

POUDRE SCHOOL
DISTRICT

POLARIS
EXPEDITIONARY
LEARNING K-12

FACILITY CONDITION ASSESSMENT

FORT COLLINS, CO

MARCH 2023



Together, Building a Thriving Planet



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Section

1

Executive Summary

Executive Summary

Project Goals

The contents of this report present the results of the Facility Condition Assessment (FCA) performed at Polaris Expeditionary Learning K-12 within the Poudre School District (PSD) on March 3, 2023. PSD intends to utilize the findings of this report to inform both capital and operating budgets, prioritize maintenance efforts, and optimize planning processes as replacements and upgrades of assets and facility systems become necessary in the future.

Facility List

The scope of the FCA project included the assessment of the following campus.

FACILITY NAME	AREA (SF)	YEAR(S) BUILT
POLARIS EXPEDITIONARY LEARNING K-12	51,670	1956
TOTAL	51,670	

Facility Summary

Polaris Expeditionary Learning K-12

Polaris Expeditionary Learning K-12 is located at 1905 Orchard Pl., Fort Collins, CO 80521. This 51,670 SF facility consists of one level and was initially constructed in 1956. The equity index for this school is 0.49.



Figure 1-1: Polaris Expeditionary Learning K-12

Executive Summary

Assessment Summary

This section summarizes the building systems at the facility and describes the general condition observed based on the assessment performed on March 3, 2023. Additional details, findings and recommendations are presented in Section 3 of this report.

Capital Plan Summary

The estimated replacement costs for equipment expected to fail within the next ten years are shown below, divided into three separate plans. These plans are the 3-Year Plan, 5-Year Plan, and the 10-Year Plan. Each plan includes the cost for replacement of equipment expected to fail during these periods, based on the observed condition of the equipment at the time of the assessment.

Replacement costs include 3% inflation year over year.

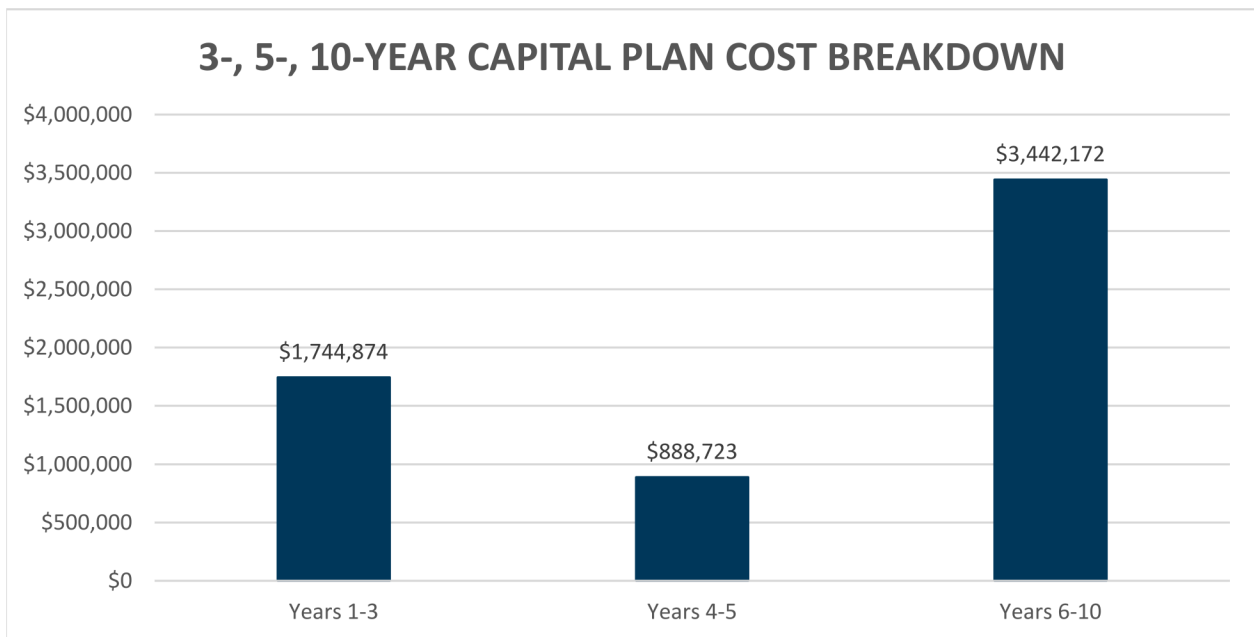


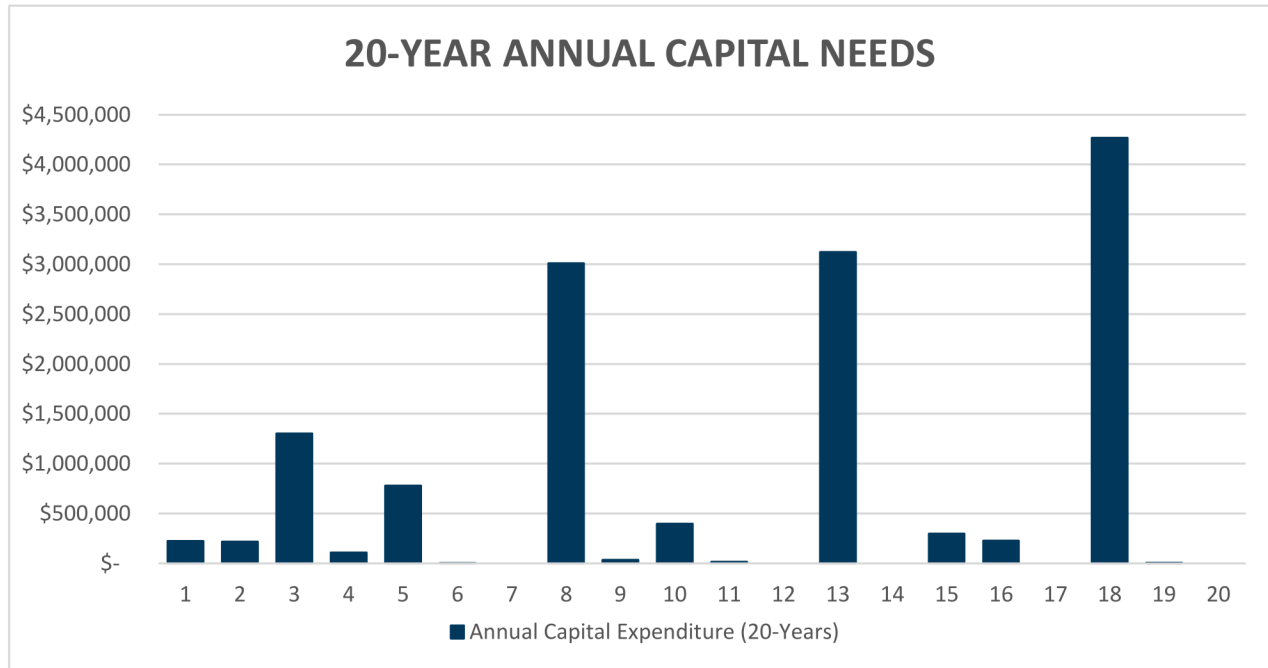
Figure 1-2: 3-, 5-, 10-Year Capital Plan Cost Breakdown

Executive Summary

Annual Capital Expenditure (20 Years)

20-Year Annual Capital Needs and 20-Year Annual Capital Expenditure by Subsystem below indicate the estimated replacement costs for equipment expected to fail within the next twenty years, and are displayed both by year and by subsystem.

