



Arlington Public Schools FCA

2023 Condition Assessment

GENERAL INFORMATION

Building Name	Year Built ¹	Building GSF ²	Building FCI _{AD}	Condition Category Legend		
Abingdon Elementary School	1950	106,630	0.054	Good	Fair	Poor
				0 - 0.15	0.151 - 0.33	0.331 - 1
Building Number	Last Renovation ¹	No. of Floors	Building FCI _{DM}	Building CRV ⁶		
5	2017	3	0.000	\$35,896,208		

Building Description

Abingdon Elementary School, located at 3035 South Abingdon Street, is a three-story structure. The original building was constructed in 1950, and the last major renovation occurred in 2017, which added the gymnasium and the eastside classrooms, which included a new third level. Building drawings indicate that the east classrooms, gymnasium (now cafeteria), and library were added in 1969, and that renovations and minor additions were constructed in 1990. The building includes classrooms, cafeteria, kitchen, media center, gymnasium with stage, and administrative offices. The building's exterior wall assembly is predominantly brick veneer over CMU, although some walls of the original building are of brick masonry construction. The exterior windows are both fixed and operable metal framed units. The roof is primarily a low-sloped single ply membrane over both concrete and steel framing, with the remainder being steep-sloped standing seam metal which covers some first-floor classrooms. Interior floor finishes are primarily carpet tile, vinyl composition tile, and ceramic tile. Wall finishes are painted brick, CMU, and drywall, with some original tile and unpainted brick. Ceiling finishes are primarily suspended acoustic tiles. Building domestic hot water was generated utilizing natural gas-fired tanks. Water supply piping, sanitary sewer system and storm drainage was glass fiber. Roof top ERVs and outside air ventilation RTUs provided for the basic building heating and cooling while multiple distributed VRF heat pump systems delivered local heating and cooling. Hydronic boilers provided supplemental hot water for heating. Building power was through a 1600 Amp, 480/277V, three phase power service which was stepped down as needed for 208/120V for connected and lighting load distribution. The lighting was LED. There was a limited security access system. There was a fire suppression system utilizing fire and jockey pumps with an air compressor for the dry pipe sections of the system. The fire alarm system was addressable. The diesel generator was rated at 51kW and power emergency lighting and designated services. There was a 3-stop machine-room-less elevator.

