

POUDRE SCHOOL DISTRICT WERNER ELEMENTARY SCHOOL

FACILITY CONDITION ASSESSMENT

FORT COLLINS, CO

OCTOBER 2023



Together, Building a Thriving Planet

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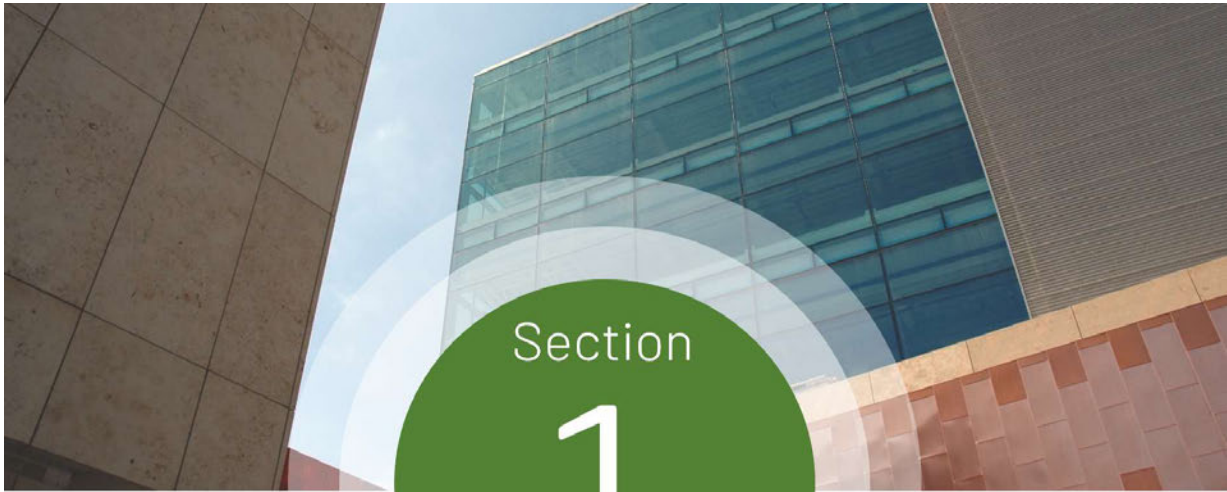
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Section

1

Executive Summary

Executive Summary

Project Goals

The contents of this report present the results of the Facility Condition Assessment (FCA) performed at Werner ES within the Poudre School District (PSD) on March 16, 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
WERNER ES	50,300	1987
TOTAL	50,300	

Facility Summary

Werner ES

Werner ES is located at 5400 Mall Creek Ln., Fort Collins, CO 80525. This 50,300 SF facility consists of one level and was initially constructed in 1987. The equity index for this school is 0.56.



