

# Tyrrell Middle School



## 2 Executive Summary

### Building Information

This section contains the executive summary, which provides an overview of the building and summarizes the survey results. Graphs are included to represent current conditions of the building's components and conformity with IBC, NFPA and ADA requirements. Photographs of various elevations of the building are provided for reference. This section also provides a summary of the opinion of probable costs, presenting a graphic comparison of the work required to address the deficiencies uncovered during the survey versus the cost of replacing the structure. At the end of Section 2, a chart provides an overview of the required work addressed by the building survey and potential replacement costs.

### Tyrrell Middle School

<b>Stories</b>	Two
<b>Area</b>	154,174
<b>Address</b>	500 Todd Road, Wolcott
<b>Original Construction</b>	1965
<b>Addition(s)</b>	2000
<b>Grades</b>	6-8
<b>Description</b>	School

## Architectural Survey

The exterior skin of Tyrrell Middle School is brick, which is in fair to good condition. The secondary surface is ground face masonry which is in poor to fair condition. The roof consists of built-up roofing and EPDM, which are in poor and fair to good condition respectively.

Typical windows consists of aluminum; exterior doors are aluminum and painted metal. The windows are in good condition and the exterior doors are in good condition. The exterior sealants of the doors and windows are in good condition.

The building interior is in fair to good condition.

The work recommended to address architectural conditions includes:

- Replace and/or repair all cracked brick masonry veneer.
- Replace and/or repair all cracked ground faced masonry veneer.
- Repair and refinish all existing EIFS fascia, soffits at bus canopy.
- Replace and/or repair concrete/masonry at all bus canopy piers.
- Install new insulating glazing and/or panels at Library clerestory.
- Seal all joints which are not properly sealed.
- Properly enclose all modified openings in the existing masonry veneer and precast concrete panels.
- Paint all materials which are not properly painted.
- Clean the existing masonry veneer at required locations.
- Remove and install new storefront sections at original stairwells (2).
- Paint soffits and exposed structural steel at original stairwells (2).
- Replace carpet flooring in administration area, large group instruction, library, foyer and the auditorium.
- Refinish the wood flooring in the gymnasium
- Renovate the library support rooms

## Structural Survey

The building is typically constructed of steel columns and joists. The foundation floor slab is reinforced concrete.

The work recommended to address structural conditions includes:

- Provide new expansion and control joints in the brick and masonry veneer to eliminate cracking. Referenced in the Architectural recommendations above.
- The precast, prestressed concrete tee ends at the library roof need to be repaired

## Mechanical Survey

The mechanical system is comprised of two oil-fired hot water boilers with associated piping and pumps.

The work recommended to address mechanical systems conditions includes:

- The chilled water supply and return piping is not insulated, insulation recommended.
- Dryer vent is run greater than 15' with no in-line booster fan.
- Install a Type 1 hood at commercial grade oven located within Home Economics.
- Provide make-up air for Kitchen hood as required per 2003 IMC, section 508.
- Replace pipe insulation at the pumps.
- Room 201 unit ventilator in ceiling appears to be leaking, repair or replace.
- Install exhaust for all Custodial closets as required per 2003 IMC, section 510.

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- The boilers are 20 plus years old and nearing the end of its life and recommend replacing equipment.
- Vulcan unit heaters at end of their life and should be replaced.
- Unit ventilators are noisy and replacement should be considered.
- Stratification fans should be considered at Media Center.

### Electrical Survey

The electrical service is fed from a transformer vault located adjacent to the boiler room.

The work recommended to address electrical system conditions includes:

- Consider service upgrade if additional power requirements are needed.
- Install GFI receptacles at all service points located on roof.
- Receptacles are at there maximum usage, numerous power strips being utilized. Consider installation of additional receptacles.
- Replace damaged interior and exterior receptacles.
- Remediate general electrical issues (ie. open j-boxes, etc.)

### Plumbing Survey

The plumbing system's water originates from a dedciated line from a well located on the property. The service feeds to a 5,000 gallon hydro-pneumatic water storage tank. The plumbing fixtures are Crane type with manual flush valves. There are multiple sanitary lines running from the building.

The work recommended to address plumbing systems conditions includes:

- Provide emergency eyewash station at all custodial closets with mop sinks per IPC 2012.
- Provide ADA compliant toilet rooms per ANSI A117.1 2009.
- Provide ADA compliant drinking fountains per ANSI 117.1 2009.
- Upgrade plumbing fixtures as necessary to water conservation type.
- Domestic thermostatic mixing valve is leaking and should be replaced.
- Provide insulation for all ADA toilet rooms per ANSI 117.1 2009
- Replace damaged roof drain covers/clear debris from roof drains.
- PVI water heater is in need of repair or replacement.

