



FACILITIES SERVICES

SUMMARY OF SERVICES ANNUAL REPORT

July 2023 - June 2024



New Science Building

Facilities Services Department

PO Box 32 Murfreesboro, Tennessee 37132

Phone 615-898-2414

www.mtsu.edu/facserv/

...maintaining facilities and grounds... in a safe, clean, and functional condition...Continuous growth...Continuous Improvement



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MTSU Facilities Services is a department reporting to Senior Vice President Alan Thomas of the Division of Business and Finance.



FSD website

Middle Tennessee State University is an equal opportunity, non-racially identifiable, educational institution that does not discriminate against individuals with disabilities.

Assistant Vice President's Summary

Joe Whitefield

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The mission of Facilities Services is to maintain facilities and grounds and present them to the university tenants and the public in a safe, clean, and functional condition while managing the resources and assets in accordance with applicable requirements, procedures, and constraints.

FY 23/24 has concluded and FY 24/25 is well underway. The departmental budget remained relatively level. A dedicated staff provided professional services to the university community and visitors throughout the year. As always, Facilities Services maintains a constant focus on productivity management, innovation, informed decision making, and effective communication in serving the campus community.

This report highlights many accomplishments in FY23/24 for the department and updates the Maintenance and Operations (M&O) and capital budgets. The following are samples of the Accomplishments and Challenges/Opportunities.

Accomplishments

Performance Metrics

The Summary of Services report from the previous FY identified a combined total of 126 individual goals across the departmental work units for FY23/24. Overall, 97 of the goals were completely met or had substantial progress toward their completion (77%), 21 of the goals had progress toward completion but remain on-going (17%) and 8 of the goals had little to no progress (8%).

Capital Projects, Construction Renovation Projects, and Maintenance Projects

- 6 capital construction projects were completed totaling \$13.12 million
- 16 capital construction projects in design totaling \$213.22 million
- 134 renovation projects were completed totaling \$2.47 million
- 202 major maintenance projects were completed totaling \$4.03 million

Customer Service and Communication

- All work units combined to complete 21,322 work orders for the year
- Administered the customer survey process that produced useful feedback and consistently high ratings for services
- Continued weekly meetings with Residential Life maintenance staff to review work progress for Housing

Management and Productivity

- The business intelligence software program was expanded within the department providing for significantly enhanced work analytics and improved project planning
- Staff, informational and safety meetings were conducted throughout the department
- EH&S training software (Safe Colleges) was used to enhance all forms of required training for the department and campus community

Energy Management

- The TN High Performance Building Guidelines are used to design energy efficiency and sustainability features into capital projects
- Facilities Services applies for and has been awarded numerous Sustainable Campus Fee projects to improve energy efficiency and sustainability of several existing facilities across campus.
- The MTSU Energy Guidelines are in effect for the campus

Challenges and Opportunities

Budgets

Maintenance and Operations (M&O) budgets are for basic operational needs such as custodial services, grounds services, central utilities services, light bulb changing, etc., and routine maintenance and repair of facility systems such as HVAC, electrical, etc. The M&O budgets for Facilities Services have remained level over the years.

FY23/24 concluded with significant signs of stubborn inflation. Inflation factors will impact all aspects of operations including in-house labor costs (and staffing), material costs, contractor support costs, and utilities. This will be a major area of focus for FY24/25 and beyond.

Capital maintenance projects are submitted each year, typically totaling \$10 million - \$18 million, to provide for the major repair and replacement needs of the campus. Funding formulas indicate an annual need of approximately \$23 million just to remain level. FY24/25 submissions of \$17,400,000 resulted in approved funding for 1 project totaling \$2,500,000.

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Funding levels below the annual requirement are expected to continue. These deficits accumulate over time to a condition referred to as "deferred capital renewal." This condition is reported on in the Campus Master Plan.

Utilities/Energy Costs

Overall, energy and utility costs in FY23/24 decreased 0.36% from the previous FY. There is an aggregate cost reduction of 3.5% compared with FY 16/17. Beyond the consistent use and efficient operations of the facilities and utility plants over the years, natural gas rates had been consistently lower. However, inflation and market volatility has driven the commodity price up considerably. MTSU was able to lock in two years of lower natural gas rates prior to the market effects blunting the price increase in the short run. This is positive considering the reliance on natural gas to fuel the 5-mw turbine/cogeneration system. The Tennessee Valley Authority continues to adjust (net increases) electrical rates. MTSU maintained our time-of-use rate. As such, we remain judicious in our utilities operations and more efficient in every aspect of energy management.

New Buildings and Infrastructure

New buildings add to the M&O and utility needs of the campus. The recent growth increases the demand for M&O services as well as the infrastructure capacity. The Student Athletic Performance Center and the Applied Engineering Building are two new large projects currently under construction.



Kirksey Old Main and Rutledge Hall are also large renovation projects currently under construction.

Energy and Sustainability

There are many initiatives designed to increase the greening of the campus such as the Sustainable Campus Fee program, the Tennessee High Performance Building Guidelines for capital projects, the recycling program, etc. These programs and initiatives are effective but are also limited by economic factors such as first costs and paybacks. Energy and environmental regulations are increasing as well. Overall, Facilities Services and the Center for Energy Efficiency do an excellent job of integrating the economic and program elements to maximize the energy and sustainability benefits across the campus.

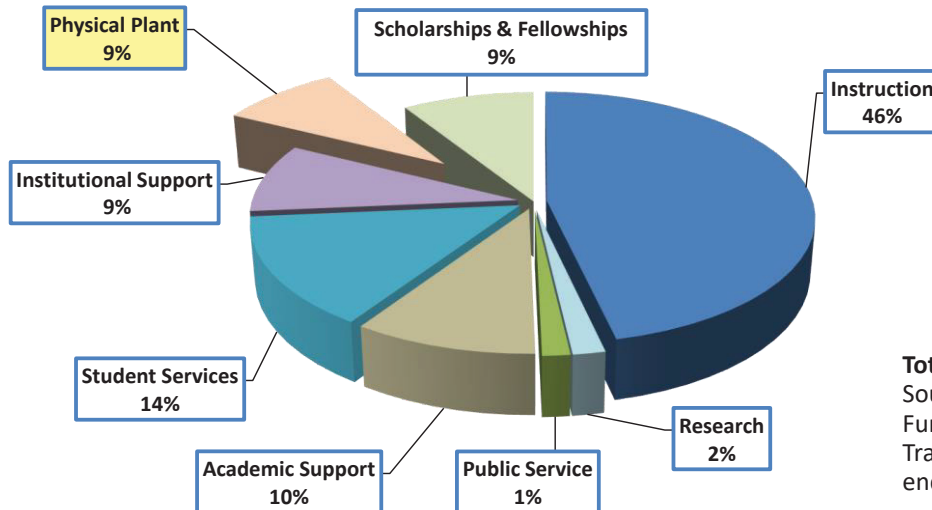
Conclusion

Although constrained by resources and inflationary pressures, we continue striving to maintain the campus in a safe, clean, and functional manner while aligning the department with the University mission and the Academic Master Plan. I want to express appreciation to the Facilities Services staff for their dedication and good work in pursuit of these goals. The accomplishments listed throughout this document are a testament to their commitment to Middle Tennessee State University.

Finally, as we serve the university, it is important that we hear from our customers. Please review this document (as well as our website) for our service delivery. As always, feel free to contact us and let us know how we can serve you better.

—Joe Whitefield

MTSU E & G Expenditures 2023-2024



Total: \$377,690,378

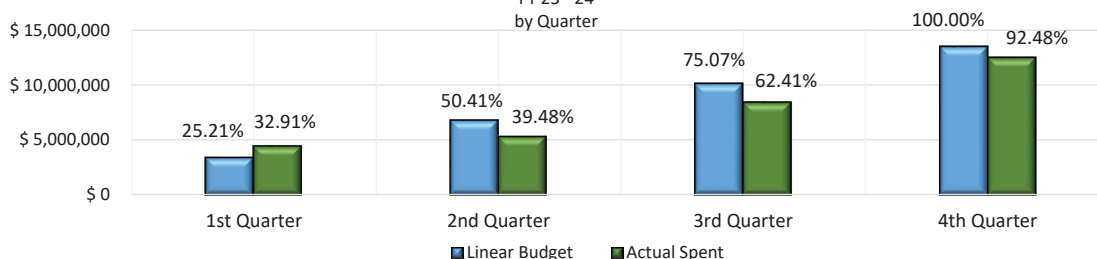
Source: Schedule of Current Funds Expenditures and Transfers by Function, for year ended June 30, 2024

Central Administration: Accounting Information Services

Lori Yoders

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Facilities Services Maintenance & Operations E&G Budget & Expenditures FY 23 - 24 by Quarter



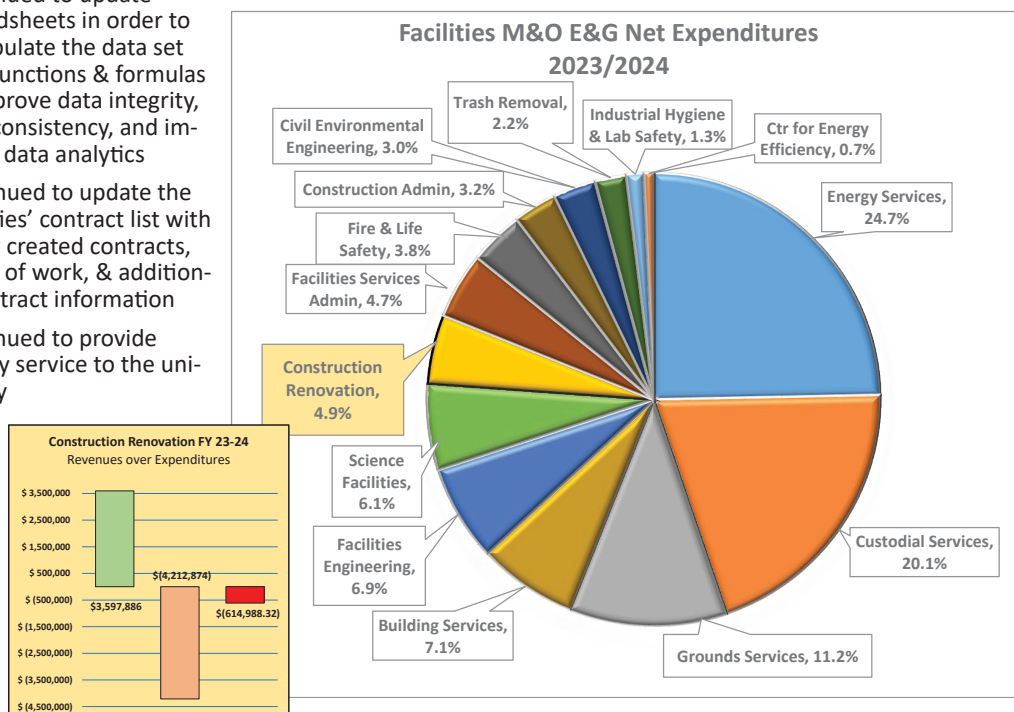
FY 2023/2024	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	End-of-Year Totals	% of Total
Total M&O E&G Budget	\$8,390,760.25	\$8,390,760.25	\$8,208,352.42	\$8,299,556.33	\$33,289,429.25	
Total M&O E&G Expenditures	\$7,728,820.96	\$4,972,564.42	\$6,800,153.97	\$12,050,398.21	\$31,551,937.56	
-Non-Facilities M&O E&G Expenditures	-\$2,314,414.54	-\$2,963,586.99	-\$2,597,542.19	-\$6,683,256.92	-\$14,561,681.31	
Facilities M&O E&G Budget	\$3,389,017.27	\$3,389,017.27	\$3,315,342.98	\$3,352,180.12	\$13,445,557.64	55%
Facilities M&O E&G Expenditures	\$4,424,743.69	\$882,975.12	\$3,084,039.40	\$4,043,219.53	\$12,437,503.72	
% of Facilities Exp/Budget	32.91%	6.57%	22.94%	30.07%	92.50%	
+ Facilities Work for Others	\$671,831.34	\$2,016,269.37	\$1,170,785.20	\$2,622,377.81	\$6,481,263.72	45%
+ Const. Renov. Work for Others	\$363,377.00	\$1,653,985.68	\$746,244.05	\$834,279.44	\$3,597,886.17	
Facilities M&O E&G Expenditures with WFO	\$5,459,952.03	\$4,553,230.17	\$5,001,068.65	\$7,499,876.78	\$22,516,653.61	

