to renovation/demolition the material must be removed if it will be disturbed. It should be noted that asbestos-containing pipe insulation may be located above hard ceilings and/or behind walls. As such, a thorough exploratory inspection should be conducted prior to any renovations that may impact wall or ceiling areas.

##### Homogeneous Area #5- Heat Exchanger Insulation, Generator Room

**Response Action 7:** The Heat Exchange insulation located in the generator room is in generally good condition and has a potential for damage. Limit the potential for disturbance and continue the O&M Program until major renovations or demolition requires the removal of this material, or until the hazard assessment factors change. An asbestos abatement contractor licensed and certified in the Commonwealth of Massachusetts must perform projects, which involve greater than 3 linear or 3 square feet of ACM. Personnel who have been trained as Associated Project Workers, which is a required 16-hour training course, may perform O&M activities, which involve less than three linear or square feet. Prior to renovation/demolition the material must be removed if it will be disturbed.

**Section 3**

**Updated Recommended Response Actions (continued)**

**Homogeneous Area #6- Fire Doors, Boiler Room**

**Response Action 8:** The Fire Doors located in the boiler room is in generally good condition. Continue the O&M Program until major renovations or demolition requires the removal of this material, or until the hazard assessment factors change. An asbestos abatement contractor licensed and certified in the Commonwealth of Massachusetts must perform projects, which involve greater than 3 linear or 3 square feet of ACM. Personnel who have been trained as Associated Project Workers, which is a required 16-hour training course, may perform O&M activities, which involve less than three linear or square feet. Prior to renovation/demolition the material must be removed if it will be disturbed.

**Homogeneous Area #7- Roof Drain Insulation, Cafeteria**

**Response Action 7:** The Roof Drain insulation located in the cafeteria is in generally good condition. Limit the potential for disturbance and continue the O&M Program until major renovations or demolition requires the removal of this material, or until the hazard assessment factors change. An asbestos abatement contractor licensed and certified in the Commonwealth of Massachusetts must perform projects, which involve greater than 3 linear or 3 square feet of ACM. Personnel who have been trained as Associated Project Workers, which is a required 16-hour training course, may perform O&M activities, which involve less than three linear or square feet. Prior to renovation/demolition the material must be removed if it will be disturbed. It should be noted that asbestos-containing roof drain insulation may be located above hard ceiling and/or behind walls. As such, a thorough exploratory inspection should be conducted prior to any renovations that may impact wall or ceiling areas.

#### Section 4

##### Recordkeeping Requirements and Recommendations

The AHERA regulations have very specific requirement for the maintenance of records associated with the management of asbestos in the school. The following is a list of some of the key items that the LEA Designated Person must maintain as part of the package:

- AHERA inspection report.
- Subsequent 3-year re-inspection reports.
- 6-month surveillance reports.
- Documentation for minor and major fiber release episodes. This includes abatement work performed by outside contractors as well as work performed by 16 hour trained maintenance personnel no matter how small.
- Documentation for completion of response actions (i.e. clearance testing). This should always include applicable training & licensure documentation for whomever performs the work.
- Labeling of ACBM (friable)
- Yearly notice to parents, teachers and staff.
- Training and medical exams for 16-hour trained personnel. Although training does not require renewal. Medicals are to be performed every year. In addition, 16-hour personnel should be fit tested every six months.
- Two hour awareness training for staff. Any new workers are required to receive this training at start of employment. Training should include specific review of ACBM in building their working in.

The above items are some of the key items, which need to be incorporated into the plan. The following are some recommendations are how best to maintain for easy access and review by outside parties:

- Create a ring for each school. Have a duplicated copy, one for administration office and one for each of the schools.
- Create tab sections in the binder. Each section should contain the information above. This will allow for easy review and update.
- Ensure that for every major and minor fiber release episode, that all documentation is received.
- As you updated your file, ensure the school's is updated.

#### Section 4

##### **Recordkeeping Requirements and Recommendations (continued)**

Also, it is also required that if outside contractors enter building perform work that they review areas where asbestos may be present that will be near their work. Have a log at the school for them to sign that they have read and understand. This will protect the school from liability and ensure outside contractors will not disturb asbestos. Finally, periodically review program internally and with your 16-hour persons to ensure compliance.

**Section 5**

**Estimated Resources Required to Complete the Response Actions**

This section contains the estimated resources required to complete the abatement activities of the identified damaged ACBMs. These estimates will vary according to competitive bidding, accessibility, location, and condition of ACMs, phasing of work, etc. The cost estimate below does not include abatement contactor mobilization, abatement design and/or project monitoring services.

**Estimated Cost to complete the Response Actions at the Allen Elementary School located in North Attleborough, Massachusetts:**

**\$475.00**

**Cost Estimate Worksheet can be found in Appendix B.**

**Section 6**

**Estimated Resources Required For Abatement of the Identified ACBMs**

This section contains the estimated resources required to perform the removal of identified ACBMS, however EPA recommends the ACBMs to be managed in place if they are not damaged. Alternative abatement costs are estimated using current Abatement Contractor Estimates. These estimates will vary according to competitive bidding, accessibility, location, and condition of ACMs, phasing of work, etc. The cost estimate below is a worst case scenario if all identified ACBMs were to be removed. The cost estimate below does not include abatement contractor mobilization, abatement design and/or project monitoring services.

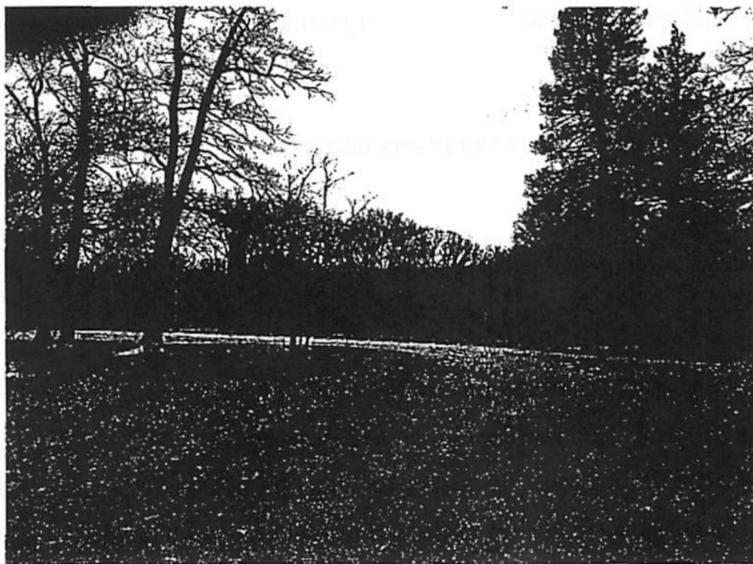
**Estimated Cost for the Removal of ACBMs from the Allen Elementary School located in North Attleborough, Massachusetts:**

**\$73,506.00**

**Cost Estimate Worksheet can be found in Appendix C.**

# **INDOOR AIR QUALITY PRE-OCCUPANCY ASSESSMENT**

**Former Allen Avenue School  
290 Allen Avenue  
North Attleborough, Massachusetts**



Prepared by:  
Massachusetts Department of Public Health  
Bureau of Environmental Health  
Indoor Air Quality Program  
April 2018

## **Background**

**Building:** Former Allen Avenue School  
**Address:** 290 Allen Avenue, North Attleborough, MA  
**Requestor:** Joann Cathcart, North Attleborough ADA Coordinator  
**Date of Pre-Occupancy Assessment:** March 23, 2018  
**BEH IAQ Staff Conducting Assessment:** Mike Feeney, Director, Indoor Air Quality (IAQ) Program  
**Date of Building Construction:** 1951

### **Proposed use of Building:**

The proposed space is located in a one-story building and is to be used as a senior center.