Werner ES

Executive Summary

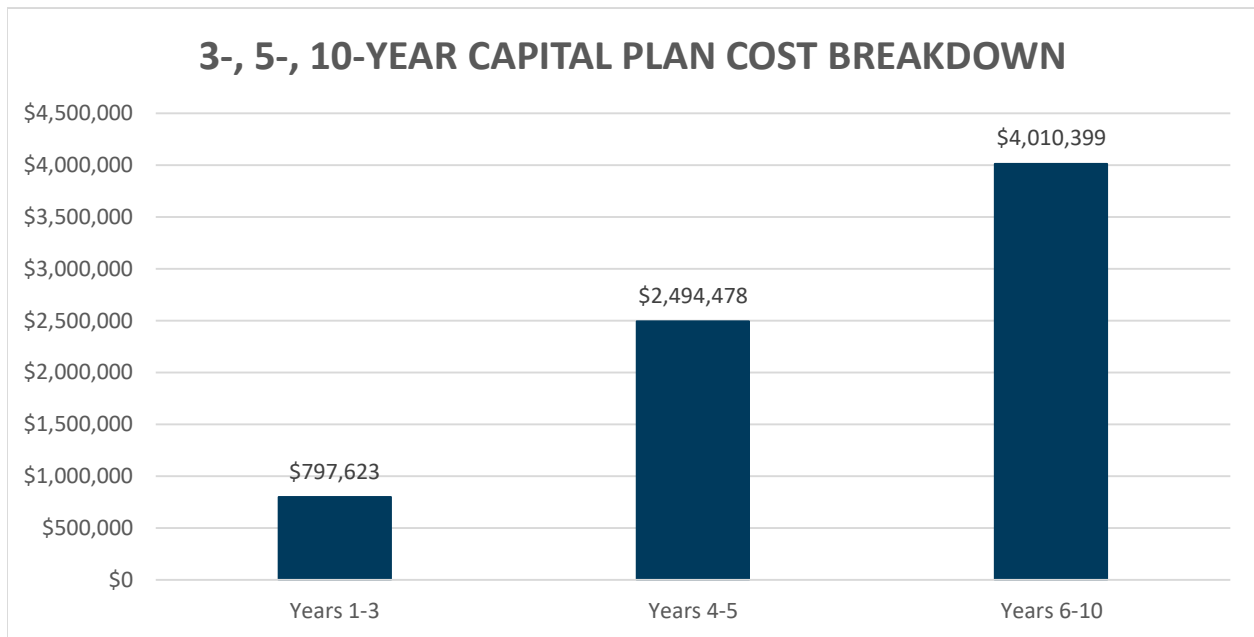
Assessment Summary

This section summarizes the building systems at the facility and describes the general condition observed based on the assessment performed on March 16, 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.



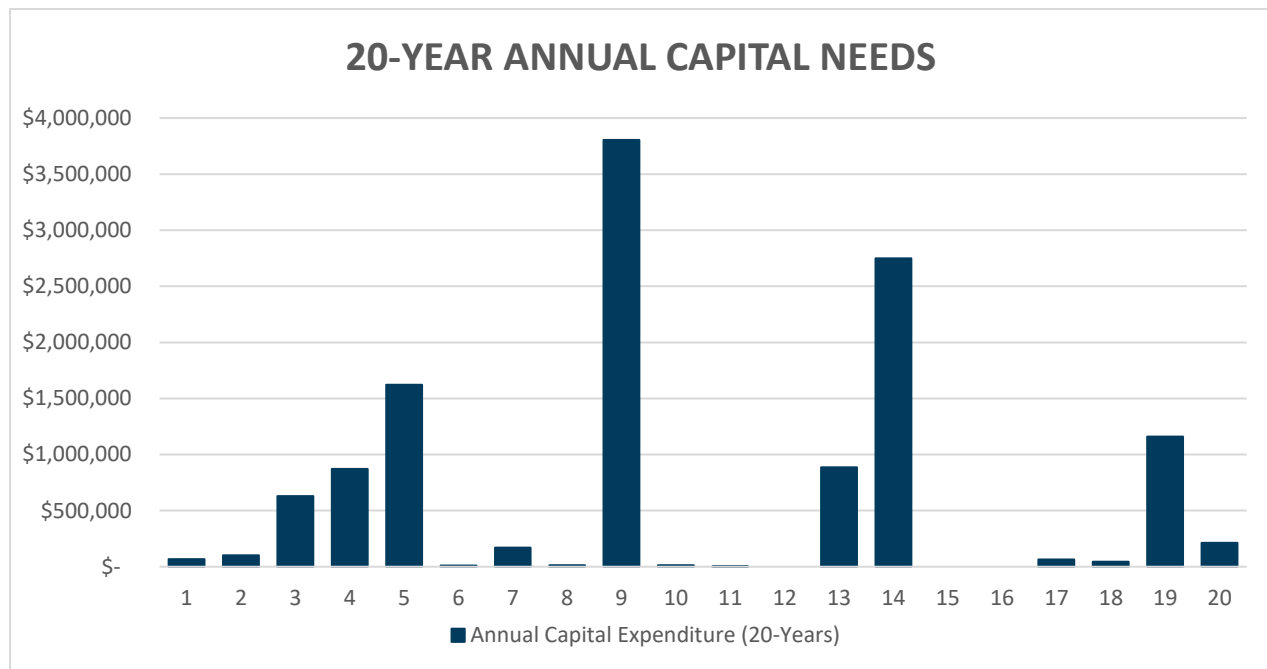
3-, 5-, 10-Year Capital Plan Cost Breakdown

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	\$488,831	\$1,866,383	\$0	\$0
B30 - Roofing	\$0	\$0	\$567,295	\$0
C10 - Int. Construction	\$92,202	\$0	\$795,989	\$0
C20 - Stairs	\$0	\$0	\$0	\$0
C30 - Interior Finishes	\$699,245	\$451,832	\$868,165	\$136,501
D10 - Conveying	\$0	\$0	\$0	\$0
D20 - Plumbing	\$10,238	\$27,097	\$25,663	\$35,100
D30 - HVAC	\$721,156	\$425,196	\$1,096,054	\$268,690
D40 - Fire Suppression	\$624,444	\$0	\$0	\$0
D50 - Electrical	\$655,986	\$1,218,291	\$281,430	\$1,041,925
E10 - Equipment	\$0	\$21,600	\$0	\$0
Total:	\$3,292,101	\$4,010,399	\$3,634,595	\$1,482,216

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 Uniformal 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

Based on the constraints of the scope outlined in the contract we have based our asset pricing upon industry standards, RSMMeans, 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 Werner ES is 0.56.

