

MTSU Facilities Services SUMMARY OF SERVICES ANNUAL REPORT

July 2017 — June 2018



MIDDLE TENNESSEE
STATE UNIVERSITY
ACADEMIC CLASSROOM BUILDING



Middle Tennessee State University
Facilities Services Department
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...maintaining facilities and grounds... in a safe, clean, and functional condition...
 Continuous growth...Continuous Improvement

October 2018



The True Blue Pledge

I am _____

TRUE BLUE.
we are member of this diverse community.

I am a **VALUABLE CONTRIBUTOR**

& PROGRESS SUCCESS I AM **ENGAGED** LIFE

of this **community**

I am a **RECIPIENT & a GIVER**

I AM A *listener & a speaker*

I am **HONEST** *in word and deed*

I AM COMMITTED TO REASON,

NOT VIOLENCE

I am a **NOW & FOREVER** **TRUE BLUE.**

I am a **BLUE RAIDER.**

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

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

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FY 17/18 has concluded and FY 18/19 is well underway. The Maintenance and Operating (O&M) budget for Educational and General Facilities has remained fairly level. 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 FY 17/18 for the department and updates the O&M 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 109 individual goals across the departmental work units for the FY 17/18. Overall, 82 of the goals were completely met or had substantial progress toward their completion (72.2%), 24 of the goals had progress toward completion but remain on-going (22.0%) and 3 of the goals had showed little to no progress (2.8%).

Capital Projects, Construction Renovation Projects, and Maintenance Projects

- 7 capital construction projects were completed totaling \$5.6 million
- 158 renovation projects were completed totaling \$1.8 million
- 94 maintenance projects were completed totaling \$1.03
- Ribbon boards were installed at the football stadium
- Properties on City View were razed for the new Parking Building
- A boiler in the Cogeneration Plant was refurbished

Customer Service and Communication

- All work units combined to complete approximately 19,700 work orders for the year
- Supported the customer service survey process that produced useful feedback and consistently high ratings for services
- Maintained a brochure for academic and administrative personnel that outlines campus maintenance and operations and work order processing



Management and Productivity

- Staff, informational and safety meetings were conducted throughout the department
- Extensive technical and professional development training was performed throughout the department

Energy Management

- The TN High Performance Building Guidelines were used to design energy efficiency and sustainability features into capital projects
- Facilities Services applied 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

Association of Physical Plant Administrators (APPA)

- With MTSU as a member institution, Facilities Services personnel continued to participate in many forms of technical and leadership/management training at the state, regional, and national/international levels of APPA
- Several Facilities Services personnel serve in leadership positions and various support positions within APPA

Challenges and Opportunities

Focus Act Transition

Facilities Services invested significant time and energy in activities that supported the University's transition from the Tennessee Board of Regents system to the locally governed Board of Trustees. All policies and numerous procedures were reviewed and revised to reflect these changes in governance.

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.

Capital maintenance projects are submitted each year, typically

(Continued on page 4)

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.

(Continued from page 3)

totaling \$10 million - \$13 million, to provide for the major repair and replacement needs of the campus. Funding formulas indicate an annual need of approximately \$10 million just to remain level. Recent funding history shows annual funding received in the amounts of \$2.0 million – \$4.5 million. Beginning with FY 16/17 (\$6,730,000) however, MTSU began seeing an increase in capital maintenance funding. **In FY 1/18, MTSU received \$8,960,000.** This increased level of funding is much needed and appreciated. It interrupts a period of significant underfunding capital maintenance. 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

On the whole, energy and utility costs decreased approximately 3.4% in FY 17/18 compared with FY16/17. This is primarily due to the consistent use and efficient operation of the facilities and utility plants. In addition, natural gas rates continue to remain fairly low. 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 renovation of

the Davis Science Building and Wiser Patten Building were the most significant capital projects completed in FY 16/17.

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.

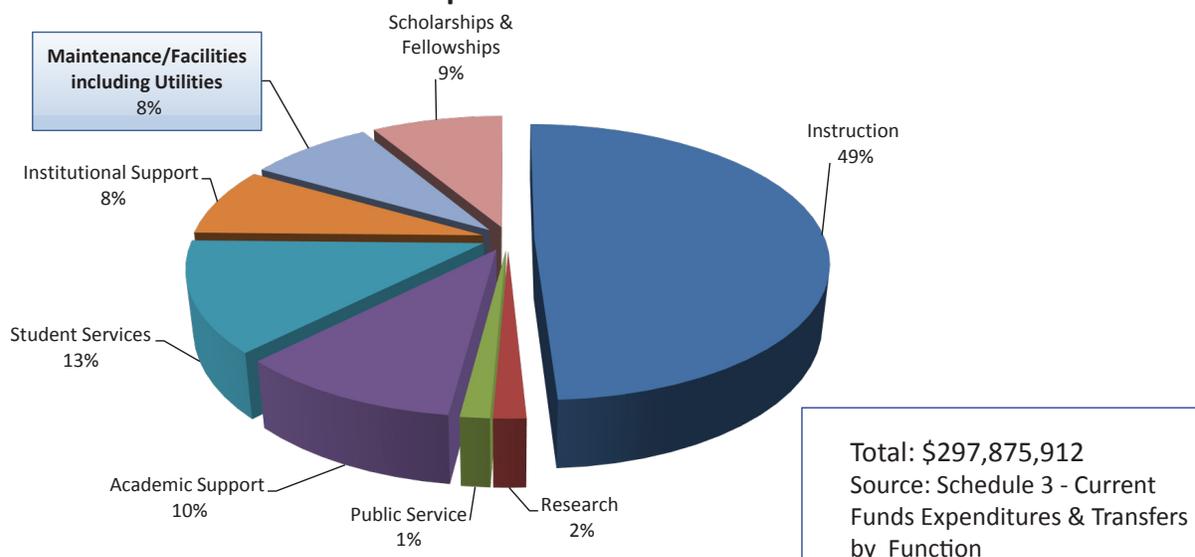
Conclusion

Although constrained by resources, 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.

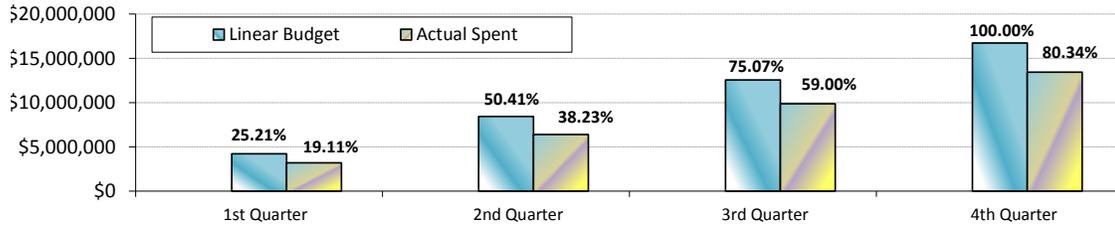
Finally, as we serve the university, it is important that we hear from our customers. Please review this document (as well as our website) for our service delivery. As always, feel free to contact us and let us know how we can serve you better.

Joe Whitefield

MTSU E & G Expenditures 2017-2018



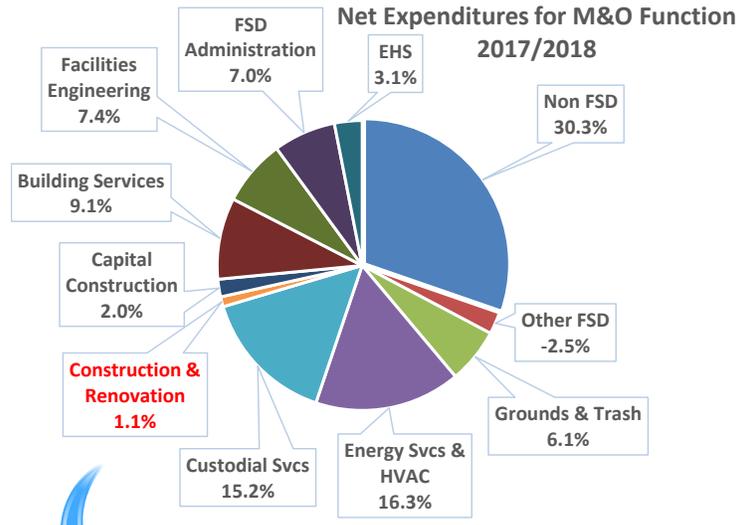
E & G Maintenance and Operations Budget FY 17 -18 by Quarter



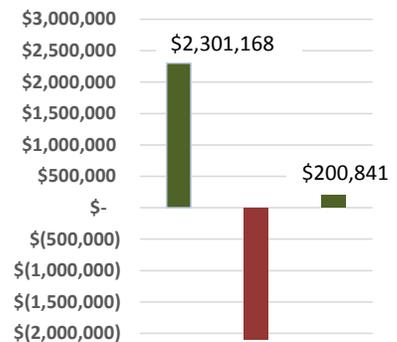
2017/18	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	End-of-Year Totals	% of Total
Total M & O Expenditures	\$ 4,348,913	\$ 4,609,627	\$ 4,407,596	\$ 5,708,979	\$ 19,075,115	
Work for Others	1,152,434	1,411,624	933,694	2,140,040	5,637,792	30%
Net E & G Expenditures	\$ 3,196,479	\$ 3,198,003	\$ 3,473,902	\$ 3,568,938	\$ 13,437,323	70%
E & G Budget	\$ 16,725,846	\$ 16,725,846	\$ 16,725,846	\$ 16,725,846	\$ 16,725,846	
% of Budget	19.11%	19.12%	20.77%	21.34%	80.34%	

