

BETHKE ELEMENTARY SCHOOL

# POUDRE SCHOOL DISTRICT BETHKE ELEMENTARY SCHOOL

## FACILITY CONDITION ASSESSMENT

TIMNATH, CO  
OCTOBER 2023



**Together, Building a Thriving Planet**

---



# Table of Contents

---

<b>KEY CONTACT INFORMATION.....</b>	<b>2</b>
<b>EXECUTIVE SUMMARY.....</b>	<b>3</b>
<b>SCOPE AND APPROACH.....</b>	<b>7</b>
Scope of work.....	8
Ratings, Methods and Scoring.....	9
Cost Estimating.....	12
<b>CONDITION ASSESSMENT.....</b>	<b>14</b>
Systems Description - Bethke ES.....	15
Priorities.....	16
3-, 5-, 10-Year Plans.....	19
<b>APPENDICES.....</b>	<b>24</b>
Appendix A: 3-Year Plan Assets List.....	A
Appendix B: 5-Year Plan Assets List.....	B
Appendix C: 10-Year Plan Assets List.....	C

# Contacts

---

## Key Contact Information

### McKinstry Contacts

Devin Boyce  
Program Manager, Facility Condition Assessments  
720.408.4573  
[devinb@mckinstry.com](mailto:devinb@mckinstry.com)

Roger Noonan  
Senior Facility Assessment Consultant  
970.531.1527  
[rogern@mckinstry.com](mailto:rogern@mckinstry.com)

Josh Phillips  
Facility Assessment Consultant  
719.480.1372  
[joshph@mckinstry.com](mailto:joshph@mckinstry.com)

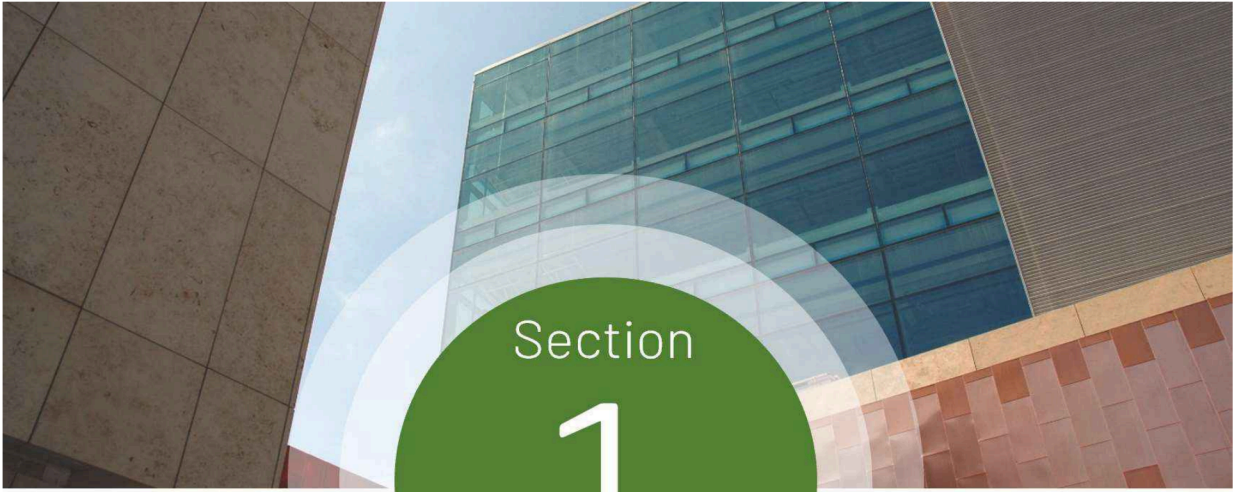
Tracey Cousins  
Strategic Account Manager  
720.445.7608  
[traceyc@mckinstry.com](mailto:traceyc@mckinstry.com)

Jaime Villarino-Eilenberger  
Project Manager - Technical Services  
949.933.7996  
[jaimbev@mckinstry.com](mailto:jaimbev@mckinstry.com)

### Poudre School District Contacts

Trudy Trimbath  
Energy and Sustainability Manager  
970.490.3502  
[ttrimbath@psdschools.org](mailto:ttrimbath@psdschools.org)

Jessie Ericson  
Administrative Assistant - Operations  
970.490.3080  
[jericson@psdschools.org](mailto:jericson@psdschools.org)



Section

1

# Executive Summary

# Executive Summary

---

## Project Goals

The contents of this report present the results of the Facility Condition Assessment (FCA) performed at Bethke ES within the Poudre School District (PSD) on June 9, 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
BETHKE ES	56,458	2008
<b>TOTAL</b>	<b>56,458</b>	

## Facility Summary

### Bethke ES

Bethke ES is located at 5100 School House Rd., Timnath, CO 80547. This 56,458 SF facility consists of two levels and was initially constructed in 2008. The equity index for this school is 0.29.



