Warwick

LEA Summary

Warwick totals 1,515,358 square feet and consists of the school type(s) detailed below. School(s) were visited three times during the Statewide Facilities Assessment by teams of specialists from May-July 2016. This report provides LEA summary findings for the statewide assessment program.

School Type by Count

School Type	SqFt
Pre-K	27,058
Elementary School	649,274
Middle School	364,587
High School	474,439
Total:	**1,515,358**

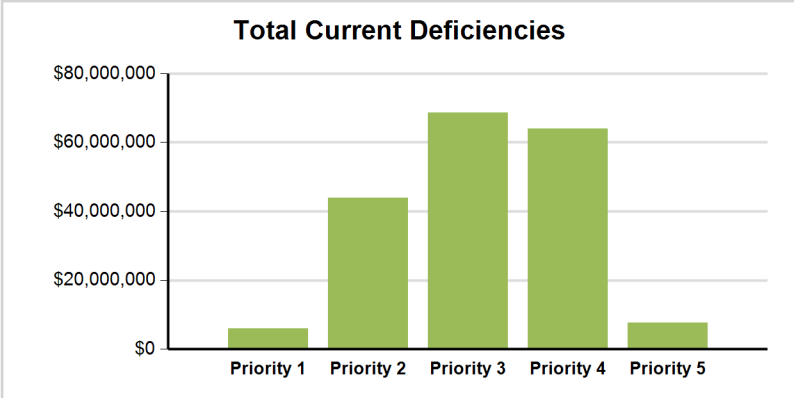
Demographics

Enrollment is projected to decrease by 8% over the next 10 years in Warwick. The total LEA enrollment at 21 school(s) is 9,009 students with a total capacity of 14,099 as reported by the LEA. Utilization is calculated by dividing enrollment by capacity, resulting in 63.9% utilization at Warwick.

63.9 % Utilization

Educational Program Space Analysis

In Warwick there are 724 instructional spaces; of these spaces 23.2% meet or exceed the space size standards. Of the total current deficiencies identified, $13,314,967 are related to the educational program space assessment. Addressing these identified deficiencies will improve the learning environment and bring the school(s) in the district closer to 21st century learning facilities.



Five Year Need Summary

The current deficiencies total $190,018,965, with 36.1% categorized as Priority 3 and another 33.7% as Priority 4. The building systems with the highest current deficiency costs are Interior and Mechanical.

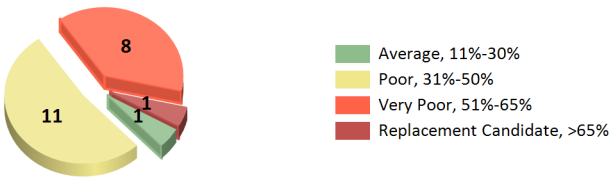
The projected life cycle need in Years 1 through 5 is $49,212,527. It is anticipated that the majority of the need will occur in Year 4. School(s) with the greatest need are represented in the adjacent table and make up 43.1% of the combined 5-Year need at Warwick.

School(s) with Greatest Need	Combined 5-Year Need
Pilgrim High School	$44,750,908
Warwick Veterans Memorial Junior HS	$31,921,063
Toll Gate High School	$26,474,732

Five Year Facility Condition Index (FCI)

For master planning purposes, the total current deficiencies, less new construction, and the first 5 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. The 5-Year need is $239,231,492 with a district replacement value of $534,383,552. The resulting 5-Year FCI is 44.8%.

5-Year FCI Ranges



LEA Summary Data

Gross SqFt	Avg Year Built	Current Deficiencies (Less New Construction)	Life Cycle Year 1-5 Total	Total 5-Year Need (Year 1-5 + Current Defs)	5-Year FCI
1,515,358	1954	$190,018,965	$49,212,527	$239,231,492	44.8%

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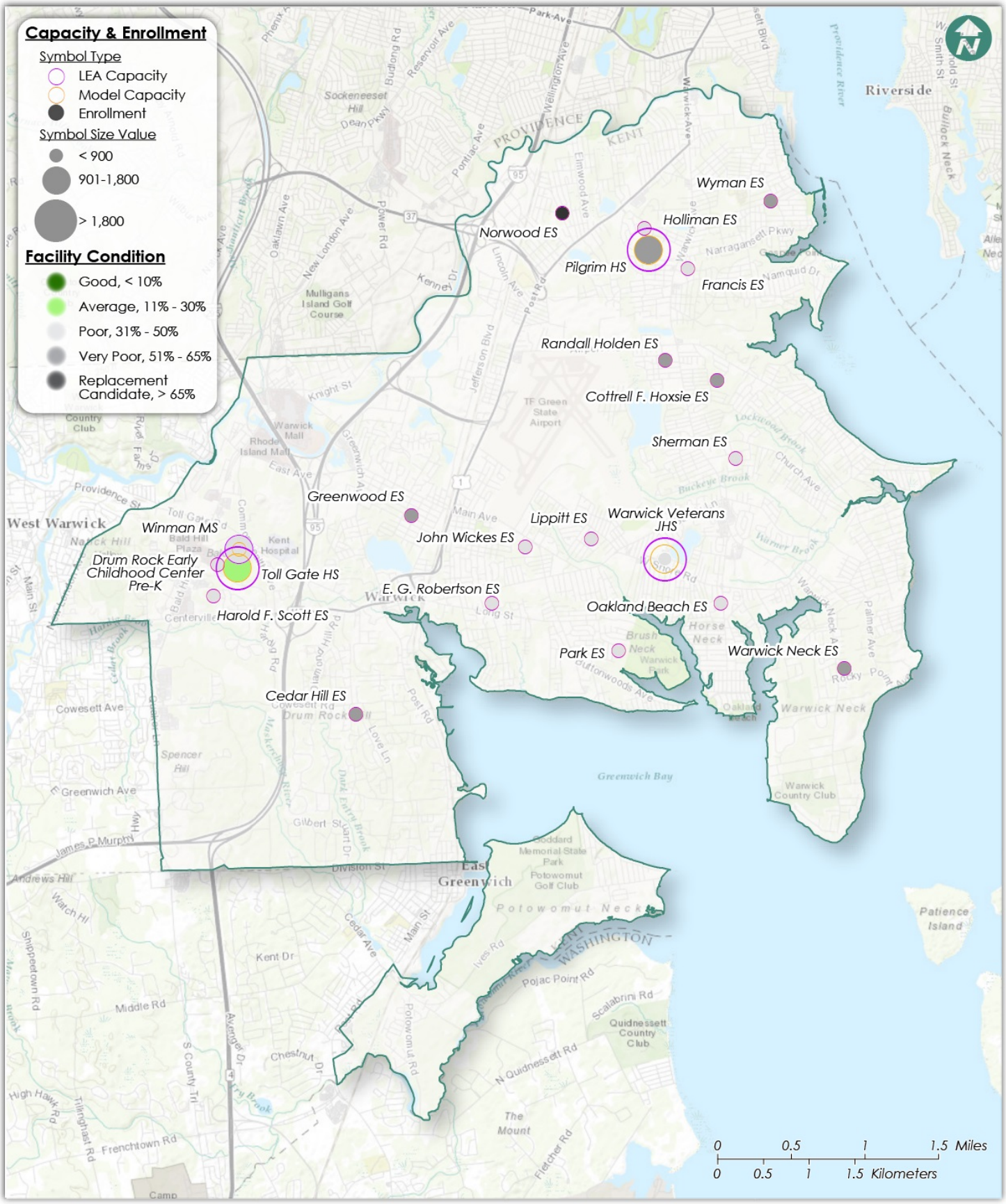
Warwick



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Facility Condition Assessment

Warwick - Cedar Hill School | *June 2017*

35 Red Chimney Drive, Warwick, RI 02886

Introduction

Cedar Hill School, located at 35 Red Chimney Drive in Warwick, Rhode Island, was built in 1958. It comprises 41,936 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.

Cedar Hill School serves grades 1 - 6, has 31 instructional spaces, and has an enrollment of 369. Instructional spaces are defined as rooms in which a student receives education. The LEA reported capacity for Cedar Hill School is 525 with a resulting utilization of 70%.

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 Cedar Hill School the 5-year need is $9,312,127. 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 Cedar Hill 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 Cedar Hill School campus, identified by discipline and building.

Site

The site level systems for this campus include:

Site	Asphalt Parking Lot Pavement
	Asphalt Roadway Pavement
	Asphalt Pedestrian Pavement

Building Envelope

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

01 - Main Building:	CMU Exterior Wall
	Painted Exterior Wall
	Painted Gypsum Soffit
	Aluminum Exterior Windows
	Steel Exterior Entrance Doors

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

01 - Main Building:	Composition Shingle Roofing
	EPDM Roofing

Interior

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

01 - Main Building:	Steel Interior Doors
	Wood Interior Doors
	Interior Door Hardware
	Door Hardware
	Suspended Acoustical Grid System
	Suspended Acoustical Ceiling Tile
	Painted Ceilings
	Ceramic Tile Wall
	CMU Wall
	Interior Wall Painting
	Concrete Flooring
	Ceramic Tile Flooring
	Vinyl Composition Tile Flooring

Mechanical

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

01 - Main Building:	2,400 MBH Copper Tube Boiler

01 - Main Building:	750 MBH Copper Tube Boiler
	Steam/Hot Water Heating Unit Vent
	Finned Wall Radiator
	Pneumatic Heating System Controls
	Window Units
	2-Pipe Hot Water Hydronic Distribution System
	1 HP or Smaller Pump
	5 HP Pump
	Ductwork
	20 Ton DX Gas Roof Top Unit
	Roof Exhaust Fan
	Fire Sprinkler System

Plumbing

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

01 - Main Building:	2" Backflow Preventers
	Gas Piping System
	40 Gallon Electric Water Heater
	Domestic Water Piping System
	Classroom Lavatories
	Mop/Service Sinks
	Non-Refrigerated Drinking Fountain
	Refrigerated Drinking Fountain
	Restroom Lavatories
	Toilets
	Urinals
	Air Compressor (1/2 hp)

Electrical

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

01 - Main Building:	600 Amp Distribution Panel
	Panelboard - 120/208 100A
	Panelboard - 120/208 225A
	Light Fixtures
	Building Mounted Lighting 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.

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

	Priority						
System	1	2	3	4	5	Total	% of Total
Site	-	-	$753,375	$392,887	$165,018	$1,311,280	17.18 %
Roofing	-	$2,626,779	$3,308	-	-	$2,630,087	34.47 %
Structural	-	-	-	-	-	$0	0.00 %
Exterior	-	$60,189	-	$581,415	$3,605	$645,208	8.46 %
Interior	-	-	$520,844	$232,151	$22,668	$775,663	10.17 %
Mechanical	-	$407,198	-	$295,068	-	$702,266	9.20 %
Electrical	-	-	$24,778	-	$59,552	$84,329	1.11 %
Plumbing	-	$4,084	$12,460	$79,878	$14,321	$110,743	1.45 %
Fire and Life Safety	-	-	-	-	-	$0	0.00 %
Technology	-	-	$1,092,276	-	-	$1,092,276	14.31 %
Conveyances	-	-	-	-	-	$0	0.00 %
Specialties	-	-	$13,690	$256,387	$8,556	$278,633	3.65 %
Total	$0	$3,098,250	$2,420,731	$1,837,785	$273,720	$7,630,486	

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

The building systems with the most need include:

Roofing	-	$2,630,087
Site	-	$1,311,280
Technology	-	$1,092,276

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

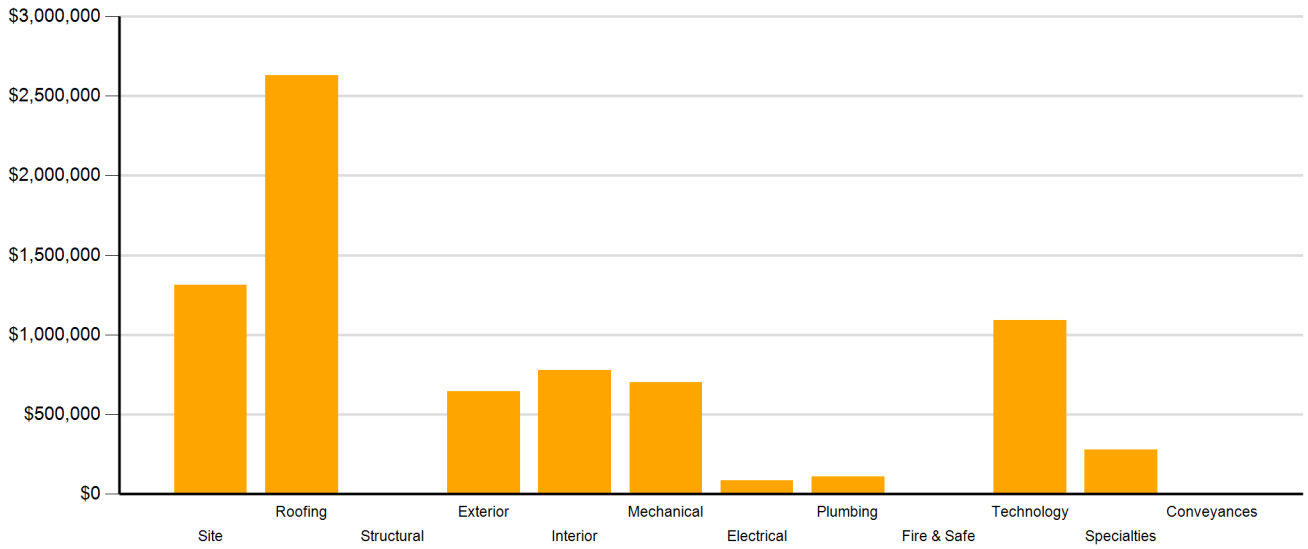


Figure 2: System Deficiencies

Current Deficiencies by Category

Deficiencies have been further grouped according to the observed category.

• **Acoustics** deficiencies relate to room acoustics, sound insolation, 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

	Priority					
Category	**1**	**2**	**3**	**4**	**5**	**Total**
Acoustics	-	-	-	$23,272	-	$23,272
Barrier to Accessibility	-	-	$617,953	-	-	$617,953
Capital Renewal	-	$3,098,250	$670,133	$1,660,057	$178,221	$5,606,661
Code Compliance	-	-	-	-	-	$0
Educational Adequacy	-	-	$30,803	$102,079	$95,499	$228,380
Functional Deficiency	-	-	$24,778	-	-	$24,778
Hazardous Material	-	-	-	$52,377	-	$52,377
Technology	-	-	$1,075,164	-	-	$1,075,164
Traffic	-	-	$1,901	-	-	$1,901
Total	$0	$3,098,250	$2,420,731	$1,837,785	$273,720	$7,630,486

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

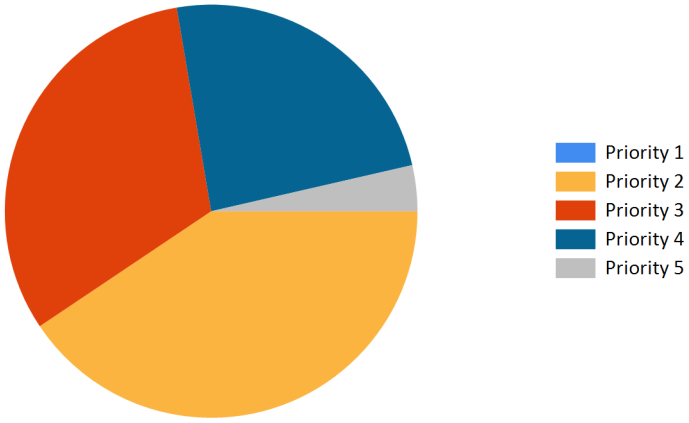


Figure 3: Current deficiencies by priority

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

		Life Cycle Capital Renewal Projections						
System	Current Deficiencies	Year 1 2017	Year 2 2018	Year 3 2019	Year 4 2020	Year 5 2021	LC Yr. 1-5 Total	Total 5-Year Need
Site	$1,311,280	$0	$0	$0	$389,466	$0	$389,466	$1,700,746
Roofing	$2,630,087	$0	$0	$0	$0	$0	$0	$2,630,087
Structural	$0	$0	$0	$0	$0	$0	$0	$0
Exterior	$645,208	$0	$0	$0	$0	$0	$0	$645,208
Interior	$775,663	$0	$0	$0	$343,302	$0	$343,302	$1,118,965
Mechanical	$702,266	$0	$0	$38,142	$438,570	$119,775	$596,487	$1,298,753
Electrical	$84,329	$0	$0	$0	$0	$0	$0	$84,329
Plumbing	$110,743	$0	$0	$0	$349,603	$0	$349,603	$460,346
Fire and Life Safety	$0	$0	$0	$0	$0	$0	$0	$0
Technology	$1,092,276	$0	$0	$0	$0	$0	$0	$1,092,276
Conveyances	$0	$0	$0	$0	$0	$0	$0	$0
Specialties	$278,633	$0	$0	$0	$0	$0	$0	$278,634
Total	**$7,630,486**	**$0**	**$0**	**$38,142**	**$1,520,941**	**$119,775**	**$1,678,858**	**$9,309,344**

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

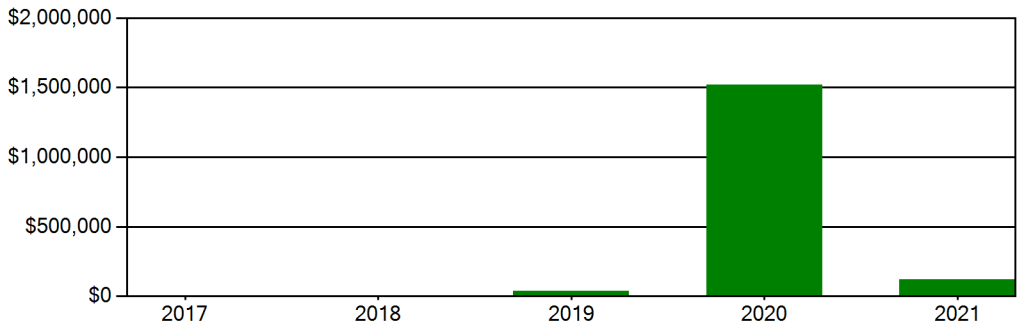
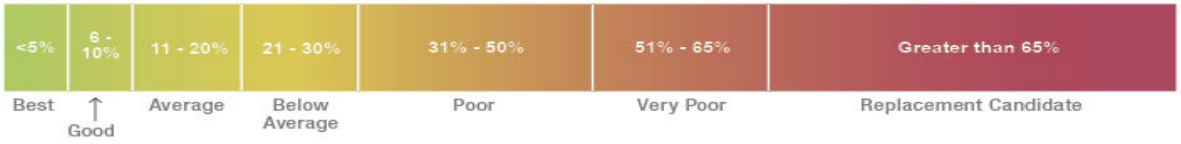


Figure 4: Life Cycle Capital Renewal Forecast

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 $14,677,600. For planning purposes, the total 5-year need at the Cedar Hill School is $9,312,127 (Life Cycle Years 1-5 plus the FCI deficiency cost). The Cedar Hill School facility has a 5-year FCI of 63.43%.

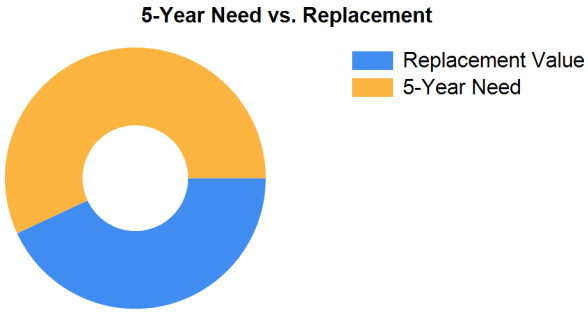


Figure 5: 5-Year FCI

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 233 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 Cedar Hill School cafeteria and/or library/media center to the size prescribed by the SCRs is estimated to be $0.

Summary of Findings

The Cedar Hill School comprises 41,936 square feet and was constructed in 1958. Current deficiencies at this school total $7,633,269. Five year capital renewal costs total $1,678,858. The total identified need for the Cedar Hill School (current deficiencies and 5-year capital renewal costs) is $9,312,127. The 5-year FCI is 63.43%.

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
Cedar Hill School Totals	41,936	1958	$7,633,269	$1,678,858	$9,312,127	63.43%

**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	Capital Renewal	12,500	SF	3	$133,521	19038
Note: The asphalt play area is deteriorated.						
Crosswalk Requires Repainting	Traffic	2	Ea.	3	$1,901	22051
Note: Repaint crosswalks at corner of Sturbridge and Cowesett						
The Playground Impact Surface Does Not Meet ADA Guidelines For Accessible Play Surfaces	Barrier to Accessibility	13,000	SQFT	3	$617,953	19039
Asphalt Paving Requires Replacement	Capital Renewal	70	CAR	4	$289,496	19036
Note: The asphalt parking lot is deteriorated.						
Asphalt Paving Requires Replacement	Capital Renewal	25	CAR	4	$103,391	19037
Note: The rear asphalt roadway is deteriorated.						
Exterior Basketball Goals are Required	Educational Adequacy	1	Ea.	5	$7,308	28820
Note: Exterior Basketball Goals are Required						
Play Field Requires Regrading	Capital Renewal	30,000	SF	5	$157,710	19035
Note: The rear playfield is mostly dirt and is difficult to use. Regrading and grass is needed.						
	Sub Total for System	**7**	**items**		**$1,311,280**	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Pole Lighting Is Missing And Needed	Functional Deficiency	1	Ea.	3	$24,778	19040
Note: Play area is very dark.						
	Sub Total for System	**1**	**items**		**$24,778**	
	Sub Total for School and Site Level	**8**	**items**		**$1,336,058**	

Building: 01 - Main Building

Roofing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
EPDM Roofing Requires Replacement (Bldg SF)	Capital Renewal	34,436	SF	2	$453,560	19063
Note: The main building roof is reported to be in poor condition.						
The Tectum Decking Requires Replacement	Capital Renewal	28,120	SF	2	$2,173,219	19058
Note: The tectum ceilings are original, aged, and stained.						
Gutters Require Replacement	Capital Renewal	40	LF	3	$1,981	19054
The Metal Downspouts Require Installation or Replacement	Capital Renewal	20	LF	3	$1,327	19045
	Sub Total for System	**4**	**items**		**$2,630,087**	

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Aluminum Window Requires Replacement	Capital Renewal	76	SF	2	$13,397	19044
Note: The main entry windows should be replaced.						
The Metal Exterior Door Requires Replacement	Capital Renewal	7	Door	2	$46,792	19043
The Exterior Requires Painting (Bldg SF)	Capital Renewal	41,936	SF	4	$581,415	19062
The Exterior Soffit Requires Repainting	Capital Renewal	1,040	SF	5	$3,605	19042
Note: Soffit paint is worn and peeling.						
	Sub Total for System	**4**	**items**		**$645,208**	

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Interior Doors Require Replacement	Capital Renewal	6	Door	3	$28,818	19047
Note: The original wood doors are in poor condition.						
The Acoustical Ceiling Tiles Require Replacement	Capital Renewal	800	SF	3	$7,526	19046
Note: The acoustic ceiling in the corridor is in poor condition.						
The Ceramic Tile Flooring Requires Replacement	Capital Renewal	1,000	SF	3	$27,973	19049
Note: The ceramic tile flooring is deteriorated.						
The Interior Door Hardware Requires Replacement	Capital Renewal	27	Door	3	$88,237	19055
Note: The door hardware is in poor condition.						

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Vinyl Composition Tile Requires Replacement	Capital Renewal	30,820	SF	3	$368,291	19048
Note: The VCT flooring is in poor condition.						
Ceiling Grid Requires Replacement	Capital Renewal	800	SF	4	$9,884	19065
Note: The ceiling grid in the corridor is in poor condition.						
Interior Ceramic Walls Require Repair Or Replacement	Capital Renewal	1,500	SF	4	$34,760	19067
Note: Ceramic tile walls have chipped and missing tiles.						
Interior Toilet Partition Requires Repair	Capital Renewal	19	Ea.	4	$10,349	19053
Note: The toilet room stall partitions are old and in poor condition.						
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	11	Ea.	4	$3,268	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	1,160	LF	4	$27,570	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	2,175	SF	4	$21,539	Rollup
Room Is Excessively Reverberant	Acoustics	1,000	SF	4	$23,272	27802
Note: Music Space						
Room Lighting Is Inadequate Or In Poor Condition.	Educational Adequacy	2,664	SF	4	$101,509	Rollup
Classroom Door Requires Vision Panel	Educational Adequacy	1	Ea.	5	$2,282	Rollup
Room lacks appropriate sound control.	Educational Adequacy	100	SF	5	$3,480	Rollup
The Gypsum Board Ceilings Require Repainting	Capital Renewal	3,880	SF	5	$16,907	Rollup
	Sub Total for System	**16**	**items**		**$775,663**	

Mechanical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Replace Unit Vent	Capital Renewal	4	Ea.	2	$70,478	19066
Note: Unit ventilators are aged and in poor condition.						
The Mechanical / HVAC Piping / System Is Beyond Its Useful Life	Capital Renewal	41,936	SF	2	$336,719	19060
Note: Pipes are corroding and rusting.						
Existing Controls Are Inadequate And Should Be Replaced With DDC Controls	Capital Renewal	41,936	SF	4	$295,068	19061
Note: Controls system is old and needs to be upgraded to DDC. School currently has uneven heating throughout.						
	Sub Total for System	**3**	**items**		**$702,266**	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room Has Insufficient Electrical Outlets	Educational Adequacy	120	Ea.	5	$59,552	Rollup
	Sub Total for System	**1**	**items**		**$59,552**	

Plumbing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Backflow Preventer Requires Replacement	Capital Renewal	1	Ea.	2	$4,084	19059
Note: Backflow preventer is aged, rusted, and corroded.						
The Urinal Plumbing Fixtures Require Replacement	Capital Renewal	9	Ea.	3	$12,460	19056
Floor Drains Are Required	Educational Adequacy	1	Ea.	4	$570	Rollup
Non-Refrigerated Drinking Fountain Requires Replacement	Capital Renewal	1	Ea.	4	$10,646	19052
Note: Water fountain is old and in poor condition.						
The Classroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	11	Ea.	4	$31,155	19041
Note: Sinks are old and corroded.						
The Refrigerated Water Cooler Requires Replacement	Capital Renewal	1	Ea.	4	$7,685	19057
Note: The drinking fountain by the main office is old and in poor condition.						
The Restroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	9	Ea.	4	$29,822	19050
Note: Restroom lavatories are old and corroded.						
Room lacks a drinking fountain.	Educational Adequacy	7	Ea.	5	$7,720	Rollup
The Class Room Lavatories Plumbing Fixtures Are Missing And Should Be Installed	Educational Adequacy	6	Ea.	5	$6,601	Rollup
	Sub Total for System	**9**	**items**		**$110,743**	

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room lacks Interactive White Board	Educational Adequacy	3	Ea.	3	$17,113	Rollup
Technology: Campus network switching electronics are antiquated and/or do not meet standards.	Technology	216	Ea.	3	$106,953	23121
Technology: Classroom AV/Multimedia systems are inadequate and/or near end of useful life.	Technology	21	Ea.	3	$436,726	23126
Technology: Instructional spaces do not have local sound reinforcement.	Technology	21	Ea.	3	$103,982	23128
Technology: Intermediate Telecommunications Room grounding system is inadequate or non-existent.	Technology	1	Ea.	3	$5,546	23132
Technology: Intermediate Telecommunications Room is not dedicated and/or inadequate.	Technology	1	Ea.	3	$47,139	23131
Technology: Intermediate Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	$4,952	23120
Technology: Intermediate Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	$4,952	23133
Technology: Main Telecommunications Room ground system is inadequate or non-existent.	Technology	1	Ea.	3	$6,932	23118
Technology: Main Telecommunications Room is not dedicated. Room requires partial walls and/or major improvements.	Technology	1	Ea.	3	$44,366	23117
Technology: Network system inadequate and/or near end of useful life	Technology	5	Ea.	3	$39,612	23129
Technology: Network system inadequate and/or near end of useful life	Technology	15	Ea.	3	$74,273	23130
Technology: PA/Bell/Clock system is inadequate and/or near end of useful life.	Technology	41,936	SF	3	$74,753	23125
Technology: Special Space AV/Multimedia system is inadequate.	Technology	1	Ea.	3	$56,448	23122
Technology: Special Space AV/Multimedia systems are in need of minor improvements.	Technology	1	Room	3	$19,806	23127
Technology: Telecommunications Room (large size room) needs dedicated cooling system improvements.	Technology	1	Ea.	3	$7,922	23119
Technology: Telephone handsets are inadequate and sparsely deployed throughout the campus.	Technology	21	Ea.	3	$33,274	23124
Technology: Telephone system is inadequate and/or non-existent.	Technology	1	Ea.	3	$7,526	23123
	Sub Total for System	**18**	**items**		**$1,092,276**	

Specialties

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room has insufficient writing area.	Educational Adequacy	3	Ea.	3	$13,690	Rollup
Replace Cabinetry In Classes/Labs	Capital Renewal	22	Room	4	$256,387	19064
Note: Original building cabinetry should be replaced.						
Room lacks an appropriate refrigerator.	Educational Adequacy	1	Ea.	5	$8,556	Rollup
	Sub Total for System	**3**	**items**		**$278,633**	
	Sub Total for Building 01 - Main Building	**58**	**items**		**$6,294,428**	
	Total for Campus	**66**	**items**		**$7,630,486**	

Cedar Hill School - Life Cycle Summary Yrs 1-5

Site Level Life Cycle Items

Site

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Playfield Areas	ES Playgrounds	1	Ea.	$44,588	4
Pedestrian Pavement	Sidewalks - Asphalt	6,000	SF	$51,272	4
Roadway Pavement	Asphalt	50	CAR	$165,426	4
Pedestrian Pavement	Sidewalks - Asphalt	15,000	SF	$128,180	4
Note:	Paved play area				
	Sub Total for System	**4**	**items**	**$389,465**	
	Sub Total for Building -	**4**	**items**	**$389,465**	

Building: 01 - Main Building

Interior

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Wall Painting and Coating	Painting/Staining (Bldg SF)	38,936	SF	$257,264	4
Resilient Flooring	Vinyl Composition Tile Flooring	7,500	SF	$86,038	4
	Sub Total for System	**2**	**items**	**$343,302**	

Mechanical

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Facility Hydronic Distribution	Pump - 1HP or Less (Ea.)	5	Ea.	$38,142	3
Facility Hydronic Distribution	Pump - 5HP	2	Ea.	$19,060	4
HVAC Air Distribution	Roof Top Unit - DX Gas (20 Ton)	1	Ea.	$64,299	4
Decentralized Heating Equipment	Heating Unit Vent - Steam/Hot water	21	Ea.	$355,211	4
Exhaust Air	Roof Exhaust Fan	14	Ea.	$72,858	5
Heat Generation	Boiler - Copper Tube (750 MBH)	1	Ea.	$46,917	5
Note:	720 MBH				
	Sub Total for System	**6**	**items**	**$596,486**	

Plumbing

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Plumbing Fixtures	Refrigerated Drinking Fountain	1	Ea.	$7,377	4
Domestic Water Piping	Domestic Water Piping System (Bldg.SF)	41,936	SF	$337,412	4
Compressed-Air Systems	Air Compressor (1/2 hp)	1	Ea.	$4,814	4
	Sub Total for System	**3**	**items**	**$349,604**	
	Sub Total for Building 01 - Main Building	**11**	**items**	**$1,289,392**	
	Total for: Cedar Hill School	**15**	**items**	**$1,678,857**	

Supporting Photos

Site Aerial

Playground

Marquee

Rear Playground

Peeling Soffit Paint

Deteriorated Exterior Door

Corroded Sink

Aged Drinking Fountain

Old Toilet Partitions

Refrigerated Water Fountain

Backflow Preventer

Piping

Exterior Painted CMU

Aged Cabinetry

Chipped And Missing Wall Tiles

Library

Typical Classroom

Classroom Wing Exterior

2003 Addition

Multipurpose Room

Science Classroom

Front Classroom Wing

Art Classroom

Activities Area

Main Entry

Entry Elevation

Facility Condition Assessment

Warwick - Cottrell F. Hoxsie School | *June 2017*

55 Glenwood Drive, Warwick, RI 02889

Introduction

Cottrell F. Hoxsie School, located at 55 Glenwood Drive in Warwick, Rhode Island, was built in 1969. It comprises 41,400 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.

Cottrell F. Hoxsie School serves grades KG - 6, has 25 instructional spaces, and has an enrollment of 313. Instructional spaces are defined as rooms in which a student receives education. The LEA reported capacity for Cottrell F. Hoxsie School is 375 with a resulting utilization of 83%.

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 Cottrell F. Hoxsie School the 5-year need is $7,846,159. 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 Cottrell F. Hoxsie 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 Cottrell F. Hoxsie School campus, identified by discipline and building.

Site

The site level systems for this campus include:

Site	Asphalt Parking Lot Pavement
	Asphalt Roadway Pavement
	Asphalt Pedestrian Pavement
	Concrete Pedestrian Pavement

Building Envelope

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

01 - Main Building:	Brick Exterior Wall
	CMU Exterior Wall
	Painted Gypsum Soffit
	Wood Siding Exterior Wall
	Aluminum Exterior Windows
	Steel Exterior Entrance Doors

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

01 - Main Building:	Composition Shingle Roofing
	EPDM Roofing
	Built-Up Roofing With Ballast
	Steel Canopy Roofing

Interior

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

01 - Main Building:	Foldable Interior Partition
	Steel Interior Doors
	Wood Interior Doors
	Interior Door Hardware
	Exposed Metal Structure Ceiling
	Suspended Acoustical Grid System
	Suspended Acoustical Ceiling Tile
	Painted Ceilings
	Wood Ceilings
	Interior Wall Painting
	Concrete Flooring
	Ceramic Tile Flooring
	Vinyl Composition Tile Flooring

Mechanical

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

01 - Main Building:	2,400 MBH Copper Tube Boiler
	3 kW Electric Unit Heater
	Finned Wall Radiator
	Steam/Hot Water Heating Unit Vent
	Pneumatic Heating System Controls
	Window Units
	1 HP or Smaller Pump
	5 HP Pump
	2-Pipe Hot Water Hydronic Distribution System
	Roof Exhaust Fan

Plumbing

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

01 - Main Building:	2" Backflow Preventers
	Gas Piping System
	40 Gallon Electric Water Heater
	Domestic Water Piping System
	Classroom Lavatories
	Mop/Service Sinks
	Non-Refrigerated Drinking Fountain
	Refrigerated Drinking Fountain
	Restroom Lavatories
	Toilets
	Urinals
	Air Compressor (2 hp)

Electrical

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

01 - Main Building:	400 Amp Distribution Panel
	Panelboard - 120/208 100A
	Panelboard - 120/208 225A
	Light Fixtures
	Building Mounted Lighting 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.

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

	Priority						
System	1	2	3	4	5	Total	% of Total
Site	-	-	$212,939	$118,837	-	$331,776	5.67 %
Roofing	-	$1,346,345	-	-	-	$1,346,345	23.02 %
Structural	-	-	-	-	-	$0	0.00 %
Exterior	-	$124,609	-	-	$14,443	$139,052	2.38 %
Interior	-	-	$841,394	$533,329	-	$1,374,723	23.50 %
Mechanical	-	$337,989	-	$301,223	-	$639,212	10.93 %
Electrical	-	$47,931	$51,476	-	$47,321	$146,728	2.51 %
Plumbing	-	-	-	$5,937	$20,064	$26,001	0.44 %
Fire and Life Safety	$564,872	-	-	-	-	$564,872	9.66 %
Technology	-	-	$1,039,264	-	-	$1,039,264	17.77 %
Conveyances	-	-	-	-	-	$0	0.00 %
Specialties	-	-	-	$233,079	$8,499	$241,578	4.13 %
Total	$564,872	$1,856,874	$2,145,073	$1,192,406	$90,327	$5,849,552	

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

The building systems with the most need include:

Interior	-	$1,374,723
Roofing	-	$1,346,345
Technology	-	$1,039,264

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

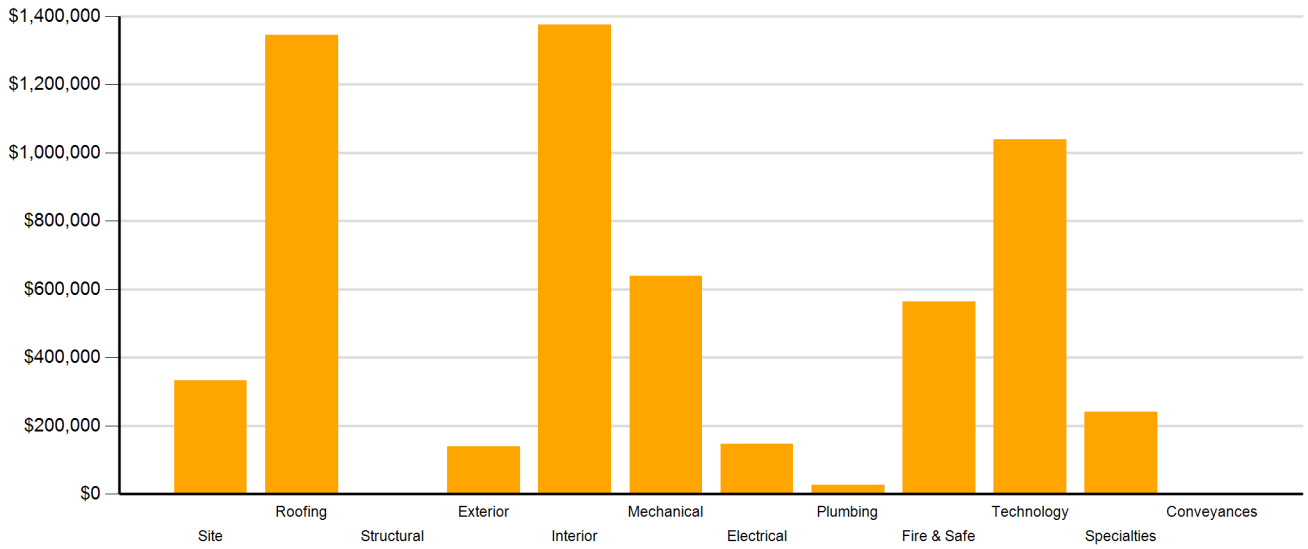


Figure 2: System Deficiencies

Current Deficiencies by Category

Deficiencies have been further grouped according to the observed category.

• **Acoustics** deficiencies relate to room acoustics, sound insolation, 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

	Priority					
Category	**1**	**2**	**3**	**4**	**5**	**Total**
Acoustics	-	-	$375,575	$71,302	-	$446,877
Barrier to Accessibility	-	-	$179,741	-	-	$179,741
Capital Renewal	-	$1,856,874	$497,195	$1,042,406	$14,443	$3,410,918
Code Compliance	$564,872	-	-	-	-	$564,872
Educational Adequacy	-	-	$16,997	$55,334	$75,883	$148,215
Functional Deficiency	-	-	$39,038	-	-	$39,038
Hazardous Material	-	-	-	$23,363	-	$23,363
Technology	-	-	$1,022,267	-	-	$1,022,267
Traffic	-	-	$14,260	-	-	$14,260
Total	$564,872	$1,856,874	$2,145,073	$1,192,406	$90,327	$5,849,552

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

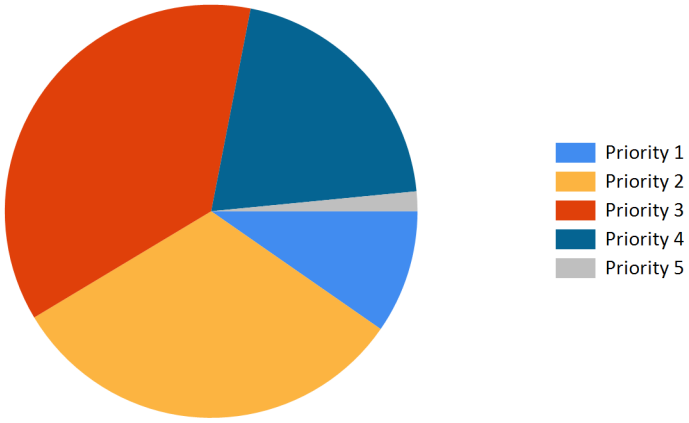


Figure 3: Current deficiencies by priority

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

		Life Cycle Capital Renewal Projections						
System	Current Deficiencies	Year 1 2017	Year 2 2018	Year 3 2019	Year 4 2020	Year 5 2021	LC Yr. 1-5 Total	Total 5-Year Need
Site	$331,776	$0	$0	$0	$307,692	$57,231	$364,923	$696,699
Roofing	$1,346,345	$0	$0	$0	$0	$0	$0	$1,346,345
Structural	$0	$0	$0	$0	$0	$0	$0	$0
Exterior	$139,052	$0	$0	$0	$0	$106,593	$106,593	$245,645
Interior	$1,374,723	$0	$0	$0	$663,572	$44,206	$707,778	$2,082,501
Mechanical	$639,212	$0	$0	$7,941	$319,119	$103,760	$430,820	$1,070,032
Electrical	$146,728	$0	$0	$0	$0	$0	$0	$146,728
Plumbing	$26,001	$0	$0	$232,685	$30,660	$0	$263,345	$289,346
Fire and Life Safety	$564,872	$0	$0	$121,343	$0	$0	$121,343	$686,216
Technology	$1,039,264	$0	$0	$0	$0	$0	$0	$1,039,264
Conveyances	$0	$0	$0	$0	$0	$0	$0	$0
Specialties	$241,578	$0	$0	$0	$0	$0	$0	$241,578
Total	**$5,849,552**	**$0**	**$0**	**$361,969**	**$1,321,043**	**$311,790**	**$1,994,802**	**$7,844,354**

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

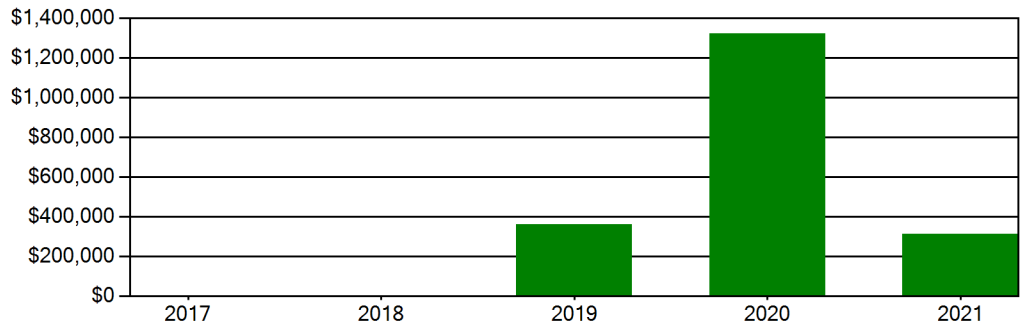
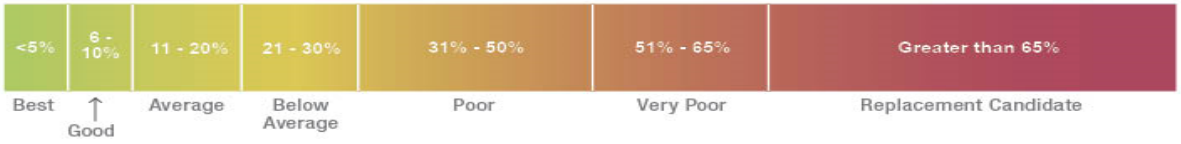


Figure 4: Life Cycle Capital Renewal Forecast

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 $14,490,000. For planning purposes, the total 5-year need at the Cottrell F. Hoxsie School is $7,846,159 (Life Cycle Years 1-5 plus the FCI deficiency cost). The Cottrell F. Hoxsie School facility has a 5-year FCI of 54.14%.

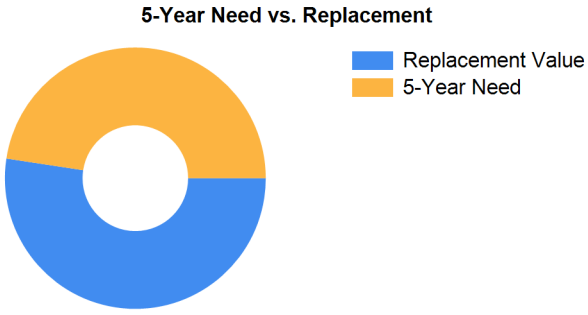


Figure 5: 5-Year FCI

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 230 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 Cottrell F. Hoxsie School cafeteria and/or library/media center to the size prescribed by the SCRs is estimated to be $217,728.

Summary of Findings

The Cottrell F. Hoxsie School comprises 41,400 square feet and was constructed in 1969. Current deficiencies at this school total $5,851,357. Five year capital renewal costs total $1,994,802. The total identified need for the Cottrell F. Hoxsie School (current deficiencies and 5-year capital renewal costs) is $7,846,159. The 5-year FCI is 54.14%.

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
Cottrell F. Hoxsie School Totals	41,400	1969	$5,851,357	$1,994,802	$7,846,159	54.14%

**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	Capital Renewal	18,600	SF	3	$198,679	12660
Note: Asphalt pedestrian pavement and paved play areas are deteriorated.						
Crosswalk Requires Repainting	Traffic	3	Ea.	3	$2,852	16958
Note: Repaint crosswalk at end of school driveway and crosswalks on Glenwood Drive.						
Traffic Signage Is Required	Traffic	4	Ea.	3	$11,408	16957
Note: Add school zone signs on Glenwood Drive.						
Backstops Require Replacement	Educational Adequacy	1	Ea.	4	$35,651	28617
Note: Backstops Require Replacement						
Playground Requires Impact Resistant Material	Capital Renewal	1	Ea.	4	$47,535	12659
Note: The playground mulch is worn and in need of replacement (4000 sf).						
Site Marquee Requires Replacement	Capital Renewal	1	Ea.	4	$35,651	12661
Note: The marquee is damaged from age and exposure to the elements.						
	Sub Total for System	**6**	**items**		**$331,776**	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Pole Lighting Is Missing And Needed	Functional Deficiency	1	Ea.	3	$24,778	12662
Note: Additional lighting is needed in the rear parking lot. The area is not sufficiently illuminated.						
	Sub Total for System	**1**	**items**		**$24,778**	
	Sub Total for School and Site Level	**7**	**items**		**$356,554**	

Building: 01 - Main Building

Roofing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Built-up Roofing With Aggregate Ballast Requires Replacement	Capital Renewal	33,988	SF	2	$1,346,345	12673
Note: The built-up roofing is aged with missing aggregate and evidence of ponding.						
	Sub Total for System	**1**	**items**		**$1,346,345**	

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Aluminum Window Requires Replacement	Capital Renewal	176	SF	2	$31,024	12666
Note: The exterior windows are deteriorated.						
Location: Main building multipurpose room and main entry						
The Metal Exterior Door Requires Replacement	Capital Renewal	14	Door	2	$93,584	12665
Note: Main building exterior doors are weathered and should be replaced.						
The Exterior Soffit Requires Repainting	Capital Renewal	4,167	SF	5	$14,443	12663
Note: The exterior soffit paint is bubbled and peeling.						
Location: Main building and north addition						
	Sub Total for System	**3**	**items**		**$139,052**	

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Classroom Entry Doors Provide Insufficient Sound Isolation	Acoustics	29	Ea.	3	$265,650	19829
Note: All classrooms in main building						
Classroom Interior Doors Provide Insufficient Sound Isolation	Acoustics	12	Ea.	3	$109,924	19830
Note: All classrooms in main building						
The Acoustical Ceiling Tiles Require Replacement	Capital Renewal	28,755	SF	3	$270,525	12667
Note: Main building ceiling tiles are stained and sagging.						
The Ceramic Tile Flooring Requires Replacement	Capital Renewal	556	SF	3	$15,553	12668
Note: The ceramic tile flooring is cracked and broken.						
Location: Main building restrooms						
The Interior Door Hardware Requires Replacement	Barrier to Accessibility	55	Door	3	$179,741	12674
Note: The door hardware is worn and obsolete.						
Location: Main building						

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Ceiling Grid Requires Replacement	Capital Renewal	28,755	SF	4	$355,259	12681
Note: Acoustic ceiling grid at the main building is aged and stained.						
Interior Toilet Partition Requires Repair	Capital Renewal	12	Ea.	4	$6,536	12670
Location: Main building						
Moveable Partitions Require Replacement	Capital Renewal	480	SF Wall	4	$57,755	12684
Note: Partition walls at classrooms 1 and 16 and the multipurpose room stage and aged and worn with various tears. They should be replaced.						
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	10	Ea.	4	$2,971	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	858	LF	4	$20,392	Rollup
Room Is Excessively Reverberant (Install Fiberglass Wall Panel)	Acoustics	1,200	SF	4	$71,302	19831
Note: Music space						
Room Lighting Is Inadequate Or In Poor Condition.	Educational Adequacy	505	SF	4	$19,113	Rollup
	Sub Total for System	**12**	**items**		**$1,374,723**	

Mechanical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Replace Unit Vent	Capital Renewal	3	Ea.	2	$52,859	12683
Note: Unit ventilators are aged, rusted, corroded, and heat unevenly.						
The Copper Tube Boiler Requires Replacement	Capital Renewal	2	Ea.	2	$285,130	12682
Note: Original boilers are rusted and corroded and need to be replaced.						
Existing Controls Are Inadequate And Should Be Replaced With DDC Controls	Capital Renewal	41,400	SF	4	$291,297	12679
Small HVAC Circulating Pump Requires Replacement	Capital Renewal	1	Ea.	4	$9,927	12675
Note: Pump is aged and corroded.						
	Sub Total for System	**4**	**items**		**$639,212**	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Distribution Panel Requires Replacement	Capital Renewal	1	Ea.	2	$26,738	12678
Note: Panel is aged and corroded.						
The Panelboard Requires Replacement	Capital Renewal	3	Ea.	2	$15,152	12676
Note: Original panelboards are corroded with breakers that do not function.						
The Panelboard Requires Replacement	Capital Renewal	1	Ea.	2	$6,041	12677
Note: Obsolete panelboard should be replaced.						
The Electrical Receptacles Are Inadequate And More are Needed	Functional Deficiency	24	Ea.	3	$14,260	12671
The Mounted Building Lighting Requires Replacement	Capital Renewal	8	Ea.	3	$12,438	12669
Room Has Insufficient Electrical Outlets	Educational Adequacy	96	Ea.	5	$47,321	Rollup
	Sub Total for System	**6**	**items**		**$121,950**	

Plumbing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Floor Drains Are Required	Educational Adequacy	1	Ea.	4	$570	Rollup
The Custodial Mop Or Service Sink Requires Replacement	Capital Renewal	2	Ea.	4	$5,367	12672
Note: Service sinks are aged and corroded.						
Room lacks a drinking fountain.	Educational Adequacy	10	Ea.	5	$10,954	Rollup
The Class Room Lavatories Plumbing Fixtures Are Missing And Should Be Installed	Educational Adequacy	8	Ea.	5	$9,110	Rollup
	Sub Total for System	**4**	**items**		**$26,001**	

Fire and Life Safety

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Install Fire Sprinklers (NFPA 13)	Code Compliance	41,400	SF	1	$564,872	12664
	Sub Total for System	**1**	**items**		**$564,872**	

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room lacks Interactive White Board	Educational Adequacy	3	Ea.	3	$16,997	Rollup
Technology: Campus network switching electronics are antiquated and/or do not meet standards.	Technology	196	Ea.	3	$97,050	22930
Technology: Classroom AV/Multimedia systems are in need of improvements.	Technology	28	Ea.	3	$277,287	22933
Technology: Instructional spaces do not have local sound reinforcement.	Technology	28	Ea.	3	$138,643	22938
Technology: Intermediate Telecommunications Room grounding system is inadequate or non-existent.	Technology	1	Ea.	3	$5,546	22928
Technology: Intermediate Telecommunications Room is not dedicated and/or inadequate.	Technology	1	Ea.	3	$47,139	22927
Technology: Intermediate Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	$4,952	22929
Technology: Main Telecommunications Room ground system is inadequate or non-existent.	Technology	1	Ea.	3	$6,932	22926
Technology: Main Telecommunications Room is not dedicated and/or inadequate.	Technology	1	Ea.	3	$52,288	22924
Technology: Main Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	$9,408	22925
Technology: Network cabling infrastructure is outdated (Cat 5 or less) and/or does not meet standards.	Technology	113	Ea.	3	$50,357	22931
Technology: Network system inadequate and/or near end of useful life	Technology	4	Ea.	3	$31,690	22936
Technology: Network system inadequate and/or near end of useful life	Technology	20	Ea.	3	$99,031	22937
Technology: PA/Bell/Clock system is inadequate and/or near end of useful life.	Technology	41,400	SF	3	$73,798	22935
Technology: Special Space AV/Multimedia system is inadequate.	Technology	1	Ea.	3	$56,448	22932
Technology: Special Space AV/Multimedia systems are in need of minor improvements.	Technology	1	Room	3	$19,806	22934
Technology: Telephone handsets are inadequate and sparsely deployed throughout the campus.	Technology	28	Ea.	3	$44,366	22939
Technology: Telephone system is inadequate and/or non-existent.	Technology	1	Ea.	3	$7,526	22940
	Sub Total for System	**18**	**items**		**$1,039,264**	

Specialties

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Replace Cabinetry In Classes/Labs	Capital Renewal	20	Room	4	$233,079	12680
Note: Cabinets in the main building are aged and worn.						
Room lacks an appropriate refrigerator.	Educational Adequacy	1	Ea.	5	$8,499	Rollup
	Sub Total for System	**2**	**items**		**$241,578**	
	Sub Total for Building 01 - Main Building	**51**	**items**		**$5,492,998**	
	Total for Campus	**58**	**items**		**$5,849,552**	

Cottrell F. Hoxsie School - Life Cycle Summary Yrs 1-5

Site Level Life Cycle Items

Site

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Roadway Pavement	Asphalt	23	CAR	$76,096	4
Parking Lot Pavement	Asphalt	70	CAR	$231,596	4
Note:	Main parking lot				
Pedestrian Pavement	Sidewalks - Concrete	2,800	SF	$57,231	5
	Sub Total for System	**3**	**items**	**$364,923**	
	Sub Total for Building -	**3**	**items**	**$364,923**	

Building: 01 - Main Building

Exterior

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Exterior Wall Veneer	Wood Siding - Bldg SF basis	3,556	SF	$106,593	5
	Sub Total for System	**1**	**items**	**$106,593**	

Interior

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Wall Painting and Coating	Painting/Staining (Bldg SF)	41,400	SF	$273,544	4
Resilient Flooring	Vinyl Composition Tile Flooring	33,999	SF	$390,028	4
Acoustical Suspended Ceilings	Ceilings - Acoustical Tiles	4,689	SF	$42,349	5
Suspended Plaster and	Painted ceilings	444	SF	$1,857	5
	Sub Total for System	**4**	**items**	**$707,778**	

Mechanical

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Decentralized Cooling	Window Units	2	Ea.	$6,678	3
Decentralized Heating Equipment	Unit Heater Electric (3 KW)	1	Ea.	$1,263	3
Facility Hydronic Distribution	2-Pipe Water System (Hot)	41,400	SF	$319,119	4
Exhaust Air	Roof Exhaust Fan	12	Ea.	$62,449	5
Facility Hydronic Distribution	Pump - 1HP or Less (Ea.)	3	Ea.	$22,885	5
Note:	1/2 HP				
Decentralized Heating Equipment	Finned Wall Radiator - (Ea.)	11	Ea.	$18,426	5
	Sub Total for System	**6**	**items**	**$430,821**	

Plumbing

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Plumbing Fixtures	Classroom Lavatories	25	Ea.	$67,975	3
Plumbing Fixtures	Refrigerated Drinking Fountain	2	Ea.	$14,755	3
Plumbing Fixtures	Urinals	5	Ea.	$6,645	3
Plumbing Fixtures	Restroom Lavatories	24	Ea.	$76,345	3
Domestic Water Equipment	Water Heater - Electric - 40 gallon	1	Ea.	$3,540	3
Note:	50 gallons				
Plumbing Fixtures	Toilets	20	Ea.	$57,042	3
Compressed-Air Systems	Air Compressor (2 hp)	1	Ea.	$6,383	3
Plumbing Fixtures	Non-Refrigerated Drinking Fountain	3	Ea.	$30,660	4
	Sub Total for System	**8**	**items**	**$263,345**	

Fire and Life Safety

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Fire Detection and Alarm	Fire Alarm	41,400	SF	$121,343	3
	Sub Total for System	**1**	**items**	**$121,343**	
	Sub Total for Building 01 - Main Building	**20**	**items**	**$1,629,881**	
	Total for: Cottrell F. Hoxsie School	**23**	**items**	**$1,994,804**	

Supporting Photos

Site Aerial

Playground

Weathered Marquee

Peeling Soffit Paint

Cracked Tile Floor

Toilet Partitions

Built-Up Roofing

Aged Cabinetry

Stained Ceiling Grid

Damaged Operable Partition Wall

Library

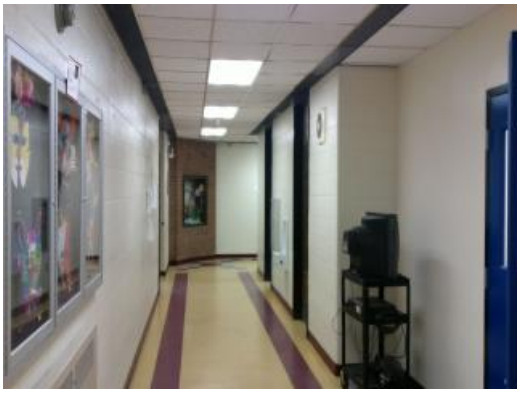
North Addition Exterior

Canopies

Entry Doors

Multipurpose Room

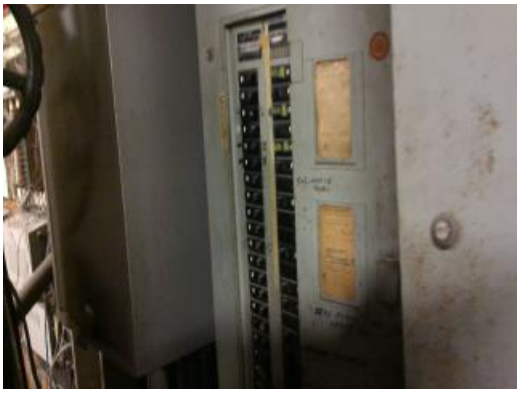
Typical Classroom


Hallway Finishes

Exterior Finishes

Mop Sink

Pumps


Aged Panelboard

Distribution Panel

Boilers

Aged Unit Ventilator

Facility Condition Assessment

Warwick - Drum Rock Early Childhood Center | *June 2017*

575 Centerville Road, Warwick, RI 02886

Introduction

Drum Rock Early Childhood Center, located at 575 Centerville Road in Warwick, Rhode Island, was built in 1971. It comprises 27,058 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.

Drum Rock Early Childhood Center serves grades PK - KG, has 16 instructional spaces, and has an enrollment of 185. Instructional spaces are defined as rooms in which a student receives education. The LEA reported capacity for Drum Rock Early Childhood Center is 350 with a resulting utilization of 53%.

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 Drum Rock Early Childhood Center the 5-year need is $3,946,917. 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 Drum Rock Early Childhood Center

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 Drum Rock Early Childhood Center campus, identified by discipline and building.

Site

The site level systems for this campus include:

Site	Asphalt Parking Lot Pavement
	Asphalt Roadway Pavement
	Asphalt Pedestrian Pavement
	Concrete Pedestrian Pavement

Building Envelope

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

01 - Main Building:	Brick Exterior Wall
	Metal Panel Exterior Wall
	Aluminum Exterior Windows
	Steel Exterior Entrance Doors
	Storefront Entrance Doors

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

01 - Main Building:	Composition Shingle Roofing
	Single Ply Roofing

Interior

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

01 - Main Building:	Steel Interior Doors
	Aluminum/Glass Storefront Interior Doors
	Wood Interior Doors
	Interior Door Hardware
	Exposed Metal Structure Ceiling
	Suspended Acoustical Grid System
	Suspended Acoustical Ceiling Tile
	Painted Ceilings
	CMU Wall
	Brick/Stone Veneer
	Interior Wall Painting
	Concrete Flooring
	Ceramic Tile Flooring
	Vinyl Composition Tile Flooring

Mechanical

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

01 - Main Building:	750 MBH Copper Tube Boiler
	Finned Wall Radiator
	12 MBH Steam Unit Heater
	DDC Heating System Controls
	3 Ton Outside Air Cooled Condenser
	Chilled Water Unit Ventilator
	Window Units
	2-Pipe Hot Water Hydronic Distribution System
	1 HP or Smaller Pump
	Ductwork
	Large Roof Exhaust Fan
	Small Roof Exhaust Fan
	Fire Sprinkler System

Plumbing

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

01 - Main Building:	2" Backflow Preventers
	Gas Piping System
	30 Gallon Electric Water Heater
	50 Gallon Gas Water Heater
	Domestic Water Piping System
	Classroom Lavatories
	Lavatories
	Mop/Service Sinks
	Non-Refrigerated Drinking Fountain
	Refrigerated Drinking Fountain
	Restroom Lavatories
	Toilets
	Urinals

Electrical

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

01 - Main Building:	30 KVA Transformer
	45 KVA Transformer
	75 KVA Transformer
	Panelboard - 120/208 100A
	Panelboard - 120/208 225A
	Panelboard - 277/480 225A
	Panelboard - 277/480 400A
	Building Mounted Lighting Fixtures

01 - Main Building:	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.

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

	Priority						
System	1	2	3	4	5	Total	% of Total
Site	-	-	-	$1,188	-	$1,188	0.05 %
Roofing	-	-	-	-	-	$0	0.00 %
Structural	-	-	-	-	-	$0	0.00 %
Exterior	-	$40,108	$433	$891	-	$41,431	1.82 %
Interior	-	-	$275,879	$605,133	$36,261	$917,273	40.40 %
Mechanical	-	$155,982	-	$185,604	-	$341,585	15.05 %
Electrical	-	$47,713	$31,096	$7,180	$29,575	$115,564	5.09 %
Plumbing	-	-	-	$194,061	$53,685	$247,746	10.91 %
Fire and Life Safety	-	-	-	-	-	$0	0.00 %
Technology	-	-	$493,452	-	-	$493,452	21.73 %
Conveyances	-	-	-	-	-	$0	0.00 %
Specialties	-	-	$67,989	-	$44,193	$112,182	4.94 %
Total	$0	$243,802	$868,848	$994,057	$163,714	$2,270,422	

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

The building systems with the most need include:

Interior	-	$917,273
Technology	-	$493,452
Mechanical	-	$341,585

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

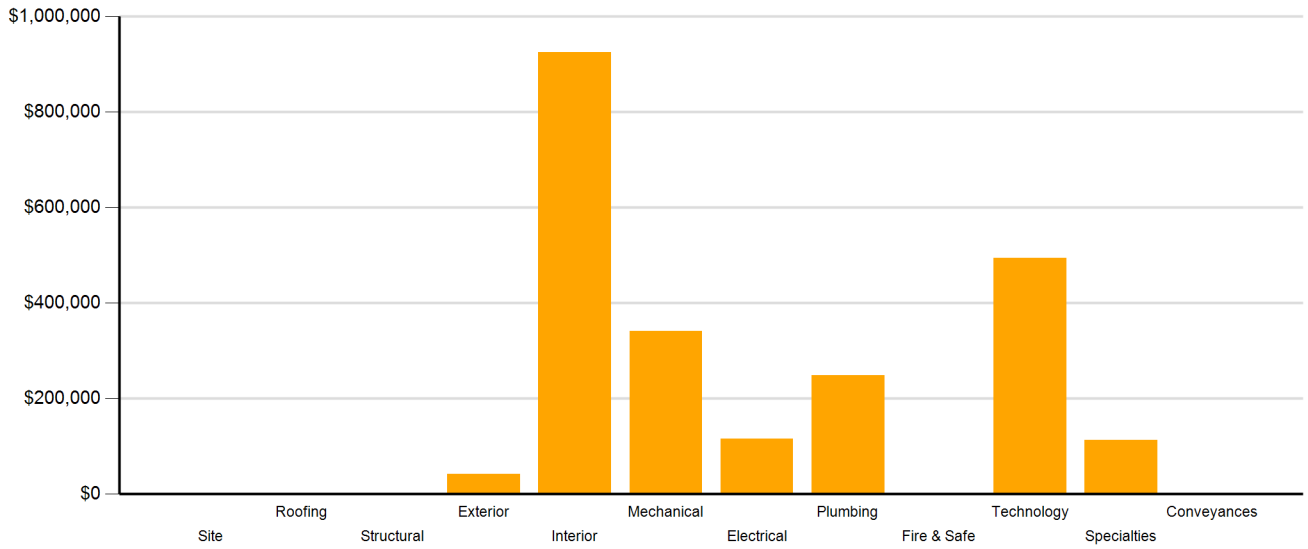


Figure 2: System Deficiencies

Current Deficiencies by Category

Deficiencies have been further grouped according to the observed category.

• **Acoustics** deficiencies relate to room acoustics, sound insolation, 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

	Priority					
Category	**1**	**2**	**3**	**4**	**5**	**Total**
Acoustics	-	-	$271,716	-	-	$271,716
Barrier to Accessibility	-	-	$3,268	-	-	$3,268
Capital Renewal	-	$243,802	$1,327	$389,000	-	$634,130
Code Compliance	-	-	-	-	-	$0
Educational Adequacy	-	-	$141,644	$603,968	$163,714	$909,327
Functional Deficiency	-	-	$31,096	-	-	$31,096
Hazardous Material	-	-	-	$1,089	-	$1,089
Technology	-	-	$419,797	-	-	$419,797
Traffic	-	-	-	-	-	$0
Total	$0	$243,802	$868,848	$994,057	$163,714	$2,270,422

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

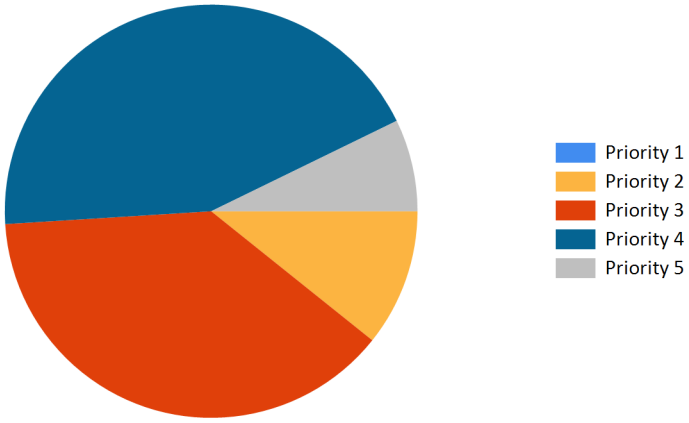


Figure 3: Current deficiencies by priority

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

		Life Cycle Capital Renewal Projections						
System	Current Deficiencies	Year 1 2017	Year 2 2018	Year 3 2019	Year 4 2020	Year 5 2021	LC Yr. 1-5 Total	Total 5-Year Need
Site	$1,188	$0	$0	$0	$538,846	$52,702	$591,548	$592,736
Roofing	$0	$0	$0	$0	$0	$280,342	$280,342	$280,342
Structural	$0	$0	$0	$0	$0	$0	$0	$0
Exterior	$41,431	$0	$0	$0	$0	$0	$0	$41,431
Interior	$917,273	$0	$0	$0	$297,784	$162,594	$460,378	$1,377,651
Mechanical	$341,585	$0	$0	$0	$177,265	$5,229	$182,494	$524,079
Electrical	$115,564	$0	$0	$0	$0	$35,339	$35,339	$150,903
Plumbing	$247,746	$0	$0	$0	$0	$36,008	$36,008	$283,754
Fire and Life Safety	$0	$0	$0	$0	$0	$79,307	$79,307	$79,307
Technology	$493,452	$0	$0	$0	$0	$0	$0	$493,452
Conveyances	$0	$0	$0	$0	$0	$0	$0	$0
Specialties	$112,182	$0	$0	$0	$0	$0	$0	$112,182
Total	**$2,270,422**	**$0**	**$0**	**$0**	**$1,013,895**	**$651,521**	**$1,665,416**	**$3,935,838**

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

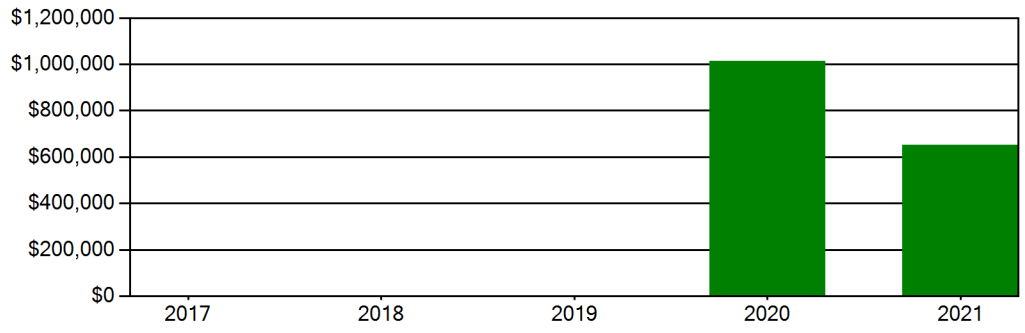
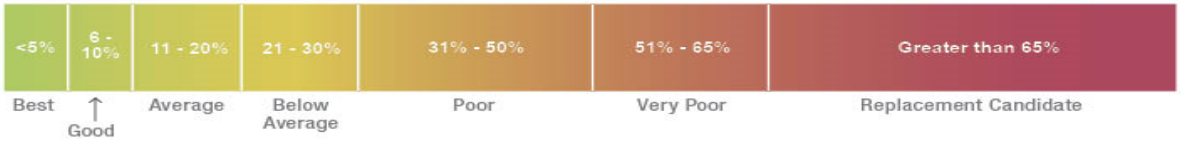


Figure 4: Life Cycle Capital Renewal Forecast

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 $9,470,300. For planning purposes, the total 5-year need at the Drum Rock Early Childhood Center is $3,946,917 (Life Cycle Years 1-5 plus the FCI deficiency cost). The Drum Rock Early Childhood Center facility has a 5-year FCI of 41.56%.

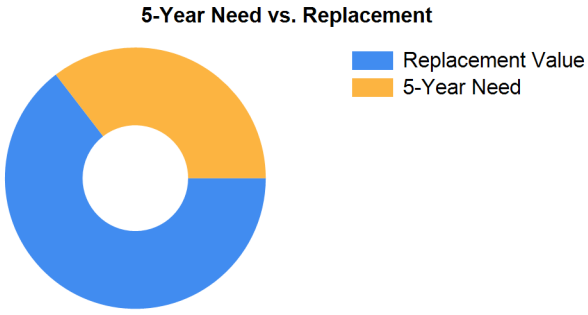


Figure 5: 5-Year FCI

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 150 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 Drum Rock Early Childhood Center cafeteria and/or library/media center to the size prescribed by the SCRs is estimated to be $0.

Summary of Findings

The Drum Rock Early Childhood Center comprises 27,058 square feet and was constructed in 1971. Current deficiencies at this school total $2,281,501. Five year capital renewal costs total $1,665,416. The total identified need for the Drum Rock Early Childhood Center (current deficiencies and 5-year capital renewal costs) is $3,946,917. The 5-year FCI is 41.56%.

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
Drum Rock Early Childhood Center Totals	27,058	1971	$2,281,501	$1,665,416	$3,946,917	41.56%

**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.

Building: 01 - Main Building

Site

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Gate Requires Replacement	Capital Renewal	1	Ea.	4	$1,188	19345
Note: Reportedly, the exterior gate hatch does not function properly. Replacement is recommended.						
	Sub Total for System	**1**	**items**		**$1,188**	

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Metal Exterior Door Requires Replacement	Capital Renewal	6	Door	2	$40,108	19336
Note: Doors on the west side and southwest corner are aged and rusted.						
Exterior Metal Door Requires Repainting	Capital Renewal	2	Door	3	$433	19335
Note: Paint is chipped and peeling.						
Location: East side of east addition						
The Concrete/CMU Exterior Requires Repair	Capital Renewal	10	LF	4	$891	19334
Note: The exterior CMU at the east addition has minor cracks under the windows on the south side and above the windows and doors on the north and east sides. Repair is recommended.						
	Sub Total for System	**3**	**items**		**$41,431**	

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Classroom Entry Doors Provide Insufficient Sound Isolation	Acoustics	25	Ea.	3	$216,754	27846
Note: All Classrooms						
Classroom Interior Doors Provide Insufficient Sound Isolation	Acoustics	6	Ea.	3	$54,962	27847
Note: All Classrooms						
Interior CMU Walls Require Repair	Capital Renewal	5	SF	3	$189	19346
Note: The interior CMU has a minor crack in the office break room. Repair is recommended.						
The Acoustical Ceiling Tiles Require Replacement	Capital Renewal	75	SF	3	$706	19337
Note: The acoustic ceiling panels in the multipurpose room have an area of severe stains and missing tiles. Replacement is recommended.						
The Interior Door Hardware Requires Replacement	Barrier to Accessibility	1	Door	3	$3,268	19343
Note: The door knob at the office restroom is not ADA-compliant. Replacement is recommended.						
Interior Gypsum Board Walls Require Repair	Capital Renewal	10	SF Wall	4	$76	19332
Note: The gypsum board wall in the front corridor has minor damage at the corner. Repair is recommended.						
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	2	Ea.	4	$594	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	50	SF	4	$495	Rollup
Room Lighting Is Inadequate Or In Poor Condition.	Educational Adequacy	15,958	SF	4	$603,968	Rollup
Classroom Door Requires Vision Panel	Educational Adequacy	16	Ea.	5	$36,261	Rollup
	Sub Total for System	**10**	**items**		**$917,273**	

Mechanical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Replace Unit Ventilators	Capital Renewal	17	Ea.	2	$112,359	19344
The Fin Tube Water Radiant Heater Requires Replacement	Capital Renewal	25	Ea.	2	$43,623	19350
Note: Fin tube heaters are original with some showing rust. They should be replaced.						
Existing Controls Are Inadequate And Should Be Replaced With DDC Controls	Capital Renewal	27,058	SF	4	$169,711	19340
Note: Original controls should be replaced.						
Small HVAC Circulating Pump Requires Replacement	Capital Renewal	2	Ea.	4	$15,892	19351
Note: Pumps show signs of water leaks.						
	Sub Total for System	**4**	**items**		**$341,585**	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Panelboard Requires Replacement	Capital Renewal	1	Ea.	2	$5,051	19347
Note: Original Federal Pacific panelboard should be replaced.						

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Panelboard Requires Replacement	Capital Renewal	5	Ea.	2	$30,204	19348
Note: Federal Pacific panelboards are old and should be replaced.						
The Panelboard Requires Replacement	Capital Renewal	1	Ea.	2	$12,458	19349
Note: Federal Pacific panelboard should be replaced.						
The Mounted Building Lighting Requires Replacement	Functional Deficiency	20	Ea.	3	$31,096	19339
Note: Original building mounted light fixtures should be replaced. Several are not functional.						
The Canopy Lighting Requires Replacement	Capital Renewal	5	Ea.	4	$7,180	19338
Note: Original lights should be replaced.						
Room Has Insufficient Electrical Outlets	Educational Adequacy	60	Ea.	5	$29,575	Rollup
	Sub Total for System	**6**	**items**		**$115,564**	

Plumbing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Non-Refrigerated Drinking Fountain Requires Replacement	Capital Renewal	14	Ea.	4	$149,042	19341
Note: Drinking fountains are old, have low water flow, and are corroded.						
The Classroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	14	Ea.	4	$39,652	19333
Note: Lavatories are rusted and corroded.						
The Custodial Mop Or Service Sink Requires Replacement	Capital Renewal	2	Ea.	4	$5,367	19342
Note: Service sinks are cracked and rusted.						
Room lacks a drinking fountain.	Educational Adequacy	14	Ea.	5	$15,335	Rollup
Room lacks a private shower area.	Educational Adequacy	2	Ea.	5	$20,333	Rollup
The Class Room Lavatories Plumbing Fixtures Are Missing And Should Be Installed	Educational Adequacy	12	Ea.	5	$18,017	Rollup
	Sub Total for System	**6**	**items**		**$247,746**	

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room lacks Interactive White Board	Educational Adequacy	13	Ea.	3	$73,655	Rollup
Technology: Campus network switching electronics are antiquated and/or do not meet standards.	Technology	96	Ea.	3	$47,535	23152
Technology: Classroom AV/Multimedia systems are inadequate and/or near end of useful life.	Technology	8	Ea.	3	$166,372	23156
Technology: Intermediate Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	$4,952	23151
Technology: Main Telecommunications Room ground system is inadequate or non-existent.	Technology	1	Ea.	3	$6,932	23149
Technology: Main Telecommunications Room is not dedicated. Room requires partial walls and/or major improvements.	Technology	1	Ea.	3	$44,366	23148
Technology: Network system inadequate and/or near end of useful life	Technology	3	Ea.	3	$23,767	23157
Technology: Network system inadequate and/or near end of useful life	Technology	10	Ea.	3	$49,515	23158
Technology: PA/Bell/Clock system is inadequate and/or near end of useful life.	Technology	27,058	SF	3	$48,232	23155
Technology: Telecommunications Room (large size room) needs dedicated cooling system improvements.	Technology	1	Ea.	3	$7,922	23150
Technology: Telephone handsets are inadequate and sparsely deployed throughout the campus.	Technology	8	Ea.	3	$12,676	23154
Technology: Telephone system is inadequate and/or non-existent.	Technology	1	Ea.	3	$7,526	23153
	Sub Total for System	**12**	**items**		**$493,452**	

Specialties

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room has insufficient writing area.	Educational Adequacy	15	Ea.	3	$67,989	Rollup

Specialties

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room lacks an appropriate refrigerator.	Educational Adequacy	2	Ea.	5	$16,997	Rollup
The room lacks a washer and/or dryer.	Educational Adequacy	2	Ea.	5	$27,196	Rollup
	Sub Total for System	**3**	**items**		**$112,182**	
	Sub Total for Building 01 - Main Building	**45**	**items**		**$2,270,422**	
	Total for Campus	**45**	**items**		**$2,270,422**	

Drum Rock Early Childhood Center - Life Cycle Summary Yrs 1-5

Site Level Life Cycle Items

Site

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Fences and Gates	Fencing - Chain Link (8 Ft)	435	LF	$29,244	4
Roadway Pavement	Asphalt	57	CAR	$188,586	4
Parking Lot Pavement	Asphalt	65	CAR	$215,054	4
Pedestrian Pavement	Sidewalks - Asphalt	12,400	SF	$105,962	4
Parking Lot Lighting	Pole Lighting	1	Ea.	$7,735	5
Pedestrian Pavement	Sidewalks - Concrete	2,200	SF	$44,967	5
	Sub Total for System	**6**	**items**	**$591,548**	
	Sub Total for Building -	**6**	**items**	**$591,548**	

Building: 01 - Main Building

Roofing

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Low-Slope Roofing	Single Ply	21,843	SF	$280,342	5
	Sub Total for System	**1**	**items**	**$280,342**	

Interior

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Resilient Flooring	Vinyl Composition Tile Flooring	25,958	SF	$297,784	4
Wall Painting and Coating	Painting/Staining (Bldg SF)	24,608	SF	$162,594	5
	Sub Total for System	**2**	**items**	**$460,377**	

Mechanical

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Decentralized Cooling	Window Units	1	Ea.	$3,339	4
Exhaust Air	Roof Exhaust Fan - Large	11	Ea.	$152,828	4
Exhaust Air	Roof Exhaust Fan - Small	8	Ea.	$21,098	4
Water-Based Fire-Suppression	Fire Sprinkler System (Bldg.SF)	275	SF	$5,229	5
Note:	Storage rooms only				
	Sub Total for System	**4**	**items**	**$182,494**	

Electrical

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Electrical Service	Transformer (30 KVA)	1	Ea.	$7,031	5
Electrical Service	Transformer (75 KVA)	1	Ea.	$10,520	5
Note:	80 KVA				
Power Distribution	Panelboard - 277/480 400A	1	Ea.	$17,788	5
	Sub Total for System	**3**	**items**	**$35,339**	

Plumbing

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Plumbing Fixtures	Urinal (Ea.)	6	Ea.	$7,974	5
Plumbing Fixtures	Lavatories	2	Ea.	$6,362	5
Plumbing Fixtures	Restroom Lavatories	4	Ea.	$12,724	5
Domestic Water Equipment	Backflow Preventers - 2 in. (Ea.)	1	Ea.	$3,921	5
Domestic Water Equipment	Water Heater - Electric - 30 gallon	1	Ea.	$1,867	5
Domestic Water Equipment	Water Heater - Gas - 50 gallon	1	Ea.	$3,160	5
	Sub Total for System	**6**	**items**	**$36,009**	

Fire and Life Safety

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Fire Detection and Alarm	Fire Alarm	27,058	SF	$79,307	5
	Sub Total for System	**1**	**items**	**$79,307**	
	Sub Total for Building 01 - Main Building	**17**	**items**	**$1,073,868**	
	Total for: Drum Rock Early Childhood Center	**23**	**items**	**$1,665,415**	

Supporting Photos

Site Aerial

Original HVAC Controls

Building Light Fixture

Aged Unit Ventilator

Rusted Service Sink

100 Amp Panelboard

Small CMU Wall Crack

Original Fin Tube Heater

Federal Pacific Panelboard

Exterior Front Elevation

Circulation Pump

Exterior Elevation

Building Plaque

Typical Classroom

Asphalt Parking Area

Exterior

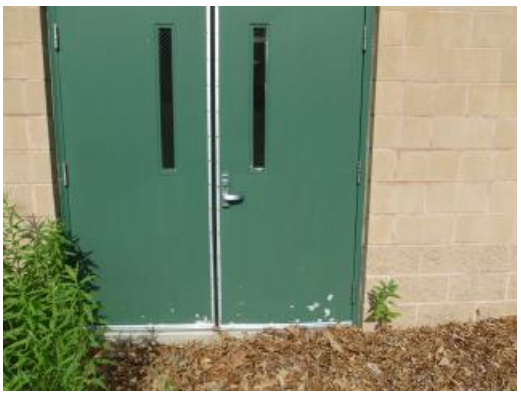
Exterior Finishes

Exterior Finishes

Playground Equipment

School Sign

Multipurpose Room



Chipped Door Paint

Main Entrance

Rusted And Faded Exterior Door

Exterior Wall Crack Over Window

Original Soffit Mounted Light

Rusted Exterior Door

Stained And Missing Ceiling Tiles

Facility Condition Assessment

Warwick - E. G. Robertson School | *June 2017*

70 Nausauket Road, Warwick, RI 02886

Introduction

E. G. Robertson School, located at 70 Nausauket Road in Warwick, Rhode Island, was built in 1947. It comprises 38,674 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.

