



FACILITY CONDITION ASSESSMENT

JCTC | November 2020





Executive Summary

JCTC, located at 12425 Hwy 57 in Vancleave, Mississippi, oldest building is 37 years old (at time of 2020 assessment). It comprises 36,100 gross square feet.

The findings contained within this report are the result of an assessment of building systems performed by building professionals experienced in disciplines including architecture, mechanical, plumbing and electrical. The total current deficiencies for this site, in 2020 construction cost dollars, are estimated at \$1,012,558. A ten-year need was developed to provide an understanding of the current need as well as the projected needs in the near future. For JCTC the ten-year need is \$4,106,591.

For master planning purposes, the total current deficiencies and the first five years of projected life cycle needs were combined to calculate a Facility Condition Index (FCI). A 5-year FCI was calculated by dividing the 5-year need by the total replacement cost. Costs associated with new construction are not included in the FCI calculation. The JCTC facility has a 5-year FCI of 44.87%.

Summary of Findings

The table below summarizes the condition findings at JCTC

Table 1: Facility Condition by Building

Number	Building Name	Current Deficiencies	5-Year Life Cycle Cost	Yrs 6-10 Life Cycle Cost	Total 5 Yr Need (Yr 1-5 + Current Defs)	Total 10 Yr Need (Yr 1-10 + Current Defs)	Replacement Cost	5-Year FCI
Exterior Site								
	Exterior Site	\$359,148	\$0	\$0	\$359,148	\$359,148	\$0	
Permanent Building(s)								
01	Vocational Tech	\$653,411	\$2,216,022	\$878,011	\$2,869,433	\$3,747,444	\$7,194,730	39.88%
Sub Total for Permanent Building(s):		\$653,411	\$2,216,022	\$878,011	\$2,869,433	\$3,747,444	\$7,194,730	
Total for Site:		\$1,012,558	\$2,216,022	\$878,011	\$3,228,580	\$4,106,591	\$7,194,730	44.87%



Approach and Methodology

A facility condition assessment evaluates each building's overall condition. Two components of the facility condition assessment are combined to total the cost for facility need. The two components of the facility condition assessment are current deficiencies and life cycle forecast.

Current Deficiencies: Deficiencies are items in need of repair or replacement as a result of being broken, obsolete, or beyond useful life. The existing deficiencies that currently require correction are identified and assigned a priority. An example of a current deficiency might include a broken lighting fixture or an inoperable roof top air conditioning unit.

Life Cycle Forecast: Life cycle analysis evaluates the ages of a building's systems to forecast system replacement as they reach the end of serviceable life. An example of a life cycle system replacement is a roof with a 20-year life that has been in place for 15 years and may require replacement in five years.

All members of the survey team recorded existing conditions, identified problems and deficiencies, and documented corrective action and quantities. The team took digital photos at each site to better identify significant deficiencies.

Facility Deficiency Priority Levels

Deficiencies were ranked according to five priority levels, with Priority 1 items being the most critical to address:

Priority 1 – Mission Critical Concerns: Deficiencies or conditions that may directly affect the site's ability to remain open or deliver the educational curriculum. These deficiencies typically relate to building safety, code compliance, severely damaged or failing building components, and other items that require near-term correction. An example of a Priority 1 deficiency is a fire alarm system replacement.

Priority 2 - Indirect Impact to Educational Mission: Items that may progress to a Priority 1 item if not addressed in the near term. Examples of Priority 2 deficiencies include inadequate roofing that could cause deterioration of integral building systems, and conditions affecting building envelopes, such as roof and window replacements.

Priority 3 - Short-Term Conditions: Deficiencies that are necessary to the site's mission but may not require immediate attention. These items should be considered necessary improvements required to maximize facility efficiency and usefulness. Examples of Priority 3 items include site improvements and plumbing deficiencies.

Priority 4 - Long-Term Requirements: Items or systems that may be considered improvements to the instructional environment. The improvements may be aesthetic or provide greater functionality. Examples include cabinets, finishes, paving, removal of abandoned equipment, and educational accommodations associated with special programs.