Accomplishments & Highlights 2023/2024

- Provided continuous accounting support to the Facilities Department throughout extreme procedure changes by Procurement & Accounting Services
- Fulfilled monthly billing demands with accuracy & efficiency while dealing with a shortage in accounting staff
- Met University year-end cut-offs providing encumbrance spreadsheets, expenditure analyses, and allocation uploads
- Adjusted to unexpected changes in internal Warehouse purchasing by pivoting our accounting processes, creating precise Warehouse daily YELLOW receipts, and identifying erroneous charges and inaccurate work order postings
- Continued to update spreadsheets in order to manipulate the data set with functions & formulas to improve data integrity, data consistency, and improve data analytics
- Continued to update the Facilities' contract list with newly created contracts, scope of work, & additional contract information
- Continued to provide Notary service to the university

Goals 2024/2025

- Continue to play a strategic role in optimizing cash flow by securing approvals for payments while processing vendor invoice payments in an accurate & timely manner for the Facilities Services Department
- Carry on favorable relationships with vendors by paying invoices on time, exercising potential early payment discounts, & assisting with necessary paperwork
- Ensure accurate & timely financial reporting to provide clear visibility into Facilities' financial health
- Maintain an efficient monthly billing system with automated electronic billing to streamline the customer invoicing process
- Seek new technology to improve efficiency and expand the Facilities Accounting day-to-day financial operations & management functions
- Work toward providing training resources for new employees & annual training for current employees / managers / supervisors
- Build on knowledge as an essential force in the financial development to update data, track changes, & refine the framework of spreadsheets & documents
- Encourage employee development, education, and certification, including team building and communication



Accomplishments & Highlights 2023/2024

- Accomplished annual utility related agreements with Tennessee Valley Authority and Middle Tennessee Electric (MTE): Generation Partners, Green Power Switch; renewed propane agreement
- Worked through RFP requirements and selection of renewed natural gas contract
- Maintained CEE utility database for monitoring all MTSU utility charges for any needed corrections
- Provided utility cost information for monthly auxiliary and leased properties invoicing
- Participated in and supported State Facility Utility Management (SFUM) platform for State of Tennessee
- Completed annual utilities reports for THEC, NCAA requirements; provided EIA monthly emissions data for required reporting
- Updated Physical Facility Inventory Surveys (PFIS) for facilities

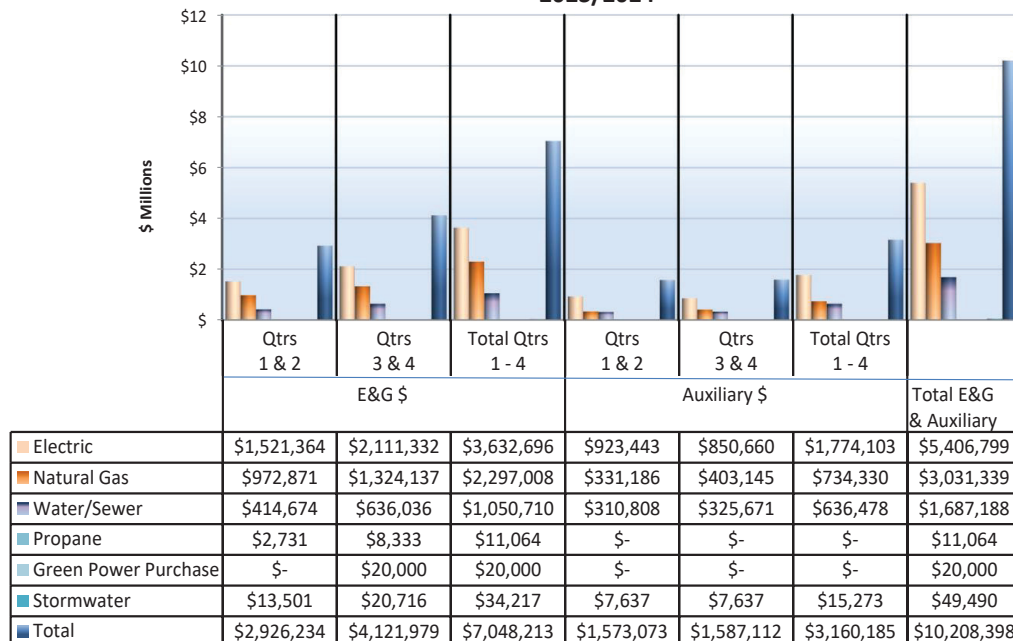
ties and capital maintenance under THEC

- Continued partnered support of MTSU Sustainable Campus Fee Committee (SCF) under Student Affairs; oversight of multiple awarded sustainable projects and Students for Environmental Action (SEA) projects
- Managed involved utilities for several campus demolition projects, including Midgett Building and houses
- Provided support for utilities/metering/controls design specs for new construction (Student Athletic Enhancement Center, Advanced Engineering Building, Allen Tennis Building, renovation projects (College Heights Building, capital projects), and Cogen Plant turbine valve and gas meter updates
- Continued serving on the President's Commission on the Status of Women, Women in STEM Board, and Tennessee Girls in Stem Board and supported activities
- Published Summary of Services Annual Report for FY23/24
- Continued discussion with MTE regarding monthly billing modifications/arrangements

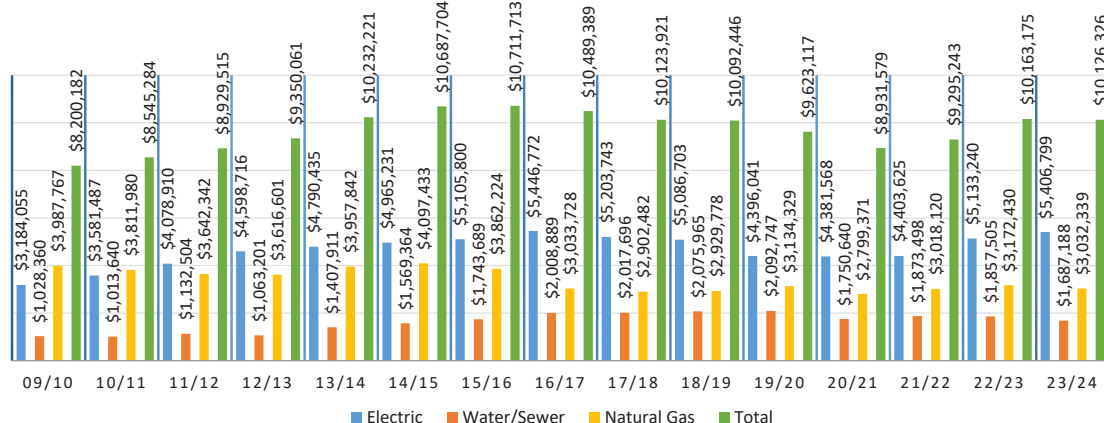
Goals 2024/2025

- Support utilities and sustainability design processes in new campus construction and renovations
- Continue involvement with building utility information for State Facility Utility Management (SFUM) for State of Tennessee
- Continue updating Physical Facility Inventory Surveys (PFIS) for facilities and capital maintenance through THEC
- Continue communicating with vendors and university departments with information as needed: utilities/energy management data, support, research (new service, demolition projects, audits) and resolving various software issues
- Continue support of MTSU Sustainable Campus Fee Program and other sustainable practices on campus; develop sustainability website for FSD
- Continue support of University Academics areas through internships, student workers, and volunteer opportunities, support classroom instruction for university departments per request
- Support enhancement and implementation of Power BI Analytics Program for utilities, energy projects, building surveys, SCF projects
- Continue to collect, maintain, and monitor thorough data for all utilities for the University
- Support meter replacements for utility vendors
- Continue 'Green Snapshots' information system for campus sustainability reporting

Total Campus Utilities
2023/2024



MAJOR CAMPUS UTILITIES BY FISCAL YEAR



Recycling Program - MTSU Recycles

Linda Hardyman



**MTSU
RECYCLES**

Accomplishments & Highlights 2023/2024

- Maintained recycling program to meet campus needs employing student and temporary workers
- Partnered with Tennessee Environmental Council (TEC) by hosting major recycling event for Murfreesboro/Rutherford County- successful- 52,000 pounds from 430 participants
- Supported recycling efforts for Campus Planning, Capital Construction, and Construction/Renovation projects in multiple building's renovation projects, move in/move outs
- Developed recycling efforts for better maintenance metals recycling
- Expanded recycling for paper/cardboard effort for diversion of commodities from landfill
- Maintained implementation of Sustainable Campus Fee (SCF) projects submitted by campus personnel and students; supported/completed several awarded grants (Health & Human Performance) for water refills
- Continued facing major commodities issues relating to downturn in recycling markets, i.e. vendor availability, contamination, limited access to particular commodity collections, staffing
- Continued athletic recycling support in suites and stadiums, continued tailgating areas recycling with Students for Environmental Action (SEA) as Sustainable Campus Fund (SCF) project; expanded for additional sports venues
- In addition to routine program tasks, responded to more than 700 individual campus requests for recycling on campus
- Supported Customs and other special outreach events on and off campus per opportunity

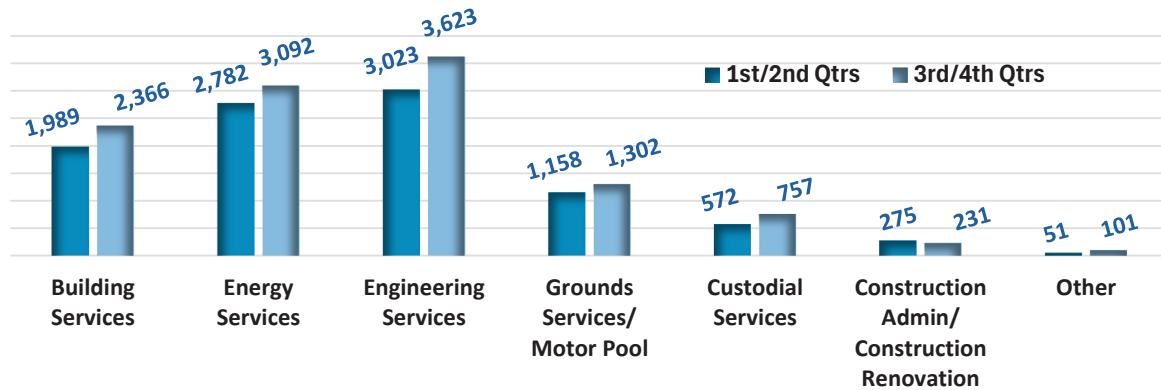


Goals 2024/2025

- Continue to support Sustainable Campus Fee (SCF) Committee and sustainability projects – water refill stations, solar picnic tables, lighting, and other maintenance improvements for campus
- Explore available initiatives to grow the program, deal with marketing issues, and avoid tipping fees for campus waste going to the landfill with efforts for least impact on the program due to marketing/commodities issues – face the many unique challenges
- Carry on support of recycling education, correcting/promoting recycling issues, improving presence of recycling collection bins on campus
- Continue to support Campus Planning, Capital Construction, Construction/Renovation, and maintenance projects as requested
- Continue to work with athletics staff to provide appropriate recycling at athletic events
- Continue working with MTSU Sustainable Campus Fee Program for recycling project funding
- Continue to outfit campus buildings for positive recycling accessibility
- Explore partnership opportunities with MTSU initiatives, Recycle Rutherford, Rutherford County Government, existing vendors
- Continue to provide classroom support through guest lectures, environmental seminars, and storm water initiatives
- Continue staff participation in training and development programs



Work Orders Closed By Quarter Per Subdepartment 2023/2024



Work Orders Closed	1st Quarter		2nd Quarter		3rd Quarter		4th Quarter		Total	
Subdepartment	# of WO	% of Total	# of WO	% of Total	# of WO	% of Total	# of WO	% of Total	# of WO	% of Total
Building Services	922	20%	1,067	21%	1,028	20%	1,338	21%	4,355	20%
Construction Administration/Construction Renovation	128	3%	147	3%	116	2%	115	2%	506	2%
Custodial	254	5%	318	6%	307	6%	450	7%	1,329	6%
Energy Services	1,407	30%	1,375	27%	1,368	27%	1,724	27%	5,874	28%
Engineering Services	1,436	30%	1,587	31%	1,709	34%	1,914	30%	6,646	31%
Grounds Services/Motor Pool	545	12%	613	12%	518	10%	784	12%	2,460	12%
Other	18	-	33	1%	34	1%	67	1%	152	1%
FY Totals	4,710	100%	5,140	100%	5,080	100%	6,392	100%	21,322	100%

Accomplishments & Highlights 2023/2024

- Developed, tested, and launched digital form for collecting labor hours per work order for 9 of the 21 work groups who submit labor hours
- Improved weekly work order closing QC reports and create SQL scripts for daily quality checks on new and completed work orders
- Launched redesigned work request web form to consolidate and simplify request webpage
- Consolidated work order instructional documentation into a searchable wiki
- Updated Mainsaver settings to improve accuracy and consistency of data: new required fields, streamlined input for interim work order updates
- Created a workflow for requesting a new FSD personnel record in Mainsaver and helped develop an FSD onboarding checklist

Goals 2024/2025

- Convert three additional shops to electronic manhour submission forms
- Audit data, including preventative maintenance records, demand tasks, and work order originator list
- Plan for expanding breadth of asset tracking in Mainsaver
- Record asset details in Mainsaver for easier specification lookup when creating new work orders, reducing reliance on external reference document



http://www.mtsu.edu/facserv/work_request_forms.php



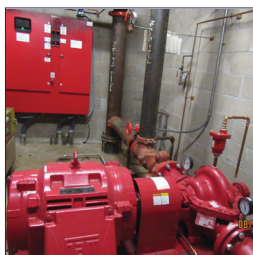
Maintenance Projects: MP-2's

As part of the Facilities Services (FSD) maintenance project process, MP-2 forms are used to track those maintenance projects which are major repair or replace projects beyond the routine, often involving deferred maintenance, multidiscipline event-related, or non-budgeted repairs that are \$5,000 or greater.

