
Additional & Expanded Services Guide



THE UNIVERSITY OF
TENNESSEE
KNOXVILLE

FACILITIES SERVICES

April 25, 2016

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INTRODUCTION

This Additional and Expanded Service Guide details the services provided by the UT Knoxville Facilities Services Department that would not typically be included in a Facilities Management contract.

The mission of Facilities Services is to provide, maintain, and optimize the physical resources and environments of the campus for the university community through the integration of people, technology, and innovative work practices in order to fully support and promote the University of Tennessee's VolVision, its long range Master Plan, and its goal of becoming a Top 25 Research Institution.

It takes a team of dedicated Facilities Services employees to provide the services worthy of the University of Tennessee. This guide serves as a summarization of the department's commitment to providing over-and-above service to the University.

FACILITIES SERVICES



ADMINISTRATIVE & SUPPORT SERVICES

Central Supply - Buyers (40 hour work week):

Purchasing: 60% (24 hours)

- Receiving and processing orders (under \$10k) for tools and material for all Facilities Services units, including administrative, support, and crafts, according to university and state purchasing guidelines.
 - Receive Purchase Documents (PDs) via Archibus (facilities management software)
 - Contact shop/requester regarding any additional information and level of priority (if needed)
 - Confirm necessary approvals and order process (normal, Informal Bid, contract order), combine common PDs for bid if necessary, for additional savings
 - Request quotes from potential vendors, or place the order if material and/or service is on contract
 - Place order and obtain confirmations when needed
 - Process paperwork in Archibus so material can be processed by warehouse clerks
- Processing Informal Bids (individual orders over \$10k), process is similar to that described above with additional requirements and confirmation by UT Purchasing Office. Coordinate with supervisor and/or Purchasing regarding questions and/or anomalous situations and bids
- Communicating with vendors and salesmen, confirm vendors are in Archibus correctly. If they are not, or if they are new vendors, get current, appropriate documents (W9, Vendor Payment Selection/Business Classification) and forward them to AP/Invoicing office for processing
- Maintain knowledge of university and state contracts for best pricing
- Procurement Cards: process paperwork (P-Card Log, receipts, check and sign confirming report) ensure Tax Exemption status prior to purchase. Some P-Card purchases must be made in-person on-site, which requires personally picking up the material locally

Research: 10% (4 hours)

- Assist subunit: new products/vendors and/or re-

pair replacement. Often this includes finding parts for unusual, unique, or outdated and obsolete equipment, specialized equipment for labs, etc.

- Search for new products and equipment, get information and share with appropriate units and team members
- Search for new vendors and manufacturers for needed materials, to ensure the university is getting the best price available and has knowledge of and access to the most up to date technology
- Stay up to date on purchasing guidelines and processes

Expediting and Follow-up: 20% (8 hours)

- Work with AP/Invoice team in tracking down invoices, credits, receivers, correcting issues, and coordinating with vendors to address more complex issues
- Assist in expediting orders that are high priority, and orders that become high priority due to ever-changing campus and departmental circumstances
- Assist in follow-up on orders that have errors and/or issues (damage, wrong quantities, etc.)
- Coordinate with salespeople, vendors, and shipping companies

Training and Planning: 5% (2 hours)

- Utilize training opportunities, through UT EOD or Facilities Services Training & Employee Development subunit, to keep up to date on technology, practices, and policies, both directly involving and peripheral to our work
- Assist UT Purchasing Department with new buying innovations such as the developing UT Marketplace
- Advise Purchasing regarding our needs, issues, and possible changes to policies in relation to our work and workload

Additional support: 5% (2 hours)

- Assist in warehouse if needed, check in/process orders, operate forklift, unload trucks, fill orders for Facilities Services employees getting material from the Central Supply Stock
- Assist Facilities Services personnel with computer/Archibus issues, price estimates, possible vendors, manufacturers, and product availability

ADMINISTRATIVE & SUPPORT SERVICES

Central Supply – Management (40 hour work week):

- Managing Central Supply – 20 hour breakdown:
 - Make sure staff have what they need to do their jobs properly
 - Ensure staff is knowledgeable in their jobs and are properly trained
 - Make sure staff have a safe, clean, and neat working environment
 - Minimize conflicts and rectify ones that do occur
 - Converse with staff, co-workers, and customers
 - Observe the overall operations of Central Supply
 - Keep the warehouse properly supplied and staffed
 - Maintain employee morale
 - Work directly with Warehouse Manager to correct any problems or inventory discrepancies
 - Keep work assignments as evenly distributed as possible
 - Assist staff when subunit is short-handed or when they may need guidance on a particular matter
 - Conduct fiscal year-end inventory (3 days)
- Strategic Planning and Problem Solving – 4 hours
- Prepare reorder lists to replenish inventory – 2 hours
- Check in uniform orders and issue – 2 hours
- Speak with customers – 2 hours
- Speak with vendors – 2 hours
- Place orders and handle bids – 2 hours
- Attend various meetings, interviews, etc. – 2 hours
- Work with co-workers and supervisor – 1 hour
- Evaluations and various other reports – 1 hour
- Coordinate and participate in training – 1 hour
- Approve leave requests and time sheets, and record them accordingly – 1 hour

Central Supply – Data Integrity Clerk (40 hour work week):

- Run daily Central Supply Receiving Reports – 20 hours
 - (Part 1) Verify that the delivery tickets reference the correct PD for that order. Item(s) received

were actually ordered, quantities sent/received and pricing are all indicated correctly on the Receiving Report before data is entered and the correct copy of the PD, either the original or a copy depending on the status of the order if it is complete or partial.

- (Part 2) Run the PD as either complete or partial, then entering items ‘received/issued’ which will then routes electronically to Business Services for payment. Forward the hard copy to same office.
- Generate Purchasing Documents to replenish low stock – 10 hours
- Work with Warehouse Manager to correct any problems or inventory discrepancies – 2 hours
- Work with Warehouse Manager and warehouse personnel as needed to ensure staff start each day with correct inventory count as reflected by daily receiving reports – 2 hours
 - Pull any paperwork pertaining to stock item in question, review/discuss discrepancy and when necessary rectify inventory
 - Assist warehouse staff when they are short-handed or when they need help on a Purchasing Document, stock item or inventory question
- Maintain records for any stock items that were replenished – 2 hours
 - Information to include stock number, date item hit minimum, the Purchasing Document number and the quantity ordered
- Maintain daily records for any time off (annual, sick, etc.) – 1 hour
- Maintain all necessary files - 1 hour
 - To include Daily Central Supply Receiving Reports, Central Supply Issue Forms and Contract Files.
 - **At end of Fiscal Year make all new required files. Purge and box up the oldest; reorganize existing files making room for the new ones
- Generate and forward all required workable payroll reports and time sheets to Business Services each Monday morning. Generate bid memos to be included in bid packages when needed, per Central Supply Manager – 1 hour
- Gather and send in copier meter reading and vehicle mileage when requested each month. Order office supplies – stock and make sure supplies are maintained as needed. – 1 hour

ADMINISTRATIVE & SUPPORT SERVICES

Central Supply – Support Supervisor (40 hour work week):

- Managing Warehouse (18 hours)
 - Ensure staff have what they need to perform their jobs properly
 - Make sure staff are knowledgeable in jobs and are properly trained.
 - Minimize conflicts and rectify ones that do occur
 - Work directly with Central Supply Manager to correct any problems or inventory discrepancies
 - Constant daily oversight of warehouse activities and workload assignment
 - Reconcile all materials going in and out of warehouse to control inventory in Archibus
- Warehouse Duties (10 hours)
 - Prepare for all orders from various departments
 - Select parts needed from inventory
 - Pull orders for Facilities units
 - Deliver orders to assigned locations
 - Check all work requests and create a daily record
 - Copy all orders for the day
 - Report all orders from prior day
 - Print parts transaction report (Inventory Count)
 - Assist delivery drivers to unload trucks, check for damages, and place material in a designated area
 - Pull packing list and place in delivery ticket box for Assistant Buyer to match to PD
 - Check the product once packing list is matched and receive orders in Archibus
 - Assist customers with locating and picking up their material and have them sign PD
- Inventory Management (12 hours)
 - Correspond with various departments to rectify any discrepancies in inventory
 - Issue all parts picked up from work requests
 - Help with parts transaction report (inventory count)
 - Prepare for the next day

Central Supply – Material Control Clerk (40 hour work week):

- Parts Transaction Report - Inventory Count (5 hours)

- Count all stock items that were either issued or received the previous work day and note any discrepancies
- Receive materials (18 hours)
 - Help delivery drivers unload trucks, check for damages, and place material in a designated area
 - Pull Packing List and place in delivery ticket box for Assistant Buyer to match
 - Check the product in once packing list is matched
 - Assist customers with locating and picking up their material and have customer sign PD
- Pull Central Supply stock orders as they arrive in Approved Parts in Archibus (8 hours)
 - Place orders in the assigned area
 - Assist customers with locating and picking up material and have them sign the Central Supply issue form
- Pick up material from vendors and deliver orders to units as needed. (4 hours)

Central Supply – Senior Buyer’s Assistant (40 hour work week):

- General Office Duties (11 hours)
 - Separate packing lists into individual shops and put them in mailboxes
 - Take signed PDs to Business Services for processing
 - File printed PDs in file folder so they are ready to match up with packing lists
 - Receive PDs in Archibus
 - Work with AP/Invoice team from Business Services in tracking down invoices, credits, receivers, correcting issues, and coordinating with vendors to address more complex issues
- Buyers Duties (10 hours)
 - Receive and process orders (under \$10k) for all Facilities Services units
 - Receive PDs via Archibus
 - Contact subunit/requester regarding any additional information and level of priority (if needed)
 - Confirm necessary approvals and order process (normal, informal bid, contract order), combine common PDs for bid if necessary, for additional savings