SYSTEM DETAILS^{3,4,6}

Building Systems	Rating	System Description	Quantity	Unit of Measure	Unit Cost	CRV	EUL	RUL
A101000 - STANDARD FOUNDATIONS	5	Strip and spread footings	82,400	BLDG FP SF	\$12.08	\$995,647	99	99
A103000 - SLAB ON GRADE	5	Slab on grade	82,400	BLDG FP SF	\$13.87	\$1,142,857	99	99
A202000 - BASEMENT WALLS	5	Concrete basement walls	1,500	BASEMENT SF	\$19.09	\$28,642	99	99
B101000 - FLOOR CONSTRUCTION	5	Steel framed building supporting concrete floor slabs	24,230	ELEV FL SF	\$42.15	\$1,021,216	99	99
B102000 - ROOF CONSTRUCTION	5	Steel framed building supporting metal roof deck	82,400	BLDG FP SF	\$24.05	\$1,981,796	80	80
B201000 - EXTERIOR WALLS	5	Brick masonry wall assembly	105,130	BLDG GROSS SF	\$26.95	\$2,833,425	70	70
B202000 - EXTERIOR WINDOWS	4	Exterior windows	105,130	BLDG GROSS SF	\$18.83	\$1,979,156	40	16
B203000 - EXTERIOR DOORS	4	Exterior doors	105,130	BLDG GROSS SF	\$1.02	\$107,036	30	15
B301000 - ROOF COVERINGS	4	Single ply roof	82,400	BLDG FP SF	\$17.25	\$1,421,448	28	16
C101000 - PARTITIONS	5	Concrete block (CMU) partitions	106,630	FINISHED SF	\$20.42	\$2,177,409	70	70
C102000 - INTERIOR DOORS	4	Interior doors	106,630	FINISHED SF	\$4.73	\$503,897	40	20
C103000 - FITTINGS	4	Partitions and lockers	106,630	FINISHED SF	\$4.09	\$436,301	40	30
C201000 - STAIR CONSTRUCTION	5	Cast-in-place concrete stairs	106,630	BLDG GROSS SF	\$1.02	\$108,563	99	99
C301000 - WALL FINISHES	4	Standard wall finishes	93,630	FINISHED SF	\$5.09	\$476,638	10	7
C302000 - FLOOR FINISHES	4	Standard floor finishes	93,630	FINISHED SF	\$14.20	\$1,329,189	18	7
C303000 - CEILING FINISHES	4	Standard ceiling finishes	93,630	FINISHED SF	\$16.83	\$1,575,602	20	15
D101010 - ELEVATORS	5	Elevator	1	EACH	\$206,284.66	\$206,285	30	24
D101020 - LIFTS	-	-	-	-	-	-	-	-
D201000 - PLUMBING SYSTEMS AND FIXTURES	5	Plumbing Systems and Fixtures	106,630	SERVED SF	\$17.25	\$1,839,429	50	44
D202000 - RESIDENTIAL WATER HEATER	-	-	-	-	-	-	-	-
D202005 - COMMERCIAL WATER HEATER	5	Gas Water Heater, Commercial, 131 to 180 MBH	1	EACH	\$35,634.55	\$35,635	20	14
D204000 - BUILDING STORMWATER DRAINAGE	5	Internal roof drains plus in-floor drainage system	82,400	BLDG FP SF	\$4.92	\$405,223	60	54
D301000 - ENERGY SUPPLY	3	Natural gas supply	106,630	BLDG GROSS SF	\$0.15	\$16,387	60	54
D301006 - SOLAR ENERGY SUPPLY	5	Solar energy supply	5,332	SERVED SF	\$27.20	\$145,038	20	14
D301010 - GEOTHERMAL HEATING / COOLING SUPPLY	-	-	-	-	-	-	-	-
D302000 - CENTRAL PLANT HEATING	5	Boiler	106,630	SERVED SF	\$7.17	\$764,039	40	34
D302010 - FIREPLACES	-	-	-	-	-	-	-	-
D303000 - CENTRAL PLANT COOLING	-	-	-	-	-	-	-	-
D304010 - DISTRIBUTION SYSTEMS - HEATING	4	Chilled water piping and individual terminal AHUs	106,630	SERVED SF	\$23.44	\$2,499,002	30	24
D304020 - DISTRIBUTION SYSTEMS - COOLING	4	Chilled water piping and individual terminal AHUs	106,630	SERVED SF	\$23.44	\$2,499,002	30	24
D305010 - TERMINAL & PACKAGE UNITS	-	-	-	-	-	-	-	-
D306000 - CONTROLS	4	HVAC controls - split systems and/or packaged units	106,630	SERVED SF	\$2.38	\$253,997	15	9
D401000 - SPRINKLERS	4	Sprinkler system	106,630	SERVED SF	\$7.90	\$841,877	50	44
D402000 - STANDPIPES	5	Standpipe system	106,630	SERVED SF	\$0.63	\$67,596	50	44
D501000 - ELECTRICAL SERVICE AND DISTRIBUTION	5	Main electrical entrance and switch - 1600 Amp Service	106,630	BLDG GROSS SF	\$3.15	\$335,931	50	44
D502000 - LIGHTING AND BRANCH WIRING	5	Distribution panels, wiring, lighting and fixtures - >1200 Amp service	106,630	BLDG GROSS SF	\$36.27	\$3,867,308	50	44
D503000 - COMMUNICATION/SECURITY/FIRE ALARM	5	Communication, alarm, telephone, and wiring	106,630	BLDG GROSS SF	\$10.18	\$1,085,632	20	14
D509000 - EMERGENCY POWER	5	Emergency Generator, >=30 kW to <80 kW	1	EACH	\$56,199.97	\$56,200	35	29
E102000 - INSTITUTIONAL EQUIPMENT	5	Institutional equipment	150	SERVED SF	\$160.37	\$24,055	20	14
E109002 - FOOD SERVICE EQUIPMENT	5	Commercial kitchen components	106,630	SERVED SF	\$3.50	\$372,802	20	14
E109004 - RESIDENTIAL KITCHEN EQUIPMENT	-	-	-	-	-	-	-	-
E201003 - FIXED FURNISHINGS - PERMANENT SEATING	-	-	-	-	-	-	-	-
E201020 - FIXED FURNISHINGS - CASEWORK	5	Cabinetry	1,400	LENGTH LF	\$829.72	\$1,161,606	35	29
F102010 - ELEMENTARY SCHOOL GYMS/MULTI-PURPOSE ROOMS/AUXILIARY G	4	Multi-purpose room	13,000	SERVED SF	\$100.03	\$1,300,344	20	15
F102020 - HIGH SCHOOL LEVEL COMPETITION GYMNASIUMS	-	-	-	-	-	-	-	-
F102030 - AUDITORIUMS	-	-	-	-	-	-	-	-
F102040 - COLD STORAGE ROOMS	-	-	-	-	-	-	-	-
F104001 - AQUATIC FACILITIES	-	-	-	-	-	-	-	-

1. Values shown were provided by APS.

2. If FEA's estimated Gross Square Feet of the building (GSF) differed significantly from the GSF provided by APS, FEA used its own estimated GSF for this report.

