



# Facility Condition Assessment

East Greenwich - East Greenwich High School

June 2017

300 Avenger Drive, East Greenwich, RI 02818





## Introduction

East Greenwich High School, located at 300 Avenger Drive in East Greenwich, Rhode Island, was built in 1965. It comprises 160,400 gross square feet. Each school across the district was visited three times during the Facility Condition Assessments by three teams of specialists in the spring/summer of 2016.

East Greenwich High School serves grades 9 - 12, has 57 instructional spaces, and has an enrollment of 737. Instructional spaces are defined as rooms in which a student receives education. The LEA reported capacity for East Greenwich High School is 807 with a resulting utilization of 91%.

For master planning purposes a 5-year need was developed to provide an understanding of the current need as well as the projected needs in the near future. For East Greenwich High School the 5-year need is \$20,511,952. The findings contained within this report resulted from an assessment of building systems performed by building professionals experienced in disciplines including: architecture, mechanical, plumbing, electrical, acoustics, hazardous materials, and technology infrastructure.



Figure 1: Aerial view of East Greenwich High School



## Approach and Methodology

A facility condition assessment evaluates each building's overall condition. Two components of the facility condition assessment are combined to total the cost for facility need. The two components of the facility condition assessment are current deficiencies and life cycle forecast.

**Current Deficiencies:** Deficiencies are items in need of repair or replacement as a result of being broken, obsolete, or beyond useful life. The existing deficiencies that currently require correction are identified and assigned a priority. An example of a current deficiency might include a broken lighting fixture or an inoperable roof top air conditioning unit.

**Life Cycle Forecast:** Life cycle analysis evaluates ages of a building's systems to forecast system replacement as they reach the end of serviceable life. An example of a life cycle system replacement is a roof with a 20-year life that has been in place for 15 years and may require replacement in five years.

## Discipline Specialists

All assessment teams produced current deficiencies associated with each school. The assessment for the school facilities at the Rhode Island Department of Education included several specialties:

**Facility Condition Assessment:** Architectural, mechanical, and electrical engineering professionals observed conditions via a visual observation that did not include intrusive measures, destructive investigations, or testing. Additionally, the assessment incorporated input provided by district facilities and maintenance staff where applicable. The assessment team recorded existing conditions, identified problems and deficiencies, documented corrective action and quantities, and identified the priority of the repair in accordance with parameters defined during the planning phase. The team took digital photos at each school to better identify significant deficiencies.

**Technology:** Technology specialists visited RIDE facilities and met with technology directors to observe and assess each facility's technology infrastructure. The assessment included network architecture, major infrastructure components, classroom instructional systems, necessary building space and support for technology. The technology assessment took into account the desired technology outcome and best practices and processes to ensure results can be attained effectively.

**Hazardous Materials:** Schools constructed prior to 1990 were assessed by specialists to identify the presence of hazardous materials. The team focused on identifying asbestos containing building materials (ACBMs), lead-based painted (LBP) areas, polychlorinated biphenyls (PCBs), and chlorofluorocarbons (CFCs). As part of an indoor air and exterior air quality assessment, the team noted evidence of mold, water intrusion, mercury, and oil and hazardous materials (OHMs) exposure. If sampling and analysis was required, these activities were recommended but not included in the scope of work.

**Traffic:** A traffic specialist performed an in-office review of aerial imagery of the traffic infrastructure around the facilities in accordance with section 1.05-7 in the Rhode Island School Construction Regulations and reviewed data collected on site during the facility condition assessment. Based on this information, deficiencies and corrective actions were identified. High problem areas were identified for consideration of more detailed site-specific study and analysis in the future.

**Acoustics:** Specialists assessed each school's acoustics, including architectural acoustics, mechanical system noise and vibration, and environmental noise. The assessment team evaluated room acoustics with particular attention to the intelligibility of speech in learning spaces, interior and exterior sound isolation, and mechanical system noise and vibration control.

**Educational Program Space Assessment:** Teams evaluated schools to ensure that that all spaces adequately support the districts educational program. Standards are established for each classroom type or instructional space. Each space is evaluated to determine if it meets those standards and a listing of alterations that should be made to make the space a better environment for teaching and learning was created.



## System Summaries

The following tables summarize major building systems at the East Greenwich High School campus, identified by discipline and building.

### Site

The site level systems for this campus include:

<b>Site</b>	Asphalt Parking Lot Pavement
	Asphalt Roadway Pavement
	Asphalt Pedestrian Pavement
	Brick Pedestrian Pavement
	Concrete Pedestrian Pavement

### Building Envelope

The exterior systems for the building(s) at this campus includes:

<b>01 - Main Building:</b>	Brick Exterior Wall
	Metal Panel Exterior Wall
	Pre-cast Concrete Panel Exterior Wall
	Aluminum Exterior Windows
	Storefront / Curtain Wall
	Storefront Entrance Doors
	Steel Exterior Entrance Doors
	Overhead Exterior Utility Doors
<b>02 - Concessions:</b>	CMU Exterior Wall
	Steel Exterior Entrance Doors
	Overhead Exterior Utility Doors
<b>03 - Pressbox:</b>	Metal Panel Exterior Wall
	Aluminum Exterior Windows
	Wood Exterior Doors

The roofing for the building(s) at this campus consists of:

<b>01 - Main Building:</b>	Clear Polycarbonate Roofing
	EPDM Roofing
<b>02 - Concessions:</b>	Composition Shingle Roofing
<b>03 - Pressbox:</b>	Metal Steep Slope Roofing

### Interior

The interior systems for the building(s) at this campus include:

<b>01 - Main Building:</b>	Foldable Interior Partition
	Steel Interior Doors
	Aluminum/Glass Storefront Interior Doors
	Wood Interior Doors



<b>01 - Main Building:</b>	Interior Door Hardware
	Exposed Metal Structure Ceiling
	Suspended Acoustical Grid System
	Suspended Acoustical Ceiling Tile
	Painted Ceilings
	Metal Panel Ceilings
	Wood Wall Paneling
	Brick/Stone Veneer
	CMU Wall
	Interior Wall Painting
	Concrete Flooring
	Ceramic Tile Flooring
	Wood Flooring
	Vinyl Composition Tile Flooring
	Terrazzo Flooring
	Epoxy Coated Flooring
	Carpet
	Athletic/Sport Flooring
<b>02 - Concessions:</b>	Steel Interior Doors
	Interior Door Hardware
	Painted Ceilings
	CMU Wall
	Interior Wall Painting
	Concrete Flooring
<b>03 - Pressbox:</b>	Painted Ceilings
	Metal Wall Paneling
	Vinyl Composition Tile Flooring