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
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 Ed.; McKinney-Vento - Homeless Assistance

Section

3

Condition Assessment

Condition Assessment

SYSTEMS DESCRIPTION

This section summarizes the building systems at Werner ES 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 1997. Subsequent renovations to the school were completed in 1999, 2002, 2012, and 2015. Exterior walls are of CMU construction. Windows are of the aluminum framed type. Exterior doors consist of hollow metal and storefront types. [REDACTED]

Roofing

The rolled asphalt roofing and skylights were replaced in 2012 [REDACTED] with 14 and 9 years of remaining life respectively.

Interior Construction and Finishes

The interior construction components of the building, including drywall and concrete masonry unit (CMU) walls are original. The interior doors are primarily of the wood and hollow metal type but also include automatic glass/metal. The interior construction and interior finish components are a mix of original 1987 install and 2012 upgrades. Though upgraded in 2012, the carpeting and VCT flooring will be the first finished to require replacement within 3-4 years.

Conveyance

As the building is comprised of a single story an elevator is not provided.

Electrical and Lighting

The building includes both 120/208V and 277/480V service. Electrical assets, including panelboards, transformers, and VFDs have mostly been upgraded from 2012-2020. Both VFDs were replaced in 2020. [REDACTED]. The associated ATS-1 is also original and should be replaced when the generator is replaced. Emergency back-up lighting appears to have been updated in 2012 along with the interior fluorescent light, fire alarm system, and the security system. Exterior wall packs were updated to LED fixtures in 2021. Recommend replacement of the fluorescent lighting fixtures with LED lighting fixtures in approximately 4 years. Panel MDP [REDACTED] was also not replaced in 2012 and is expected to require replacement in 4 years.

HVAC Systems

The HVAC assets include (2) original air handling units that received new motors, valves, and actuators in 2012. , EF-12 and EF-13 are original [REDACTED] Fan Coil Units, cabinet unit heaters, BBRs, air-cooled heat pumps (serving modular building), ceiling-mounted VUVs, and (4) RTUs are also present. The heating water system features two gas-fired boilers with associated circulation pumps. Though Boiler-2 was replaced in 2008, [REDACTED] The BAS was upgraded in 2012.

Plumbing

Plumbing assets include three gas-fired water heaters and one circulation pump. Three backflow preventers, one thermostatic mixing valve, and one bypass feeder are also provided. Most plumbing assets were replaced between 2012 and 2023. However, GWH-2 dates to 2009 and is expected to require replacement in approximately 3 years.

Fire Suppression

The fire alarm system was updated in 2012, though the wet fire sprinkler system dates to the 1987 original construction. [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 is provided one original walk-in cooler and one original walk-in freezer. No associated condensing units were located. Observed remaining life of the original walk-in cooler and the original walk-in freezer is 7 years.

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.

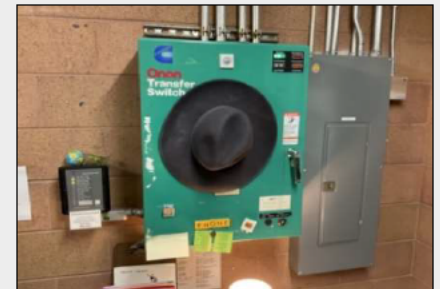
Werner ES

Replace Back-Up Generator & ATS-1

The back-up generator is original [REDACTED]. Total Generator Run Hours = 435.1, which is high. The associated ATS-1 is also original and should be replaced when the generator is replaced.

The following assets are included within this measure:

FCAID-620036, FCAID-620127



Priority Level:	2
Estimated Cost:	\$66,170
Remaining Life:	1-5 Years

Condition Assessment

Replace Boiler-1

Though Boiler-2 was replaced in 2008, Boiler-1 (1,116 MBH) is original [REDACTED]
[REDACTED] Recommend replacement within 2 years.