3. The building Current Replacement Value (CRV) shown at the top of this report is in 2023 dollars and includes a cost markup factor of 1.921 applied to underlying raw cost data. The mark-up factor includes a location factor, a labor factor (based on location), A/E fees, contractor general requirements, general contractor overhead and profit, owner-imposed costs, and contingency. The underlying costs are generally based on RSMeans 2023 cost data, or researched cost data where RSMeans cost data is unavailable.

4. The building system CRVs and Unit Costs shown in the table are in 2023 dollars and apply a mark-up of 1.921 applied to underlying raw cost data. The mark-up factor includes a location factor, a labor factor (based on location), A/E fees, contractor general requirements, general contractor overhead and profit, owner-imposed costs, and contingency. The underlying costs are generally based on RSMeans 2023 cost data, or researched cost data where RSMeans cost data is unavailable.

5. The building system Projected Needs shown in the table are in 2023 dollars and apply a mark-up of 1.921 applied to underlying raw cost data. The mark-up factor includes a location factor, a labor factor (based on location), an existing conditions markup, A/E fees, contractor general requirements, general contractor overhead and profit, owner-imposed costs, and contingency. The underlying costs are generally based on RSMeans 2023 cost data, or researched cost data where RSMeans cost data is unavailable.

6. Markup factors applied are based on information provided by APS and FEA's experience.



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Building Name	Year Built¹	Building GSF²	Building FCI_{AD}	Condition Category Legend		
Abingdon Elementary School	1950	106,630	0.054	Good	Fair	Poor
Building Number	Last Renovation¹	No. of Floors	Building CRV⁶	0 - 0.15	0.151 - 0.33	0.331 - 1
5	2017	3	\$35,896,208	No. of Local Projects		
				0		

Building Description

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PROJECTED NEEDS^{5,6}

Building Systems	Rating	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
A101000 - STANDARD FOUNDATIONS	5	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
A103000 - SLAB ON GRADE	5	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
A202000 - BASEMENT WALLS	5	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
B101000 - FLOOR CONSTRUCTION	5	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
B102000 - ROOF CONSTRUCTION	5	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
B201000 - EXTERIOR WALLS	5	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
B202000 - EXTERIOR WINDOWS	4	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
B203000 - EXTERIOR DOORS	4	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
B301000 - ROOF COVERINGS	4	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
C101000 - PARTITIONS	5	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
C102000 - INTERIOR DOORS	4	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
C103000 - FITTINGS	4	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
C201000 - STAIR CONSTRUCTION	5	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
C301000 - WALL FINISHES	4	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
C302000 - FLOOR FINISHES	4	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
C303000 - CEILING FINISHES	4	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
D101010 - ELEVATORS	5	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
D101020 - LIFTS	-	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
D201000 - PLUMBING SYSTEMS AND FIXTURES	5	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
D202000 - RESIDENTIAL WATER HEATER	-	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
D202005 - COMMERCIAL WATER HEATER	5	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
D204000 - BUILDING STORMWATER DRAINAGE	5	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
D301000 - ENERGY SUPPLY	3	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
D301006 - SOLAR ENERGY SUPPLY	5	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
D301010 - GEOTHERMAL HEATING / COOLING SUPPLY	-	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
D302000 - CENTRAL PLANT HEATING	5	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
D302010 - FIREPLACES	-	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
D303000 - CENTRAL PLANT COOLING	-	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
D304010 - DISTRIBUTION SYSTEMS - HEATING	4	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
D304020 - DISTRIBUTION SYSTEMS - COOLING	4	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
D305010 - TERMINAL & PACKAGE UNITS	-	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
D306000 - CONTROLS	4	\$	\$	\$	\$	\$	\$	\$	\$	\$	253,997	\$	\$
D401000 - SPRINKLERS	4	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
D402000 - STANDPIPES	5	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
D501000 - ELECTRICAL SERVICE AND DISTRIBUTION	5	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
D502000 - LIGHTING AND BRANCH WIRING	5	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
D503000 - COMMUNICATION/SECURITY/FIRE ALARM	5	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
D509000 - EMERGENCY POWER	5	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
E102000 - INSTITUTIONAL EQUIPMENT	5	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
E109002 - FOOD SERVICE EQUIPMENT	5	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
E109004 - RESIDENTIAL KITCHEN EQUIPMENT	-	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
E201003 - FIXED FURNISHINGS - PERMANENT SEATING	-	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
E201020 - FIXED FURNISHINGS - CASEWORK	5	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
F102010 - ELEMENTARY SCHOOL GYMS/MULTI-PURPOSE ROOMS/AUXILIARY G	4	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
F102020 - HIGH SCHOOL LEVEL COMPETITION GYMNASIUMS	-	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
F102030 - AUDITORIUMS	-	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
F102040 - COLD STORAGE ROOMS	-	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
F104001 - AQUATIC FACILITIES	-	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
BUILDING Total in USD		\$0	\$0	\$0	\$0	\$0	\$0	\$1,805,827	\$0	\$253,997	\$0	\$0	\$0