### Fire Protection Survey

The fire protection system is protected by a complete fire protection system which is supplied with water from a 20,000 gallon storage tank.

The work recommended to address the fire protection system conditions includes:

- Fire protection system obstructed by height of storage. Clear to meet NFPA 13
- Clear clutter from Stage fire valve cabinets for access.

### Lighting Survey

The lighting service is comprised of fluorescent and CFL light fixtures which are in good condition. Exterior lighting consists of wall packs, recessed fixtures and pole lights.

The work recommended to address lighting system conditions includes:

- Replace lighting fixtures with energy efficient LED type as necessary.
- Replace exterior lighting (site & building) with LED type fixtures.

## Fire Alarm Survey

The fire alarm service is comprised of an addressable, Simplex 4100 Series panel with an audio voice generator.

The work recommended to address fire alarm system conditions includes:

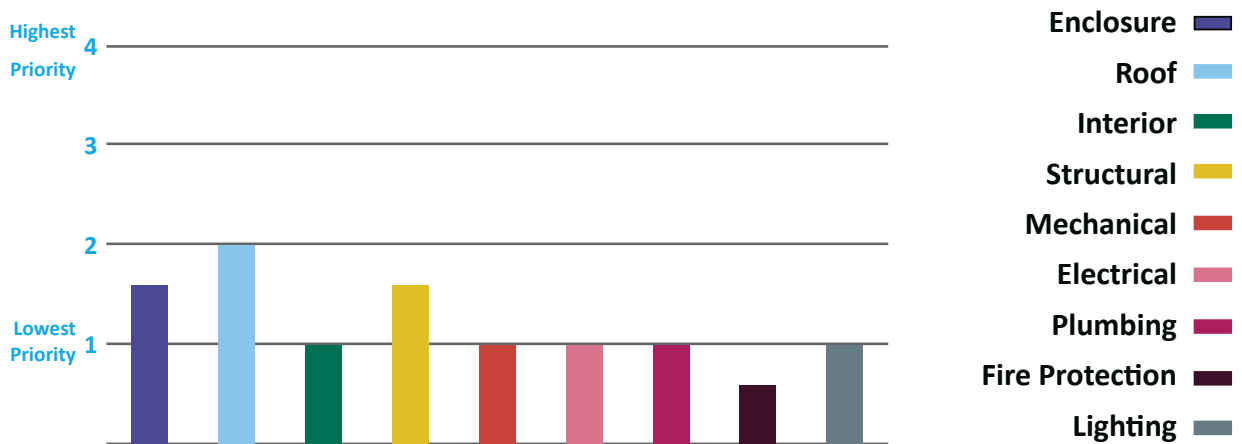
- Upgrade system to meet NFPA 101, IBC 2012, IFC 2012 & ANSI 117.1 2009.
- Install additional devices to meet NFPA 101, IBC 2012 & IFC 2012.
- Exercise voice evacuation system.

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### Survey Results

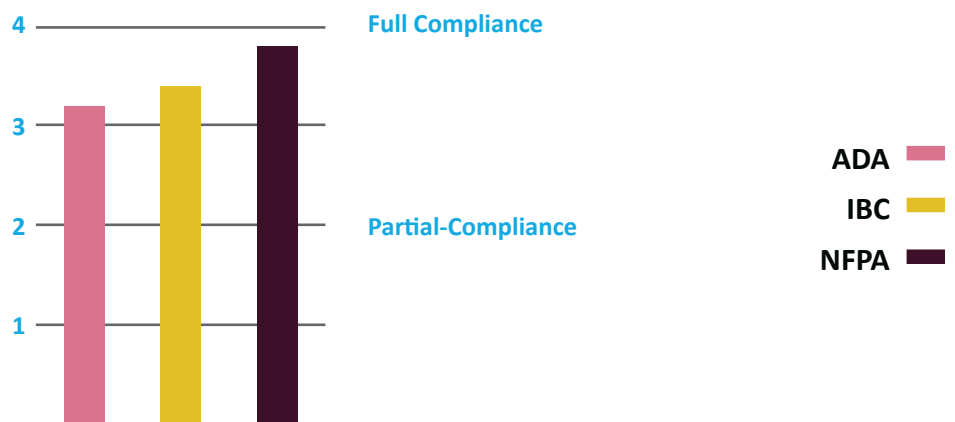
Each of the elements that were reviewed under this assessment was ranked on a scale of 1-4, with a 4 rating equating to the highest priority. Components that received a ranking of 3 should be considered to be moderate priorities, while rankings of 2 and 1 are considered to be low priorities. The following chart graphically presents the survey results (reference Section 4 for a detailed description for each category).

