North Kingstown

LEA Summary

North Kingstown totals 673,990 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 April-May 2016. This report provides LEA summary findings for the statewide assessment program.

School Type by Count

School Type	SqFt
Elementary School	210,625
Middle School	171,828
K-8	31,817
High School	259,720
Total:	**673,990**

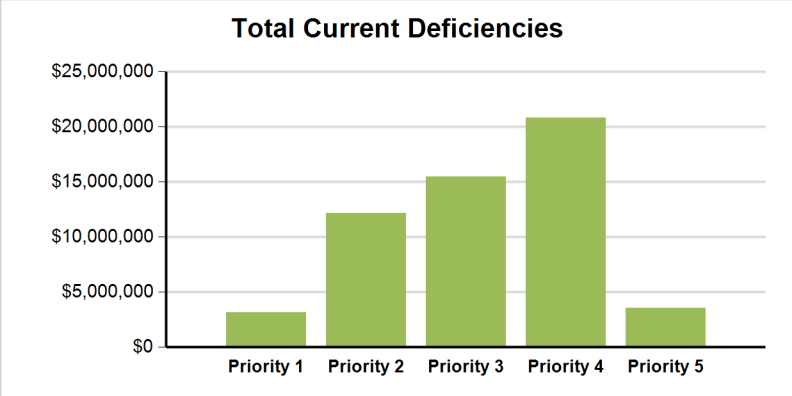
Demographics

Enrollment is projected to decrease by 10.9% over the next 10 years in North Kingstown. The total LEA enrollment at 9 school (s) is 3,933 students with a total capacity of 5,698 as reported by the LEA. Utilization is calculated by dividing enrollment by capacity, resulting in 69.0% utilization at North Kingstown.

69.0 % Utilization

Educational Program Space Analysis

In North Kingstown there are 336 instructional spaces; of these spaces 19.6% meet or exceed the space size standards. Of the total current deficiencies identified, $5,057,806 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 $55,077,080, with 37.8% categorized as Priority 4 and another 28.1% as Priority 3. The building systems with the highest current deficiency costs are Interior and Mechanical.

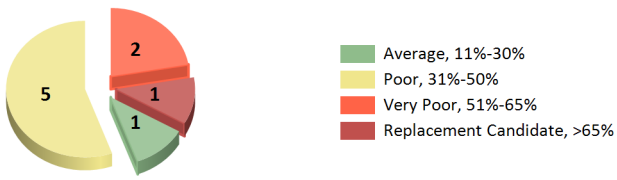
The projected life cycle need in Years 1 through 5 is $34,633,975. It is anticipated that the majority of the need will occur in Year 5. School(s) with the greatest need are represented in the adjacent table and make up 57.6% of the combined 5-Year need at North Kingstown.

School(s) with Greatest Need	Combined 5-Year Need
North Kingstown Senior High School	$20,524,530
Davisville Middle School	$16,998,820
Wickford Middle School	$14,115,451

Five Year Facility Condition Index (FCI)

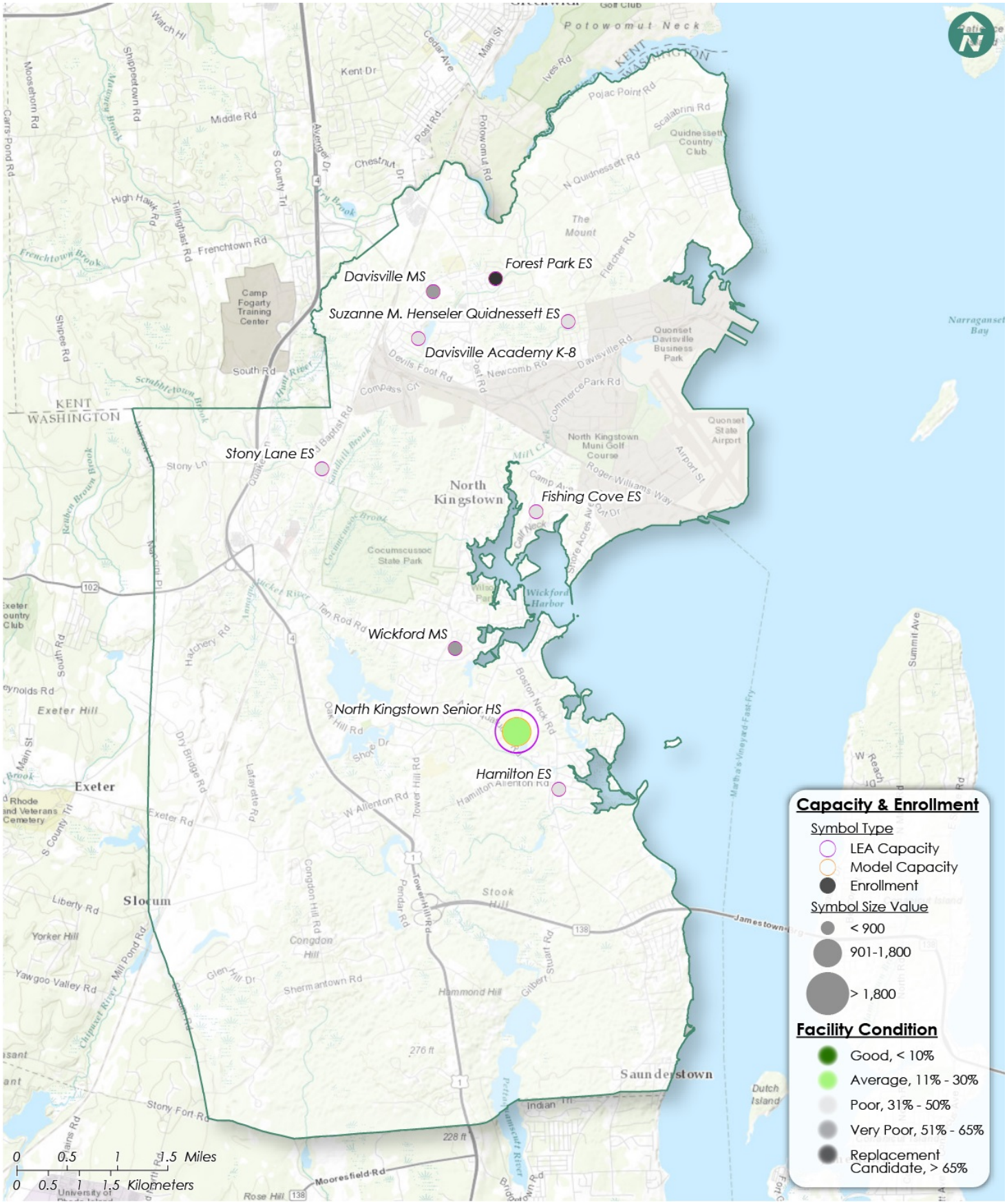
For master planning purposes, the total current deficiencies, less new construction, and the first 5 years of projected life cycle needs were combined. This provides an understanding of the current needs of a facility as well as the projected needs in the near future. A 5-Year FCI was calculated by dividing the 5-Year need by the total replacement cost. The 5-Year need is $89,711,055 with a district replacement value of $235,197,140. The resulting 5-Year FCI is 38.1%.

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
673,990	1965	$55,077,080	$34,633,975	$89,711,055	38.1%

North Kingstown



Facility Condition Assessment

North Kingstown - Davisville Academy | *June 2017*

50 East Court, North Kingstown, RI 02852

Introduction

Davisville Academy, located at 50 East Court in North Kingstown, Rhode Island, was built in 1954. It comprises 31,817 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.

Davisville Academy serves grades K - 8, has 15 instructional spaces, and enrollment was not provided. Instructional spaces are defined as rooms in which a student receives education. The LEA reported capacity for Davisville Academy was not provided consequently no utilization could be calculated.

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 Davisville Academy the 5-year need is $4,039,292. 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 Davisville Academy

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 Davisville Academy 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
	Aluminum Exterior Windows
	Steel Exterior Entrance Doors
02 - Storage Shed:	CMU Exterior Wall
	Wood Exterior Doors

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

01 - Main Building:	EPDM Roofing
	Canopy Roofing
02 - Storage Shed:	Composition Shingle 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
	Exposed Metal Structure Ceiling
	Suspended Acoustical Grid System
	Suspended Acoustical Ceiling Tile
	Wood Ceilings
	Ceramic Tile Wall
	FRP Wall Finish
	Vinyl/Fabric Wall Covering
	Interior Wall Painting
	Concrete Flooring
	Ceramic Tile Flooring
	Wood Flooring
	Vinyl Composition Tile Flooring

01 - Main Building:	Carpet
02 - Storage Shed:	Wood Ceilings
	Concrete Flooring

Mechanical

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

01 - Main Building:	400 MBH Cast Iron Water Boiler
	Steam/Hot Water Heating Unit Vent
	Finned Wall Radiator
	3 kW Electric Unit Heater
	DDC Heating System Controls
	2 Ton Ductless Split System
	10 Ton Package DX Unit
	Window Units
	6,000 CFM Energy Recovery Unit
	1 HP or Smaller Pump
	2-Pipe Steam Hydronic Distribution System
	5 Ton DX Gas Roof Top Unit
	Wall Exhaust Fan
	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:	4" Backflow Preventers
	Gas Piping System
	30 Gallon Gas Water Heater
	60 Gallon Gas Water Heater
	Domestic Water Piping System
	Classroom Lavatories
	Lavatories
	Mop/Service Sinks
	Refrigerated Drinking Fountain
	Restroom Lavatories
	Toilets
	Urinals
	Sump Pump

Electrical

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

01 - Main Building:	45 KVA Transformer
	Panelboard - 120/208 100A
	Panelboard - 120/208 225A
	Panelboard - 120/240 400A
	800 Amp Distribution Panel
	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	-	-	$28,704	$721,726	$324,837	$1,075,267	29.96 %
Roofing	-	$401,291	-	-	-	$401,291	11.18 %
Structural	-	-	-	-	-	$0	0.00 %
Exterior	-	-	-	-	$3,327	$3,327	0.09 %
Interior	-	-	$231,197	$550,298	$38,788	$820,283	22.86 %
Mechanical	-	-	-	-	-	$0	0.00 %
Electrical	-	-	-	$16,542	$29,776	$46,318	1.29 %
Plumbing	-	-	$256,801	-	$16,828	$273,629	7.63 %
Fire and Life Safety	-	-	-	-	-	$0	0.00 %
Technology	-	-	$680,699	-	-	$680,699	18.97 %
Conveyances	-	-	-	-	-	$0	0.00 %
Specialties	-	-	$63,887	$223,756	-	$287,643	8.02 %
Total	$0	$401,291	$1,261,287	$1,512,322	$413,557	$3,588,457	

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

The building systems with the most need include:

Site	-	$1,075,267
Interior	-	$820,283
Technology	-	$680,699

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

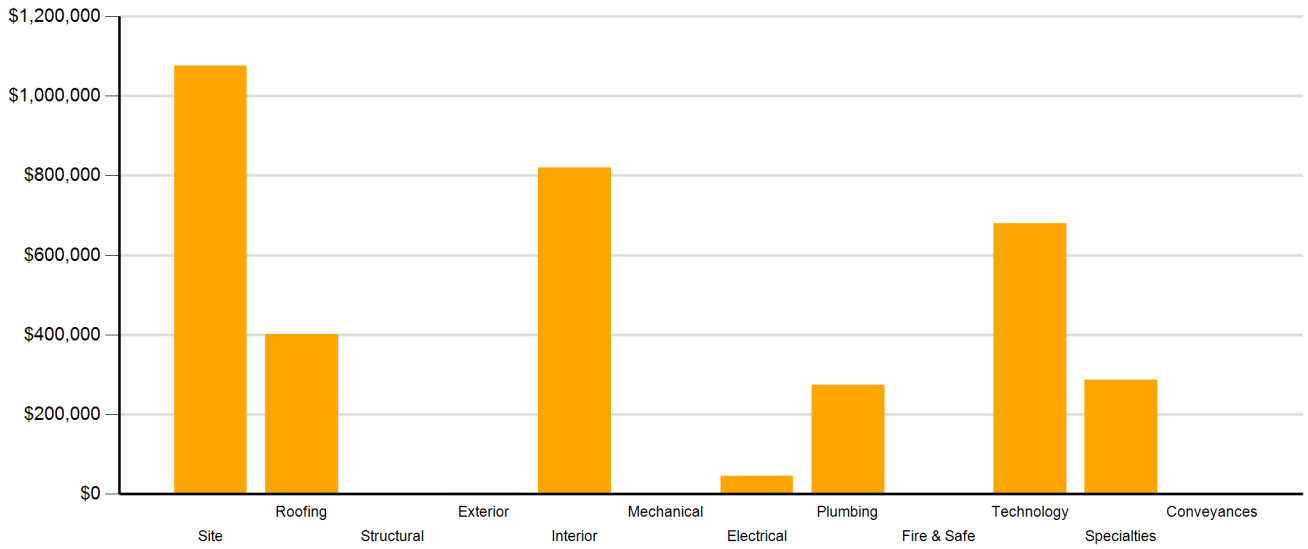


Figure 2: System Deficiencies

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	-	-	-	$69,258	-	$69,258
Barrier to Accessibility	-	-	-	-	-	$0
Capital Renewal	-	$401,291	$516,701	$933,695	$7,891	$1,859,578
Code Compliance	-	-	-	-	-	$0
Educational Adequacy	-	-	$143,745	$507,562	$405,666	$1,056,974
Functional Deficiency	-	-	-	-	-	$0
Hazardous Material	-	-	-	$1,806	-	$1,806
Technology	-	-	$600,841	-	-	$600,841
Traffic	-	-	-	-	-	$0
Total	$0	$401,291	$1,261,287	$1,512,322	$413,557	$3,588,457

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

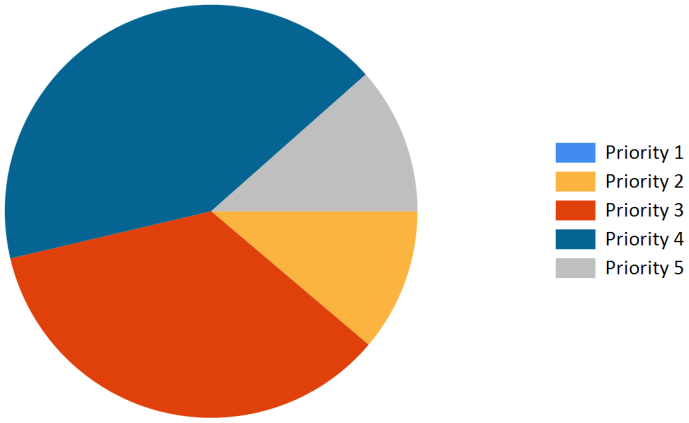


Figure 3: Current deficiencies by priority

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	$1,075,267	$0	$0	$0	$0	$0	$0	$1,075,267
Roofing	$401,291	$0	$0	$0	$0	$2,282	$2,282	$403,573
Structural	$0	$0	$0	$0	$0	$0	$0	$0
Exterior	$3,327	$0	$0	$0	$0	$16,647	$16,647	$19,974
Interior	$820,283	$0	$0	$161,960	$268,863	$1,070	$431,893	$1,252,176
Mechanical	$0	$0	$0	$0	$0	$0	$0	$0
Electrical	$46,318	$0	$0	$0	$0	$0	$0	$46,318
Plumbing	$273,629	$0	$0	$0	$0	$0	$0	$273,629
Fire and Life Safety	$0	$0	$0	$0	$0	$0	$0	$0
Technology	$680,699	$0	$0	$0	$0	$0	$0	$680,699
Conveyances	$0	$0	$0	$0	$0	$0	$0	$0
Specialties	$287,643	$0	$0	$0	$0	$0	$0	$287,643
Total	**$3,588,457**	**$0**	**$0**	**$161,960**	**$268,863**	**$19,999**	**$450,822**	**$4,039,279**

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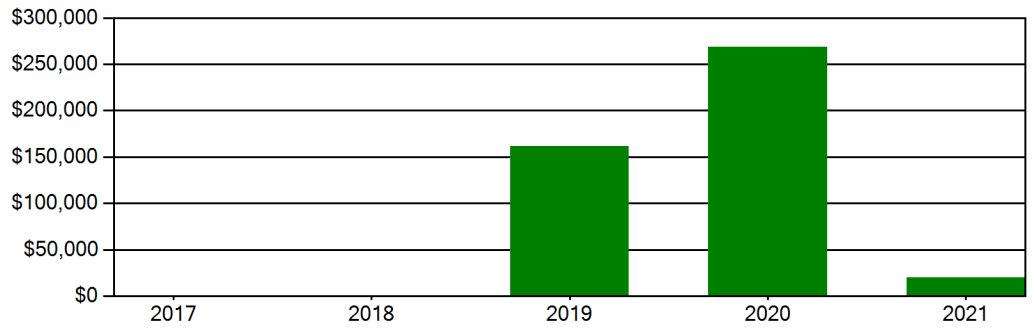
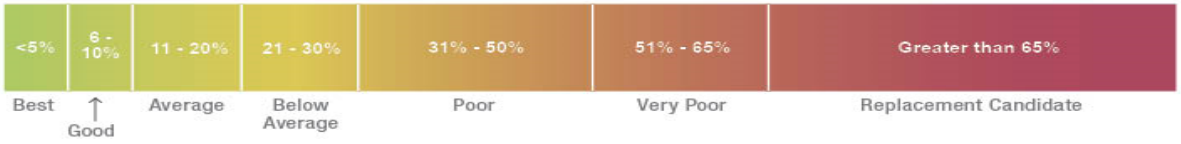


Figure 4: Life Cycle Capital Renewal Forecast

Facility Condition Index (FCI)

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



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

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

The replacement value represents the estimated cost of replacing the current building with another building of like size, based on today's estimated cost of construction in the Providence, Rhode Island area. The estimated replacement cost for this facility is $11,135,950. For planning purposes, the total 5-year need at the Davisville Academy is $4,039,292 (Life Cycle Years 1-5 plus the FCI deficiency cost). The Davisville Academy facility has a 5-year FCI of 36.27%.

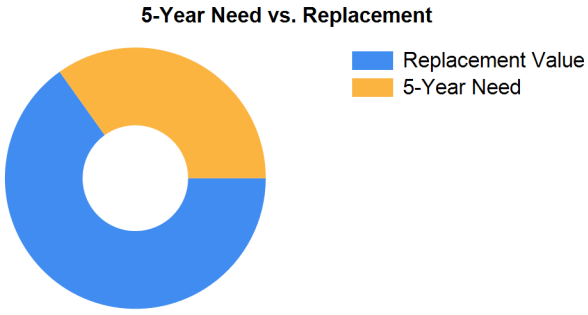


Figure 5: 5-Year FCI

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 155 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 Davisville Academy cafeteria and/or library/media center to the size prescribed by the SCRs is estimated to be $0.

Summary of Findings

The Davisville Academy comprises 31,817 square feet and was constructed in 1954. Current deficiencies at this school total $3,588,470. Five year capital renewal costs total $450,822. The total identified need for the Davisville Academy (current deficiencies and 5-year capital renewal costs) is $4,039,292. The 5-year FCI is 36.27%.

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
Davisville Academy Totals	31,817	1954	$3,588,470	$450,822	$4,039,292	36.27%

**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	2,425	SF	3	$20,583	12524
Note: Asphalt walkways are worn with large cracks and uneven surfaces.						
Concrete Walks Require Replacement	Capital Renewal	400	SF	3	$8,121	12525
Note: Several large cracks and pot holes.						
Asphalt Paving Requires Replacement	Capital Renewal	70	CAR	4	$230,037	12523
Note: Asphalt parking is weathered and alligatored.						
Asphalt Paving Requires Replacement	Capital Renewal	61	CAR	4	$200,461	12526
Note: Roadway asphalt has large cracks.						
Asphalt Paving Requires Replacement	Capital Renewal	80	CAR	4	$262,899	16963
Note: Paved play area						
Backstops Require Replacement	Educational Adequacy	1	Ea.	4	$28,329	28664
Note: Backstops Require Replacement						
School lacks a competition track.	Educational Adequacy	1	Ea.	5	$324,837	28299
Note: School lacks a competition track.						
	Sub Total for System	**7**	**items**		**$1,075,267**	
	Sub Total for School and Site Level	**7**	**items**		**$1,075,267**	

Building: 01 - Main Building

Roofing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
EPDM Roofing Requires Replacement (Bldg SF)	Capital Renewal	31,737	SF	2	$401,291	12182
Note: Roof is weathered with evidence of ponding and water infiltration.						
	Sub Total for System	**1**	**items**		**$401,291**	

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Exterior Soffit Requires Repainting	Capital Renewal	1,000	SF	5	$3,327	12174
Note: Soffit paint is peeling and faded.						
	Sub Total for System	**1**	**items**		**$3,327**	

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Interior Doors Require Replacement	Capital Renewal	40	Door	3	$184,435	12177
Note: Interior doors are scratched and damaged.						
The Ceramic Tile Flooring Requires Replacement	Capital Renewal	1,000	SF	3	$26,854	12179
Note: Ceramic tile is cracked.						
The Wood Flooring Requires Replacement	Capital Renewal	600	SF	3	$19,908	12178
Note: Wood flooring at the stage is scratched 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 - square feet)	Hazardous Material	190	SF	4	$1,806	Rollup
Room Is Excessively Reverberant	Acoustics	3,100	SF	4	$69,258	19834
Note: Gym						
Room Lighting Is Inadequate Or In Poor Condition.	Educational Adequacy	12,577	SF	4	$479,233	Rollup
Classroom Door Requires Vision Panel	Educational Adequacy	15	Ea.	5	$34,225	Rollup
The Concrete Flooring Requires Repair Or Repainting	Capital Renewal	600	SF	5	$4,563	12180
Note: Concrete floor paint is faded and worn.						
	Sub Total for System	**8**	**items**		**$820,283**	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Canopy Lighting Requires Replacement	Capital Renewal	12	Ea.	4	$16,542	12181
Note: Canopy lighting is aged and yellowed.						

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room Has Insufficient Electrical Outlets	Educational Adequacy	60	Ea.	5	$29,776	Rollup
	Sub Total for System	**2**	**items**		**$46,318**	

Plumbing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Sump Pump Requires Replacement	Capital Renewal	1	Ea.	3	$1,449	16965
The Plumbing / Domestic Water Piping System Is Beyond Its Useful Life	Capital Renewal	31,737	SF	3	$255,352	16964
Room lacks a drinking fountain.	Educational Adequacy	2	Ea.	5	$2,206	Rollup
The Class Room Lavatories Plumbing Fixtures Are Missing And Should Be Installed	Educational Adequacy	10	Ea.	5	$14,622	Rollup
	Sub Total for System	**4**	**items**		**$273,629**	

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room lacks Interactive White Board	Educational Adequacy	14	Ea.	3	$79,859	Rollup
Technology: Campus network switching electronics are antiquated and/or do not meet standards.	Technology	144	Ea.	3	$68,450	18315
Technology: Classroom AV/Multimedia systems are inadequate and/or near end of useful life.	Technology	10	Ea.	3	$199,646	18319
Technology: Instructional spaces do not have local sound reinforcement.	Technology	16	Ea.	3	$76,056	18322
Technology: Intermediate Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	$4,753	18312
Technology: Main Telecommunications Room ground system is inadequate or non-existent.	Technology	1	Ea.	3	$6,655	18310
Technology: Network cabling infrastructure is outdated (Cat 5 or less) and/or does not meet standards.	Technology	24	Ea.	3	$10,268	18314
Technology: Network system inadequate and/or near end of useful life	Technology	24	Ea.	3	$114,084	18320
Technology: Network system inadequate and/or near end of useful life	Technology	3	Ea.	3	$22,817	18321
Technology: Special Space AV/Multimedia system is inadequate.	Technology	1	Ea.	3	$54,190	18318
Technology: Telecommunications Room fiber connectivity infrastructure is outdated and/or inadequate.	Technology	1	Ea.	3	$6,275	18313
Technology: Telephone handsets are inadequate and sparsely deployed throughout the campus.	Technology	20	Ea.	3	$30,422	18316
Technology: Telephone system is inadequate and/or non-existent.	Technology	1	Ea.	3	$7,225	18317
	Sub Total for System	**13**	**items**		**$680,699**	

Specialties

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room has insufficient writing area.	Educational Adequacy	14	Ea.	3	$63,887	Rollup
Replace Cabinetry In Classes/Labs	Capital Renewal	20	Room	4	$223,756	12183
Note: Cabinetry is aged with peeling laminate.						
	Sub Total for System	**2**	**items**		**$287,643**	
	Sub Total for Building 01 - Main Building	**31**	**items**		**$2,513,191**	
	Total for Campus	**38**	**items**		**$3,588,457**	

Buildings with no reported deficiencies

02 - Storage Shed

Davisville Academy - Life Cycle Summary Yrs 1-5

Building: 01 - Main Building

Interior

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Specialty Suspended Ceilings	Ceiling - Wood	7,400	SF	$49,246	3
Specialty Suspended Ceilings	Ceiling - Wood	16,937	SF	$112,714	3
Resilient Flooring	Vinyl Composition Tile Flooring	23,437	SF	$268,863	4
Wall Coverings	Vinyl/Fabric Wall Covering	150	SF	$1,070	5
Note:	Carpet covered walls in quiet rooms				
	Sub Total for System	**4**	**items**	**$431,893**	
	Sub Total for Building 01 - Main Building	**4**	**items**	**$431,893**	

Building: 02 - Storage Shed

Roofing

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Steep Slope Roofing	Composition Shingle	80	SF	$2,282	5
	Sub Total for System	**1**	**items**	**$2,282**	

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**	
	Sub Total for Building 02 - Storage Shed	**2**	**items**	**$18,928**	
	Total for: Davisville Academy	**6**	**items**	**$450,821**	

Supporting Photos

Site Aerial

Cracked Asphalt Roadway

Deteriorated Asphalt Paving

Aged Canopy Light


Alligatored Asphalt


Soffit


Interior Wood Door


Damaged Wood Floor


Cracked Ceramic Tile


Boiler Room Floor

Weathered Roof With Ponding

Peeling Laminate On Casework

Elevation

Marquee

Weathered Asphalt Walkway

Elevation


Weathered Asphalt Play Area


Cafeteria/Gymnasium


Typical Classroom


Shed Exposed Wood Ceiling


Elevation


Storage Shed Floor

Storage Shed

Facility Condition Assessment

North Kingstown - Davisville Middle School | *June 2017*

200 School Street, North Kingstown, RI 02852

Introduction

Davisville Middle School, located at 200 School Street in North Kingstown, Rhode Island, was built in 1967. It comprises 96,748 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.

Davisville Middle School serves grades 6 - 8, has 47 instructional spaces, and has an enrollment of 534. Instructional spaces are defined as rooms in which a student receives education. The LEA reported capacity for Davisville Middle School is 680 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 Davisville Middle School the 5-year need is $16,998,820. 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.