Priority 5 - Enhancements: Deficiencies aesthetic in nature or considered enhancements. Typical deficiencies in this priority include repainting, replacing carpet, improved signage, or other improvements to the facility environment.



The following table summarizes this site's current deficiencies by building system and priority.

Table 2: System by Priority (Site & Permanent Buildings)

System	Priority					Total	% of Total
	1	2	3	4	5		
Site	\$0	\$0	\$130,266	\$228,881	\$0	\$359,148	35.47 %
Roofing	\$0	\$307,542	\$0	\$0	\$0	\$307,542	30.37 %
Structural	\$0	\$0	\$0	\$0	\$0	\$0	0.00 %
Exterior	\$0	\$0	\$1,348	\$0	\$0	\$1,348	0.13 %
Interior	\$0	\$0	\$93,618	\$14,395	\$0	\$108,013	10.67 %
Mechanical	\$0	\$134,068	\$0	\$0	\$7,741	\$141,809	14.01 %
Electrical	\$0	\$9,849	\$0	\$11,530	\$0	\$21,379	2.11 %
Plumbing	\$0	\$0	\$18,839	\$0	\$0	\$18,839	1.86 %
Fire and Life Safety	\$0	\$0	\$0	\$0	\$0	\$0	0.00 %
Conveyances	\$0	\$0	\$0	\$0	\$0	\$0	0.00 %
Specialties	\$0	\$0	\$288	\$54,193	\$0	\$54,480	5.38 %
Total:	\$0	\$451,459	\$244,359	\$308,999	\$7,741	\$1,012,558	

The building systems at the site with the most need include:

Site	-	\$359,148
Roofing	-	\$307,542
Mechanical	-	\$141,809



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

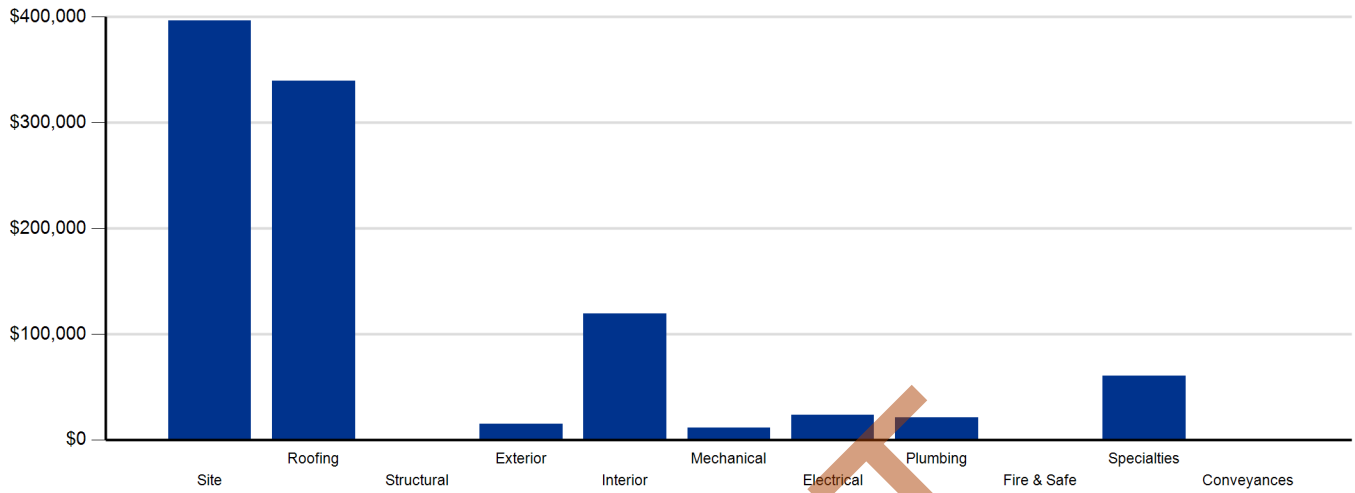


Figure 1: System Deficiencies

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Life Cycle Capital Renewal Forecast

During the facility condition assessment, assessors inspected all major building systems. If an assessor identified a need for immediate replacement, a deficiency was created with the item's repair costs. The identified deficiency contributes to the facility's total current repair costs.

