



INTRODUCTION AND ACCOLADES

1	INTRODUCTION AND ACCOLADES	2
2	DISCOVERING THE PAST	4
3	BUILDING THE FUTURE	8
4	COLLABORATIVE COMMUNITY	14
5	STEWARDING OUR RESOURCES	20
6	INNOVATIVE OUTCOMES	26
7	SERVING A GREATER GOOD	30
8	BY THE NUMBERS	34
9	IN THE FUTURE	38
10	MESSAGE FROM DON SUNDGREN	40

Creating and caring for the physical environment in which those who seek enlightenment, knowledge, health and productive lives can flourish.

Facilities Management supports the University of Virginia's wide range of research, academic and patient care programs. From plowing parking lots and clearing sidewalks to monitoring cutting-edge research labs, our 1,200 employees show up at all hours of the day and night to ensure the University is up and running for students, patients, staff, faculty and visitors.

Facilities Management employees dedicate themselves to the highest standard of stewardship while demonstrating initiative, professionalism and innovation. As a service organization, we are responsible for the planning, construction, renovation, maintenance and repair of the University's buildings and facilities; and the provision of utilities, grounds care, custodial, trash collection, recycling and other services. We have two primary goals: to be the University's choice for all of its facilities management needs, and to be the very best and most effective provider of those services.

This past year we assisted with a variety of collaborative and innovative projects including the completion of the University's newest residence hall, Bond House; breaking ground on what will be one of the most comprehensive outpatient orthopaedic centers in the nation, the lvy Mountain Musculoskeletal Center; and multiple new sustainability efforts that will help us reach our carbon footprint reduction goal ahead of schedule.

Facilities Management has a long tradition of giving back to the community. In addition to supporting annual fundraisers, employees launched new community outreach initiatives this year including free toolbox workshops, an event hosting high school students on site and building a play structure within a Charlottesville neighborhood.

We are proud to serve the University of Virginia, an iconic public institution of higher education, boasting nationally-ranked schools and programs, distinguished faculty, a major academic medical center and proud history as a renowned research university.

SURPASSING SUSTAINABILITY GOALS

The University of Virginia is on track to meet its carbon footprint reduction goal six years ahead of schedule. In 2011, the University set out to reduce greenhouse gas emissions 25% below 2009 levels by 2025 – a goal it expects to reach this year, thanks to a combination of reducing energy consumption and generating solar energy. UVA has been recognized as a leader of sustainability efforts among its peers, coming in at No. 1 in the Atlantic Coast Conference for its use of green energy, according to the U.S. Environmental Protection Agency. In addition, the UVA Facilities Management Fleet recently earned the Sustainable Fleet Accreditation, becoming the only active university fleet in Virginia and the sixth active university fleet in the U.S. to receive this designation.

CARING FOR OUR TREES

The University of Virginia earned the 2018 Tree Campus USA designation, an Arbor Day Foundation program honoring universities and their leaders for promoting healthy trees and engaging students and staff in the spirit of conservation. The recognition highlights Facilities Management's role as stewards of University trees and the extensive benefits they provide to everyone on Grounds.

THE BEAUTY OF GROUNDS

UVA's well-kept historical architecture and pristine landscape are regularly included on lists ranking the "most beautiful" campuses around the country – recognizing Facilities Management's skilled staff charged with caring for the UNESCO World Heritage Site. Most recently, Best College Reviews ranked UVA as the No. 1 Most Beautiful College Campus in the U.S.

CLARK HALL KUDOS

Facilities Management was honored with multiple awards for its energy and water conservation upgrades in Clark Hall. The Delta Force team led the effort, which has resulted in an annual energy savings of \$750,000, and an annual water savings of \$22,000. Awards included the U.S. Department of Energy's Better Buildings Challenge, the U.S. Green Building Council Virginia's Leadership Award and Smart Energy Decisions' Innovation Award in the Higher Education Energy Efficiency Technology category.

NO. 1 HOSPITAL IN VIRGINIA

Facilities Management staff work tirelessly to support the everyday operations of UVA Health, including the University Medical Center, which was named the No. 1 hospital in Virginia by the U.S. News & World Report for the fourth year in a row. Health System Physical Plant staff regularly assist with UVA Health's accreditation evaluations, including the 2019 site visit by the Association for Assessment and Accreditation of Laboratory Animal Care International (AAALAC), which resulted in continued full accreditation with zero outstanding issues.



University Hall hosted its last basketball games in 2007, before the excitement moved across the street to the brand-new John Paul Jones Arena. It hosted a few more small events before increasing safety concerns forced its closure to the public in 2015.

On May 25, 2019 at 10 a.m., UVA basketball legends Ralph Sampson and Dawn Staley, athletic director Carla Williams and UVA Board of Visitors member Robert Hardie pushed the demolition lever, imploding U-Hall.

The demolition is part of the first phase of the Athletics Master Plan, which will transform the North Grounds athletics precinct. Plans include a new football operations center, a new Olympic sports building, additional practice fields, a renovated McCue Center and a promenade for pedestrians.

While the implosion brought down the shell of U-Hall in one day, enabling projects to prepare for the demolition started almost a year in advance.

In the summer of 2018, multiple modular units were installed near the site along with the construction of two buildings to house sports medicine, locker rooms, lounges and storage. The project was completed by Project Services trades and managed by Project Services Project Manager for Design Amy Stoops, Construction Project Manager Hans Molnturff and Construction Superintendent Todd Russell.