Accomplishments & Highlights 2017/18

- Initiated a Director of Procurement Q&A session to improve our knowledge on purchasing policies/procedures and all Facilities' contracts
- Compiled a Facilities' contract area for easier access and utilization of contracts
- Collaborated with co-workers to open lines of communication on year-end and other accounting procedures
- Initiated regular Facilities' Accounting meetings to provide communication within accounting
- Improved Motor Pool accounting procedures, overhauled software data, updated forms, and audited the assets
- Updated Facilities' Budget Analysis report to provide clarity and include additional relevant information
- Began to develop a Facilities' Accounting training resource for managers/supervisors/new employees
- Requested ARGOS financial reports to improve accuracy and reduce manual compilations of reports
- Transitioned a facilities' accountant into an Accounting Manager position; hired and fully-trained a new accountant
- Continued to provide Notary service to the University



Construction/Renovation 17/18



Goals 2018/19

- Continue to seek new technological processes and integrated software to improve workflow and reduce redundancies
- Research and compile information on asset/building/property facts & figures into a reference manual
- Collaborate to update procedure manual for invoice & p-card processing
- Utilize procedure manuals to create an accounting training resource for new employees and annual training for current employees/managers/supervisors
- Annually review & update the Facilities' contract list and contract information
- Encourage employee development, education, and certification, including team building and communication

Accomplishments & Highlights 2017/18

- Supported implementation of new SCADA (Supervisory Control and Data Acquisition) system and dashboard development for campus; partnering with Murfreesboro Electric Dept
- Completed annual reporting for THEC, NCAA, & EPA Partnership; provided EIA monthly emissions data for ICT report generation
- Campus-wide utilities expenditures decreased by 3.4% from previous FY
- Resolved campus utility issues, including utility account audits and consolidated billings
- Supported property demolition projects related to utilities (City View locations)
- Continued supporting utility information for Utility Data

Management (UDM) Platform for State of Tennessee

- Negotiated annual utility related contracts with Tennessee Valley Authority and Murfreesboro Electric (Generation Partners, Green Power Purchase Agreement)
- Participated with AASHE's STARS (Sustainability Tracking, Assessment & Rating System) Program
- Provided monthly utility cost information for auxiliary billings
- Continued to update Physical Facility Surveys for Capital Maintenance requests
- Continued support of the MTSU Sustainable Campus Fee Committee (SCF) under Student Affairs; & oversight of Students for Environmental Action (SEA) project applications
- Continued serving on the President's Commission on the Status of Women & Women in STEM (WISTEM) Boards
- Published Summary of Services Annual Report for FY16/17

Goals 2018/19

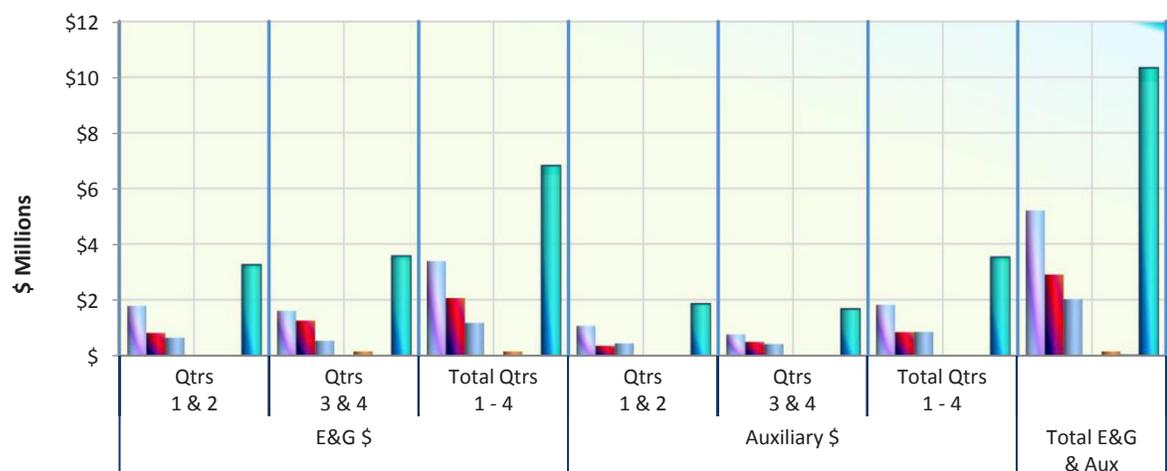
- Continue support of SCADA system and dashboard initiative for campus and development of metering potentials
- Continue involvement with utility information for Utility Data Management (UDM) Platform for State of Tennessee
- Continue support for capital projects and construction/renovation projects
- Continue support for utilities and sustainability design processes in new campus construction
- Continue to provide utility and energy management data, support, and research to university departments and others

as needed (auditing, new service, demolish projects)

- Develop a 'Green Snapshots' information system for campus sustainability reporting
- Continue support of MT Engage on campus through internships, student workers, and volunteer opportunities; offering intern positions for Fall & Spring semesters
- Continue support of MTSU Sustainable Campus Fee Program and other sustainable practices on campus
- Continue to support classroom instruction for Engineering Technology, Honors, Chemistry, and others per request

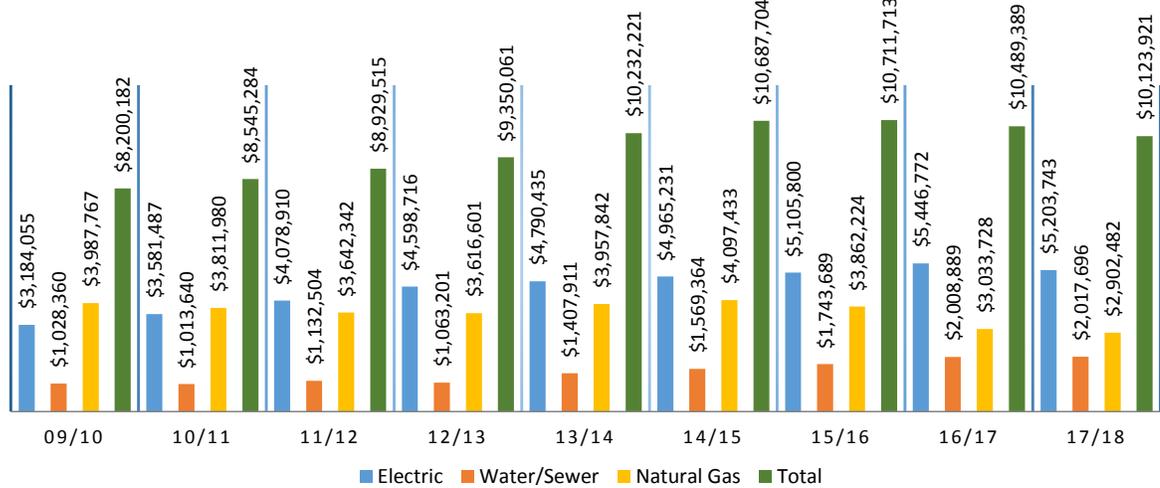
Total Campus Utilities

2017/2018



	Qtrs 1 & 2	Qtrs 3 & 4	Total Qtrs 1 - 4	Qtrs 1 & 2	Qtrs 3 & 4	Total Qtrs 1 - 4	Total E&G & Aux
Electric	\$1,780,318	\$1,602,741	\$3,383,059	\$1,062,287	\$758,397	\$1,820,684	\$5,203,743
Natural Gas	\$810,641	\$1,252,003	\$2,062,645	\$349,117	\$490,721	\$839,838	\$2,902,482
Water/Sewer	\$640,559	\$530,211	\$1,170,770	\$434,122	\$412,804	\$846,926	\$2,017,696
Propane	\$3,165	\$10,405	\$13,570	\$-	\$-	\$-	\$13,570
Green Power Purchase	\$-	\$150,000	\$150,000	\$-	\$-	\$-	\$150,000
Stormwater	\$16,891	\$16,774	\$33,665	\$7,637	\$7,637	\$15,273	\$48,938
Total	\$3,251,575	\$3,562,134	\$6,813,709	\$1,853,163	\$1,669,558	\$3,522,721	\$10,336,430

MAJOR CAMPUS UTILITIES BY FISCAL YEAR



Recycling Program - MTSU Recycles

Linda Hardymon

Accomplishments & Highlights 2017/18 Goals 2018/19

- Maintained recycling program to meet campus needs employing student workers
- Supported recycling efforts for Campus Planning and Construction/Renovation move-out/move-in projects for faculty in multiple buildings with improvement projects
- Continued providing football season recycling in suites, stadium, tailgating areas with Students for Environmental Action (SEA) recycling support; recycling increased at other sports venues
- Oversaw additional Sustainable Campus Fee (SCF) projects submitted by students and others, including water refill stations, Big Belly solar trash compactors, landscaping
- Utilized MTSU Sustainable Campus Fee project funding to improve recycling program presence across campus, drop-off area, and new and appropriate bin styles introduced to promote further recycling
- Responded to 700+ special requests for recycling on campus in addition to normal program tasks
- Supported MT Engage efforts, and welcome events
- Provided safety and diversity training for recycling staff
- Provided recycling for special events on campus per requests
- Dealt with major recycling commodities issues