### **Surrounding Businesses/Activities:**

The building is located in a business park near US Route 1 surrounded by woods.

### **Prior use of Building:**

This building was constructed as a school.

### **Previous Relevant Environmental History:**

DCAMM reports that there are no releases listed for this property under the Massachusetts Oil and Hazardous Material Release Prevention and Response Act (MGL 21E, the Mass Contingency Plan (MCP) program). No hazardous waste spills or activity use limitations were found in the Massachusetts Department of Environmental Protection database for this site.

## **Methods**

Air tests for carbon monoxide, carbon dioxide, temperature and relative humidity were taken with the TSI, Q-Trak, IAQ Monitor 7565. Air tests for airborne particle matter with a diameter less than 2.5 micrometers were taken with the TSI, DUSTTRAK™ Aerosol Monitor Model 8520. Screening for volatile organic compounds (VOCs) was conducted using a RAE

Systems Mini-RAE 2000 Photo Ionization Detector (PID). BEH/IAQ staff also performed visual inspection of building materials for water damage and/or microbial growth and examined the space for the presence of odors or other environmental concerns.

### Air Testing Results

Media sampled	MDPH Guideline/ Comparison Value	Measured Range		Comments
		Outdoors/ Background	Indoors	
Total Volatile Organic Compounds (TVOCs)	Equal to or below background level measured on the day of the assessment	ND	ND	No TVOCs detected
Carbon Monoxide (CO)	Non-detectable (ND) or equal to or below background level measured on the day of the assessment (Note: CO sampling not taken if no combustion source is operating e.g., furnace)	ND	ND	HVAC operating in occupied spaces
Particulate Matter 2.5 (PM2.5)	US EPA National Ambient Air Quality Standards (NAAQS) 35 $\mu\text{g}/\text{m}^3$ or less	10	1-2	Below NAAQS of 35 $\mu\text{g}/\text{m}^3$
Temperature	70-78°F	42	68-74	Within MDPH comfort range in occupied spaces, below in unoccupied spaces
Relative Humidity (RH)	40% to 60%	43	48-57	Within MDPH recommended comfort range
Carbon Dioxide (CO <sub>2</sub> )	800 ppm	393	414-490	Within MDPH recommended guidelines

ppm = parts per million

$\mu\text{g}/\text{m}^3$  = microgram per cubic meter

ND = non-detectable

NA = non applicable

HVAC = heating, ventilation and air-conditioning

## Visual Observations

### Ventilation

The IAQ Program had evaluated the building when it was operating as a school in 2004, which indicated that the existing mechanical heating, ventilating, and air-conditioning (HVAC) system that supplied fresh air in classrooms is supplied by unit ventilator (univent) systems. A univent is designed to draw air from outdoors through a fresh air intake located on the exterior wall of the building (Picture 2) and returns air through an air intake located at the base or side of the unit (Figure 1). Fresh and return air are mixed and filtered, then heated and provided to classrooms through an air diffuser located in the top of the unit.

Univents are reportedly original equipment, approximately over 60 years old. According to the American Society of Heating, Refrigeration and Air-Conditioning Engineering (ASHRAE), the service life<sup>1</sup> for a unit heater, hot water or steam is 20 years, assuming routine maintenance of the equipment (ASHRAE, 1991). The operational lifespan of this equipment has long passed. Given its age, continuing to maintaining the balance of fresh air to exhaust air will be difficult at best with equipment of this vintage. Univents of this age can be difficult to maintain because replacement parts are often unavailable. Exhaust ventilation in classrooms was originally provided by ducted, grated wall vents powered by rooftop wind turbines. The turbine-driven wall exhausts are supplemented by vents located in the ceilings of coat closets, which are also powered by non-mechanical rooftop wind-driven turbines. Air is drawn into the coat closet from the classroom via undercut closet doors and removed from the building. Neither the wall nor closet vents were drawing air during the assessment.

Mechanical ventilation for modular classrooms is provided by air handling units (AHUs) mounted on the exterior of each room. Fresh air is distributed to classrooms via a wall-mounted air diffuser and drawn back to the AHUs through a wall-mounted return vent.

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<sup>1</sup> The service life is the median time during which a particular system or component of ...[an HVAC]... system remains in its original service application and then is replaced. Replacement may occur for any reason, including, but not limited to, failure, general obsolescence, reduced reliability, excessive maintenance cost, and change system requirements due to such influences as building characteristics or energy prices (ASHRAE, 1991).

### **Microbial/Moisture Concerns**

One room had water-damaged plaster around a fireplace/chimney (Picture 1), which likely indicates the flashing between the chimney and roofing material is damaged and needs repair.

Of note is the use of wall-to-wall carpeting in some areas (Picture 2). The IAQ Program does not recommend the use of wall-to-wall carpeting in public buildings in general, due to the difficulty in maintaining in good condition, including wear, dirt and spills. Carpeting is also not recommended on slab foundations since it is likely that the materials will be exposed to moisture from condensation forming on floors in contact with the ground during humid weather and/or ground or storm water infiltration. Carpeting moistened periodically will be subject to microbial growth. The service life of carpeting in schools is approximately 10-11 years (IICRC, 2002). Aging carpet can produce fibers that can be irritating to the respiratory system. In addition, tears or lifting carpet can create tripping hazards. Carpeting should be cleaned annually or semi-annually in soiled high traffic areas as per the recommendations of the Institute of Inspection, Cleaning, and Restoration Certification (IICRC, 2012).

The interior of univents were examined. It appears that the school has a crawl space. Spaces were noted between the heating pipes and the floor (Picture 3). These spaces can allow for crawl space odors, mold and moisture to enter the interior of the building.

### **Other Concerns**

Due to the age of the building, it was reported that asbestos-containing floor tiles are located throughout. In many areas, tiles have been laid over with wall-to-wall carpeting. Removal of the carpeting may require compliance with various asbestos removal laws and regulations.

### **Recommendations**

Based on observations and measurements at the time of the visit, the following recommendations are made:

1. Remove water-damaged carpeting in a manner consistent with US EPA "Mold Remediation in Schools and Commercial Buildings" (US EPA, 2008). This work should be performed when the building is unoccupied. In addition, due to the age of the building and the presence of asbestos-containing floor tiles, all work should be done in accordance with state and federal regulations.
2. Replace old, worn carpeting past its useful life (> 10-11 years). If not removed, clean carpeting annually or semi-annually in soiled high traffic areas as per the recommendations of the Institute of Inspection, Cleaning, and Restoration Certification (IICRC, 2012).
3. Seal all spaces inside of univents with a fire rated expandable foam.
4. Repair the junction between the chimney and roof to render watertight. Scrape and replace plaster.