The following assets are included within this measure:

FCAID-620069



Priority Level: 2
Estimated Cost: \$78,630
Remaining Life: 2 Years

Replace Panel MDP

Panel MDP (1997-built, 600A) was not replaced in 2012 along with other electrical assets. [REDACTED] Panel MDP is expected to require replacement in 4 years at end of life.



The following assets are included within this measure:

FCAID-620141

Priority Level: 2
Estimated Cost: \$12,370
Remaining Life: 4 Years

Condition Assessment

Replace EF-12 & EF-13

EF-12 and EF-13 (both 2 Hp and serving the Kitchen) are original [REDACTED]. These fans are 16 years past expected life.



The following assets are included within this measure:

FCAID-620048, FCAID-620049



Priority Level: 2
Estimated Cost: \$19,180
Remaining Life: 2 Years

Replace P-6

P-6 (1/25 Hp and serving the AHU-2 HW Coil) is 17 years past expected life [REDACTED]



The following assets are included within this measure:

FCAID-620079



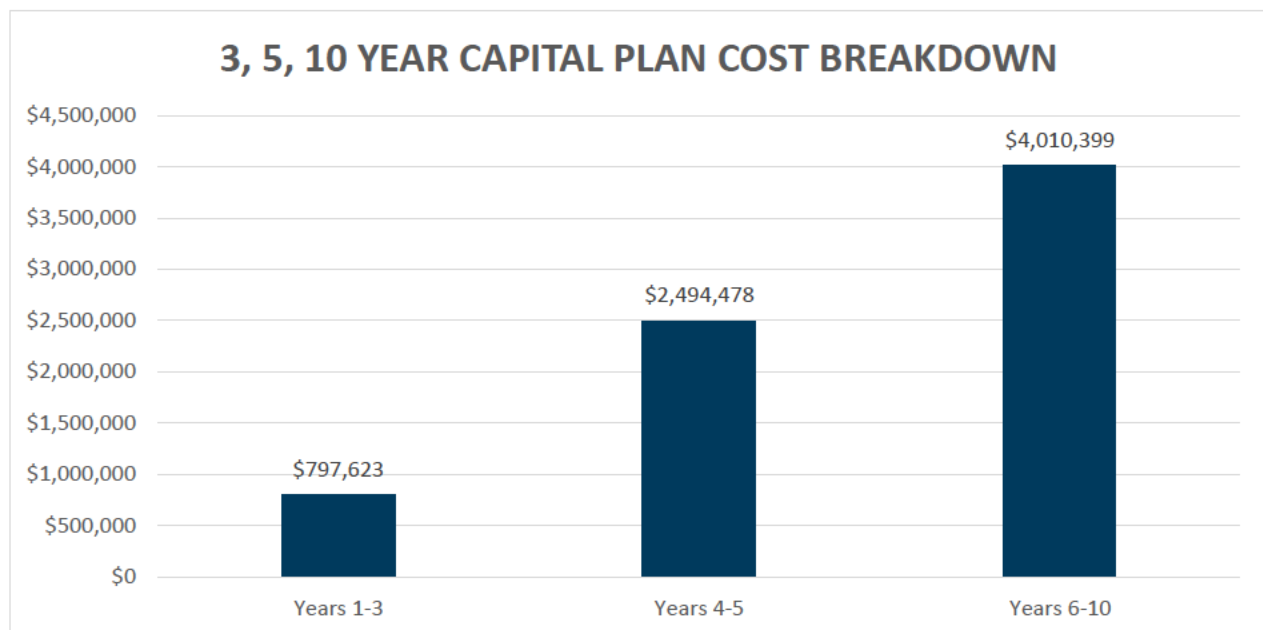
Priority Level: 2
Estimated Cost: \$4,630
Remaining Life: 1 Year

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.

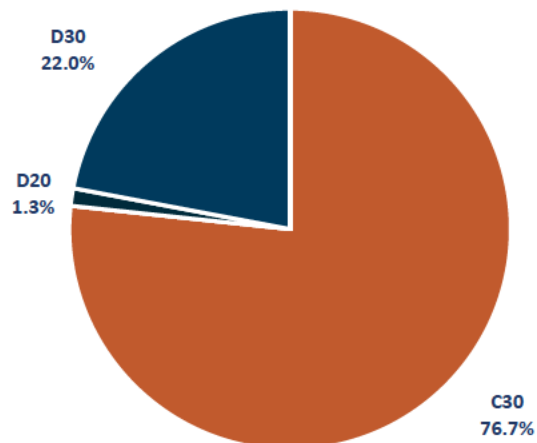
REPLACEMENT PERIOD	ASSET QUANTITY	CUMULATIVE REPLACEMENT COST
3-Year Plan	9	\$797,623
5-Year Plan	54	\$2,494,478
10-Year Plan	45	\$4,010,399
Total	108	\$7,302,500

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 \$797,623. The specific assets that will reach end of life in this period are listed in Appendix A.