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6. Markup factors applied are based on information provided by APS and FEA's experience.

GENERAL INFORMATION										
Building Name	Year Built ¹	Building GSF ²	Building FCI _{AD}	Condition Category Legend						
Abingdon Elementary School	1950	106,630	0.054	<table style="display: inline-table; border: none;"> <tr> <td style="background-color: #90EE90; padding: 2px;">Good</td> <td style="background-color: #FFD700; padding: 2px;">Fair</td> <td style="background-color: #FF0000; padding: 2px;">Poor</td> </tr> <tr> <td style="font-size: 8px;">0 - 0.15</td> <td style="font-size: 8px;">0.151 - 0.33</td> <td style="font-size: 8px;">0.331 - 1</td> </tr> </table>	Good	Fair	Poor	0 - 0.15	0.151 - 0.33	0.331 - 1
Good	Fair	Poor								
0 - 0.15	0.151 - 0.33	0.331 - 1								
Building Number	Last Renovation ¹	No. of Floors	Building FCI _{DM}	Building CRV ³						
5	2017	3	0.000	\$35,896,208						
SYSTEM OBSERVATIONS										
Building Systems	Rating	Observations								
A101000 - STANDARD FOUNDATIONS	5	The foundation system appears to be cast in place concrete.								
A103000 - SLAB ON GRADE	5	The lower level and the majority of the second (main) level have a slab on grade.								
A202000 - BASEMENT WALLS	5	Basement walls are cast-in-place concrete, CMU, and brick. SF is estimated.								
B101000 - FLOOR CONSTRUCTION	5	The third level and a portion of the second (main) level on the east side utilize elevated slabs. All floors are assumed to be of modern construction and use steel framing with a steel structural deck to support an elevated cast in place lightweight concrete slab.								
B102000 - ROOF CONSTRUCTION	5	For the original building, the roof deck appears to be cast in place concrete over concrete framing. For the 1969, 1990, and 2017 additions, the roof structure is assumed to be steel decking over steel framing. There is steel roofing and framing over Rooms 174-178 and Rooms 129-134, which are part of the original structure. There is also a small area of wood decking supported by steel framing in Rooms 166 and 167, which are covered by metal roofing. There is also a steel framed portico at the entrance. Steel framing is assumed to predominate based on additions and renovations.								
B201000 - EXTERIOR WALLS	5	The building's exterior wall assembly is predominantly brick veneer over CMU, although some walls of the original building are of brick masonry construction. Above some windows on the east and west sides of the building, there are translucent polycarbonate wall panels that allow natural light to filter into the building; these panels are also present in the gymnasium. There is a solar shading facade on the easternmost and northernmost corners of the building.								
B202000 - EXTERIOR WINDOWS	4	The exterior windows are both fixed and operable metal framed units with thermal glazing. There is a storefront system at the main entrance, with similar storefront systems at Entrances #5 and 8. There is an older, single pane metal framed system in the basement that is in fair condition; this formerly served as an exterior wall of the basement. The windows for the 2017 additions and the prior, existing windows appear to have been installed at different times, but the windows in general were in good condition and did not exhibit cracking, fogging, or other apparent degradation.								
B203000 - EXTERIOR DOORS	4	The exterior doors are predominantly single and paired glazed storefront units and single and paired metal flush panel units. Finishes of some metal flush panel units exhibited slight wear and staining, but no corrosion or misalignment was observed at exterior doors.								
B301000 - ROOF COVERINGS	4	Roof covering is primarily low-sloped single ply membrane (~75%) with a lesser amount of sloped standing seam metal roofing (~25%) covering some main level classrooms. The 2010 APS Roof Survey indicated a combination of BUR (94%), asphalt shingles (4%), and standing seam metal (2%), and no update was reported in the 2016 roof survey. It is assumed that all roofing was replaced in 2017 as part of renovations and solar PV installation, and that new roofing SF was added for the Gym, classrooms, and small additions. No leaks observed or reported. No tears, cracking, or blisters were observed but numerous small areas of localized ponding were evident. The NE corner of the building over Rooms 127 and 128 exhibits excessive biological growth due to standing water caused by tree shading; this vegetation should be cut back. The roof is intended to act as a white reflective roof and would benefit from cleaning. Metal gutters and downspouts are in good condition.								
C101000 - PARTITIONS	5	Partition walls are a combination of CMU, original brick, drywall over studs, and a small amount of glazed partitions. The predominate partition appears to be CMU.								
C102000 - INTERIOR DOORS	4	The majority of the interior doors are solid core wood panels in metal frames, with some single/paired metal doors. The doors types vary and include flush and glazed units. There are also a few fully glazed pedestrian doors, glazed roll-up doors in classrooms, and four mesh metal roll-up doors in the Cafeteria.								
C103000 - FITTINGS	4	The predominate fittings for the school are composite toilet partitions, metal railings, and metal lockers on the second and third floor of the new classroom wing.								
C201000 - STAIR CONSTRUCTION	5	Interior stairs include cast in place concrete and steel framed with concrete infill pans, with CIP concrete predominating. Stairs have metal hand rails and guard rails.								
C301000 - WALL FINISHES	4	The building has a variety of wall finishes, but painted drywall and CMU predominate. In corridors and other common areas, finishes are unpainted brick, original tile, painted drywall, and painted CMU. In classrooms, primarily painted drywall and CMU, with some painted brick. In restrooms, ceramic tile, painted drywall, and CMU. In the Media Center, painted CMU brick, and drywall, while in the Kitchen, painted CMU and drywall.								