For FSD funded projects that are not considered of a Construction/Renovation nature, outside our normal operating budget and needing expenditure approvals from a budgetary authority, completion of an MP-2 form provides a preliminary estimate for project approval and funding, assignment of a tracking project number, and allows all elements of projects to be accurately tracked until completed.

MP-2 Project Summary 2023/2024		
Subdepartment	# Projects	Project Value
Energy Services	50	\$575,884
Building Services	20	\$458,253
Grounds Services	16	\$169,524
Engineering Services	6	\$43,026
Environmental Health & Safety	6	\$43,650
System Engineering	4	\$31,388
Motor Pool	1	\$8,378
Small Renovation	1	\$14,694
**Other	98	\$2,689,346
Total	202	\$4,034,143

Fire pump control replacement



Roof Hatch door sensors



Central Plant: Actuator & linkage air damper for boiler



Tree damage/clean-up



Customer Satisfaction Survey

The Facilities Services Department initiated a Customer Service Satisfaction Survey in 2016 to provide better communication with our campus community. The valuable feedback has provided better understanding of Customer's expectations and satisfaction with our level of service.

The feedback has also allowed Facilities Services to evaluate our systems and procedures and to continue to improve our customer service culture.

“...Excellent work!!

...prompt and efficient handling my request!

...great job by the team!

Thank you for all you do! “

2023/24 Work Order Customer Satisfaction Survey	
Did you receive an email when the work order was opened?	99.2%
Did you receive an email when your work order was completed?	98.5%
Did the Corrective Action adequately address the problem or requested work?	4.56
How satisfied are you with the timeliness of the response(s) to your work request?	4.58
How satisfied are you with the customer service you received?	4.68
Scale: 5-Very Satisfied 1- Dissatisfied Responses: 262	

Accomplishments & Highlights 2023/2024

Heating Plant

- Replaced highly critical safety devices during the May shut-down ensuring maximum protection of sensitive equipment at the Cogen Plant. (i.e. Deaerator Pressure Safety Valve & Deaerator Overflow)
- Increased security protocols and heightened awareness of the importance of a secure Steam Plant
- Remodeled new operator training program to better fulfill the needs of new hires giving them more tools to be successful
- Developed Power Points aimed at increasing Operator ownership of equipment empowering them to initiate work orders
- New insurance Inspector gave high praise for the condition of the boiler's internal and external working parts; also commented on the cleanliness of the facility
- Added online vibration sensors to selected pieces of equipment to monitor bearing conditions in real time offering the opportunity to trend wear and remove equipment from service prior to catastrophic failure

Goals 2024/2025

- Continue producing electronic training modules to keep operators engaged to produce top tier performance
- Continue adding vibration sensors to ensure coverage of all rotating pieces of equipment at the Cogen Plant
- Continue working closely with vendors to ensure equipment and chemicals are meeting our goals and targets in maximizing our assets
- Update the Computer Controls for the Steam Plant and complete the Control Room modernization
- Continue developing operators into a cohesive team to eliminate any communication gaps and prevent any opportunities for complacency (keep them focused and always engaged regardless of operating conditions)

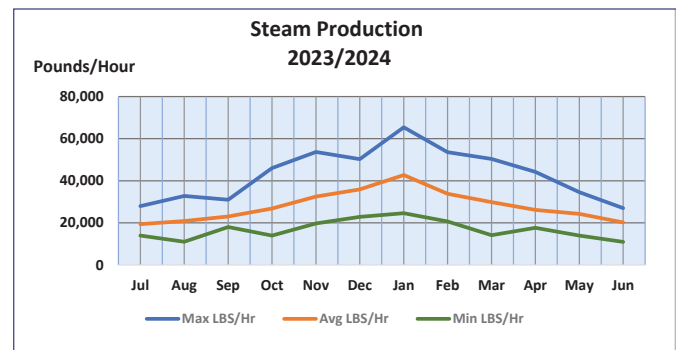
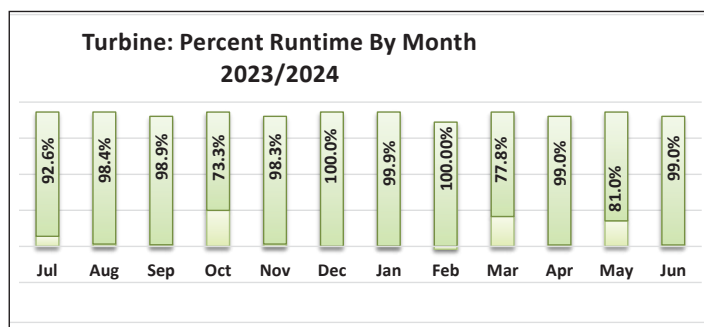
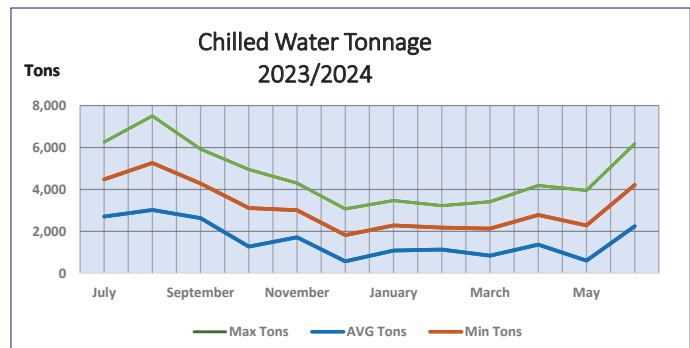
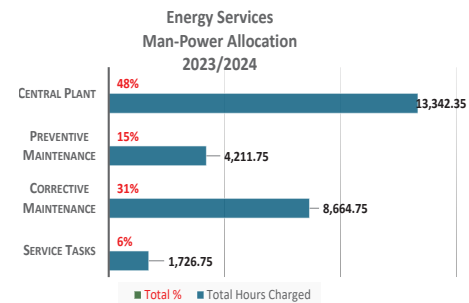
Accomplishments & Highlights 2023/2024

Chilling Plant

- Installed new sensors on chillers to allow for better usage and flexibility in the Cogen Plant
- Implemented and streamlined strategies to coordinate and utilize the Satellite and Cogen chillers more efficiently

Goals 2024/2025

- Find and repair underground leak in South Tower
- Continue to operate plants efficiently and reliably using accumulated knowledge and experience in plant operations
- Extend Desigo remote notification capability to chiller plants including logic to check for unique situations such as setpoint slip



2023/2024 Central Plant Equipment Peak Operational Levels														
Natural Gas Fired Turbine/Generator					Steam Boilers					Chillers				
5MW (Nominal)					82500 Pounds/Hour (Peak)					13000 Tons (Peak)				
	Mid-Year	3rd Qtr	4th Qtr	Annual		Mid-Year	3rd Qtr	4th Qtr	Annual		Mid-Year	3rd Qtr	4th Qtr	Annual
Peak MW	5.02	5.01	5.57	5.57										
Average MW	4.52	4.75	4.46	4.56	Average LBS/Hr	35,878	38,132	23,551	29,942	Maximum Peak Tons	4,950	3,468	6,179	7,505
Total MWH	18,645.43	9,545.84	9,053.62	37,244.88	Peak LBS/Hr	53,700	65,400	44,222	65,400	Minimum Tons	570	843	607	570
Purchased Power: 54,996.01 MWH														

Energy Services: HVAC & Building Management Systems

Jeff McConnell Jeff Henderson Keith Pinkston Russell Miller Kim Hand

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Accomplishments & Highlights 2023/2024

Building Management Systems

- Upgraded front end Desigo software to distributed server platform to facilitate ongoing hardware upgrades and allow for future growth
- Made significant progress in upgrading all controllers to BACnet IP from older protocols and updating the front-end software with the changes made
- Expanded upon Desigo remote notification system to include a growing array of systems and equipment allowing for better response time to significant issues
- Upgraded control of the four REC AHUs that serve the gym basketball courts allowing for better serviceability and more effective control

Building HVAC

- Supported Housing by completing 895 work orders
- Created and implemented PM processes for Steam mechanical rooms and AHUs in mechanical rooms; completed 734 PM work orders
- Cleaned dryer ducts for Corlew Hall and Cummings Hall
- Installed sealer and barrier to rooftop unit serving Health Services to help prevent water ingress to interior spaces
- Replaced HVAC units at Greek Row and Scarlett Commons

Filter Management

- Secured contract to provide required maintenance on boilers across campus
- Implemented and maintained schedule for Energy Services contractor work
- Continued to update/correct records of filters information
- Create a change-out schedule for filter contractor
- Compiled comprehensive lists of HVAC equipment for Greek Row and Scarlett Commons
- Coordinate projects for Greek Row and Scarlett Commons HVAC replacements
- Attended class for student worker management and prepared job descriptions for future positions
- Secured quote and replaced bag filters in James E. Walker Library

Goals 2024/2025

Building Management Systems

- Finish upgrading all controllers to BACnet protocol. This will include legacy panels being upgraded from two wire communication to IP
- Move all systems still on the Insight server to the Desigo server
- Retire Insight Server to consolidate all integrated systems into Desigo platform and allow for future upgradeability and serviceability
- Continue enhancing system operation and serviceability by implementing standardized programming algorithms
- Develop campus wide standards for automation systems in terms of system naming, point naming, device function, and program structure
- Begin retroactive implementation of campus standards for existing systems once developed

Building HVAC

- Develop maintenance procedures for managing HVAC condensate leak issue
- Improve maintenance process for start of quarter for housing department
- Reduce \$0 work orders by 50%
- Continue training HVAC1 technicians
- Implement winter preparations to avoid equipment failure/damage

Filter Management

- Implement student worker program to provide support to HVAC Technicians while gaining work experience
- Complete location and identification project for steam and chilled water manholes
- Maintain current equipment lists for boiler and HVAC equipment across campus as projects are completed
- Create & implement filter change-out schedule for Tier 1 buildings; secure contract with supplier for Tier 1 buildings

2023/2024	Energy Services: Project Work Orders									
Project Type	GW (Group WO's)		MP (Maintenance Project)		SCF (Sustainable Campus Fee)		SP (Special Project)		Total	
Subdepartment	# of WO	Total Cost	# of WO	Total Cost	# of WO	Total Cost	# of WO	Total Cost	# of WO	Total Cost
14 - HVAC	8	\$16,409	68	\$463,802	1	\$480	6	\$1,678	83	\$482,369
21 - Steam	0	\$0	11	\$136,242	2	\$3,340	0	\$0	13	\$139,582
27 - Central Utility Plant	0	\$0	13	\$91,148	3	\$9,243	0	\$0	16	\$100,391
50 - PM HVAC	0	\$0	8	\$85,907	4	\$6,034	0	\$0	12	\$91,941
52 - Energy Management	1	\$821	89	\$1,021,896	25	\$52,567	0	\$0	115	\$1,075,284
53 - PM Filters	1	\$1,369	2	\$22,025	0	\$0	0	\$0	3	\$23,395
Total	10	\$18,599	191	\$1,821,020	35	\$71,665	6	\$1,678	242	\$1,912,961