***Bethke ES***

# Executive Summary

---

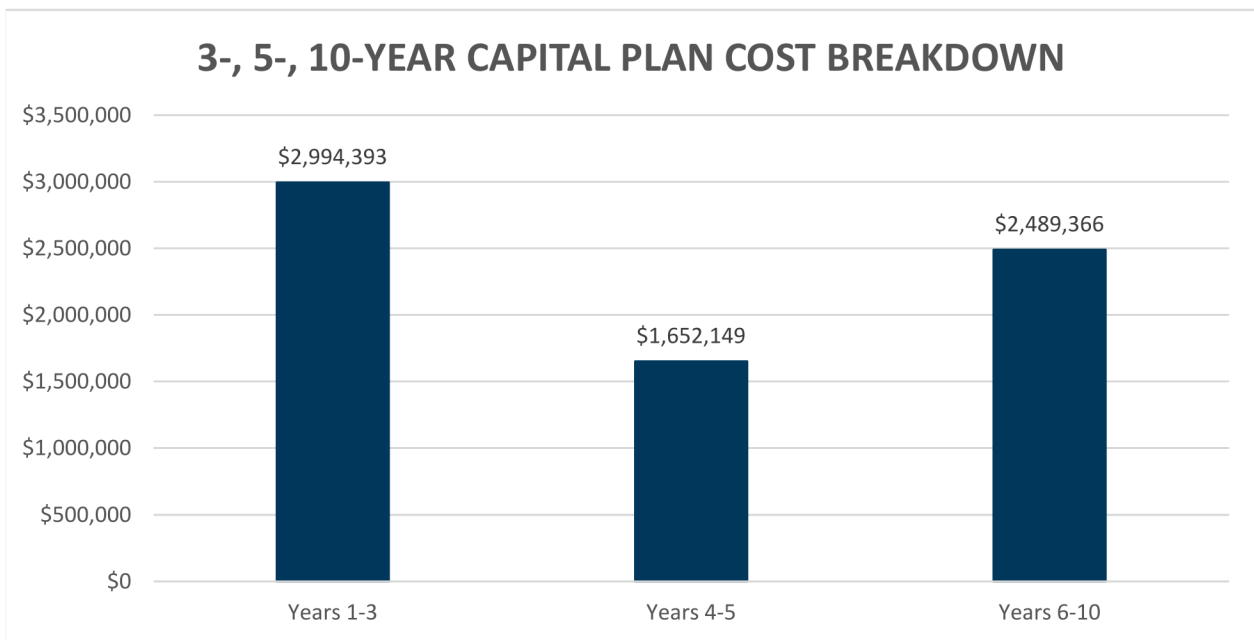
## Assessment Summary

This section summarizes the building systems at the facility and describes the general condition observed based on the assessment performed on June 9, 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.



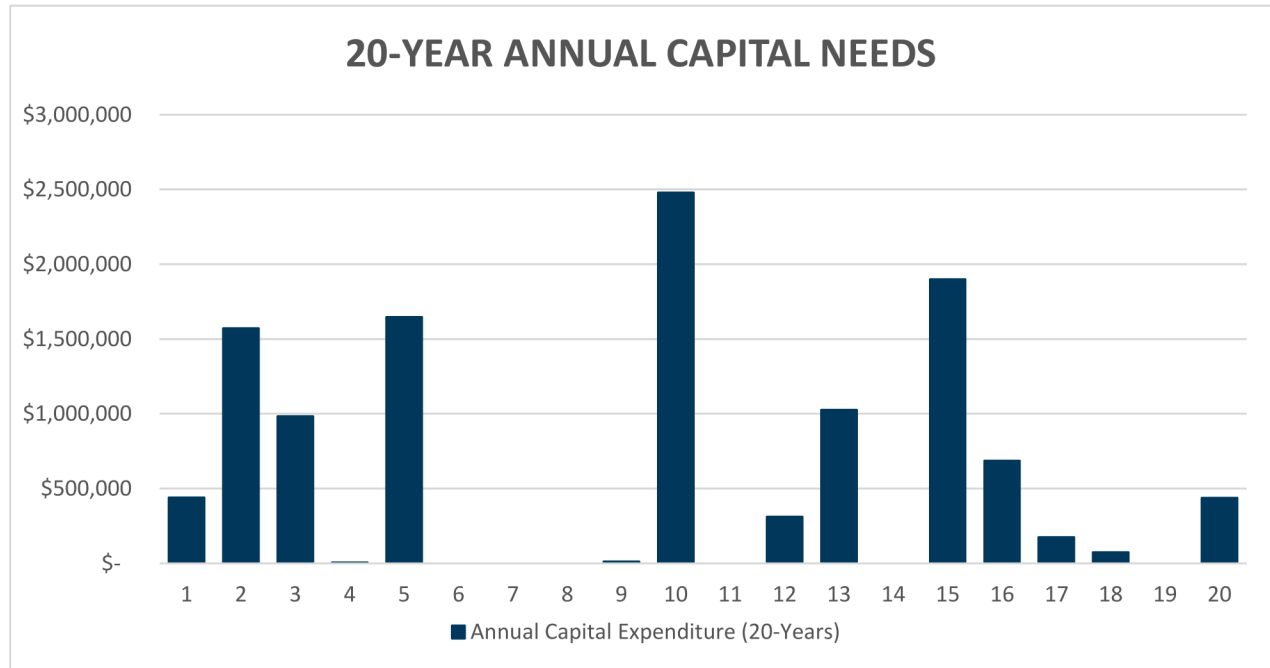
**3-, 5-, 10-Year Capital Plan Cost Breakdown**

# 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	\$0	\$114,898	\$618,150	\$0
B30 - Roofing	\$415,581	\$27,400	\$0	\$0
C10 - Int. Construction	\$50,243	\$0	\$0	\$0
C20 - Stairs	\$0	\$0	\$0	\$0
C30 - Interior Finishes	\$1,243,954	\$0	\$1,026,548	\$74,643
D10 - Conveying	\$0	\$0	\$0	\$141,034
D20 - Plumbing	\$1,351	\$0	\$0	\$0
D30 - HVAC	\$1,026,691	\$2,295,946	\$0	\$354,049
D40 - Fire Suppression	\$0	\$0	\$939,379	\$0
D50 - Electrical	\$1,908,724	\$19,650	\$654,190	\$803,156
E10 - Equipment	\$0	\$31,471	\$0	\$0
<b>Total:</b>	<b>\$2,936,765</b>	<b>\$2,347,067</b>	<b>\$1,593,568</b>	<b>\$1,298,239</b>

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. Turf, site assets, kitchen assets besides walk-in freezers, exhaust fans and kitchen make up air units are not included in scope.

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		

\*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

Based on the constraints of the scope outlined in the contract we have based our asset pricing upon industry standards, RSMeans, and pricing data sourced through McKinstry's construction division. 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. Standard equipment warranties are included.