However, capital planning scenarios span multiple years, as opposed to being constrained to immediate repairs. Construction projects may begin several years after the initial facility condition assessment. Therefore, in addition to the current year repair costs, it is necessary to forecast the facility's future costs using a ten-year life cycle renewal forecast model.

Life cycle renewal is the projection of future building system costs based upon each individual system's expected serviceable life. Building systems and components age over time, eventually break down, reach the end of their useful lives, and may require replacement. While an item may be in good condition now, it might reach the end of its life before a planned construction project occurs.

The following tables show current deficiencies and the subsequent ten-year life cycle capital renewal projections. The projections outline costs for major building systems in which a component is expected to reach the end of its useful life and require capital funding for replacement.

Table 3a: Capital Renewal Forecast (Yrs 1-5)

System	Life Cycle Capital Renewal Projections					Total 1-5
	Year 1 2021	Year 2 2022	Year 3 2023	Year 4 2024	Year 5 2025	
Site	\$0	\$0	\$0	\$0	\$0	\$0
Roofing	\$0	\$0	\$0	\$0	\$0	\$0
Exterior	\$0	\$0	\$88,117	\$0	\$8,098	\$96,215
Interior	\$0	\$0	\$81,884	\$141,344	\$0	\$223,228
Mechanical	\$0	\$0	\$75,175	\$35,705	\$100,216	\$211,096
Electrical	\$29,322	\$24,162	\$590,728	\$265,591	\$0	\$909,803
Plumbing	\$90,011	\$31,001	\$12,306	\$7,861	\$603,085	\$744,264
Fire and Life Safety	\$0	\$0	\$0	\$0	\$0	\$0
Conveyances	\$0	\$0	\$0	\$0	\$0	\$0
Specialties	\$0	\$0	\$0	\$31,416	\$0	\$31,416
Total	\$119,333	\$55,163	\$848,210	\$481,917	\$711,399	\$2,216,022



Table 3b: Capital Renewal Forecast (Yrs 6-10)

System	Life Cycle Capital Renewal Projections						Total 6-10	Total 1-10
	Total 1-5	Year 6 2026	Year 7 2027	Year 8 2028	Year 9 2029	Year 10 2030		
Site	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Roofing	\$0	\$0	\$0	\$510,075	\$0	\$0	\$510,075	\$510,075
Exterior	\$96,215	\$37,064	\$0	\$0	\$0	\$45,116	\$82,180	\$178,395
Interior	\$223,228	\$0	\$65,856	\$7,747	\$0	\$33,738	\$107,341	\$330,569
Mechanical	\$211,096	\$178,415	\$0	\$0	\$0	\$0	\$178,415	\$389,511
Electrical	\$909,803	\$0	\$0	\$0	\$0	\$0	\$0	\$909,803
Plumbing	\$744,264	\$0	\$0	\$0	\$0	\$0	\$0	\$744,264
Fire and Life Safety	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Conveyances	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Specialties	\$31,416	\$0	\$0	\$0	\$0	\$0	\$0	\$31,416
Total	\$2,216,022	\$215,479	\$65,856	\$517,822	\$0	\$78,854	\$878,011	\$3,094,033