Replacement costs include 3% inflation year over year.



Annual Capital Expenditure by Year

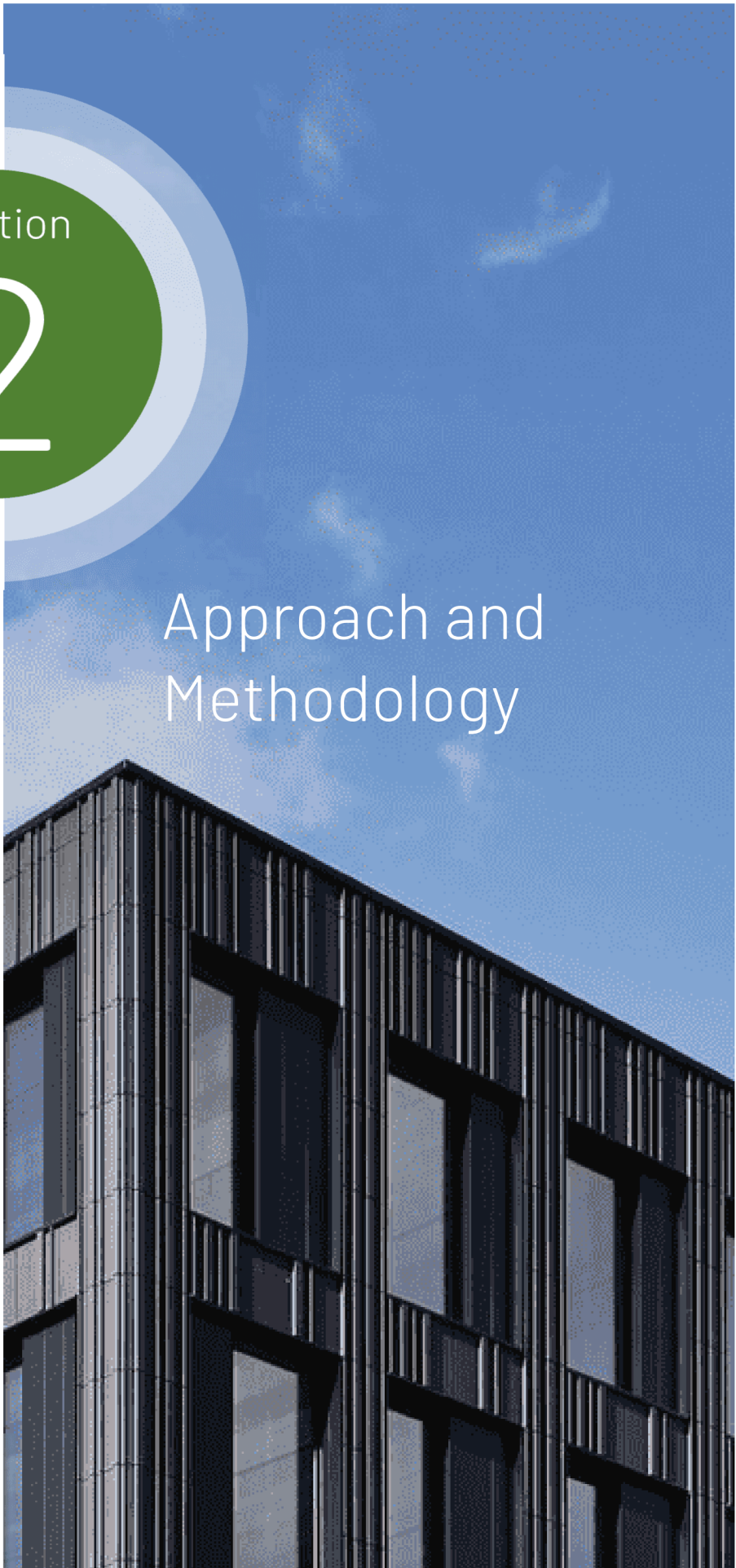
Replacement costs associated with the Annual Capital Expenditure graph and table include values that are adjusted for inflation.

20-Year Annual Capital Expenditure by Subsystem

Subsystem	Years 1-5	Years 6-10	Years 11-15	Years 15-20
B20 - Enclosure	\$678,373	\$893,127	\$0	\$705,766
B30 - Roofing	\$158,449	\$21,203	\$5,860	\$307,975
C10 - Int. Construction	\$75,735	\$1,696,033	\$0	\$1,227,372
C20 - Stairs	\$0	\$0	\$0	\$0
C30 - Interior Finishes	\$713,954	\$19,346	\$1,508,883	\$0
D10 - Conveying	\$0	\$0	\$0	\$0
D20 - Plumbing	\$27,750	\$8,272	\$14,797	\$0
D30 - HVAC	\$430,750	\$309,155	\$175,682	\$2,256,508
D40 - Fire Suppression	\$0	\$0	\$0	\$0
D50 - Electrical	\$548,587	\$495,037	\$1,728,562	\$0
E10 - Equipment	\$0	\$0	\$0	\$0
Total:	\$1,007,086	\$812,463	\$1,919,041	\$2,256,508

Section
2

Approach and
Methodology



Scope and Approach

Scope and Approach

SCOPE OF WORK

The scope of this facility condition assessment includes all major mechanical, electrical, and plumbing equipment, and commercial refrigeration equipment. In addition, the building enclosure, roofing, interior construction and finishes, and fire suppression systems are included within the assessment.

The following table lists the general asset types included within the scope of this assessment. Also shown is the corresponding Unifomat code, which has been used to catalog equipment based on type and intended use.

UniFormat Classification of Building Systems

UNIFORMAT CODE	CATEGORY DESCRIPTION
B20	Exterior Enclosure (i.e. windows, walls, doors)
B30	Roofing (i.e. roofing covering, skylights, etc.)
C10	Interior Construction (i.e. doors, walls)
C20	Interior Stairs (i.e. stair construction)
C30	Interior Finishes (i.e. flooring, ceiling finishes, etc.)
D10	Conveying (i.e., elevators)
D20	Plumbing (i.e., water heating, pumps, compressors)
D30	Heating, Ventilation, and Air Conditioning
D40	Fire Suppression Systems
D50	Electrical (panelboards, transformers, switchgear)
E10	Equipment, Kitchen Hoods, Walk-in Units, etc.

Scope and Approach

RATINGS, METHODS AND SCORING

To allow Poudre School District more flexibility in prioritizing capital planning efforts, McKinstry has developed the following metrics which assign various scores to each asset.

Asset Condition

Condition ratings are presented for each asset as a score of 1 – 5. Scores are based upon a visual inspection during the building evaluation period. A score of 1 signifies that the asset is in great, “like new” condition. A score of 2 indicates that the asset is in good condition. A score of 3 signifies that the asset is in expected “average” condition based on function and the age of the asset. A score of 4 signifies that the asset is in poor condition, in need of repair, and will require replacement in the near future. A score of 5 signifies that the asset is in very poor or failed condition and in need of imminent replacement.

SCORE	CONDITION ASSESSMENT
1	Asset is in great condition, no action required.
2	Asset is in good condition, regular maintenance expected.
3	Asset is in expected condition, regular replacement/maintenance expected.
4	Asset is in poor condition, maintenance/replacement recommended soon.
5	Asset is in very poor condition, urgent replacement needed.