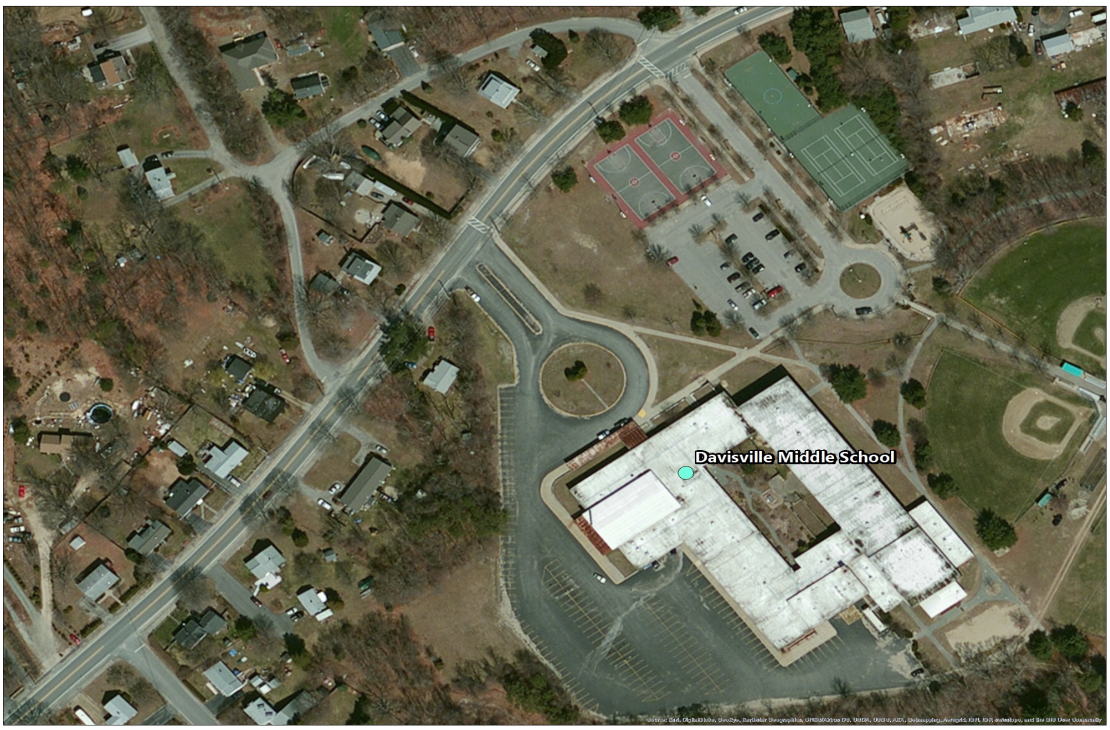


Figure 1: Aerial view of Davisville Middle School

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 Davisville Middle 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
	E.I.F.S. 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
	Canopy 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
	Non-Painted Plaster/Gypsum Board Ceiling
	Metal Panel Ceilings
	Ceramic Tile Wall
	Wood Wall Paneling
	FRP Wall Finish
	CMU Wall
	Interior Wall Painting

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

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
	Radiant Steam Heater
	DDC Heating System Controls
	1 Ton Ductless Split System
	2 Ton Ductless Split System
	15 Ton Package DX Unit
	20 Ton Package DX Unit
	Window Units
	5 HP VFD
	1 HP or Smaller Pump
	5 HP Pump
	2-Pipe Hot Water Hydronic Distribution System
	2,000 CFM Interior AHU
	5,000 CFM Outdoor AHU
	Ductwork
	Dehumidifier
	Kitchen Exhaust Hoods
	Roof 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
	6.4 GPM Instant Water Heater
	Domestic Water Piping System
	Classroom Lavatories
	Lavatories
	Mop/Service Sinks
	Refrigerated Drinking Fountain

01 - Main Building:	Restroom Lavatories
	Showers
	Toilets
	Urinals
	Air Compressor (2 hp)

Electrical

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

01 - Main Building:	50 kW Emergency Generator
	Automatic Transfer Switch
	1,600 Amp Switchgear
	112.5 KVA Transformer
	400 Amp Distribution Panel
	Panelboard - 120/208 100A
	Panelboard - 120/208 125A
	Panelboard - 120/208 225A
	Electrical Disconnect
	Building Mounted Lighting Fixtures
	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	-	-	$196,262	$28,329	$333,789	$558,380	4.35 %
Roofing	-	$1,005,906	-	-	-	$1,005,906	7.84 %
Structural	$9,443	-	-	-	-	$9,443	0.07 %
Exterior	-	$912,189	-	$1,039	-	$913,228	7.12 %
Interior	-	-	$726,624	$4,130,190	$595,455	$5,452,269	42.49 %
Mechanical	-	$1,011,763	$1,251	-	$21,760	$1,034,775	8.06 %
Electrical	$1,403	$237,830	$18,846	$23,515	-	$281,594	2.19 %
Plumbing	-	-	$306,098	$103,858	$71,602	$481,558	3.75 %
Fire and Life Safety	$1,326,709	-	-	-	-	$1,326,709	10.34 %
Technology	-	-	$1,216,299	-	-	$1,216,299	9.48 %
Conveyances	-	-	-	-	-	$0	0.00 %
Specialties	-	-	$4,533	$495,170	$50,992	$550,695	4.29 %
Total	$1,337,554	$3,167,689	$2,469,914	$4,782,100	$1,073,598	$12,830,855	

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

The building systems with the most need include:

Interior	-	$5,452,269
Fire and Life Safety	-	$1,326,709
Technology	-	$1,216,299

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

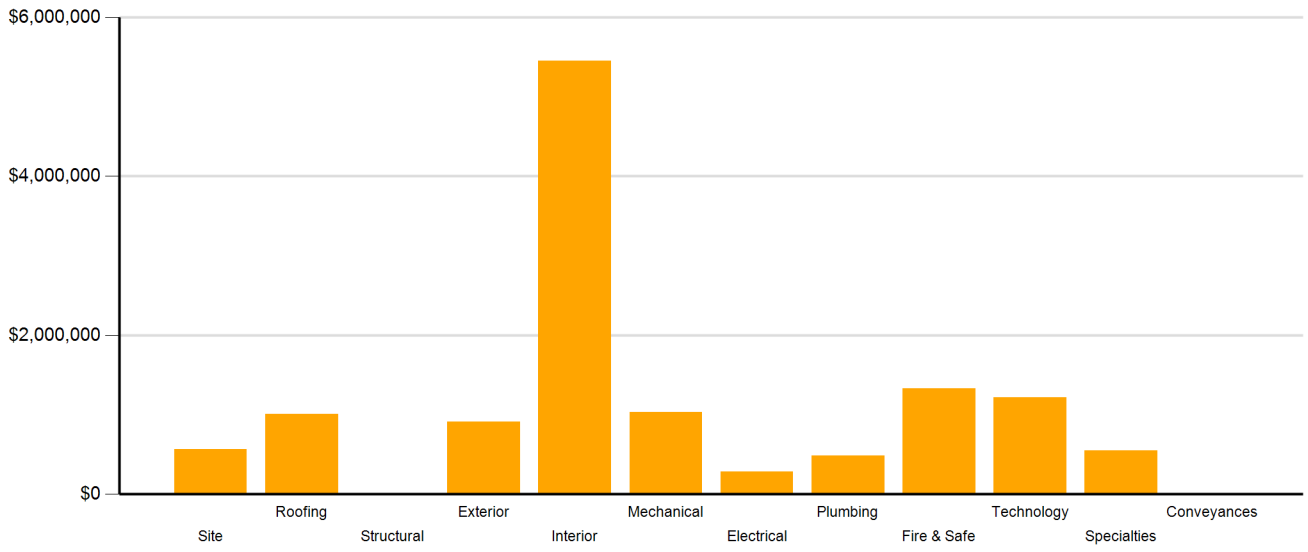


Figure 2: System Deficiencies

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	-	-	-	$314,450	-	$314,450
Barrier to Accessibility	-	-	-	-	-	$0
Capital Renewal	$9,443	$3,167,689	$1,237,372	$2,184,767	$620,444	$7,219,716
Code Compliance	$1,258,719	-	-	-	-	$1,258,719
Educational Adequacy	$69,392	-	$163,174	$33,711	$453,154	$719,431
Functional Deficiency	-	-	-	$16,669	-	$16,669
Hazardous Material	-	-	-	$2,232,502	-	$2,232,502
Technology	-	-	$1,057,658	-	-	$1,057,658
Traffic	-	-	$11,709	-	-	$11,709
Total	$1,337,554	$3,167,689	$2,469,914	$4,782,100	$1,073,598	$12,830,855

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

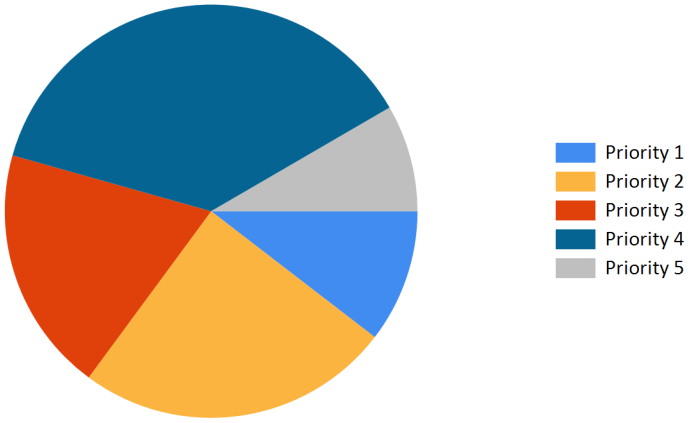


Figure 3: Current deficiencies by priority

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	$558,380	$0	$0	$0	$0	$0	$0	$558,380
Roofing	$1,005,906	$0	$0	$0	$85,563	$0	$85,563	$1,091,470
Structural	$9,443	$0	$0	$0	$0	$0	$0	$9,443
Exterior	$913,228	$0	$0	$0	$201,102	$0	$201,102	$1,114,330
Interior	$5,452,269	$0	$0	$0	$437,027	$1,692,948	$2,129,975	$7,582,244
Mechanical	$1,034,775	$0	$0	$28,521	$50,744	$0	$79,265	$1,114,040
Electrical	$281,594	$0	$0	$0	$0	$574,863	$574,863	$856,457
Plumbing	$481,558	$0	$0	$73,774	$236,235	$778,423	$1,088,432	$1,569,990
Fire and Life Safety	$1,326,709	$0	$0	$0	$0	$0	$0	$1,326,709
Technology	$1,216,299	$0	$0	$0	$0	$0	$0	$1,216,299
Conveyances	$0	$0	$0	$0	$0	$0	$0	$0
Specialties	$550,695	$0	$0	$0	$0	$0	$0	$550,695
Total	**$12,830,855**	**$0**	**$0**	**$102,295**	**$1,010,671**	**$3,046,234**	**$4,159,200**	**$16,990,055**

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

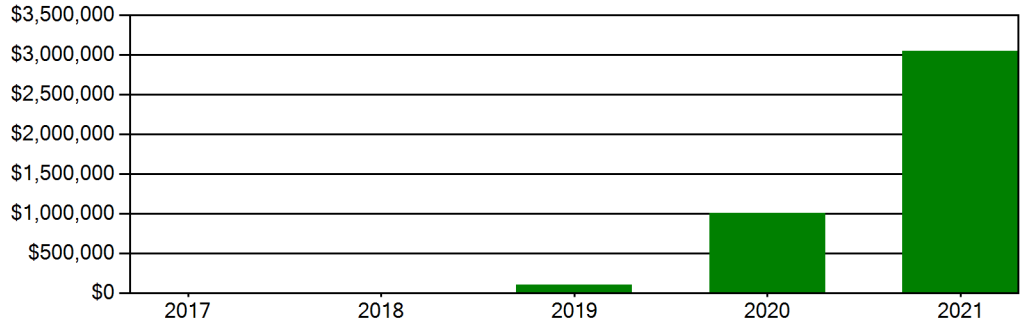
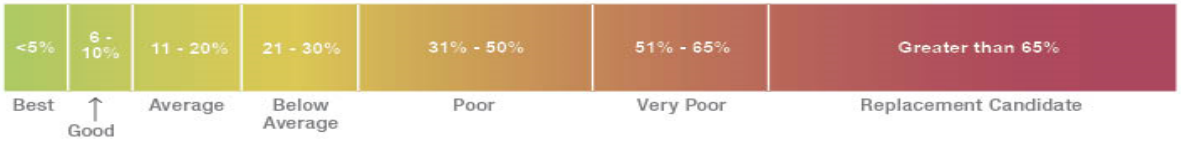


Figure 4: Life Cycle Capital Renewal Forecast

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 $31,926,840. For planning purposes, the total 5-year need at the Davisville Middle School is $16,998,820 (Life Cycle Years 1-5 plus the FCI deficiency cost). The Davisville Middle School facility has a 5-year FCI of 53.22%.

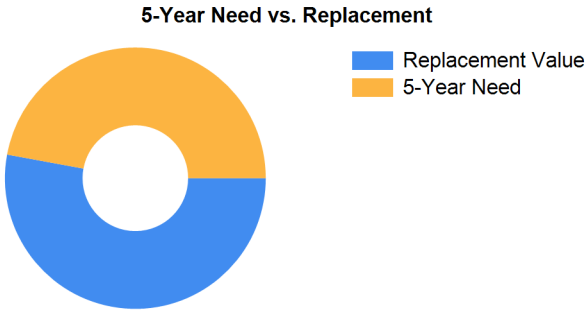


Figure 5: 5-Year FCI

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 547 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 Davisville Middle School cafeteria and/or library/media center to the size prescribed by the SCRs is estimated to be $979,031.

Summary of Findings

The Davisville Middle School comprises 96,748 square feet and was constructed in 1967. Current deficiencies at this school total $12,839,620. Five year capital renewal costs total $4,159,200. The total identified need for the Davisville Middle School (current deficiencies and 5-year capital renewal costs) is $16,998,820. The 5-year FCI is 53.22%.

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
Davisville Middle School Totals	96,748	1967	$12,839,620	$4,159,200	$16,998,820	53.22%

**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	5,000	SF	3	$42,439	12527
Concrete Walks Require Replacement	Capital Renewal	7,000	SF	3	$142,114	12185
Crosswalk Requires Repainting	Traffic	1	Ea.	3	$755	16905
Note: Repaint crosswalk on school driveway next to tennis courts						
Crosswalk: Needs to be added	Traffic	1	Ea.	3	$755	16907
Note: Add crosswalk to main school driveway						
Pavement Markings: Words/Symbols Are Required	Traffic	3	Ea.	3	$1,133	16904
Note: Add handicap parking space markings (at least 3 spaces)						
Traffic Signage Is Required	Traffic	4	Ea.	3	$9,065	16906
Note: Add school zone signage and flashing beacons on School St.						
Backstops Require Replacement	Educational Adequacy	1	Ea.	4	$28,329	28511
Note: Backstops Require Replacement						
Paving Requires Restriping	Capital Renewal	158	CAR	5	$8,952	12187
Note: Resurface Parking Areas						
School lacks a competition track.	Educational Adequacy	1	Ea.	5	$324,837	28251
Note: School lacks a competition track.						
	Sub Total for System	**9**	**items**		**$558,380**	
	Sub Total for School and Site Level	**9**	**items**		**$558,380**	

Building: 01 - Main Building

Roofing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Tectum Decking Requires Replacement	Capital Renewal	13,650	SF	2	$1,005,906	12212
Note: Tectum ceiling is aged and stained						
	Sub Total for System	**1**	**items**		**$1,005,906**	

Structural

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Foundation Study Recommended	Capital Renewal	1	Job	1	$9,443	12217
Note: Moderate cracks on slab at hallway - outside Library, Lobby, Wood Shop, Boiler Room and Cafeteria						
	Sub Total for System	**1**	**items**		**$9,443**	

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Aluminum Storefront Exterior Door Requires Replacement	Capital Renewal	4	Door	2	$28,329	12194
Note: Original storefront system. Beginning to show signs of age.						
The Aluminum Window Requires Replacement	Capital Renewal	4,500	SF	2	$756,380	12195
Note: All exterior window systems are original, not energy efficient and deteriorating						
The Metal Exterior Door Requires Replacement	Capital Renewal	20	Door	2	$127,480	12193
Note: Corroding						
Handrail Requires Repainting	Capital Renewal	100	LF	4	$1,039	12216
Note: Paint at interior stairwells is worn						
	Sub Total for System	**4**	**items**		**$913,228**	

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Acoustical Ceiling Tiles Require Replacement	Capital Renewal	75,398	SF	3	$676,381	12196
Note: Original ceiling tiles are stained and damaged						
The Carpet Flooring Requires Replacement	Capital Renewal	800	SF	3	$17,288	12198
Note: Carpet is aged and worn						
The Wood Flooring Requires Replacement	Capital Renewal	1,000	SF	3	$32,956	12200
Note: Wood is scratched and worn						
Location: Stage						
Asbestos 9x9 Tile is Present. Limited Areas of Lifting or Broken Tiles Exist	Hazardous Material	73,848	SF	4	$2,092,029	Rollup

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Caulking - significant areas of broken pieces &/or deteriorating caulk	Hazardous Material	200	LF	4	$3,777	Rollup
Ceiling Grid Requires Replacement	Capital Renewal	75,398	SF	4	$888,236	12230
Note: Original ceiling grid is stained and damaged						
Interior Storefront Doors Require Replacement	Capital Renewal	4	Door	4	$18,886	12227
Note: Original 1967 storefront doors						
Interior Toilet Partition Requires Replacement	Capital Renewal	50	Ea.	4	$217,188	12208
Note: Replace metal and plastic toilet partitions throughout the building						
Moveable Partitions Require Replacement	Capital Renewal	4,000	SF Wall	4	$458,927	12189
Note: Partitions do not work and the fabric is peeling off						
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	370	Ea.	4	$104,817	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	640	LF	4	$14,504	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	1,600	SF	4	$15,109	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	100	LF	4	$2,266	Rollup
Partitions Provide Insufficient Sound Isolation	Acoustics	7,500	SF	4	$212,466	19835
Note: All classrooms						
Room Is Excessively Reverberant (Install Fiberglass Wall Panel)	Acoustics	1,800	SF	4	$101,984	19836
Note: Gym						
Classroom Door Requires Vision Panel	Educational Adequacy	1	Ea.	5	$2,266	Rollup
Interior Doors Require Repainting	Capital Renewal	160	Door	5	$10,727	12197
Note: Throughout the building						
Interior Walls Require Repainting (Bldg SF)	Capital Renewal	86,498	SF	5	$567,673	Rollup
Room lacks appropriate sound control.	Educational Adequacy	100	SF	5	$3,456	Rollup
The Concrete Flooring Requires Repair Or Repainting	Capital Renewal	1,500	SF	5	$11,332	12201
Note: Paint is peeling from the floor						
	Sub Total for System	**20**	**items**		**$5,452,269**	

Mechanical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Outdoor Air Handler HVAC Component Required Replacement	Capital Renewal	2	Ea.	2	$283,289	12532
The Air Handler HVAC Component Requires Replacement	Capital Renewal	4	Ea.	2	$171,386	12531
The Fin Tube Water Radiant Heater Requires Replacement	Capital Renewal	11	Ea.	2	$18,302	12222
The Steam/Hot Water Radiant Heater Requires Replacement	Capital Renewal	105	Ea.	2	$538,786	12533
Kitchen Air/Exhaust Is Inadequate And Should Be Repaired	Capital Renewal	1	Ea.	3	$1,251	12213
Remove Abandoned Equipment	Capital Renewal	7	Ea.	5	$21,760	12214
Note: Old boiler and above ground fuel storage tank are no longer in use. Old hot water storage tanks are still in the Boiler Room.						
	Sub Total for System	**6**	**items**		**$1,034,775**	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room last power shut-off valves for utilities	Educational Adequacy	1	Ea.	1	$1,403	Rollup
Generator Requires Replacement	Capital Renewal	1	Ea.	2	$75,544	12203
Switchgear Is Needed Or Requires Replacement	Capital Renewal	1	Ea.	2	$81,549	12530
The Panelboard Requires Replacement	Capital Renewal	6	Ea.	2	$28,895	12218
The Panelboard Requires Replacement	Capital Renewal	9	Ea.	2	$51,842	12219
Upgrade Gym Lighting To LED	Capital Renewal	10	Ea.	3	$18,846	12231
Stage Lighting Requires Replacement	Functional Deficiency	12	Ea.	4	$16,669	12223
The Canopy Lighting Requires Replacement	Capital Renewal	5	Ea.	4	$6,846	12202
	Sub Total for System	**8**	**items**		**$281,594**	

Plumbing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Domestic Water Piping Requires Repair	Capital Renewal	100	LF	3	$691	12234
Note: The drains in the Science Classroom emergency showers are not draining properly.						
The Showers Plumbing Fixtures Require Replacement	Capital Renewal	34	Ea.	3	$256,848	12206
Location: Locker Rooms						
The Toilets Plumbing Fixtures Require Repair	Capital Renewal	25	Ea.	3	$38,976	12205
The Urinal Plumbing Fixtures Require Repair	Capital Renewal	14	Ea.	3	$9,583	12211
The Classroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	24	Ea.	4	$64,816	12191
The Custodial Mop Or Service Sink Requires Replacement	Capital Renewal	7	Ea.	4	$17,913	12210
The Restroom Lavatories Plumbing Fixtures Require Repair	Capital Renewal	25	Ea.	4	$19,311	12204
The Showers Plumbing Fixtures Require Repair	Capital Renewal	5	Ea.	4	$1,817	12207
Note: Science room emergency showers						
Room lacks a drinking fountain.	Educational Adequacy	4	Ea.	5	$4,382	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	38	Ea.	5	$57,054	Rollup
	Sub Total for System	**11**	**items**		**$481,558**	

Fire and Life Safety

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Install Fire Sprinklers (NFPA 13)	Code Compliance	96,748	SF	1	$1,258,719	12232
Note: No fire sprinklers in the building, install complete fire suppression system.						
Room lacks shut-off valves for utilities. (International Fuel Gas Code, Section 409.6)	Educational Adequacy	6	Ea.	1	$67,989	Rollup
	Sub Total for System	**2**	**items**		**$1,326,709**	

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room lacks Interactive White Board	Educational Adequacy	28	Ea.	3	$158,642	Rollup
Technology: Classroom AV/Multimedia systems are inadequate and/or near end of useful life.	Technology	20	Ea.	3	$396,604	18305
Technology: Classroom AV/Multimedia systems are inadequate and/or near end of useful life.	Technology	1	Ea.	3	$19,830	18306
Technology: Instructional spaces do not have local sound reinforcement.	Technology	31	Ea.	3	$146,366	18309
Technology: Intermediate Telecommunications Room grounding system is inadequate or non-existent.	Technology	1	Ea.	3	$5,288	18299
Technology: Intermediate Telecommunications Room is not dedicated. Room requires partial walls and/or major improvements.	Technology	1	Ea.	3	$37,394	18298
Technology: Intermediate Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	$4,721	18300
Technology: Main Telecommunications Room ground system is inadequate or non-existent.	Technology	1	Ea.	3	$6,610	18296
Technology: Main Telecommunications Room is not dedicated and/or inadequate.	Technology	1	Ea.	3	$49,859	18295
Technology: Network cabling infrastructure is outdated (Cat 5 or less) and/or does not meet standards.	Technology	281	Ea.	3	$119,406	18303
Technology: Network system inadequate and/or near end of useful life	Technology	3	Ea.	3	$22,663	18307
Technology: Network system inadequate and/or near end of useful life	Technology	36	Ea.	3	$169,973	18308
Technology: Special Space AV/Multimedia systems are in need of minor improvements.	Technology	1	Room	3	$18,886	18304
Technology: Telecommunications Room (large size room) needs dedicated cooling system improvements.	Technology	1	Ea.	3	$7,554	18297
Technology: Telephone handsets are inadequate and sparsely deployed throughout the campus.	Technology	30	Ea.	3	$45,326	18301

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Technology: Telephone system is inadequate and/or non-existent.	Technology	1	Ea.	3	$7,177	18302
	Sub Total for System	**16**	**items**		**$1,216,299**	

Specialties

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room has insufficient writing area.	Educational Adequacy	1	Ea.	3	$4,533	Rollup
Replace Cabinetry In Classes/Labs	Capital Renewal	22	Room	4	$244,474	12226
Note: Original cabinets are deteriorating and aged						
The Metal Student Lockers Require Replacement	Capital Renewal	502	Ea.	4	$245,314	12225
Note: Original lockers are corroding, missing doors, bent, and not functional. The locker design at the hallway with upper doors are a safety concern where kids can run into the metal doors when open.						
Welding Bays Are Required	Educational Adequacy	1	Ea.	4	$5,382	Rollup
Room lacks an appropriate refrigerator.	Educational Adequacy	6	Ea.	5	$50,992	Rollup
	Sub Total for System	**5**	**items**		**$550,695**	
	Sub Total for Building 01 - Main Building	**74**	**items**		**$12,272,475**	
	Total for Campus	**83**	**items**		**$12,830,855**	

Davisville Middle School - Life Cycle Summary Yrs 1-5

Building: 01 - Main Building

Roofing

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Canopy Roofing	Canopies		1,500	SF	$85,563	4
		Sub Total for System	**1**	**items**	**$85,563**	

Exterior

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Exterior Wall Veneer	E.I.F.S. - Bldg SF basis		9,748	SF	$201,102	4
		Sub Total for System	**1**	**items**	**$201,102**	

Interior

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Interior Swinging Doors	Wood		36	Door	$165,992	4
Wall Paneling	Wood Panel wall		250	SF	$2,282	4
Wood Flooring	Wood Flooring - All Types		8,100	SF	$268,753	4
Resilient Flooring	Rubber Tile Flooring		200	SF	$3,736	5
Interior Swinging Doors	Steel		180	Door	$770,749	5
Interior Door Supplementary Components	Door Hardware		220	Door	$690,206	5
Tile Flooring	Ceramic Tile		8,500	SF	$228,257	5
		Sub Total for System	**7**	**items**	**$2,129,974**	

Mechanical

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Facility Distribution Systems Supplementary Components	Dehumidifier		1	Ea.	$28,521	3
Decentralized Heating Equipment	Heating Unit Vent - Steam/Hot water		3	Ea.	$50,744	4
		Sub Total for System	**2**	**items**	**$79,265**	

Electrical

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Lighting Fixtures	Light Fixtures (Bldg SF)		96,748	SF	$574,863	5
		Sub Total for System	**1**	**items**	**$574,863**	

Plumbing

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Plumbing Fixtures	Refrigerated Drinking Fountain		10	Ea.	$73,774	3
Plumbing Fixtures	Mop/Service Sinks		2	Ea.	$5,153	4
Plumbing Fixtures	Restroom Lavatories		39	Ea.	$124,060	4
Plumbing Fixtures	Toilets		31	Ea.	$88,415	4
Plumbing Fixtures	Urinals		14	Ea.	$18,607	4
Domestic Water Piping	Domestic Water Piping System (Bldg.SF)		96,748	SF	$778,423	5
		Sub Total for System	**6**	**items**	**$1,088,432**	
		Sub Total for Building 01 - Main Building	**18**	**items**	**$4,159,200**	
		Total for: Davisville Middle School	**18**	**items**	**$4,159,200**	

Supporting Photos


Steps Near Main Entrance


Asphalt Sidewalk Facing Park


Damaged Tectum Ceiling in Gymnasium


Spalling Sidewalk

Site Aerial

Stained Tectum Ceiling in Gymnasium

Site Sign

Worn Paint at Interior Stairwells

Gymnasium

Typical Classroom


Cafeteria


Typical Science Lab


Front Elevation


Library


Rear Elevation


Music Room


Damaged Moveable Classroom Partitions


Back of Kitchen


Corroding Exterior Door at Rear of Building


Damaged Moveable Gym Partition


Typical Exterior Windows


Corroding Exterior Door at Courtyard


Repaint Interior Doors


Aging Exterior Storefront Doors


Worn Carpet at Classrooms


Aged and Damaged Ceiling Tile at Classroom


Worn Stage Flooring


Paint Peeling at Classrooms


Damaged Toilet Partitions


Worn Vinyl Flooring


Cracked Flooring Outside Wood Shop


Refinish Concrete Flooring


Cracked Flooring at Administrative Offices


Cracked Flooring Outside of Cafeteria


Lockers with Safety Concern at First Floor and Basement


Corroded Lockers at Basement


Typical Classroom Cabinets


Corroded Lockers at Girls Locker Room

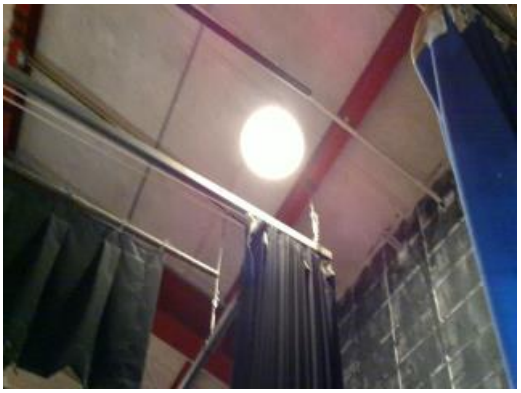

Peeling Paint in Hallways

Original Storefront Doors at Front Lobby


Science Room Emergency Shower


Damaged Ceiling Grid at Hallway


Typical Roof Condition


Stage Lighting


Roof Facing Faculty Parking


Fuel Oil Storage Tank


Inceniator

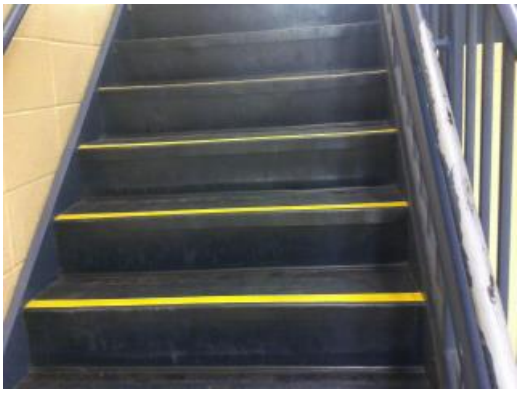

Main Switchboard


Hot Water Expansion tanks


Girls Showers

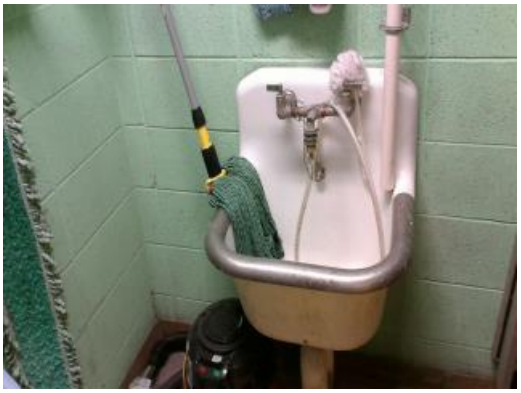

Main Switchboard


Storage Room 219


Interior Stairwell


Boys Showers


Art Room Closet


Second Floor Custodial Closet


Sink in Room 164


Boys Restroom Near Gym

Facility Condition Assessment

North Kingstown - Fishing Cove Elementary School | *June 2017*

110 Wickford Point Road, North Kingstown, RI 02852

Introduction

Fishing Cove Elementary School, located at 110 Wickford Point Road in North Kingstown, Rhode Island, was built in 1957. It comprises 46,160 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.

Fishing Cove Elementary School serves grades PK - 5, has 28 instructional spaces, and has an enrollment of 304. Instructional spaces are defined as rooms in which a student receives education. The LEA reported capacity for Fishing Cove Elementary School is 335 with a resulting utilization of 91%.

For master planning purposes a 5-year need was developed to provide an understanding of the current need as well as the projected needs in the near future. For Fishing Cove Elementary School the 5-year need is $6,237,381. 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.