## Mechanical

The mechanical systems for the building(s) at this campus include:

<b>01 - Main Building:</b>	1,275 MBH Cast Iron Water Boiler
	400 MBH Cast Iron Water Boiler
	Steam Condensate Receiver, Tank and Pump
	3 kW Electric Unit Heater
	Radiant Water Heater
	Finned Wall Radiator
	Steam/Hot Water Heating Unit Vent
	DDC Heating System Controls
	1 Ton Ductless Split System
	3 Ton D/X Fan Coil
	3 Ton Computer Room A/C
	3 Ton Condensing Unit



<b>01 - Main Building:</b>	5 Ton Package DX Unit
	20 Ton Package DX Unit
	Make-up Air Unit
	5 HP VFD
	1 HP or Smaller Pump
	5 HP Pump
	2-Pipe Steam Hydronic Distribution System
	5,000 CFM Interior AHU
	Kitchen Exhaust Hoods
	Laboratory Fume Hood
	Wall Exhaust Fan
	Large Roof Exhaust Fan
	Small Roof Exhaust Fan
	Fire Sprinkler System
<b>02 - Concessions:</b>	3 kW Electric Unit Heater
	Small Roof Exhaust Fan

## Plumbing

The plumbing systems for the building(s) at this campus include:

<b>01 - Main Building:</b>	2" Backflow Preventers
	3/4" Backflow Preventers
	4" Backflow Preventers
	Gas Piping System
	200 Gallon Electric Water Heater
	30 Gallon Electric Water Heater
<b>02 - Concessions:</b>	4" Backflow Preventers
	6.4 GPM Instant Water Heater
<b>01 - Main Building:</b>	Domestic Water Piping System
<b>02 - Concessions:</b>	Domestic Water Piping System
<b>01 - Main Building:</b>	Classroom Lavatories
	Lavatories
	Mop/Service Sinks
	Non-Refrigerated Drinking Fountain
	Refrigerated Drinking Fountain
	Restroom Lavatories
	Showers
	Toilets
	Urinals
<b>02 - Concessions:</b>	Mop/Service Sinks
	Refrigerated Drinking Fountain
	Restroom Lavatories
	Toilets



<b>02 - Concessions:</b>	Urinals
<b>01 - Main Building:</b>	Sump Pump
	Air Compressor (1 hp)
	Air Compressor (2 hp)
	Air Compressor (5 hp)

## Electrical

The electrical systems for the building(s) at this campus include:

<b>01 - Main Building:</b>	150 kW Emergency Generator
	480v Switch
	1,600 Amp Switchgear
	30 KVA Transformer
	45 KVA Transformer
	75 KVA Transformer
	1600 Amp Distribution Panel
	Panelboard - 120/208 100A
	Panelboard - 120/208 125A
	Panelboard - 120/208 225A
	Panelboard - 120/208 400A
	Panelboard - 277/480 100A
	Panelboard - 277/480 225A
	Electrical Disconnect
	Building Mounted Lighting Fixtures
	Canopy Mounted Lighting Fixtures
	Light Fixtures
<b>02 - Concessions:</b>	45 KVA Transformer
	Panelboard - 120/208 225A
	Panelboard - 277/480 225A
	Canopy Mounted Lighting Fixtures
	Light Fixtures
<b>03 - Pressbox:</b>	Panelboard - 120/208 100A
	Canopy Mounted Lighting Fixtures
	Light Fixtures



## Facility Deficiency Priority Levels

Deficiencies were ranked according to five priority levels, with Priority 1 items being the most critical to address:

**Priority 1 – Mission Critical Concerns:** Deficiencies or conditions that may directly affect the school's ability to remain open or deliver the educational curriculum. These deficiencies typically relate to building safety, code compliance, severely damaged or failing building components, and other items that require near-term correction. An example of a Priority 1 deficiency is a fire alarm system replacement.

**Priority 2 - Indirect Impact to Educational Mission:** Items that may progress to a Priority 1 item if not addressed in the near term. Examples of Priority 2 deficiencies include inadequate roofing that could cause deterioration of integral building systems, and conditions affecting building envelopes, such as roof and window replacements.

**Priority 3 - Short-Term Conditions:** Deficiencies that are necessary to the school's mission but may not require immediate attention. These items should be considered necessary improvements required to maximize facility efficiency and usefulness. Examples of Priority 3 items include site improvements and plumbing deficiencies.

**Priority 4 - Long-Term Requirements:** Items or systems that may be considered improvements to the instructional environment. The improvements may be aesthetic or provide greater functionality. Examples include cabinets, finishes, paving, removal of abandoned equipment, and educational accommodations associated with special programs.

**Priority 5 - Enhancements:** Deficiencies aesthetic in nature or considered enhancements. Typical deficiencies in this priority include repainting, replacing carpet, improved signage, or other improvements to the facility environment.





# Facility Condition Assessment

East Greenwich - East Greenwich High School

The following chart summarizes this site's current deficiencies by building system and priority. The listing details current deficiencies including deferred maintenance, functional deficiencies, code compliance, capital renewal, hazardous materials and technology categories.

Table 1: System by Priority

System	Priority					Total	% of Total
	1	2	3	4	5		
Site	-	-	\$27,161	\$586,990	-	\$614,151	3.49 %
Roofing	-	-	-	-	-	\$0	0.00 %
Structural	-	-	-	-	-	\$0	0.00 %
Exterior	-	-	-	\$428	-	\$428	0.00 %
Interior	-	-	\$1,607,438	\$1,082,218	\$22,931	\$2,712,587	15.42 %
Mechanical	-	\$5,297,825	\$358,825	\$153,901	-	\$5,810,550	33.03 %
Electrical	\$9,886	\$447,963	-	-	\$37,716	\$495,565	2.82 %
Plumbing	-	\$54,859	\$1,732,401	\$189,974	\$48,001	\$2,025,234	11.51 %
Fire and Life Safety	\$2,480,812	-	-	-	-	\$2,480,812	14.10 %
Technology	-	-	\$3,258,932	-	-	\$3,258,932	18.53 %
Conveyances	-	-	-	-	-	\$0	0.00 %
Specialties	-	-	\$18,253	\$164,452	\$8,556	\$191,262	1.09 %
<b>Total</b>	<b>\$2,490,698</b>	<b>\$5,800,646</b>	<b>\$7,003,010</b>	<b>\$2,177,963</b>	<b>\$117,204</b>	<b>\$17,589,521</b>	

\*Displayed totals may not sum exactly due to mathematical rounding

The building systems with the most need include:

Mechanical	-	\$5,810,550
Technology	-	\$3,258,932
Interior	-	\$2,712,587

The chart below represents the building systems and associated deficiency costs.