Student/Teacher Impact

Student/Teacher Impact scores are presented for each asset on a scale of 1 – 5 (low to high impact). This metric considers educational (student and/or teacher) impact caused if the equipment were to fail. Assets serving classrooms and other educational spaces are assigned scores of 2-5 depending on the impact the failure of an asset would have and if backups are available. A student/teacher impact score of 1 indicates that there is little to no impact to educational activities.

SCORE	STUDENT/TEACHER IMPACT
1	Failure poses no significant educational impact.
2	Failure poses low educational impact.
3	Failure poses moderate impact. Asset serves teaching area, but has backup.
4	Failure poses high educational impact.
5	Failure poses severe impact. Asset serves teaching area and has no backup.

Energy Cost Impact

The Energy Impact score is presented for each asset on a scale of 1-5 (low to high impact). Each of the asset types within the scope of this assessment were evaluated based on their impact to energy cost and consumption (including electrical, natural gas, and liquid fuels). Assets with a higher Energy Cost Impact score indicate that the asset has a large contribution to the overall energy costs of the facility. A sample of Energy impact scores is shown below:

Scope and Approach

ASSET TYPE	ASSET SIZE	ENERGY COST IMPACT (1-5)
Air Handling Unit	less than 10,000 CFM	3
	between 10,000 CFM – 50,000 CFM	4
	greater than 50,000 CFM	5
Chiller	less than 200 tons	3
	between 200 – 500 tons	4
	greater than 500 tons	5
Computer Room AC Condensing Unit Heat Pump	less than 10 tons	2
	greater than 10 tons	3
Cooling Tower	less than 200 tons of rejection	2
	greater than 200 tons of rejection	3
Dust Collector	less than 5 HP	2
	between 5 HP and 25 HP	3
	greater than 25 HP	4
Exhaust Fan	less than 5000 CFM	2
	greater than 5000 CFM	3
Fan Coil Unit	greater than 3000 CFM	2
Fuel Fired Boiler	less than 200 MBH	2
	between 200 – 1000 MBH	3
	between 1000 – 2000 MBH	4
	greater than 2000 MBH	5
Furnace	less than 100 MBH	2
	between 100 and 500 MBH	3
	greater than 500 MBH	4
Generator	less than 500 KW	2
	greater than 500 KW	3
Lighting, Exterior	LED	2
	Fluorescent	3
	HID/Incandescent	4
Lighting, Interior	LED	2
	Fluorescent	4
	HID/Incandescent	5
Make-Up Air Unit	less than 5,000 CFM	3
	between 5,000 and 25,000 CFM	4
	greater than 25,000 CFM	5
Pumps	less than 25 HP	2
	between 25 -150 HP*	3
	greater than 150 HP*	4
Return Fan Supply Fan	less than 20 HP	2
	greater than 20 HP*	3

Scope and Approach

ASSET TYPE	ASSET SIZE	ENERGY COST IMPACT (1-5)		
Rooftop Unit	less than 5 ton	2		
	between 5 and 20 tons	3		
	between 20 and 50 tons	4		
	greater than 50 tons	5		
Transformer	greater than 200 kVA	2		
VFD	greater than 50 HP	2		
Air Compressor	All sizes	2		
Air Curtain				
Air Dryer				
Cabinet Unit Heater				
Dehumidifier				
Electric Duct Heater				
Humidifier				
Unit Heater				
Unit Ventilator				
Walk-In Condenser				
Walk-In Unit				
All Other			All sizes	1

*Add 1 for direct drive motors

Operational Impact

Operational Impact scores are presented for each asset on a scale of 1 – 5 (low to high impact). This metric considers the operational impact caused if the equipment were to fail. Assets serving critical administrative and district operational spaces are assigned scores of 2-5 depending on the impact the failure of an asset would have and if backups are available. An operational impact score of 1 indicates that there is little to no impact to administrative or operational activities.

SCORE	OPERATIONAL COST IMPACT SCORE
1	Asset has little to no operational impact.
2	Asset has a low level of operational impact.
3	Asset has a moderate operational impact.
4	Asset has a high level of operational impact.
5	Asset has severe operational impact.

Industry Life Expectancy

The designed life expectancy for a given asset is determined using a combination of widely accepted industry standards including ASHRAE and BOMA, as well as a manufacturers' database of equipment life expectancies. This value is expressed in number of years.

Scope and Approach

Observed Remaining Life

The Observed Remaining Life is also expressed in number of years and takes into consideration the function and operating environment of the asset, as well as a determination based upon a visual inspection of the asset. The Observed Remaining Life value may vary from the Design Life value. For example, a secondary heat exchanger that has been well maintained may have an Observed Remaining Life that is greater than the expected Design Life. Likewise, a primary chilled water pump that has not been well maintained, and shows visual signs of premature wear and tear, may have an Observed Remaining Life that is less than the expected Design Life.

COST ESTIMATING

Each asset receives an Estimated Replacement Cost, presented in dollars. The Estimated Replacement Cost includes both the material cost of the asset and the installation of that asset. This information is intended to assist in the prioritization and resource allocation associated with maintenance and capital replacement projects. Cost estimates are determined using specific characteristics of each asset (tonnage, motor size, capacity, etc.) along with one of several cost information data sets. These data sets include industry standards, RSMMeans, and data sourced through McKinstry's construction division. Additionally, site specific construction and equipment invoices have been utilized as available. All estimated costs are in 2023 dollars.

Data-Driven Maintenance Approach

Included with the submission of this report is the FCA Data Collection Workbook, which includes all data collected for each asset. The Workbook can be used to quickly sort through equipment and prioritize maintenance and replacement efforts. Additional observations and equipment details are provided within the workbook for each asset. Each asset is classified according to building system, size, capacity, and other standards, as well as ratings of current condition and impact of failure. Such organization and classification facilitate searching and sorting the data for maintenance and replacement priorities.

As mentioned above, the impact ratings help to compare one asset to another. Based on observed condition and impact scores, the future maintenance priorities for each building are described further in later sections.

As each of the components identified in the workbook is repaired or replaced, the information can be revised to reflect the new conditions. Remaining useful life values can also be manually iterated one year from the assessment date to reflect fewer remaining years of life. Assets no longer in service can be removed from the list. Similarly, assets that have been newly installed can be added to the list. Following the impact guidelines, relative priority can be calculated for these assets.

Scope and Approach

Equity Index

As an additional metric to the six existing areas of the Facilities Condition Assessment, Poudre School District has created an Equity Index to assist in prioritizing facilities improvement projects. This number takes into account student poverty, students qualifying for ELA services, students qualifying for Special Education services, and students who are homeless. The calculated score for each school is based on these factors and where it falls in relation to the district average. The formula would be:

$$\frac{\text{School Percentage in these areas added together as decimals}}{\text{District Percentages in these areas added together as decimals}}$$

In this formula, a school with student needs equal to the district average would have an equity index of 1.0. Schools with student needs higher than the district average would have an Equity Index greater than 1.0. Schools with student needs less than the district average would have an Equity Index less than 1.0.

Category	Equity Index
Low	0.29
High	3.20
Average	1.11
Median	0.95

The equity index for Polaris Expeditionary Learning K-12 is 0.49.