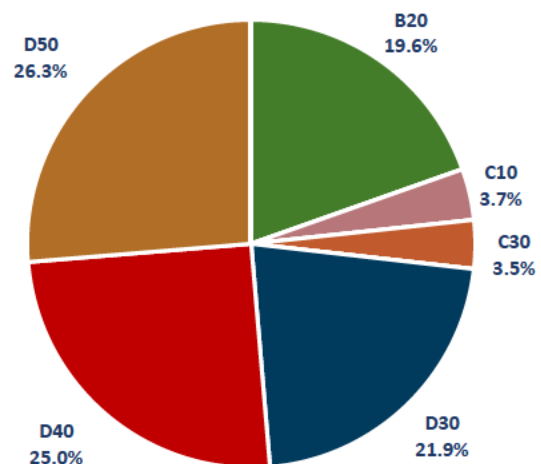
SUBSYSTEM	Years 1-3	Percent
A10 - Foundations	\$0	0%
B10 - Superstructure	\$0	0%
B20 - Exterior Enclosure	\$0	0%
B30 - Roofing	\$0	0%
C10 - Int. Construction	\$0	0%
C20 - Stairs	\$0	0%
C30 - Interior Finishes	\$611,630	77%
D10 - Conveying	\$0	0%
D20 - Plumbing	\$10,238	1%
D30 - HVAC	\$175,755	22%
D40 - Fire Protection	\$0	0%
D50 - Electrical	\$0	0%
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 \$2,494,478. 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	\$488,831	20%
B30 - Roofing	\$0	0%
C10 - Int. Construction	\$92,202	4%
C20 - Stairs	\$0	0%
C30 - Interior Finishes	\$87,615	4%
D10 - Conveying	\$0	0%
D20 - Plumbing	\$0	0%
D30 - HVAC	\$545,401	22%
D40 - Fire Protection	\$624,444	25%
D50 - Electrical	\$655,986	26%
E10 - Equipment	\$0	0%
G20 - Site Improvements	\$0	0%
G40 - Site Electrical	\$0	0%

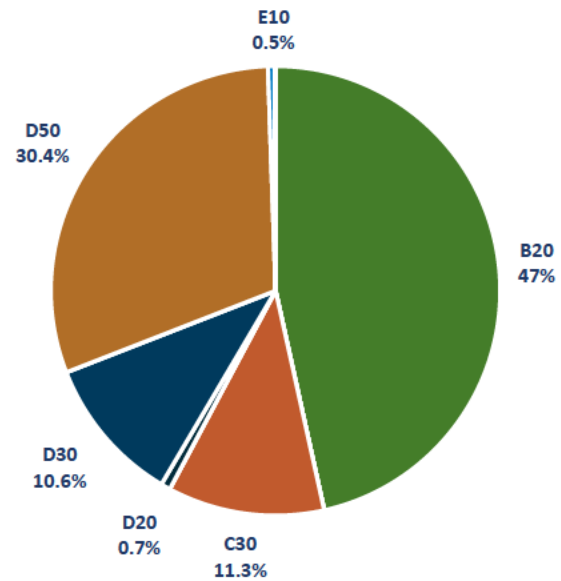


Condition Assessment

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 \$4,010,399. 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	\$1,866,383	47%
B30 - Roofing	\$0	0%
C10 - Int. Construction	\$0	0%
C20 - Stairs	\$0	0%
C30 - Interior Finishes	\$451,832	11%
D10 - Conveying	\$0	0%
D20 - Plumbing	\$27,097	1%
D30 - HVAC	\$425,196	11%
D40 - Fire Protection	\$0	0%
D50 - Electrical	\$1,218,291	30%
E10 - Equipment	\$21,600	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: ≤ 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 - WERNER ES