To clarify, all Estimated Replacement Costs include averages of the material cost of the asset, the demolition and installation of that asset type and are expressed in 2023 dollars. Additionally, site specific construction and equipment invoices have been utilized as available.

Costs associated with project design, contractor competence, commissioning, test and balance services and are excluded from the estimate and are the responsibility of the Client. McKinstry assumed a 3% inflation, applied year over year. All work is during normal business hours. For mechanical equipment any duct work, piping, existing appurtenances are to be reused; costs to repair or replace any lines going to or coming from the units is excluded. Existing isolation valves to be used; repair or replacement of isolation valves is excluded.

Costs typically associated with project-specific parameters are excluded and should be added at the discretion of the Client. Such exclusions include risks or contingencies such as asbestos abatement, other hazardous waste abatement, scope changes, design changes, taxes, special wage requirements such as Prevailing Wage rates, warranty management and unknown site conditions. Overtime and after-hours work is excluded. Any necessary structural or electrical upgrades to replace equipment is excluded. Incidental code violations resulting from project scope or execution are excluded. Correction of any existing code violations are excluded. Temporary heating, cooling, ventilation, and power during construction and the warranty period are excluded. Moving of heavy equipment or furniture to complete the work is excluded. Running and terminating new IP drops for equipment is excluded. Any changes to fire and life safety systems for mechanical equipment upgrades is excluded.

## 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.

# Scope and Approach

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, 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.

## 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 Bethke ES is 0.29.

Sample Calculation:

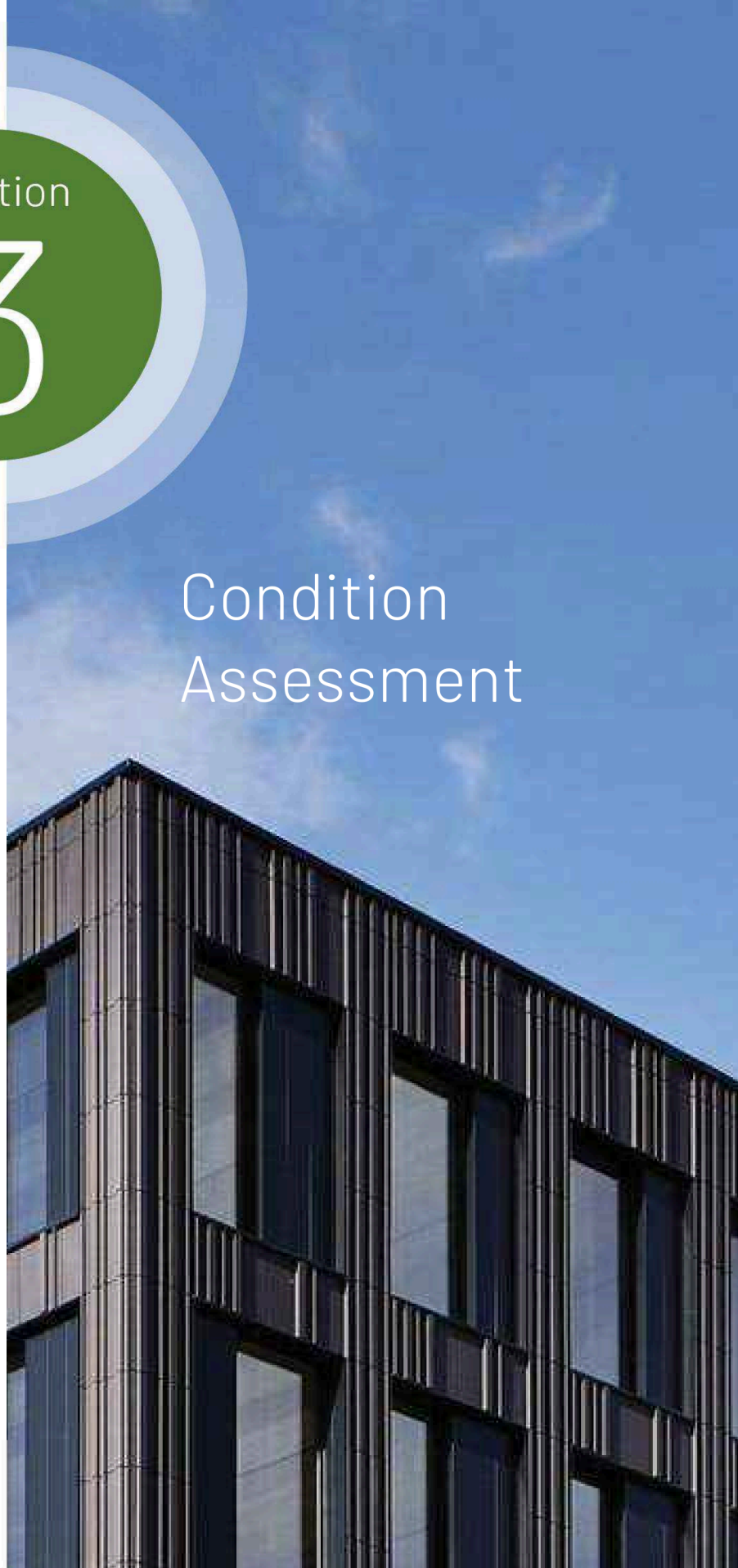
School Name	School Population K-12 Total	F/R	ELL	SPED	McKinney-Vento	Total of Previous Columns	Equity Index Number = school average / district average
Sample	381	15.20%	0.00%	8.40%	0.00%	0.24	0.24/0.48 = 0.49
<b>Grand PSD Total - Oct 2022 Count</b>	<b>26,163</b>	<b>29.5%</b>	<b>5.8%</b>	<b>9.5%</b>	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

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

Section

3

# Condition Assessment



# Condition Assessment

---

## SYSTEMS DESCRIPTION

This section summarizes the building systems at Bethke ES and describes the general condition observed based on the assessment. Specific findings and recommendations are detailed later in this report.