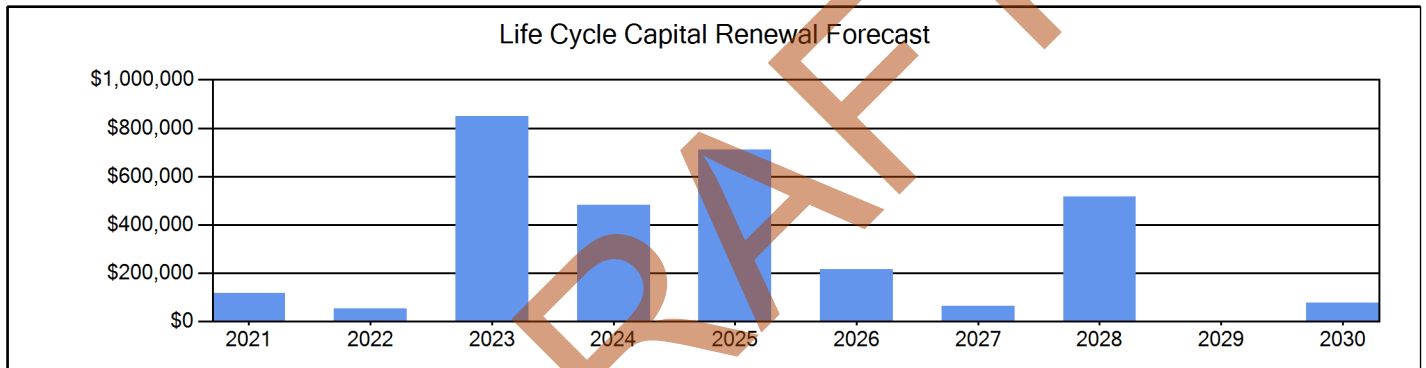
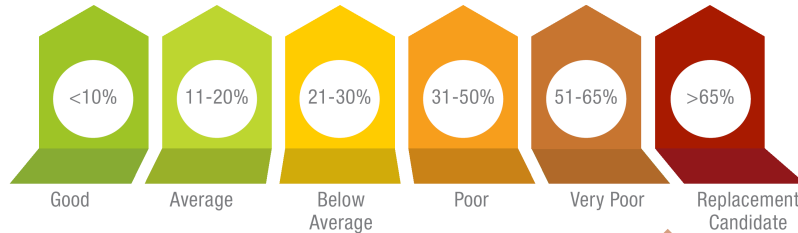


Figure 2: Ten Year Capital Renewal Forecast



Facility Condition Index (FCI)

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



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

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

The replacement value represents the estimated cost of replacing the current building with another building of like size, based on today’s estimated cost of construction in the Jackson, MS area. The estimated replacement cost for this facility is \$7,194,730. For planning purposes, the total 5-year need at the JCTC is \$3,228,580 (Life Cycle Years 1-5 plus the FCI deficiency cost). The JCTC facility has a 5-year FCI of 44.87%.

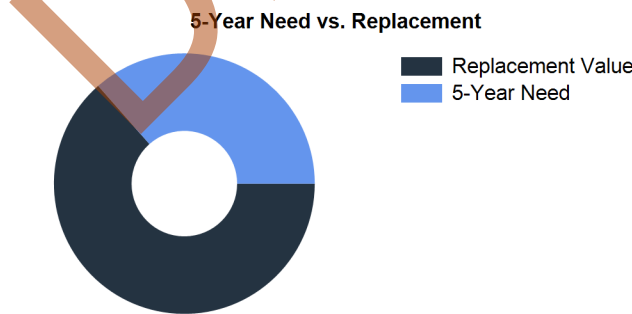


Figure 3: 5-Year FCI



JCTC - Deficiency Summary

Site Level Deficiencies

Site

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Asphalt Driveway Replacement Note: Driveway is damaged	Capital Renewal	22,000	SF	3	\$126,235	33
Site Requires Civil/Drainage Study Note: Water pools and the site does not drain properly. Location: Northeast corner of the property	Deferred Maintenance	1	LS	3	\$4,032	34
Asphalt Paving Replacement Note: Paving is damaged and old	Capital Renewal	85	CAR	4	\$110,038	32
Fencing Replacement (8' - 10' high Chain Link Fence)	Capital Renewal	1,700	LF	4	\$118,843	31
Sub Total for System		4	items		\$359,148	
Sub Total for School and Site Level		4	items		\$359,148	

Building: 01 - Vocational Tech

Roofing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Modified Roof Covering Replacement Note: Roof is aged, delaminated, and leaks	Capital Renewal	10,000	SF	2	\$307,542	30
Sub Total for System		1	items		\$307,542	

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Caulking Replacement Note: Pre-cast joints - caulk and sealant missing. Location: Multiple locations	Deferred Maintenance	200	LF	3	\$1,348	23
Sub Total for System		1	items		\$1,348	