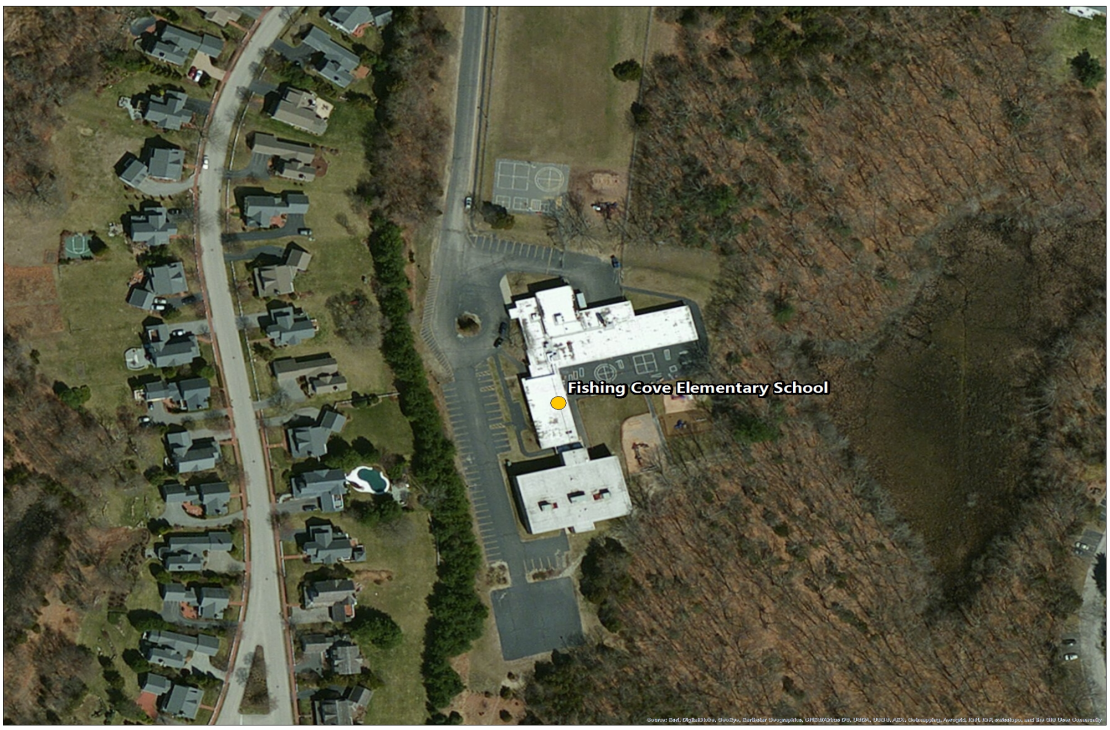


Figure 1: Aerial view of Fishing Cove Elementary School

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 Fishing Cove Elementary 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
	Concrete Pedestrian Pavement

Building Envelope

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

01 - Main Building:	CMU Exterior Wall
	Aluminum Exterior Windows
	Storefront / Curtain Wall
	Steel Exterior 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:	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
	Wood Ceilings
	Ceramic Tile Wall
	Interior Wall Painting
	Concrete Flooring
	Ceramic Tile Flooring
	Rubber Tile 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
	Finned Wall Radiator
	Steam/Hot Water Heating Unit Vent
	Radiant Steam Heater
	DDC Heating System Controls
	Window Units
	2-Pipe Hot Water Hydronic Distribution System
	1 HP or Smaller Pump
	Ductwork
	10 Ton DX Gas Roof Top Unit
	20 Ton DX Gas Roof Top Unit
	25 Ton DX Gas Roof Top Unit
	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:	
	Gas Piping System
	100 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

Electrical

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

01 - Main Building:	1,200 Amp Switchgear
	Panelboard - 120/208 100A
	Panelboard - 120/208 225A
	Panelboard - 120/208 400A

01 - Main Building:	1600 Amp Distribution Panel
	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	-	-	$302,957	$356,953	$149,949	$809,859	17.48 %
Roofing	-	$390,088	-	-	-	$390,088	8.42 %
Structural	$9,507	-	-	-	-	$9,507	0.21 %
Exterior	-	-	-	-	-	$0	0.00 %
Interior	-	-	$304,587	$341,498	$27,817	$673,902	14.54 %
Mechanical	-	$959,909	-	-	-	$959,909	20.72 %
Electrical	-	$251,958	$28,521	-	$17,866	$298,344	6.44 %
Plumbing	-	-	$142,635	$82,104	$19,226	$243,965	5.26 %
Fire and Life Safety	-	-	-	-	-	$0	0.00 %
Technology	-	-	$1,015,344	-	-	$1,015,344	21.91 %
Conveyances	-	-	-	-	-	$0	0.00 %
Specialties	-	-	$9,127	$223,756	-	$232,883	5.03 %
Total	$9,507	$1,601,955	$1,803,171	$1,004,311	$214,857	$4,633,801	

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

The building systems with the most need include:

Technology	-	$1,015,344
Mechanical	-	$959,909
Site	-	$809,859

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

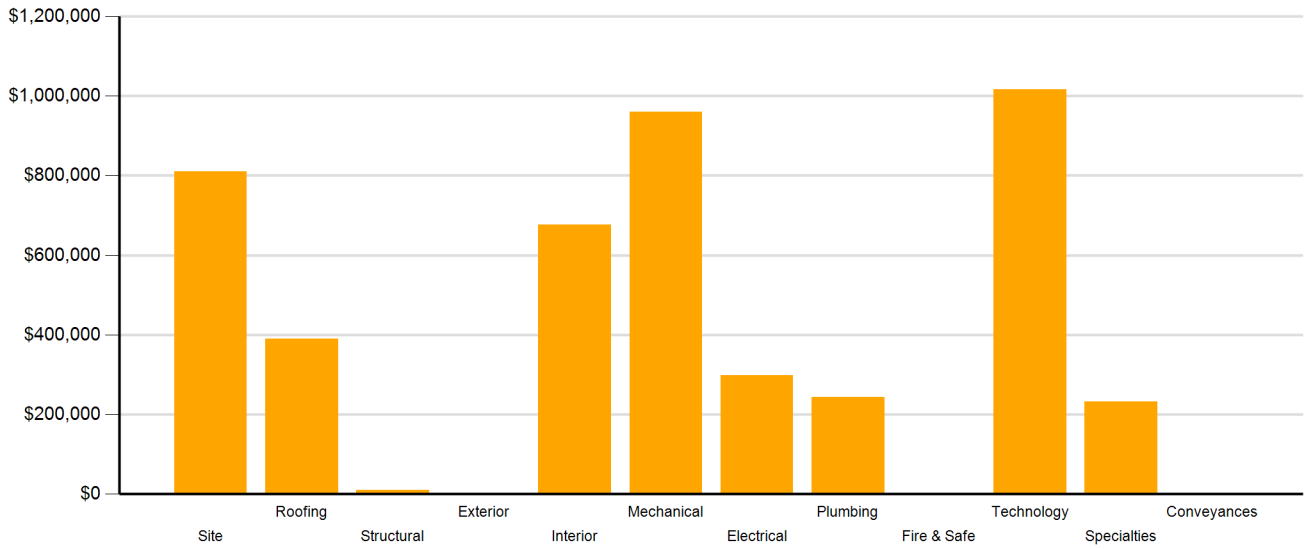


Figure 2: System Deficiencies

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	-	-	-	$51,385	-	$51,385
Barrier to Accessibility	-	-	$111,549	-	-	$111,549
Capital Renewal	$9,507	$1,601,955	$477,911	$634,484	$150,226	$2,874,083
Code Compliance	-	-	-	-	-	$0
Educational Adequacy	-	-	$31,943	$284,463	$64,632	$381,039
Functional Deficiency	-	-	$28,521	-	-	$28,521
Hazardous Material	-	-	-	$33,978	-	$33,978
Technology	-	-	$992,528	-	-	$992,528
Traffic	-	-	$160,719	-	-	$160,719
Total	$9,507	$1,601,955	$1,803,171	$1,004,311	$214,857	$4,633,801

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

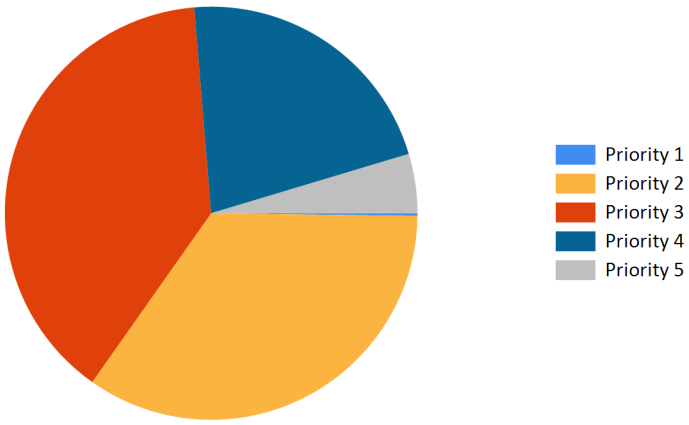


Figure 3: Current deficiencies by priority

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	$809,859	$0	$0	$0	$25,859	$38,964	$64,823	$874,682
Roofing	$390,088	$0	$0	$0	$0	$0	$0	$390,088
Structural	$9,507	$0	$0	$0	$0	$0	$0	$9,507
Exterior	$0	$0	$0	$0	$0	$0	$0	$0
Interior	$673,902	$0	$0	$720,627	$0	$3,736	$724,363	$1,398,265
Mechanical	$959,909	$0	$0	$794,996	$0	$0	$794,996	$1,754,905
Electrical	$298,344	$0	$0	$0	$0	$0	$0	$298,344
Plumbing	$243,965	$0	$0	$0	$0	$14,755	$14,755	$258,720
Fire and Life Safety	$0	$0	$0	$0	$0	$0	$0	$0
Technology	$1,015,344	$0	$0	$0	$0	$0	$0	$1,015,344
Conveyances	$0	$0	$0	$0	$0	$0	$0	$0
Specialties	$232,883	$0	$0	$0	$0	$0	$0	$232,883
Total	**$4,633,801**	**$0**	**$0**	**$1,515,623**	**$25,859**	**$57,455**	**$1,598,937**	**$6,232,738**

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

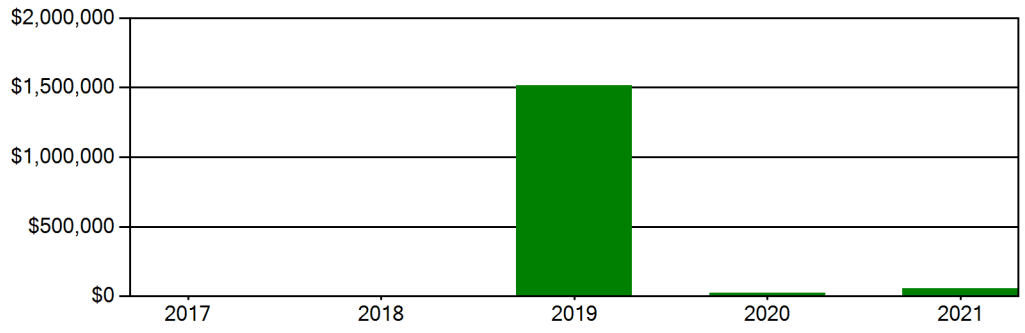
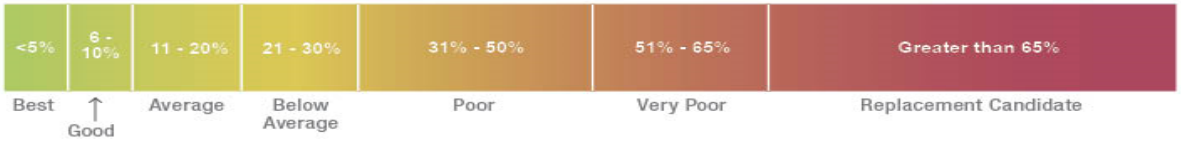


Figure 4: Life Cycle Capital Renewal Forecast

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 $16,156,000. For planning purposes, the total 5-year need at the Fishing Cove Elementary School is $6,237,381 (Life Cycle Years 1-5 plus the FCI deficiency cost). The Fishing Cove Elementary School facility has a 5-year FCI of 38.58%.

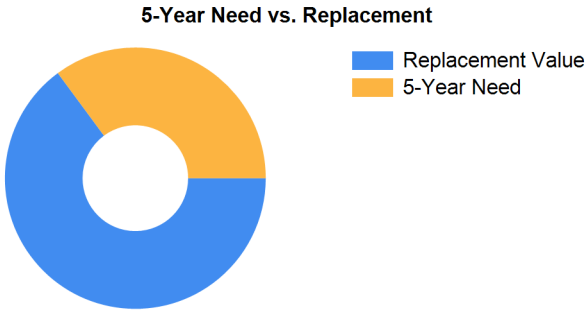


Figure 5: 5-Year FCI

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 256 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 Fishing Cove Elementary School cafeteria and/or library/media center to the size prescribed by the SCRs is estimated to be $158,760.

Summary of Findings

The Fishing Cove Elementary School comprises 46,160 square feet and was constructed in 1957. Current deficiencies at this school total $4,638,444. Five year capital renewal costs total $1,598,937. The total identified need for the Fishing Cove Elementary School (current deficiencies and 5-year capital renewal costs) is $6,237,381. The 5-year FCI is 38.58%.

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
Fishing Cove Elementary School Totals	46,160	1957	$4,638,444	$1,598,937	$6,237,381	38.58%

**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	16,758	SF	3	$142,238	16317
Note: Asphalt walkways are weathered and cracking.						
Install New Paving	Traffic	7,300	SF	3	$151,654	16889
Note: Add parking spaces along driveway into campus (about 50 spaces), paving required						
Traffic Signage Is Required	Traffic	4	Ea.	3	$9,065	16891
Note: Upgrade signs, add school zone signs, add flashing beacon						
Asphalt Paving Requires Replacement	Capital Renewal	100	CAR	4	$328,624	16318
Note: Asphalt parking lot is weathered and cracking.						
Backstops Require Replacement	Educational Adequacy	1	Ea.	4	$28,329	28507
Note: Backstops Require Replacement						
Exterior Basketball Goals are Required	Educational Adequacy	1	Ea.	5	$5,807	28759
Note: Exterior Basketball Goals are Required						
Paving Requires Restriping	Capital Renewal	50	CAR	5	$2,833	16890
Note: Add parking lot striping						
The School Has Insufficient Parking	Capital Renewal	43	CAR	5	$141,308	11807
Note: Principal identified a need for additional parking during the interview with the assessment team.						
	Sub Total for System	**8**	**items**		**$809,859**	
	Sub Total for School and Site Level	**8**	**items**		**$809,859**	

Building: 01 - Main Building

Roofing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
EPDM Roofing Requires Replacement (Bldg SF)	Capital Renewal	30,851	SF	2	$390,088	11822
	Sub Total for System	**1**	**items**		**$390,088**	

Structural

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Foundation Study Recommended	Capital Renewal	1	Job	1	$9,507	11818
Note: There is a crack on the second floor of the 1971 addition that should be further reviewed.						
	Sub Total for System	**1**	**items**		**$9,507**	

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Carpet Flooring Requires Replacement	Capital Renewal	14,000	SF	3	$304,587	11809
Note: Carpet is worn and tearing.						
Location: 1st and 2nd floor 1971 addition						
Light Deterioration or Damage of 9x9 Asbestos Floor Tile is Present	Hazardous Material	600	SF	4	$17,113	Rollup
Paint (probable pre-1978 in base layer(s)) - damaged area < 9 sq. ft. OR overall worn AND in children-accessible area (measurement unit - each)	Hazardous Material	5	Ea.	4	$1,426	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	100	LF	4	$2,282	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	1,384	SF	4	$13,158	Rollup
Room Is Excessively Reverberant	Acoustics	2,300	SF	4	$51,385	19844
Note: Gym						
Room Lighting Is Inadequate Or In Poor Condition.	Educational Adequacy	6,722	SF	4	$256,135	Rollup
Classroom Door Requires Vision Panel	Educational Adequacy	8	Ea.	5	$18,253	Rollup
Room lacks appropriate sound control.	Educational Adequacy	100	SF	5	$3,480	Rollup
The Concrete Flooring Requires Repair Or Repainting	Capital Renewal	800	SF	5	$6,084	11811
Note: Floor paint is peeling or chipped.						
Location: Storage and boiler rooms						
	Sub Total for System	**10**	**items**		**$673,902**	

Mechanical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Replace Unit Vent	Capital Renewal	50	Ea.	2	$845,740	16316
The Radiant Heat HVAC Component Requires Replacement	Capital Renewal	15	Ea.	2	$114,169	11824
	Sub Total for System	**2**	**items**		**$959,909**	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Switchgear Is Needed Or Requires Replacement	Capital Renewal	1	Ea.	2	$69,059	12029
The Distribution Panel Requires Replacement	Capital Renewal	2	Ea.	2	$103,816	12030
The Electrical Disconnect Requires Replacement	Capital Renewal	3	Ea.	2	$5,499	12033
The Panelboard Requires Replacement	Capital Renewal	8	Ea.	2	$38,788	12031
The Panelboard Requires Replacement	Capital Renewal	6	Ea.	2	$34,796	12032
The Electrical Receptacles Are Inadequate And More are Needed	Functional Deficiency	50	Ea.	3	$28,521	11826
Room Has Insufficient Electrical Outlets	Educational Adequacy	36	Ea.	5	$17,866	Rollup
	Sub Total for System	**7**	**items**		**$298,344**	

Plumbing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Domestic Water Piping Requires Repair	Capital Renewal	1,000	LF	3	$6,959	11817
Note: Water piping damaged at front of building due to tree.						
Sewer System Requires Investigation	Capital Renewal	1	LS	3	$9,507	11825
Note: During the interview, staff noted that they smell sewage throughout the building.						
The Restroom Is Not ADA Compliant	Barrier to Accessibility	400	SF	3	$111,549	11814
Note: Faculty toilet rooms do not have the adequate space or grab bars at toilets. Main student restrooms by the main office are not accessible.						
The Urinal Plumbing Fixtures Require Replacement	Capital Renewal	11	Ea.	3	$14,620	16315
Non-Refrigerated Drinking Fountain Requires Replacement	Capital Renewal	1	Ea.	4	$10,220	16312
The Refrigerated Water Cooler Requires Repair	Capital Renewal	2	Ea.	4	$1,901	11816
The Restroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	22	Ea.	4	$69,983	16313
Room lacks a drinking fountain.	Educational Adequacy	11	Ea.	5	$12,131	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	**9**	**items**		**$243,965**	

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	48	Ea.	3	$22,817	18275
Technology: Classroom AV/Multimedia systems are inadequate and/or near end of useful life.	Technology	22	Ea.	3	$439,222	18279
Technology: Classroom AV/Multimedia systems are inadequate and/or near end of useful life.	Technology	1	Ea.	3	$19,965	18280
Technology: Instructional spaces do not have local sound reinforcement.	Technology	23	Ea.	3	$109,330	18283
Technology: Intermediate Telecommunications Room grounding system is inadequate or non-existent.	Technology	1	Ea.	3	$5,324	18271
Technology: Intermediate Telecommunications Room is not dedicated and/or inadequate.	Technology	1	Ea.	3	$45,253	18270
Technology: Intermediate Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	$4,753	18272
Technology: Main Telecommunications Room ground system is inadequate or non-existent.	Technology	1	Ea.	3	$6,655	18268
Technology: Main Telecommunications Room is not dedicated. Room requires partial walls and/or major improvements.	Technology	1	Ea.	3	$42,591	18267

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Technology: Network cabling infrastructure is outdated (Cat 5 or less) and/or does not meet standards.	Technology	112	Ea.	3	$47,915	18274
Technology: Network system inadequate and/or near end of useful life	Technology	3	Ea.	3	$22,817	18281
Technology: Network system inadequate and/or near end of useful life	Technology	24	Ea.	3	$114,084	18282
Technology: Special Space AV/Multimedia system is inadequate.	Technology	1	Ea.	3	$54,190	18276
Technology: Telecommunications Room (large size room) needs dedicated cooling system improvements.	Technology	1	Ea.	3	$7,606	18269
Technology: Telecommunications Room (small size room) needs dedicated cooling system improvements.	Technology	1	Ea.	3	$4,753	18273
Technology: Telephone handsets are inadequate and sparsely deployed throughout the campus.	Technology	25	Ea.	3	$38,028	18277
Technology: Telephone system is inadequate and/or non-existent.	Technology	1	Ea.	3	$7,225	18278
	Sub Total for System	**18**	**items**		**$1,015,344**	

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	20	Room	4	$223,756	11823
Note: Casework is old with peeling laminate. Some shows evidence of water damage.						
	Sub Total for System	**2**	**items**		**$232,883**	
	Sub Total for Building 01 - Main Building	**50**	**items**		**$3,823,943**	
	Total for Campus	**58**	**items**		**$4,633,801**	

Fishing Cove Elementary 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 (4 Ft)		400	LF	$25,859	4
Pedestrian Pavement	Sidewalks - Brick		63	SF	$6,588	5
Pedestrian Pavement	Sidewalks - Concrete		1,584	SF	$32,376	5
		Sub Total for System	**3**	**items**	**$64,824**	
		Sub Total for Building -	**3**	**items**	**$64,824**	

Building: 01 - Main Building

Interior

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Interior Operable Partitions	Moveable Partitions (Major)		80	SF Wall	$9,241	3
Wall Painting and Coating	Painting/Staining (Bldg SF)		44,660	SF	$295,084	3
Specialty Suspended Ceilings	Ceiling - Wood		11,600	SF	$77,197	3
Resilient Flooring	Vinyl Composition Tile Flooring		29,560	SF	$339,105	3
Resilient Flooring	Rubber Tile Flooring		200	SF	$3,736	5
		Sub Total for System	**5**	**items**	**$724,362**	

Mechanical

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Decentralized Heating Equipment	Heating Unit Vent - Steam/Hot water		47	Ea.	$794,996	3
		Sub Total for System	**1**	**items**	**$794,996**	

Plumbing

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Plumbing Fixtures	Refrigerated Drinking Fountain		2	Ea.	$14,755	5
		Sub Total for System	**1**	**items**	**$14,755**	
		Sub Total for Building 01 - Main Building	**7**	**items**	**$1,534,113**	
		Total for: Fishing Cove Elementary School	**10**	**items**	**$1,598,936**	

Supporting Photos

Site Aerial

Front Entrance

Plaque

Music Room


Worn And Tearing Carpet


9x9 VCT


Worn Floor Paint


Rusted Toilet Partition


Inaccessible Urinal


Inaccessible Toilet


VCT Crack


Evidence Of Ponding On Roof


Damaged Drinking Fountain

Electrical Panels


Open Classroom


Gym/Cafeteria


Library


Typical 1961 Classroom


Cracked Asphalt Walkway


Alligatored Asphalt Pavement


Weathered Asphalt Parking

Facility Condition Assessment

North Kingstown - Forest Park Elementary School | *June 2017*

50 Woodlawn Drive, North Kingstown, RI 02852

Introduction

Forest Park Elementary School, located at 50 Woodlawn Drive in North Kingstown, Rhode Island, was built in 1962. It comprises 31,872 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.

Forest Park Elementary School serves grades KG - 5, has 22 instructional spaces, and has an enrollment of 256. Instructional spaces are defined as rooms in which a student receives education. The LEA reported capacity for Forest Park Elementary School is 275 with a resulting utilization of 93%.

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 Forest Park Elementary School the 5-year need is $8,635,998. 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 Forest Park 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 Forest Park 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

Building Envelope

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

01 - Main Building:	CMU Exterior Wall
	Painted Exterior Wall
	Aluminum Exterior Windows
	Steel Exterior Entrance Doors
02 - Shed:	Wood Siding Exterior Wall
	Wood Exterior Doors

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

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

Interior

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

01 - Main Building:	Wood Interior Doors
	Steel Interior Doors
	Overhead Interior Coiling Doors
	Interior Door Hardware
	Door Hardware
	Suspended Acoustical Grid System
	Suspended Acoustical Ceiling Tile
	Ceramic Tile Wall
	Interior Wall Painting
	Concrete Flooring
	Ceramic Tile Flooring
	Vinyl Composition Tile Flooring
	Carpet
02 - Shed:	Wood Ceilings
	Interior Wall Painting

02 - Shed:	Wood Flooring

Mechanical

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

01 - Main Building:	2,400 MBH Copper Tube Boiler
	Steam/Hot Water Heating Unit Vent
	Fin Tube Water Radiant Heater
	DDC Heating System Controls
	1 Ton Ductless Split System
	2 Ton Ductless Split System
	3 Ton Ductless Split System
	Window Units
	1,000 CFM Energy Recovery Unit
	10,000 CFM Energy Recovery Unit
	2-Pipe Hot Water Hydronic Distribution System
	5 HP Pump
	Ductwork
	Laboratory Fume Hood
	Roof Exhaust Fan
	Fire Sprinkler System

Plumbing

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

01 - Main Building:	2" Backflow Preventers
	4" Backflow Preventers
	Gas Piping System
	80 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 (1/2 hp)

Electrical

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

01 - Main Building:	600 Amp Switchgear

01 - Main Building:	Panelboard - 120/208 100A
	Panelboard - 120/208 125A
	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	-	-	$70,737	$544,269	-	$615,006	15.46 %
Roofing	-	-	-	-	-	$0	0.00 %
Structural	-	-	-	$11,408	-	$11,408	0.29 %
Exterior	-	-	-	$423,410	-	$423,410	10.65 %
Interior	-	-	$34,810	$132,567	$17,170	$184,547	4.64 %
Mechanical	-	$1,279,909	$4,814	$285,034	-	$1,569,758	39.47 %
Electrical	-	$235,397	$11,941	-	$1,985	$249,323	6.27 %
Plumbing	-	$48,552	$13,291	$128,306	$13,303	$203,452	5.12 %
Fire and Life Safety	-	-	-	-	-	$0	0.00 %
Technology	-	-	$485,616	-	-	$485,616	12.21 %
Conveyances	-	-	-	-	-	$0	0.00 %
Specialties	-	-	-	$234,944	-	$234,944	5.91 %
Total	$0	$1,563,858	$621,209	$1,759,939	$32,458	$3,977,464	

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

The building systems with the most need include:

Mechanical	-	$1,569,758
Site	-	$615,006
Technology	-	$485,616

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

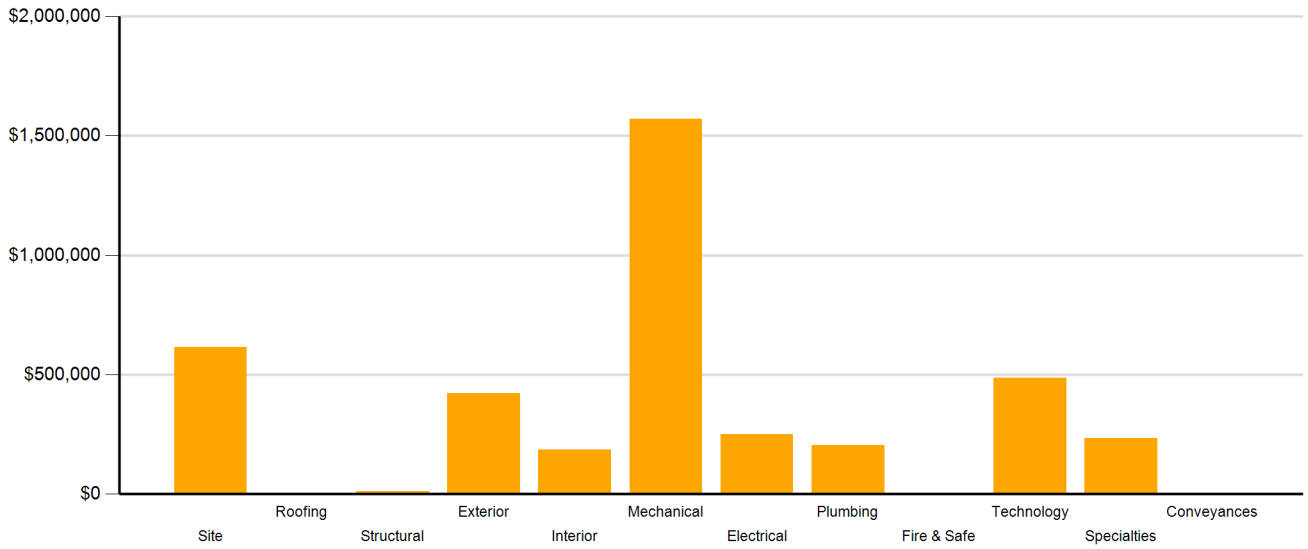


Figure 2: System Deficiencies

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	-	-	-	$85,563	-	$85,563
Barrier to Accessibility	-	-	-	-	-	$0
Capital Renewal	-	$1,563,858	$131,060	$1,634,624	$11,408	$3,340,951
Code Compliance	-	-	-	-	-	$0
Educational Adequacy	-	-	-	$35,759	$21,049	$56,808
Functional Deficiency	-	-	-	-	-	$0
Hazardous Material	-	-	-	$3,993	-	$3,993
Technology	-	-	$485,616	-	-	$485,616
Traffic	-	-	$4,533	-	-	$4,533
Total	$0	$1,563,858	$621,209	$1,759,939	$32,458	$3,977,464

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

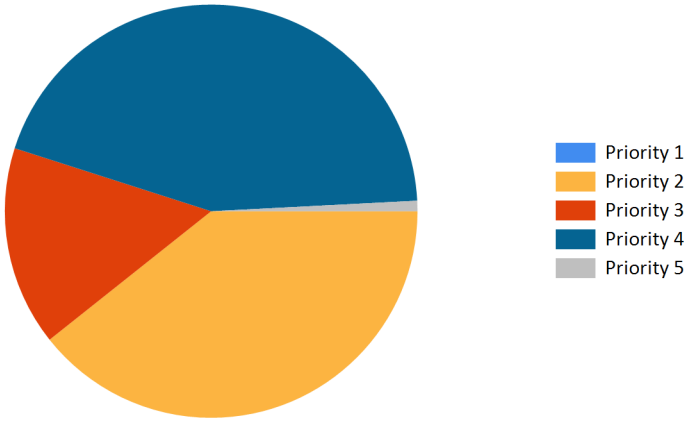


Figure 3: Current deficiencies by priority

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	$615,006	$0	$0	$44,588	$0	$0	$44,588	$659,594
Roofing	$0	$0	$0	$0	$0	$1,711	$1,711	$1,711
Structural	$11,408	$0	$0	$0	$0	$0	$0	$11,408
Exterior	$423,410	$0	$0	$0	$0	$18,446	$18,446	$441,856
Interior	$184,547	$0	$0	$784,435	$209,862	$2,196,810	$3,191,107	$3,375,654
Mechanical	$1,569,758	$0	$0	$850,084	$57,958	$140,853	$1,048,895	$2,618,653
Electrical	$249,323	$0	$0	$0	$3,898	$0	$3,898	$253,221
Plumbing	$203,452	$0	$0	$0	$255,956	$0	$255,956	$459,408
Fire and Life Safety	$0	$0	$0	$93,241	$0	$0	$93,241	$93,241
Technology	$485,616	$0	$0	$0	$0	$0	$0	$485,616
Conveyances	$0	$0	$0	$0	$0	$0	$0	$0
Specialties	$234,944	$0	$0	$0	$0	$0	$0	$234,944
Total	**$3,977,464**	**$0**	**$0**	**$1,772,348**	**$527,674**	**$2,357,820**	**$4,657,842**	**$8,635,306**

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

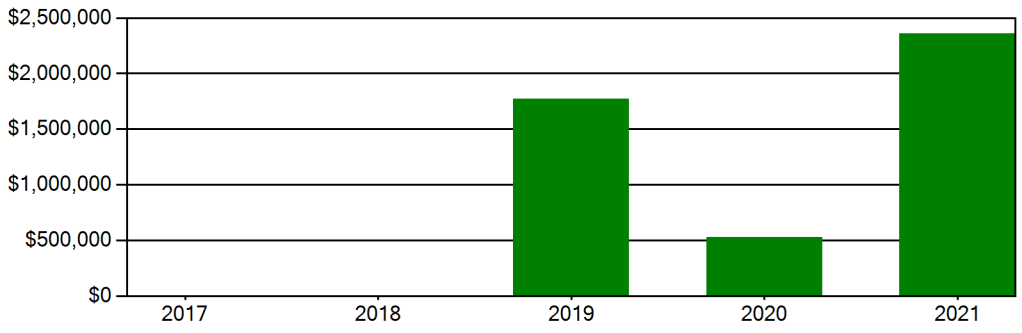
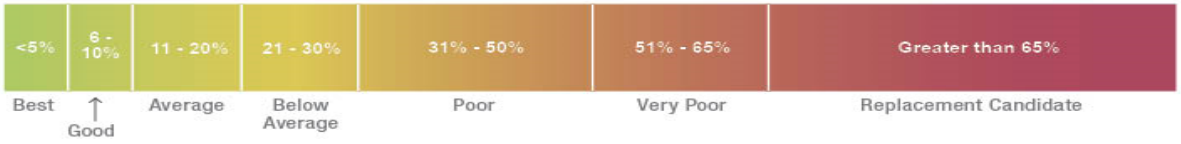


Figure 4: Life Cycle Capital Renewal Forecast

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 $11,155,200. For planning purposes, the total 5-year need at the Forest Park Elementary School is $8,635,998 (Life Cycle Years 1-5 plus the FCI deficiency cost). The Forest Park Elementary School facility has a 5-year FCI of 77.41%.