E. G. Robertson School serves grades KG - 6, has 23 instructional spaces, and has an enrollment of 298. Instructional spaces are defined as rooms in which a student receives education. The LEA reported capacity for E. G. Robertson School is 300 with a resulting utilization of 99%.

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 E. G. Robertson School the 5-year need is $6,800,086. 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.

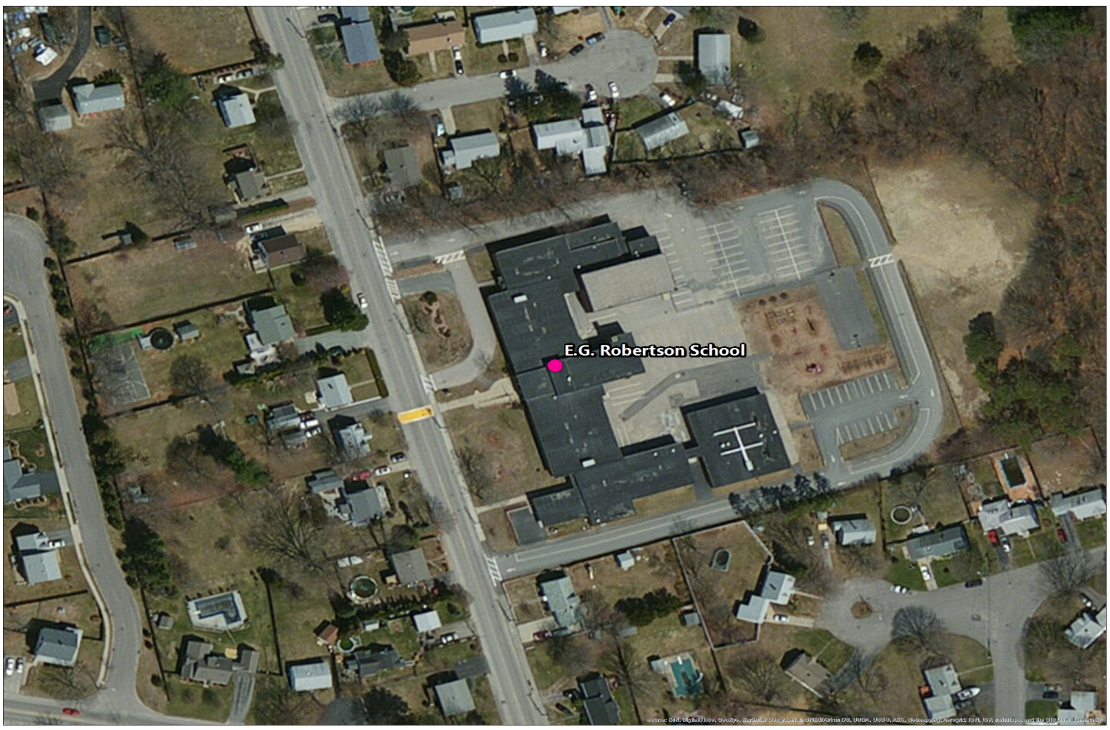


Figure 1: Aerial view of E. G. Robertson School

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 E. G. Robertson School campus, identified by discipline and building.

Site

The site level systems for this campus include:

Site	Asphalt Parking Lot Pavement
	Asphalt Roadway Pavement
	Asphalt Pedestrian Pavement
	Concrete Pedestrian Pavement

Building Envelope

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

01 - Main Building:	Brick Exterior Wall
	Painted Exterior Wall
	Painted Gypsum Soffit
	Aluminum Exterior Windows
	Wood Exterior Windows
	Steel Exterior Entrance Doors
	Wood Exterior Doors

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

01 - Main Building:	EPDM Roofing
	Single Ply Membrane Ballasted Roofing

Interior

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

01 - Main Building:	Steel Interior Doors
	Wood Interior Doors
	Overhead Interior Coiling Doors
	Interior Door Hardware
	Door Hardware
	Exposed Metal Structure Ceiling
	Suspended Acoustical Grid System
	Suspended Acoustical Ceiling Tile
	Adhered Acoustical Ceiling Tiles
	Painted Ceilings
	CMU Wall
	Brick/Stone Veneer
	Interior Wall Painting
	Concrete Flooring

01 - Main Building:	Ceramic Tile Flooring
	Quarry Tile Flooring
	Wood Flooring
	Vinyl Composition Tile Flooring

Mechanical

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

01 - Main Building:	3,264 MBH Cast Iron Water Boiler
	Finned Wall Radiator
	Steam/Hot Water Heating Unit Vent
	12 MBH Steam Unit Heater
	Pneumatic Heating System Controls
	Window Units
	2-Pipe Hot Water Hydronic Distribution System
	5 HP Pump
	10,000 CFM Interior AHU
	Ductwork
	15 Ton DX Gas Roof Top Unit
	Roof Exhaust Fan
	Fire Sprinkler System

Plumbing

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

01 - Main Building:	Gas Piping System
	40 Gallon Electric Water Heater
	Domestic Water Piping System
	Classroom Lavatories
	Mop/Service Sinks
	Non-Refrigerated Drinking Fountain
	Restroom Lavatories
	Toilets
	Urinals
	Air Compressor (1 hp)

Electrical

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

01 - Main Building:	Panelboard - 120/240 100A
	Panelboard - 120/240 225A
	Panelboard - 120/240 400A
	Electrical Disconnect
	Light Fixtures

01 - Main Building:	Building Mounted Lighting Fixtures
	Canopy Mounted Lighting 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.

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

	Priority						
System	1	2	3	4	5	Total	% of Total
Site	-	-	$515,819	$373,660	$4,396	$893,875	16.21 %
Roofing	-	$619,951	-	-	-	$619,951	11.24 %
Structural	-	-	-	-	-	$0	0.00 %
Exterior	-	$201,571	$2,682	-	$10,756	$215,009	3.90 %
Interior	-	-	$483,346	$530,427	$23,435	$1,037,208	18.81 %
Mechanical	-	$519,294	-	$283,001	-	$802,295	14.55 %
Electrical	-	$321,820	$24,255	-	$43,671	$389,746	7.07 %
Plumbing	-	-	$18,718	$50,282	$15,223	$84,223	1.53 %
Fire and Life Safety	-	-	-	-	-	$0	0.00 %
Technology	-	-	$1,193,527	-	-	$1,193,527	21.64 %
Conveyances	-	-	-	-	-	$0	0.00 %
Specialties	-	-	$4,563	$266,643	$8,556	$279,762	5.07 %
Total	$0	$1,662,637	$2,242,910	$1,504,012	$106,038	$5,515,596	

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

The building systems with the most need include:

Technology	-	$1,193,527
Interior	-	$1,037,208
Site	-	$893,875

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

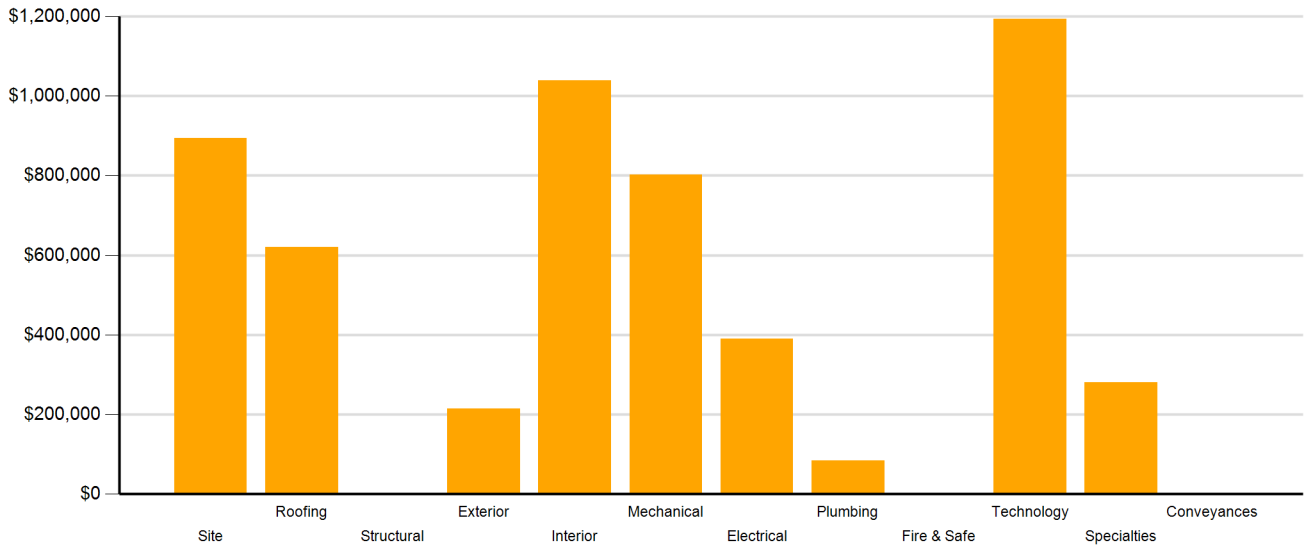


Figure 2: System Deficiencies

Current Deficiencies by Category

Deficiencies have been further grouped according to the observed category.

• **Acoustics** deficiencies relate to room acoustics, sound insolation, 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

	Priority					
Category	**1**	**2**	**3**	**4**	**5**	**Total**
Acoustics	-	-	$108,204	$50,827	-	$159,030
Barrier to Accessibility	-	-	$294,716	-	-	$294,716
Capital Renewal	-	$1,662,637	$637,479	$1,276,137	$32,826	$3,609,079
Code Compliance	-	-	-	-	-	$0
Educational Adequacy	-	-	$10,268	$124,172	$73,212	$207,652
Functional Deficiency	-	-	-	-	-	$0
Hazardous Material	-	-	-	$52,876	-	$52,876
Technology	-	-	$1,187,822	-	-	$1,187,822
Traffic	-	-	$4,421	-	-	$4,421
Total	$0	$1,662,637	$2,242,910	$1,504,012	$106,038	$5,515,596

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

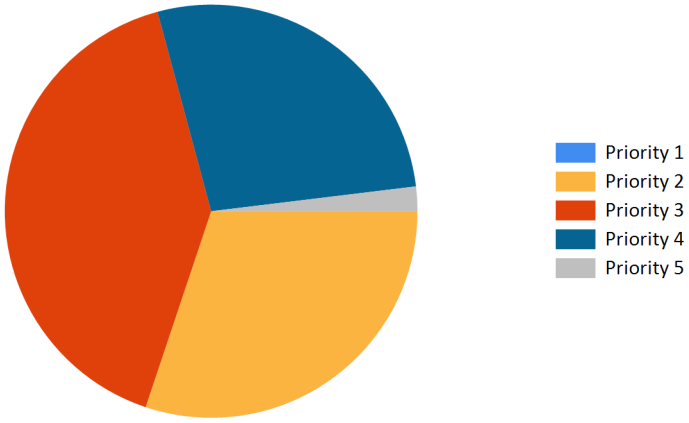


Figure 3: Current deficiencies by priority

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

		Life Cycle Capital Renewal Projections						
System	Current Deficiencies	Year 1 2017	Year 2 2018	Year 3 2019	Year 4 2020	Year 5 2021	LC Yr. 1-5 Total	Total 5-Year Need
Site	$893,875	$0	$0	$0	$0	$0	$0	$893,875
Roofing	$619,951	$0	$0	$0	$0	$0	$0	$619,951
Structural	$0	$0	$0	$0	$0	$0	$0	$0
Exterior	$215,009	$0	$0	$0	$0	$0	$0	$215,009
Interior	$1,037,208	$0	$0	$0	$561,868	$0	$561,868	$1,599,076
Mechanical	$802,295	$0	$0	$0	$19,060	$362,030	$381,090	$1,183,385
Electrical	$389,746	$0	$0	$0	$13,092	$0	$13,092	$402,838
Plumbing	$84,223	$0	$0	$0	$14,743	$311,167	$325,910	$410,133
Fire and Life Safety	$0	$0	$0	$0	$0	$0	$0	$0
Technology	$1,193,527	$0	$0	$0	$0	$0	$0	$1,193,527
Conveyances	$0	$0	$0	$0	$0	$0	$0	$0
Specialties	$279,762	$0	$0	$0	$0	$0	$0	$279,762
Total	**$5,515,596**	**$0**	**$0**	**$0**	**$608,763**	**$673,197**	**$1,281,960**	**$6,797,556**

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

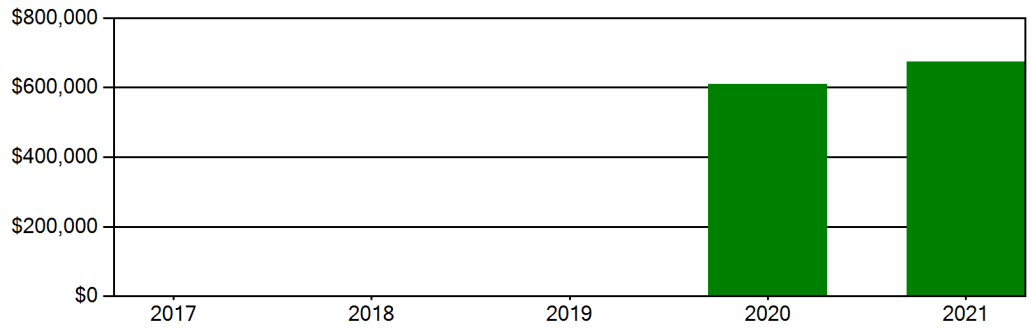
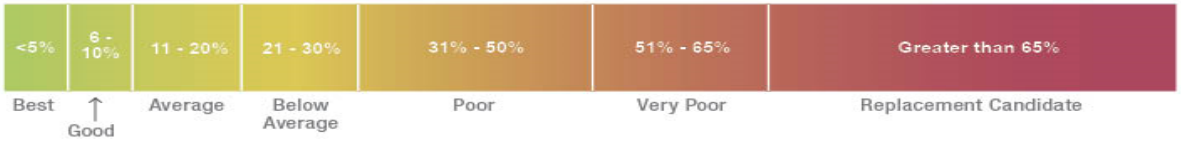


Figure 4: Life Cycle Capital Renewal Forecast

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 $13,535,900. For planning purposes, the total 5-year need at the E. G. Robertson School is $6,800,086 (Life Cycle Years 1-5 plus the FCI deficiency cost). The E. G. Robertson School facility has a 5-year FCI of 50.22%.

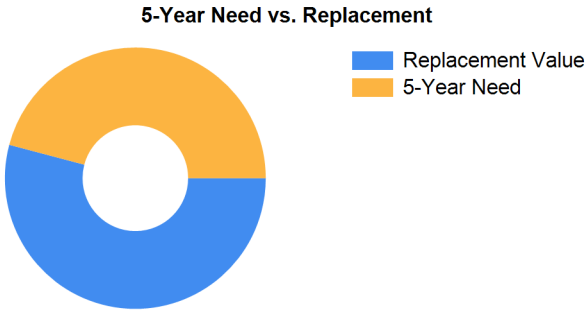


Figure 5: 5-Year FCI

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 215 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 E. G. Robertson School cafeteria and/or library/media center to the size prescribed by the SCRs is estimated to be $482,328.

Summary of Findings

The E. G. Robertson School comprises 38,674 square feet and was constructed in 1947. Current deficiencies at this school total $5,518,126. Five year capital renewal costs total $1,281,960. The total identified need for the E. G. Robertson School (current deficiencies and 5-year capital renewal costs) is $6,800,086. The 5-year FCI is 50.22%.

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
E. G. Robertson School Totals	38,674	1947	$5,518,126	$1,281,960	$6,800,086	50.22%

**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	Capital Renewal	17,000	SF	3	$187,641	17817
Note: The paved play area is deteriorated.						
Concrete Walks Require Replacement	Capital Renewal	1,100	SF	3	$29,041	17818
Note: The concrete sidewalks are rough and deteriorating.						
Crosswalk Requires Repainting	Traffic	3	Ea.	3	$2,947	22040
Note: Repaint crosswalks on campus						
Pavement Markings: Words/Symbols Are Required	Traffic	3	Ea.	3	$1,474	22041
Note: Repaint arrow symbols on campus						
The Playground Impact Surface Does Not Meet ADA Guidelines For Accessible Play Surfaces	Barrier to Accessibility	6,000	SQFT	3	$294,716	17820
Asphalt Paving Requires Replacement	Capital Renewal	28	CAR	4	$119,658	17815
Note: The front and side roadway pavement is in poor condition.						
Asphalt Paving Requires Replacement	Capital Renewal	43	CAR	4	$183,761	17816
Note: The parking lot pavement adjacent to the multipurpose addition is in poor condition.						
Backstops Require Replacement	Educational Adequacy	1	Ea.	4	$36,840	28604
Note: Backstops Require Replacement						
Fencing Requires Replacement (4' Chain Link Fence)	Capital Renewal	400	LF	4	$33,401	17814
Note: The fencing is rusted.						
Site Marquee Requires Repair	Capital Renewal	1	Ea.	5	$4,396	17819
	Sub Total for System	**10**	**items**		**$893,875**	

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Handrail Requires Replacement	Capital Renewal	12	LF	3	$2,682	17821
Note: The exit stair railing at the east classroom wing exit is damaged.						
	Sub Total for System	**1**	**items**		**$2,682**	
	Sub Total for School and Site Level	**11**	**items**		**$896,557**	

Building: 01 - Main Building

Roofing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
EPDM Roofing Requires Replacement (Bldg SF)	Capital Renewal	35,394	SF	2	$484,826	17847
Note: The roofing is in poor condition.						
The Single-Ply Membrane Roof Covering Requires Replacement	Capital Renewal	3,280	SF	2	$135,126	17826
Note: The ballasted single ply roof at the multipurpose addition is in poor condition.						
	Sub Total for System	**2**	**items**		**$619,951**	

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Overhead Door Requires Replacement	Capital Renewal	2	Door	2	$79,716	17851
Note: Rolling gates at main corridor to close off the two classroom wings when the auditorium is in use after school hours. 2 gates at 9 ft x 9 ft.						
The Wood Exterior Door Requires Replacement	Capital Renewal	12	Door	2	$108,204	17824
Note: The original exterior wood doors are deteriorated.						
The Wood Window Requires Replacement	Capital Renewal	66	SF	2	$13,652	17825
Note: The original wood windows are in poor condition.						
The Exterior Requires Painting	Capital Renewal	1,320	SF Wall	5	$7,872	17823
Note: The exterior painted wood trim is in poor condition.						
Location: Main building wood trim below roof line						
The Exterior Soffit Requires Repainting	Capital Renewal	800	SF	5	$2,884	17822
Note: The exterior soffits are in poor condition.						
	Sub Total for System	**5**	**items**		**$212,327**	

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Classroom Entry Doors Provide Insufficient Sound Isolation	Acoustics	12	Ea.	3	$108,204	27803
Note: Older Classroom Doors						
Interior Doors Require Replacement	Capital Renewal	58	Door	3	$289,717	17828
Note: The interior wood doors are aged and worn.						
The Acoustical Ceiling Tiles Require Replacement	Capital Renewal	4,900	SF	3	$47,943	17827
Note: Ceiling tiles are in poor condition.						
The Ceramic Tile Flooring Requires Replacement	Capital Renewal	300	SF	3	$8,727	17830
Note: The ceramic tile flooring is in poor condition.						
The Wood Flooring Requires Replacement	Capital Renewal	800	SF	3	$28,755	17829
Note: The wood flooring at the stage is in poor condition.						
Adhered Acoustical Ceiling Tile Requires Replacement	Capital Renewal	16,484	SF	4	$193,647	17850
Note: The adhered tile ceilings are in poor condition.						
Ceiling Grid Requires Replacement	Capital Renewal	4,900	SF	4	$62,959	17849
Interior Toilet Partition Requires Repair	Capital Renewal	20	Ea.	4	$11,329	17838
Note: The toilet partitions are in poor condition.						
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	15	Ea.	4	$4,635	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	1,910	LF	4	$47,212	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	100	SF	4	$1,030	Rollup
Room Is Excessively Reverberant	Acoustics	1,500	SF	4	$36,305	27804
Note: Gym						
Room Is Excessively Reverberant	Acoustics	600	SF	4	$14,522	27805
Note: Music Space						
Room Lighting Is Inadequate Or In Poor Condition.	Educational Adequacy	2,277	SF	4	$86,763	Rollup
The Stone/Quarry Flooring Requires Replacement	Capital Renewal	1,460	SF	4	$72,027	17831
Note: The quarry tile flooring is in poor condition.						
Classroom Door Requires Vision Panel	Educational Adequacy	1	Ea.	5	$2,282	Rollup
Room lacks appropriate sound control.	Educational Adequacy	100	SF	5	$3,480	Rollup
The Gypsum Board Ceilings Require Repainting	Capital Renewal	3,900	SF	5	$17,673	Rollup
	Sub Total for System	**18**	**items**		**$1,037,208**	

Mechanical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Replace Unit Vent	Capital Renewal	8	Ea.	2	$140,957	53609
Note: Per LEA review feedback the district believes the heating system needs to be replaced.						
Steam/HW Unit Heater Requires Replacement	Capital Renewal	1	Ea.	2	$2,587	17843
Note: Unit heater in the electrical room is old and in poor condition.						
The Cast Iron Water Boiler Requires Replacement	Capital Renewal	1	Ea.	2	$196,093	17844
Note: Boiler is old, rusted, and corroded.						
The Fin Tube Water Radiant Heater Requires Replacement	Capital Renewal	99	Ea.	2	$179,657	53608
Note: Per LEA review feedback the district believes the heating system needs to be replaced.						
Existing Controls Are Inadequate And Should Be Replaced With DDC Controls	Capital Renewal	38,674	SF	4	$283,001	17846
Note: Control system needs to be upgraded to DDC. Current system results in uneven heating throughout the building.						
	Sub Total for System	**5**	**items**		**$802,295**	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Electrical Disconnect Requires Replacement	Capital Renewal	1	Ea.	2	$1,986	17833
Note: The Federal Pacific disconnect is old, in poor condition, and needs to be replaced.						
The Lighting Fixtures Require Replacement	Capital Renewal	38,674	SF	2	$248,945	17845
Note: Lights are old and inefficient.						
The Panelboard Requires Replacement	Capital Renewal	2	Ea.	2	$20,804	17840
Note: Panels are old and in poor condition. They should be replaced to reduce the risk of breakers failing.						

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Panelboard Requires Replacement	Capital Renewal	1	Ea.	2	$12,390	17841
Note: Main distribution panel is old and in poor condition.						
The Panelboard Requires Replacement	Capital Renewal	6	Ea.	2	$37,695	17842
Note: Panels are old and in poor condition. They should be replaced to reduce the risk of breakers failing.						
The Mounted Building Lighting Requires Replacement	Capital Renewal	15	Ea.	3	$24,255	17832
Note: Lights are old and do not illuminate well.						
Room Has Insufficient Electrical Outlets	Educational Adequacy	88	Ea.	5	$43,671	Rollup
	Sub Total for System	**7**	**items**		**$389,746**	

Plumbing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Urinal Plumbing Fixtures Require Replacement	Capital Renewal	13	Ea.	3	$18,718	17839
Note: Urinals are old, corroded, and in poor condition.						
Floor Drains Are Required	Educational Adequacy	1	Ea.	4	$570	Rollup
Non-Refrigerated Drinking Fountain Requires Replacement	Capital Renewal	2	Ea.	4	$22,143	17836
Note: Bubbler is old, corroding, and should be replaced.						
The Restroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	8	Ea.	4	$27,569	17834
Note: Restroom lavatories are old and in poor condition.						
Room lacks a drinking fountain.	Educational Adequacy	6	Ea.	5	$6,617	Rollup
The Class Room Lavatories Plumbing Fixtures Are Missing And Should Be Installed	Educational Adequacy	7	Ea.	5	$8,607	Rollup
	Sub Total for System	**6**	**items**		**$84,223**	

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room lacks Interactive White Board	Educational Adequacy	1	Ea.	3	$5,704	Rollup
Technology: Campus network switching electronics are antiquated and/or do not meet standards.	Technology	168	Ea.	3	$86,513	22949
Technology: Classroom AV/Multimedia systems are inadequate and/or near end of useful life.	Technology	23	Ea.	3	$497,452	22954
Technology: Instructional spaces do not have local sound reinforcement.	Technology	23	Ea.	3	$118,441	22956
Technology: Intermediate Telecommunications Room grounding system is inadequate or non-existent.	Technology	1	Ea.	3	$5,768	22946
Technology: Intermediate Telecommunications Room is not dedicated and/or inadequate.	Technology	1	Ea.	3	$49,024	22945
Technology: Intermediate Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	$5,150	22944
Technology: Intermediate Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	$5,150	22947
Technology: Main Telecommunications Room ground system is inadequate or non-existent.	Technology	1	Ea.	3	$7,209	22942
Technology: Main Telecommunications Room is not dedicated. Room requires partial walls and/or major improvements.	Technology	1	Ea.	3	$46,140	22941
Technology: Network cabling infrastructure is outdated (Cat 5 or less) and/or does not meet standards.	Technology	114	Ea.	3	$52,835	22948
Technology: Network system inadequate and/or near end of useful life	Technology	2	Ea.	3	$16,479	22957
Technology: Network system inadequate and/or near end of useful life	Technology	18	Ea.	3	$92,693	22958
Technology: PA/Bell/Clock system is inadequate and/or near end of useful life.	Technology	38,674	SF	3	$71,696	22953
Technology: Special Space AV/Multimedia system is inadequate.	Technology	1	Ea.	3	$58,706	22950
Technology: Special Space AV/Multimedia systems are in need of minor improvements.	Technology	1	Room	3	$20,598	22955

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Technology: Telecommunications Room (large size room) needs dedicated cooling system improvements.	Technology	1	Ea.	3	$8,239	22943
Technology: Telephone handsets are inadequate and sparsely deployed throughout the campus.	Technology	23	Ea.	3	$37,901	22952
Technology: Telephone system is inadequate and/or non-existent.	Technology	1	Ea.	3	$7,827	22951
	Sub Total for System	**19**	**items**		**$1,193,527**	

Specialties

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room has insufficient writing area.	Educational Adequacy	1	Ea.	3	$4,563	Rollup
Replace Cabinetry In Classes/Labs	Capital Renewal	22	Room	4	$266,643	17848
Note: The cabinets are in poor condition.						
Room lacks an appropriate refrigerator.	Educational Adequacy	1	Ea.	5	$8,556	Rollup
	Sub Total for System	**3**	**items**		**$279,762**	
	Sub Total for Building 01 - Main Building	**65**	**items**		**$4,619,040**	
	Total for Campus	**76**	**items**		**$5,515,596**	

E. G. Robertson School - Life Cycle Summary Yrs 1-5

Building: 01 - Main Building

Interior

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Resilient Flooring	Vinyl Composition Tile Flooring	30,574	SF	$350,737	4
Wall Painting and Coating	Painting/Staining (Bldg SF)	31,954	SF	$211,131	4
	Sub Total for System	**2**	**items**	**$561,868**	

Mechanical

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Facility Hydronic Distribution	Pump - 5HP	2	Ea.	$19,060	4
Exhaust Air	Roof Exhaust Fan	11	Ea.	$57,245	5
Facility Hydronic Distribution	2-Pipe Water System (Hot)	38,674	SF	$298,107	5
Decentralized Cooling	Window Units	2	Ea.	$6,678	5
	Sub Total for System	**4**	**items**	**$381,089**	

Electrical

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Lighting Fixtures	Canopy Mounted Fixtures (Ea.)	3	Ea.	$4,136	4
Lighting Fixtures	Building Mounted Fixtures (Ea.)	6	Ea.	$8,956	4
	Sub Total for System	**2**	**items**	**$13,091**	

Plumbing

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Domestic Water Equipment	Water Heater - Electric - 40 gallon	1	Ea.	$3,540	4
Plumbing Fixtures	Mop/Service Sinks	2	Ea.	$5,153	4
Compressed-Air Systems	Air Compressor (1 hp)	1	Ea.	$6,050	4
Domestic Water Piping	Domestic Water Piping System (Bldg.SF)	38,674	SF	$311,167	5
	Sub Total for System	**4**	**items**	**$325,910**	
	Sub Total for Building 01 - Main Building	**12**	**items**	**$1,281,958**	
	Total for: E. G. Robertson School	**12**	**items**	**$1,281,958**	

Supporting Photos

Site Aerial

Rusted Fencing

Paved Play Area

Spalled Sidewalks

Marquee

Playground Impact Surface

Damaged Exterior Stair Railing

Worn Soffit Paint

Soffit Paint

Painted Wood Trim

Original Exterior Wood Doors

Worn Interior Wood Door

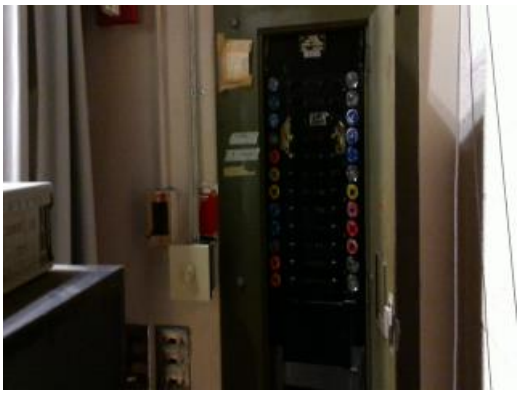
Worn Wood Stage Floor

Aged Building Mounted Light

Federal Pacific Disconnect

Aged Water Fountain

Damaged Toilet Partitions


Aged Panelboard

100 Amp Panelboard

Unit Heater

Main Building Roof

Aged Cabinetry

Adhered Tile Ceiling

Main Entry

Art Classroom

Multipurpose Room

Science Classroom

Auditorium

Typical Classroom

Hallway Finishes

Front Elevation

Multipurpose Addition Exterior

Music Space

Library

Side Elevation

East Classroom Wing Exterior

Facility Condition Assessment

Warwick - Francis School | *June 2017*

325 Miantonomo Drive, Warwick, RI 02888

Introduction

Francis School, located at 325 Miantonomo Drive in Warwick, Rhode Island, was built in 1951. It comprises 41,600 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.

Francis School serves grades KG - 6, has 20 instructional spaces, and has an enrollment of 247. Instructional spaces are defined as rooms in which a student receives education. The LEA reported capacity for Francis School is 325 with a resulting utilization of 76%.

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 Francis School the 5-year need is $6,714,806. 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.

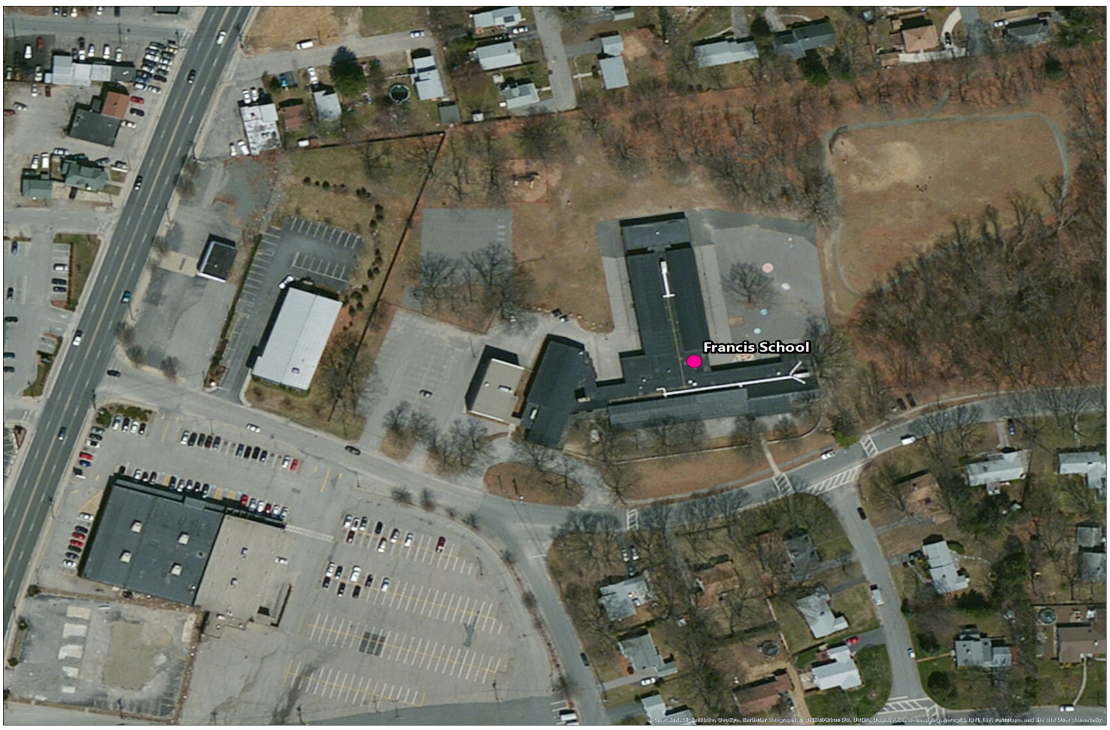


Figure 1: Aerial view of Francis School

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 Francis School campus, identified by discipline and building.

Site

The site level systems for this campus include:

Site	Asphalt Parking Lot Pavement
	Asphalt Roadway Pavement
	Asphalt Pedestrian Pavement
	Concrete Pedestrian Pavement

Building Envelope

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

01 - Main Building:	Brick Exterior Wall
	CMU Exterior Wall
	Painted Gypsum Soffit
	Aluminum Exterior Windows
	Steel Exterior Windows
	Steel Exterior Entrance Doors

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

01 - Main Building:	Built-Up Roofing With Ballast
	EPDM Roofing

Interior

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

01 - Main Building:	Foldable Interior Partition
	Steel Interior Doors
	Wood Interior Doors
	Interior Door Hardware
	Suspended Acoustical Grid System
	Suspended Acoustical Ceiling Tile
	Adhered Acoustical Ceiling Tiles
	Painted Ceilings
	Wood Wall Paneling
	Brick/Stone Veneer
	Interior Wall Painting
	Concrete Flooring
	Ceramic Tile Flooring
	Quarry Tile Flooring
	Wood Flooring

01 - Main Building:	Vinyl Composition Tile Flooring
	Carpet

Mechanical

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

01 - Main Building:	1,200 MBH Copper Tube Boiler
	Finned Wall Radiator
	Steam/Hot Water Heating Unit Vent
	3 kW Electric Unit Heater
	Pneumatic Heating System Controls
	1 Ton Ductless Split System
	Make-up Air Unit
	1 HP or Smaller Pump
	2-Pipe Hot Water Hydronic Distribution System
	5,000 CFM Outdoor AHU
	10 Ton DX Gas Roof Top Unit
	Ductwork
	Roof Exhaust Fan

Plumbing

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

01 - Main Building:	Gas Piping System
	40 Gallon Gas Water Heater
	Domestic Water Piping System
	Classroom Lavatories
	Mop/Service Sinks
	Non-Refrigerated Drinking Fountain
	Refrigerated Drinking Fountain
	Restroom Lavatories
	Showers
	Toilets
	Urinals

Electrical

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

01 - Main Building:	600 Amp Distribution Panel
	Panelboard - 120/208 100A
	Panelboard - 120/208 125A
	Panelboard - 120/208 225A
	Light Fixtures
	Building Mounted Lighting Fixtures

01 - Main Building:	Canopy Mounted Lighting 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.

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

	Priority						
System	1	2	3	4	5	Total	% of Total
Site	-	-	$178,288	$489,098	$2,424	$669,810	10.82 %
Roofing	-	$466,679	$1,705	-	-	$468,384	7.56 %
Structural	-	-	-	-	-	$0	0.00 %
Exterior	-	$21,168	$210,330	$169,808	$94,527	$495,833	8.01 %
Interior	-	-	$960,277	$673,773	$13,804	$1,647,854	26.61 %
Mechanical	-	$780,185	-	$340,381	-	$1,120,566	18.10 %
Electrical	-	$44,505	$11,884	$11,488	$37,716	$105,592	1.71 %
Plumbing	-	-	$372,852	$89,410	$12,609	$474,872	7.67 %
Fire and Life Safety	$127,010	-	-	-	-	$127,010	2.05 %
Technology	-	-	$898,300	-	-	$898,300	14.51 %
Conveyances	-	-	-	-	-	$0	0.00 %
Specialties	-	-	-	$174,809	$8,556	$183,366	2.96 %
Total	$127,010	$1,312,536	$2,633,636	$1,948,767	$169,637	$6,191,586	

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

The building systems with the most need include:

Interior	-	$1,647,854
Mechanical	-	$1,120,566
Technology	-	$898,300

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

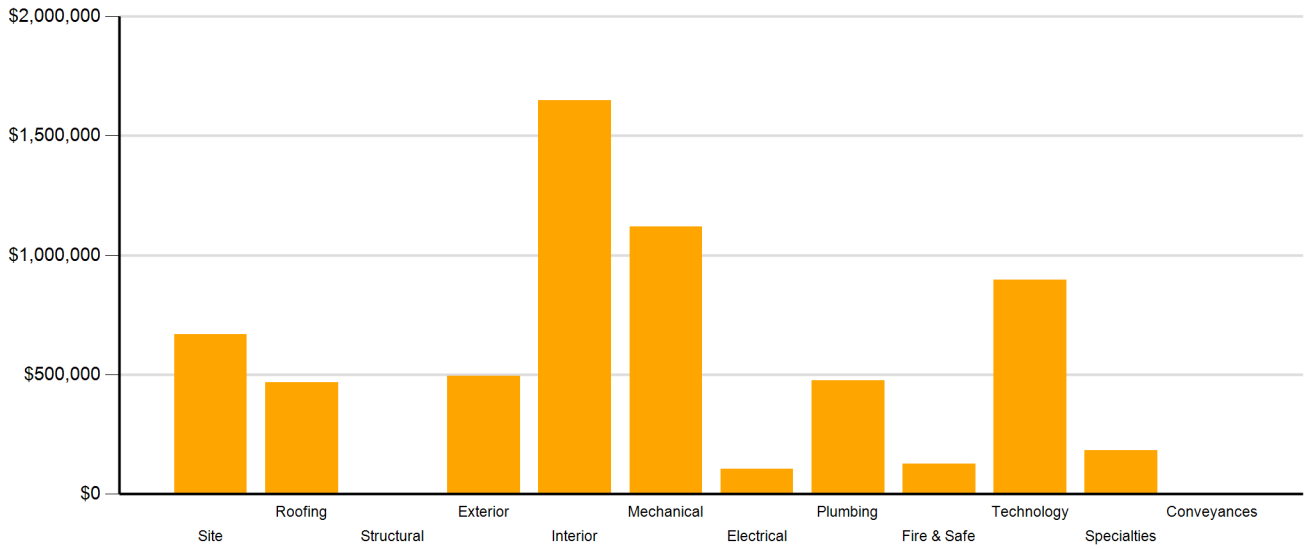


Figure 2: System Deficiencies

Current Deficiencies by Category

Deficiencies have been further grouped according to the observed category.

• **Acoustics** deficiencies relate to room acoustics, sound insolation, 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

	Priority					
Category	**1**	**2**	**3**	**4**	**5**	**Total**
Acoustics	-	-	-	$61,904	-	$61,904
Barrier to Accessibility	-	-	-	-	-	$0
Capital Renewal	-	$1,312,536	$1,705,389	$1,691,750	$96,951	$4,806,626
Code Compliance	$127,010	-	-	-	-	$127,010
Educational Adequacy	-	-	$5,704	$128,218	$72,685	$206,608
Functional Deficiency	-	-	$11,884	-	-	$11,884
Hazardous Material	-	-	-	$66,895	-	$66,895
Technology	-	-	$892,596	-	-	$892,596
Traffic	-	-	$18,063	-	-	$18,063
Total	$127,010	$1,312,536	$2,633,636	$1,948,767	$169,637	$6,191,586

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

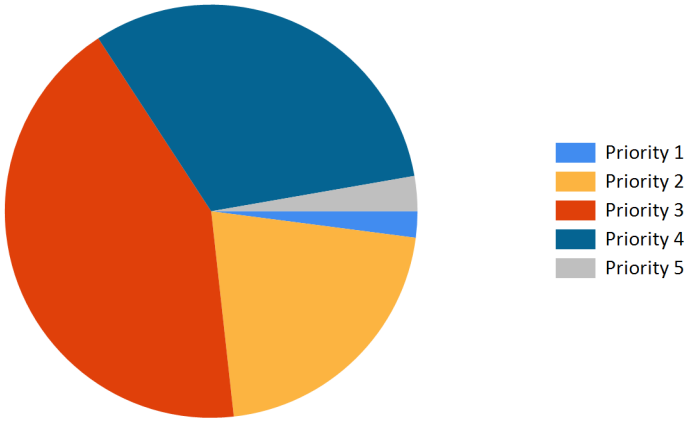


Figure 3: Current deficiencies by priority

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

		Life Cycle Capital Renewal Projections						
System	Current Deficiencies	Year 1 2017	Year 2 2018	Year 3 2019	Year 4 2020	Year 5 2021	LC Yr. 1-5 Total	Total 5-Year Need
Site	$669,810	$0	$0	$0	$0	$0	$0	$669,810
Roofing	$468,384	$0	$0	$0	$0	$0	$0	$468,384
Structural	$0	$0	$0	$0	$0	$0	$0	$0
Exterior	$495,833	$0	$0	$0	$0	$0	$0	$495,833
Interior	$1,647,854	$0	$0	$0	$20,698	$246,915	$267,613	$1,915,467
Mechanical	$1,120,566	$0	$0	$0	$0	$147,455	$147,455	$1,268,021
Electrical	$105,592	$0	$0	$0	$0	$0	$0	$105,592
Plumbing	$474,872	$0	$0	$0	$105,635	$0	$105,635	$580,507
Fire and Life Safety	$127,010	$0	$0	$0	$0	$0	$0	$127,010
Technology	$898,300	$0	$0	$0	$0	$0	$0	$898,300
Conveyances	$0	$0	$0	$0	$0	$0	$0	$0
Specialties	$183,366	$0	$0	$0	$0	$0	$0	$183,366
Total	**$6,191,586**	**$0**	**$0**	**$0**	**$126,333**	**$394,370**	**$520,703**	**$6,712,289**

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

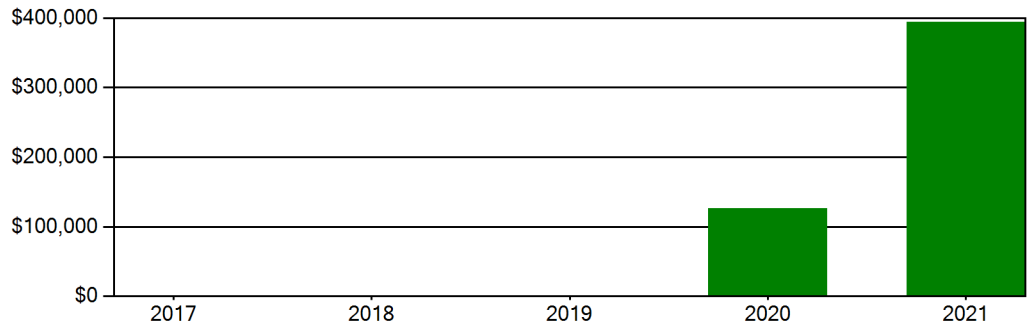
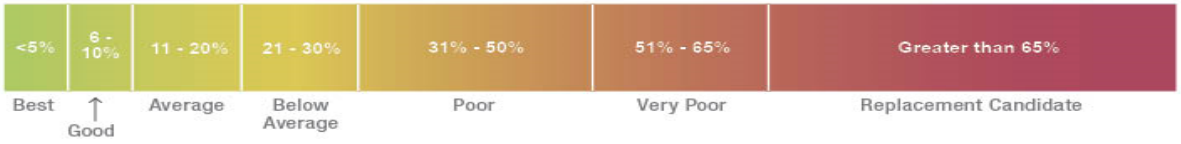


Figure 4: Life Cycle Capital Renewal Forecast

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 $14,560,000. For planning purposes, the total 5-year need at the Francis School is $6,714,806 (Life Cycle Years 1-5 plus the FCI deficiency cost). The Francis School facility has a 5-year FCI of 46.10%.

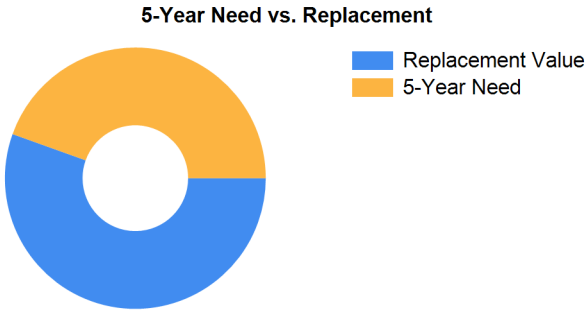


Figure 5: 5-Year FCI

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 231 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 Francis School cafeteria and/or library/media center to the size prescribed by the SCRs is estimated to be $423,360.

Summary of Findings

The Francis School comprises 41,600 square feet and was constructed in 1951. Current deficiencies at this school total $6,194,103. Five year capital renewal costs total $520,703. The total identified need for the Francis School (current deficiencies and 5-year capital renewal costs) is $6,714,806. The 5-year FCI is 46.10%.

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
Francis School Totals	41,600	1951	$6,194,103	$520,703	$6,714,806	46.10%

**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	Capital Renewal	15,000	SF	3	$160,225	12240
Note: The asphalt walks are deteriorated.						
Crosswalk Requires Repainting	Traffic	1	Ea.	3	$951	16930
Note: Repaint raised crosswalk on Miantonomo Drive.						
Crosswalk Requires Repainting	Traffic	3	Ea.	3	$2,852	16931
Note: Repaint crosswalks at intersection of Miantonomo Drive and Dahlia Street.						
Traffic Signage Is Required	Traffic	4	Ea.	3	$11,408	16928
Note: Update school zone signage to make it more visible						
Traffic Signage Is Required	Traffic	1	Ea.	3	$2,852	16929
Note: Replace "RAISED CROSSWALK AHEAD" sign on Miantonomo Drive.						
Asphalt Paving Requires Replacement	Capital Renewal	80	CAR	4	$330,852	12238
Note: The asphalt paving is alligatored and deteriorating.						
Asphalt Paving Requires Replacement	Capital Renewal	17	CAR	4	$70,306	12239
Note: The asphalt roads are deteriorated.						
Fencing Requires Replacement (4' Chain Link Fence)	Capital Renewal	500	LF	4	$40,405	12237
Note: The fencing is aged and bent.						
Playground Requires Impact Resistant Material	Capital Renewal	1	Ea.	4	$47,535	12236
Note: North playground impact surface is in poor condition and in need of replacement. Approximately 2500 sf.						
Paving Requires Restriping	Capital Renewal	34	CAR	5	$2,424	16927
Note: Repaint parking spaces in parking lot (number of spaces is an estimate)						
	Sub Total for System	**10**	**items**		**$669,810**	
	Sub Total for School and Site Level	**10**	**items**		**$669,810**	

Building: 01 - Main Building

Roofing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
EPDM Roofing Requires Replacement (Bldg SF)	Capital Renewal	34,300	SF	2	$451,769	12272
Note: The roofing is weathered and allows for water to pond in many areas.						
Location: Main building						
EPDM Roofing Requires Replacement (Bldg SF)	Capital Renewal	1,132	SF	2	$14,910	12280
Note: Canopy EPDM roofing is deteriorated.						
Location: Main entry and east side canopies						
The Roof Operable Hatch Requires Replacement	Capital Renewal	1	Ea.	3	$1,705	12245
Note: The roof hatch is rusted and difficult to operate.						
	Sub Total for System	**3**	**items**		**$468,384**	

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Steel Window Requires Replacement	Capital Renewal	95	SF	2	$21,168	12244
Note: The steel windows are weathered and rusted.						
Location: Main building windows adjacent to door #12						
The Brick Exterior Requires Repointing	Capital Renewal	4,827	SF Wall	3	$210,330	12271
Note: The brick has some mortar deterioration due to water damage.						
Location: The lower 2' of brick at the main building west and east walls of the north classroom wing						
The Exterior Soffit Requires Replacement	Capital Renewal	1,319	SF	4	$169,808	12242
Note: Tectum and soffits are deteriorated and should be replaced.						
The Exterior Requires Cleaning	Capital Renewal	32,227	SF Wall	5	$90,957	16876
Note: Brick exterior is heavily stained.						
The Exterior Soffit Requires Repainting	Capital Renewal	1,030	SF	5	$3,570	12243
Note: The painted wood soffits at the main entry and east side canopies have paint peeling and need to cleaned and repainted.						
	Sub Total for System	**5**	**items**		**$495,833**	

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Interior Doors Require Replacement	Capital Renewal	106	Door	3	$509,118	12246
The Carpet Flooring Requires Replacement	Capital Renewal	165	SF	3	$3,739	12247
Note: The carpet is stained and worn.						
Location: Auditorium entry corridor						
The Ceramic Tile Flooring Requires Replacement	Capital Renewal	440	SF	3	$12,308	12250
Location: Main building classroom toilet rooms						
The Vinyl Composition Tile Requires Replacement	Capital Renewal	34,743	SF	3	$415,170	12248
Note: The VCT is worn and in need of replacement.						
Location: Main building and multipurpose addition						
The Wood Flooring Requires Replacement	Capital Renewal	577	SF	3	$19,942	12249
Note: The stage flooring is aged and worn.						
Adhered Acoustical Ceiling Tile Requires Replacement	Capital Renewal	31,155	SF	4	$351,918	12276
Moveable Partitions Require Replacement	Capital Renewal	160	SF Wall	4	$19,252	12279
Location: Between Rooms 13 & 14						
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	23	Ea.	4	$6,833	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	2,300	LF	4	$54,665	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	545	SF	4	$5,397	Rollup
Room Is Excessively Reverberant	Acoustics	2,660	SF	4	$61,904	19845
Note: Gym						
Room Lighting Is Inadequate Or In Poor Condition.	Educational Adequacy	3,350	SF	4	$127,648	Rollup
The Stone/Quarry Flooring Requires Replacement	Capital Renewal	973	SF	4	$46,155	12251
Location: Group toilet rooms and faculty toilet rooms						
Classroom Door Requires Vision Panel	Educational Adequacy	3	Ea.	5	$6,845	Rollup
Room lacks appropriate sound control.	Educational Adequacy	200	SF	5	$6,959	Rollup
	Sub Total for System	**15**	**items**		**$1,647,854**	

Mechanical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Ductless Split System AC Requires Replacement	Capital Renewal	2	Ea.	2	$29,408	12269
Note: Multiple issues reported with the units.						
Electric Unit Heater Requires Replacement	Capital Renewal	1	Ea.	2	$1,316	12265
Package Roof Top Unit Requires Replacement	Capital Renewal	3	Ea.	2	$93,150	12262
The Copper Tube Boiler Requires Replacement	Capital Renewal	4	Ea.	2	$250,746	12274
Note: Boilers are aged and showing evidence of leaks.						
The Fin Tube Water Radiant Heater Requires Replacement	Capital Renewal	41	Ea.	2	$71,542	12266
Note: Fin tubes are aged with rusted casings.						
The Mechanical / HVAC Piping / System Is Beyond Its Useful Life	Capital Renewal	41,600	SF	2	$334,022	12267
Note: Piping is aged and corroded with deteriorated insulation.						
Existing Controls Are Inadequate And Should Be Replaced With DDC Controls	Capital Renewal	41,600	SF	4	$292,704	12270
Small HVAC Circulating Pump Requires Replacement	Capital Renewal	6	Ea.	4	$47,677	12275
	Sub Total for System	**8**	**items**		**$1,120,566**	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Distribution Panel Requires Replacement	Capital Renewal	1	Ea.	2	$30,343	12268
The Panelboard Requires Replacement	Capital Renewal	2	Ea.	2	$10,101	12263
Note: Panelboards are aged and rusted.						
The Panelboard Requires Replacement	Capital Renewal	1	Ea.	2	$4,060	12264
Note: Panelboard shows signs of water damage.						
The Electrical Receptacles Are Inadequate And More are Needed	Functional Deficiency	20	Ea.	3	$11,884	12255
Location: Classrooms						

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Canopy Lighting Requires Replacement	Capital Renewal	8	Ea.	4	$11,488	12252
Note: Canopy lights are rusted and non-functional.						
Room Has Insufficient Electrical Outlets	Educational Adequacy	76	Ea.	5	$37,716	Rollup
	Sub Total for System	**6**	**items**		**$105,592**	

Plumbing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Gas Water Heater Requires Replacement	Capital Renewal	2	Ea.	3	$6,584	12261
Note: Water heaters are showing signs of leaks.						
The Plumbing / Domestic Water Piping System Is Beyond Its Useful Life	Capital Renewal	41,600	SF	3	$348,655	12260
Note: Water piping is corroded and rusted.						
The Showers Plumbing Fixtures Require Replacement	Capital Renewal	1	Ea.	3	$7,922	12253
Note: Shower leaks and is corroded.						
The Urinal Plumbing Fixtures Require Replacement	Capital Renewal	7	Ea.	3	$9,691	12258
Floor Drains Are Required	Educational Adequacy	1	Ea.	4	$570	Rollup
Non-Refrigerated Drinking Fountain Requires Replacement	Capital Renewal	1	Ea.	4	$10,646	12254
The Classroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	23	Ea.	4	$65,143	12241
Note: Lavatories are aged and stained with some corrosion present.						
The Custodial Mop Or Service Sink Requires Replacement	Capital Renewal	2	Ea.	4	$5,367	12256
Note: Mop sinks leak and are corroded.						
The Refrigerated Water Cooler Requires Replacement	Capital Renewal	1	Ea.	4	$7,685	12259
Room lacks a drinking fountain.	Educational Adequacy	5	Ea.	5	$5,514	Rollup
The Class Room Lavatories Plumbing Fixtures Are Missing And Should Be Installed	Educational Adequacy	6	Ea.	5	$7,095	Rollup
	Sub Total for System	**11**	**items**		**$474,872**	

Fire and Life Safety

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Fire Alarm Is Missing Or Inadequate (NFPA 72 and NFPA 101, Section 9.6)	Code Compliance	41,600	SF	1	$127,010	12257
	Sub Total for System	**1**	**items**		**$127,010**	

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room lacks Interactive White Board	Educational Adequacy	1	Ea.	3	$5,704	Rollup
Technology: Campus network switching electronics are antiquated and/or do not meet standards.	Technology	72	Ea.	3	$35,651	22840
Technology: Classroom AV/Multimedia systems are in need of improvements.	Technology	23	Ea.	3	$227,771	22845
Technology: Instructional spaces do not have local sound reinforcement.	Technology	23	Ea.	3	$113,886	22850
Technology: Intermediate Telecommunications Room grounding system is inadequate or non-existent.	Technology	1	Ea.	3	$5,546	22838
Technology: Intermediate Telecommunications Room is not dedicated and/or inadequate.	Technology	1	Ea.	3	$47,139	22837
Technology: Intermediate Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	$4,952	22839
Technology: Main Telecommunications Room ground system is inadequate or non-existent.	Technology	1	Ea.	3	$6,932	22836
Technology: Main Telecommunications Room is not dedicated and/or inadequate.	Technology	1	Ea.	3	$52,288	22834
Technology: Main Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	$9,408	22835
Technology: Network cabling infrastructure is outdated (Cat 5 or less) and/or does not meet standards.	Technology	108	Ea.	3	$48,129	22843
Technology: Network cabling infrastructure is partially outdated and/or needs expansion.	Technology	23	Ea.	3	$10,250	22841

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Technology: Network system inadequate and/or near end of useful life	Technology	4	Ea.	3	$31,690	22848
Technology: Network system inadequate and/or near end of useful life	Technology	15	Ea.	3	$74,273	22849
Technology: Number of current, up to date, network switch ports are insufficient to support campus technology.	Technology	48	Ea.	3	$23,767	22842
Technology: PA/Bell/Clock system is inadequate and/or near end of useful life.	Technology	41,600	SF	3	$74,154	22847
Technology: Special Space AV/Multimedia system is inadequate.	Technology	1	Ea.	3	$56,448	22844
Technology: Special Space AV/Multimedia systems are in need of minor improvements.	Technology	1	Room	3	$19,806	22846
Technology: Telecommunications Room fiber connectivity infrastructure is outdated and/or inadequate.	Technology	1	Ea.	3	$6,536	24969
Technology: Telephone handsets are inadequate and sparsely deployed throughout the campus.	Technology	23	Ea.	3	$36,443	22851
Technology: Telephone system is inadequate and/or non-existent.	Technology	1	Ea.	3	$7,526	22852
	Sub Total for System	**21**	**items**		**$898,300**	

Specialties

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Replace Cabinetry In Classes/Labs	Capital Renewal	15	Room	4	$174,809	12273
Note: The base cabinets are aged, faded, and worn.						
Room lacks an appropriate refrigerator.	Educational Adequacy	1	Ea.	5	$8,556	Rollup
	Sub Total for System	**2**	**items**		**$183,366**	
	Sub Total for Building 01 - Main Building	**72**	**items**		**$5,521,776**	
	Total for Campus	**82**	**items**		**$6,191,586**	

Francis School - Life Cycle Summary Yrs 1-5

Building: 01 - Main Building

Interior

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Suspended Plaster and	Painted ceilings	4,948	SF	$20,698	4
Wall Paneling	Wood Panel wall	440	SF	$4,016	5
Wall Painting and Coating	Painting/Staining (Bldg SF)	36,762	SF	$242,899	5
	Sub Total for System	**3**	**items**	**$267,613**	

Mechanical

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Decentralized Heating Equipment	Heating Unit Vent - Steam/Hot water	3	Ea.	$50,744	5
Air Distribution	Make-up Air Unit	1	Ea.	$15,899	5
HVAC Air Distribution	Ductwork (Bldg.SF)	5,497	SF	$80,812	5
	Sub Total for System	**3**	**items**	**$147,456**	

Plumbing

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Plumbing Fixtures	Restroom Lavatories	9	Ea.	$28,629	4
Plumbing Fixtures	Toilets	27	Ea.	$77,006	4
	Sub Total for System	**2**	**items**	**$105,636**	
	Sub Total for Building 01 - Main Building	**8**	**items**	**$520,705**	
	Total for: Francis School	**8**	**items**	**$520,705**	

Supporting Photos

Typical Classroom

Auditorium

Fencing

Typical Corridor

Site Aerial

Playground

Main Building Entry

Alligatored Asphalt Paving

North Addition Elevation

Elevation

Multipurpose Building

Marquee Sign

Playfield

Elevation

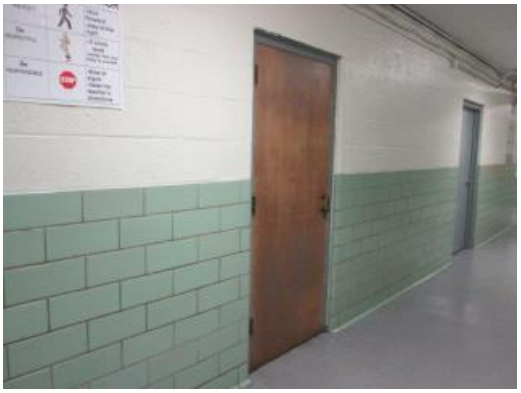
Tectum Board Soffit

Classroom Sink

Roof Hatch

Canopy Wood Soffit

Stage Floor


Typical Wood Door

Shower

Canopy Lights

Leaking Mop Sink

Non-Refrigerated Water Fountain

Piping

Refrigerated Water Cooler

Roof Top Unit

Water Heater

Unit Heater

125A Panelboard

Aged Piping

Fin Tube Heater

Water Damaged Brick

Ductless Split System

Ponding On Roof

Weathered Main Building Roof

Boilers

Classroom Cabinets

Adhered Ceiling Tiles

1HP Pump

Weathered Canopy Roofing

Folding Partition

Library

Music Room

Multipurpose Room

Art Room

Facility Condition Assessment

Warwick - Greenwood School | *June 2017*

93 Sharon Street, Warwick, RI 02886

Introduction

Greenwood School, located at 93 Sharon Street in Warwick, Rhode Island, was built in 1927. It comprises 34,080 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.

Greenwood School serves grades 1 - 6, has 22 instructional spaces, and has an enrollment of 275. Instructional spaces are defined as rooms in which a student receives education. The LEA reported capacity for Greenwood School is 325 with a resulting utilization of 85%.

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 Greenwood School the 5-year need is $6,930,289. 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.

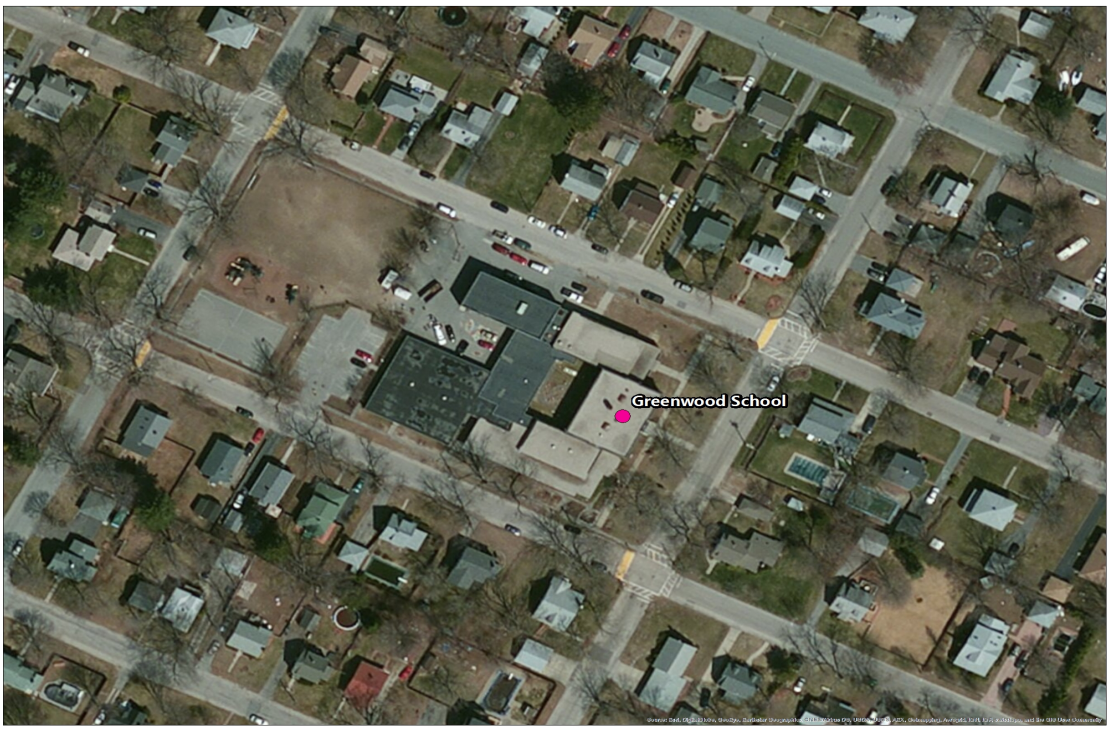


Figure 1: Aerial view of Greenwood School

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 Greenwood School campus, identified by discipline and building.

Site

The site level systems for this campus include:

Site	Asphalt Parking Lot Pavement
	Asphalt Roadway Pavement
	Asphalt Pedestrian Pavement
	Concrete Pedestrian Pavement

Building Envelope

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

01 - Main Building:	Brick Exterior Wall
	Painted Gypsum Soffit
	Aluminum Exterior Windows
	Wood Exterior Windows
	Steel Exterior Entrance Doors
	Wood Exterior Doors

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

01 - Main Building:	Built-Up Roofing With Ballast
	EPDM Roofing

Interior

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

01 - Main Building:	Steel Interior Doors
	Wood Interior Doors
	Interior Door Hardware
	Door Hardware
	Suspended Acoustical Grid System
	Suspended Acoustical Ceiling Tile
	Adhered Acoustical Ceiling Tiles
	Painted Ceilings
	Wood Wall Paneling
	CMU Wall
	Interior Wall Painting
	Concrete Flooring
	Quarry Tile Flooring
	Ceramic Tile Flooring
	Wood Flooring

01 - Main Building:	Vinyl Composition Tile Flooring

Mechanical

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

01 - Main Building:	1,275 MBH Cast Iron Water Boiler
	Finned Wall Radiator
	Steam/Hot Water Heating Unit Vent
	Radiant Steam Heater
	Pneumatic Heating System Controls
	Window Units
	2-Pipe Hot Water Hydronic Distribution System
	1 HP or Smaller Pump
	Ductwork
	20 Ton DX Gas Roof Top Unit
	Wall Exhaust Fan
	Roof Exhaust Fan
	Fire Sprinkler System

Plumbing

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

01 - Main Building:	Gas Piping System
	66 Gallon Electric Water Heater
	Domestic Water Piping System
	Classroom Lavatories
	Mop/Service Sinks
	Non-Refrigerated Drinking Fountain
	Restroom Lavatories
	Toilets
	Urinals
	Air Compressor (1/2 hp)

Electrical

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

01 - Main Building:	400 Amp Distribution Panel
	Panelboard - 120/208 100A
	Panelboard - 120/208 225A
	Light Fixtures
	Building Mounted Lighting 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.

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

	Priority						
System	1	2	3	4	5	Total	% of Total
Site	-	-	$172,115	$85,140	$64,020	$321,276	7.41 %
Roofing	-	$747,063	-	-	-	$747,063	17.24 %
Structural	-	-	-	-	-	$0	0.00 %
Exterior	-	$98,243	-	-	$541	$98,783	2.28 %
Interior	-	-	$306,316	$443,544	$6,845	$756,705	17.46 %
Mechanical	-	$649,990	$5,216	$268,813	-	$924,018	21.32 %
Electrical	-	-	-	-	$43,671	$43,671	1.01 %
Plumbing	-	-	$11,519	$50,282	$14,815	$76,615	1.77 %
Fire and Life Safety	-	-	-	-	-	$0	0.00 %
Technology	-	-	$1,145,940	-	-	$1,145,940	26.45 %
Conveyances	-	-	-	-	-	$0	0.00 %
Specialties	-	-	$4,563	$206,042	$8,556	$219,162	5.06 %
Total	$0	$1,495,296	$1,645,669	$1,053,821	$138,448	$4,333,234	

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

The building systems with the most need include:

Technology	-	$1,145,940
Mechanical	-	$924,018
Interior	-	$756,705

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

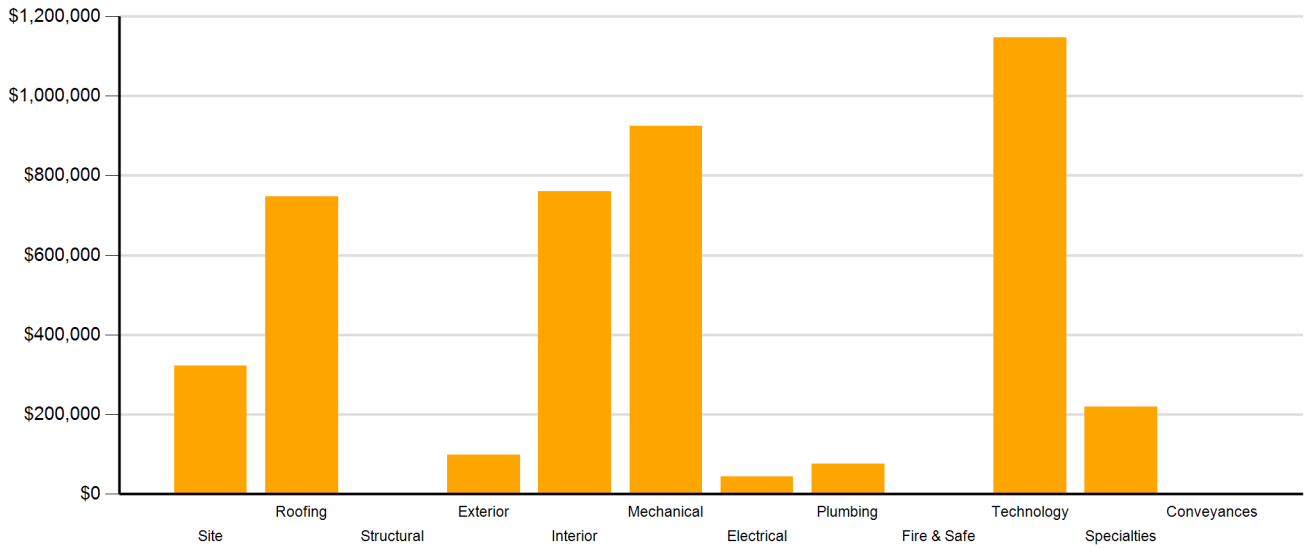


Figure 2: System Deficiencies

Current Deficiencies by Category

Deficiencies have been further grouped according to the observed category.

• **Acoustics** deficiencies relate to room acoustics, sound insolation, 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

	Priority					
Category	**1**	**2**	**3**	**4**	**5**	**Total**
Acoustics	-	-	$162,305	$24,203	-	$186,509
Barrier to Accessibility	-	-	$122,798	-	-	$122,798
Capital Renewal	-	$1,495,296	$198,273	$756,841	$541	$2,450,950
Code Compliance	-	-	-	-	-	$0
Educational Adequacy	-	-	$27,380	$244,702	$137,907	$409,989
Functional Deficiency	-	-	-	-	-	$0
Hazardous Material	-	-	-	$28,076	-	$28,076
Technology	-	-	$1,123,124	-	-	$1,123,124
Traffic	-	-	$11,789	-	-	$11,789
Total	$0	$1,495,296	$1,645,669	$1,053,821	$138,448	$4,333,234

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

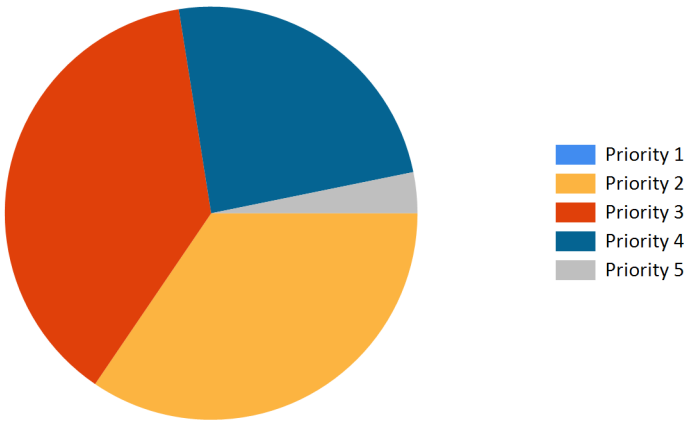


Figure 3: Current deficiencies by priority

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

		Life Cycle Capital Renewal Projections						
System	Current Deficiencies	Year 1 2017	Year 2 2018	Year 3 2019	Year 4 2020	Year 5 2021	LC Yr. 1-5 Total	Total 5-Year Need
Site	$321,276	$0	$0	$0	$174,783	$36,791	$211,574	$532,850
Roofing	$747,063	$0	$0	$0	$0	$0	$0	$747,063
Structural	$0	$0	$0	$0	$0	$0	$0	$0
Exterior	$98,783	$0	$0	$0	$0	$0	$0	$98,783
Interior	$756,705	$0	$0	$36,288	$488,076	$0	$524,364	$1,281,069
Mechanical	$924,018	$0	$0	$0	$37,192	$644,337	$681,529	$1,605,547
Electrical	$43,671	$0	$0	$0	$0	$25,669	$25,669	$69,340
Plumbing	$76,615	$0	$0	$32,628	$278,530	$737,878	$1,049,036	$1,125,651
Fire and Life Safety	$0	$0	$0	$99,888	$0	$0	$99,888	$99,888
Technology	$1,145,940	$0	$0	$0	$0	$0	$0	$1,145,940
Conveyances	$0	$0	$0	$0	$0	$0	$0	$0
Specialties	$219,162	$0	$0	$0	$0	$0	$0	$219,162
Total	**$4,333,234**	**$0**	**$0**	**$168,804**	**$978,581**	**$1,444,675**	**$2,592,060**	**$6,925,294**

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

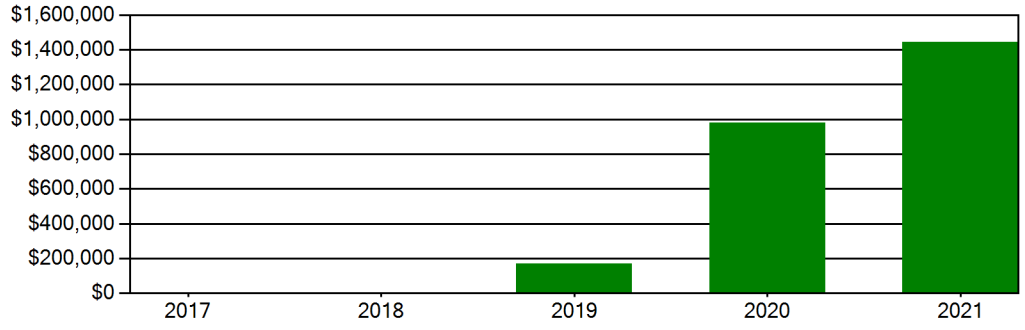
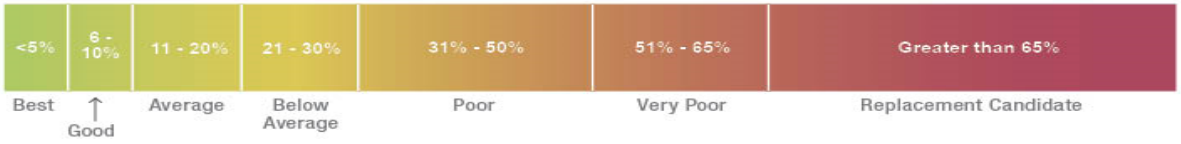


Figure 4: Life Cycle Capital Renewal Forecast

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 $11,928,000. For planning purposes, the total 5-year need at the Greenwood School is $6,930,289 (Life Cycle Years 1-5 plus the FCI deficiency cost). The Greenwood School facility has a 5 -year FCI of 58.06%.

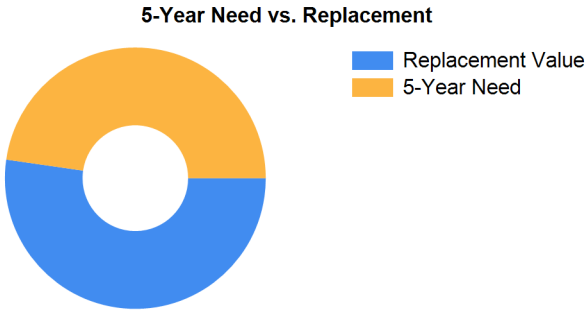


Figure 5: 5-Year FCI

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 189 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 Greenwood School cafeteria and/or library/media center to the size prescribed by the SCRs is estimated to be $0.

Summary of Findings

The Greenwood School comprises 34,080 square feet and was constructed in 1927. Current deficiencies at this school total $4,338,229. Five year capital renewal costs total $2,592,060. The total identified need for the Greenwood School (current deficiencies and 5-year capital renewal costs) is $6,930,289. The 5-year FCI is 58.06%.