		WERNER ES	
		BUILDING TYPE:	Elementary School
		YEAR BUILT:	1987
		GROSS AREA (SF):	50,300
		DATE ASSESSED:	March 16, 2023
		PRIORITY SCORE:	16.6
SUBSYSTEM:	DESCRIPTION	PRIORITY SCORE	
B20 - Ext. Enclosure	The original building was constructed in 1997. Subsequent renovations to the school were completed in 1999, 2002, 2012, and 2015. Exterior walls are of CMU construction. Windows are of the aluminum framed type. Exterior doors consist of hollow metal and storefront types. Exterior [REDACTED]	14.8	
B30 - Roofing	The rolled asphalt roofing and skylights were replaced in 2012 [REDACTED] with 14 and 9 years of remaining life respectively.	15.0	
C10 - Int. Construction	The interior construction components of the building, including drywall and concrete masonry unit (CMU) walls are original. The interior doors are primarily of the wood and hollow metal type but also include automatic glass/metal. The interior construction and interior finish components are a mix of original 1987 install and 2012 upgrades. Though upgraded in 2012, the carpeting and VCT flooring will be the first finished to require replacement within 3-4 years.	14.4	
C30 - Interior Finishes		15.4	
D20 - Plumbing	Plumbing assets include three gas-fired water heaters and one circulation pump. Three backflow preventers, one thermostatic mixing valve, and one bypass feeder are also provided. Most plumbing assets were replaced between 2012 and 2023. However, GWH-2 dates to 2009 and is expected to require replacement in approximately 3 years.	10.9	
D30 - HVAC	The HVAC assets include (2) original air handling units that received new motors, valves, and actuators in 2012. , EF-12 and EF-13 are original [REDACTED] Fan Coil Units, cabinet unit heaters, BBRs, air-cooled heat pumps (serving modular building), ceiling-mounted VUVs, and (4) RTUs are also present. The heating water system features two gas-fired boilers with associated circulation pumps. Though Boiler-2 was replaced in 2008, [REDACTED] The BAS was upgraded in 2012.	16.4	
D40 - Fire Suppression	The fire alarm system was updated in 2012, though the wet fire sprinkler system dates to the 1987 original construction. [REDACTED] The Fire Protection System appears to be well maintained and updated per fire code requirements. No deficiencies were noted with this system.	22.0	
D50 - Electrical	The building includes both 120/208V and 277/480V service. Electrical assets, including panelboards, transformers, and VFDs have mostly been upgraded from 2012-2020. Both VFDs were replaced in 2020. [REDACTED] The associated ATS-1 is also original and should be replaced when the generator is replaced. Emergency back-up lighting appears to have been updated in 2012 along with the interior fluorescent light, fire alarm system, and the security system. Exterior wall packs were updated to LED fixtures in 2021. Recommend replacement of the fluorescent lighting fixtures with LED lighting fixtures in approximately 4 years. Panel MDP [REDACTED] was also not replaced in 2012 and is expected to require replacement in 4 years.	21.1	
E10 - Equipment	The Kitchen area is provided one original walk-in cooler and one original walk-in freezer. No associated condensing units were located. Observed remaining life of the original walk-in cooler and the original walk-in freezer is 7 years.	15.0	

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.

WERNER ES

ASSET ID	DESCRIPTION	SUBSYSTEM	OBSERVED REMAINING	REPLACEMENT COST	PRIORITY SCORE
FCAID-620069	Boiler-1	D30 - HVAC	2	\$78,630	23
FCAID-620036	Back-Up Generator	D30 - HVAC	1	\$61,830	20
FCAID-620079	P-6	D30 - HVAC	1	\$4,630	18
FCAID-620022	Interior Flooring: Carpet	C30 - Interior Finishes	3	\$576,520	17
FCAID-620048	EF-12	D30 - HVAC	2	\$9,590	16
FCAID-620049	EF-13	D30 - HVAC	2	\$9,590	16
FCAID-620078	P-5	D30 - HVAC	3	\$4,630	15
FCAID-620032	GWH-2	D20 - Plumbing	3	\$9,650	14
FCAID-620071	Gas Meter	D30 - HVAC	3	\$3,430	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 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.