## Reference

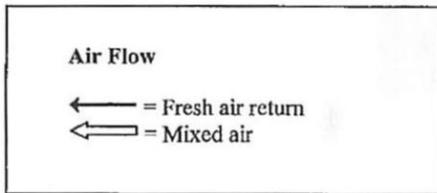
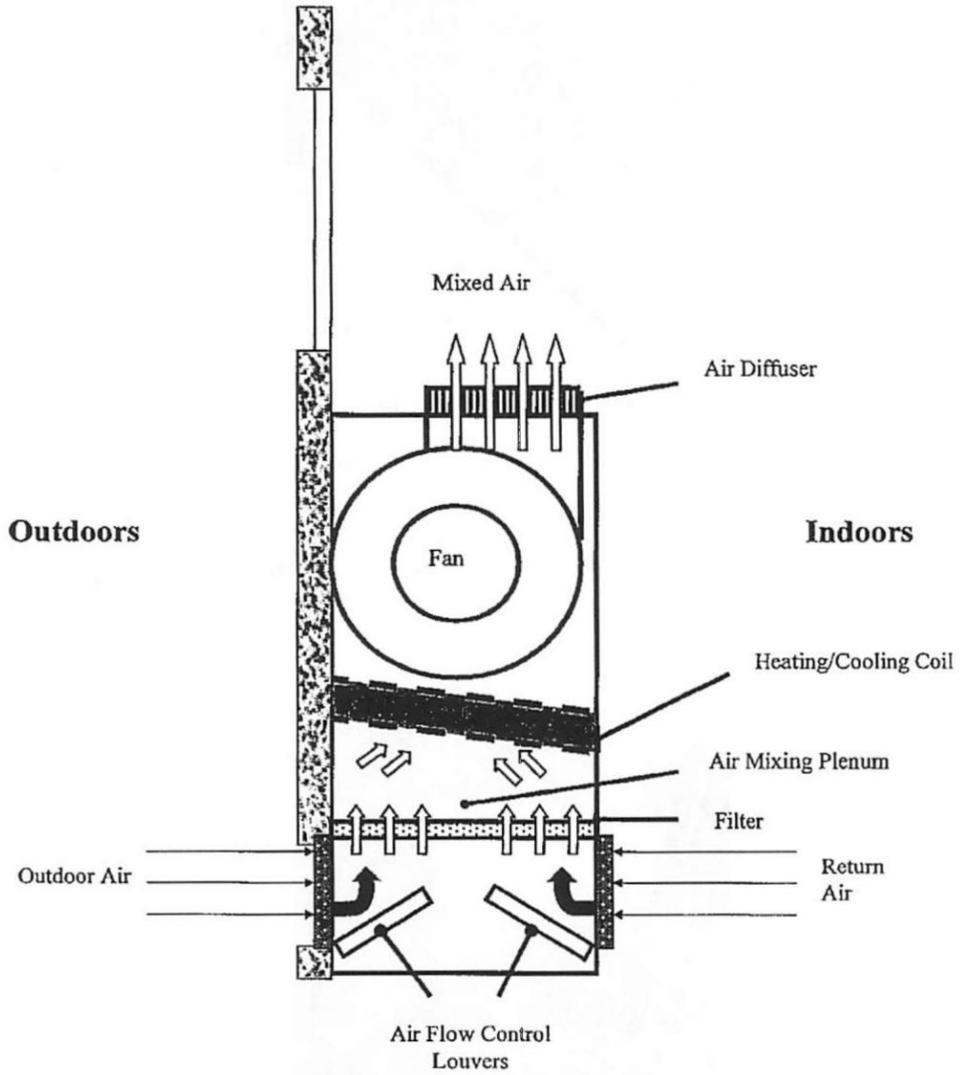
ASHRAE. 1991. ASHRAE Applications Handbook, Chapter 33 "Owning and Operating Costs". American Society of Heating, Refrigeration and Air Conditioning Engineers, Atlanta, GA.

IICRC. 2002. Institute of Inspection, Cleaning and Restoration Certification. A Life-Cycle Cost Analysis for Floor Coverings in School Facilities.

IICRC. 2012. Institute of Inspection, Cleaning and Restoration Certification. Carpet Cleaning: FAQ.

US EPA. 2008. "Mold Remediation in Schools and Commercial Buildings". Office of Air and Radiation, Indoor Environments Division, Washington, DC. EPA 402-K-01-001. September 2008. Available at: <http://www.epa.gov/mold/mold-remediation-schools-and-commercial-buildings-guide>.

Figure 1: Unit Ventilator (Univent)

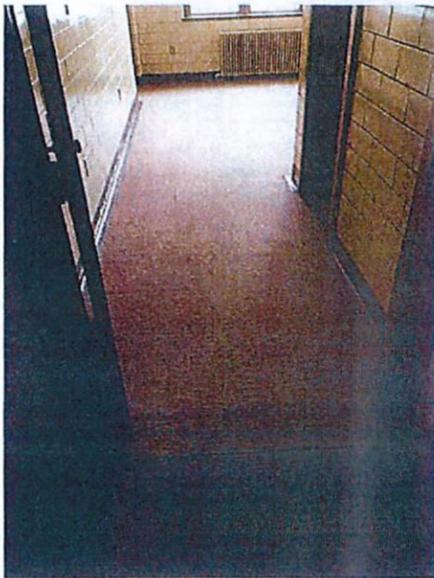


**Picture 1**



**Water-damaged plaster around a fireplace/chimney**

**Picture 2**



**Wall-to-wall carpet over tile**

Picture 3



Space between floor and heating pipes inside univent





Allen Avenue School

Robert Hill Avenue

1 inch = 200 feet



RIVERMOOR ENGINEERING, LLC  
*PROFESSIONAL ENGINEERS*

## Initial Structural Observation Site Visit Report

(Meeting Investigation & Evaluation Subsection 104.2.2.1  
of MA Amendments to IEBC 2015)

Site: Allen Avenue Elementary School 290 Allen Ave. North Attleboro, MA

Date of site visit: November 17, 2020

Reference: 1) IBC & IEBC 2015 w/ MA Amendments

Rivermoor Engineering conducted a structural observation/inspection of the above referenced property, a single story concrete block with brick exterior masonry structure, circa 1950. The building is for the most part rectangular with a higher wall section at one end, forming a "T" shape gymnasium /cafeteria. The existing use is a school (Use Group E) with a proposed change to a senior center. ( Use Group (A-3 : to be verified by Architect) Rivermoor Engineering's observation was limited to areas open to view and ceiling panels removed in some areas to identify the major structural elements.

We understand that the purpose and intent of this observation is to provide information concerning the structural integrity of the existing structure and its ability to perform with the modifications proposed. Our report is limited to the areas exposed to view on the day of the site visit. Uncovered conditions are not part of this observation. This site review consists only of structural elements and only of the specific elements exposed to view.

### **Structural Observations**

In November of this year, Rivermoor Engineering conducted a site review of the structural elements at the above referenced property. The intent of the site visit and report is not to establish exact dimensions or visual inspect each member, but to get an overall understanding of the building structure. The commentary that follows considers each structural element of the building.

- General: The overall building structure is in sound structural condition.
- The foundation consists of reinforced concrete perimeter strip footings and interior concrete piers supporting 2 ft. deep reinforced concrete beams. In the accessible areas for utilities & boiler room, there is a concrete slab on grade. The remaining area is crawlspace with dirt floor. At grade level the concrete foundation walls appear sound and not subject to any major settlement.
- Precast concrete plank form the 1<sup>st</sup> floor level and span between the deep beams and set on the perimeter concrete walls.