C302000 - FLOOR FINISHES	4	The building has a variety of floor finishes. In corridors and other common areas, finishes are VCT and carpet tile. In classrooms, carpet tile and VCT. In restrooms and the Kitchen, ceramic tile. In the Media Center, carpet tile. High traffic areas such as corridors, classrooms, and the kitchen/cafe/tertia area show more wear but overall condition is good.								
C303000 - CEILING FINISHES	4	Ceiling finishes are predominantly suspended acoustic tile, with some painted drywall and a small amount of painted ceiling structure.								
D101010 - ELEVATORS	5	Elevator machine room-less elevator was located in the most recent renovation addition serving all three floor.								
D101020 - LIFTS	-									
D201000 - PLUMBING SYSTEMS AND FIXTURES	5	Domestic and waste plumbing fixtures and features included restroom waterclosets, urinals, sinks, sump pumps, water pressure booster pumps, and janitor stations. The visible piping and fixtures appeared functional with in-wall, overhead, and limited in-slab distribution.								
D202000 - RESIDENTIAL WATER HEATER	-									
D203000 - COMMERCIAL WATER HEATER	5	PVI Maxim 125 g, 140 MMBtu/h natural gas domestic water heater at the end of useful life, but appears to be functional.								
D204000 - BUILDING STORMWATER DRAINAGE	5	Storm drainage system utilized a roof drainage system with drops internal to the building.								
D301000 - ENERGY SUPPLY	3	Distributed natural gas provided for domestic and hydronic hot water. Service presumed to have been upgraded with most recent renovations.								
D301006 - SOLAR ENERGY SUPPLY	5	There were approximately 46 kW of roof mounted photovoltaic solar panels based on an estimated 2300 sqft of panels at 20kW/sf, potentially contributing to about 5% of the building power requirements.								
D301010 - GEOTHERMAL HEATING / COOLING SUPPLY	-									
D302000 - CENTRAL PLANT HEATING	5	Three 1500 MMBtu/h ATH (Advanced Thermal Hydronics) hydronic natural gas fired boilers provided distributed heating water roof top units, fan coil units and VAV boxes throughout.								
D302010 - FIREPLACES	-									
D303000 - CENTRAL PLANT COOLING	-									
D304010 - DISTRIBUTION SYSTEMS - HEATING	4	Based on the served areas, systems include roof top units, some as air source heat pumps or with DX cooling and hydronic heating; condensing unit heat pumps, fan coil units, and VRF systems. Systems appeared to be from 2007 to 2017 with some more recent replacements. Recommendation: As a maintenance practice, the condensing coils were found to be dirt clogged and should be power washed and combed.								
D304020 - DISTRIBUTION SYSTEMS - COOLING	4	Based on the served areas, systems include roof top units, some as air source heat pumps or with DX cooling and hydronic heating; condensing unit heat pumps, fan coil units, and VRF systems. Systems appeared to be from 2007 to 2017 with some more recent replacements. Recommendation: As a maintenance practice, the condensing coils were found to be dirt clogged and should be power washed and combed.								
D305010 - TERMINAL & PACKAGE UNITS	-									
D306000 - CONTROLS	4	The major building MEP systems incorporated elements of a DDC and a limited pneumatic system which appeared to be functional.								
D401000 - SPRINKLERS	4	A single water service served the distributed sprinkler systems throughout the building.								
D402000 - STANDPIPES	5	There were stairwell standpipe systems with no reported or issues observed. Connections were mechanical or bare welds.								
D501000 - ELECTRICAL SERVICE AND DISTRIBUTION	5	The 480/277V, 1600A service rated switchboard provides power to the building distribution. It was original construction, including the wiring. No issues reported or observed.								
D502000 - LIGHTING AND BRANCH WIRING	5	Branch and light fixture wiring was copper including the wiring from the electrical distribution panels to the connected load and lighting panels. Lighting was typically LED with assorted occupancy sensors and power switches.								
D503000 - COMMUNICATION/SECURITY/FIRE ALARM	5	Communication, security, and fire alarm systems were found to be functioning with no issues reported or noted.								
D509000 - EMERGENCY POWER	5	A 51 KW Kohler diesel fueled emergency generator and automatic transfer switches provided dedicated emergency power.								
E102000 - INSTITUTIONAL EQUIPMENT	5	The kln had a separate local exhaust system vented to the building exterior.								
E109002 - FOOD SERVICE EQUIPMENT	5	The kitchen was limited to Blodgett warming units and cooling/chilled/frozen food services with cold storage, heat exhaust, and cooking utensil washing.								
E109004 - RESIDENTIAL KITCHEN EQUIPMENT	-									
E201003 - FIXED FURNISHINGS - PERMANENT SEATING	-									
E201020 - FIXED FURNISHINGS - CASEWORK	5	Casework was found classrooms and offices, common function spaces. There were floor mounted laminate wood casework including desks, work stations, storage cubes, shelving, drawers and cabinets throughout.								
F102010 - ELEMENTARY SCHOOL GYMS/MULTI-PURPOSE ROOMS/A	4	Elementary school gymnasium that also serves as auditorium with raised stage, constructed 2017. Sheet vinyl flooring, painted CMU walls with acoustic panels, safety padding, and a climbing wall, and painted steel ceiling framing were in good condition. Wood stage flooring was in excellent condition, with standard suspended and wall-mounted LED lighting serving the stage area. Translucent panels provide natural lighting to the space. Suspended LED lighting. Suspended flexible partition can be used to divide the space. The cafeteria had VCT flooring, painted walls, and suspended ceiling tiles.								
F102020 - HIGH SCHOOL LEVEL COMPETITION GYMNASIUMS	-									
F102030 - AUDITORIUMS	-									
F102040 - COLD STORAGE ROOMS	-									
F104001 - AQUATIC FACILITIES	-									