### Exterior Enclosure

The building's exterior walls consist primarily of concrete masonry unit (CMU), and are original to the building's initial construction in 2008. Exterior doors include both single and double metal doors, as well as aluminum/glass storefront doors for the main entrance. [REDACTED] Exterior glazing is primarily metal clad (operable) windows with some metal stationary framed windows at entry elements and 2nd story common areas. No major deficiencies were noted with the building's exterior enclosure.

### Roofing

The building's roofing consists of a combination of flat rolled asphalt, and standing seam accents above skylights and roof edges. There are multiple light pipes installed on the rooftop, which appear to have been installed in 2017. [REDACTED]

### Interior Construction and Finishes

Interior Finishes in the building has CMU walls with open ceilings (or decorative features) in common areas otherwise ACT in classrooms ... and concrete/carpet/tile/athletic flooring. The original buildings interior finishes are masonry walls, drywall/ACT ceilings and carpeted flooring.

### Conveyance

The school has an elevator that serves two floors [REDACTED]

### Electrical and Lighting

The building's electrical distribution equipment consists predominately of 480/277 panels, transformers, and switchgear. [REDACTED] a couple of pump VFDs are nearing their the end of their industry life expectancy and are anticipated to need replacement soon. The fire alarm system dates to 2008. Interior lighting consists mostly of fluorescent fixtures. Exterior lighting is made up of a mixture of fluorescent, incandescent, and LED lights [REDACTED]. Consider upgrading the remainder of interior and exterior lighting to light emitting diode (LED) fixtures to reduce energy costs and maintenance needs.

### HVAC Systems

The building's heating, ventilation, and air conditioning (HVAC) system consists of a combination of unit ventilators serving the classrooms, and air handlers serving the FLEX gymnasium space. The unit ventilators units were installed in 2008, and are equipped with both heating and cooling coils. Heating water is provided by two (2) fuel fired boilers installed in 2008. Cooling is provided by one (1) Air-Cooled Chiller installed in 2008 along with an Ice Storage Unit being installed in 2018. Additional HVAC equipment includes packaged (DX) rooftop units, rooftop exhaust fans, fan coil units, and heating and cooling water distribution equipment. [REDACTED] the Air-Cooled Chiller is at it anticipated end of life expectancy.

### Plumbing

Domestic hot water is provided by two (2) natural gas fired water (100 gallon) heaters and were both installed in 2017. Additional plumbing equipment includes four (4) backflow preventers.

### Fire Suppression

The fire suppression system was observed t [REDACTED]

### Equipment

There are two (2) walk-in coolers in use at this school, these units are equipped with rooftop condensers. [REDACTED]



# 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.

#### Bethke ES

### 1. Replace outdated Lighting

A portion of the building's interior lighting utilizes fluorescent (T8) technology. This includes the classroom spaces, corridors, and administrative areas. Consider replacing these fixtures with light emitting diode (LED) fixtures to reduce the building's energy costs and maintenance needs. [REDACTED]



The following assets are included within this measure:

- Interior Lighting, Fluorescent (FCAID-70143)
- '- Emergency Back-up Lighting (FCAID-70141)
- '- HID Lights (FCAID-70143)
- '- Interior Lighting, LED (FCAID-70144)

**Priority Level:** 2  
**Estimated Cost:** \$1,166,760  
**Remaining Life:** 2 Years

# Condition Assessment

## 2. Update Fire Alarm System

The fire alarm system was installed when Bethke Elementary School was built in 2008,



The following assets are included within this measure:

- Fire Alarm System (FCAID-70182)

**Priority Level:** 2  
**Estimated Cost:** \$439,810  
**Remaining Life:** 1 Year

## 3. Replace outdated HVAC Units / Equipment

Multiple HVAC units are in need of replacement such as a Heat Pump, Condensing Unit, and multiple related HVAC Pumps.



The following assets are included within this measure:

- CU-1 (FCAID-70040)
- HP (FCAID-70073)
- P-1 (FCAID-70075)
- P-3 (FCAID-70037)
- P-4 (FCAID-70038)



**Priority Level:** 2  
**Estimated Cost:** \$70,880  
**Remaining Life:** 2 Years

# Condition Assessment

## 4. Granular Rolled Roofing / Asphalt is in poor condition

The granular rolled roofing is [REDACTED] with many areas completely bare of granules. Additional localized areas where ponding does occur during rains exists.



The following assets are included within this measure:

-ROOFING: ROLLED ASPHALT (FCAID-70013)



**Priority Level:** 2  
**Estimated Cost:** \$288,500  
**Remaining Life:** 2 Years

## 5. Replace outdated Cooling Tower

The main Cooling Tower is a 200 Ton unit and is nearing its anticipated life expectancy. [REDACTED]



The following assets are included within this measure:

-CT-1 (FCAID-70041)