In the fall of 2018, crews then started the careful dismantling and disassembling of U-Hall and its dependencies. The project – managed by Facilities Planning & Construction Project Manager Caitlin Murtaugh and Senior Construction Administration Manager Keith Payne – was completed by crews from Renascent Inc., of Indianapolis, and Controlled Demolition Inc. of Phoenix. Md.

Approximately 95% of the building material was recycled. The metals were segregated and recycled, while the concrete was used as fill, some on site, to help level off the ground.

CAPTURING HISTORY

In a virtual reality lab in UVA's Clemons Library, with the aid of a headset and two hand controls, spectators can walk through the stands at University Hall, despite its demolition in May.

In preparation for the demolition, several UVA students, faculty and staff members documented the building with 3-D data-acquisition methods and still cameras. Will Rourk, a 3-D data and content specialist with the UVA Library's Scholars' Lab, and his team used lasers to scan the interior of U-Hall, collecting surface data and measuring the space, using two scanners on tripods simultaneously reading different parts of the interior of the arena.

The project to capture U-Hall is just one of many performed by the Scholar's Lab staff throughout the year to capture a digital record of UVA's buildings, monuments, sites and objects.

Rourk works closely with the Facilities Planning & Construction Historic Preservation team to identify opportunities for scanning UVA's historical spaces and items. In the past year, the Scholar's Lab team scanned Carr's Hill, underground features discovered during excavation work on the East Lawn and the lyre on the Lawn's Homer statue that was found unattached from the statue in early 2019 (and

reattached later in the

A NEW SHADE FOR PAVILION X

For a decade, Pavilion X has stood apart from the rest of the Lawn. Up until the summer of 2019, the pavilion's woodwork and the front columns have been a stone color – a controversial, sandy brown shade – that drew criticism because it was a variation from the standard bright white that became traditional on the Lawn in the 20th century. The stone color was originally applied because paint studies performed between 1984 and 2010 seemed to indicate that it was the original color.

However, the earliest paints in those samples taken at that time appeared slightly darker than they originally were, due to degradation and uneven paint grinding. A recently concluded study that looked at all the buildings on the Lawn (that had gained access to more protected and representative areas of the earliest paints) found the color of the wood trim of Pavilion X was actually much closer to the off-white to light tan of all of the other pavilions. This study confirmed the stone color for the columns was correct, but the University decided to paint

these the same as the trim. The study was completed by private conservator Susan L. Buck in conjunction with the Facilities Planning & Construction Architectural Conservator Mark Kuthey

In addition to the new exterior paint color. work performed on Pavilion X during the summer of 2019 included a roof replacement and repairs to damaged wood cornice elements. The project was managed by Project Coordinator Henry Hull with assistance from Construction Administration Manager Zach Brackett, Roof Manager Chip Vasi and student worker Wade Goodrich. Carpentry work was completed by the Central Grounds Zone Maintenance team including carpenters Phil Gough, Vern Buchanan, Glen Marshall and Chris Herndon, with painting of the columns completed by Project Services historic masons Dennis Edwards, Aaron Morris and Lance Rothgeb.



HISTORIC PRESERVATION
ARCHITECT & SENIOR
SUPERVISORY PROJECT
MANAGER

What do you feel was your greatest accomplishment at work this past year?

The work I've been most proud of during the past year has been outside of my day job. One of UVA's great gifts to its employees is the opportunity to serve our community. Recently I completed a condition survey of First Baptist Church on Main Street, Charlottesville's oldest African-American congregation. This document will be crucial in seeking grants for critically-needed repairs to the historic 1883 church building.

The art of graining

PAVILION DOORS RESTORED USING GRAINING TECHNIQUE

Thomas Jefferson's pavilions in the Academical Village are works of art – right down to the front doors. In the spring of 2019, the doors of Pavilions I, V and VI were "re-grained," or treated in a traditional decorative technique for making ordinary wood appear to be more rare and expensive. In the case of the pavilions, pine doors were grained to make them look as if they were mahogany, painting subtle lines to create the impression of a wood grain.

Facilities Planning & Construction Architectural Conservator Mark Kutney has been working with John Canning Associates staff who have performed the graining technique on the original six-panel. Jeffersonian doors.

Graining is a multi-step process that involves the stripping of the door's varnish, priming the wood and then applying a base color. The woodgrain patterns are drawn with a variety of brushes with different lengths, textures and thicknesses, working to replicate the randomness of a natural wood pattern.

The preparation and graining process was completed in the Facilities Management cabinet and paint shops with the help of Cabinet Finisher Kyle Bywaters, Painter Kenny Thompson and Carpenter G.E. Shiflet. The group worked together to prep the doors for the decorative grainer, providing an opportunity for them to learn more about graining materials, technique and color selection.

In 2018, the doors of Pavilions II, III and X were re-grained and additional doors will be completed next spring. Eventually, all of the doors will be restored with this technique as the current graining wears out.

BUILDING THE FUTURE

NEW MUSCULOSKELETAL CENTER BREAKS GROUND

The University of Virginia's new lvy Mountain Musculoskeletal Center will provide comprehensive outpatient care, including sports medicine and joint replacement surgery as well as all orthopaedic specialty clinics.

In the fall of 2018, Facilities Management and UVA Health staff celebrated the groundbreaking of the lvy Mountain projects, which include the musculoskeletal center and the lvy Mountain Central Utility Plant. The new outpatient musculoskeletal care facility will be one of the largest and most comprehensive outpatient orthopaedic centers in the nation and is expected to open to patients in 2022.

The 200,000-square-foot facility will include operating rooms, surgery support services, extensive imaging services, a robust clinical trials program, approximately 90 exam rooms for all the major UVA Orthopaedic specialties, and consolidation of all administrative functions.