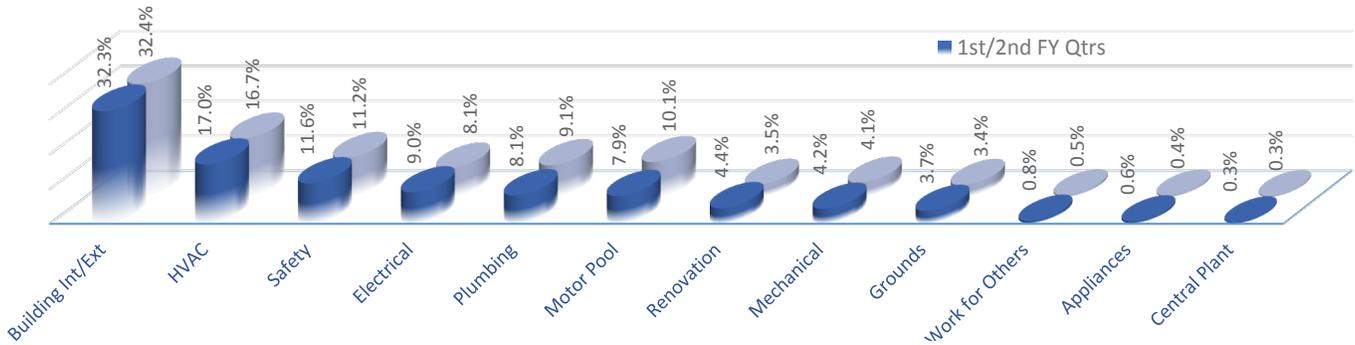
- Continue to direct Sustainable Campus Fee approved student projects – water refill stations, dorm room recycling, solar trash compactors, etc.
- Continue to provide campus recycling education, upgrade appearance of recycling containers
- Continue to work with athletics staff to provide appropriate recycling at athletic events
- Continue to support Campus Planning, Capital Construction, and Construction/Renovation projects
- Continue working with MTSU Sustainable Campus Fee Program for recycling project funding
- Explore new initiatives as the opportunity arises to grow the program, increase commodities collection, and avoiding tipping fees for campus trash going to the landfill
- Determine efforts for least impact on the program due to commodities issues
- Continue partnership opportunities with MT Engage, Recycle Rutherford and Rutherford County Government
- Continue to provide classroom support through guest lectures, environmental seminars and storm water initiatives
- Continue participation in training and development programs

MTSU Recycles!	
Commodity	2017/2018
	Pounds
Aluminum	7,949
Mixed/White Paper	446,228
Newspaper	68,470
Maintenance Metals	33,889
Cardboard	808,788
E-waste	63,000
Plastics	245,560
Units	
Batteries	1,397
Ink Cartridges	1,281
Pallets	698





WORK ORDERS ORIGINATED 2017/2018



2017/2018 WORK ORDERS ORIGINATED

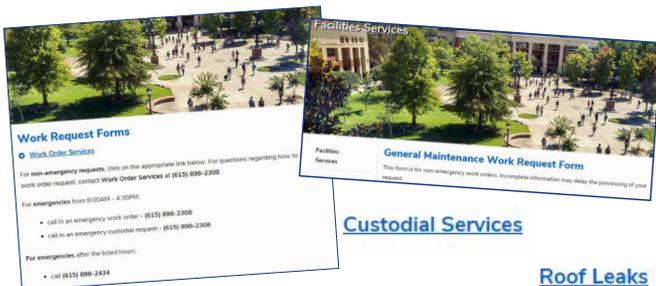
	1st Qtr		2nd Qtr		3rd Qtr		4th Qtr		Annual Totals	
	# WO	% of Total	# WO	% of Total						
Appliances	40	0.8%	18	0.4%	17	0.3%	28	0.5%	103	0.5%
Building Interior/Exterior	1,633	30.9%	1,480	34.1%	1,651	33.6%	1,606	31.3%	6,369	32.4%
Central Plant	14	0.3%	15	0.3%	17	0.3%	14	0.3%	60	0.3%
Electrical	460	8.7%	405	9.3%	444	9.0%	372	7.3%	1,681	8.5%
Grounds	230	4.4%	122	2.8%	127	2.6%	218	4.2%	697	3.5%
HVAC	918	17.4%	719	16.6%	832	16.9%	848	16.5%	3,317	16.9%
Mechanical	211	4.0%	198	4.6%	200	4.1%	213	4.2%	822	4.2%
Motor Pool	495	9.4%	269	6.2%	332	6.8%	679	13.2%	1,775	9.0%
Plumbing	408	7.7%	374	8.6%	534	10.9%	384	7.5%	1,700	8.6%
Renovation	272	5.1%	155	3.6%	142	2.9%	207	4.0%	776	3.9%
Work for Others	42	0.8%	34	0.8%	31	0.6%	23	0.4%	130	0.7%
Safety	563	10.7%	552	12.7%	585	11.9%	539	10.5%	2,239	11.4%
Total	5,286	100.0%	4,341	100.0%	4,912	100.0%	5,131	100.0%	19,669	100.0%

Accomplishments & Highlights 2017/18

- Design Summary of Asset reports highlighting maintenance activities and accomplishments
- Document process for generating and distributing standard work order reports
- Hire and train new Work Order Clerk
- Convert daily verification process of man-hour data entry from manual / paper based system to electronic
- Assist in upgrading Mainsaver software to latest version

Goals 2018/19

- Implement reports to capture O & M costs per building
- Identify ways to improve accuracy and consistency of Mainsaver data to support continued efforts to analyze and report on FSD activities
- Coordinate with FSD management and Residential Life personnel to design and implement new communication protocol for current work requests and status checks
- Continue to identify ways to integrate Mainsaver Connect into shop workflow and upgrade to latest version



[General Maintenance/
Non-Emergency](#)

[Elevators and
Handicap Access](#)

[Roof Leaks](#)

[Custodial Services](#)

[http://www.mtsu.edu/facserv/
work_request_forms.php](http://www.mtsu.edu/facserv/work_request_forms.php)

[Athletic Facilities,
Alumni Memorial Gym
or Murphy Center](#)

Maintenance Projects MP2's

MP-2 Project Summary

2017/2018	# Projects	Project Value
Building Services	75	\$ 502,536.33
Energy Services	11	\$ 342,182.95
Engineering Services	5	\$ 126,792.56
Environmental Health & Safety	1	\$ 8,000.00
Systems Engineering	1	\$ 41,000.00
Motor Pool	1	\$ 14,094.00
Totals	94	\$ 1,034,605.84

As part of the maintenance project process, MP2 forms are used to track those maintenance projects which are major repair or replace projects beyond the routine. For FSD funded projects that are not considered of a Construction/Renovation nature, outside our normal operating budget, and need expenditure approvals from a budgetary authority, the MP2 form allows all elements of projects to be accurately tracked until completed.



Energy Services: gas regulator valve replacement at Central Plant

Customer Service

Tammy Patrick

Facilities Services 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 us to evaluate our systems and procedures and to continue to improve our customer service culture.

Great Work!!!

The issue was taken care of the same day! Was very, very pleased with that. Thank you for great customer service.

The quick response time is very much appreciated. What a great team!

We appreciate that we can always count on your team to take care of problems. You are the best!!

Great Job!

2017/2018 Customer Satisfaction Survey	
Did you receive an email when the work order was opened?	97%
Did you receive an email when your work order was completed?	99%
Did the Corrective Action adequately address the problem or requested work?	4.7
How satisfied are you with the timeliness of the response(s) to your work request?	4.7
How satisfied are you with the customer service you received?	4.8
Scale:	5- Very Satisfied 2- Dissatisfied
	4- Satisfied 1- Very Dissatisfied
	3- Neutral

Accomplishments & Highlights 2017/18

- Provided an avenue of communication between Facilities Services and the Campus Community
- Gaining a better understanding of our Customer's Expectations
- Created a tool to share constructive comments and compliments within our department

Goals 2018/19

- Continue to improve and streamline our processes
- Seek ways to improve our communication with our customers
- Strengthen relationships with our campus community