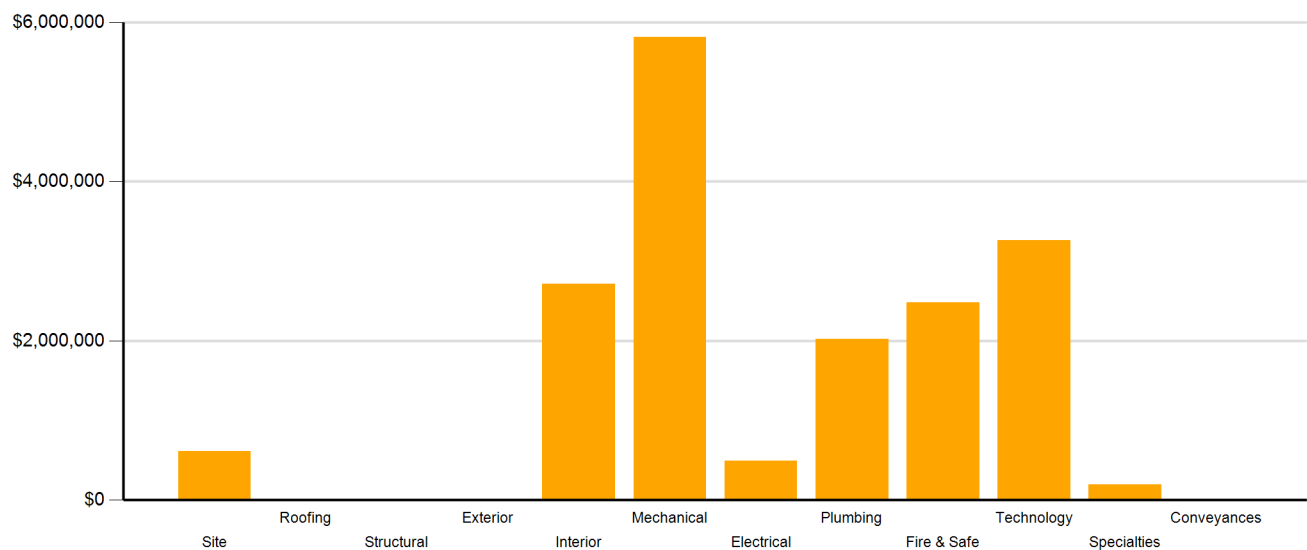


Figure 2: System Deficiencies



## Current Deficiencies by Category

Deficiencies have been further grouped according to the observed category.

- **Acoustics** deficiencies relate to room acoustics, sound insulation, and mechanical systems and vibration control modeled after ANSI/ASA Standard S12.60-2010 and ASHRAE Handbook, Chapter 47 on Sound and Vibration Control.
- **Barrier to Accessibility** deficiencies relate to the Americans with Disabilities Act and the Rhode Island Governors Commission on Disability. Additional items related to accessibility may be included other categories.
- **Capital Renewal** items have reached or exceeded serviceable life and require replacement. These are current and do not include life cycle capital renewal forecasts. Also included are deficiencies correcting planned work postponed beyond its regular life expectancy.
- **Code Compliance** deficiencies related to current codes. Many may fall under grandfather clauses, which allow buildings to continue operating under codes effective at the time of construction. However, there are instances where the level of renovation requires full compliance which are reflected in the master plan.
- **Educational Adequacy** deficiencies identify where facilities do not align with the Basic Education Program and the RIDE School Construction Regulations.
- **Functional Deficiencies** are deficiencies for components or systems that have failed before the end of expected life or are not the right application, size, or design.
- **Hazardous Materials** include deficiencies for building systems or components containing potentially hazardous material. The team focused on identifying asbestos containing building materials (ACBMs), lead based painted (LBP) areas, polychlorinated biphenyls (PCBs), and chlorofluorocarbons (CFCs). As part of an indoor air and exterior air quality assessment, the team noted evidence of mold, water intrusion, mercury, and oil and hazardous materials (OHMs) exposure. With other scopes of work there may be other costs associated with hazardous materials.
- **Technology** deficiencies relate to network architecture, technology infrastructure, classroom systems, and support. Examples of technology deficiencies include: security cameras, secure electronic access, telephone handsets, and dedicated air conditioning for telecommunication rooms.
- **Traffic** deficiencies relate to vehicle or pedestrian traffic, such as bus loops, crosswalks, and pavement markings.



The following chart and table represent the deficiency category by priority. This listing includes current deficiencies for all building systems.

Table 2: Deficiency Category by Priority

Category	Priority					Total
	1	2	3	4	5	
Acoustics	-	-	-	\$685,880	-	\$685,880
Barrier to Accessibility	-	-	\$139,437	-	-	\$139,437
Capital Renewal	-	\$5,800,646	\$3,586,387	\$953,501	-	\$10,340,535
Code Compliance	\$2,400,954	-	-	-	-	\$2,400,954
Educational Adequacy	\$89,744	-	\$41,070	\$516,221	\$117,204	\$764,239
Functional Deficiency	-	-	-	-	-	\$0
Hazardous Material	-	-	-	\$22,360	-	\$22,360
Technology	-	-	\$3,236,116	-	-	\$3,236,116
Traffic	-	-	-	-	-	\$0
<b>Total</b>	<b>\$2,490,698</b>	<b>\$5,800,646</b>	<b>\$7,003,010</b>	<b>\$2,177,963</b>	<b>\$117,204</b>	<b>\$17,589,521</b>

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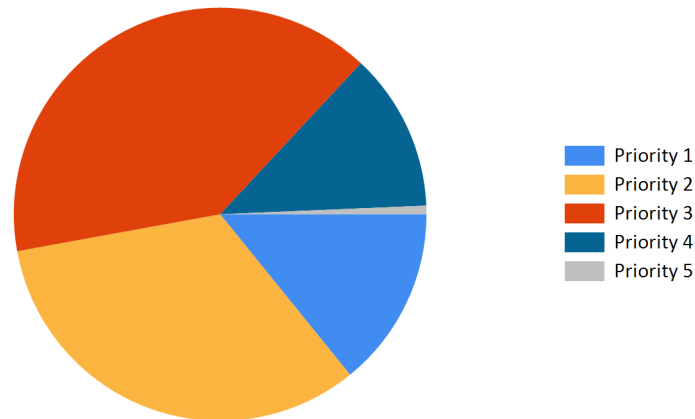


Figure 3: Current deficiencies by priority



### Life Cycle Capital Renewal Forecast

During the facility condition assessment, assessors inspected all major building systems. If a need for immediate replacement was identified, a deficiency was created with the estimated repair costs. The identified deficiency contributes to the facility's total current repair costs.