The projects — which are being managed by Facilities Planning & Construction Senior Project Manager Mashal Hartman — will be located on Ivy Road. Planning for the Ivy Mountain Musculoskeletal Center project started in 2016 and has involved hundreds of hours of discussion and planning by a core group of leaders, led by Dr. Chhabra, chair of UVA Orthopaedic Surgery, with input from more than 100 members

of user groups.

The facility aspires to achieve a LEED Silver rating through various sustainable strategies and practices including adopting tactics

for responsible water usage, improving energy performance, reducing greenhouse gas emissions, and enhancing the beauty of the existing site which will include pedestrian paths through landscaped areas.

To support the Ivy Mountain Musculoskeletal Center, and future developments on the site, the Ivy Mountain Central Utility Plant is being built in a parallel track to the project. The combined project budget for both projects is \$199 million. For both projects, the UVA FP&C project team is Senior Project Manager Mashal Hartman and Senior Construction Administration Managers John Marshall and Carolyn Chionchio; the architect is ZGF; and the construction manager is Whiting-Turner.

Space for the smallest patients

A well-coordinated effort to renovate the University Hospital's seventh and eighth floors was completed in December 2018, following a two and half year multi-phase project of these critical patient areas.

The project – managed by Facilities Planning & Construction Senior Project Manager Jim Loman and Senior Construction Administration Manager Carolyn Chionchio – transformed approximately 60,000 square feet of space including the Pediatric Intensive Care Unit (PICU) and Labor & Delivery. The project was completed while maintaining full operation of all surrounding areas of the hospital, requiring a high level of coordination, communication and problem solving.

Upgrades to the PICU on the seventh floor included new family-friendly and ADA-compliant amenities as well as a new bone marrow transplant unit. The Women's Health area on the eighth floor was renovated to include both private and semi-private rooms as well as an updated continuing care nursery and refurbished labor and delivery rooms and new nurse-team stations. Mechanical, electrical, and plumbing systems were upgraded throughout both floors.

The \$17 million project's architect was HKS Architects and the construction manager was DPR Construction, both of Richmond.

A YEAR OF GROWTH

UVA Health is continuously expanding to serve its growing patient base and research grants. This year, Health System Physical Plant staff added the following new spaces to its roster of buildings: UVA Endoscopy Monroe Lane, Heart and Vascular Center Fontaine, newly-opened floors within the Education Resource Center and the Emily Couric Clinical Cancer Center, as well as the expanded emergency department (part of the University Hospital Expansion project), which opened with a ribbon-cutting ceremony in October 2019.

HSPP recently split its Zone 1 maintenance team which had grown to serving a total of 2.9 million square feet with 70 employees. Zone 1 North now serves the medical center buildings north of Lee Street and Zone 1 South serves the buildings to the south, which includes University Hospital.



Health System Physical Plant's Renovations team has completed refurbishing 193 patient rooms, totaling close to \$1.9 million worth of work. The ongoing effort will continue until all of the hospital's approximately 476 rooms are renovated.



Ramps on the lawn

Students, faculty, staff and visitors with mobility issues now have significantly greater access to the four terraced levels of the Lawn following the construction of two new permanent ramps, which were completed in the spring of 2019.

Facilities Planning & Construction and Project Services worked together to construct the two ramps on the west side of the Lawn, adjacent to Pavilions V and IX. The project was a collaborative effort between the University's Barrier-Free Access Committee; Alice Raucher, the architect for the University, and her team; Senior Vice President for Operations Colette Sheehy and her team; and the Facilities Management team that worked through several weather delays to complete the project.

Project Services electricians and masons worked on the ramps which include LED-lit handrails and the same custom brick blend used for wall repairs in the Academical Village buildings, preserving the look and feel of the UNESCO World Heritage Site.

PROJECT TEAM

- · James Zehmer, Facilities Planning & Construction, historic preservation project manager
 - · Zach Brackett, Facilities Planning & Construction, construction administration manager
 - Hans McInturff, Project Services, construction project manager
 - · Matt Pannell, Project Services, construction project manager
 - · Rhodeside & Harwell, landscape architects

CORY PARADIS PROJECT COORDINATOR

If you had one extra hour of free time a day, how would you use it?

I would spend more time with friends and family.

Who do you admire the most?
My family, because without their support I would not be where I am today.

Do you have a favorite quote? "Success is not achieved alone."



LOCKER ROOM REFRESH

The UVA Women's Basketball team locker room was recently upgraded to provide a fresh and residential feel, supporting the team's efforts to attract a high-caliber recruiting class.

The John Paul Jones Arena locker room's compartmentalized space was transformed into a fluid layout with updated interior finishes, lighting and furniture, including the use of reclaimed flooring from U-Hall for a feature wall to showcase past MVPs.

The renovated space now includes a large open team lounge, a nutrition station and kitchen, a tiered film room and new locker rooms for the team and coaching staff. An extensive graphics package was designed to create a cohesive, branded home

The \$2.6 million project was managed by Facilities Planning & Construction and completed by Project Services trades. The architect was Populous with 2RW providing engineering services.

PROJECT TEAM:

- Taryn Spence, Facilities Planning & Construction, senior project manager
- Keith Payne, Facilities Planning & Construction, senior construction administration manger
- Alex Muirhead, Project Services, construction project manager senior
- Matt Pannell, Project Services, construction project manager
- · Matt Ball, Project Services, construction project coordinator
- · Populous, architect
- · 2RW, engineering services



SMART INFRASTRUCTURE

WIRELESS MONITORS WILL INCREASE EFFICIENCY AND SUPPORT RESEARCH

The University's utilities infrastructure is acting as a living testbed for emerging technologies.