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
Greenwood School Totals	34,080	1927	$4,338,229	$2,592,060	$6,930,289	58.06%

**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	Capital Renewal	3,400	SF	3	$37,528	19106
Note: Asphalt sidewalks are weathered and overgrown.						
Crosswalk Requires Repainting	Traffic	12	Ea.	3	$11,789	22045
Note: Repaint crosswalks at intersection of Sharon St and Potters Ave (4), intersection of Sharon St and Greenwood Ave (4), and the intersection of Greenwood Ave and Trinity St (4)						
The Playground Impact Surface Does Not Meet ADA Guidelines For Accessible Play Surfaces	Barrier to Accessibility	2,500	SQFT	3	$122,798	19107
Fencing Requires Replacement (4' Chain Link Fence)	Capital Renewal	800	LF	4	$66,802	19105
Fencing Requires Replacement (8' Chain Link Fence)	Capital Renewal	75	LF	4	$6,513	19104
Replace Natural Turf (Grass) Playfield	Capital Renewal	1	Ea.	4	$11,825	19324
Note: Play area has no grass.						
PE / Recess Playfield is Missing and is Needed	Educational Adequacy	1	Ea.	5	$64,020	54954
Note: PE / Recess Playfield is Missing and is Needed						
	Sub Total for System	**7**	**items**		**$321,276**	
	Sub Total for School and Site Level	**7**	**items**		**$321,276**	

Building: 01 - Main Building

Roofing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Built-up Roofing With Aggregate Ballast Requires Replacement	Capital Renewal	15,730	SF	2	$648,027	19121
EPDM Roofing Requires Replacement (Bldg SF)	Capital Renewal	7,230	SF	2	$99,036	19129
Note: EPDM roofing showing signs of wear and evidence of ponding.						
	Sub Total for System	**2**	**items**		**$747,063**	

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Metal Exterior Door Requires Replacement	Capital Renewal	10	Door	2	$69,520	19110
The Wood Exterior Door Requires Replacement	Capital Renewal	1	Door	2	$9,017	19109
The Wood Exterior Requires Replacement	Capital Renewal	300	SF Wall	2	$11,432	19122
Note: The exterior wood fascia board trim is in poor condition.						
The Wood Window Requires Replacement	Capital Renewal	40	SF	2	$8,274	19111
The Exterior Soffit Requires Repainting	Capital Renewal	150	SF	5	$541	19108
Note: Soffit paint is weathered and chipped.						
	Sub Total for System	**5**	**items**		**$98,783**	

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Classroom Entry Doors Provide Insufficient Sound Isolation	Acoustics	18	Ea.	3	$162,305	19112
The Ceramic Tile Flooring Requires Replacement	Capital Renewal	230	SF	3	$6,691	19114
The Interior Door Hardware Requires Replacement	Capital Renewal	33	Door	3	$112,158	19123
The Wood Flooring Requires Replacement	Capital Renewal	700	SF	3	$25,161	19113
Adhered Acoustical Ceiling Tile Requires Replacement	Capital Renewal	6,720	SF	4	$78,944	19136
Interior Toilet Partition Requires Repair	Capital Renewal	12	Ea.	4	$6,797	19120
Note: The toilet partitions are in poor condition.						
Interior Wood Walls Require Replacement	Capital Renewal	650	SF	4	$6,427	19134
Metal Interior Doors Require Replacement	Capital Renewal	6	Door	4	$27,833	19130
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	11	Ea.	4	$3,399	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	540	LF	4	$13,348	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	1,100	SF	4	$11,329	Rollup
Room Is Excessively Reverberant	Acoustics	1,000	SF	4	$24,203	27816
Note: Music Space						

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room Lighting Is Inadequate Or In Poor Condition.	Educational Adequacy	6,407	SF	4	$244,132	Rollup
The Stone/Quarry Flooring Requires Replacement	Capital Renewal	550	SF	4	$27,133	19115
Classroom Door Requires Vision Panel	Educational Adequacy	3	Ea.	5	$6,845	Rollup
	Sub Total for System	**15**	**items**		**$756,705**	

Mechanical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Replace Unit Vent	Capital Renewal	12	Ea.	2	$219,892	19133
Note: Unit ventilators in the older part of the building are aged with rusted casings.						
The Mechanical / HVAC Piping / System Is Beyond Its Useful Life	Capital Renewal	34,080	SF	2	$284,586	19127
Note: Piping is rusted and corroded with failed insulation.						
The Steam/Hot Water Radiant Heater Requires Replacement	Capital Renewal	26	Ea.	2	$145,511	19126
Note: Radiators are aged, rusted, and corroded.						
Air Compressor Is Inoperable And Requires Replacement	Capital Renewal	1	Ea.	3	$5,216	19124
Note: Air compressor is old, rusted, and in poor condition.						
Exhaust Fan Ventilation Requires Replacement	Capital Renewal	1	Ea.	4	$2,901	19116
Note: Boiler room wall exhaust is rusted and in poor condition.						
Existing Controls Are Inadequate And Should Be Replaced With DDC Controls	Capital Renewal	34,080	SF	4	$249,384	19128
Note: Controls system is old and needs to be upgraded to DDC. An upgrade would reduce uneven heating throughout school.						
Small HVAC Circulating Pump Requires Replacement	Capital Renewal	2	Ea.	4	$16,528	19135
Note: 2 HP pumps are rusted and corroded.						
	Sub Total for System	**7**	**items**		**$924,018**	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room Has Insufficient Electrical Outlets	Educational Adequacy	88	Ea.	5	$43,671	Rollup
	Sub Total for System	**1**	**items**		**$43,671**	

Plumbing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Urinal Plumbing Fixtures Require Replacement	Capital Renewal	8	Ea.	3	$11,519	19125
Note: Urinals are old and in poor condition.						
Floor Drains Are Required	Educational Adequacy	1	Ea.	4	$570	Rollup
Non-Refrigerated Drinking Fountain Requires Replacement	Capital Renewal	2	Ea.	4	$22,143	19119
Note: Water fountains are aged and corroded.						
The Restroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	8	Ea.	4	$27,569	19117
Note: Restroom lavatories are old and corroded.						
Room lacks a drinking fountain.	Educational Adequacy	7	Ea.	5	$7,720	Rollup
The Class Room Lavatories Plumbing Fixtures Are Missing And Should Be Installed	Educational Adequacy	6	Ea.	5	$7,095	Rollup
	Sub Total for System	**6**	**items**		**$76,615**	

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	244	Ea.	3	$125,650	23167
Technology: Classroom AV/Multimedia systems are inadequate and/or near end of useful life.	Technology	18	Ea.	3	$389,310	23172
Technology: Instructional spaces do not have local sound reinforcement.	Technology	18	Ea.	3	$92,693	23174
Technology: Intermediate Telecommunications Room grounding system is inadequate or non-existent.	Technology	1	Ea.	3	$5,768	23164
Technology: Intermediate Telecommunications Room is not dedicated and/or inadequate.	Technology	1	Ea.	3	$49,024	23163

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Technology: Intermediate Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	$5,150	23162
Technology: Intermediate Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	$5,150	23165
Technology: Main Telecommunications Room ground system is inadequate or non-existent.	Technology	1	Ea.	3	$7,209	23160
Technology: Main Telecommunications Room is not dedicated. Room requires partial walls and/or major improvements.	Technology	1	Ea.	3	$46,140	23159
Technology: Network cabling infrastructure is outdated (Cat 5 or less) and/or does not meet standards.	Technology	175	Ea.	3	$81,106	23166
Technology: Network system inadequate and/or near end of useful life	Technology	3	Ea.	3	$24,718	23175
Technology: Network system inadequate and/or near end of useful life	Technology	20	Ea.	3	$102,992	23176
Technology: PA/Bell/Clock system is inadequate and/or near end of useful life.	Technology	34,080	SF	3	$63,180	23171
Technology: Special Space AV/Multimedia system is inadequate.	Technology	1	Ea.	3	$58,706	23168
Technology: Special Space AV/Multimedia systems are in need of minor improvements.	Technology	1	Room	3	$20,598	23173
Technology: Telecommunications Room (large size room) needs dedicated cooling system improvements.	Technology	1	Ea.	3	$8,239	23161
Technology: Telephone handsets are inadequate and sparsely deployed throughout the campus.	Technology	18	Ea.	3	$29,662	23170
Technology: Telephone system is inadequate and/or non-existent.	Technology	1	Ea.	3	$7,827	23169
	Sub Total for System	**19**	**items**		**$1,145,940**	

Specialties

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room has insufficient writing area.	Educational Adequacy	1	Ea.	3	$4,563	Rollup
Replace Cabinetry In Classes/Labs	Capital Renewal	17	Room	4	$206,042	19131
Room lacks an appropriate refrigerator.	Educational Adequacy	1	Ea.	5	$8,556	Rollup
	Sub Total for System	**3**	**items**		**$219,162**	
	Sub Total for Building 01 - Main Building	**58**	**items**		**$4,011,958**	
	Total for Campus	**65**	**items**		**$4,333,234**	

Greenwood School - Life Cycle Summary Yrs 1-5

Site Level Life Cycle Items

Site

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Parking Lot Pavement	Asphalt	17	CAR	$56,245	4
Roadway Pavement	Asphalt	10	CAR	$33,085	4
Pedestrian Pavement	Sidewalks - Asphalt	10,000	SF	$85,453	4
Note:	Paved play areas				
Pedestrian Pavement	Sidewalks - Concrete	1,800	SF	$36,791	5
	Sub Total for System	**4**	**items**	**$211,574**	
	Sub Total for Building -	**4**	**items**	**$211,574**	

Building: 01 - Main Building

Interior

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Suspended Plaster and	Painted ceilings	8,675	SF	$36,288	3
Wall Painting and Coating	Painting/Staining (Bldg SF)	32,330	SF	$213,615	4
Resilient Flooring	Vinyl Composition Tile Flooring	23,925	SF	$274,461	4
	Sub Total for System	**3**	**items**	**$524,365**	

Mechanical

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Facility Hydronic Distribution	Pump - 1HP or Less (Ea.)	4	Ea.	$30,514	4
Note:	2 @ 1 HP; 2 @ 0.5 HP				
Decentralized Cooling	Window Units	2	Ea.	$6,678	4
Decentralized Heating Equipment	Finned Wall Radiator - (Ea.)	13	Ea.	$21,777	5
Exhaust Air	Roof Exhaust Fan	11	Ea.	$57,245	5
HVAC Air Distribution	Ductwork (Bldg.SF)	34,080	SF	$501,016	5
HVAC Air Distribution	Roof Top Unit - DX Gas (20 Ton)	1	Ea.	$64,299	5
	Sub Total for System	**6**	**items**	**$681,528**	

Electrical

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Power Distribution	Distribution Panels (400 Amps)	1	Ea.	$25,669	5
	Sub Total for System	**1**	**items**	**$25,669**	

Plumbing

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Plumbing Fixtures	Classroom Lavatories	12	Ea.	$32,628	3
Domestic Water Equipment	Water Heater - Electric - 66 gallon	1	Ea.	$4,326	4
Note:	60MBH				
Domestic Water Piping	Domestic Water Piping System (Bldg.SF)	34,080	SF	$274,204	4
Domestic Water Equipment	Gas Piping System (BldgSF)	34,080	SF	$737,878	5
	Sub Total for System	**4**	**items**	**$1,049,036**	

Fire and Life Safety

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Fire Detection and Alarm	Fire Alarm	34,080	SF	$99,888	3
	Sub Total for System	**1**	**items**	**$99,888**	
	Sub Total for Building 01 - Main Building	**15**	**items**	**$2,380,486**	
	Total for: Greenwood School	**19**	**items**	**$2,592,061**	

Supporting Photos

Chain Link Fencing

Bent Chain Link

Playground

Weathered Asphalt Walks

Site Aerial

Marquee sign

Paved Basket Ball Court

Chipped Soffit Paint

Weathered Exterior Wood Door

Original Wood Door

Ceramic Tile Floor

Wall Exhaust Fan

Aged Restroom Lavatory

Aged Water Fountain

Weathered Built-Up Roofing

Wood Fascia

Air Compressor

Rusted Radiator

Deteriorated Piping

EPDM Roof

Aged Cabinetry

Aged And Rusted Unit Ventilator

Corroded Pump

Adhered Tile Ceiling

Typical Classroom

Multipurpose Addition Exterior

Multipurpose Room

Main Entry Doors

Exterior Brick

Science Room

Library

Elevation

Hallway Finishes

Music Room

Facility Condition Assessment

Warwick - Harold F. Scott School | *June 2017*

833 Centerville Road, Warwick, RI 02886

Introduction

Harold F. Scott School, located at 833 Centerville Road in Warwick, Rhode Island, was built in 1965. It comprises 32,601 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.

Harold F. Scott School serves grades 1 - 6, has 22 instructional spaces, and has an enrollment of 272. Instructional spaces are defined as rooms in which a student receives education. The LEA reported capacity for Harold F. Scott School is 375 with a resulting utilization of 73%.

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 Harold F. Scott School the 5-year need is $5,022,551. 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.

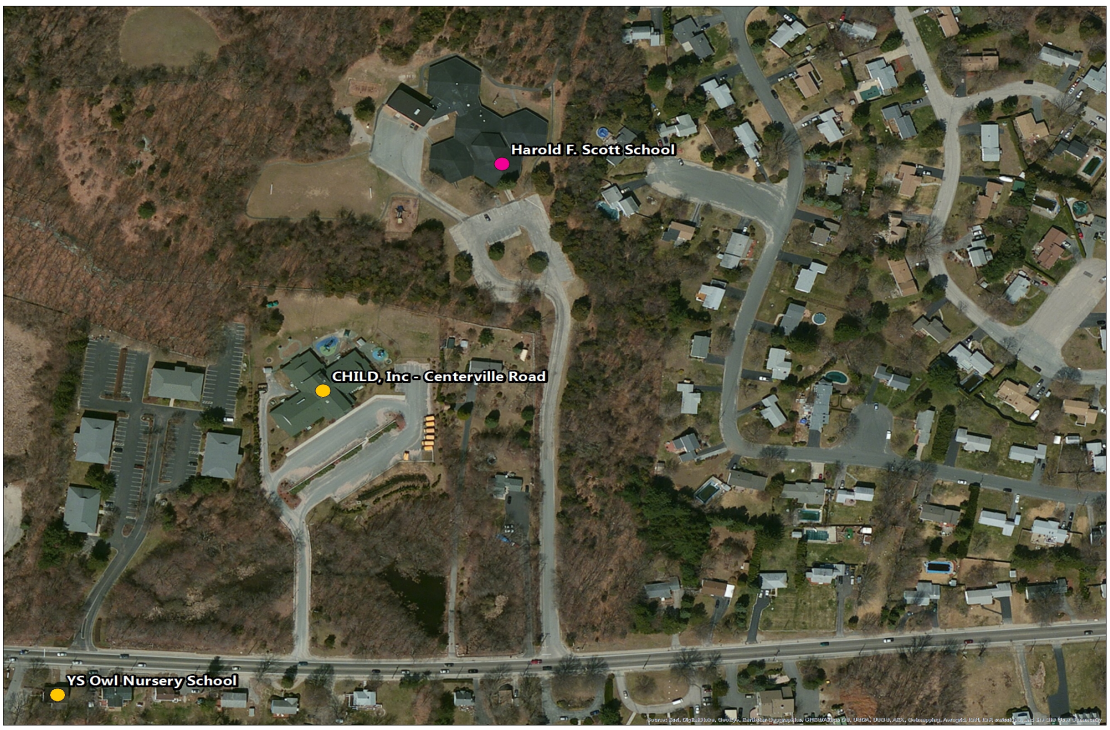


Figure 1: Aerial view of Harold F. Scott School

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 Harold F. Scott School campus, identified by discipline and building.

Site

The site level systems for this campus include:

Site	Asphalt Parking Lot Pavement
	Asphalt Roadway Pavement
	Asphalt Pedestrian Pavement
	Concrete Pedestrian Pavement

Building Envelope

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

01 - Main Building:	Brick Exterior Wall
	Painted Gypsum Soffit
	Wood Siding Exterior Wall
	Aluminum Exterior Windows
	Steel Exterior Entrance Doors

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

01 - Main Building:	EPDM Roofing
	Modified Bitumen Roofing

Interior

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

01 - Main Building:	Moveable Interior Partition
	Steel Interior Doors
	Wood Interior Doors
	Interior Door Hardware
	Door Hardware
	Suspended Acoustical Grid System
	Suspended Acoustical Ceiling Tile
	Painted Ceilings
	Interior Wall Painting
	Concrete Flooring
	Ceramic Tile Flooring
	Wood Flooring
	Vinyl Composition Tile Flooring

Mechanical

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

01 - Main Building:	2,400 MBH Copper Tube Boiler
	Finned Wall Radiator
	Gas Heating Unit Vent
	12 MBH Steam Unit Heater
	Pneumatic Heating System Controls
	Window Units
	2-Pipe Hot Water Hydronic Distribution System
	5 HP Pump
	Ductwork
	20 Ton DX Gas Roof Top Unit
	Roof Exhaust Fan
	Large Roof Exhaust Fan
	Fire Sprinkler System

Plumbing

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

01 - Main Building:	Gas Piping System
	50 Gallon Gas Water Heater
	Domestic Water Piping System
	Classroom Lavatories
	Mop/Service Sinks
	Non-Refrigerated Drinking Fountain
	Restroom Lavatories
	Toilets
	Urinals
	Air Compressor (1/2 hp)

Electrical

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

01 - Main Building:	600 Amp Distribution Panel
	Panelboard - 120/208 225A
	Electrical Disconnect
	Light Fixtures
	Building Mounted Lighting 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.

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

	Priority						
System	1	2	3	4	5	Total	% of Total
Site	-	-	$277,604	$730,440	$1,996	$1,010,040	24.87 %
Roofing	-	-	-	-	-	$0	0.00 %
Structural	-	-	-	-	-	$0	0.00 %
Exterior	-	$39,018	$8,651	-	-	$47,670	1.17 %
Interior	-	-	$571,131	$253,666	$45,633	$870,431	21.44 %
Mechanical	-	$610,625	$5,015	$229,385	-	$845,025	20.81 %
Electrical	-	-	$24,778	-	$43,671	$68,449	1.69 %
Plumbing	-	-	$11,076	$72,975	$14,815	$98,865	2.43 %
Fire and Life Safety	-	-	-	-	-	$0	0.00 %
Technology	-	-	$843,627	-	-	$843,627	20.78 %
Conveyances	-	-	-	-	-	$0	0.00 %
Specialties	-	-	-	$268,041	$8,556	$276,597	6.81 %
Total	$0	$649,643	$1,741,881	$1,554,508	$114,672	$4,060,704	

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

The building systems with the most need include:

Site	-	$1,010,040
Interior	-	$870,431
Mechanical	-	$845,025

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

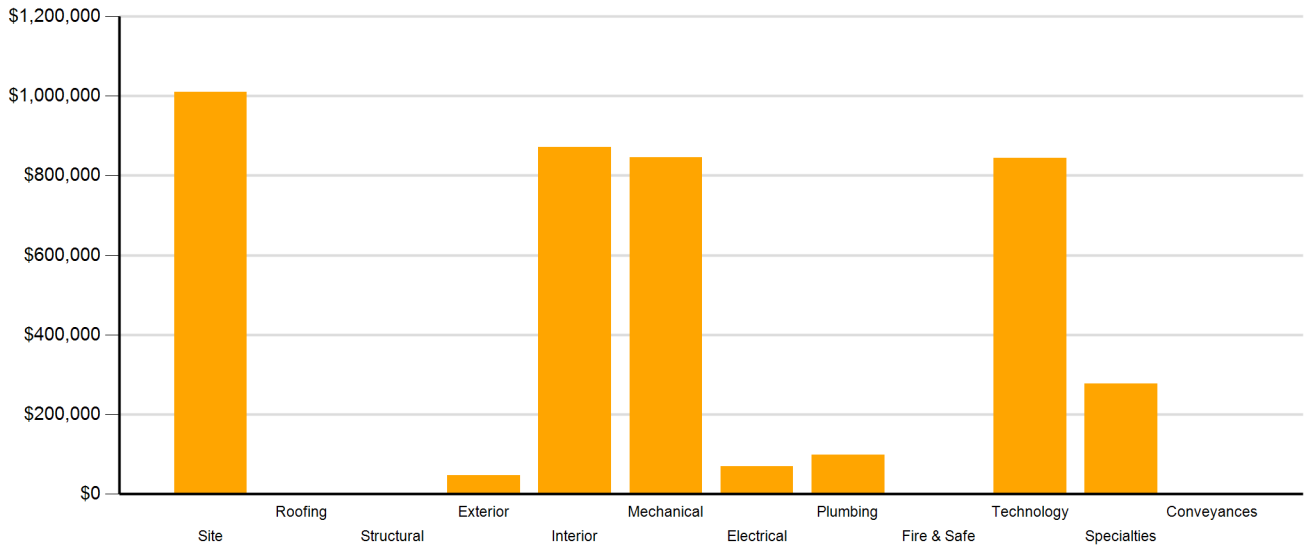


Figure 2: System Deficiencies

Current Deficiencies by Category

Deficiencies have been further grouped according to the observed category.

• **Acoustics** deficiencies relate to room acoustics, sound insolation, 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

	Priority					
Category	**1**	**2**	**3**	**4**	**5**	**Total**
Acoustics	-	-	-	$27,927	-	$27,927
Barrier to Accessibility	-	-	$275,702	-	-	$275,702
Capital Renewal	-	$649,643	$595,873	$1,377,786	$1,996	$2,625,299
Code Compliance	-	-	-	-	-	$0
Educational Adequacy	-	-	-	$115,477	$112,676	$228,153
Functional Deficiency	-	-	$24,778	-	-	$24,778
Hazardous Material	-	-	-	$33,318	-	$33,318
Technology	-	-	$843,627	-	-	$843,627
Traffic	-	-	$1,901	-	-	$1,901
Total	$0	$649,643	$1,741,881	$1,554,508	$114,672	$4,060,704

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

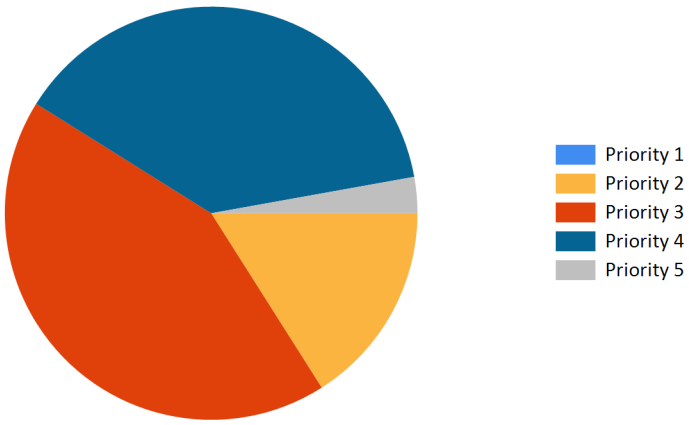


Figure 3: Current deficiencies by priority

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

		Life Cycle Capital Renewal Projections						
System	Current Deficiencies	Year 1 2017	Year 2 2018	Year 3 2019	Year 4 2020	Year 5 2021	LC Yr. 1-5 Total	Total 5-Year Need
Site	$1,010,040	$0	$0	$0	$0	$8,176	$8,176	$1,018,216
Roofing	$0	$0	$0	$0	$0	$0	$0	$0
Structural	$0	$0	$0	$0	$0	$0	$0	$0
Exterior	$47,670	$0	$0	$0	$0	$0	$0	$47,670
Interior	$870,431	$0	$0	$215,406	$43,994	$19,314	$278,714	$1,149,145
Mechanical	$845,025	$0	$0	$0	$158,578	$251,295	$409,873	$1,254,898
Electrical	$68,449	$0	$0	$0	$0	$0	$0	$68,449
Plumbing	$98,865	$0	$0	$0	$0	$262,304	$262,304	$361,169
Fire and Life Safety	$0	$0	$0	$0	$0	$0	$0	$0
Technology	$843,627	$0	$0	$0	$0	$0	$0	$843,627
Conveyances	$0	$0	$0	$0	$0	$0	$0	$0
Specialties	$276,597	$0	$0	$0	$0	$0	$0	$276,597
Total	**$4,060,704**	**$0**	**$0**	**$215,406**	**$202,572**	**$541,089**	**$959,067**	**$5,019,771**

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

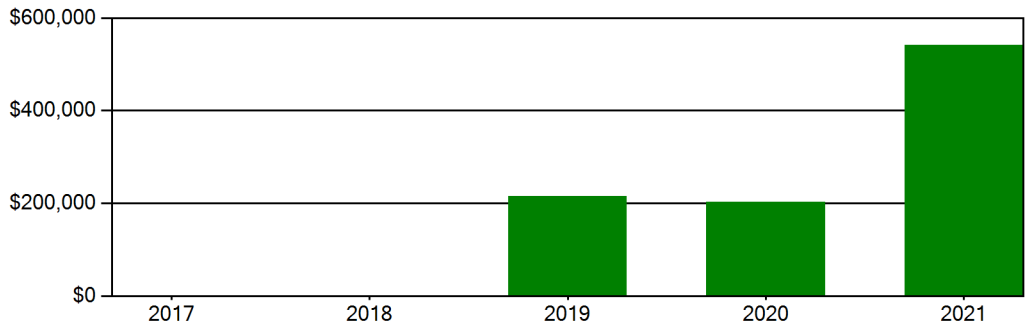
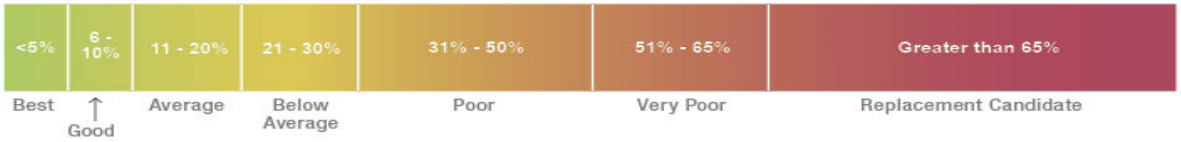


Figure 4: Life Cycle Capital Renewal Forecast

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 $11,410,350. For planning purposes, the total 5-year need at the Harold F. Scott School is $5,022,551 (Life Cycle Years 1-5 plus the FCI deficiency cost). The Harold F. Scott School facility has a 5-year FCI of 43.99%.

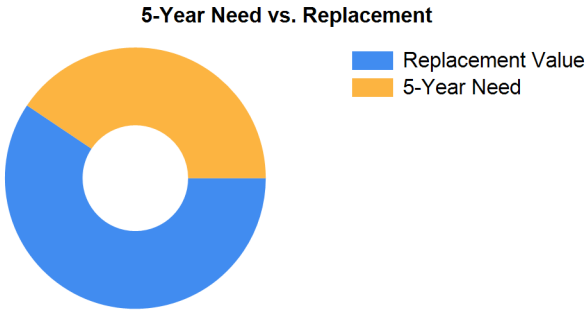


Figure 5: 5-Year FCI

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 181 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 Harold F. Scott School cafeteria and/or library/media center to the size prescribed by the SCRs is estimated to be $0.

Summary of Findings

The Harold F. Scott School comprises 32,601 square feet and was constructed in 1965. Current deficiencies at this school total $4,063,484. Five year capital renewal costs total $959,067. The total identified need for the Harold F. Scott School (current deficiencies and 5-year capital renewal costs) is $5,022,551. The 5-year FCI is 43.99%.

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
Harold F. Scott School Totals	32,601	1965	$4,063,484	$959,067	$5,022,551	43.99%

**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
Crosswalk: Needs to be added	Traffic	2	Ea.	3	$1,901	22052
Note: Add crosswalks at end of school driveway on Centerville Rd						
The Playground Impact Surface Does Not Meet ADA Guidelines For Accessible Play Surfaces	Barrier to Accessibility	5,800	SQFT	3	$275,702	19139
Asphalt Paving Requires Replacement	Capital Renewal	60	CAR	4	$248,139	19137
Note: The parking pavement is deteriorated.						
Asphalt Paving Requires Replacement	Capital Renewal	60	CAR	4	$248,139	19138
Note: The asphalt roadways are deteriorated.						
Asphalt Paving Requires Replacement	Capital Renewal	48	CAR	4	$198,511	53619
Note: Paved play area. Per LEA review feedback - Paving at this facility is in extremely poor condition and needs to be replaced. Play area should be added for replacement per facilities director.						
Backstops Require Replacement	Educational Adequacy	1	Ea.	4	$35,651	28612
Note: Backstops Require Replacement						
Paving Requires Restriping	Capital Renewal	28	CAR	5	$1,996	22053
Note: Repaint parking spots on campus						
	Sub Total for System	**7**	**items**		**$1,010,040**	

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Handrail Requires Replacement	Capital Renewal	40	LF	3	$8,651	19141
Note: The railings of the ramp near the gym are severely damaged and falling.						
	Sub Total for System	**1**	**items**		**$8,651**	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Pole Lighting Is Missing And Needed	Functional Deficiency	1	Ea.	3	$24,778	19140
Note: Need to add one pole to the parking lot for additional illumination.						
	Sub Total for System	**1**	**items**		**$24,778**	
	Sub Total for School and Site Level	**9**	**items**		**$1,043,469**	

Building: 01 - Main Building

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Metal Exterior Door Requires Replacement	Capital Renewal	2	Door	2	$13,369	19143
Note: The steel doors are deteriorated.						
The Wood Exterior Requires Replacement	Capital Renewal	700	SF Wall	2	$25,649	19152
Note: The wood siding is deteriorated and damaged on the high wall at the center pop-up at roof level.						
	Sub Total for System	**2**	**items**		**$39,018**	

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Interior Doors Require Replacement	Capital Renewal	8	Door	3	$38,424	19145
Note: The wood doors are damaged.						
The Acoustical Ceiling Tiles Require Replacement	Capital Renewal	4,000	SF	3	$37,632	19144
Note: Acoustic ceiling tiles are in poor condition.						
The Ceramic Tile Flooring Requires Replacement	Capital Renewal	900	SF	3	$25,175	19147
Note: Ceramic tile flooring is deteriorated.						
The Interior Door Hardware Requires Replacement	Capital Renewal	48	Door	3	$156,865	19153
The Vinyl Composition Tile Requires Replacement	Capital Renewal	26,196	SF	3	$313,035	19146
Note: The VCT flooring is in poor condition.						
Ceiling Grid Requires Replacement	Capital Renewal	4,000	SF	4	$49,419	19158
Note: The ceiling grid is old, stained, and in poor condition.						
Interior Toilet Partition Requires Repair	Capital Renewal	11	Ea.	4	$5,991	19151
Note: The toilet partitions are in poor condition.						

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Light Deterioration or Damage of 9x9 Asbestos Floor Tile is Present	Hazardous Material	950	SF	4	$28,224	Rollup
Moveable Partitions Require Replacement	Capital Renewal	480	SF Wall	4	$57,755	19142
Note: The folding partitions are in poor condition.						
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	3	Ea.	4	$891	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	156	LF	4	$3,708	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	50	SF	4	$495	Rollup
Room Is Excessively Reverberant	Acoustics	1,200	SF	4	$27,927	27817
Note: Cafeteria/Music Space						
Room Lighting Is Inadequate Or In Poor Condition.	Educational Adequacy	2,080	SF	4	$79,256	Rollup
Classroom Door Requires Vision Panel	Educational Adequacy	20	Ea.	5	$45,633	Rollup
	Sub Total for System	**15**	**items**		**$870,431**	

Mechanical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Replace Unit Vent	Capital Renewal	24	Ea.	2	$353,897	53611
Note: Per LEA review feedback the district believes the heating system needs to be replaced.						
Steam/HW Unit Heater Requires Replacement	Capital Renewal	1	Ea.	2	$2,488	53612
Note: Per LEA review feedback the district believes the heating system needs to be replaced.						
The Copper Tube Boiler Requires Replacement	Capital Renewal	1	Ea.	2	$142,565	19159
Note: Boiler is rusted and corroded.						
The Fin Tube Water Radiant Heater Requires Replacement	Capital Renewal	64	Ea.	2	$111,675	53610
Note: Per LEA review feedback the district believes the heating system needs to be replaced.						
Air Compressor Is Inoperable And Requires Replacement	Capital Renewal	1	Ea.	3	$5,015	19154
Note: Air compressor is aged, rusted, and needs to be replaced.						
Existing Controls Are Inadequate And Should Be Replaced With DDC Controls	Capital Renewal	32,601	SF	4	$229,385	19156
	Sub Total for System	**6**	**items**		**$845,025**	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room Has Insufficient Electrical Outlets	Educational Adequacy	88	Ea.	5	$43,671	Rollup
	Sub Total for System	**1**	**items**		**$43,671**	

Plumbing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Urinal Plumbing Fixtures Require Replacement	Capital Renewal	8	Ea.	3	$11,076	19155
Note: Urinals are corroding and need to be replaced.						
Floor Drains Are Required	Educational Adequacy	1	Ea.	4	$570	Rollup
Non-Refrigerated Drinking Fountain Requires Replacement	Capital Renewal	4	Ea.	4	$42,583	19150
Note: Drinking fountains are old, corroded, and in poor condition.						
The Restroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	9	Ea.	4	$29,822	19148
Note: Restroom lavatories are aged, corroded, and in poor condition.						
Room lacks a drinking fountain.	Educational Adequacy	7	Ea.	5	$7,720	Rollup
The Class Room Lavatories Plumbing Fixtures Are Missing And Should Be Installed	Educational Adequacy	6	Ea.	5	$7,095	Rollup
	Sub Total for System	**6**	**items**		**$98,865**	

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Technology: Campus network switching electronics are antiquated and/or do not meet standards.	Technology	96	Ea.	3	$47,535	23138
Technology: Classroom AV/Multimedia systems are inadequate and/or near end of useful life.	Technology	18	Ea.	3	$374,337	23143

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Technology: Instructional spaces do not have local sound reinforcement.	Technology	18	Ea.	3	$89,128	23145
Technology: Intermediate Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	$4,952	23137
Technology: Main Telecommunications Room ground system is inadequate or non-existent.	Technology	1	Ea.	3	$6,932	23135
Technology: Main Telecommunications Room is not dedicated. Room requires partial walls and/or major improvements.	Technology	1	Ea.	3	$44,366	23134
Technology: Network system inadequate and/or near end of useful life	Technology	3	Ea.	3	$23,767	23146
Technology: Network system inadequate and/or near end of useful life	Technology	15	Ea.	3	$74,273	23147
Technology: PA/Bell/Clock system is inadequate and/or near end of useful life.	Technology	32,601	SF	3	$58,113	23142
Technology: Special Space AV/Multimedia system is inadequate.	Technology	1	Ea.	3	$56,448	23139
Technology: Special Space AV/Multimedia systems are in need of minor improvements.	Technology	1	Room	3	$19,806	23144
Technology: Telecommunications Room (large size room) needs dedicated cooling system improvements.	Technology	1	Ea.	3	$7,922	23136
Technology: Telephone handsets are inadequate and sparsely deployed throughout the campus.	Technology	18	Ea.	3	$28,521	23141
Technology: Telephone system is inadequate and/or non-existent.	Technology	1	Ea.	3	$7,526	23140
	Sub Total for System	**14**	**items**		**$843,627**	

Specialties

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Replace Cabinetry In Classes/Labs	Capital Renewal	23	Room	4	$268,041	19157
Note: The cabinets are in poor condition.						
Room lacks an appropriate refrigerator.	Educational Adequacy	1	Ea.	5	$8,556	Rollup
	Sub Total for System	**2**	**items**		**$276,597**	
	Sub Total for Building 01 - Main Building	**46**	**items**		**$3,017,235**	
	Total for Campus	**55**	**items**		**$4,060,704**	

Harold F. Scott School - Life Cycle Summary Yrs 1-5

Site Level Life Cycle Items

Site

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Pedestrian Pavement	Sidewalks - Concrete		400	SF	$8,176	5
		Sub Total for System	**1**	**items**	**$8,176**	
		Sub Total for Building -	**1**	**items**	**$8,176**	

Building: 01 - Main Building

Interior

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Wall Painting and Coating	Painting/Staining (Bldg SF)		32,601	SF	$215,406	3
Resilient Flooring	Vinyl Composition Tile Flooring		3,835	SF	$43,994	4
Acoustical Suspended Ceilings	Ceilings - Acoustical Tiles		675	SF	$6,096	5
Suspended Plaster and	Painted ceilings		3,160	SF	$13,218	5
	Note: Gym and gym storage room.					
		Sub Total for System	**4**	**items**	**$278,715**	

Mechanical

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Exhaust Air	Roof Exhaust Fan		6	Ea.	$31,225	4
Facility Hydronic Distribution	Pump - 5HP		3	Ea.	$28,589	4
	Note: 2HP Pumps					
HVAC Air Distribution	Roof Top Unit - DX Gas (20 Ton)		1	Ea.	$64,299	4
Decentralized Cooling	Window Units		2	Ea.	$6,678	4
Exhaust Air	Roof Exhaust Fan - Large		2	Ea.	$27,787	4
Facility Hydronic Distribution	2-Pipe Water System (Hot)		32,601	SF	$251,295	5
		Sub Total for System	**6**	**items**	**$409,873**	

Plumbing

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Domestic Water Piping	Domestic Water Piping System (Bldg.SF)		32,601	SF	$262,304	5
		Sub Total for System	**1**	**items**	**$262,304**	
		Sub Total for Building 01 - Main Building	**11**	**items**	**$950,892**	
		Total for: Harold F. Scott School	**12**	**items**	**$959,068**	

Supporting Photos

Playground Impact Surface

Weathered Parking Lot Asphalt

Site Aerial

Exterior Railings

Playground

Folding Partition Wall

Restroom Sink

Water Fountain

Damaged Wood Siding

Air Compressor

Aged Cabinetry

Stained Ceiling Grid

Boiler

Library

Multipurpose Room/Cafe

Classroom Exterior

Gym Roof

Art Classroom

Main Building Roof

Gym

Typical Classroom

Exterior Brick

Front Elevation

Facility Condition Assessment

Warwick - Holliman School | *June 2017*

70 Deborah Road, Warwick, RI 02888

Introduction

Holliman School, located at 70 Deborah Road in Warwick, Rhode Island, was built in 1953. It comprises 42,218 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.

Holliman School serves grades KG - 6, has 27 instructional spaces, and has an enrollment of 291. Instructional spaces are defined as rooms in which a student receives education. The LEA reported capacity for Holliman School is 400 with a resulting utilization of 73%.

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 Holliman School the 5-year need is $7,018,607. 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 Holliman 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 Holliman School campus, identified by discipline and building.

Site

The site level systems for this campus include:

Site	Asphalt Parking Lot Pavement
	Asphalt Roadway Pavement
	Asphalt Pedestrian Pavement
	Concrete Pedestrian Pavement

Building Envelope

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

01 - Main Building:	Brick Exterior Wall
	CMU Exterior Wall
	Painted Exterior Wall
	Metal Panel Exterior Wall
	Pre-cast Concrete Panel Exterior Wall
	Painted Gypsum Soffit
	Steel Exterior Windows
	Wood Exterior Windows
	Aluminum Exterior Windows
	Steel Exterior Entrance Doors

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

01 - Main Building:	Built-Up Roofing With Ballast
	EPDM Roofing
	Metal Low-Slope Roofing
	Canopy Roofing

Interior

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

01 - Main Building:	Steel Interior Doors
	Wood Interior Doors
	Interior Door Hardware
	Suspended Acoustical Grid System
	Suspended Acoustical Ceiling Tile
	Adhered Acoustical Ceiling Tiles
	Painted Ceilings
	Ceramic Tile Wall
	Vinyl/Fabric Wall Covering

01 - Main Building:	CMU Wall
	Interior Wall Painting
	Concrete Flooring
	Ceramic Tile Flooring
	Wood Flooring
	Vinyl Composition Tile Flooring

Mechanical

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

01 - Main Building:	1,600 MBH Copper Tube Boiler
	400 MBH Copper Tube Boiler
	Finned Wall Radiator
	Steam/Hot Water Heating Unit Vent
	3 kW Electric Unit Heater
	Pneumatic Heating System Controls
	2-Pipe Hot Water Hydronic Distribution System
	1 HP or Smaller Pump
	10 Ton DX Gas Roof Top Unit
	Roof Exhaust Fan

Plumbing

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

01 - Main Building:	Gas Piping System
	75 Gallon Gas Water Heater
	Domestic Water Piping System
	Classroom Lavatories
	Mop/Service Sinks
	Non-Refrigerated Drinking Fountain
	Restroom Lavatories
	Toilets
	Urinals
	Air Compressor (1 hp)
	275 Gallon Above Ground Fuel Oil Storage Tank

Electrical

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

01 - Main Building:	600 Amp Distribution Panel
	Panelboard - 120/208 100A
	Panelboard - 120/208 225A
	Electrical Disconnect
	Light Fixtures

01 - Main Building:	Building Mounted Lighting Fixtures
	Canopy Mounted Lighting 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.

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

	Priority						
System	1	2	3	4	5	Total	% of Total
Site	-	-	$281,139	$753,731	$7,308	$1,042,179	16.01 %
Roofing	-	$6,734	$53,477	-	-	$60,211	0.93 %
Structural	-	-	-	-	-	$0	0.00 %
Exterior	-	$809,323	-	$2,357	$15,251	$826,931	12.71 %
Interior	-	-	$337,023	$157,176	$402,887	$897,087	13.78 %
Mechanical	-	$999,609	$12,605	$393,518	-	$1,405,732	21.60 %
Electrical	-	$71,639	$95,644	$2,872	$51,612	$221,767	3.41 %
Plumbing	-	-	$370,448	$123,549	$15,225	$509,222	7.82 %
Fire and Life Safety	$128,897	-	-	-	-	$128,897	1.98 %
Technology	-	-	$1,118,181	-	-	$1,118,181	17.18 %
Conveyances	-	-	-	-	-	$0	0.00 %
Specialties	-	-	-	$298,145	-	$298,145	4.58 %
Total	$128,897	$1,887,306	$2,268,516	$1,731,348	$492,283	$6,508,350	

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

The building systems with the most need include:

Mechanical	-	$1,405,732
Technology	-	$1,118,181
Site	-	$1,042,179

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

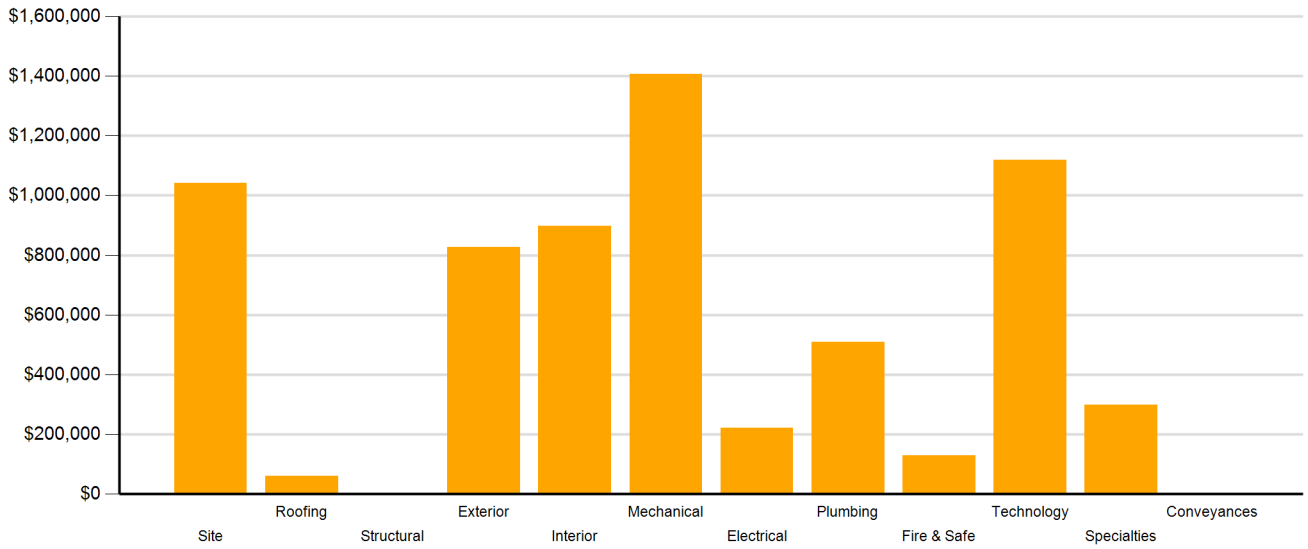


Figure 2: System Deficiencies

Current Deficiencies by Category

Deficiencies have been further grouped according to the observed category.

• **Acoustics** deficiencies relate to room acoustics, sound insolation, 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

	Priority					
Category	**1**	**2**	**3**	**4**	**5**	**Total**
Acoustics	-	-	$303,456	-	-	$303,456
Barrier to Accessibility	-	-	-	-	-	$0
Capital Renewal	-	$1,887,306	$768,328	$1,582,552	$408,309	$4,646,495
Code Compliance	$128,897	-	-	-	-	$128,897
Educational Adequacy	-	-	$17,113	$35,651	$83,974	$136,738
Functional Deficiency	-	-	$61,439	-	-	$61,439
Hazardous Material	-	-	-	$113,145	-	$113,145
Technology	-	-	$1,101,068	-	-	$1,101,068
Traffic	-	-	$17,113	-	-	$17,113
Total	$128,897	$1,887,306	$2,268,516	$1,731,348	$492,283	$6,508,350

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

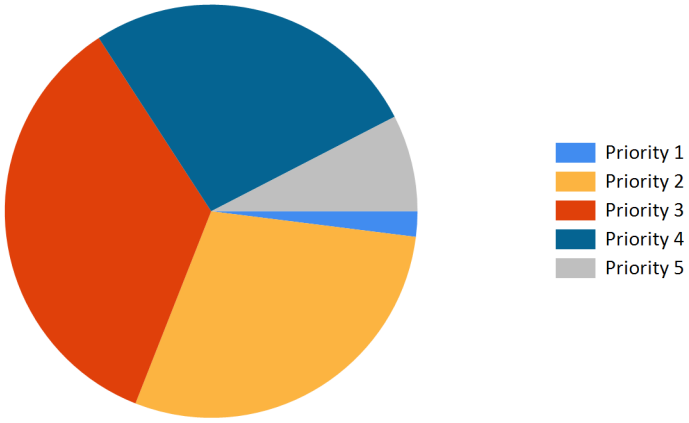


Figure 3: Current deficiencies by priority

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

		Life Cycle Capital Renewal Projections						
System	Current Deficiencies	Year 1 2017	Year 2 2018	Year 3 2019	Year 4 2020	Year 5 2021	LC Yr. 1-5 Total	Total 5-Year Need
Site	$1,042,179	$0	$0	$0	$0	$6,132	$6,132	$1,048,311
Roofing	$60,211	$0	$0	$0	$0	$0	$0	$60,211
Structural	$0	$0	$0	$0	$0	$0	$0	$0
Exterior	$826,931	$0	$0	$0	$0	$0	$0	$826,931
Interior	$897,087	$0	$0	$0	$422,023	$69,092	$491,115	$1,388,202
Mechanical	$1,405,732	$0	$0	$0	$0	$0	$0	$1,405,732
Electrical	$221,767	$0	$0	$0	$0	$5,499	$5,499	$227,266
Plumbing	$509,222	$0	$0	$0	$0	$5,845	$5,845	$515,067
Fire and Life Safety	$128,897	$0	$0	$0	$0	$0	$0	$128,897
Technology	$1,118,181	$0	$0	$0	$0	$0	$0	$1,118,181
Conveyances	$0	$0	$0	$0	$0	$0	$0	$0
Specialties	$298,145	$0	$0	$0	$0	$0	$0	$298,145
Total	**$6,508,350**	**$0**	**$0**	**$0**	**$422,023**	**$86,568**	**$508,591**	**$7,016,941**

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

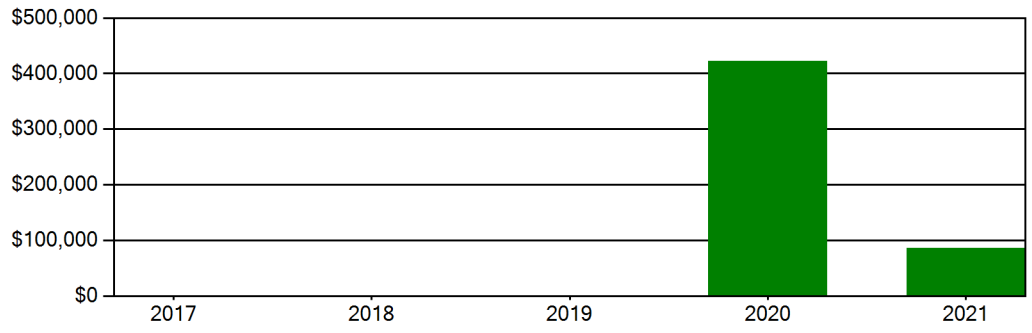
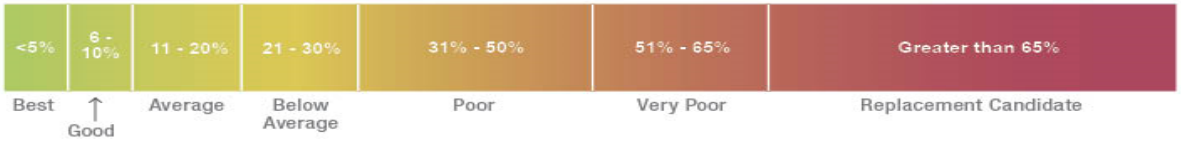


Figure 4: Life Cycle Capital Renewal Forecast

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 $14,776,300. For planning purposes, the total 5-year need at the Holliman School is $7,018,607 (Life Cycle Years 1-5 plus the FCI deficiency cost). The Holliman School facility has a 5-year FCI of 47.49%.

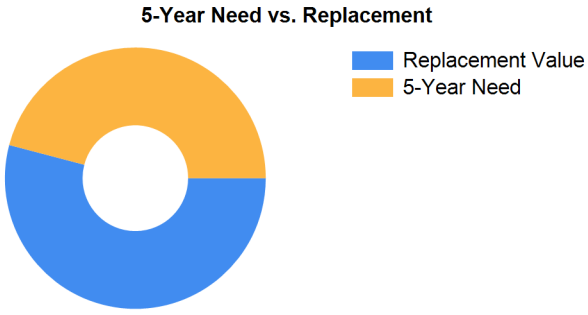


Figure 5: 5-Year FCI

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 235 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 Holliman School cafeteria and/or library/media center to the size prescribed by the SCRs is estimated to be $309,960.

Summary of Findings

The Holliman School comprises 42,218 square feet and was constructed in 1953. Current deficiencies at this school total $6,510,016. Five year capital renewal costs total $508,591. The total identified need for the Holliman School (current deficiencies and 5-year capital renewal costs) is $7,018,607. The 5-year FCI is 47.49%.

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
Holliman School Totals	42,218	1953	$6,510,016	$508,591	$7,018,607	47.49%

**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	Capital Renewal	19,500	SF	3	$208,292	13069
Note: The asphalt walks are deteriorated.						
Playground Equipment Requires Replacement	Capital Renewal	1	Ea.	3	$55,735	13065
Note: The playground equipment and impact surface are in poor condition.						
Traffic Signage Is Required	Traffic	6	Ea.	3	$17,113	16911
Note: Update/install signs for school zone						
Asphalt Paving Requires Replacement	Capital Renewal	90	CAR	4	$372,209	13067
Note: Parking lot paving is deteriorated.						
Asphalt Paving Requires Replacement	Capital Renewal	68	CAR	4	$281,224	13068
Note: Asphalt roads and bus drive are deteriorated.						
Backstops Require Replacement	Educational Adequacy	1	Ea.	4	$35,651	28605
Note: Backstops Require Replacement						
Fencing Requires Replacement (4' Chain Link Fence)	Capital Renewal	800	LF	4	$64,647	13066
Note: The fencing is deteriorated.						
Exterior Basketball Goals are Required	Educational Adequacy	1	Ea.	5	$7,308	28819
Note: Exterior Basketball Goals are Required						
	Sub Total for System	**8**	**items**		**$1,042,179**	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Pole Lighting Is Missing And Needed	Functional Deficiency	2	Ea.	3	$49,555	13070
Note: Adding 2 more poles would improve visibility sufficiently.						
	Sub Total for System	**1**	**items**		**$49,555**	
	Sub Total for School and Site Level	**9**	**items**		**$1,091,734**	

Building: 01 - Main Building

Roofing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Metal Roof Structural Roof Covering Requires Replacement	Capital Renewal	170	SF	2	$6,734	13087
Note: The boiler room roof is in poor condition.						
Awning Or Canopy Metal Roofing System Requires Replacement	Capital Renewal	900	SF	3	$53,477	13092
Note: The canopy is damaged and rusted.						
	Sub Total for System	**2**	**items**		**$60,211**	

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Aluminum Window Requires Replacement	Capital Renewal	256	SF	2	$45,126	13076
Note: The windows are in poor condition.						
The Metal Exterior Door Requires Replacement	Capital Renewal	8	Door	2	$53,477	13073
Note: The steel doors are deteriorated.						
The Metal Panel Exterior Requires Replacement (Bldg SF)	Capital Renewal	2,700	SF	2	$427,814	13107
Note: The metal panel walls are damaged and worn.						
The Steel Window Requires Replacement	Capital Renewal	386	SF	2	$86,008	13077
Note: The steel windows are deteriorated.						
The Wood Window Requires Replacement	Capital Renewal	990	SF	2	$196,898	13075
Note: The wood windows are deteriorated.						
The Exterior Requires Painting (Bldg SF)	Capital Renewal	170	SF	4	$2,357	13106
Note: The boiler room exterior walls are in need of repainting.						
The Exterior Soffit Requires Repainting	Capital Renewal	4,400	SF	5	$15,251	13072
Note: The exterior soffits are in need of repainting.						
	Sub Total for System	**7**	**items**		**$826,931**	

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Classroom Entry Doors Provide Insufficient Sound Isolation	Acoustics	35	Ea.	3	$303,456	19852
Note: All classrooms						
The Ceramic Tile Flooring Requires Replacement	Capital Renewal	1,200	SF	3	$33,567	13081
Note: The toilet room tile flooring is deteriorated.						
Adhered Acoustical Ceiling Tile Requires Replacement	Capital Renewal	2,000	SF	4	$22,591	13117
Note: The adhered tile ceilings are in poor condition.						
Interior Toilet Partition Requires Repair	Capital Renewal	23	Ea.	4	$12,527	13089
Note: The toilet partitions are in poor condition.						
Light Deterioration or Damage of 9x9 Asbestos Floor Tile is Present	Hazardous Material	2,700	SF	4	$80,215	Rollup
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	23	Ea.	4	$6,833	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	548	LF	4	$13,025	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	1,320	SF	4	$13,072	Rollup
Vinyl/Fabric Wall Covering Requires Replacement	Capital Renewal	1,200	SF	4	$8,913	13112
Note: The adhered tile wall finish is in poor condition.						
Classroom Door Requires Vision Panel	Educational Adequacy	3	Ea.	5	$6,845	Rollup
Interior Walls Require Repainting (Bldg SF)	Capital Renewal	36,418	SF	5	$250,652	Rollup
Room lacks appropriate sound control.	Educational Adequacy	100	SF	5	$3,480	Rollup
The Gypsum Board Ceilings Require Repainting	Capital Renewal	32,568	SF	5	$141,911	Rollup
	Sub Total for System	**13**	**items**		**$897,087**	

Mechanical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Electric Unit Heater Requires Replacement	Capital Renewal	2	Ea.	2	$2,632	13100
Package Roof Top Unit Requires Replacement	Capital Renewal	1	Ea.	2	$31,050	13096
Replace Unit Vent	Capital Renewal	25	Ea.	2	$440,490	13115
The Boiler HVAC Component Requires Replacement	Capital Renewal	2	Ea.	2	$64,469	13118
The Copper Tube Boiler Requires Replacement	Capital Renewal	1	Ea.	2	$88,831	13114
The Fin Tube Water Radiant Heater Requires Replacement	Capital Renewal	19	Ea.	2	$33,154	13101
The Mechanical / HVAC Piping / System Is Beyond Its Useful Life	Capital Renewal	42,218	SF	2	$338,984	13102
Note: Piping is deteriorating and requires replacement						
Air Compressor Is Inoperable And Requires Replacement	Capital Renewal	2	Ea.	3	$12,605	13097
Existing Controls Are Inadequate And Should Be Replaced With DDC Controls	Capital Renewal	42,218	SF	4	$297,052	13105
Note: Upgrade to DDC, system needs to be updated.						
Small HVAC Circulating Pump Requires Replacement	Capital Renewal	6	Ea.	4	$47,677	13116
The Exhaust Hood Requires Replacement	Capital Renewal	9	Ea.	4	$48,789	13113
	Sub Total for System	**11**	**items**		**$1,405,732**	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Distribution Panel Requires Replacement	Capital Renewal	1	Ea.	2	$30,343	13103
The Panelboard Requires Replacement	Capital Renewal	1	Ea.	2	$5,051	13098
The Panelboard Requires Replacement	Capital Renewal	6	Ea.	2	$36,245	13099
The Electrical Receptacles Are Inadequate And More are Needed	Functional Deficiency	20	Ea.	3	$11,884	13090
Note: Need to add more receptacles to classrooms.						
The Mounted Building Lighting Requires Replacement	Capital Renewal	22	Ea.	3	$34,205	13083
The Canopy Lighting Requires Replacement	Capital Renewal	2	Ea.	4	$2,872	13082
Room Has Insufficient Electrical Outlets	Educational Adequacy	104	Ea.	5	$51,612	Rollup
	Sub Total for System	**7**	**items**		**$172,211**	

Plumbing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Plumbing / Domestic Water Piping System Is Beyond Its Useful Life	Capital Renewal	42,218	SF	3	$353,835	13095
The Urinal Plumbing Fixtures Require Replacement	Capital Renewal	12	Ea.	3	$16,613	13094

Plumbing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Non-Refrigerated Drinking Fountain Requires Replacement	Capital Renewal	2	Ea.	4	$21,292	13086
The Classroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	19	Ea.	4	$53,813	13071
Note: Lavatories are aged and stained.						
The Custodial Mop Or Service Sink Requires Replacement	Capital Renewal	2	Ea.	4	$5,367	13091
Note: Mop sinks are corroding and stained						
The Restroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	13	Ea.	4	$43,076	13084
Above Ground Fuel/Oil Storage Tank Requires Replacement	Capital Renewal	1	Ea.	5	$495	13104
Room lacks a drinking fountain.	Educational Adequacy	6	Ea.	5	$6,617	Rollup
The Class Room Lavatories Plumbing Fixtures Are Missing And Should Be Installed	Educational Adequacy	7	Ea.	5	$8,113	Rollup
	Sub Total for System	**9**	**items**		**$509,222**	

Fire and Life Safety

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Fire Alarm Is Missing Or Inadequate (NFPA 72 and NFPA 101, Section 9.6)	Code Compliance	42,218	SF	1	$128,897	13093
Note: Need to update						
	Sub Total for System	**1**	**items**		**$128,897**	

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room lacks Interactive White Board	Educational Adequacy	3	Ea.	3	$17,113	Rollup
Technology: Campus network switching electronics are antiquated and/or do not meet standards.	Technology	96	Ea.	3	$47,535	22821
Technology: Classroom AV/Multimedia systems are in need of improvements.	Technology	32	Ea.	3	$316,899	22826
Technology: Instructional spaces do not have local sound reinforcement.	Technology	32	Ea.	3	$158,450	22831
Technology: Intermediate Telecommunications Room grounding system is inadequate or non-existent.	Technology	1	Ea.	3	$5,546	22819
Technology: Intermediate Telecommunications Room is not dedicated and/or inadequate.	Technology	1	Ea.	3	$47,139	22818
Technology: Intermediate Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	$4,952	22820
Technology: Main Telecommunications Room ground system is inadequate or non-existent.	Technology	1	Ea.	3	$6,932	22817
Technology: Main Telecommunications Room is not dedicated and/or inadequate.	Technology	1	Ea.	3	$52,288	22815
Technology: Main Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	$9,408	22816
Technology: Network cabling infrastructure is outdated (Cat 5 or less) and/or does not meet standards.	Technology	103	Ea.	3	$45,901	22824
Technology: Network cabling infrastructure is partially outdated and/or needs expansion.	Technology	32	Ea.	3	$14,260	22822
Technology: Network system inadequate and/or near end of useful life	Technology	6	Ea.	3	$47,535	22829
Technology: Network system inadequate and/or near end of useful life	Technology	22	Ea.	3	$108,934	22830
Technology: Number of current, up to date, network switch ports are insufficient to support campus technology.	Technology	48	Ea.	3	$23,767	22823
Technology: PA/Bell/Clock system is inadequate and/or near end of useful life.	Technology	43,218	SF	3	$77,039	22828
Technology: Special Space AV/Multimedia system is inadequate.	Technology	1	Ea.	3	$56,448	22825
Technology: Special Space AV/Multimedia systems are in need of minor improvements.	Technology	1	Room	3	$19,806	22827
Technology: Telephone handsets are inadequate and sparsely deployed throughout the campus.	Technology	32	Ea.	3	$50,704	22832
Technology: Telephone system is inadequate and/or non-existent.	Technology	1	Ea.	3	$7,526	22833

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
	Sub Total for System	**20**	**items**		**$1,118,181**	

Specialties

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Replace Cabinetry In Classes/Labs	Capital Renewal	24	Room	4	$279,695	13109
Note: The cabinets are in poor condition.						
The Metal Student Lockers Require Replacement	Capital Renewal	36	Ea.	4	$18,449	13108
Note: The lockers are in poor condition.						
	Sub Total for System	**2**	**items**		**$298,145**	
	Sub Total for Building 01 - Main Building	**72**	**items**		**$5,416,616**	
	Total for Campus	**81**	**items**		**$6,508,350**	

Holliman School - Life Cycle Summary Yrs 1-5

Site Level Life Cycle Items

Site

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Pedestrian Pavement	Sidewalks - Concrete	300	SF	$6,132	5
	Sub Total for System	**1**	**items**	**$6,132**	
	Sub Total for Building -	**1**	**items**	**$6,132**	

Building: 01 - Main Building

Interior

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Resilient Flooring	Vinyl Composition Tile Flooring	36,788	SF	$422,023	4
Acoustical Suspended Ceilings	Ceilings - Acoustical Tiles	7,650	SF	$69,092	5
Note:	Classroom additions				
	Sub Total for System	**2**	**items**	**$491,114**	

Electrical

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Wiring Devices	Electrical Disconnect	3	Ea.	$5,499	5
Note:	1-100A disconnect, 1-400A disconnect, 1-600A disconnect				
	Sub Total for System	**1**	**items**	**$5,499**	

Plumbing

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Domestic Water Equipment	Water Heater - Gas - 75 Gallons	1	Ea.	$5,845	5
	Sub Total for System	**1**	**items**	**$5,845**	
	Sub Total for Building 01 - Main Building	**4**	**items**	**$502,458**	
	Total for: Holliman School	**5**	**items**	**$508,590**	

Supporting Photos

Site Aerial

Playground

Fencing

Asphalt Parking and Roads

Courtyard

Paved Play Area

Asphalt Pedestrian Paving

Classroom Sinks

Exterior Painted Soffits

Utility Room Doors

Main Building Wood Windows

Courtyard Wood Windows

Steel Windows

Canopy Lights

Building Mounted Light

Restroom Sinks

Non-refrigerated Water Fountain

Toilet Partitions

Mop Sink

Entry Canopy

Urinals

Piping

Roof Top Unit in the Distance

Air Compressor

225A Panelboard

Unit Heater

Fin Tubed Radiator

Piping

600A Distribution Panel

Fuel Tank

Boiler Room

Metal Panel Exterior Walls

Hall Lockers In 1975 Addition

Classroom Cabinets

Exhaust Fan

Boiler

Unit Ventilator

1HP Pumps

Adhered Tile Ceiling

Boiler

1985 Addition Exterior

Main Building Classroom

Stage Floor

1985 Addition Classroom

Library

Multipurpose Interior

Main Building Typical Corridor

Multipupose Addition Exterior

Main Building Front Wing

1975 Addition Exterior

Signage

Rear Exterior

Classroom Wing Exterior

North Wing Exterior

CMU Connector Exterior

Exterior

Facility Condition Assessment

Warwick - John Wickes School | *June 2017*

50 Child Lane, Warwick, RI 02886

Introduction

John Wickes School, located at 50 Child Lane in Warwick, Rhode Island, was built in 1953. It comprises 43,522 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.

John Wickes School serves grades KG - 6, has 25 instructional spaces, and has an enrollment of 347. Instructional spaces are defined as rooms in which a student receives education. The LEA reported capacity for John Wickes School is 400 with a resulting utilization of 87%.

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 John Wickes School the 5-year need is $7,137,612. 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.

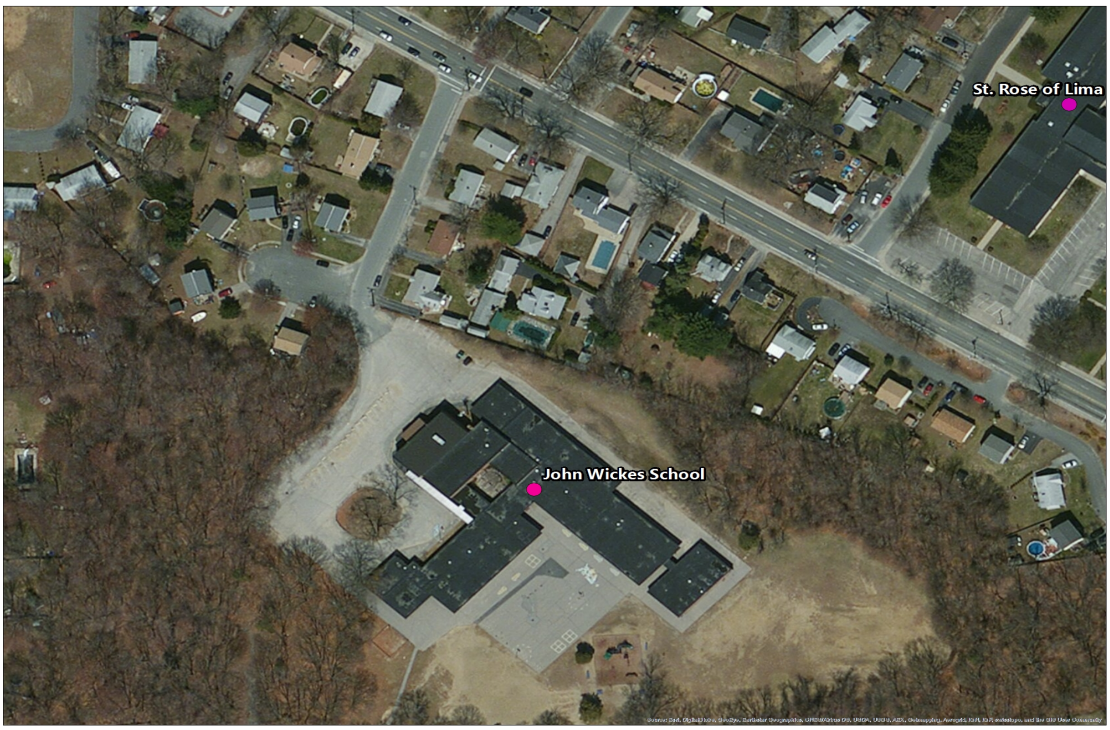


Figure 1: Aerial view of John Wickes School

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 John Wickes School campus, identified by discipline and building.

Site

The site level systems for this campus include:

Site	Asphalt Parking Lot Pavement
	Asphalt Roadway Pavement
	Asphalt Pedestrian Pavement

Building Envelope

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

01 - Main Building:	Brick Exterior Wall
	Pre-cast Concrete Panel Exterior Wall
	Painted Gypsum Soffit
	Wood Siding Exterior Wall
	Aluminum Exterior Windows
	Steel Exterior Windows
	Wood Exterior Windows
	Steel Exterior Entrance Doors

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

01 - Main Building:	Composition Shingle Roofing
	EPDM Roofing
	Canopy Roofing

Interior

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

01 - Main Building:	Steel Interior Doors
	Wood Interior Doors
	Interior Door Hardware
	Door Hardware
	Suspended Acoustical Grid System
	Suspended Acoustical Ceiling Tile
	Adhered Acoustical Ceiling Tiles
	Painted Ceilings
	Wood Wall Paneling
	CMU Wall
	Interior Wall Painting
	Concrete Flooring
	Ceramic Tile Flooring

01 - Main Building:	Wood Flooring
	Vinyl Composition Tile Flooring

Mechanical

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

01 - Main Building:	1,600 MBH Copper Tube Boiler
	750 MBH Copper Tube Boiler
	Finned Wall Radiator
	Steam/Hot Water Heating Unit Vent
	12 MBH Steam Unit Heater
	Pneumatic Heating System Controls
	Window Units
	Make-up Air Unit
	1 HP or Smaller Pump
	2-Pipe Hot Water Hydronic Distribution System
	Ductwork
	Roof Exhaust Fan

Plumbing

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

01 - Main Building:	Gas Piping System
	40 Gallon Electric Water Heater
	Domestic Water Piping System
	Classroom Lavatories
	Mop/Service Sinks
	Non-Refrigerated Drinking Fountain
	Restroom Lavatories
	Toilets
	Urinals
	Air Compressor (1/2 hp)

Electrical

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

01 - Main Building:	600 Amp Distribution Panel
	Panelboard - 120/208 225A
	Electrical Disconnect
	Light Fixtures
	Building Mounted Lighting Fixtures
	Canopy Mounted Lighting 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.

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

	Priority						
System	1	2	3	4	5	Total	% of Total
Site	-	-	$272,210	$865,674	$157,710	$1,295,594	22.93 %
Roofing	-	-	-	-	-	$0	0.00 %
Structural	-	-	-	-	-	$0	0.00 %
Exterior	-	$226,761	-	-	$16,845	$243,606	4.31 %
Interior	-	-	$574,601	$263,472	-	$838,073	14.83 %
Mechanical	-	$334,772	-	$306,227	-	$640,999	11.34 %
Electrical	-	-	$24,778	-	$47,641	$72,419	1.28 %
Plumbing	-	-	$15,229	$32,507	$16,935	$64,672	1.14 %
Fire and Life Safety	$726,704	-	-	-	-	$726,704	12.86 %
Technology	-	-	$1,090,172	-	-	$1,090,172	19.29 %
Conveyances	-	-	-	-	-	$0	0.00 %
Specialties	-	-	$366,910	$303,003	$8,556	$678,469	12.01 %
Total	$726,704	$561,533	$2,343,899	$1,770,884	$247,688	$5,650,708	

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

The building systems with the most need include:

Site	-	$1,295,594
Technology	-	$1,090,172
Interior	-	$838,073

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

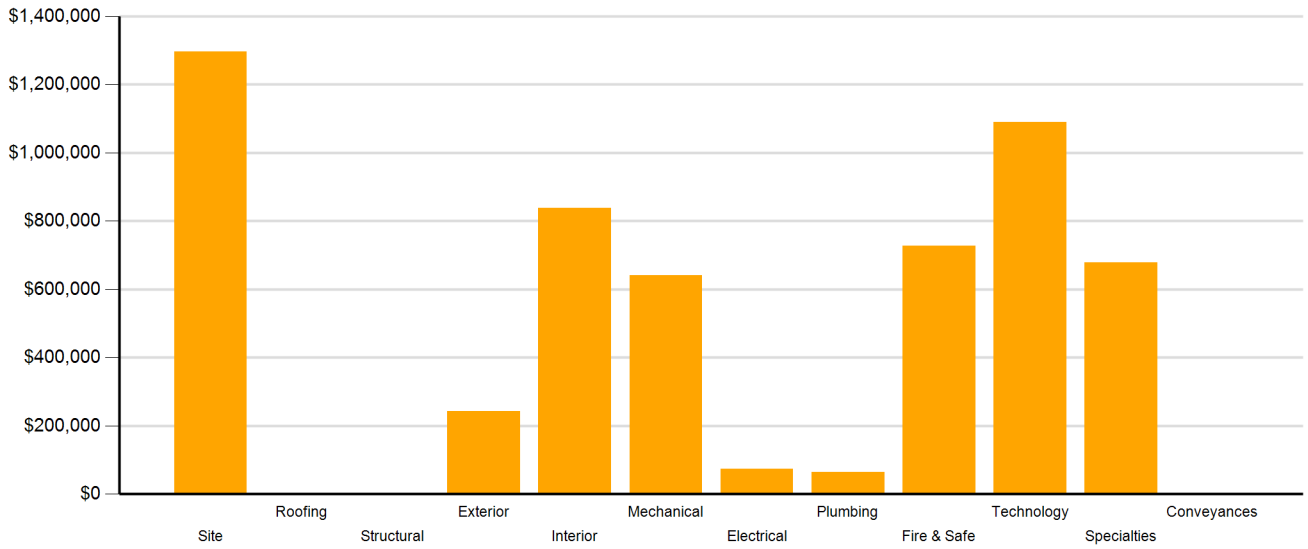


Figure 2: System Deficiencies

Current Deficiencies by Category

Deficiencies have been further grouped according to the observed category.

• **Acoustics** deficiencies relate to room acoustics, sound insolation, 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

	Priority					
Category	**1**	**2**	**3**	**4**	**5**	**Total**
Acoustics	-	-	-	$6,982	-	$6,982
Barrier to Accessibility	-	-	$118,837	-	-	$118,837
Capital Renewal	-	$561,533	$1,084,919	$1,513,127	$174,555	$3,334,134
Code Compliance	$726,704	-	-	-	-	$726,704
Educational Adequacy	-	-	-	$36,221	$73,133	$109,354
Functional Deficiency	-	-	$24,778	-	-	$24,778
Hazardous Material	-	-	-	$214,554	-	$214,554
Technology	-	-	$1,090,172	-	-	$1,090,172
Traffic	-	-	$25,193	-	-	$25,193
Total	$726,704	$561,533	$2,343,899	$1,770,884	$247,688	$5,650,708

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

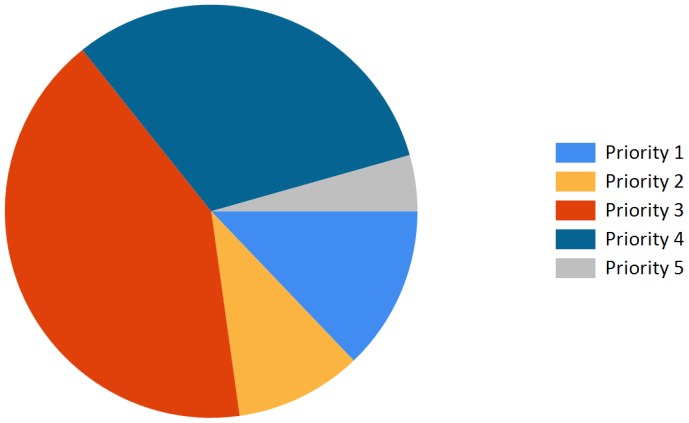


Figure 3: Current deficiencies by priority

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

		Life Cycle Capital Renewal Projections						
System	Current Deficiencies	Year 1 2017	Year 2 2018	Year 3 2019	Year 4 2020	Year 5 2021	LC Yr. 1-5 Total	Total 5-Year Need
Site	$1,295,594	$0	$0	$0	$0	$0	$0	$1,295,594
Roofing	$0	$0	$0	$0	$0	$0	$0	$0
Structural	$0	$0	$0	$0	$0	$0	$0	$0
Exterior	$243,606	$0	$0	$0	$0	$0	$0	$243,606
Interior	$838,073	$0	$273,808	$119,979	$0	$4,563	$398,350	$1,236,423
Mechanical	$640,999	$0	$0	$0	$462,238	$117,837	$580,075	$1,221,074
Electrical	$72,419	$0	$0	$0	$36,858	$0	$36,858	$109,277
Plumbing	$64,672	$0	$0	$41,353	$428,936	$0	$470,289	$534,961
Fire and Life Safety	$726,704	$0	$0	$0	$0	$0	$0	$726,704
Technology	$1,090,172	$0	$0	$0	$0	$0	$0	$1,090,172
Conveyances	$0	$0	$0	$0	$0	$0	$0	$0
Specialties	$678,469	$0	$0	$0	$0	$0	$0	$678,469
Total	**$5,650,708**	**$0**	**$273,808**	**$161,332**	**$928,032**	**$122,400**	**$1,485,572**	**$7,136,280**

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

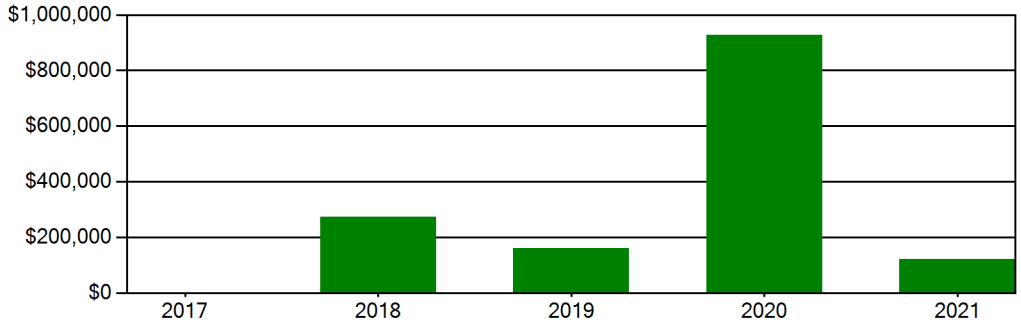
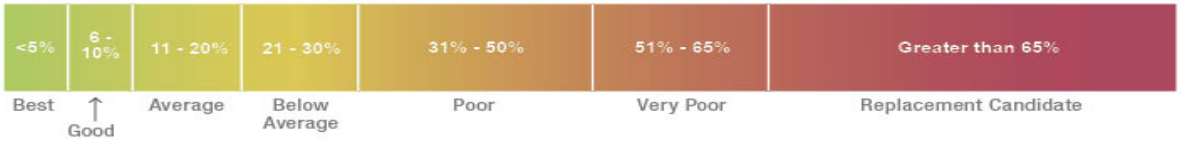


Figure 4: Life Cycle Capital Renewal Forecast

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 $15,232,700. For planning purposes, the total 5-year need at the John Wickes School is $7,137,612 (Life Cycle Years 1-5 plus the FCI deficiency cost). The John Wickes School facility has a 5-year FCI of 46.85%.

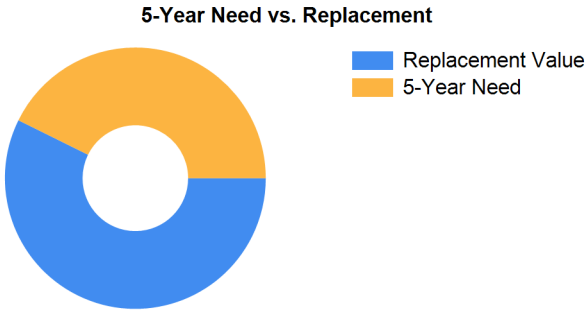


Figure 5: 5-Year FCI

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 242 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 John Wickes School cafeteria and/or library/media center to the size prescribed by the SCRs is estimated to be $0.

Summary of Findings

The John Wickes School comprises 43,522 square feet and was constructed in 1953. Current deficiencies at this school total $5,652,040. Five year capital renewal costs total $1,485,572. The total identified need for the John Wickes School (current deficiencies and 5-year capital renewal costs) is $7,137,612. The 5-year FCI is 46.85%.