2023/2024	Energy Services: Maintenance and Operations Work Orders											
Project Type	Corrective Maintenance			Preventative Maintenance			Service Tasks			Total		
Subdepartment	# of WO	Total Cost	Avg \$/WO	# of WO	Total Cost	Avg \$/WO	# of WO	Total Cost	Avg \$/WO	# of WO	Total Cost	Avg \$/WO
14 - HVAC	1,506	\$486,064	\$323	207	\$58,902	\$285	14	\$82,258	\$5,876	1,727	\$627,225	\$363
21 - Steam	301	\$275,511	\$915	543	\$65,664	\$121	13	\$86,217	\$6,632	857	\$427,392	\$499
27 - Central Utility Plant	71	\$73,071	\$1,029	1,035	\$65,440	\$63	50	\$1,051,826	\$21,037	1,156	\$1,190,337	\$1,030
50 - PM HVAC	51	\$64,443	\$1,264	0	\$0	\$0	0	\$0	\$0	51	\$64,443	\$1,264
52 - Energy Management	673	\$360,518	\$536	100	\$87,377	\$874	94	\$478,105	\$5,086	867	\$926,000	\$1,068
53 - PM Filters	55	\$21,982	\$400	774	\$220,066	\$284	24	\$33,772	\$1,407	853	\$275,820	\$323
Total	2,657	\$1,281,590	\$482	2,659	\$497,448	\$187	195	\$1,732,178	\$8,883	5,511	\$3,511,216	\$637

Accomplishments & Highlights 2023/2024

Systems Engineering

- Reviewed and provided feedback on the different phases of design for the KOM and Reynolds Hall Renovations
- Assisted with the insurance claim on the Science Building roof failure and replacement
- Cataloged and barcoded fume hoods and biosafety cabinets across campus for improved tracking and maintenance
- Supported IT/OT with projects regarding transformer inspections, remote monitoring, and warehouse inventory

GIS and Locating

- Completed 749 utility locate tickets for contractors
- Coordinated with contractors and designers to assist with timely resolutions of utility routing conflicts and questions

Elevators & Generators

- Completed 1157 total elevator work orders & inspections with associated spill prevention PM activities
- Completed 360 total generator work orders & inspections with associated spill prevention PM activities
- Supported 2023/24 Elevator Modernization capital maintenance project updates in KUC, and Walker Library passenger elevators 1,2, and 3

Information Technology/Operational Technology (IT/OT)

- Paper reduction & process enhancement for daily time sheets & work order file management
- HVAC Desigo system migration successfully completed
- Freeze prevention sensors deployment: 132 sensors installed across campus, covering 39 buildings

2023/2024	Engineering Services Activities: Project Work Orders									
Project Type	General Work (Insurance)		MP (Maintenance Project)		SCF (Sustainable Campus Fee)		SP (Special Project)		Total	
Subdepartments	# of WO	Total Cost	# of WO	Total Cost	# of WO	Total Cost	# of WO	Total Cost	# of WO	Total Cost
15 - Key Shop	0	\$0	25	\$136,483	0	\$0	49	\$26,776	74	\$163,258
44 - Operational Technologies	0	\$0	2	\$19,718	6	\$31,120	0	\$0	8	\$50,839
46/48 - System Engineering/ General Engineering Services	0	\$0	1	\$10,173	3	\$20,461	0	\$0	4	\$30,634
47 - Elevators, Generators, & Utility Locating	4	\$646	31	\$30,885	0	\$0	0	\$0	35	\$31,530
Total	4	\$646	59	\$197,259	9	\$51,581	49	\$26,776	121	\$276,262

Key Shop

- Plan keying system for new Applied Engineering Building
- Install sensors on all buildings with roof hatches
- Assist in changing card readers to new proximity system

Goals 2024/2025

Systems Engineering

- Further develop a hydraulic model of our campus Chilled Water system to understand usage and bottlenecks
- Provide review and ongoing participation in the construction phase of the Applied Engineering Building, Student Athletic Performance Center, and KOM/RH Renovation
- Conduct design reviews and provide engineering input for the design of the Aerospace Hub and Central Plant & Campus Utilities Updates project
- Work with IT/OT to expand cataloging and barcoding of critical pieces of equipment across campus

Key Shop

- Built 532 cores to install and cut a total of 1988 keys
- Upgraded Lenel OnGuard from 7.4 to 8.2 version
- Equipped all patrol cars with keys
- Assisted with KOM/MGB move and cut a total of 181 keys for that project
- Worked with the MTSU ID office to program and distribute 3,300 new proximity card badge IDs

Elevators & Generators

- Add campus transformers to Power BI for inventory, billing, and usage monitoring
- Support new Applied Engineering & Student Athletic Performance Center projects
- Improve barcode system procedures to provide more accurate equipment inspections & diagnostics

Information Technology/Operational Technology (IT/OT)

- Implement mobile device platform: develop and deploy mobile platform for capturing notes, taking pictures, & managing work orders
- Increase campus visibility to freezing pinch points: continue installing monitors to identify & manage areas prone to freezing
- Paper reduction & process improvement: further the department's efforts in reducing paper usage

GIS and Locating

- Install ARC Pro and receive training with new base station information
- Maintain ongoing coordination with contractors and designers to assist with timely resolutions of utility routing conflicts and questions

2023/2024	Engineering Services Activities: M&O Work Orders											
Subdepartment	Corrective Maintenance			Preventative Maintenance			Service Tasks			Total		
	# of WO	Total Cost	Avg Cost	# of WO	Total Cost	Avg Cost	# of WO	Total Cost	Avg Cost	# of WO	Total Cost	Avg Cost
15 - Key Shop	1,368	\$215,441	\$157	36	\$4,548	\$126	44	\$111,979	\$2,545	1448	\$331,969	\$229
44 - Operational Technologies	37	\$4,326	\$117	0	\$0	\$0	0	\$0	\$0	37	\$4,326	\$117
46/48 - System Engineering/ General Engineering Services	4	\$1,214	\$304	4	\$28,085	\$7,021	12	\$316	\$26	20	\$29,616	\$1,481
47 - Elevators, Generators, & Utility Locating	224	\$47,970	\$214	776	\$42,230	\$54	372	\$211,871	\$570	1372	\$302,070	\$220
Total	1,633	\$268,952	\$165	816	\$74,863	\$92	428	\$324,166	\$757	2877	\$667,981	\$232

Environmental Health & Safety (EH&S) Services

Alan Parker Mark Hatcher Jake Turner Katherine Antone

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Accomplishments & Highlights 2023/2024

Fire & Life Safety Services

- Completed 2,941 Work orders that include inspections, callbacks, and other projects
- Completed Kitchen hood and Suppression System project in Greek Row House #7
- Repaired or replaced Fire Pumps & Pump Controllers for Floyd Stadium, Miller Education Center, and Campus School
- Oversaw multiple buildings repairs & renovations from January 2024 freeze incident; returning buildings to usable condition (Belfor, etc.)
- Oversaw repairs & renovations of Murphy Center from May 2024 water release incident; returning buildings to usable condition (Belfor, etc.)
- Began Phase 1 of Campus Fire Alarm Network (network loop #2) by securing quotes, funding, and approvals
- Oversaw multiple buildings repairs & renovations from May 2024 flooding incident: returning buildings to usable condition before student return August of 2024 (Belfor, etc.)

Industrial Hygiene and Laboratory Safety

- Completed Campus Chemical Hygiene Plan with input from the Chemistry & Biology departments
- Prepared new Concrete & Construction Management building with proper cautionary laboratory signage before students occupy & used building for classes & labs
- Completed IHLS personnel certifications for mold inspections

Civil & Environmental Engineering Services

- Annual Report submitted to TDEC for the 2023-2024 reporting year
- Renewed MOU with City of Murfreesboro for 2024-2025 -- renewable through June 2031
- Conducted numerous Stormwater events & activities in coordination with Murfreesboro Water Resources Department
- Coordinated with Campus Planning/Construction Management on stormwater & water utilities to ensure proper design & installation on new Applied Engineering Building, Tennis Complex, & Student Athletic Performance Center projects cont'd into 23/24
- Maintained ongoing working sessions with Murfreesboro Water Resources Department to collaborate on joint repair & replacement projects on campus
- Coordinated multiple sewer repairs and sewer-line televising with MWRD

Goals 2024/2025

Fire & Life Safety Services

- Continue to update Fire Alarm network from Existing 4120 Simplex to ES Net Hardware in Three phases; First phase funded and moving forward
- Complete Murphy Center Structural Issues work in conjunction with Contractor & TN State Fire Marshal's Office
- Continue work on Fire Extinguisher Exchange Program
- Implement a Digital Hot Work permit program for Campus
- Implement an alarm system notification of work program (Walk Test, Disables, & coverage of devices)

Industrial Hygiene and Laboratory Safety

- Continue to maintain compliance with all State and Federal agencies EPA, (TDEC DSWM, DRH, DoR, and APC)
- Upgrade the EH&S IHLS website
- Add an additional Hazardous Waste pickup to the yearly rotation
- Buy new equipment for IHLS
- Perform oversight for Campus Planning Abatement and Demolition
- Transfer IHLS files over to PowerBi
- Hire a full time Industrial Hygienist

Civil & Environmental Engineering Services

- Establish stormwater education program for realtors and developers as part of the state's new permit requirements
- Continue Working with Campus Planning/Construction Management on upcoming campus utilities project(s)
- Coordinate domestic water, sanitary sewer, & stormwater repair work on campus with the City of Murfreesboro
- Update campus drainage map as new projects arise
- Continue working with the City of Murfreesboro on Stormwater Education & Outreach to meet NPDES permit compliance requirements

2023/2024	EHS & Environmental Engineering: Activities: Project Work Orders							
Subdepartment	General Work (Insurance)		MP (Maintenance Project)		SP (Special Project)		Total	
	# of WO	Total Cost	# of WO	Total Cost	# of WO	Total Cost	# of WO	Total Cost
30/33/36 - Fire & Life Safety Services/Inspection	11	\$43,480	15	\$559,115	7	\$405	33	\$603,000
34/35 - Industrial Hygiene & Lab Safety (IHLS)	0	\$0	5	\$40,663	9	\$345	14	\$41,008
Total	11	\$43,480	20	\$599,778	16	\$750	47	\$644,008

2023/2024	EHS & Environmental Engineering Activities: M&O Work Orders											
Project Type	Corrective Maintenance			Preventative Maintenance			Service Tasks			Total		
Subdepartments	# of WO	Total Cost	Avg Cost	# of WO	Total Cost	Avg Cost	# of WO	Total Cost	Avg Cost	# of WO	Total Cost	Avg Cost
30/33/36 - Fire & Life Safety Services/Inspections	489	\$43,326	\$89	612	\$18,617	\$30	1,764	\$599,815	\$340	2,865	\$661,758	\$231
32 - Civil and Environmental Engineering	3	\$715	\$238	84	\$1,862	\$22	13	\$412	\$32	100	\$2,989	\$30
34/35 - Industrial Hygiene & Lab Safety (IHLS)	69	\$10,933	\$158	367	\$38,431	\$105	13	\$822	\$63	449	\$50,187	\$112
Total	561	\$54,974	\$98	1,063	\$58,911	\$55	1,790	\$601,050	\$336	3,414	\$714,935	\$209