1. Values shown were provided by APS.
2. If FEA's estimated Gross Square Feet of the building (GSF) differed significantly from the GSF provided by APS, FEA used its own estimated GSF for this report.
3. The Building Current Replacement Value (CRV) shown at the top of this report is in 2023 dollars and includes a cost markup factor of 1.921 applied to underlying raw cost data. The markup factor includes a location factor, a labor factor (based on location), A/E fees, contractor general requirements, general contractor overhead and profit, owner-imposed costs, and contingency. The underlying costs are generally based on RSMeans 2023 cost data, or researched cost data where RSMeans cost data is unavailable.
4. The building system CRVs and Unit Costs shown in the table are in 2023 dollars and apply a mark-up of 1.921 applied to underlying raw cost data. The markup factor includes a location factor, a labor factor (based on location), A/E fees, contractor general requirements, general contractor overhead and profit, owner-imposed costs, and contingency. The underlying costs are generally based on RSMeans 2023 cost data, or researched cost data where RSMeans cost data is unavailable.
5. The building system Projected Needs shown in the table are in 2023 dollars and apply a mark-up of 1.921 applied to underlying raw cost data. The markup factor includes a location factor, a labor factor (based on location), an existing conditions markup, A/E fees, contractor general requirements, general contractor overhead and profit, owner-imposed costs, and contingency. The underlying costs are generally based on RSMeans 2023 cost data, or researched cost data where RSMeans cost data is unavailable.
6. Markup factors applied are based on information provided by APS and FEA's experience.