- The exterior walls are constructed of an inside layer of 8" concrete masonry (CMU) with a solid 4" layer of brick on the exterior. There is some spalling of brick mortar at and around the window and door lintels and a few noticeable wall joint separations. No major cracking was noticed in the exterior layer. It is not known if the CMU hollow block has internal reinforcement and/or core filled cells.
- The interior first floor walls in the classroom area form the corridors and appear to be 8" CMU bearing walls for the roof. In the area of the cafeteria/ gym/ kitchen there are 4 " solid CMU block partition walls that are 18 ft. tall. All appear in sound condition
- The roof framing in the gym/cafeteria area consists of W14 steel beams with secondary W6 steel beams that appear to support a roof plank or sheathing of unknown material. The ceiling panels in the lobby area and classrooms obstructed a clear view as to the framing size and spacing. Although it appears to be consistent with the steel frame and roof deck of the exposed gym roof.
- Since there are no structural plans available to review, the lateral support system of the building is assumed to be the perimeter exterior walls.

**Building Code Review – International Existing Building Code IEBC 2015 with MA Amendments**

The 9<sup>th</sup> Edition of the Mass State Building Code adopted the 2015 International Existing Building Code, IEBC with regard to the control of work on existing buildings. The work required by the Code is dependent on the type and scope of work to be performed. The following outline and commentary was prepared to evaluate the extent of impact to the structural elements in the existing building.

**101.5.4.0 Conduct site investigation (Refer to MA Amendments to this Section)**

*Site investigation was performed in November 2020 by Rivermoor Engineering. See observation and comments above.*

**CHAPTER 3 IBC Use and Occupancy Classification**

*Change of use from Education E to Assembly A-3  
To be verified.*

**Chapter 10 IEBC Change of Occupancy**

*General Comments: .." when change of occupancy occurs, the requirements of Chapter 9 for Level 3 Alterations apply..."*

**Chapter 9 Level 3 Alterations**

**907.1 General:** "These structural requirements apply to alterations where the work area exceeds 50% of the aggregate area of the building"

**907.2 New structural elements must comply with section 807.2**  
All new elements shall meet the latest codes.

**907.3 Existing Structural Elements carrying gravity load. ..** "requires the evaluation of these additional loads, including the effects of snow drift.."

**907.4 Existing Structural Elements resisting lateral loads.**  
" All existing elements of the lateral force resisting system shall comply with this section. "

**907.4.1 Evaluation and analysis**

**A lateral analysis is required and depending on the extent of modification to the existing building and the Seismic Design Category retrofit to the structure will be necessary.**

**907.4.5 Wall anchors for concrete and masonry**

**"For any building...with a flexible roof system or consisting of unreinforced masonry walls..the alternative work shall include ..wall anchors.."**

**Projected Summary:**

The proposed change of use and the original walls being constructed of masonry (presumed unreinforced – to be verified) will trigger a lateral analysis of the building. The extent of retrofit and the findings of this evaluation will determine the extent of structural modifications necessary.

If there are little or no changes to the exterior walls and there is no proposed added stories, and the seismic analysis qualifies the existing exterior block walls to be adequate, we would expect the mitigation to be limited to connections at the roof wall interface and the removal or stiffening of the 4" interior block walls.

Please be advised that this summary may change with the final analysis.

**Rivermoor Engineering, LLC**



Peter J. Falk, PE

# ZADE

ZADE ASSOCIATES, LLC.  
Consulting Engineers  
140 Beach St., Boston, MA 02111  
Phone: (617) 338-4406  
Fax: (617) 451-2540  
Email: [zade@zadeengineering.com](mailto:zade@zadeengineering.com)

Mohammed Zade Ph.D., P.E.  
Muzaffer Muctehitzade M.Sc., P.E.

**Annino Inc.**  
125 North Washington Street  
North Attleboro, MA 02760

**December 9, 2020**

**Att: Mr. Doug Annino**  
RE: North Attleboro Elementary School  
Allen Ave.  
North Attleboro, Ma  
SJ: Field Survey

Dear Doug,

As requested I visited the site and observed existing ventilation and mechanical systems at the above referenced project.

This observation was based on visible components only, no operational or investigative analysis of concealed components was observed.

**Building Summary:**

1 story masonry building  
Currently building is vacant  
There is a dirt crawlspace under existing building  
Building does not have an elevator.

Purpose of this survey was to identify the existing MEP-FP systems for building in preparation for occupancy change to new YMCA facility.

**Heating System:**

Existing conditions:

Existing building is served by a Dunham-Bush gas boiler in mechanical room. System in hot water utilizing cast iron convectors and air handlers throughout building. Boiler is 3,000 MBH

There is est. 24" diameter flue enters to chimney. It was not clear if the chimney is lined or not, there was no access opening visible.

Expansion tanks are mounted to ceiling, piping seems to be insulated with asbestos type insulation.

There is combustion air from roof that enters into the room in the back near windows.

There is a small attached building used to create two tenant spaces. These are being worked on at time of walk through. Each space have a self contained air condition through the wall.

In the existing classroom have heat only fan coil units that have fresh air through louver. Existing units would be removed and replaced during occupancy change.

#### **Ventilation System:**

Classrooms have mechanical ventilation through the heat only fan coil units. Corridor and other internal rooms do not have means of mechanical ventilation. Bathrooms are exhausted to roof through gooseneck. Central kitchen has hood which is vented to roof, fan is located in space.

Gravity type ventilators are located along roof that seem to be left overs from an older method of natural ventilation. These would be removed as they will no longer serve any purpose.

#### **Plumbing System**

There is a 2" domestic cold water service in the main water heater room. The water meter is 1.5". This will meet future needs to the building.

There are two gas fired State 40 gal. water heaters that are installed in boiler room. They are atmospheric type and are vented into chimney. These units are in good working order, depending on final design of new tenant they could be reused but we would recommend replacement due to their age and having a low efficiency rating.

Cast iron drainage has been used and is visible in crawlspace. Piping is in good shape for its age. We would recommend that a camera inspection be completed to see if any of the main is worthy to maintain and keep for future tenant.

Any new connection to existing piping will be very difficult due to age of the drain lines and may need to be replaced due to piping crumbling or breaking when being worked on.

There are internal roof drains, piping could not be seen inside to know if insulated

#### **Electrical System**

Building has 400a/3phs/120-208v system fed underground from the street. There is no pad mounted transformer for the site. We estimate a new electric service and pad mounted transformer will need to be installed for the upgraded ventilation systems.

There is a one meter for the building, a future meter socket was available but not used.

Existing service to units is sufficient for new proposed occupancy change.

Lighting is mostly surface mounted, dated fixtures. These will have to be changed to meet new energy code requirements.

Some common area receptacles are non grounding type. All devices will have to be change to meet current NEC 2020 requirements

Recommendations would be remove the existing generator and associated transfer switch. A new switchgear and meter bank will have to be installed and to accommodate the future needs.

### **Life Safety System**

Existing conditions.

Building has an existing Fire lite by Honeywell zoned fire alarm control panel with four zones. Fire alarm panel model is MS-5UD. This is a zone type panel. The zone type panel will have to be removed and replaced with addressable type upon renovation. Existing devices could remain depending on the availability and selected panel used.

System consist of some pull stations, heat detectors in unit entrances, smoke detectors in common areas and horn/strobes in common areas.