ADMINISTRATIVE & SUPPORT SERVICES

- Request quotes from potential vendors, or place the order if material/service is on contract
- Place order, obtain confirmations when needed
- Process paperwork in Archibus so material can be processed by warehouse clerks
 - Maintain knowledge of university and state contracts for best pricing
 - Assist units - new products/vendors and or repair/replacement. Often this includes finding parts for unusual, unique, or outdated and obsolete equipment, specialized equipment for labs, etc.
 - Stay up to date on purchasing guidelines and processes
- Warehouse Duties (5 hours)
 - Assist with receiving and place materials in an organized manner
 - Pull packing list and put in delivery ticket box to be matched with PD
 - Check in materials and match to packing list and PD and check for damage
 - Place materials that are checked in into their designated areas
 - Help customers find their material and have them sign the PD
 - Help with inventory count
- Communicating with customers (7 hours)
 - Answer questions about PDs for customers
 - Track PDs for customers
 - Help with whether or not we have an item in stock
 - Issue items out of stock to shops
 - Assist shop personnel with computer/Archibus issues, price estimates, possible vendors, manufacturers, and product availability
- Communicating with vendors (7 hours)
 - Expedite orders that are high priority, and orders that become high priority due to ever-changing campus and departmental circumstances. Check to see when orders will be received
 - Process returns for wrong items received, ordered or quantities
 - Receive replacements for damaged items
 - Coordinate with salespeople, vendors, and shipping companies

Administrative and Support Services Duties accomplished for FS units and for other Campus Departments:

- Departmental fiscal budget development and execution
- Departmental notary services
- Create assets in IRIS for departmental movable equipment
- Maintain movable equipment inventory as well as preparing the year end verification
- Verify and approve several varieties of internal transfers between university departments
- Maintenance/liaison of Facilities Services drug testing program for CDL drivers
- Create and approve NCJs for the department
- Review contracts sent out for bid
- Enter, review and approve requisitions in IRIS
- Create and maintain several professional services contracts
- Prepare, review and approve professional services invoices for payment in Archibus and IRIS
- PD creation and approvals in Archibus
- Maintain database, order and distribute uniforms and safety shoes
- Maintain Vehicle database (assist with transfers, decals, etc.)
- Process Travel for the department
- Provide payroll support to Facilities Services units
- Perform accounting audit functions
- Respond to audit requests
- Perform mail distribution for the Facilities Services Department
- Year end duties - various documents to Vice Chancellor's Office

Accounts Receivable:

- Issue private invoices for auxiliaries (ATM rentals, fraternities, sororities, AMB rentals, etc.)
- Conduct daily billing of work orders and work requests
- Manage internal transfers between Facilities Services units and UT departments
- Provide A/R Aging Reports to Admin & Finance

ADMINISTRATIVE & SUPPORT SERVICES

- Manage Aramark billing and redistribution of costs
- Assist with backup budget documentation and details for shops (cost centers) for work requests or projects

Accounts Payable:

- Payment of invoices to vendors in Archibus and IRIS
 - Review and analyze invoices
 - Track invoices in Archibus and scan to database
 - Verify material has been received by the units
 - Issue payment(s) from IRIS
 - Complete purchases in Archibus for billing purposes
 - Provide backup documentation for all departments related to work requests and projects
- Track, verify and reconcile All P Card purchases
- Track, verify and file all Gift Cards for department
- Payment and reconciliation of petty cash transactions
- Verify and approve A/P for payment in IRIS
- Provide payment details to vendors and shops as needed

Deposits:

- Pull invoices and track payments for Facilities Services and redistribute the payments to individual shops
- Issue receipts for check and verify each entry
- Prepare deposit documentation
- Enter deposit into IRIS for submittal
- Verify deposit and approve IRIS entry
- Send deposit to UT Bursar's Office for completion

Payroll:

- Verification of punches for each shop on a weekly basis
- Review and approve Payroll Check Register
- E-Verify new hires
- Answer payroll questions from employees and provide documentation as needed (deposit forms, W-4s, pay statements, FML paperwork, etc.)
- Provide leave and sick records to unit directors and foremen as needed

Other Facilities Services Duties:

- Act as liaison between the Facilities Services Department and Purchasing Department so that both routine tasks and unusual circumstances can be handled efficiently as related to departmental contracts utilized by Facilities Services and large stand-alone purchases valued from \$5,000 and greater
- Facilitate payments to vendors in a timely manner as related to professional services contract vendors, uniform and related services vendors and contract services vendors
- Act as the liaison between the Treasurer's Office, vendors and Facilities Services to update existing vendor information and establish new vendors within the university payment system
- Act as liaison between campus customers (students, faculty, fraternities, sororities, athletics) and maintenance/service subunits and employees - first point of contact for most UT departments and auxiliaries
- Provide customer service to students, staff and faculty for work requests and work orders (projects, cost summaries, work related information, documentation and details)
- Primary point of contact for vendors (provides payment information, contact information when needed, shipping information, contact information and details)
- First point of contact for payroll and HR services for the Facilities Services organization (from hiring to employee payroll questions) - an extension of payroll and HR for 700+ employees

Work Requests:

- Enter work requests as needed
- Create work requests for all event solicitations
- Work request assignment, approval and verification in Archibus
- Provide communication between campus customer(s) and subunits for events
- Determine if work request is chargeable or non-chargeable for campus events
- Issue private invoices for events
- Backup for all cost determinations for all work requests on a daily basis
- Provide backup work summaries for work requests and work orders (to the entire campus)

ADMINISTRATIVE & SUPPORT SERVICES

Projects Support:

- Obtain approval from department if a project is received by way of estimate or by email
- Check the IRIS approvers and list on project requests
- Set up new projects in Archibus and subunit assist
- Scan and send new project to Construction Management for assignment to coordinator
- After work is complete and all subunits are closed and PDs completed, prepare project to be billed
- Put together all back-up documentation included on the project and check up-charges
- Make sure back-up documentation matches the summary, labor and material reports
- Send for billing or post in IRIS (if to be billed manually) After IRIS document number is received, scan all back-up documentation and attach to IRIS document
- Make labels and project folder, list in log book and file in completed drawer
- If partial billing, leave billed package in project folder to use as guide when project completes

Estimates:

- Make project requests for all work requests that need an estimate
- Make labels and estimate folder, list in log book and file in estimate drawer
- Send information to Construction for estimator to be assigned
- Construction assigns estimator, enter into Legacy database so they can enter their information
- Estimator goes to site and enters information and sends to office for the department
- Send the estimate to each person who is listed on the project request
- When the signed project request is received, it is converted to a project

Central Supply:

- Provide storage services for campus departments on an as needed basis
- Provide storage services for Athletics Stadium Crew during home games
- Provide unloading services and proper maintenance of stored items for other campus departments

COMMUNICATIONS & INFORMATION SERVICES

All Sustainability Programs:

- Make Orange Green Projects (Calendar Series, etc.)
- The Mug Project
- Management of Student Green Fee
- Environmental Stewardship Fund
- POWER Challenge
- Earth Day/Month
- Environmental Leadership Awards
- Sustainability Working Group
- Air, water, land pollution reduction initiatives
- Greenhouse gas emission reduction initiatives
- Recycling/Conservation promotion to campus community
- Promote LEED Certification opportunities on renovations and new builds
- Environmental Data Analytics (Carbon Emissions:

Scope 1, Scope 2 & Scope 3)

- Surveys (commuter, bike rack, dining)
- Sustainability Organization membership (ACUP-CC, Princeton Review, Sierra Club, EPA Green Power Partnership, TVA Partner {KNOX Scores})
- Green House LLC
- Zero Waste Game Days
- Energy Conservation – Switch Your Thinking (Time of Use/Peak Hours) promotion
- UT Harvest Market
- Light bulb exchange
- ReVOLve
- Bags to Benches
- Grants & External Funding sources
- Qualitative Enhancement Plan (“Experience Learning”)
- Americorps support

COMMUNICATIONS & INFORMATION SERVICES

Independent Annual Benchmarking (Sightlines, APPA):

Age Metrics:

- SQFT by Function, Construction Vintage, Renovation Age
- Renovation Age
- Total Space per User, per Student (GSF/FTE; GSF/Student)
- NAV Estimate by Building
- Average Building Size (GSF)
- Net Asset Value Index (NAV %)

Staffing:

- Maintenance/Custodial/Grounds Staffing (GSF/FTE; Acres/FTE)
- Maintenance/Custodial/Grounds Supervision (FTE/Supervisor)
- Maintenance/Custodial/Grounds Materials (\$/GSF; \$/Acres)
- Maintenance Work Order Production (WOs/FTE)
- Maintenance Materials (\$/FTE)

Energy Metrics:

- Electric Consumption (KWh/GSF)
- Fossil Fuel Consumption (BTU/GSF)
- Monthly Electric (purchase electric – kWh)
- Energy Total Unit Cost (energy consumption)
- Energy Consumption (Fossil – BTU/GSF)
- Energy Consumption (BTU/GSF)

Facilities Budget:

- Total Planned Maintenance (\$/GSF)
- Daily Service Actuals (\$/GSF)
- Facilities Operating Actuals (\$/GSF)

Service:

- Service Process Index (%)
- Customer Satisfaction Index (%)
- Campus Inspection Index (%)