Capital planning scenarios span multiple years, as opposed to being constrained to immediate repairs. Construction projects may begin several years after the initial facility condition assessment. Therefore, in addition to the current year repair costs, it is necessary to forecast the facility's future costs using a 5-year life cycle renewal forecast model.

Life cycle renewal is the projection of future building system costs based upon each individual system's expected serviceable life. Building systems and components age over time, eventually break down, reach the end of their useful lives, and may require replacement. While an item may be in good condition now, it might reach the end of its life before a planned construction project occurs.

The following chart shows all current deficiencies and the subsequent 5-year life cycle capital renewal projections. The projections outline costs for major building systems in which a component is expected to reach the end of its useful life and require capital funding for replacement.

Table 3: Capital Renewal Forecast

System	Current Deficiencies	Life Cycle Capital Renewal Projections					LC Yr. 1-5 Total	Total 5-Year Need
		Year 1 2017	Year 2 2018	Year 3 2019	Year 4 2020	Year 5 2021		
Site	\$614,151	\$0	\$0	\$0	\$0	\$0	\$0	\$614,151
Roofing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Structural	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Exterior	\$428	\$0	\$0	\$0	\$0	\$0	\$0	\$428
Interior	\$2,712,587	\$0	\$0	\$0	\$1,101,502	\$1,244,762	\$2,346,264	\$5,058,851
Mechanical	\$5,810,550	\$0	\$0	\$0	\$0	\$287,552	\$287,552	\$6,098,103
Electrical	\$495,565	\$0	\$0	\$0	\$0	\$0	\$0	\$495,565
Plumbing	\$2,025,234	\$0	\$0	\$0	\$0	\$59,386	\$59,386	\$2,084,620
Fire and Life Safety	\$2,480,812	\$0	\$0	\$0	\$0	\$0	\$0	\$2,480,812
Technology	\$3,258,932	\$0	\$0	\$0	\$0	\$0	\$0	\$3,258,932
Conveyances	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Specialties	\$191,262	\$0	\$0	\$219,918	\$0	\$0	\$219,918	\$411,180
<b>Total</b>	<b>\$17,589,521</b>	<b>\$0</b>	<b>\$0</b>	<b>\$219,918</b>	<b>\$1,101,502</b>	<b>\$1,591,700</b>	<b>\$2,913,120</b>	<b>\$20,502,641</b>

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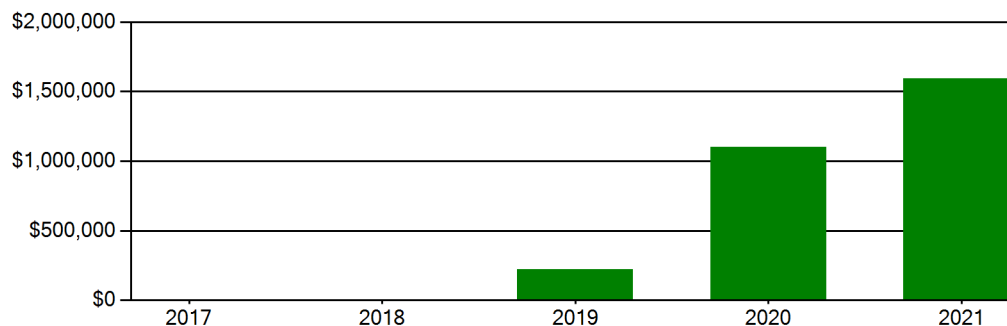
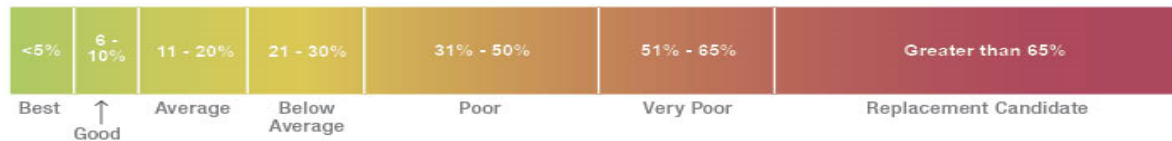


Figure 4: Life Cycle Capital Renewal Forecast



## Facility Condition Index (FCI)

The Facility Condition Index (FCI) is used throughout the facility condition assessment industry as a general indicator of a building's health. Since 1991, the facility management industry has used an index called the FCI to benchmark the relative condition of a group of schools. The FCI is derived by dividing the total repair cost, including educational adequacy and site-related repairs, by the total replacement cost. A facility with a higher FCI percentage has more need, or higher priority, than a facility with a lower FCI. It should be noted that costs in the New Construction category are not included in the FCI calculation.



Financial modeling has shown that over a 30-year period, it is more cost effective to replace than repair schools with a FCI of 65 percent or greater. This is due to efficiency gains with facilities that are more modern and the value of the building at the end of the analysis period. It is important to note that the FCI at which a facility should be considered for replacement is typically debated and adjusted based on property owners and facility managers approach to facility management. Of course, FCI is not the only factor used to identify buildings that need renovation, replacement, or even closure. Historical significance, enrollment trends, community sentiment, and the availability of capital are additional factors that are analyzed when making school facility decisions.

For master planning purposes, the total current deficiencies and the first five years of projected life cycle needs were combined. This provides an understanding of the current needs of a facility as well as the projected needs in the near future. A 5-year FCI was calculated by dividing the 5-year need by the total replacement cost. Costs associated with new construction are not included in the FCI calculation.

The replacement value represents the estimated cost of replacing the current building with another building of like size, based on today's estimated cost of construction in the Providence, Rhode Island area. The estimated replacement cost for this facility is \$57,744,000. For planning purposes, the total 5-year need at the East Greenwich High School is \$20,511,952 (Life Cycle Years 1-5 plus the FCI deficiency cost). The East Greenwich High School facility has a 5-year FCI of 35.51%.

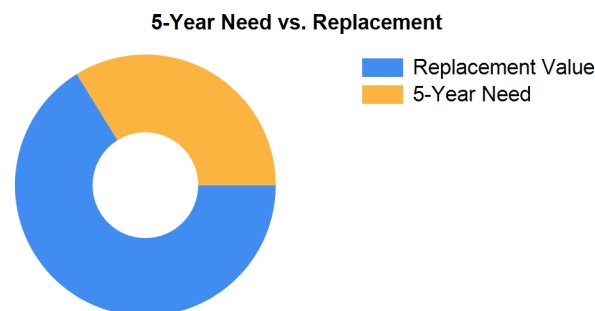


Figure 5: 5-Year FCI

It is important to reiterate that this FCI replacement threshold is not conclusive, but is intended to initiate planning discussion in which other relevant issues with regard to a facility's disposition must be incorporated. This merely suggests where conversations regarding replacement might occur.