Building does not have a bi-directional antenna. We recommend a test be completed before demolition to see if the building passes this required test for local FD radio coverage.

Emergency exit signage has been provided but need enhancement and also depending on cosmetic finishes, all may have to be replaced.

### **Sprinkler System**

This building does not have any sprinkler system. When building occupancy change there will be a requirement to install a NFPA-13 system through the building.

If you should have any questions, or require further information, please contact our office.

Sincerely,  
**ZADE ASSOCIATES LLC.**

Muzaffer Muctehitzade, P.E.  
Principal

## Allen Avenue Community Center

290 Allen Avenue  
North Attleboro, MA

## Town of North Attleborough

January 26, 2021

### Outline Scope of Work Conceptual Design of Adaptive Reuse

#### Division 2 Existing Conditions and Demolition

- Assume \$125,000.00 for asbestos abatement and remediation
  - Friable and non-friable asbestos containing materials were found in floor tiles and mastic, pipe insulation, heat exchanger insulation, boiler insulation, fire doors, roof drains.
  - Friable and non-friable asbestos containing materials are assumed to be present in window caulking, roofing work, in pipe chases inside walls.
- Assume \$25,000.00 for lead abatement and disposal
  - Lead coatings were found on windows, radiators, door and window lintels, door jambs and pipe as well as on the exterior of the building on doors, frames, lintels, overhangs, flagpole.
- Demolition of existing drywall, acoustical tile and grid and moldings at ceiling
- Demolition of existing finish flooring, all carpet, 9x9 floor tile and 12x12 floor tile down to concrete slab.
- Demolition of existing stairs and rails exiting the gymnasium and kitchen.
- Demolition and removal of existing metal stairs at boiler room.
- Demolition of existing steps and platform at entry.
- Sawcut and remove existing concrete at kitchen to enable installation of new sanitary system.
- Demolition of all existing exterior windows, frames and trim.
- Demolition of all exterior doors and frames.
- Removal of existing heating system including boiler, heat exchanger, piping, pneumatic temp. control, expansion tanks, gas piping, exterior unit ventilators, grills, exterior louvers.
- Demolition and removal of existing electrical system including all fire alarm devices, annunciators, strobes, smoke detectors and main panel. Remove all lighting fixtures, receptacles and switches. Remove existing generator and transfer switch,
- Remove and dispose of all existing water supply lines, sanitary lines, plumbing fixtures and associated hangers, thermostats and control valves. Remove existing 2 gas fired water heaters. Remove existing roof drains.
- Remove existing bituminous concrete drive at the front of the building.
- Remove existing flagpole.

- Selective clearing, cleaning and pruning at the exterior perimeter.
- Remove existing miscellaneous concrete curbs and pads no longer in use.
- Remove exterior lighting devices.

### Division 3                  Concrete

- Installation of new 4" concrete slab on metal deck at existing boiler room
- Installation of new concrete ramp and entry steps at front entry to building.
- Installation of new concrete pad at exit door.
- Installation of new concrete footings at new exterior stairs.
- Fill existing trenching where concrete is cut away and removed for new sanitary plumbing system in Kitchen.

### Division 4                  Masonry

- Patch and repair existing masonry where damaged.
- Power wash/clean existing masonry walls.
- Repoint chimney.

### Division 5                  Metals

- Install new metal stairs at two locations adjacent to Gym and Kitchen.
- Install new structure under new concrete deck at old boiler room.
- Install new handrails at entry stair and ramp.
- Provide new structure at all roof top units.
- Provide decorative entrance canopy.

### Division 6                  Wood, Plastics

- Miscellaneous wood trim replacement, repair at the exterior of the building.
- Window trim where required.
- Interior partition construction where required.
- Interior partitions at new toilet rooms.
- Finish Carpentry
  - Repair existing millwork.
  - Kitchen and breakroom cabinetry.
  - Laminate countertops
  - Installation of solid core vanity tops in restrooms.
  - Front lobby desk reception area.

### Division 7                  Thermal and Moisture Protection

- Patch and repair EPDM roof, repair flashing at chimney.

- Flashing at all new equipment curbs and penetrations.
- Roof walkway pads.
- New 3 ½" batt insulation at new toilet room walls.
- 

#### Division 8                      Openings

- Exterior aluminum storefront doors and windows. Thermally broken, 1" insulating clear glass.
- Exterior aluminum windows assume 30% operable awnings. Thermally broken, 1" insulating clear glass.
- Sealant at all new windows and doors.
- Exterior insulated hollow metal doors and new frames.
- Interior doors, birch, solid core natural finish in new hollow metal frames, match existing openings.
- Door hardware at exterior doors to be brushed chrome, including panic hardware, closure, weatherstrip, threshold, cylinder and pull.
- Door hardware at aluminum entrances to be as provided by manufacturer and shall feature 1" offset pull, panic hardware, closure, weatherstrip and threshold. Automatic opener at main entrance door.
- Interior doors to have medium duty commercial hardware by Schlage or equal, lever handle, lockable.

#### Division 9                      Finishes

- Existing ceiling at gym to be painted with exposed ductwork and sprinkler system painted.
- Lobby ceiling to be ½" GWB painted.
- Hallway ceilings to be 2'x2'x3/4" tegular edge acoustical tile in thinline grid.
- Interior spaces to be 2'x2'x3/4" tegular edge acoustical tile in standard grid.
- Repaint all areas currently painted, clean all glazed block.
- Install new ½" GWB ceilings at all new toilet rooms.
- New walls to be insulated and shall have 5/8" GWB with class 4 finish.
- Existing terrazzo floors to be repaired, cleaned and finished in all areas they presently exist.
- Toilet rooms to have 1"x1" ceramic mosaic tile, thin set. Provide cove base.
- Toilet Room walls to have 4"x4" matte, ceramic wall tile up 3'-0" on all walls.
- Hallways and common spaces to have luxury vinyl tile, provide 4" vinyl base where required. Color #1
- Gymnasium and classrooms to have luxury vinyl tile, provide 4" base where required, color #2.
- Lobby to have 6 foot by 6 foot walk off mat with viunyl edge.
- Offices to have carpet tile.

## Division 10 Specialties

- Installation of toilet accessories in all toilet rooms. Provide grab bars, toilet tissue dispenser, sanitary napkin dispenser, soap dispenser, paper towel dispenser, trash disposal and mirrors. All accessories to meet or exceed MAAB requirements.
- Provide all blocking required for accessories.
- Provide window shades at all windows, roll down type.
- Provide toilet partitions as shown on drawings, phenolic, floor mounted.
- Provide all soap dispensers and paper towel dispensers at kitchen hand sinks and miscellaneous hand and kitchen sinks.
- Provide Interior and exterior signage including building signs.
- Provide fire extinguishers and cabinets.

## Division 11 Equipment

- Provide new commercial kitchen hood, exhaust and make up air system.
- Provide Ansel fire suppression system at kitchen hood.
- Provide grease trap under three bay sink.
- Provide six burner commercial kitchen range and oven.
- Provide 2 door commercial refrigerator.
- Prepare existing dishwash equipment for reuse. Owner to coordinate with Ecolab to provide disinfectant and washing for three bay sink and dishwasher.
- All existing equipment to be reused to be cleaned, repaired and ready for use.
- Provide gas burner to fireplace in new lounge area.
- Provide fireplace accessories for Lounge fireplace.