A total of 165 wireless sensors were installed on UVA's steam traps as part of a collaborative effort between the Facilities Management Energy & Utilities department and the School of Engineering and Applied Science. The effort to test out the use of "smart infrastructure" was supported by a \$2 million grant from the University's Strategic Investment Fund (SIF), which supports proposals to transform critical areas of knowledge or operation at UVA.

Monitoring steam traps – which allow for the release of water condensate from pipes without letting steam escape – will lead to efficiency savings while also providing research opportunities for students and faculty studying next generation technologies that use data analytics to reduce energy consumption.

The Everactive and SteamIQ sensors measure either temperature or sonic frequency to determine if a steam trap is working properly and use wireless networking to transfer the collected data to the cloud. Everactive's batteryless sensors are powered only from the heat of the steam pipes.

The installation of the sensors – which occurred in late 2018-early 2019 – was managed by Senior Associate Director of Energy & Utilities Paul Zmick, Utility Systems Maintenance Manager Ed Brooks and Senior Plumber/Pipefitter Dakota Peregoy. Access to real-time data about the health of the steam traps is a significant improvement for the team, which has typically relied on regularly-scheduled preventative maintenance to monitor the traps.



A NEW KIND OF BOILER

To meet the growing number of UVA facilities being served by the Main Heat Plant, an additional boiler (hot water heater) is being constructed at the plant that will be primarily fueled by natural gas. The Heat Plants team has been integral to this project, providing design review, construction support and ancillary system upgrades such as new polishers. The project team includes Facilities Planning & Construction Senior Project Manager Will Moore and E&U Process Control Manager John Antesberger.

A new life for labs

A phased renovation of Gilmer Hall and the Chemistry Building will bring many of the University's research and teaching laboratories up to 21st century standards and practices.

The buildings – which include more than 400,000 square feet of space – house research and teaching laboratories for the biology, psychology and chemistry departments as well as general-use classrooms for the College of Arts & Sciences.

The new design will enhance student-faculty interaction and research collaboration as well as accommodate projected growth within these departments. A new south façade and main entrance will be created for Gilmer Hall, in addition to a second-floor student commons area within the Chemistry Bulding. Mechanical, electrical and plumbing system upgrades will boost efficiency and result in significant utilities savings.

Phases of the project are scheduled for completion starting in 2020 (Chemistry) and continuing through 2022 (Gilmer). The architect is Perkins + Will and construction management services are being provided by Whiting-Turner. The project budget is \$186.8 million.

PROJECT TEAM:

- Craig Hilten, Facilities Planning & Construction, senior project manager
- Jim Klapmust, Facilities Planning & Construction, senior construction administration manager
- Charlotte Dickerson, Facilities Planning & Construction, construction administration manager
- · Perkins+Will, architect
- Whiting-Turner, construction manager



COLLABORATIVE COMMUNITY

Teaming up for safety

Occupational Health and Safety works collaboratively with groups across Facilities Management, providing management of workplace hazards and controls, as well as recommending solutions to keep employees and others on Grounds safe and healthy.

This year, OHS has been intensifying collaboration efforts throughout Facilities Management with several new and renewed initiatives. A new Safety Observation app was introduced that allows employees to easily record their safety observations, both positive and potentially negative, and send them in real-time to OHS for assistance. Engaging the FM boots-on-the-ground workforce allows employees to provide direct input and make a lasting impact on workplace safety.

OHS increased collaboration with Facilities Planning & Construction this year, conducting jobsite walk-throughs and toolbox trainings on multiple project sites, including the University Hospital Expansion, the lvy Mountain Musculoskeletal Center and the Softball Stadium projects.

Training classes were enhanced based on trainer and trainee feedback with several classes now taught entirely by FM subject matter experts with oversight provided by OHS. These changes ensure the most effective, relevant and UVA-specific training delivery possible.

OHS has also partnered with West Grounds Zone Maintenance to work towards achieving Occupational Safety and Health Administration Voluntary Protection Program Star status. This status recognizes groups who have implemented effective safety and health management systems and achieve and maintain injury and illness rates below the industry averages. West Grounds Zone is currently in the VPP Challenge Program, a three-stage program in preparation for the Star application.

NARGES SINAKI

OCCUPATIONAL HEALTH & SAFETY COMPLIANCE SPECIALIST

Can you describe what it's like to be on the Facilities Management team?

I believe it's like being surrounded by your big working family and I am grateful to have an opportunity to put positive footprints in our community. There is always an opportunity to learn new subjects and use your experience and skill. I am so proud that I am part of UVA FM!



MAPPING ON THE GO

Geospatial Engineering Services completed several significant projects this year through collaborations with other teams within Facilities Management and across Grounds.

The department launched UVA's new visitor map website – optimized for desktop and mobile browsers – in May 2019 in time to support visitors on Grounds for Final Exercises and Reunions weekends. Other projects included a partnership with Hoos Well to develop a map of walking paths throughout Grounds and a sidewalk inspection tool to report locations of needed repairs.

The GES team continues to work toward the implementation of OnBase, an enterprise document and content management system that will serve as a central repository for Facilities Management and a platform for the Office of the University Building Official to electronically review all drawings.

FM IN THE CLASSROOM

Facilities Management regularly collaborates with UVA professors and students in the classroom, benefitting students' learning and assisting with the department's operations.