### Prioritization of Required Work

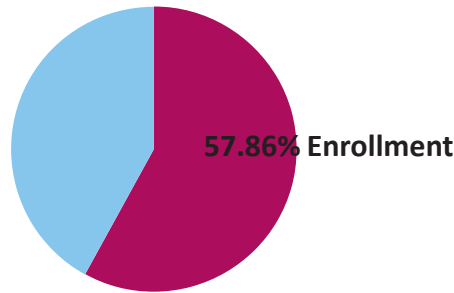


The graph below represents the building's overall conformity with IBC, NFPA and ADA requirements. Compliance was rated on a scale of 1-4, with a 4 rating equating to full compliance. A rating of 2 or under indicates that the building requires moderate to substantial code compliance updates in order to protect the safety of the building's occupants.

### Code Compliance Evaluation



## State Space Standards Capacity



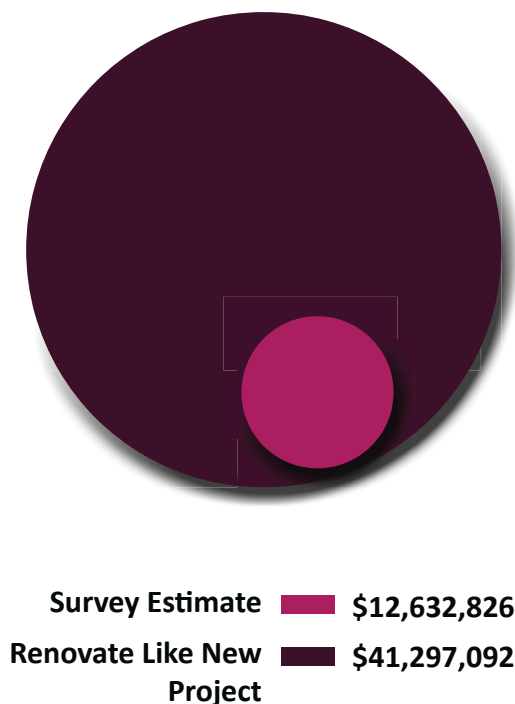
## Summary of Recommendations

<p><b>Program and Conceptual Plan</b></p>	<p>Based upon the space utilization information gathered, a program accommodating the various functions of the building indicates the following minimum needs:</p> <ul style="list-style-type: none"> <li>• Bringing all fire separation walls up to Code</li> <li>• Replacement of the roof and M/E/P systems past their useful life</li> <li>• Consideration of an electrical service upgrade</li> </ul> <p>These program recommendations have been used to generate a conceptual plan (Section 10) which illustrates the program assessment and recommended improvements. The proposed plan is based on meeting the needs of the users and upgrades required to comply with current applicable code, while also meeting the overall goals and projected enrollment of Wolcott Board of Education.</p>
<p><b>Opinion of Probable Costs</b></p>	<p>The estimate of probable costs included in Section 8 of this report is designed as a planning tool for Wolcott Board of Education. Estimates do not account for a possible change of use.</p>
<p><b>Required Work</b></p>	<p>The estimates reflect bringing the building, in its present configuration, into compliance with current applicable codes and addressing the needs of the various building components (architectural, structural, mechanical / electrical / plumbing / fire protection and site). The projected renovations for these components would upgrade the building to a good condition.</p> <p>Based on analysis, over the next 10 years, the required work at this building will cost approximately \$12,632,826 At 154,174 square feet, renovations at this building equate to approximately \$82 per square foot. This cost-per-square-foot figure falls below industry standards for renovations / upgrades of this nature.</p>
<p><b>Replacement Cost</b></p>	<p>A similarly constructed building would cost \$400 per square foot. Using this figure, the replacement cost for this building is approximately \$72,100,000, which follows state standards for structures of this type. The \$400 per square foot replacement cost was obtained from R.S. Means Construction Cost Data and current local market conditions for buildings of this type. The estimate includes hard construction costs, demolition costs, construction contingencies, design costs, and other “soft costs”.</p>
<p><b>State Reimbursement</b></p>	<p>The municipality’s current reimbursement from the State of Connecticut Department of Education for eligible items is 62.5%, and the building is at 58% capacity. These factors would effectively adjust the community’s portion of the costs from 37.5% to 63.84%.</p>

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### Executive Summary Chart

The chart below indicates the estimated value of the required work addressed by the building survey alongside the potential replacement cost. The replacement cost is provided as a guideline for comparative purposes and is based on replacing the building as is, i.e. size and use. Information considered includes the type of structure, year built and existing area for the building.



The required Alteration work addressed in this survey equates to approximately 31% of the construction cost of a Renovate Like New project. Comparative Replacement costs for a new building would be \$72,100,000. Site acquisition costs were not factored into this comparison.