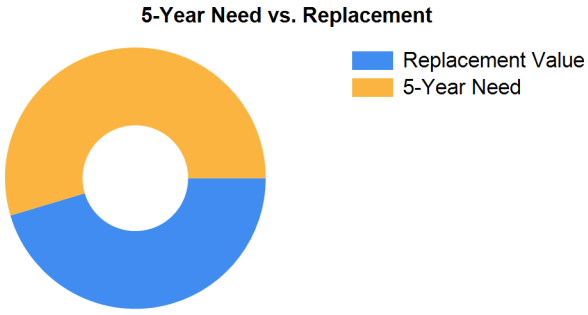


Figure 5: 5-Year FCI

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 177 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 Forest Park Elementary School cafeteria and/or library/media center to the size prescribed by the SCRs is estimated to be $485,352.

Summary of Findings

The Forest Park Elementary School comprises 31,872 square feet and was constructed in 1962. Current deficiencies at this school total $3,978,156. Five year capital renewal costs total $4,657,842. The total identified need for the Forest Park Elementary School (current deficiencies and 5-year capital renewal costs) is $8,635,998. The 5-year FCI is 77.41%.

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
Forest Park Elementary School Totals	31,872	1962	$3,978,156	$4,657,842	$8,635,998	77.41%

**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	7,800	SF	3	$66,205	11207
Traffic Signage Is Required	Traffic	2	Ea.	3	$4,533	11675
Note: Add school zone signs on Woodlawn Drive and Paula Drive.						
Asphalt Paving Requires Replacement	Capital Renewal	32	CAR	4	$105,160	11204
Asphalt Paving Requires Replacement	Capital Renewal	43	CAR	4	$141,308	11205
Note: Asphalt roadway is cracked and splitting.						
Asphalt Paving Requires Replacement	Capital Renewal	82	CAR	4	$269,472	11206
Note: Paved play area asphalt is cracked and splitting.						
Backstops Require Replacement	Educational Adequacy	1	Ea.	4	$28,329	28509
Note: Backstops Require Replacement						
	Sub Total for System	**6**	**items**		**$615,006**	
	Sub Total for School and Site Level	**6**	**items**		**$615,006**	

Building: 01 - Main Building

Structural

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Steel Beam Requires Repainting	Capital Renewal	1,000	SF	4	$11,408	11219
Note: Beams at canopies have paint peeling.						
	Sub Total for System	**1**	**items**		**$11,408**	

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Exterior Requires Painting (Bldg SF)	Capital Renewal	31,812	SF	4	$423,410	11227
Note: Exterior walls are stained with paint peeling.						
	Sub Total for System	**1**	**items**		**$423,410**	

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Carpet Flooring Requires Replacement	Capital Renewal	1,600	SF	3	$34,810	11210
Location: In library and one classroom						
Ceiling Grid Requires Replacement	Capital Renewal	3,000	SF	4	$35,582	11229
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	$856	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	50	LF	4	$1,141	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	210	SF	4	$1,996	Rollup
Room Is Excessively Reverberant (Install Fiberglass Wall Panel)	Acoustics	1,500	SF	4	$85,563	19766
Note: Gym						
Room Lighting Is Inadequate Or In Poor Condition.	Educational Adequacy	195	SF	4	$7,430	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 Concrete Flooring Requires Repair Or Repainting	Capital Renewal	1,500	SF	5	$11,408	11211
Note: Painted flooring						
Location: In mechanical and janitor rooms						
	Sub Total for System	**10**	**items**		**$184,547**	

Mechanical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Ductwork Requires Replacement (SF Basis)	Capital Renewal	31,812	SF	2	$467,673	11224
Replace Unit Vent	Capital Renewal	4	Ea.	2	$67,659	11231
Note: Heating units are aged with clogged coils and damaged motors and fans.						

Mechanical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Radiant Heat HVAC Component Requires Replacement	Capital Renewal	93	Ea.	2	$707,849	11232
Note: Radiant heaters having clogged coils and damaged casings.						
The Window AC Unit Component Requires Replacement	Capital Renewal	11	Ea.	2	$36,727	11220
Note: Window units are aged with clogged coils and damaged plastic casing.						
Air Compressor Is Inoperable And Requires Replacement	Capital Renewal	1	Ea.	3	$4,814	11217
Existing Controls Are Inadequate And Should Be Replaced With DDC Controls	Capital Renewal	31,812	SF	4	$214,881	11226
The Chemistry Lab Fume Hood(s) Require Replacement	Capital Renewal	1	Ea.	4	$28,521	11208
The Exhaust Hood Requires Replacement	Capital Renewal	8	Ea.	4	$41,633	11230
Note: Exhaust hoods have clogged blowers and damaged covers.						
	Sub Total for System	**8**	**items**		**$1,569,758**	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Switchgear Is Needed Or Requires Replacement	Capital Renewal	1	Ea.	2	$19,280	11234
Note: Connections are corroded.						
The Lighting Fixtures Require Replacement	Capital Renewal	31,812	SF	2	$189,022	11225
The Panelboard Requires Replacement	Capital Renewal	2	Ea.	2	$9,697	11221
Note: Breakers and cases are damaged.						
The Panelboard Requires Replacement	Capital Renewal	3	Ea.	2	$17,398	11222
The Mounted Building Lighting Requires Replacement	Capital Renewal	8	Ea.	3	$11,941	11212
Note: Building mounted lights have cracked and clouded covers. Fixtures are damaged and some non-functional.						
Room Has Insufficient Electrical Outlets	Educational Adequacy	4	Ea.	5	$1,985	Rollup
	Sub Total for System	**6**	**items**		**$249,323**	

Plumbing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Backflow Preventer Requires Replacement	Capital Renewal	1	Ea.	2	$3,921	11223
Note: Backflow preventer is leaking and corroded.						
The Electric Water Heater Requires Replacement	Capital Renewal	1	Ea.	2	$44,631	11233
The Urinal Plumbing Fixtures Require Replacement	Capital Renewal	10	Ea.	3	$13,291	11218
Note: Urinals are aged and stained with corroded valves.						
The Classroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	20	Ea.	4	$54,380	11209
Note: Classroom lavatories are stained with cracking enamel and corroded faucets.						
The Custodial Mop Or Service Sink Requires Replacement	Capital Renewal	4	Ea.	4	$10,306	11216
Note: Service sinks are stained, corroded, and rusting.						
The Restroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	14	Ea.	4	$44,534	11213
Note: Restroom lavatories are aged and stained.						
The Restroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	6	Ea.	4	$19,086	11214
Note: Lavatories are stained and corroded with leaking valves.						
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	5	Ea.	5	$5,583	Rollup
	Sub Total for System	**9**	**items**		**$203,452**	

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Technology: Classroom AV/Multimedia systems are inadequate and/or near end of useful life.	Technology	1	Ea.	3	$19,965	18263
Technology: Instructional spaces do not have local sound reinforcement.	Technology	22	Ea.	3	$104,577	18266
Technology: Main Telecommunications Room ground system is inadequate or non-existent.	Technology	1	Ea.	3	$6,655	18258
Technology: Main Telecommunications Room is not dedicated. Room requires partial walls and/or major improvements.	Technology	1	Ea.	3	$42,591	18257
Technology: Network cabling infrastructure is outdated (Cat 5 or less) and/or does not meet standards.	Technology	180	Ea.	3	$77,006	18259

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Technology: Network system inadequate and/or near end of useful life	Technology	3	Ea.	3	$22,817	18264
Technology: Network system inadequate and/or near end of useful life	Technology	24	Ea.	3	$114,084	18265
Technology: Special Space AV/Multimedia system is inadequate.	Technology	1	Ea.	3	$54,190	18260
Technology: Telephone handsets are inadequate and sparsely deployed throughout the campus.	Technology	24	Ea.	3	$36,507	18261
Technology: Telephone system is inadequate and/or non-existent.	Technology	1	Ea.	3	$7,225	18262
	Sub Total for System	**10**	**items**		**$485,616**	

Specialties

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Replace Cabinetry In Classes/Labs	Capital Renewal	21	Room	4	$234,944	11228
	Sub Total for System	**1**	**items**		**$234,944**	
	Sub Total for Building 01 - Main Building	**46**	**items**		**$3,362,458**	
	Total for Campus	**52**	**items**		**$3,977,464**	

Buildings with no reported deficiencies

02 - Shed

Forest Park Elementary 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	3
		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
Interior Swinging Doors	Wood		61	Door	$281,264	3
Interior Door Supplementary Components	Door Hardware		66	Door	$207,062	3
Resilient Flooring	Vinyl Composition Tile Flooring		25,812	SF	$296,109	3
Wall Painting and Coating	Painting/Staining (Bldg SF)		31,762	SF	$209,862	4
Tile Flooring	Ceramic Tile		2,100	SF	$56,393	5
Acoustical Suspended Ceilings	Exposed Tectum Ceilings		28,812	SF	$2,137,631	5
		Sub Total for System	**6**	**items**	**$3,188,321**	

Mechanical

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Facility Hydronic Distribution	2-Pipe Water System (Hot)		31,812	SF	$245,213	3
Water-Based Fire-Suppression	Fire Sprinkler System (Bldg.SF)		31,812	SF	$604,871	3
Decentralized Cooling	Ductless Split System (1 Ton)		1	Ea.	$14,116	4
Decentralized Cooling	Ductless Split System (3 Ton)		3	Ea.	$23,347	4
Decentralized Cooling	Ductless Split System (2 Ton)		3	Ea.	$20,495	4
Air Distribution	Energy Recovery Unit (1,000 CFM)		6	Ea.	$105,778	5
Air Distribution	Energy Recovery Unit (10,000 CFM)		1	Ea.	$35,075	5
		Sub Total for System	**7**	**items**	**$1,048,896**	

Electrical

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Power Distribution	Panelboard - 120/208 125A		1	Ea.	$3,898	4
		Sub Total for System	**1**	**items**	**$3,898**	

Plumbing

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Domestic Water Piping	Domestic Water Piping System (Bldg.SF)		31,812	SF	$255,956	4
		Sub Total for System	**1**	**items**	**$255,956**	

Fire and Life Safety

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Fire Detection and Alarm	Fire Alarm		31,812	SF	$93,241	3
		Sub Total for System	**1**	**items**	**$93,241**	
		Sub Total for Building 01 - Main Building	**16**	**items**	**$4,590,311**	

Building: 02 - Shed

Roofing

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Steep Slope Roofing	Composition Shingle		60	SF	$1,711	5
		Sub Total for System	**1**	**items**	**$1,711**	

Exterior

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Exterior Wall Veneer	Wood Siding - Bldg SF basis		60	SF	$1,799	5
Exterior Entrance Doors	Wood		2	Door	$16,647	5
		Sub Total for System	**2**	**items**	**$18,445**	

Interior

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Wood Flooring	Wood Flooring - All Types		60	SF	$1,991	5
	Note: Plywood subfloor unfinished					

Interior

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Specialty Suspended Ceilings	Ceiling - Wood		60	SF	$399	5
Wall Painting and Coating	Painting/Staining (Bldg SF)		60	SF	$396	5
		Sub Total for System	**3**	**items**	**$2,786**	
		Sub Total for Building 02 - Shed	**6**	**items**	**$22,943**	
		Total for: Forest Park Elementary School	**23**	**items**	**$4,657,842**	

Supporting Photos


Paved Play Area

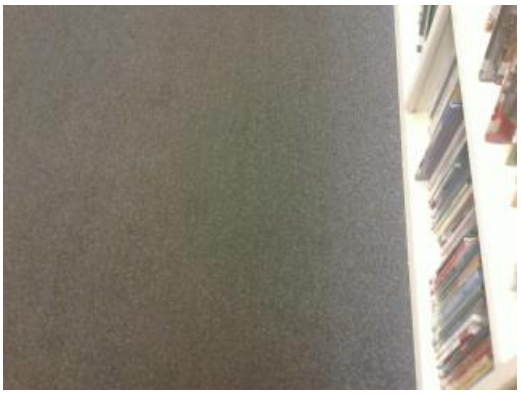

Typical Cracked Asphalt


Site Aerial


Playground

Chemistry Lab Fume Hood

Aged Classroom Lavatory

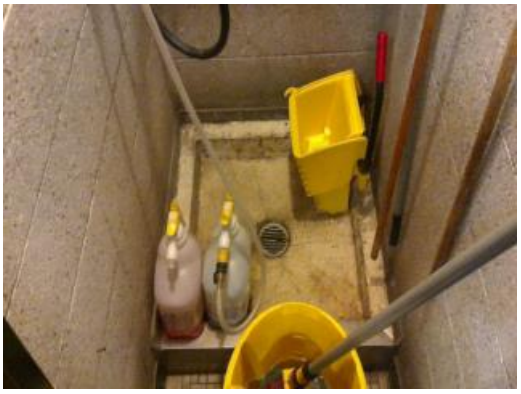


Worn And Stained Carpet

Worn Concrete Flooring

Aged Building Mounted Light

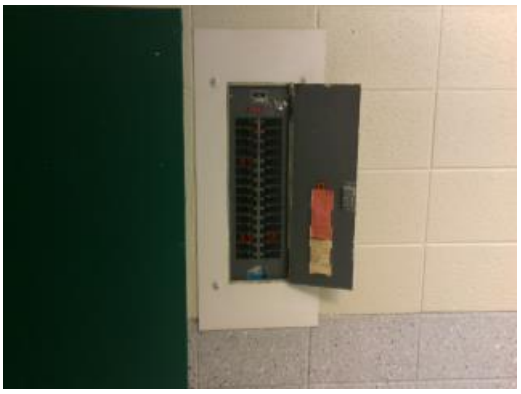
Typical Restroom Lavatory


Corroded Service Sink


Air Compressor


Paint Peeling At Canopies


Typical Window Unit


Aged Panelboard


Corroded Backflow Preventer


Lighting Fixtures


Aged Heating System Controls


Peeling Paint


Aged Casework

Stained And Broken Grid


Exhaust Hood


Rusted Radiant Heater


Water Heater


Switchgear


Pumps


Music Room


Boilers


Large Energy Recovery Unit


Front Elevation


Typical Classroom


Front Elevation

Marquee


Gym/Cafeteria


Library


Wood Shed

Facility Condition Assessment

North Kingstown - Hamilton Elementary School | *June 2017*

25 Salisbury Avenue, North Kingstown, RI 02852

Introduction

Hamilton Elementary School, located at 25 Salisbury Avenue in North Kingstown, Rhode Island, was built in 1971. It comprises 49,274 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.

Hamilton Elementary School serves grades KG - 5, has 28 instructional spaces, and has an enrollment of 346. Instructional spaces are defined as rooms in which a student receives education. The LEA reported capacity for Hamilton Elementary School is 450 with a resulting utilization of 77%.

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 Hamilton Elementary School the 5-year need is $6,991,704. 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 Hamilton 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 Hamilton 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:	CMU Exterior Wall
	E.I.F.S. Exterior Wall
	Painted Exterior Wall
	Aluminum Exterior Windows
	Storefront / Curtain Wall
	Storefront Entrance Doors
	Steel Exterior 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:	Moveable Interior Partition
	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
	Wood Ceilings
	Ceramic Tile Wall
	CMU Wall
	Interior Wall Painting
	Concrete Flooring

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

Mechanical

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

01 - Main Building:	3,264 MBH Cast Iron Water Boiler
	Steam/Hot Water Heating Unit Vent
	Fin Tube Water Radiant Heater
	Pneumatic Heating System Controls
	10 Ton Package DX Unit
	Window Units
	5 HP Pump
	2-Pipe Hot Water Hydronic Distribution System
	5,000 CFM Interior AHU
	Ductwork
	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
	200 Gallon Gas Water Heater
	Domestic Water Piping System
	Classroom Lavatories
	Lavatories
	Mop/Service Sinks
	Refrigerated Drinking Fountain
	Restroom Lavatories
	Toilets
	Urinals
	Sump Pump
	Air Compressor (5 hp)

Electrical

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

01 - Main Building:	150 kW Emergency Generator
	Automatic Transfer Switch

01 - Main Building:	600 Amp Switchgear
	800 Amp Switchgear
	Panelboard - 120/208 100A
	Panelboard - 120/208 225A
	Panelboard - 120/208 400A
	Building Mounted Lighting Fixtures
	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	-	-	$200,719	$692,922	-	$893,641	18.95 %
Roofing	-	$427,010	-	-	-	$427,010	9.06 %
Structural	-	-	-	-	-	$0	0.00 %
Exterior	-	-	-	$605,138	-	$605,138	12.84 %
Interior	-	-	$109,817	$360,948	$3,456	$474,222	10.06 %
Mechanical	-	$766,345	$11,705	$488,214	-	$1,266,264	26.86 %
Electrical	-	$46,063	-	-	-	$46,063	0.98 %
Plumbing	-	-	$23,400	$182,406	$26,210	$232,015	4.92 %
Fire and Life Safety	-	-	-	-	-	$0	0.00 %
Technology	-	-	$543,725	-	-	$543,725	11.53 %
Conveyances	-	-	-	-	-	$0	0.00 %
Specialties	-	-	$4,533	$200,024	$22,097	$226,653	4.81 %
Total	$0	$1,239,417	$893,899	$2,529,652	$51,762	$4,714,731	

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

The building systems with the most need include:

Mechanical	-	$1,266,264
Site	-	$893,641
Exterior	-	$605,138

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

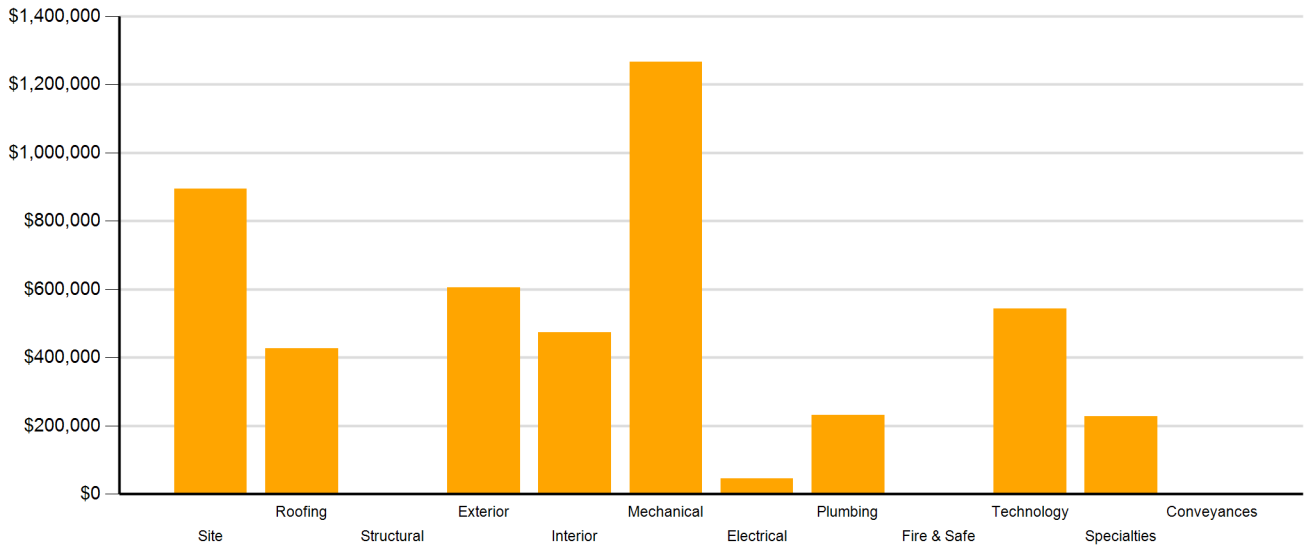


Figure 2: System Deficiencies

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	-	-	-	$77,668	-	$77,668
Barrier to Accessibility	-	-	-	-	-	$0
Capital Renewal	-	$1,239,417	$318,445	$2,280,972	-	$3,838,835
Code Compliance	-	-	-	-	-	$0
Educational Adequacy	-	-	$27,196	$28,329	$51,762	$107,287
Functional Deficiency	-	-	-	-	-	$0
Hazardous Material	-	-	-	$142,683	-	$142,683
Technology	-	-	$521,062	-	-	$521,062
Traffic	-	-	$27,196	-	-	$27,196
Total	$0	$1,239,417	$893,899	$2,529,652	$51,762	$4,714,731

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

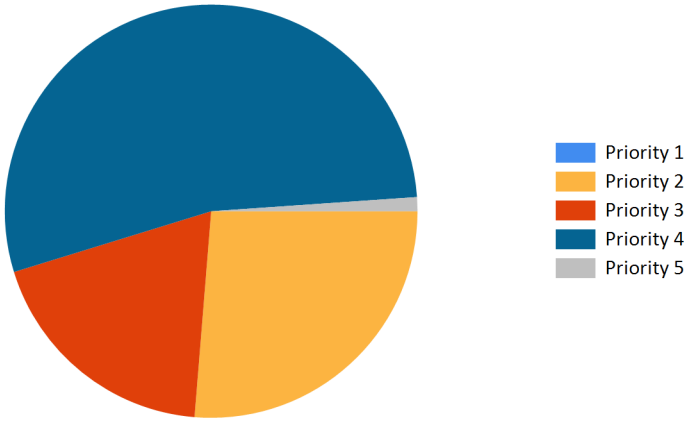


Figure 3: Current deficiencies by priority

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	$893,641	$0	$0	$0	$44,588	$0	$44,588	$938,229
Roofing	$427,010	$0	$0	$193,129	$0	$0	$193,129	$620,139
Structural	$0	$0	$0	$0	$0	$0	$0	$0
Exterior	$605,138	$0	$0	$0	$61,890	$0	$61,890	$667,028
Interior	$474,222	$0	$0	$307,705	$384,005	$599,864	$1,291,574	$1,765,796
Mechanical	$1,266,264	$0	$0	$0	$152,233	$0	$152,233	$1,418,497
Electrical	$46,063	$0	$0	$416,370	$0	$23,482	$439,852	$485,915
Plumbing	$232,015	$0	$0	$0	$0	$2,898	$2,898	$234,913
Fire and Life Safety	$0	$0	$0	$0	$0	$0	$0	$0
Technology	$543,725	$0	$0	$0	$0	$0	$0	$543,725
Conveyances	$0	$0	$0	$0	$0	$0	$0	$0
Specialties	$226,653	$0	$0	$89,502	$0	$0	$89,502	$316,156
Total	**$4,714,731**	**$0**	**$0**	**$1,006,706**	**$642,716**	**$626,244**	**$2,275,666**	**$6,990,397**

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

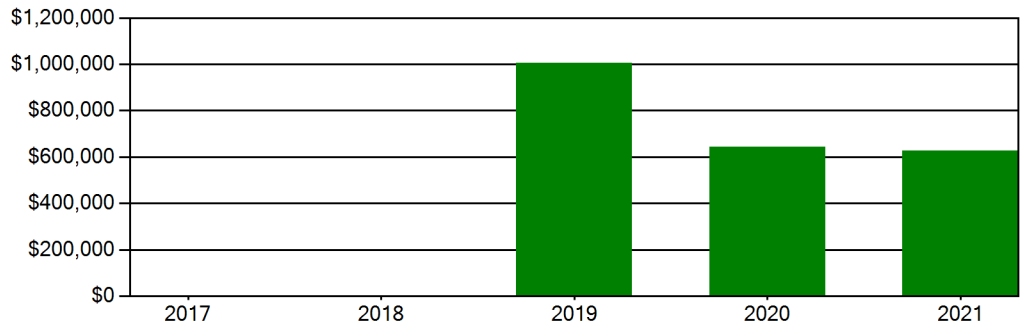
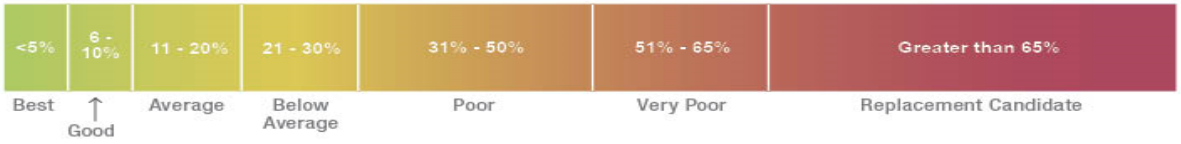


Figure 4: Life Cycle Capital Renewal Forecast

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 $17,245,900. For planning purposes, the total 5-year need at the Hamilton Elementary School is $6,991,704 (Life Cycle Years 1-5 plus the FCI deficiency cost). The Hamilton Elementary School facility has a 5-year FCI of 40.53%.

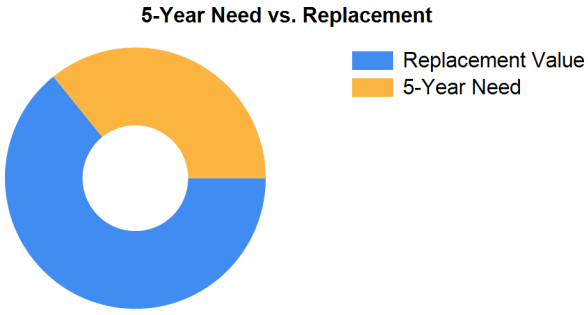


Figure 5: 5-Year FCI

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

Summary of Findings

The Hamilton Elementary School comprises 49,274 square feet and was constructed in 1971. Current deficiencies at this school total $4,716,038. Five year capital renewal costs total $2,275,666. The total identified need for the Hamilton Elementary School (current deficiencies and 5-year capital renewal costs) is $6,991,704. The 5-year FCI is 40.53%.

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
Hamilton Elementary School Totals	49,274	1971	$4,716,038	$2,275,666	$6,991,704	40.53%

**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	7,164	SF	3	$60,806	11265
Note: beyond useful life cracked & splitting						
Concrete Walks Require Replacement	Capital Renewal	5,552	SF	3	$112,716	11266
Note: beyond useful life cracked & splitting						
Crosswalk: Needs to be added	Traffic	3	Ea.	3	$2,266	11651
Note: Add crosswalks at end of each driveway along Salisbury Ave						
New Sidewalk Is Required	Traffic	900	SF	3	$20,397	11650
Note: Add sidewalks at edge of property to crosswalk at intersection (150' long x 6' wide)						
Traffic Signage Is Required	Traffic	2	Ea.	3	$4,533	11652
Note: Add school zone signage with flashing beacon on Boston Neck Ave						
Asphalt Paving Requires Replacement	Capital Renewal	71	CAR	4	$233,323	11262
Asphalt Paving Requires Replacement	Capital Renewal	89	CAR	4	$292,475	11263
Location: At play area.						
Asphalt Paving Requires Replacement	Capital Renewal	40	CAR	4	$131,450	11264
Location: At roadway.						
Backstops Require Replacement	Educational Adequacy	1	Ea.	4	$28,329	28512
Note: Backstops Require Replacement						
Fencing Requires Replacement (8' Chain Link Fence)	Capital Renewal	110	LF	4	$7,345	11261
Note: beyond useful life poles & fence rusting, poles damaged						
	Sub Total for System	**10**	**items**		**$893,641**	
	Sub Total for School and Site Level	**10**	**items**		**$893,641**	

Building: 01 - Main Building

Roofing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
EPDM Roofing Requires Replacement (Bldg SF)	Capital Renewal	34,000	SF	2	$427,010	11285
Note: Water leak at rooms 16, 17, 25, and 9.						
	Sub Total for System	**1**	**items**		**$427,010**	

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Exterior Requires Painting (Bldg SF)	Capital Renewal	45,774	SF	4	$605,138	11284
	Sub Total for System	**1**	**items**		**$605,138**	

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Carpet Flooring Requires Replacement	Capital Renewal	3,500	SF	3	$75,634	11269
The Vinyl Composition Tile Requires Replacement	Capital Renewal	3,000	SF	3	$34,183	11270
Note: Tiles lifted, faded and bubbled.						
Moveable Partitions Require Replacement	Capital Renewal	1,000	SF Wall	4	$114,732	11267
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	230	Ea.	4	$65,156	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	1,100	LF	4	$24,929	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	5,570	SF	4	$52,597	Rollup
Room Is Excessively Reverberant	Acoustics	3,500	SF	4	$77,668	19774
Note: Gym						
The Concrete Flooring Requires Replacement	Capital Renewal	2,000	SF	4	$25,865	11271
Note: Concrete paint finish is peeling and fading.						