- GLOBAL SUSTAINABILITY: The Office for Sustainability recently partnered with the Global Sustainability class to provide 10 different field trips to showcase sustainability initiatives and green buildings on Grounds.
- DEPARTMENT OF ENVIRONMENTAL SCIENCE: Environmental Resources assisted classroom learning for the Environmental Science department with tours at the Dell, in addition to serving as staff advisors on capstone projects for architecture and engineering students.
- SCHOOL OF DATA SCIENCE: Facilities Management groups regularly provide building and electric substation data to master's degree students and faculty within the School of Data Science for projects related to data modeling and forecasting.
- LEARNING ON THE JOB: Facilities Management employs approximately 35 student workers each year in the following departments: Office for Sustainability, Technology & Innovation, Geospatial Engineering Services, Facilities Planning & Construction and Energy & Utilities.



FM PILOTS FREE HYGIENE PRODUCTS

This year, Educational & General (E&G) Custodial Services launched a pilot program to install and stock machines that dispense free pads and tampons in bathrooms around Grounds.

The program was initiated by a request from the UVA Student Council in discussion with Associate Vice President and University Dean of Students Allen Groves to serve as both a convenience for students in addition to easing the financial burden of purchasing these products.

3 evogen

Dispensers were installed within high-traffic buildings with a substantial student presence, including Newcomb Hall, New Cabell Hall, 1515 University Avenue and the South Lawn buildings. Discussions are in progress to bring the program to other areas on Grounds.



Mentoring program

This year, Occupational Training launched the Facilities Management Mentoring Program to provide guidance, training and inspiration to individuals interested in developing their careers. Mentoring educates and revitalizes people within the organization while also preserving and expanding critical corporate knowledge.

The initial pilot program included 15 first-year apprentices matched with mentors from 13 different departments in positions that ranged from frontline supervisors to assistant directors. The pilot included more than 180 coaching sessions among the participants, as well as seven Mentor Roundtable sessions aimed at equipping mentors with the needed tools.

In the summer of 2019, the program was expanded to include the 2019 apprenticeship class and now includes a total of 63 mentors and mentees. Beginning in the fall of 2019, the program will expand to include employees outside of the Apprenticeship Program.



WORKDAY LAUNCH

A group of Facilities Management employees spent six months preparing the department for the January 2019 launch of Workday,

the new human resources and payroll technology that consolidated more than 70 legacy applications.

The project team – which included staff from Programs & Informatics, Finance, Technology & Innovation, Occupational Training and the department's HR Business Partners – met weekly to review the impact of Workday on Facilities Management's existing time

entry practices and related software systems. The team provided training for more than 800 employees.

Leading up to the transition, the project team performed testing within the Workday environment, providing valuable feedback to the

UVA Human Resources Workday team in their efforts to deliver a software product that worked for FM's business needs.

MORE THAN **800**EMPLOYEES
TRAINED

Employees from across all of Facilities Management's operational divisions and the Office of the University Building Official collaborated to complete the University's newest residence hall, Bond House.

The project to construct the 205,000-square-foot building started in December 2017 and was managed by Facilities Planning & Construction Project Managers Raleigh Roussos and Brian Williams, Senior Construction Administration Manager Charles Durrer and Project Coordinator Sam Walker. Goody Clancy served as the project's architect and KBE served as the general contractor.

Heavy rains during the winter of 2017 caused initial project delays and a tight labor market added to the challenge of completing the project on an accelerated schedule. As the project neared completion, Facilities Management leadership made the decision to temporarily reassign about 85 trades workers from other projects to ensure the building would open in time for the fall semester.

Trades from Project Services, Operations Maintenance Zones, Energy & Utilities, Automation Services and Health System Physical Plant all contributed to the building's completion. Due to the tight turnover, staff from Housing Custodial and Landscape Services assisted with finishing touches over the weekend before students moved in.

As the building neared its final inspection, Facilities Management teams worked closely with Office of the University Building Official Ben Hays and his staff to ensure the building adhered to all guidelines outlined in the Virginia state code. Leadership from both departments was updated daily, closely tracking any outstanding items.

The project's "photo finish" culminated with the issuance of an occupancy permit on Saturday, Aug. 24, 2019 with students moving in the next day. The building — which is named for UVA professor and civil rights leader, the late Julian Bond — is the first phase of the Brandon Avenue master plan. This plan also includes the construction of a new student health and wellness center, a second residence hall and the development of a "green street," a one-way loop with a landscaped bioretention area and gathering spaces in the central plaza.

PAUL NORFORD

ELECTRICIAN WITH PROJECT SERVICES

What do you feel was your greatest accomplishment at work this past year?

One big accomplishment that I've been getting recognition for is the Bond House job, where I was in charge of all the UVA Electricians' on-site work with the electrical contractor.

I've also been taking advantage of educational benefits to take online classes. I've gotten a certification in electronics and telecommunications, and have also gotten my solar associate PV license.

If you could visit any place in the world, where would you go?

I've always
wanted to go to
Europe, more
specifically
Ireland,
Scotland and

England.



STEWARDING OUR RESOURCES

sustainable vehicles.