Sample Calculation:

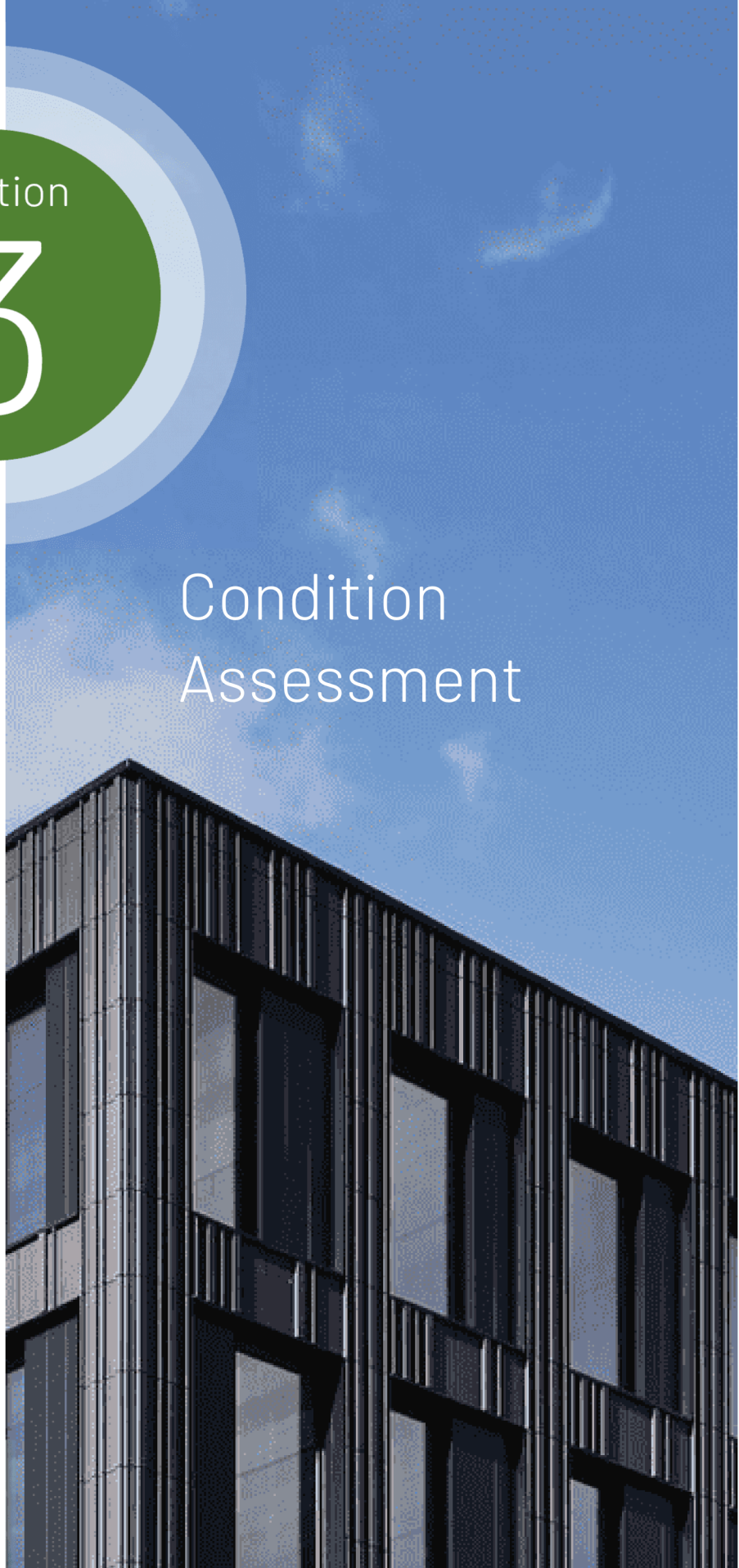
School Name	School Population K-12 Total	F/R	ELL	SPED	McKinney-Vento (homeless)	Total of Previous Columns	Equity Index Number = school average / district average
Sample	381	15.20%	0.00%	8.40%	0.00%	0.24	0.24/0.48 = 0.49
Grand PSD Total - Oct 2022 Count	26,163	29.5%	5.8%	9.5%	3.4%	0.48	

F/R - Free or Reduced-Price Lunch
 ELL - English Language Learners
 SPED - Special Education
 McKinney-Vento - Homeless Assistance

Section

3

Condition Assessment



Condition Assessment

SYSTEMS DESCRIPTION

This section summarizes the building systems at Polaris Expeditionary Learning K-12 and describes the general condition observed based on the assessment. Specific findings and recommendations are detailed later in this report.

Exterior Enclosure

The original building was constructed in 1956. Subsequent additions to the school were completed in 1958, 1966, 1987, 1994, and 2006. All additions are primarily of brick construction. The 1994 addition includes composite masonry unit (CMU) walls, and the 2006 addition is provided stucco (EIFS) walls. Windows are typically steel framed type with some updated sections of aluminum framed windows.

Roofing

Rolled asphalt roofing is present on all building sections. Most of the roofing material was replaced in 2016. However, the 2006-built Media addition roofing is original. [REDACTED]

Interior Construction and Finishes

The interior construction components of the building include concrete masonry unit (CMU) walls with a ceramic tile veneer. Interior doors were replaced in 2016. The interior doors are primarily of the wood and hollow metal type. The majority of interior finishes were also updated in 2016 and include including carpet and VCT flooring, and acoustical tile ceilings.

Conveyance

The building is of single level construction and does not have, or require, a passenger or freight elevator.

Electrical and Lighting

The building includes both 120/208V and 277/480V service. Electrical assets, including panelboards, transformers, and the main switchboard are of varying ages of install. [REDACTED] Emergency back-up lighting appears to date to the 1996 renovation. Though the building's interior lighting system was replaced in 2016 all lighting fixtures are of the fluorescent type. Recommend replacement of the fluorescent lighting fixtures with LED lighting fixtures in approximately 13 years. The incandescent exterior lighting wall packs are [REDACTED] requiring replacement in two years. The 1987-built main switchboard is expected to require replacement in approximately four years.

HVAC Systems

The HVAC assets include one air handling unit, multi-zone units, rooftop units, exhaust fans, duct heating units, cabinet unit heaters, fan coil units, and vertical unit ventilators (VUVs). There are 14 VUVs present in the building which provide outside ventilation air and hydronic heating but lack cooling capabilities. These VUVs are provided a chilled water coil but the building lacks a cooling tower to provide hydronic cooling. The heating water system features two gas-fired boilers with approximately eight years of remaining life and associated circulation pumps that are expected to require replacement in 13 years.

Plumbing

Plumbing assets include a single gas-fired water heater and two circulation pumps. One backflow preventer, one bypass feeder, one storage tank, and a single sump pump are also provided. GWH-1 dates to 1996, making it 17 years past expected useful life. This water heater [REDACTED] requires replacement within the year.

Fire Suppression

The fire alarm system was replaced in 2016. [REDACTED] The Fire Protection System appears to be well maintained and updated per fire code requirements. No deficiencies were noted with this system.

Equipment

The Kitchen area does not have either a walk-in cooler or walk-in freezer present.

Condition Assessment

PRIORITIES

SPECIFIC PRIORITIES

The top capital measures (up to five max) have been detailed in the following tables. Each measure receives a priority level of 1, 2, or 3. A priority level of 1 indicates that the measure is considered an immediate concern or a potential hazard and should be addressed as soon as possible. A priority level of 2 indicates that the measure is considered urgent, but not a potential hazard or there is a less severe impact to occupants. A priority level of 3 indicates that the assets associated with the measure are nearing end of life, but have not yet failed or have a mild to moderate impact on occupant safety and comfort.