Space Metrics:

- Density Factor (Users/1K SQFT)
- Tech Rating (scaled 1-5)
- Building Intensity (Buildings/1M SQFT)

Sustainability:

- Gross Emissions (per 1K GSF)
- Gross Emissions (per Student FTE)
- Gross Utility Emissions (per 1K GSF)
- Total Emissions Offset
- Total Air Travel
- Total Travel Emissions
- Total Commuters
- Total Commuter Mode Mix
- Total Commuting Emissions
- Energy Consumption (by Scope)
- Total Electricity Consumption
- Total Fuel Consumption
- Gross Utility Emissions (per 1K GSF)
- Purchased Electricity Emissions (per 1K GSF)
- Stationary Emissions (per 1K GSF)
- Regional Grid Carbon Intensity
- Stationary Fuel Mix

UDayton Qualification:

- SQFT by Renovation Age (% of GSF)
- Density Factor
- Total AS & AR without Infrastructure
- Total Project Spending by Package (\$/GSF)
- Maintenance/Custodial/Grounds Staffing
- Energy Consumption (BTU/GSF)
- Total Asset Reinvestment Need (\$)

APPA Reporting:

- Facilities Expenditures/GIE (%)
- Energy Total Cost per GSF w/Purchased Utilities (\$)
- Custodial/Maintenance/Grounds Total Cost per GSF/Acre (\$)
- Custodial/Maintenance/Grounds Total Cost per Student (\$)
- Needs Index (%)

Chemical Inventory (manage & host system for EHS & UTIA Safety):

- Software Maintenance (~48 hours/year)
- Hardware Maintenance (~208 hours/year)
- Data Management (~24 hours/year)

COMMUNICATIONS & INFORMATION SERVICES

Event Solicitation (event scheduling for service from Facilities - manage & host system for Student Life & Dean of Students):

- Software Maintenance (~48 hours/year)
- Hardware Maintenance (~208 hours/year)
- Data Management (~48 hours/year)

Archibus (IWMS):

- Software Maintenance (~48 hours/year)
- Hardware Maintenance (~208 hours/year - OIT)
- Data Management (~1560 hours/year)

CONSTRUCTION SERVICES

Construction Coordination:

The Project Coordination Subunit assists the campus with coordinating construction and renovation activities for contracted projects as well as projects performed by Facilities Services, and the group is also available to assist with projects performed by the Office of Facilities Planning.

The subunit also works closely with the Facilities Services Design Unit. Some of the Project Coordination Group's responsibilities include:

- Primary contact for the campus community for renovation projects.
- Work along Facilities Planning on new capital projects to help control costs, achieve quality and to monitor the campus interests and standards.
- Develop specifications for material and contracts.
- Assist with estimates and design projects to include consulting with architects, engineers, and clients concerning the design development of projects.
- Contract and manage the yearly maintenance of campus sculptures.

Estimating Services:

Estimating Services plays a vital role in the construction planning process and in the continuation of projects on campus.

This group is responsible for preparing on-site cost estimates for future projects and updating estimates as revisions are made during a project, as well as communicating project details to the construction coordinator when proposed work becomes an active project.

The Construction unit's in-house architect also coordi-

nates with Estimating Services to work out specific details of a project before it begins. This helps the flow of the entire project by ensuring the group is proactive vs. reactive.

By providing these services effectively and efficiently, Estimating Services is able to support the primary mission of Facilities Services.

Management and Coordination:

Construction manages the contracts on campus for projects that include painting, HVAC, flooring, carpeting, and carpentry, while assisting with in-house staff where needed.

The subunit also coordinates and manages other Facilities groups working with Construction on specific projects.

Construction Team:

The Construction Team aids the campus and department with construction and renovation projects. Since the creation of this subunit, the Construction Unit is able to complete projects in a more timely and efficient manner.

Many projects, such as classroom upgrades, take place over the summer break. These projects require a great deal of planning with the campus departments as well as vendors to ensure everything is completed before the beginning of the fall semester.

- New construction
- Remodeling
- New loading docks and handicap ramps
- Outdoor lighting
- Other major building projects

DESIGN SERVICES

Overview:

Design Services provides professional Architectural, Landscape Architectural, Stormwater Management, Space and Archiving, GIS Mapping, Interior Design and Engineering Services and guidance for the Knoxville campus. Design Services assists other departments and the administration with planning and execution of site and building renovations and new facilities.

The unit works with professional Architectural and Engineering teams and campus representatives to ensure that these requirements are incorporated into the design including campus aesthetics, technical details, master planning and academic needs and services. Design Services also coordinates with various campus interests to incorporate campus concerns such as utilities, traffic, parking, special events, etc.

Design Services coordinates monthly Campus Planning and Design Committee meetings and agendas, assists and reviews designers' presentations, creates presentations for in-house projects, and tracks project schedules and budget and monitors compliance of campus standards and policies.

Design Services manages state assigned consultants: Architects, Landscape Architects, Civil, Geotechnical, Environmental, Structural, Mechanical, Electrical and Plumbing Engineers. Staff consists of five Architects, two Landscape Architects, one Professional Engineer and three Professionally Certified Specialists.

Project Managers (PMs):

Project Managers meet with state agencies, design consultants, users, local fire officials and contractors to coordinate all aspects of the project from conception through move in, to include:

- Programming and budgeting, space need analysis documentation, scheduling, development of academic department goals and design guidance
- Campus Master Planning: Campus Master Plan Update, Hill Master Plan development and update, Annual Campus Landscape Master Plan update, Utility Master Plan, Stormwater Master Plan development and update, and management of outside consultants for campus improvement initiatives
- Conduct bi-monthly meetings with the City of Knoxville to proactively discuss projects
- Liaise with various colleges and departments and advise on potential projects
- Participate in selection of architects and CM/GCs

- Meet regularly with City of Knoxville, State Fire Marshal and other Governing Regulatory Agencies
- Review exterior architectural designs
- Provide Landscape Architectural Design services for ground maintenance
- Provide small project landscape design
- Provide design and installation of annual landscape color
- Provide landscape estimation of site components to support Construction Services
- Develop campus site standards
- Develop site and landscape programs
- Provide mechanical estimates and programming to support Construction Services
- Manage design, procurement and installation of exterior signage and wayfinding
- Perform grant acquisition and implementation: Landscape, Stormwater, Civil Engineering
- Employ nine (plus) student intern positions for work/study positions
- Provide ADA and building code interpretation and Feasibility Analysis
- Support Campus Legal Litigation
- Initiate plans of corrective action for existing building life safety issues with TSFMO
- Manage monthly preventive fire safety inspections
- Manage and procure quarterly kitchen inspections
- Manage and procure monthly fire suppression inspection
- Project budget analysis (cost estimating)
- Project scope development (programming)
- Design solutions for campus user groups
- Manage and procure FDC Connections and Knox Boxes with City Fire Department
- Manage monthly mag lock inspections
- Manage monthly fire alarm inspections
- Provide professional technical guidance for accessibility issues: interior and exterior accessible routes, barrier removal, technical assistance with ADA complaints

Capital Project Management:

Capital Project Managers are the liaisons for design and construction projects costing more than \$100,000 on the Main, Agricultural and Space Institute campuses. They are tasked with coordinating campus objectives and translating those to designers and contractors through appropriate channels.

DESIGN SERVICES

Project Managers work with the administration, faculty, and staff; providing aesthetic, technical and procedural advice.

Capital Project Managers assist with programming, campus planning, cost estimating and conceptual design of proposed projects. They monitor construction projects with respect to schedule, budget, scope interpretation, design solutions to obstacles encountered, evaluate cost saving opportunities, evaluate products/proposed specification equals, address campus maintenance, utility, telephone and network services, A/V and OIT, security, parking, Vol Card, Dining, Housing, and Athletics concerns.

Project Managers continuously examine project scopes, budgets, fees and contracts for ways to reduce costs and increase efficiencies. Examples of projects savings include:

- \$6.65M: West Campus Redevelopment - Savings realized by utilization of in-house programming, Strategic Construction Phasing Development, Construction Contract Restructuring and Identification of alternate funding sources
- \$10M: West Campus Dining – Utilization of in-house Programming/Budgeting Services
- \$800K: Strong Hall - OIT network and security camera scope reductions and utilization of Classroom Committee funding
- \$300K: Henson Hall – Utilization of in-house interior Design Services
- \$200K: Support Services Building - Utilization of in-house Interior Design and Landscape Design services
- \$300K: Stokely Family Residence Hall – Evaluation and acceptance of alternatives, reduction of site furniture scope and utilization of in-house utility abatement
- \$100K: Thompson Boling Arena Improvements – utilization of in-house site preparation
- \$100K: Mossman – reduction of mechanical chiller scope of work
- \$200K: JIAMS – Coordination of in-house moving and electrical modifications
- \$3M: Boat House and Golf Facilities – Utilization of in-house Programming and Schematic Design Services
- \$500K: Neyland and Andy Holt Parking Garage Renovations – Utilization of in-house Programming Services

- \$1M: Morgan Hall – Reduction of scope through negotiations of requirements with Fire Marshal

Project Managers are responsible for ensuring campus branding, signage and colors are incorporated into new facilities.

Managers also support the campus in activities that require approvals from the State Fire Marshal by reviewing documents for code compliance and inspecting work in place. They collaborate with designers, contractors, code officials, staff, and administration to provide information on current and applicable codes as they apply to construction projects. Managers also assist with the formation of code equivalencies. In addition, managers provide guidance and support to the campus and its consultants with respect to building accessibility as defined by the Americans with Disabilities Act.