Green fleet facilities MANAGEMENT EARNS SUSTAINABLE FLEET ACCREDITATION

The University of Virginia Facilities Management Fleet recently The route to achieve this accreditation over the past two years earned the Sustainable Fleet Accreditation, becoming the only active university fleet in Virginia to receive this designation. Transportation Operations and Fleet Manager Michael Duffy initiated Facilities Management's pursuit of the accreditation which recognizes the and Project Services. department's efforts to build a fleet of cleaner and more

UVA is the sixth active university fleet in the U.S. to receive the accreditation, a joint program between the National Association of Fleet Administrators and Calstart. "The University of Virginia Facilities Management has successfully demonstrated that...real, meaningful progress is being made toward reducing [the fleet's] total emissions and the negative environmental impact made by extraneous carbon fuel usage," according to the accreditation organizations.

involved multiple departments within Facilities Management. including the department's leadership as well as staff members within Maintenance, the Office for Sustainability, Environmental Resources

Sustainability Program Manager for Buildings & Operations Jesse Warren and Environmental Projects Manager Jess Wenger assisted with the development of a Sustainable Fleet Plan, which includes data examining the impact of reducing fuel consumption and emissions and was required for the accreditation process. Fleet Service Coordinator John Jordan and Newcomb Zone Manager Jamie Joyner worked with Duffy to research the use of electric vehicles at other universities and Project Services staff installed the infrastructure necessary to charge electric vehicles.

ZERO EMISSIONS

During the 2018-2019 fiscal year, the Facilities Management Fleet reduced its gasoline consumption by 3.200 gallons and its carbon emissions by 28 metric tons by replacing 10 of its older, less efficient vehicles with electric and hybrid vehicles.

The team also reduced the department's older diesel vehicles by 50% down to just 13, resulting in a reduction of 2,500 gallons of diesel and 26 metric tons of emissions.

Facilities Management's electric vehicles produce zero emissions while driving, have a range of 150-170 miles and charge in just seven hours. The department also uses hybrid vans and box trucks. which use up to 25 percent less fuel, and is currently piloting the use of an electric

cargo bicycle.



Caring for our trees

The University of Virginia recently earned the Tree Campus USA designation, an Arbor Day Foundation program that honors universities and their leaders for promoting healthy trees and engaging students and staff in the spirit of conservation.

The Tree Campus USA recognition highlights UVA's role as a steward of its trees and the extensive benefits they provide to everyone on Grounds, according to Landscape Services Supervisor Senior Kevin Beal. In addition to providing oxygen for us to breathe, trees filter pollutants out of the air and stormwater, reduce cooling energy needs and support wildlife habitats, according to Beal, a certified arborist who applied for the Tree Campus designation on behalf of the University.

The designation is awarded based on five core standards for sustainable campus forest management, including a tree advisory committee, a University-wide tree-care plan and dedicated funds, an Arbor Day observance and the sponsorship of student service-learning projects. Currently there are 364 campuses across the United States with this recognition.

Landscape Services provides for the full range of care of more than 10,000 trees across the University's Grounds. There are more than a thousand acres of woodland across all local land owned by UVA and the UVA Foundation, with approximately 50 percent of tree canopy coverage on all of Grounds and 30 percent coverage within the developed areas.

This year, Landscape Services partnered with Geospatial Engineering Services to enhance the department's mapping and documentation of the University's trees. GES created a map of the University's trees with the help of a student worker who spent a summer documenting each one. The map is accessible by frontline staff, allowing arborists to easily reference maps of trees, add notes and photos to the record and even indicate a tree's removal.

Landscape Services also partnered with Programs & Informatics to combine the landscape data with the department's finances using Tableau. This has allowed the department to analyze costs and better predict the labor, material and budget needs to maintain Grounds.

YOUR RIVER STARTS HERE

When it rains, trash and debris in roadways and sidewalks are washed into storm drains that eventually lead to nearby streams. To bring attention to the importance of stormwater pollution prevention, the Clean Water Working Group (chaired by Environmental Resources staff) hosted a sidewalk stencil competition. The stencils – which included messages such as, "Your river starts here, keep it clean" – were created by the Sign Shop and applied using an invisible, biodegradable ink solution that only shows up when it rains.

CLEANING SUSTAINABLY AND EFFECTIVELY

This year, Educational & General (E&G) Custodial Services created and launched the first program in the custodial industry to certify individuals based on Green Seal Standards, specifically known as GS-42 Certification for Commercial and Institutional Cleaning. The standard sets forth requirements that ensure cleaning practices protect human health and the environment, without compromising quality or effective cleaning results.

Twenty-four Custodial Services employees earned their individual certification during an October 2019 celebration and award ceremony attended by Green Seal's Chief Executive Officer, Doug Gatlin. Those certified included frontline and management team members who each demonstrated academic achievement in sustainable practices, products and procedures.

Gatlin recognized the program as the first to certify individuals based on GS-42 standards and envisions the E&G Custodial Services program serving as an example of leadership and innovation to other organizations and institutions.

REGGIE McGHEE

SOUTHWEST McCORMICK
ZONE CUSTODIAL
AREA MANAGER

Do you have a favorite quote?

GS-42

PROGRAM

"Work for a cause, not applause; live life to express, not impress; don't strive to make your presence noticed, just make your absence felt."

If you had one extra hour of free time a day, how would you use it?

I would go for a nice run. I already run every Sunday, but an extra hour would be great.

If you could visit any place in the world, where would you go?

Arizona. The weather is awesome and the snow-covered mountains look like a postcard.



SECURING OUR INFRASTRUCTURE

The lights within a classroom, the temperature within a research lab and the air pressure within an operating room can all be monitored and adjusted remotely through building automation system controls.

These controls - which are installed and maintained by Automation Services - are invaluable to Facilities Management's support of the University, allowing for energy conservation, remote monitoring, as well as troubleshooting malfunctioning equipment. However, with the increasing interconnectivity of systems, cybersecurity continues to be a focus for Automation Services with the support of Technology & Innovation, which handles the security of all of Facilities Management's networkconnected devices.