Accomplishments & Highlights 2023/2024

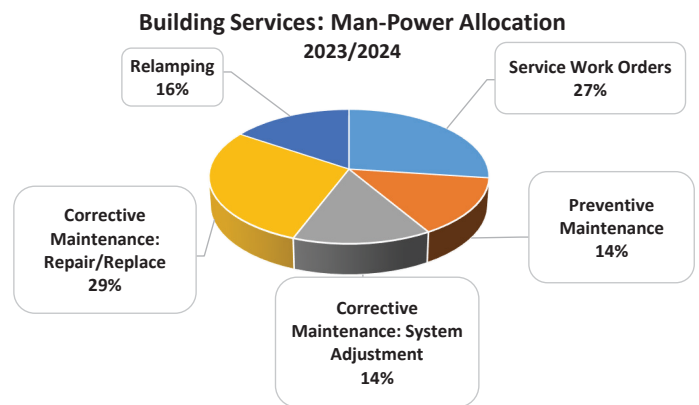
- Status of 2023-24 Goals:
 - Main waste line at the Student Services Building continues to function nominally without the need for further modifications
 - Even with reduced funding for additional retrofit kits, an additional 75 Sternberg lights were converted to LED
 - Additional outside lighting was installed in multiple areas to enhance nighttime visibility on campus
 - Several buildings were surveyed over the past year allowing the PFIS records to be updated to reflect their current condition more accurately
- Completed over 4,000 individual service requests for Fiscal Year 2023-24
- Completed 48 (MP-2, GW, & SCF) projects, plus 84 additional SP-2 special renovation projects with a total value of over \$2,700,000
- Retrofitted over 220 Sternberg Walkway Lights to LED to reduce burnout frequency and electricity consumption
- Assisted Student Housing with implementing a periodic inspection program for all their roof systems



Steps and railing
- Lyon Hall

Goals 2024/2025

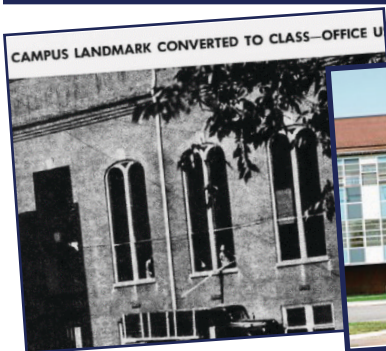
- Continue to retrofit the remaining Sternberg light fixtures on campus with LED lamps until all are converted to LED
- Continue the process of updating the PFIS records for all MTSU buildings
- Implement a formalized periodic roof inspection for all E&G buildings, to the extent that funding allows
- Work with Campus Planning and University Police, to replace the current Kim parking lot light fixtures with an LED fixture
- Identify additional areas where measures may be taken in advance to prevent weather-related damage to campus buildings and systems



2023/2024	EHS & Environmental Engineering: Activities: Project Work Orders							
Subdepartment	General Work		MP (Maintenance		SP		Total	
	# of WO	Total Cost	# of WO	Total Cost	# of WO	Total Cost	# of WO	Total Cost
30/33/36 - Fire & Life Safety Services/Inspections	11	\$43,480	15	\$559,115	7	\$405	33	\$603,000
34/35 - Industrial Hygiene & Lab Safety (IHLS)	0	\$0	5	\$40,663	9	\$345	14	\$41,008
Total	11	\$43,480	20	\$599,778	16	\$750	47	\$644,008

2023/2024	Building Services: M&O Work Orders											
Project Type	Corrective Maintenance			Preventative Maintenance			Service Tasks			Total		
	# of WO	Total Cost	Avg \$/WO	# of WO	Total Cost	Avg \$/WO	# of WO	Total Cost	Avg \$/WO	# of WO	Total Cost	Avg \$/WO
22 - Metal Shop	31	\$10,649	\$344	0	\$0	\$0	26	\$6,831	\$263	57	\$17,480	\$307
40 - General Maintenance	2,537	\$444,510	\$175	403	\$118,059	\$293	144	\$142,878	\$992	3,084	\$705,448	\$229
90 - Construction Services	758	\$252,877	\$334	47	\$12,297	\$262	48	\$87,296	\$1,819	853	\$352,469	\$413
Total	3,326	\$708,036	\$213	450	\$130,356	\$290	218	\$237,005	\$1,087	3,994	\$1,075,397	\$269

Construction demo: Good-Bye, Midgett Building!



1964



2024

Accomplishments & Highlights 2023/2024

- Completion of new Tennis Courts with visitor platform and support building; NCAA compliant courts and lighting; locker rooms and offices. CUSA Tennis Championships were held on our campus this Spring
- Kick off for the Renovation of KOM and Rutledge. Midgett Building demolition is completed
- Demolition of Acquisitions:
 - o 1416 East Main Street
 - o 1614 and 1610 Elrod Street
 - o 1108 Eaton Street
 - o 129 City View Street
- Foundation House ADA upgrades have been completed: concrete ramps, push button entry and accessible restrooms
- Established regular meetings with Campus Planning to coordinate with early project planning, ongoing document updates and THEC/OSA policies
- Exterior envelope repair for Murphy Center completed and has met all required repairs from the State Fire Marshall
- Managed several local maintenance projects for Facilities successfully that required supervision, Beasley Hall reroof, Aramark Food Service upgrades, ADA upgrades, Scarlett Commons Stair repairs
- Improved communication of construction schedules to stakeholders through the work order system so that all required departments can be notified of disruptions and closures required to prepare for outages/closures
- Completed Phase 3 of Water/Sewer Updates to provide domestic water backflow preventers at multiple locations

Goals 2024/2025

- Complete Applied Engineering Building in April 2025
- Complete the New Student Athlete Performance Center in June of 2025
- Start of Aerospace Campus in Shelbyville; assist in getting the project within budget and complete programming
- Participate in continued technical education and training
- Continue to participate and support in ongoing Facilities standardization and updating for Capital Projects

2023/2024 Capital Projects Summary			
FY Funded New Projects (Q1)		FY Completed Projects (Q1)	
Aerospace Campus		ADA Compliance - Foundation House	
Central Plant and Campus Utilities Updates Phases 1 and 2		Campus Wide Utilities Repair and Replacement	
		Science Building HVAC and Exhaust System Upgrades	
FY Funded New Projects (Q2)		FY Completed Projects (Q2)	
Demo 1416 E. Main St	Demo 129 City View	Allen Tennis Center	
Demo 1614 Elrod St	Demo 1108 Eaton St		
Demo 1610 Elrod Street			
FY Funded New Projects (Q3)		FY Completed Projects (Q3)	
ADA Compliance - KUC		Water and Sewer System Updates Phase 2	
FY Funded New Projects (Q4)		FY Completed Projects (Q4)	
Beasley Hall Reroof		Multiple Buildings Exterior Envelope Updates	
Demo 209 N. Baird			



ADA Coompliance - Foundation House



New Allen Tennis facility



Construction Administration Capital Project Summary										
2023/24	1st FY Quarter		2nd FY Quarter		3rd FY Quarter		4th FY Quarter		2023/24 FY Totals	
	# Projects	Value of Projects	# Projects	Value of Projects	# Projects	Value of Projects	# Projects	Value of Projects	# Projects	Value of Projects
Beginning Active Projects	12	\$171,238,395	11	\$221,857,610	15	\$214,772,546	15	\$214,617,761	12	\$171,238,395
New Projects	2	\$54,600,000	5	\$137,050	1	\$133,231	2	\$236,502	10	\$55,106,783
Completed Projects	3	\$3,980,785	1	\$7,222,114	1	\$288,017	1	\$1,633,077	6	\$13,123,992
Ending Active Projects	11	\$221,857,610	15	\$214,772,546	15	\$214,617,761	16	\$213,221,186	16	\$213,221,186

Accomplishments & Highlights 2023/2024

- Major completed renovations include:
 - Multiple TAF classroom projects in Business/Aerospace, Bragg Media & Entertainment, College of Education, Alumni Memorial Gym, and Todd Hall buildings
 - Renovation of the BAS Courtyard
 - Multiple renovations in the Cason-Kennedy Nursing Building - N119, N116, 121, and Lobby renovations
 - Relocated the Unmanned Aircraft System classroom and lab to their permanent home in BAS
 - Multiple renovations in Health Services creating an additional restroom and office, improved check-in counter, new flooring and painting throughout, and renovated nurses' stations
 - Renovated the ACE Learning Center playground to include a new fence, shade structure, and play equipment
 - Refresh project in the Graduate Studies office including new flooring, paint, and select office furnishings
 - Dwight's Mini Mart with new flooring, functionality, and private office
 - Several apartments at Scarlett Commons which included new flooring, paint, and kitchen cabinetry

Goals 2024/2025

- Utilize Power BI for project close-out and PFI updates
- Standardize the Construction/Renovation communication tools including estimate forms, approval forms, and construction documents
- Complete project in Walker Library to renovate the Special Collections archive and storage areas
- Complete multiple apartment renovations at Scarlett Commons including new flooring, paint, kitchen cabinets, vanity cabinets, and signage
- Complete renovation at Floyd Stadium concessions stands. Requires rework of plumbing and electrical connections
- Complete renovations at College Heights for University Police department. Requires extensive work to create useable space
- Create a small classroom from underutilized space inside Bragg Media & Entertainment
- Renovate multiple lab spaces in Cason-Kennedy Nursing building
- Build-out new departmental space in Miller Education Center
- Complete multiple renovations in the Student Union Buildings- JUB, KUC and STU

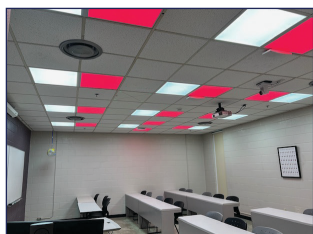
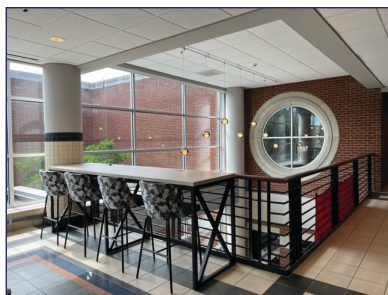
Construction/Renovation Funded Project Summary

2023/2024	1st FY Qtr		2nd FY Qtr		3rd FY Qtr		4th FY Qtr		23/24 FY Totals	
	# Projects	Value of Projects	# Projects	Value of Projects	# Projects	Value of Projects	# Projects	Value of Projects	# Projects	Value of Projects
Beginning Active Projects	59	\$3,192,473	47	\$2,744,407	68	\$3,046,857	67	\$3,226,384	59	\$3,192,473
Added Projects	37	\$373,625	41	\$879,551	37	\$1,020,389	39	\$2,177,884	154	\$4,451,449
Completed Projects	49	\$821,691	20	\$577,100	38	\$840,862	28	\$227,276	135	\$2,466,930
Ending Active Projects	47	\$2,744,407	68	\$3,046,857	67	\$3,226,384	78	\$5,176,991	78	\$5,176,991

Construction/Renovation Requested Projects Summary

2023/2024	1st FY Qtr	2nd FY Qtr	3rd FY Qtr	4th FY Qtr	23/24 FY Totals
Beginning Project Requests	87	100	75	72	87
Added Requests	66	34	49	35	184
Approved Requests = Change to Active Project	37	41	37	39	154
Cancelled & Expired Requests	16	18	15	23	72
Remaining Project Requests	100	75	72	45	45

Finished project pictures



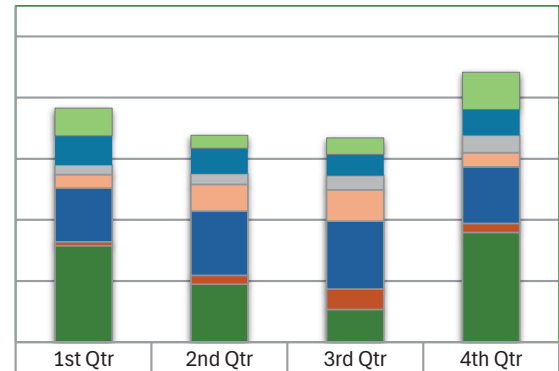
Accomplishments & Highlights 2023/2024

- Continued sidewalk grinding to remove small imperfections and uneven spots on sidewalks around campus
- Continued tree replacement program
- Re-landscaped areas of campus to improve aesthetics and maintainability
- Performed tree care project on multiple trees on campus with tree canopy work and fertilizer injection to stimulate new growth
- Continued training

Grounds Services: Labor by Activity 2023/2024

Man-Power
Allocation by
Hour

10,000
8,000
6,000
4,000
2,000
-



	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr
Beds, Mulch, Weed, Plant, Water	907	426	539	1,222
Trees: Prune, Trim, Remove	953	835	692	842
Pest Removal, PM Equipment	316	348	468	567
Streets, Parking Lots, Sidewalks	439	873	1,020	466
Trash Pickup, Dump	1,754	2,102	2,228	1,847
Fertilize, Topdress, Seed, Irrigate, Paint	131	290	660	301
Mow, Weedeat, Blow, Edge	3,156	1,896	1,073	3,585

Total Hours: 29,933

Goals 2024/2025

- Continue sidewalk/hardscape improvements
- Continue re-landscaping areas of campus to improve quality
- Continue tree replacement program
- Implement GPS/Autonomous mowers to mow Intramural and Club Fields
- Perform another round of tree care/tree fertilizer
- Continue training