Polaris Expeditionary Learning K-12

1. Replace GWH-1

Serving the DHW needs of the building, GWH-1 was built in 1996 and is now 17 years past expected useful life. The water heater is [REDACTED] recommended that it be replaced within the year.

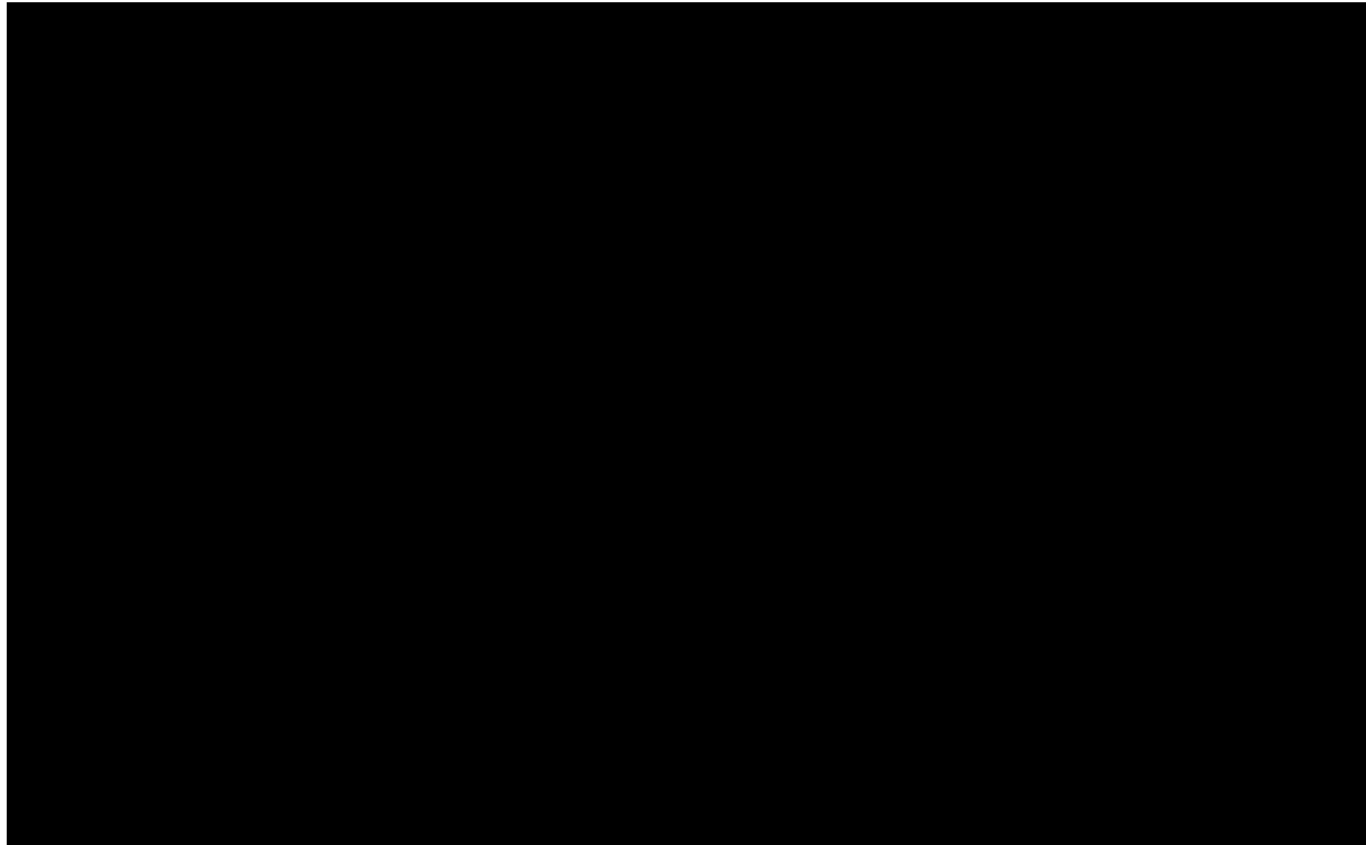


The following assets are included within this measure:

FCAID-420039

Priority Level:	2
Estimated Cost:	\$10,610
Remaining Life:	≤ 1 Year

Condition Assessment

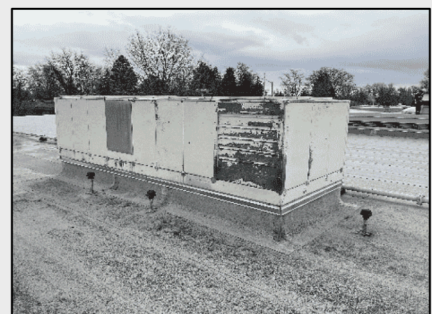
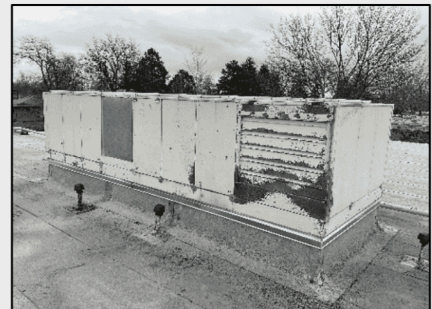


3. Replace MZU-1 and MZU-2

These multi-zone air units were built in 1994 and are now 14 years past expected useful life. The MZUs were [REDACTED] recommended that they be replaced within the year prior to failure.

The following assets are included within this measure:

- FCAID-420078
- FCAID-420079



Priority Level: 2
Estimated Cost: \$145,820
Remaining Life: ≤ 1 Year

Condition Assessment

4. Replace Exterior Wall Pack Lighting

The 25 exterior incandescent wall pack light fixtures were installed in 1996. These assets are [REDACTED] and seven years past expected life. The plastic covers are opaque and discolored. Recommend replacement with LED fixtures within two years.



The following assets are included within this measure:

FCAID-420103

Priority Level: 2
Estimated Cost: \$15,160
Remaining Life: ≤ 2 Years

5. Replace Exterior Windows

The original 1958 exterior wood windows are 35 years past expected life. Steel casement windows dating to 1956 and 1966 are now 27-37 years past life. Recommend that these original windows be replaced within 1-2 years.