This fiscal year, the Technology & Innovation Systems team launched a formal effort to perform comprehensive reviews of all applications and software being used by Facilities Management departments. The team's security review focuses on three areas: confidentiality (only authorized users can access the system), integrity (the system only contains accurate data and information) and availability (the system is readily available).

Facilities Management uses more than 80 different software applications that will be reviewed through this process.

GRADUATES' BALLOONS DONATED TO UVA'S YOUNGEST PATIENTS

Every year during Final Exercises, the Office for Sustainability encourages UVA students to pledge to properly dispose of their graduation balloons rather than releasing them into the air, which leads to pollution and potential harm of marine species and wildlife.

This year, the UVA Office of the President and UVA Health added another element to the no balloon release pledge - they coordinated a collection of balloons from graduates at the lower Lawn and then donated them to UVA Children's Hospital.

President's Office staff members collected more than 1.500 balloons. which were transported to UVA's youngest patients with the help of Project Services and Central Grounds Maintenance. Staff members dropped balloons off at the hospital, where the UVA Hospital Auxiliary has a process for collecting donated flowers, cards and other gifts.



Creative composting Composting of food waste - an important initiative that supports UVA's landfill diversion goal - is available within various locations around Grounds as well as during zero waste events. This year, the Office for Sustainability, Custodial Services and Recycling worked together to pilot a paper towel composting program in restrooms within Facilities Management buildings. Collection bins were placed in restrooms within the Alderman Road complex starting in the fall of 2018 with additional buildings added in the summer of 2019. Paper towels - which are carbon-rich, a necessary component for a properly working compost pile - are collected daily by Custodial Services. They are then sent to Black Bear Composting along with food waste collected from kitchen compost bins and dining halls around UVA. Over 750 tons of organic material is diverted each year and a portion of the finished compost is returned to Grounds to supplement gardens, including the Hereford College Farm Garden and the UVA Community Garden on the corner of Alderman and McCormick roads

LELA GARNER

SUSTAINABILITY COORDINATOR FOR OUTREACH & ENGAGEMENT

Do you have a favorite quote?

"There are big ships and there are little ships, but the best ship is friendship."

If you had one extra hour of free time a day, how would vou use it?

I would likely be baking chocolate chip banana

muffins, listening to my favorite podcasts, and watching the Eagles win the

Super Bowl.

HEREFORD COLLEGE

FARM GARDEN



FACILITIES MANAGEMENT TEAMS SUPPORT THE UNIVERSITY'S WORLD-RENOWNED RESEARCH

Ground-breaking discoveries and inventions are occurring on Grounds everyday – from the discovery of a link between the brain and the immune system to the creation of instruments allowing astronomers to view stars in the farthest reaches of the galaxy. In 2018 alone, the University of Virginia generated \$394 million in sponsored research awards.

As an R1 Doctoral University, UVA has the highest possible research activity ranking with a principal investigator population of more than 500 scientists in 34 different research departments. And these researchers depend on Facilities Management for the department's unwavering dedication to the University's mission.

Staff members provide crucial support that includes monitoring the temperature and humidity of lab spaces and equipment as well as responding to maintenance emergencies at all hours of the day.

Automation Services recently completed an installation of more than 80 sensors for the freezers within the Clinical Core Laboratory, which provides testing and body fluid analysis for both research and patient care purposes. The use of these monitors has already proven

its value as Core Lab employees were alerted to a recent freezer failure by a monitor, allowing them to quickly transfer all of the freezer's contents, which included about \$250,000 worth of stabilizers and other chemicals.

The McCormick Zone Maintenance team serves 13 different buildings that contain researchers in a variety of fields including biology, chemistry, physics and engineering. This research community has been utilizing the McCormick Zone trades staff for their everyday needs in addition to special projects that extend beyond typical maintenance requests.

In April 2019, a UVA-built mini-spacecraft blasted off toward the International Space Station after three years of development by aerospace, mechanical and electrical engineering students under the guidance of mechanical and aerospace engineering professor Chris Goyne. Prior to the launch, the professor approached the McCormick Zone team to install an antenna on the roof of the Mechanical & Aerospace Engineering Building and construct a mission control room to allow the team to track the launch and communicate with the International Space Station.

Physics professor Peter Schauss is currently researching atomic and molecular physics and needed a way to cool a high-powered laser that reaches extreme temperatures. He contacted the McCormick Zone with a preliminary drawing of the cooling system he envisioned. The

zone's HVAC team used the professor's sketch to build the system completely in-house, avoiding the need to hire an outside fabrication shop.

"We've focused on making [our zone] a part of [the] research teams," said McCormick Zone Manager Randy Campbell. "This has excited my zone staff to see the output of what they do every day and the difference they make."

500 SCIENTISTS
IN 34 RESEARCH
DEPARTMENTS

Cleaning up the data

Facilities Management's Finance, Programs & Informatics and Technology & Innovation teams worked together this year to update the department's management of overhead expenses. Overhead includes all goods and services that are not tied to a specific project or customer work order, including items and tools for everyday use such as computers and hammers.

These types of expenses were previously tracked within the department's work management system, AiM. This system is designed to work best with expenses that are billable to a specific work order or project and result in the system performing inefficiently when used differently.

In an effort to improve the quality of the data within these systems, the teams worked to change the department's purchasing processes by removing overhead, inventory and fixed price expenses from the work management system and posting them directly to the finance management system, Oracle. In addition to work on the back-end of these systems, this effort involved training more than 300 Facilities Management staff members who regularly initiate purchasing transactions.

This process is one of many planned efforts to improve the quality of Facilities Management's financial data which will improve analysis of expenses.