Accomplishments & Highlights 2017/18

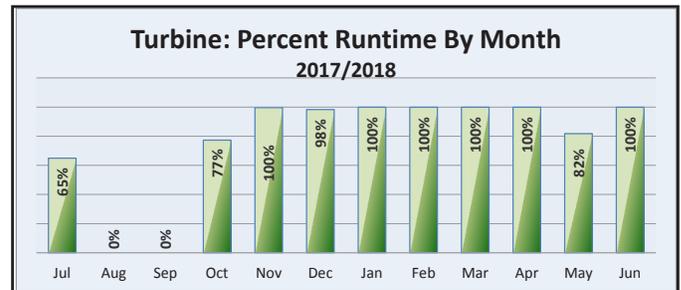
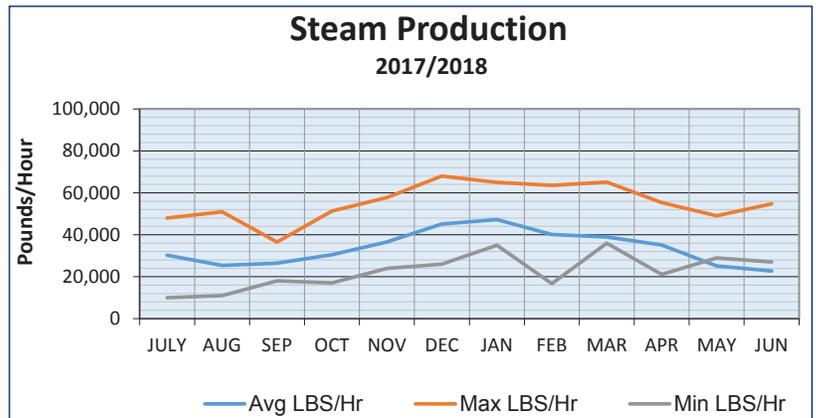
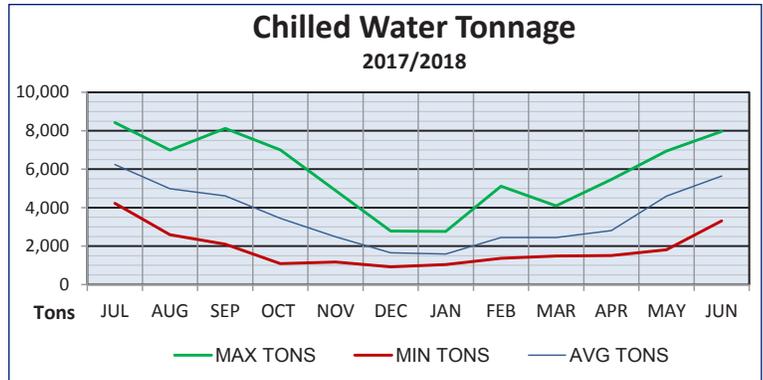
- Managed 297 after hours callbacks
- Re-tubed energy recovery boiler
- Prepared EPA report for greenhouse gas emissions
- Evaluated operating schedules for natural gas and electric
- Located and repaired major condensate leaks
- Replaced section of chilled water line at Miller Education Building
- Repaired Walker Library manhole and replaced associated condensate line to new Science Building
- Replaced economizer on energy recovery boiler
- Provided training to maintain compliance regarding code issues
- Completed of safety training

Goals 2018/19

- Continue exploring recovery of loop system condensate
- Implement new SCADA system
- Continue to support capital and construction/renovation projects on campus
- Repair underground condensate lines at BAS & BDA
- Replace burner section on heat recovery boiler
- Replace underground steam and condensate lines under phase 1 of capital project
- Modulate supply air temperature for air handling units to conserve energy
- Continue to investigate training opportunities



Central Plant



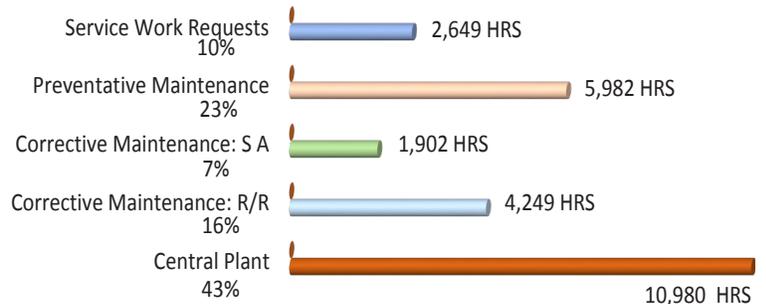
2017/2018 Central Plant Equipment Peak Operational Levels														
Natural Gas Fired Turbine/Generator					Steam Boilers					Chillers				
5 MW (Nominal)					85,000 Pounds/Hour (Peak)					11,500 Tons (Peak)				
	Mid-Year	3rd Qtr	4th Qtr	Annual		Mid-Year	3rd Qtr	4th Qtr	Annual		Mid-Year	3rd Qtr	4th Qtr	Annual
Peak MW	5.0	5.01	5.01	5.01						Max Peak Tons	8,425	5,122	7,963	8,425
Avg MW	4.7	4.85	4.5	4.7	Avg LBS/Hr	30,765	42,093	25,161	32,196	Min Tons	923	1,041	1,514	923
Total MWH	11,774.5	10,456.4	9,199.6	31,430.5	Peak LBS/Hr	79,686	79,798	57,866	79,798					

Purchased Power: 51,363.94 MWH

Accomplishments & Highlights 2017/18

- Managed 113 after hours callbacks
- Reduced work order completed past due percentage by addressing identified work flow and documentation process issues
- Improved customer service in HVAC department
- Replaced VFD's, dampers, and actuators for Business Aerospace Building
- Replaced rooftop unit at Smith Hall
- Initiated closed loop testing and treatment
- Completed safety training
- Improved departmental processes
- Replaced 60 Ton Chiller at EHS
- Completed safety training
- Supported construction/renovation projects
- Supported sustainable campus fee projects

Energy Services
Total In-House Work Order Hours
25,762 Man Hours
2017/18



Goals 2018/19

- Investigate new ways of saving energy on campus
- Continue to clean coils on campus to improve air quality and energy efficiency
- Develop new projects for MTSU Sustainable Campus Fee
- Replace coils AHU # 5-8 at Student Recreation Center
- Install dampers for Recreation Center to prevent freezing of coils
- Continue to perform preventive maintenance on AHU'S
- Continue to support capital and construction/renovation projects on campus
- Continue to investigate training opportunities



Filter Man

PERFORMANCE MEASURES: Energy Services Preventive Maintenance and Service

2017/2018		#Work Orders Completed	Man Hours	Avg Man Hours/WO
PREVENTIVE MAINTENANCE (PM) REQUESTS		Annual	Annual	Annual
	Appliances	20	13	0.7
	HVAC	1,100	5,569	5.1
	Mechanical	694	400	0.6
	Sub-total	1,814	5,982	3.3
	Central Plant	15	1,450	96.6
	Total	1,829	7,431	4.1
SERVICE WORK ORDERS		Annual	Annual	Annual
	HVAC	122	2,615	21.4
	Mechanical	11	34	3.0
	Sub-total	133	2,649	19.9
	Central Plant	24	9,497	395.7
	Total	157	12,145	77.4

PERFORMANCE MEASURES: Energy Services Corrective Maintenance

2017/2018		#Work Orders Completed		Man Hours		Avg Man Hours/WO	
CORRECTIVE MAINTENANCE (CM) REQUESTS		Replace/Repair	System Adjustment	Replace/Repair	System Adjustment	Replace/Repair	System Adjustment
	Appliances	22	13	135	32	6.1	2.4
	HVAC	1,119	942	4,026	1,829	3.6	1.9
	Mechanical	81	42	89	41	1.1	1.0
	Sub-total	1,222	997	4,249	1,902	3.5	1.9
	Central Plant	20	2	33	0	1.7	0.0
	Total	1,242	999	4,283	1,902	3.4	1.9

Accomplishments & Highlights 2017/18
Systems Engineering

- Oversight of departmental fume hood certification and maintenance of fume hoods in Science complex - 200 units
- Provided oversight for the Phase I replacement of the air compressor and rebuild of standby compressor in the new Science Building
- Initiated Phase 1 of the new Science Building recommissioning effort including the evaluation of 726 air valves in the building to determine operational capability; 30% (249) of the actuators have been tested and replaced as required

Key Shop

- Completed 1,392 work orders
- Cut a total of 3,187 keys for Residential Life, Construction Administration/Renovation projects
- Built and installed 803 new I/C Cores
- Responded to a total of 45 call backs
- Added 16 additional on-line card readers to bring the campus wide total to 871 readers

GIS and Locating

- Completed implementation and training for operation of new Esri equipment and software allowing use any cell phone or hand held device to collect and view data
- Assisted and located with the city contractors on the Middle Tenn. Blvd. road project as well as multiple projects across campus
- Initiated systematic updates and corrections for the storm water infrastructure map including new information and deleting obsolete information
- Added and trained additional personnel to improve the MTSU GIS map corrections, updates, and data entry

Elevators & Generators

- Successfully completed modernization of the Boutwell Dramatic Arts and Saunders Fine Arts elevators
- ADA elevator phones are inspected each month for a total of 888 inspections annually; phone inspection failure rates reduced from 22% to 8% as compared to the previous year
- Less than a 1% entrapment rate out of 82 elevators and lifts
- Reduced elevator citations and warnings by more than 50% over last year

Goals 2018/19

Systems Engineering

- Continue to implement and monitor necessary PM's to care for new Science building
- Continue evaluation of air valves in the new Science Building and determine the remaining number of actuators (831) that require replacement
- Complete the Phase II air compressor replacement/ refurbishment project for the new Science Building to improve functionality and maintainability of the compressed air system
- Initiate Phase II of the new Science Building recommissioning to include measuring air flow in each lab space, compare to design values, and make adjustments as required

Key Shop

- Support Capital Projects such as the new Academic Classroom Building
- Complete rekey of Murphy Center and Greek Row House 5

GIS and Locating

- Continue to improve the GIS map and database to accurately reflect the ever-changing infrastructure and construction additions being added every year
- Continue to assist in the ongoing implementation of the new University Police campus surveillance project
- Coordinate site utility mapping with Building Services and Campus Planning to update the Geographical and Information System (GIS)

Elevators & Generators

- Provide design input and report for new capital projects to modernize Kirksey Old Main and Keathley University Center passenger elevator
- Assist with implementation and design of capital project to install new emergency generators for Telecom Building, Dyslexia Center, and WMOT Radio Tower

PERFORMANCE MEASURES: Engineering Services						
Coordinated and Conducted Activities						
2017/2018	Corrective Maintenance and Service Activities			Preventive Maintenance Activities		
	# of Work Orders completed	Man Hours	Avg Man Hours per WO	# of Work Orders completed	Man Hours	Avg Man Hours per WO
Keyshop	1471	3260	2.22	5	19	3.80
Elevators	508	519	1.02	845	366	0.43
Generators	53	68	1.28	345	342	0.99

Accomplishments & Highlights 2017/18

Training – The following training was conducted on-line and in-person by EHS as a part of the campus' Occupational Safety and Health Plan:

- Assisted with Bloodborne Pathogens and SPCC hands-on training
- Lock out/Tag Out and Work Zone training for the shops
- Campus Safety Harness Training & Inspection
- Nursing – Yearly safety training & facility walk through
- Rec Center lifeguard chemical training
- Three stormwater good housekeeping trainings

Inspections – 1,889 inspections were completed to remain in compliance with federal, state, and local guidelines, relating to existing labs, lab hoods, elevators, IACUC, AED pad & batteries, and hazardous materials. Additionally, 6,684 monthly inspections relating to DI water, eye wash stations, and SPCC stormwater were conducted.