2023/2024	Grounds Services: M&O Work Orders											
Subdepartment	Corrective Maintenance			Preventative Maintenance			Service Tasks			Total		
	# of WO	Total Cost	Avg Cost	# of WO	Total Cost	Avg Cost	# of WO	Total Cost	Avg Cost	# of WO	Total Cost	Avg Cost
13 - Grounds	252	\$94,277	\$374	50	\$5,661	\$113	114	\$890,047	\$7,807	416	\$989,985	\$2,380
19 - Greenhouse	111	\$11,388	\$103	11	\$18,053	\$1,641	59	\$272,277	\$4,615	181	\$301,717	\$1,667
31 - Dumpsters	42	\$23,778	\$566	2	\$264	\$132	28	\$264,178	\$9,435	72	\$288,220	\$4,003
Total	405	\$129,443	\$320	63	\$23,978	\$381	201	\$1,426,501	\$7,097	669	\$1,579,922	\$2,362

2023/2024	Grounds Services: Project Work Orders							
Project Type	General Work (Insurance)		MP (Maintenance Project)		SP (Special Project)		Total	
	Shop	# of WO	Total Cost	# of WO	Total Cost	# of WO	Total Cost	# of WO
13 - Grounds	0	\$0	21	\$160,744	2	\$2,607	23	\$163,351
19 - Greenhouse	1	\$1,694	0	\$0	0	\$0	1	\$1,694
Total	1	\$1,694	21	\$160,744	2	\$2,607	24	\$165,045

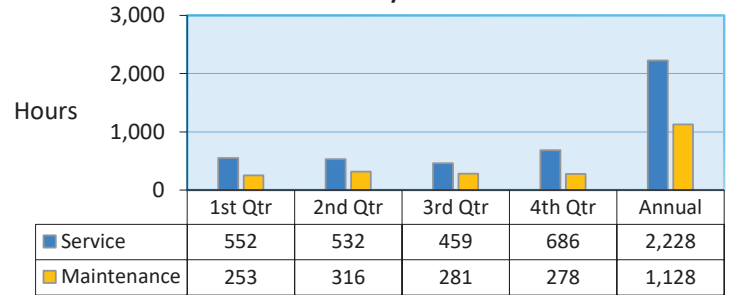
Accomplishments & Highlights 2023/2024

- Continued fleet vehicle cleaning program
- Met all state requirements for underground fuel storage tanks
- Continued to upgrade shop diagnostic equipment
- Continued to improve reservation process of Motor Pool vehicles

Goals 2024/2025

- Continue upgrading of Motor Pool fleet vehicles
- Implement a computerized fleet vehicle reservation process
- Continue to upgrade shop equipment to maximize efficiency
- Move forward with replacement plan for underground storage tanks
- Continue training

**Motor Pool Man-Power Allocation
2023/2024**



2023/2024 Motor Pool: Project Work Orders

Project Type	MP (Maintenance)		Total	
Subdepartment	# of WO	Total Cost	# of WO	Total Cost
23 - Motor Pool	9	\$92,540	9	\$92,540
Total	9	\$92,540	9	\$92,540



2023/2024	Motor Pool: M&O Work Orders											
Subdepartment	Corrective Maintenance			Preventative Maintenance			Service Tasks			Total		
	# of WO	Total Cost	Avg Cost	# of WO	Total Cost	Avg Cost	# of WO	Total Cost	Avg Cost	# of WO	Total Cost	Avg Cost
23 - Motor Pool	472	\$125,587	\$266	1,132	\$445,504	\$394	154	\$125,533	\$815	1,758	\$696,624	\$396
Total	472	\$125,587	\$266	1,132	\$445,504	\$394	154	\$125,533	\$815	1,758	\$696,624	\$396

Custodial Services

Brenda Wunder

Accomplishments & Highlights 2023/2024

- Brought contractor service on-line for the Allen Tennis Building, Tennis Platform and Courts
- Finalized renewal of the Custodial Services Contract (effective date July 1, 2024)
- Ensured the custodial contractor service met contract terms
- Completed mandatory and recommended training sessions, as required by the University and FSD/EH&S

Goals 2024/2025

- Bring the Student Athletic Performance Center on-line
- Bring the Applied Engineering Building on-line
- Ensure custodial contract terms are upheld, as written
- Complete mandatory and recommended training required by the University and FSD/EH&S

E&G Space 2023/2024	Gross Square Feet	Cleanable Square Feet	% Cleanable Square Feet
Facilities Services Department			
In-house	249,449	114,707	4%
Contract Labor	2,745,424	2,053,537	77%
Murphy Center Complex			
In-house	-	-	0%
Contract Labor	601,819	508,522	19%
Totals	3,596,692	2,676,766	100%



Engineering Services: Training

Alan Parker Katherine Antone

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Accomplishments & Highlights 2023/2024

- Assigned safety training topics in Safe Colleges to FSD employees
- Updated Safe Colleges training records for employees who completed off-line training sessions
- Coordinated topic-specific safety training (requiring both classroom and hands-on instruction) for the FSD and other campus departments
- Created original training videos

Goals 2024/2025

- Serve as administrator/coordinator for Safe Colleges on campus
- Create training assignments according to the Recommended Training List developed by EHS
- Incorporate off-line training completed by FSD employees into the Safe Colleges system
- Review and schedule any specialized safety training topics as requested by FSD Directors or Supervisors

FSD Employees Training Records 2023/2024		Leadership/Professional Development			Technical Training		
By Training Type	# Employees (Full-Time)	# Employees Trained	Total Hours		# Employees Trained	Total Hours	
			In-House	Conference		In-House	Conference
Central Administration							
-Assistant Vice President	2	2	1.0	8.0	2	8.0	12
-Accounting Information Services	5	1	1.0		5	12.5	
Engineering Services							
-Director	1	1	1.0		1	12.0	
-Center for Energy Efficiency	2	2	16.5	2.0	2	5.0	14.5
-Work Orders	4	4	4.0		4	6.0	24.0
-Civil/Environmental Services	3	3	4.0		3	6.0	
-Industrial Hygiene & Lab Safety	2	2	2.0		2	3.0	
-Life Safety & Emergency Management	3	3	3.0		3	4.5	
-Key Shop	5	5	5.0		5	12.5	
-Training	1	1	0.0		1	30.0	
-Systems Administrator	1	1	12.0		1	2.5	
Building Services	15	15	17.0	3.0	15	113.5	
Construction Administration	5	5	5.0		5	7.5	
Construction Renovation	5	5	0.0		5	7.5	
Energy Services	21	21	0.0	15.0	21	66.5	
Grounds Services/Motor Pool	23	23	0.0		23	21.0	
Custodial Services	8	8	0.0		8	12.0	
TOTALS	106	102	71.5	28.0	106	330	50.5

Number of Employees per Total Hours Trained 2023/2024	# Employees	0 Hrs	1-10 Hrs	11-20 Hrs	>20 Hrs
Central Administration					
-Assistant Vice President	2		1	1	
-Accounting Information Services	5		5		
Engineering Services					
-Director	1			1	
-Center for Energy Efficiency	2		1		1
-Work Orders	4		4		
-Civil/Environmental Services	3		2	1	
-Industrial Hygiene & Lab Safety	2		2		
-Life Safety & Emergency Management	3		3		
-Key Shop	5		5		
-Training	1			1	
-Systems Administrator	1				1
Building Services	15		15		
Construction Administration	5		5		
Construction Renovation	5		5		
Energy Services	21	1	19	1	
Grounds Services/Motor Pool	23		23		
Custodial Services	8		8		
TOTALS	106	1	98	5	2



SafeColleges Training

These training opportunities available for campus departments, and more, are provided to enhance job performance, promote safety, and comply with laws and regulations.

Campus-Wide (non-FSD) 2023/24	
Category	Completed
Emergency Management	129
Environmental Safety	2,101
Environmental Health	605
Human Resources	737
Total	3,572

Excerpts from Campus Master Plan 2015 - 2025

Facility Assessment: Education and General Use Facilities

Like many universities and colleges, MTSU has simultaneously experienced significant growth and increased fiscal constraints. These conditions have led to postponement of major repairs and replacement of facilities and infrastructure. This delay, combined with aging facilities, leads to a degradation of the facilities and an increased backlog of maintenance and capital renewal projects commonly referred to as deferred maintenance.

	Building Name	Building ID	Year Constructed	Gross SF	Assignable SF	Current Condition (1)	Site Suitability (2)	Physical Building Rating (3)	Existing Program Suitability (4)
ALOF	Alumni Office (2263 Middle Tennessee Boulevard)	24-172	1948	2,796	1,814	94.3	M	A	A
ALUM	Alumni Relations House (2259 Middle Tennessee Blvd.)	24-174	2008	10,105	5,435	94.7	M	A	A
BAS	Business & Aerospace Building	24-091	1997	184,931	102,233	90.1	M	A	A
BDA	Boutwell Dramatic Arts	24-031	1964	56,164	36,757	79.6	M	C	D
BLH	1417 East Main Street (Center for Historic Preservation)	24-097	1958	3,041	2,191	71.5	L	D	D
BRAGG	Bragg Media and Entertainment Building	24-083	1990	91,114	52,325	89.3	M	B	C
CAB	Cope Administration Building	24-034	1965	50,976	29,325	85.3	M	B	A
CH	College Heights Chapel	24-197	1959	9,362	7,828	75.4	M	C	C
CKNB	Cason-Kennedy Nursing Building	24-084	1994	31,494	18,259	96.5	M	A	A
COE	College of Education Building	24-229	2010	91,206	50,989	100	M	A	A
DSB	Davis Science Building	24-041	1967	75,258	40,966	81.2	H	B	A
DYS	Tennessee Center for the Study & Treatment of Dyslexia	24-155	2000	7,169	4,146	96.0	H	A	A
EHS	Ellington Human Sciences	24-025	1962	15,509	10,619	85.5	M	B	D
EZEL	Ezell Hall	24-072	1973	52,452	32,775	66.4	L	D	D
FAIR	Fairview Building	24-149	1962	38,250	22,960	89.4	M	B	A/C
FH	Forrest Hall	24-017	1954	14,177	8,807	84.0	L	D	A
FSHP	Farm Shop	24-232	2011	9,772	9,396	96.1	H	A	A
GH	Greenhouse	24-073	1975	4,774	4,709	80.1	L	D	B
HARR	1416 East Main Street (Center for Historic Preservation)	24-130	1925	2,454	1,478	80.2	L	D	D
HC	Horticulture Facility	24-093	1997	9,002	6,458	87.1	L	D	C
HONR	Paul W. Martin, Sr. Honors Building	24-166	2003	20,720	11,601	98.5	M	A	A
ING	Sam H. Ingram Building (2269 Middle Tennessee Blvd.)	24-169	1951	27,498	17,838	96.8	M	A	A
JACK	Tom H. Jackson Building1	24-003	1911	8,224	4,825	84.2	H	B	B
JH	Jones Hall1	24-005	1921	39,855	21,103	84.6	H	B	A
JUB	James Union Building	24-015	1952	58,354	36,626	83.6	H	B	A
KOM	Kirksey Old Main1	24-002	1911	83,706	45,947	70.9	H	C	A
KUC	Keathley University Center	24-042	1967	122,671	80,518	85.9	M	B	B
LIB	James E. Walker Library	24-094	1998	254,596	171,275	96.8	M	A	A
LRC	Ned McWherter Learning Resources Center	24-074	1975	65,865	38,296	93.8	M	A	A
LYTL	1114 East Lytle Street (Lytle House)	24-171	1948	1,874	1,401	89.4	M	B	B
MB	McFarland Building	24-054	1969	10,285	6,424	90.5	M	A	A
MD	Main Dairy	24-230	2011	22,190	18,987	98.8	H	A	A
MEC	Miller Education Center	24-241	1999	126,839	105,196	93.5	M	A	A
MGB	E.W. Midgett Building	24-076	1959	18,615	11,126	62.7	L	D	D
NB3	Nursing Building Addition	24-84A	2006	24,044	13,814	97.5	M	A	A
OBS	Observatory	24-194	2007	724	363	96.9	M	A	A
PCS	Pittard Campus School1	24-007	1927	47,487	29,526	79.7	H	C	B
PH	Peck Hall	24-044	1968	110,501	53,126	73.0	M	C	D
PHLP	Project Help	24-088	1996	4,568	3,158	90.2	M	A	B
PKS	Parking Services Building	24-158	1951	12,099	7,441	86.6	L	D	A
PRES	President's Home1	24-001	1911	7,794	7,015	87.2	H	B	A
PSB	Printing Services Building	24-175	2005	4,320	3,659	97.4	M	A	A
ROTX	ROTC Annex	24-010	1942	10,143	8,477	63.9	L	D	B
SAG	Stark Agribusiness and Agriscience Center	24-045	1968	25,463	15,340	76.7	M	C	A
SCI	Science Building	24-249	2014	263,670	144,540	100	M	A	A
SFA	Saunders Fine Art	24-022	1959	32,788	19,811	78.0	M	C	D
SSAC	Student Services and Admissions Center	24-245	2012	64,500	33,002	100	M	A	A
STU	Student Union	24-238	2010	210,846	111,153	100	M	A	A
TB	Telescope Building	24-106	1986	412	346	80.1	L	D	D
TCM	Telecomm Building	24-089	1996	10,267	5,959	91.8	M	A	C
TLC	Tennessee Livestock Center	24-070	1972	157,316	91,738	85.6	L	D	A
TODD	Andrew L. Todd Hall	24-019	1958	114,388	65,666	96.4	H	A	A
VA	Vocational Agriculture	24-080	1979	6,047	5,163	84.3	L	D	C
VET	Voorhies Engineering Technology	24-009	1942	39,289	28,488	78.9	L	D	C
WANH	209 North Baird Lane (Internal Audit)	24-103	1958	1,243	900	78.4	L	D	B
WMB	Wright Music Building	24-081	1980	31,357	20,802	82.5	M	B	B
WPS	Wiser-Patten Science Hall	24-008	1932	41,116	24,612	82.8	H	B	A
WSC	Wood - Stegall Center (University Advancement)	24-156	2001	10,142	4,630	98.6	M	A	B