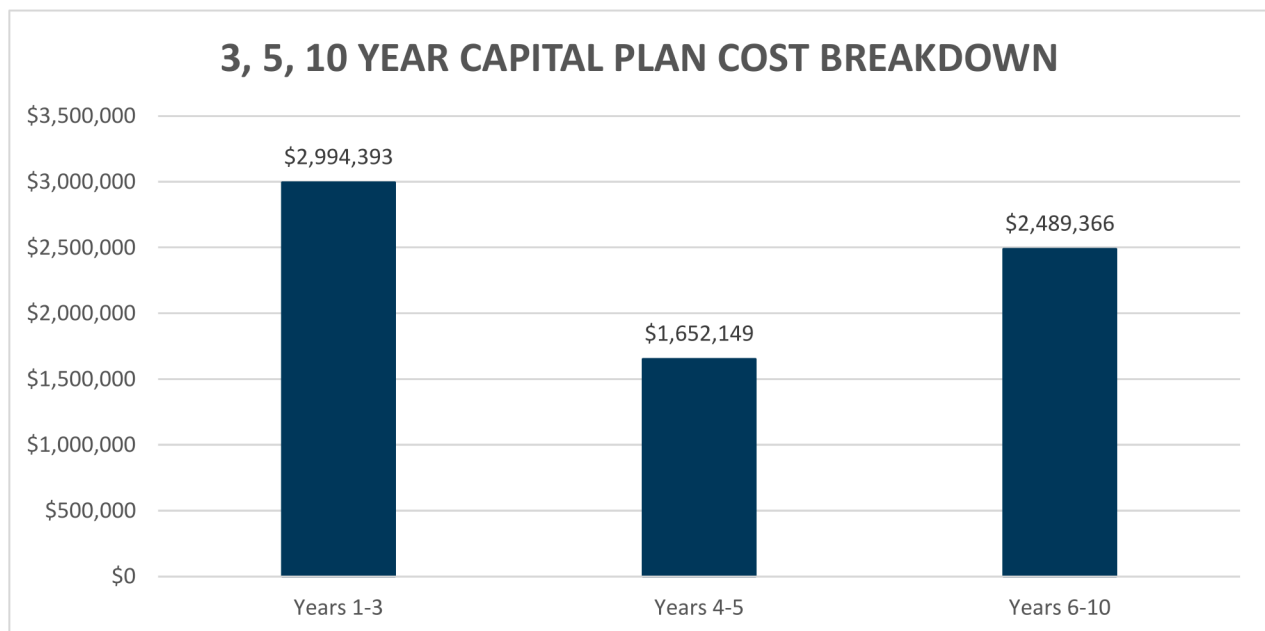
**Priority Level:** 3  
**Estimated Cost:** \$161,090  
**Remaining Life:** 3 Years

# 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.

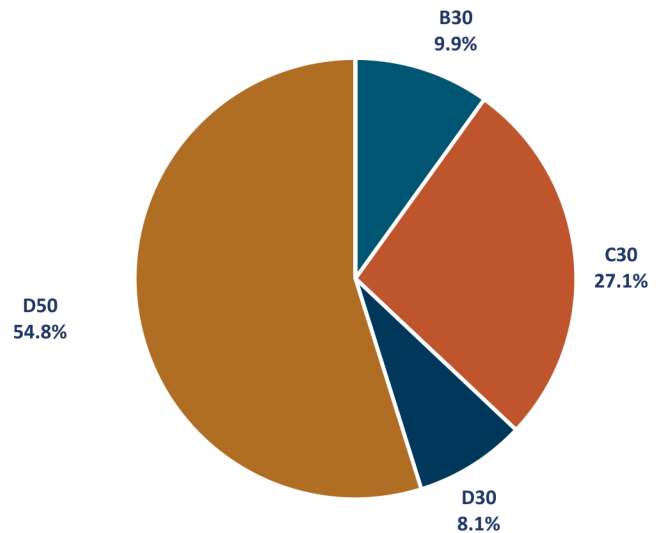
REPLACEMENT PERIOD	ASSET QUANTITY	CUMULATIVE REPLACEMENT COST
3-Year Plan	14	\$2,994,393
5-Year Plan	90	\$1,652,149
10-Year Plan	32	\$2,489,366
<b>Total</b>	<b>136</b>	<b>\$7,135,908</b>

# 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 \$2,994,393. The specific assets that will reach end of life in this period are listed in Appendix A.

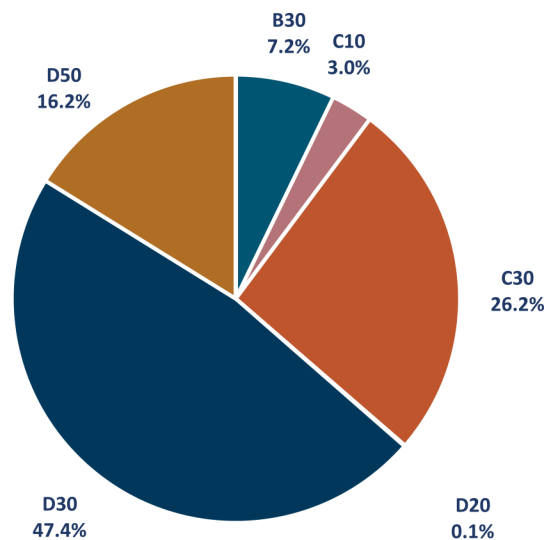
SUBSYSTEM	Years 1-3	Percent
A10 - Foundations	\$0	0%
B10 - Superstructure	\$0	0%
B20 - Exterior Enclosure	\$0	0%
B30 - Roofing	\$297,155	10%
C10 - Int. Construction	\$0	0%
C20 - Stairs	\$0	0%
C30 - Interior Finishes	\$811,758	27%
D10 - Conveying	\$0	0%
D20 - Plumbing	\$0	0%
D30 - HVAC	\$243,907	8%
D40 - Fire Protection	\$0	0%
D50 - Electrical	\$1,641,573	55%
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 \$1,652,149. 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	\$0	0%
B30 - Roofing	\$118,426	7%
C10 - Int. Construction	\$50,243	3%
C20 - Stairs	\$0	0%
C30 - Interior Finishes	\$432,195	26%
D10 - Conveying	\$0	0%
D20 - Plumbing	\$1,351	<1%
D30 - HVAC	\$782,784	47%
D40 - Fire Protection	\$0	0%
D50 - Electrical	\$267,151	16%
E10 - Equipment	\$0	0%
G20 - Site Improvements	\$0	0%
G40 - Site Electrical	\$0	0%