Project Managers supervise management of project files, printing and transmission of information to various campus entities. The PMs coordinate project activities with other affected ongoing projects and keep the administration informed of road closures or other activities which may affect campus operations. Tours of buildings under construction are under the supervision of the Project Manager. Project related interface with academic departments and students are coordinated by the Project Manager.

This group manages the regular testing and maintenance of various life safety systems such as sprinklers, fire alarms and smoke detection. PMs formulate and carry out “Plans of Corrective Action” for improving life safety in our existing buildings. Other duties include:

- Performs ‘due-diligence’ studies on potential properties to be acquired; after acquisition, coordinate environmental site assessments and hazardous materials cleanups
- Coordinates Design Reviews with (clients, Building Operations groups, UT Communications, Utilities groups, Police, Parking & Transit, Stormwater, IT groups, etc.) at each phase (Program, Schematic, DD, and Construction Documents)
- Conducts bi-weekly design and construction meetings with project team and stakeholders
- Provides construction oversight, checking adherence to construction documents, schedule, and budget
- Manages review of submittals by University’s Utilities, Building Ops, and Information Technology groups
- Evaluates potential change orders for legitimacy and savings opportunities

DESIGN SERVICES

- Performs value engineering
- Provides construction coordination of any scope undertaken by UT Facilities Services
- Provides evaluation and recommendation of design to avoid potential schedule delays and payment of “Additional Services” to the designer (especially critical in a fast-track scenario)
- Coordinates answering of RFIs directed at UT by architect
- Performs Interior Design Review
- Provides Move Planning and Scheduling
- Coordinates with all user groups, including individuals who require specific items, to make sure their needs are met
- Provides information and leads Project Executive Committee meetings
- Initiates punch lists

Landscape Design:

Landscape Design includes improved project programming that involves Facilities Services, university administration, and design consultants collaborating to establish project scope and budget. The subunit oversees all campus landscape projects in an effort to bring unity to campus design and aesthetic standards.

Other duties overseen by Landscape Design include developing and maintaining the Campus Landscape Vision and Site Standards document, preparing site construction documents and specifications, and playing a vital role in site design review and construction administration for projects executed by the Facilities Planning Department.

Geographical Information Systems (GIS):

GIS implements a comprehensive system of referenced data and tools for more efficient and effective access, analysis and maintenance of spatial information on the campus.

A GIS-based facility information system will provide the university an added dimension for problem solving and decision support through spatial visualization and analysis. To achieve this objective, the GIS unit is responsible for gathering, creating and maintaining spatial data that will support the primary mission of Facilities Services as well as coordinating data needs of other departments on campus. In addition, we are pro-

viding all cartographic needs of faculty, staff, students and other department offices within the university to include:

- Create and manage all cartographic needs on campus
- Create and maintain spatial data needs of many departments throughout the university
- Maintain Online Interactive Web Map APPS
- Support Emergency Operations
- Implement GIS tools for analysis and maintenance of spatial information
- Utility mapping
- Special event and daily/on-going activities
- Parking Map
- Accessibility Mapping
- UT Police Department mapping

Stormwater Management:

The University of Tennessee Knoxville operates a Phase II Municipal Separate Storm Sewer System (MS4). The MS4 is governed by the State of Tennessee National Pollutant Discharge Elimination System (NPDES) permit for the main campus, agriculture and UTSI campuses. This permit is required by the Tennessee Department of Environment and Conservation as mandated by the Environmental Protection Agency under the Clean Water Act of 1972.

MS4 Stormwater Management improves and/or maintains the quality of surface waters by reducing the amount of pollutants in storm water. Requires operators to obtain a NPDES permit and develop a Stormwater Management Plan.

Stormwater Management maintains compliance with all applicable state and federal regulations regarding water resources, provides a regulatory framework to ensure UT’s development has minimal impact on the environment, promotes low impact development to help protect the area’s natural hydrologic cycle, manages Stormwater Infrastructure, and engages the community through public participation and education outreach events. Responsibilities include:

- Management of Municipal Separate Storm Sewer System
- Management of Clean Water Act Program
- Management of National Pollutant Discharge Elimination System Permit

DESIGN SERVICES

- Implementation and enforcement of Stormwater policies
- Inventory and tracking of Stormwater Best Management Practices
- Initiation of Discharge Detection and Elimination Programs
- Public involvement/participation outreach and education programs
- Construction Site Stormwater Runoff Control Program
- Post Construction Stormwater Management Program
- Pollution prevention and good housekeeping for municipal operations
- Monthly compliance inspections on active construction sites
- Erosion and Sediment Control Plan reviews
- Review and approval of Stormwater Pollution Prevention plans
- Creation of Stormwater project programs and documents
- Coordinate maintenance of installed Stormwater Control Measures
- Conduct semi-annual inventory and screenings of 60 Storm water outfalls
- Periodic Stormwater program updates to TDEC
- Manage the Enforcement Response Plan for Stormwater violations
- Submission of permit applications for Steam Plant
- Required Annual Stormwater Monitoring for the Steam Plant and submit to TDEC
- Creation of Annual UTK NPDES report and submission to TDEC
- Stormwater Public Meetings
- Maintain TDEC Level I, II and professional certifications
- Coordinate Stormwater Intersection projects with the City of Knoxville
- Maintain UT Stormwater Best Management Practice Manual
- Maintain Stormwater Management with evolving regulations
- Advise campus entities and consultants on Stormwater Management
- Project close out and notice of termination paperwork
- Draft permit applications for UT office of Real Property
- Development of the UT Stormwater Master Plan/Vision and Standards.
- Conduct Analytical Stream Monitoring
- Conduct Visual Steam Surveys
- Submit Notice of intent and permit applications for NPDES Permit
- Coordinate campus operations and requirements with TDEC.
- Develop and implement quarterly community projects
- Manage Stormwater Committee

Space & Archives:

Campus facilities data must be properly maintained and managed so that accurate data can be provided to the university administration, the State of Tennessee, and various Federal Agencies to support funding requests.

Maximizing the integrity of space and archival information regarding campus buildings is the top priority. This data is used by various agencies to calculate facilities and administrative costs. Space & Archives provides information for all Knoxville Campus buildings and Agriculture Campus in two general categories.

Space Inventory:

Space Inventory maintains small-scale floor plans and facilities data for all campus buildings. The Building List link allows Online viewing of floor plans for authorized users. Activities include:

- Field measurement and verification of new space inventory and renovations
- CAD plan creation of all main and agriculture campus facilities
- Upkeep and maintenance of inventory plans
- Calculations of space inventory square footages

Archives:

Campus Archives file, store/scan drawings and specifications and provide reproduction services. This group also creates digital files from these records. It stores and disseminates electronic architectural and engineering media to appropriate users. Existing building and utilities information is available to authorized faculty, staff, students, administration, as well as contractors and design consultants.

- Management of paper and digital archiving of building plans

DESIGN SERVICES

- Creation of small scale plans
- Assistance with space audits
- Printing/management of archives for administration, academics and consultants
- Annual Space Survey for Space Committee, academics and departmental funding
- Creation and maintenance of Emergency Evacuation plans
- Creation and maintenance of campus wide directory boards
- Providing and maintaining campus room number standards
- Assign room numbers for new/renovated construction drawings
- Assist with space information as needed for Programming and Project Management
- Monthly/annual inspection record archiving
- Project closeout documents/ warranties
- Provides plans and documents for publication submittals
- Master Plan archiving
- Emergency Management Plan archiving
- Campus Utilities Management Plan archiving
- Interior signage
- Campus branding
- Support maintenance painting with color selections
- Creation and maintenance of interior painting palettes
- Creation and maintenance of interior signage standards
- Design graphics for new and existing buildings and spaces on campus
- Facilitation and creation of directories on campus
- Facilitates archiving and record keeping of Interior Design projects

Design Services Committee/ Organization Participations:

- Space Committee
- Digital Signage Committee
- Campus Planning Design Committee
- Stormwater Committee
- City of Knoxville Facilities Committee
- Campus Beautification Committee
- Emergency Operations
- Facilities Fee Oversight
- Campus on the Environment
- Green Initiative Fee
- Environmental Compliance Committee
- Member of the Tennessee Stormwater Association
- East Tennessee AIA
- US Green Building Council
- Society for College and University Planning
- Water Quality Forum
- APPA/SPAPPA/TNAPPA
- Governor's Disaster Evaluation Team
- International Interior Design Association
- American Society of Consulting Arborists

Interior Design:

Interior designers support the university's mission in a number of ways. Our designers assist departments with space planning, furniture selection and procurement; as well as coordination of finishes for in house renovation projects. They also assist our maintenance painting crews to coordinate compositions that work within the branding palette established by the campus. The coordinators also assist Capital Project Managers, providing aesthetic and technical advice on interior design concepts and products.

- Assist with office layouts
- Furniture selection, procurement and placement

FACILITIES OPERATIONS

Building Finishes:

Building Finishes:

Annually 12,400 hours for five university personnel at an annual cost of \$461,760. 80% of this budget is no charge work requests.

Building Finishes provides a diverse range of services for special projects, routine maintenance and upgrading facilities. Services include:

- Building or demolishing walls
- Installing white boards, glass boards, cork boards, and chalkboards

FACILITIES OPERATIONS

- Building forms for concrete pours
- Pour and finish concrete walks, retaining walls and steps
- Lay block, brick and stone
- Install sheet rock and other wall finishes
- Repair concrete sidewalks and other walking surfaces
- Installation and repair of cubicle furniture
- Install new building signs
- Coordinate curb cuts in streets and sidewalks for ADA access
- Build ramps for ADA access
- Organize construction or maintenance services required for appropriate accessibility for the disabled

Paint Services:

Annually 16,640 hours for eight university personnel at an annual cost of \$504,400. 95% of this budget is no charge work requests.