Stormwater Program – The campus' stormwater program provides essential training and remediation of existing systems to protect the local watershed. Co-permitted with the city of Murfreesboro, MTSU has completed the following this year:

- Received Sustainable Campus Fee (SCF) grants: \$6600 for “Manhole Cover Replacement” and \$5000 for “Bank Stabilization” projects
- Completed all BMPS per the NPDES permit and submitted the annual report to TDEC.
- Initiated an update of the Spill Prevention, Control and Countermeasure Plan (SPCC)
- Provided oversight and assistance with 2 campus construction projects

Emergency Operations

- Managed the identification, collection, packaging, transportation, and disposal of approximately 11.5 tons of hazardous waste
- Responded to and managed 2 OSHA complaints
- Responded to, managed, and remediated 4 chemical/biohazard emergencies
- Completed updates and revisions to the MTSU Emergency Operations Plan to conform to TEMA/ RCEMA format changes

Goals 2018/19

- Install bank stabilization and manhole covers with Sustainable Campus Fee grants to reduce erosion and stormwater infiltration to sewer systems on campus
- Maintain stormwater program partnership with the City of Murfreesboro to continue to meet NPDES permit compliance
- Complete update of SPCC Plan

Emergency Operations

- Assist the MTSU Police Department with its accreditation process as needed
- Refine the process for the maintenance, servicing, and testing of fire detection, alarm, and suppression systems
- Coordinate a live Emergency Operations exercise for law enforcement, fire and rescue, and emergency medical services
- Conduct the annual review of the MTSU Emergency Operations Plan and update as needed
- Assist University departments in development of departmental Emergency Response Plans



STORMWATER PROGRAM ACTIVITIES 2017/18

Targeted Education	
Events (stream cleanups, tree plantings, tree day)	9
Trash Removed	155
Invasive plants removed - Lbs.	4,082
Participants signed up for volunteer list	384
Number of Volunteers	753
Trees planted/given out	970
Mailouts to residents	309
Door hangers to residents	201
By the numbers - Targeted	6,863
General Education	
Overall Events (booth & workshops)	11
Classroom Visits	2
Educational print media	1,365
Promotional item distributed	1,394
Overall public educated/served	5,464
MTSU Customs events	10
Training	879
By the numbers - General Education	9,125



PERFORMANCE MEASURES: Environmental Health & Safety

2017/2018		Corrective Maintenance (CM)	Preventive Maintenance (PM)	Service Work Orders	Work Orders Completed	Program Totals
EH&S	Mid-Year	0	224	81	305	2,840
	Annual	0	425	164	589	
Safety Systems	Mid-Year	72	902	59	1,033	
	Annual	137	1,905	209	2,251	

Accomplishments & Highlights 2017/18

- Safety training participation by staff members.
- Promoting MT Engage with Student workers utilizing (6) student workers
- Staff members participated in the TNAPPA Conference held in Chattanooga, Tennessee
- Support and contribute to Capital Construction and Construction/Renovations projects – Document reviews and project implementation
- Purchase of equipment to support staff activities and maximize effectiveness
- Filled vacant positions – Lead Electrician, Lead Carpenter
- Completed multiple Sustainable Campus Fee projects

Goals 2018/19

- Advertise and fill vacant positions
- Continue to improve inter-departmental and campus customer relations
- Identify future SCF projects
- Minimize departmental expenditures while maximizing budget.
- Develop educational training opportunities for staff
- Advance promotion of work place safety



Lighting

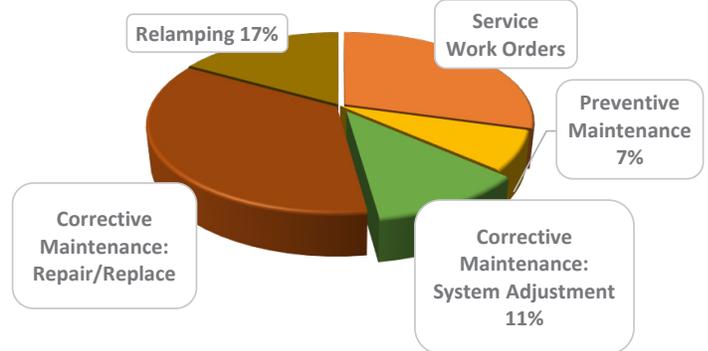


New Student Union

Lintel work at KOM



Building Services Annual In-House Man Hours 2017/2018



PERFORMANCE MEASURES: Building Services Preventative Maintenance and Service

2017/2018		#Work Orders Completed	Man Hours	Avg Man Hours/WO
PREVENTIVE MAINTENANCE REQUESTS (PM)	Annual	Annual	Annual	Annual
	Building Interior/Exterior	408	786	1.9
	Electrical	65	17	0.3
	Plumbing	374	675	1.8
	Total	847	1,478	1.7
SERVICE WORK ORDERS	Annual	Annual	Annual	Annual
	Appliances	4	3	0.8
	Building Interior/Exterior	2,214	3,203	1.4
	Electrical	53	250	4.7
	Plumbing	60	654	10.9
	Renovation	702	1,964	2.8
	Total	3,033	6,073	2.0

PERFORMANCE MEASURES: Building Services Corrective Maintenance

2017/2018		#Work Orders Completed		Man Hours		Avg Man Hours/WO	
CORRECTIVE MAINTENANCE (CM) REQUESTS		Replace/Repair	System Adjustment	Replace/Repair	System Adjustment	Replace/Repair	System Adjustment
	Appliances	12	10	23	11	1.9	1.1
	Building Interior/Exterior	948	567	4,118	1,493	4.3	2.6
	Electrical	256	240	998	456	3.9	1.9
	Plumbing	1,092	209	2,179	383	2.0	1.8
	Sub-total	2,308	1,026	7,319	2,343	3.2	2.3
	Re-Lamping	701	24	3,388	93	4.8	3.9
	Total	3,009	1,050	10,706	2,435	3.6	2.3

Accomplishments & Highlights

- Completed Floyd Stadium ribbon boards for the 2017 Football Season
- Completed new ITD 2nd Floor Executive office suites in Cope Administration Building
- Capital Maintenance Budget approved by THEC for 2020-2021 for \$8,050,000
- Participated in TNAPPA and SCAPPA
- Completed the demolition of the City View properties in order to start new Parking Services building
- Ten new projects - \$9,763,402; completed seven projects -\$5,617,543
- Five new Maintenance Projects approved for \$8,120,000.00 total budget cost
- Seven projects with Designer Evaluations completed for \$8,170,000.00 total budget cost
- Hired two full time Project Managers

2017/2018 Capital Projects Review		
	New Projects	Completed Projects
July - September	None	<ul style="list-style-type: none"> ✓ Floyd Stadium Ribbon Boards ✓ Corlew/Cummings Elevator Replacements- Phase II; Cummings Summer 2017
October - December	<ul style="list-style-type: none"> ✓ Steam & Condensate Line Replacement - Library 	None
January - March	<ul style="list-style-type: none"> ✓ Elevator Modernizations I ✓ Floyd Stadium Field Lighting ✓ Several Buildings Exterior Renovations ✓ Stark Ag, VET, Jones Hall Electrical Equipment Upgrades ✓ Various Sidewalk & Parking Improvements 	<ul style="list-style-type: none"> ✓ Saunders Fine Arts HVAC/Windows II ✓ Cope Interior Renovation/ 2nd Floor ITD ✓ Energy Recovery Boiler
April - June	<ul style="list-style-type: none"> ✓ Peck Hall Improvements ✓ Piping & Manhole Replacements ✓ Demo of 3 Houses for Parking Services Building ✓ Facilities Services Shed 	<ul style="list-style-type: none"> ✓ Steam & Condensate Line Replacement - Library ✓ Demo of 3 houses for Parking Services Building



Faulkinbury Steamline Project



Goals 2018/19

- Complete the MT Blvd. project in conjunction with City of Murfreesboro.
- Review and complete Design and Construction Documents for upcoming projects in the queue for the upcoming fiscal year
- Breaking ground and Early Release Package on new Academic Classroom building
- Bid, award, and begin construction of the new Parking Services building
- Bid, award, and begin construction of HVAC replacements at Keathley University Center
- Complete Peck Hall improvements including courtyard renovations and furnishings
- Complete Capital Maintenance re-roof project at six buildings – Alumni Gym, Voorhies Engineering, Saunders Fine Arts, Boutwell Dramatic Arts, Keathley University Center, and Learning Resources Center
- Complete design and renovation of the ITD Administrative Suite in Cope Administration Building
- Continue to participate in APPA training
- Begin projects on the new Focus System with THEC PITS new Capital Construction contract processes