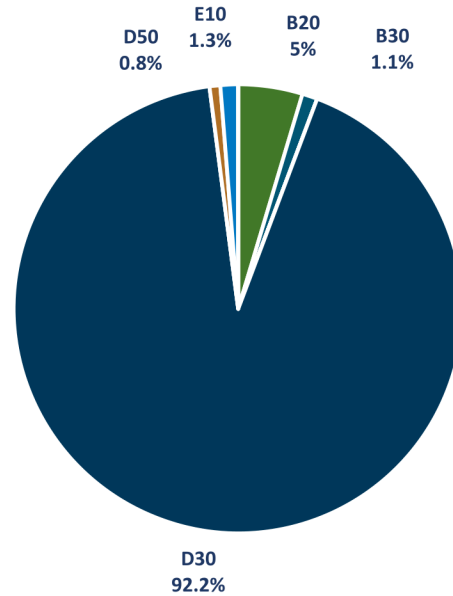


# Condition Assessment

## 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 \$2,489,366. 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	\$114,898	5%
B30 - Roofing	\$27,400	1%
C10 - Int. Construction	\$0	0%
C20 - Stairs	\$0	0%
C30 - Interior Finishes	\$0	0%
D10 - Conveying	\$0	0%
D20 - Plumbing	\$0	0%
D30 - HVAC	\$2,295,946	92%
D40 - Fire Protection	\$0	0%
D50 - Electrical	\$19,650	1%
E10 - Equipment	\$31,471	1%
G20 - Site Improvements	\$0	0%
G40 - Site Electrical	\$0	0%



# Condition Assessment

---

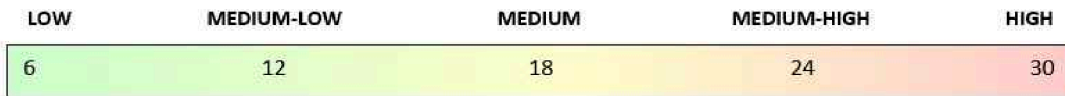
## PRIORITY SUMMARY

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:  $\leq 12$  = Green, 12.1-23.9 = Yellow,  $\geq 24$  = 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.



# Condition Assessment

## PRIORITY SCORE SUMMARY - BETHKE ES

	<b>BETHKE ES</b>	
	BUILDING TYPE:	Elementary School
	YEAR BUILT:	2008
	GROSS AREA (SF):	56,458
	DATE ASSESSED:	June 7, 2023
PRIORITY SCORE:	<b>15.9</b>	

SUBSYSTEM:	DESCRIPTION	PRIORITY SCORE
B20 - Ext. Enclosure	The building's exterior walls consist primarily of concrete masonry unit (CMU), and are original to the building's initial construction in 2008. Exterior doors include both single and double metal doors, as well as aluminum/glass storefront doors for the main entrance. [REDACTED] Exterior glazing is primarily metal clad (operable) windows with some metal stationary framed windows at entry elements and 2nd story common areas. No major deficiencies were noted with the building's exterior enclosure.	<b>13.1</b>
B30 - Roofing	The building's roofing consists of a combination of flat rolled asphalt, and standing seam accents above skylights and roof edges. There are multiple light pipes installed on the rooftop, which appear to have been installed in 2017. C [REDACTED]	<b>16.6</b>
C10 - Int. Construction	Interior Finishes in the building has CMU walls with open ceilings (or decorative features) in common areas otherwise ACT in classrooms ... and concrete/carpet/tile/athletic flooring. The original buildings interior finishes are masonry walls, drywall/ACT ceilings and carpeted flooring.	<b>12.8</b>
C30 - Interior Finishes		<b>15.5</b>
D20 - Plumbing	Domestic hot water is provided by two (2) natural gas fired water (100 gallon) heaters and were both installed in 2017. Additional plumbing equipment includes four (4) backflow preventers.	<b>11.0</b>
D30 - HVAC	The building's heating, ventilation, and air conditioning (HVAC) system consists of a combination of unit ventilators serving the classrooms, and air handlers serving the FLEX gymnasium space. The unit ventilators units were installed in 2008, and are equipped with both heating and cooling coils. Heating water is provided by two (2) fuel fired boilers installed in 2008. Cooling is provided by one (1) Air-Cooled Chiller installed in 2008 along with an Ice Storage Unit being installed in 2018. Additional HVAC equipment includes packaged (DX) rooftop units, rooftop exhaust fans, fan coil units, and heating and cooling water distribution equipment. C [REDACTED] the Air-Cooled Chiller is at it anticipated end of life expectancy.	<b>13.9</b>
D40 - Fire Suppression	[REDACTED]	<b>16.0</b>
D50 - Electrical	The building's electrical distribution equipment consists predominately of 480/277 panels, transformers, and switchgear. [REDACTED] The fire alarm system dates to 2008. Interior lighting consists mostly of fluorescent fixtures. Exterior lighting is made up of a mixture of fluorescent, incandescent, and LED lights and is, generally, in fair to average condition. Consider upgrading the remainder of interior and exterior lighting to light emitting diode (LED) fixtures to reduce energy costs and maintenance needs.	<b>23.9</b>
E10 - Equipment	There are two (2) walk-in coolers in use at this school, these units are equipped with rooftop condensers. [REDACTED]	<b>13.0</b>

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 inflation.

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.

### BETHKE ES

ASSET ID	DESCRIPTION	SUBSYSTEM	OBSERVED REMAINING	REPLACEMENT COST	PRIORITY SCORE
FCAID-70143	Interior Lighting: Fluorescent	D50 - Electrical	2	\$818,440	27
FCAID-70141	Emergency Back-Up Lighting	D50 - Electrical	2	\$225,830	27
FCAID-70182	Fire Alarm System	D50 - Electrical	1	\$439,810	25
FCAID-70142	HID Lights	D50 - Electrical	2	\$73,500	23
FCAID-70144	Interior Lighting: LED	D50 - Electrical	2	\$48,990	21
FCAID-70013	Roofing: Rolled Asphalt	B30 - Roofing	2	\$288,500	20
FCAID-70040	CU-1	D30 - HVAC	2	\$20,110	18
FCAID-70073	HP	D30 - HVAC	2	\$15,250	18
FCAID-70023	Interior Finishes: Carpet	C30 - Interior Finishes	3	\$720,000	17
FCAID-70075	P-1	D30 - HVAC	2	\$11,720	17
FCAID-70038	P-4	D30 - HVAC	2	\$11,900	17
FCAID-70037	P-3	D30 - HVAC	2	\$11,900	17
FCAID-70041	CT-1	D30 - HVAC	3	\$161,090	16
FCAID-70024	Interior Finishes: Rolled VCT	C30 - Interior Finishes	3	\$45,160	13

# 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 inflation.

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.