- Maintenance painting for public areas in all campus building
- Responsible for the repair and finishing of drywall
- Interior and exterior plaster repair
- Stucco and drywall repair
- Minor structural repair
- Caulk and glaze of exterior windows
- Pressure wash exterior building and hardscape on grounds
- Chemical low pressure washing of buildings
- Sand blasting
- Stain and finish new doors and trim
- Refurbish old furniture, doors and trim
- Graffiti removal
- Prepping and applying special flooring coatings
- Paint personnel are certified in lead abatement
- Certified for DOT hazardous material and waste regulation
- Emergency management training
- Spray painting with airless and high volume low pressure spray equipment
- Trained in identifying presumed asbestos containing building material (PACBM)
- Prep and paint lab floors with epoxy acid resistant coatings

Sign Services

Annually 4,160 hours for two University personnel at an annual cost \$118,560. 30% of this budget is no charge work request.

- Install and repair of all exterior signage
- Make and install all interior ADA and braille compliant room numbers and room identification signs
- Make and install banners and sandwich boards
- Update and repair of directory boards
- Make parking signs for parking services
- Make and install street and traffic signs
- Make and install employee name plates for doors and desks
- Make and install wall and window graphics and vehicle lettering
- Fabricate acrylic lettering for wall installation

Building Services:

Office Cleaning:

- Desk polishing
- Desk dusting
- Office dusting
- Window cleaning (interior)
- Trash removal
- Recycling removal
- Carpet vacuuming
- Carpet spotting
- Carpet extraction
- Fingerprint cleaning (light switches, doors)
- Dust mopping floors
- Wet mopping floors
- Reset office furniture
- Clean white boards
- Secure offices
- Clean blinds
- Clean windows

Classroom Cleaning:

- Dust mop floors
- Wet mop floors
- Vacuum carpet
- Extract carpet as needed

FACILITIES OPERATIONS

- Spot clean carpet
- Clean white boards
- Clean chalk boards
- Supply erasers and markers
- Empty trash
- Empty recycling
- Dusting
- Refinish floors as needed
- Clean TA chair arms/remove graffiti
- Remove posters, stickers, etc.
- Provide lost and found for items left in rooms.
- Reset desks and furniture

Lavatories:

- All restrooms are cleaned and disinfected five days a week at no charge
- Dust
- Sweep floor
- Restock paper products and soap
- Clean mirrors
- Clean sinks
- Clean toilets/urinals
- Empty trash
- Wash partitions
- Remove graffiti
- Wash and disinfect floors
- Replace dispensers

Public Areas:

- Dust mop hallways
- Clean hallways
- Burnish hallways/apply finish as needed
- Dust
- Clean water fountains
- Trash/recycle
- Sweep stairwell
- Clean stairwells
- Dust stairwells
- Disinfect stair railings
- Dust lounges/lunch rooms
- Clean sinks
- Clean counters
- Wipe/wash tables

- Remove trash/recycle
- Sweep wash lounge floors
- Vacuum lounge floors
- Wash interior door glass
- Vacuum entry matting
- Replace entry matting as needed
- Blow leaves from entries
- Sweep exterior entrances
- Remove exterior trash
- Wash exterior door glass
- Perform event setups
- Arrange furniture
- Lock and secure buildings
- Provide function support

Day Shift:

- Receive supplies
- Order supplies
- Pick up and deliver supplies to buildings
- Clean specific areas
- Shovel snow
- Spread brine, salt, ice melt
- Chip ice
- Respond to campus calls: spills, no paper, excess trash
- Perform setups
- Mail courier around the City of Knoxville
- Move recycling
- Wash mops (wet and dust)
- Clean windows
- Floor work/carpet extraction
- Spot cleaning on request
- Emergency response: floods, snow, etc.
- Unlock areas
- Deliver appropriate matting
- Provide extra frequencies
- Work with Department of Education on student placement
- Report issues: maintenance, recycling, rubbish, grounds, etc.

Venue Cleaning

- Pick up and separate materials in the seating areas
- Pull trash and recyclables

FACILITIES OPERATIONS

- Sweep/blow concourses
- Provide support to Tennessee Tailgate, Circle Park, Kick Off Cleanup around Neyland Stadium, and provide general tailgate support
- Clean lavatories and rental units
- Handle trash and recycling
- Provide extra service to McCLung Museum and surrounding buildings on football Saturday
- Adjust hours from Sunday through Thursday for 2nd shift during football season
- Sort trash and recyclables
- Set up tables, chairs, etc.
- Sweep/clear stairs
- Provide trash and recycling services

Landscape Services:

Recipient of the “2015 Green Star Honor Award” by the Professional Grounds Management Society for implementation and sustained high level maintenance of the Lake Loudoun Blvd. Streetscape Corridor.

Landscape:

- Installation of honorary and memorial gardens funded by UT family donations – 160 hours/year; \$20,000/year
- Cherokee Farm: Complete property landscape and irrigation maintenance – 6,300 hours/year; \$74,000/year
- Sorority Village: Complete landscape and irrigation maintenance of common area plus eight Sorority houses – 4,160 hours/year; \$70,000/year
- Seasonal Flower Beds - Installation of 20,000 seasonal flowers and 12,000 tulip bulbs (Spring and Fall rotation) – 1,500 hours/year; \$30,000/year
- Building Dedications: Service landscape and prepare area for ceremonies – 4 hours/year; \$500/year
- Preparation and clean-up for the ESPN SEC Nation production – 120 hours/year; \$3,000/year
- Dr. Bass Anthropology Facility - Provide vegetation management/removal around facility barrier fence – 104 hours/year; \$1,500/year
- Southern Association of Colleges and Schools - Campus wide landscape preparation for accreditation visits – 1,200 hours/year; \$12,000/year
- Control kudzu and invasive vegetation encroaching onto UT property from adjacent private property – 300 hours/year; \$5,000/year

- Facilities Fundamentals Workshop presentation to university community – “Tips for the DIY Gardener” – 25 hours/year; \$1,500/year
- Facilities Fundamentals: Provided landscape instructional video productions for campus community – 15 hours/year; \$500/year
- Landscape Academy: Development and execution of a horticulture based training curriculum and SOP for staff members – 2,500 hours/year; \$50,000/year
- The “ROCK”: responsible for painting over vulgar/inappropriate language – 5 hours/year; \$1,000/year
- The “ROCK”: Collect empty paint cans and take to recycle center – 52 hours/year; \$500/year
- Campus wide construction – Provide daily support to contractors and to ensure construction quality and project deadline is met – 200 hours/year; \$5,000/year
- Develop and execute management plans for monitor and control of harmful insect and disease populations in trees and plants following Integrated Pest Management (IPM) methodology. Administer pesticide treatments to protect trees and shrubs in accordance with the IPM methodology. – 650 hours/year; \$6,000/year
- Preparation for annual visits by UT Board of Trustees, ESPN SEC Nation, and Presidential Candidates – 100 hours/year; \$1,000/year
- Coordinate with KUB to minimize impact on campus landscape and infrastructure during underground utility installations and repairs – 20 hours/year; \$500/year
- Inventory rose population to develop a Rose Rosette virus management plan – 50 hours/year; \$1,500/year
- Allow for CEU opportunities for staff holding a TN Dept. of Ag Pesticide Certification – 144 hours/year; \$3,500/year

Heavy Equipment:

- Grade and construct asphalt and gravel parking lots – 400 hours/year; \$60,000/year
- Construct playground renovations and extensions at Early Learning Centers – 240 hours/year; \$15,000/year
- Demolition of retired buildings and grade for future purpose – 120 hours/year; \$30,000/year