Legend:

- (1) Current Condition Score (0-100) determined by the Physical Facilities Survey Score as of August 2015 (PFIS).
- (2) Site Suitability Score (High, Medium, Low) determined by factors including various land uses, code issues, and original campus structure.
- (3) Physical Building Rating (A-D) determined by combining the Current Condition and Site Suitability Scores as shown in the matrix.
- (4) Existing Program Suitability (A-D) determined by the factors including quantity and quality of space and the fit of programs to the design.

Deferred Maintenance:

Current Condition				
Site Suitability				
		> 90	80 - 90	< 80
	High	A	B	C
	Medium	A	B	C
	Low	C	D	D
Physical Building Rating				

Table A-2 Educational and General (E&G, Maintenance, Utilities, & Athletics)

Physical Building Rating	Square Feet	20-Year Deferred Maintenance (1)
A	1,773,836	\$35,459,630
B	886,512	\$88,670,198
C	422,487	\$46,857,416
D	240,427	\$22,538,570
Other	11,540	\$865,008
Infrastructure (2)		\$48,597,706
20-Year Capital Renewal Funding (3)		(\$56,968,010)
Total	3,334,802	\$186,020,518

MTSU Capital Maintenance

Project Lists per FY Capital Budget Request					
2022 - 2023	Priority	Project Name	FY 22/23 Request	Appropriated Funding	Project Status
	1	Multiple Buildings Elevator Modernization Phase 3	\$ 1,407,800	\$ 1,407,800	Funded
	2	Campus Wide Lighting and Lighting Control Updates	\$ 952,200	\$ 952,200	Funded
	3	Multiple Buildings Mechanical and Controls Updates	\$ 2,000,000	\$ 2,000,000	Funded
	4	Campus Wide Access Control and Security Updates	\$ 800,000	\$ 800,000	Funded
	5	Multiple Building Exterior Envelope Updates	\$ 2,000,000	\$ 2,000,000	Funded
	6	Campus Wide Utilities Phase 3	\$ 2,500,000	\$ -	Not Funded
	7	Multiple Buildings Roof Replacements	\$ 1,400,000	\$ -	Not Funded
	8	Campus Wide Sidewalk Repair and Replacements	\$ 738,000	\$ -	Not Funded
Total:			\$ 11,798,000	\$ 7,160,000	
2023 - 2024	Priority	Project Name	FY 23/24 Request	Appropriated Funding	Project Status
	1	Central Plant & Campus Utilities Updates Phase 1	\$ 3,000,000	\$ 3,000,000	Funded
	2	Central Plant & Utilities Updates Phase 2	\$ 2,000,000	\$ 2,000,000	Funded
	3	Central Plant & Utilities Updates Phase 3	\$ 2,000,000	\$ -	Not Funded
	4	Multiple Buildings Roof Repairs & Replacements	\$ 1,920,000	\$ -	Not Funded
	5	Multiple Buildings Structural & Exterior Envelop Repairs	\$ 2,000,000	\$ -	Not Funded
	6	Campus Wide Life Safety Systems Updates	\$ 1,500,000	\$ -	Not Funded
	7	Multiple Buildings Elevator Modernization	\$ 2,500,000	\$ -	Not Funded
	8	Multiple Buildings Hydronic Systems Renovation	\$ 480,000	\$ -	Not Funded
	9	Campus Wide Sidewalk Repair & Replacements	\$ 400,000	\$ -	Not Funded
Total:			\$ 15,800,000	\$ 5,000,000	
2024 - 2025	Priority	Project Name	FY 24/25 Request	Appropriated Funding	Project Status
	1	Campus Fire/Life Safety Systems Updates Phase 1	\$ 2,500,000	\$ 2,500,000	Funded
	2	Multiple Buildings Roof Repairs/Replacements Phase 1	\$ 2,000,000	\$ -	Not Funded
	3	Campus-wide Lighting & Electrical Updates Phase 1	\$ 1,000,000	\$ -	Not Funded
	4	Multiple Buildings HVAC & Controls Updates Phase 1	\$ 750,000	\$ -	Not Funded
	5	Multiple Buildings Structural/Envelope Repairs Phase 1	\$ 1,000,000	\$ -	Not Funded
	6	Campus-wide Access Controls & Security Updates Phase 1	\$ 1,000,000	\$ -	Not Funded
	7	Central Plant & Campus Utilities Updates Phase 2	\$ 1,000,000	\$ -	Not Funded
	8	Multiple Buildings Elevator Modernizations Phase 1	\$ 2,400,000	\$ -	Not Funded
	9	Multiple Buildings HVAC & Controls Updates Phase 2	\$ 750,000	\$ -	Not Funded
	10	Campus-wide Lighting & Electrical Updates Phase 2	\$ 2,000,000	\$ -	Not Funded
	11	Multiple Buildings Roof Repairs/Replacements Phase 2	\$ 1,000,000	\$ -	Not Funded
	12	Multiple Buildings Structural/Envelope Repairs Phase 2	\$ 1,000,000	\$ -	Not Funded
	13	Central Plant & Campus Utilities Updates Phase 3	\$ 1,000,000	\$ -	Not Funded
Total:			\$ 17,400,000	\$ 2,500,000	
2025 - 2026	Priority	Project Name	FY 25/26 Request	Appropriated Funding	Project Status
	1	Multiple Buildings Structural, Exteriors and Roof Repairs & Replacements	\$ 5,000,000	\$ -	Funding Request
	2	Multiple Buildings HVAC & Controls Updates Phase 1	\$ 2,000,000	\$ -	Funding Request
	3	Campus Wide Lighting & Electrical Updates Phase 1	\$ 1,750,000	\$ -	Funding Request
	4	Campus Wide Access Controls & Security Updates Phase 1	\$ 1,470,000	\$ -	Funding Request
	5	Multiple Buildings Elevator Modernizations Phase 1	\$ 2,750,000	\$ -	Funding Request
	6	Central Plant & Campus Utilities Updates Phase 2	\$ 2,500,000	\$ -	Funding Request
	7	Multiple Buildings Plumbing & Restroom Upgrades Phase 1	\$ 2,500,000	\$ -	Funding Request
	8	Non-Commercial Building Updates Phase 1	\$ 500,000	\$ -	Funding Request
	9	Multiple Buildings Hydronic Systems Renovations Phase 1	\$ 500,000	\$ -	Funding Request
	10	Campus Wide Sidewalk Repairs Phase 1	\$ 500,000	\$ -	Funding Request
	11	Campus Wide Fire & Life Safety Systems Updates Phase 2	\$ 750,000	\$ -	Funding Request
	12	Science Building HVAC & Exhaust Updates	\$ 2,500,000	\$ -	Funding Request
	13	Stormwater BMP Updates	\$ 750,000	\$ -	Funding Request
Total:			\$ 23,470,000	\$ -	

Funded by a fee initiated by the MTSU student body, administered by the Division of Student Affairs, and supported by the Tennessee Board of Regents at the time, the intent of the MTSU Sustainable Campus Fee Program is to decrease consumption of non-renewable energy with a directed portion for purchasing 'green power' from TVA to facilitate production of electricity from wind, solar power, and methane gas as a clean alternative to traditional energy sources. The reminder of the funds are used for local campus projects.