## Division 12 Furnishings

- Provide bike rack at exterior of building.
- Provide new 30-foot aluminum flagpole and lighting.
- Provide exterior wood benches at entry.

## Division 21 Fire Suppression

- Installation of a fully sprinklered fire protection system.

## Division 22 Plumbing

- Provide accessible bathrooms with toilet, sink and automatic faucet and flush valves.
- Provide complete plumbing system for commercial kitchen including grease trap and floor drains.
- Provide hot water boilers, hot and cold-water distribution.
- Provide new storm water drainage piping from roof drains.

- Provide complete sanitary waste and vent piping.
- Provide all backflow preventers, shutoffs, etc.

**Division 23 Heating, Ventilating and Air Conditioning**

- Heating, cooling and ventilation system for year-round operation with controls.
- Ventilation system from roof top mounted heating and cooling equipment.
- Bathroom exhaust system.
- Make up air system as required.
- Kitchen hood exhaust and make up air unit.

**Division 26 Electrical**

- New electrical system to meet NAED and NEC code.
- Provide electrical connections to all HVAC, lighting, power and appliances per code.
- Provide all LED light fixtures.
- New Fire Alarm system to meet all state and local requirements. Provide all necessary exit signs, emergency lights, strobes and annunciators.
- Provide pole mounted site lighting adequate to maintain 1.0 fc.
- Provide data, security and telephone wiring and terminations to owner supplied equipment.

**Division 31 Earthwork**

- Provide tree protection as well as adequate protection around the YMCA and Food Pantry activities in the rear of the site.

**Division 32 Exterior Improvements**

- Provide new storm water drainage system at the exterior parking lot and drives.
- Remove and replace existing pavement with new bituminous pavement and cape cod berms.
- Provide new vehicular parking space markings and handicap parking signs.
- Provide new landscaping as required around the building. Selectively prune existing trees and remove dead or decaying vegetation.
- Clean and recondition areas around flagpole to preserve and enhance the appearance.
- Seed all areas disturbed by construction.
- Install bituminous concrete sidewalk at front of building to drive aisle.

**Division 33 Utilities**

- Install new 6-inch water line from the street to the building to provide sprinkler system water as well as domestic water.

- Install or upgrade existing gas line to the building, coordinate with Liberty Utilities.
- Provide new electrical service to the building. Upgrade service as required, provide pad mounted transformer if necessary.

END

## Allen Avenue Community Center

290 Allen Avenue  
North Attleboro, MA

### Town of North Attleborough

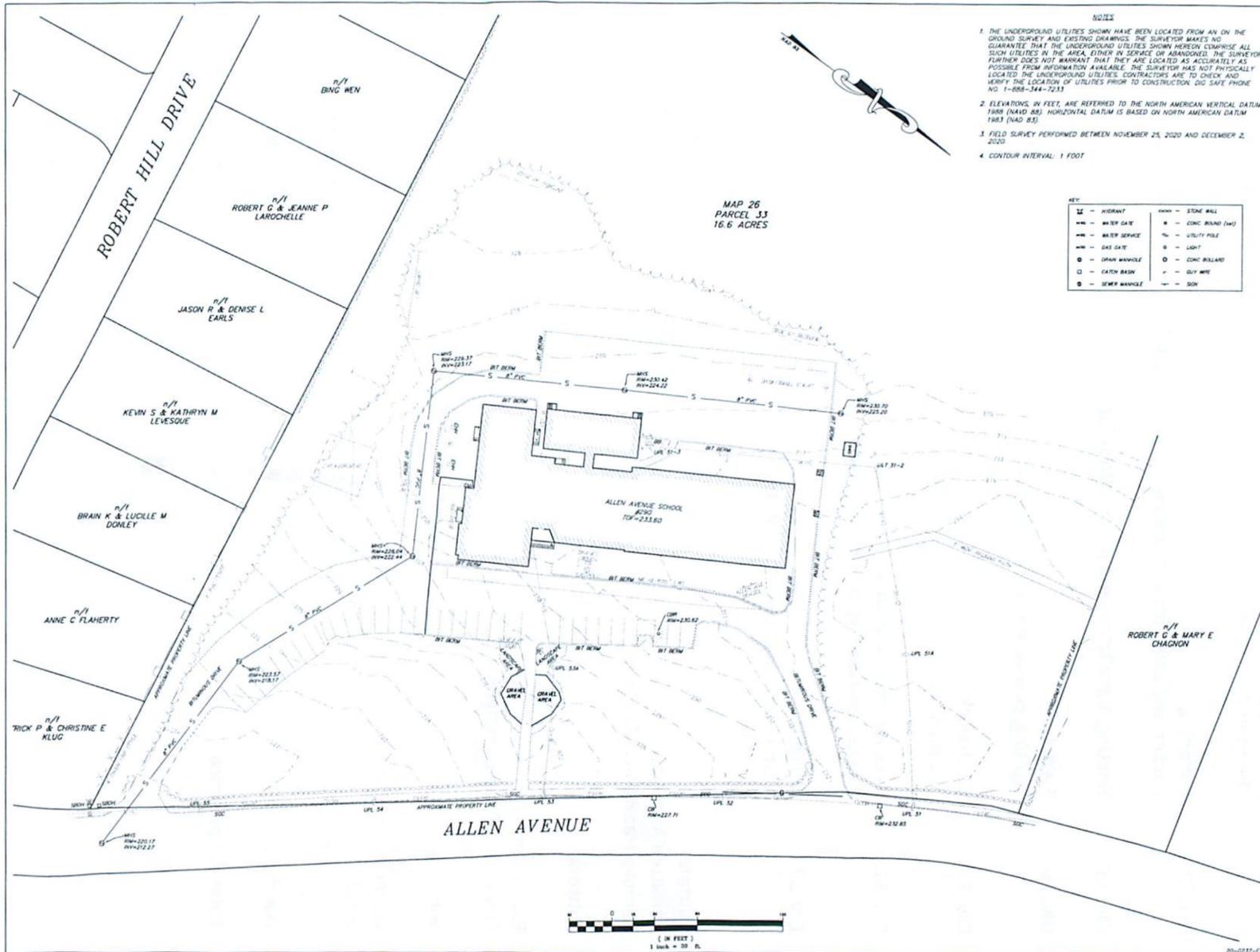
January 26, 2021

## Preliminary Construction Budget Adaptive Re-use

### SUMMARY ADAPTIVE RE-USE

<b>Div. 2</b>	<b>Demolition</b> Interior and exterior selective demolition	\$72,290.00
<b>Div. 3</b>	<b>Concrete</b> Interior and exterior concrete work	\$116,440.00
<b>Div. 4</b>	<b>Masonry</b> Patch, repair and clean	110,000.00
<b>Div. 5</b>	<b>Metals</b> Metal fabrications and steel framing	\$116,900.00
<b>Div. 6</b>	<b>Wood and Plastics</b> Rough carpentry and millwork	\$64,000.00
<b>Div. 7</b>	<b>Thermal and Moisture Protection</b> Waterproofing, firestopping, joint sealers	\$70,000.00
<b>Div. 8</b>	<b>Doors and Windows</b> Exterior windows and doors, interior doors and frames	\$309,145.00
<b>Div. 9</b>	<b>Finishes</b> Tile, acoustic tile, resilient floor, paint and GWB	\$286,099.00
<b>Div. 10</b>	<b>Specialties</b> Signage, toilet accessories, fire ext.	\$18,000.00
<b>Div. 11</b>	<b>Equipment</b> Appliances, projection screen	\$35,000.00
<b>Div. 12</b>	<b>Furnishings</b> Window blinds, entrance mat	\$17,000.00