Arlington Public Schools - Individual Building Characteristics

2023 Assessment

GENERAL INFORMATION

Building Name	Year Built ¹	Last Renovation ¹	Building GSF ²	Building Footprint SF ²	No. of Floors
Abingdon Elementary School	1950	2017	106,630	82,400	3

RATING LEGEND

- Meets Standard
- Approaches Standard
- Does Not Meet Standard
- Not Applicable

Category	Sub-Category	Rating	Notes
Major Building Systems	2.0 HVAC - Indoor Air Quality	●	> 8 eACH average for classroom spaces when factoring all ventilation and local filtration per Havard T.E. Chan recommendations
Major Building Systems	3.0 HVAC - Ventilation - Classroom	●	While ventilation for most of the classrooms consistently meets current ASHRAE 62.1, several classrooms do not (ART, Music, Ventilation for Gym meets current ASHRAE 62.1 (with 250 students max)
Major Building Systems	4.0 HVAC - Ventilation - Gymnasium	●	Ventilation for Gym meets current ASHRAE 62.1 (with 250 students max)
Major Building Systems	5.0 HVAC - Ventilation - Dining	●	Assumed ASHRAE baseline for Multiuse/Assembly
Major Building Systems	6.0 HVAC - Ventilation - Library	●	Assumed ASHRAE baseline for Library spaces
Major Building Systems	7.0 HVAC - Ventilation - Auditorium	●	
Major Building Systems	8.0 HVAC - Ventilation - Pool	●	
Major Building Systems	9.0 HVAC - Specialty Ventilation Requirements	●	Art rooms are directly exhausted outdoors
Major Building Systems	10.0 HVAC - Filtration - Classrooms	●	Roof top equipment utilized MERV 13 Filtration
Major Building Systems	11.0 HVAC - Filtration - Gymnasium	●	Roof top unit appears Merv 13 capable
Major Building Systems	12.0 HVAC - Filtration - Library	●	Roof top unit appears Merv 13 capable
Major Building Systems	13.0 HVAC - Filtration - Auditorium	●	
Major Building Systems	14.0 HVAC - Filtration - Pool	●	
Major Building Systems	15.0 HVAC - Thermal Comfort	●	Not all of the classrooms have local thermostat with adjustable control
Major Building Systems	3.1 Electrical - Indoor Lighting (LED coverage)	●	Restrooms, partial Media Center and recess lighting are fluorescent
Major Building Systems	3.2 Electrical - Exterior Lighting	●	Fixtures were dark sky compliant.
Major Building Systems	3.3 Electrical - Indoor Lighting Color Temperature	●	
Major Building Systems	3.4 Electrical - Exterior Lighting Color Temperature	●	
Major Building Systems	3.5 Electrical - Occupancy Sensors	●	
Major Building Systems	3.6 Electrical - Sport Lighting	●	
Major Building Systems	2.0 Plumbing - Isolation Valves	●	
Major Building Systems	3.0 Plumbing - Flow/Pressure	●	
Major Building Systems	4.1 Plumbing - Water Efficient Fixtures	●	Did not appear to have water efficient fixtures on site
Major Building Systems	4.2 Plumbing - Water Usage Intensity (WUI)	●	FY 2022 Energy Report Card
Major Building Systems	1.0 Building Security - Security Vestibules	●	Entrance 1
Major Building Systems	2.1 Building Security - Areas of concealment (interior)	●	
Major Building Systems	2.2 Building Security - Areas of concealment (exterior)	●	Walled-in trash area provides area of concealment. Vegetation at the back of the gymnasium should be kept trimmed.
Major Building Systems	2.3 Building Security - Single point of entry	●	Entrance 1 is clearly the main entrance at the front of the building. However, Entrance 8 appears to be a primary entrance at the back of the building
Major Building Systems	Life Safety and Code Standards - Accessible entrance	●	
Major Building Systems	Life Safety and Code Standards - Elevator (if multistory)	●	1 elevator, 5 levels
Major Building Systems	Life Safety and Code Standards - Bathroom Accessibility	●	There are 5 in-classroom toilet rooms that are not ADA in the old section of the building. All others (vast majority) are compliant.
Major Building Systems	Life Safety and Code Standards - Corridor Width	●	
Major Building Systems	Life Safety and Code Standards - Stairs/Guardrails/Handrails	●	
Major Building Systems	Life Safety and Code Standards - Accessibility in Public Spaces	●	
Major Building Systems	Life Safety and Code Standards - Accessibility to sports fields and out buildings	●	