The following assets are included within this measure:

FCAID-420013

FCAID-420014

FCAID-420015



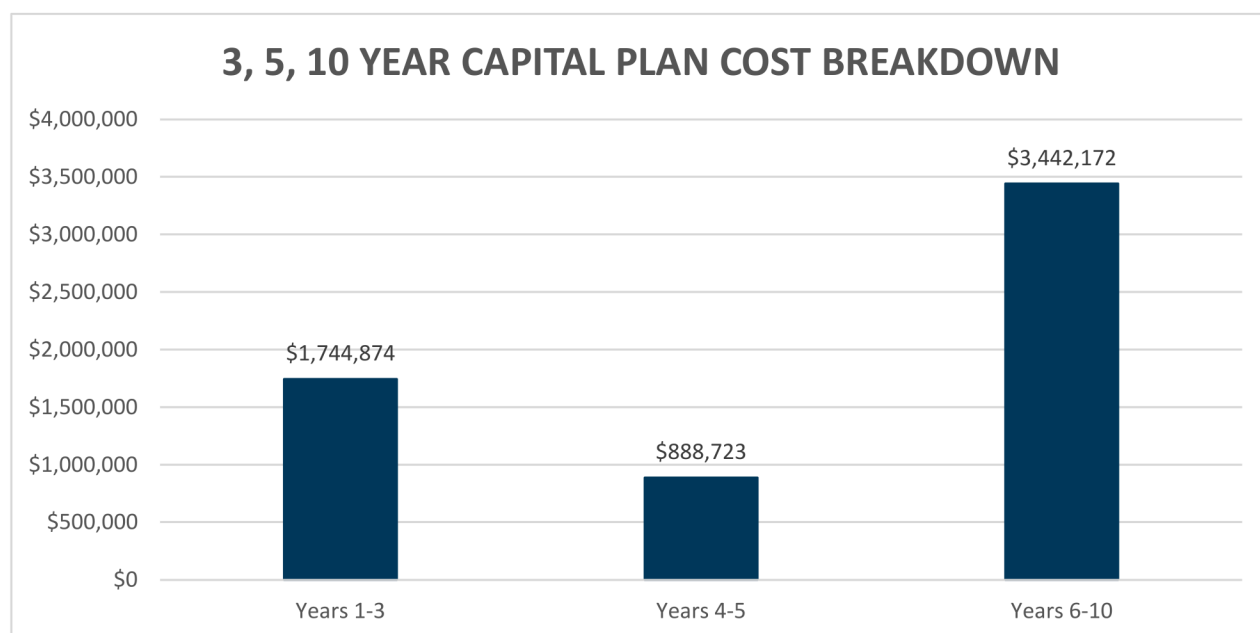
Priority Level: 3
Estimated Cost: \$226,760
Remaining Life: ≤ 1-2 Years

Condition Assessment

3-, 5-, 10-YEAR PLANS

The following sections present the expected equipment replacement costs over the next ten years, broken into three separate plans. These plans are the 3-Year Plan, 5-Year Plan, and the 10-Year Plan. Each plan includes the equipment expected to fail during these periods, based on the observed condition of the equipment at the time of the assessment. Note, the 3-Year Plan includes assets failing within the next three years, the 5-Year Plan includes assets failing between four and five years, and the 10-Year Plan includes assets failing between in the next six to ten years from the assessment date.

The chart below presents the total expected replacement costs for each plan. Note that these figures include 3% inflation YOY.



Future Capital Plan

The table below displays replacement costs for the campus, and the number of associated assets expected to fail within the next ten years. Assets requiring replacement or extensive maintenance in this plan are presented in Appendices A, B, and C.

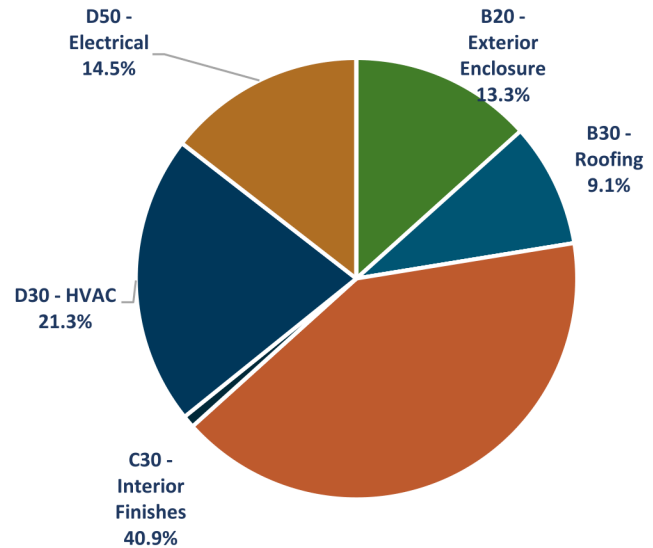
REPLACEMENT PERIOD	ASSET QUANTITY	CUMULATIVE REPLACEMENT COST
3-Year Plan	30	\$1,744,874
5-Year Plan	19	\$888,723
10-Year Plan	13	\$3,442,172
Total	62	\$6,075,769

Condition Assessment

3-YEAR PLAN BREAKDOWN

The three-year plan includes the estimated capital expenditure needed to replace assets reaching end of life in years 1-3, or between 2024 and 2026. The sum of the anticipated capital needs is \$1,744,874. The specific assets that will reach end of life in this period are listed in Appendix A.

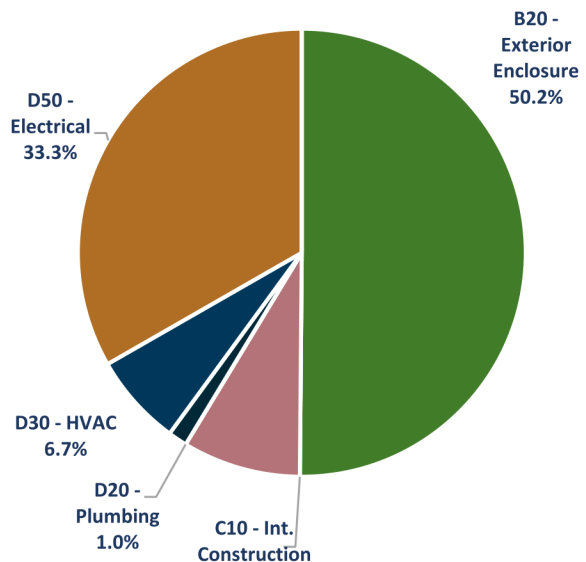
SUBSYSTEM	Years 1-3	Percent
A10 - Foundations	\$0	0%
B10 - Superstructure	\$0	0%
B20 - Exterior Enclosure	\$232,672	13%
B30 - Roofing	\$158,449	9%
C10 - Int. Construction	\$0	0%
C20 - Stairs	\$0	0%
C30 - Interior Finishes	\$713,954	41%
D10 - Conveying	\$0	0%
D20 - Plumbing	\$15,522	1%
D30 - HVAC	\$371,357	21%
D40 - Fire Protection	\$0	0%
D50 - Electrical	\$252,921	14%
E10 - Equipment	\$0	0%
G20 - Site Improvements	\$0	0%
G40 - Site Electrical	\$0	0%



5-YEAR PLAN BREAKDOWN

The five-year plan includes the estimated capital expenditure needed to replace assets reaching end of life in years 4-5, or between 2027 and 2028. The sum of the anticipated capital needs is \$888,723. The specific assets that will reach end of life in this period are listed in Appendix A.