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
John Wickes School Totals	43,522	1953	$5,652,040	$1,485,572	$7,137,612	46.85%

**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.

Site Level Deficiencies

Site

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Asphalt Walks Require Replacement	Capital Renewal	12,000	SF	3	$128,180	19437
Note: The asphalt walks are in poor condition.						
Pavement Markings: Words/Symbols Are Required	Traffic	53	Ea.	3	$25,193	22031
Note: Repaint pavement markings on school campus (3 arrows to control flow, and 50 parking spaces)						
The Playground Impact Surface Does Not Meet ADA Guidelines For Accessible Play Surfaces	Barrier to Accessibility	2,500	SQFT	3	$118,837	19438
Asphalt Paving Requires Replacement	Capital Renewal	63	CAR	4	$260,546	19434
Note: The asphalt paving is in poor condition.						
Asphalt Paving Requires Replacement	Capital Renewal	22	CAR	4	$90,984	19435
Note: The asphalt roadway is in poor condition.						
Asphalt Paving Requires Replacement	Capital Renewal	58	CAR	4	$239,868	19436
Note: The asphalt play areas are deteriorated.						
Backstops Require Replacement	Educational Adequacy	1	Ea.	4	$35,651	28606
Note: Backstops Require Replacement						
Fencing Requires Replacement (4' Chain Link Fence)	Capital Renewal	600	LF	4	$48,486	19433
Note: The fencing is in poor condition.						
Site Drainage Requires Regrading	Capital Renewal	10,000	SF	4	$190,139	19439
Note: The north yard retains water in heavy rain events.						
Play Field Requires Regrading	Capital Renewal	30,000	SF	5	$157,710	19432
Note: The playfield is in poor condition.						
	Sub Total for System	**10**	**items**		**$1,295,594**	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Pole Lighting Is Missing And Needed	Functional Deficiency	1	Ea.	3	$24,778	19647
Note: The front parking lot needs lighting.						
	Sub Total for System	**1**	**items**		**$24,778**	
	Sub Total for School and Site Level	**11**	**items**		**$1,320,372**	

Building: 01 - Main Building

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Steel Window Requires Replacement	Capital Renewal	820	SF	2	$182,712	19443
Note: The steel windows at the courtyard are corroded.						
The Wood Exterior Requires Replacement	Capital Renewal	160	SF Wall	2	$5,863	19451
Note: The courtyard wood siding is deteriorated.						
The Wood Window Requires Replacement	Capital Renewal	192	SF	2	$38,186	19442
Note: The wood windows are rotted.						
The Exterior Soffit Requires Repainting	Capital Renewal	4,860	SF	5	$16,845	19440
Note: The exterior soffit paint is chipped and worn.						
	Sub Total for System	**4**	**items**		**$243,606**	

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Interior Doors Require Replacement	Capital Renewal	27	Door	3	$129,681	19444
Note: The wood interior doors are in poor condition.						
The Ceramic Tile Flooring Requires Replacement	Capital Renewal	1,220	SF	3	$34,127	19447
Note: Ceramic tile floor is in poor condition.						
The Vinyl Composition Tile Requires Replacement	Capital Renewal	33,162	SF	3	$396,277	19445
Note: The VCT flooring is worn and separating at the seams.						
The Wood Flooring Requires Replacement	Capital Renewal	420	SF	3	$14,516	19446
Location: Stage area						
Acoustic ceiling tile - large area (>10%) of broken or falling broken tiles	Hazardous Material	10,440	SF	4	$127,288	Rollup

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Adhered Acoustical Ceiling Tile Requires Replacement	Capital Renewal	2,700	SF	4	$30,498	19457
Note: The adhered tile ceilings are in poor condition.						
Interior Toilet Partition Requires Repair	Capital Renewal	21	Ea.	4	$11,438	19450
Note: The toilet partitions are in poor condition.						
Light Deterioration or Damage of 9x9 Asbestos Floor Tile is Present	Hazardous Material	1,520	SF	4	$45,158	Rollup
Paint (probable pre-1978 in base (layers(s)) - large areas (> 10 sq. ft.) of peeling/damage & area in active use - children (measurement unit - each)	Hazardous Material	20	Ea.	4	$5,942	Rollup
Paint (probable pre-1978 in base layer(s)) - large areas (> 10 sq. ft.) of peeling/damage & area in active use - children (measurement unit - linear feet)	Hazardous Material	1,105	LF	4	$26,263	Rollup
Paint (probable pre-1978 in base layer(s)) - large areas (> 10 sq. ft.) of peeling/damage & area in active use - children (measurement unit - square feet)	Hazardous Material	1,000	SF	4	$9,903	Rollup
Room Is Excessively Reverberant	Acoustics	300	SF	4	$6,982	27821
Note: Music Space						
	Sub Total for System	**12**	**items**		**$838,073**	

Mechanical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Replace Unit Vent	Capital Renewal	19	Ea.	2	$334,772	19456
Note: Unit vents are aged with rusted casings.						
Existing Controls Are Inadequate And Should Be Replaced With DDC Controls	Capital Renewal	43,522	SF	4	$306,227	19454
Note: Controls need to be upgraded to DDC. The current system does not heat evenly throughout the school.						
	Sub Total for System	**2**	**items**		**$640,999**	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room Has Insufficient Electrical Outlets	Educational Adequacy	96	Ea.	5	$47,641	Rollup
	Sub Total for System	**1**	**items**		**$47,641**	

Plumbing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Urinal Plumbing Fixtures Require Replacement	Capital Renewal	11	Ea.	3	$15,229	19453
Note: Urinals are aged and corroded.						
Floor Drains Are Required	Educational Adequacy	1	Ea.	4	$570	Rollup
Non-Refrigerated Drinking Fountain Requires Replacement	Capital Renewal	3	Ea.	4	$31,937	19449
Note: Drinking fountains are aged and corroded.						
Room lacks a drinking fountain.	Educational Adequacy	8	Ea.	5	$8,822	Rollup
The Class Room Lavatories Plumbing Fixtures Are Missing And Should Be Installed	Educational Adequacy	7	Ea.	5	$8,113	Rollup
	Sub Total for System	**5**	**items**		**$64,672**	

Fire and Life Safety

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Fire Alarm Is Missing Or Inadequate (NFPA 72 and NFPA 101, Section 9.6)	Code Compliance	43,522	SF	1	$132,878	19452
Note: Fire alarm system is old and needs to be updated.						
Install Fire Sprinklers (NFPA 13)	Code Compliance	43,522	SF	1	$593,826	19441
Note: Install fire sprinklers throughout the school.						
	Sub Total for System	**2**	**items**		**$726,704**	

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Technology: Campus network switching electronics are antiquated and/or do not meet standards.	Technology	148	Ea.	3	$73,283	22802
Technology: Classroom AV/Multimedia systems are in need of improvements.	Technology	30	Ea.	3	$297,093	22807
Technology: Instructional spaces do not have local sound reinforcement.	Technology	30	Ea.	3	$148,546	22812
Technology: Main Telecommunications Room ground system is inadequate or non-existent.	Technology	1	Ea.	3	$6,932	22801
Technology: Main Telecommunications Room is not dedicated and/or inadequate.	Technology	1	Ea.	3	$52,288	22799

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Technology: Main Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	$9,408	22800
Technology: Network cabling infrastructure is outdated (Cat 5 or less) and/or does not meet standards.	Technology	168	Ea.	3	$74,867	22805
Technology: Network cabling infrastructure is partially outdated and/or needs expansion.	Technology	60	Ea.	3	$26,738	22803
Technology: Network system inadequate and/or near end of useful life	Technology	6	Ea.	3	$47,535	22810
Technology: Network system inadequate and/or near end of useful life	Technology	22	Ea.	3	$108,934	22811
Technology: Number of current, up to date, network switch ports are insufficient to support campus technology.	Technology	72	Ea.	3	$35,651	22804
Technology: PA/Bell/Clock system is inadequate and/or near end of useful life.	Technology	43,522	SF	3	$77,580	22809
Technology: Special Space AV/Multimedia system is inadequate.	Technology	1	Ea.	3	$56,448	22806
Technology: Special Space AV/Multimedia systems are in need of minor improvements.	Technology	1	Room	3	$19,806	22808
Technology: Telephone handsets are inadequate and sparsely deployed throughout the campus.	Technology	30	Ea.	3	$47,535	22813
Technology: Telephone system is inadequate and/or non-existent.	Technology	1	Ea.	3	$7,526	22814
	Sub Total for System	**16**	**items**		**$1,090,172**	

Specialties

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Auditorium Seating Requires Replacement	Capital Renewal	285	Ea.	3	$366,910	19458
Note: The fixed auditorium seats have wood chipped and breaking off.						
Replace Cabinetry In Classes/Labs	Capital Renewal	26	Room	4	$303,003	19455
Note: The cabinets are old and worn.						
Room lacks an appropriate refrigerator.	Educational Adequacy	1	Ea.	5	$8,556	Rollup
	Sub Total for System	**3**	**items**		**$678,469**	
	Sub Total for Building 01 - Main Building	**45**	**items**		**$4,330,336**	
	Total for Campus	**56**	**items**		**$5,650,708**	

John Wickes School - Life Cycle Summary Yrs 1-5

Building: 01 - Main Building

Interior

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Wall Painting and Coating	Painting/Staining (Bldg SF)	41,440	SF	$273,808	2
Suspended Plaster and	Painted ceilings	28,682	SF	$119,979	3
Wall Paneling	Wood Panel wall	500	SF	$4,563	5
	Sub Total for System	**3**	**items**	**$398,350**	

Mechanical

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Decentralized Heating Equipment	Heating Unit Vent - Steam/Hot water	6	Ea.	$101,489	4
Decentralized Heating Equipment	Unit Heater Steam/HW (12 MBH)	1	Ea.	$2,388	4
Facility Hydronic Distribution	Pump - 1HP or Less (Ea.)	3	Ea.	$22,885	4
Facility Hydronic Distribution	2-Pipe Water System (Hot)	43,522	SF	$335,476	4
Air Distribution	Make-up Air Unit	1	Ea.	$15,899	5
Decentralized Heating Equipment	Finned Wall Radiator - (Ea.)	36	Ea.	$60,305	5
Exhaust Air	Roof Exhaust Fan	8	Ea.	$41,633	5
	Sub Total for System	**7**	**items**	**$580,075**	

Electrical

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Lighting Fixtures	Building Mounted Fixtures (Ea.)	21	Ea.	$31,344	4
Lighting Fixtures	Canopy Mounted Fixtures (Ea.)	4	Ea.	$5,514	4
	Sub Total for System	**2**	**items**	**$36,859**	

Plumbing

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Plumbing Fixtures	Restroom Lavatories	13	Ea.	$41,353	3
Domestic Water Equipment	Water Heater - Electric - 40 gallon	1	Ea.	$3,540	4
Domestic Water Piping	Domestic Water Piping System (Bldg.SF)	43,522	SF	$350,173	4
Plumbing Fixtures	Mop/Service Sinks	2	Ea.	$5,153	4
Compressed-Air Systems	Air Compressor (1/2 hp)	1	Ea.	$4,814	4
Plumbing Fixtures	Classroom Lavatories	24	Ea.	$65,256	4
	Sub Total for System	**6**	**items**	**$470,290**	
	Sub Total for Building 01 - Main Building	**18**	**items**	**$1,485,574**	
	Total for: John Wickes School	**18**	**items**	**$1,485,574**	

Supporting Photos

Rotted Wood Windows

Main Entry

Cracked Play Area

Worn Asphalt

Site Aerial

Weathered Sidewalk

Site Signage

Worn Soffit Paint

Worn VCT

Corroded Windows

Weathered Wood Siding

Drinking Fountain

Unit Ventilator

Classroom Cabinetry

Multipurpose/Cafe

Damaged Auditorium Seating

Classroom Wing Exterior

Addition Exterior

Music Classroom

Courtyard

Gym

Science Classroom

Typical Classroom

Library

Hallway Finishes

Entry Canopy

Facility Condition Assessment

Warwick - Lippitt School | *June 2017*

30 Almy Street, Warwick, RI 02886

Introduction

Lippitt School, located at 30 Almy Street in Warwick, Rhode Island, was built in 1950. It comprises 45,562 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.

Lippitt School serves grades KG - 6, has 26 instructional spaces, and has an enrollment of 254. Instructional spaces are defined as rooms in which a student receives education. The LEA reported capacity for Lippitt School is 400 with a resulting utilization of 64%.

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 Lippitt School the 5-year need is $7,926,528. 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 Lippitt 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 Lippitt School campus, identified by discipline and building.

Site

The site level systems for this campus include:

Site	Asphalt Parking Lot Pavement
	Asphalt Roadway Pavement
	Asphalt Pedestrian Pavement
	Concrete Pedestrian Pavement

Building Envelope

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

01 - Main Building:	Brick Exterior Wall
	CMU Exterior Wall
	Metal Panel Exterior Wall
	Painted Gypsum Soffit
	Aluminum Exterior Windows
	Steel Exterior Windows
	Steel Exterior Entrance Doors

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

01 - Main Building:	Built-Up Roofing With Ballast
	EPDM Roofing
	Canopy Roofing

Interior

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

01 - Main Building:	Steel Interior Doors
	Wood Interior Doors
	Interior Door Hardware
	Door Hardware
	Suspended Acoustical Grid System
	Suspended Acoustical Ceiling Tile
	Adhered Acoustical Ceiling Tiles
	Painted Ceilings
	Wood Wall Paneling
	CMU Wall
	Interior Wall Painting
	Concrete Flooring
	Quarry Tile Flooring

01 - Main Building:	Ceramic Tile Flooring
	Wood Flooring
	Vinyl Composition Tile Flooring
	Carpet

Mechanical

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

01 - Main Building:	2,400 MBH Copper Tube Boiler
	750 MBH Copper Tube Boiler
	Finned Wall Radiator
	Steam/Hot Water Heating Unit Vent
	DDC Heating System Controls
	Pneumatic Heating System Controls
	3 Ton Fan Coil - DX Cool w/Electric Heat
	8 Ton Outside Air Cooled Condenser
	Window Units
	2-Pipe Hot Water Hydronic Distribution System
	1 HP or Smaller Pump
	5 HP Pump
	20 Ton DX Gas Roof Top Unit
	Roof Exhaust Fan

Plumbing

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

01 - Main Building:	Gas Piping System
	75 Gallon Gas Water Heater
	Domestic Water Piping System
	Classroom Lavatories
	Mop/Service Sinks
	Non-Refrigerated Drinking Fountain
	Restroom Lavatories
	Toilets
	Urinals
	Air Compressor (1/2 hp)

Electrical

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

01 - Main Building:	400 Amp Distribution Panel
	Panelboard - 120/208 100A
	Panelboard - 120/208 225A
	Light Fixtures

01 - Main Building:	Building Mounted Lighting Fixtures
	Canopy Mounted Lighting 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.

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

	Priority						
System	1	2	3	4	5	Total	% of Total
Site	-	-	$178,911	$768,470	$7,308	$954,689	14.93 %
Roofing	-	$550,052	$33,274	-	-	$583,326	9.12 %
Structural	-	-	-	-	-	$0	0.00 %
Exterior	-	$216,581	$50,094	-	$7,417	$274,092	4.29 %
Interior	-	-	$1,247,752	$665,774	$6,959	$1,920,485	30.04 %
Mechanical	-	$191,437	$145,405	$199,712	-	$536,554	8.39 %
Electrical	-	$287,054	$21,767	$7,180	$47,641	$363,642	5.69 %
Plumbing	-	-	$15,229	$137,597	$12,694	$165,520	2.59 %
Fire and Life Safety	-	-	-	-	-	$0	0.00 %
Technology	-	-	$1,253,090	-	-	$1,253,090	19.60 %
Conveyances	-	-	-	-	-	$0	0.00 %
Specialties	-	-	$18,253	$314,657	$8,556	$341,467	5.34 %
Total	$0	$1,245,123	$2,963,776	$2,093,389	$90,577	$6,392,864	

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

The building systems with the most need include:

Interior	-	$1,920,485
Technology	-	$1,253,090
Site	-	$954,689

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

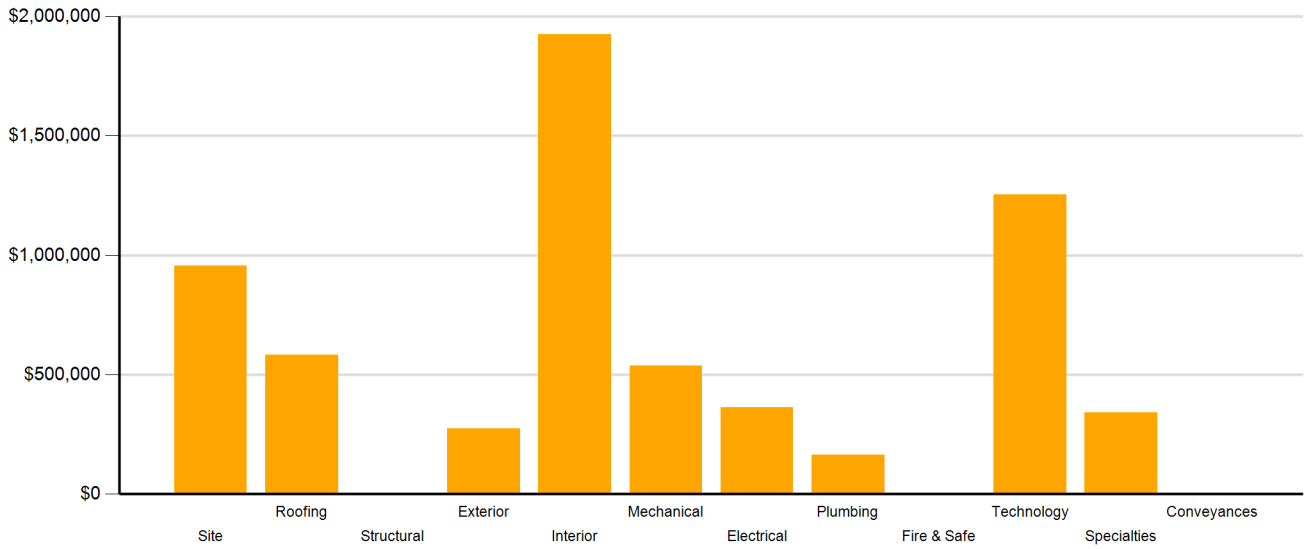


Figure 2: System Deficiencies

Current Deficiencies by Category

Deficiencies have been further grouped according to the observed category.

• **Acoustics** deficiencies relate to room acoustics, sound insolation, 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

	Priority					
Category	**1**	**2**	**3**	**4**	**5**	**Total**
Acoustics	-	-	$485,502	$72,330	-	$557,832
Barrier to Accessibility	-	-	$118,837	-	-	$118,837
Capital Renewal	-	$1,245,123	$1,072,882	$1,534,674	$7,417	$3,860,097
Code Compliance	-	-	-	-	-	$0
Educational Adequacy	-	-	$41,070	$169,332	$83,159	$293,561
Functional Deficiency	-	-	-	-	-	$0
Hazardous Material	-	-	-	$317,052	-	$317,052
Technology	-	-	$1,230,273	-	-	$1,230,273
Traffic	-	-	$15,211	-	-	$15,211
Total	$0	$1,245,123	$2,963,776	$2,093,389	$90,577	$6,392,864

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

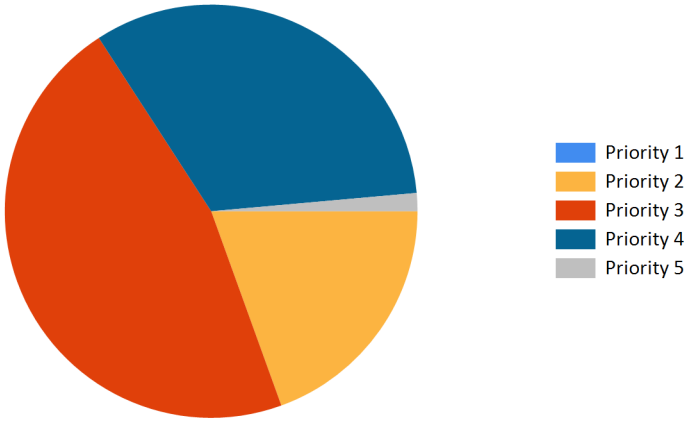


Figure 3: Current deficiencies by priority

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

		Life Cycle Capital Renewal Projections						
System	Current Deficiencies	Year 1 2017	Year 2 2018	Year 3 2019	Year 4 2020	Year 5 2021	LC Yr. 1-5 Total	Total 5-Year Need
Site	$954,689	$0	$0	$0	$0	$73,583	$73,583	$1,028,272
Roofing	$583,326	$0	$0	$0	$0	$0	$0	$583,326
Structural	$0	$0	$0	$0	$0	$0	$0	$0
Exterior	$274,092	$0	$0	$0	$0	$0	$0	$274,092
Interior	$1,920,485	$0	$0	$57,726	$191,032	$7,301	$256,059	$2,176,544
Mechanical	$536,554	$0	$0	$130,398	$902,541	$13,355	$1,046,294	$1,582,848
Electrical	$363,642	$0	$0	$0	$0	$0	$0	$363,642
Plumbing	$165,520	$0	$0	$4,814	$0	$12,066	$16,880	$182,400
Fire and Life Safety	$0	$0	$0	$133,542	$0	$0	$133,542	$133,542
Technology	$1,253,090	$0	$0	$0	$0	$0	$0	$1,253,090
Conveyances	$0	$0	$0	$0	$0	$0	$0	$0
Specialties	$341,467	$0	$0	$0	$0	$0	$0	$341,467
Total	**$6,392,864**	**$0**	**$0**	**$326,480**	**$1,093,573**	**$106,305**	**$1,526,358**	**$7,919,222**

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

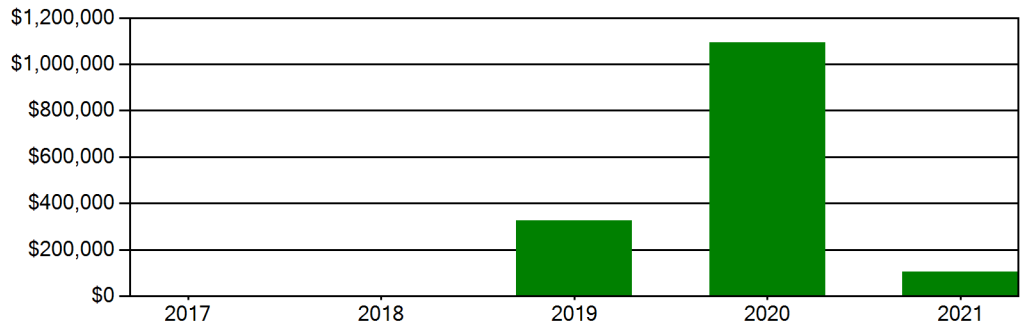
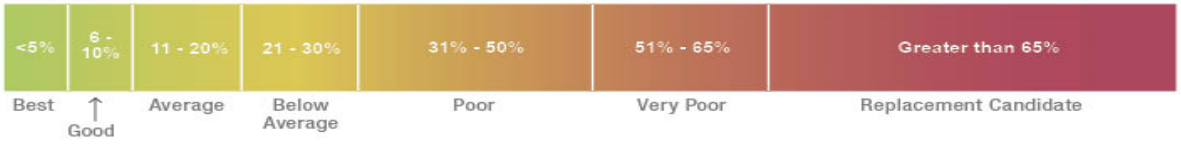


Figure 4: Life Cycle Capital Renewal Forecast

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 $15,946,700. For planning purposes, the total 5-year need at the Lippitt School is $7,926,528 (Life Cycle Years 1-5 plus the FCI deficiency cost). The Lippitt School facility has a 5-year FCI of 49.66%.

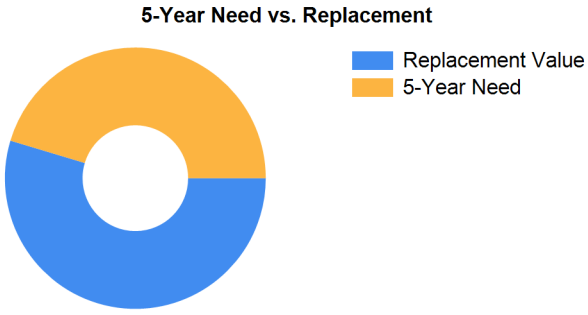


Figure 5: 5-Year FCI

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 253 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 Lippitt School cafeteria and/or library/media center to the size prescribed by the SCRs is estimated to be $752,598.

Summary of Findings

The Lippitt School comprises 45,562 square feet and was constructed in 1950. Current deficiencies at this school total $6,400,170. Five year capital renewal costs total $1,526,358. The total identified need for the Lippitt School (current deficiencies and 5-year capital renewal costs) is $7,926,528. The 5-year FCI is 49.66%.

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
Lippitt School Totals	45,562	1950	$6,400,170	$1,526,358	$7,926,528	49.66%

**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	Capital Renewal	4,200	SF	3	$44,863	17928
Note: The asphalt walks are deteriorated.						
Crosswalk: Needs to be added	Traffic	1	Ea.	3	$951	22029
Note: Add crosswalk on Almy St where crosswalk sign is						
The Playground Impact Surface Does Not Meet ADA Guidelines For Accessible Play Surfaces	Barrier to Accessibility	2,500	SQFT	3	$118,837	17929
Traffic Signage Is Required	Traffic	2	Ea.	3	$5,704	22028
Note: Add school zone signs						
Traffic Signage Is Required	Traffic	3	Ea.	3	$8,556	22030
Note: Update signage on Almy Street to improve visibility						
Asphalt Paving Requires Replacement	Capital Renewal	60	CAR	4	$248,139	17925
Note: The parking paving is deteriorated.						
Asphalt Paving Requires Replacement	Capital Renewal	18	CAR	4	$74,442	17926
Note: The roadway paving is deteriorated.						
Asphalt Paving Requires Replacement	Capital Renewal	100	CAR	4	$413,565	17927
Note: The paved play areas are deteriorated.						
Fencing Requires Replacement (4' Chain Link Fence)	Capital Renewal	400	LF	4	$32,324	17924
Note: The fencing is rusted and damaged.						
Exterior Basketball Goals are Required	Educational Adequacy	1	Ea.	5	$7,308	28818
Note: Exterior Basketball Goals are Required						
	Sub Total for System	**10**	**items**		**$954,689**	
	Sub Total for School and Site Level	**10**	**items**		**$954,689**	

Building: 01 - Main Building

Roofing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
EPDM Roofing Requires Replacement (Bldg SF)	Capital Renewal	41,762	SF	2	$550,052	17956
Note: The roofing is reported to be in poor condition.						
Awning Or Canopy Metal Roofing System Requires Replacement	Capital Renewal	560	SF	3	$33,274	17949
Note: The canopies are in poor condition.						
	Sub Total for System	**2**	**items**		**$583,326**	

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Metal Exterior Door Requires Replacement	Capital Renewal	30	Door	2	$200,538	17933
Note: The steel doors are in poor condition.						
The Steel Window Requires Replacement	Capital Renewal	72	SF	2	$16,043	17934
Note: The original steel windows are deteriorated.						
Handrail Requires Replacement	Capital Renewal	12	LF	3	$2,163	17962
Note: The stage exit stair handrail requires replacement.						
The Brick Exterior Requires Repointing	Capital Renewal	1,100	SF Wall	3	$47,931	17950
Note: The bottom portion of the west and east brick walls is damaged.						
The Exterior Soffit Requires Repainting	Capital Renewal	2,140	SF	5	$7,417	17932
	Sub Total for System	**5**	**items**		**$274,092**	

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Classroom Entry Doors Provide Insufficient Sound Isolation	Acoustics	24	Ea.	3	$208,084	27823
Note: Older Classroom Doors						
Classroom Entry Doors Provide Insufficient Sound Isolation	Acoustics	11	Ea.	3	$95,372	27952
Location: Classrooms						
Classroom Interior Doors Provide Insufficient Sound Isolation	Acoustics	4	Ea.	3	$36,641	27824
Note: All Classrooms						

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Interior Doors Require Replacement	Capital Renewal	75	Door	3	$360,225	17936
Note: The interior wood doors are worn and damaged.						
The Carpet Flooring Requires Replacement	Capital Renewal	90	SF	3	$2,040	17937
Note: The carpet is worn.						
The Ceramic Tile Flooring Requires Replacement	Capital Renewal	1,100	SF	3	$30,770	17940
Note: The ceramic tile flooring is in poor condition.						
The Vinyl Composition Tile Requires Replacement	Capital Renewal	41,547	SF	3	$496,476	17938
Note: The vinyl flooring is worn and splitting in many areas.						
The Wood Flooring Requires Replacement	Capital Renewal	525	SF	3	$18,145	17939
Note: The wood flooring is worn.						
Acoustic ceiling tile - large area (>10%) of broken or falling broken tiles	Hazardous Material	20,762	SF	4	$253,138	Rollup
Ceiling Grid Requires Replacement	Capital Renewal	4,000	SF	4	$49,419	17958
Note: The acoustical ceilings are in poor condition.						
Demountable Partition	Capital Renewal	400	SF	4	$10,458	17930
Note: The moveable partitions are in poor condition.						
Interior Toilet Partition Requires Repair	Capital Renewal	18	Ea.	4	$9,804	17947
Note: The toilet partitions are in poor condition and require replacement.						
Paint (probable pre-1978 in base (layers(s)) - large areas (> 10 sq. ft.) of peeling/damage & area in active use - children (measurement unit - each)	Hazardous Material	100	Ea.	4	$29,709	Rollup
Paint (probable pre-1978 in base layer(s)) - large areas (> 10 sq. ft.) of peeling/damage & area in active use - children (measurement unit - linear feet)	Hazardous Material	835	LF	4	$19,846	Rollup
Paint (probable pre-1978 in base layer(s)) - large areas (> 10 sq. ft.) of peeling/damage & area in active use - children (measurement unit - square feet)	Hazardous Material	1,450	SF	4	$14,359	Rollup
Room Is Excessively Reverberant	Acoustics	300	SF	4	$6,982	27825
Note: Music Space						
Room Is Excessively Reverberant	Acoustics	2,808	SF	4	$65,349	27953
Location: Gym						
Room Lighting Is Inadequate Or In Poor Condition.	Educational Adequacy	4,429	SF	4	$168,762	Rollup
The Stone/Quarry Flooring Requires Replacement	Capital Renewal	800	SF	4	$37,949	17941
Note: The quarry tile flooring is deteriorated.						
Room lacks appropriate sound control.	Educational Adequacy	200	SF	5	$6,959	Rollup
	Sub Total for System	**20**	**items**		**$1,920,485**	

Mechanical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Boiler HVAC Component Requires Replacement	Capital Renewal	1	Ea.	2	$48,872	17961
Note: Boiler is old and in poor conditition, needs to be replaced.						
The Copper Tube Boiler Requires Replacement	Capital Renewal	1	Ea.	2	$142,565	17959
Note: Boiler is old and in poor conditition, needs to be replaced. Past life expectancy.						
Unit Ventilators Are Excessively Noisy	Acoustics	22	Ea.	3	$145,405	27951
Location: Classrooms						
Existing Controls Are Inadequate And Should Be Replaced With DDC Controls	Capital Renewal	25,562	SF	4	$179,858	17955
Note: Need to upgrade the rest of the school to DDC. Pnuematic controls are not optimal.						
Small HVAC Circulating Pump Requires Replacement	Capital Renewal	2	Ea.	4	$19,854	17952
Note: 2 pumps are old and in bad condition. Past life expectancy.						
	Sub Total for System	**5**	**items**		**$536,554**	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Lighting Fixtures Require Replacement	Capital Renewal	45,562	SF	2	$282,003	17954
Note: Interior lights need to be replaced and upgraded. One of the few schools in Warwick that haven't been replaced.						
The Panelboard Requires Replacement	Capital Renewal	1	Ea.	2	$5,051	17953
Note: 1 of the 7 Panels is old and needs to be replaced. Original and in bad condition.						
The Mounted Building Lighting Requires Replacement	Capital Renewal	14	Ea.	3	$21,767	17943
Note: Lights are in poor condition, some lights do not illuminate clearly. Past life expectancy.						

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Canopy Lighting Requires Replacement	Capital Renewal	5	Ea.	4	$7,180	17942
Note: Some lights are broken, in bad conditon, and cannot illuminate well.						
Room Has Insufficient Electrical Outlets	Educational Adequacy	96	Ea.	5	$47,641	Rollup
	Sub Total for System	**5**	**items**		**$363,642**	

Plumbing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Urinal Plumbing Fixtures Require Replacement	Capital Renewal	11	Ea.	3	$15,229	17951
Note: Old, low flow, and past life expectancy. Need to be replaced.						
Floor Drains Are Required	Educational Adequacy	1	Ea.	4	$570	Rollup
Non-Refrigerated Drinking Fountain Requires Replacement	Capital Renewal	3	Ea.	4	$31,937	17946
Note: Fountains need to be replaced. In bad condition and past life expectancy.						
The Classroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	20	Ea.	4	$56,646	17931
Note: Sinks are past life expectancy and need to be replaced. Some are rusting, cracking, or corroding.						
The Custodial Mop Or Service Sink Requires Replacement	Capital Renewal	2	Ea.	4	$5,367	17948
Note: Old and in bad condition. Past life expectancy.						
The Restroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	13	Ea.	4	$43,076	17944
Note: 2 Restroom sinks have been remodeled for ADA compliant restrooms. The other 13 are original and need to be replaced.						
Room lacks a drinking fountain.	Educational Adequacy	6	Ea.	5	$6,617	Rollup
The Class Room Lavatories Plumbing Fixtures Are Missing And Should Be Installed	Educational Adequacy	5	Ea.	5	$6,077	Rollup
	Sub Total for System	**8**	**items**		**$165,520**	

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	196	Ea.	3	$97,050	23185
Technology: Classroom AV/Multimedia systems are inadequate and/or near end of useful life.	Technology	23	Ea.	3	$478,319	23190
Technology: Instructional spaces do not have local sound reinforcement.	Technology	23	Ea.	3	$113,886	23192
Technology: Intermediate Telecommunications Room grounding system is inadequate or non-existent.	Technology	1	Ea.	3	$5,546	23182
Technology: Intermediate Telecommunications Room is not dedicated and/or inadequate.	Technology	1	Ea.	3	$47,139	23181
Technology: Intermediate Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	$4,952	23180
Technology: Intermediate Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	$4,952	23183
Technology: Main Telecommunications Room ground system is inadequate or non-existent.	Technology	1	Ea.	3	$6,932	23178
Technology: Main Telecommunications Room is not dedicated. Room requires partial walls and/or major improvements.	Technology	1	Ea.	3	$44,366	23177
Technology: Network cabling infrastructure is outdated (Cat 5 or less) and/or does not meet standards.	Technology	122	Ea.	3	$54,368	23184
Technology: Network system inadequate and/or near end of useful life	Technology	5	Ea.	3	$39,612	23193
Technology: Network system inadequate and/or near end of useful life	Technology	25	Ea.	3	$123,789	23194
Technology: PA/Bell/Clock system is inadequate and/or near end of useful life.	Technology	45,562	SF	3	$81,217	23189
Technology: Special Space AV/Multimedia system is inadequate.	Technology	1	Ea.	3	$56,448	23186
Technology: Special Space AV/Multimedia systems are in need of minor improvements.	Technology	1	Room	3	$19,806	23191

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Technology: Telecommunications Room (large size room) needs dedicated cooling system improvements.	Technology	1	Ea.	3	$7,922	23179
Technology: Telephone handsets are inadequate and sparsely deployed throughout the campus.	Technology	23	Ea.	3	$36,443	23188
Technology: Telephone system is inadequate and/or non-existent.	Technology	1	Ea.	3	$7,526	23187
	Sub Total for System	**19**	**items**		**$1,253,090**	

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	27	Room	4	$314,657	17957
Note: The classroom cabinets are in poor condition.						
Room lacks an appropriate refrigerator.	Educational Adequacy	1	Ea.	5	$8,556	Rollup
	Sub Total for System	**3**	**items**		**$341,467**	
	Sub Total for Building 01 - Main Building	**67**	**items**		**$5,438,175**	
	Total for Campus	**77**	**items**		**$6,392,864**	

Lippitt School - Life Cycle Summary Yrs 1-5

Site Level Life Cycle Items

Site

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Pedestrian Pavement	Sidewalks - Concrete		3,600	SF	$73,583	5
		Sub Total for System	**1**	**items**	**$73,583**	
		Sub Total for Building -	**1**	**items**	**$73,583**	

Building: 01 - Main Building

Interior

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Suspended Plaster and	Painted ceilings		13,800	SF	$57,726	3
Wall Painting and Coating	Painting/Staining (Bldg SF)		28,912	SF	$191,032	4
Wall Paneling	Wood Panel wall		800	SF	$7,301	5
		Sub Total for System	**3**	**items**	**$256,059**	

Mechanical

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Decentralized Cooling	Condenser - Outside Air Cooled (8 Tons)		9	Ea.	$130,398	3
Exhaust Air	Roof Exhaust Fan		8	Ea.	$41,633	4
Facility Hydronic Distribution	2-Pipe Water System (Hot)		45,562	SF	$351,201	4
Facility Hydronic Distribution	Pump - 1HP or Less (Ea.)		2	Ea.	$15,257	4
Decentralized Heating Equipment	Finned Wall Radiator - (Ea.)		174	Ea.	$291,472	4
Decentralized Heating Equipment	Heating Unit Vent - Steam/Hot water		12	Ea.	$202,978	4
Decentralized Cooling	Window Units		4	Ea.	$13,355	5
		Sub Total for System	**7**	**items**	**$1,046,293**	

Plumbing

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Compressed-Air Systems	Air Compressor (1/2 hp)		1	Ea.	$4,814	3
Plumbing Fixtures	Restroom Lavatories		2	Ea.	$6,362	5
Plumbing Fixtures	Toilets		2	Ea.	$5,704	5
		Sub Total for System	**3**	**items**	**$16,881**	

Fire and Life Safety

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Fire Detection and Alarm	Fire Alarm		45,562	SF	$133,542	3
		Sub Total for System	**1**	**items**	**$133,542**	
		Sub Total for Building 01 - Main Building	**14**	**items**	**$1,452,775**	
		Total for: Lippitt School	**15**	**items**	**$1,526,358**	

Supporting Photos

Mop Sink

Deteriorated Exterior Doors

Painted Soffit

Vinyl Composition Tile Flooring

Interior Wood Door

Ceramic Tile Flooring

Wood Stage Floor

Canopy Lights

Quarry Tile Flooring

Restroom Sink

Mounted Building Lights

Toilet Partitions

Non Refrigerated Drinking Fountain

Damaged Fencing

Site Aerial

Paved Play Area

Asphalt Pedestrian Paving

Paved Play Area

Asphalt Parking

Asphalt Roadway

Marquee

Asphalt Basketball Court

Playground

Deteriorated Canopy

Demountable Partition

Urinals

Main Entry Canopy

100 Amp Electric Panel In Auditorium

Pumps

Classroom Cabinet

Classroom Cabinet

Stained And Chipped Classroom Sinks

Stained Accoustic Ceiling Tiles

Boiler

Boiler

Exterior Stair From Stage Area

Rear Elevation

Gymnasium

Cafeteria

Typical Classroom

Front Elevation

Typical Corridor

Library

Science Classroom

Classroom Wing Elevation

Gym Addition Elevation

Facility Condition Assessment

Warwick - Norwood School | *June 2017*

266 Norwood Avenue, Warwick, RI 02888

Introduction

Norwood School, located at 266 Norwood Avenue in Warwick, Rhode Island, was built in 1968. It comprises 34,492 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.

Norwood School serves grades KG - 6, has 19 instructional spaces, and has an enrollment of 260. Instructional spaces are defined as rooms in which a student receives education. The LEA reported capacity for Norwood School is 325 with a resulting utilization of 80%.

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 Norwood School the 5-year need is $8,392,752. 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.

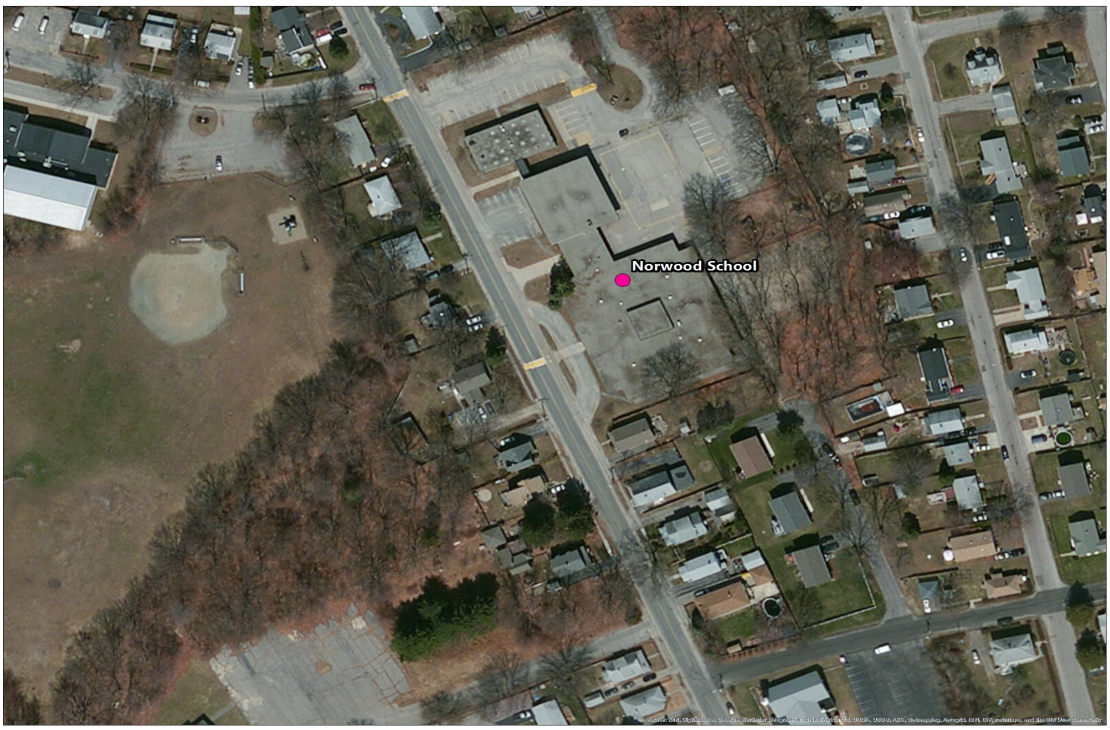


Figure 1: Aerial view of Norwood School

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 Norwood School campus, identified by discipline and building.

Site

The site level systems for this campus include:

Site	Asphalt Parking Lot Pavement
	Asphalt Roadway Pavement
	Asphalt Pedestrian Pavement

Building Envelope

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

01 - Main Building:	Brick Exterior Wall
	Metal Panel Exterior Wall
	Painted Gypsum Soffit
	Aluminum Exterior Windows
	Steel Exterior Entrance Doors

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

01 - Main Building:	Built-Up Roofing With Ballast

Interior

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

01 - Main Building:	Foldable Interior Partition
	Steel Interior Doors
	Wood Interior Doors
	Interior Door Hardware
	Door Hardware
	Suspended Acoustical Grid System
	Suspended Acoustical Ceiling Tile
	Painted Ceilings
	Metal Panel Ceilings
	Wood Ceilings
	CMU Wall
	Interior Wall Painting
	Ceramic Tile Flooring
	Vinyl Composition Tile Flooring

Mechanical

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

01 - Main Building:	200 MBH Copper Tube Boiler

01 - Main Building:	Finned Wall Radiator
	Steam/Hot Water Heating Unit Vent
	20 MBH Gas Unit Heater
	Pneumatic Heating System Controls
	1 Ton Ductless Split System
	Window Units
	2-Pipe Hot Water Hydronic Distribution System
	1 HP or Smaller Pump
	5 HP Pump
	Ductwork
	5,000 CFM Interior AHU
	Wall Exhaust Fan
	Large Roof Exhaust Fan
	Small Roof Exhaust Fan

Plumbing

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

01 - Main Building:	Gas Piping System
	50 Gallon Gas Water Heater
	Domestic Water Piping System
	Classroom Lavatories
	Lavatories
	Mop/Service Sinks
	Non-Refrigerated Drinking Fountain
	Restroom Lavatories
	Toilets
	Urinals
	Air Compressor (5 hp)

Electrical

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

01 - Main Building:	1,500 KVA Transformer
	Panelboard - 120/208 225A
	Panelboard - 120/240 100A
	Panelboard - 120/240 400A
	Electrical Disconnect
	Light Fixtures
	Building Mounted Lighting Fixtures
	Canopy Mounted Lighting 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.

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

	Priority						
System	1	2	3	4	5	Total	% of Total
Site	-	-	$90,669	$397,306	-	$487,975	6.37 %
Roofing	-	$1,899,413	-	-	-	$1,899,413	24.80 %
Structural	-	-	-	-	-	$0	0.00 %
Exterior	-	$384,769	-	$1,110,127	-	$1,494,896	19.52 %
Interior	-	-	$1,052,646	$341,580	-	$1,394,226	18.20 %
Mechanical	-	$504,235	-	$245,480	-	$749,715	9.79 %
Electrical	-	$56,109	$47,323	$7,180	$37,462	$148,074	1.93 %
Plumbing	-	-	-	$156,571	$15,148	$171,719	2.24 %
Fire and Life Safety	$105,308	-	-	-	-	$105,308	1.37 %
Technology	-	-	$929,751	-	-	$929,751	12.14 %
Conveyances	-	-	-	-	-	$0	0.00 %
Specialties	-	-	$13,598	$256,387	$8,499	$278,484	3.64 %
Total	$105,308	$2,844,526	$2,133,987	$2,514,631	$61,109	$7,659,561	

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

The building systems with the most need include:

Roofing	-	$1,899,413
Exterior	-	$1,494,896
Interior	-	$1,394,226

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

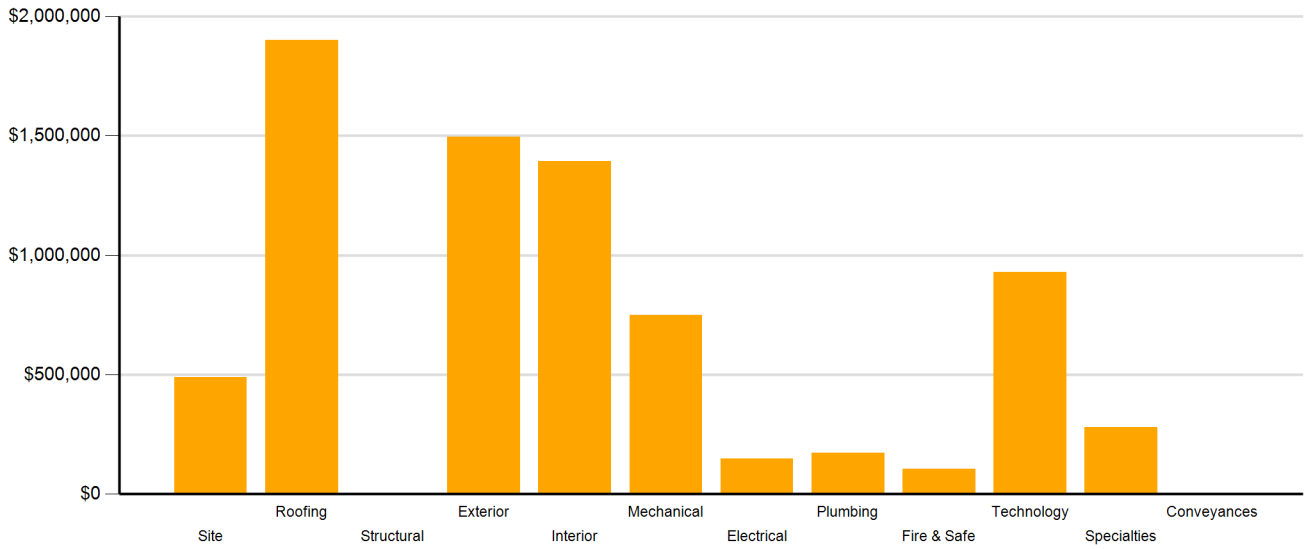


Figure 2: System Deficiencies

Current Deficiencies by Category

Deficiencies have been further grouped according to the observed category.

• **Acoustics** deficiencies relate to room acoustics, sound insolation, 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

	Priority					
Category	**1**	**2**	**3**	**4**	**5**	**Total**
Acoustics	-	-	$146,566	-	-	$146,566
Barrier to Accessibility	-	-	-	-	-	$0
Capital Renewal	$105,308	$2,844,526	$956,608	$2,409,800	-	$6,316,242
Code Compliance	-	-	-	-	-	$0
Educational Adequacy	-	-	$30,595	$36,221	$61,109	$127,925
Functional Deficiency	-	-	-	$12,547	-	$12,547
Hazardous Material	-	-	-	$56,063	-	$56,063
Technology	-	-	$912,754	-	-	$912,754
Traffic	-	-	$87,464	-	-	$87,464
Total	$105,308	$2,844,526	$2,133,987	$2,514,631	$61,109	$7,659,561

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

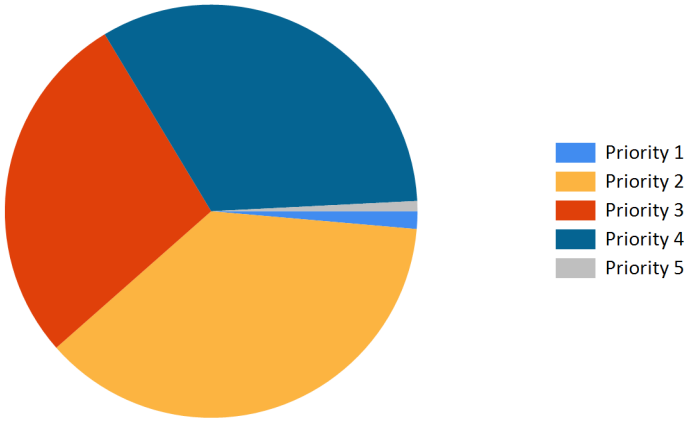


Figure 3: Current deficiencies by priority

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

		Life Cycle Capital Renewal Projections						
System	Current Deficiencies	Year 1 2017	Year 2 2018	Year 3 2019	Year 4 2020	Year 5 2021	LC Yr. 1-5 Total	Total 5-Year Need
Site	$487,975	$0	$0	$0	$65,275	$0	$65,275	$553,250
Roofing	$1,899,413	$0	$0	$0	$0	$0	$0	$1,899,413
Structural	$0	$0	$0	$0	$0	$0	$0	$0
Exterior	$1,494,896	$0	$0	$0	$0	$0	$0	$1,494,896
Interior	$1,394,226	$0	$0	$27,348	$0	$77,969	$105,317	$1,499,543
Mechanical	$749,715	$0	$0	$0	$0	$268,576	$268,576	$1,018,291
Electrical	$148,074	$0	$0	$0	$0	$0	$0	$148,074
Plumbing	$171,719	$0	$0	$0	$0	$292,464	$292,464	$464,184
Fire and Life Safety	$105,308	$0	$0	$0	$0	$0	$0	$105,308
Technology	$929,751	$0	$0	$0	$0	$0	$0	$929,751
Conveyances	$0	$0	$0	$0	$0	$0	$0	$0
Specialties	$278,484	$0	$0	$0	$0	$0	$0	$278,484
Total	**$7,659,561**	**$0**	**$0**	**$27,348**	**$65,275**	**$639,009**	**$731,632**	**$8,391,193**

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

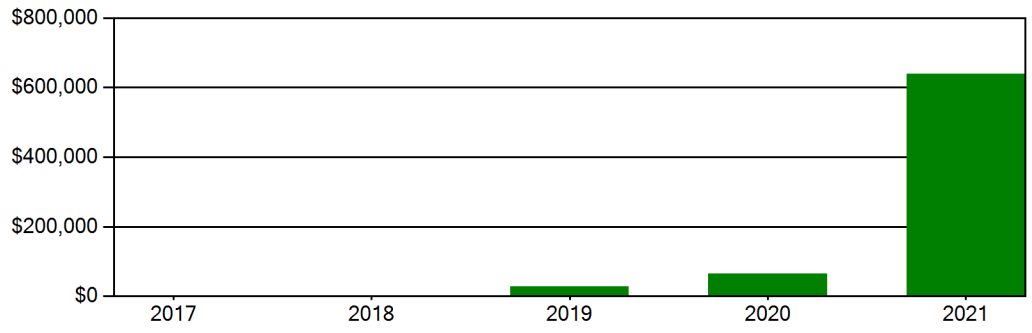
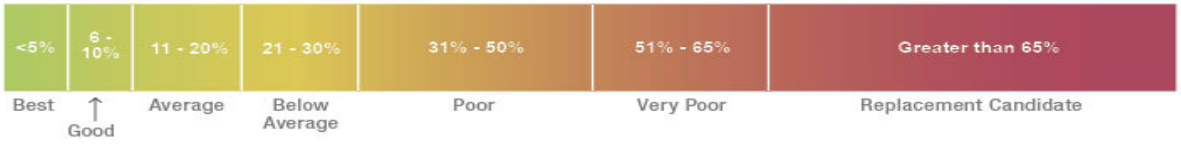


Figure 4: Life Cycle Capital Renewal Forecast

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 $12,072,200. For planning purposes, the total 5-year need at the Norwood School is $8,392,752 (Life Cycle Years 1-5 plus the FCI deficiency cost). The Norwood School facility has a 5-year FCI of 69.51%.

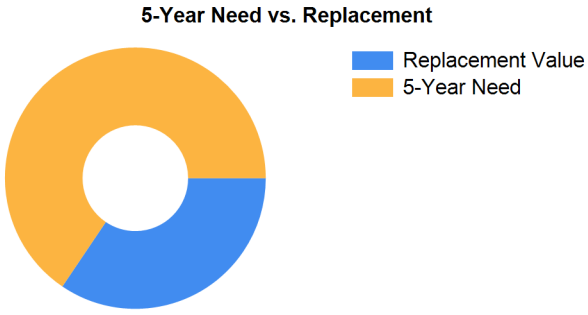


Figure 5: 5-Year FCI

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 192 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 Norwood School cafeteria and/or library/media center to the size prescribed by the SCRs is estimated to be $0.

Summary of Findings

The Norwood School comprises 34,492 square feet and was constructed in 1968. Current deficiencies at this school total $7,661,120. Five year capital renewal costs total $731,632. The total identified need for the Norwood School (current deficiencies and 5-year capital renewal costs) is $8,392,752. The 5-year FCI is 69.51%.

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
Norwood School Totals	34,492	1968	$7,661,120	$731,632	$8,392,752	69.51%

**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	Capital Renewal	300	SF	3	$3,204	12304
Note: There are several large cracks and pot holes in sidewalk.						
Crosswalk Requires Repainting	Traffic	2	Ea.	3	$1,901	16920
Note: Repaint crosswalks on Norwood Avenue.						
Sidewalk Requires Replacement	Traffic	3,000	SF	3	$85,563	16921
Note: Replace sidewalk on edge of school property on Norwood Ave (500' long x 6' wide)						
Asphalt Paving Requires Replacement	Capital Renewal	71	CAR	4	$293,631	12302
Note: Asphalt parking is weathered and should be replaced.						
Asphalt Paving Requires Replacement	Capital Renewal	10	CAR	4	$41,357	12303
Note: Roadway asphalt has cracks, alligatoring, and pot holes.						
Backstops Require Replacement	Educational Adequacy	1	Ea.	4	$35,651	28613
Note: Backstops Require Replacement						
Fencing Requires Replacement (4' Chain Link Fence)	Capital Renewal	330	LF	4	$26,667	12301
	Sub Total for System	**7**	**items**		**$487,975**	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Pole Lighting Requires Replacement	Capital Renewal	2	Ea.	3	$19,337	12305
Note: Pole lights are rusted.						
	Sub Total for System	**1**	**items**		**$19,337**	
	Sub Total for School and Site Level	**8**	**items**		**$507,312**	

Building: 01 - Main Building

Roofing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Built-up Roofing With Aggregate Ballast Requires Replacement	Capital Renewal	34,492	SF	2	$1,366,310	12521
Note: Assessment team did not have access to the roof at the time of the site visit. However, evidence of roof leaks and water infiltration were present throughout the interior of the school.						
The Tectum Decking Requires Replacement	Capital Renewal	6,898	SF	2	$533,103	12325
Note: Tectum ceiling is damaged and stained.						
	Sub Total for System	**2**	**items**		**$1,899,413**	

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Aluminum Window Requires Replacement	Capital Renewal	1,440	SF	2	$253,836	12309
Note: Leaking single pane windows should be replaced.						
The Aluminum Window Requires Replacement	Capital Renewal	64	SF	2	$11,282	12310
Note: Leaking single pane windows should be replaced.						
The Aluminum Window Requires Replacement	Capital Renewal	144	SF	2	$25,384	12311
Note: Leaking single pane windows should be replaced.						
The Metal Exterior Door Requires Replacement	Capital Renewal	5	Door	2	$33,423	12308
Note: Exterior doors are rusted and do not properly secure.						
The Metal Panel Exterior Requires Replacement (Bldg SF)	Capital Renewal	288	SF	2	$45,633	12334
Note: Metal panels are rusted and damaged. 3x3 @ 32						
The Metal Panel Exterior Requires Replacement (Bldg SF)	Capital Renewal	96	SF	2	$15,211	12335
Note: Metal panels are rusted and damaged. 1x3 @ 32						
The Exterior Soffit Requires Replacement	Capital Renewal	8,623	SF	4	$1,110,127	12307
Note: Soffits are water damaged.						
	Sub Total for System	**7**	**items**		**$1,494,896**	

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Classroom Entry Doors Provide Insufficient Sound Isolation	Acoustics	16	Ea.	3	$146,566	19856
Note: All classrooms						

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Interior Doors Require Replacement	Capital Renewal	61	Door	3	$292,983	12312
Note: Interior wood doors are damaged and do not close and secure.						
The Acoustical Ceiling Tiles Require Replacement	Capital Renewal	23,110	SF	3	$217,417	12522
Note: Ceiling tiles are aged and stained.						
The Vinyl Composition Tile Requires Replacement	Capital Renewal	33,112	SF	3	$395,680	12313
Note: VCT is worn with cracks and chips.						
Ceiling Grid Requires Replacement	Capital Renewal	23,110	SF	4	$285,517	12337
Note: Ceiling grid damaged and rusted.						
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	7	Ea.	4	$2,080	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	113	LF	4	$2,686	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	5,180	SF	4	$51,298	Rollup
	Sub Total for System	**8**	**items**		**$1,394,226**	

Mechanical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Gas Unit Heater Requires Replacement	Capital Renewal	2	Ea.	2	$6,077	12331
Note: Aged unit heaters should be replaced.						
Replace Unit Vent	Capital Renewal	18	Ea.	2	$317,153	12338
Note: Unit vents are aged and leaking with dirty coils.						
The Air Handler HVAC Component Requires Replacement	Capital Renewal	1	Ea.	2	$105,477	12327
Note: AHU is corroded and leaking.						
The Boiler HVAC Component Requires Replacement	Capital Renewal	2	Ea.	2	$47,634	12339
Note: Boilers are aged and showing signs of leaks.						
The Fin Tube Water Radiant Heater Requires Replacement	Capital Renewal	12	Ea.	2	$20,939	12332
Note: Fin tube heaters are aged and rusted.						
The Window AC Unit Component Requires Replacement	Capital Renewal	2	Ea.	2	$6,956	12326
Note: Window units are aged with damaged coils.						
Exhaust Fan Ventilation Requires Replacement	Capital Renewal	1	Ea.	4	$2,789	12317
Note: Wall mounted exhaust fan does not work.						
Existing Controls Are Inadequate And Should Be Replaced With DDC Controls	Capital Renewal	34,492	SF	4	$242,691	12333
Note: System is aged with leaks in the air lines.						
	Sub Total for System	**8**	**items**		**$749,715**	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Electrical Disconnect Requires Replacement	Capital Renewal	1	Ea.	2	$1,909	12316
Note: Disconnect is aged and rusted.						
The Panelboard Requires Replacement	Capital Renewal	3	Ea.	2	$18,123	12328
The Panelboard Requires Replacement	Capital Renewal	1	Ea.	2	$11,913	12329
The Panelboard Requires Replacement	Capital Renewal	4	Ea.	2	$24,164	12330
Note: Panelboards are rusted and corroded.						
The Mounted Building Lighting Requires Replacement	Capital Renewal	18	Ea.	3	$27,986	12315
Note: Building mounted lights are broken or missing.						
The Canopy Lighting Requires Replacement	Functional Deficiency	5	Ea.	4	$7,180	12314
Note: Canopy lights are not functioning.						
Room Has Insufficient Electrical Outlets	Educational Adequacy	76	Ea.	5	$37,462	Rollup
	Sub Total for System	**7**	**items**		**$128,737**	

Plumbing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Floor Drains Are Required	Educational Adequacy	1	Ea.	4	$570	Rollup
Non-Refrigerated Drinking Fountain Requires Replacement	Capital Renewal	3	Ea.	4	$31,937	12321
The Classroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	15	Ea.	4	$42,484	12306
Note: Classroom lavatories are aged with rust and corrosion.						

Plumbing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Custodial Mop Or Service Sink Requires Replacement	Functional Deficiency	2	Ea.	4	$5,367	12322
Note: Service sinks are rusted and leaking.						
The Restroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	2	Ea.	4	$6,627	12318
The Restroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	21	Ea.	4	$69,585	12319
Note: Restroom lavatories are aged with some rust and corrosion present.						
Room lacks a drinking fountain.	Educational Adequacy	6	Ea.	5	$6,572	Rollup
The Class Room Lavatories Plumbing Fixtures Are Missing And Should Be Installed	Educational Adequacy	7	Ea.	5	$8,576	Rollup
	Sub Total for System	**8**	**items**		**$171,719**	

Fire and Life Safety

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Fire Alarm Is Missing Or Inadequate (NFPA 72 and NFPA 101, Section 9.6)	Capital Renewal	34,492	SF	1	$105,308	12324
	Sub Total for System	**1**	**items**		**$105,308**	

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room lacks Interactive White Board	Educational Adequacy	3	Ea.	3	$16,997	Rollup
Technology: Campus network switching electronics are antiquated and/or do not meet standards.	Technology	166	Ea.	3	$82,196	22913
Technology: Classroom AV/Multimedia systems are in need of improvements.	Technology	22	Ea.	3	$217,868	22916
Technology: Instructional spaces do not have local sound reinforcement.	Technology	25	Ea.	3	$123,789	22921
Technology: Intermediate Telecommunications Room grounding system is inadequate or non-existent.	Technology	1	Ea.	3	$5,546	22911
Technology: Intermediate Telecommunications Room is not dedicated and/or inadequate.	Technology	1	Ea.	3	$47,139	22910
Technology: Intermediate Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	$4,952	22912
Technology: Main Telecommunications Room ground system is inadequate or non-existent.	Technology	1	Ea.	3	$6,932	22909
Technology: Main Telecommunications Room is not dedicated and/or inadequate.	Technology	1	Ea.	3	$52,288	22907
Technology: Main Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	$9,408	22908
Technology: Network cabling infrastructure is outdated (Cat 5 or less) and/or does not meet standards.	Technology	90	Ea.	3	$40,108	22915
Technology: Network system inadequate and/or near end of useful life	Technology	3	Ea.	3	$23,767	22919
Technology: Network system inadequate and/or near end of useful life	Technology	20	Ea.	3	$99,031	22920
Technology: Number of current, up to date, network switch ports are insufficient to support campus technology.	Technology	144	Ea.	3	$71,302	22914
Technology: PA/Bell/Clock system is inadequate and/or near end of useful life.	Technology	34,492	SF	3	$61,484	22918
Technology: Special Space AV/Multimedia systems are in need of minor improvements.	Technology	1	Room	3	$19,806	22917
Technology: Telephone handsets are inadequate and sparsely deployed throughout the campus.	Technology	25	Ea.	3	$39,612	22922
Technology: Telephone system is inadequate and/or non-existent.	Technology	1	Ea.	3	$7,526	22923
	Sub Total for System	**18**	**items**		**$929,751**	

Specialties

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room has insufficient writing area.	Educational Adequacy	3	Ea.	3	$13,598	Rollup
Replace Cabinetry In Classes/Labs	Capital Renewal	22	Room	4	$256,387	12336

Specialties

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room lacks an appropriate refrigerator.	Educational Adequacy	1	Ea.	5	$8,499	Rollup
	Sub Total for System	**3**	**items**		**$278,484**	
	Sub Total for Building 01 - Main Building	**62**	**items**		**$7,152,250**	
	Total for Campus	**70**	**items**		**$7,659,561**	

Norwood School - Life Cycle Summary Yrs 1-5

Site Level Life Cycle Items

Site

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Playfield Areas	ES Playgrounds	1	Ea.	$44,588	4
Fences and Gates	Fencing - Chain Link (4 Ft)	320	LF	$20,687	4
Note:	6' chain link fence				
	Sub Total for System	**2**	**items**	**$65,275**	
	Sub Total for Building -	**2**	**items**	**$65,275**	

Building: 01 - Main Building

Interior

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Wall Painting and Coating	Painting/Staining (Bldg SF)	4,139	SF	$27,348	3
Interior Operable Partitions	Foldable partition (Bldg SF)	675	SF Wall	$77,969	5
	Sub Total for System	**2**	**items**	**$105,317**	

Mechanical

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Facility Hydronic Distribution	Pump - 1HP or Less (Ea.)	2	Ea.	$15,257	5
Exhaust Air	Roof Exhaust Fan - Small	6	Ea.	$15,823	5
Decentralized Heating Equipment	Heating Unit Vent - Steam/Hot water	11	Ea.	$186,063	5
Decentralized Cooling	Ductless Split System (1 Ton)	1	Ea.	$14,116	5
Exhaust Air	Roof Exhaust Fan - Large	2	Ea.	$27,787	5
Facility Hydronic Distribution	Pump - 5HP	1	Ea.	$9,530	5
Note:	3 HP				
	Sub Total for System	**6**	**items**	**$268,576**	

Plumbing

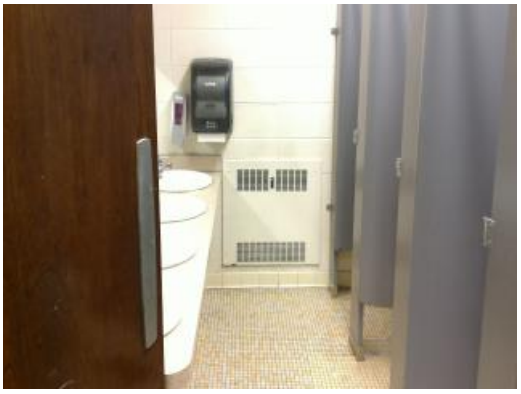
Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Domestic Water Equipment	Water Heater - Gas - 50 gallon	1	Ea.	$3,160	5
Domestic Water Piping	Domestic Water Piping System (Bldg.SF)	34,492	SF	$277,519	5
Compressed-Air Systems	Air Compressor (5 hp)	1	Ea.	$11,785	5
	Sub Total for System	**3**	**items**	**$292,464**	
	Sub Total for Building 01 - Main Building	**11**	**items**	**$666,356**	
	Total for: Norwood School	**13**	**items**	**$731,631**	

Supporting Photos

Site Aerial

Art Room

Corridor Finishes



Restroom Finishes

Elevation

Marquee

Playground

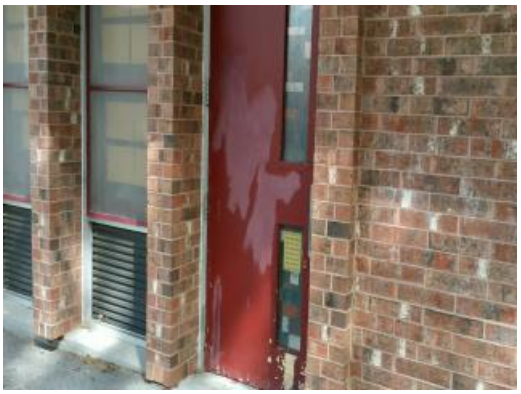
School Signage

Media Center

Classroom Lavatory

Damaged Soffit

Water Damaged Soffit


Weathered And Rusted Exterior Door

Worn VCT

Canopy Light

Building Mounted Light

Electrical Disconnect

Wall Exhaust

Weathered Asphalt Parking Lot

Damaged Fencing

Damaged Asphalt Sidewalk

Roadway Paving

Elevation

Pole Lights

Exterior Brick

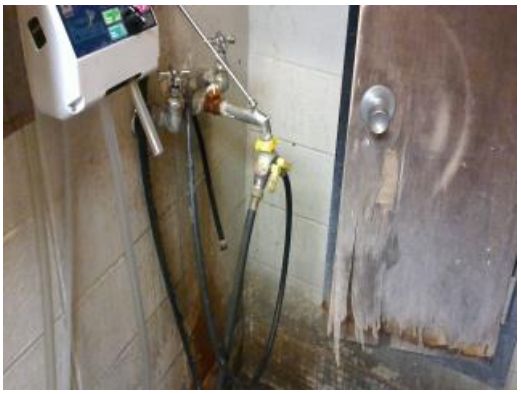
Typical Classroom

Gymnasium/Cafeteria

Entrance Doors

Aged Restroom Lavatory

Drinking Fountain


Leaking Service Sink Faucet

Fire Alarm

Stained Tectum

Window AC Unit

Aged Panelboard

Unit Heater

Aged Finned Wall Radiator

Controls

Classroom Cabinetry

Stained Ceiling Grid

Unit Vent

Facility Condition Assessment

Warwick - Oakland Beach Elementary School | *June 2017*

383 Oakland Beach Avenue, Warwick, RI 02889

Introduction

Oakland Beach Elementary School, located at 383 Oakland Beach Avenue in Warwick, Rhode Island, was built in 1911. It comprises 66,230 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.

Oakland Beach Elementary School serves grades PK - 6, has 34 instructional spaces, and has an enrollment of 362. Instructional spaces are defined as rooms in which a student receives education. The LEA reported capacity for Oakland Beach Elementary School is 525 with a resulting utilization of 69%.

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 Oakland Beach Elementary School the 5-year need is $9,817,522. 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 Oakland Beach Elementary 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 Oakland Beach Elementary School campus, identified by discipline and building.

Site

The site level systems for this campus include:

Site	Asphalt Parking Lot Pavement
	Asphalt Roadway Pavement
	Asphalt Pedestrian Pavement
	Concrete Pedestrian Pavement

Building Envelope

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

01 - Main Building:	Brick Exterior Wall
	CMU Exterior Wall
	Painted Exterior Wall
	Metal Panel Exterior Wall
	Aluminum Exterior Windows
	Steel Exterior Entrance Doors

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

01 - Main Building:	Built-Up Roofing With Ballast
	EPDM Roofing

Interior

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

01 - Main Building:	Moveable Interior Partition
	Steel Interior Doors
	Wood Interior Doors
	Interior Door Hardware
	Door Hardware
	Exposed Metal Structure Ceiling
	Suspended Acoustical Grid System
	Suspended Acoustical Ceiling Tile
	Adhered Acoustical Ceiling Tiles
	Painted Ceilings
	Vinyl/Fabric Wall Covering
	Brick/Stone Veneer
	Interior Wall Painting
	Ceramic Tile Flooring
	Wood Flooring

01 - Main Building:	Vinyl Composition Tile Flooring
	Terrazzo Flooring

Mechanical

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

01 - Main Building:	3,264 MBH Cast Iron Water Boiler
	Finned Wall Radiator
	Steam/Hot Water Heating Unit Vent
	Radiant Water Heater
	12 MBH Steam Unit Heater
	Electronic Heating System Controls
	2 Ton Ductless Split System
	1 Ton Heat Pump
	Window Units
	1 HP or Smaller Pump
	5 HP Pump
	20 Ton DX Gas Roof Top Unit
	Ductwork
	Kitchen Exhaust Hoods
	Wall Exhaust Fan
	Roof Exhaust Fan
	Fire Sprinkler System

Plumbing

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

01 - Main Building:	100 Gallon Water Storage Tank
	2" Backflow Preventers
	Gas Piping System
	30 Gallon Electric Water Heater
	Domestic Water Piping System
	Classroom Lavatories
	Lavatories
	Mop/Service Sinks
	Non-Refrigerated Drinking Fountain
	Refrigerated Drinking Fountain
	Restroom Lavatories
	Toilets
	Urinals
	Air Compressor (1 hp)

Electrical

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

01 - Main Building:	800 Amp Switchgear
	225 KVA Transformer
	Panelboard - 120/208 125A
	Panelboard - 120/208 225A
	Electrical Disconnect
	Light Fixtures
	Building Mounted Lighting 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.

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

	Priority						
System	1	2	3	4	5	Total	% of Total
Site	-	-	$137,017	$468,499	$7,552	$613,068	7.54 %
Roofing	-	$2,529,404	$515	-	-	$2,529,919	31.13 %
Structural	-	-	-	-	-	$0	0.00 %
Exterior	-	$1,195,667	-	-	-	$1,195,667	14.71 %
Interior	-	-	$414,348	$1,307,621	$3,480	$1,725,448	21.23 %
Mechanical	-	-	$13,747	-	-	$13,747	0.17 %
Electrical	-	-	$26,189	-	$65,507	$91,696	1.13 %
Plumbing	-	-	-	-	$20,653	$20,653	0.25 %
Fire and Life Safety	-	-	-	-	-	$0	0.00 %
Technology	-	-	$1,753,448	-	-	$1,753,448	21.58 %
Conveyances	-	-	-	-	-	$0	0.00 %
Specialties	-	-	$13,690	$169,682	-	$183,372	2.26 %
Total	$0	$3,725,071	$2,358,954	$1,945,802	$97,191	$8,127,018	

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

The building systems with the most need include:

Roofing	-	$2,529,919
Technology	-	$1,753,448
Interior	-	$1,725,448

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

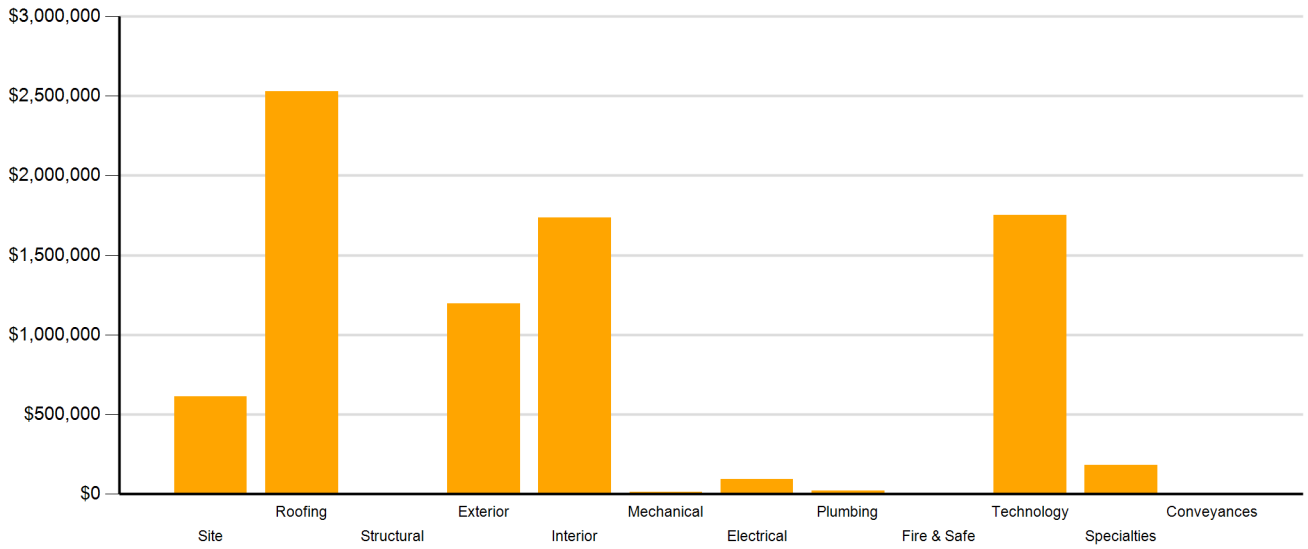


Figure 2: System Deficiencies

Current Deficiencies by Category

Deficiencies have been further grouped according to the observed category.

• **Acoustics** deficiencies relate to room acoustics, sound insolation, 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

	Priority					
Category	**1**	**2**	**3**	**4**	**5**	**Total**
Acoustics	-	-	$13,747	$595,398	-	$609,145
Barrier to Accessibility	-	-	$95,165	-	-	$95,165
Capital Renewal	-	$3,725,071	$456,715	$811,816	-	$4,993,602
Code Compliance	-	-	-	-	-	$0
Educational Adequacy	-	-	$42,211	$436,321	$97,191	$575,723
Functional Deficiency	-	-	$26,189	$61,399	-	$87,588
Hazardous Material	-	-	-	$40,867	-	$40,867
Technology	-	-	$1,724,927	-	-	$1,724,927
Traffic	-	-	-	-	-	$0
Total	$0	$3,725,071	$2,358,954	$1,945,802	$97,191	$8,127,018

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

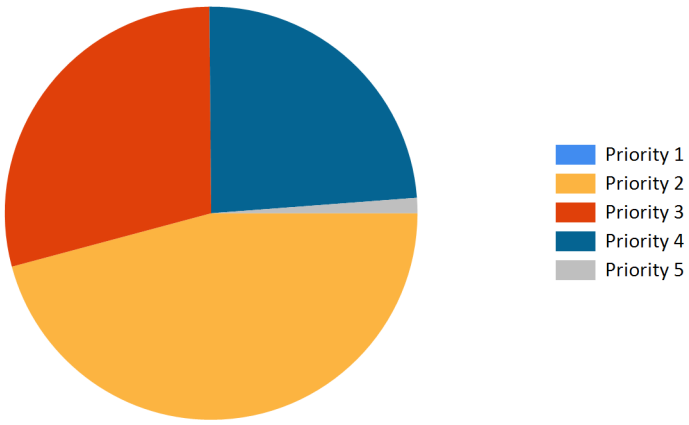


Figure 3: Current deficiencies by priority

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

		Life Cycle Capital Renewal Projections						
System	Current Deficiencies	Year 1 2017	Year 2 2018	Year 3 2019	Year 4 2020	Year 5 2021	LC Yr. 1-5 Total	Total 5-Year Need
Site	$613,068	$0	$0	$0	$0	$0	$0	$613,068
Roofing	$2,529,919	$0	$0	$0	$0	$0	$0	$2,529,919
Structural	$0	$0	$0	$0	$0	$0	$0	$0
Exterior	$1,195,667	$0	$0	$0	$176,301	$0	$176,301	$1,371,968
Interior	$1,725,448	$0	$41,145	$0	$410,118	$0	$451,263	$2,176,711
Mechanical	$13,747	$0	$0	$185,979	$396,335	$186,583	$768,897	$782,644
Electrical	$91,696	$0	$0	$29,852	$0	$0	$29,852	$121,548
Plumbing	$20,653	$0	$0	$0	$0	$55,635	$55,635	$76,288
Fire and Life Safety	$0	$0	$0	$0	$194,120	$0	$194,120	$194,120
Technology	$1,753,448	$0	$0	$0	$0	$0	$0	$1,753,448
Conveyances	$0	$0	$0	$0	$0	$0	$0	$0
Specialties	$183,372	$0	$0	$0	$0	$0	$0	$183,372
Total	**$8,127,018**	**$0**	**$41,145**	**$215,831**	**$1,176,874**	**$242,218**	**$1,676,068**	**$9,803,086**

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

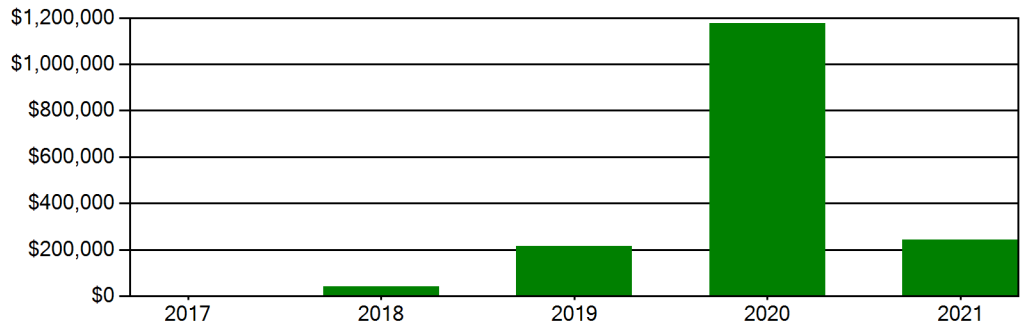
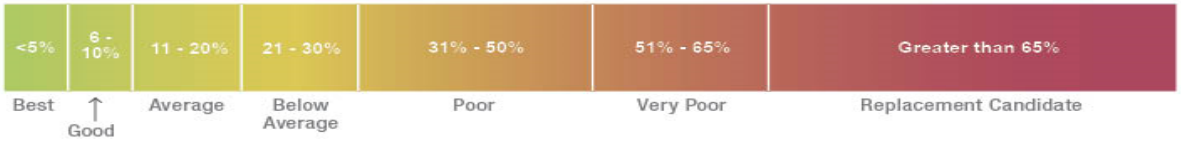


Figure 4: Life Cycle Capital Renewal Forecast

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 $23,180,500. For planning purposes, the total 5-year need at the Oakland Beach Elementary School is $9,817,522 (Life Cycle Years 1-5 plus the FCI deficiency cost). The Oakland Beach Elementary School facility has a 5-year FCI of 42.29%.