Major Building Systems	1.0 Ability to Expand - Feasibility Study	●	
Major Building Systems	2.1 Ability to Expand - Relocatable Complex	●	
Major Building Systems	2.2 Ability to Expand - Number of Relocatable Classrooms	4	
Major Building Systems	1.0 Other - Energy Use Intensity (EUI) Benchmarking	●	FY 2022 Energy Report Card
Major Building Systems	2.1 Other - Daylighting Access	●	
Major Building Systems	2.2 Other - Daylighting Controllability	●	
Major Building Systems	3.0 Other - On-site renewable energy	●	
Major Building Systems	4.0 Other - Geothermal	●	
Major Building Systems	5.2 Other - Number of Elevators	1	
Major Building Systems	5.3 Other - Elevator Size	●	80x65 2-door opposing right/left
Common Space Adequacy	1.0 Cafeteria	●	3600(cafeteria area)/15 students = 240
Common Space Adequacy	1.1 Kitchen	●	1595(kitchen area incl office, etc)/3 = 532
Common Space Adequacy	1.2 Kitchen	●	2 serving lines, 1 POS
Common Space Adequacy	1.3 Kitchen	●	design capacity 725/3 periods = 242
Common Space Adequacy	2.1 Gymnasium	●	Gym: 6 hoops, climbing wall, volleyball, and daylight
Common Space Adequacy	2.2 Gymnasium	●	89'-7"L x 60'-8"W. Height to bottom of joist 23'-11", to bottom of deck 28'-0"
Common Space Adequacy	3.1 Performance Space	●	Platform off gym, ADA accessible and permanent
Common Space Adequacy	3.2 Performance Space	●	N/A for elementary school
Common Space Adequacy	3.3 Performance Space	●	
Common Space Adequacy	4.1 Library	●	798 LF / 725 students = 1.1 LF per student
Common Space Adequacy	4.2 Library	●	open to library, down a set of steps, ADA accessible
Common Space Adequacy	5.0 Pool	●	N/A for elementary school
Common Space Adequacy	5.1 Pool	●	
Common Space Adequacy	5.2 Pool	●	
Common Space Adequacy	6.1 Playground	●	Mulch with playground equipment
Common Space Adequacy	6.2 Playground	●	
Common Space Adequacy	6.3 Playground	●	Mulch only
Common Space Adequacy	7.0 Fields	●	
Common Space Adequacy	7.1 Sport Fields	●	
Common Space Adequacy	7.2 Out Buildings	●	
Common Space Adequacy	7.3 Press Box	●	
Common Space Adequacy	8.0 Outdoor Learning	●	garden space only with raised beds, no classroom
Common Space Adequacy	9.0 Outdoor dining	●	
Educational Space Adequacy	1.1 Classrooms (General) - Green Rating	8	Green = 8; pre-k & k (0); 1st (3); Gen ed (5)
Educational Space Adequacy	1.1 Classrooms (General) - Yellow Rating	18	Yellow = 18; pre-k & k (3); 1st (1); Gen ed (14)
Educational Space Adequacy	1.1 Classrooms (General) - Red Rating	4	Red = 4; pre-k & k (4); 1st (0); Gen ed (0)
Educational Space Adequacy	1.2 Classrooms (General)	●	
Educational Space Adequacy	1.3 Classrooms (General)	●	100% classrooms have operable windows
Educational Space Adequacy	1.4 Classrooms (General)	●	14% rooms do not have in-suite toilet
Educational Space Adequacy	1.5 Classrooms (General)	●	78% classrooms have a sink
Educational Space Adequacy	2.1 Classrooms (Special Education)	●	
Educational Space Adequacy	2.2 Classrooms (Special Education)	●	Pre-K spec ed
Educational Space Adequacy	2.3 Classrooms (Special Education)	●	
Educational Space Adequacy	2.4 Classrooms (Special Education)	●	
Educational Space Adequacy	3.1 Workspace	●	
Educational Space Adequacy	3.2 Pullout Space	●	
Educational Space Adequacy	3.3 Administrative space	●	3 desks; 5 offices; 1 conference room ; 1 records room - not rated
Educational Space Adequacy	3.4 Clinic	●	2 beds, 1 ADA toilet, 1 sink, 1 eye wash, 1 refrigerator, 1 exam room, 1 office
Educational Space Adequacy	4.1 Art	●	2 art rooms, 144 and 158
Educational Space Adequacy	4.2 Art	●	yes, 2 kilns, each connected to an art classroom
Educational Space Adequacy	4.3 Art	●	room 144 - 3 sinks; room 158 - 3 sinks
Educational Space Adequacy	4.4 Art	●	each has connected storage
Educational Space Adequacy	5.1 Music	●	2 - general and 1 - instrumental
Educational Space Adequacy	5.2 Music	●	1 general music has connected storage; the other 2 do not
Educational Space Adequacy	6.0 Lab	●	
Educational Space Adequacy	7.1 Performing Arts	●	
Educational Space Adequacy	7.2 Performing Arts	●	

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