SUBSYSTEM	Years 4-5	Percent
A10 - Foundations	\$0	0%
B10 - Superstructure	\$0	0%
B20 - Exterior Enclosure	\$445,701	50%
B30 - Roofing	\$0	0%
C10 - Int. Construction	\$75,735	9%
C20 - Stairs	\$0	0%
C30 - Interior Finishes	\$0	0%
D10 - Conveying	\$0	0%
D20 - Plumbing	\$12,228	1%
D30 - HVAC	\$59,393	7%
D40 - Fire Protection	\$0	0%
D50 - Electrical	\$295,665	33%
E10 - Equipment	\$0	0%
G20 - Site Improvements	\$0	0%
G40 - Site Electrical	\$0	0%

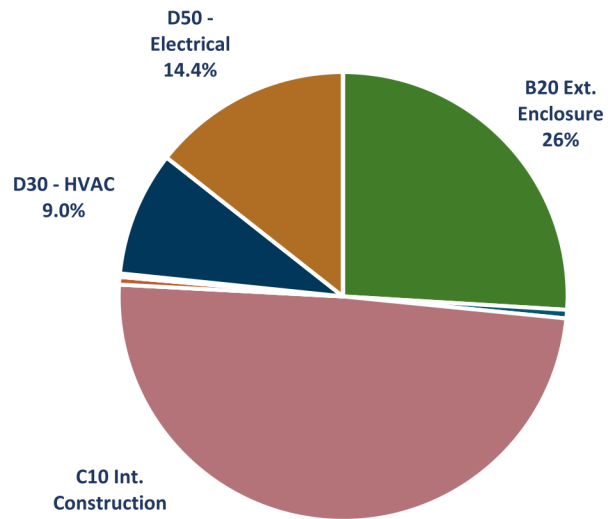


Condition Assessment

10-YEAR PLAN BREAKDOWN

The ten-year plan includes the estimated capital expenditure needed to replace assets reaching end of life in years 6-10, or between 2029 and 2033. The sum of the anticipated capital needs is \$3,442,172. The specific assets that will reach end of life in this period are listed in Appendix A.

SUBSYSTEM	Years 6-10	Percent
A10 - Foundations	\$0	0%
B10 - Superstructure	\$0	0%
B20 - Exterior Enclosure	\$893,127	26%
B30 - Roofing	\$21,203	1%
C10 - Int. Construction	\$1,696,033	49%
C20 - Stairs	\$0	0%
C30 - Interior Finishes	\$19,346	1%
D10 - Conveying	\$0	0%
D20 - Plumbing	\$8,272	<1%
D30 - HVAC	\$309,155	9%
D40 - Fire Protection	\$0	0%
D50 - Electrical	\$495,037	14%
E10 - Equipment	\$0	0%
G20 - Site Improvements	\$0	0%
G40 - Site Electrical	\$0	0%



Condition Assessment

PRIORITY SUMMARY

The summary below assigns a composite Overall Priority Score to the campus as of the assessment date. Priority Scores range from 6 (low priority) to 30 (high priority), and are based on asset condition, operating impact, student impact, energy impact, estimated replacement cost, and observed remaining life.

In addition to the Overall Priority Score, each Subsystem category within the site is assigned a Priority Score. This score can differentiate systems that may need more attention than others, due to condition or impact on occupants or operations. Each Subsystem category includes a general narrative section under the Description column.


Future Capital Plan

The Subsystem scores are color coded to reflect the level of priority: ≤ 12 = Green, 12.1-23.9 = Yellow, ≥ 24 = Red. Higher priority scores indicate that a system should be considered for maintenance or capital improvements before other systems with lower scores. The rating scale for Priority Score is visualized below.

LOW	MEDIUM-LOW	MEDIUM	MEDIUM-HIGH	HIGH
6	12	18	24	30

Condition Assessment

PRIORITY SCORE SUMMARY - POLARIS EXPEDITIONARY LEARNING K-12

	POLARIS EXPEDITIONARY LEARNING K-12	
	BUILDING TYPE:	K-12 School
	YEAR BUILT:	1956
	GROSS AREA (SF):	51,670
	DATE ASSESSED:	0
PRIORITY SCORE:	15.4	

SUBSYSTEM:	DESCRIPTION	PRIORITY SCORE
B20 - Ext. Enclosure	The original building was constructed in 1956. Subsequent additions to the school were completed in 1958, 1966, 1987, 1994, and 2006. All additions are primarily of brick construction. The 1994 addition includes composite masonry unit (CMU) walls, and the 2006 addition is provided stucco (EIFS) walls. Windows are typically steel framed type with some updated sections of aluminum framed windows.	13.5
B30 - Roofing	Rolled asphalt roofing is present on all building sections. Most of the roofing material was replaced in 2016. However, the 2006-built Media addition roofing is original. [REDACTED]	14.7
C10 - Int. Construction	The interior construction components of the building include concrete masonry unit (CMU) walls with a ceramic tile veneer. Interior doors were replaced in 2016. The interior doors are primarily of the wood and hollow metal type. The majority of interior finishes were also updated in 2016 and include including carpet and VCT flooring, and acoustical tile ceilings.	13.7
C30 - Interior Finishes		15.5
D20 - Plumbing	Plumbing assets include a single gas-fired water heater and two circulation pumps. One backflow preventer, one bypass feeder, one storage tank, and a single sump pump are also provided. GWH-1 dates to 1996, making it 17 years past expected useful life. This water heater [REDACTED] requires replacement within the year.	13.7
D30 - HVAC	The HVAC assets include one air handling unit, multi-zone units, rooftop units, exhaust fans, duct heating units, cabinet unit heaters, fan coil units, and vertical unit ventilators (VUVs). There are 14 VUVs present in the building which provide outside ventilation air and hydronic heating but lack cooling capabilities. These VUVs are provided a chilled water coil but the building lacks a cooling tower to provide hydronic cooling. The heating water system features two gas-fired boilers with approximately eight years of remaining life and associated circulation pumps that are expected to require replacement in 13 years.	15.5
D40 - Fire Suppression	The fire alarm system was replaced in 2016. [REDACTED] The Fire Protection System appears to be well maintained and updated per fire code requirements. No deficiencies were noted with this system.	N/A
D50 - Electrical	The building includes both 120/208V and 277/480V service. Electrical assets, including panelboards, transformers, and the main switchboard are of varying ages of install. [REDACTED] Emergency back-up lighting appears to date to the 1996 renovation. Though the building's interior lighting system was replaced in 2016 all lighting fixtures are of the fluorescent type. Recommend replacement of the fluorescent lighting fixtures with LED lighting fixtures in approximately 13 years. The incandescent exterior lighting wall packs are [REDACTED] requiring replacement in two years. The 1987-built main switchboard is expected to require replacement in approximately four years.	20.2
E10 - Equipment	The Kitchen area does not have either a walk-in cooler or walk-in freezer present.	N/A

System priority scored from 6 (lowest priority) to 30 (highest priority) based on condition, operating impact, student/teacher impact, energy impact, estimated replacement cost, and observed remaining life. [≤12 = green, 12-24 = yellow, ≥24 = red]

Appendices

- A. 3-YEAR PLAN ASSETS LIST
- B. 5-YEAR PLAN ASSETS LIST
- C. 10-YEAR PLAN ASSETS LIST

Appendix A

APPENDIX A: 3-YEAR PLAN ASSETS LIST

The individual assets associated with the 3-Year Plan are shown below, sorted from highest to lowest priority score. The priority score key is shown below for convenience.

Note that these values represent current replacement costs expressed in 2023 dollar amounts and are not adjusted for Net Present Value (NPV) Inflation Rate of 0%.

LOW	MEDIUM-LOW	MEDIUM	MEDIUM-HIGH	HIGH
6	12	18	24	30

The asset ID listed for each entry has been assigned during this assessment and reflects the corresponding asset in the FCA workbook.