## Rhode Island Aspirational Capacity

The capacity of a school reflects how many students the school's physical facility can effectively serve. There are various methodologies that exist to calculate capacity. It is not uncommon to review an existing building only to find that the capacity that had once been assigned is greater than what can be reasonably accommodated today. This is primarily because of a change in how programs are delivered.

The Rhode Island Aspirational Capacity is based on the Rhode Island School Construction Regulations (SCRs) and is an aspirational goal of space use. The capacity for each individual public school in the state of Rhode Island was designed to conform to Section 1.06-2 Space Allowance Guidelines of the Rhode Island Department of Education (RIDE) SCRs. These regulations outline the allowed gross square feet (GSF) per student at each school type (ES, MS, HS) by utilizing a sliding scale based on projected enrollment. The resulting capacities reflect how school capacities align to the SCRs for new construction. The existing enrollment was multiplied by the GSF per student for the appropriate bracket. For the purposes of this analysis, Pre-K centers were rolled into the elementary totals, and K-8 facilities were counted as middle schools.

The most consistent and equitable way a state can determine school capacities across a variety of districts and educational program offerings is to use square-foot-per-student standards. In contrast, in the 2013 Public Schoolhouse Assessment Report, LEAs self-reported capacities for their elementary, middle and high schools. Districts typically report "functional capacity," which is defined as the number of students each classroom can accommodate. Functional capacity counts how many students can occupy a space, not how much room students and teachers have within that space. For example, a 650-square-foot classroom and a 950-square-foot classroom can both have a reported capacity of 25 students, but the actual teaching and learning space per student varies greatly.

The variation in square feet per student impacts the kinds of teaching practices possible in each space. The lowest allocation of space per student restricts group and project-based learning strategies and requires teachers to teach in more traditional, lecture-style formats, due to a lack of space. Furthermore, the number of students that can be accommodated in a classroom does not account for access to sufficient common spaces such as libraries, cafeterias, and gymnasiums. When cafeterias are undersized relative to the population, schools must host four or more lunch periods a day, resulting in some students eating lunch mid-morning and some mid-afternoon. Similarly, undersized libraries and gymnasiums create scheduling headaches for schools and restrict student access. Finally, a classroom count-only approach to school capacity does not consider the inherent scheduling challenges schools face.

Applying the Rhode Island Aspirational Capacity, a facility of this size could ideally support an enrollment of approximately 1,004 students.

## Facility New Construction

As part of the Educational Program Space Assessment, select core spaces were compared to the RI School Construction Regulations. If it was determined that a facility was in need of square footage related to a cafeteria or library/media center, a cost for additional space was estimated. This cost is not included in the total 5-year need or the 5-year FCI calculation.

The New Construction cost to bring the East Greenwich High School cafeteria and/or library/media center to the size prescribed by the SCRs is estimated to be \$0.



## Summary of Findings

The East Greenwich High School comprises 160,400 square feet and was constructed in 1965. Current deficiencies at this school total \$17,598,832. Five year capital renewal costs total \$2,913,120. The total identified need for the East Greenwich High School (current deficiencies and 5-year capital renewal costs) is \$20,511,952. The 5-year FCI is 35.51%.

Table 4: Facility Condition by Building

	Gross Sq Ft	Year Built	Current Deficiencies	LC Yr. 1-5 Total	Total 5 Yr Need (Yr 1-5 + Current Defs)	5-Year FCI
East Greenwich High School Totals	160,400	1965	\$17,598,832	\$2,913,120	\$20,511,952	35.51%

*\*Displayed totals may not sum exactly due to mathematical rounding*

The following pages provide a listing of all current deficiencies and 5-year life cycle need and the associated costs, followed by photos taken during the assessment.

## Cost Estimating

Cost estimates are derived from local cost estimating expertise and enhanced by industry best practices, historical cost data, and relevance to the Rhode Island region. Costs have been developed from current market rates as of the 2nd quarter in 2016. All costs are based on a replace-in-kind approach, unless the item was not in compliance with national or state regulations or standards.

For planning and budgeting purposes, facility assessments customarily add a soft cost multiplier onto deficiency repair cost estimates. This soft cost multiplier accounts for costs that are typically incurred when contracting for renovation and construction services. Soft costs typically include construction cost factors, such as contractor overhead and profit, as well as labor and material inflation, professional fees, and administrative costs. Based on the Rhode Island School Construction Regulations, a soft cost multiplier of 20% is included on all cost estimates. Other project allowances are included in the cost estimates based on school attributes such as age, location, and historic designation. All stated costs in the assessment report will include soft costs for planning and budgeting purposes. These are estimates, and costs will vary at the time of construction.

## LEA Feedback

As part of the assessment process, LEAs were given several opportunities to provide feedback on the data. Jacobs performed a thorough review of the comments provided relating to the Facilities Condition Assessment. Based on information provided, some adjustments were made to improve or refine the dataset. In other situations, enough information was not provided, item was out of scope, or evidence provided by assessment team did not align with the feedback and no adjustment was made. Finally, deficiency priorities, costs, and educational space/technology standards are consistent throughout the state.



## Site Level Deficiencies

### Site

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Asphalt Walks Require Replacement <b>Note:</b> Asphalt walks are cracked and damaged	Capital Renewal	3,200	SF	3	\$27,161	12686
Asphalt Paving Requires Replacement <b>Location:</b> Visitor and Rear Faculty Parking	Capital Renewal	143	CAR	4	\$469,932	16337
Asphalt Paving Requires Replacement <b>Note:</b> Asphalt roadway is damaged next to track	Capital Renewal	27	CAR	4	\$88,729	16338
Backstops Require Replacement <b>Note:</b> Backstops Require Replacement	Educational Adequacy	1	Ea.	4	\$28,329	28461
<b>Sub Total for System</b>		<b>4</b>	<b>items</b>		<b>\$614,151</b>	
<b>Sub Total for School and Site Level</b>		<b>4</b>	<b>items</b>		<b>\$614,151</b>	

## Building: 01 - Main Building

### Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Concrete/CMU Exterior Requires Repair <b>Note:</b> Exterior wall outside the boiler room has a crack near the top	Capital Renewal	5	LF	4	\$428	12687
<b>Sub Total for System</b>		<b>1</b>	<b>items</b>		<b>\$428</b>	

### Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Interior Doors Require Replacement <b>Note:</b> Paint peeling and scratched	Capital Renewal	187	Door	3	\$862,235	12688
The Athletic Sport Flooring Requires Replacement <b>Note:</b> Athletic flooring is worn	Capital Renewal	794	SF	3	\$27,175	12698
The Carpet Flooring Requires Replacement <b>Note:</b> Carpet is worn and damaged	Capital Renewal	21,365	SF	3	\$464,821	12689
The Ceramic Tile Flooring Requires Replacement	Capital Renewal	6,360	SF	3	\$170,790	12691
The Wood Flooring Requires Replacement <b>Note:</b> Wood flooring is worn	Capital Renewal	2,484	SF	3	\$82,417	12690
Epoxy Flooring Requires Repair Or Replacement <b>Note:</b> Epoxy surface has holes and is worn	Capital Renewal	1,988	SF	4	\$37,800	12701
Paint (probable pre-1978 in base layer(s)) - damaged area < 9 sq. ft. OR overall worn AND in children-accessible area (measurement unit - each)	Hazardous Material	6	Ea.	4	\$1,711	Rollup
Paint (probable pre-1978 in base layer(s)) - damaged area < 9 sq. ft. OR overall worn AND in children-accessible area (measurement unit - linear feet)	Hazardous Material	80	LF	4	\$1,825	Rollup
Paint (probable pre-1978 in base layer(s)) - damaged area < 9 sq. ft. OR overall worn AND in children-accessible area (measurement unit - square feet)	Hazardous Material	1,980	SF	4	\$18,824	Rollup
Room Is Excessively Reverberant <b>Note:</b> New Gym	Acoustics	17,000	SF	4	\$379,803	19837
Room Is Excessively Reverberant <b>Note:</b> Old Gym	Acoustics	13,700	SF	4	\$306,077	19838
Room Lighting Is Inadequate Or In Poor Condition.	Educational Adequacy	8,483	SF	4	\$323,236	Rollup
The Concrete Flooring Requires Replacement <b>Note:</b> Paint faded at theater room and athletic nurse room	Capital Renewal	994	SF	4	\$12,942	12692
Classroom Door Requires Vision Panel	Educational Adequacy	7	Ea.	5	\$15,972	Rollup
Room lacks appropriate sound control.	Educational Adequacy	200	SF	5	\$6,959	Rollup
<b>Sub Total for System</b>		<b>15</b>	<b>items</b>		<b>\$2,712,587</b>	

### Mechanical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Replace Unit Vent	Capital Renewal	56	Ea.	2	\$947,229	16544
The Air Handler HVAC Component Requires Replacement	Capital Renewal	19	Ea.	2	\$1,923,898	16546





# Facility Condition Assessment

East Greenwich - East Greenwich High School

## Mechanical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Cast Iron Water Boiler Requires Replacement <b>Note:</b> 250 MBH	Capital Renewal	2	Ea.	2	\$62,510	16540
The Fin Tube Water Radiant Heater Requires Replacement	Capital Renewal	42	Ea.	2	\$70,355	16542
The Mechanical / HVAC Piping / System Is Beyond Its Useful Life	Capital Renewal	158,000	SF	2	\$1,217,894	16547
The Steam Condensate Receiver Requires Replacement	Capital Renewal	3	Ea.	2	\$1,055,274	16541
The Steam/Hot Water Radiant Heater Requires Replacement	Capital Renewal	4	Ea.	2	\$20,664	16545
Kitchen Air/Exhaust Is Inadequate And Should Be Repaired <b>Note:</b> Wall switch does not work and steam backs up to the kitchen	Capital Renewal	1	Ea.	3	\$1,260	12700
Testing And Balancing Required	Capital Renewal	183,300	SF	3	\$341,666	12685
The Make Up Air Equipment Requires Replacement <b>Note:</b> Original from 1965	Capital Renewal	1	Ea.	3	\$15,899	12699
Lab lacks an appropriate fume hood.	Educational Adequacy	7	Ea.	4	\$153,901	Rollup
<b>Sub Total for System</b>		<b>11</b>	<b>items</b>		<b>\$5,810,550</b>	

## Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room last power shut-off valves for utilities	Educational Adequacy	7	Ea.	1	\$9,886	Rollup
Switchgear Is Needed Or Requires Replacement	Capital Renewal	1	Ea.	2	\$82,102	16343
The Distribution Panel Requires Replacement	Capital Renewal	1	Ea.	2	\$51,908	16346
The Electrical Disconnect Requires Replacement	Capital Renewal	3	Ea.	2	\$5,499	16353
The Electrical Transformer Requires Replacement	Capital Renewal	11	Ea.	2	\$77,345	12702
The Electrical Transformer Requires Replacement	Capital Renewal	3	Ea.	2	\$24,117	16344
The Electrical Transformer Requires Replacement	Capital Renewal	1	Ea.	2	\$10,520	16345
The Panelboard Requires Replacement	Capital Renewal	14	Ea.	2	\$67,880	16347
The Panelboard Requires Replacement	Capital Renewal	1	Ea.	2	\$3,898	16348
The Panelboard Requires Replacement	Capital Renewal	7	Ea.	2	\$40,595	16349
The Panelboard Requires Replacement	Capital Renewal	1	Ea.	2	\$6,275	16350
The Panelboard Requires Replacement	Capital Renewal	7	Ea.	2	\$53,905	16351
The Panelboard Requires Replacement	Capital Renewal	2	Ea.	2	\$23,920	16352
Room Has Insufficient Electrical Outlets	Educational Adequacy	76	Ea.	5	\$37,716	Rollup
<b>Sub Total for System</b>		<b>14</b>	<b>items</b>		<b>\$495,565</b>	