<b>Div. 21</b>	<b>Fire Suppression</b>		
	Fire sprinkler system		\$137,664.00
<b>Div. 22</b>	<b>Plumbing</b>		
	Kitchen and toilet room plumbing, roof drains, boilers		\$286,900.00
<b>Div. 23</b>	<b>Heating, Ventilating and Air Conditioning</b>		\$754,850.00
<b>Div. 26</b>	<b>Electrical</b>		
	Lighting, power, fire alarm system		\$724,656.00
<b>Div. 31</b>	<b>Earthwork</b>		
	Site prep, erosion control, earthwork		\$60,000.00
<b>Div. 32</b>	<b>Exterior Improvements</b>		
	Paving, landscaping, site improvements		\$161,325.00
<b>Div. 33</b>	<b>Utilities</b>		
	Water, gas, electrical, storm water		\$222,450.00
<b>Subtotal</b>			<b>\$3,562,719.00</b>
	Furniture Allowance		Not included
	Remove Hazardous Materials		\$150,000.00
<b>Subtotal</b>			<b>\$3,712,719.00</b>
Escalation	3.0%		\$111,382.00
Design and Price Contingency	10%		\$371,272.00
<b>Subtotal</b>			<b>\$4,195,373.00</b>
General Conditions	8%		\$335,630.00
Bond	0.80%		\$33,563.00
Insurance	1.25%		\$52,442.00
Permit			Waived
Overhead and Profit	4.0%		\$167,815.00
<b>Total Budget Price</b>			<b>\$4,784,823.00</b>



- NOTES**
1. THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM AN ON THE GROUND SURVEY AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN HEREOF COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. CONTRACTORS ARE TO CHECK AND VERIFY THE LOCATION OF UTILITIES PRIOR TO CONSTRUCTION. DIG SAFE PHONE NO. 1-888-344-7233
  2. ELEVATIONS, IN FEET, ARE REFERRED TO THE NORTH AMERICAN VERTICAL DATUM 1988 (NAVD 88). HORIZONTAL DATUM IS BASED ON NORTH AMERICAN DATUM 1983 (NAD 83).
  3. FIELD SURVEY PERFORMED BETWEEN NOVEMBER 29, 2020 AND DECEMBER 2, 2020
  4. CONTOUR INTERVAL: 1 FOOT

**KEY**

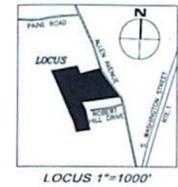
—	HYDRANT	—	STONE WALL
—	WATER GATE	—	CONC. BAND (wall)
—	WATER SERVICE	—	UTILITY POLE
—	GAS GATE	—	LIGHT
—	DRAIN MANHOLE	—	CONC. BOLLARD
—	CATCH BASIN	—	GUY WIRE
—	SEWER MANHOLE	—	SOB

**PROJECT:**  
290 Allen Avenue  
North Attleboro,  
MA 02760

**PREPARED FOR:**  
Annino Inc.  
125 North  
Washington Street  
North Attleboro,  
MA 02760

**Bay Colony Group, Inc.**  
Professional Civil Engineers &  
Professional Land Surveyors

FOUR SCHOOL STREET  
P.O. BOX 9136  
FOXBOROUGH, MA 02035  
508-543-3436



**DRAWING TITLE**  
Existing  
Conditions  
Plan

SCALE: 1" = 30'  
DEC. 14, 2020 SHEET NUMBER  
**1**

20-0227-01

290 Allen Avenue

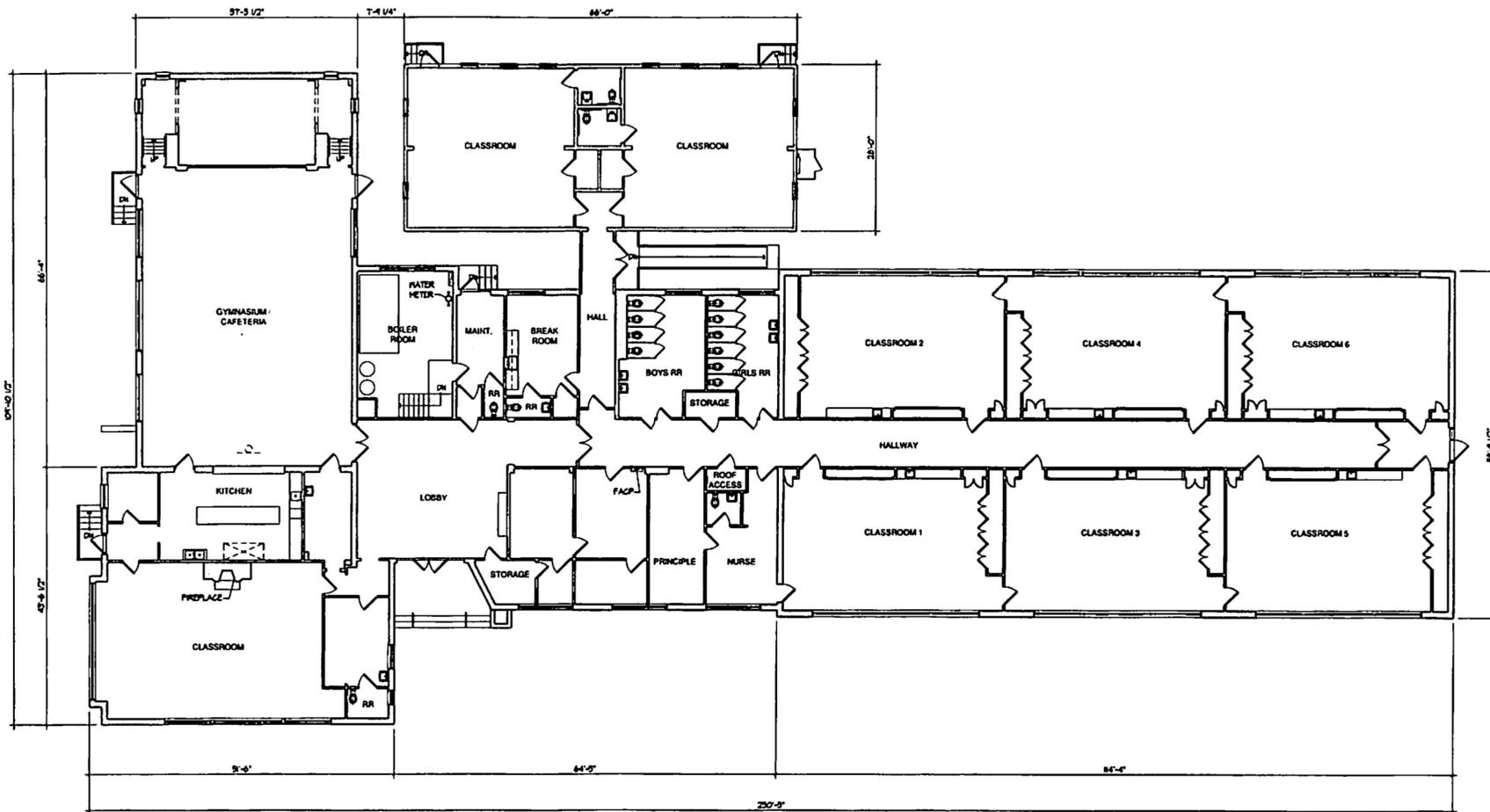


MAP FOR REFERENCE ONLY  
NOT A LEGAL DOCUMENT

Town of North Attleboro, MA makes no claims and no warranties, expressed or implied, concerning the validity or accuracy of the GIS data presented on this map.