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room lacks appropriate sound control.	Educational Adequacy	100	SF	5	$3,456	Rollup
	Sub Total for System	**9**	**items**		**$474,222**	

Mechanical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Package DX Unit Requires Replacement	Capital Renewal	2	Ea.	2	$43,936	11281
Note: Casing is rusted and coils are damaged.						
Replace Unit Vent	Capital Renewal	7	Ea.	2	$117,606	11288
Note: Coils are clogged and casing is rusted.						
The Radiant Heat HVAC Component Requires Replacement	Capital Renewal	80	Ea.	2	$604,802	11289
Note: Coils are clogged and casing is rusted.						
Air Compressor Is Inoperable And Requires Replacement	Capital Renewal	1	Ea.	3	$11,705	11282
Note: Dryer is non-functional.						
Existing Controls Are Inadequate And Should Be Replaced With DDC Controls	Capital Renewal	49,274	SF	4	$330,590	11283
Note: Pneumatic controls are leaking.						
Small HVAC Circulating Pump Requires Replacement	Capital Renewal	3	Ea.	4	$28,397	11278
Note: Pumps are rusted and seals are leaking.						
The Exhaust Hood Requires Replacement	Capital Renewal	25	Ea.	4	$129,227	11287
Note: Casings are rusting.						
	Sub Total for System	**7**	**items**		**$1,266,264**	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Switchgear Is Needed Or Requires Replacement	Capital Renewal	1	Ea.	2	$19,150	11290
Note: Replacement parts no longer available.						
The Panelboard Requires Replacement	Capital Renewal	2	Ea.	2	$9,632	11279
Note: Parts no longer available.						
The Panelboard Requires Replacement	Capital Renewal	3	Ea.	2	$17,281	11280
Note: Replacement parts not available.						
	Sub Total for System	**3**	**items**		**$46,063**	

Plumbing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Gas Water Heater Requires Replacement	Capital Renewal	1	Ea.	3	$12,839	11594
The Urinal Plumbing Fixtures Require Replacement	Capital Renewal	8	Ea.	3	$10,561	11276
Note: Stained and valves corroded.						
The Classroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	18	Ea.	4	$48,612	11268
Note: Valves corroded and substrate damaged.						
The Custodial Mop Or Service Sink Requires Replacement	Capital Renewal	3	Ea.	4	$7,677	11275
Note: Stained and rusting.						
The Refrigerated Water Cooler Requires Replacement	Capital Renewal	6	Ea.	4	$43,966	11277
Note: Compressors are non-functional.						
The Restroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	7	Ea.	4	$22,117	11272
Note: Kitchen sink and breakroom sink are stained and valves are corroded.						
The Restroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	15	Ea.	4	$47,394	11273
Note: Lavatories are stained and valves corroded.						
The Restroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	4	Ea.	4	$12,638	11595
Room lacks a drinking fountain.	Educational Adequacy	10	Ea.	5	$10,954	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	5	Ea.	5	$5,090	Rollup
	Sub Total for System	**11**	**items**		**$232,015**	

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room lacks Interactive White Board	Educational Adequacy	4	Ea.	3	$22,663	Rollup
Technology: Classroom AV/Multimedia systems are inadequate and/or near end of useful life.	Technology	1	Ea.	3	$19,830	18228
Technology: Instructional spaces do not have local sound reinforcement.	Technology	25	Ea.	3	$118,037	18231
Technology: Network cabling infrastructure is outdated (Cat 5 or less) and/or does not meet standards.	Technology	476	Ea.	3	$202,268	18225
Technology: Network system inadequate and/or near end of useful life	Technology	3	Ea.	3	$22,663	18229
Technology: Network system inadequate and/or near end of useful life	Technology	24	Ea.	3	$113,315	18230
Technology: Telephone handsets are inadequate and sparsely deployed throughout the campus.	Technology	25	Ea.	3	$37,772	18226
Technology: Telephone system is inadequate and/or non-existent.	Technology	1	Ea.	3	$7,177	18227
	Sub Total for System	**8**	**items**		**$543,725**	

Specialties

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room has insufficient writing area.	Educational Adequacy	1	Ea.	3	$4,533	Rollup
Replace Cabinetry In Classes/Labs	Capital Renewal	18	Room	4	$200,024	11286
Room lacks an appropriate refrigerator.	Educational Adequacy	1	Ea.	5	$8,499	Rollup
The room lacks a washer and/or dryer.	Educational Adequacy	1	Ea.	5	$13,598	Rollup
	Sub Total for System	**4**	**items**		**$226,653**	
	Sub Total for Building 01 - Main Building	**44**	**items**		**$3,821,090**	
	Total for Campus	**54**	**items**		**$4,714,731**	

Hamilton Elementary 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

Roofing

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Low-Slope Roofing	EPDM - Rubber Roofing Material		15,274	SF	$193,129	3
	Note: At original section. White PVC.					
		Sub Total for System	**1**	**items**	**$193,129**	

Exterior

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Exterior Wall Veneer	E.I.F.S. - Bldg SF basis		3,000	SF	$61,890	4
		Sub Total for System	**1**	**items**	**$61,890**	

Interior

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Wall Painting and Coating	Painting/Staining (Bldg SF)		45,274	SF	$299,141	3
Interior Swinging Doors	Steel		2	Door	$8,564	3
Resilient Flooring	Vinyl Composition Tile Flooring		33,474	SF	$384,005	4
Acoustical Suspended Ceilings	Ceilings - Acoustical Tiles		41,774	SF	$377,287	5
Acoustical Suspended Ceilings	Exposed Tectum Ceilings		3,000	SF	$222,577	5
	Note: At boiler and cafeteria.					
		Sub Total for System	**5**	**items**	**$1,291,574**	

Mechanical

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Decentralized Heating Equipment	Heating Unit Vent - Steam/Hot water		9	Ea.	$152,233	4
		Sub Total for System	**1**	**items**	**$152,233**	

Electrical

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Packaged Generator Assemblies	Emergency Generator (150 KW)		1	Ea.	$123,591	3
	Note: Natural gas fired.					
Lighting Fixtures	Light Fixtures (Bldg SF)		49,274	SF	$292,779	3
Electrical Service	Switchgear - Main Dist Panel (800 Amps)		1	Ea.	$23,482	5
		Sub Total for System	**3**	**items**	**$439,852**	

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
		Sub Total for System	**1**	**items**	**$2,898**	

Specialties

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Casework	Fixed Cabinetry		8	Room	$89,502	3
	Note: At new addition.					
		Sub Total for System	**1**	**items**	**$89,502**	
		Sub Total for Building 01 - Main Building	**13**	**items**	**$2,231,078**	
		Total for: Hamilton Elementary School	**14**	**items**	**$2,275,666**	

Supporting Photos

Site Aerial

Damaged 8' Chain Link Fence

Cracked Asphalt At Parking Lot

Cracking And Splitting At Play Area


Splitting Asphalt Play Area


Cracked Asphalt At Roadway


Cracked Asphalt


Cracking Asphalt


Cracking At Parking Lot


Cracking And Holes At Parking Lot


Music Room


Front Elevation


Gymnasium


Cafeteria


Gymnasium Exterior


Libracy

Rear Elevation

Marquee

Classroom

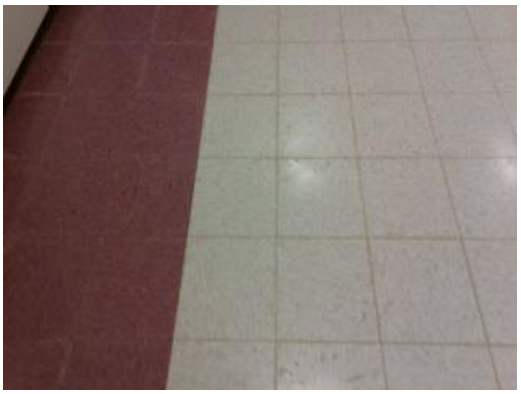
Classroom

Damaged Movable Partition At Gymnasium

Damaged Classroom Lavatory

Damaged Carpet At Library

Damaged Carpert At Classroom 22



Damaged VCT

Damaged VCT

Concrete Finish Peeling At Boiler

Stained And Rusted Mop/Service Sink


Rusted Mop/Service Sink


Stained And Corroded Flush Valves At Urinals


Refrigerated Drinking Fountain


Refrigerated Drinking Fountain


Rusted And Leaking Pump Seals


Electrical Panelboard


Electrical Panelboard


Rusted And Damaged Coils At Roof Top Unit


Rusted And Damaged Coils At Roof Top Unit


Inoperable Air Compressor


Peeling Paint At Exterior CMU Wall


Damaged EPDM Roof


Damaged Classroom Cabinet


Rusted Exahust Hood Casings


Clogged Coils And Rusted Casing At Unit Vent


Clogged Coils And Rusted Casing At Fin Tube Heater


Switchgear


Boiler


Water Heater/Boiler


Automatic Transfer Switch


Boiler


Kitchen Sink


Breakroom Sink


Restroom Lavatory 1

Restroom Lavatory 2

Elevation

Facility Condition Assessment

North Kingstown - North Kingstown Senior High School | *June 2017*

150 Fairway Drive, North Kingstown, RI 02852

Introduction

North Kingstown Senior High School, located at 150 Fairway Drive in North Kingstown, Rhode Island, was built in 2001. It comprises 259,720 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.

North Kingstown Senior High School serves grades 9 - 12, has 104 instructional spaces, and has an enrollment of 1,360. Instructional spaces are defined as rooms in which a student receives education. The LEA reported capacity for North Kingstown Senior High School is 2,660 with a resulting utilization of 51%.

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 North Kingstown Senior High School the 5-year need is $20,524,530. 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 North Kingstown Senior 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 North Kingstown Senior 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
	Clear Polycarbonate Exterior Wall
	Painted Exterior Wall
	Metal Panel Exterior Wall
	Aluminum Exterior Windows
	Storefront / Curtain Wall
	Storefront Entrance Doors
	Steel Exterior Entrance Doors
	Overhead Exterior Utility Doors
02 - Utility Building:	Brick Exterior Wall
	Steel Exterior Entrance Doors
03 - Restrooms:	Brick Exterior Wall
	Storefront / Curtain Wall
	Steel Exterior Entrance Doors
04 - Press Box:	Brick Exterior Wall
	Aluminum Exterior Windows
	Steel Exterior Entrance Doors
05 - Concession Stand:	Brick Exterior Wall
	Steel Exterior Entrance Doors
	Overhead Exterior Utility Doors
06 - Storage:	Brick Exterior Wall
	Steel Exterior Entrance Doors
07 - Utility Building 2:	Brick Exterior Wall
	Steel Exterior Entrance Doors
08 - Ticket Booth:	Brick Exterior Wall
	Aluminum Exterior Windows
	Steel Exterior Entrance Doors

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

01 - Main Building:	Clear Polycarbonate Roofing
	Metal Steep Slope Roofing
	EPDM Roofing
	Built-Up Roofing With Ballast
02 - Utility Building:	Metal Steep Slope Roofing
03 - Restrooms:	Metal Steep Slope Roofing
04 - Press Box:	Metal Steep Slope Roofing
05 - Concession Stand:	Metal Steep Slope Roofing
06 - Storage:	Metal Steep Slope Roofing
07 - Utility Building 2:	Metal Steep Slope Roofing
08 - Ticket Booth:	Metal Steep Slope 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
	Exposed Metal Structure Ceiling
	Suspended Acoustical Grid System
	Suspended Acoustical Ceiling Tile
	Non-Painted Plaster/Gypsum Board Ceiling
	Painted Ceilings
	Ceramic Tile Wall
	Interior Wall Painting
	Concrete Flooring
	Ceramic Tile Flooring
	Wood Flooring
	Vinyl Composition Tile Flooring
	Rubber Tile Flooring
	Epoxy Coated Flooring
	Carpet
	Athletic/Sport Flooring
02 - Utility Building:	Door Hardware
	CMU Wall
	Concrete Flooring
03 - Restrooms:	Painted Ceilings
	Interior Wall Painting
	Ceramic Tile Flooring

04 - Press Box:	Suspended Acoustical Grid System
	Suspended Acoustical Ceiling Tile
	CMU Wall
	Concrete Flooring
05 - Concession Stand:	Exposed Metal Structure Ceiling
	CMU Wall
	Concrete Flooring
06 - Storage:	Exposed Metal Structure Ceiling
	CMU Wall
	Concrete Flooring
07 - Utility Building 2:	Exposed Metal Structure Ceiling
	CMU Wall
	Concrete Flooring
08 - Ticket Booth:	Exposed Metal Structure Ceiling
	Interior Wall Painting
	Concrete Flooring

Mechanical

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

01 - Main Building:	1,275 MBH Cast Iron Water Boiler
	3,264 MBH Cast Iron Water Boiler
	Steam/Hot Water Heating Unit Vent
	Fin Tube Water Radiant Heater
	Radiant Water Heater
	DDC Heating System Controls
	2 Ton Ductless Split System
	10 Ton Outside Air Cooled Condenser
	Window Units
	10,000 CFM Energy Recovery Unit
	25,000 CFM Energy Recovery Unit
	Make-up Air Unit
	1 HP or Smaller Pump
	5 HP Pump
	25 HP Pump
	2-Pipe Hot Water Hydronic Distribution System
	5,000 CFM Interior AHU
	2,000 CFM Energy Recovery Unit
	Ductwork
	Kitchen Exhaust Hoods
	Laboratory Fume Hood
	Roof Exhaust Fan
	4'x8' Ventilator/Relief Vent

01 - Main Building:	Wall Exhaust Fan
	Fire Sprinkler System
02 - Utility Building:	1 HP or Smaller Pump
03 - Restrooms:	Infrared Electric Radiant Heater
	Electronic Heating System Controls
	Ductwork
	Small Roof Exhaust Fan
04 - Press Box:	Infrared Electric Radiant Heater
05 - Concession Stand:	10 kW Electric Unit Heater
	Electronic Heating System Controls
	Kitchen Exhaust Hoods
06 - Storage:	1 HP or Smaller Pump

Plumbing

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

01 - Main Building:	1,000 Gallon Water Storage Tank
	250 Gallon Water Storage Tank
	Backflow Preventers
	4" Backflow Preventers
	Gas Piping System
	66 Gallon Electric Water Heater
	100 Gallon Gas Water Heater
05 - Concession Stand:	30 Gallon Electric Water Heater
03 - Restrooms:	30 Gallon Electric Water Heater
01 - Main Building:	Domestic Water Piping System
05 - Concession Stand:	Domestic Water Piping System
03 - Restrooms:	Domestic Water Piping System
01 - Main Building:	Classroom Lavatories
	Lavatories
	Mop/Service Sinks
	Non-Refrigerated Drinking Fountain
	Refrigerated Drinking Fountain
	Restroom Lavatories
	Showers
	Toilets
	Urinals
05 - Concession Stand:	Lavatories
03 - Restrooms:	Mop/Service Sinks
	Non-Refrigerated Drinking Fountain
	Restroom Lavatories
	Toilets
	Urinals

Electrical

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

01 - Main Building:	1200 kW Emergency Generator
	Automatic Transfer Switch
	3,000 Amp Switchgear
	112.5 KVA Transformer
	225 KVA Transformer
	30 KVA Transformer
	75 KVA Transformer
	Motor Controller
	Panelboard - 120/208 100A
	Panelboard - 120/208 225A
	Panelboard - 120/208 400A
	Panelboard - 277/480 225A
	Panelboard - 277/480 400A
	3,000 Amp Distribution Panel
	400 Amp Distribution Panel
	600 Amp Distribution Panel
	800 Amp Distribution Panel
	Electrical Disconnect
	Building Mounted Lighting Fixtures
	Canopy Mounted Lighting Fixtures
	Light Fixtures
02 - Utility Building:	Panelboard - 120/208 225A
	Electrical Disconnect
	Light Fixtures
03 - Restrooms:	Panelboard - 120/208 225A
	Panelboard - 120/208 400A
	Building Mounted Lighting Fixtures
	Canopy Mounted Lighting Fixtures
	Light Fixtures
04 - Press Box:	Panelboard - 120/208 225A
	Canopy Mounted Lighting Fixtures
	Light Fixtures
05 - Concession Stand:	Panelboard - 120/208 225A
	Light Fixtures
06 - Storage:	Panelboard - 120/208 100A
	Light Fixtures
07 - Utility Building 2:	600 Amp Switchgear
	112.5 KVA Transformer
	75 KVA Transformer

07 - Utility Building 2:	Panelboard - 277/480 400A
	Electrical Disconnect
	Light Fixtures
08 - Ticket Booth:	Building Mounted Lighting Fixtures
	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	-	-	$128,147	$2,003,360	-	$2,131,507	37.19 %
Roofing	-	-	-	-	-	$0	0.00 %
Structural	$9,443	-	-	-	-	$9,443	0.16 %
Exterior	-	-	$3,506	$2,644	-	$6,150	0.11 %
Interior	-	-	$375,646	$343,899	-	$719,546	12.55 %
Mechanical	-	-	-	$283,891	-	$283,891	4.95 %
Electrical	$18,236	-	-	-	$1,972	$20,207	0.35 %
Plumbing	-	-	$5,286	$161,210	$136,853	$303,349	5.29 %
Fire and Life Safety	$169,973	-	-	-	-	$169,973	2.97 %
Technology	-	-	$1,863,472	-	-	$1,863,472	32.51 %
Conveyances	-	-	$47,215	-	-	$47,215	0.82 %
Specialties	-	-	$36,261	$30,488	$110,483	$177,231	3.09 %
Total	$197,652	$0	$2,459,533	$2,825,492	$249,307	$5,731,984	

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

The building systems with the most need include:

Site	-	$2,131,507
Technology	-	$1,863,472
Interior	-	$719,546

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

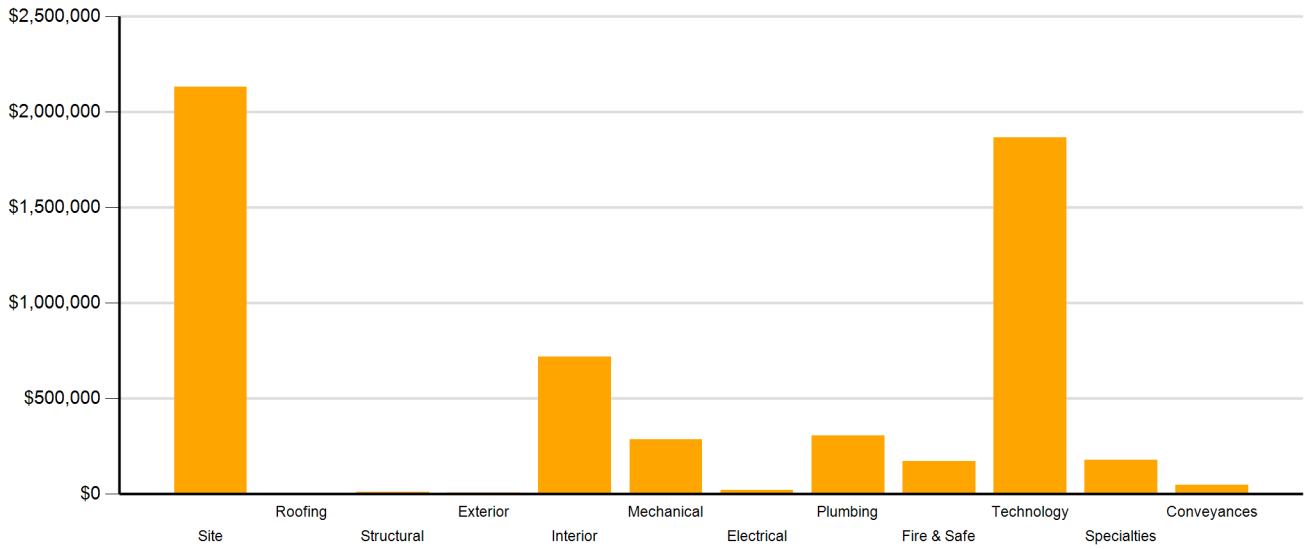


Figure 2: System Deficiencies

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	-	-	-	$226,631	-	$226,631
Barrier to Accessibility	-	-	-	-	-	$0
Capital Renewal	$9,443	-	$474,814	$2,256,153	-	$2,740,410
Code Compliance	-	-	-	-	-	$0
Educational Adequacy	$188,209	-	$104,250	$342,708	$249,307	$884,474
Functional Deficiency	-	-	-	-	-	$0
Hazardous Material	-	-	-	-	-	$0
Technology	-	-	$1,795,483	-	-	$1,795,483
Traffic	-	-	$84,987	-	-	$84,987
Total	$197,652	$0	$2,459,533	$2,825,492	$249,307	$5,731,984

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

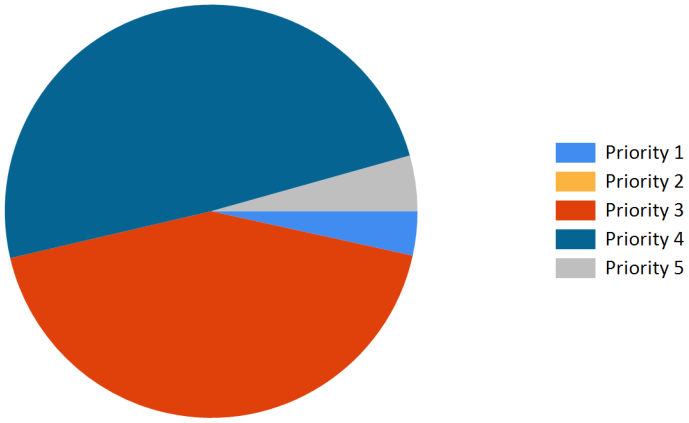


Figure 3: Current deficiencies by priority

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	$2,131,507	$0	$0	$452,935	$0	$1,450,199	$1,903,134	$4,034,641
Roofing	$0	$0	$0	$0	$0	$982,757	$982,757	$982,757
Structural	$9,443	$0	$0	$0	$0	$0	$0	$9,443
Exterior	$6,150	$0	$0	$0	$0	$15,211	$15,211	$21,361
Interior	$719,546	$0	$0	$1,640,071	$2,362,316	$233,843	$4,236,230	$4,955,776
Mechanical	$283,891	$0	$0	$111,242	$3,051,828	$2,034,709	$5,197,779	$5,481,670
Electrical	$20,207	$0	$0	$32,048	$25,156	$1,635,749	$1,692,953	$1,713,161
Plumbing	$303,349	$0	$1,867	$6,193	$0	$0	$8,060	$311,409
Fire and Life Safety	$169,973	$0	$0	$745,646	$0	$0	$745,646	$915,619
Technology	$1,863,472	$0	$0	$0	$0	$0	$0	$1,863,472
Conveyances	$47,215	$0	$0	$0	$0	$0	$0	$47,215
Specialties	$177,231	$0	$0	$0	$0	$0	$0	$177,232
Total	**$5,731,984**	**$0**	**$1,867**	**$2,988,135**	**$5,439,300**	**$6,352,468**	**$14,781,770**	**$20,513,754**

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

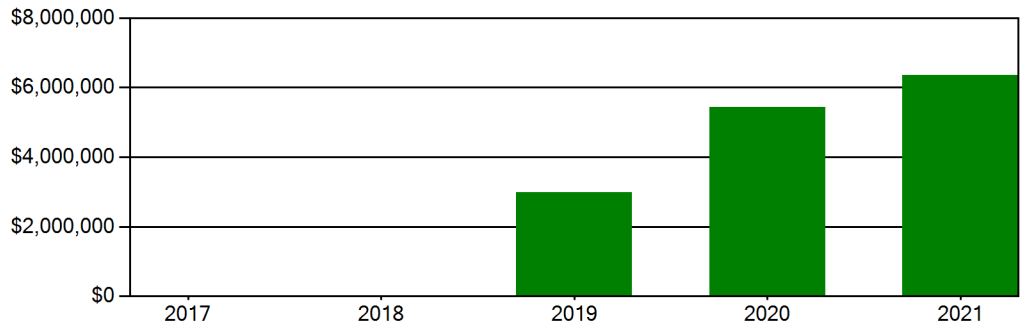
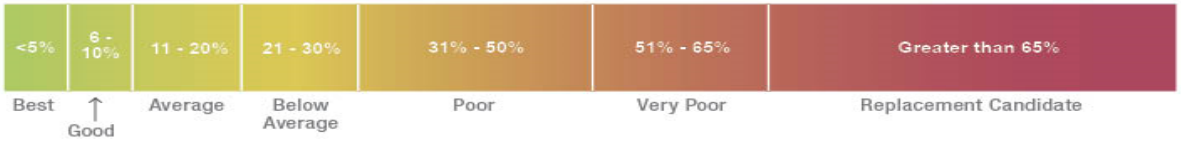


Figure 4: Life Cycle Capital Renewal Forecast

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 $93,499,200. For planning purposes, the total 5-year need at the North Kingstown Senior High School is $20,524,530 (Life Cycle Years 1-5 plus the FCI deficiency cost). The North Kingstown Senior High School facility has a 5-year FCI of 21.94%.

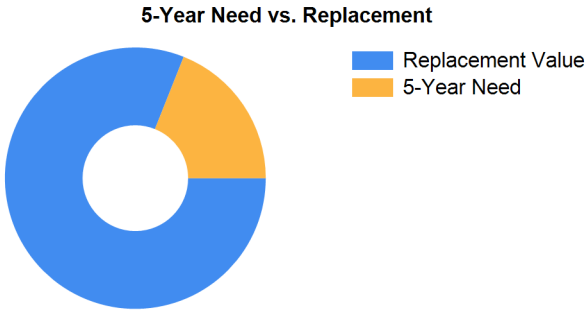


Figure 5: 5-Year FCI

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 1,404 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 North Kingstown Senior High School cafeteria and/or library/media center to the size prescribed by the SCRs is estimated to be $0.

Summary of Findings

The North Kingstown Senior High School comprises 259,720 square feet and was constructed in 2001. Current deficiencies at this school total $5,742,760. Five year capital renewal costs total $14,781,770. The total identified need for the North Kingstown Senior High School (current deficiencies and 5-year capital renewal costs) is $20,524,530. The 5-year FCI is 21.94%.