Construction Administration Capital Project Summary

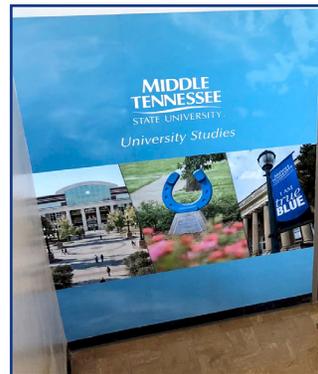
2017/2018	1st FY Qtr		2nd FY Qtr		3rd FY Qtr		4th FY Qtr		Annual Totals	
	# Projects	Value of Projects	# Projects	Value of Projects						
Beginning Active Projects	5	\$ 3,947,236	3	\$ 3,068,644	4	\$ 4,706,951	6	\$ 7,532,346	4	\$ 3,947,236
Added Projects	0	\$ -	1	\$ 1,638,307	5	\$ 5,894,039	4	\$ 2,231,056	10	\$ 9,763,402
Completed Projects	2	\$ 878,592	0	\$ -	3	\$ 3,068,644	2	\$ 1,670,307	7	\$ 5,617,543
Ending Active Projects	3	\$ 3,068,644	4	\$ 4,706,951	6	\$ 7,532,346	8	\$ 8,093,095	8	\$ 8,093,095

Accomplishments & Highlights 2017/18

- Construction/Renovation completed approximately 158 projects and managed more than \$1,812.00 worth of products and services during the course of those projects
- Major completed renovations include:
 - Business Building – Multiple classroom TAF improvements
 - Kirksey Old Main – Classroom 300 TAF renovation
 - Stark Ag – Classroom 125 TAF renovation
 - Peck Hall – Student Engagement Space 225 TAF renovation
 - Peck Hall – Multiple classroom TAF improvements
 - Boutwell Dramatic Arts – Theater Classroom TAF renovation
 - Saunders Fine Arts – Multiple classroom TAF improvements
 - Wright Music Building and James Union Building – Stairwell Paint
 - Kirksey Old Main – University College multiple backfill renovations
 - Kirksey Old Main – Basic and Applied Sciences multiple backfill renovations
 - Midgett Building – Concrete and Construction Management renovation
 - Alumni Memorial Gym – Speech, Language and Hearing Clinic renovation
 - Alumni Memorial Gym – 303 & 305 Athletic renovations
 - Boutwell Dramatic Arts – World Languages offices renovation
 - Business Building – Martin Chair of Insurance department renovation
 - University Police – Dispatch and Tech Support renovations
 - James Union Building – Faculty Senate renovation
 - One Stop – Customer interface counter replacement
- Attended TNAPPA

Goals 2018/19

- Update the In-House Construction Guidelines
- Update Construction/Renovation web-page
- Successfully complete major renovations:
 - TAF classrooms in BRAGG, KOM, AMG, MC, BAS, and VoAg
 - Baldwin Archives at Miller Education Center
 - University Police – Exterior improvements
 - Center for Popular Music – Archive expansion
 - Campus Recreation – Lighting and Women’s Locker Room improvements
 - Media and Entertainment – Conference Room update
 - Aerospace – Unmanned Aircraft trailer
 - Athletics – Green Room renovations



KOM
University
Studies Decal



SAG 125



KOM 300



BAS
Wall of Recognition

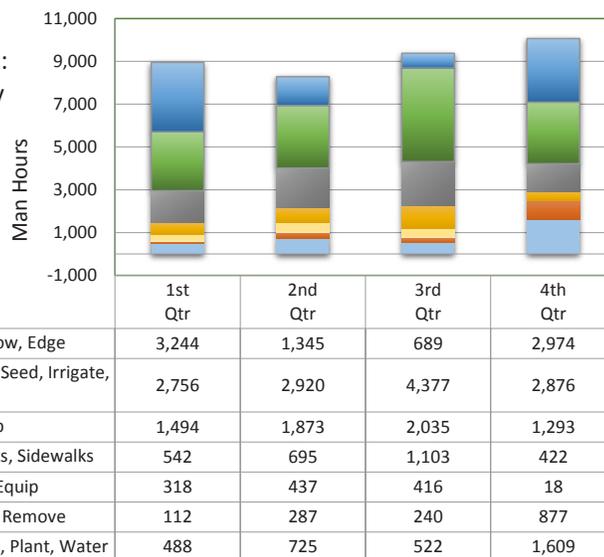
Construction/Renovation Project Summary

	1st FY Qtr		2nd FY Qtr		3rd FY Qtr		4th FY Qtr		FY Totals	
	# Projects	Value of Projects								
2017/18										
Beginning Active Projects	280	\$ 308,363	278	\$ 236,950	268	\$ 178,498	265	\$ 109,073	280	\$ 308,363
Added Projects	45	\$ 585,121	31	\$ 122,154	33	\$ 407,566	48	\$ 513,893	157	\$ 1,628,734
Completed Projects	47	\$ 656,534	41	\$ 180,606	36	\$ 476,991	34	\$ 498,351	158	\$ 1,812,482
Ending Active Projects	278	\$ 236,950	268	\$ 178,498	265	\$ 109,073	279	\$ 124,615	279	\$ 124,615

Accomplishments & Highlights 2017/18

- Continued tree replacement program on campus
- Added a covered storage shed at the lay-down/storage area
- Performed another two rounds of sidewalk grinding to remove small imperfections and uneven spots on sidewalks around campus
- Continued weed control program around campus
- Verticut and deep-tine aerated soccer field to improve drainage and quality of turf
- Implemented a litter vacuum to help keep the campus quad and academic core of campus cleaner
- Worked with Athletic Department to install a TV truck pad near Floyd Stadium
- Continued training

Grounds Services:
Labor by Activity
2017/2018



PERFORMANCE MEASURES: Grounds Services

2017-2018	#Work Orders Completed		Man Hours		Avg Man Hours/WO	
	Mid-Year	Annual	Mid-Year	Annual	Mid-Year	Annual
Maintenance	14	32	31	75	2.2	2.3
Preventive (PM)	9	9	26	26	2.9	2.9
Corrective (CM)	5	23	5	49	0.9	2.1
Service	332	693	4,419	58,747	13.3	84.8
Routine	332	653	4,419	38,528	13.3	59.0
Annual	0	40	0	20,219	0.0	505.5
Total	346	725	4,450	58,822	12.9	81.1



Goals 2018/19

- Continue to work with Biology Department and Campus Planning to finish updating tree inventory list and begin process of adding additional trees to our arboretum list
- Continue re-landscaping areas around campus
- Continue tree replacement program
- Finish organizing lay-down/storage area by adding additional storage bays
- Continue weed control program around campus
- Explore ways to improve drainage of softball and baseball fields and perform another round of verticutting and aeration for soccer field
- Redo and level mulch in sections of campus playgrounds

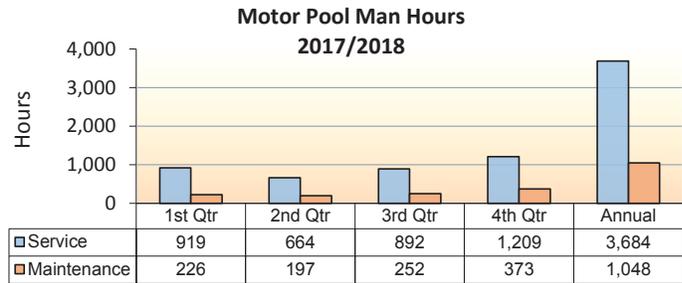


Accomplishments & Highlights 2017/18

- Upgraded Motor Pool fleet with a couple of new vehicles replacing some with higher mileage
- Continued on site emissions testing
- Worked with accounting to improve billing processes
- Continued work with TDEC Division of Underground Storage Tanks to ensure tanks are in compliance with all regulations
- Continued training



Electric Vehicle & Charging Station



PERFORMANCE MEASURES: Motor Pool

2017-2018	#Work Orders Completed		Man Hours		Avg Man Hours/WO	
	Mid-Year	Annual	Mid-Year	Annual	Mid-Year	Annual
Maintenance	380	954	423	1,048	1.1	1.1
Preventive (PM)	377	950	404	1,020	1.1	1.1
Corrective (CM)	3	4	19	28	6.3	7.0
Service	430	934	1,583	3,684	3.7	3.9
Total	810	1,888	2,007	4,732	2.5	2.5

Goals 2018/19

- Continue upgrading Motor Pool fleet vehicles including purchasing a new microbus
- Continue to upgrade shop equipment to maximize efficiency
- Improve Motor Pool fleet reservation process
- Work to implement new state procedures of accident reporting
- Continue training

Custodial Services Connie Hagberg Brenda Wunder

Accomplishments & Highlights 2017/18

- Worked closely with Custodial Services contract administration to ensure terms firmly upheld
- Attended Great Tennessee Eclipse planning meetings; coordinated cleaning requirements for the Eclipse party on August 21, 2017
- Met with SACSCOC Planning Committee; coordinated cleaning requirements for the SACSCOC visit on September 26, 2017
- Coordinated additional special event/conference cleaning requirements with contractor and in-house Custodial Services
- Hired two full-time custodial supervisor positions, and one full-time custodial lead worker position
- Completed safety and administrative training sessions

Goals 2018/19

- Execution of new contract with Custodial Services contractor
- Ensure custodial contractor service is completed according to contract terms
- Inspection of facilities for cleanliness according to Cleaning Standards & Frequencies
- Continue productivity studies of in-house custodial service