## Plumbing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Backflow Preventer Requires Replacement	Capital Renewal	4	Ea.	2	\$15,683	16354
Backflow Preventer Requires Replacement	Capital Renewal	2	Ea.	2	\$2,198	16355
Backflow Preventer Requires Replacement	Capital Renewal	4	Ea.	2	\$36,978	16356
Sewer System Requires Investigation <b>Note:</b> Students and faculty can smell sewage from the walls, throughout the building	Capital Renewal	1	LS	3	\$9,507	12711
Sump Pump Requires Replacement	Capital Renewal	1	Ea.	3	\$1,449	16363
The Plumbing / Domestic Water Piping System Is Beyond Its Useful Life	Capital Renewal	158,000	SF	3	\$1,271,250	16357
The Restroom Is Not ADA Compliant <b>Note:</b> Second floor has no accessible restrooms	Barrier to Accessibility	500	SF	3	\$139,437	12696
The Showers Plumbing Fixtures Require Replacement <b>Note:</b> Boys and girls locker rooms	Capital Renewal	38	Ea.	3	\$289,012	12695
The Toilets Plumbing Fixtures Require Repair <b>Location:</b> Boys Locker Room	Capital Renewal	2	Ea.	3	\$3,139	12694
The Urinal Plumbing Fixtures Require Replacement	Capital Renewal	14	Ea.	3	\$18,607	16362
Non-Refrigerated Drinking Fountain Requires Replacement	Capital Renewal	4	Ea.	4	\$40,880	16358
The Custodial Mop Or Service Sink Requires Replacement <b>Note:</b> Throughout building	Capital Renewal	6	Ea.	4	\$15,458	12697
The Refrigerated Water Cooler Requires Replacement	Capital Renewal	4	Ea.	4	\$29,510	16359
The Restroom Lavatories Plumbing Fixtures Require Repair <b>Note:</b> Boys locker room	Capital Renewal	3	Ea.	4	\$2,333	12693



# Facility Condition Assessment

East Greenwich - East Greenwich High School

## Plumbing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Restroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	32	Ea.	4	\$101,793	16360
Room lacks a drinking fountain.	Educational Adequacy	12	Ea.	5	\$13,234	Rollup
The Class Room Lavatories Plumbing Fixtures Are Missing And Should Be Installed	Educational Adequacy	23	Ea.	5	\$34,767	Rollup
<b>Sub Total for System</b>		<b>17</b>	<b>items</b>		<b>\$2,025,234</b>	

## Fire and Life Safety

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Install Fire Sprinklers (NFPA 13)	Code Compliance	183,300	SF	1	\$2,400,954	12704
<b>Note:</b> Add sprinkler system to the entire building						
Room lacks shut-off valves for utilities. (International Fuel Gas Code, Section 409.6)	Educational Adequacy	7	Ea.	1	\$79,859	Rollup
<b>Sub Total for System</b>		<b>2</b>	<b>items</b>		<b>\$2,480,812</b>	

## Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room lacks Interactive White Board	Educational Adequacy	4	Ea.	3	\$22,817	Rollup
Technology: Campus network switching electronics are antiquated and/or do not meet standards.	Technology	728	Ea.	3	\$346,054	18123
Technology: Classroom AV/Multimedia systems are inadequate and/or near end of useful life.	Technology	80	Ea.	3	\$1,597,171	18126
Technology: Gymnasium sound system is nonexistent, inadequate, or near end of useful life.	Technology	1	Ea.	3	\$9,127	18125
Technology: Instructional spaces do not have local sound reinforcement.	Technology	80	Ea.	3	\$380,279	18130
Technology: Intermediate Telecommunications Room grounding system is inadequate or non-existent.	Technology	1	Ea.	3	\$5,324	18117
Technology: Intermediate Telecommunications Room grounding system is inadequate or non-existent.	Technology	1	Ea.	3	\$5,324	18120
Technology: Intermediate Telecommunications Room grounding system is inadequate or non-existent.	Technology	1	Ea.	3	\$5,324	18122
Technology: Intermediate Telecommunications Room needs minor improvements.	Technology	1	Ea.	3	\$16,732	18116
Technology: Intermediate Telecommunications Room needs minor improvements.	Technology	1	Ea.	3	\$16,732	18119
Technology: Intermediate Telecommunications Room needs minor improvements.	Technology	1	Ea.	3	\$16,732	18121
Technology: Intermediate Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	\$4,753	18118
Technology: Main Telecommunications Room ground system is inadequate or non-existent.	Technology	1	Ea.	3	\$6,655	18115
Technology: Main Telecommunications Room needs minor improvements.	Technology	1	Ea.	3	\$21,676	18114
Technology: Network cabling infrastructure is outdated (Cat 5 or less) and/or does not meet standards.	Technology	440	Ea.	3	\$188,238	18124
Technology: Network system inadequate and/or near end of useful life	Technology	16	Ea.	3	\$121,689	18128
Technology: Network system inadequate and/or near end of useful life	Technology	38	Ea.	3	\$180,632	18129
Technology: PA/Bell/Clock system is inadequate and/or near end of useful life.	Technology	183,300	SF	3	\$313,673	18127
<b>Sub Total for System</b>		<b>18</b>	<b>items</b>		<b>\$3,258,932</b>	

## Specialties

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room has insufficient writing area.	Educational Adequacy	4	Ea.	3	\$18,253	Rollup
Replace Cabinetry In Classes/Labs	Capital Renewal	10	Room	4	\$111,878	12707
<b>Note:</b> Cabinetry is scratched and worn						



# Facility Condition Assessment

East Greenwich - East Greenwich High School

## Specialties

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Metal Student Lockers Require Replacement <b>Note:</b> Lockers are corroding and coming apart	Capital Renewal	85	Ea.	4	\$41,819	12706
Work Tables Are Required	Educational Adequacy	3	Ea.	4	\$10,755	Rollup
Room lacks an appropriate refrigerator.	Educational Adequacy	1	Ea.	5	\$8,556	Rollup
	<b>Sub Total for System</b>	<b>5</b>	<b>items</b>		<b>\$191,262</b>	
	<b>Sub Total for Building 01 - Main Building</b>	<b>83</b>	<b>items</b>		<b>\$16,975,370</b>	
	<b>Total for Campus</b>	<b>87</b>	<b>items</b>		<b>\$17,589,521</b>	

## Buildings with no reported deficiencies

02 - Concessions

03 - Pressbox



## East Greenwich High School - Life Cycle Summary Yrs 1-5

### Building: 01 - Main Building

#### Interior

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Interior Operable Partitions	Foldable partition (Bldg SF)	900	SF Wall	\$103,959	4
Acoustical Suspended Ceilings	Ceilings - Acoustical Tiles	3,796	SF	\$34,284	4
Resilient Flooring	Vinyl Composition Tile Flooring	83,968	SF	\$963,259	4
Wall Painting and Coating	Painting/Staining (Bldg SF)	146,969	SF	\$971,075	5
Wood Flooring	Wood Flooring - All Types	7,950	SF	\$263,776	5
<b>Note:</b> Original Gym					
		<b>Sub Total for System</b>		<b>5 items</b>	<b>\$2,336,353</b>