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
North Kingstown Senior High School Totals	259,720	2001	$5,742,760	$14,781,770	$20,524,530	21.94%

**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	5,085	SF	3	$43,160	11293
Note: Asphalt walks are cracked, splitting, and washed out						
Crosswalk Requires Repainting	Traffic	3	Ea.	3	$2,266	11662
Note: Repaint crosswalks across driveways						
New Sidewalk Is Required	Traffic	3,450	SF	3	$78,188	11660
Note: Add sidewalk on edge of school campus along Annaquatucket Rd (575' long x 6' wide)						
Traffic Signage Is Required	Traffic	2	Ea.	3	$4,533	11661
Note: Update school zone signs to include speed limits and flashing beacon						
Asphalt Paving Requires Replacement	Capital Renewal	270	CAR	4	$887,285	11291
Note: Asphalt roadway is cracked and splitting						
Asphalt Paving Requires Replacement	Capital Renewal	331	CAR	4	$1,087,746	11292
Note: Asphalt parking lot is cracked & splitting						
Backstops Require Replacement	Educational Adequacy	1	Ea.	4	$28,329	28508
Note: Backstops Require Replacement						
	Sub Total for System	**7**	**items**		**$2,131,507**	
	Sub Total for School and Site Level	**7**	**items**		**$2,131,507**	

Building: 01 - Main Building

Structural

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Foundation Study Recommended	Capital Renewal	1	Job	1	$9,443	11302
Note: There are cracks in the concrete slab throughout the Common Areas, Gyms, Cafeteria, Lockers and Auditorium.						
	Sub Total for System	**1**	**items**		**$9,443**	

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Exterior Requires Painting (Bldg SF)	Capital Renewal	200	SF	4	$2,644	11303
Note: Paint is peeling on columns						
	Sub Total for System	**1**	**items**		**$2,644**	

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Carpet Flooring Requires Replacement	Capital Renewal	15,700	SF	3	$339,272	11294
Note: Carpet is worn out						
The Vinyl Composition Tile Requires Replacement	Capital Renewal	300	SF	3	$3,418	11295
Note: Tiles are cracking, bubbling and lifting.						
Location: Back entrance by Gym 2 and where there is a crack on the floor.						
The Wood Flooring Requires Replacement	Capital Renewal	1,000	SF	3	$32,956	11296
Note: Scratched and stained wood flooring						
Location: Stage						
Epoxy Flooring Requires Repair Or Replacement	Capital Renewal	3,000	SF	4	$56,658	11300
Note: The epoxy floor is cracked and chipped						
Location: Kitchen						
Interior Toilet Partition Requires Repair	Capital Renewal	42	Ea.	4	$21,813	11298
Note: Partitions are scratched in restrooms						
Room Is Excessively Reverberant (Install Fiberglass Wall Panel)	Acoustics	3,000	SF	4	$169,973	19790
Note: Gyms						
Room Is Excessively Reverberant (Install Fiberglass Wall Panel)	Acoustics	1,000	SF	4	$56,658	19791
Note: Music Space						
The Concrete Flooring Requires Replacement	Capital Renewal	3,000	SF	4	$38,797	11297
Note: Concrete paint is faded and worn out.						
Location: At lockers and storage						
	Sub Total for System	**8**	**items**		**$719,546**	

Mechanical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Lab lacks an appropriate fume hood.	Educational Adequacy	13	Ea.	4	$283,891	Rollup
	Sub Total for System	**1**	**items**		**$283,891**	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room last power shut-off valves for utilities	Educational Adequacy	13	Ea.	1	$18,236	Rollup
Room Has Insufficient Electrical Outlets	Educational Adequacy	4	Ea.	5	$1,972	Rollup
	Sub Total for System	**2**	**items**		**$20,207**	

Plumbing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Gas Water Heater Requires Replacement	Capital Renewal	1	Ea.	3	$5,286	18963
The Refrigerated Water Cooler Requires Replacement	Capital Renewal	22	Ea.	4	$161,210	11299
Note: Compressors are non-functional, the units are broken.						
Room lacks a drinking fountain.	Educational Adequacy	6	Ea.	5	$6,572	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	80	Ea.	5	$120,114	Rollup
	Sub Total for System	**5**	**items**		**$303,349**	

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	15	Ea.	1	$169,973	Rollup
	Sub Total for System	**1**	**items**		**$169,973**	

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room lacks Interactive White Board	Educational Adequacy	12	Ea.	3	$67,989	Rollup
Technology: Auditorium AV/Multimedia system is in need of minor improvements.	Technology	1	Room	3	$94,430	18236
Technology: Classroom AV/Multimedia systems are inadequate and/or near end of useful life.	Technology	50	Ea.	3	$991,510	18239
Technology: Classroom AV/Multimedia systems are inadequate and/or near end of useful life.	Technology	1	Ea.	3	$19,830	18240
Technology: Instructional spaces do not have local sound reinforcement.	Technology	53	Ea.	3	$250,238	18243
Technology: Intermediate Telecommunications Room grounding system is inadequate or non-existent.	Technology	3	Ea.	3	$15,864	18235
Technology: Main Telecommunications Room ground system is inadequate or non-existent.	Technology	1	Ea.	3	$6,610	18233
Technology: Network system inadequate and/or near end of useful life	Technology	4	Ea.	3	$30,217	18241
Technology: Network system inadequate and/or near end of useful life	Technology	55	Ea.	3	$259,681	18242
Technology: Telecommunications Room (large size room) needs dedicated cooling system improvements.	Technology	1	Ea.	3	$7,554	18232
Technology: Telecommunications Room (small size room) needs dedicated cooling system improvements.	Technology	3	Ea.	3	$14,164	18234
Technology: Telephone handsets are inadequate and sparsely deployed throughout the campus.	Technology	65	Ea.	3	$98,207	18237
Technology: Telephone system is inadequate and/or non-existent.	Technology	1	Ea.	3	$7,177	18238
	Sub Total for System	**13**	**items**		**$1,863,472**	

Conveyances

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Elevator Finishes Require Replacement	Capital Renewal	1	Ea.	3	$47,215	11301
Note: Elevator floor is worn out						
	Sub Total for System	**1**	**items**		**$47,215**	

Specialties

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room has insufficient writing area.	Educational Adequacy	8	Ea.	3	$36,261	Rollup
Welding Bays Are Required	Educational Adequacy	3	Ea.	4	$16,147	Rollup
Work Tables Are Required	Educational Adequacy	4	Ea.	4	$14,340	Rollup
Room lacks an appropriate refrigerator.	Educational Adequacy	13	Ea.	5	$110,483	Rollup
	Sub Total for System	**4**	**items**		**$177,231**	
	Sub Total for Building 01 - Main Building	**37**	**items**		**$3,596,971**	

Building: 02 - Utility Building

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Exterior Metal Door Requires Repainting	Capital Renewal	4	Door	3	$825	18964
	Sub Total for System	**1**	**items**		**$825**	
	Sub Total for Building 02 - Utility Building	**1**	**items**		**$825**	

Building: 03 - Restrooms

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Exterior Metal Door Requires Repainting	Capital Renewal	3	Door	3	$619	18965
	Sub Total for System	**1**	**items**		**$619**	
	Sub Total for Building 03 - Restrooms	**1**	**items**		**$619**	

Building: 04 - Press Box

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Exterior Metal Door Requires Repainting	Capital Renewal	3	Door	3	$619	18966
	Sub Total for System	**1**	**items**		**$619**	
	Sub Total for Building 04 - Press Box	**1**	**items**		**$619**	

Building: 05 - Concession Stand

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Exterior Metal Door Requires Repainting	Capital Renewal	2	Door	3	$412	18967
	Sub Total for System	**1**	**items**		**$412**	
	Sub Total for Building 05 - Concession Stand	**1**	**items**		**$412**	

Building: 06 - Storage

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Exterior Metal Door Requires Repainting	Capital Renewal	3	Door	3	$619	18968
	Sub Total for System	**1**	**items**		**$619**	
	Sub Total for Building 06 - Storage	**1**	**items**		**$619**	

Building: 07 - Utility Building 2

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Exterior Metal Door Requires Repainting	Capital Renewal	1	Door	3	$206	18969
	Sub Total for System	**1**	**items**		**$206**	
	Sub Total for Building 07 - Utility Building 2	**1**	**items**		**$206**	

Building: 08 - Ticket Booth

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Exterior Metal Door Requires Repainting	Capital Renewal	1	Door	3	$206	18970
	Sub Total for System	**1**	**items**		**$206**	
	Sub Total for Building 08 - Ticket Booth	**1**	**items**		**$206**	
	Total for Campus	**51**	**items**		**$5,731,984**	

North Kingstown Senior 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
Playfield Areas	HS Athletic Components	1	Ea.	$452,935	3
Pedestrian Pavement	Sidewalks - Concrete	35,000	SF	$715,386	5
Parking Lot Lighting	Pole Mounted Fixtures (Ea.)	39	Ea.	$301,660	5
Note:	Tennis court lights, 8 poles				
Parking Lot Lighting	Pole Mounted Fixtures (Ea.)	56	Ea.	$433,153	5
Note:	Football field lighting, 4 poles				
	Sub Total for System	**4**	**items**	**$1,903,134**	
	Sub Total for Building -	**4**	**items**	**$1,903,134**	

Building: 01 - Main Building

Roofing

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Steep Slope Roofing	Clear Polycarbonate (Greenhouse)	400	SF	$7,606	5
Low-Slope Roofing	Built-Up Roofing (BUR) w/ballast	919	SF	$34,948	5
Low-Slope Roofing	EPDM - Rubber Roofing Material	74,358	SF	$940,203	5
	Sub Total for System	**3**	**items**	**$982,756**	

Exterior

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Exterior Wall Veneer	Clear Polycarbonate (Greenhouse) walls	400	SF	$15,211	5
	Sub Total for System	**1**	**items**	**$15,211**	

Interior

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Interior Swinging Doors	Storefront Doors - Aluminum/Glass	1	Door	$4,753	3
Note:	Greenhouse				
Wall Painting and Coating	Painting/Staining (Bldg SF)	247,500	SF	$1,635,318	3
Resilient Flooring	Vinyl Composition Tile Flooring	201,700	SF	$2,313,851	4
Suspended Plaster and	Painted ceilings	7,100	SF	$29,700	4
Interior Coiling Doors	Overhead	5	Door	$183,960	5
Resilient Flooring	Rubber Tile Flooring	1,800	SF	$33,626	5
	Sub Total for System	**6**	**items**	**$4,201,208**	

Mechanical

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Decentralized Cooling	Condenser - Outside Air Cooled (10 Tons)	1	Ea.	$16,342	3
Air Distribution	Make-up Air Unit	3	Ea.	$47,698	3
Facility Hydronic Distribution	Pump - 1HP or Less (Ea.)	2	Ea.	$15,257	4
Facility Hydronic Distribution	Pump - 5HP	2	Ea.	$19,060	4
Decentralized Heating Equipment	Heating Unit Vent - Steam/Hot water	171	Ea.	$2,892,431	4
Decentralized Cooling	Ductless Split System (2 Ton)	5	Ea.	$34,159	4
Decentralized Cooling	Window Units	12	Ea.	$40,066	4
Heating System Supplementary Components	Controls - DDC (Bldg.SF)	253,600	SF	$1,526,986	5
Air Distribution	Energy Recovery Unit (10,000 CFM)	5	Ea.	$175,375	5
Exhaust Air	Roof Exhaust Fan	19	Ea.	$98,878	5
Exhaust Air	Ventilator/Relief Vent (4'x8')	2	Ea.	$26,513	5
HVAC Air Distribution	Energy Recovery Unit (2,000 CFM)	3	Ea.	$61,303	5
Air Distribution	Energy Recovery Unit (25,000 CFM)	2	Ea.	$145,654	5
	Sub Total for System	**13**	**items**	**$5,099,723**	

Electrical

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Lighting Fixtures	Canopy Mounted Fixtures (Ea.)	20	Ea.	$27,570	3
Lighting Fixtures	Building Mounted Fixtures (Ea.)	3	Ea.	$4,478	3
Note:	Sodium vapor lights in courtyard				
Lighting Fixtures	Light Fixtures (Bldg SF)	253,600	SF	$1,506,855	5

Electrical

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Electrical Service	Switchgear - Main Dist Panel (3000 Amps)	1	Ea.	$92,531	5
	Sub Total for System	**4**	**items**	**$1,631,434**	

Plumbing

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Domestic Water Equipment	Water Heater - Electric - 66 gallon	1	Ea.	$4,326	3
	Sub Total for System	**1**	**items**	**$4,326**	

Fire and Life Safety

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Fire Detection and Alarm	Fire Alarm	253,600	SF	$743,301	3
	Sub Total for System	**1**	**items**	**$743,301**	
	Sub Total for Building 01 - Main Building	**29**	**items**	**$12,677,958**	

Building: 02 - Utility Building

Mechanical

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Facility Hydronic Distribution	Pump - 1HP or Less (Ea.)	3	Ea.	$22,885	3
	Note: Wastewater treatment pumps				
	Sub Total for System	**1**	**items**	**$22,885**	

Electrical

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Lighting Fixtures	Light Fixtures (Bldg SF)	200	SF	$1,188	5
	Sub Total for System	**1**	**items**	**$1,188**	
	Sub Total for Building 02 - Utility Building	**2**	**items**	**$24,074**	

Building: 03 - Restrooms

Interior

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Wall Painting and Coating	Painting/Staining (Bldg SF)	2,800	SF	$18,501	4
	Sub Total for System	**1**	**items**	**$18,501**	

Mechanical

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Heating System Supplementary Components	Controls - Electronic (Bldg.SF)	2,800	SF	$18,913	3
Decentralized Heating Equipment	Radiant Heater - Infrared Electric	21	Ea.	$35,657	4
	Sub Total for System	**2**	**items**	**$54,570**	

Electrical

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Lighting Fixtures	Canopy Mounted Fixtures (Ea.)	1	Ea.	$1,379	4
Lighting Fixtures	Building Mounted Fixtures (Ea.)	2	Ea.	$2,985	4
Lighting Fixtures	Light Fixtures (Bldg SF)	2,800	SF	$16,637	5
	Sub Total for System	**3**	**items**	**$21,001**	

Plumbing

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Domestic Water Equipment	Water Heater - Electric - 30 gallon	1	Ea.	$1,867	3
	Sub Total for System	**1**	**items**	**$1,867**	
	Sub Total for Building 03 - Restrooms	**7**	**items**	**$95,939**	

Building: 04 - Press Box

Interior

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Acoustical Suspended Ceilings	Ceilings - Acoustical Tiles	1,800	SF	$16,257	5
	Sub Total for System	**1**	**items**	**$16,257**	

Mechanical

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Decentralized Heating Equipment	Radiant Heater - Infrared Electric	3	Ea.	$5,094	4
	Sub Total for System	**1**	**items**	**$5,094**	

Electrical

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Lighting Fixtures	Canopy Mounted Fixtures (Ea.)	14	Ea.	$19,299	4
Lighting Fixtures	Light Fixtures (Bldg SF)	1,800	SF	$10,695	5
	Sub Total for System	**2**	**items**	**$29,994**	
	Sub Total for Building 04 - Press Box	**4**	**items**	**$51,345**	

Building: 05 - Concession Stand

Mechanical

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Heating System Supplementary Components	Controls - Electronic (Bldg.SF)	800	SF	$5,404	3
Decentralized Heating Equipment	Unit Heater Electric (10 KW)	1	Ea.	$2,476	4
	Sub Total for System	**2**	**items**	**$7,879**	

Electrical

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Lighting Fixtures	Light Fixtures (Bldg SF)	800	SF	$4,753	5
	Sub Total for System	**1**	**items**	**$4,753**	

Plumbing

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Domestic Water Equipment	Water Heater - Electric - 30 gallon	1	Ea.	$1,867	2
	Sub Total for System	**1**	**items**	**$1,867**	

Fire and Life Safety

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Fire Detection and Alarm	Fire Alarm	800	SF	$2,345	3
	Sub Total for System	**1**	**items**	**$2,345**	
	Sub Total for Building 05 - Concession Stand	**5**	**items**	**$16,845**	

Building: 06 - Storage

Mechanical

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Facility Hydronic Distribution	Pump - 1HP or Less (Ea.)	1	Ea.	$7,628	4
Note:	Irrigation pump				
	Sub Total for System	**1**	**items**	**$7,628**	

Electrical

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Lighting Fixtures	Light Fixtures (Bldg SF)	400	SF	$2,377	5
	Sub Total for System	**1**	**items**	**$2,377**	
	Sub Total for Building 06 - Storage	**2**	**items**	**$10,005**	

Building: 07 - Utility Building 2

Electrical

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Lighting Fixtures	Light Fixtures (Bldg SF)	80	SF	$475	5
	Sub Total for System	**1**	**items**	**$475**	
	Sub Total for Building 07 - Utility Building 2	**1**	**items**	**$475**	

Building: 08 - Ticket Booth

Interior

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Wall Painting and Coating	Painting/Staining (Bldg SF)	40	SF	$264	4
	Sub Total for System	**1**	**items**	**$264**	

Electrical

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Lighting Fixtures	Building Mounted Fixtures (Ea.)	1	Ea.	$1,493	4
Lighting Fixtures	Light Fixtures (Bldg SF)	40	SF	$238	5
	Sub Total for System	**2**	**items**	**$1,730**	
	Sub Total for Building 08 - Ticket Booth	**3**	**items**	**$1,995**	
	Total for: North Kingstown Senior High School	**57**	**items**	**$14,781,769**	

Supporting Photos


Elevator Floor Is Worn


Worn Asphalt Roadway Pavement


Worn Asphalt Roadway Pavement


Worn Asphalt Parking Lot Pavement


Worn Asphalt Parking Lot Pavement


Damaged Asphalt Walks


Damaged Asphalt Walks


Greenhouse


Site Aerial


Cafeteria


Library


Classrooms


Music Room


Science Classroom


Site Marquee


Auditorium


Courtyard


Cafeteria


Gymnasium-1


Building Front


Gymnasium-2


Worn Carpet At Main Office


Side View


Damaged Wood Flooring At Stage


Damaged VCT By The Entrace Outside Gym 2


Damaged Partition At Girls Restroom


Worn Concrete Flooring At Lockers


Damaged Epoxy Flooring In The Kitchen


Non-Functional Refrigerated Water Fountains


Cracked Flooring Outside of Cafeteria


Cracked Flooring at Hallway Between Lockers


Cracked Flooring at Cafeteria


Peeling Paint


Utility Building Concrete Flooring


Utility Building Exterior


Utility Building Deck Ceiling


Utility Building Front


Utility Building Side


Restroom Exterior

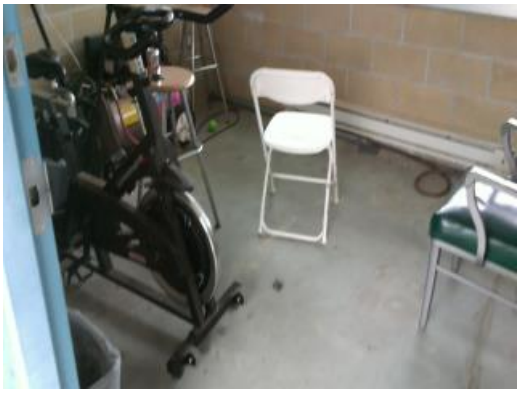

Men's Restrooms


Restroom Exterior

Restroom Utility Room


Women's Restrooms


Press Box Front View


Press Box Concrete Floor

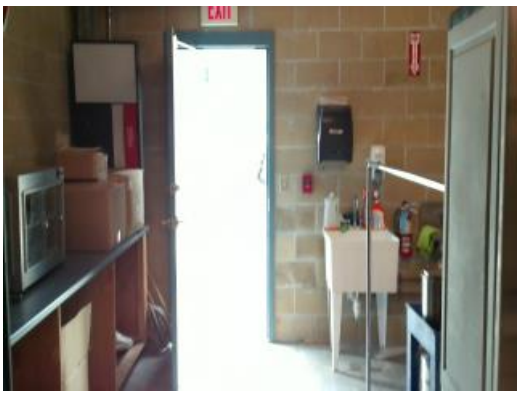

Press Box Side View


Press Box Acoustical Tile Ceiling


Press Box Side View


Press Box Interior


Concession Stand Front


Concession Stand Interior


Concession Stand Interior


Concession Stand Interior


Concession Stand Exterior


Storage Building Open Deck Ceiling


Storage Building Interior


Storage Building Exterior


Utility Building-2 Wood Deck Ceiling


Utility Building-2 Side View


Utility Building-2 Electrical Panels


Ticket Booth Side View


Ticket Booth Exposed Deck Ceiling


Ticket Booth Front View


Ticket Booth Interior

Facility Condition Assessment

North Kingstown - Stony Lane Elementary School | *June 2017*

825 Stony Lane, North Kingstown, RI 02852

Introduction

Stony Lane Elementary School, located at 825 Stony Lane in North Kingstown, Rhode Island, was built in 1971. It comprises 49,319 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.

Stony Lane Elementary School serves grades KG - 5, has 28 instructional spaces, and has an enrollment of 409. Instructional spaces are defined as rooms in which a student receives education. The LEA reported capacity for Stony Lane Elementary School is 450 with a resulting utilization of 91%.

For master planning purposes a 5-year need was developed to provide an understanding of the current need as well as the projected needs in the near future. For Stony Lane Elementary School the 5-year need is $7,238,287. 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 Stony Lane 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 Stony Lane 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
	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
	Aluminum Exterior Windows
	Steel Exterior Entrance Doors
02 - Storage Shed:	Vinyl Siding Exterior Wall
	Wood Exterior Doors
	Overhead Exterior Utility Doors
03 - Garden Shed:	Wood Siding Exterior Wall
	Wood Exterior Doors

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

01 - Main Building:	EPDM Roofing
02 - Storage Shed:	Composition Shingle Roofing
03 - Garden Shed:	Composition Shingle 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
	Overhead Interior Coiling Doors
	Interior Door Hardware
	Exposed Metal Structure Ceiling
	Suspended Acoustical Grid System
	Suspended Acoustical Ceiling Tile
	Ceramic Tile Wall
	FRP Wall Finish
	Interior Wall Painting
	Concrete Flooring

01 - Main Building:	Ceramic Tile Flooring
	Wood Flooring
	Rubber Tile Flooring
	Vinyl Composition Tile Flooring
	Carpet
	Athletic/Sport Flooring
02 - Storage Shed:	Wood Ceilings
	Wood Flooring
03 - Garden Shed:	Wood Ceilings
	Wood Flooring

Mechanical

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

01 - Main Building:	Finned Wall Radiator
	Electric Heating Unit Vent
	DDC Heating System Controls
	2 Ton Ductless Split System
	1 HP or Smaller Pump
	Ductwork
	15 Ton DX Gas Roof Top Unit
	20 Ton DX Gas Roof Top Unit
	25 Ton DX Gas Roof Top Unit
	40 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:	4" Backflow Preventers
	Gas Piping System
	75 Gallon Gas Water Heater
	Domestic Water Piping System
	Classroom Lavatories
	Lavatories
	Mop/Service Sinks
	Non-Refrigerated Drinking Fountain
	Refrigerated Drinking Fountain
	Restroom Lavatories
	Showers
	Toilets
	Urinals

01 - Main Building:	Urinals

Electrical

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

01 - Main Building:	50 kW Emergency Generator
	208/120v Switch
	1,600 Amp Switchgear
	2,000 Amp Switchgear
	Panelboard - 120/208 100A
	Panelboard - 120/208 125A
	Panelboard - 120/208 225A
	600 Amp Distribution Panel
	Building Mounted Lighting Fixtures
	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	-	-	$8,636	$485,116	-	$493,752	7.89 %
Roofing	-	$619,403	-	-	-	$619,403	9.90 %
Structural	-	-	-	-	-	$0	0.00 %
Exterior	-	$67,234	$6,043	-	$661	$73,938	1.18 %
Interior	-	-	$1,116,781	$1,031,420	$40,794	$2,188,994	34.98 %
Mechanical	-	$1,085,590	-	-	$108,802	$1,194,392	19.09 %
Electrical	-	$172,664	-	$1,369	$9,858	$183,892	2.94 %
Plumbing	-	-	$409,618	$118,445	$14,336	$542,399	8.67 %
Fire and Life Safety	-	-	-	-	-	$0	0.00 %
Technology	-	-	$858,364	-	-	$858,364	13.72 %
Conveyances	-	-	-	-	-	$0	0.00 %
Specialties	-	-	$13,598	$88,900	-	$102,498	1.64 %
Total	$0	$1,944,892	$2,413,040	$1,725,250	$174,451	$6,257,633	

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

The building systems with the most need include:

Interior	-	$2,188,994
Mechanical	-	$1,194,392
Technology	-	$858,364

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

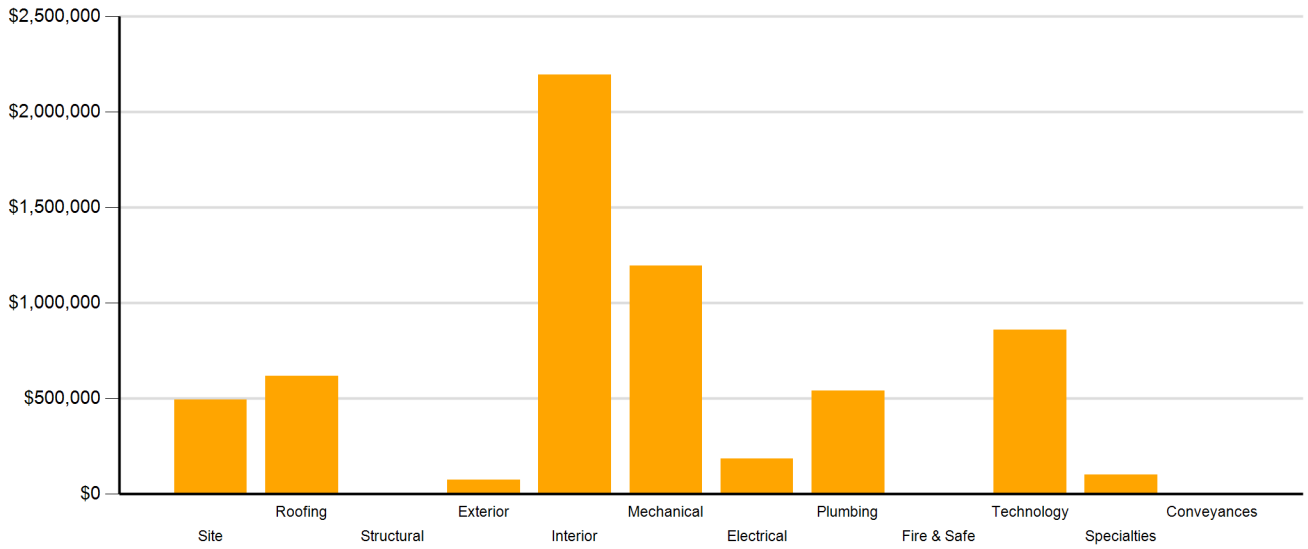


Figure 2: System Deficiencies

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	-	-	-	$177,527	-	$177,527
Barrier to Accessibility	-	-	-	-	-	$0
Capital Renewal	-	$1,944,892	$1,536,503	$993,514	$109,463	$4,584,372
Code Compliance	-	-	-	-	-	$0
Educational Adequacy	-	-	$13,598	$549,298	$64,988	$627,884
Functional Deficiency	-	-	-	-	-	$0
Hazardous Material	-	-	-	$4,910	-	$4,910
Technology	-	-	$858,364	-	-	$858,364
Traffic	-	-	$4,575	-	-	$4,575
Total	$0	$1,944,892	$2,413,040	$1,725,250	$174,451	$6,257,633

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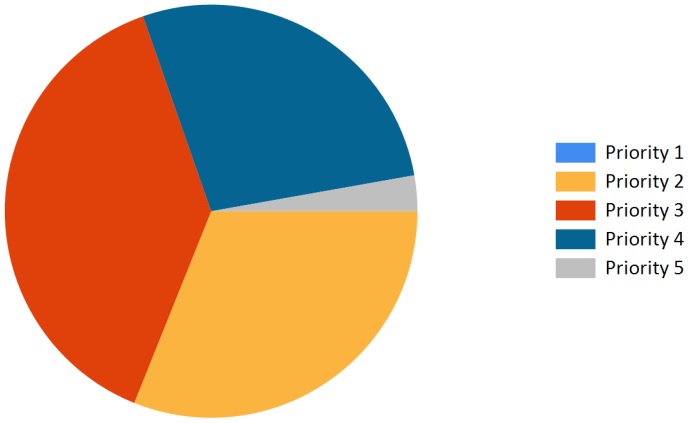

Figure 3: Current deficiencies by priority

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	$493,752	$0	$0	$0	$215,129	$44,588	$259,717	$753,469
Roofing	$619,403	$0	$0	$0	$0	$0	$0	$619,403
Structural	$0	$0	$0	$0	$0	$0	$0	$0
Exterior	$73,938	$0	$0	$0	$247,562	$0	$247,562	$321,500
Interior	$2,188,994	$0	$0	$68,830	$376,455	$0	$445,285	$2,634,279
Mechanical	$1,194,392	$0	$0	$0	$0	$0	$0	$1,194,392
Electrical	$183,892	$0	$0	$0	$0	$0	$0	$183,892
Plumbing	$542,399	$0	$0	$0	$0	$20,440	$20,440	$562,839
Fire and Life Safety	$0	$0	$0	$0	$0	$0	$0	$0
Technology	$858,364	$0	$0	$0	$0	$0	$0	$858,364
Conveyances	$0	$0	$0	$0	$0	$0	$0	$0
Specialties	$102,498	$0	$0	$0	$0	$0	$0	$102,498
Total	**$6,257,633**	**$0**	**$0**	**$68,830**	**$839,146**	**$65,028**	**$973,004**	**$7,230,637**

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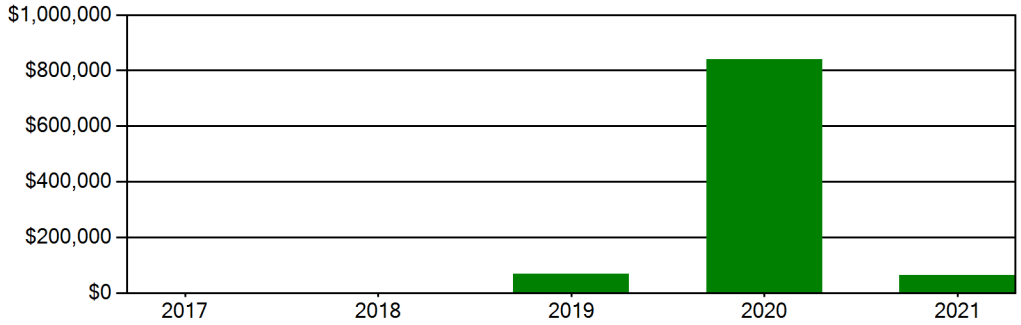
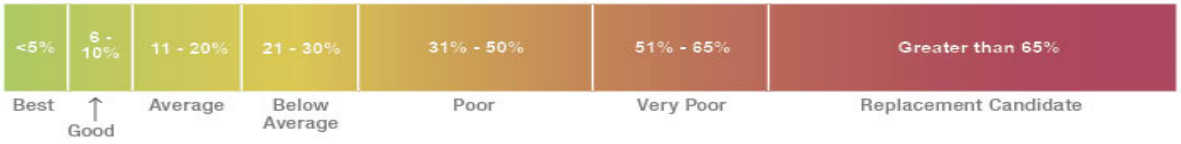


Figure 4: Life Cycle Capital Renewal Forecast

Facility Condition Index (FCI)

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



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

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

The replacement value represents the estimated cost of replacing the current building with another building of like size, based on today's estimated cost of construction in the Providence, Rhode Island area. The estimated replacement cost for this facility is $17,401,650. For planning purposes, the total 5-year need at the Stony Lane Elementary School is $7,238,287 (Life Cycle Years 1-5 plus the FCI deficiency cost). The Stony Lane Elementary School facility has a 5-year FCI of 41.55%.

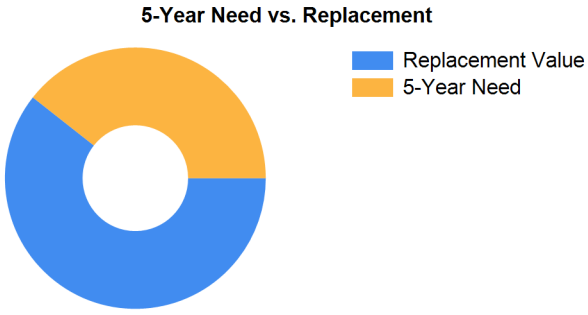


Figure 5: 5-Year FCI

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 276 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 Stony Lane Elementary School cafeteria and/or library/media center to the size prescribed by the SCRs is estimated to be $0.

Summary of Findings

The Stony Lane Elementary School comprises 49,319 square feet and was constructed in 1971. Current deficiencies at this school total $6,265,283. Five year capital renewal costs total $973,004. The total identified need for the Stony Lane Elementary School (current deficiencies and 5-year capital renewal costs) is $7,238,287. The 5-year FCI is 41.55%.