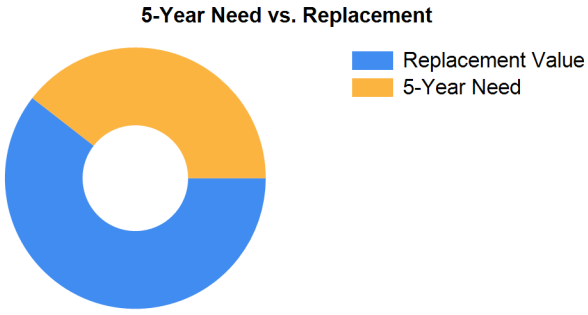


Figure 5: 5-Year FCI

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 394 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 Oakland Beach Elementary School cafeteria and/or library/media center to the size prescribed by the SCRs is estimated to be $0.

Summary of Findings

The Oakland Beach Elementary School comprises 66,230 square feet and was constructed in 1911. Current deficiencies at this school total $8,141,454. Five year capital renewal costs total $1,676,068. The total identified need for the Oakland Beach Elementary School (current deficiencies and 5-year capital renewal costs) is $9,817,522. The 5-year FCI is 42.29%.

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
Oakland Beach Elementary School Totals	66,230	1911	$8,141,454	$1,676,068	$9,817,522	42.29%

**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	Capital Renewal	10,500	SF	3	$115,896	16491
Note: The asphalt walks and paved play areas are cracked and weathered.						
Concrete Walks Require Replacement	Capital Renewal	800	SF	3	$21,121	16492
Note: The concrete sidewalks are severely cracked.						
Asphalt Paving Requires Replacement	Capital Renewal	26	CAR	4	$111,111	16489
Note: The parking lot paving is deteriorated.						
Asphalt Paving Requires Replacement	Capital Renewal	22	CAR	4	$94,017	16490
Note: The roadway pavement is deteriorated.						
Backstops Require Replacement	Educational Adequacy	1	Ea.	4	$36,840	28600
Note: Backstops Require Replacement						
Exterior Basketball Goals Require Replacement	Capital Renewal	2	Ea.	4	$19,844	16493
Fencing Requires Replacement (4' Chain Link Fence)	Capital Renewal	700	LF	4	$58,452	16488
Note: The fencing is damaged and rusting.						
Fencing Requires Replacement (8' Chain Link Fence)	Capital Renewal	1,000	LF	4	$86,836	16487
Note: The fencing is damaged and rusted.						
Site Requires Regrading And Gravel Fill	Functional Deficiency	2,500	SF	4	$61,399	16494
Note: The courytyard grassed area is uneven, overgrown and unusable.						
Exterior Basketball Goals are Required	Educational Adequacy	1	Ea.	5	$7,552	28814
Note: Exterior Basketball Goals are Required						
	Sub Total for System	**10**	**items**		**$613,068**	
	Sub Total for School and Site Level	**10**	**items**		**$613,068**	

Building: 01 - Main Building

Roofing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Tectum Decking Requires Replacement	Capital Renewal	31,470	SF	2	$2,529,404	16510
Skylight Requires Repair	Capital Renewal	1	Ea.	3	$515	16519
Note: The steel and glass skylight is original to the building (est. 1911) and is broken in several areas and deteriorated. It is historic and needs to be restored. (14 ft. x 6 ft., made of steel frame and wired glass)						
	Sub Total for System	**2**	**items**		**$2,529,919**	

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Metal Exterior Door Requires Replacement	Capital Renewal	15	Door	2	$104,280	16497
Note: The exterior doors are deteriorated and difficult to operate.						
The Metal Panel Exterior Requires Replacement (Bldg SF)	Capital Renewal	6,623	SF	2	$1,091,387	16511
Note: The metal panel exterior walls are damaged, bent, and rusted.						
	Sub Total for System	**2**	**items**		**$1,195,667**	

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Acoustical Ceiling Tiles Require Replacement	Capital Renewal	2,000	SF	3	$19,569	16498
The Ceramic Tile Flooring Requires Replacement	Capital Renewal	550	SF	3	$16,000	16501
Note: The original ceramic tile flooring is cracked and worn.						
The Interior Door Hardware Requires Replacement	Barrier to Accessibility	28	Door	3	$95,165	16509
Note: Wood door hardware is not compliant and does not include door locks.						
The Terrazzo Flooring Requires Replacement	Capital Renewal	1,485	SF	3	$119,296	16507
Note: Terrazzo flooring is damaged and cracking.						
The Vinyl Composition Tile Requires Replacement	Capital Renewal	12,065	SF	3	$149,940	16499
Note: The VCT flooring is worn.						
The Wood Flooring Requires Replacement	Capital Renewal	400	SF	3	$14,378	16500
Note: The wood stage floor is worn.						

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Adhered Acoustical Ceiling Tile Requires Replacement	Capital Renewal	6,713	SF	4	$78,861	16517
Note: The adhered ceiling tiles are falling.						
Ceiling Grid Requires Replacement	Capital Renewal	2,000	SF	4	$25,698	16516
Interior Toilet Partition Requires Repair	Capital Renewal	10	Ea.	4	$5,665	16503
Metal Interior Doors Require Replacement	Capital Renewal	21	Door	4	$97,414	16513
Moveable Partitions Require Replacement	Capital Renewal	380	SF Wall	4	$47,551	16495
Note: Folding partition walls at classrooms 5 and 6.						
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	9	Ea.	4	$2,781	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	370	LF	4	$9,146	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	2,810	SF	4	$28,941	Rollup
Room Is Excessively Reverberant	Acoustics	3,900	SF	4	$94,392	27962
Location: Gym						
Room Is Excessively Reverberant	Acoustics	20,700	SF	4	$501,005	27963
Location: Classrooms						
Room Lighting Is Inadequate Or In Poor Condition.	Educational Adequacy	10,484	SF	4	$399,482	Rollup
Vinyl/Fabric Wall Covering Requires Replacement	Capital Renewal	2,160	SF	4	$16,685	16515
Note: The vinyl covered wall panels are stained and peeling.						
Room lacks appropriate sound control.	Educational Adequacy	100	SF	5	$3,480	Rollup
	Sub Total for System	**19**	**items**		**$1,725,448**	

Mechanical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Unit Ventilators Are Excessively Noisy	Acoustics	2	Ea.	3	$13,747	27961
Location: Classrooms						
	Sub Total for System	**1**	**items**		**$13,747**	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Electrical Receptacles Are Inadequate And More are Needed	Functional Deficiency	20	Ea.	3	$12,359	16505
Note: Classrooms need additional receptacles.						
The Mounted Building Lighting Is Missing And Needed	Functional Deficiency	6	Ea.	3	$13,830	16504
Note: Additional building lighting is needed.						
Room Has Insufficient Electrical Outlets	Educational Adequacy	132	Ea.	5	$65,507	Rollup
	Sub Total for System	**3**	**items**		**$91,696**	

Plumbing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room lacks a drinking fountain.	Educational Adequacy	10	Ea.	5	$11,028	Rollup
The Class Room Lavatories Plumbing Fixtures Are Missing And Should Be Installed	Educational Adequacy	8	Ea.	5	$9,624	Rollup
	Sub Total for System	**2**	**items**		**$20,653**	

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room lacks Interactive White Board	Educational Adequacy	5	Ea.	3	$28,521	Rollup
Technology: Campus network switching electronics are antiquated and/or do not meet standards.	Technology	196	Ea.	3	$100,932	23018
Technology: Classroom AV/Multimedia systems are inadequate and/or near end of useful life.	Technology	36	Ea.	3	$778,621	23023
Technology: Instructional spaces do not have local sound reinforcement.	Technology	36	Ea.	3	$185,386	23025

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Technology: Intermediate Telecommunications Room grounding system is inadequate or non-existent.	Technology	1	Ea.	3	$5,768	23015
Technology: Intermediate Telecommunications Room is not dedicated and/or inadequate.	Technology	1	Ea.	3	$49,024	23014
Technology: Intermediate Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	$5,150	23013
Technology: Intermediate Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	$5,150	23016
Technology: Main Telecommunications Room ground system is inadequate or non-existent.	Technology	1	Ea.	3	$7,209	23011
Technology: Main Telecommunications Room needs minor improvements.	Technology	1	Ea.	3	$23,482	23010
Technology: Network cabling infrastructure is outdated (Cat 5 or less) and/or does not meet standards.	Technology	112	Ea.	3	$51,908	23017
Technology: Network system inadequate and/or near end of useful life	Technology	2	Ea.	3	$49,436	23026
Technology: Network system inadequate and/or near end of useful life	Technology	36	Ea.	3	$185,386	23027
Technology: PA/Bell/Clock system is inadequate and/or near end of useful life.	Technology	66,230	SF	3	$122,781	23022
Technology: Special Space AV/Multimedia system is inadequate.	Technology	1	Ea.	3	$58,706	23019
Technology: Special Space AV/Multimedia systems are in need of minor improvements.	Technology	1	Room	3	$20,598	23024
Technology: Telecommunications Room (large size room) needs dedicated cooling system improvements.	Technology	1	Ea.	3	$8,239	23012
Technology: Telephone handsets are inadequate and sparsely deployed throughout the campus.	Technology	36	Ea.	3	$59,323	23021
Technology: Telephone system is inadequate and/or non-existent.	Technology	1	Ea.	3	$7,827	23020
	Sub Total for System	**19**	**items**		**$1,753,448**	

Specialties

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room has insufficient writing area.	Educational Adequacy	3	Ea.	3	$13,690	Rollup
Replace Cabinetry In Classes/Labs	Capital Renewal	14	Room	4	$169,682	16514
	Sub Total for System	**2**	**items**		**$183,372**	
	Sub Total for Building 01 - Main Building	**50**	**items**		**$7,513,950**	
	Total for Campus	**60**	**items**		**$8,127,018**	

Oakland Beach Elementary School - Life Cycle Summary Yrs 1-5

Building: 01 - Main Building

Exterior

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Exterior Wall Veneer	Exterior Painting - Bldg SF basis		13,246	SF	$176,301	4
		Sub Total for System	**1**	**items**	**$176,301**	

Interior

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Suspended Plaster and	Painted ceilings		9,836	SF	$41,145	2
Wall Painting and Coating	Painting/Staining (Bldg SF)		62,070	SF	$410,118	4
		Sub Total for System	**2**	**items**	**$451,263**	

Mechanical

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Decentralized Heating Equipment	Radiant Heater - Radiator Water		36	Ea.	$185,979	3
Facility Hydronic Distribution	Pump - 1HP or Less (Ea.)		2	Ea.	$15,257	4
Facility Hydronic Distribution	Pump - 5HP		2	Ea.	$19,060	4
Note:	Pumps rated at 3 horsepower					
Heat Generation	Boiler - Cast Iron - Water (3264 MBH)		2	Ea.	$362,018	4
Decentralized Heating Equipment	Finned Wall Radiator - (Ea.)		73	Ea.	$122,284	5
HVAC Air Distribution	Roof Top Unit - DX Gas (20 Ton)		1	Ea.	$64,299	5
		Sub Total for System	**6**	**items**	**$768,897**	

Electrical

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Lighting Fixtures	Building Mounted Fixtures (Ea.)		20	Ea.	$29,852	3
		Sub Total for System	**1**	**items**	**$29,852**	

Plumbing

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Plumbing Fixtures	Non-Refrigerated Drinking Fountain		4	Ea.	$40,880	5
Plumbing Fixtures	Refrigerated Drinking Fountain		2	Ea.	$14,755	5
		Sub Total for System	**2**	**items**	**$55,635**	

Fire and Life Safety

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Fire Detection and Alarm	Fire Alarm		66,230	SF	$194,120	4
		Sub Total for System	**1**	**items**	**$194,120**	
		Sub Total for Building 01 - Main Building	**13**	**items**	**$1,676,067**	
		Total for: Oakland Beach Elementary School	**13**	**items**	**$1,676,067**	

Supporting Photos

Bent Metal Wall Panel

Rusted Fencing

Asphalt Roadway

Asphalt Play Area

Concrete Sidewalk

Rusted Basketball Goal

Site Aerial

New Asphalt Walkway

Playground

Damaged Exterior Doors

Folding Partition

Cracked Terrazzo Floor

Wood Stage Flooring

Worn And Peeling Vinyl Covered Walls

Adhered Tile Ceiling

Damaged Skylight

Original Building Entrance

Marquee

Hallway Finishes

Typical Classroom

Metal Building Addition Exterior

Multipurpose Building Exterior

Music Classroom

East Side Elevation

Multipurpose Room

Library

Kitchen

Gym

Facility Condition Assessment

Warwick - Park School | *June 2017*

40 Asylum Road, Warwick, RI 02886

Introduction

Park School, located at 40 Asylum Road in Warwick, Rhode Island, was built in 1958. It comprises 36,385 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.

Park School serves grades 1 - 6, has 25 instructional spaces, and has an enrollment of 262. Instructional spaces are defined as rooms in which a student receives education. The LEA reported capacity for Park School is 325 with a resulting utilization of 81%.

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 Park School the 5-year need is $5,052,984. 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 Park 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 Park School campus, identified by discipline and building.

Site

The site level systems for this campus include:

Site	Asphalt Parking Lot Pavement
	Asphalt Pedestrian Pavement
	Brick Pedestrian Pavement

Building Envelope

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

01 - Main Building:	CMU Exterior Wall
	Painted Exterior Wall
	Metal Panel Exterior Wall
	Painted Gypsum Soffit
	Aluminum Exterior Windows
	Steel Exterior Entrance Doors

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

01 - Main Building:	Composition Shingle Roofing
	EPDM Roofing

Interior

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

01 - Main Building:	Moveable Interior Partition
	Steel Interior Doors
	Wood Interior Doors
	Interior Door Hardware
	Door Hardware
	Suspended Acoustical Grid System
	Suspended Acoustical Ceiling Tile
	Painted Ceilings
	Ceramic Tile Wall
	Interior Wall Painting
	Ceramic Tile Flooring
	Vinyl Composition Tile Flooring

Mechanical

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

01 - Main Building:	2,400 MBH Steel Tube Boiler

01 - Main Building:	Gas Heating Unit Vent
	Fin Tube Water Radiant Heater
	Pneumatic Heating System Controls
	Window Units
	5 HP VFD
	5 HP Pump
	2-Pipe Hot Water Hydronic Distribution System
	20 Ton DX Gas Roof Top Unit
	Ductwork
	Roof Exhaust Fan
	Wall Exhaust Fan

Plumbing

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

01 - Main Building:	Gas Piping System
	40 Gallon Gas Water Heater
	75 Gallon Gas Water Heater
	Domestic Water Piping System
	Classroom Lavatories
	Mop/Service Sinks
	Non-Refrigerated Drinking Fountain
	Refrigerated Drinking Fountain
	Restroom Lavatories
	Toilets
	Urinals
	Air Compressor (1 hp)

Electrical

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

01 - Main Building:	600 Amp Distribution Panel
	Panelboard - 120/208 100A
	Panelboard - 120/208 225A
	Electrical Disconnect
	Light Fixtures
	Building Mounted Lighting 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.

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

	Priority						
System	1	2	3	4	5	Total	% of Total
Site	-	-	$91,157	$1,034,464	-	$1,125,621	28.31 %
Roofing	-	-	-	-	-	$0	0.00 %
Structural	-	-	-	-	-	$0	0.00 %
Exterior	-	$582,302	-	-	-	$582,302	14.64 %
Interior	-	-	$325,127	$157,116	$3,480	$485,723	12.22 %
Mechanical	-	-	-	$256,010	-	$256,010	6.44 %
Electrical	-	-	$13,072	-	$49,627	$62,699	1.58 %
Plumbing	-	-	-	$570	$12,609	$13,179	0.33 %
Fire and Life Safety	$111,088	-	-	-	-	$111,088	2.79 %
Technology	-	-	$1,065,576	-	-	$1,065,576	26.80 %
Conveyances	-	-	-	-	-	$0	0.00 %
Specialties	-	-	$9,127	$256,387	$8,556	$274,070	6.89 %
Total	$111,088	$582,302	$1,504,059	$1,704,547	$74,271	$3,976,267	

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

The building systems with the most need include:

Site	-	$1,125,621
Technology	-	$1,065,576
Exterior	-	$582,302

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

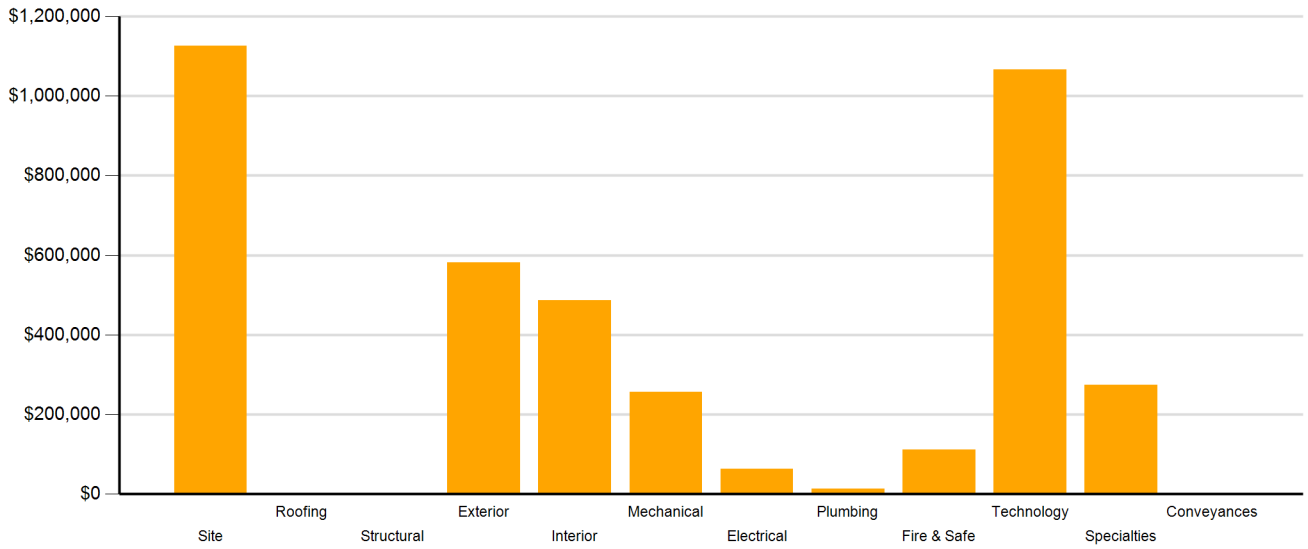


Figure 2: System Deficiencies

Current Deficiencies by Category

Deficiencies have been further grouped according to the observed category.

• **Acoustics** deficiencies relate to room acoustics, sound insolation, 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

	Priority					
Category	**1**	**2**	**3**	**4**	**5**	**Total**
Acoustics	-	-	$173,403	-	-	$173,403
Barrier to Accessibility	-	-	$26,144	-	-	$26,144
Capital Renewal	-	$582,302	$211,033	$1,649,705	-	$2,443,039
Code Compliance	$111,088	-	-	-	-	$111,088
Educational Adequacy	-	-	$14,831	$49,634	$74,271	$138,736
Functional Deficiency	-	-	$13,072	-	-	$13,072
Hazardous Material	-	-	-	$5,209	-	$5,209
Technology	-	-	$1,059,872	-	-	$1,059,872
Traffic	-	-	$5,704	-	-	$5,704
Total	$111,088	$582,302	$1,504,059	$1,704,547	$74,271	$3,976,267

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

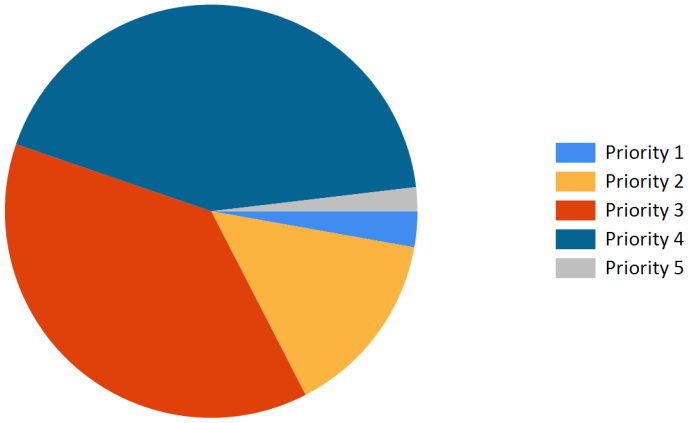


Figure 3: Current deficiencies by priority

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

		Life Cycle Capital Renewal Projections						
System	Current Deficiencies	Year 1 2017	Year 2 2018	Year 3 2019	Year 4 2020	Year 5 2021	LC Yr. 1-5 Total	Total 5-Year Need
Site	$1,125,621	$0	$0	$0	$0	$0	$0	$1,125,621
Roofing	$0	$0	$0	$0	$0	$0	$0	$0
Structural	$0	$0	$0	$0	$0	$0	$0	$0
Exterior	$582,302	$0	$399,093	$0	$45,253	$0	$444,346	$1,026,648
Interior	$485,723	$0	$0	$0	$0	$242,152	$242,152	$727,875
Mechanical	$256,010	$0	$0	$0	$287,672	$90,320	$377,992	$634,002
Electrical	$62,699	$0	$0	$0	$0	$0	$0	$62,699
Plumbing	$13,179	$0	$0	$3,160	$7,377	$0	$10,537	$23,716
Fire and Life Safety	$111,088	$0	$0	$0	$0	$0	$0	$111,088
Technology	$1,065,576	$0	$0	$0	$0	$0	$0	$1,065,576
Conveyances	$0	$0	$0	$0	$0	$0	$0	$0
Specialties	$274,070	$0	$0	$0	$0	$0	$0	$274,070
Total	**$3,976,267**	**$0**	**$399,093**	**$3,160**	**$340,302**	**$332,472**	**$1,075,027**	**$5,051,294**

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

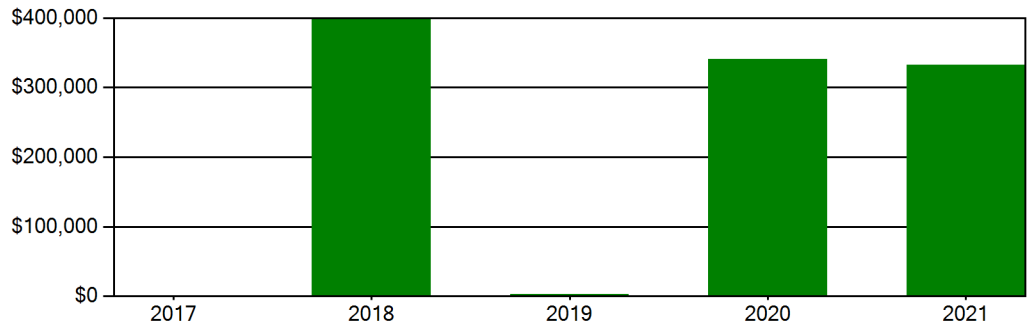
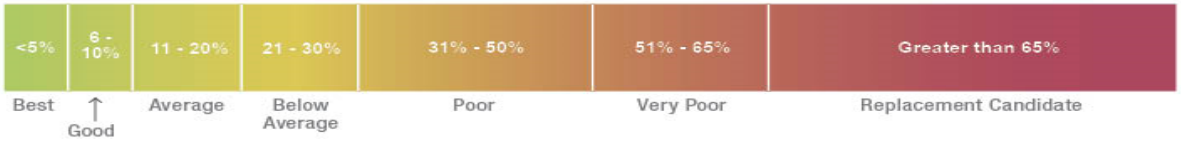


Figure 4: Life Cycle Capital Renewal Forecast

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 $12,734,750. For planning purposes, the total 5-year need at the Park School is $5,052,984 (Life Cycle Years 1-5 plus the FCI deficiency cost). The Park School facility has a 5-year FCI of 39.67%.

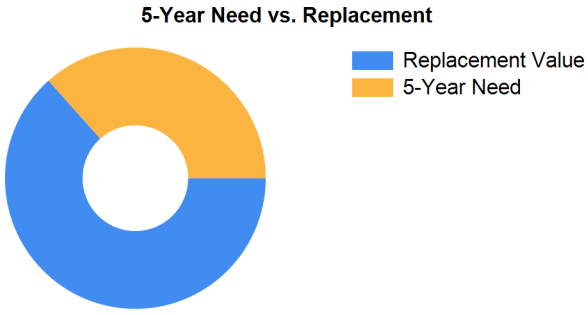


Figure 5: 5-Year FCI

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 202 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 Park School cafeteria and/or library/media center to the size prescribed by the SCRs is estimated to be $0.

Summary of Findings

The Park School comprises 36,385 square feet and was constructed in 1958. Current deficiencies at this school total $3,977,957. Five year capital renewal costs total $1,075,027. The total identified need for the Park School (current deficiencies and 5-year capital renewal costs) is $5,052,984. The 5-year FCI is 39.67%.

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
Park School Totals	36,385	1958	$3,977,957	$1,075,027	$5,052,984	39.67%

**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	Capital Renewal	8,000	SF	3	$85,453	16733
Note: The asphalt walks are weathered and cracked with alligatoring and pot holes.						
Traffic Signage Is Required	Traffic	2	Ea.	3	$5,704	22006
Note: Add school zone signs on Asylum Rd						
Asphalt Paving Requires Replacement	Capital Renewal	86	CAR	4	$355,666	16732
Note: The parking paving is deteriorated.						
Backstops Require Replacement	Educational Adequacy	1	Ea.	4	$35,651	28609
Note: Backstops Require Replacement						
Fencing Requires Replacement (4' Chain Link Fence)	Capital Renewal	900	LF	4	$72,728	16731
Note: The fencing is rusted and in places is overgrown and falling.						
Site Drainage Requires Regrading	Capital Renewal	30,000	SF	4	$570,418	53607
Note: Per LEA review feedback - there is a major drainage issue causing serious ponding in several locations.						
	Sub Total for System	**6**	**items**		**$1,125,621**	
	Sub Total for School and Site Level	**6**	**items**		**$1,125,621**	

Building: 01 - Main Building

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Metal Exterior Door Requires Replacement	Capital Renewal	16	Door	2	$106,953	16735
Note: The steel exterior doors are aged and worn.						
The Metal Panel Exterior Requires Replacement (Bldg SF)	Capital Renewal	3,000	SF	2	$475,349	16745
Note: The exterior metal walls at the kindergarten wing are rusted and damaged.						
	Sub Total for System	**2**	**items**		**$582,302**	

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Classroom Entry Doors Provide Insufficient Sound Isolation	Acoustics	20	Ea.	3	$173,403	27793
Note: All Classrooms						
Interior Doors Require Replacement	Capital Renewal	12	Door	3	$57,636	16737
The Acoustical Ceiling Tiles Require Replacement	Capital Renewal	4,100	SF	3	$38,573	16736
The Ceramic Tile Flooring Requires Replacement	Capital Renewal	1,050	SF	3	$29,371	16738
The Interior Door Hardware Requires Replacement	Barrier to Accessibility	8	Door	3	$26,144	16742
Note: The door hardware is worn and outdated.						
Ceiling Grid Requires Replacement	Capital Renewal	4,100	SF	4	$50,654	16747
Interior Ceramic Walls Require Repair Or Replacement	Capital Renewal	1,800	SF	4	$41,712	16748
Note: Ceramic tile walls are aged, chipped, and broken.						
Interior Toilet Partition Requires Repair	Capital Renewal	14	Ea.	4	$7,625	16739
Note: The older toilet room stall partitions are in aged with some missing base pieces.						
Light Deterioration or Damage of 9x9 Asbestos Floor Tile is Present	Hazardous Material	30	SF	4	$891	Rollup
Moveable Partitions Require Replacement	Capital Renewal	320	SF Wall	4	$38,503	16734
Note: The classroom folding partition walls are old and worn and should be replaced. 2 @ 160 SF each						
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	2	Ea.	4	$594	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	40	LF	4	$951	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	280	SF	4	$2,773	Rollup
Room Lighting Is Inadequate Or In Poor Condition.	Educational Adequacy	352	SF	4	$13,413	Rollup
Room lacks appropriate sound control.	Educational Adequacy	100	SF	5	$3,480	Rollup
	Sub Total for System	**15**	**items**		**$485,723**	

Mechanical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Existing Controls Are Inadequate And Should Be Replaced With DDC Controls	Capital Renewal	36,385	SF	4	$256,010	16744
	Sub Total for System	**1**	**items**		**$256,010**	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Electrical Receptacles Are Inadequate And More are Needed	Functional Deficiency	22	Ea.	3	$13,072	16740
Note: An additional receptacle is needed in each classroom.						
Room Has Insufficient Electrical Outlets	Educational Adequacy	100	Ea.	5	$49,627	Rollup
	Sub Total for System	**2**	**items**		**$62,699**	

Plumbing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Floor Drains Are Required	Educational Adequacy	1	Ea.	4	$570	Rollup
Room lacks a drinking fountain.	Educational Adequacy	5	Ea.	5	$5,514	Rollup
The Class Room Lavatories Plumbing Fixtures Are Missing And Should Be Installed	Educational Adequacy	6	Ea.	5	$7,095	Rollup
	Sub Total for System	**3**	**items**		**$13,179**	

Fire and Life Safety

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Fire Alarm Is Missing Or Inadequate (NFPA 72 and NFPA 101, Section 9.6)	Code Compliance	36,385	SF	1	$111,088	16743
	Sub Total for System	**1**	**items**		**$111,088**	

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room lacks Interactive White Board	Educational Adequacy	1	Ea.	3	$5,704	Rollup
Technology: Campus network switching electronics are antiquated and/or do not meet standards.	Technology	144	Ea.	3	$71,302	22967
Technology: Classroom AV/Multimedia systems are inadequate and/or near end of useful life.	Technology	22	Ea.	3	$457,523	22972
Technology: Instructional spaces do not have local sound reinforcement.	Technology	22	Ea.	3	$108,934	22974
Technology: Intermediate Telecommunications Room grounding system is inadequate or non-existent.	Technology	1	Ea.	3	$5,546	22964
Technology: Intermediate Telecommunications Room is not dedicated and/or inadequate.	Technology	1	Ea.	3	$47,139	22963
Technology: Intermediate Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	$4,952	22962
Technology: Intermediate Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	$4,952	22965
Technology: Main Telecommunications Room ground system is inadequate or non-existent.	Technology	1	Ea.	3	$6,932	22960
Technology: Main Telecommunications Room is not dedicated. Room requires partial walls and/or major improvements.	Technology	1	Ea.	3	$44,366	22959
Technology: Network cabling infrastructure is outdated (Cat 5 or less) and/or does not meet standards.	Technology	111	Ea.	3	$49,466	22966
Technology: Network system inadequate and/or near end of useful life	Technology	1	Ea.	3	$7,922	22975
Technology: Network system inadequate and/or near end of useful life	Technology	12	Ea.	3	$59,419	22976
Technology: PA/Bell/Clock system is inadequate and/or near end of useful life.	Technology	36,385	SF	3	$64,858	22971
Technology: Special Space AV/Multimedia system is inadequate.	Technology	1	Ea.	3	$56,448	22968
Technology: Special Space AV/Multimedia systems are in need of minor improvements.	Technology	1	Room	3	$19,806	22973

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Technology: Telecommunications Room (large size room) needs dedicated cooling system improvements.	Technology	1	Ea.	3	$7,922	22961
Technology: Telephone handsets are inadequate and sparsely deployed throughout the campus.	Technology	22	Ea.	3	$34,859	22970
Technology: Telephone system is inadequate and/or non-existent.	Technology	1	Ea.	3	$7,526	22969
	Sub Total for System	**19**	**items**		**$1,065,576**	

Specialties

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room has insufficient writing area.	Educational Adequacy	2	Ea.	3	$9,127	Rollup
Replace Cabinetry In Classes/Labs	Capital Renewal	22	Room	4	$256,387	16746
Note: Classroom cabinets are aged and worn.						
Room lacks an appropriate refrigerator.	Educational Adequacy	1	Ea.	5	$8,556	Rollup
	Sub Total for System	**3**	**items**		**$274,070**	
	Sub Total for Building 01 - Main Building	**46**	**items**		**$2,850,646**	
	Total for Campus	**52**	**items**		**$3,976,267**	

Park School - Life Cycle Summary Yrs 1-5

Building: 01 - Main Building

Exterior

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Exterior Wall Veneer	Exterior Painting - Bldg SF basis		29,985	SF	$399,093	2
Exterior Wall Veneer	Exterior Painting - Bldg SF basis		3,400	SF	$45,253	4
	Note: Multipurpose addition					
		Sub Total for System	**2**	**items**	**$444,346**	

Interior

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Suspended Plaster and	Painted ceilings		3,260	SF	$13,637	5
Wall Painting and Coating	Painting/Staining (Bldg SF)		34,585	SF	$228,515	5
		Sub Total for System	**2**	**items**	**$242,152**	

Mechanical

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Decentralized Cooling	Window Units		4	Ea.	$13,355	4
Decentralized Heating Equipment	Heating Unit Vent - Gas		19	Ea.	$268,962	4
Exhaust Air	Wall Exhaust Fan		2	Ea.	$5,355	4
Exhaust Air	Roof Exhaust Fan		5	Ea.	$26,021	5
HVAC Air Distribution	Roof Top Unit - DX Gas (20 Ton)		1	Ea.	$64,299	5
		Sub Total for System	**5**	**items**	**$377,992**	

Plumbing

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Domestic Water Equipment	Water Heater - Gas - 40 gallon		1	Ea.	$3,160	3
Plumbing Fixtures	Refrigerated Drinking Fountain		1	Ea.	$7,377	4
		Sub Total for System	**2**	**items**	**$10,538**	
		Sub Total for Building 01 - Main Building	**11**	**items**	**$1,075,028**	
		Total for: Park School	**11**	**items**	**$1,075,028**	

Supporting Photos

Site Aerial

Rusted Fencing

Overgrown Falling Fence

Parking Lot Paving

Cracked And Weathered Walkway

Cracks And Pot Holes In Asphalt Walks

Folding Partition

Exterior Doors

Rusted And Dented Metal Panel Wall

Aged Cabinetry

Chipped Ceramic Tile

Kindergarten Wing

Typical Classroom

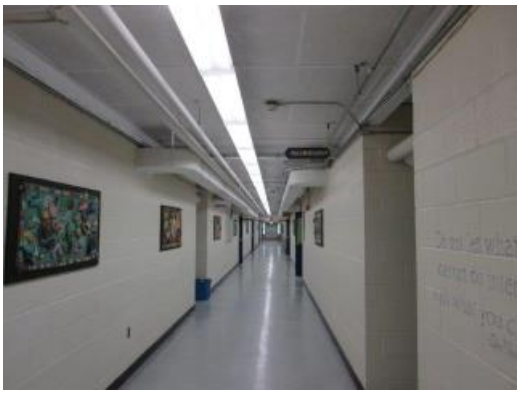
Main Entry Doors

Rear Exterior

Classroom Wing Exterior

Art Room

Drop Off Area


Hallway Finishes

Multipurpose Room

Library

Exterior Finishes

Facility Condition Assessment

Warwick - Pilgrim High School | *June 2017*

111 Pilgrim Parkway, Warwick, RI 02888

Introduction

Pilgrim High School, located at 111 Pilgrim Parkway in Warwick, Rhode Island, was built in 1963. It comprises 222,734 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.

Pilgrim High School serves grades 9 - 12, has 87 instructional spaces, and has an enrollment of 1,478. Instructional spaces are defined as rooms in which a student receives education. The LEA reported capacity for Pilgrim High School is 2,228 with a resulting utilization of 66%.

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 Pilgrim High School the 5-year need is $44,750,908. 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 Pilgrim 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 Pilgrim High School campus, identified by discipline and building.

Site

The site level systems for this campus include:

Site	Asphalt Parking Lot Pavement
	Asphalt Roadway Pavement
	Asphalt Pedestrian Pavement
	Concrete Pedestrian Pavement

Building Envelope

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

01 - Main Building:	Brick Exterior Wall
	CMU Exterior Wall
	Painted Gypsum Soffit
	Wood Exterior Windows
	Steel Exterior Windows
	Aluminum Exterior Windows
	Storefront / Curtain Wall
	Storefront Entrance Doors
	Steel Exterior Entrance Doors
	Overhead Exterior Utility Doors
02 - Building 02:	CMU Exterior Wall
	Painted Exterior Wall
	Steel Exterior Entrance Doors
	Overhead Exterior Utility Doors
03 - Annex:	CMU Exterior Wall
	Painted Exterior Wall
	Aluminum Exterior Windows
	Steel Exterior Entrance Doors

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

01 - Main Building:	Composition Shingle Roofing
	EPDM Roofing
02 - Building 02:	Composition Shingle Roofing
03 - Annex:	EPDM Roofing

Interior

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

01 - Main Building:	Steel Interior Doors

01 - Main Building:	Aluminum/Glass Storefront Interior Doors
	Wood Interior Doors
	Interior Door Hardware
	Door Hardware
	Suspended Acoustical Grid System
	Suspended Acoustical Ceiling Tile
	Painted Ceilings
	FRP Wall Finish
	Brick/Stone Veneer
	Interior Wall Painting
	Concrete Flooring
	Quarry Tile Flooring
	Ceramic Tile Flooring
	Wood Flooring
	Vinyl Composition Tile Flooring
	Terrazzo Flooring
	Carpet
02 - Building 02:	Door Hardware
	Interior Wall Painting
	Concrete Flooring
03 - Annex:	Steel Interior Doors
	Wood Interior Doors
	Interior Door Hardware
	Suspended Acoustical Grid System
	Suspended Acoustical Ceiling Tile
	Interior Wall Painting
	Vinyl Composition Tile Flooring

Mechanical

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

01 - Main Building:	14,000 MBH Cast Iron Boiler
	Finned Wall Radiator
	Steam/Hot Water Heating Unit Vent
	3 kW Electric Unit Heater
	7 kW Electric Unit Heater
	DDC Heating System Controls
	1 Ton Ductless Split System
	3 Ton Outside Air Cooled Condenser
	Window Units
	Make-up Air Unit
	5 HP VFD
	5 HP Pump

01 - Main Building:	75 HP Pump
	2-Pipe Hot Water Hydronic Distribution System
	5,000 CFM Outdoor AHU
	Ductwork
	10 Ton DX Gas Roof Top Unit
	Kitchen Exhaust Hoods
	Roof Exhaust Fan
	Wall Exhaust Fan
03 - Annex:	Window Units

Plumbing

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

01 - Main Building:	2" Backflow Preventers
	Gas Piping System
	200 Gallon Electric Water Heater
	Domestic Water Piping System
03 - Annex:	Domestic Water Piping System
01 - Main Building:	Classroom Lavatories
	Mop/Service Sinks
	Non-Refrigerated Drinking Fountain
	Restroom Lavatories
	Showers
	Toilets
	Urinals
03 - Annex:	Classroom Lavatories
	Restroom Lavatories
	Toilets
01 - Main Building:	Sump Pump
	Air Compressor (5 hp)

Electrical

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

01 - Main Building:	1200 kW Emergency Generator
	Automatic Transfer Switch
	2,000 Amp Switchgear
	112.5 KVA Transformer
	15 KVA Transformer
	30 KVA Transformer
	45 KVA Transformer
	Motor Controller
	Panelboard - 120/208 100A
	Panelboard - 120/208 225A

01 - Main Building:	Panelboard - 120/208 400A
	Panelboard - 277/480 100A
	Panelboard - 277/480 225A
	Building Mounted Lighting Fixtures
	Canopy Mounted Lighting Fixtures
	Light Fixtures
02 - Building 02:	Light Fixtures
03 - Annex:	Panelboard - 120/208 125A
	Building 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.

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

	Priority						
System	1	2	3	4	5	Total	% of Total
Site	-	-	$867,324	$4,935,156	$1,115,420	$6,917,900	19.13 %
Roofing	-	-	-	-	-	$0	0.00 %
Structural	-	-	-	-	-	$0	0.00 %
Exterior	-	$869,695	$17,826	$50,230	-	$937,751	2.59 %
Interior	-	-	$4,448,658	$2,582,658	$24,510	$7,055,826	19.51 %
Mechanical	-	$2,895,019	-	$2,288,646	-	$5,183,665	14.34 %
Electrical	$9,886	$1,741,815	$138,079	-	$164,720	$2,054,500	5.68 %
Plumbing	-	$4,084	$2,351,359	$179,206	$95,049	$2,629,698	7.27 %
Fire and Life Safety	$2,297,166	-	-	-	-	$2,297,166	6.35 %
Technology	-	-	$3,711,871	-	-	$3,711,871	10.27 %
Conveyances	-	-	-	-	-	$0	0.00 %
Specialties	-	-	$1,108,706	$4,111,143	$148,879	$5,368,728	14.85 %
Total	$2,307,051	$5,510,613	$12,643,822	$14,147,039	$1,548,578	$36,157,104	

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

The building systems with the most need include:

Interior	-	$7,055,826
Site	-	$6,917,900
Specialties	-	$5,368,728

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

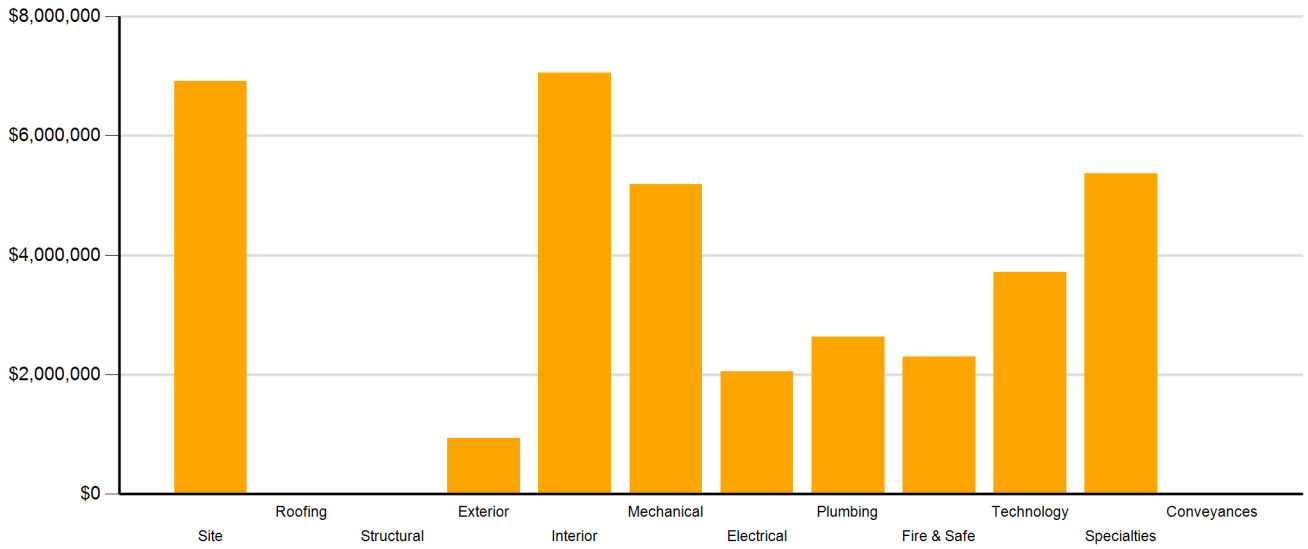


Figure 2: System Deficiencies

Current Deficiencies by Category

Deficiencies have been further grouped according to the observed category.

• **Acoustics** deficiencies relate to room acoustics, sound insolation, 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

	Priority					
Category	**1**	**2**	**3**	**4**	**5**	**Total**
Acoustics	-	-	-	-	-	$0
Barrier to Accessibility	-	-	$14,260	-	-	$14,260
Capital Renewal	-	$5,510,613	$8,294,137	$11,935,647	$1,051,400	$26,791,797
Code Compliance	$2,183,082	-	-	-	-	$2,183,082
Educational Adequacy	$123,969	-	$89,919	$254,656	$497,089	$965,633
Functional Deficiency	-	-	$74,333	$1,701,748	-	$1,776,080
Hazardous Material	-	-	-	$254,989	$89	$255,078
Technology	-	-	$3,649,240	-	-	$3,649,240
Traffic	-	-	$521,933	-	-	$521,933
Total	$2,307,051	$5,510,613	$12,643,822	$14,147,039	$1,548,578	$36,157,104

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

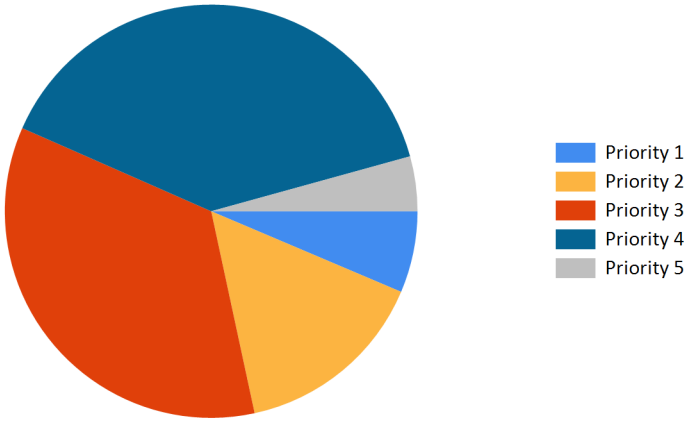


Figure 3: Current deficiencies by priority

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

		Life Cycle Capital Renewal Projections						
System	Current Deficiencies	Year 1 2017	Year 2 2018	Year 3 2019	Year 4 2020	Year 5 2021	LC Yr. 1-5 Total	Total 5-Year Need
Site	$6,917,900	$0	$0	$0	$0	$112,418	$112,418	$7,030,318
Roofing	$0	$0	$0	$0	$0	$0	$0	$0
Structural	$0	$0	$0	$0	$0	$0	$0	$0
Exterior	$937,751	$0	$0	$0	$0	$0	$0	$937,751
Interior	$7,055,826	$0	$0	$0	$1,929,734	$1,743,521	$3,673,255	$10,729,080
Mechanical	$5,183,665	$0	$0	$869,795	$623,728	$2,457,852	$3,951,375	$9,135,040
Electrical	$2,054,500	$0	$0	$0	$11,028	$21,527	$32,555	$2,087,055
Plumbing	$2,629,698	$0	$0	$0	$13,234	$156,989	$170,223	$2,799,921
Fire and Life Safety	$2,297,166	$0	$0	$642,214	$0	$0	$642,214	$2,939,380
Technology	$3,711,871	$0	$0	$0	$0	$0	$0	$3,711,871
Conveyances	$0	$0	$0	$0	$0	$0	$0	$0
Specialties	$5,368,728	$0	$0	$0	$0	$0	$0	$5,368,728
Total	**$36,157,104**	**$0**	**$0**	**$1,512,009**	**$2,577,724**	**$4,492,307**	**$8,582,040**	**$44,739,144**

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

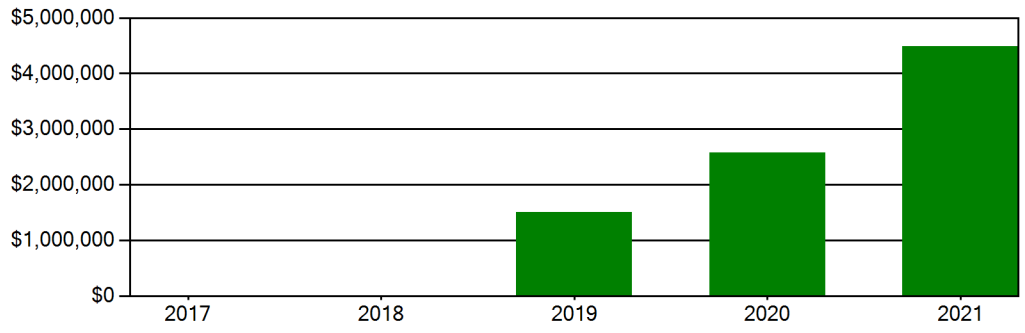
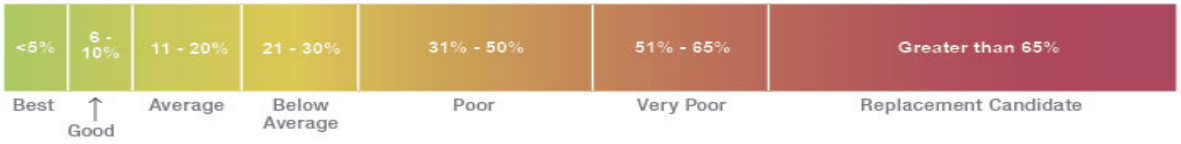


Figure 4: Life Cycle Capital Renewal Forecast

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 $80,184,240. For planning purposes, the total 5-year need at the Pilgrim High School is $44,750,908 (Life Cycle Years 1-5 plus the FCI deficiency cost). The Pilgrim High School facility has a 5-year FCI of 55.80%.

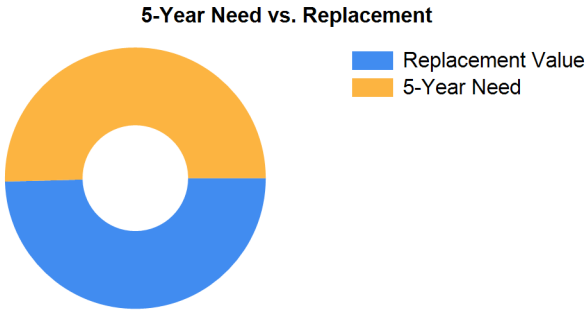


Figure 5: 5-Year FCI

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 1,204 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 Pilgrim High School cafeteria and/or library/media center to the size prescribed by the SCRs is estimated to be $1,108,080.

Summary of Findings

The Pilgrim High School comprises 222,734 square feet and was constructed in 1963. Current deficiencies at this school total $36,168,868. Five year capital renewal costs total $8,582,040. The total identified need for the Pilgrim High School (current deficiencies and 5-year capital renewal costs) is $44,750,908. The 5-year FCI is 55.80%.

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
Pilgrim High School Totals	222,734	1963	$36,168,868	$8,582,040	$44,750,908	55.80%

**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	Capital Renewal	31,000	SF	3	$331,131	12823
Pavement Markings: Words/Symbols Are Required	Traffic	6	Ea.	3	$2,852	16937
Note: Add handicap parking space markings in student, visitor, and staff parking lots (at least 2 in each lot).						
Sidewalk Requires Replacement	Traffic	18,000	SF	3	$513,376	16939
Note: Replace sidewalks (3000' long by 6' wide).						
The Access Is Not ADA Compliant And Requires An ADA Compliant Ramp	Barrier to Accessibility	1	Ea.	3	$14,260	12825
Note: At road curb adjacent to ADA parking.						
Traffic Signage Is Required	Traffic	2	Ea.	3	$5,704	16938
Note: Update school zone signage on Pilgrim Pkwy to make it more visible.						
Asphalt Paving Requires Replacement	Capital Renewal	107	CAR	4	$442,515	12821
Asphalt Paving Requires Replacement	Capital Renewal	460	CAR	4	$1,902,399	12822
Backstops Require Replacement	Capital Renewal	3	Ea.	4	$106,953	12826
Backstops Require Replacement	Educational Adequacy	1	Ea.	4	$35,651	28611
Note: Backstops Require Replacement						
Fencing Requires Replacement (4' Chain Link Fence)	Capital Renewal	1,200	LF	4	$96,971	12819
Fencing Requires Replacement (8' Chain Link Fence)	Capital Renewal	4,000	LF	4	$336,139	12818
Fencing Requires Replacement (Ornamental Fence)	Capital Renewal	140	LF	4	$188,000	12820
Site Marquee Requires Replacement	Capital Renewal	1	Ea.	4	$35,651	12824
Site Requires Regrading And Gravel Fill	Functional Deficiency	71,600	SF	4	$1,701,748	12830
Note: Regrade and resurface five courtyards.						
Track Requires Repair	Capital Renewal	1	Ea.	4	$89,128	12827
PE / Recess Playfield is Missing and is Needed	Educational Adequacy	1	Ea.	5	$64,020	54955
Note: PE / Recess Playfield is Missing and is Needed						
Play Field Requires Regrading	Capital Renewal	200,000	SF	5	$1,051,400	12817
Note: Ballfields and football field.						
	Sub Total for System	**17**	**items**		**$6,917,900**	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Pole Lighting Is Missing And Needed	Functional Deficiency	3	Ea.	3	$74,333	12828
Note: Need to add more poles around school campus. Need three in the back to illuminate the parking lot.						
	Sub Total for System	**1**	**items**		**$74,333**	

Specialties

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Bleachers Require Replacement	Capital Renewal	2,500	Seat	4	$1,931,103	12816
Note: Football field bleachers						
High School Athletic Components Require Replacement	Capital Renewal	1	Ea.	4	$566,169	12829
	Sub Total for System	**2**	**items**		**$2,497,272**	
	Sub Total for School and Site Level	**20**	**items**		**$9,489,504**	

Building: 01 - Main Building

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Aluminum Storefront Exterior Door Requires Replacement	Capital Renewal	4	Door	2	$29,709	12836
Location: Cafeteria doors to courtyard						
The Metal Exterior Door Requires Replacement	Capital Renewal	43	Door	2	$287,437	12835
The Overhead Door Requires Replacement	Capital Renewal	4	Door	2	$153,300	12837
Location: 10' X10' in shop classrooms						
The Steel Window Requires Replacement	Capital Renewal	852	SF	2	$189,842	12839
Note: The steel windows are corroded.						

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Storefront/Curtain Wall Requires Replacement (Bldg SF)	Capital Renewal	1,008	SF	2	$84,650	12879
Note: The cafeteria wood window wall is deteriorated and damaged and needs to be replaced.						
The Wood Window Requires Replacement	Capital Renewal	392	SF	2	$77,964	12838
Exterior Wood Stairs Require Replacement	Capital Renewal	30	LF	3	$17,826	12854
Note: Replace wood stairs to mezzanines in three shop classrooms.						
	Sub Total for System	**7**	**items**		**$840,728**	

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Interior Doors Require Replacement	Capital Renewal	250	Door	3	$1,200,750	12841
Note: The interior wood doors are damaged and worn.						
The Acoustical Ceiling Tiles Require Replacement	Capital Renewal	176,911	SF	3	$1,664,368	12840
The Carpet Flooring Requires Replacement	Capital Renewal	1,000	SF	3	$22,663	12842
Location: Child Development						
The Ceramic Tile Flooring Requires Replacement	Capital Renewal	3,000	SF	3	$83,918	12844
Location: Girls locker room						
The Interior Door Hardware Requires Replacement	Capital Renewal	264	Door	3	$862,758	18973
The Wood Flooring Requires Replacement	Capital Renewal	14,600	SF	3	$504,602	12843
Note: The wood flooring is worn and damaged.						
Location: Stage and Gymnasium						
Ceiling Grid Requires Replacement	Capital Renewal	176,911	SF	4	$2,185,680	12873
Note: The acoustical ceiling grid and tiles are deteriorated and damaged.						
Interior Storefront Doors Require Replacement	Capital Renewal	14	Door	4	$69,322	12871
Location: Entry vestibules & main office aluminum sliders						
Light Deterioration or Damage of 9x9 Asbestos Floor Tile is Present	Hazardous Material	8,000	SF	4	$237,674	Rollup
Paint (probable pre-1978 in base layer(s)) - damaged area < 9 sq. ft. AND NOT in children-accessible area (measurement unit - linear feet)	Hazardous Material	21	LF	4	$499	Rollup
Paint (probable pre-1978 in base layer(s)) - damaged area < 9 sq. ft. AND NOT in children-accessible area (measurement unit - square feet)	Hazardous Material	1,629	SF	4	$16,132	Rollup
Wall/ceiling materials - area < 9 sq. ft. AND in children-accessible area	Hazardous Material	13	SF	4	$129	Rollup
Wall/ceiling materials - large areas (> 10 sq. ft.) of damage & area in active use - children	Hazardous Material	56	SF	4	$555	Rollup
Classroom Door Requires Vision Panel	Educational Adequacy	5	Ea.	5	$10,663	Rollup
Room lacks appropriate sound control.	Educational Adequacy	200	SF	5	$6,959	Rollup
Wall/ceiling materials - area < 9 sq. ft. AND NOT in children-accessible area	Hazardous Material	9	SF	5	$89	Rollup
	Sub Total for System	**16**	**items**		**$6,866,761**	

Mechanical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Replace Unit Vent	Capital Renewal	60	Ea.	2	$1,057,175	12875
The Fin Tube Water Radiant Heater Requires Replacement	Capital Renewal	45	Ea.	2	$78,522	12864
The Mechanical / HVAC Piping / System Is Beyond Its Useful Life	Capital Renewal	219,111	SF	2	$1,759,322	12865
Note: Piping is corroding and insulation needs to be replaced.						
1200 KW Emergency Generator	Capital Renewal	1	Ea.	4	$742,732	12876
Existing Controls Are Inadequate And Should Be Replaced With DDC Controls	Capital Renewal	219,111	SF	4	$1,374,291	12847
Note: Control system needs to be updated.						
Lab lacks an appropriate fume hood.	Educational Adequacy	6	Ea.	4	$131,915	Rollup
Small HVAC Circulating Pump Requires Replacement	Capital Renewal	4	Ea.	4	$39,707	12853
Note: Units were somewhat noisy.						
	Sub Total for System	**7**	**items**		**$5,183,665**	

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	$75,353	12866
The Electrical Transformer Requires Replacement	Capital Renewal	2	Ea.	2	$14,649	12855

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Electrical Transformer Requires Replacement	Capital Renewal	6	Ea.	2	$50,244	12856
The Electrical Transformer Requires Replacement	Capital Renewal	1	Ea.	2	$13,197	12857
The Electrical Transformer Requires Replacement	Capital Renewal	5	Ea.	2	$35,354	12874
The Lighting Fixtures Require Replacement	Capital Renewal	219,111	SF	2	$1,356,173	12867
Note: Interior lighting needs to be upgraded.						
The Motor Control Center Requires Replacement	Capital Renewal	1	Ea.	2	$4,092	12846
The Panelboard Requires Replacement	Capital Renewal	10	Ea.	2	$80,215	12858
The Panelboard Requires Replacement	Capital Renewal	8	Ea.	2	$40,405	12859
The Panelboard Requires Replacement	Capital Renewal	4	Ea.	2	$24,164	12860
The Panelboard Requires Replacement	Capital Renewal	1	Ea.	2	$6,536	12861
The Panelboard Requires Replacement	Capital Renewal	3	Ea.	2	$37,374	12862
The Mounted Building Lighting Requires Replacement	Capital Renewal	40	Ea.	3	$62,191	12845
Note: Need to replace with LEDs to provide better illumination around the school.						
Room Has Insufficient Electrical Outlets	Educational Adequacy	320	Ea.	5	$158,805	Rollup
	Sub Total for System	**15**	**items**		**$1,968,637**	

Plumbing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Backflow Preventer Requires Replacement	Capital Renewal	1	Ea.	2	$4,084	12863
The Plumbing / Domestic Water Piping System Is Beyond Its Useful Life	Capital Renewal	219,111	SF	3	$1,836,398	12852
Note: Piping is corroding and needs to be replaced.						
The Showers Plumbing Fixtures Require Replacement	Capital Renewal	65	Ea.	3	$514,961	12848
Note: Showers are outdated and are in bad condition.						
Non-Refrigerated Drinking Fountain Requires Replacement	Capital Renewal	10	Ea.	4	$106,458	12849
The Classroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	20	Ea.	4	$56,646	12832
Note: Rusting and corroding.						
The Custodial Mop Or Service Sink Requires Replacement	Capital Renewal	6	Ea.	4	$16,102	12851
Note: Units are corroded and need to be replaced.						
Room lacks a drinking fountain.	Educational Adequacy	9	Ea.	5	$9,925	Rollup
Room lacks a private shower area.	Educational Adequacy	3	Ea.	5	$30,706	Rollup
The Class Room Lavatories Plumbing Fixtures Are Missing And Should Be Installed	Educational Adequacy	36	Ea.	5	$54,418	Rollup
	Sub Total for System	**9**	**items**		**$2,629,698**	

Fire and Life Safety

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Install Fire Sprinklers (NFPA 13)	Code Compliance	160,000	SF	1	$2,183,082	12834
Note: Installed so far in corridors and places of assembly but needs to be expanded schoolwide.						
Room lacks shut-off valves for utilities. (International Fuel Gas Code, Section 409.6)	Educational Adequacy	10	Ea.	1	$114,084	Rollup
	Sub Total for System	**2**	**items**		**$2,297,166**	

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room lacks Interactive White Board	Educational Adequacy	8	Ea.	3	$45,633	Rollup
Technology: Auditorium AV/Multimedia system is in need of minor improvements.	Technology	1	Room	3	$99,031	22906
Technology: Campus network switching electronics are antiquated and/or do not meet standards.	Technology	970	Ea.	3	$480,300	22893
Technology: Classroom AV/Multimedia systems are in need of improvements.	Technology	85	Ea.	3	$841,763	22898
Technology: Gymnasium sound system is nonexistent, inadequate, or near end of useful life.	Technology	1	Ea.	3	$9,507	22897
Technology: Instructional spaces do not have local sound reinforcement.	Technology	85	Ea.	3	$420,881	22903

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Technology: Intermediate Telecommunications Room grounding system is inadequate or non-existent.	Technology	1	Ea.	3	$5,546	22873
Technology: Intermediate Telecommunications Room grounding system is inadequate or non-existent.	Technology	1	Ea.	3	$5,546	22876
Technology: Intermediate Telecommunications Room grounding system is inadequate or non-existent.	Technology	1	Ea.	3	$5,546	22879
Technology: Intermediate Telecommunications Room grounding system is inadequate or non-existent.	Technology	1	Ea.	3	$5,546	22882
Technology: Intermediate Telecommunications Room grounding system is inadequate or non-existent.	Technology	1	Ea.	3	$5,546	22885
Technology: Intermediate Telecommunications Room grounding system is inadequate or non-existent.	Technology	1	Ea.	3	$5,546	22888
Technology: Intermediate Telecommunications Room grounding system is inadequate or non-existent.	Technology	1	Ea.	3	$5,546	22891
Technology: Intermediate Telecommunications Room is not dedicated and/or inadequate.	Technology	1	Ea.	3	$47,139	22872
Technology: Intermediate Telecommunications Room is not dedicated and/or inadequate.	Technology	1	Ea.	3	$47,139	22875
Technology: Intermediate Telecommunications Room is not dedicated and/or inadequate.	Technology	1	Ea.	3	$47,139	22878
Technology: Intermediate Telecommunications Room is not dedicated and/or inadequate.	Technology	1	Ea.	3	$47,139	22881
Technology: Intermediate Telecommunications Room is not dedicated and/or inadequate.	Technology	1	Ea.	3	$47,139	22884
Technology: Intermediate Telecommunications Room is not dedicated and/or inadequate.	Technology	1	Ea.	3	$47,139	22887
Technology: Intermediate Telecommunications Room is not dedicated and/or inadequate.	Technology	1	Ea.	3	$47,139	22890
Technology: Intermediate Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	$4,952	22874
Technology: Intermediate Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	$4,952	22877
Technology: Intermediate Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	$4,952	22880
Technology: Intermediate Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	$4,952	22883
Technology: Intermediate Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	$4,952	22886
Technology: Intermediate Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	$4,952	22889
Technology: Intermediate Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	$4,952	22892
Technology: Main Telecommunications Room ground system is inadequate or non-existent.	Technology	1	Ea.	3	$6,932	22871
Technology: Main Telecommunications Room is not dedicated and/or inadequate.	Technology	1	Ea.	3	$52,288	22869
Technology: Main Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	$9,408	22870
Technology: Network cabling infrastructure is outdated (Cat 5 or less) and/or does not meet standards.	Technology	672	Ea.	3	$299,470	22896
Technology: Network cabling infrastructure is partially outdated and/or needs expansion.	Technology	85	Ea.	3	$37,879	22894
Technology: Network system inadequate and/or near end of useful life	Technology	14	Ea.	3	$110,915	22901
Technology: Network system inadequate and/or near end of useful life	Technology	56	Ea.	3	$277,287	22902

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Technology: Number of current, up to date, network switch ports are insufficient to support campus technology.	Technology	96	Ea.	3	$47,535	22895
Technology: PA/Bell/Clock system is inadequate and/or near end of useful life.	Technology	219,111	SF	3	$390,578	22900
Technology: Special Space AV/Multimedia systems are in need of minor improvements.	Technology	1	Room	3	$19,806	22899
Technology: Telephone handsets are inadequate and sparsely deployed throughout the campus.	Technology	85	Ea.	3	$134,682	22904
Technology: Telephone system is inadequate and/or non-existent.	Technology	1	Ea.	3	$7,526	22905
	Sub Total for System	**39**	**items**		**$3,694,874**	

Specialties

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Auditorium Seating Requires Replacement	Capital Renewal	840	Ea.	3	$1,081,418	12877
Note: Auditorium seating.						
Room has insufficient writing area.	Educational Adequacy	3	Ea.	3	$13,690	Rollup
Replace Cabinetry In Classes/Labs	Capital Renewal	53	Room	4	$617,660	12869
Note: The cabinets are worn and damaged.						
The Metal Student Lockers Require Replacement	Capital Renewal	1,893	Ea.	4	$970,134	12868
Note: The lockers are damaged and corroded.						
Welding Bays Are Required	Educational Adequacy	2	Ea.	4	$10,838	Rollup
Work Tables Are Required	Educational Adequacy	1	Ea.	4	$3,585	Rollup
Room lacks an appropriate refrigerator.	Educational Adequacy	11	Ea.	5	$94,119	Rollup
The room lacks a washer and/or dryer.	Educational Adequacy	4	Ea.	5	$54,760	Rollup
	Sub Total for System	**8**	**items**		**$2,846,204**	
	Sub Total for Building 01 - Main Building	**103**	**items**		**$26,327,732**	

Building: 02 - Building 02

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Metal Exterior Door Requires Replacement	Capital Renewal	1	Door	2	$6,685	12880
Note: The steel door is deteriorated.						
The Exterior Requires Painting (Bldg SF)	Capital Renewal	530	SF	4	$7,348	12881
Note: The exterior paint is in poor condition.						
	Sub Total for System	**2**	**items**		**$14,033**	

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room Lighting Is Inadequate Or In Poor Condition.	Educational Adequacy	1,920	SF	4	$72,667	Rollup
Classroom Door Requires Vision Panel	Educational Adequacy	3	Ea.	5	$6,799	Rollup
	Sub Total for System	**2**	**items**		**$79,466**	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room Has Insufficient Electrical Outlets	Educational Adequacy	12	Ea.	5	$5,915	Rollup
	Sub Total for System	**1**	**items**		**$5,915**	

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room lacks Interactive White Board	Educational Adequacy	3	Ea.	3	$16,997	Rollup
	Sub Total for System	**1**	**items**		**$16,997**	

Specialties

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room has insufficient writing area.	Educational Adequacy	3	Ea.	3	$13,598	Rollup
	Sub Total for System	**1**	**items**		**$13,598**	
	Sub Total for Building 02 - Building 02	**7**	**items**		**$130,009**	

Building: 03 - Annex

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Metal Exterior Door Requires Replacement	Capital Renewal	6	Door	2	$40,108	13484
Note: The steel doors are in poor condition.						
The Exterior Requires Painting (Bldg SF)	Capital Renewal	3,093	SF	4	$42,882	13489
Note: The paint is in poor condition.						
	Sub Total for System	**2**	**items**		**$82,990**	

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Interior Doors Require Replacement	Capital Renewal	9	Door	3	$43,227	13485
Note: The wood doors are in poor condition.						
The Interior Door Hardware Requires Replacement	Capital Renewal	9	Door	3	$29,412	18974
The Vinyl Composition Tile Requires Replacement	Capital Renewal	3,093	SF	3	$36,961	13486
Note: The vinyl flooring is in poor condition.						
	Sub Total for System	**3**	**items**		**$109,600**	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Panelboard Requires Replacement	Capital Renewal	1	Ea.	2	$4,060	13488
The Mounted Building Lighting Requires Replacement	Capital Renewal	1	Ea.	3	$1,555	13487
Note: Annex building is being renovated only one of the building lights has yet to be replaced.						
	Sub Total for System	**2**	**items**		**$5,615**	

Specialties

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Replace Cabinetry In Classes/Labs	Capital Renewal	1	Room	4	$11,654	13490
Note: The cabinets are in poor condition.						
	Sub Total for System	**1**	**items**		**$11,654**	
	Sub Total for Building 03 - Annex	**8**	**items**		**$209,859**	
	Total for Campus	**138**	**items**		**$36,157,104**	

Pilgrim High School - Life Cycle Summary Yrs 1-5

Site Level Life Cycle Items

Site

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Pedestrian Pavement	Sidewalks - Concrete		5,500	SF	$112,418	5
		Sub Total for System	**1**	**items**	**$112,418**	
		Sub Total for Building -	**1**	**items**	**$112,418**	

Building: 01 - Main Building

Interior

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Resilient Flooring	Vinyl Composition Tile Flooring		167,911	SF	$1,926,232	4
Acoustical Suspended Ceilings	Exposed Tectum Ceilings		23,500	SF	$1,743,521	5
		Sub Total for System	**2**	**items**	**$3,669,753**	

Mechanical

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Decentralized Heating Equipment	Unit Heater Electric (3 KW)		5	Ea.	$6,317	3
Decentralized Heating Equipment	Unit Heater Electric (7 KW)		2	Ea.	$3,801	3
HVAC Air Distribution	Ductwork (Bldg.SF)		40,000	SF	$588,046	3
Decentralized Cooling	Window Units		26	Ea.	$86,810	3
Air Distribution	Make-up Air Unit		6	Ea.	$95,397	3
HVAC Air Distribution	Roof Top Unit - DX Gas (10 Ton)		3	Ea.	$89,424	3
HVAC Air Distribution	AHU 5,000 CFM Outdoor		3	Ea.	$427,814	4
Other HVAC Distribution Systems	VFD (5 HP)		2	Ea.	$12,024	4
Decentralized Cooling	Ductless Split System (1 Ton)		9	Ea.	$127,044	4
Decentralized Cooling	Condenser - Outside Air Cooled (3 Tons)		7	Ea.	$56,846	4
Heat Generation	Boiler - Cast Iron (14000 MBH)		2	Ea.	$1,588,919	5
Exhaust Air	Roof Exhaust Fan		89	Ea.	$463,166	5
Exhaust Air	Wall Exhaust Fan		5	Ea.	$13,388	5
Decentralized Heating Equipment	Heating Unit Vent - Steam/Hot water		23	Ea.	$389,040	5
		Sub Total for System	**14**	**items**	**$3,948,037**	

Electrical

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Lighting Fixtures	Canopy Mounted Fixtures (Ea.)		8	Ea.	$11,028	4
		Sub Total for System	**1**	**items**	**$11,028**	

Plumbing

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Building Support Plumbing System Supplementary Components	Sump Pump		1	Ea.	$1,449	4
Compressed-Air Systems	Air Compressor (5 hp)		1	Ea.	$11,785	4
Plumbing Fixtures	Classroom Lavatories		53	Ea.	$144,107	5
Plumbing Fixtures	Mop/Service Sinks		5	Ea.	$12,882	5
Note:	Kitchen					
		Sub Total for System	**4**	**items**	**$170,222**	

Fire and Life Safety

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Fire Detection and Alarm	Fire Alarm		219,111	SF	$642,214	3
		Sub Total for System	**1**	**items**	**$642,214**	
		Sub Total for Building 01 - Main Building	**22**	**items**	**$8,441,255**	

Building: 02 - Building 02

Interior

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Wall Painting and Coating	Painting/Staining (Bldg SF)		530	SF	$3,502	4
		Sub Total for System	**1**	**items**	**$3,502**	

Electrical

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Lighting Fixtures	Light Fixtures (Bldg SF)		530	SF	$3,149	5
		Sub Total for System	**1**	**items**	**$3,149**	
		Sub Total for Building 02 - Building 02	**2**	**items**	**$6,651**	

Building: 03 - Annex

Mechanical

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Decentralized Cooling	Window Units		1	Ea.	$3,339	5
		Sub Total for System	**1**	**items**	**$3,339**	

Electrical

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Lighting Fixtures	Light Fixtures (Bldg SF)		3,093	SF	$18,378	5
		Sub Total for System	**1**	**items**	**$18,378**	
		Sub Total for Building 03 - Annex	**2**	**items**	**$21,717**	
		Total for: Pilgrim High School	**27**	**items**	**$8,582,041**	

Supporting Photos

Site Aerial

Rear Exterior

Front Exterior

Building Light

125A Panelboard

Classroom Sink

Building Lights

Motor Control Center

Showers

Non-refrigerated Drinking Fountain

Mop Sink

Domestic Water Piping

3HP Pump

30KVA Transformer

45KVA Transformer

112.5KVA Transformer

100A Panelboard

100A Panelboard

225A Panelboard

400A Panelboard

225A Panelboard

Fin Tubed Radiator

HVAC Piping

2000A Switchgear

Lighting Fixtures

15KVA Transformer

Unit Ventilator

Generator

Baseball Field

Field Bleachers

Football Field

Playfield

Ornamental Fencing

Damaged Fencing

Asphalt Parking

Asphalt Roads

Typical Asphalt Courtyard Paving

Asphalt Walks

Ramp Needed At ADA Parking

Marquee

Competition Track

Backstop

Gym Bleachers

Courtyard

Original Steel Windows

Greenhouse Wood Windows

Stage Wood Floor

Interior Wood Doors

Mezzanine Stair

Gym Wood Floor

Hall Lockers

Girls Locker Room

Lab Tables

Boys Locker Room

Acoustical Ceiling Grid

Classroom Wardrobe Cabinet

Auditorium

Wood Window Wall

Music Classroom

Cafeteria Courtyard

Roof

Typical Courtyard Window Wall

Classroom Exterior

Courtyard Greenhouse

Rear Exterior

Woodworking Shop

Library

Main Gymnasium

Auxilliary Gym

Tennis Courts

Science Classroom

Cafeteria

Typical Classroom

Main Entry

Building 2 Exterior

Gym Exterior

Facility Condition Assessment

Warwick - Randall Holden School | *June 2017*

61 Hoxsie Avenue, Warwick, RI 02889

Introduction

Randall Holden School, located at 61 Hoxsie Avenue in Warwick, Rhode Island, was built in 1949. It comprises 35,827 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.

Randall Holden School serves grades 1 - 6, has 22 instructional spaces, and has an enrollment of 248. Instructional spaces are defined as rooms in which a student receives education. The LEA reported capacity for Randall Holden School is 325 with a resulting utilization of 76%.

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 Randall Holden School the 5-year need is $6,864,248. 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.

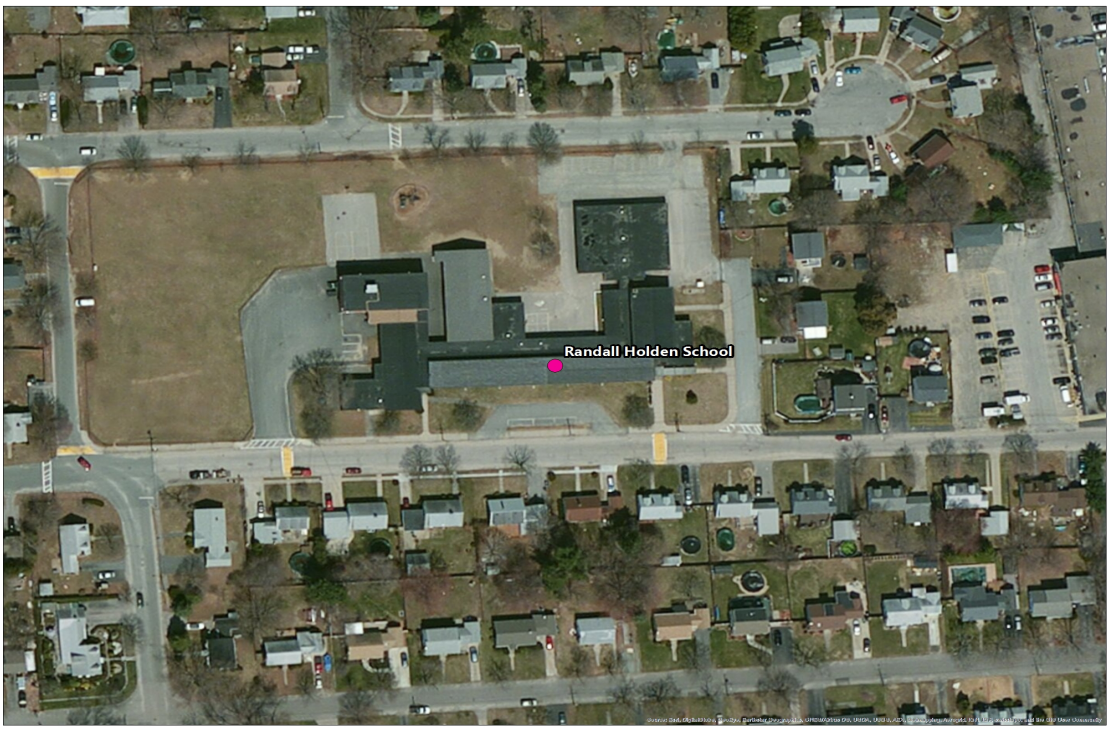


Figure 1: Aerial view of Randall Holden School

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 Randall Holden School campus, identified by discipline and building.