MTSU Sustainable Campus Fee (SCF) Program

Approved Projects List	2006-2019	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	Totals
Green Power Purchase	\$ 2,400,000	\$ 50,000	\$ 22,500	\$ 25,000	\$ 25,000	\$ 20,000	\$ 2,542,500
Air Compressor System- Integrated control module/program			\$ 6,000				\$ 6,000
Air Handling Units Energy Upgrades Rec		\$ 70,000					\$ 70,000
Air Flow Meter Installations	\$ 12,500						\$ 12,500
Alternative Fuel- Biodiesel Production Project	\$ 2,500						\$ 2,500
Alternative Fuel- Convert a Bus to Run on Used Cooking Oil	\$ 15,000						\$ 15,000
Alt Fuel- Convert Vehicle to Operate on Natural Gas/Installation of Compressed Gas Station	\$ 8,500						\$ 8,500
Alt Fuel- Comparing the Pollutant Emissions for Various Alt Fuels	\$ 5,944						\$ 5,944
Alt Fuel- Development of Flex-Fueled Engine (ph1 solar,ph2 hydrogen)	\$ 54,000						\$ 54,000
Alt Fuel - Devel. of High Perf. Additive fuels to Reduce Emissions of			\$ 4,474				\$ 4,474
Alternative Fuel- Hybrid/Alternative Fuel Vehicle Project	\$ 47,850						\$ 47,850
Alternative Fuel- Increasing Production Capacity of Biodiesel	\$ 9,965						\$ 9,965
Alternative Fuel- Kenaf Agriculture for Sustainable Community	\$ 5,935						\$ 5,935
Alternative Fuel- Multi-fuel Bus Emission Testing Project	\$ 10,944						\$ 10,944
Alternative Fuel- Propane Powered Mower (7)	\$ 48,823	\$ 13,600	\$ 13,600	\$ 14,600			\$ 90,623
Alternative Fuel- Running Vehicles off Wood Gasification	\$ 4,500						\$ 4,500
Bee Keeping and Colony Collapse	\$ 10,000						\$ 10,000
Battery Operated Grounds Equipment (40V lithium-ion)	\$ 2,500						\$ 2,500
Bicycle Friendly Campus/shelters PH (1)/ shelter PH (1)/Pump	\$ 108,632	\$ 11,500	\$ 5,800	\$ 1,095	\$ 9,360		\$ 136,387
Biofuels- Cellulose Production/Optimization-Conversion to Ethanol	\$ 3,980						\$ 3,980
Biofuels- Conversion of Oyster Shells into Catalyst for Biofuels	\$ 3,900						\$ 3,900
Biofuels - Recycling of Fermentation Waste for Biofuels				\$ 8,500			\$ 8,500
Biofuels- Ultrasonic Generator and Biotech Applications Research	\$ 11,180						\$ 11,180
Biofuels - Reduction of Toxicants CO & Benzene from biofuel					\$ 3,665		\$ 3,665
Biorenewable Solvents for Pigment Extraction and Textile Dyeing	\$ 380						\$ 380
Boiler Sequencing Controller- M2G (ING)	\$ 7,698						\$ 7,698
BTU Meters for Chillers at Chiller Plant and Satellite	\$ 9,000						\$ 9,000
Bypass Feeders (15 buildings)	\$ 9,800						\$ 9,800
Change Hot Water Valve Tops in Murphy Center	\$ 6,502						\$ 6,502
Chilling PLT- Pressure Gauges Install/Heat Exchanger/ Water Tp	\$ 1,000			\$ 11,000	\$ 12,000		\$ 24,000
Clean/Replace Coils (20) Buildings	\$ 84,151	\$ 4,000					\$ 88,151
Closed Loop Sediment Filtering System (16+) Buildings	\$ 221,350		\$ 5,000	\$ 9,000			\$ 235,350
Dehumidifier Project in VET 108	\$ 13,600						\$ 13,600
Development of a Biosensor to Detect Hydrogen Production	\$ 4,250						\$ 4,250
Dryers - Hand Dryers for REC,LIB,FAIR - Commercial Dryers (2) for	\$ 20,377					\$ 17,314	\$ 37,691
Electric Auto-Mower - Murphy Center				\$ 12,800			\$ 12,800
Energy Analysis- Building Heating/AC Energy Efficiency Study	\$ 1,500						\$ 1,500
Energy -Conduct Light Level Studies in TODD, BRAGG, BAS, PH	\$ 5,500						\$ 5,500
Energy - Data Loggers for Energy Efficiency Analysis	\$ 8,060						\$ 8,060
Energy -Flow Meter; Compact Infrared Cameras for Energy Audits	\$ 18,350						\$ 18,350
Energy Analysis- Infr Thermometer Guns/Sensors & Monitoring Tools	\$ 5,405						\$ 5,405
Energy Analysis- Siemens Energy Analysis for SCI	\$ 12,000						\$ 12,000
Energy Analysis- Steam Trap Ultrasonic Test Equipment	\$ 2,600						\$ 2,600
Energy Analysis- Test and Balance Hot Water System (KUC)	\$ 12,716						\$ 12,716
Energy Books Purchase for LIB and Facilities Offices	\$ 6,323						\$ 6,323
Energy Conservation Project in BDA: Motion Sensors	\$ 4,568						\$ 4,568
Energy Efficient Replacement Washer (2)	\$ 11,617			\$ 14,184			\$ 25,801
Flowmeter BTUmeter for MC/VET/AMG/RH/Cope/Cogen/SCI	\$ 9,000	\$ 27,000		\$ 12,000	\$ 38,000		\$ 86,000
Freeze Protection-Track&Field; Backflow sensors; Sensors on Campus						\$ 15,308	\$ 15,308
Hot/Chilled Water Valve Assessment	\$ 5,000						\$ 5,000
HVAC Controls Replacement (WMB)(REC5-8)	\$ 29,950				\$ 72,000		\$ 101,950
HVAC Pleated Filter Projects- (12) Buildings	\$ 19,999						\$ 19,999
HVAC Pocket Filter- Multiple Buildings (21+)/ Synthetic CKN,PH,BRAG	\$ 154,905		\$ 10,765				\$ 165,670
Install FilterPave Porous Pavement-Parking Lot on Champion Way	\$ 18,665						\$ 18,665
Install Variable Freq. Drives- 6+bldgs/Replace VFD LIB,LIB	\$ 53,846		\$ 7,743	\$ 47,000	\$ 35,000		\$ 143,589
Install Variable Speed Drive Motor Additions - 2 phases Rec Cntr	\$ 30,994						\$ 30,994
Install Milk Cooling System at the MTSU Farm	\$ 17,500						\$ 17,500
Install a Geothermal Cooler System on the MTSU Farm	\$ 27,150						\$ 27,150
Installation of Programmable Thermostats in Maintenance shps	\$ 1,200						\$ 1,200
Installation of Variable Speed Compressor in COGN	\$ 24,000						\$ 24,000
Insulate Pipes-Multiple bldgs (19+)/Removable Insul. for Mech Equip.	\$ 132,609					\$ 20,000	\$ 152,609
Insulated Garage Door Replacement- Motor Pool	\$ 3,950						\$ 3,950
ITD-AMX Resource Mgmt Suite Sys Upgrade; Virtual Mgmt Softw	\$ 17,500						\$ 17,500
ITD- "Lights out" Cope Data Center	\$ 1,316						\$ 1,316
ITD - Electric Energy Resource Management Solutions					\$ 18,125		\$ 18,125
Lab Upgrade of Instr (ICP-OES) Donated by TN Health Dept. Lab	\$ 7,400						\$ 7,400

(Continued on page 23)

MTSU Sustainable Campus Fee (SCF) Program

Approved Projects	2006-2019	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	Totals
Lamp Crusher	\$ 4,000						\$ 4,000
Lamp Projectors replaced with Laser Projectors (3) Library classrms						\$ 6,000	\$ 6,000
Laser Alignment Devices	\$ 5,681						\$ 5,681
Light Switch Plate Labels	\$ 2,500			\$ 1,000			\$ 3,500
Lighting- Ann Campbell Early Learning Center LEDs	\$ 5,696						\$ 5,696
Lighting-Retrofits Mechatronics Lab, Airport Ramp, Aircraft Maint. Lab	\$ 13,350			\$ 13,000			\$ 26,350
Lighting- Retrofitted LEDs/ Outside Lamps : more than 1 areas	\$ 39,412	\$ 39,600	\$ 39,600	\$ 71,100	\$ 142,500	\$ 15,000	\$ 347,212
Lighting- Occupancy Sensors Honors Building	\$ 3,372						\$ 3,372
Lighting Projects LEDs - (16) Rooms, Labs & Gyms in various Bldgs	\$ 175,789	\$ 5,600			\$ 23,000	\$ 64,028	\$ 268,417
Lighting- Re-lamp CKNB (existing portion) and FAIR	\$ 61,200						\$ 61,200
Lighting- Replacement of Incandescent Lamps in MC	\$ 5,729						\$ 5,729
Lighting- Re-lamp MTSU Parking Garages with LEDs	\$ 36,658						\$ 36,658
Manhole Cover Replacement	\$ 6,600						\$ 6,600
Microfiber Cleaning System	\$ 1,296						\$ 1,296
Motor - Vibration Meters						\$ 4,410	\$ 4,410
Outside Air Damper with AFM station included-KOM, BAS,Bldgs/ BAS	\$ 40,000	\$ 20,000					\$ 60,000
Permeable Pavers for Sustainable Learning Environment (FH)	\$ 13,050						\$ 13,050
Polution monitoring of Middle Point Landfill - water		\$ 7,990					\$ 7,990
Poster Campaign and Earthwise Reusable Bag Project	\$ 18,160						\$ 18,160
Pressure Differential Sensors - MOH,BRAG,CKN,DSB,JUB,others	\$ 4,000		\$ 4,000				\$ 8,000
Protreat Mold Treatment for Air Handling Units	\$ 1,400						\$ 1,400
Re-caulk Exterior Windows (DSB)	\$ 14,000						\$ 14,000
Recycling- Community Drop-Off Upgrades	\$ 8,500						\$ 8,500
Recycling Support for Sp. Events (9); Recycle Mainia; Promotion of SCF	\$ 21,000	\$ 3,500		\$ 3,500	\$ 3,500	\$ 3,500	\$ 35,000
Recycling Supplies for MTSU Recycling Program	\$ 81,000	\$ 9,600	\$ 3,000	\$ 2,500			\$ 96,100
Recycling- Increase Behavior by Applying Behavior Sci Principles	\$ 1,300						\$ 1,300
Recycling- Pickup Truck Purchase	\$ 14,000						\$ 14,000
Recycling Pilot Program: Dorm Room Recycling Bins	\$ 9,000						\$ 9,000
Recycling- Animation Contest - Recycling or Sustainability Theme	\$ 750						\$ 750
Recycling- Promotion of SCF Program/RecycleMania	\$ 3,000						\$ 3,000
Recycling- Technology Lab Resources	\$ 1,800						\$ 1,800
Replace Older Motor with Energy Effcy motor - HOB,WMB,SAG,MC,TLC	\$ 57,394						\$ 57,394
Replace Older Pump with Energy Efficient Pump (KUC)	\$ 5,424						\$ 5,424
Replacement of Exterior Windows (MB, HOB)	\$ 60,000						\$ 60,000
Replacement of VFD for BAS HVAC Return Fan (ph- 1 of 5)	\$ 9,900						\$ 9,900
Research-Cleaner method to generate Organometallics for Alcohol						\$ 1,861	\$ 1,861
Research- Eco-Friendly Bio-Composting of Horse Carcasses	\$ 31,140						\$ 31,140
Research- Bring Green Chemistry to Campus (phVI)(phVII)(phVIII)	\$ 28,032	\$ 2,723	\$ 2,402				\$ 33,157
Research- "Clickable" Polymers	\$ 600						\$ 600
Research- Develop Novel Approach to Producing Biofuel	\$ 9,500						\$ 9,500
Research- DRIPS Project (D and R into Pervious Surfaces)	\$ 13,500						\$ 13,500
Research- Environmentally Benign Synthesis Using Electrochemistry	\$ 3,100						\$ 3,100
Research- Pesticide Impacts on Soil Microbe Health	\$ 8,500						\$ 8,500
Research- Plastic Recycling Priorities: Quantifying Different types of Microplastic Particles found in Surface Water; Reduce Release of Microplastic from Recycled Tires			\$ 6,636			\$ 6,050	\$ 12,686
Research- Sustainable Design: Recycling of Ginseng Plant Waste for Biofuel Using Pond Microbe	\$ 9,000						\$ 9,000
Research- Turning Manure into Gold/ Food Waste on Campus	\$ 1,000			\$ 3,600			\$ 4,600
Restroom Flush Valves Replacement (LIB)	\$ 9,020						\$ 9,020
ReRev Cardio System Elliptical Machines in REC	\$ 30,000						\$ 30,000
Self-Sustainability Initiative Through Alternative Horticulture	\$ 10,000						\$ 10,000
Server Consolidation/Visualization- Health Services	\$ 20,000						\$ 20,000
Siemens Crtls - SCI for Air temps in (8) rooms; Sensors for Temp & Siemens Crtls for Var Air Vol Boxes - LIB(26 boxes)/LIB(30 boxes)	\$ 10,560	\$ 12,534				\$ 24,000	\$ 23,094
Solar- Unmanned Aircraft System Solar Project			\$ 32,980				\$ 32,980
Solar Attic Fans in FH and EHS/ WH	\$ 28,932	\$ 3,500					\$ 32,432
Solar- Big Belly Solar Trash Compactor (9)/software upgrade	\$ 46,683	\$ 7,540					\$ 54,223
Solar- Golf Cart Conversion 1 and 2 (electric to solar)	\$ 24,380						\$ 24,380
Solar- Install 8kW System	\$ 81,224						\$ 81,224
Solar- Patio Umbrellas (2) / Picnic Table (3)	\$ 17,695	\$ 13,700		\$ 14,600		\$ 16,790	\$ 62,785
Solar- Buy Organic Dyes for Organic Dye Sensitized Solar Cells	\$ 1,100						\$ 1,100
Solar- Boat Project/ Student projects trailer	\$ 14,011	\$ 5,000					\$ 19,011
Solar- WMTS-FM 88.3 Solar Power Supply Project	\$ 31,900						\$ 31,900
Stwater Ctrl Proj- Rain Gardens, Bioremediation Ponds for MS4	\$ 55,359						\$ 55,359
Student Suitabilities Ed. Initiative ; Learning Garden-Raised Bed	\$ 2,500		\$ 4,000				\$ 6,500
Study of Fire Suppressants - Mitigation Exp to Wildlife Smoke & the Sub-Metering for Chilling Plant and MC	\$ 8,000			\$ 4,831			\$ 4,831
Tree & Shrub Planting Projects (11) - JUB Landscape & Tree Care	\$ 47,500	\$ 8,000	\$ 14,000	\$ 7,500	\$ 9,000	\$ 35,000	\$ 121,000
Ultrasonic Transmitters (MGB)	\$ 18,130						\$ 18,130
Water Conservation for Rural and Urban Citizens	\$ 25,000						\$ 25,000
Water Refill Stations- SGA Resolution 7-14-F, Multiple bldgs >72	\$ 127,529	\$ 12,200	\$ 17,500	\$ 10,600	\$ 15,200	\$ 10,000	\$ 193,029
Y-pattern Valve Changeout- COGN	\$ 7,600						\$ 7,600
Total:	\$ 5,234,840	\$ 327,587	\$ 200,000	\$ 287,410	\$ 406,350	\$ 259,261	\$ 6,715,448

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Summary of Services *2023/2024 Annual Report*

This report is produced by the FSD assistant vice president and staff and published by FSD Administration.

Linda Hardymon, Editor/Publishing Coordinator

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