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
Stony Lane Elementary School Totals	49,319	1971	$6,265,283	$973,004	$7,238,287	41.55%

**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
Concrete Walks Require Replacement	Capital Renewal	200	SF	3	$4,060	11848
Pavement Markings: Shoulder Markings Are Required	Traffic	18	LF	3	$42	16898
Note: Add bicycle shared lane markings on Stony Lane from Old Baptist Rd to Pebble Rd (18 markings - 9 in each direction - spaced at 200' apart)						
Traffic Signage Is Required	Traffic	2	Ea.	3	$4,533	16899
Note: Add school zone sign on east bound Stony Lane and replace school zone sign in west bound direction on Stony Lane						
Asphalt Paving Requires Replacement	Capital Renewal	70	CAR	4	$230,037	11829
Asphalt Paving Requires Replacement	Capital Renewal	29	CAR	4	$95,301	11830
Asphalt Paving Requires Replacement	Capital Renewal	40	CAR	4	$131,450	16307
Note: Play area asphalt is weathered with large cracks.						
Backstops Require Replacement	Educational Adequacy	1	Ea.	4	$28,329	28510
Note: Backstops Require Replacement						
	Sub Total for System	**7**	**items**		**$493,752**	
	Sub Total for School and Site Level	**7**	**items**		**$493,752**	

Building: 01 - Main Building

Roofing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
EPDM Roofing Requires Replacement (Bldg SF)	Capital Renewal	49,319	SF	2	$619,403	11845
Note: Roof is weathered with ponding. There is water infiltration to the cafeteria and classrooms.						
	Sub Total for System	**1**	**items**		**$619,403**	

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Aluminum Window Requires Replacement	Capital Renewal	400	SF	2	$67,234	11831
Note: Single pane windows at the original building should be replaced.						
Caulking Requires Replacement	Capital Renewal	400	LF	3	$6,043	11850
Note: Caulking between EIFS panels is missing or deteriorating.						
The Exterior Soffit Requires Repainting	Capital Renewal	200	SF	5	$661	11828
Note: Soffits at original building exterior doors have paint peeling.						
	Sub Total for System	**3**	**items**		**$73,938**	

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Rubber Flooring Requires Replacement	Capital Renewal	800	SF	3	$14,844	11849
Note: Rubber tile is bubbling and peeling.						
Location: Addition hallway						
The Acoustical Ceiling Tiles Require Replacement	Capital Renewal	22,000	SF	3	$197,358	11832
Note: Ceiling tiles are mismatched, sagging, and broken.						
Location: Original building classrooms						
The Athletic Sport Flooring Requires Replacement	Capital Renewal	5,000	SF	3	$169,973	11840
Note: Gym sport flooring is chipped and faded.						
The Carpet Flooring Requires Replacement	Capital Renewal	31,439	SF	3	$679,387	11833
Note: Carpet is worn, faded, bubbled, and fraying.						
The Vinyl Composition Tile Requires Replacement	Capital Renewal	3,400	SF	3	$38,741	11834
Note: VCT is faded and worn and chipped and peeling in places.						
Location: Art room, outside gym, janitor office						
The Wood Flooring Requires Replacement	Capital Renewal	500	SF	3	$16,478	11835
Note: Stage floor is scratched, worn, and faded.						
Ceiling Grid Requires Replacement	Capital Renewal	22,000	SF	4	$259,174	11847
Note: Ceiling grid is aged and stained.						
Location: Original building classrooms						
Moveable Partitions Require Replacement	Capital Renewal	600	SF Wall	4	$68,839	11827
Note: Partition wall at the gym is damaged with surface peeling.						

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	13	Ea.	4	$3,683	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	50	LF	4	$1,133	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	10	SF	4	$94	Rollup
Room Is Excessively Reverberant	Acoustics	5,000	SF	4	$110,955	19871
Note: Gym						
Room Is Excessively Reverberant	Acoustics	3,000	SF	4	$66,573	19872
Note: Cafeteria						
Room Lighting Is Inadequate Or In Poor Condition.	Educational Adequacy	13,765	SF	4	$520,969	Rollup
Classroom Door Requires Vision Panel	Educational Adequacy	18	Ea.	5	$40,794	Rollup
	Sub Total for System	**15**	**items**		**$2,188,994**	

Mechanical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Gas Piping Requires Replacement (SF Basis)	Capital Renewal	49,319	SF	2	$1,060,633	13500
Note: Gas piping system should be replaced. School staff noted during interview that the school has been evacuated previously due to gas leaks.						
The Fin Tube Water Radiant Heater Requires Replacement	Capital Renewal	15	Ea.	2	$24,958	11843
Remove Abandoned Equipment	Capital Renewal	35	Ea.	5	$108,802	11852
Note: Abandoned unit vents should be removed.						
	Sub Total for System	**3**	**items**		**$1,194,392**	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Switchgear Is Needed Or Requires Replacement	Capital Renewal	1	Ea.	2	$81,549	16308
Switchgear Is Needed Or Requires Replacement	Capital Renewal	1	Ea.	2	$71,851	16309
The Panelboard Requires Replacement	Capital Renewal	2	Ea.	2	$9,632	11842
Location: Original building						
The Panelboard Requires Replacement	Capital Renewal	1	Ea.	2	$3,872	16310
The Panelboard Requires Replacement	Capital Renewal	1	Ea.	2	$5,760	16311
The Canopy Lighting Requires Replacement	Capital Renewal	1	Ea.	4	$1,369	11836
Room Has Insufficient Electrical Outlets	Educational Adequacy	20	Ea.	5	$9,858	Rollup
	Sub Total for System	**7**	**items**		**$183,892**	

Plumbing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Plumbing / Domestic Water Piping System Is Beyond Its Useful Life	Capital Renewal	49,319	SF	3	$394,143	11841
Note: Piping system is aged with issues noted during the staff interview. Staff noted water leaks, foul smell, and poor pressure throughout.						
The Showers Plumbing Fixtures Require Replacement	Capital Renewal	1	Ea.	3	$7,554	13497
Note: Non-functional shower should be replaced.						
The Urinal Plumbing Fixtures Require Replacement	Capital Renewal	6	Ea.	3	$7,921	13499
Non-Refrigerated Drinking Fountain Requires Replacement	Capital Renewal	3	Ea.	4	$30,454	13495
The Classroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	4	Ea.	4	$10,803	13492
The Custodial Mop Or Service Sink Requires Replacement	Capital Renewal	3	Ea.	4	$7,677	13494
The Restroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	8	Ea.	4	$25,277	13493
The Restroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	14	Ea.	4	$44,235	13496
Room lacks a drinking fountain.	Educational Adequacy	8	Ea.	5	$8,763	Rollup
The Class Room Lavatories Plumbing Fixtures Are Missing And Should Be Installed	Educational Adequacy	5	Ea.	5	$5,573	Rollup
	Sub Total for System	**10**	**items**		**$542,399**	

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Technology: Classroom AV/Multimedia systems are inadequate and/or near end of useful life.	Technology	15	Ea.	3	$297,453	18291

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Technology: Instructional spaces do not have local sound reinforcement.	Technology	25	Ea.	3	$118,037	18294
Technology: Main Telecommunications Room ground system is inadequate or non-existent.	Technology	1	Ea.	3	$6,610	18285
Technology: Main Telecommunications Room needs minor improvements.	Technology	1	Ea.	3	$21,530	18284
Technology: Network cabling infrastructure is outdated (Cat 5 or less) and/or does not meet standards.	Technology	388	Ea.	3	$164,874	18287
Technology: Network system inadequate and/or near end of useful life	Technology	3	Ea.	3	$22,663	18292
Technology: Network system inadequate and/or near end of useful life	Technology	24	Ea.	3	$113,315	18293
Technology: Special Space AV/Multimedia system is inadequate.	Technology	1	Ea.	3	$53,825	18288
Technology: Telecommunications Room (large size room) needs dedicated cooling system improvements.	Technology	1	Ea.	3	$7,554	18286
Technology: Telephone handsets are inadequate and sparsely deployed throughout the campus.	Technology	30	Ea.	3	$45,326	18289
Technology: Telephone system is inadequate and/or non-existent.	Technology	1	Ea.	3	$7,177	18290
	Sub Total for System	**11**	**items**		**$858,364**	

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	8	Room	4	$88,900	11846
Note: Cabinets are aged. Metal cabinetry is rusted and laminate counters are outdated.						
	Sub Total for System	**2**	**items**		**$102,498**	
	Sub Total for Building 01 - Main Building	**52**	**items**		**$5,763,881**	
	Total for Campus	**59**	**items**		**$6,257,633**	

Buildings with no reported deficiencies

02 - Storage Shed

03 - Garden Shed

Stony Lane Elementary 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)	3,200	LF	$215,129	4
Note:	6' fence				
Playfield Areas	ES Playgrounds	1	Ea.	$44,588	5
	Sub Total for System	**2**	**items**	**$259,717**	
	Sub Total for Building -	**2**	**items**	**$259,717**	

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	12,000	SF	$247,562	4
Note:	Original building				
	Sub Total for System	**1**	**items**	**$247,562**	

Interior

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Resilient Flooring	Vinyl Composition Tile Flooring	6,000	SF	$68,830	3
Acoustical Suspended Ceilings	Ceilings - Acoustical Grid System	18,019	SF	$213,714	4
Acoustical Suspended Ceilings	Ceilings - Acoustical Tiles	18,019	SF	$162,741	4
	Sub Total for System	**3**	**items**	**$445,286**	

Plumbing

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Plumbing Fixtures	Non-Refrigerated Drinking Fountain	2	Ea.	$20,440	5
	Sub Total for System	**1**	**items**	**$20,440**	
	Sub Total for Building 01 - Main Building	**5**	**items**	**$713,287**	
	Total for: Stony Lane Elementary School	**7**	**items**	**$973,004**	

Supporting Photos

Site Aerial

Exterior Finishes

Front Of Building

Cafeteria/Stage

Library


Open Concept Classroom


Roof


Gymnasium

Signage


Front Entrance


Music Room


Damaged Partition Wall


Peeling Soffit Paint


Single Pane Windows


Sagging Mismatched Ceiling Tiles


Fraying Carpet


Bubbled Carpet


Cracked Asphalt Roadway


Cracked Play Area Asphalt


Faded And Worn VCT


Worn Wood Stairs


Worn Wood Floor


Gymnasium Sport Flooring


Main Switchgear


Rusted Cabinetry


Concrete Walkway At Entrance


Stained Ceiling Grid


Ponding On Roof

Failing Caulking At EIFS Panels

Aged Laminate Casework

Storage Shed Floor

Bubbled Rubber Floor

Roll Up Door

Storage Shed


Garden Shed


Storage Shed Interior


Garden Shed Interior


Garden Shed Floor


Canopy Light


Drinking Fountain

Elevation

Facility Condition Assessment

North Kingstown - Suzanne M. Henseler Quidnessett Elementary School | *June 2017*

166 Mark Drive, North Kingstown, RI 02852

Introduction

Suzanne M. Henseler Quidnessett Elementary School, located at 166 Mark Drive in North Kingstown, Rhode Island, was built in 1971. It comprises 34,000 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.

Suzanne M. Henseler Quidnessett Elementary School serves grades KG - 5, has 28 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 Suzanne M. Henseler Quidnessett Elementary School is 383 with a resulting utilization of 77%.

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 Suzanne M. Henseler Quidnessett Elementary School the 5-year need is $4,929,594. 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 Suzanne M. Henseler Quidnessett 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 Suzanne M. Henseler Quidnessett 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
	E.I.F.S. 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

Interior

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

01 - Main Building:	Moveable Interior Partition
	Steel Interior Doors
	Wood Interior Doors
	Overhead Interior Coiling Doors
	Interior Door Hardware
	Exposed Metal Structure Ceiling
	Suspended Acoustical Grid System
	Suspended Acoustical Ceiling Tile
	Ceramic Tile Wall
	FRP Wall Finish
	CMU Wall
	Interior Wall Painting
	Concrete Flooring
	Ceramic Tile Flooring
	Wood Flooring
	Vinyl Composition Tile Flooring
	Carpet
	Athletic/Sport Flooring

Mechanical

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

01 - Main Building:	DDC Heating System Controls
	1 Ton Ductless Split System
	3 Ton Ductless Split System
	2 Ton Thru-Wall A/C
	10 Ton DX Gas Roof Top Unit
	15 Ton DX Gas Roof Top Unit
	20 Ton DX Gas Roof Top Unit
	Ductwork
	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
	4" Backflow Preventers
	Gas Piping System
	100 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:	1,200 Amp Switchgear
	1,600 Amp Switchgear
	Panelboard - 120/208 100A
	Panelboard - 120/208 225A
	600 Amp Distribution Panel
	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	-	-	$63,378	$521,265	-	$584,643	14.45 %
Roofing	-	$145,183	$8,499	-	$1,218	$154,900	3.83 %
Structural	-	-	-	-	-	$0	0.00 %
Exterior	-	$321,155	$30,217	-	$1,322	$352,694	8.72 %
Interior	-	-	$386,204	$884,028	$48,782	$1,319,015	32.61 %
Mechanical	-	-	-	-	$539,381	$539,381	13.33 %
Electrical	-	$170,351	$94	-	$11,830	$182,275	4.51 %
Plumbing	-	-	-	-	$21,160	$21,160	0.52 %
Fire and Life Safety	-	-	-	-	-	$0	0.00 %
Technology	-	-	$803,973	-	-	$803,973	19.88 %
Conveyances	-	-	-	-	-	$0	0.00 %
Specialties	-	-	$9,065	$77,787	-	$86,852	2.15 %
Total	$0	$636,689	$1,301,431	$1,483,081	$623,693	$4,044,894	

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

The building systems with the most need include:

Interior	-	$1,319,015
Technology	-	$803,973
Site	-	$584,643

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

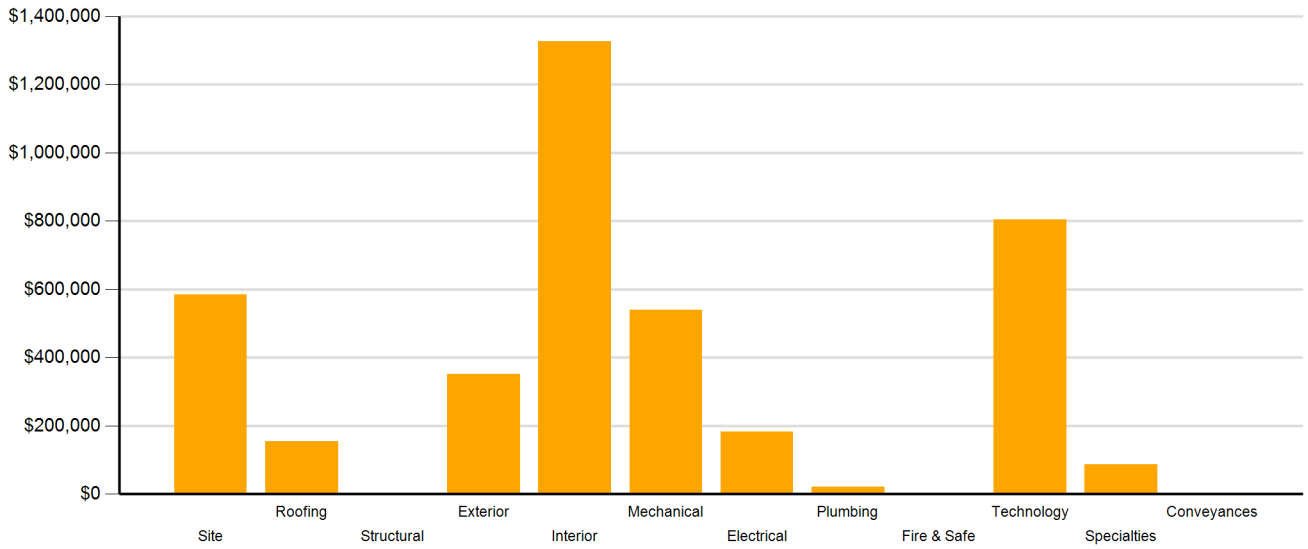


Figure 2: System Deficiencies

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	-	-	-	$199,718	-	$199,718
Barrier to Accessibility	-	-	-	-	-	$0
Capital Renewal	-	$636,689	$483,766	$701,960	$541,921	$2,364,336
Code Compliance	-	-	-	-	-	$0
Educational Adequacy	-	-	$26,063	$558,267	$81,772	$666,102
Functional Deficiency	-	-	$94	-	-	$94
Hazardous Material	-	-	-	$23,135	-	$23,135
Technology	-	-	$786,975	-	-	$786,975
Traffic	-	-	$4,533	-	-	$4,533
Total	$0	$636,689	$1,301,431	$1,483,081	$623,693	$4,044,894

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

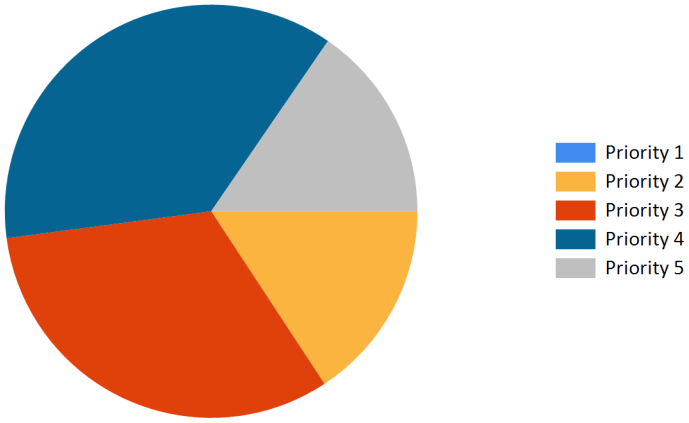


Figure 3: Current deficiencies by priority

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	$584,643	$0	$0	$0	$189,314	$112,418	$301,732	$886,375
Roofing	$154,900	$0	$0	$0	$0	$0	$0	$154,900
Structural	$0	$0	$0	$0	$0	$0	$0	$0
Exterior	$352,694	$0	$0	$0	$173,293	$0	$173,293	$525,987
Interior	$1,319,015	$0	$0	$181,829	$0	$214,408	$396,237	$1,715,252
Mechanical	$539,381	$0	$0	$0	$0	$0	$0	$539,381
Electrical	$182,275	$0	$0	$0	$0	$0	$0	$182,275
Plumbing	$21,160	$0	$0	$0	$0	$5,322	$5,322	$26,482
Fire and Life Safety	$0	$0	$0	$0	$0	$0	$0	$0
Technology	$803,973	$0	$0	$0	$0	$0	$0	$803,973
Conveyances	$0	$0	$0	$0	$0	$0	$0	$0
Specialties	$86,852	$0	$0	$0	$0	$0	$0	$86,852
Total	**$4,044,894**	**$0**	**$0**	**$181,829**	**$362,607**	**$332,148**	**$876,584**	**$4,921,478**

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

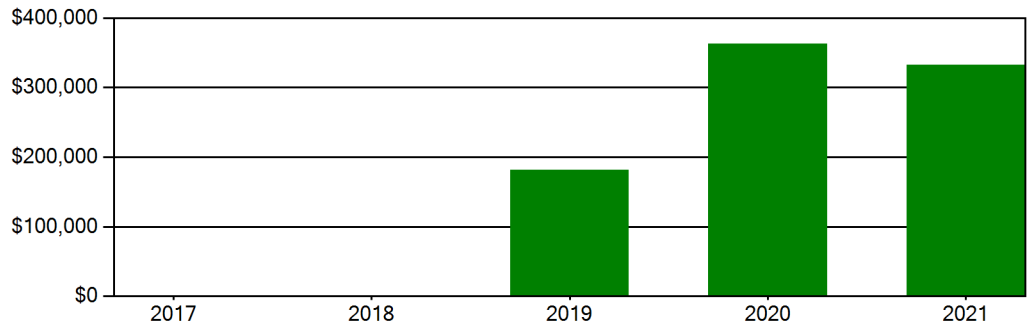
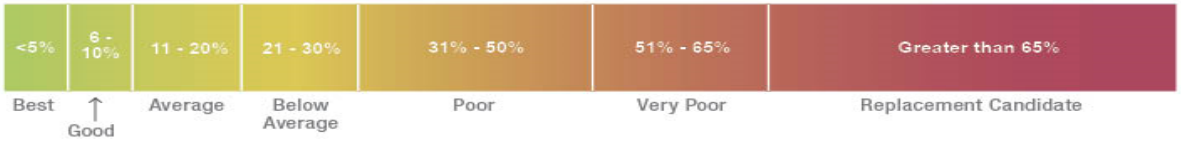


Figure 4: Life Cycle Capital Renewal Forecast

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 $11,900,000. For planning purposes, the total 5-year need at the Suzanne M. Henseler Quidnessett Elementary School is $4,929,594 (Life Cycle Years 1-5 plus the FCI deficiency cost). The Suzanne M. Henseler Quidnessett Elementary School facility has a 5-year FCI of 41.36%.

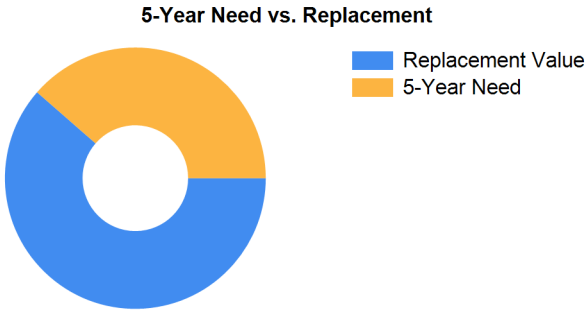


Figure 5: 5-Year FCI

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 Suzanne M. Henseler Quidnessett Elementary School cafeteria and/or library/media center to the size prescribed by the SCRs is estimated to be $0.

Summary of Findings

The Suzanne M. Henseler Quidnessett Elementary School comprises 34,000 square feet and was constructed in 1971. Current deficiencies at this school total $4,053,010. Five year capital renewal costs total $876,584. The total identified need for the Suzanne M. Henseler Quidnessett Elementary School (current deficiencies and 5-year capital renewal costs) is $4,929,594. The 5-year FCI is 41.36%.

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
Suzanne M. Henseler Quidnessett Elementary School Totals	34,000	1971	$4,053,010	$876,584	$4,929,594	41.36%

**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	6,933	SF	3	$58,846	16332
Note: Asphalt walkways and cracked and not level.						
Traffic Signage Is Required	Traffic	2	Ea.	3	$4,533	16924
Note: Update school zone signage to make it more visible						
Asphalt Paving Requires Replacement	Capital Renewal	62	CAR	4	$203,747	16330
Note: Asphalt parking lot is cracked and weathered.						
Asphalt Paving Requires Replacement	Capital Renewal	46	CAR	4	$151,167	16331
Note: Roadway asphalt is severely alligatored and deteriorating.						
Asphalt Paving Requires Replacement	Capital Renewal	42	CAR	4	$138,022	16366
Backstops Require Replacement	Educational Adequacy	1	Ea.	4	$28,329	28513
Note: Backstops Require Replacement						
	Sub Total for System	**6**	**items**		**$584,643**	
	Sub Total for School and Site Level	**6**	**items**		**$584,643**	

Building: 01 - Main Building

Roofing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
EPDM Roofing Requires Replacement (Bldg SF)	Capital Renewal	11,560	SF	2	$145,183	12385
Note: Roof is leaking.						
Location: Building addition						
Tapered Insulation Is Required To Eliminate Ponding When Re-Roofing	Capital Renewal	750	SF	3	$8,499	12383
Splash Blocks Are Required	Capital Renewal	3	Ea.	5	$1,218	12382
Note: There are no splashblocks at downspouts.						
	Sub Total for System	**3**	**items**		**$154,900**	

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Aluminum Window Requires Replacement	Capital Renewal	500	SF	2	$84,042	12376
Note: Original single pane windows should be replaced.						
The Metal Exterior Door Requires Replacement	Capital Renewal	16	Door	2	$101,984	12373
Note: Original steel doors are weathered, rusted, and peeling. They should be replaced.						
The Metal Exterior Door Requires Replacement	Capital Renewal	4	Door	2	$25,496	12374
Note: Front entry doors are aged, worn, and inefficient.						
The Overhead Door Requires Replacement	Capital Renewal	3	Door	2	$109,633	12375
Location: Kitchen						
Caulking Requires Replacement	Capital Renewal	2,000	LF	3	$30,217	12388
Note: Caulking at EIFS panels is weathered and panels should be recaulked.						
The Exterior Soffit Requires Repainting	Capital Renewal	400	SF	5	$1,322	12372
Note: Paint is peeling at the soffit.						
	Sub Total for System	**6**	**items**		**$352,694**	

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Interior Doors Require Replacement	Capital Renewal	40	Door	3	$183,193	12378
Note: Original wood doors are aged and worn.						
The Acoustical Ceiling Tiles Require Replacement	Capital Renewal	11,140	SF	3	$99,935	12377
Note: Original ceiling tiles are aged, stained, and cracked.						
The Vinyl Composition Tile Requires Replacement	Capital Renewal	7,600	SF	3	$86,598	12379
Note: Original VCT flooring is worn and peeling in places.						
The Wood Flooring Requires Replacement	Capital Renewal	500	SF	3	$16,478	12380
Note: Stage floor is worn, scratched, and faded.						
Ceiling Grid Requires Replacement	Capital Renewal	11,140	SF	4	$131,236	12387
Note: Original ceiling grid is stained and broken in places.						

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
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	60	Ea.	4	$16,997	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	650	SF	4	$6,138	Rollup
Room Is Excessively Reverberant	Acoustics	5,000	SF	4	$110,955	19873
Note: Gym						
Room Is Excessively Reverberant	Acoustics	4,000	SF	4	$88,764	19874
Note: Cafeteria						
Room Lighting Is Inadequate Or In Poor Condition.	Educational Adequacy	14,002	SF	4	$529,939	Rollup
Classroom Door Requires Vision Panel	Educational Adequacy	20	Ea.	5	$45,326	Rollup
Room lacks appropriate sound control.	Educational Adequacy	100	SF	5	$3,456	Rollup
	Sub Total for System	**12**	**items**		**$1,319,015**	

Mechanical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Duct Cleaning Required	Capital Renewal	34,000	SF	5	$539,381	12381
Note: Dirt and debris was observed on ceiling tiles and return air grilles.						
	Sub Total for System	**1**	**items**		**$539,381**	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Switchgear Is Needed Or Requires Replacement	Capital Renewal	1	Ea.	2	$68,594	16364
Switchgear Is Needed Or Requires Replacement	Capital Renewal	1	Ea.	2	$81,549	16365
The Panelboard Requires Replacement	Capital Renewal	3	Ea.	2	$14,448	16341
Note: Original panelboards should be replaced.						
The Panelboard Requires Replacement	Capital Renewal	1	Ea.	2	$5,760	16342
Note: Original panelboard should be replaced.						
The GFCI Electrical Receptacle Needs Replacing	Functional Deficiency	1	Ea.	3	$94	12384
Note: Receptacle by the dumpster is missing cover.						
Room Has Insufficient Electrical Outlets	Educational Adequacy	24	Ea.	5	$11,830	Rollup
	Sub Total for System	**6**	**items**		**$182,275**	

Plumbing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room lacks a drinking fountain.	Educational Adequacy	11	Ea.	5	$12,049	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	**2**	**items**		**$21,160**	

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room lacks Interactive White Board	Educational Adequacy	3	Ea.	3	$16,997	Rollup
Technology: Classroom AV/Multimedia systems are in need of improvements.	Technology	1	Ea.	3	$9,443	18331
Technology: Classroom AV/Multimedia systems are inadequate and/or near end of useful life.	Technology	15	Ea.	3	$297,453	18330
Technology: Instructional spaces do not have local sound reinforcement.	Technology	21	Ea.	3	$99,151	18334
Technology: Main Telecommunications Room ground system is inadequate or non-existent.	Technology	1	Ea.	3	$6,610	18324
Technology: Main Telecommunications Room needs M/E improvements.	Technology	1	Ea.	3	$29,084	18323
Technology: Network cabling infrastructure is outdated (Cat 5 or less) and/or does not meet standards.	Technology	260	Ea.	3	$110,483	18326
Technology: Network system inadequate and/or near end of useful life	Technology	24	Ea.	3	$113,315	18332

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Technology: Network system inadequate and/or near end of useful life	Technology	3	Ea.	3	$22,663	18333
Technology: Special Space AV/Multimedia system is inadequate.	Technology	1	Ea.	3	$53,825	18327
Technology: Telecommunications Room (large size room) needs dedicated cooling system improvements.	Technology	1	Ea.	3	$7,554	18325
Technology: Telephone handsets are inadequate and sparsely deployed throughout the campus.	Technology	20	Ea.	3	$30,217	18328
Technology: Telephone system is inadequate and/or non-existent.	Technology	1	Ea.	3	$7,177	18329
	Sub Total for System	**13**	**items**		**$803,973**	

Specialties

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room has insufficient writing area.	Educational Adequacy	2	Ea.	3	$9,065	Rollup
Replace Cabinetry In Classes/Labs	Capital Renewal	7	Room	4	$77,787	12386
	Sub Total for System	**2**	**items**		**$86,852**	
	Sub Total for Building 01 - Main Building	**45**	**items**		**$3,460,251**	
	Total for Campus	**51**	**items**		**$4,044,894**	

Suzanne M. Henseler Quidnessett Elementary 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)	2,816	LF	$189,314	4
Pedestrian Pavement	Sidewalks - Concrete	5,500	SF	$112,418	5
	Sub Total for System	**2**	**items**	**$301,731**	
	Sub Total for Building -	**2**	**items**	**$301,731**	

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	8,400	SF	$173,293	4
	Sub Total for System	**1**	**items**	**$173,293**	

Interior

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Interior Operable Partitions	Moveable Partitions (Major)	1,500	SF Wall	$173,265	3
Note:	Gym				
Interior Swinging Doors	Steel	2	Door	$8,564	3
Wall Painting and Coating	Painting/Staining (Bldg SF)	32,450	SF	$214,408	5
	Sub Total for System	**3**	**items**	**$396,237**	

Plumbing

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Domestic Water Equipment	Water Heater - Gas - 100 Gallon	1	Ea.	$5,322	5
Note:	80 gallons				
	Sub Total for System	**1**	**items**	**$5,322**	
	Sub Total for Building 01 - Main Building	**5**	**items**	**$574,852**	
	Total for: Suzanne M. Henseler Quidnessett Elementary School	**7**	**items**	**$876,583**	

Supporting Photos

Classroom Lavatories

Typical Classroom

Site Aerial

Cracked Paved Play Area


Typical Roof Condition


Cracked Asphalt Walkway


Weathered Parking Lot Paving


Alligatored Asphalt Paving


Front Entrance


Pooling On Roof


Open Concept Classroom


Library


Peeling Soffit Paint


Aged Exterior Doors


Aged Entry Doors


Overhead Door


Original Single Pane Windows


Stained And Sagging Ceiling Tiles


Worn Interior Wood Doors


Original VCT


Worn Stage Floor


Aged Cabinetry


Stained Ceiling Grid


Weathered Caulking At EIFS


Music Classroom


Cafeteria


Gymnasium


Art Classroom

Facility Condition Assessment

North Kingstown - Wickford Middle School | *June 2017*

250 Tower Hill Road, North Kingstown, RI 02852

Introduction

Wickford Middle School, located at 250 Tower Hill Road in North Kingstown, Rhode Island, was built in 1932. It comprises 75,080 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.