#### Mechanical

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Decentralized Heating Equipment	Heating Unit Vent - Steam/Hot water	17	Ea.	\$287,552	5
		<b>Sub Total for System</b>		<b>1 items</b>	<b>\$287,552</b>

#### Plumbing

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Plumbing Fixtures	Refrigerated Drinking Fountain	2	Ea.	\$14,755	5
Domestic Water Equipment	Water Heater - Electric - 200 Gallon	1	Ea.	\$44,631	5
		<b>Sub Total for System</b>		<b>2 items</b>	<b>\$59,386</b>

#### Specialties

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Casework	Lockers	447	Ea.	\$219,918	3
		<b>Sub Total for System</b>		<b>1 items</b>	<b>\$219,918</b>
		<b>Sub Total for Building 01 - Main Building</b>		<b>9 items</b>	<b>\$2,903,208</b>

### Building: 02 - Concessions

#### Interior

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Wall Painting and Coating	Painting/Staining (Bldg SF)	1,500	SF	\$9,911	5
		<b>Sub Total for System</b>		<b>1 items</b>	<b>\$9,911</b>
		<b>Sub Total for Building 02 - Concessions</b>		<b>1 items</b>	<b>\$9,911</b>
		<b>Total for: East Greenwich High School</b>		<b>10 items</b>	<b>\$2,913,119</b>



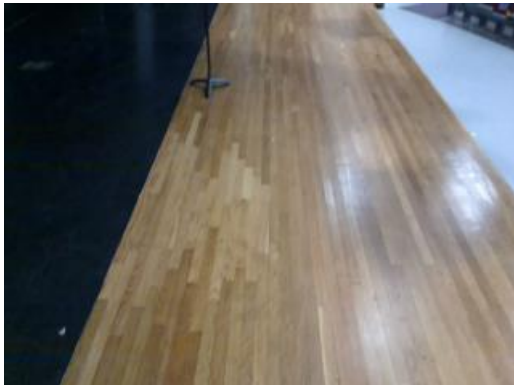
## Supporting Photos



Weight Room Door



Auditorium Carpet



Worn Wood Flooring at Stage



Girls Locker Room Tile Flooring



# Facility Condition Assessment

East Greenwich - East Greenwich High School



Worn Tile Flooring



Paint Theater Flooring



Worn Flooring at Weight Room



Wrestling Flooring



Epoxy Flooring at Kitchen



Corroded Locker at Boy's Locker Room



# Facility Condition Assessment

East Greenwich - East Greenwich High School



Family and Consumer Science Cabinetry



Storage Interior



Storage Ceiling



Restrooms



Concessions Interior



Concessions Building Exterior



# Facility Condition Assessment

East Greenwich - East Greenwich High School



Pressbox



Pressbox Interior



Site Aerial



Typical Transformer



Exterior GFCI Receptacle



Girls Locker Room Shower





# Facility Condition Assessment

East Greenwich - East Greenwich High School



Girls Restroom Ceiling



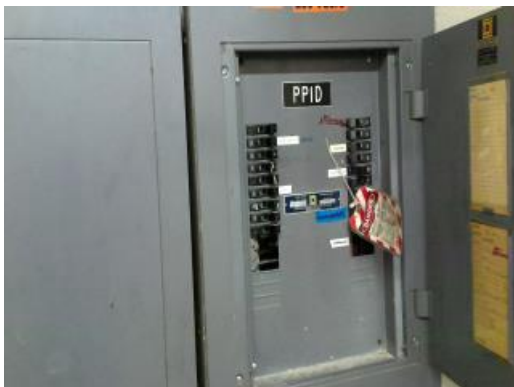
Typical Roof Condition



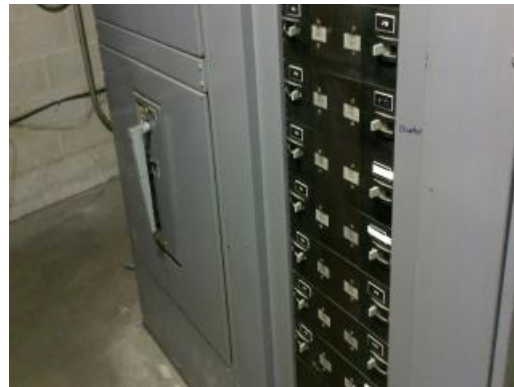
Asphalt Walkway



Kitchen Exhaust Fan and Switch



Typical Panelboard



Main Switchgear



# Facility Condition Assessment

East Greenwich - East Greenwich High School



Student and Faculty Parking



Boilers



Boys Locker Room Lavatories



Boys Locker Room Toilet



Typical Roof Condition



Auditorium Heating Unit



# Facility Condition Assessment

East Greenwich - East Greenwich High School



Roof Repairs



Damaged Asphalt Roadway



Boys Locker Room Showers



Typical Unit Vent



Main Switchgear



Roof mounted make-up air unit



# Facility Condition Assessment

East Greenwich - East Greenwich High School



Typical Science Lab



Second Floor Corridor



Gymnasium Addition



Entrance Corridor



Rear Elevation



Courtyard



# Facility Condition Assessment

East Greenwich - East Greenwich High School



Cafeteria



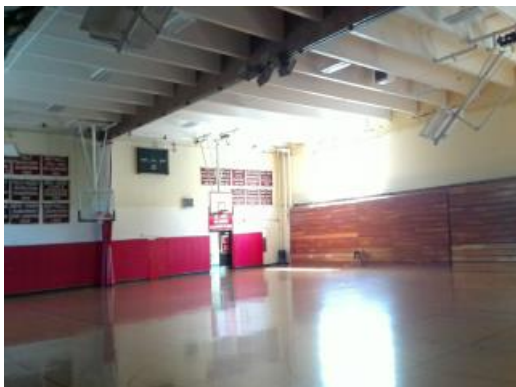
Front Elevation



Library



Music Room



Old Gymnasium



Typical Classroom

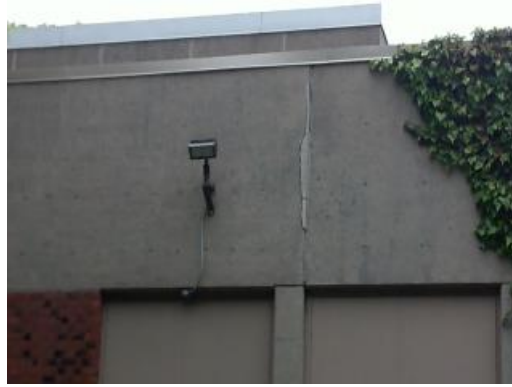


# Facility Condition Assessment

East Greenwich - East Greenwich High School



Marquee



Cracked Concrete Wall