FACILITIES OPERATIONS

- Assist with excavation and welding of steel footers, and installation of field pole lights on intramural fields – 160 hours/year; \$20,000/year
 - Assist with installation of dumpster enclosures and light/camera poles – 120 hours/year; \$15,000/year
 - Move dumpsters throughout campus as needed for special events and demands related to semester changes – 80 hours/year; \$10,000/year
 - Weld new bottoms or reinforce dumpsters – 20 hours/year; \$2,000/year
 - Paint dumpsters – 10 hours/year; \$1,000/year
 - Move and reset/store campus sculptures prior to building construction/renovations – 48 hours/year; \$5,000/year
 - Provide demolition/excavation and aggregate for sidewalk repairs and ADA concrete walk installations campus wide – 640 hours/year; \$50,000/year
 - Excavate for on-going campus wide underground utility repairs (high voltage, steam, water, stormwater, telephone) – 2,500 hours/year; \$150,000/year
 - Excavate for campus utility services distribution installations (high voltage, steam, water, stormwater, telephone) – 240 hours/year; \$30,000/year
 - Provide crane operation for rooftop HVAC unit replacements/repairs – 90 hours/year; \$9,000/year
 - Asphalt pothole repair campus wide – 96 hours/year; \$5,000/year
 - Dr. Bass Anthropology Facility: Provide storm water diversion away from long-term research area – 80 hours/year; \$2,500/year
 - Correct malfunctioning stormwater retention pond – 160 hours/year; \$5,000/year
 - Repair collapsed stormwater paving systems – 72 hours/year; \$2,500/year
 - Install bollards and other site amenities to prevent foot traffic patterns on lawns – 100 hours/year; \$3,000/year
 - Install convex mirrors for increased vehicular visibility and safety – 5 hours/year; \$200/year
 - Campus-wide street sweeping – 260 hours/year; \$8,000/year
 - Preventative maintenance and repairs of landscape equipment and diesel powered heavy machinery – 1,040 hours/year; \$32,000/year
 - Stormwater retention/detention ponds: Maintain rock, inlet grates to improve stormwater quality – 200 hours/year; \$10,000/year
 - Assist with removal and replacement of building signs – 100 hours/year; \$3,000/year
 - Excavate for new concrete bike pads – 200 hours/year; \$6,000/year
 - Groundbreaking Ceremonies: Provide and remove topsoil – 5 hours/year; \$2,200/year
 - SGA Bonfires: Build, light, monitor, extinguish and clean up + Coordinate events with Fire Marshal and UTPD – 25 hours/year; \$750/year
 - Allow opportunities for heavy equipment operators to receive annual OSHA training to include, but not limited to, Trench Safety, Trench/Excavation Competent Person, and 10-hour Construction Standards – 10 hours/year; \$1,000/year
- Arboriculture:**
- Hazardous limb and tree removal – 1,500 hours/year; \$45,000/year
 - Emerald Ash borer – Treatment of ash trees throughout campus for protection against EAB – 200 hours/year; \$5,000/year
 - Tree pruning as needed throughout campus to provide clearance around security cameras, campus lighting, signage, and bus stops – 120 hours/year; \$4,000/year
 - Inventory, develop and execute a plan for street tree replacements each winter – 40 hours/year; \$1,000/year
 - Develop and execute planting plan for creek reforestation projects in riparian zones – 120 hours/year; \$4,000/year
 - Demonstrate basic rope set-up and climbing instruction for students in Urban Forestry – 10 hours/year; \$300/year
 - Demonstrate tree insecticide treatments for students in Entomology – 20 hours/year; \$600/year
 - Meet with an AP Science class from L&N STEM Academy to review creek reforestation projects – 5 hours/year; \$150/year
 - Coordinating talks with Urban Forestry and Facilities Services staff to develop tree inventory data collection tools, i.e. PDA, laptop, GPS and etc. – 80 hours/year; \$2,500/year

FACILITIES OPERATIONS

Turf Maintenance

- Weekly (5-day cycle) mowing of turf areas March – October. Spot mow as needed during late fall/winter months – 16,000 hours/year; \$250,000/year
- Mow turf at all campus entrances twice per week – 160 hours/year; \$3,000/year
- Campus wide aeration and over-seeding of turf – 360 hours/year; \$15,000/year
- Year-round weed control and fertilization program in turf areas – 1,200 hours/year; \$30,000/year
- Sod repairs throughout campus – 400 hours/year; \$10,000/year
- Landscape Irrigation Systems: Start-up/winterize/maintain 37 irrigation systems – 4,160 hours/year; \$100,000/year
- Blueberry Falls Park: On-going maintenance of waterfall features – 100 hours/year; \$12,000/year
- Annual Leaf Removal: Remove over 175 tons of leaves from campus and deliver to UTFS compost facility – 2,500 hours/year; \$40,000/year
- Isolate landscape irrigation and install temporary service lines prior to construction in order to protect remaining system integrity – 80 hours/year; \$3,500/year

Joint Ventures:

- Personnel coverage on campus every weekend – 2,400 hours/year; \$36,000/year
- Fallen tree removal following high wind weather events – 1,500 hours/year; \$43,000/year
- Preparation and clean-up of campus grounds for football tailgate events – 500 hours/year; \$12,000/year
- Snow/Ice Storm Response - Campus wide brine application prior to snow/ice events. Application of snow/ice melting agents during and following events. Complete removal of winter precipitation from roads, walks, steps, parking lots and garages during and following events. – 3,500 hours/year; \$80,000/year
- Landscape installations and renovations campus wide – 200 hours/year; \$30,000/year
- Repair/finish landscape in areas immediately outside of contractors' project scope – 150 hours/year; \$10,000/year
- Donate 'in-kind' assistance to Bio-Systems Engineering classes with installation of stormwater rain garden projects – 400 hours/year; \$15,000/year

- Assist 'in-kind' the Department of Civil and Environmental Engineering with installation of silva cell research project on Agricultural Campus – 160 hours/year; \$8,000/year
- Oversee all contract administration related to landscape maintenance – 100 hours/year; \$5,000/year
- Maintain Safety Data Sheets for pesticide inventory and application records for at least two previous years per EPA regulations – 10 hours/year; \$200/year
- Perform annual asset inventory – 40 hours/year; \$1,000/year

Lock & Key Services:

- Install and repair common lock devices
- Lock repair - troubleshoots, modifies
- Lock core-master key/rekey/setup
- Lock core maintenance
- Lock installation
- Exit hardware - repair/installation
- Padlocks - master key, rekey
- Safes - repair, maintenance, changing code
- File cabinets/desk - repair/replace/rekey
- Renovations/new buildings - keying/setup and installations
- Combination locks - install/repair/code change
- Key cutting - duplication/code cutting
- Two shifts covered from 7 a.m. to 11:30 p.m.
- Front Office Customer Service – key distribution, key return, key duplications, desk/file cabinet/padlocks/directory boards, record keeping for room/key assignment/dispatching
- Key lookup/cut and data entry

Outside of Normal Office Hours:

- Locksmith on call after hours for 24 hour coverage.
- Housing – lock ins/lock outs
- Fraternity and Sorority Houses – secure
- Keying new buildings, rekeying existing or renovations
 - Meetings with building representatives to see how to key
 - Ordering codes
 - Assigning sub-masters and individual rooms

FACILITIES OPERATIONS

- Core pinning and stamping
- Core installation
- Key Requests
- Cutting keys for distribution

Home Football Games:

- Locks changed on all buildings around the perimeter of stadium with high security cores for all home games the Friday before and the Sunday after
- Four locksmiths working eight hours for each game – 224 total hours

Rapid Response Team:

- Moving staff and faculty from one building to another – 3,110 hours/year; \$116,000/year
- Moving staff and faculty within the buildings – 800 hours/year; \$27,000/year
- Moving furniture and equipment to surplus – 244 hours/year; \$6,000/year
- Moving from surplus to buildings – 188 hours/year; \$4,000/year
- Spring Clean-up, moving items to surplus and recycle – 2,600 hours/year; \$33,000/year
- Special Projects – 100 hours/year; \$3,200/year
- Hanging banners on campus – 200 hours/year; \$7,200/year
- Special Events on campus, including Football Saturdays – \$1,900 hours/year; \$70,000/year

Sanitation Safety:

Overseeing the Environmental aspects of Facilities Services and providing support to Axillary Services as requested (Housing, Food Services, and Athletics).

- \$30,000 of on demand work requests, where the customer expects immediate action, many times within minutes of the request.
- \$60,000 of Preventive Maintenance is limited to pest services treatment to both the interior and the exterior of the building.

Insect Control:

- Spiders (brown recluse, black widows, wolf spiders, etc.)
- Scabies
- Lice
- Fleas
- Ticks

- Bed Bugs
- Roaches (American, German, and Asian)
- Ants (Pharaoh, Odorous House, Carpenter, Fire, Crazy, Argentine, Bigheaded, etc.)
- Bees (Yellow Jackets, Carpenter, Sweat, Bumble, and Honey)
- Wasps
- Hornets
- Lady Asian Beetles
- Brown Marmorated Stink Bugs
- Kudzu Bugs
- Flies (Flesh, House, Phorid, Fruit, Lesser Dung, Drain, etc.)
- Moths
- Weevils
- Gnats
- Termites (Drywood and Subterranean)
- Mosquitos
- Any and all other invasive or damage causing insects not listed.

Excluding, trapping, and treating for insect related problems can help prevent insect carried diseases such as Zika virus, Dengue fever, West Nile virus, Chikungunya virus, Lyme disease, among many others.

Animal Control:

- Feral and/or stray Dogs (Including Coyotes)
- Feral and/or stray Cats
- Groundhogs
- Moles
- Skunks
- Opossums
- Raccoons
- Snakes (poisonous and non-poisonous)
- Rats (Norway, Roof, and Brown and occasionally lab rats)
- Mice (House, Field, etc. and occasionally lab mice)
- Squirrels (Brown and Gray)
- Bats (Fruit, Brown, etc.)
- Birds (Sparrows, Pigeons, Starlings, Hawks, etc.)
- Dead animal removal (any size or species)
- Smell detection and mediation (usually from dead animals)
- Any and all other invasive or nuisance animals not listed.

FACILITIES OPERATIONS

Excluding, trapping, and otherwise removing nuisance animals helps prevent animal carried and spread diseases such as rabies and distemper among many others.

Environmental:

We are poised as Accredited individuals in each of the below areas allowing us to consult personnel and contractors appropriately in those areas providing the correct solution or specialty action.