Wickford Middle School serves grades 6 - 8, has 36 instructional spaces, and has an enrollment of 430. Instructional spaces are defined as rooms in which a student receives education. The LEA reported capacity for Wickford Middle School is 465 with a resulting utilization of 92%.

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 Wickford Middle School the 5-year need is $14,115,451. 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 Wickford Middle 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 Wickford Middle School campus, identified by discipline and building.

Site

The site level systems for this campus include:

Site	Asphalt Parking Lot Pavement
	Asphalt Roadway Pavement
	Concrete Pedestrian Pavement

Building Envelope

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

01 - Main Building:	Brick Exterior Wall
	Glass Block Exterior Wall
	Aluminum Exterior Windows
	Steel Exterior Entrance Doors
02 - Shed:	Wood Siding Exterior Wall
	Wood Exterior Windows
	Wood Exterior Doors

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

01 - Main Building:	EPDM Roofing
02 - Shed:	Composition Shingle 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
	Adhered Acoustical Ceiling Tiles
	Painted Ceilings
	Ceramic Tile Wall
	FRP Wall Finish
	Interior Wall Painting
	Concrete Flooring
	Ceramic Tile Flooring
	Wood Flooring

01 - Main Building:	Vinyl Composition Tile Flooring
	Rubber Tile Flooring
	Terrazzo Flooring
	Carpet
	Athletic/Sport Flooring
02 - Shed:	Wood Ceilings
	Interior Wall Painting
	Concrete Flooring

Mechanical

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

01 - Main Building:	1,275 MBH Cast Iron Water Boiler
	3,264 MBH Cast Iron Water Boiler
	Steam/Hot Water Heating Unit Vent
	Fin Tube Water Radiant Heater
	Pneumatic Heating System Controls
	Window Units
	Make-up Air Unit
	25,000 CFM Energy Recovery Unit
	2-Pipe Hot Water Hydronic Distribution System
	5 HP Pump
	2,000 CFM Interior AHU
	Ductwork
	Kitchen Exhaust Hoods
	Laboratory Fume Hood
	Roof Exhaust Fan
	Wall Exhaust Fan
	Fire Sprinkler System

Plumbing

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

01 - Main Building:	1,000 Gallon Water Storage Tank
	2" Backflow Preventers
	Gas Piping System
	50 Gallon Gas Water Heater
	75 Gallon Gas Water Heater
	Domestic Water Piping System
	Classroom Lavatories
	Lavatories
	Mop/Service Sinks
	Non-Refrigerated Drinking Fountain

01 - Main Building:	Refrigerated Drinking Fountain
	Restroom Lavatories
	Showers
	Toilets
	Urinals
	Sump Pump
	Air Compressor (2 hp)
	1,000 Gallon Above Ground Fuel Oil Storage Tank

Electrical

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

01 - Main Building:	50 kW Emergency Generator
	208/120v Switch
	600 Amp Switchgear
	800 Amp Switchgear
	75 KVA Transformer
	800 Amp Distribution Panel
	Motor Controller
	Panelboard - 120/208 100A
	Panelboard - 120/208 225A
	Panelboard - 120/208 400A
	Electrical Disconnect
	Building Mounted Lighting Fixtures
	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	-	-	$169,067	$876,179	$330,645	$1,375,890	14.88 %
Roofing	-	$2,472	-	-	-	$2,472	0.03 %
Structural	$10,299	-	-	-	-	$10,299	0.11 %
Exterior	-	$22,287	-	-	-	$22,287	0.24 %
Interior	-	-	$516,684	$515,224	$266,455	$1,298,363	14.04 %
Mechanical	-	$1,379,554	$41,364	$619,317	-	$2,040,235	22.06 %
Electrical	$4,237	$157,294	$9,073	-	$5,955	$176,558	1.91 %
Plumbing	-	$4,247	$215,793	$106,854	$68,091	$394,987	4.27 %
Fire and Life Safety	$1,579,108	-	-	-	-	$1,579,108	17.07 %
Technology	-	-	$1,286,673	-	-	$1,286,673	13.91 %
Conveyances	-	-	-	-	-	$0	0.00 %
Specialties	-	-	$4,563	$1,031,987	$25,669	$1,062,219	11.48 %
Total	$1,593,644	$1,565,854	$2,243,217	$3,149,562	$696,816	$9,249,092	

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

The building systems with the most need include:

Mechanical	-	$2,040,235
Fire and Life Safety	-	$1,579,108
Site	-	$1,375,890

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

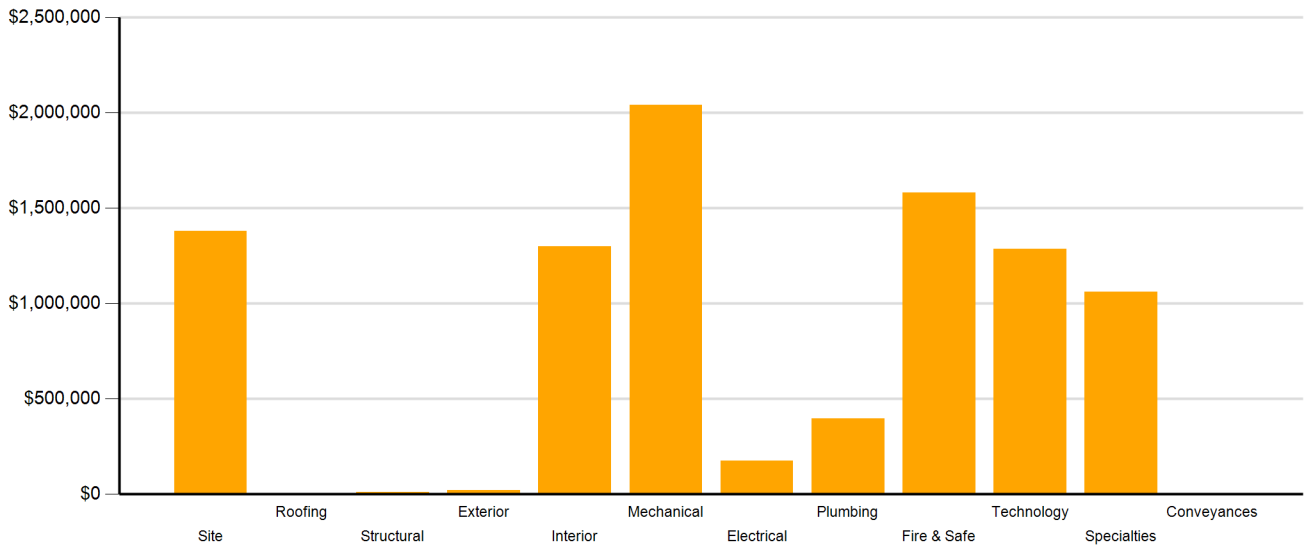


Figure 2: System Deficiencies

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	-	-	-	$61,795	-	$61,795
Barrier to Accessibility	-	-	-	-	-	$0
Capital Renewal	$1,555,182	$1,565,854	$782,913	$2,648,454	$287,054	$6,839,457
Code Compliance	-	-	-	-	-	$0
Educational Adequacy	$38,462	-	$33,084	$28,329	$409,762	$509,637
Functional Deficiency	-	-	-	-	-	$0
Hazardous Material	-	-	-	$410,984	-	$410,984
Technology	-	-	$1,258,152	-	-	$1,258,152
Traffic	-	-	$169,067	-	-	$169,067
Total	$1,593,644	$1,565,854	$2,243,217	$3,149,562	$696,816	$9,249,092

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

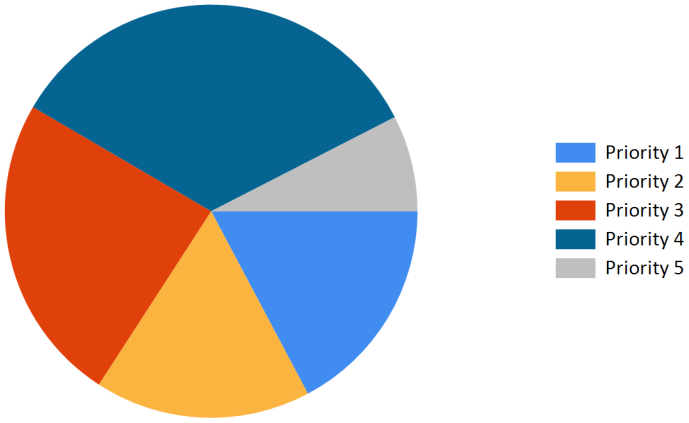


Figure 3: Current deficiencies by priority

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	$1,375,890	$0	$0	$0	$435,837	$82,535	$518,372	$1,894,263
Roofing	$2,472	$0	$0	$0	$480,760	$0	$480,760	$483,232
Structural	$10,299	$0	$0	$0	$0	$0	$0	$10,299
Exterior	$22,287	$0	$0	$0	$0	$237,437	$237,437	$259,724
Interior	$1,298,363	$0	$0	$2,315,503	$0	$1,117,562	$3,433,065	$4,731,428
Mechanical	$2,040,235	$0	$0	$0	$22,399	$57,597	$79,996	$2,120,232
Electrical	$176,558	$0	$0	$29,167	$0	$7,857	$37,024	$213,583
Plumbing	$394,987	$0	$0	$0	$22,132	$51,364	$73,496	$468,483
Fire and Life Safety	$1,579,108	$0	$0	$0	$0	$0	$0	$1,579,108
Technology	$1,286,673	$0	$0	$0	$0	$0	$0	$1,286,673
Conveyances	$0	$0	$0	$0	$0	$0	$0	$0
Specialties	$1,062,219	$0	$0	$0	$0	$0	$0	$1,062,219
Total	**$9,249,092**	**$0**	**$0**	**$2,344,670**	**$961,128**	**$1,554,352**	**$4,860,150**	**$14,109,242**

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

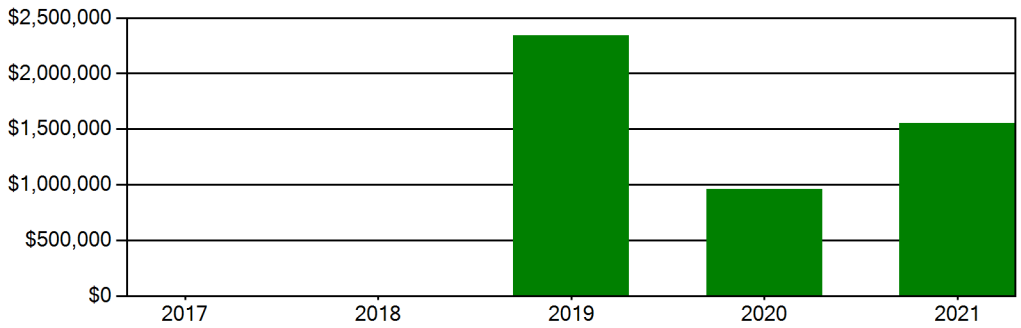
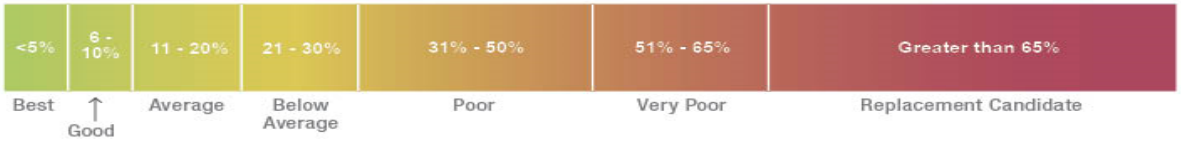


Figure 4: Life Cycle Capital Renewal Forecast

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 $24,776,400. For planning purposes, the total 5-year need at the Wickford Middle School is $14,115,451 (Life Cycle Years 1-5 plus the FCI deficiency cost). The Wickford Middle School facility has a 5-year FCI of 56.95%.

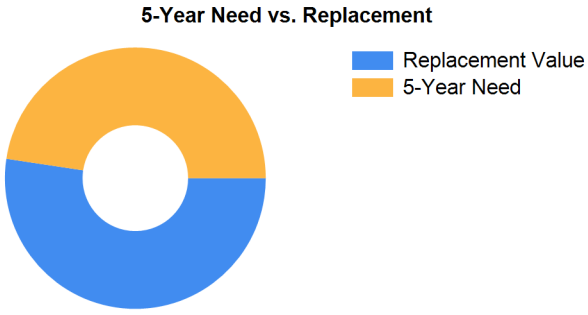


Figure 5: 5-Year FCI

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 395 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 Wickford Middle School cafeteria and/or library/media center to the size prescribed by the SCRs is estimated to be $753,430.

Summary of Findings

The Wickford Middle School comprises 75,080 square feet and was constructed in 1932. Current deficiencies at this school total $9,255,301. Five year capital renewal costs total $4,860,150. The total identified need for the Wickford Middle School (current deficiencies and 5-year capital renewal costs) is $14,115,451. The 5-year FCI is 56.95%.

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
Wickford Middle School Totals	75,080	1932	$9,255,301	$4,860,150	$14,115,451	56.95%

**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	3	Ea.	3	$2,266	11667
Note: Add crosswalks on Tower Hill Rd- one from school driveway to other side of street, one across the driveway, and one near the post office drop off box to provide access to bus stop across the street						
New Sidewalk Is Required	Traffic	6,960	SF	3	$157,735	11669
Note: Add sidewalk along school driveway (1160' long x 6' wide)						
Traffic Signage Is Required	Traffic	4	Ea.	3	$9,065	11668
Note: Add school zone signs on Tower Hill and Phillips St						
Asphalt Paving Requires Replacement	Capital Renewal	157	CAR	4	$515,940	11379
Note: Asphalt paving is cracked and splitting.						
Asphalt Paving Requires Replacement	Capital Renewal	101	CAR	4	$331,910	11380
Note: Parking lot paving is cracked and split.						
Backstops Require Replacement	Educational Adequacy	1	Ea.	4	$28,329	28506
Note: Backstops Require Replacement						
Exterior Basketball Goals are Required	Educational Adequacy	1	Ea.	5	$5,807	28758
Note: Exterior Basketball Goals are Required						
School lacks a competition track.	Educational Adequacy	1	Ea.	5	$324,837	28250
Note: School lacks a competition track.						
	Sub Total for System	**8**	**items**		**$1,375,890**	
	Sub Total for School and Site Level	**8**	**items**		**$1,375,890**	

Building: 01 - Main Building

Structural

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Foundation Study Recommended	Capital Renewal	1	Job	1	$10,299	11401
Note: Approximately 100' of floor cracks at the stairs and on the second floor of 1951 addition.						
	Sub Total for System	**1**	**items**		**$10,299**	

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Rubber Flooring Requires Replacement	Capital Renewal	59	SF	3	$1,194	11417
Location: Stairs by elevator						
The Carpet Flooring Requires Replacement	Capital Renewal	3,564	SF	3	$84,001	11383
The Terrazzo Flooring Requires Replacement	Capital Renewal	3,564	SF	3	$286,310	11397
The Wood Flooring Requires Replacement	Capital Renewal	4,039	SF	3	$145,179	11385
Adhered Acoustical Ceiling Tile Requires Replacement	Capital Renewal	3,564	SF	4	$41,868	11416
Note: Tiles are damaged and some are falling.						
Location: Hallways, classrooms, office S						
Light Deterioration or Damage of 9x9 Asbestos Floor Tile is Present	Hazardous Material	8,827	SF	4	$272,734	Rollup
Paint (probable pre-1978 in base layer(s)) - damaged area < 9 sq. ft. AND NOT in children-accessible area (measurement unit - each)	Hazardous Material	1	Ea.	4	$309	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	30	LF	4	$742	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	700	SF	4	$7,209	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	43	Ea.	4	$13,286	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	1,316	LF	4	$32,529	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	8,173	SF	4	$84,175	Rollup
Room Is Excessively Reverberant (Install Fiberglass Wall Panel)	Acoustics	1,000	SF	4	$61,795	19807
Note: Gym						
Moveable Partitions Require Repair	Capital Renewal	1,000	SF	5	$7,209	11418
Note: Partition material is coming apart.						

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Concrete Flooring Requires Repair Or Repainting	Capital Renewal	4,200	SF	5	$34,605	11386
The Gypsum Board Ceilings Require Repainting	Capital Renewal	49,445	SF	5	$224,068	Rollup
	Sub Total for System	**16**	**items**		**$1,297,214**	

Mechanical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Ductwork Requires Replacement (SF Basis)	Capital Renewal	75,000	SF	2	$1,194,469	11406
Note: Ductwork is rusted and has no insulation.						
Replace Unit Vent	Capital Renewal	5	Ea.	2	$91,622	11414
Note: Coils are clogged and motors are non-functional.						
The Air Handler HVAC Component Requires Replacement	Capital Renewal	2	Ea.	2	$93,463	11399
Note: Air handling units are corroded and leaking.						
Air Compressor Is Inoperable And Requires Replacement	Capital Renewal	1	Ea.	3	$6,915	11400
Note: Compressor is leaking oil.						
The Make Up Air Equipment Requires Replacement	Capital Renewal	2	Ea.	3	$34,449	11398
Note: Coils and blowers are clogged and the controls are ineffective.						
Exhaust Fan Ventilation Requires Replacement	Capital Renewal	2	Ea.	4	$5,802	11389
Exhaust Fan Ventilation Requires Replacement	Capital Renewal	1	Ea.	4	$2,901	11390
Existing Controls Are Inadequate And Should Be Replaced With DDC Controls	Capital Renewal	75,000	SF	4	$548,820	11409
Note: Controls system is leaking.						
The Chemistry Lab Fume Hood(s) Require Replacement	Capital Renewal	2	Ea.	4	$61,795	11381
	Sub Total for System	**9**	**items**		**$2,040,235**	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room last power shut-off valves for utilities	Educational Adequacy	3	Ea.	1	$4,237	Rollup
Generator Requires Replacement	Capital Renewal	1	Ea.	2	$82,394	11387
Note: Generator is old and leaking.						
Switchgear Is Needed Or Requires Replacement	Capital Renewal	1	Ea.	2	$25,439	11415
The Electrical Disconnect Requires Replacement	Capital Renewal	8	Ea.	2	$15,886	11388
Note: Connections are corroded and cases rusting.						
The Panelboard Requires Replacement	Capital Renewal	4	Ea.	2	$21,010	11402
The Panelboard Requires Replacement	Capital Renewal	1	Ea.	2	$6,283	11403
The Panelboard Requires Replacement	Capital Renewal	1	Ea.	2	$6,283	11404
Note: Federal Pacific breaker panel with replacement parts no longer manufactured.						
Transfer Switch Requires Replacement	Capital Renewal	250	Amps	3	$9,073	11413
Room Has Insufficient Electrical Outlets	Educational Adequacy	12	Ea.	5	$5,955	Rollup
	Sub Total for System	**9**	**items**		**$176,558**	

Plumbing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Backflow Preventer Requires Replacement	Capital Renewal	1	Ea.	2	$4,247	11405
Note: Backflow preventer is old, leaks, and should be replaced.						
Sump Pump Requires Replacement	Capital Renewal	1	Ea.	3	$1,570	11552
The Showers Plumbing Fixtures Require Replacement	Capital Renewal	26	Ea.	3	$214,224	11392
Non-Refrigerated Drinking Fountain Requires Replacement	Capital Renewal	5	Ea.	4	$55,358	11393
The Classroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	5	Ea.	4	$14,728	11382
Note: Lavatories are stained and the piping is corroded.						
The Custodial Mop Or Service Sink Requires Replacement	Capital Renewal	1	Ea.	4	$2,791	11395
Note: Mop sinks are stained and rusted.						
The Custodial Mop Or Service Sink Requires Replacement	Capital Renewal	6	Ea.	4	$16,747	11396
Note: Mop sinks are stained, corroded, and rusted.						
The Restroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	5	Ea.	4	$17,231	11391
Note: Lavatories are stained and corroded.						
Above Ground Fuel/Oil Storage Tank Requires Replacement	Capital Renewal	1	Ea.	5	$20,598	11408

Plumbing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room lacks a drinking fountain.	Educational Adequacy	5	Ea.	5	$5,514	Rollup
Room lacks a private shower area.	Educational Adequacy	1	Ea.	5	$10,235	Rollup
The Class Room Lavatories Plumbing Fixtures Are Missing And Should Be Installed	Educational Adequacy	21	Ea.	5	$31,744	Rollup
	Sub Total for System	**12**	**items**		**$394,987**	

Fire and Life Safety

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Fire Sprinkler System Requires Replacement (SF Basis) per NFPA 13	Capital Renewal	75,000	SF	1	$1,544,883	11407
Note: Piping is rusted and the sprinkler heads are corroded.						
Room lacks shut-off valves for utilities. (International Fuel Gas Code, Section 409.6)	Educational Adequacy	3	Ea.	1	$34,225	Rollup
	Sub Total for System	**2**	**items**		**$1,579,108**	

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	288	Ea.	3	$148,309	18256
Technology: Classroom AV/Multimedia systems are in need of improvements.	Technology	35	Ea.	3	$360,473	18251
Technology: Classroom AV/Multimedia systems are inadequate and/or near end of useful life.	Technology	1	Ea.	3	$21,628	18252
Technology: Instructional spaces do not have local sound reinforcement.	Technology	37	Ea.	3	$190,536	18255
Technology: Intermediate Telecommunications Room grounding system is inadequate or non-existent.	Technology	1	Ea.	3	$5,768	18245
Technology: Intermediate Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	$5,150	18246
Technology: Main Telecommunications Room is not dedicated and/or inadequate.	Technology	1	Ea.	3	$54,380	18244
Technology: Network cabling infrastructure is outdated (Cat 5 or less) and/or does not meet standards.	Technology	144	Ea.	3	$66,739	18247
Technology: Network cabling infrastructure is partially outdated and/or needs expansion.	Technology	144	Ea.	3	$66,739	18250
Technology: Network system inadequate and/or near end of useful life	Technology	5	Ea.	3	$41,197	18253
Technology: Network system inadequate and/or near end of useful life	Technology	45	Ea.	3	$231,732	18254
Technology: Telephone handsets are inadequate and sparsely deployed throughout the campus.	Technology	35	Ea.	3	$57,676	18248
Technology: Telephone system is inadequate and/or non-existent.	Technology	1	Ea.	3	$7,827	18249
	Sub Total for System	**14**	**items**		**$1,286,673**	

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	26	Room	4	$315,123	11412
The Metal Student Lockers Require Replacement	Capital Renewal	1,252	Ea.	4	$667,297	11410
The Metal Student Lockers Require Replacement	Capital Renewal	93	Ea.	4	$49,568	11411
Room lacks an appropriate refrigerator.	Educational Adequacy	3	Ea.	5	$25,669	Rollup
	Sub Total for System	**5**	**items**		**$1,062,219**	
	Sub Total for Building 01 - Main Building	**68**	**items**		**$7,847,294**	

Building: 02 - Shed

Roofing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Shingle Roof Requires Replacement	Capital Renewal	80	SF	2	$2,472	11419
	Sub Total for System	**1**	**items**		**$2,472**	

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Exterior Wood Requires Replacement (Bldg SF)	Capital Renewal	80	SF	2	$2,598	11423
Note: Wood siding has rotted.						
The Wood Exterior Door Requires Replacement	Capital Renewal	2	Door	2	$18,034	11420
The Wood Window Requires Replacement	Capital Renewal	8	SF	2	$1,655	11421
Note: Wood window frame has rotted and should be replaced.						
	Sub Total for System	**3**	**items**		**$22,287**	

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Wood Ceiling Tiles Require Replacement	Capital Renewal	80	SF	4	$577	11688
Interior Walls Require Repainting (Bldg SF)	Capital Renewal	80	SF	5	$573	Rollup
	Sub Total for System	**2**	**items**		**$1,149**	
	Sub Total for Building 02 - Shed	**6**	**items**		**$25,908**	
	Total for Campus	**82**	**items**		**$9,249,092**	

Wickford Middle 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)	1,430	LF	$96,136	4
Playfield Areas	MS Athletic Components	1	Ea.	$339,701	4
Note:	4 lacrosse fields, 2 baseball fields				
Pedestrian Pavement	Sidewalks - Concrete	4,038	SF	$82,535	5
	Sub Total for System	**3**	**items**	**$518,372**	
	Sub Total for Building -	**3**	**items**	**$518,372**	

Building: 01 - Main Building

Roofing

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Low-Slope Roofing	EPDM - Rubber Roofing Material	38,022	SF	$480,760	4
	Sub Total for System	**1**	**items**	**$480,760**	

Exterior

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Exterior Entrance Doors	Steel - Insulated and Painted	37	Door	$237,437	5
	Sub Total for System	**1**	**items**	**$237,437**	

Interior

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Interior Swinging Doors	Wood	141	Door	$650,134	3
Interior Door Supplementary Components	Door Hardware	181	Door	$567,851	3
Wall Painting and Coating	Painting/Staining (Bldg SF)	66,446	SF	$439,032	3
Athletic Flooring	Athletic/Sport Flooring	7,128	SF	$243,956	3
Resilient Flooring	Vinyl Composition Tile Flooring	36,044	SF	$413,488	3
Acoustical Suspended Ceilings	Exposed Tectum Ceilings	14,803	SF	$1,098,270	5
Wall Coverings	FRP Wall Finish	1,900	SF Wall	$19,292	5
	Sub Total for System	**7**	**items**	**$3,432,023**	

Mechanical

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Decentralized Cooling	Window Units	1	Ea.	$3,339	4
Facility Hydronic Distribution	Pump - 5HP	2	Ea.	$19,060	4
Exhaust Air	Roof Exhaust Fan	8	Ea.	$41,633	5
Exhaust Air	Kitchen Exhaust Hoods	1	Ea.	$15,964	5
	Sub Total for System	**4**	**items**	**$79,995**	

Electrical

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Power Distribution	Distribution Panels (800 Amps)	1	Ea.	$29,167	3
Power Distribution	Motor Controller (Loads)	2	Ea.	$7,857	5
	Sub Total for System	**2**	**items**	**$37,024**	

Plumbing

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Plumbing Fixtures	Refrigerated Drinking Fountain	3	Ea.	$22,132	4
Domestic Water Equipment	Water Heater - Gas - 75 Gallons	1	Ea.	$5,845	5
Facility Potable-Water Storage Tanks	Water Storage Tank - 1000 Gallon	1	Ea.	$45,519	5
	Sub Total for System	**3**	**items**	**$73,496**	
	Sub Total for Building 01 - Main Building	**18**	**items**	**$4,340,735**	

Building: 02 - Shed

Interior

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Flooring Treatment	Concrete Floor - Finished	80	SF	$1,042	3

Interior

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
	Note: Unfinished concrete floor.				
	Sub Total for System	**1**	**items**	**$1,042**	
	Sub Total for Building 02 - Shed	**1**	**items**	**$1,042**	
	Total for: Wickford Middle School	**22**	**items**	**$4,860,149**	

Supporting Photos


Cafeteria


Rusted Fuel Storage Tank


Worn Carpet


Classroom Lavatory


Corridor VCT


Separating 9x9 VCT


Faded Concrete Floor Paint


Worn And Scratched Wood Floor


Typical Electrical Disconnect


Leaking Generator


Exhaust Fan Ventilation


Exhaust Fan


Typical Drinking Fountains


Typical Shower Room


Corroded Service Sink


Peeling Ceiling Paint


Cracked Flooring at Second Floor


Air Handler


100 Amp Panelboard


Cracked Flooring at Stairs


Leaking Backflow Preventer


Federal Pacific Panelboard


Parking Lot Cracks


Leaking Air Compressor


Site Aerial


Roadway Asphalt Cracks

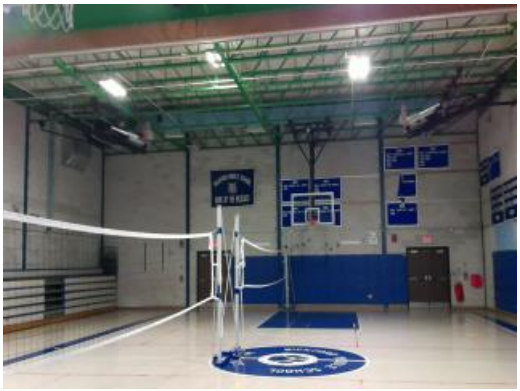

Typical Classroom


Science Room


Elevation


Marquee


Music Room


Gymnasium


Damaged Lockers


Library


Aged Cabinetry


Gymnasium Lockers


800 Amp Switchgear


Unit Heater


Damaged Rubber Flooring


Falling Adhered Acoustic Ceiling Tiles

Storage Shed Shingle Roof

Damaged Gym Partition

Storage Shed