Site

The site level systems for this campus include:

Site	Asphalt Parking Lot Pavement
	Asphalt Roadway Pavement
	Asphalt Pedestrian Pavement
	Concrete Pedestrian Pavement

Building Envelope

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

01 - Main Building:	Brick Exterior Wall
	CMU Exterior Wall
	Painted Exterior Wall
	Painted Gypsum Soffit
	Aluminum Exterior Windows
	Steel Exterior Windows
	Steel Exterior Entrance Doors

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

01 - Main Building:	Composition Shingle Roofing
	EPDM Roofing
	Built-Up Roofing With Ballast
	Canopy Roofing

Interior

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

01 - Main Building:	Steel Interior Doors
	Wood Interior Doors
	Interior Door Hardware
	Door Hardware
	Exposed Metal Structure Ceiling
	Suspended Acoustical Grid System
	Suspended Acoustical Ceiling Tile
	Adhered Acoustical Ceiling Tiles
	Painted Ceilings
	CMU Wall
	Interior Wall Painting
	Concrete Flooring

01 - Main Building:	Quarry Tile Flooring
	Ceramic Tile Flooring
	Wood Flooring
	Vinyl Composition Tile Flooring

Mechanical

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

01 - Main Building:	3,200 MBH Copper Tube Boiler
	Finned Wall Radiator
	Steam/Hot Water Heating Unit Vent
	3 kW Electric Unit Heater
	Pneumatic Heating System Controls
	Window Units
	Make-up Air Unit
	1 HP or Smaller Pump
	5 HP Pump
	2-Pipe Hot Water Hydronic Distribution System
	5,000 CFM Outdoor AHU
	Ductwork
	Small Roof Exhaust Fan
	Supply Fan

Plumbing

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

01 - Main Building:	2" Backflow Preventers
	Gas Piping System
	10 Gallon Electric Water Heater
	30 Gallon Electric Water Heater
	Domestic Water Piping System
	Classroom Lavatories
	Mop/Service Sinks
	Non-Refrigerated Drinking Fountain
	Refrigerated Drinking Fountain
	Restroom Lavatories
	Toilets
	Urinals

Electrical

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

01 - Main Building:	400 Amp Distribution Panel
	Panelboard - 120/208 100A

01 - Main Building:	Panelboard - 120/208 225A
	Light Fixtures
	Building Mounted Lighting 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.

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

	Priority						
System	1	2	3	4	5	Total	% of Total
Site	-	-	$41,979	$602,096	$8,731	$652,806	11.14 %
Roofing	-	$423,363	$22,246	-	-	$445,609	7.60 %
Structural	-	-	-	-	-	$0	0.00 %
Exterior	-	$129,307	$720,945	$17,406	-	$867,658	14.81 %
Interior	-	-	$493,707	$515,654	$19,843	$1,029,204	17.56 %
Mechanical	-	$491,949	-	$295,224	-	$787,173	13.43 %
Electrical	-	$33,060	$27,293	-	$41,686	$102,040	1.74 %
Plumbing	-	$6,270	$322,360	$73,095	$13,018	$414,743	7.08 %
Fire and Life Safety	$508,386	-	-	-	-	$508,386	8.67 %
Technology	-	-	$845,859	-	-	$845,859	14.43 %
Conveyances	-	-	-	-	-	$0	0.00 %
Specialties	-	-	$4,563	$193,922	$8,556	$207,042	3.53 %
Total	$508,386	$1,083,950	$2,478,954	$1,697,396	$91,835	$5,860,521	

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

The building systems with the most need include:

Interior	-	$1,029,204
Exterior	-	$867,658
Technology	-	$845,859

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

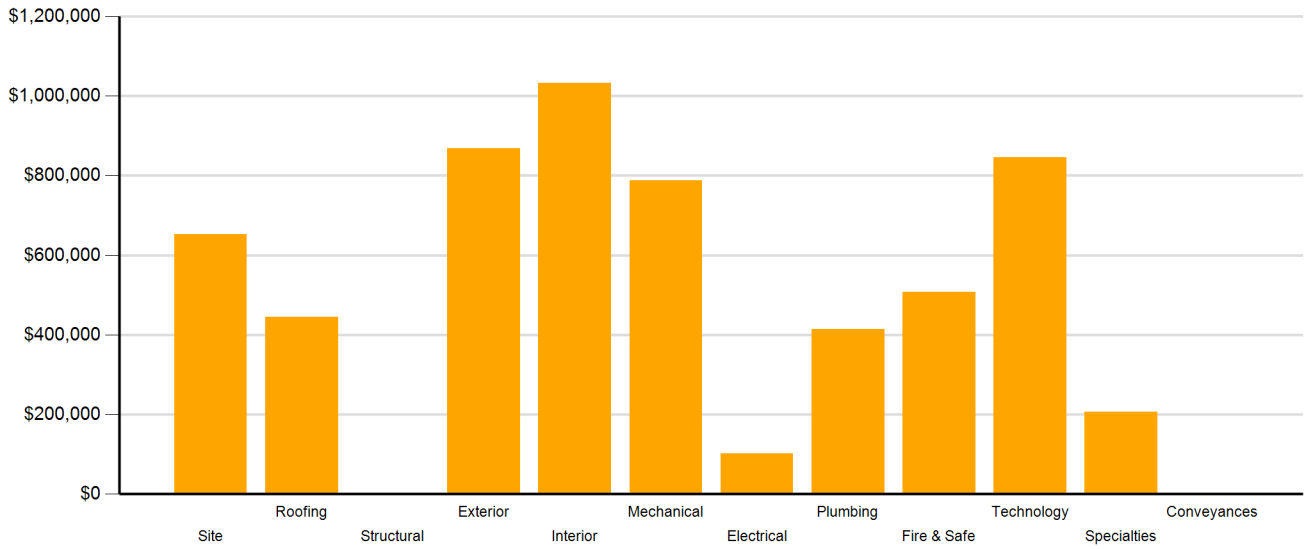


Figure 2: System Deficiencies

Current Deficiencies by Category

Deficiencies have been further grouped according to the observed category.

• **Acoustics** deficiencies relate to room acoustics, sound insolation, 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

	Priority					
Category	**1**	**2**	**3**	**4**	**5**	**Total**
Acoustics	-	-	$228,643	$74,154	-	$302,797
Barrier to Accessibility	-	-	-	$13,389	-	$13,389
Capital Renewal	-	$1,083,950	$1,372,173	$1,396,479	$14,063	$3,866,665
Code Compliance	$508,386	-	-	-	-	$508,386
Educational Adequacy	-	-	$21,676	$206,864	$77,771	$306,312
Functional Deficiency	-	-	$11,123	-	-	$11,123
Hazardous Material	-	-	-	$6,509	-	$6,509
Technology	-	-	$828,747	-	-	$828,747
Traffic	-	-	$16,593	-	-	$16,593
Total	$508,386	$1,083,950	$2,478,954	$1,697,396	$91,835	$5,860,521

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

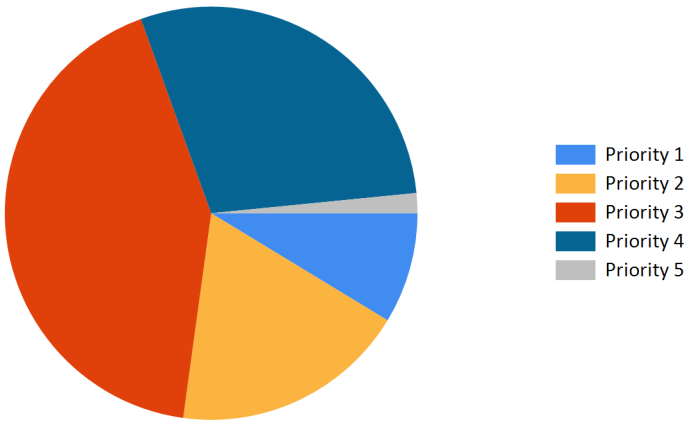


Figure 3: Current deficiencies by priority

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

		Life Cycle Capital Renewal Projections						
System	Current Deficiencies	Year 1 2017	Year 2 2018	Year 3 2019	Year 4 2020	Year 5 2021	LC Yr. 1-5 Total	Total 5-Year Need
Site	$652,806	$0	$0	$0	$44,588	$44,967	$89,555	$742,361
Roofing	$445,609	$0	$0	$0	$0	$0	$0	$445,609
Structural	$0	$0	$0	$0	$0	$0	$0	$0
Exterior	$867,658	$0	$0	$0	$71,527	$0	$71,527	$939,185
Interior	$1,029,204	$0	$0	$0	$560,651	$159,869	$720,520	$1,749,725
Mechanical	$787,173	$0	$0	$3,790	$17,158	$26,372	$47,320	$834,493
Electrical	$102,040	$0	$0	$0	$0	$0	$0	$102,040
Plumbing	$414,743	$0	$0	$0	$22,132	$48,942	$71,074	$485,817
Fire and Life Safety	$508,386	$0	$0	$0	$0	$0	$0	$508,386
Technology	$845,859	$0	$0	$0	$0	$0	$0	$845,859
Conveyances	$0	$0	$0	$0	$0	$0	$0	$0
Specialties	$207,042	$0	$0	$0	$0	$0	$0	$207,042
Total	**$5,860,521**	**$0**	**$0**	**$3,790**	**$716,056**	**$280,150**	**$999,996**	**$6,860,517**

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

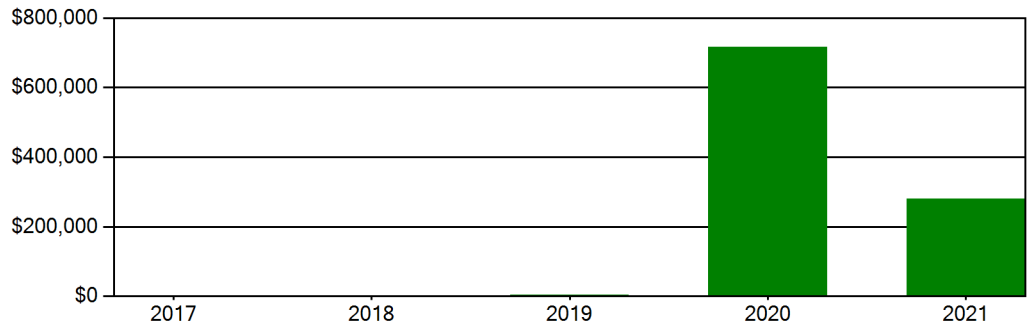
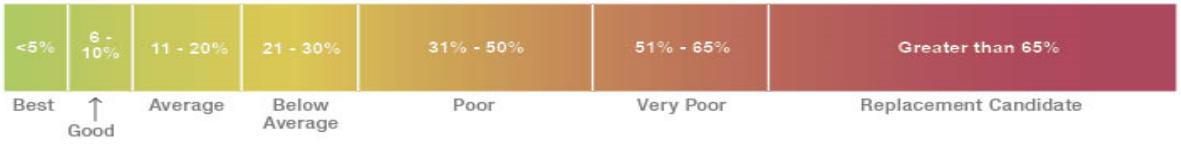


Figure 4: Life Cycle Capital Renewal Forecast

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 $12,539,450. For planning purposes, the total 5-year need at the Randall Holden School is $6,864,248 (Life Cycle Years 1-5 plus the FCI deficiency cost). The Randall Holden School facility has a 5-year FCI of 54.71%.

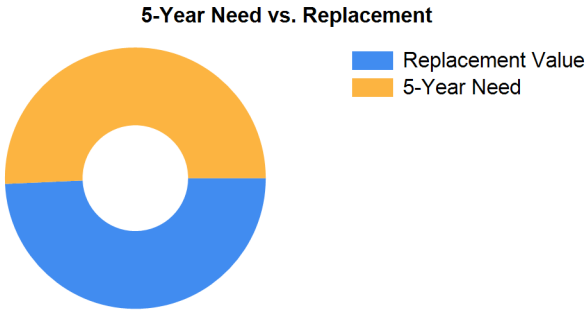


Figure 5: 5-Year FCI

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 199 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 Randall Holden School cafeteria and/or library/media center to the size prescribed by the SCRs is estimated to be $309,960.

Summary of Findings

The Randall Holden School comprises 35,827 square feet and was constructed in 1949. Current deficiencies at this school total $5,864,252. Five year capital renewal costs total $999,996. The total identified need for the Randall Holden School (current deficiencies and 5-year capital renewal costs) is $6,864,248. The 5-year FCI is 54.71%.

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
Randall Holden School Totals	35,827	1949	$5,864,252	$999,996	$6,864,248	54.71%

**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.

Site Level Deficiencies

Site

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Asphalt Walks Require Replacement	Capital Renewal	2,300	SF	3	$25,387	12886
Note: The asphalt sidewalks are deteriorated.						
Crosswalk Requires Repainting	Traffic	2	Ea.	3	$1,965	16948
Note: Repaint raised crosswalks on Hoxsie Avenue.						
Crosswalk Requires Repainting	Traffic	1	Ea.	3	$982	16950
Note: Repaint yellow crosswalk at intersection of Anscot Court and Hoxsie Avenue.						
Sidewalk Requires Replacement	Traffic	263	SF	3	$7,751	16949
Note: Replace sidewalk leading to school building on west side of campus.						
Traffic Signage Is Required	Traffic	2	Ea.	3	$5,894	16947
Note: Add school zone signage.						
Asphalt Paving Requires Replacement	Capital Renewal	25	CAR	4	$106,838	12884
Note: The asphalt parking lot is deteriorated.						
Asphalt Paving Requires Replacement	Capital Renewal	50	CAR	4	$213,675	12885
Note: The asphalt roads are deteriorated.						
Asphalt Paving Requires Replacement	Capital Renewal	20	CAR	4	$85,470	16572
Note: Paved play area is deteriorating.						
Fencing Requires Replacement (4' Chain Link Fence)	Capital Renewal	1,600	LF	4	$133,605	12883
Note: The fencing is corroding and damaged.						
Playground Requires Impact Resistant Material	Capital Renewal	1	Ea.	4	$49,119	12882
Note: The north playground impact surface is worn and uneven mulch.						
Exterior Basketball Goals are Required	Educational Adequacy	1	Ea.	5	$7,552	28817
Note: Exterior Basketball Goals are Required						
Exterior Basketball Goals Require Repair	Capital Renewal	1	Ea.	5	$737	12887
Note: The basketball goal at the north exterior play area is in poor condition.						
Paving Requires Restriping	Capital Renewal	6	CAR	5	$442	16951
Note: Repaint pavement markings in front circle driveway (handicap parking/visitor parking spots).						
	Sub Total for System	**13**	**items**		**$639,417**	
	Sub Total for School and Site Level	**13**	**items**		**$639,417**	

Building: 01 - Main Building

Site

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Handrails Missing Or Not Compliant	Barrier to Accessibility	50	LF	4	$13,389	12905
Note: The railings at the exit stairs on the north side are in very poor condition.						
	Sub Total for System	**1**	**items**		**$13,389**	

Roofing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
EPDM Roofing Requires Replacement (Bldg SF)	Capital Renewal	30,907	SF	2	$423,363	12915
Note: The main building rubber roofing is in poor condition with leaks reported.						
Awning Or Canopy Metal Roofing System Requires Replacement	Capital Renewal	360	SF	3	$22,246	12904
Note: The steel canopy is severely rusted.						
	Sub Total for System	**2**	**items**		**$445,609**	

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Metal Exterior Door Requires Replacement	Capital Renewal	17	Door	2	$118,184	12891
Note: The original steel exterior doors are in poor condition.						
The Steel Window Requires Replacement	Capital Renewal	48	SF	2	$11,123	12892
Note: Several original steel windows are in poor condition.						
The Brick Exterior Requires Repair	Capital Renewal	10,000	SF Wall	3	$720,945	12890
Note: The brick is severely weathered in many areas and requires repair and repointing.						

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Exterior Soffit Requires Replacement	Capital Renewal	130	SF	4	$17,406	12888
Note: The plywood soffit on the south side of the building is in poor condition.						
	Sub Total for System	**4**	**items**		**$867,658**	

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Classroom Entry Doors Provide Insufficient Sound Isolation	Acoustics	18	Ea.	3	$171,482	19860
Note: All classrooms						
Classroom Interior Doors Provide Insufficient Sound Isolation	Acoustics	6	Ea.	3	$57,161	19861
Note: All classrooms						
Interior Doors Require Replacement	Capital Renewal	47	Door	3	$234,771	12893
Note: The interior wood doors are in poor condition.						
The Ceramic Tile Flooring Requires Replacement	Capital Renewal	300	SF	3	$8,727	12895
Note: The ceramic tile flooring is deteriorated and damaged.						
The Wood Flooring Requires Replacement	Capital Renewal	600	SF	3	$21,567	12894
Note: The stage wood flooring is in poor condition.						
Adhered Acoustical Ceiling Tile Requires Replacement	Capital Renewal	14,817	SF	4	$174,063	12920
Note: The adhered tile ceilings are in poor condition.						
Interior Toilet Partition Requires Repair	Capital Renewal	5	Ea.	4	$2,832	12901
Note: The older toilet partitions are damaged and worn.						
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	9	Ea.	4	$2,781	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	130	LF	4	$3,213	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	50	SF	4	$515	Rollup
Room Is Excessively Reverberant (Install Fiberglass Wall Panel)	Acoustics	1,200	SF	4	$74,154	19862
Note: Music space						
Room Lighting Is Inadequate Or In Poor Condition.	Educational Adequacy	5,414	SF	4	$206,295	Rollup
The Stone/Quarry Flooring Requires Replacement	Capital Renewal	1,050	SF	4	$51,800	12896
Note: The quarry tile flooring is deteriorated.						
Interior Walls Require Repainting (Bldg SF)	Capital Renewal	1,800	SF	5	$12,884	Rollup
Room lacks appropriate sound control.	Educational Adequacy	200	SF	5	$6,959	Rollup
	Sub Total for System	**15**	**items**		**$1,029,204**	

Mechanical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Copper Tube Boiler Requires Replacement	Capital Renewal	1	Ea.	2	$185,540	12918
Note: Boiler is obsolete and corroding.						
The Mechanical / HVAC Piping / System Is Beyond Its Useful Life	Capital Renewal	35,827	SF	2	$299,175	12912
Note: Piping is corroding. Insulation has turned black on some piping and is falling off on other sections.						
The Window AC Unit Component Requires Replacement	Capital Renewal	2	Ea.	2	$7,234	12908
Note: Window units are obsolete, are not efficient and need to be replaced.						
Existing Controls Are Inadequate And Should Be Replaced With DDC Controls	Capital Renewal	35,827	SF	4	$262,167	12914
Note: Controls need to be upgraded to DDC.						
Small HVAC Circulating Pump Requires Replacement	Capital Renewal	4	Ea.	4	$33,056	12919
Note: Pumps are noisy, rusted, and past their life expectancy.						
	Sub Total for System	**5**	**items**		**$787,173**	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Distribution Panel Requires Replacement	Capital Renewal	1	Ea.	2	$27,808	12913
Note: Panel is past life expectancy, and needs to be replaced for its condition. The school needs a distribution panel with a capacity greater than 400A.						
The Panelboard Requires Replacement	Capital Renewal	1	Ea.	2	$5,253	12909
Note: Panel in the small gym/auditorium is very old and past life expectancy. Breakers are not in good shape and panel is obsolete.						
The Electrical Receptacles Are Inadequate And More are Needed	Functional Deficiency	18	Ea.	3	$11,123	12902
Note: More receptacles are needed in classrooms.						

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Mounted Building Lighting Requires Replacement	Capital Renewal	10	Ea.	3	$16,170	12897
Note: Lights do not illuminate clearly and are past life expectancy.						
Room Has Insufficient Electrical Outlets	Educational Adequacy	84	Ea.	5	$41,686	Rollup
	Sub Total for System	**5**	**items**		**$102,040**	

Plumbing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Backflow Preventer Requires Replacement	Capital Renewal	1	Ea.	2	$4,247	12911
Note: Backflow preventer is rusted and corroding, and needs to be replaced.						
The Electric Water Heater Requires Replacement	Capital Renewal	1	Ea.	2	$2,023	12910
The Plumbing / Domestic Water Piping System Is Beyond Its Useful Life	Capital Renewal	35,827	SF	3	$312,282	12907
Note: Piping is corroding and in bad condition.						
The Urinal Plumbing Fixtures Require Replacement	Capital Renewal	7	Ea.	3	$10,079	12906
Note: Low flow, units are corroding and need to be replaced.						
Floor Drains Are Required	Educational Adequacy	1	Ea.	4	$570	Rollup
Non-Refrigerated Drinking Fountain Requires Replacement	Capital Renewal	2	Ea.	4	$22,143	12900
Note: Units are corroding and have low flow, need to be replaced.						
The Custodial Mop Or Service Sink Requires Replacement	Capital Renewal	2	Ea.	4	$5,582	12903
Note: Mop sinks have low flow and are corroding.						
The Restroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	13	Ea.	4	$44,800	12898
Note: Sinks are past life expectancy and have low flow. Some units are corroding.						
Room lacks a drinking fountain.	Educational Adequacy	4	Ea.	5	$4,411	Rollup
The Class Room Lavatories Plumbing Fixtures Are Missing And Should Be Installed	Educational Adequacy	7	Ea.	5	$8,607	Rollup
	Sub Total for System	**10**	**items**		**$414,743**	

Fire and Life Safety

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Install Fire Sprinklers (NFPA 13)	Code Compliance	35,827	SF	1	$508,386	12889
Note: Need to add a schoolwide sprinkler system.						
	Sub Total for System	**1**	**items**		**$508,386**	

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room lacks Interactive White Board	Educational Adequacy	3	Ea.	3	$17,113	Rollup
Technology: Campus network switching electronics are antiquated and/or do not meet standards.	Technology	148	Ea.	3	$76,214	22786
Technology: Classroom AV/Multimedia systems are in need of improvements.	Technology	20	Ea.	3	$205,984	22791
Technology: Instructional spaces do not have local sound reinforcement.	Technology	20	Ea.	3	$102,992	22796
Technology: Main Telecommunications Room ground system is inadequate or non-existent.	Technology	1	Ea.	3	$7,209	22785
Technology: Main Telecommunications Room is not dedicated and/or inadequate.	Technology	1	Ea.	3	$54,380	22783
Technology: Main Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	$9,784	22784
Technology: Network cabling infrastructure is outdated (Cat 5 or less) and/or does not meet standards.	Technology	96	Ea.	3	$44,493	22789
Technology: Network cabling infrastructure is partially outdated and/or needs expansion.	Technology	20	Ea.	3	$9,269	22787
Technology: Network system inadequate and/or near end of useful life	Technology	3	Ea.	3	$24,718	22794
Technology: Network system inadequate and/or near end of useful life	Technology	16	Ea.	3	$82,394	22795
Technology: Number of current, up to date, network switch ports are insufficient to support campus technology.	Technology	48	Ea.	3	$24,718	22788

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Technology: PA/Bell/Clock system is inadequate and/or near end of useful life.	Technology	35,872	SF	3	$66,502	22793
Technology: Special Space AV/Multimedia system is inadequate.	Technology	1	Ea.	3	$58,706	22790
Technology: Special Space AV/Multimedia systems are in need of minor improvements.	Technology	1	Room	3	$20,598	22792
Technology: Telephone handsets are inadequate and sparsely deployed throughout the campus.	Technology	20	Ea.	3	$32,958	22797
Technology: Telephone system is inadequate and/or non-existent.	Technology	1	Ea.	3	$7,827	22798
	Sub Total for System	**17**	**items**		**$845,859**	

Specialties

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room has insufficient writing area.	Educational Adequacy	1	Ea.	3	$4,563	Rollup
Replace Cabinetry In Classes/Labs	Capital Renewal	16	Room	4	$193,922	12916
Note: The classroom cabinets are worn and damaged.						
Room lacks an appropriate refrigerator.	Educational Adequacy	1	Ea.	5	$8,556	Rollup
	Sub Total for System	**3**	**items**		**$207,042**	
	Sub Total for Building 01 - Main Building	**63**	**items**		**$5,221,103**	
	Total for Campus	**76**	**items**		**$5,860,521**	

Randall Holden School - Life Cycle Summary Yrs 1-5

Site Level Life Cycle Items

Site

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Playfield Areas	ES Playgrounds		1	Ea.	$44,588	4
Pedestrian Pavement	Sidewalks - Concrete		2,200	SF	$44,967	5
		Sub Total for System	**2**	**items**	**$89,555**	
		Sub Total for Building -	**2**	**items**	**$89,555**	

Building: 01 - Main Building

Exterior

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Exterior Wall Veneer	Exterior Painting - Bldg SF basis		5,374	SF	$71,527	4
		Sub Total for System	**1**	**items**	**$71,527**	

Interior

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Resilient Flooring	Vinyl Composition Tile Flooring		31,117	SF	$356,966	4
Wall Painting and Coating	Painting/Staining (Bldg SF)		30,827	SF	$203,685	4
Interior Swinging Doors	Wood		30	Door	$138,326	5
Suspended Plaster and	Painted ceilings		5,150	SF	$21,543	5
		Sub Total for System	**4**	**items**	**$720,520**	

Mechanical

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Decentralized Heating Equipment	Unit Heater Electric (3 KW)		3	Ea.	$3,790	3
Facility Hydronic Distribution	Pump - 5HP		1	Ea.	$9,530	4
Facility Hydronic Distribution	Pump - 1HP or Less (Ea.)		1	Ea.	$7,628	4
Exhaust Air	Roof Exhaust Fan - Small		10	Ea.	$26,372	5
		Sub Total for System	**4**	**items**	**$47,321**	

Plumbing

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Plumbing Fixtures	Refrigerated Drinking Fountain		3	Ea.	$22,132	4
Plumbing Fixtures	Classroom Lavatories		18	Ea.	$48,942	5
		Sub Total for System	**2**	**items**	**$71,074**	
		Sub Total for Building 01 - Main Building	**11**	**items**	**$910,442**	
		Total for: Randall Holden School	**13**	**items**	**$999,997**	

Supporting Photos

Main Corridor

Music Room

Site Aerial

Paved Play Area Is Deteriorated

Restroom Sink

Building Light

Mop Sink

Non-Refrigerated Water Fountain

Window Unit

Urinals

Water Heater

100A Panel In Auditorium

Piping

Backflow Preventer

Boiler

400A Main Distribution Panel

Fencing

Pumps

Asphalt Roads

North Playground

Exterior Soffit

Asphalt Parking Lot

Steel Exterior Door

Asphalt Sidewalks

Stage Wood Flooring

Deteriorated Exterior Brick

Entry Canopy

Interior Wood Door

Classroom Cabinets

Ceramic Tile Flooring

Adhered Tile Ceiling

Exterior Stair Railings

Typical Classroom

Basement Painted Walls

Classroom Exterior

Multipurpose Addition

Front Exterior

Rear Exterior

Classroom Addition

Multipurpose Room

Library

Facility Condition Assessment

Warwick - Sherman School | *June 2017*

120 Killey Avenue, Warwick, RI 02889

Introduction

Sherman School, located at 120 Killey Avenue in Warwick, Rhode Island, was built in 1953. It comprises 42,280 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.

Sherman School serves grades 1 - 6, has 25 instructional spaces, and has an enrollment of 334. Instructional spaces are defined as rooms in which a student receives education. The LEA reported capacity for Sherman School is 425 with a resulting utilization of 79%.

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 Sherman School the 5-year need is $6,355,373. 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.

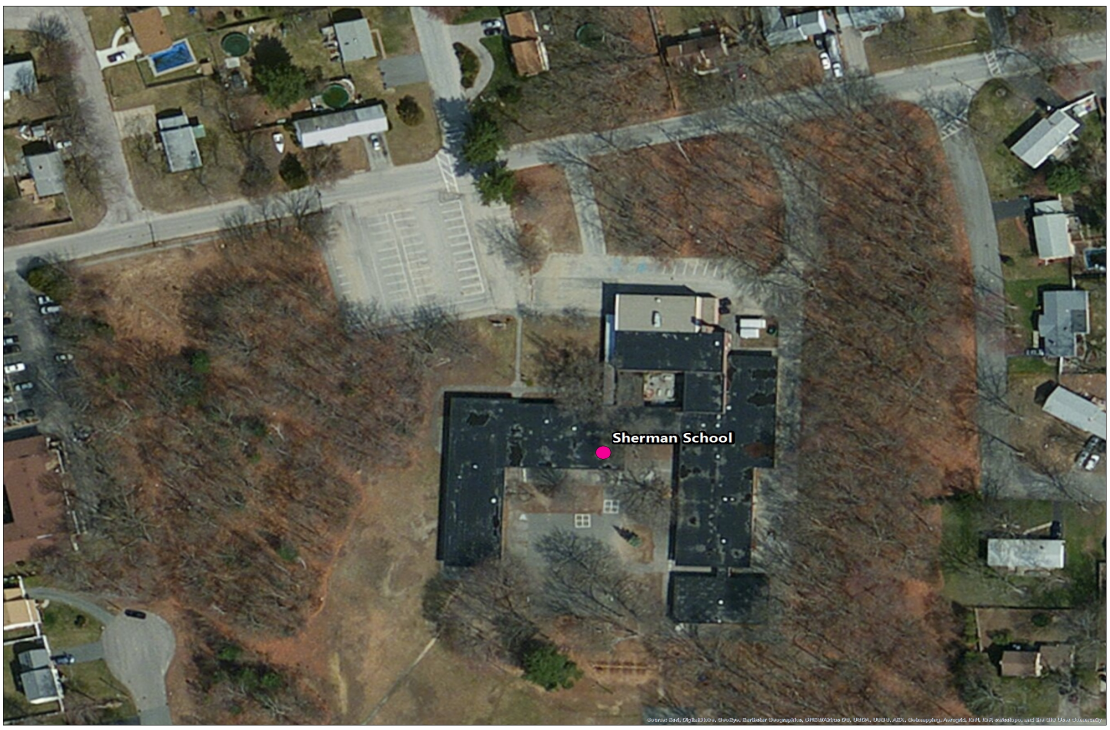


Figure 1: Aerial view of Sherman School

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 Sherman School campus, identified by discipline and building.

Site

The site level systems for this campus include:

Site	Asphalt Parking Lot Pavement
	Asphalt Roadway Pavement
	Asphalt Pedestrian Pavement

Building Envelope

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

01 - Main Building:	Brick Exterior Wall
	CMU Exterior Wall
	Pre-cast Concrete Panel Exterior Wall
	Painted Gypsum Soffit
	Aluminum Exterior Windows
	Steel Exterior Windows
	Steel Exterior Entrance Doors

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

01 - Main Building:	Built-Up Roofing With Ballast
	EPDM Roofing
	Canopy Roofing

Interior

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

01 - Main Building:	Steel Interior Doors
	Wood Interior Doors
	Interior Door Hardware
	Door Hardware
	Suspended Acoustical Grid System
	Suspended Acoustical Ceiling Tile
	Adhered Acoustical Ceiling Tiles
	Painted Ceilings
	CMU Wall
	Interior Wall Painting
	Concrete Flooring
	Ceramic Tile Flooring
	Wood Flooring
	Vinyl Composition Tile Flooring

Mechanical

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

01 - Main Building:	4,800 MBH Copper Tube Boiler
	750 MBH Copper Tube Boiler
	Finned Wall Radiator
	Steam/Hot Water Heating Unit Vent
	3 kW Electric Unit Heater
	Pneumatic Heating System Controls
	Window Units
	Make-up Air Unit
	1 HP or Smaller Pump
	2-Pipe Hot Water Hydronic Distribution System
	20 Ton DX Gas Roof Top Unit
	Ductwork
	Roof Exhaust Fan

Plumbing

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

01 - Main Building:	100 Gallon Water Storage Tank
	Backflow Preventers
	Gas Piping System
	80 Gallon Electric Water Heater
	Domestic Water Piping System
	Classroom Lavatories
	Mop/Service Sinks
	Non-Refrigerated Drinking Fountain
	Restroom Lavatories
	Toilets
	Urinals
	Air Compressor (2 hp)

Electrical

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

01 - Main Building:	600 Amp Distribution Panel
	Panelboard - 120/208 225A
	Building 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.

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

	Priority						
System	1	2	3	4	5	Total	% of Total
Site	-	-	$187,644	$799,025	-	$986,669	18.34 %
Roofing	-	$517,677	-	-	-	$517,677	9.62 %
Structural	-	-	-	-	-	$0	0.00 %
Exterior	-	$16,043	-	-	$18,370	$34,413	0.64 %
Interior	-	-	$189,894	$465,957	$99,690	$755,541	14.04 %
Mechanical	-	$490,908	-	$297,488	-	$788,396	14.65 %
Electrical	-	$30,343	$61,993	-	$47,641	$139,978	2.60 %
Plumbing	-	-	$372,352	$76,933	$16,241	$465,526	8.65 %
Fire and Life Safety	$129,086	-	-	-	-	$129,086	2.40 %
Technology	-	-	$1,281,464	-	-	$1,281,464	23.82 %
Conveyances	-	-	-	-	-	$0	0.00 %
Specialties	-	-	$4,563	$268,041	$8,556	$281,161	5.23 %
Total	$129,086	$1,054,971	$2,097,911	$1,907,444	$190,499	$5,379,912	

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

The building systems with the most need include:

Technology	-	$1,281,464
Site	-	$986,669
Mechanical	-	$788,396

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

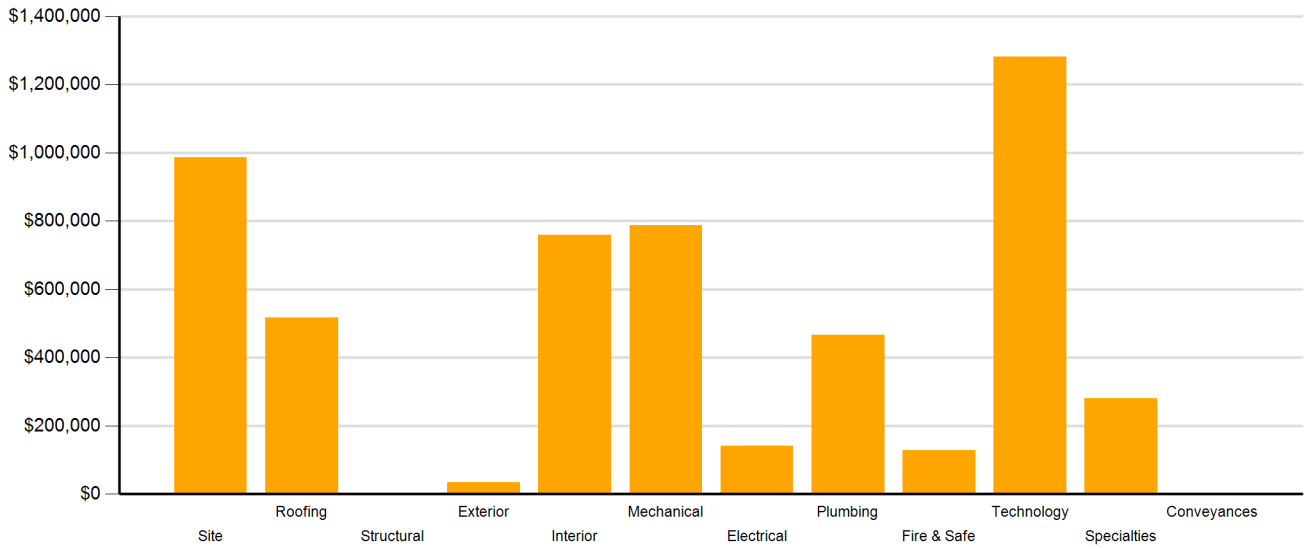


Figure 2: System Deficiencies

Current Deficiencies by Category

Deficiencies have been further grouped according to the observed category.

• **Acoustics** deficiencies relate to room acoustics, sound insolation, 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

	Priority					
Category	**1**	**2**	**3**	**4**	**5**	**Total**
Acoustics	-	-	-	$11,636	-	$11,636
Barrier to Accessibility	-	-	-	-	-	$0
Capital Renewal	-	$1,054,971	$759,476	$1,451,810	$114,581	$3,380,839
Code Compliance	$129,086	-	-	-	-	$129,086
Educational Adequacy	-	-	$61,605	$243,597	$75,919	$381,120
Functional Deficiency	-	-	$49,555	-	-	$49,555
Hazardous Material	-	-	-	$200,401	-	$200,401
Technology	-	-	$1,224,422	-	-	$1,224,422
Traffic	-	-	$2,852	-	-	$2,852
Total	$129,086	$1,054,971	$2,097,911	$1,907,444	$190,499	$5,379,912

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

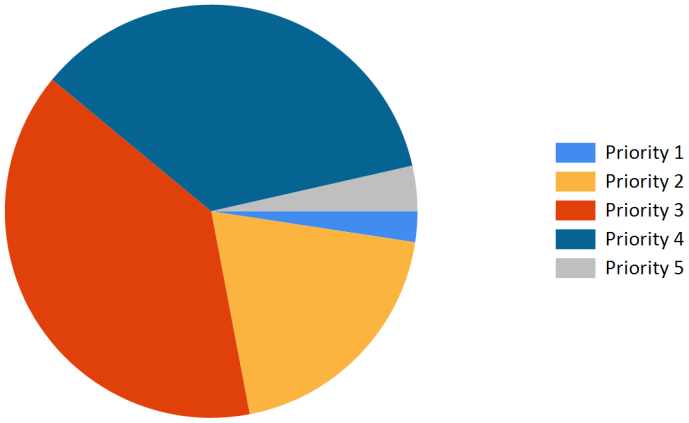


Figure 3: Current deficiencies by priority

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

		Life Cycle Capital Renewal Projections						
System	Current Deficiencies	Year 1 2017	Year 2 2018	Year 3 2019	Year 4 2020	Year 5 2021	LC Yr. 1-5 Total	Total 5-Year Need
Site	$986,669	$0	$0	$0	$44,588	$0	$44,588	$1,031,257
Roofing	$517,677	$0	$0	$0	$0	$0	$0	$517,677
Structural	$0	$0	$0	$0	$0	$0	$0	$0
Exterior	$34,413	$0	$0	$0	$0	$0	$0	$34,413
Interior	$755,541	$0	$0	$0	$677,154	$45,158	$722,312	$1,477,853
Mechanical	$788,396	$0	$0	$1,263	$0	$121,440	$122,703	$911,099
Electrical	$139,978	$0	$0	$0	$0	$0	$0	$139,978
Plumbing	$465,526	$0	$0	$0	$6,383	$74,832	$81,215	$546,741
Fire and Life Safety	$129,086	$0	$0	$0	$0	$0	$0	$129,086
Technology	$1,281,464	$0	$0	$0	$0	$0	$0	$1,281,464
Conveyances	$0	$0	$0	$0	$0	$0	$0	$0
Specialties	$281,161	$0	$0	$0	$0	$0	$0	$281,161
Total	**$5,379,912**	**$0**	**$0**	**$1,263**	**$728,125**	**$241,430**	**$970,818**	**$6,350,730**

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

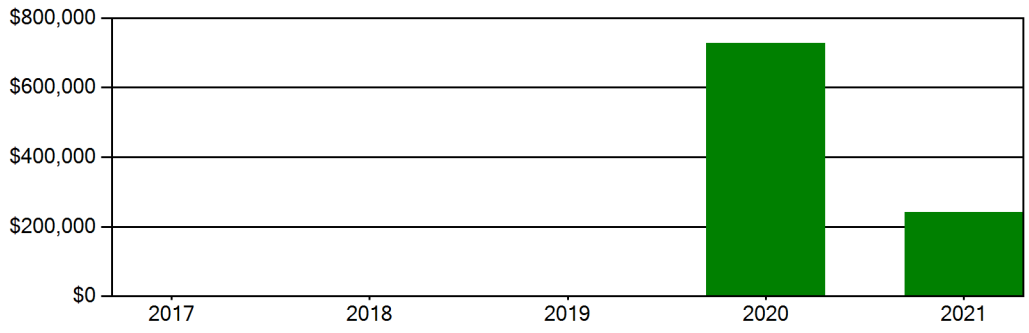
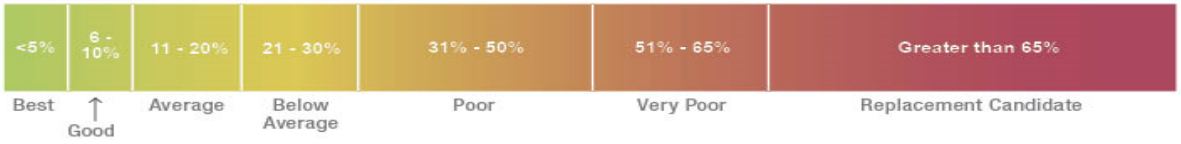


Figure 4: Life Cycle Capital Renewal Forecast

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 $14,798,000. For planning purposes, the total 5-year need at the Sherman School is $6,355,373 (Life Cycle Years 1-5 plus the FCI deficiency cost). The Sherman School facility has a 5-year FCI of 42.92%.

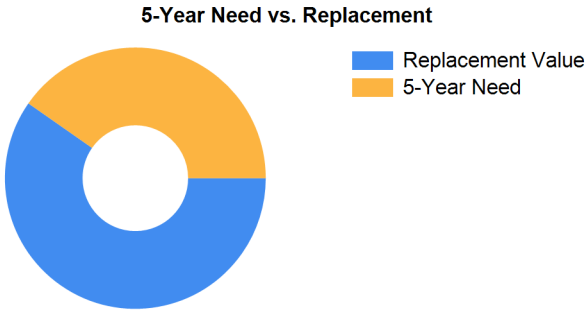


Figure 5: 5-Year FCI

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 235 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 Sherman School cafeteria and/or library/media center to the size prescribed by the SCRs is estimated to be $236,628.

Summary of Findings

The Sherman School comprises 42,280 square feet and was constructed in 1953. Current deficiencies at this school total $5,384,555. Five year capital renewal costs total $970,818. The total identified need for the Sherman School (current deficiencies and 5-year capital renewal costs) is $6,355,373. The 5-year FCI is 42.92%.

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
Sherman School Totals	42,280	1953	$5,384,555	$970,818	$6,355,373	42.92%

**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	Capital Renewal	17,300	SF	3	$184,792	12975
Note: The asphalt sidewalks and play area are deteriorated.						
Crosswalk Requires Repainting	Traffic	3	Ea.	3	$2,852	16961
Note: Repaint crosswalks at corner of Killey Ave and Bugbee Ave						
Asphalt Paving Requires Replacement	Capital Renewal	65	CAR	4	$268,817	12973
Note: The asphalt parking lot is deteriorated and failing.						
Asphalt Paving Requires Replacement	Capital Renewal	32	CAR	4	$132,341	12974
Backstops Require Replacement	Capital Renewal	1	Ea.	4	$35,651	12976
Fencing Requires Replacement (4' Chain Link Fence)	Capital Renewal	600	LF	4	$48,486	12972
Note: The fencing is deteriorated.						
Playground Requires Impact Resistant Material	Capital Renewal	1	Ea.	4	$47,535	12971
Note: The playground impact surface is in poor condition.						
Site Drainage Requires Regrading	Capital Renewal	14,000	SF	4	$266,195	12978
Note: The north side yard retains water.						
	Sub Total for System	**8**	**items**		**$986,669**	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Pole Lighting Is Missing And Needed	Functional Deficiency	2	Ea.	3	$49,555	12977
Note: Currently there are no poles in the parking lot. Adding two to the front would help provide sufficient site lighting.						
	Sub Total for System	**1**	**items**		**$49,555**	
	Sub Total for School and Site Level	**9**	**items**		**$1,036,224**	

Building: 01 - Main Building

Roofing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
EPDM Roofing Requires Replacement (Bldg SF)	Capital Renewal	39,304	SF	2	$517,677	12996
Note: The roofing is reported to be in poor condition with frequent leak issues.						
	Sub Total for System	**1**	**items**		**$517,677**	

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Steel Window Requires Replacement	Capital Renewal	72	SF	2	$16,043	12980
The Exterior Soffit Requires Repainting	Capital Renewal	5,300	SF	5	$18,370	12979
Note: The exterior soffit paint is deteriorated.						
	Sub Total for System	**2**	**items**		**$34,413**	

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Interior Doors Require Replacement	Capital Renewal	24	Door	3	$115,272	12981
Note: The wood doors are aged and worn.						
The Ceramic Tile Flooring Requires Replacement	Capital Renewal	1,300	SF	3	$36,364	12983
The Vinyl Composition Tile Requires Replacement	Capital Renewal	1,900	SF	3	$22,704	13000
Location: Art Room and Room 14						
The Wood Flooring Requires Replacement	Capital Renewal	450	SF	3	$15,553	12982
Note: The wood floor is chipped and worn.						
9x9 Asbestos Tile Present and In Active Use, Greater than 25 Percent has Significant Deterioration	Hazardous Material	300	SF	4	$8,913	Rollup
Acoustic ceiling tile - large area (>10%) of broken or falling broken tiles	Hazardous Material	7,000	SF	4	$85,347	Rollup
Asbestos 9x9 Tile is Present. Limited Areas of Lifting or Broken Tiles Exist	Hazardous Material	50	SF	4	$1,485	Rollup
Interior Toilet Partition Requires Repair	Capital Renewal	20	Ea.	4	$10,893	12987
Light Deterioration or Damage of 9x9 Asbestos Floor Tile is Present	Hazardous Material	840	SF	4	$24,956	Rollup
Paint (probable pre-1978 in base (layers(s)) - large areas (> 10 sq. ft.) of peeling/damage & area in active use - children (measurement unit - each)	Hazardous Material	40	Ea.	4	$11,884	Rollup
Paint (probable pre-1978 in base layer(s)) - large areas (> 10 sq. ft.) of peeling/damage & area in active use - children (measurement unit - linear feet)	Hazardous Material	770	LF	4	$18,301	Rollup

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Paint (probable pre-1978 in base layer(s)) - large areas (> 10 sq. ft.) of peeling/damage & area in active use - children (measurement unit - square feet)	Hazardous Material	5,000	SF	4	$49,515	Rollup
Room Is Excessively Reverberant	Acoustics	500	SF	4	$11,636	19866
Note: Music space						
Room Lighting Is Inadequate Or In Poor Condition.	Educational Adequacy	6,378	SF	4	$243,027	Rollup
Room lacks appropriate sound control.	Educational Adequacy	100	SF	5	$3,480	Rollup
The Gypsum Board Ceilings Require Repainting	Capital Renewal	22,080	SF	5	$96,211	Rollup
	Sub Total for System	**16**	**items**		**$755,541**	

Mechanical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Replace Unit Vent	Capital Renewal	8	Ea.	2	$140,957	12998
Note: Unit vents are aged and very noisy.						
The Fin Tube Water Radiant Heater Requires Replacement	Capital Renewal	6	Ea.	2	$10,470	12992
Note: Finned wall radiators are corroding and should be replaced.						
The Mechanical / HVAC Piping / System Is Beyond Its Useful Life	Capital Renewal	42,280	SF	2	$339,482	12993
Note: Piping is old and corroded and should be replaced.						
Existing Controls Are Inadequate And Should Be Replaced With DDC Controls	Capital Renewal	42,280	SF	4	$297,488	12995
Note: Controls need to upgraded to a DDC system.						
	Sub Total for System	**4**	**items**		**$788,396**	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Distribution Panel Requires Replacement	Capital Renewal	1	Ea.	2	$30,343	12994
Note: Panel is old and corroding and needs to be updated.						
The Mounted Building Lighting Requires Replacement	Capital Renewal	8	Ea.	3	$12,438	12984
Note: Lights are old and do not adequately illuminate the building.						
Room Has Insufficient Electrical Outlets	Educational Adequacy	96	Ea.	5	$47,641	Rollup
	Sub Total for System	**3**	**items**		**$90,423**	

Plumbing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Plumbing / Domestic Water Piping System Is Beyond Its Useful Life	Capital Renewal	42,280	SF	3	$354,354	12991
Note: Piping is corroded and is leaking.						
The Urinal Plumbing Fixtures Require Replacement	Capital Renewal	13	Ea.	3	$17,998	12990
Note: Units are original and have low flow.						
Floor Drains Are Required	Educational Adequacy	1	Ea.	4	$570	Rollup
Non-Refrigerated Drinking Fountain Requires Replacement	Capital Renewal	2	Ea.	4	$21,292	12986
Note: Low flow bubbler, needs to be replaced. Units are corroding.						
The Custodial Mop Or Service Sink Requires Replacement	Capital Renewal	2	Ea.	4	$5,367	12988
Note: Units are aged and corroded.						
The Restroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	15	Ea.	4	$49,704	16579
Room lacks a drinking fountain.	Educational Adequacy	6	Ea.	5	$6,617	Rollup
The Class Room Lavatories Plumbing Fixtures Are Missing And Should Be Installed	Educational Adequacy	8	Ea.	5	$9,624	Rollup
	Sub Total for System	**8**	**items**		**$465,526**	

Fire and Life Safety

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Fire Alarm Is Missing Or Inadequate (NFPA 72 and NFPA 101, Section 9.6)	Code Compliance	42,280	SF	1	$129,086	12989
Note: Alarm is out of date, not up to code, and triggers false alarms.						
	Sub Total for System	**1**	**items**		**$129,086**	

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room lacks Interactive White Board	Educational Adequacy	10	Ea.	3	$57,042	Rollup

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Technology: Campus network switching electronics are antiquated and/or do not meet standards.	Technology	196	Ea.	3	$97,050	23054
Technology: Classroom AV/Multimedia systems are inadequate and/or near end of useful life.	Technology	23	Ea.	3	$478,319	23059
Technology: Instructional spaces do not have local sound reinforcement.	Technology	23	Ea.	3	$113,886	23061
Technology: Intermediate Telecommunications Room grounding system is inadequate or non-existent.	Technology	1	Ea.	3	$5,546	23051
Technology: Intermediate Telecommunications Room is not dedicated and/or inadequate.	Technology	1	Ea.	3	$47,139	23050
Technology: Intermediate Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	$4,952	23049
Technology: Intermediate Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	$4,952	23052
Technology: Main Telecommunications Room ground system is inadequate or non-existent.	Technology	1	Ea.	3	$6,932	23047
Technology: Main Telecommunications Room is not dedicated. Room requires partial walls and/or major improvements.	Technology	1	Ea.	3	$44,366	23046
Technology: Network cabling infrastructure is outdated (Cat 5 or less) and/or does not meet standards.	Technology	122	Ea.	3	$54,368	23053
Technology: Network system inadequate and/or near end of useful life	Technology	5	Ea.	3	$39,612	23062
Technology: Network system inadequate and/or near end of useful life	Technology	25	Ea.	3	$123,789	23063
Technology: PA/Bell/Clock system is inadequate and/or near end of useful life.	Technology	42,280	SF	3	$75,367	23058
Technology: Special Space AV/Multimedia system is inadequate.	Technology	1	Ea.	3	$56,448	23055
Technology: Special Space AV/Multimedia systems are in need of minor improvements.	Technology	1	Room	3	$19,806	23060
Technology: Telecommunications Room (large size room) needs dedicated cooling system improvements.	Technology	1	Ea.	3	$7,922	23048
Technology: Telephone handsets are inadequate and sparsely deployed throughout the campus.	Technology	23	Ea.	3	$36,443	23057
Technology: Telephone system is inadequate and/or non-existent.	Technology	1	Ea.	3	$7,526	23056
	Sub Total for System	**19**	**items**		**$1,281,464**	

Specialties

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room has insufficient writing area.	Educational Adequacy	1	Ea.	3	$4,563	Rollup
Replace Cabinetry In Classes/Labs	Capital Renewal	23	Room	4	$268,041	12997
Note: Cabinets are old and worn.						
Room lacks an appropriate refrigerator.	Educational Adequacy	1	Ea.	5	$8,556	Rollup
	Sub Total for System	**3**	**items**		**$281,161**	
	Sub Total for Building 01 - Main Building	**57**	**items**		**$4,343,688**	
	Total for Campus	**66**	**items**		**$5,379,912**	

Sherman School - Life Cycle Summary Yrs 1-5

Site Level Life Cycle Items

Site

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Playfield Areas	ES Playgrounds		1	Ea.	$44,588	4
		Sub Total for System	**1**	**items**	**$44,588**	
		Sub Total for Building -	**1**	**items**	**$44,588**	

Building: 01 - Main Building

Interior

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Wall Painting and Coating	Painting/Staining (Bldg SF)		38,280	SF	$252,929	4
Resilient Flooring	Vinyl Composition Tile Flooring		36,980	SF	$424,225	4
Acoustical Suspended Ceilings	Ceilings - Acoustical Tiles		5,000	SF	$45,158	5
		Sub Total for System	**3**	**items**	**$722,312**	

Mechanical

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Decentralized Heating Equipment	Unit Heater Electric (3 KW)		1	Ea.	$1,263	3
Decentralized Cooling	Window Units		3	Ea.	$10,017	5
Exhaust Air	Roof Exhaust Fan		6	Ea.	$31,225	5
HVAC Air Distribution	Roof Top Unit - DX Gas (20 Ton)		1	Ea.	$64,299	5
Air Distribution	Make-up Air Unit		1	Ea.	$15,899	5
		Sub Total for System	**5**	**items**	**$122,704**	

Plumbing

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Compressed-Air Systems	Air Compressor (2 hp)		1	Ea.	$6,383	4
Domestic Water Equipment	Backflow Preventers		1	Ea.	$3,921	5
Domestic Water Equipment	Water Heater - Electric - 80 gallon		1	Ea.	$5,655	5
Plumbing Fixtures	Classroom Lavatories		24	Ea.	$65,256	5
		Sub Total for System	**4**	**items**	**$81,214**	
		Sub Total for Building 01 - Main Building	**12**	**items**	**$926,230**	
		Total for: Sherman School	**13**	**items**	**$970,818**	

Supporting Photos

Site Aerial

Non-Refrigerated Water Fountain

Elevation

Corroded Piping

Aged Building Mounted Light

Main Distribution Panel

Service Sink

Deteriorated Asphalt Parking

Fin Tube Radiator Heater

Cracked Asphalt Sidewalk

Unit Ventilator

Interior Wood Door

Weathered Play Area Asphalt

Toilet Partitions

Chipped Soffit Paint

Adhered Tile Ceiling

Worn Wood Floor

Marquee

Aged Classroom Cabinetry

Library

Entry Canopy

Multipurpose Exterior

Classroom Wing Exterior

Multipurpose Room

Hallway Finishes

Rear Exterior

Typical Classroom

Courtyard

Facility Condition Assessment

Warwick - Toll Gate High School | *June 2017*

575 Centerville Road, Warwick, RI 02886

Introduction

Toll Gate High School, located at 575 Centerville Road in Warwick, Rhode Island, was built in 1971. It comprises 251,705 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.

Toll Gate High School serves grades 9 - 12, has 90 instructional spaces, and has an enrollment of 1,259. Instructional spaces are defined as rooms in which a student receives education. The LEA reported capacity for Toll Gate High School is 1,867 with a resulting utilization of 67%.

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 Toll Gate High School the 5-year need is $26,474,732. 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 Toll Gate 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 Toll Gate High School campus, identified by discipline and building.

Site

The site level systems for this campus include:

Site	Asphalt Parking Lot Pavement
	Asphalt Roadway Pavement
	Asphalt Pedestrian Pavement
	Concrete Pedestrian Pavement

Building Envelope

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

01 - Main Building:	Pre-cast Concrete Panel Exterior Wall
	Brick Exterior Wall
	Aluminum Exterior Windows
	Steel Exterior Entrance Doors
	Storefront Entrance Doors
	Overhead Exterior Utility Doors
02 - Storage:	Metal Panel Exterior Wall
	Steel Exterior Entrance Doors
	Overhead Exterior Utility Doors
03 - Warwick Area Career & Technical Center:	Pre-cast Concrete Panel Exterior Wall
	Brick Exterior Wall
	Metal Panel Exterior Wall
	Aluminum Exterior Windows
	Steel Exterior Entrance Doors
	Storefront Entrance Doors
	Overhead Exterior Utility Doors
04 - Concession :	Vinyl Siding Exterior Wall
	Wood Exterior Doors
05 - Press Box:	Vinyl Siding Exterior Wall
	Steel Exterior Entrance Doors
06 - Warwick Storage:	Metal Panel Exterior Wall
	Steel Exterior Entrance Doors
	Overhead Exterior Utility Doors

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

01 - Main Building:	Composition Shingle Roofing
	Single Ply Roofing
	Built-Up Roofing With Ballast

02 - Storage:	Metal Steep Slope Roofing
03 - Warwick Area Career & Technical Center:	Single Ply Roofing
04 - Concession :	Composition Shingle Roofing
05 - Press Box:	Composition Shingle Roofing
06 - Warwick Storage:	Metal Steep Slope Roofing

Interior

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

01 - Main Building:	Steel Interior Doors
	Aluminum/Glass Storefront Interior Doors
	Wood Interior Doors
	Overhead Interior Coiling Doors
	Interior Door Hardware
	Door Hardware
	Exposed Metal Structure Ceiling
	Suspended Acoustical Grid System
	Suspended Acoustical Ceiling Tile
	Painted Ceilings
	Ceramic Tile Wall
	Acoustical Wall Paneling
	Metal Wall Paneling
	Wood Wall Paneling
	Brick/Stone Veneer
	Interior Wall Painting
	Concrete Flooring
	Ceramic Tile Flooring
	Wood Flooring
	Vinyl Composition Tile Flooring
	Rubber Tile Flooring
	Epoxy Coated Flooring
	Carpet
02 - Storage:	Exposed Metal Structure Ceiling
	Interior Wall Painting
	Concrete Flooring
03 - Warwick Area Career & Technical Center:	Steel Interior Doors
	Aluminum/Glass Storefront Interior Doors
	Wood Interior Doors
	Overhead Interior Coiling Doors
	Interior Door Hardware
	Exposed Metal Structure Ceiling

03 - Warwick Area Career & Technical Center:	Suspended Acoustical Grid System
	Suspended Acoustical Ceiling Tile
	Painted Ceilings
	Metal Panel Ceilings
	Acoustical Wall Paneling
	Metal Wall Paneling
	Wood Wall Paneling
	Brick/Stone Veneer
	Interior Wall Painting
	Concrete Flooring
	Quarry Tile Flooring
	Ceramic Tile Flooring
	Vinyl Composition Tile Flooring
	Terrazzo Flooring
	Epoxy Coated Flooring
	Carpet
04 - Concession :	Wood Ceilings
	Wood Wall Paneling
	Concrete Flooring
05 - Press Box:	Wood Ceilings
	Wood Wall Paneling
	Wood Flooring
06 - Warwick Storage:	Exposed Metal Structure Ceiling
	Interior Wall Painting
	Concrete Flooring

Mechanical

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

01 - Main Building:	400 MBH Cast Iron Water Boiler
	Finned Wall Radiator
	Steam/Hot Water Heating Unit Vent
	20 MBH Steam Unit Heater
	Pneumatic Heating System Controls
	1 Ton Ductless Split System
	3 Ton Condensing Unit
	1 Ton Fan Coil - Water Cool/Water Heat
	Window Units
	5 HP Pump
	2-Pipe Hot Water Hydronic Distribution System
	2,000 CFM Interior AHU
	10,000 CFM Interior AHU

01 - Main Building:	Ductwork
	20 Ton DX Gas Roof Top Unit
	4'x6' Ventilator/Relief Vent
	Wall Exhaust Fan
	Large Roof Exhaust Fan
	Small Roof Exhaust Fan
	Kitchen Exhaust Hoods
	Fire Sprinkler System
03 - Warwick Area Career & Technical Center:	1,200 MBH Copper Tube Boiler
	2,400 MBH Copper Tube Boiler
	Finned Wall Radiator
	Steam/Hot Water Heating Unit Vent
	DDC Heating System Controls
	1 Ton Ductless Split System
	3 Ton Outside Air Cooled Condenser
	Window Units
	5 HP VFD
	5 HP Pump
	2-Pipe Hot Water Hydronic Distribution System
	2,000 CFM Interior AHU
	Ductwork
	25 Ton DX Gas Roof Top Unit
	Large Roof Exhaust Fan
	Small Roof Exhaust Fan
	Kitchen Exhaust Hoods
	Fire Sprinkler System

Plumbing

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

01 - Main Building:	1,000 Gallon Water Storage Tank
03 - Warwick Area Career & Technical Center:	500 Gallon Water Storage Tank
01 - Main Building:	Gas Piping System
03 - Warwick Area Career & Technical Center:	2" Backflow Preventers
	3/4" Backflow Preventers
	Gas Piping System
01 - Main Building:	Domestic Water Piping System
03 - Warwick Area Career & Technical Center:	Domestic Water Piping System
01 - Main Building:	Classroom Lavatories
	Lavatories

01 - Main Building:	Mop/Service Sinks
	Non-Refrigerated Drinking Fountain
	Refrigerated Drinking Fountain
	Restroom Lavatories
	Showers
	Toilets
	Urinals
03 - Warwick Area Career & Technical Center:	Classroom Lavatories
	Lavatories
	Mop/Service Sinks
	Refrigerated Drinking Fountain
	Restroom Lavatories
	Toilets
	Urinals
	Sump Pump
01 - Main Building:	Air Compressor (1 hp)
03 - Warwick Area Career & Technical Center:	Air Compressor (5 hp)

Electrical

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

01 - Main Building:	50 kW Emergency Generator
	Automatic Transfer Switch
	3,000 Amp Switchgear
	112.5 KVA Transformer
	30 KVA Transformer
	45 KVA Transformer
	Panelboard - 120/208 100A
	Panelboard - 120/208 225A
	Panelboard - 277/480 100A
	Panelboard - 277/480 225A
	Panelboard - 277/480 400A
	Panelboard - 400+ Amps
	1600 Amp Distribution Panel
	Building Mounted Lighting Fixtures
	Canopy Mounted Lighting Fixtures
	Light Fixtures
02 - Storage:	Electrical Service
	Light Fixtures
03 - Warwick Area Career & Technical Center:	50 kW Emergency Generator
	Solar Panels

03 - Warwick Area Career & Technical Center:	Automatic Transfer Switch
	1,200 Amp Switchgear
	225 KVA Transformer
	75 KVA Transformer
	Panelboard - 120/208 100A
	Panelboard - 120/208 225A
	Panelboard - 277/480 100A
	Panelboard - 277/480 225A
	Panelboard - 277/480 400A
	Panelboard - 400+ Amps
	Light Fixtures
	Building Mounted Lighting Fixtures
	Canopy Mounted Lighting Fixtures
04 - Concession :	Panelboard - 120/240 225A
	Light Fixtures
06 - Warwick Storage:	Electrical Service
	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.

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

	Priority						
System	1	2	3	4	5	Total	% of Total
Site	-	-	$7,606	$119,686	$654,947	$782,239	4.85 %
Roofing	-	-	$37,864	-	-	$37,864	0.23 %
Structural	-	-	-	-	-	$0	0.00 %
Exterior	-	$30,922	$25,946	$8,913	$1,386	$67,168	0.42 %
Interior	-	-	$1,616,323	$3,014,294	$254,394	$4,885,011	30.28 %
Mechanical	-	$2,482,521	$374,127	$880,744	-	$3,737,392	23.16 %
Electrical	-	$950,071	$16,743	-	$165,622	$1,132,435	7.02 %
Plumbing	-	-	$1,010,844	$610,726	$68,070	$1,689,641	10.47 %
Fire and Life Safety	$677,948	-	-	-	-	$677,948	4.20 %
Technology	-	-	$2,677,295	-	-	$2,677,295	16.59 %
Conveyances	-	-	-	-	-	$0	0.00 %
Specialties	-	-	$58,924	$280,453	$108,783	$448,160	2.78 %
Total	$677,948	$3,463,514	$5,825,672	$4,914,816	$1,253,203	$16,135,153	

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

The building systems with the most need include:

Interior	-	$4,885,011
Mechanical	-	$3,737,392
Technology	-	$2,677,295

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

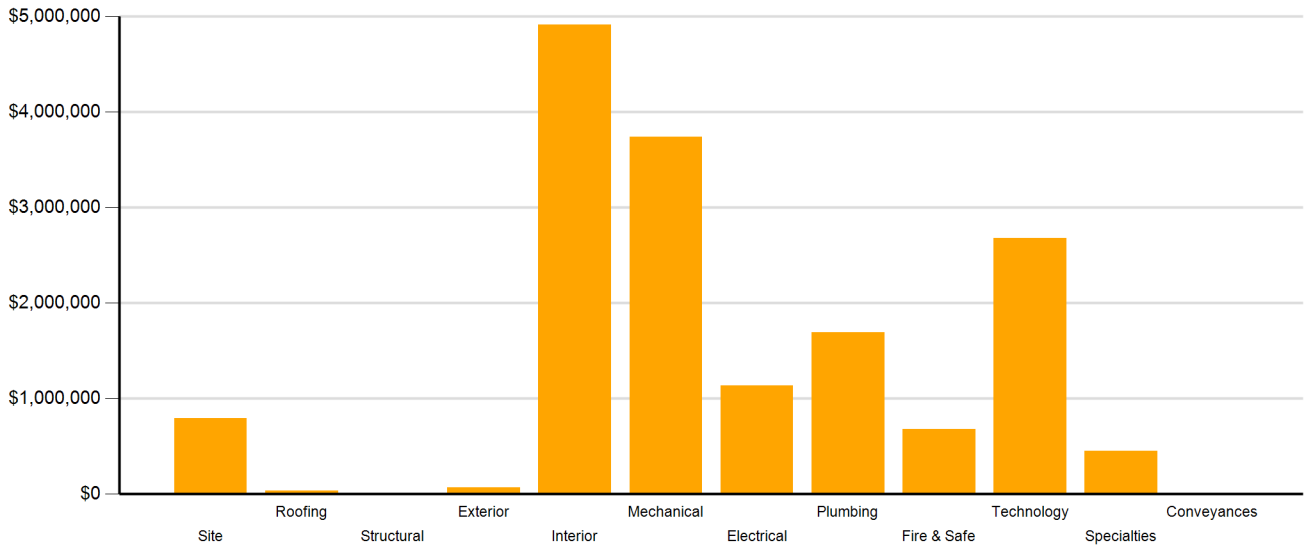


Figure 2: System Deficiencies

Current Deficiencies by Category

Deficiencies have been further grouped according to the observed category.

• **Acoustics** deficiencies relate to room acoustics, sound insolation, 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

	Priority					
Category	**1**	**2**	**3**	**4**	**5**	**Total**
Acoustics	-	-	$1,101,571	$242,527	-	$1,344,097
Barrier to Accessibility	-	-	$392,163	-	-	$392,163
Capital Renewal	-	$3,463,514	$1,588,114	$1,677,273	$253,514	$6,982,416
Code Compliance	$624,733	-	-	-	-	$624,733
Educational Adequacy	$45,326	-	$132,579	$2,675,423	$999,689	$3,853,017
Functional Deficiency	$7,889	-	-	$149,972	-	$157,861
Hazardous Material	-	-	-	$169,620	-	$169,620
Technology	-	-	$2,603,640	-	-	$2,603,640
Traffic	-	-	$7,606	-	-	$7,606
Total	$677,948	$3,463,514	$5,825,672	$4,914,816	$1,253,203	$16,135,153

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

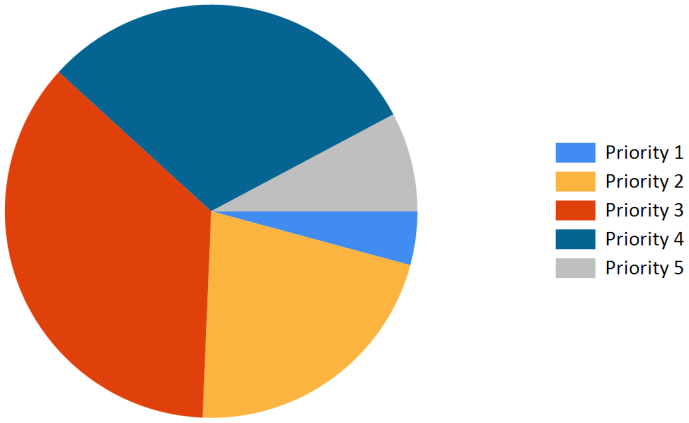


Figure 3: Current deficiencies by priority

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

		Life Cycle Capital Renewal Projections						
System	Current Deficiencies	Year 1 2017	Year 2 2018	Year 3 2019	Year 4 2020	Year 5 2021	LC Yr. 1-5 Total	Total 5-Year Need
Site	$782,239	$0	$0	$0	$75,631	$0	$75,631	$857,870
Roofing	$37,864	$0	$0	$0	$991,387	$0	$991,387	$1,029,251
Structural	$0	$0	$0	$0	$0	$0	$0	$0
Exterior	$67,168	$0	$0	$0	$0	$16,647	$16,647	$83,815
Interior	$4,885,011	$0	$0	$2,092	$3,783,762	$1,957,227	$5,743,081	$10,628,090
Mechanical	$3,737,392	$0	$0	$0	$40,604	$2,907,939	$2,948,543	$6,685,935
Electrical	$1,132,435	$0	$0	$0	$96,677	$9,602	$106,279	$1,238,714
Plumbing	$1,689,641	$0	$0	$0	$0	$411,067	$411,067	$2,100,708
Fire and Life Safety	$677,948	$0	$0	$0	$0	$0	$0	$677,948
Technology	$2,677,295	$0	$0	$0	$0	$0	$0	$2,677,295
Conveyances	$0	$0	$0	$0	$0	$0	$0	$0
Specialties	$448,160	$0	$0	$0	$0	$0	$0	$448,160
Total	**$16,135,153**	**$0**	**$0**	**$2,092**	**$4,988,061**	**$5,302,482**	**$10,292,635**	**$26,427,788**

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

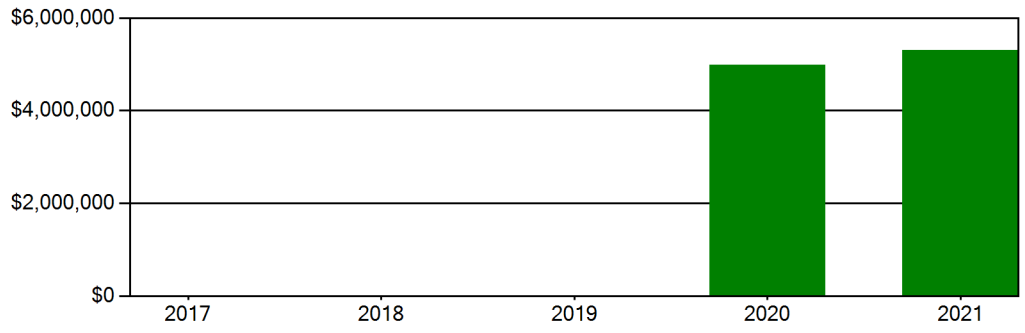
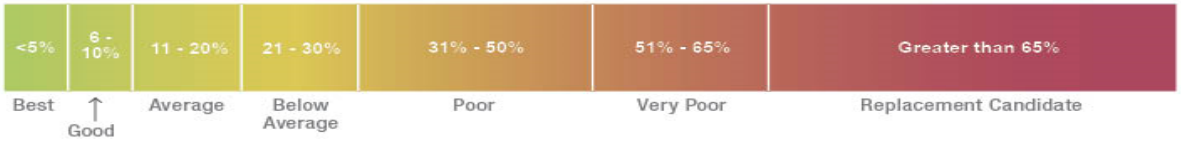


Figure 4: Life Cycle Capital Renewal Forecast

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 $90,613,800. For planning purposes, the total 5-year need at the Toll Gate High School is $26,474,732 (Life Cycle Years 1-5 plus the FCI deficiency cost). The Toll Gate High School facility has a 5-year FCI of 29.17%.

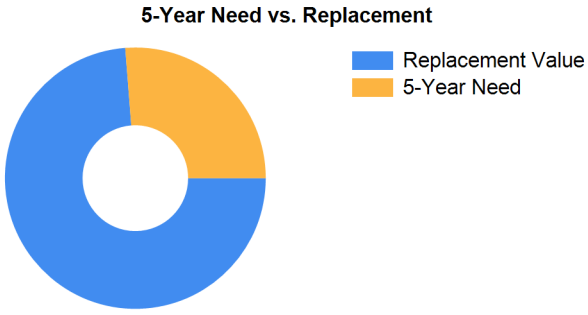


Figure 5: 5-Year FCI

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 1,361 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 Toll Gate High School cafeteria and/or library/media center to the size prescribed by the SCRs is estimated to be $0.

Summary of Findings

The Toll Gate High School comprises 251,705 square feet and was constructed in 1971. Current deficiencies at this school total $16,182,097. Five year capital renewal costs total $10,292,635. The total identified need for the Toll Gate High School (current deficiencies and 5-year capital renewal costs) is $26,474,732. The 5-year FCI is 29.17%.

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
Toll Gate High School Totals	251,705	1971	$16,182,097	$10,292,635	$26,474,732	29.17%

**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
Crosswalk Requires Repainting	Traffic	4	Ea.	3	$3,803	24659
Note: Repaint and add crosswalks on campus.						
Crosswalk Requires Repainting	Traffic	4	Ea.	3	$3,803	25087
Note: Repaint and add crosswalks on campus						
Backstops Require Replacement	Educational Adequacy	1	Ea.	4	$35,651	28616
Note: Backstops Require Replacement						
Fencing Requires Replacement (4' Chain Link Fence)	Capital Renewal	1,000	LF	4	$84,035	19471
Note: Fencing is rusted and bent.						
School has insufficient # of tennis courts.	Educational Adequacy	1	Ea.	5	$203,366	29051
Note: School has insufficient # of tennis courts.						
School has insufficient baseball fields.	Educational Adequacy	1	Ea.	5	$261,442	28331
Note: School has insufficient baseball fields.						
School has insufficient softball fields.	Educational Adequacy	1	Ea.	5	$190,139	28375
Note: School has insufficient softball fields.						
	Sub Total for System	**7**	**items**		**$782,239**	
	Sub Total for School and Site Level	**7**	**items**		**$782,239**	

Building: 01 - Main Building

Roofing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Roof Access Ladder Requires Replacement	Capital Renewal	10	LF	3	$37,632	19504
Note: The exterior roof ladder is rusted and should be replaced.						
The Asphalt Shingle Roof Covering Requires Repair	Capital Renewal	100	SF	3	$232	19472
Note: The shingle roof at the west addition has missing shingles that should be replaced.						
	Sub Total for System	**2**	**items**		**$37,864**	

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Metal Exterior Door Requires Replacement	Capital Renewal	4	Door	2	$26,738	19480
Note: Doors are weathered and rusted.						
Location: East side of north building						
Handrail Requires Replacement	Capital Renewal	50	LF	3	$9,012	19526
Note: The handrails in the stairwells are reportedly too short.						
The Aluminum Window Requires Repair	Capital Renewal	6	Ea.	3	$6,536	19473
Note: Windows above the bridges reportedly leak due to snow build-up. Repair is recommended.						
The Brick Exterior Requires Repair	Capital Renewal	150	SF Wall	3	$10,398	19478
Note: There is a crack in the exterior brick on the north side of the north building.						
The Concrete/CMU Exterior Requires Repair	Capital Renewal	100	LF	4	$8,913	19479
Note: The exterior concrete is chipped and spalled with areas of exposed steel.						
The Exterior Soffit Requires Repainting	Capital Renewal	400	SF	5	$1,386	19477
Note: The soffit paint at the east addition entry is peeling.						
	Sub Total for System	**6**	**items**		**$62,984**	

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Classroom Entry Doors Provide Insufficient Sound Isolation	Acoustics	70	Ea.	3	$606,911	27855
Note: All Classrooms						
Classroom Interior Doors Provide Insufficient Sound Isolation	Acoustics	54	Ea.	3	$494,660	27856
Note: All Classrooms						

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Interior CMU Walls Require Repair	Capital Renewal	1,000	SF	3	$37,830	19508
Note: The interior CMU walls have moderate cracks that should be repaired.						
Location: Thresholds to west addition, auditorium, 1st floor east addition entry, orchestra, 2nd floor south hall, Room 44, 3rd floor janitor closet						
Interior Doors Require Replacement	Capital Renewal	9	Door	3	$43,227	19484
Note: Missing doors should be replaced.						
The Acoustical Ceiling Tiles Require Replacement	Capital Renewal	500	SF	3	$4,704	19481
Note: Missing ceiling tiles should be replaced.						
The Interior Door Hardware Requires Replacement	Barrier to Accessibility	118	Door	3	$385,626	19496
Note: Non-compliant door hardware should be replaced.						
The Vinyl Composition Tile Requires Replacement	Capital Renewal	100	SF	3	$1,195	19485
Note: The vinyl flooring is cracked and chipped.						
Location: Threshold to the west addition on all floors, south main hallway and corridors by cafeteria, 1st floor entry to east addition, 2nd floor east bridge, 2nd floor north main hallway, 3rd floor north office						
Epoxy Flooring Requires Repair Or Replacement	Capital Renewal	1,000	SF	4	$19,806	19502
Note: The epoxy coating at the interior stairs is worn.						
Interior Gypsum Board Walls Require Repair	Capital Renewal	25	SF Wall	4	$190	19474
Note: The gypsum walls have holes in Rooms A107 and B313 that should be repaired.						
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	86	Ea.	4	$25,550	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	520	LF	4	$12,359	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	1,720	SF	4	$17,033	Rollup
Partitions Provide Insufficient Sound Isolation	Acoustics	800	SF	4	$23,767	27857
Note: Room B306						
Room Is Excessively Reverberant	Acoustics	8,800	SF	4	$204,796	27859
Note: Gym						
Room Is Excessively Reverberant	Acoustics	600	SF	4	$13,963	27860
Note: Music Space						
Room Lighting Is Inadequate Or In Poor Condition.	Educational Adequacy	50,070	SF	4	$1,895,016	Rollup
Interior Doors Require Repainting	Capital Renewal	5	Door	5	$352	19483
Location: Cafeteria						
Interior Walls Require Repainting	Capital Renewal	500	SF Wall	5	$3,070	19482
Location: Auditorium stage						
	Sub Total for System	**18**	**items**		**$3,790,056**	

Mechanical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Replace Unit Vent	Capital Renewal	63	Ea.	2	$1,110,034	19524
Note: Original unit vents are old and should be replaced. Some are non-functional.						
Steam/HW Unit Heater Requires Replacement	Capital Renewal	8	Ea.	2	$23,466	19525
Note: Original unit heaters are old and rusted and should be replaced.						
The Air Handler HVAC Component Requires Replacement	Capital Renewal	6	Ea.	2	$269,606	19506
Location: A104, A106, B106, third floor						
The Air Handler HVAC Component Requires Replacement	Capital Renewal	4	Ea.	2	$497,848	19507
Note: Original AHUs in gymnasiums should be replaced.						
The Fan Coil (Chilled Water) HVAC Component Requires Replacement	Capital Renewal	34	Ea.	2	$157,376	19518
Note: Fan coil heating units are old with clogged coils. They should be replaced.						
The 4 X 6 Exhausts/Ventilators Require Replacement	Capital Renewal	3	Ea.	3	$59,419	19495
Note: Exhaust vents are old, rusted, and should be replaced.						
The Large Diameter Exhausts/Hoods Require Replacement	Capital Renewal	17	Ea.	3	$246,030	19488
Note: Units are aged, out of balance, and some non-functional.						
The Small Diameter Exhausts/Hoods Require Replacement	Capital Renewal	25	Ea.	3	$68,678	19487
Note: Exhaust fans are old, weathered, out of balance, and some are non-functional.						