E&G Space 2017/18	Gross Square Feet	Cleanable Square Feet	% Cleanable Square Feet
Facilities Services Department			
In-house	464,964	135,164	6%
Contract Labor	2,383,810	1,709,763	73%
Murphy Center Complex			
In-house	0	0	0%
Contract Labor	595,019	500,282	21%
Total	3,443,793	2,345,209	100%

Accomplishments & Highlights 2017/18

- Facilitated employee training sessions for FSD work units
- Coordinated topic-specific safety training for other campus departments including Murphy Center, Production Services, Recreation Center, Photography, Receiving and Moving Services, Tennessee Miller Coliseum and Printing Services
- Teamed with EH&S to review new safety training modules for Facilities Services



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

Goals 2018/19

- Update the safety training program for Facilities Services
- Continue to review specific cleaning tasks and grounds work, with overall focus on improved campus facility and grounds cleanliness and appearance
- Continue maintenance and productivity studies for FSD with emphasis on custodial services
- Attend professional development and leadership training

FSD Employees Training Records 2017/2018		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	2	75	2	2	0
-Accounting Information Services	5	4	4	0	5	11.5	0
-Employee Development	4	3	13.5	6	4	9.5	0
-Work Orders	1	1	1.0	6	1	2	0
Engineering Services							
-Director	1	1	1	9	1	3.5	0
-Center for Energy Efficiency	2	2	2.5		2	3	
-GIS and Locating	4	4	4	0	4	16.6	0
-Key Shop	2	2	2	0	2	12	0
-Systems Engineering	1	1	1	0	1	3	0
Building Services	17	15	12	24	18	108.8	0
Environmental Health & Safety	6	5	18	226.5	6	73.3	40
Construction Administration	5	3	3	6	5	23	0
Construction Renovation	4	4	40	0	4	10.5	0
Energy Services	21	13	13	6	21	108.7	0
Grounds Services/Motor Pool	24	18	18	0	23	176.4	0
Custodial Services	17	14	14	0	17	129.7	0
Totals	116	92	149	358.5	116	693	40

Number of Employees per Total Hours Trained 17/18	# Employees (Full-Time)	0 Hrs	1-10 Hrs	11-20 Hrs	>20 Hrs
	Central Administration				
-Assistant Vice President	2		1		1
-Accounting Information Services	5		5		
-Employee Development	4		3	1	
-Work Orders	1		1		
Engineering Services					
-Director	1			1	
-Center for Energy Efficiency	2		2		
-GIS and Locating	4		4		
-Key Shop	2		2		
-Systems Engineering	1		1		
Building Services	17		12	5	
Environmental Health & Safety	6			3	3
Construction Administration	5		4	1	
Construction Renovation	4		2	2	
Energy Services	21		20	1	
Grounds Services/Motor Pool	24	*1	19	4	
Custodial Services	17		17		
Totals	116	1	93	18	4

*Medical Leave

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

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

Capital Maintenance

Julie Morrell

The following tables outline requested and funded capital maintenance requests for four consecutive years.

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MTSU Capital Maintenance

List of Projects for Capital Budget Request

2016 - 2017	Priority	Project Name	FY 16/17 Request	Appropriated Funding
	1	Saunders Fine Arts HVAC Phase II Updates	\$ 1,750,000	\$ 1,830,000
	2	Energy Recovery Boiler Repair	\$ 875,000	\$ 880,000
	3	Several Buildings Electrical Equipment Upgrade	\$ 1,595,000	\$ 1,600,000
	4	Replacement of BAS Control Panels	\$ 787,000	\$ 790,000
	5	Several Buildings Exterior Renovations	\$ 1,628,000	\$ 1,630,000
	6	Domestic Water/Sewer Systems Updates	\$ 748,000	\$ -
	7	Peck Hall Stairwell & Flooring Restoration	\$ 450,000	\$ -
	8	Several Buildings Plumbing & Restroom Upgrades	\$ 1,500,000	\$ -
	9	Maintenance Complex Roofs' Replacement	\$ 850,000	\$ -
	10	Sidewalk Repair/Replacement	\$ 616,000	\$ -
	11	Campus Stormwater BMP	\$ 880,000	\$ -
	12	Peck Hall HVAC Updates Phase II-VAV	\$ 1,375,000	\$ -
	13	Bell Street Facility Roof Replacement	\$ 800,000	\$ -
Total:			\$ 13,854,000	\$ 6,730,000

2017 - 2018	Priority	Project Name	FY 17/18 Request	Appropriated Funding
	1	Life Safety Fire Alarm System Upgrades Phase I	\$ 2,810,000	\$ 2,820,000
	2	Steam, Condensate & Manhole Repair/Replacement	\$ 1,900,000	\$ 1,900,000
	3	Keathley University Cntr Mechanical/HVAC Upgrades	\$ 1,750,000	\$ 1,750,000
	4	Several Buildings Roof Replacement	\$ 1,790,000	\$ 1,790,000
	5	Several Buildings Elevator Modernizations	\$ 700,000	\$ 700,000
	6	Domestic Water & Sewer Systems Updates	\$ 900,000	\$ -
	7	Stark Ag Mechanical & HVAC Upgrades	\$ 1,560,000	\$ -
	8	Miller Education Center Roof Replacement	\$ 800,000	\$ -
	9	Several Buildings Plumbing & Restroom Upgrades	\$ 1,500,000	\$ -
	10	WMOT Tower Electrical Service & HVAC Upgrades	\$ 250,000	\$ -
	11	Peck Hall Stairwell & Flooring Restoration	\$ 450,000	\$ -
	12	Maintenance Complex Roofs' Replacement	\$ 850,000	\$ -
	13	Life Safety Fire Alarm System Upgrades Phase II	\$ 2,000,000	\$ -
	14	Sidewalk Repair/Replacement	\$ 616,000	\$ -
15	Campus Stormwater BMP	\$ 880,000	\$ -	
Total:			\$ 18,756,000	\$ 8,960,000

2018 - 2019	Priority	Project Name	FY 18/19 Request	Appropriated Funding
	1	Communications, Mechanical, Electrical & Data Closet Updates	\$ 1,212,000	\$ 1,212,000
	2	KUC & Miller Ed Center Roof Replacements	\$ 1,500,000	\$ 1,500,000
	3	Steam/Condensate & Manhole Repair/Replacement Phase II	\$ 2,350,000	\$ 2,350,000
	4	Domestic Water & Sewer Systems Updates Phase I	\$ 1,010,000	\$ 1,010,000
	5	Maintenance Complex Roofs' Replacement	\$ 1,048,000	\$ 1,048,000
	6	Several Building HVAC Repair & Smoke Evacuation Retro-Commissioning	\$ 500,000	\$ 500,000
7	Elevator Modernization Phase II	\$ 550,000	\$ 550,000	
Total:			\$ 8,170,000	\$ 8,170,000

2019 - 2020	Priority	Project Name	FY 19/20 Request	Appropriated Funding
	1	Several Buildings Roof Replacements	\$ 600,000	\$ 600,000
	2	KOM Mechanical, HVAC, Fire Protection, Lighting & Ceiling Upgrades	\$ 4,705,000	\$ 4,705,000
	3	Stark Ag/Police Station Mechanical & HVAC Upgrades	\$ 1,965,000	\$ 1,965,000
	4	Campus Stormwater BMP Phase I	\$ 450,000	\$ 450,000
5	Miller Education Center Boiler Replacement	\$ 400,000	\$ 400,000	
Total:			\$ 8,120,000	\$ 8,120,000

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, the intent of the MTSU Sustainable Campus Fee Program is to decrease consumption of non-renewable energy with a portion directed for purchasing 'green power' to facilitate production of electricity from wind, solar power, and methane gas as a clean alternative to traditional energy sources. The remainder of the funds are used for local campus projects.