### BETHKE ES

ASSET ID	DESCRIPTION	SUBSYSTEM	OBSERVED REMAINING LIFE	REPLACEMENT COST	PRIORITY SCORE
FCAID-70170	Security System	D50 - Electrical	5	\$225,830	20
FCAID-70083	CNV2	D30 - HVAC	4	\$2,860	17
FCAID-70082	CNV1	D30 - HVAC	4	\$2,860	16
FCAID-70081	P-9	D30 - HVAC	5	\$6,560	15
FCAID-70076	P-10	D30 - HVAC	5	\$6,560	14
FCAID-70080	P-2	D30 - HVAC	5	\$6,560	14
FCAID-70074	P-1	D30 - HVAC	5	\$6,560	14
FCAID-70077	P-11	D30 - HVAC	5	\$6,560	14
FCAID-70093	SF-1	D30 - HVAC	5	\$8,190	14
FCAID-70078	P-12	D30 - HVAC	5	\$6,560	14
FCAID-70079	P-13	D30 - HVAC	5	\$6,560	14
FCAID-70014	Roofing: Solar Tunnels	B30 - Roofing	5	\$105,220	14
FCAID-70022	Interior Finishes: Acoustic Tile	C30 - Interior Finishes	5	\$384,000	13
FCAID-70035	CUH-4	D30 - HVAC	5	\$6,610	13
FCAID-70033	CUH-2	D30 - HVAC	5	\$6,610	13
FCAID-70064	EF-5	D30 - HVAC	5	\$12,980	13
FCAID-70099	VAV-01-104	D30 - HVAC	5	\$94,520	13
FCAID-70065	EF6	D30 - HVAC	5	\$6,710	13
FCAID-70032	CUH-1	D30 - HVAC	5	\$6,610	13
FCAID-70066	EF7	D30 - HVAC	5	\$8,660	13
FCAID-70034	CUH-3	D30 - HVAC	5	\$6,610	13
FCAID-70067	EF8	D30 - HVAC	5	\$8,660	13
FCAID-70036	CUH-5	D30 - HVAC	5	\$6,610	13
FCAID-70017	Interior Construction: Hollow Metal, Doub	C10 - Interior Constru	5	\$29,760	13
FCAID-70102	VAV-01-112	D30 - HVAC	5	\$22,560	13

FCAID-70018	Interior Door: Hollow Metal, Single	C10 - Interior Constr	5	\$14,880	13
FCAID-70100	VAV-01-105	D30 - HVAC	5	\$72,710	13
FCAID-70113	VAV-04-119	D30 - HVAC	5	\$5,640	12
FCAID-70129	VAV-05-208	D30 - HVAC	5	\$7,270	12
FCAID-70121	VAV-05-124	D30 - HVAC	5	\$5,640	12
FCAID-70071	RH-106	D30 - HVAC	5	\$5,450	12
FCAID-70109	VAV-04-115	D30 - HVAC	5	\$3,300	12
FCAID-70060	EF17	D30 - HVAC	5	\$6,710	12
FCAID-70117	VAV-04-205	D30 - HVAC	5	\$4,700	12
FCAID-70061	EF-2	D30 - HVAC	5	\$6,710	12
FCAID-70125	VAV-05-128	D30 - HVAC	5	\$4,700	12
FCAID-70062	EF-3	D30 - HVAC	5	\$6,710	12
FCAID-70133	VAV-05-212	D30 - HVAC	5	\$7,270	12
FCAID-70063	EF-4	D30 - HVAC	5	\$8,190	12
FCAID-70111	VAV-04-117	D30 - HVAC	5	\$5,640	12
FCAID-70056	EF13	D30 - HVAC	5	\$6,710	12
FCAID-70115	VAV-04-121	D30 - HVAC	5	\$7,270	12
FCAID-70057	EF14	D30 - HVAC	5	\$6,710	12
FCAID-70119	VAV-04-207	D30 - HVAC	5	\$7,270	12
FCAID-70058	EF15	D30 - HVAC	5	\$6,710	12
FCAID-70123	VAV-05-126	D30 - HVAC	5	\$5,640	12
FCAID-70059	EF16	D30 - HVAC	5	\$6,710	12
FCAID-70127	VAV-05-130	D30 - HVAC	5	\$7,270	12
FCAID-70052	EF-1	D30 - HVAC	5	\$6,710	12
FCAID-70131	VAV-05-210	D30 - HVAC	5	\$7,270	12
FCAID-70053	EF10	D30 - HVAC	5	\$6,710	12
FCAID-70070	RH-103	D30 - HVAC	5	\$5,450	12
FCAID-70094	GFUH-1	D30 - HVAC	5	\$4,520	12
FCAID-70110	VAV-04-116	D30 - HVAC	5	\$5,640	12
FCAID-70137	VAV-06-109	D30 - HVAC	5	\$4,700	12
FCAID-70112	VAV-04-118	D30 - HVAC	5	\$5,640	12
FCAID-70138	VAV-06-110	D30 - HVAC	5	\$5,640	12
FCAID-70114	VAV-04-120	D30 - HVAC	5	\$5,640	12
FCAID-70054	EF11	D30 - HVAC	5	\$6,710	12
FCAID-70116	VAV-04-122	D30 - HVAC	5	\$8,900	12
FCAID-70098	VAV-01-103	D30 - HVAC	5	\$3,300	12
FCAID-70118	VAV-04-206	D30 - HVAC	5	\$7,270	12
FCAID-70068	EF9	D30 - HVAC	5	\$8,660	12
FCAID-70120	VAV-05-123	D30 - HVAC	5	\$5,640	12
FCAID-70135	VAV-06-107	D30 - HVAC	5	\$3,300	12
FCAID-70122	VAV-05-125	D30 - HVAC	5	\$5,640	12
FCAID-70136	VAV-06-108	D30 - HVAC	5	\$3,300	12
FCAID-70124	VAV-05-127	D30 - HVAC	5	\$7,270	12
FCAID-70069	RH-102	D30 - HVAC	5	\$5,450	12
FCAID-70126	VAV-05-129	D30 - HVAC	5	\$7,270	12
FCAID-70103	VAV-01-113	D30 - HVAC	5	\$5,640	12
FCAID-70128	VAV-05-131	D30 - HVAC	5	\$7,270	12