Geometry updated 10/19/2020  
Data updated 10/19/2020

1" = 179 ft

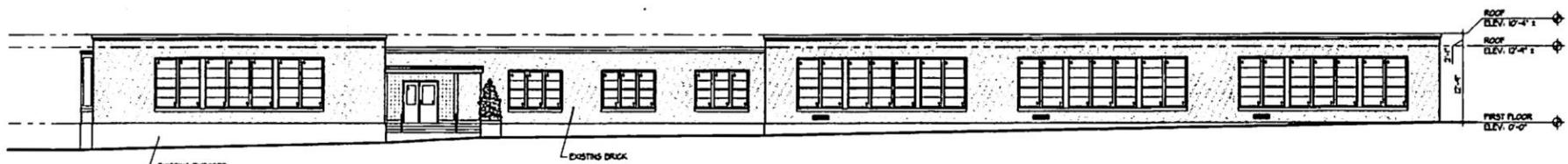


A  
**ADDISO**  
 ARCHITECTS • PLANNERS  
 125 NORTH WASHINGTON STREET  
 NEWTON, MASSACHUSETTS  
 02459-3034

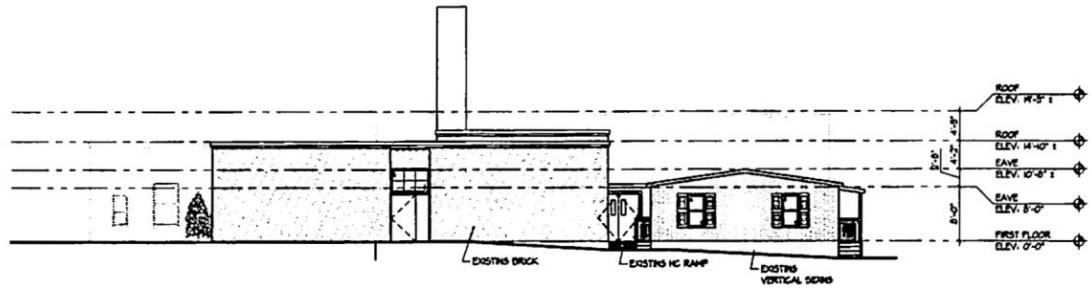
SHEET 2  
 08.08.08 1:00 PM

① EXISTING FIRST FLOOR PLAN  
 1/8" = 1'-0"

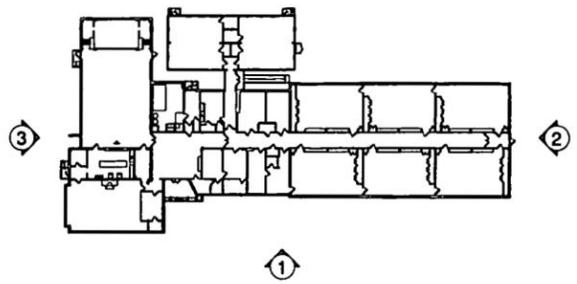
**ALLEN AVE  
 SCHOOL REUSE**  
 230 Allen Avenue  
 North Andover, Massachusetts  
 01845-1111  
 EXISTING  
 FLOOR PLAN  
 1/8" = 1'-0"  
**EX1.1**  
 JAN 10 2008  
 © George W. Thompson, Inc.



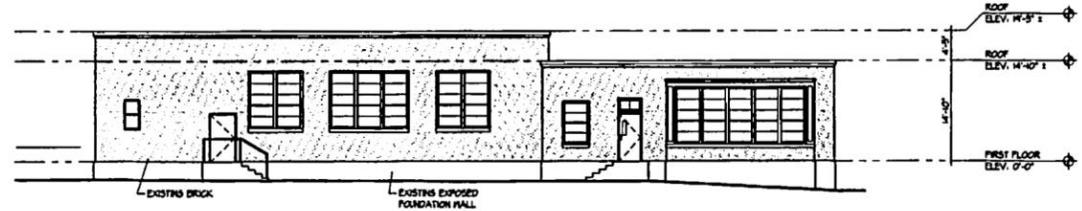
① EXISTING FRONT ELEVATION  
 1/8" = 1'-0"



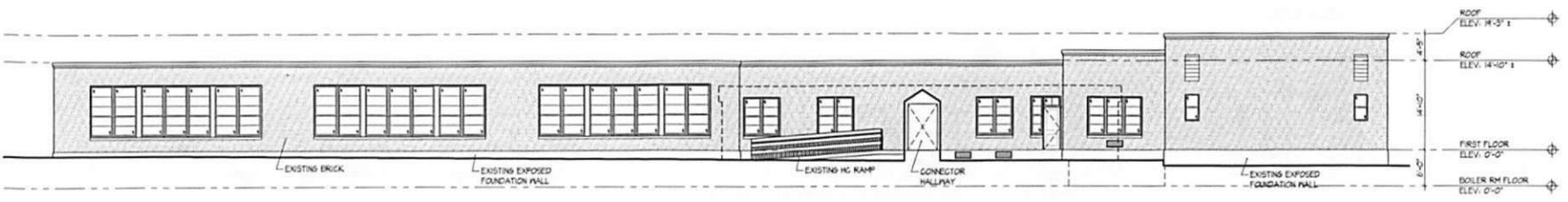
② EXISTING SIDE ELEVATION  
 1/8" = 1'-0"



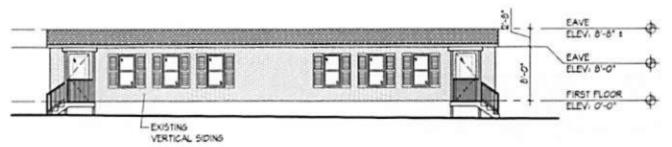
KEY PLAN  
 1/8" SCALE



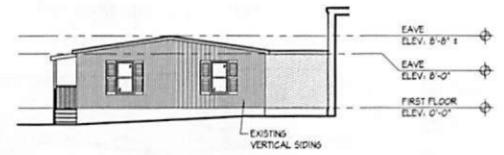
③ EXISTING SIDE ELEVATION  
 1/8" = 1'-0"



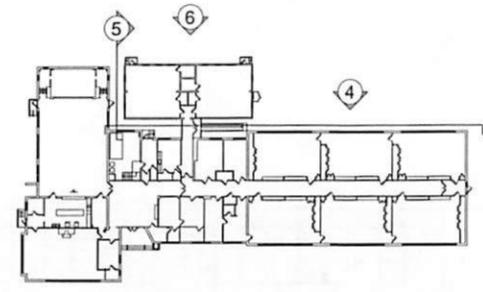
④ EXISTING REAR ELEVATION  
1/8" = 1'-0"



⑥ EXISTING CLASSROOM BLDG ELEVATION  
1/8" = 1'-0"



⑤ EXISTING CLASSROOM BLDG SIDE ELEVATION  
1/8" = 1'-0"



KEY PLAN  
NO SCALE