POLARIS EXPEDITIONARY LEARNING K-12

ASSET ID	DESCRIPTION	SUBSYSTEM	OBSERVED REMAINING	REPLACEMENT COST	PRIORITY SCORE
FCAID-420078	MZU-1	D30 - HVAC	1	\$72,910	22
FCAID-420079	MZU-2	D30 - HVAC	1	\$72,910	22
FCAID-420099	Back-Up Generator	D50 - Electrical	1	\$22,400	20
FCAID-420080	RTU-3	D30 - HVAC	3	\$47,000	19
FCAID-420081	RTU-4	D30 - HVAC	3	\$47,000	19
FCAID-420082	RTU-5	D30 - HVAC	3	\$47,000	19
FCAID-420015	Exterior Windows: Wood Framed	B20 - Exterior Enclosure	1	\$29,700	18
FCAID-420014	Exterior Windows: Steel Casement (1966)	B20 - Exterior Enclosure	2	\$113,900	18
FCAID-420030	Interior Flooring: Carpet	C30 - Interior Finishes	3	\$672,970	17
FCAID-420013	Exterior Windows: Steel Casement (1956)	B20 - Exterior Enclosure	2	\$83,160	17
FCAID-420020	Roofing: Stone Flashing	B30 - Roofing	1	\$14,580	17
FCAID-420039	GWH-1	D20 - Plumbing	1	\$10,610	17
FCAID-420102	Emergency Back-Up Lighting	D50 - Electrical	3	\$196,860	17
FCAID-420103	Exterior Lighting: Wall Packs, Incandescen	D50 - Electrical	2	\$15,160	16
FCAID-420018	Roofing: Built-Up Roof	B30 - Roofing	3	\$135,610	16
FCAID-420060	EF-7	D30 - HVAC	3	\$6,210	14
FCAID-420055	EF-2	D30 - HVAC	3	\$6,210	14
FCAID-420050	EF-11	D30 - HVAC	3	\$6,710	14
FCAID-420061	EF-8	D30 - HVAC	3	\$6,710	14
FCAID-420035	P-4	D20 - Plumbing	3	\$4,630	14
FCAID-420059	EF-6	D30 - HVAC	3	\$6,210	14
FCAID-420049	EF-1	D30 - HVAC	3	\$6,710	14
FCAID-420062	EF-9	D30 - HVAC	3	\$6,710	14
FCAID-420056	EF-3	D30 - HVAC	3	\$6,210	14
FCAID-420057	EF-4	D30 - HVAC	3	\$6,210	14
FCAID-420058	EF-5	D30 - HVAC	3	\$6,210	14

FCAID-420072	GUH-1	D30 - HVAC	3	\$6,740	13
FCAID-420098	ATS-1	D50 - Electrical	3	\$4,340	13
FCAID-420100	Battery Charger	D50 - Electrical	3	\$1,370	13
FCAID-420034	Bypass Feeder-HWS	D30 - HVAC	3	\$750	11

Appendix B

APPENDIX B: 5-YEAR PLAN ASSETS LIST

The individual assets associated with the 5-Year Plan are shown below, sorted from highest to lowest priority score. The priority score key is shown below for convenience.

Note that these values represent current replacement costs expressed in 2023 dollar amounts and are not adjusted for Net Present Value (NPV) Inflation Rate of 0%.

LOW	MEDIUM-LOW	MEDIUM	MEDIUM-HIGH	HIGH
6	12	18	24	30

The asset ID listed for each entry has been assigned during this assessment and reflects the corresponding asset in the FCA workbook.

POLARIS EXPEDITIONARY LEARNING K-12

ASSET ID	DESCRIPTION	SUBSYSTEM	OBSERVED REMAINING LIFE	REPLACEMENT COST	PRIORITY SCORE
FCAID-420118	Security System	D50 - Electrical	5	\$196,860	19
FCAID-420119	Switchboard SDB-A	D50 - Electrical	4	\$32,270	18
FCAID-420120	Switchboard SDP	D50 - Electrical	4	\$32,270	18
FCAID-420012	Exterior Windows: Aluminum Framed (199	B20 - Exterior Enclosu	5	\$103,360	15
FCAID-420114	Panel LPA	D50 - Electrical	4	\$3,270	14
FCAID-420009	Exterior Doors: Metal/Glass, Double	B20 - Exterior Enclosu	5	\$128,960	14
FCAID-420036	P-5	D20 - Plumbing	4	\$4,630	14
FCAID-420011	Exterior Doors: Metal/Glass, Single	B20 - Exterior Enclosu	5	\$89,280	13
FCAID-420052	EF-13	D30 - HVAC	5	\$8,190	13
FCAID-420010	Exterior Doors: Hollow Metal, Single	B20 - Exterior Enclosu	5	\$64,480	13
FCAID-420053	EF-14	D30 - HVAC	5	\$8,190	13
FCAID-420054	EF-15	D30 - HVAC	5	\$8,190	13
FCAID-420051	EF-12	D30 - HVAC	5	\$8,190	13
FCAID-420040	Air Compressor-1	D30 - HVAC	4	\$18,100	13
FCAID-420026	Interior Windows: Steel Casement	C10 - Interior Constr	5	\$44,550	12
FCAID-420008	Exterior Doors: Hollow Metal, Double	B20 - Exterior Enclosu	5	\$9,920	12
FCAID-420038	Sump Pump-1	D20 - Plumbing	4	\$6,560	12
FCAID-420047	Air Dryer-1	D30 - HVAC	4	\$2,510	12
FCAID-420031	Interior Wall Finishes: Ceramic Tile	C10 - Interior Constr	5	\$22,740	12

Appendix C

APPENDIX C: 10-YEAR PLAN ASSETS LIST

The individual assets associated with the 10-Year Plan are shown below, sorted from highest to lowest priority score. The priority score key is shown below for convenience.

Note that these values represent current replacement costs expressed in 2023 dollar amounts and are not adjusted for Net Present Value (NPV) Inflation Rate of 0%.

LOW	MEDIUM-LOW	MEDIUM	MEDIUM-HIGH	HIGH
6	12	18	24	30

The asset ID listed for each entry has been assigned during this assessment and reflects the corresponding asset in the FCA workbook.

POLARIS EXPEDITIONARY LEARNING K-12

ASSET ID	DESCRIPTION	SUBSYSTEM	OBSERVED REMAINING LIFE	REPLACEMENT COST	PRIORITY SCORE
FCAID-420104	Fire Alarm System	D50 - Electrical	8	\$402,510	21
FCAID-420067	Boiler-1	D30 - HVAC	8	\$93,980	18
FCAID-420068	Boiler-2	D30 - HVAC	8	\$93,980	18
FCAID-420083	RTU-6	D30 - HVAC	8	\$31,160	16
FCAID-420002	Exterior Walls: Brick (1956)	B20 - Exterior Enclosu	8	\$402,630	14
FCAID-420021	Interior Wall Construction: CMU (1956)	C10 - Interior Constru	8	\$1,379,030	14
FCAID-420048	CU-1	D30 - HVAC	9	\$20,110	14
FCAID-420003	Exterior Walls: Brick (1958)	B20 - Exterior Enclosu	10	\$304,990	13
FCAID-420017	Roofing: Rolled Asphalt	B30 - Roofing	8	\$17,240	12
FCAID-420073	GF-1	D30 - HVAC	6	\$1,780	10
FCAID-420032	Interior Flooring: VCT	C30 - Interior Finishes	8	\$15,730	10
FCAID-420037	ST-1	D20 - Plumbing	9	\$6,530	10
FCAID-420042	AS-1	D30 - HVAC	8	\$9,860	9