WERNER ES

ASSET ID	DESCRIPTION	SUBSYSTEM	OBSERVED REMAINING LIFE	REPLACEMENT COST	PRIORITY SCORE
FCAID-620131	Fire Alarm System	D50 - Electrical	4	\$391,840	23
FCAID-620126	Wet Fire Sprinkler System	D40 - Fire Protection	5	\$554,810	22
FCAID-620143	Security System	D50 - Electrical	4	\$191,640	20
FCAID-620120	VUV-1	D30 - HVAC	4	\$30,370	17
FCAID-620118	RTU-3	D30 - HVAC	5	\$32,740	17
FCAID-620121	VUV-2	D30 - HVAC	4	\$30,370	17
FCAID-620122	VUV-3	D30 - HVAC	4	\$30,370	17
FCAID-620123	VUV-4	D30 - HVAC	4	\$30,370	17
FCAID-620008	Exterior Windows: Steel Framed	B20 - Exterior Enclosure	5	\$59,400	14
FCAID-620007	Exterior Windows: Aluminum Framed	B20 - Exterior Enclosure	5	\$59,400	14
FCAID-620141	Panel MDP	D50 - Electrical	4	\$12,370	14
FCAID-620006	Exterior Doors: Hollow Metal/Glass, Single	B20 - Exterior Enclosure	5	\$119,040	14
FCAID-620082	BBR-033	D30 - HVAC	5	\$9,540	13
FCAID-620109	BBR-405	D30 - HVAC	5	\$9,540	13
FCAID-620105	BBR-211	D30 - HVAC	5	\$9,540	13
FCAID-620087	BBR-101	D30 - HVAC	5	\$9,540	13
FCAID-620113	BBR-502	D30 - HVAC	5	\$9,540	13
FCAID-620088	BBR-102	D30 - HVAC	5	\$9,540	13
FCAID-620003	Exterior Doors: Hollow Metal, Double	B20 - Exterior Enclosure	5	\$29,760	13
FCAID-620089	BBR-103	D30 - HVAC	5	\$9,540	13
FCAID-620107	BBR-213	D30 - HVAC	5	\$9,540	13
FCAID-620090	BBR-104	D30 - HVAC	5	\$9,540	13
FCAID-620111	BBR-407B	D30 - HVAC	5	\$9,540	13
FCAID-620091	BBR-105	D30 - HVAC	5	\$9,540	13
FCAID-620115	BBR-505	D30 - HVAC	5	\$9,540	13

FCAID-620092	BBR-106	D30 - HVAC	5	\$9,540	13
FCAID-620084	BBR-058	D30 - HVAC	5	\$9,540	13
FCAID-620093	BBR-107	D30 - HVAC	5	\$9,540	13
FCAID-620104	BBR-210	D30 - HVAC	5	\$9,540	13
FCAID-620094	BBR-108	D30 - HVAC	5	\$9,540	13
FCAID-620106	BBR-212	D30 - HVAC	5	\$9,540	13
FCAID-620095	BBR-200	D30 - HVAC	5	\$9,540	13
FCAID-620108	BBR-215	D30 - HVAC	5	\$9,540	13
FCAID-620096	BBR-201	D30 - HVAC	5	\$9,540	13
FCAID-620110	BBR-406	D30 - HVAC	5	\$9,540	13
FCAID-620097	BBR-202	D30 - HVAC	5	\$9,540	13
FCAID-620112	BBR-501	D30 - HVAC	5	\$9,540	13
FCAID-620024	Interior Flooring: VCT	C30 - Interior Finishes	4	\$80,180	13
FCAID-620114	BBR-504	D30 - HVAC	5	\$9,540	13
FCAID-620004	Exterior Doors: Metal/Glass, Automatic, D	B20 - Exterior Enclosu	5	\$57,600	13
FCAID-620081	BBR-010	D30 - HVAC	5	\$9,540	13
FCAID-620100	BBR-205	D30 - HVAC	5	\$9,540	13
FCAID-620083	BBR-049	D30 - HVAC	5	\$9,540	13
FCAID-620101	BBR-206	D30 - HVAC	5	\$9,540	13
FCAID-620085	BBR-068	D30 - HVAC	5	\$9,540	13
FCAID-620102	BBR-208	D30 - HVAC	5	\$9,540	13
FCAID-620086	BBR-100	D30 - HVAC	5	\$9,540	13
FCAID-620103	BBR-209	D30 - HVAC	5	\$9,540	13
FCAID-620099	BBR-204	D30 - HVAC	5	\$9,540	13
FCAID-620002	Exterior Doors: Hollow Metal, Double	B20 - Exterior Enclosu	5	\$99,200	13
FCAID-620098	BBR-203	D30 - HVAC	5	\$9,540	13
FCAID-620005	Exterior Doors: Hollow Metal, Single	B20 - Exterior Enclosu	5	\$9,920	12
FCAID-620127	ATS-1	D50 - Electrical	5	\$4,340	12
FCAID-620017	Interior Windows: Glass Block	C10 - Interior Constr	5	\$81,920	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 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.