FCAID-70104	VAV-01-114	D30 - HVAC	5	\$5,640	12
FCAID-70130	VAV-05-209	D30 - HVAC	5	\$3,300	12
FCAID-70105	VAV-01-201	D30 - HVAC	5	\$7,270	12
FCAID-70132	VAV-05-211	D30 - HVAC	5	\$7,270	12
FCAID-70106	VAV-01-202	D30 - HVAC	5	\$5,640	12
FCAID-70134	VAV-06-106	D30 - HVAC	5	\$5,640	12
FCAID-70107	VAV-01-203	D30 - HVAC	5	\$7,270	12
FCAID-70108	VAV-01-204	D30 - HVAC	5	\$7,270	12
FCAID-70055	EF12	D30 - HVAC	5	\$6,710	12
FCAID-70101	VAV-01-111	D30 - HVAC	5	\$11,280	12
FCAID-70140	Exterior Lighting	D50 - Electrical	5	\$11,530	12
FCAID-70096	VAV-01-101	D30 - HVAC	5	\$7,270	12
FCAID-70097	VAV-01-102	D30 - HVAC	5	\$3,300	12
FCAID-70095	UH-1	D30 - HVAC	5	\$3,520	12
FCAID-70027	BFP-2-DCW	D20 - Plumbing	5	\$400	11
FCAID-70026	BFP-1-DCW-Main	D20 - Plumbing	5	\$800	11
FCAID-70028	AS-1	D30 - HVAC	5	\$7,530	10
FCAID-70029	As-2	D30 - HVAC	5	\$11,310	10

# 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 inflation.

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.

### BETHKE ES

ASSET ID	DESCRIPTION	SUBSYSTEM	OBSERVED REMAINING LIFE	REPLACEMENT COST	PRIORITY SCORE
FCAID-70091	RTU-5	D30 - HVAC	10	\$173,600	18
FCAID-70087	RTU-1	D30 - HVAC	10	\$186,900	18
FCAID-70089	RTU-3	D30 - HVAC	10	\$84,000	16
FCAID-70085	CLRTU-2	D30 - HVAC	10	\$31,160	16
FCAID-70090	RTU-4	D30 - HVAC	10	\$29,200	16
FCAID-70092	RTU-6	D30 - HVAC	10	\$47,000	16
FCAID-70086	Rooftop Unit Detached Classroom A	D30 - HVAC	10	\$13,450	16
FCAID-70088	RTU-2	D30 - HVAC	10	\$79,800	16
FCAID-70084	CLRTU-1	D30 - HVAC	10	\$31,160	16
FCAID-70031	BAS Control Panel	D30 - HVAC	10	\$483,850	15
FCAID-70012	Roofing: Metal Flashing	B30 - Roofing	10	\$21,000	15
FCAID-70072	Furnace Detached Classroom B	D30 - HVAC	9	\$8,870	14
FCAID-70010	Exterior Windows: Wood Framed Swing O	B20 - Exterior Enclosu	10	\$88,060	13
FCAID-70180	Walk-in Cooler	E10 - Equipment	10	\$12,060	13
FCAID-70181	Walk-in Freezer	E10 - Equipment	10	\$12,060	13
FCAID-70046	DHC-4	D30 - HVAC	10	\$8,280	12
FCAID-70044	DHC-2	D30 - HVAC	10	\$8,280	12
FCAID-70047	DHC-5	D30 - HVAC	10	\$8,280	12
FCAID-70050	DHC-8	D30 - HVAC	10	\$8,280	12
FCAID-70045	DHC-3	D30 - HVAC	10	\$8,280	12
FCAID-70049	DHC-7	D30 - HVAC	10	\$8,280	12
FCAID-70051	DHC-9	D30 - HVAC	10	\$8,280	12
FCAID-70042	DHC-1	D30 - HVAC	10	\$8,280	12
FCAID-70048	DHC-6	D30 - HVAC	10	\$8,280	12
FCAID-70043	DHC-10	D30 - HVAC	10	\$8,280	12

FCAID-70146	Lighting Control Panel - Electrical 232-2	D50 - Electrical	10	\$2,510	11
FCAID-70145	Lighting Control Panel - Electrical 232-1	D50 - Electrical	10	\$2,510	11
FCAID-70150	Lighting Control Panel - South Classrooms	D50 - Electrical	10	\$2,510	11
FCAID-70147	Lighting Control Panel - Gym	D50 - Electrical	10	\$2,510	11
FCAID-70148	Lighting Control Panel - Media	D50 - Electrical	10	\$2,510	11
FCAID-70149	Lighting Control Panel - North Classrooms	D50 - Electrical	10	\$2,510	11
FCAID-70030	Building Automation System	D30 - HVAC	10	\$508,120	9