

EXECUTIVE SUMMARY

The following existing conditions reports for Minuteman Regional Vocational Technical School (MMRVTS) provides a detailed analysis of systems related to: Code Compliance (Building and Accessibility), Landscape, Architecture, Food Service, Structural (Building and Seismic), Plumbing, Fire Protection, Mechanical, Electrical, and Technology, Site Environmental, and Hazardous Materials. The purpose of this portion of the study is to evaluate and identify deficiencies of the existing facility as a repair only benchmark for evaluation of other alternatives for renovations, additions, or new construction.

Construction of Minuteman was completed in 1974 and provided approximately 305,000 gross square feet of floor area. The building is rectangular in shape with staggered interior floor levels which allow sunlight to filter from skylights on the roof to lower levels of the building. Large open common spaces, such as the Media Center (called the IRC), gymnasium, cafeteria, and trades hall, occupy the center of the building and are open to the loop corridor serving the perimeter classrooms. Unfortunately, the majority of these perimeter classrooms do not have windows to provide views or natural sunlight; this is also the case for many interior classrooms, such as trades related classrooms and the science labs, which are landlocked and without natural sunlight. Shops are primarily located in the interior of the building and do not provide direct access to the public for interaction and sales. For example, to access the restaurant and bakery one must enter the school and go up a floor level which is difficult considering current security concerns in schools and handicapped accessibility.

As will occur with any school building in continuous use for almost 40 years, several repair and replacement projects have occurred, large and small, in a continuing effort to simply maintain the facility and to adapt to changing educational needs. For example, in 1985 the original built up roof was replaced with a PVC system which was further repaired during the summer of 2008. In 1998, because of the failing condition of the exterior brick veneer, the original brick veneer in the Child Care Area was removed and replaced with an insulated metal panel system to match the metal panel system used on the original building. In 2011, the Trades Hall was completely remediated to comply with building, fire, and life safety codes. Several small projects have occurred in classrooms and administrative areas as educational needs have changed.

Repair of the existing building and site will require that several major issues be addressed for code compliance, life safety, and durability, including:

- Full compliance with handicapped accessibility guidelines, including renovation of existing elevators, replacement of toilet and locker rooms, replacement of building and classroom doors and hardware, providing new room signage, modification of existing casework, access to exterior fields, and replacement of exterior paving and ramps,
- Replacement of paving and sidewalks,
- Replacement of the existing membrane roof and roof penthouses,
- Repair of exterior masonry walls and steel supports,
- Replacement of the metal wall panels on the Third Floor to provide a weatherproof enclosure to provide sunlight and views to interior classrooms,
- Modification of structural framing to meet seismic (earthquake) lateral stability requirements,
- Modification of egress doors, corridors, stair railings and enclosures,
- Replacement of interior floor, wall, and ceiling finishes throughout,
- Installation of a sprinkler system,
- Modification of the recently installed heating and ventilation system,
- A new electrical service including a new fire alarm system,
- Abatement of hazardous lead and asbestos materials,
- Cleaning of drainage structures and detention basins.

Although the basic structure of the school is sound, in order to retain the school building for durable use over several decades, virtually all systems in the building must be renovated or replaced.

The code analysis, based on the anticipated cost of repairs and the assessed value of the building, will require that the entire building and site be handicapped accessible and that a sprinkler system be installed. According to the Town of Lexington, the current assessed value of the buildings is \$25,000,000 and so the threshold value of the cost triggers for accessibility and fire protection are:

- if the cost of renovations exceeds \$7,500,000 (over the current 3 year period), then the entire building and site must be modified to be accessible,
- if the cost of renovations exceeds \$8,250,000 (over the current 5 year period), or if the renovation area exceeds 7,500 square feet, then the entire building must be sprinklered.

As the estimated construction cost for repairs exceeds these thresholds (refer to the Option 1 Repair Cost Estimate at the end of the Existing Conditions Evaluation Section), upgrades for both accessibility and fire protection will be required if all recommended repairs are permitted.

The heating and ventilation systems throughout the renovated areas are recommended to be replaced. Aside from the new boiler plant installed in 2009, the majority of HVAC units, such as the air handling units in the roof penthouses, are original to the building and have outlived their useful life. Also, the existing electrical distribution system and plumbing system is original to the building and is beyond its expected useful life. When rooms are renovated to provide accessibility to toilet rooms or to install sprinklers, all associated services and finishes are recommended to be replaced.

While the school building at Minuteman is in Lexington, the site straddles both Towns of Lincoln and Lexington. The property is adjacent to the Minuteman National Historical Park but is not included in the Inventory of Historic and Archaeological Assets of the Commonwealth; Test pits onsite were excavated and analysed by a geotechnical engineer and indicate areas with organic material (peat) below areas of the parking lots. Areas of wetlands exist as well as a vernal pool and a stream which are protected by development setbacks. Copies of deeds showing clear title of the Minuteman Regional Vocational Technical School District as Owner, certification from the Massachusetts Historical Commission, wetlands determinations, and the geotechnical report are included in the Appendix of this section.

An estimated construction cost for repair only is included at the end of the Existing Conditions Evaluation section of the study. The estimated construction cost for repair is \$37,783,399 and the project budget value, which includes additional costs for temporary space, design fees, contingency, etc., is \$83,676,070.