- \$75,000 in 2015-16
- \$525,000 in 2014-15 it is extremely variable on projects

Asbestos:

- Designer
- Inspect
- Supervisor
- Monitor

UTILITIES SERVICES

Air Conditioning Services:

- Service and maintain compressed air systems used by campus laboratories - \$1,800 monthly
- Service and maintain vacuum systems used by campus laboratories - \$600 monthly
- Service and maintain compressed air dryer systems used by campus laboratories - \$850 monthly
- Provide service and repairs to laboratory environmental growth chambers and cold rooms - \$1,900 monthly
- Install, maintain, and repair all campus building environmental control systems for occupant comfort. Mechanical, pneumatic, and electronic systems are all covered by the control team - \$9,000 monthly
- Maintain and service campus steam heat exchangers that supply hydronic heating water to campus buildings - \$2,000 monthly
- Provide service and support to repair and maintain various laboratory equipment on request - \$175 per request
- Provide refrigerant removal services to discarded and surplus air conditioning and refrigeration equipment before being sent to recycling - \$60 per unit
- Provide ventilation test, balance, and certification services to campus laboratory animal facilities to help them maintain yearly accreditation - \$2,000 per year
- Provide test, balance, and certification services to all campus environmental areas and building systems. Ventilation, hydronic, and laboratory fume hoods - \$6,500 monthly
- Provide repair service for through the wall P-TAC AC units in campus buildings - \$500 per unit
- Furnish chemical water treatment support to chilled water and hydronic loops serving campus buildings - \$7,500 monthly
- Review of submittals and drawings for new building construction or renovations - provided at no cost
- Estimating for projects and work orders - provided at no cost
- Service and repair for cooling units serving Telephone Services equipment - \$900 monthly
- Service and repair of large and small hydronic and air cooled chillers - \$31,000 monthly
- Service and repair laboratory process water chillers - \$1,200 monthly
- Repair and service cooling towers for chiller systems - \$1,400 monthly
- Repair and service chilled water and heating water system pumps - \$2,000
- Service and repair for cooling units located in data centers on campus - \$900
- Service and repair for small split system air conditioning units - \$400 monthly
- Service and repair rooftop and package air conditioning units - \$600 monthly
- Service and repair gas fired equipment, heaters, package units, and water heaters - \$350 monthly
- Boiler maintenance, repair and replacement for individual building systems - \$1,500 monthly.
- Provide support for campus utilities outages – provided at no cost
- Provide support and training to other Facilities Services units – provided at no cost

UTILITIES SERVICES

- Response to campus emergencies and requests for extra services – provided at no cost
- Provide personnel for State Fire Marshall mandated fire watch in campus buildings – provided at no cost
- Provide water testing assistance to the UT Steam Plant – provided at no cost
- Provide coverage and support for weather related events that impact campus – provided at no cost
- Provide mechanical design and installation services to the Facilities Services Construction Team – provided at no cost
- Provide support and repairs to UT buildings located off-campus – provided at no cost
- Provide response coverage to campus on nights and weekends – provided at no cost
- Provide call-back service for emergency repairs after hours and on weekends – provided at no cost
- Change [1] Lutron lighting controllers - 20 FIXTURES – personnel needed: 2; average duration: 8 hours; total cost: \$504
- Change [1] Lutron Module - Power supply/Ballast – personnel needed: 2; average duration: 4 hours; total cost: \$252
- Change [1] motor control safety switch - 600V, 3PH, 30A – personnel needed: 2; average duration: 4 hours; total cost: \$252
- Change [1] Motor Control Contactor - NEMA 4, 600V – personnel needed: 2; average duration: 4 hours; total cost: \$252.00
- Re-pull wires shorted in conduit, 3/4” Conduit, 100 F, 3#10 – personnel needed: 2; average duration: 16 hours; total cost: \$1,008
- Inspection of New Construction Projects - UT Electrical standards and specs are met – personnel needed: 1; average duration: 4 hours; total cost: \$126

Electrical Services:

- Trouble shooting [1] 120 volt receptacle circuit-Academic Building – personnel needed: 2; average duration: 4 hours; total cost: \$252
- Change a [1] Duplex Receptacle – personnel needed 2; average duration: 0.5 hours; total cost: \$31.50
- Change [1] light Switch – personnel needed: 2; average duration: 0.5 hours; total cost: \$31.50
- Change [1] bolt in Breaker 20 amps through 60 Amps single or 3 Phase – personnel needed: 2; average duration: 2 hours; total cost: \$126
- Change [1] Main Breaker - Molded Cased - 200-400A Panelboard – personnel needed: 2; average duration: 8 hours; total cost: \$504
- Events for Student bodies - Campus - Outdoor 1-6 people – personnel needed: 2; average duration: 4 hours; total cost: \$252
- Change [1] VFD - 25HP 600V, 3 PH – personnel needed: 2; average duration: 4 hours; total cost: \$252
- Change [1] VFD - 50-100HP 600V, 3 PH – personnel needed: 2; average duration: 8 hours; total cost: \$504
- Trouble shoot and reprogram Lutron Lighting systems - 20-2x4 fluorescent fixtures – personnel needed: 2; average duration: 4 hours; total cost: \$252
- Electrical Installation [1] water heater, 208V, 1PH, 10,000W – personnel needed: 2; average duration: 4 hours; total cost: \$252
- Electrical Installation [1] new bottle filling station – Water – personnel needed: 2; average duration: 4 hours; total cost: \$252
- Building Electrical Service Meter reading -30 meters – personnel needed: 1; average duration: 8 hours; total cost \$252
- Electrical Support - Football game day – personnel needed: 6; average duration: 12 hours; total cost: \$2,268
- Assisting Air Conditioning Services on a typical [1] AC unit 208V/480V Compressor/Air Handler – personnel needed: 2; average duration: 16 hours; total cost: \$1,008
- 480V/208V 1200A Service/Panelboard Outages for contractors and other units – personnel needed: 2; average duration: 8 hours; total cost: \$504
- Replacing a [1] 75KVA < Dry type Transformer 600V – personnel needed: 2; average duration: 14 hours; total cost: \$882
- Providing support for building access - Power connection 120V /208V, 20A 1PH – personnel needed: 2; average duration: 4 hours; total cost: \$252
- Installation of 3 #12 THHN 10 foot length in 3/4” pipe – personnel needed: 2; average duration: 0.5 hours; total cost: \$31.50

UTILITIES SERVICES

- Installation of 100 foot length 3/4" EMT - Academic Building – 1 floor – personnel needed: 2; average duration: 24 hours; total cost: \$1,512
- Replace a new [1] PQM Electric Meter – personnel needed: 2; average duration: 4 hours; total cost: \$252
- Install conduit and CT Metering on a [1] service – personnel needed: 2; average duration: 10 hours; total cost: \$630
- Replace [1] basic disconnect, 480V, 3PH, 30A – personnel needed: 2; average duration: 4 hours; total cost: \$252
- Grounding [1] Cabinet for Research Equipment or IT equipment – personnel needed: 2; average duration: 8 hours; total cost: \$504
- Replacing [1] cooling fan on a transformer – personnel needed: 2; average duration: 6 hours; total cost: \$378
- Electrical Surveys [1] Academic building, 1 floor, 5,000 sq. ft. – personnel needed: 2; average duration: 4 hours; total cost: \$252
- Main Switch board Maintenance [1] building – personnel needed: 4; average duration: 8 hours; total cost: \$1,008
- Cold weather watch – personnel needed: 4; average duration: 16; total cost: \$2,016
- Emergency [1] Lighting fixture Batteries Change- personnel needed: 2; average duration: 0.5 hours; total cost: \$31.50
- Certification of Student Health Building – personnel needed: 6; average duration: 8 hours; total cost: \$1,512
- Replace Primex [1] clock face – personnel needed: 2; average duration: 1 hour; total cost: \$63
- [1] 30KW generator, 208/120V, Diesel – personnel needed: 2; average duration: 16 hours; total cost: \$1,008
- Install 6 way Vista [1] switches 15KV – personnel needed: 4; average duration 8 hours; total cost: \$1,184
- Install 750KVA transformer [1] 13.2KV to 208/120V – personnel needed: 6; average duration: 16 hours; total hours: \$3,552
- Pulling wire, 15KV, 500MCM, 100ft, existing duct bank – personnel needed: 4; average duration: 8 hours; total cost: \$1,184
- Pumping manholes [1] – personnel needed: 2; average duration: 4 hours; total cost: \$296
- Outdoor campus lights - Finding shorts/change power supply [1] pole – personnel needed: 2; average duration: 4 hours; total cost: \$296
- Changing/replacing lights in campus standard pole [1] – personnel needed: 2; average duration: 4 hours; total cost: \$296
- Neyland Stadium HV support Foot – personnel needed: 7; average duration: 10 hours; total cost: \$2,590
- Neyland Stadium Lighting Maintenance - Replace [1] 1000W MH – personnel needed: 2; average duration: 2 hours; total cost: \$148
- 15KV T-body termination, [1] cable, 2 terminations in manhole – personnel needed: 2; average duration: 3 hours; total cost: \$222
- 15KV T-body termination, [3] cable 6 terminations 1 ckt in manhole – personnel needed: 2; average duration: 9 hours; total cost: \$666
- Routine Maintenance GIS Swag 15KV, per ckt bkr – personnel needed: 1; average duration: 0.5 hours; total cost: \$18.50
- Routine Maintenance GIS Switch 15KV, 6 Way – personnel needed: 2; average duration: 2 hours; total cost: \$148
- Simplex-Grinnell 4100 Fire Alarm Panel -Response to trouble call – personnel needed: 1; average duration: 2 hours; total cost: \$65
- Building Access Alarm Panel - Response to trouble call – personnel needed: 1; average duration: 1 hour; total cost: \$32.50
- Fire Watch - Athletics and Residence Halls, cost per tech – personnel needed: 1; average duration: 4 hours; total cost: \$130
- Fire Drills per building – personnel needed: 1; average duration: 2 hours; total cost: \$65

Plumbing & Heating Services:

Plumbing and Heating Services provides several levels of service ranging from scheduled equipment maintenance, service calls, scheduled project work, and major emergencies to piping systems.