WERNER ES

ASSET ID	DESCRIPTION	SUBSYSTEM	OBSERVED REMAINING LIFE	REPLACEMENT COST	PRIORITY SCORE
FCAID-620132	Interior Lighting: Fluorescent	D50 - Electrical	9	\$770,090	23
FCAID-620035	AHU-2	D30 - HVAC	7	\$56,880	19
FCAID-620034	AHU-1	D30 - HVAC	7	\$42,660	19
FCAID-620009	Skylights	B20 - Exterior Enclosure	9	\$1,473,340	16
FCAID-620073	Air-Cooled Heat Pump-2	D30 - HVAC	7	\$11,900	15
FCAID-620072	Air-Cooled Heat Pump-1	D30 - HVAC	7	\$11,900	15
FCAID-620129	Emergency Back-Up Lighting	D50 - Electrical	9	\$191,640	15
FCAID-620146	Walk-In Freezer	E10 - Equipment	7	\$12,060	15
FCAID-620145	Walk-In Cooler	E10 - Equipment	7	\$6,030	15
FCAID-620020	Interior Ceiling: Acoustical Tile	C30 - Interior Finishes	9	\$315,880	14
FCAID-620076	P-3	D30 - HVAC	6	\$4,630	14
FCAID-620077	P-4	D30 - HVAC	6	\$4,630	14
FCAID-620065	FCU-5	D30 - HVAC	9	\$8,870	13
FCAID-620063	FCU-3	D30 - HVAC	9	\$8,870	13
FCAID-620062	FCU-2	D30 - HVAC	9	\$8,870	13
FCAID-620066	FCU-6	D30 - HVAC	9	\$8,870	13
FCAID-620064	FCU-4	D30 - HVAC	9	\$8,870	13
FCAID-620068	FCU-8	D30 - HVAC	9	\$8,870	13
FCAID-620061	FCU-1	D30 - HVAC	9	\$8,870	13
FCAID-620067	FCU-7	D30 - HVAC	9	\$8,870	13
FCAID-620038	CUH-1	D30 - HVAC	9	\$8,750	12
FCAID-620052	EF-16	D30 - HVAC	9	\$6,210	12
FCAID-620047	EF-11	D30 - HVAC	9	\$6,710	12
FCAID-620050	EF-14	D30 - HVAC	9	\$6,210	12
FCAID-620044	CUH-7	D30 - HVAC	9	\$8,750	12

FCAID-620041	CUH-4	D30 - HVAC	9	\$8,750	12
FCAID-620039	CUH-2	D30 - HVAC	9	\$8,750	12
FCAID-620059	EF-8	D30 - HVAC	9	\$6,210	12
FCAID-620051	EF-15	D30 - HVAC	9	\$8,660	12
FCAID-620056	EF-5	D30 - HVAC	9	\$6,210	12
FCAID-620040	CUH-3	D30 - HVAC	9	\$8,750	12
FCAID-620045	EF-1	D30 - HVAC	9	\$6,710	12
FCAID-620046	EF-10	D30 - HVAC	9	\$8,190	12
FCAID-620042	CUH-5	D30 - HVAC	9	\$8,750	12
FCAID-620057	EF-6	D30 - HVAC	9	\$6,210	12
FCAID-620043	CUH-6	D30 - HVAC	9	\$8,750	12
FCAID-620058	EF-7	D30 - HVAC	9	\$8,660	12
FCAID-620054	EF-3	D30 - HVAC	9	\$1,260	12
FCAID-620055	EF-4	D30 - HVAC	9	\$6,210	12
FCAID-620053	EF-2	D30 - HVAC	9	\$1,260	12
FCAID-620033	GWH-3	D20 - Plumbing	8	\$10,610	11
FCAID-620021	Interior Flooring: Athletic Synthetic Rubber	C30 - Interior Finishes	9	\$40,800	11
FCAID-620026	BFP-GWH-2	D20 - Plumbing	9	\$400	10
FCAID-620028	Bypass Feeder-HWS	D20 - Plumbing	9	\$750	9
FCAID-620031	GWH-1	D20 - Plumbing	10	\$9,650	9