Mechanical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Exhaust Fan Ventilation Requires Replacement	Capital Renewal	1	Ea.	4	$2,789	19490
Note: Exhaust fan does not work.						
Existing Controls Are Inadequate And Should Be Replaced With DDC Controls	Capital Renewal	102,311	SF	4	$641,707	19489
Lab lacks an appropriate fume hood.	Educational Adequacy	7	Ea.	4	$152,864	Rollup
Small HVAC Circulating Pump Requires Replacement	Functional Deficiency	4	Ea.	4	$39,707	19503
Note: Pumps are old and corroded and should be replaced.						
	Sub Total for System	**12**	**items**		**$3,269,526**	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Generator Requires Replacement	Capital Renewal	1	Ea.	2	$79,225	19486
Note: Original generator is leaking oil and should be replaced.						
Switchgear Is Needed Or Requires Replacement	Capital Renewal	1	Ea.	2	$96,387	19519
Note: Original switchgear should be replaced.						
The Distribution Panel Requires Replacement	Capital Renewal	1	Ea.	2	$54,071	19476
Note: Original Federal Pacific distribution panel should be replaced.						
The Electrical Transformer Requires Replacement	Capital Renewal	2	Ea.	2	$14,649	19509
Note: Original Federal Pacific transformers should be replaced.						
The Electrical Transformer Requires Replacement	Capital Renewal	3	Ea.	2	$39,591	19510
Note: Transformers are old and putting off an excessive amount of heat.						
The Lighting Fixtures Require Replacement	Capital Renewal	20,462	SF	2	$126,648	19520
Note: T12 fixtures should be replaced.						
The Panelboard Requires Replacement	Capital Renewal	9	Ea.	2	$72,194	19511
Note: Original Federal Pacific panelboards should be replaced.						
The Panelboard Requires Replacement	Capital Renewal	6	Ea.	2	$48,129	19512
Note: Original Federal Pacific panelboards should be replaced.						
The Panelboard Requires Replacement	Capital Renewal	18	Ea.	2	$90,910	19513
Note: Original Federal Pacific panelboards should be replaced.						
The Panelboard Requires Replacement	Capital Renewal	2	Ea.	2	$12,082	19514
Note: Original Federal Pacific panelboards should be replaced.						
The Panelboard Requires Replacement	Capital Renewal	1	Ea.	2	$18,529	19515
Note: Original Federal Pacific panelboard should be replaced.						
The Panelboard Requires Replacement	Capital Renewal	1	Ea.	2	$18,529	19516
Note: Original Federal Pacific panelboard should be replaced.						
The Panelboard Requires Replacement	Capital Renewal	9	Ea.	2	$112,123	19517
Note: Original Federal Pacific panelboards should be replaced.						
Transfer Switch Requires Replacement	Capital Renewal	225	Amps	3	$8,371	19523
Note: Original transfer switch should be replaced.						
Room Has Insufficient Electrical Outlets	Educational Adequacy	288	Ea.	5	$141,962	Rollup
	Sub Total for System	**15**	**items**		**$933,398**	

Plumbing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Showers Plumbing Fixtures Require Replacement	Capital Renewal	122	Ea.	3	$966,542	19492
Note: Shower heads are missing, broken, or clogged.						
The Urinal Plumbing Fixtures Require Replacement	Capital Renewal	32	Ea.	3	$44,302	19500
Non-Refrigerated Drinking Fountain Requires Replacement	Capital Renewal	9	Ea.	4	$95,812	19493
Note: Drinking fountains are low flow, cracked, and corroded.						
The Classroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	31	Ea.	4	$87,801	19475
Note: Units are corroded and clogged.						
The Custodial Mop Or Service Sink Requires Replacement	Capital Renewal	10	Ea.	4	$26,837	19494
Note: Mop sinks are aged and rusted.						
The Refrigerated Water Cooler Requires Replacement	Capital Renewal	3	Ea.	4	$23,054	19501
The Restroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	70	Ea.	4	$231,950	19491
Room lacks a drinking fountain.	Educational Adequacy	8	Ea.	5	$8,763	Rollup

Plumbing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Class Room Lavatories Plumbing Fixtures Are Missing And Should Be Installed	Educational Adequacy	23	Ea.	5	$34,533	Rollup
	Sub Total for System	**9**	**items**		**$1,519,596**	

Fire and Life Safety

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Fire Alarm Is Missing Or Inadequate (NFPA 72 and NFPA 101, Section 9.6)	Code Compliance	204,621	SF	1	$624,733	19499
Note: Original Simplex fire alarm system should be replaced.						
Room lacks shut-off valves for utilities. (International Fuel Gas Code, Section 409.6)	Educational Adequacy	1	Ea.	1	$11,332	Rollup
	Sub Total for System	**2**	**items**		**$636,065**	

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room lacks Interactive White Board	Educational Adequacy	11	Ea.	3	$62,323	Rollup
Technology: Auditorium AV/Multimedia system is in need of minor improvements.	Technology	1	Room	3	$99,031	23088
Technology: Campus network switching electronics are antiquated and/or do not meet standards.	Technology	320	Ea.	3	$158,450	23078
Technology: Classroom AV/Multimedia systems are in need of improvements.	Technology	68	Ea.	3	$673,410	23087
Technology: Instructional spaces do not have local sound reinforcement.	Technology	68	Ea.	3	$336,705	23084
Technology: Intermediate Telecommunications Room grounding system is inadequate or non-existent.	Technology	1	Ea.	3	$5,546	23067
Technology: Intermediate Telecommunications Room grounding system is inadequate or non-existent.	Technology	1	Ea.	3	$5,546	23070
Technology: Intermediate Telecommunications Room grounding system is inadequate or non-existent.	Technology	1	Ea.	3	$5,546	23075
Technology: Intermediate Telecommunications Room is not dedicated. Room requires partial walls and/or major improvements.	Technology	1	Ea.	3	$39,216	23073
Technology: Intermediate Telecommunications Room needs minor improvements.	Technology	1	Ea.	3	$17,429	23074
Technology: Intermediate Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	$4,952	23068
Technology: Intermediate Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	$4,952	23071
Technology: Intermediate Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	$4,952	23076
Technology: Main Telecommunications Room ground system is inadequate or non-existent.	Technology	1	Ea.	3	$6,932	23065
Technology: Main Telecommunications Room is not dedicated and/or inadequate.	Technology	1	Ea.	3	$52,288	23066
Technology: Main Telecommunications Room is not dedicated and/or inadequate.	Technology	1	Ea.	3	$52,288	23069
Technology: Main Telecommunications Room needs minor improvements.	Technology	1	Ea.	3	$22,579	23064
Technology: Network cabling infrastructure is outdated (Cat 5 or less) and/or does not meet standards.	Technology	320	Ea.	3	$142,605	23079
Technology: Network system inadequate and/or near end of useful life	Technology	22	Ea.	3	$174,294	23082
Technology: Network system inadequate and/or near end of useful life	Technology	58	Ea.	3	$287,190	23083
Technology: PA/Bell/Clock system is inadequate and/or near end of useful life.	Technology	204,621	SF	3	$364,749	23081
Technology: Special Space AV/Multimedia systems are in need of minor improvements.	Technology	1	Room	3	$19,806	23080

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Technology: Telecommunications Room (small size room) needs dedicated cooling system improvements.	Technology	1	Ea.	3	$4,952	23072
Technology: Telecommunications Room (small size room) needs dedicated cooling system improvements.	Technology	1	Ea.	3	$4,952	23077
Technology: Telephone handsets are inadequate and sparsely deployed throughout the campus.	Technology	68	Ea.	3	$107,746	23085
Technology: Telephone system is inadequate and/or non-existent.	Technology	1	Ea.	3	$7,526	23086
	Sub Total for System	**26**	**items**		**$2,665,963**	

Specialties

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room has insufficient writing area.	Educational Adequacy	5	Ea.	3	$22,663	Rollup
The Metal Student Lockers Require Replacement	Capital Renewal	274	Ea.	4	$140,421	19522
Note: The lockers in the men's locker room are old, rusted, and should be replaced.						
Work Tables Are Required	Educational Adequacy	2	Ea.	4	$7,170	Rollup
Room lacks an appropriate refrigerator.	Educational Adequacy	5	Ea.	5	$42,493	Rollup
	Sub Total for System	**4**	**items**		**$212,748**	
	Sub Total for Building 01 - Main Building	**94**	**items**		**$13,128,199**	

Building: 02 - Storage

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Lighting Fixtures Require Replacement	Capital Renewal	1,800	SF	2	$11,141	19527
	Sub Total for System	**1**	**items**		**$11,141**	
	Sub Total for Building 02 - Storage	**1**	**items**		**$11,141**	

Building: 03 - Warwick Area Career & Technical Center

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Acoustical Ceiling Tiles Require Replacement	Capital Renewal	100	SF	3	$941	19530
Note: Missing ceiling tiles should be replaced.						
Location: 1st floor hallway, auto tech clasroom, drafting room, 2nd floor janitor closet, 2nd floor NW entry						
The Carpet Flooring Requires Replacement	Capital Renewal	1,500	SF	3	$33,994	22066
The Ceramic Tile Flooring Requires Replacement	Capital Renewal	25	SF	3	$699	19532
Note: The ceramic tile floor has missing and broken tiles in the 1st floor men's restroom and adjacent janitor closet.						
The Interior Door Hardware Requires Replacement	Barrier to Accessibility	2	Door	3	$6,536	19540
Note: Non-compliant hardware should be replaced.						
12 x 12 Floor Tiles Are Lifting or Broken and Highly Likely Contain Asbestos	Hazardous Material	3,740	SF	4	$111,113	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	360	SF	4	$3,565	Rollup
Room Lighting Is Inadequate Or In Poor Condition.	Educational Adequacy	10,785	SF	4	$408,184	Rollup
The Plaster Ceilings Require Repair	Capital Renewal	25	SF	4	$456	19529
Note: The ceiling in the first floor janitor closet has water damage that should be repaired.						
The Stone/Quarry Flooring Requires Replacement	Capital Renewal	25	SF	4	$1,186	19533
Note: The quarry tile in the kitchen has a small area of broken tiles.						
The Terrazzo Flooring Requires Repair	Capital Renewal	5,000	SF	4	$277,309	19539
Note: The terrazzo floor cracks throughout that should be repaired.						
Classroom Door Requires Vision Panel	Educational Adequacy	1	Ea.	5	$2,266	Rollup
Interior Doors Require Repainting	Capital Renewal	1	Door	5	$70	19531
Note: The door to the 2nd floor janitor closet requires repainting.						

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Interior Walls Require Repainting (Bldg SF)	Capital Renewal	36,125	SF	5	$248,636	Rollup
	Sub Total for System	**13**	**items**		**$1,094,955**	

Mechanical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Replace Unit Vent	Capital Renewal	22	Ea.	2	$387,631	19548
Note: Original unit vents have rusted cabinets and clogged coils.						
The Fin Tube Water Radiant Heater Requires Replacement	Capital Renewal	7	Ea.	2	$12,214	19545
Note: Fin tube heaters are old, rusted, and should be replaced.						
The Window AC Unit Component Requires Replacement	Capital Renewal	7	Ea.	2	$24,346	19542
Lab lacks an appropriate fume hood.	Educational Adequacy	2	Ea.	4	$43,676	Rollup
	Sub Total for System	**4**	**items**		**$467,867**	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Switchgear Is Needed Or Requires Replacement	Capital Renewal	1	Ea.	2	$71,936	19546
Note: Original switchgear should be replaced.						
The Panelboard Requires Replacement	Capital Renewal	2	Ea.	2	$16,043	19543
The Panelboard Requires Replacement	Capital Renewal	9	Ea.	2	$54,368	19544
Note: Panelboards are rusted and corroded.						
Transfer Switch Requires Replacement	Capital Renewal	225	Amps	3	$8,371	19547
Note: Original transfer switch should be replaced.						
Room Has Insufficient Electrical Outlets	Educational Adequacy	48	Ea.	5	$23,660	Rollup
	Sub Total for System	**5**	**items**		**$174,379**	

Plumbing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Classroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	3	Ea.	4	$8,497	19528
The Refrigerated Water Cooler Requires Replacement	Functional Deficiency	4	Ea.	4	$30,739	19541
Note: Low flow drinking fountains are old and rusted.						
The Restroom Lavatories Plumbing Fixtures Require Replacement	Functional Deficiency	24	Ea.	4	$79,526	19535
Note: Lavatories are cracked and corroded.						
The Restroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	5	Ea.	4	$16,568	19536
Note: Corroded lavatories should be replaced.						
The Restroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	3	Ea.	4	$9,941	19537
Note: Half Bradley sinks are corroded and should be replaced.						
Room lacks a drinking fountain.	Educational Adequacy	1	Ea.	5	$1,095	Rollup
Room lacks a private shower area.	Educational Adequacy	1	Ea.	5	$10,166	Rollup
The Class Room Lavatories Plumbing Fixtures Are Missing And Should Be Installed	Educational Adequacy	9	Ea.	5	$13,513	Rollup
	Sub Total for System	**8**	**items**		**$170,045**	

Fire and Life Safety

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room lacks shut-off valves for utilities. (International Fuel Gas Code, Section 409.6)	Educational Adequacy	3	Ea.	1	$33,995	Rollup
Wall Pack Lighting Requires Replacement	Functional Deficiency	7	Ea.	1	$7,889	19538
	Sub Total for System	**2**	**items**		**$41,883**	

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room lacks Interactive White Board	Educational Adequacy	2	Ea.	3	$11,332	Rollup
	Sub Total for System	**1**	**items**		**$11,332**	

Specialties

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room has insufficient writing area.	Educational Adequacy	8	Ea.	3	$36,261	Rollup
Pedicure Spa Chairs and Manicure Tables Are Required	Educational Adequacy	1	Ea.	4	$7,177	Rollup
Separate Student Kitchen Stations Are Required	Educational Adequacy	1	Ea.	4	$3,702	Rollup
Walk In Cooler/Freezer Is Required	Educational Adequacy	1	Ea.	4	$89,708	Rollup
Welding Bays Are Required	Educational Adequacy	2	Ea.	4	$10,765	Rollup
Work Tables Are Required	Educational Adequacy	6	Ea.	4	$21,511	Rollup
Room lacks an appropriate refrigerator.	Educational Adequacy	3	Ea.	5	$25,496	Rollup
The room lacks a washer and/or dryer.	Educational Adequacy	3	Ea.	5	$40,794	Rollup
	Sub Total for System	**8**	**items**		**$235,412**	
	Sub Total for Building 03 - Warwick Area Career & Technical Center	**41**	**items**		**$2,195,873**	

Building: 04 - Concession

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Vinyl Siding (Clapboard Style) Requires Replacement	Capital Renewal	500	SF	2	$4,184	19550
Note: The vinyl siding is chipped and broken.						
	Sub Total for System	**1**	**items**		**$4,184**	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Lighting Fixtures Require Replacement	Capital Renewal	384	SF	2	$2,377	19549
	Sub Total for System	**1**	**items**		**$2,377**	
	Sub Total for Building 04 - Concession	**2**	**items**		**$6,561**	

Building: 06 - Warwick Storage

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Lighting Fixtures Require Replacement	Capital Renewal	1,800	SF	2	$11,141	19551
	Sub Total for System	**1**	**items**		**$11,141**	
	Sub Total for Building 06 - Warwick Storage	**1**	**items**		**$11,141**	
	Total for Campus	**146**	**items**		**$16,135,153**	

Buildings with no reported deficiencies

05 - Press Box

Toll Gate High School - Life Cycle Summary Yrs 1-5

Site Level Life Cycle Items

Site

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Fences and Gates	Fencing - Chain Link (8 Ft)		1,125	LF	$75,631	4
		Sub Total for System	**1**	**items**	**$75,631**	
		Sub Total for Building -	**1**	**items**	**$75,631**	

Building: 01 - Main Building

Roofing

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Low-Slope Roofing	Built-Up Roofing (BUR) w/ballast		26,070	SF	$991,387	4
		Sub Total for System	**1**	**items**	**$991,387**	

Interior

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Interior Coiling Doors	Overhead		1	Door	$36,792	4
Resilient Flooring	Vinyl Composition Tile Flooring		161,790	SF	$1,856,013	4
Fluid-Applied Flooring	Epoxy Coating		12,379	SF	$235,374	4
Carpeting	Carpet		2,476	SF	$53,868	4
Wall Painting and Coating	Painting/Staining (Bldg SF)		198,888	SF	$1,314,122	4
Suspended Plaster and	Painted ceilings		376	SF	$1,573	4
Interior Swinging Doors	Wood		6	Door	$27,665	5
Wall Paneling	Metal Panel wall		3,133	SF	$34,241	5
Resilient Flooring	Rubber Tile Flooring		619	SF	$11,564	5
Wall Paneling	Wood Panel wall		650	SF	$5,932	5
Acoustical Suspended Ceilings	Ceilings - Acoustical Tiles		172,005	SF	$1,553,484	5
		Sub Total for System	**11**	**items**	**$5,130,628**	

Mechanical

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Heat Generation	Boiler - Cast Iron - Water (400 MBH)		28	Ea.	$875,143	5
Decentralized Heating Equipment	Finned Wall Radiator - (Ea.)		117	Ea.	$195,990	5
Exhaust Air	Kitchen Exhaust Hoods		1	Ea.	$15,964	5
Water-Based Fire-Suppression	Fire Sprinkler System (Bldg.SF)		61,386	SF	$1,167,190	5
HVAC Air Distribution	Roof Top Unit - DX Gas (20 Ton)		1	Ea.	$64,299	5
Decentralized Heating Equipment	Heating Unit Vent - Steam/Hot water		24	Ea.	$405,955	5
Decentralized Cooling	Condensing Unit (3 Ton)		11	Ea.	$78,433	5
Note:	1 ton					
Decentralized Cooling	Condensing Unit (3 Ton)		2	Ea.	$14,260	5
		Sub Total for System	**8**	**items**	**$2,817,235**	

Plumbing

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Plumbing Fixtures	Lavatories		9	Ea.	$28,629	5
Plumbing Fixtures	Toilets		89	Ea.	$253,836	5
Plumbing Fixtures	Refrigerated Drinking Fountain		2	Ea.	$14,755	5
Facility Potable-Water Storage Tanks	Water Storage Tank - 1000 Gallon		1	Ea.	$45,519	5
Compressed-Air Systems	Air Compressor (1 hp)		1	Ea.	$6,050	5
Note:	1.5 hp					
		Sub Total for System	**5**	**items**	**$348,790**	
		Sub Total for Building 01 - Main Building	**25**	**items**	**$9,288,039**	

Building: 02 - Storage

Interior

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Wall Painting and Coating	Painting/Staining (Bldg SF)		1,800	SF	$11,893	4
		Sub Total for System	**1**	**items**	**$11,893**	
		Sub Total for Building 02 - Storage	**1**	**items**	**$11,893**	

Building: 03 - Warwick Area Career & Technical Center

Interior

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Suspended Plaster and	Painted ceilings	500	SF	$2,092	3
Resilient Flooring	Vinyl Composition Tile Flooring	14,600	SF	$167,487	4
Fluid-Applied Flooring	Epoxy Coating	4,500	SF	$85,563	4
Wall Paneling	Acoustical Panel Wall	1,000	SF	$9,184	4
Wall Paneling	Wood Panel wall	750	SF	$6,845	5
Wall Paneling	Metal Panel wall	75	SF	$820	5
Acoustical Suspended Ceilings	Ceilings - Acoustical Tiles	34,675	SF	$313,171	5
	Sub Total for System	**7**	**items**	**$585,162**	

Mechanical

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Decentralized Cooling	Condenser - Outside Air Cooled (3 Tons)	5	Ea.	$40,604	4
Exhaust Air	Roof Exhaust Fan - Small	2	Ea.	$5,274	5
Exhaust Air	Roof Exhaust Fan - Large	5	Ea.	$69,467	5
Exhaust Air	Kitchen Exhaust Hoods	1	Ea.	$15,964	5
	Sub Total for System	**4**	**items**	**$131,310**	

Electrical

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Power Distribution	Panelboard - 120/208 100A	4	Ea.	$19,394	4
Power Distribution	Panelboard - 400+ Amps	1	Ea.	$17,788	4
Note:	800 amp				
Power Distribution	Panelboard - 277/480 225A	2	Ea.	$23,920	4
Power Distribution	Panelboard - 277/480 400A	2	Ea.	$35,575	4
	Sub Total for System	**4**	**items**	**$96,676**	

Plumbing

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Plumbing Fixtures	Urinal (Ea.)	11	Ea.	$14,620	5
Plumbing Fixtures	Toilets	14	Ea.	$39,929	5
Plumbing Fixtures	Mop/Service Sinks	3	Ea.	$7,729	5
	Sub Total for System	**3**	**items**	**$62,278**	
	Sub Total for Building 03 - Warwick Area Career & Technical Center	**18**	**items**	**$875,427**	

Building: 04 - Concession

Exterior

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Exterior Entrance Doors	Wood	2	Door	$16,647	5
	Sub Total for System	**1**	**items**	**$16,647**	

Interior

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Wall Paneling	Wood Panel wall	384	SF	$3,505	5
	Sub Total for System	**1**	**items**	**$3,505**	

Electrical

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Power Distribution	Panelboard - 120/240 225A	1	Ea.	$9,602	5
	Sub Total for System	**1**	**items**	**$9,602**	
	Sub Total for Building 04 - Concession	**3**	**items**	**$29,753**	

Building: 06 - Warwick Storage

Interior

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Wall Painting and Coating	Painting/Staining (Bldg SF)	1,800	SF	$11,893	4
	Sub Total for System	**1**	**items**	**$11,893**	
	Sub Total for Building 06 - Warwick Storage	**1**	**items**	**$11,893**	
	Total for: Toll Gate High School	**49**	**items**	**$10,292,637**	

Supporting Photos

Site Aerial

Rusted Chain Link Fence

Missing Shingles

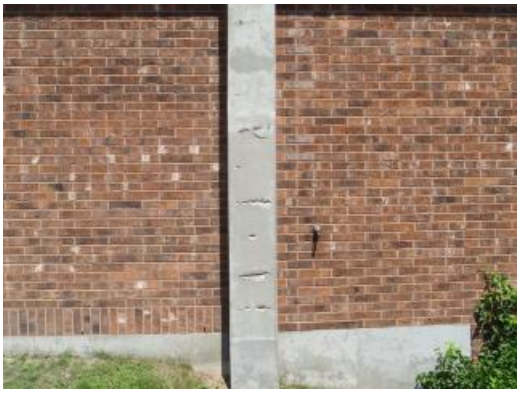
Gypsum Board Wall Damage

Classroom Lavatory

Peeling Soffit Paint

Brick Wall Crack

Chipped Exterior Concrete Corner


Spalling Exterior Concrete Wall

Weathered And Rusted Exterior Doors

Cracked And Broken Vinyl Tile

Emergency Generator

Rusted Exhaust Fan

Restroom Lavatories

Rusted Mop Sink

Rusted Exhaust Vent

Original Annunciator

Worn Stair Coating

Corroded Pumps

Rusted Roof Ladder

Interior Air Handling Unit

Gymnasium Air Handling Unit

Corroded Half Sink

Terrazzo Floor Cracks

Damaged Window Unit

Cracked CMU Wall

Cracked CMU Wall

Federal Pacific Transformer

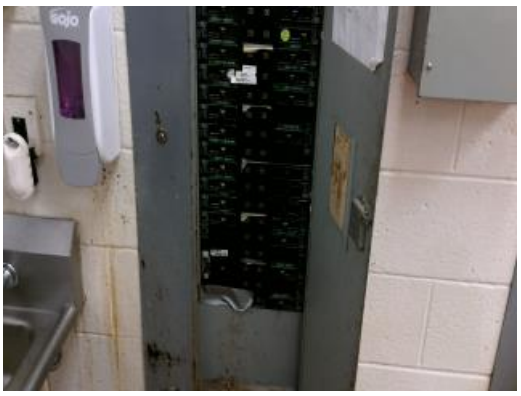
Cracked CMU Wall

Federal Pacific Panelboard

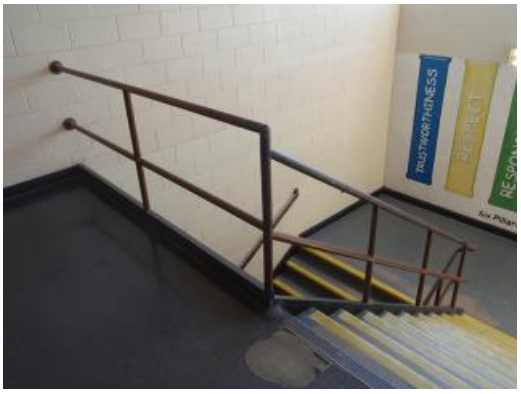
Original Federal Pacific Panelboard

Rusted Unit Heater

Worn Metal Lockers



Rusted Panelboard



Stairway Handrails

Switchgear

Rusted Fin Tube Heater

Main Gymnasium

Original Unit Vent

Elevation

Auditorium

Exterior Finishes

Upper Gymnasium

Library

Elevation

Auditorium

Exterior Finishes

Elevation

Elevation

Music Room

Typical Classroom

Cafeteria

Library

Storage Building

Parking Lot

Art Classsroom Lavatory

Storage Building

Missing Ceramic Tiles

Water Damaged Gypsum Board Ceiling

Emergency Generator

Cracked Quarry Tile

Elevation

Exterior Finishes

Elevation

Media Center

Roof

Chipped And Missing Vinyl Siding

Concessions Exterior

Bleachers And Pressbox

Announcer's Booth

Announcer's Booth

Storage Building

Facility Condition Assessment

Warwick - Warwick Neck School | *June 2017*

155 Rocky Point Avenue, Warwick, RI 02889

Introduction

Warwick Neck School, located at 155 Rocky Point Avenue in Warwick, Rhode Island, was built in 1958. It comprises 33,696 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.

Warwick Neck School serves grades 1 - 6, has 22 instructional spaces, and has an enrollment of 294. Instructional spaces are defined as rooms in which a student receives education. The LEA reported capacity for Warwick Neck School is 350 with a resulting utilization of 84%.

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 Warwick Neck School the 5-year need is $6,068,658. 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 Warwick Neck 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 Warwick Neck School campus, identified by discipline and building.

Site

The site level systems for this campus include:

Site	Asphalt Parking Lot Pavement
	Asphalt Roadway Pavement
	Asphalt Pedestrian Pavement

Building Envelope

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

01 - Main Building:	CMU Exterior Wall
	Painted Exterior Wall
	Metal Panel Exterior Wall
	Wood Siding Exterior Wall
	Aluminum Exterior Windows
	Steel Exterior Windows
	Steel Exterior Entrance Doors

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

01 - Main Building:	EPDM Roofing
	Canopy Roofing

Interior

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

01 - Main Building:	Steel Interior Doors
	Interior Door Hardware
	Door Hardware
	Exposed Metal Structure Ceiling
	Suspended Acoustical Grid System
	Suspended Acoustical Ceiling Tile
	Ceramic Tile Wall
	Interior Wall Painting
	Ceramic Tile Flooring
	Vinyl Composition Tile Flooring

Mechanical

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

01 - Main Building:	3,264 MBH Cast Iron Water Boiler
	400 MBH Cast Iron Water Boiler

01 - Main Building:	Finned Wall Radiator
	Steam/Hot Water Heating Unit Vent
	12 MBH Steam Unit Heater
	Electronic Heating System Controls
	Window Units
	2-Pipe Hot Water Hydronic Distribution System
	1 HP or Smaller Pump
	5 HP Pump
	2,000 CFM Interior AHU
	5,000 CFM Interior AHU
	Small Roof Exhaust Fan

Plumbing

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

01 - Main Building:	2" Backflow Preventers
	Gas Piping System
	40 Gallon Gas Water Heater
	50 Gallon Gas Water Heater
	Domestic Water Piping System
	Classroom Lavatories
	Lavatories
	Mop/Service Sinks
	Non-Refrigerated Drinking Fountain
	Refrigerated Drinking Fountain
	Restroom Lavatories
	Toilets
	Urinals
	Sump Pump
	Air Compressor (2 hp)

Electrical

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

01 - Main Building:	Panelboard - 120/208 100A
	Panelboard - 120/208 125A
	Panelboard - 120/208 225A
	Panelboard - 120/208 400A
	Electrical Disconnect
	Light Fixtures
	Building Mounted Lighting Fixtures
	Canopy Mounted Lighting 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.

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

	Priority						
System	1	2	3	4	5	Total	% of Total
Site	-	-	$16,001	$494,658	$950,746	$1,461,406	30.22 %
Roofing	-	-	-	-	-	$0	0.00 %
Structural	-	-	-	-	-	$0	0.00 %
Exterior	-	$100,269	-	$467,173	-	$567,441	11.74 %
Interior	-	-	$390,028	$274,280	$6,959	$671,267	13.88 %
Mechanical	-	$385,159	$118,968	$237,090	-	$741,217	15.33 %
Electrical	-	$11,587	$3,110	$4,308	$41,686	$60,690	1.26 %
Plumbing	-	-	$1,509	$11,216	$14,730	$27,455	0.57 %
Fire and Life Safety	-	-	-	-	-	$0	0.00 %
Technology	-	-	$1,113,467	-	-	$1,113,467	23.03 %
Conveyances	-	-	-	-	-	$0	0.00 %
Specialties	-	-	$9,127	$174,809	$8,556	$192,492	3.98 %
Total	$0	$497,014	$1,652,210	$1,663,534	$1,022,678	$4,835,436	

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

The building systems with the most need include:

Site	-	$1,461,406
Technology	-	$1,113,467
Mechanical	-	$741,217

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

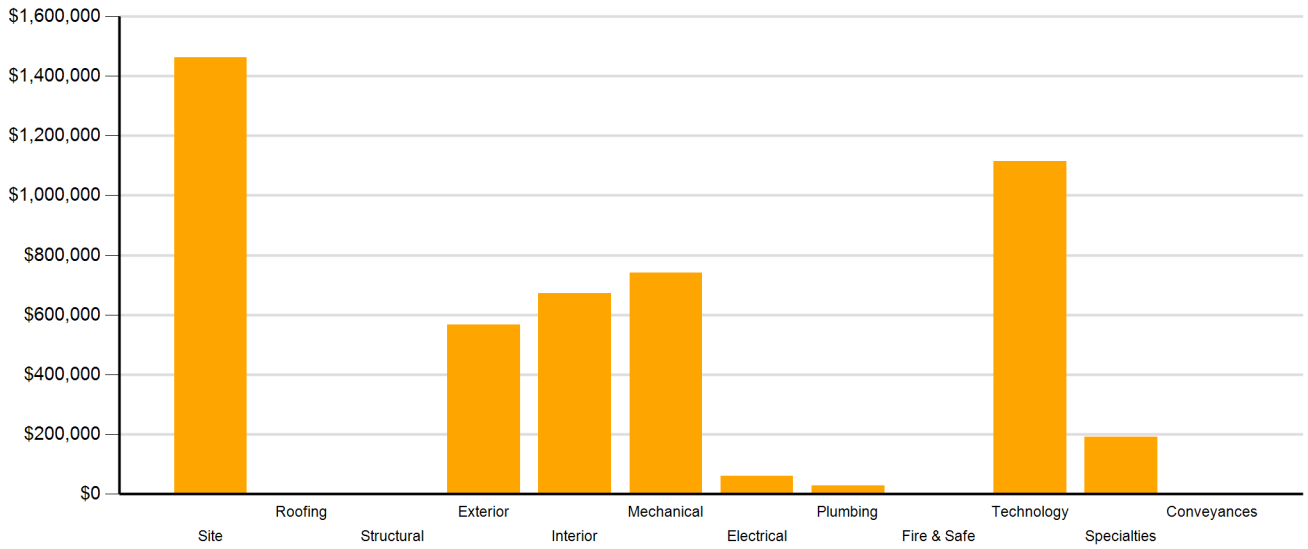


Figure 2: System Deficiencies

Current Deficiencies by Category

Deficiencies have been further grouped according to the observed category.

• **Acoustics** deficiencies relate to room acoustics, sound insolation, 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

	Priority					
Category	**1**	**2**	**3**	**4**	**5**	**Total**
Acoustics	-	-	$118,968	$27,927	-	$146,895
Barrier to Accessibility	-	-	$150,329	-	-	$150,329
Capital Renewal	-	$497,014	$258,418	$1,561,987	$950,746	$3,268,166
Code Compliance	-	-	-	-	-	$0
Educational Adequacy	-	-	$43,352	$56,111	$71,931	$171,394
Functional Deficiency	-	-	-	-	-	$0
Hazardous Material	-	-	-	$17,509	-	$17,509
Technology	-	-	$1,079,242	-	-	$1,079,242
Traffic	-	-	$1,901	-	-	$1,901
Total	$0	$497,014	$1,652,210	$1,663,534	$1,022,678	$4,835,436

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

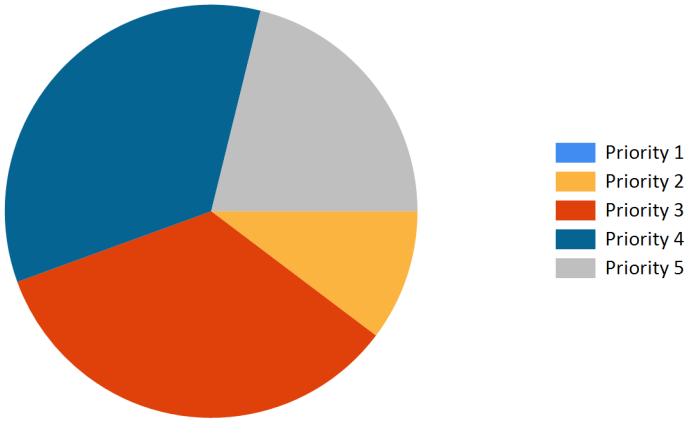


Figure 3: Current deficiencies by priority

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

		Life Cycle Capital Renewal Projections						
System	Current Deficiencies	Year 1 2017	Year 2 2018	Year 3 2019	Year 4 2020	Year 5 2021	LC Yr. 1-5 Total	Total 5-Year Need
Site	$1,461,406	$0	$0	$0	$0	$0	$0	$1,461,406
Roofing	$0	$0	$0	$0	$0	$0	$0	$0
Structural	$0	$0	$0	$0	$0	$0	$0	$0
Exterior	$567,441	$0	$0	$0	$0	$0	$0	$567,441
Interior	$671,267	$0	$0	$0	$536,885	$63,221	$600,106	$1,271,374
Mechanical	$741,217	$0	$0	$0	$179,652	$270,284	$449,936	$1,191,153
Electrical	$60,690	$0	$0	$1,833	$7,463	$0	$9,296	$69,986
Plumbing	$27,455	$0	$0	$73,927	$97,869	$0	$171,796	$199,251
Fire and Life Safety	$0	$0	$0	$0	$0	$0	$0	$0
Technology	$1,113,467	$0	$0	$0	$0	$0	$0	$1,113,467
Conveyances	$0	$0	$0	$0	$0	$0	$0	$0
Specialties	$192,492	$0	$0	$0	$0	$0	$0	$192,492
Total	**$4,835,436**	**$0**	**$0**	**$75,760**	**$821,869**	**$333,505**	**$1,231,134**	**$6,066,570**

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

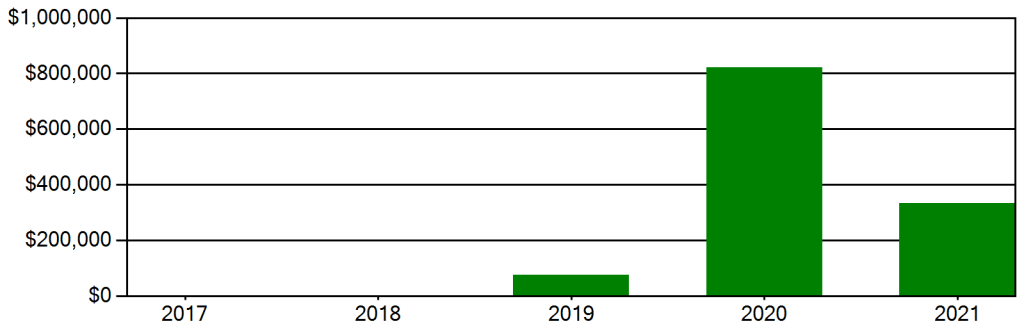
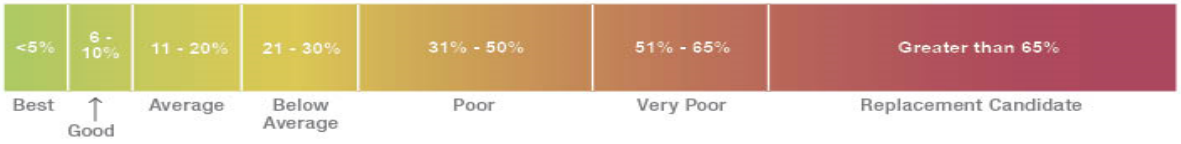


Figure 4: Life Cycle Capital Renewal Forecast

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 $11,793,600. For planning purposes, the total 5-year need at the Warwick Neck School is $6,068,658 (Life Cycle Years 1-5 plus the FCI deficiency cost). The Warwick Neck School facility has a 5-year FCI of 51.44%.

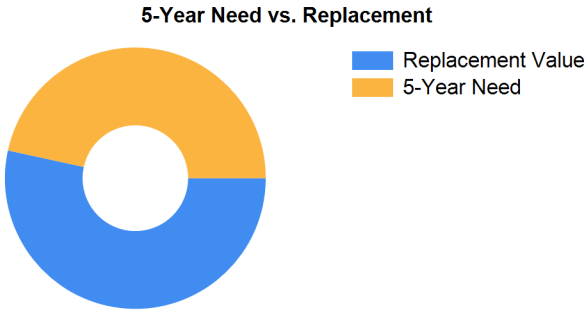


Figure 5: 5-Year FCI

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 187 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 Warwick Neck School cafeteria and/or library/media center to the size prescribed by the SCRs is estimated to be $234,360.

Summary of Findings

The Warwick Neck School comprises 33,696 square feet and was constructed in 1958. Current deficiencies at this school total $4,837,524. Five year capital renewal costs total $1,231,134. The total identified need for the Warwick Neck School (current deficiencies and 5-year capital renewal costs) is $6,068,658. The 5-year FCI is 51.44%.

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
Warwick Neck School Totals	33,696	1958	$4,837,524	$1,231,134	$6,068,658	51.44%

**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	Capital Renewal	1,320	SF	3	$14,100	16584
Crosswalk Requires Repainting	Traffic	2	Ea.	3	$1,901	21998
Note: Repaint crosswalks at intersection of Warwick Neck Ave and Meadow View Ave						
Asphalt Paving Requires Replacement	Capital Renewal	43	CAR	4	$177,833	16585
Asphalt Paving Requires Replacement	Capital Renewal	45	CAR	4	$186,104	16586
Backstops Require Replacement	Educational Adequacy	1	Ea.	4	$35,651	28610
Note: Backstops Require Replacement						
Playground Requires Impact Resistant Material	Capital Renewal	2	Ea.	4	$95,070	16523
Note: For both woodchip playground areas.						
Paved Play Requires Recoating And Resurfacing	Capital Renewal	23,370	SF	5	$888,712	16520
The School Has Insufficient Parking	Capital Renewal	15	CAR	5	$62,035	16521
Note: For 15 vehicles, see pictures of vehicles parked in the gravel						
	Sub Total for System	**8**	**items**		**$1,461,406**	
	Sub Total for School and Site Level	**8**	**items**		**$1,461,406**	

Building: 01 - Main Building

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Metal Exterior Door Requires Replacement	Capital Renewal	15	Door	2	$100,269	16524
Note: The doors are in poor condition.						
The Exterior Requires Painting (Bldg SF)	Capital Renewal	33,696	SF	4	$467,173	18993
	Sub Total for System	**2**	**items**		**$567,441**	

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Acoustical Ceiling Tiles Require Replacement	Capital Renewal	15,600	SF	3	$146,764	16525
Note: The ceiling tiles are in poor condition.						
The Ceramic Tile Flooring Requires Replacement	Capital Renewal	1,400	SF	3	$39,162	16527
Note: The ceramic tile is in poor condition.						
The Interior Door Hardware Requires Replacement	Barrier to Accessibility	46	Door	3	$150,329	16530
Note: The hardware is outdated and not ADA compliant.						
The Vinyl Composition Tile Requires Replacement	Capital Renewal	4,500	SF	3	$53,774	16526
Note: The VCT flooring is in poor condition.						
Location: South classroom wing						
Ceiling Grid Requires Replacement	Capital Renewal	15,600	SF	4	$192,733	16538
Interior Ceramic Walls Require Repair Or Replacement	Capital Renewal	700	SF	4	$16,221	16539
Note: The ceramic tile walls are in poor condition.						
Paint (probable pre-1978 in base layer(s)) - large areas (> 10 sq. ft.) of peeling/damage & area in active use - children (measurement unit - linear feet)	Hazardous Material	320	LF	4	$7,606	Rollup
Paint (probable pre-1978 in base layer(s)) - large areas (> 10 sq. ft.) of peeling/damage & area in active use - children (measurement unit - square feet)	Hazardous Material	1,000	SF	4	$9,903	Rollup
Room Is Excessively Reverberant	Acoustics	1,200	SF	4	$27,927	27795
Note: Gym						
Room Lighting Is Inadequate Or In Poor Condition.	Educational Adequacy	522	SF	4	$19,890	Rollup
Room lacks appropriate sound control.	Educational Adequacy	200	SF	5	$6,959	Rollup
	Sub Total for System	**11**	**items**		**$671,267**	

Mechanical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Steam/HW Unit Heater Requires Replacement	Capital Renewal	1	Ea.	2	$2,488	16534
The Air Handler HVAC Component Requires Replacement	Capital Renewal	1	Ea.	2	$44,934	18995
The Air Handler HVAC Component Requires Replacement	Capital Renewal	2	Ea.	2	$210,954	18996

Mechanical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Cast Iron Water Boiler Requires Replacement	Capital Renewal	1	Ea.	2	$32,557	16535
The Fin Tube Water Radiant Heater Requires Replacement	Capital Renewal	54	Ea.	2	$94,226	16536
Unit Ventilators Are Excessively Noisy	Acoustics	18	Ea.	3	$118,968	27794
Note: Classroom						
Existing Controls Are Inadequate And Should Be Replaced With DDC Controls	Capital Renewal	33,696	SF	4	$237,090	18994
	Sub Total for System	**7**	**items**		**$741,217**	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Panelboard Requires Replacement	Capital Renewal	1	Ea.	2	$5,051	16532
The Panelboard Requires Replacement	Capital Renewal	1	Ea.	2	$6,536	16533
The Mounted Building Lighting Requires Replacement	Capital Renewal	2	Ea.	3	$3,110	16528
Note: Building mounted light fixtures on the back wall facing the playground and by the side of the building facing the faculty parking must be replaced.						
The Canopy Lighting Requires Replacement	Capital Renewal	3	Ea.	4	$4,308	18997
Room Has Insufficient Electrical Outlets	Educational Adequacy	84	Ea.	5	$41,686	Rollup
	Sub Total for System	**5**	**items**		**$60,690**	

Plumbing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Sump Pump Requires Replacement	Capital Renewal	1	Ea.	3	$1,509	16531
Floor Drains Are Required	Educational Adequacy	1	Ea.	4	$570	Rollup
Non-Refrigerated Drinking Fountain Requires Replacement	Capital Renewal	1	Ea.	4	$10,646	16529
Room lacks a drinking fountain.	Educational Adequacy	6	Ea.	5	$6,617	Rollup
The Class Room Lavatories Plumbing Fixtures Are Missing And Should Be Installed	Educational Adequacy	7	Ea.	5	$8,113	Rollup
	Sub Total for System	**5**	**items**		**$27,455**	

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room lacks Interactive White Board	Educational Adequacy	6	Ea.	3	$34,225	Rollup
Technology: Campus network switching electronics are antiquated and/or do not meet standards.	Technology	244	Ea.	3	$120,818	23036
Technology: Classroom AV/Multimedia systems are inadequate and/or near end of useful life.	Technology	18	Ea.	3	$374,337	23041
Technology: Instructional spaces do not have local sound reinforcement.	Technology	18	Ea.	3	$89,128	23043
Technology: Intermediate Telecommunications Room grounding system is inadequate or non-existent.	Technology	1	Ea.	3	$5,546	23033
Technology: Intermediate Telecommunications Room is not dedicated and/or inadequate.	Technology	1	Ea.	3	$47,139	23032
Technology: Intermediate Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	$4,952	23031
Technology: Intermediate Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	$4,952	23034
Technology: Main Telecommunications Room ground system is inadequate or non-existent.	Technology	1	Ea.	3	$6,932	23029
Technology: Main Telecommunications Room is not dedicated. Room requires partial walls and/or major improvements.	Technology	1	Ea.	3	$44,366	23028
Technology: Network cabling infrastructure is outdated (Cat 5 or less) and/or does not meet standards.	Technology	175	Ea.	3	$77,987	23035
Technology: Network system inadequate and/or near end of useful life	Technology	3	Ea.	3	$23,767	23044
Technology: Network system inadequate and/or near end of useful life	Technology	20	Ea.	3	$99,031	23045
Technology: PA/Bell/Clock system is inadequate and/or near end of useful life.	Technology	33,696	SF	3	$60,065	23040

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Technology: Special Space AV/Multimedia system is inadequate.	Technology	1	Ea.	3	$56,448	23037
Technology: Special Space AV/Multimedia systems are in need of minor improvements.	Technology	1	Room	3	$19,806	23042
Technology: Telecommunications Room (large size room) needs dedicated cooling system improvements.	Technology	1	Ea.	3	$7,922	23030
Technology: Telephone handsets are inadequate and sparsely deployed throughout the campus.	Technology	18	Ea.	3	$28,521	23039
Technology: Telephone system is inadequate and/or non-existent.	Technology	1	Ea.	3	$7,526	23038
	Sub Total for System	**19**	**items**		**$1,113,467**	

Specialties

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room has insufficient writing area.	Educational Adequacy	2	Ea.	3	$9,127	Rollup
Replace Cabinetry In Classes/Labs	Capital Renewal	15	Room	4	$174,809	16537
Note: The cabinets are in poor condition.						
Room lacks an appropriate refrigerator.	Educational Adequacy	1	Ea.	5	$8,556	Rollup
	Sub Total for System	**3**	**items**		**$192,492**	
	Sub Total for Building 01 - Main Building	**52**	**items**		**$3,374,030**	
	Total for Campus	**60**	**items**		**$4,835,436**	

Warwick Neck School - Life Cycle Summary Yrs 1-5

Building: 01 - Main Building

Interior

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Wall Painting and Coating	Painting/Staining (Bldg SF)		32,996	SF	$218,016	4
Resilient Flooring	Vinyl Composition Tile Flooring		27,796	SF	$318,869	4
Acoustical Suspended Ceilings	Ceilings - Acoustical Tiles		7,000	SF	$63,221	5
		Sub Total for System	**3**	**items**	**$600,106**	

Mechanical

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Decentralized Heating Equipment	Heating Unit Vent - Steam/Hot water		6	Ea.	$101,489	4
Facility Hydronic Distribution	Pump - 1HP or Less (Ea.)		4	Ea.	$30,514	4
Facility Hydronic Distribution	Pump - 5HP		5	Ea.	$47,649	4
Facility Hydronic Distribution	2-Pipe Water System (Hot)		33,696	SF	$259,735	5
Exhaust Air	Roof Exhaust Fan - Small		4	Ea.	$10,549	5
		Sub Total for System	**5**	**items**	**$449,935**	

Electrical

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Wiring Devices	Electrical Disconnect		1	Ea.	$1,833	3
Lighting Fixtures	Building Mounted Fixtures (Ea.)		5	Ea.	$7,463	4
		Sub Total for System	**2**	**items**	**$9,296**	

Plumbing

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Plumbing Fixtures	Mop/Service Sinks		4	Ea.	$10,306	3
Plumbing Fixtures	Restroom Lavatories		20	Ea.	$63,621	3
Plumbing Fixtures	Refrigerated Drinking Fountain		1	Ea.	$7,377	4
Plumbing Fixtures	Toilets		28	Ea.	$79,859	4
Plumbing Fixtures	Urinals		8	Ea.	$10,633	4
		Sub Total for System	**5**	**items**	**$171,795**	
		Sub Total for Building 01 - Main Building	**15**	**items**	**$1,231,132**	
		Total for: Warwick Neck School	**15**	**items**	**$1,231,132**	

Supporting Photos

Site Aerial

Boiler

Multipurpose Room

Multipurpose Room Stage

Classroom Cabinets

Faculty Parking

Asphalt Playground

Faculty Parking

Exterior Requires Repainting

Typical Classroom

Two-Story Exterior

Music Classroom

Playground

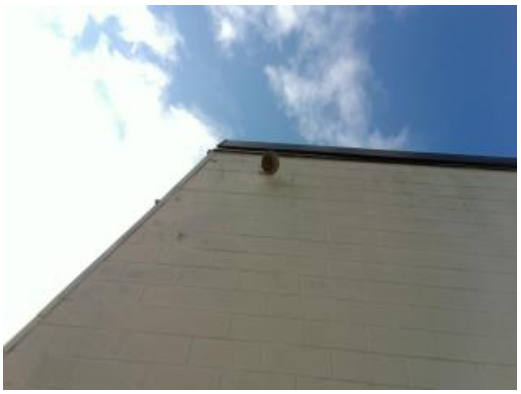
Playground

Classroom Lavatory

Library

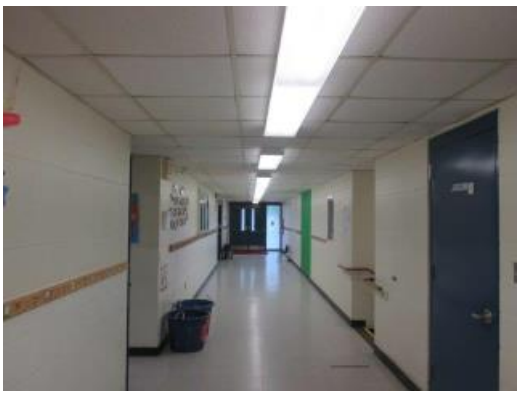
Toilet Partitions

Entry Canopy


Building Light Fixture Facing Playground

Asphalt Driveway

Asphalt Sidewalk


Typical Corridor

Art Classroom

Main Distribution Panel

Classroom Wing Exterior

Main Entrance

Facility Condition Assessment

Warwick - Warwick Veterans Memorial Junior HS | *June 2017*

2401 West Shore Road, Warwick, RI 02889

Introduction

Warwick Veterans Memorial Junior HS, located at 2401 West Shore Road in Warwick, Rhode Island, was built in 1955. It comprises 218,520 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.

Warwick Veterans Memorial Junior HS serves grades 6 - 8, has 87 instructional spaces, and has an enrollment of 450. Instructional spaces are defined as rooms in which a student receives education. The LEA reported capacity for Warwick Veterans Memorial Junior HS is 2,146 with a resulting utilization of 21%.

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 Warwick Veterans Memorial Junior HS the 5-year need is $31,921,063. 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 Warwick Veterans Memorial Junior HS

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 Warwick Veterans Memorial Junior HS campus, identified by discipline and building.

Site

The site level systems for this campus include:

Site	Asphalt Parking Lot Pavement
	Asphalt Roadway Pavement
	Asphalt Pedestrian Pavement
	Concrete Pedestrian Pavement

Building Envelope

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

01 - Main Building:	Brick Exterior Wall
	Metal Panel Exterior Wall
	Pre-cast Concrete Panel Exterior Wall
	Painted Gypsum Soffit
	Steel Exterior Windows
	Aluminum Exterior Windows
	Storefront Entrance Doors
	Steel Exterior Entrance Doors
	Overhead Exterior Utility Doors
02 - Building 02:	Brick Exterior Wall
	Painted Exterior Wall
	Aluminum Exterior Windows
	Steel Exterior Entrance Doors
03 - Building 03:	Metal Panel Exterior Wall
	Steel Exterior Entrance Doors
	Overhead Exterior Utility Doors
04 - Building 04:	Painted Exterior Wall
	Painted Gypsum Soffit
	Wood Siding Exterior Wall
	Steel Exterior Entrance Doors
05 - Building 05:	Wood Siding Exterior Wall
	Steel Exterior Entrance Doors
	Overhead Exterior Utility Doors
06 - Baseball Press Box:	Painted Exterior Wall
	Painted Gypsum Soffit
	Wood Siding Exterior Wall
	Steel Exterior Entrance Doors
	Wood Exterior Doors
07 - Snack Bar:	Painted Exterior Wall

07 - Snack Bar:	Painted Gypsum Soffit
	Wood Siding Exterior Wall
	Steel Exterior Entrance Doors
	Overhead Exterior Utility Doors

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

01 - Main Building:	EPDM Roofing
	Single Ply Roofing
	Canopy Roofing
02 - Building 02:	EPDM Roofing
03 - Building 03:	Metal Low-Slope Roofing
04 - Building 04:	Composition Shingle Roofing
05 - Building 05:	Metal Low-Slope Roofing
06 - Baseball Press Box:	Composition Shingle Roofing
07 - Snack Bar:	Composition Shingle Roofing

Interior

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

01 - Main Building:	Wood Interior Doors
	Steel Interior Doors
	Aluminum/Glass Storefront Interior Doors
	Overhead Interior Coiling Doors
	Interior Door Hardware
	Door Hardware
	Suspended Acoustical Grid System
	Suspended Acoustical Ceiling Tile
	Adhered Acoustical Ceiling Tiles
	Painted Ceilings
	CMU Wall
	Brick/Stone Veneer
	Interior Wall Painting
	Concrete Flooring
	Quarry Tile Flooring
	Wood Flooring
	Vinyl Composition Tile Flooring
	Carpet
02 - Building 02:	Wood Interior Doors
	Steel Interior Doors
	Interior Door Hardware
	Suspended Acoustical Grid System
	Suspended Acoustical Ceiling Tile
	Interior Wall Painting

02 - Building 02:	Vinyl Composition Tile Flooring
03 - Building 03:	Exposed Metal Structure Ceiling
	Interior Wall Painting
	Concrete Flooring
04 - Building 04:	Door Hardware
	Interior Wall Painting
	Wood Flooring
05 - Building 05:	Exposed Metal Structure Ceiling
	Interior Wall Painting
	Concrete Flooring
06 - Baseball Press Box:	Door Hardware
	Interior Wall Painting
	Wood Flooring
07 - Snack Bar:	Door Hardware
	CMU Wall
	Concrete Flooring

Mechanical

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

01 - Main Building:	8,375 MBH Steel Tube Boiler
	Electric Heating Unit Vent
	Finned Wall Radiator
	12 MBH Steam Unit Heater
	Pneumatic Heating System Controls
	1 Ton Ductless Split System
	1 Ton Heat Pump
	Make-up Air Unit
	1 HP or Smaller Pump
	5 HP Pump
	2-Pipe Hot Water Hydronic Distribution System
	15,000 CFM Interior AHU
	Roof Exhaust Fan
	Fire Sprinkler System
02 - Building 02:	Finned Wall Radiator
	Window Units
	Wall Exhaust Fan
07 - Snack Bar:	1 HP or Smaller Pump

Plumbing

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

01 - Main Building:	2" Backflow Preventers

01 - Main Building:	Gas Piping System
	40 Gallon Electric Water Heater
02 - Building 02:	30 Gallon Electric Water Heater
01 - Main Building:	Domestic Water Piping System
02 - Building 02:	Domestic Water Piping System
01 - Main Building:	Classroom Lavatories
	Mop/Service Sinks
	Non-Refrigerated Drinking Fountain
	Restroom Lavatories
	Showers
	Toilets
	Urinals
02 - Building 02:	Non-Refrigerated Drinking Fountain
	Restroom Lavatories
	Toilets
	Urinals
01 - Main Building:	Sump Pump
	Air Compressor (1 hp)

Electrical

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

01 - Main Building:	1200 kW Emergency Generator
	208/120v Switch
	1,200 Amp Switchgear
	2,000 Amp Switchgear
	500 KVA Transformer
	Panelboard - 120/208 100A
	Panelboard - 120/208 225A
	Building Mounted Lighting Fixtures
	Canopy Mounted Lighting Fixtures
	Light Fixtures
02 - Building 02:	Panelboard - 120/208 100A
	Panelboard - 120/208 225A
	Electrical Disconnect
	Light Fixtures
	Building Mounted Lighting Fixtures
03 - Building 03:	Panelboard - 120/208 100A
	Building Mounted Lighting Fixtures
	Light Fixtures
04 - Building 04:	Light Fixtures
05 - Building 05:	Panelboard - 120/208 400A
	Light Fixtures

06 - Baseball Press Box:	Panelboard - 120/208 100A
	Building Mounted Lighting Fixtures
	Light Fixtures
07 - Snack Bar:	Panelboard - 120/208 100A
	Building 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.

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

	Priority						
System	1	2	3	4	5	Total	% of Total
Site	-	-	$880,310	$4,300,314	$322,203	$5,502,827	20.14 %
Roofing	-	$1,453,517	$14,369	-	-	$1,467,887	5.37 %
Structural	-	-	-	-	-	$0	0.00 %
Exterior	-	$1,318,878	-	$195,131	$2,641	$1,516,650	5.55 %
Interior	-	-	$2,201,932	$1,585,749	$48,777	$3,836,458	14.04 %
Mechanical	-	$3,228,598	-	$1,630,886	-	$4,859,484	17.78 %
Electrical	$5,649	$242,467	$60,977	-	$168,730	$477,823	1.75 %
Plumbing	-	$11,460	$2,108,492	$392,757	$48,533	$2,561,242	9.37 %
Fire and Life Safety	$45,633	-	-	-	-	$45,633	0.17 %
Technology	-	-	$4,049,530	-	-	$4,049,530	14.82 %
Conveyances	-	-	$297,093	-	-	$297,093	1.09 %
Specialties	-	-	$27,380	$2,637,974	$47,915	$2,713,270	9.93 %
Total	$51,282	$6,254,921	$9,640,083	$10,742,811	$638,800	$27,327,897	

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

The building systems with the most need include:

Site	-	$5,502,827
Mechanical	-	$4,859,484
Technology	-	$4,049,530

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

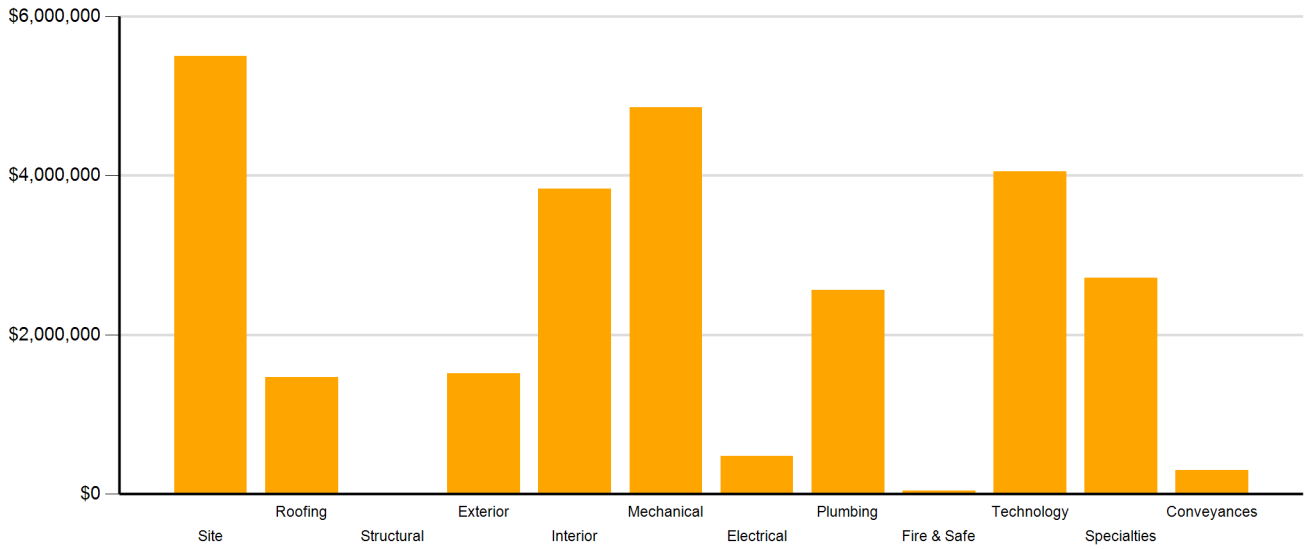


Figure 2: System Deficiencies

Current Deficiencies by Category

Deficiencies have been further grouped according to the observed category.

• **Acoustics** deficiencies relate to room acoustics, sound insolation, 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

	Priority					
Category	**1**	**2**	**3**	**4**	**5**	**Total**
Acoustics	-	-	-	$267,631	-	$267,631
Barrier to Accessibility	-	-	$297,093	-	-	$297,093
Capital Renewal	-	$6,254,921	$5,142,870	$9,650,732	$37,500	$21,086,023
Code Compliance	-	-	-	-	-	$0
Educational Adequacy	$51,282	-	$124,351	$437,718	$601,300	$1,214,652
Functional Deficiency	-	-	-	-	-	$0
Hazardous Material	-	-	-	$386,730	-	$386,730
Technology	-	-	$3,952,558	-	-	$3,952,558
Traffic	-	-	$123,210	-	-	$123,210
Total	$51,282	$6,254,921	$9,640,083	$10,742,811	$638,800	$27,327,897

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

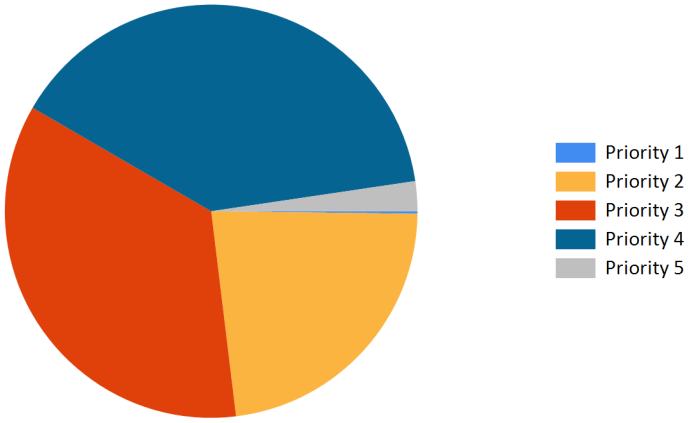


Figure 3: Current deficiencies by priority

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

		Life Cycle Capital Renewal Projections						
System	Current Deficiencies	Year 1 2017	Year 2 2018	Year 3 2019	Year 4 2020	Year 5 2021	LC Yr. 1-5 Total	Total 5-Year Need
Site	$5,502,827	$0	$0	$0	$0	$306,594	$306,594	$5,809,422
Roofing	$1,467,887	$0	$0	$0	$0	$0	$0	$1,467,887
Structural	$0	$0	$0	$0	$0	$0	$0	$0
Exterior	$1,516,650	$0	$0	$0	$0	$0	$0	$1,516,650
Interior	$3,836,458	$0	$0	$15,858	$2,445,049	$0	$2,460,907	$6,297,365
Mechanical	$4,859,484	$0	$0	$91,259	$7,164	$521,825	$620,248	$5,479,732
Electrical	$477,823	$0	$0	$642	$19,813	$1,156,299	$1,176,754	$1,654,577
Plumbing	$2,561,242	$0	$0	$11,410	$7,033	$10,220	$28,663	$2,589,905
Fire and Life Safety	$45,633	$0	$0	$0	$0	$0	$0	$45,633
Technology	$4,049,530	$0	$0	$0	$0	$0	$0	$4,049,530
Conveyances	$297,093	$0	$0	$0	$0	$0	$0	$297,093
Specialties	$2,713,270	$0	$0	$0	$0	$0	$0	$2,713,270
Total	**$27,327,897**	**$0**	**$0**	**$119,169**	**$2,479,059**	**$1,994,938**	**$4,593,166**	**$31,921,063**

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

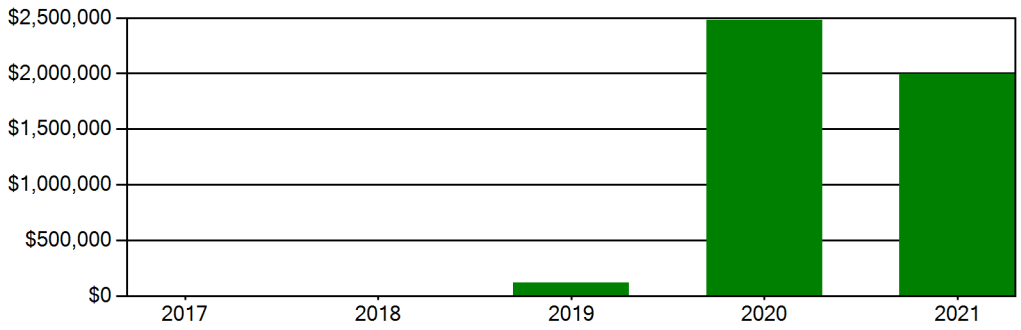
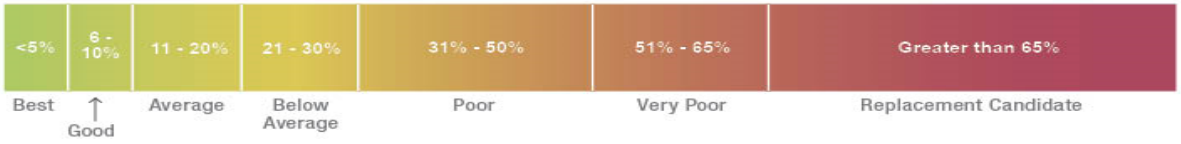


Figure 4: Life Cycle Capital Renewal Forecast

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 $78,667,200. For planning purposes, the total 5-year need at the Warwick Veterans Memorial Junior HS is $31,921,063 (Life Cycle Years 1-5 plus the FCI deficiency cost). The Warwick Veterans Memorial Junior HS facility has a 5-year FCI of 40.58%.

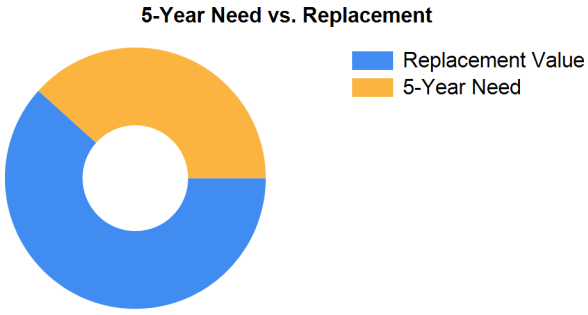


Figure 5: 5-Year FCI

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 1,181 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 Warwick Veterans Memorial Junior HS cafeteria and/or library/media center to the size prescribed by the SCRs is estimated to be $1,116,637.

Summary of Findings

The Warwick Veterans Memorial Junior HS comprises 218,520 square feet and was constructed in 1955. Current deficiencies at this school total $27,327,897. Five year capital renewal costs total $4,593,166. The total identified need for the Warwick Veterans Memorial Junior HS (current deficiencies and 5-year capital renewal costs) is $31,921,063. The 5-year FCI is 40.58%.

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
Warwick Veterans Memorial Junior HS Totals	218,520	1955	$27,327,897	$4,593,166	$31,921,063	40.58%

**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	Capital Renewal	35,000	SF	3	$373,857	16773
Note: The pedestrian paving at the football field bleachers and circulation area is deteriorated.						
Concrete Walks Require Replacement	Capital Renewal	15,000	SF	3	$383,242	16774
New Sidewalk Is Required	Traffic	4,320	SF	3	$123,210	22007
Note: Add sidewalk along Fletcher St adjacent to tennis courts (720' long x 6' wide)						
Asphalt Paving Requires Replacement	Capital Renewal	70	CAR	4	$289,496	16769
Asphalt Paving Requires Replacement	Capital Renewal	540	CAR	4	$2,233,251	16770
Asphalt Paving Requires Replacement	Capital Renewal	10	CAR	4	$41,357	16771
Note: The basketball court pavement is severely deteriorated.						
Fencing Requires Replacement (4' Chain Link Fence)	Capital Renewal	2,400	LF	4	$193,942	16767
Note: The fencing is rusted and damaged.						
Fencing Requires Replacement (Ornamental Fence)	Capital Renewal	60	LF	4	$80,572	16768
Note: The ornamental fencing at the main entry is corroded.						
Site Marquee Requires Replacement	Capital Renewal	1	Ea.	4	$35,651	16775
Note: The marquee sign is in poor condition.						
Tennis Courts, Nets, And Equipment Require Replacement	Capital Renewal	6	Ea.	4	$1,426,046	16772
Note: Tennis courts are deteriorated.						
School has insufficient # of tennis courts.	Educational Adequacy	1	Ea.	5	$203,366	29049
Note: School has insufficient # of tennis courts.						
School has insufficient football/soccer fields.	Educational Adequacy	1	Ea.	5	$118,837	28201
Note: School has insufficient football/soccer fields.						
	Sub Total for System	**12**	**items**		**$5,502,827**	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Pole Lighting Requires Replacement	Capital Renewal	1	Ea.	3	$9,669	16776
Note: One pole light located by the field snack bar does not work. Possible circuit issue.						
	Sub Total for System	**1**	**items**		**$9,669**	
	Sub Total for School and Site Level	**13**	**items**		**$5,512,496**	

Building: 01 - Main Building

Roofing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Tectum Decking Requires Replacement	Capital Renewal	18,520	SF	2	$1,431,295	16804
Note: The exposed panel insulation ceilings are deteriorated, stained and damaged.						
Gutters Require Replacement	Capital Renewal	250	LF	3	$12,379	16801
Note: The gutter at the north wall of the shop classroom wing is deteriorated and damaged.						
	Sub Total for System	**2**	**items**		**$1,443,674**	

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Aluminum Window Requires Replacement	Capital Renewal	160	SF	2	$28,204	16784
Location: Windows at gym entry vestibule						
The Metal Exterior Door Requires Replacement	Capital Renewal	28	Door	2	$187,168	16781
Note: The steel doors are corroded and damaged.						
The Overhead Door Requires Replacement	Capital Renewal	2	Door	2	$76,650	16783
Note: The overhead shop doors are deteriorated and damaged.						
The Overhead Door Requires Replacement	Capital Renewal	4	Door	2	$153,300	18976
The Steel Window Requires Replacement	Capital Renewal	3,526	SF	2	$785,662	16785
Note: The original steel windows are deteriorated.						
Location: Windows at shop clerestory, boiler room and adjacent to corridor exit doors						
The Exterior Soffit Requires Replacement	Capital Renewal	1,100	SF	4	$141,614	16779
Note: The plaster soffit at G-wing is severely damaged.						

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Exterior Soffit Requires Repainting	Capital Renewal	640	SF	5	$2,218	16780
	Sub Total for System	**7**	**items**		**$1,374,817**	

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Interior Doors Require Replacement	Capital Renewal	300	Door	3	$1,440,900	16787
The Acoustical Ceiling Tiles Require Replacement	Capital Renewal	10,000	SF	3	$94,079	16786
Note: The acoustical ceilings are in poor condition.						
The Carpet Flooring Requires Replacement	Capital Renewal	2,000	SF	3	$45,325	16788
Note: The carpet in the lecture hall is in poor condition.						
The Vinyl Composition Tile Requires Replacement	Capital Renewal	30,000	SF	3	$358,492	16790
Note: The VCT flooring is in poor condition.						
The Wood Flooring Requires Replacement	Capital Renewal	6,000	SF	3	$207,371	16791
Note: The wood flooring is worn and damaged.						
Adhered Acoustical Ceiling Tile Requires Replacement	Capital Renewal	35,000	SF	4	$395,350	16821
Note: The adhered tile ceilings are deteriorated and falling off in some areas.						
Ceiling Grid Requires Replacement	Capital Renewal	10,000	SF	4	$123,547	16819
Interior Storefront Doors Require Replacement	Capital Renewal	12	Door	4	$59,419	16818
Note: The vestibule doors are worn.						
Interior Toilet Partition Requires Repair	Capital Renewal	31	Ea.	4	$16,885	16799
Note: The toilet partition doors are worn and damaged.						
Light Deterioration or Damage of 9x9 Asbestos Floor Tile is Present	Hazardous Material	2,000	SF	4	$59,419	Rollup
Moveable Partitions Require Replacement	Capital Renewal	900	SF Wall	4	$108,290	16777
Paint (probable pre-1978 in base (layers(s)) - large areas (> 10 sq. ft.) of peeling/damage & area in active use - children (measurement unit - each)	Hazardous Material	645	Ea.	4	$191,625	Rollup
Paint (probable pre-1978 in base layer(s)) - large areas (> 10 sq. ft.) of peeling/damage & area in active use - children (measurement unit - linear feet)	Hazardous Material	2,030	LF	4	$48,248	Rollup
Paint (probable pre-1978 in base layer(s)) - large areas (> 10 sq. ft.) of peeling/damage & area in active use - children (measurement unit - square feet)	Hazardous Material	6,483	SF	4	$64,202	Rollup
Paint (probable pre-1978 in base layer(s)) -large areas (> 10 sq. ft.)of peeling/damage & area in active use-adults only (measurement unit - square feet)	Hazardous Material	2,020	SF	4	$20,004	Rollup
Paint (probable pre-1978 in base layer(s)) -large areas(> 10 sq. ft.)of peeling/damage & area in active use-adults only (measurement unit - linear feet)	Hazardous Material	136	LF	4	$3,232	Rollup
Room Is Excessively Reverberant	Acoustics	11,500	SF	4	$267,631	27839
Note: Gym						
Room Lighting Is Inadequate Or In Poor Condition.	Educational Adequacy	5,664	SF	4	$215,821	Rollup
Room lacks appropriate sound control.	Educational Adequacy	400	SF	5	$13,918	Rollup
The Gypsum Board Ceilings Require Repainting	Capital Renewal	8,000	SF	5	$34,859	Rollup
	Sub Total for System	**20**	**items**		**$3,768,617**	

Mechanical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Replace Unit Vent	Capital Renewal	16	Ea.	2	$235,931	16820
Note: In poor condition, corroding, do not heat efficiently, and past life expectancy.						
The Fin Tube Water Radiant Heater Requires Replacement	Capital Renewal	300	Ea.	2	$523,478	16812
Note: About 80% of the radiators need to be replaced, in bad condition, fins not in good shape, do not heat properly, and past life expectancy.						
The Mechanical / HVAC Piping / System Is Beyond Its Useful Life	Capital Renewal	210,520	SF	2	$1,690,342	16813
Note: Pipes are the main issue with the heating system for the school. Pipes are old and leak. Need to be completely replaced.						
The Steel Tube Boiler Requires Replacement	Capital Renewal	2	Ea.	2	$768,377	16822
Note: Boilers are past life expectancy and need to be replaced. In poor condition, rusting and corroding. One boiler doesn't work anymore.						
Existing Controls Are Inadequate And Should Be Replaced With DDC Controls	Capital Renewal	210,520	SF	4	$1,481,250	16815
Note: Control system needs to be upgraded to DDC. Pnuematic system results in uneven heating throughout the school.						
Lab lacks an appropriate fume hood.	Educational Adequacy	5	Ea.	4	$109,929	Rollup
Small HVAC Circulating Pump Requires Replacement	Capital Renewal	4	Ea.	4	$39,707	16806

Mechanical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Note: Pumps are old and corroding. Past life expectancy and in bad condition.						
	Sub Total for System	**7**	**items**		**$4,849,015**	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room last power shut-off valves for utilities	Educational Adequacy	4	Ea.	1	$5,649	Rollup
Switchgear Is Needed Or Requires Replacement	Capital Renewal	1	Ea.	2	$71,936	16814
Note: Replace original switchgear in boiler room. In poor condition and past life expectancy.						
The Panelboard Requires Replacement	Capital Renewal	23	Ea.	2	$116,163	16809
The Panelboard Requires Replacement	Capital Renewal	9	Ea.	2	$54,368	16810
Note: Missing breakers and corroding.						
The Mounted Building Lighting Requires Replacement	Capital Renewal	30	Ea.	3	$46,644	16792
Note: Lights are old and do not illuminate clearly.						
Room Has Insufficient Electrical Outlets	Educational Adequacy	340	Ea.	5	$168,730	Rollup
	Sub Total for System	**6**	**items**		**$463,490**	

Plumbing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Backflow Preventer Requires Replacement	Capital Renewal	1	Ea.	2	$4,084	16811
Note: Pipes are old and corroding, past life expectancy also. Need to be replaced.						
The Electric Water Heater Requires Replacement	Capital Renewal	2	Ea.	2	$7,376	16808
Note: Water heaters are old and past life expectancy. In bad condition. Need to add additional water heater dedicated to locker rooms.						
Sump Pump Requires Replacement	Capital Renewal	1	Ea.	3	$1,509	16807
Note: Sump pump is in poor condition and needs to be replaced. Past life expectancy and rusting.						
The Plumbing / Domestic Water Piping System Is Beyond Its Useful Life	Capital Renewal	210,520	SF	3	$1,764,395	16805
Note: Piping is in poor condition and past life expectancy.						
The Showers Plumbing Fixtures Require Replacement	Capital Renewal	38	Ea.	3	$301,054	16796
Note: Almost all showers are past life expectancy and in poor condition.						
The Urinal Plumbing Fixtures Require Replacement	Capital Renewal	30	Ea.	3	$41,534	16803
Note: Urinals are corroding and past life expectancy.						
Non-Refrigerated Drinking Fountain Requires Replacement	Capital Renewal	10	Ea.	4	$106,458	16797
Note: Low flow, past life expectancy and rusting.						
The Classroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	32	Ea.	4	$90,633	16778
Note: Most sinks are in bad condition and past life expectancy. Low flow and corroding.						
The Custodial Mop Or Service Sink Requires Replacement	Capital Renewal	5	Ea.	4	$13,419	16800
Note: Sinks are corroding and rusting.						
The Restroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	55	Ea.	4	$182,247	16794
Note: Most need to be replaced because they are in poor condition. Some restrooms have gravity sinks.						
Room lacks a drinking fountain.	Educational Adequacy	7	Ea.	5	$7,720	Rollup
The Class Room Lavatories Plumbing Fixtures Are Missing And Should Be Installed	Educational Adequacy	27	Ea.	5	$40,813	Rollup
	Sub Total for System	**12**	**items**		**$2,561,242**	

Fire and Life Safety

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room lacks shut-off valves for utilities. (International Fuel Gas Code, Section 409.6)	Educational Adequacy	4	Ea.	1	$45,633	Rollup
	Sub Total for System	**1**	**items**		**$45,633**	

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room lacks Interactive White Board	Educational Adequacy	17	Ea.	3	$96,971	Rollup
Technology: Auditorium AV/Multimedia system is in need of minor improvements.	Technology	1	Room	3	$99,031	23009

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Technology: Campus network switching electronics are antiquated and/or do not meet standards.	Technology	830	Ea.	3	$410,978	22998
Technology: Classroom AV/Multimedia systems are in need of improvements.	Technology	76	Ea.	3	$752,635	23000
Technology: Classroom AV/Multimedia systems are in need of improvements.	Technology	76	Ea.	3	$752,635	23008
Technology: Instructional spaces do not have local sound reinforcement.	Technology	76	Ea.	3	$376,318	23005
Technology: Intermediate Telecommunications Room grounding system is inadequate or non-existent.	Technology	1	Ea.	3	$5,546	22980
Technology: Intermediate Telecommunications Room grounding system is inadequate or non-existent.	Technology	1	Ea.	3	$5,546	22983
Technology: Intermediate Telecommunications Room grounding system is inadequate or non-existent.	Technology	1	Ea.	3	$5,546	22988
Technology: Intermediate Telecommunications Room grounding system is inadequate or non-existent.	Technology	1	Ea.	3	$5,546	22992
Technology: Intermediate Telecommunications Room grounding system is inadequate or non-existent.	Technology	1	Ea.	3	$5,546	22996
Technology: Intermediate Telecommunications Room is not dedicated and/or inadequate.	Technology	1	Ea.	3	$47,139	22991
Technology: Intermediate Telecommunications Room is not dedicated. Room requires partial walls and/or major improvements.	Technology	1	Ea.	3	$39,216	22986
Technology: Intermediate Telecommunications Room needs minor improvements.	Technology	1	Ea.	3	$17,429	22987
Technology: Intermediate Telecommunications Room needs minor improvements.	Technology	1	Ea.	3	$17,429	22995
Technology: Intermediate Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	$4,952	22981
Technology: Intermediate Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	$4,952	22984
Technology: Intermediate Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	$4,952	22989
Technology: Intermediate Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	$4,952	22993
Technology: Intermediate Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	$4,952	22997
Technology: Main Telecommunications Room ground system is inadequate or non-existent.	Technology	1	Ea.	3	$6,932	22978
Technology: Main Telecommunications Room is not dedicated and/or inadequate.	Technology	1	Ea.	3	$52,288	22979
Technology: Main Telecommunications Room is not dedicated and/or inadequate.	Technology	1	Ea.	3	$52,288	22982
Technology: Main Telecommunications Room is not dedicated. Room requires partial walls and/or major improvements.	Technology	1	Ea.	3	$44,366	22977
Technology: Network cabling infrastructure is outdated (Cat 5 or less) and/or does not meet standards.	Technology	814	Ea.	3	$362,750	22999
Technology: Network system inadequate and/or near end of useful life	Technology	18	Ea.	3	$142,605	23003
Technology: Network system inadequate and/or near end of useful life	Technology	38	Ea.	3	$188,159	23004
Technology: PA/Bell/Clock system is inadequate and/or near end of useful life.	Technology	210,520	SF	3	$375,264	23002
Technology: Special Space AV/Multimedia systems are in need of minor improvements.	Technology	1	Room	3	$19,806	23001
Technology: Telecommunications Room (small size room) needs dedicated cooling system improvements.	Technology	1	Ea.	3	$4,952	22985

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Technology: Telecommunications Room (small size room) needs dedicated cooling system improvements.	Technology	1	Ea.	3	$4,952	22990
Technology: Telecommunications Room (small size room) needs dedicated cooling system improvements.	Technology	1	Ea.	3	$4,952	22994
Technology: Telephone handsets are inadequate and sparsely deployed throughout the campus.	Technology	76	Ea.	3	$120,422	23006
Technology: Telephone system is inadequate and/or non-existent.	Technology	1	Ea.	3	$7,526	23007
	Sub Total for System	**34**	**items**		**$4,049,530**	

Conveyances

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Elevator Cab Requires Replacement	Barrier to Accessibility	1	Ea.	3	$297,093	16793
Note: The elevator is non-operational at times, not ADA compliant and generally in poor condition.						
	Sub Total for System	**1**	**items**		**$297,093**	

Specialties

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room has insufficient writing area.	Educational Adequacy	6	Ea.	3	$27,380	Rollup
Replace Cabinetry In Classes/Labs	Capital Renewal	67	Room	4	$780,815	16817
Note: The cabinets are worn and damaged.						
Separate Student Kitchen Stations Are Required	Educational Adequacy	1	Ea.	4	$3,727	Rollup
The Metal Student Lockers Require Replacement	Capital Renewal	600	Ea.	4	$307,491	16816
Note: The lockers are damaged and worn.						
The Retractable Bleachers Require Replacement	Capital Renewal	1,200	Seat	4	$1,426,046	16802
Note: The bleachers are worn and difficult to operate.						
Walk In Cooler/Freezer Is Required	Educational Adequacy	1	Ea.	4	$90,316	Rollup
Work Tables Are Required	Educational Adequacy	5	Ea.	4	$17,926	Rollup
Room lacks an appropriate refrigerator.	Educational Adequacy	4	Ea.	5	$34,225	Rollup
The room lacks a washer and/or dryer.	Educational Adequacy	1	Ea.	5	$13,690	Rollup
	Sub Total for System	**9**	**items**		**$2,701,616**	
	Sub Total for Building 01 - Main Building	**99**	**items**		**$21,554,725**	

Building: 02 - Building-02

Roofing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Metal Downspouts Require Installation or Replacement	Capital Renewal	30	LF	3	$1,991	16826
Note: The downspouts on the rear side of the building are damaged.						
	Sub Total for System	**1**	**items**		**$1,991**	

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Exterior Requires Painting (Bldg SF)	Capital Renewal	3,136	SF	4	$43,479	16825
	Sub Total for System	**1**	**items**		**$43,479**	

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Interior Doors Require Replacement	Capital Renewal	6	Door	3	$28,818	16828
Note: The doors are in poor condition.						
The Acoustical Ceiling Tiles Require Replacement	Capital Renewal	780	SF	3	$7,338	16827
Note: The acoustic ceilings are in poor condition.						
The Interior Door Hardware Requires Replacement	Capital Renewal	6	Door	3	$19,608	16830
Note: The door hardware is in poor condition.						