Major disruption of services may include water distribution, steam distribution, sanitary waste removal, stormwater removal and natural gas distribution.

UTILITIES SERVICES

These utilities are essential to the day to day operation of our campus from student housing to classrooms and their associated labs. In the event of any emergency disruption of a utility service to our campus, Plumbing & Heating Services works around the clock in response, identifying the problem and restoring the utility as quickly as possible.

When repair work on a utility interfaces with the Knoxville Utility Board and/or the City of Knoxville systems, coordination of the work is made with them. After an emergency has been taken care of and the utility restored, work remains for Plumbing & Heating to complete in the area of the repair work. This may involve work with other shops for road repairs, sidewalk repairs and/or ground work.

At times, a scheduled disruption of a utility is needed for work on a piping system. Efforts are made to schedule this work during a time period that will have the least impact on the campus community. Much of this work is done when the campus is shut down for a holiday or during off hours.

- Repair Leaks on Campus Piping Utilities including Water, Gas, Sanitary Sewers and Storm Sewers. –\$18,000/month
- Fabricate/Repair Handrails – \$7,200/ month
- Miscellaneous Welding Repairs – \$500/month
- Special Welding Requests – \$250/month
- Assist A/C Services on High Pressure Air & Chilled Water Piping Installation and Repair – \$5,600/year
- Test/Repair Fire Hydrants – \$11,000/year
- Test/Repair Post Indicator Valves – \$4,000/year
- Test/Repair Street Valves on Main Water Distribution System – \$3,000/year
- Inspect/Repair Backflow Devices for Domestic and Fire Water Systems – \$30,000/year
- Scheduled Maintenance on Water Stations Located in Campus Buildings – \$90/unit
- Inspect/Replace Water Pressure Regulator Valves – \$1,600/unit
- Test/Repair Booster Pumps and Motor Pumps – \$2,900/year; Motors \$2,000/year
- Repair/Install Insulation on Water Lines, Steam and Condensate Lines – \$10,000/year
- Inspect/Repair/Replace Gas Water Heaters w/ Storage Tanks – replace: \$1,300 yearly; repair: \$300/year
- Install/Repair Drinking Fountains including Bottle Filling Stations – install: \$1,300/unit; repair: \$200
- Install/Repair Water Heaters – Install: \$6,400/year (not including special type units); Repair: \$800/year
- Test/Replace Steam Valves and Steam Traps – traps: \$15,000/year; valves: \$16,000/year; test: \$14,000/year
- Scheduled Maintenance on Steam Stations located in campus buildings – \$70/unit
- Inspect/Repair Steam Vaults (approximately 200 Steam Vaults on Campus) – \$4,200/month (including pumping)
- Scheduled Steam Expansion Joint Maintenance – \$5,600/month
- Inspect/Repair Steam Expansion Joints – \$35/unit
- Inspect/Repair Steam Pressure Regulator Valves – \$70/unit
- Inspect/Test/Repair Pumps – \$7,500/month
- Inspect/Repair High Pressure Safety Relief Valves – \$1,600/month
- Scheduled Maintenance on Main Line Condensate Pumps and Motors – \$3,200/year
- Assist AC Services with Steam Heat Convertors – \$960/year
- Install/Inspect/Repair Flash Tanks – \$35/month
- Install Steam Water Heaters – \$450/year
- Inspect/Repair Steam Water Heaters w/Storage Tanks – \$140/year
- Inspect/Repair Pipe Supports Located Outside Buildings – \$1,400/year
- Marking of Campus Piping Utilities for TN 1 Calls – \$8,400/year
- Inspect and Clean Stormwater Catch Basins – \$3,000/year
- Repair StormWater Catch Basins – \$500/year
- Pump/Inspect/Repair Sanitary Manholes – \$500/year
- Repair/install Grease Interceptors – \$750/year
- Test/Repair Sewer Pumps – \$850/year
- Rod Sewer Lines – \$1,400/month

UTILITIES SERVICES

Steam Plant:

Electrical/Electronics:

- 24/7 DCS support to troubleshoot and repair Steam Plants Yokogawa operating control system
- Maintain Boiler management systems on Allen Bradley PLCs
- Troubleshoot, repair and maintain Steam Plant's instrumentation (gas flow meters, steam flow meters, and level transmitter)
- Repair or maintain lighting, power supply, and motor control circuits
- Inventory management
- Cost and efficiency reporting
- Assist outside contractors with Steam Plant requirements
- Ensures Steam Plant is in compliance with EPA and TDEC requirements

Maintenance:

- On call 24/7 for emergency boiler and associated equipment repair - \$250,000.00+ per year
- Maintenance on boilers, pumps, fans, softeners, deaerators
- Solar turbine, gas compressors, air compressors and steam turbines
- Manufacture of specialty parts such as stairs, hand-rails etc.
- Maintenance on fuel oil tanks and draw samples for testing
- Rebuild valves, pumps, fans
- Repair piping and run new when necessary - \$20,000 per year
- Maintain landscaping around Steam Plant - \$2,600 per year
- Clean around Steam Plant to ensure safe working environment.

ZONE MAINTENANCE

STAR Team (Special Team to Assist Research):

The STAR Team is a specialized team responsible for providing a more focused service function to the university research community. This is accomplished by assisting new researchers by renovating their lab space, helping them get acclimated to campus, and installing their lab equipment to ensure they can hit the ground running when they get to campus. The STAR Team also assists existing researchers with changes in programming requirements and with day-to-day problems that may arise, such as issues the lab's HVAC, electrical and plumbing to ensure there are no interruptions to the research.

This team also took over the responsibility for the TVA Energy Road Map, which includes energy auditing of buildings and working with College of Engineering students on senior design projects that benefit campus by conserving energy. The STAR Team also identifies and implements energy saving projects to be used for the green fee revolving loan fund as part of the road map.

The STAR Team is leading the way to predictive maintenance techniques with vibration analysis, shaft alignment, and thermal analysis.

STAR Team costs approximately \$500,000/year.

The STAR Team is also heading up the Zone Maintenance

inspection program by providing extra sets of eyes to help maintain a higher level of maintenance quality in our buildings. This not only provides quality control, but will provide on-site training when necessary.

One Call:

UT Knoxville Facilities Services provides maintenance coverage on the UT Knoxville Main and Agricultural campuses 24 hours a day, 365 days a year.

Customers can call the Facilities Services One Call Line and be in touch with someone who will either be able to remedy or stabilize a problem. Monitoring exists on various critical equipment that will initiate alarms to texts, emails, and cell.

One Call costs approximately \$300,000/year.

Snow Removal:

Zone Maintenance provides ice and snow removal services for the Main and Agricultural campuses. These services are provided on a priority basis, with safety of the greatest number of individuals being used to determine the order of service. The department also provides the delivery of salt and deice products for the customer's use.

Snow removal OT labor costs \$100,000/year.

ZONE MAINTENANCE

Freezing Weather Coverage:

Zone Maintenance will provide coverage in Campus buildings during extended temperatures below 20°F to help monitor and maintain temperature control in buildings and provide quicker discovery and response to issues that may arise.

Freezing weather OT labor costs \$75,000/year.

Emergency Management:

A new emphasis has been on Zone Maintenance's role in campus emergency management. Zone Maintenance personnel take an active daily role in emergency management, serving as emergency planning coordinators. In this role, the Maintenance Specialists take the lead in emergency response on a building-by-building basis, working with emergency responders to help assure the safety of the building occupants.

In addition, some Zone Foremen are serving as Zone Coordinators and are tasked with a more overarching role in emergency response. As other people rotate out of Zone Coordinator appointments, more of these positions will be filled by Zone Maintenance. The unit has also purchased and provisioned a storage POD. The POD is stocked with meals ready to eat, water, safety equipment, heaters, emergency generators, and other equipment that might be necessary during an emergency.

Zone Maintenance also has a 1,000-gallon trailer-mounted fuel tank. This trailer will be used to deliver diesel fuel to emergency generators and other equipment on campus during an emergency. Zone Maintenance personnel also serve on the Emergency Management Task Force, which writes the emergency management response plan and coordinates with other

groups to prepare for disasters. Working relationships have been established with university, city, and county police, fire departments, and rescue teams. On campus, these relationships extend to housing and student life personnel.

Flag Raising and Lowering:

Zone Maintenance personnel are responsible for flags on campus both with respect to status, and for maintenance and replacement.

Customer Service Projects:

Zone Maintenance personnel will provide services for our customers including hanging pictures, and assembly of individual furniture items at no charge.

Utility Outages:

Zone Maintenance personnel will provide support for both scheduled and unscheduled outages. Zone Maintenance is responsible for shutdown of equipment prior to the outage and restarting and checking equipment after the outage.

Off Campus Locations:

Zone Maintenance personnel provide oversight for maintenance, repairs, and renovations to the four Joint Institute Building UT owns on the ORNL Campus.

Utilities Savings Projects:

Zone Maintenance only charges for materials related to utilities savings projects funded by the Facilities Fee. There are no labor charges associated and this amounts to approximately \$50,000 per year.

ADDITIONAL RESOURCES

Facilities Services Web site:

fs.utk.edu

Facilities Services Showcase & Annual Report:

tiny.utk.edu/2015FSShowcase

Facilities Services Program Management:

tiny.utk.edu/FSPProgramManagement

Facilities Services Project Catalogs:

tiny.utk.edu/ProjectsCatalog2015

tiny.utk.edu/ProjectsCatalog2016



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