MTSU Sustainable Campus Fee (SCF) Program

Approved Projects	2006-14	2014-15	2015-16	2016-17	2017-18	Totals
Green Power Purchase	\$ 1,750,000	\$ 150,000	\$ 150,000	\$ 150,000	\$ 150,000	\$ 2,350,000
Air Flow Meter Installations	\$ -			\$ 9,000	\$ 3,500	\$ 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
Alternative Fuel- Convert Vehicle to Operate on Natural Gas/Installation of Compressed Gas Station	\$ 8,500					\$ 8,500
Alternative Fuel- Comparing the Pollutant Emissions for Various Alternative Fuels	\$ -				\$ 5,944	\$ 5,944
Alternative Fuel- Development of Flex-Fueled Engine (phase 1 is solar, phase 2 is hydrogen)	\$ 54,000					\$ 54,000
Alternative Fuel- Hybrid/Alternative Fuel Vehicle Project	\$ 32,250	\$ 15,600				\$ 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	\$ -	\$ 12,045	\$ 11,178		\$ 13,000	\$ 36,223
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
Biofuels- Ultrasonic Generator and Biotech Applications Research	\$ -		\$ 6,360	\$ 4,820		\$ 11,180
Blast Hand Dryers for REC	\$ 11,270					\$ 11,270
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 Plant- Pressure Gauges Installation	\$ 1,000					\$ 1,000
Clean/Replace Coils (AMG, BRAGG, FH, VET, JUB, FAIR, KUC, TCM, BDA, WPS, TLC, MB, MC, CKN, KOM)	\$ 74,651					\$ 74,651
Closed Loop Sediment Filtering System (KUC, LIB, MC, TODD, SAG, VET, LRC, BRAGG, JH, CAB, CKNB, EHS, BDA, BAS, WMB, other buildings)	\$ 180,550	\$ 21,000	\$ 9,800			\$ 211,350
Coil Cleaning for Energy Efficiency (BAS, KOM, JH, Todd, KUC)	\$ -				\$ 9,500	\$ 9,500
Creating a More Bicycle Friendly Campus	\$ 88,132				\$ 9,000	\$ 97,132
Dehumidifier Project in VET 108	\$ 13,600					\$ 13,600
Development of a Biosensor to Detect Hydrogen Production	\$ 4,250					\$ 4,250
Energy Analysis- Building Heating/AC Energy Efficiency Study	\$ -	\$ 1,500				\$ 1,500
Energy Analysis- Conduct Light Level Studies in TODD, BRAGG, BAS, PH	\$ 5,500					\$ 5,500
Energy Analysis- Data Loggers for Energy Efficiency Analysis	\$ 4,000	\$ 2,000		\$ 2,060		\$ 8,060
Energy Analysis- Flow Meter; Compact Infrared Cameras for Energy Audits and Solutions	\$ 3,450		\$ 9,900		\$ 5,000	\$ 18,350
Energy Analysis- Infrared Thermometer Guns	\$ 500					\$ 500
Energy Analysis- Sensors and Monitoring Tools	\$ -				\$ 4,905	\$ 4,905
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	\$ -				\$ 11,617	\$ 11,617
Golf Cart Conversion 1 and 2 (electric to solar)	\$ 12,500	\$ 11,880				\$ 24,380
Hand Dryers Installation- (LIB, FAIR)	\$ -			\$ 9,107		\$ 9,107
Hot/Chilled Water Valve Assessment	\$ 5,000					\$ 5,000
HVAC Controls Replacement (WMB)	\$ 29,950					\$ 29,950
HVAC Pocket Filter- Multiple Buildings (21+)	\$ 137,849			\$ 10,175		\$ 148,024
Install FilterPave Porous Pavement in Parking Lot on Champion Way	\$ 18,665					\$ 18,665
Install Frequency Drive in BDA	\$ 12,777					\$ 12,777
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 F/S Maintenance Shops	\$ 1,200					\$ 1,200
Installation of Variable Speed Compressor in COGN	\$ 24,000					\$ 24,000
Insulate Pipes- Multiple Buildings (19+)	\$ 59,337	\$ 42,872	\$ 14,200			\$ 116,409
Insulated Garage Door Replacement- Motor Pool	\$ -	\$ 3,950				\$ 3,950
ITD- AMX Resource Mgmt Suite System Upgrade; Virtual Mgmt Software	\$ 7,500		\$ 10,000			\$ 17,500
ITD- "Lights out" Cope Data Center	\$ -	\$ 1,316				\$ 1,316
ITD- Memory for Banner Dell Nutanix Nodes (CAB, TCM)	\$ -				\$ 17,750	\$ 17,750
ITD- Server Consolidation/Virtualization/Upgrade	\$ 142,208	\$ 26,000	\$ 25,000			\$ 193,208
Lab- Replace use of Helium and Hydrogen Cylinders in SCI with Hydrogen Generated via Electrolysis	\$ -	\$ 15,116				\$ 15,116
Lab- Replace use of Helium Gas in DSB with Hydrogen Generated Via Electrolysis	\$ 14,160					\$ 14,160



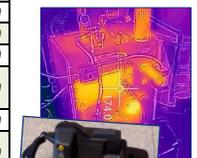
Riprap erosion protection at TLC



SEA tailgating activities



Water Refill Stations



Infrared Camera

ypo identify repair needs



Blast haddryers



SCF promotional materials

(Continued from page 23)

Approved Projects	2006-14	2014-15	2015-16	2016-17	2017-18	Totals
Lab- Upgrade of Instrument (ICP-OES) Donated to MTSU by TN Health Dept. Lab	\$ -				\$ 7,400	\$ 7,400
Lamp Crusher	\$ 4,000					\$ 4,000
Laser Alignment Devices	\$ 5,681					\$ 5,681
LED Lighting Retrofits- Mechatronics Lab, MTSU Airport Ramp Lights	\$ -			\$ 9,050		\$ 9,050
Light Switch Plate Labels	\$ 2,500					\$ 2,500
Lighting- Occupancy Sensors Honors Building	\$ 3,372					\$ 3,372
Lighting Projects- LIB Atrium; REC Cardio Room/indoor pool LEDs; BRAGG and PH LEDs; studio lighting BRAGG & LRC; VET; BAS S lobby; LRC 221; WMB Hinton Hall	\$ 113,338		\$ 5,930	\$ 18,377	\$ 38,144	\$ 175,789
Lighting- Re-lamp CKNB (existing portion) and FAIR	\$ 61,200					\$ 61,200
Lighting- Replacement of Incandescent Lamps in MC	\$ 5,729					\$ 5,729
Manhole Cover Replacement	\$ -				\$ 6,600	\$ 6,600
Permeable Pavers for Sustainable Learning Environment (FH)	\$ 13,050					\$ 13,050
Pleated Filter Projects- SCI, JH, FAIR, BRAGG, CKNB, Horse Science, HOB, WMB, ROTC, COE, HONR, Public Safety	\$ 4,427	\$ 9,654	\$ 5,918			\$ 19,999
Poster Campaign and Earthwise Reusable Bag Project	\$ 18,160					\$ 18,160
Promotion of SCF Program	\$ 1,000					\$ 1,000
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	\$ 3,000				\$ 5,500	\$ 8,500
Recycling Support for Special Events	\$ 3,500	\$ 3,500	\$ 3,500	\$ 3,500	\$ 3,500	\$ 17,500
Recycling Supplies for MTSU Recycling Program	\$ 61,000	\$ 5,500	\$ 7,000	\$ 4,000		\$ 77,500
Recycling- Increase Behavior by Applying Behavior Science Principles	\$ 1,300					\$ 1,300
Recycling- Pickup Truck Purchase	\$ -			\$ 14,000		\$ 14,000
Recycling Pilot Program: Dorm Room Recycling Bins	\$ 3,000	\$ 6,000				\$ 9,000
Recycling- Animation Contest with Recycling or Sustainability Theme	\$ -				\$ 750	\$ 750
Recycling- Technology Lab Resources			\$ 1,800			\$ 1,800
Replace Older Motor with Energy Efficient Motor in HOB, WMB, SAG, MC, TLC	\$ 33,759		\$ 10,784	\$ 12,851		\$ 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- Eco-Friendly Bio-Composting of Horse Carcasses	\$ 25,740	\$ 5,400				\$ 31,140
Research- Bring Green Chemistry to Campus (ph-I-V)	\$ 13,066	\$ 2,100	\$ 3,089	\$ 3,017	\$ 3,250	\$ 24,522
Research- "Clickable" Polymers	\$ 600					\$ 600
Research- Develop Novel Approach to Producing Biofuel	\$ -	\$ 9,500				\$ 9,500
Research- DRIPS Project (Development and Research 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- Sustainable Design: Recycling of Ginseng Plant Waste for Biofuel Using Pond Microbe	\$ -				\$ 9,000	\$ 9,000
Research- Turning Manure into Gold	\$ 1,000					\$ 1,000
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
Solar Attic Fans in FH and EHS	\$ 28,932					\$ 28,932
Solar- Big Belly Solar Trash Compactor	\$ -	\$ 12,000	\$ 11,094	\$ 11,789	\$ 11,800	\$ 46,683
Solar Boat Project	\$ 6,165					\$ 6,165
Solar- Install 8kW System	\$ 81,224					\$ 81,224
Solar- Patio Umbrellas	\$ -		\$ 4,500			\$ 4,500
Solar- Purchase of Organic Dyes for Organic Dye Sensitized Solar Cells	\$ 1,100					\$ 1,100
Solar- Student projects trailer	\$ -	\$ 7,846				\$ 7,846
Solar- WMTS-FM 88.3 Solar Power Supply Project	\$ 31,900					\$ 31,900
Stormwater Control Projects- Rain Gardens, Bioremediation Ponds on MTSU Campus for MS4 Compliance/Maintenance, Bank stabilization, Parking Lot Run-Off, Native Plants	\$ 10,000	\$ 10,000	\$ 18,859	\$ 11,500	\$ 5,000	\$ 55,359
Student Suitabilities Education Initiative	\$ 2,500					\$ 2,500
Sub-Metering for Chilling Plant and MC	\$ 8,000					\$ 8,000
Synthetic Media Pocket Filters (CKN)	\$ -				\$ 2,976	\$ 2,976
Tree Planting Projects	\$ 3,000	\$ 500	\$ 5,000	\$ 15,500	\$ 12,500	\$ 36,500
Ultrasonic Transmitters (MGB)	\$ 18,130					\$ 18,130
Variable Frequency Drives- JH, LIB	\$ 5,225	\$ 9,800	\$ 7,490	\$ 18,554		\$ 41,069
Water Conservation for Rural and Urban Citizens	\$ -		\$ 25,000			\$ 25,000
Water Refill Stations- SGA Resolution 7-14-F, Multiple buildings (31)	\$ 3,400	\$ 6,132	\$ 20,053	\$ 31,532	\$ 41,212	\$ 102,329
Y-pattern Valve Changeout- COGN	\$ -	\$ 7,600				\$ 7,600
Total:	\$ 3,384,464	\$ 391,885	\$ 351,455	\$ 360,152	\$ 390,598	\$ 4,878,554



Summary of Services 2017/2018 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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