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Entry Door Does Not Have Power Assist Device Location: Main entrance	ADA Compliance	1	Ea.	3	\$14,134	28
Interior Door Hardware Replacement Note: Hardware is not ADA compliant	Capital Renewal	60	Door	3	\$79,484	25
Toilet Partition Replacement Location: Multiple locations, no restroom numbers	Capital Renewal	8	Stall	4	\$14,395	24
Sub Total for System		3	items		\$108,013	

Mechanical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Fan Coil Unit Replacement	Capital Renewal	1	Ea.	2	\$1,758	888
Gas Furnace HVAC Component Replacement	Capital Renewal	1	Ea.	2	\$3,289	889
Gas Unit Heater Replacement Note: Unit does not work Location: Welding shop	Capital Renewal	1	Ea.	2	\$4,626	37
Heat Pump HVAC Component Replacement	Capital Renewal	1	Ea.	2	\$10,828	887
Package Roof Top Unit Replacement Note: 3 ton	Capital Renewal	4	Ea.	2	\$56,784	890
Package Roof Top Unit Replacement Note: 4 ton	Capital Renewal	2	Ea.	2	\$28,392	891
Package Roof Top Unit Replacement	Capital Renewal	2	Ea.	2	\$28,392	892
Remove Abandoned Equipment Note: Make-up air units are abandoned	Deferred Maintenance	7	Ea.	5	\$7,741	38
Sub Total for System		8	items		\$141,809	



Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Electrical Transformer Replacement	Capital Renewal	2	Ea.	2	\$9,849	35
Note: Obsolete, aged, and beyond useful remaining life						
Location: Welding and janitor's room						
Canopy Lighting Repair	Deferred Maintenance	6	Ea.	4	\$11,530	36
Sub Total for System		2	items		\$21,379	

Plumbing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Restroom Is Not ADA Compliant	ADA Compliance	200	SF	3	\$18,839	29
Sub Total for System		1	items		\$18,839	

Specialties

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Counter Heights Exceed Maximum ADA Height Requirements (Modify Full)	ADA Compliance	5	LF	3	\$288	27
Note: Height of the counter is not ADA compliant						
Metal Student Lockers Replacement	Capital Renewal	114	Ea.	4	\$54,193	26
Location: Restrooms and Auto Shop						
Sub Total for System		2	items		\$54,480	
Sub Total for Building 01 - Vocational Tech		18	items		\$653,411	
Total for Campus		22	items		\$1,012,558	

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JCTC - Life Cycle Summary Yrs 1-10

Building: 01 - Vocational Tech

Roofing

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Low-Slope Roofing	Single Ply	17,000	SF	\$510,075	8
Sub Total for System		1	items	\$510,075	

Exterior

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Exterior Wall Veneer	Exterior Painting - Bldg SF basis	28,880	SF	\$45,116	3
Exterior Entrance Doors	Steel - Insulated and Painted	13	Door	\$43,001	3
Exterior Operating Windows	Aluminum - Windows per SF	28	SF	\$2,492	5
Exterior Operating Windows	Aluminum - Windows per SF	63	SF	\$5,606	5
Exterior Utility Doors	Overhead Door	5	Door	\$37,064	6
Exterior Wall Veneer	Exterior Painting - Bldg SF basis	28,880	SF	\$45,116	10
Sub Total for System		6	items	\$178,395	

Interior

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Wall Painting and Coating	Painting/Staining (Bldg SF)	7,220	SF	\$28,868	3
Carpeting	Carpet	4,693	SF	\$53,016	3
Acoustical Suspended Ceilings	Ceilings - Acoustical Grid System	18,050	SF	\$67,070	4
Acoustical Suspended Ceilings	Ceilings - Acoustical Tiles	18,050	SF	\$54,387	4
Interior Swinging Doors	Wooden Door	57	Door	\$19,887	4
Resilient Flooring	Vinyl Composition Tile Flooring	9,025	SF	\$65,856	7
Interior Swinging Doors	Metal Door (Steel)	3	Door	\$7,747	8
Wall Painting and Coating	Painting/Staining (Bldg SF)	7,220	SF	\$28,868	10
Resilient Flooring	Rubber Tile Flooring	361	SF	\$4,870	10
Sub Total for System		9	items	\$330,568	