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Ceiling Grid Requires Replacement	Capital Renewal	780	SF	4	$9,637	16832
Note: The acoustic ceilings are in poor condition.						
	Sub Total for System	**4**	**items**		**$65,401**	

Mechanical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Fin Tube Water Radiant Heater Requires Replacement	Capital Renewal	6	Ea.	2	$10,470	16831
Note: Past life expectancy and in poor condition.						
	Sub Total for System	**1**	**items**		**$10,470**	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Mounted Building Lighting Requires Replacement	Capital Renewal	3	Ea.	3	$4,664	16829
Note: Past life expectancy, lights do not illuminate clearly.						
	Sub Total for System	**1**	**items**		**$4,664**	
	Sub Total for Building 02 - Building-02	**8**	**items**		**$126,004**	

Building: 04 - Building-04

Roofing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Shingle Roof Requires Replacement	Capital Renewal	108	SF	2	$3,209	16833
Note: The roofing is in poor condition.						
	Sub Total for System	**1**	**items**		**$3,209**	

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Exterior Wood Requires Replacement (Bldg SF)	Capital Renewal	108	SF	2	$3,372	16836
Note: The wood siding is rotted.						
The Exterior Requires Painting (Bldg SF)	Capital Renewal	108	SF	4	$1,497	16835
The Exterior Soffit Requires Repainting	Capital Renewal	36	SF	5	$125	16834
	Sub Total for System	**3**	**items**		**$4,994**	
	Sub Total for Building 04 - Building-04	**4**	**items**		**$8,203**	

Building: 06 - Baseball Press Box

Roofing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Shingle Roof Requires Replacement	Capital Renewal	368	SF	2	$10,933	16837
	Sub Total for System	**1**	**items**		**$10,933**	

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Exterior Wood Requires Replacement (Bldg SF)	Capital Renewal	368	SF	2	$11,491	16841
Note: The wood siding is rotted.						
The Wood Exterior Door Requires Replacement	Capital Renewal	2	Door	2	$17,340	16840
Note: The wood doors are deteriorated.						
The Exterior Requires Painting (Bldg SF)	Capital Renewal	368	SF	4	$5,102	16839
The Exterior Soffit Requires Repainting	Capital Renewal	62	SF	5	$215	16838
	Sub Total for System	**4**	**items**		**$34,148**	

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Stair Treads Require Replacement	Capital Renewal	56	LF	4	$2,440	16842
	Sub Total for System	**1**	**items**		**$2,440**	
	Sub Total for Building 06 - Baseball Press Box	**6**	**items**		**$47,521**	

Building: 07 - Snack Bar

Roofing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Shingle Roof Requires Replacement	Capital Renewal	272	SF	2	$8,081	16843

Roofing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Note: The shingle roof is in poor condition.						
	Sub Total for System	**1**	**items**		**$8,081**	

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Exterior Wood Requires Replacement (Bldg SF)	Capital Renewal	128	SF	2	$3,997	16847
Note: The wood siding is deteriorated.						
The Metal Exterior Door Requires Replacement	Capital Renewal	2	Door	2	$13,369	16846
Note: The steel doors are in poor condition.						
The Overhead Door Requires Replacement	Capital Renewal	1	Door	2	$38,325	18977
Note: 8 ft wide x 4 ft high rolling steel shutter.						
The Exterior Requires Painting (Bldg SF)	Capital Renewal	248	SF	4	$3,438	16845
The Exterior Soffit Requires Repainting	Capital Renewal	24	SF	5	$83	16844
	Sub Total for System	**5**	**items**		**$59,212**	

Specialties

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Replace Cabinetry In Classes/Labs	Capital Renewal	1	Room	4	$11,654	16848
Note: The base cabinets are in poor condition.						
	Sub Total for System	**1**	**items**		**$11,654**	
	Sub Total for Building 07 - Snack Bar	**7**	**items**		**$78,947**	
	Total for Campus	**137**	**items**		**$27,327,897**	

Buildings with no reported deficiencies

03 - Building-03

05 - Building-05

Warwick Veterans Memorial Junior HS - Life Cycle Summary Yrs 1-5

Site Level Life Cycle Items

Site

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Pedestrian Pavement	Sidewalks - Concrete		15,000	SF	$306,594	5
		Sub Total for System	**1**	**items**	**$306,594**	
		Sub Total for Building -	**1**	**items**	**$306,594**	

Building: 01 - Main Building

Interior

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Wall Painting and Coating	Painting/Staining (Bldg SF)		117,920	SF	$779,138	4
Resilient Flooring	Vinyl Composition Tile Flooring		139,000	SF	$1,594,572	4
		Sub Total for System	**2**	**items**	**$2,373,710**	

Mechanical

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Air Distribution	Make-up Air Unit		4	Ea.	$63,598	3
Decentralized Heating Equipment	Unit Heater Steam/HW (12 MBH)		3	Ea.	$7,164	4
Exhaust Air	Roof Exhaust Fan		40	Ea.	$208,165	5
HVAC Air Distribution	AHU 15,000 CFM Interior		2	Ea.	$302,949	5
		Sub Total for System	**4**	**items**	**$581,876**	

Electrical

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Lighting Fixtures	Light Fixtures (Bldg SF)		193,983	SF	$1,152,619	5
		Sub Total for System	**1**	**items**	**$1,152,619**	
		Sub Total for Building 01 - Main Building	**7**	**items**	**$4,108,206**	

Building: 02 - Building-02

Interior

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Wall Painting and Coating	Painting/Staining (Bldg SF)		3,136	SF	$20,721	4
Resilient Flooring	Vinyl Composition Tile Flooring		3,136	SF	$35,975	4
		Sub Total for System	**2**	**items**	**$56,696**	

Mechanical

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Decentralized Cooling	Window Units		6	Ea.	$20,033	3
Exhaust Air	Wall Exhaust Fan		4	Ea.	$10,711	5
		Sub Total for System	**2**	**items**	**$30,744**	

Electrical

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Wiring Devices	Electrical Disconnect		5	Ea.	$9,165	4
	Note: One at 400A and four at 100A					
Power Distribution	Panelboard - 120/208 100A		1	Ea.	$4,849	4
Power Distribution	Panelboard - 120/208 225A		1	Ea.	$5,799	4
		Sub Total for System	**3**	**items**	**$19,813**	

Plumbing

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Plumbing Fixtures	Restroom Lavatories		3	Ea.	$9,543	3
Domestic Water Equipment	Water Heater - Electric - 30 gallon		1	Ea.	$1,867	3
	Note: 15 gallons					
Plumbing Fixtures	Toilets		2	Ea.	$5,704	4
Plumbing Fixtures	Urinals		1	Ea.	$1,329	4
Plumbing Fixtures	Non-Refrigerated Drinking Fountain		1	Ea.	$10,220	5
		Sub Total for System	**5**	**items**	**$28,664**	
		Sub Total for Building 02 - Building-02	**12**	**items**	**$135,916**	

Building: 03 - Building-03

Interior

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Wall Painting and Coating	Painting/Staining (Bldg SF)	2,400	SF	$15,858	3
	Sub Total for System	**1**	**items**	**$15,858**	

Electrical

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Lighting Fixtures	Building Mounted Fixtures (Ea.)	1	Ea.	$1,493	5
	Sub Total for System	**1**	**items**	**$1,493**	
	Sub Total for Building 03 - Building-03	**2**	**items**	**$17,350**	

Building: 04 - Building-04

Interior

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Wall Painting and Coating	Painting/Staining (Bldg SF)	108	SF	$714	4
	Sub Total for System	**1**	**items**	**$714**	

Electrical

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Lighting Fixtures	Light Fixtures (Bldg SF)	108	SF	$642	3
	Sub Total for System	**1**	**items**	**$642**	
	Sub Total for Building 04 - Building-04	**2**	**items**	**$1,355**	

Building: 05 - Building-05

Interior

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Wall Painting and Coating	Painting/Staining (Bldg SF)	1,740	SF	$11,497	4
	Sub Total for System	**1**	**items**	**$11,497**	
	Sub Total for Building 05 - Building-05	**1**	**items**	**$11,497**	

Building: 06 - Baseball Press Box

Interior

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Wall Painting and Coating	Painting/Staining (Bldg SF)	368	SF	$2,432	4
	Sub Total for System	**1**	**items**	**$2,432**	

Electrical

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Lighting Fixtures	Light Fixtures (Bldg SF)	368	SF	$2,187	5
	Sub Total for System	**1**	**items**	**$2,187**	
	Sub Total for Building 06 - Baseball Press Box	**2**	**items**	**$4,618**	

Building: 07 - Snack Bar

Mechanical

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Facility Hydronic Distribution	Pump - 1HP or Less (Ea.)	1	Ea.	$7,628	3
	Sub Total for System	**1**	**items**	**$7,628**	
	Sub Total for Building 07 - Snack Bar	**1**	**items**	**$7,628**	
	Total for: Warwick Veterans Memorial Junior HS	**28**	**items**	**$4,593,164**	

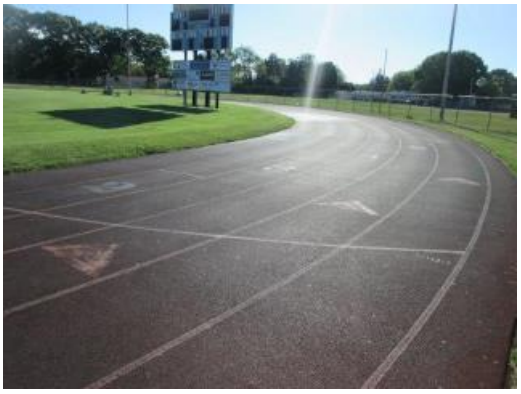
Supporting Photos

Site Aerial

100A Panelboard

Parking Pavement

Oversized Steel Utility Door



Competition Track

Pole Light Aged And Weathered

Marquee Sign

Bleacher Pavement

Main Entry Ornamental Fence

Rusted Fencing

Damaged Fencing

Asphalt Pedestrian Pavement

Folding Partition Wall

Tennis Court Paving

G-Wing Soffit

Deteriorated Basketball Court

Shop Classroom Overhead Door

Sink

Shop Classroom Wood Floor

G-Wing Soffit

Restroom Lavatory

Interior Wood Door

Non-Refrigerated Water Fountain

Mounted Building Light

Urinals

Showers

Exposed Insulated Panel Ceiling

Service Sink

5HP Pump

Exposed Insulated Panel Ceiling

Water Heater

Piping

200A Panelboard

Sump Pump

Fin Tube Radiator

Backflow Preventer

Switchgear

Piping

Hallway Lockers

Metal Gym Lockers

Boarded Up Unit Ventilator Out Of Service

Classroom Cabinets

Adhered Ceiling Tiles

Old Unit Ventilator

Boilers

Boiler Out Of Service

Gym Exterior

Main Office Sliding Glazed Doors

Locker Room Exterior

Band Room

Main Gymnasium

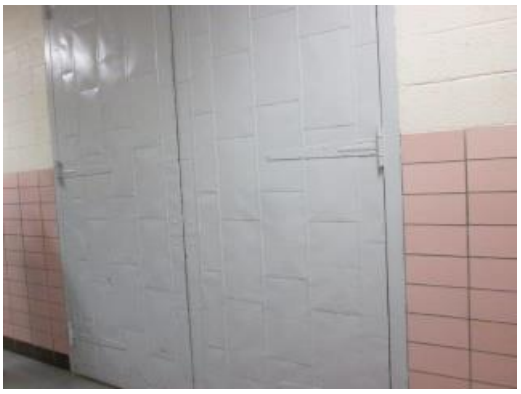
Stage Floor

Rear Yard

Courtyard

Cafeteria

Front Exterior


Interior Oversized Steel Doors

Boys Locker Room

Shop Classroom

Main Entry Corridor

Girls Locker Room

Shop Classroom Exterior

Auxilliary Gymnasium

Typical Corridor

Boiler Room

Main Entry Canopy

Typical Classroom

Loading Dock

Science Classroom

Bay Window At Science Prep Room

Library

Gym Entry

Baseboard Heater

Building Lights

Damaged Downspout

Front Exterior

Rear Exterior

Typical Interior

Exterior

Deteriorated Acoustical Ceiling

Exterior

Interior

Exterior

Interior

Exterior Stair Treads

Front Exterior

Rear Exterior

Upper Level Interior

Field Side Exterior

Rolling Shutter

Back Side Exterior

Interior

Facility Condition Assessment

Warwick - Winman Junior High School | *June 2017*

575 Centerville Road, Warwick, RI 02886

Introduction

Winman Junior High School, located at 575 Centerville Road in Warwick, Rhode Island, was built in 1972. It comprises 146,067 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.

Winman Junior High School serves grades 7 - 8, has 54 instructional spaces, and has an enrollment of 939. Instructional spaces are defined as rooms in which a student receives education. The LEA reported capacity for Winman Junior High School is 1,433 with a resulting utilization of 66%.

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 Winman Junior High School the 5-year need is $17,660,452. 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.

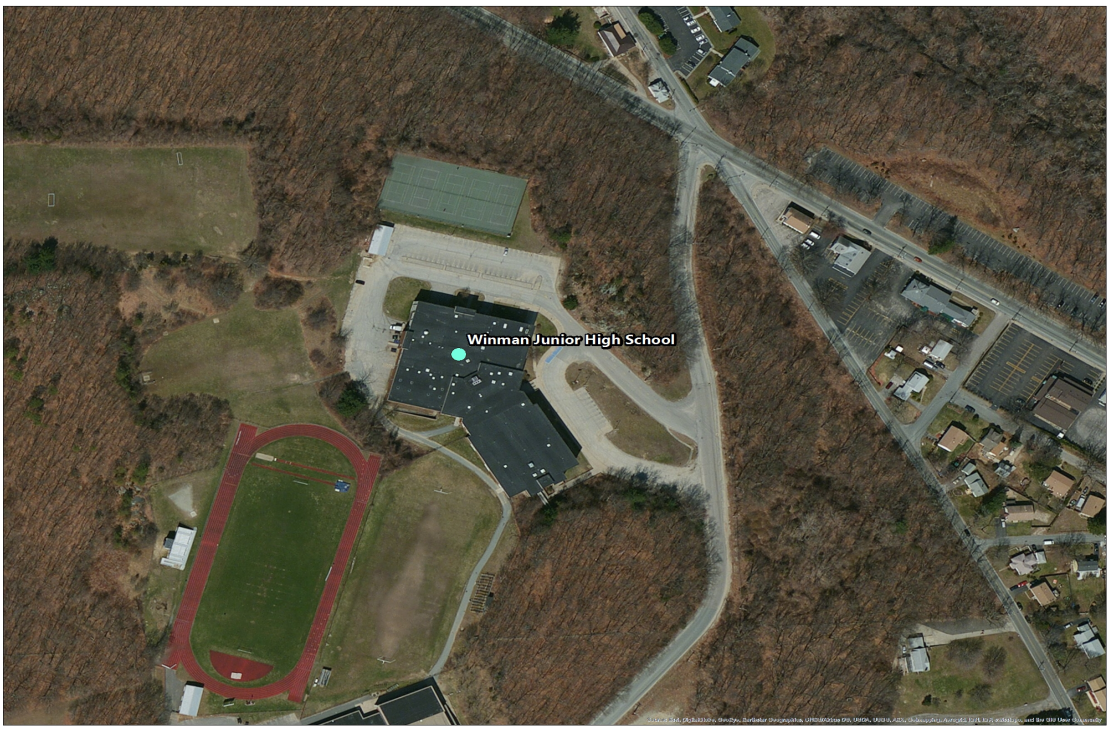


Figure 1: Aerial view of Winman Junior High School

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 Winman Junior High School campus, identified by discipline and building.

Site

The site level systems for this campus include:

Site	Asphalt Parking Lot Pavement
	Asphalt Roadway Pavement
	Asphalt Pedestrian Pavement
	Concrete Pedestrian Pavement

Building Envelope

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

01 - Main Building:	Pre-cast Concrete Panel Exterior Wall
	Painted Gypsum Soffit
	Brick Exterior Wall
	Metal Panel Exterior Wall
	Aluminum Exterior Windows
	Steel Exterior Entrance Doors
	Overhead Exterior Utility Doors
02 - Building 02:	Metal Panel Exterior Wall
	Steel Exterior Entrance Doors
	Overhead Exterior Utility Doors

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

01 - Main Building:	Single Ply Roofing
02 - Building 02:	Metal Steep Slope Roofing

Interior

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

01 - Main Building:	Steel Interior Doors
	Aluminum/Glass Storefront Interior Doors
	Wood Interior Doors
	Overhead Interior Coiling Doors
	Interior Door Hardware
	Exposed Metal Structure Ceiling
	Suspended Acoustical Grid System
	Suspended Acoustical Ceiling Tile
	Door Hardware
	Painted Ceilings
	Ceramic Tile Wall

01 - Main Building:	Acoustical Wall Paneling
	Wood Wall Paneling
	Vinyl/Fabric Wall Covering
	Brick/Stone Veneer
	CMU Wall
	Interior Wall Painting
	Concrete Flooring
	Ceramic Tile Flooring
	Quarry Tile Flooring
	Wood Flooring
	Vinyl Composition Tile Flooring
	Rubber Tile Flooring
	Terrazzo Flooring
	Epoxy Coated Flooring
	Carpet
02 - Building 02:	Exposed Metal Structure Ceiling
	Metal Wall Paneling
	Concrete Flooring

Mechanical

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

01 - Main Building:	400 MBH Cast Iron Water Boiler
	Finned Wall Radiator
	Steam/Hot Water Heating Unit Vent
	12 MBH Steam Unit Heater
	Pneumatic Heating System Controls
	12 Ton Outside Air Cooled Condenser
	3 Ton Outside Air Cooled Condenser
	40 Ton Outside Air Cooled Condenser
	Chilled Water Unit Ventilator
	Window Units
	2-Pipe Hot Water Hydronic Distribution System
	1 HP or Smaller Pump
	10 HP Pump
	5,000 CFM Interior AHU
	Ductwork
	VAV Boxes / Terminal Device
	Large Roof Exhaust Fan
	Small Roof Exhaust Fan
	Kitchen Exhaust Hoods
	Fire Sprinkler System
02 - Building 02:	Gas Fired Radiant Tube Heater

Plumbing

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

01 - Main Building:	1,000 Gallon Water Storage Tank
	Gas Piping System
02 - Building 02:	Gas Piping System
01 - Main Building:	Domestic Water Piping System
	Classroom Lavatories
	Lavatories
	Mop/Service Sinks
	Non-Refrigerated Drinking Fountain
	Refrigerated Drinking Fountain
	Restroom Lavatories
	Showers
	Toilets
	Urinals
	Sump Pump
	Air Compressor (1 hp)

Electrical

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

01 - Main Building:	75 kW Emergency Generator
	208/120v Switch
	1,600 Amp Switchgear
	112.5 KVA Transformer
	45 KVA Transformer
	75 KVA Transformer
	Panelboard - 120/208 100A
	Panelboard - 120/208 225A
	Panelboard - 277/480 100A
	Panelboard - 277/480 225A
	Panelboard - 277/480 400A
	Building Mounted Lighting Fixtures
	Canopy Mounted Lighting Fixtures
	Light Fixtures
02 - Building 02:	Panelboard - 120/208 100A
	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.

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

	Priority						
System	1	2	3	4	5	Total	% of Total
Site	-	-	$7,606	$200,043	$480,128	$687,776	5.20 %
Roofing	-	-	-	-	-	$0	0.00 %
Structural	-	-	-	-	-	$0	0.00 %
Exterior	-	-	$23,470	$3,119	-	$26,590	0.20 %
Interior	-	-	$1,966,945	$3,578,105	$19,574	$5,564,624	42.05 %
Mechanical	-	$2,646,591	$6,302	$1,015,084	-	$3,667,977	27.72 %
Electrical	-	$11,141	$7,851	$28,719	$100,556	$148,268	1.12 %
Plumbing	-	-	$522,883	$525,213	$17,082	$1,065,178	8.05 %
Fire and Life Safety	$33,995	-	-	-	-	$33,995	0.26 %
Technology	-	-	$1,972,272	-	-	$1,972,272	14.90 %
Conveyances	-	-	-	-	-	$0	0.00 %
Specialties	-	-	$40,794	$1,537	$25,496	$67,827	0.51 %
Total	$33,995	$2,657,732	$4,548,123	$5,351,820	$642,837	$13,234,507	

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

The building systems with the most need include:

Interior	-	$5,564,624
Mechanical	-	$3,667,977
Technology	-	$1,972,272

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

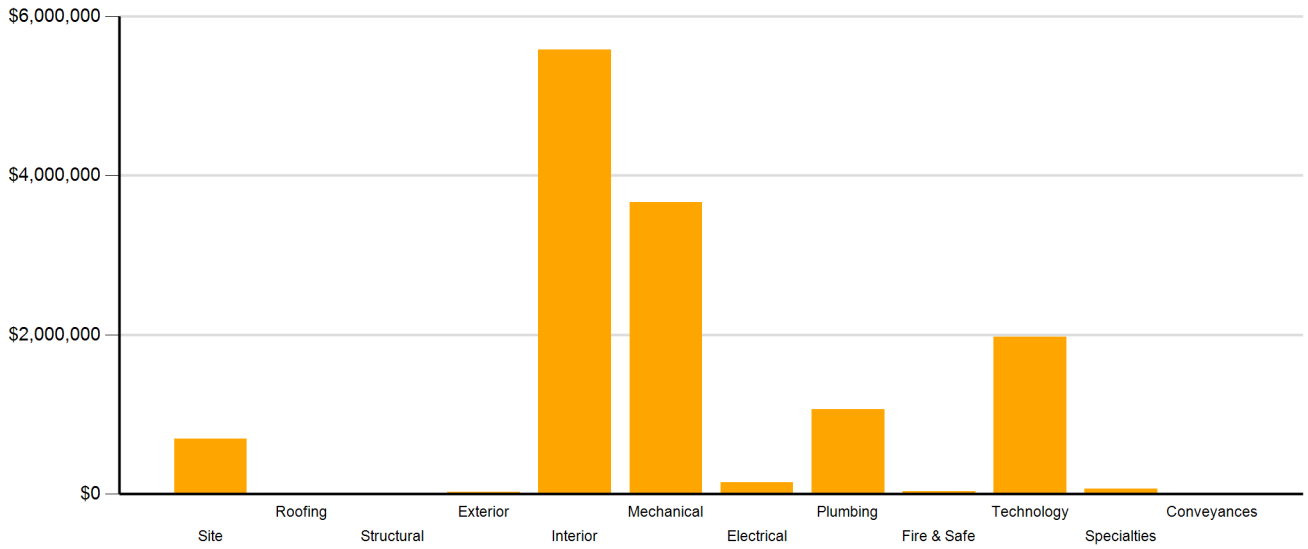


Figure 2: System Deficiencies

Current Deficiencies by Category

Deficiencies have been further grouped according to the observed category.

• **Acoustics** deficiencies relate to room acoustics, sound insolation, 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

	Priority					
Category	**1**	**2**	**3**	**4**	**5**	**Total**
Acoustics	-	-	$825,779	$169,888	-	$995,667
Barrier to Accessibility	-	-	$475,349	-	-	$475,349
Capital Renewal	-	$2,657,732	$1,220,022	$1,738,933	$141	$5,616,827
Code Compliance	-	-	-	-	-	$0
Educational Adequacy	$33,995	-	$91,786	$1,682,200	$642,696	$2,450,676
Functional Deficiency	-	-	$6,302	-	-	$6,302
Hazardous Material	-	-	-	$1,760,800	-	$1,760,800
Technology	-	-	$1,921,280	-	-	$1,921,280
Traffic	-	-	$7,606	-	-	$7,606
Total	$33,995	$2,657,732	$4,548,123	$5,351,820	$642,837	$13,234,507

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

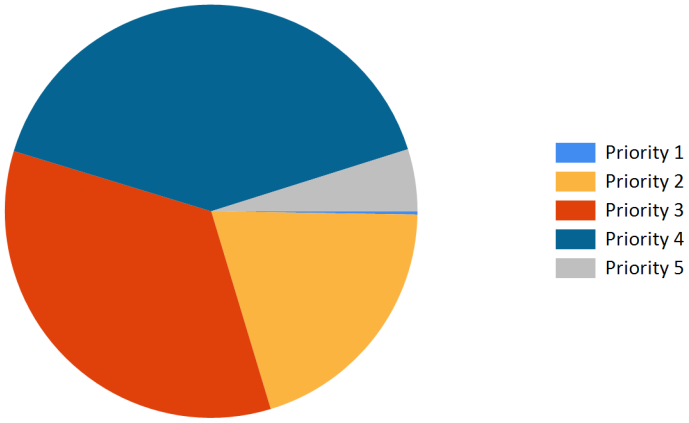


Figure 3: Current deficiencies by priority

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

		Life Cycle Capital Renewal Projections						
System	Current Deficiencies	Year 1 2017	Year 2 2018	Year 3 2019	Year 4 2020	Year 5 2021	LC Yr. 1-5 Total	Total 5-Year Need
Site	$687,776	$0	$0	$0	$859,992	$327,454	$1,187,446	$1,875,222
Roofing	$0	$0	$0	$0	$0	$0	$0	$0
Structural	$0	$0	$0	$0	$0	$0	$0	$0
Exterior	$26,590	$0	$0	$0	$6,655	$0	$6,655	$33,245
Interior	$5,564,624	$0	$0	$0	$912,748	$1,064,642	$1,977,390	$7,542,014
Mechanical	$3,667,977	$0	$0	$0	$0	$574,449	$574,449	$4,242,426
Electrical	$148,268	$0	$0	$0	$0	$388,707	$388,707	$536,975
Plumbing	$1,065,178	$0	$0	$0	$0	$261,440	$261,440	$1,326,618
Fire and Life Safety	$33,995	$0	$0	$0	$0	$0	$0	$33,995
Technology	$1,972,272	$0	$0	$0	$0	$0	$0	$1,972,272
Conveyances	$0	$0	$0	$0	$0	$0	$0	$0
Specialties	$67,827	$0	$0	$0	$0	$0	$0	$67,827
Total	**$13,234,507**	**$0**	**$0**	**$0**	**$1,779,395**	**$2,616,692**	**$4,396,087**	**$17,630,594**

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

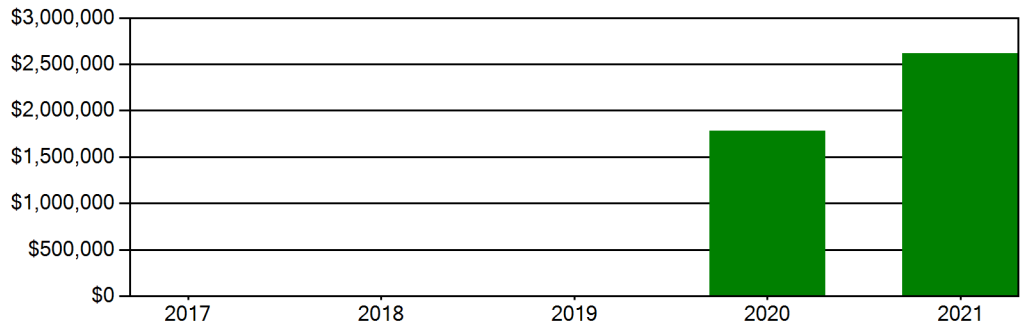
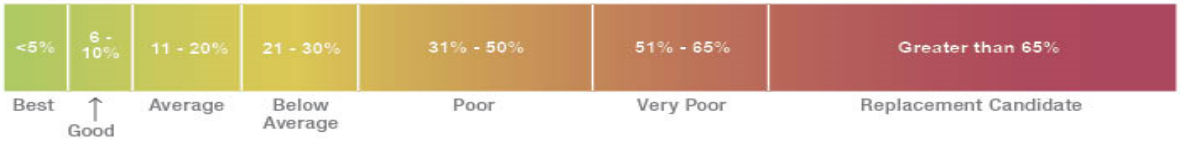


Figure 4: Life Cycle Capital Renewal Forecast

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 $48,202,112. For planning purposes, the total 5-year need at the Winman Junior High School is $17,660,452 (Life Cycle Years 1-5 plus the FCI deficiency cost). The Winman Junior High School facility has a 5-year FCI of 36.58%.

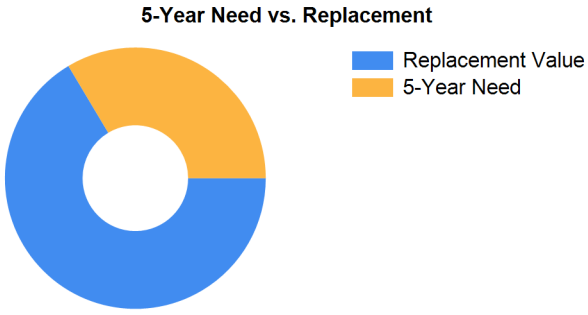


Figure 5: 5-Year FCI

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 803 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 Winman Junior High School cafeteria and/or library/media center to the size prescribed by the SCRs is estimated to be $2,293,790.

Summary of Findings

The Winman Junior High School comprises 146,067 square feet and was constructed in 1972. Current deficiencies at this school total $13,264,365. Five year capital renewal costs total $4,396,087. The total identified need for the Winman Junior High School (current deficiencies and 5-year capital renewal costs) is $17,660,452. The 5-year FCI is 36.58%.

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
Winman Junior High School Totals	146,067	1972	$13,264,365	$4,396,087	$17,660,452	36.58%

**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
Crosswalk Requires Repainting	Traffic	2	Ea.	3	$1,901	24662
Note: Repaint crosswalks on campus						
Crosswalk Requires Repainting	Traffic	2	Ea.	3	$1,901	25091
Note: Repaint crosswalks on campus						
Crosswalk: Needs to be added	Traffic	2	Ea.	3	$1,901	24663
Note: Add crosswalks at entrance and exit driveways						
Crosswalk: Needs to be added	Traffic	2	Ea.	3	$1,901	25090
Note: Add crosswalks at entrance and exit driveways						
Backstops Require Replacement	Educational Adequacy	1	Ea.	4	$35,651	28615
Note: Backstops Require Replacement						
Fencing Requires Replacement (Ornamental Fence)	Capital Renewal	100	LF	4	$134,286	19606
Exterior Basketball Goals are Required	Educational Adequacy	1	Ea.	5	$7,308	28822
Note: Exterior Basketball Goals are Required						
PE / Recess Playfield is Missing and is Needed	Educational Adequacy	1	Ea.	5	$64,020	54956
Note: PE / Recess Playfield is Missing and is Needed						
School lacks a competition track.	Educational Adequacy	1	Ea.	5	$408,800	28279
Note: School lacks a competition track.						
	Sub Total for System	**9**	**items**		**$657,671**	
	Sub Total for School and Site Level	**9**	**items**		**$657,671**	

Building: 01 - Main Building

Site

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Exterior Concrete Stairs Require Repair And Repainting	Capital Renewal	400	SF	4	$30,105	19628
Note: The main entry stairs are damaged with exposed steel.						
	Sub Total for System	**1**	**items**		**$30,105**	

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Aluminum Window Requires Repair	Capital Renewal	12	Ea.	3	$13,072	19607
Note: It was reported that windows in A200 and A300 leak. They should be repaired.						
The Brick Exterior Requires Repair	Capital Renewal	150	SF Wall	3	$10,398	19611
Note: The exterior brick is cracked or broken at at the main entry, three locations on the north side, and at the kitchen loading dock.						
The Concrete/CMU Exterior Requires Repair	Capital Renewal	35	LF	4	$3,119	19612
Note: The exterior concrete is damaged in several locations with exposed steel along the south and east sides of the building.						
	Sub Total for System	**3**	**items**		**$26,590**	

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Classroom Entry Doors Provide Insufficient Sound Isolation	Acoustics	72	Ea.	3	$624,251	27866
Note: All Classrooms						
Classroom Interior Doors Provide Insufficient Sound Isolation	Acoustics	22	Ea.	3	$201,528	27867
Note: All Classrooms						
Existing Door Hardware Is Not ADA Compliant	Barrier to Accessibility	160	Door	3	$475,349	19646
Interior CMU Walls Require Repair	Capital Renewal	10	SF	3	$378	19631
Note: There are small chips in the interior CMU in the main office conference room, and outside the mechanical workshop.						
Interior CMU Walls Require Repair	Capital Renewal	16,500	SF	3	$624,192	19632
Note: Approximately 15% of the interior CMU has minor cracking throughout the building.						
Interior Doors Require Replacement	Capital Renewal	8	Door	3	$38,424	19616
Note: There are missing doors in the wood shop, boy's locker room, 2nd & 3rd floor restrooms, and the AV room.						

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Acoustical Ceiling Tiles Require Replacement	Capital Renewal	300	SF	3	$2,822	19613
Note: The acoustic ceiling tiles are missing, stained, or broken.						
Location: Janitor closet, boiler room, B141, B143, B144, 2nd floor men's restroom, band room, kitchen office, gym storage, teacher's lounge, south stairwell						
12 x 12 Floor Tiles Are Lifting or Broken and Highly Likely Contain Asbestos	Hazardous Material	58,708	SF	4	$1,744,172	Rollup
Acoustical Wall Panels Require Replacement	Capital Renewal	25	SF	4	$239	19640
Note: The acoustic wall panels in the band practice rooms cracks and holes.						
Interior Gypsum Board Walls Require Repair	Capital Renewal	10	SF Wall	4	$76	19608
Note: There is a hole in the gypsum board wall in the third floor AV room.						
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	260	LF	4	$6,180	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	1,055	SF	4	$10,448	Rollup
Room Is Excessively Reverberant	Acoustics	7,000	SF	4	$162,906	27869
Note: Gym						
Room Is Excessively Reverberant	Acoustics	300	SF	4	$6,982	27870
Note: Music Space						
Room Lighting Is Inadequate Or In Poor Condition.	Educational Adequacy	43,505	SF	4	$1,646,549	Rollup
The Plaster Ceilings Require Replacement	Capital Renewal	15	SF	4	$104	19614
Note: The ceiling in the girl's locker room is damaged.						
The Wood Flooring Requires Repair	Capital Renewal	300	SF	4	$450	19625
Note: Partial areas of the wood flooring in the gym and wood shop have stains and worn finishes.						
Classroom Door Requires Vision Panel	Educational Adequacy	4	Ea.	5	$9,065	Rollup
Interior Doors Require Repainting	Capital Renewal	2	Door	5	$141	19615
Note: Metal doors on the upper level requires repainting.						
Room lacks appropriate sound control.	Educational Adequacy	300	SF	5	$10,368	Rollup
	Sub Total for System	**20**	**items**		**$5,564,624**	

Mechanical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Replace Unit Vent	Capital Renewal	38	Ea.	2	$669,544	19639
Note: Original heating unit vents should be replaced.						
Replace Unit Ventilators	Capital Renewal	12	Ea.	2	$79,312	19627
Note: Original unit ventilators should be replaced.						
The Air Handler HVAC Component Requires Replacement	Capital Renewal	17	Ea.	2	$1,793,107	19630
The Cast Iron Water Boiler Requires Replacement	Capital Renewal	3	Ea.	2	$97,672	19634
Note: Original boilers show evidence of leaking.						
The Window AC Unit Component Requires Replacement	Capital Renewal	2	Ea.	2	$6,956	19629
Note: Window units have damaged coils and should be replaced.						
Air Compressor Is Inoperable And Requires Replacement	Functional Deficiency	1	Ea.	3	$6,302	19633
Note: Air compressor leaks oil and should be replaced.						
Existing Controls Are Inadequate And Should Be Replaced With DDC Controls	Capital Renewal	144,267	SF	4	$1,015,084	19636
Note: Original control system is leaking and should be replaced.						
	Sub Total for System	**7**	**items**		**$3,667,977**	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Transfer Switch Requires Replacement	Capital Renewal	225	Amps	3	$7,851	19638
Note: Original transfer switch should be replaced.						
The Canopy Lighting Requires Replacement	Capital Renewal	20	Ea.	4	$28,719	19619
Note: Aged and weathered canopy lights should be replaced.						
Room Has Insufficient Electrical Outlets	Educational Adequacy	204	Ea.	5	$100,556	Rollup
	Sub Total for System	**3**	**items**		**$137,127**	

Plumbing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Showers Plumbing Fixtures Require Replacement	Capital Renewal	66	Ea.	3	$522,883	19622
Note: Shower fixtures are aged, damaged, or missing.						
Non-Refrigerated Drinking Fountain Requires Replacement	Capital Renewal	8	Ea.	4	$85,167	19623
Note: Old, low flow drinking fountains are rusting and should be replaced.						
The Classroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	40	Ea.	4	$113,291	19609
Note: Classroom lavatories are aged, clogged, and corroded.						
The Classroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	1	Ea.	4	$2,832	19610
Note: Bradley half sink is corroded and rusted.						
The Custodial Mop Or Service Sink Requires Replacement	Capital Renewal	8	Ea.	4	$21,470	19624
Note: Mop sinks are cracked and corroded.						
The Refrigerated Water Cooler Requires Replacement	Capital Renewal	4	Ea.	4	$30,739	19626
The Restroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	79	Ea.	4	$261,772	19620
Note: Lavatories are old, broken, rusted, or missing and should be replaced.						
The Restroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	3	Ea.	4	$9,941	19621
Note: Lavatories are aged and rusted and should be replaced.						
Room lacks a drinking fountain.	Educational Adequacy	6	Ea.	5	$6,572	Rollup
The Class Room Lavatories Plumbing Fixtures Are Missing And Should Be Installed	Educational Adequacy	7	Ea.	5	$10,510	Rollup
	Sub Total for System	**10**	**items**		**$1,065,178**	

Fire and Life Safety

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room lacks shut-off valves for utilities. (International Fuel Gas Code, Section 409.6)	Educational Adequacy	3	Ea.	1	$33,995	Rollup
	Sub Total for System	**1**	**items**		**$33,995**	

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room lacks Interactive White Board	Educational Adequacy	9	Ea.	3	$50,992	Rollup
Technology: Auditorium AV/Multimedia system is in need of minor improvements.	Technology	1	Room	3	$99,031	23116
Technology: Campus network switching electronics are antiquated and/or do not meet standards.	Technology	266	Ea.	3	$131,711	23106
Technology: Classroom AV/Multimedia systems are in need of improvements.	Technology	46	Ea.	3	$455,542	23115
Technology: Instructional spaces do not have local sound reinforcement.	Technology	46	Ea.	3	$227,771	23112
Technology: Intermediate Telecommunications Room grounding system is inadequate or non-existent.	Technology	1	Ea.	3	$5,546	23092
Technology: Intermediate Telecommunications Room grounding system is inadequate or non-existent.	Technology	1	Ea.	3	$5,546	23095
Technology: Intermediate Telecommunications Room grounding system is inadequate or non-existent.	Technology	1	Ea.	3	$5,546	23099
Technology: Intermediate Telecommunications Room grounding system is inadequate or non-existent.	Technology	1	Ea.	3	$5,546	23103
Technology: Intermediate Telecommunications Room is not dedicated. Room requires partial walls and/or major improvements.	Technology	1	Ea.	3	$39,216	23098
Technology: Intermediate Telecommunications Room needs minor improvements.	Technology	1	Ea.	3	$17,429	23102
Technology: Intermediate Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	$4,952	23093
Technology: Intermediate Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	$4,952	23096
Technology: Intermediate Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	$4,952	23100

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Technology: Intermediate Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	$4,952	23104
Technology: Main Telecommunications Room ground system is inadequate or non-existent.	Technology	1	Ea.	3	$6,932	23090
Technology: Main Telecommunications Room is not dedicated and/or inadequate.	Technology	1	Ea.	3	$52,288	23091
Technology: Main Telecommunications Room is not dedicated and/or inadequate.	Technology	1	Ea.	3	$52,288	23094
Technology: Main Telecommunications Room needs minor improvements.	Technology	1	Ea.	3	$22,579	23089
Technology: Network cabling infrastructure is outdated (Cat 5 or less) and/or does not meet standards.	Technology	196	Ea.	3	$87,345	23107
Technology: Network system inadequate and/or near end of useful life	Technology	16	Ea.	3	$126,760	23110
Technology: Network system inadequate and/or near end of useful life	Technology	38	Ea.	3	$188,159	23111
Technology: PA/Bell/Clock system is inadequate and/or near end of useful life.	Technology	144,267	SF	3	$257,164	23109
Technology: Special Space AV/Multimedia systems are in need of minor improvements.	Technology	1	Room	3	$19,806	23108
Technology: Telecommunications Room (small size room) needs dedicated cooling system improvements.	Technology	1	Ea.	3	$4,952	23097
Technology: Telecommunications Room (small size room) needs dedicated cooling system improvements.	Technology	1	Ea.	3	$4,952	23101
Technology: Telecommunications Room (small size room) needs dedicated cooling system improvements.	Technology	1	Ea.	3	$4,952	23105
Technology: Telephone handsets are inadequate and sparsely deployed throughout the campus.	Technology	46	Ea.	3	$72,887	23113
Technology: Telephone system is inadequate and/or non-existent.	Technology	1	Ea.	3	$7,526	23114
	Sub Total for System	**29**	**items**		**$1,972,272**	

Specialties

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room has insufficient writing area.	Educational Adequacy	9	Ea.	3	$40,794	Rollup
The Metal Student Lockers Require Replacement	Capital Renewal	3	Ea.	4	$1,537	19637
Location: Lower level						
Room lacks an appropriate refrigerator.	Educational Adequacy	3	Ea.	5	$25,496	Rollup
	Sub Total for System	**3**	**items**		**$67,827**	
	Sub Total for Building 01 - Main Building	**77**	**items**		**$12,565,695**	

Building: 02 - Building 02

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Lighting Fixtures Require Replacement	Capital Renewal	1,800	SF	2	$11,141	19641
	Sub Total for System	**1**	**items**		**$11,141**	
	Sub Total for Building 02 - Building 02	**1**	**items**		**$11,141**	
	Total for Campus	**87**	**items**		**$13,234,507**	

Winman Junior High School - Life Cycle Summary Yrs 1-5

Site Level Life Cycle Items

Site

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Roadway Pavement	Asphalt		137	CAR	$453,267	4
Parking Lot Pavement	Asphalt		105	CAR	$347,395	4
Pedestrian Pavement	Sidewalks - Asphalt		1,200	SF	$10,254	4
Fences and Gates	Fencing - Chain Link (8 Ft)		730	LF	$49,076	4
Parking Lot Lighting	Pole Lighting		6	Ea.	$46,409	5
Pedestrian Pavement	Sidewalks - Concrete		13,750	SF	$281,045	5
		Sub Total for System	**6**	**items**	**$1,187,446**	
		Sub Total for Building -	**6**	**items**	**$1,187,446**	

Building: 01 - Main Building

Exterior

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Exterior Wall Veneer	Soffits, Painted Gypsum in SF		2,000	SF	$6,655	4
		Sub Total for System	**1**	**items**	**$6,655**	

Interior

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Resilient Flooring	Vinyl Composition Tile Flooring		44,659	SF	$512,317	4
Carpeting	Carpet		300	SF	$6,527	4
Fluid-Applied Flooring	Epoxy Coating		6,800	SF	$129,295	4
Wall Painting and Coating	Painting/Staining (Bldg SF)		16,537	SF	$109,266	4
Wall Paneling	Acoustical Panel Wall		10,000	SF	$91,837	4
Wall Coverings	Vinyl/Fabric Wall Covering		400	SF	$2,852	4
Suspended Plaster and	Painted ceilings		14,500	SF	$60,654	4
Resilient Flooring	Rubber Tile Flooring		4,000	SF	$74,725	5
Wall Paneling	Wood Panel wall		830	SF	$7,575	5
Acoustical Suspended Ceilings	Ceilings - Acoustical Tiles		108,767	SF	$982,342	5
		Sub Total for System	**10**	**items**	**$1,977,390**	

Mechanical

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Decentralized Heating Equipment	Unit Heater Steam/HW (12 MBH)		1	Ea.	$2,388	5
Water-Based Fire-Suppression	Fire Sprinkler System (Bldg.SF)		28,853	SF	$548,609	5
Decentralized Heating Equipment	Finned Wall Radiator - (Ea.)		14	Ea.	$23,452	5
		Sub Total for System	**3**	**items**	**$574,449**	

Electrical

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Power Distribution	Panelboard - 277/480 225A		5	Ea.	$59,799	5
Power Distribution	Panelboard - 277/480 400A		1	Ea.	$17,788	5
Power Distribution	Panelboard - 120/208 225A		5	Ea.	$28,996	5
Power Distribution	Panelboard - 120/208 100A		18	Ea.	$87,274	5
Electrical Service	Switchgear - Main Dist Panel (1600 Amps)		1	Ea.	$82,102	5
Electrical Service	Transformer (112.5 KVA)		1	Ea.	$12,669	5
Electrical Service	Transformer (75 KVA)		2	Ea.	$21,041	5
Electrical Service	Transformer (45 KVA)		6	Ea.	$48,235	5
Power Distribution	Panelboard - 277/480 100A		4	Ea.	$30,803	5
		Sub Total for System	**9**	**items**	**$388,706**	

Plumbing

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Building Support Plumbing System Supplementary Components	Sump Pump		2	Ea.	$2,898	5
Plumbing Fixtures	Urinal (Ea.)		25	Ea.	$33,227	5
Plumbing Fixtures	Toilets		79	Ea.	$225,315	5
		Sub Total for System	**3**	**items**	**$261,440**	
		Sub Total for Building 01 - Main Building	**26**	**items**	**$3,208,640**	
		Total for: Winman Junior High School	**32**	**items**	**$4,396,086**	

Supporting Photos

Site Aerial

Hole In Gypsum Board Wall

Typical Classroom Lavatory

Rusted Bradley Half Sink

Damaged Exterior Brick

Stained Ceiling Tiles

Broken Ceiling Tiles

Damaged Plaster Ceiling

Canopy Lights

Missing Lavatories

Rusted Lavatory

Mop Sink

Damaged Wood Floor Finish

Damaged Wood Floor

Refrigerated Drinking Fountain

Cooling Unit Ventilator

Damaged Stairs

Window Unit

Damaged AHU

Chipped Interior CMU

Cracked Interior CMU

Cracked Interior CMU

Leaking Air Compressor

Original Boiler

Original Generator

Original Controls

Damaged Lockers

Rusted Unit Vent

Damaged Acoustical Wall Panels

Exterior Finishes

Gymnasium

Auditorium

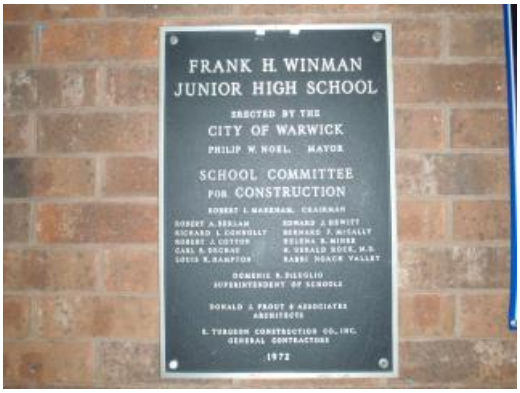
Library

Roof

Elevation

Elevation

Elevation



Plaque

Elevation

Cafeteria

Music Room

Science Room

Elevation

Typical Classroom

Auditorium

Elevation

Storage Building

Storage Building

Facility Condition Assessment

Warwick - Wyman School | *June 2017*

1 Columbia Avenue, Warwick, RI 02888

Introduction

Wyman School, located at 1 Columbia Avenue in Warwick, Rhode Island, was built in 1939. It comprises 38,771 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.

Wyman School serves grades KG - 6, has 22 instructional spaces, and has an enrollment of 272. Instructional spaces are defined as rooms in which a student receives education. The LEA reported capacity for Wyman School is 375 with a resulting utilization of 73%.

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 Wyman School the 5-year need is $7,217,119. 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 Wyman 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 Wyman School campus, identified by discipline and building.

Site

The site level systems for this campus include:

Site	Asphalt Parking Lot Pavement
	Asphalt Pedestrian Pavement
	Concrete Pedestrian Pavement

Building Envelope

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

01 - Main Building:	Brick Exterior Wall
	E.I.F.S. Exterior Wall
	Pre-cast Concrete Panel Exterior Wall
	Aluminum Exterior Windows
	Steel Exterior Entrance Doors
	Storefront Entrance Doors

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

01 - Main Building:	EPDM Roofing

Interior

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

01 - Main Building:	Steel Interior Doors
	Wood Interior Doors
	Interior Door Hardware
	Suspended Acoustical Grid System
	Suspended Acoustical Ceiling Tile
	Adhered Acoustical Ceiling Tiles
	Painted Ceilings
	CMU Wall
	Interior Wall Painting
	Concrete Flooring
	Quarry Tile Flooring
	Ceramic Tile Flooring
	Wood Flooring
	Vinyl Composition Tile Flooring
	Terrazzo Flooring

Mechanical

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

01 - Main Building:	1,200 MBH Copper Tube Boiler
	Finned Wall Radiator
	Steam/Hot Water Heating Unit Vent
	Radiant Water Heater
	Pneumatic Heating System Controls
	Window Units
	Make-up Air Unit
	5 HP Pump
	2-Pipe Hot Water Hydronic Distribution System
	Roof Exhaust Fan
	Fire Sprinkler System

Plumbing

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

01 - Main Building:	250 Gallon Water Storage Tank
	Gas Piping System
	75 Gallon Gas Water Heater
	Domestic Water Piping System
	Classroom Lavatories
	Mop/Service Sinks
	Non-Refrigerated Drinking Fountain
	Refrigerated Drinking Fountain
	Restroom Lavatories
	Toilets
	Urinals

Electrical

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

01 - Main Building:	Panelboard - 120/208 100A
	Panelboard - 120/208 225A
	Panelboard - 120/208 400A
	Building 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.

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

	Priority						
System	1	2	3	4	5	Total	% of Total
Site	-	-	$42,905	$621,712	$1,474	$666,090	9.85 %
Roofing	-	$183,279	-	-	-	$183,279	2.71 %
Structural	-	-	-	-	-	$0	0.00 %
Exterior	-	-	-	-	-	$0	0.00 %
Interior	-	-	$961,877	$494,685	$110,082	$1,566,645	23.16 %
Mechanical	-	$1,962,249	$17,224	$321,272	-	$2,300,745	34.01 %
Electrical	-	$13,080	$102,373	-	$41,686	$157,140	2.32 %
Plumbing	-	-	$355,221	$133,032	$15,023	$503,276	7.44 %
Fire and Life Safety	$425,701	-	-	-	-	$425,701	6.29 %
Technology	-	-	$881,137	-	-	$881,137	13.02 %
Conveyances	-	-	-	-	-	$0	0.00 %
Specialties	-	-	-	$72,721	$8,556	$81,277	1.20 %
Total	$425,701	$2,158,608	$2,360,737	$1,643,421	$176,821	$6,765,289	

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

The building systems with the most need include:

Mechanical	-	$2,300,745
Interior	-	$1,566,645
Technology	-	$881,137

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

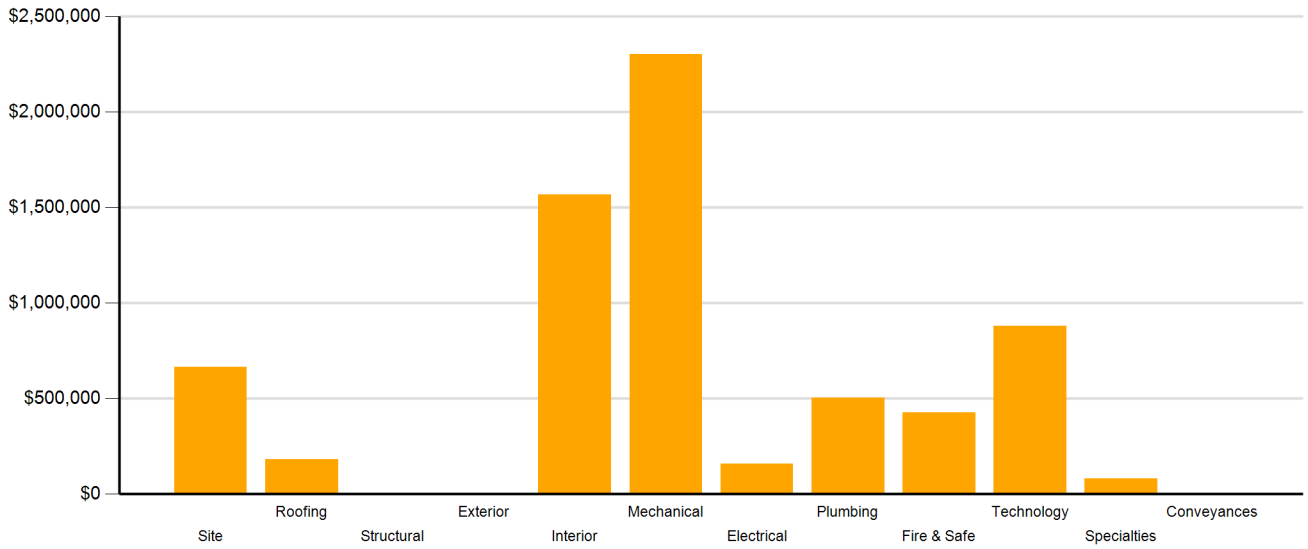


Figure 2: System Deficiencies

Current Deficiencies by Category

Deficiencies have been further grouped according to the observed category.

• **Acoustics** deficiencies relate to room acoustics, sound insolation, 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

	Priority					
Category	**1**	**2**	**3**	**4**	**5**	**Total**
Acoustics	-	-	$381,071	-	-	$381,071
Barrier to Accessibility	-	-	-	-	-	$0
Capital Renewal	-	$2,158,608	$1,011,926	$1,435,045	$108,076	$4,713,656
Code Compliance	$425,701	-	-	-	-	$425,701
Educational Adequacy	-	-	-	$37,409	$68,745	$106,154
Functional Deficiency	-	-	$63,566	-	-	$63,566
Hazardous Material	-	-	-	$170,967	-	$170,967
Technology	-	-	$881,137	-	-	$881,137
Traffic	-	-	$23,037	-	-	$23,037
Total	$425,701	$2,158,608	$2,360,737	$1,643,421	$176,821	$6,765,289

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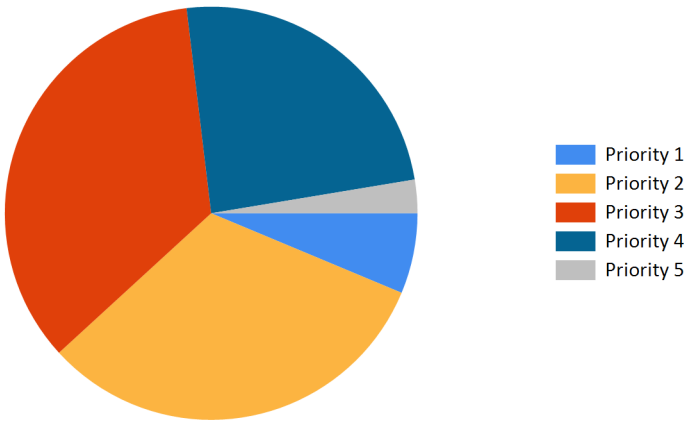


Figure 3: Current deficiencies by priority

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

		Life Cycle Capital Renewal Projections						
System	Current Deficiencies	Year 1 2017	Year 2 2018	Year 3 2019	Year 4 2020	Year 5 2021	LC Yr. 1-5 Total	Total 5-Year Need
Site	$666,090	$0	$0	$0	$0	$0	$0	$666,090
Roofing	$183,279	$0	$0	$0	$0	$0	$0	$183,279
Structural	$0	$0	$0	$0	$0	$0	$0	$0
Exterior	$0	$0	$0	$0	$8,252	$64,172	$72,424	$72,424
Interior	$1,566,645	$0	$0	$0	$0	$221,815	$221,815	$1,788,460
Mechanical	$2,300,745	$0	$0	$0	$20,033	$0	$20,033	$2,320,778
Electrical	$157,140	$0	$0	$0	$0	$0	$0	$157,140
Plumbing	$503,276	$0	$0	$0	$0	$22,627	$22,627	$525,903
Fire and Life Safety	$425,701	$0	$0	$113,638	$0	$0	$113,638	$539,339
Technology	$881,137	$0	$0	$0	$0	$0	$0	$881,137
Conveyances	$0	$0	$0	$0	$0	$0	$0	$0
Specialties	$81,277	$0	$0	$0	$0	$0	$0	$81,277
Total	**$6,765,289**	**$0**	**$0**	**$113,638**	**$28,285**	**$308,614**	**$450,537**	**$7,215,826**

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

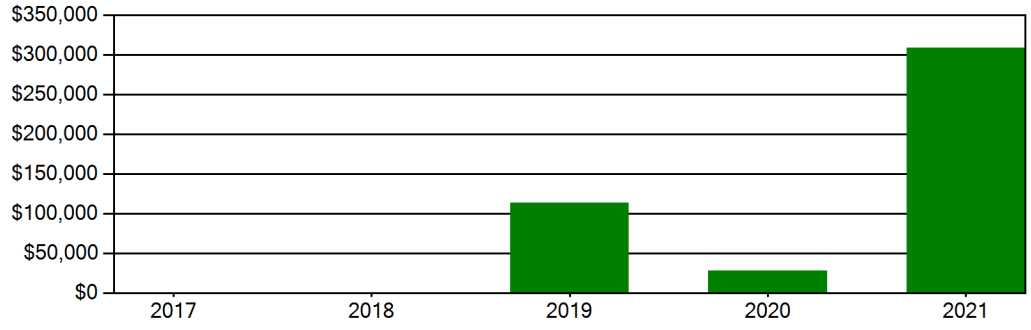
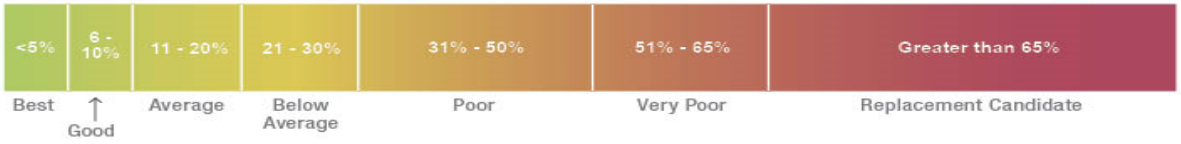


Figure 4: Life Cycle Capital Renewal Forecast

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 $13,569,850. For planning purposes, the total 5-year need at the Wyman School is $7,217,119 (Life Cycle Years 1-5 plus the FCI deficiency cost). The Wyman School facility has a 5-year FCI of 53.18%.

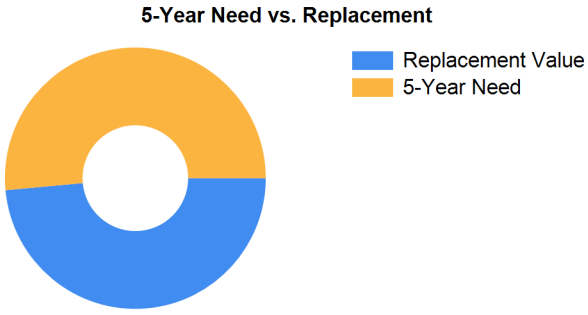


Figure 5: 5-Year FCI

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 215 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 Wyman School cafeteria and/or library/media center to the size prescribed by the SCRs is estimated to be $401,814.

Summary of Findings

The Wyman School comprises 38,771 square feet and was constructed in 1939. Current deficiencies at this school total $6,766,582. Five year capital renewal costs total $450,537. The total identified need for the Wyman School (current deficiencies and 5-year capital renewal costs) is $7,217,119. The 5-year FCI is 53.18%.

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
Wyman School Totals	38,771	1939	$6,766,582	$450,537	$7,217,119	53.18%

**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	Capital Renewal	1,800	SF	3	$19,868	12529
Note: Sidewalk has large cracks and alligatoring.						
Crosswalk Requires Repainting	Traffic	6	Ea.	3	$5,894	16909
Note: Repaint all crosswalks on Parkview Dr.						
Pavement Markings: Shoulder Markings Are Required	Traffic	1,744	LF	3	$5,354	16910
Note: Add lane markings and shoulders on Parkview Dr. from Mayfair Rd to Audubon Rd						
Traffic Signage Is Required	Traffic	4	Ea.	3	$11,789	16908
Note: Add school zone signs with speed limitations on Parkside Dr. and Pleasant View Rd.						
Asphalt Paving Requires Replacement	Capital Renewal	66	CAR	4	$282,051	12424
Note: Asphalt parking lots are deteriorated.						
Asphalt Paving Requires Replacement	Capital Renewal	62	CAR	4	$236,018	12528
Note: Paved play areas have several large cracks and pot holes.						
Backstops Require Replacement	Educational Adequacy	1	Ea.	4	$36,840	28602
Note: Backstops Require Replacement						
Fencing Requires Replacement (4' Chain Link Fence)	Capital Renewal	800	LF	4	$66,802	12423
Note: Fencing is damaged and rusted.						
Exterior Basketball Goals Require Repair	Capital Renewal	2	Ea.	5	$1,474	12426
	Sub Total for System	**9**	**items**		**$666,090**	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Pole Lighting Is Missing And Needed	Functional Deficiency	2	Ea.	3	$51,207	12427
Note: Additional light poles are needed to improve illumination to the site.						
	Sub Total for System	**1**	**items**		**$51,207**	
	Sub Total for School and Site Level	**10**	**items**		**$717,297**	

Building: 01 - Main Building

Roofing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
EPDM Roofing Requires Replacement (Bldg SF)	Capital Renewal	13,380	SF	2	$183,279	12456
Note: The main and multipurpose building roofing is worn and in need of replacement.						
	Sub Total for System	**1**	**items**		**$183,279**	

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Classroom Entry Doors Provide Insufficient Sound Isolation	Acoustics	40	Ea.	3	$381,071	19890
Note: All classrooms						
Interior Doors Require Replacement	Capital Renewal	21	Door	3	$104,898	12431
Note: The original wood doors that still remain are aged and worn.						
The Acoustical Ceiling Tiles Require Replacement	Capital Renewal	10,850	SF	3	$106,159	12430
Note: Ceiling tiles are aged and stained and should be replaced.						
The Vinyl Composition Tile Requires Replacement	Capital Renewal	29,000	SF	3	$360,404	12433
Note: The VCT flooring is worn.						
The Wood Flooring Requires Replacement	Capital Renewal	260	SF	3	$9,346	12434
Note: The original music room wood platform is chipped and worn.						
Adhered Acoustical Ceiling Tile Requires Replacement	Capital Renewal	4,397	SF	4	$51,654	12463
Note: The adhered tile ceilings are stained and failing.						
Location: Music room and perimeter of main building classrooms						
Ceiling Grid Requires Replacement	Capital Renewal	10,850	SF	4	$139,410	12459
Note: Ceiling grid is aged, stained, and broken in places.						
Interior Toilet Partition Requires Replacement	Capital Renewal	28	Ea.	4	$132,654	12440
Note: The toilet partitions are worn and in need of replacement.						
Light Deterioration or Damage of 9x9 Asbestos Floor Tile is Present	Hazardous Material	4,524	SF	4	$139,781	Rollup

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
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	16	Ea.	4	$4,944	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	520	LF	4	$12,853	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	800	SF	4	$8,239	Rollup
Paint (probable pre-1978 in base layer(s)) -large areas (> 10 sq. ft.)of peeling/damage & area in active use-adults only (measurement unit - square feet)	Hazardous Material	500	SF	4	$5,150	Rollup
Room lacks appropriate sound control.	Educational Adequacy	100	SF	5	$3,480	Rollup
The Gypsum Board Ceilings Require Repainting	Capital Renewal	23,524	SF	5	$106,603	Rollup
	Sub Total for System	**15**	**items**		**$1,566,645**	

Mechanical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Gas Piping Requires Replacement (SF Basis)	Capital Renewal	38,771	SF	2	$909,399	12453
Note: Gas piping is rusted.						
Replace Unit Vent	Capital Renewal	8	Ea.	2	$146,595	12462
Note: Unit vents are starting to rust.						
The Copper Tube Boiler Requires Replacement	Capital Renewal	4	Ea.	2	$260,776	12461
Note: Boilers are showing signs of leaks and rust.						
The Fin Tube Water Radiant Heater Requires Replacement	Capital Renewal	20	Ea.	2	$36,294	12452
Note: Fin tube heaters are rusted and showing signs of leaks.						
The Mechanical / HVAC Piping / System Is Beyond Its Useful Life	Capital Renewal	38,771	SF	2	$323,759	12454
Note: HVAC piping is leaking, rusted, and corroded.						
The Steam/Hot Water Radiant Heater Requires Replacement	Capital Renewal	51	Ea.	2	$285,426	12451
Note: Radiant heaters are aged and show signs of leaks.						
The Make Up Air Equipment Requires Replacement	Capital Renewal	1	Ea.	3	$17,224	12444
Note: Make up air unit is rusted and corroded.						
Existing Controls Are Inadequate And Should Be Replaced With DDC Controls	Capital Renewal	38,771	SF	4	$283,710	12455
Small HVAC Circulating Pump Requires Replacement	Capital Renewal	2	Ea.	4	$20,648	12448
Note: Pumps showing signs of leaks.						
The Exhaust Hood Requires Replacement	Capital Renewal	3	Ea.	4	$16,913	12460
Note: Exhaust fans are worn.						
	Sub Total for System	**10**	**items**		**$2,300,745**	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Panelboard Requires Replacement	Capital Renewal	1	Ea.	2	$6,283	12449
The Panelboard Requires Replacement	Capital Renewal	1	Ea.	2	$6,797	12450
The Electrical Receptacles Are Inadequate And More are Needed	Functional Deficiency	20	Ea.	3	$12,359	12442
Note: More receptacles needed per classroom.						
The Mounted Building Lighting Requires Replacement	Capital Renewal	24	Ea.	3	$38,807	12435
Note: Several damaged or broken building mounted lights.						
Room Has Insufficient Electrical Outlets	Educational Adequacy	84	Ea.	5	$41,686	Rollup
	Sub Total for System	**5**	**items**		**$105,933**	

Plumbing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Plumbing / Domestic Water Piping System Is Beyond Its Useful Life	Capital Renewal	38,771	SF	3	$337,943	12447
Note: Domestic water piping is showing signs of leaks.						
The Urinal Plumbing Fixtures Require Replacement	Capital Renewal	12	Ea.	3	$17,278	12445
Note: Urinals are rusted and corroded.						
Floor Drains Are Required	Educational Adequacy	1	Ea.	4	$570	Rollup
Non-Refrigerated Drinking Fountain Requires Replacement	Capital Renewal	4	Ea.	4	$44,287	12438
Note: Drinking fountains are rusted and corroded.						
The Classroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	8	Ea.	4	$23,565	12428
Note: Lavatories rusted and show signs of leaks.						

Plumbing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Custodial Mop Or Service Sink Requires Replacement	Capital Renewal	3	Ea.	4	$8,373	12443
Note: Mop sinks are rusted and leak.						
The Refrigerated Water Cooler Requires Replacement	Capital Renewal	1	Ea.	4	$7,992	12446
The Restroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	14	Ea.	4	$48,246	12436
Note: Restroom lavatories are rusted and corroded.						
Room lacks a drinking fountain.	Educational Adequacy	4	Ea.	5	$4,411	Rollup
The Class Room Lavatories Plumbing Fixtures Are Missing And Should Be Installed	Educational Adequacy	8	Ea.	5	$10,612	Rollup
	Sub Total for System	**10**	**items**		**$503,276**	

Fire and Life Safety

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Install Fire Sprinklers (NFPA 13)	Code Compliance	30,000	SF	1	$425,701	12429
Note: Add sprinklers to the remainder of the building in the boiler room and places of assembly.						
	Sub Total for System	**1**	**items**		**$425,701**	

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Technology: Campus network switching electronics are antiquated and/or do not meet standards.	Technology	124	Ea.	3	$63,855	22856
Technology: Classroom AV/Multimedia systems are in need of improvements.	Technology	25	Ea.	3	$257,480	22861
Technology: Instructional spaces do not have local sound reinforcement.	Technology	25	Ea.	3	$128,740	22866
Technology: Main Telecommunications Room ground system is inadequate or non-existent.	Technology	1	Ea.	3	$7,209	22855
Technology: Main Telecommunications Room is not dedicated and/or inadequate.	Technology	1	Ea.	3	$54,380	22853
Technology: Main Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	$9,784	22854
Technology: Network cabling infrastructure is outdated (Cat 5 or less) and/or does not meet standards.	Technology	88	Ea.	3	$40,785	22859
Technology: Network cabling infrastructure is partially outdated and/or needs expansion.	Technology	25	Ea.	3	$11,587	22857
Technology: Network system inadequate and/or near end of useful life	Technology	16	Ea.	3	$82,394	22865
Technology: Number of current, up to date, network switch ports are insufficient to support campus technology.	Technology	48	Ea.	3	$24,718	22858
Technology: PA/Bell/Clock system is inadequate and/or near end of useful life.	Technology	38,771	SF	3	$71,876	22863
Technology: Special Space AV/Multimedia system is inadequate.	Technology	1	Ea.	3	$58,706	22860
Technology: Special Space AV/Multimedia systems are in need of minor improvements.	Technology	1	Room	3	$20,598	22862
Technology: Telephone handsets are inadequate and sparsely deployed throughout the campus.	Technology	25	Ea.	3	$41,197	22867
Technology: Telephone system is inadequate and/or non-existent.	Technology	1	Ea.	3	$7,827	22868
	Sub Total for System	**15**	**items**		**$881,137**	

Specialties

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Replace Cabinetry In Classes/Labs	Capital Renewal	6	Room	4	$72,721	12457
Note: The cabinets are aged and worn.						
Room lacks an appropriate refrigerator.	Educational Adequacy	1	Ea.	5	$8,556	Rollup
	Sub Total for System	**2**	**items**		**$81,277**	
	Sub Total for Building 01 - Main Building	**59**	**items**		**$6,047,992**	
	Total for Campus	**69**	**items**		**$6,765,289**	

Wyman School - Life Cycle Summary Yrs 1-5

Building: 01 - Main Building

Exterior

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Exterior Wall Veneer	E.I.F.S. - Bldg SF basis		400	SF	$8,252	4
Exterior Entrance Doors	Steel - Insulated and Painted		10	Door	$64,172	5
		Sub Total for System	**2**	**items**	**$72,424**	

Interior

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Wall Painting and Coating	Painting/Staining (Bldg SF)		33,571	SF	$221,815	5
		Sub Total for System	**1**	**items**	**$221,815**	

Mechanical

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Decentralized Cooling	Window Units		6	Ea.	$20,033	4
		Sub Total for System	**1**	**items**	**$20,033**	

Plumbing

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Facility Potable-Water Storage Tanks	Water Storage Tank - 250 Gallon		1	Ea.	$22,627	5
		Sub Total for System	**1**	**items**	**$22,627**	

Fire and Life Safety

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Fire Detection and Alarm	Fire Alarm		38,771	SF	$113,638	3
		Sub Total for System	**1**	**items**	**$113,638**	
		Sub Total for Building 01 - Main Building	**6**	**items**	**$450,537**	
		Total for: Wyman School	**6**	**items**	**$450,537**	

Supporting Photos

Classroom Lavatory

Marquee

Cracked Paved Play Area

Worn VCT Floor

Alligatored Asphalt

Worn Wood Platform

Damaged Building Light

Bent And Rusted Fencing

Site Aerial

Damaged Toilet Partition

Playground

Makeup Air Unit

Aged And Stained Mop Sink

Domestic Water Piping

Damaged Refrigerated Water Fountain

225A Panelboard

5HP Pumps

Typical Radiator

400A Panelboard

HVAC Piping

Fin Tube Heater

Classroom Cabinets

Roofing

Exhaust Fan

Stained And Broken Ceiling Grid

Unit Ventilator

Typical Boiler

Front Elevation

Stained And Deteriorated Adhered Tile

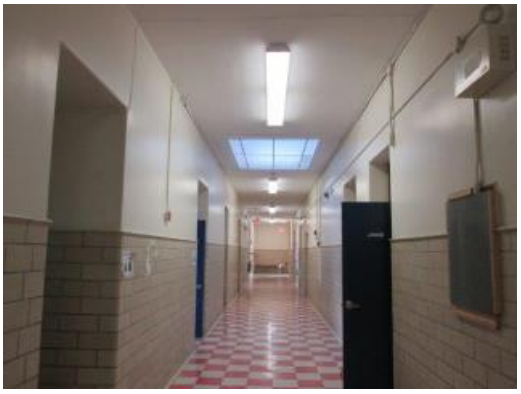
Exterior ADA Ramp

Library

Main Entry

Multipurpose Room

Typical Classroom


Corridor Finishes

Art Room

Music Room

Elevation

1968 Addition Elevation