Mechanical

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Heating System Supplementary Components	Controls - Electronic (Bldg.SF)	36,100	SF	\$49,844	3
Exhaust Air	Wall Exhaust Fan	6	Ea.	\$25,331	3
Decentralized Heating Equipment	Unit Heater Gas (200 MBH)	6	Ea.	\$27,757	4
Decentralized Cooling	Heat Pump (3 Ton)	1	Ea.	\$7,948	4
Exhaust Air	Roof Exhaust Fan - Small	4	Ea.	\$6,995	5
Exhaust Air	Roof Exhaust Fan - Large	13	Ea.	\$93,221	5
HVAC Air Distribution	Ductwork (Bldg.SF)	25,270	SF	\$178,415	6
Sub Total for System		7	items	\$389,511	

Electrical

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Distributed Systems	Public Address System Head End Unit	1	Ea.	\$6,520	1
Audio-Video Systems	PA Communications No Head Unit (Bldg SF)	36,100	SF	\$22,802	1
Note: Original to building					
Lighting Fixtures	Canopy Mounted Fixtures (Ea.)	13	Ea.	\$24,162	2
Lighting Fixtures	Light Fixtures (Bldg SF)	36,100	SF	\$590,728	3
Electrical Service	Switchgear - Main Dist Panel (2000 Amps)	1	Ea.	\$58,426	4
Electrical Service	Switchgear - Main Dist Panel (1200 Amps)	1	Ea.	\$34,253	4
Electrical Service	Transformer (45 KVA)	2	Ea.	\$10,563	4
Electrical Service	Transformer (30 KVA)	1	Ea.	\$4,925	4
Electrical Service	Transformer (15 KVA)	2	Ea.	\$9,561	4
Power Distribution	Distribution Panels (600 Amps)	1	Ea.	\$15,885	4
Power Distribution	Distribution Panels (400 Amps)	3	Ea.	\$45,254	4
Power Distribution	Distribution Panels (200 Amps)	3	Ea.	\$44,736	4
Power Distribution	Distribution Panels (100 Amps)	1	Ea.	\$14,912	4
Power Distribution	Panelboard - 120/208 225A	3	Ea.	\$14,722	4
Power Distribution	Panelboard - 120/208 225A	1	Ea.	\$4,907	4
Power Distribution	Panelboard - 120/208 100A	3	Ea.	\$7,447	4
Sub Total for System		16	items	\$909,804	



Plumbing

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Plumbing Fixtures	Restroom Lavatory	12	Ea.	\$29,085	1
Plumbing Fixtures	Sink - Service / Mop Sink	1	Ea.	\$710	1
Plumbing Fixtures	Toilets	12	Ea.	\$54,174	1
Plumbing Fixtures	Urinals	5	Ea.	\$6,042	1
Domestic Water Equipment	Water Heater - Instant 3.2 GPM	1	Ea.	\$1,253	2
Plumbing Fixtures	Classroom Lavatory	13	Ea.	\$29,748	2
Domestic Water Equipment	Water Heater - Gas - 200 Gallon	1	Ea.	\$12,306	3
Plumbing Fixtures	Refrigerated Drinking Fountain	4	Ea.	\$7,861	4
Domestic Water Equipment	Gas Piping System (BldgSF)	15,750	SF	\$487,322	5
Domestic Water Piping	Domestic Water Piping System (Bldg.SF)	36,100	SF	\$115,763	5
Sub Total for System		10	items	\$744,265	

Specialties

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Casework	Fixed Cabinetry	4	Room	\$31,416	4
Sub Total for System		1	items	\$31,416	
Sub Total for Building 01 - Vocational Tech		50	items	\$3,094,033	
Total for: JCTC		50	items	\$3,094,033	

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Supporting Photos



Failing modified bitumen roofing



Restroom partition HVAC shop area



Northeast site drainage problem



South elevation



Door hardware not ADA compliant



Site driveway