OTIS HACKETT PLANT RENOVATIONS SUPERVISOR SENIOR What do you feel was your greatest accomplishment at work this past year? Finishing a large percentage of the patient rooms that we refurbished, for which we received many positive comments from our patients, visitors, and staff on what an improvement it made to our facility. Who do you admire the most? My dad, who has given me the most support and guidance through my entire life. If you could visit any place in the world, where would you go? Italy, my ancestors from my mother's side are from there.

HIGH-TECH MAINTENANCE

FACILITIES MANAGEMENT TEAMS EXPLORE THE USE OF 3D MODELS

As one of the largest and most complex projects in the University's history, the University Hospital Expansion project team utilized state-of-the-art technology throughout the design and construction process.

The project's contractor, Skanska USA, and design team, Perkins+Will, used Building Information Modeling (BIM) tools to create three- and four-dimensional models of the design to be used during construction. These models were accessible on tablets in the field by construction workers, the Facilities Planning & Construction project team and Office of the Building Official staff during inspections.

Through a partnership with the contractor, these same models were turned over to Health System Physical Plant Zone 1 and Renovations staff members who will now be providing maintenance support within the expanded emergency department. Technology & Innovation IT Business Systems Analyst John Quinn worked with HSPP to obtain the needed hardware, software and training to access the models in the field.

The use of the BIM tool allows maintenance staff to simply point a tablet in the direction of a piece of equipment (such as an air handler or light fixture) or a section of ductwork to display details such as the dimensions, the model number and installation date. The HSPP and T&I teams are currently evaluating the long-term use of these types of tools by maintenance staff as well as pursuing additional opportunities in upcoming construction projects.



Reaching a younger generation

Facilities Management has expanded its outreach to area schools in an effort to

expose young kids to careers in the facilities and skilled trades industries. The UVA Apprenticeship Program visited 19 area high schools and middle schools to share information about apprenticeship, skilled trades and the program application process. Multiple Facilities Management departments worked closely with Western Albemarle High School this year. Occupational Health and Safety taught an OSHA 10-Hour Construction course to the school's building trades class and Technology & Innovation hosted students from the school's computer science club to provide exposure to IT careers. During the club's spring 2019 visit to FM, students were introduced to the department's IT operations, Automation Services, the Systems Control Center

and the University Data Center.



SUSTAINABILITY SUMMIT

The Office for Sustainability focused on building community connections during the 2018-2019 fiscal year, resulting in unprecedented levels of engagement from the University community. The Bicentennial Sustainability Leadership Summit featured a series of events in October 2018 showcasing the breadth of UVA's interdisciplinary work in sustainability and to collaboratively develop UVA's longer-term role as a global sustainability leader. Attended by nearly 600 guests, the summit featured over 60 guest speakers including UVA's President Jim Ryan, multiple UVA deans, faculty, staff, alumni and leaders in the field of sustainability.



ENOUGH TO SAVE 345 LIVES

125 EMPLOYEES PARTICIPATED IN THE UNITED WAY DAY OF CARING COMPLETED 55 TOTAL PROJECTS

TWO BIKES + ONE SCOOTER

DONATED TO CHARLOTTESVILLE'S ANNUAL **TOY LIFT**



TO THE COMMONWEALTH OF VIRGINIA **CAMPAIGN CHARITY**

DONATION DRIVE





GIRLS 10-16 ATTENDED THE 4TH ANNUAL GIRLS DAY WITH HANDS-ON ACTIVITIES + 25 VENDORS

THE OFFICE FOR SUSTAINABILITY SUPPORTED 126 EVENTS WITH 5.000+ ATTENDEES

THE HOOS REUSE **MOVE OUT DONATION DRIVE** DIVERTED 45.000 **POUNDS OF USABLE GOODS** FROM LANDFILLS

INCLUDING 800 POUNDS OF FOOD

JUNE BATES PROGRAM MANAGER

What do you feel was your greatest accomplishment at

work this past year?

Being a part of the work associated with the Continuous Improvement Taskforce, We've members together throughout the organization to form small working teams. Our goal is to implement positive and tangible change throughout FM, based on comments received during feedback sessions.

Do you have a favorite quote?

I have a few, but one is "attitude determines altitude." Everything starts with a thought. If you think positive. in the end, you will get positive results.







BY THE NUMBERS

HEALTH SYSTEM MAINTENANCE \$40M ENERGY & UTILITIES ACADEMIC/AUXILIARY MAINTENANCE \$75M \$40M CUSTODIAL \$15M GROUNDS TOTAL \$6M \$533 **Facilities** MILLION SUPPORT Management \$17M HOW WE SUPPORT UVA PLANNING, DESIGN & CONSTRUCTION \$340M

Employees

FACILITIES MANAGEMENT'S FILLED FULL-TIME POSITIONS TOTALED 1.186

AT THE 2019 ANNUAL SERVICE AWARD CEREMONY, 126 EMPLOYEES CELEBRATED 2,230 YEARS OF SERVICE

422 DIFFERENT EMPLOYEES WERE AWARDED 585 REWARD & RECOGNITION AWARDS TOTALING \$224,150

32 EMPLOYEES WERE RECOGNIZED FOR EDUCATIONAL AND PROFESSIONAL ACCOMPLISHMENTS



Occupational Programs

OCCUPATIONAL TRAINING

FILLED 2,017 SEATS FOR
2.091 TOTAL HOURS OF TRAINING IN:

- Professional Development
- Technology
- Leadership

ONBOARDED 202 NEW EMPLOYEES

TRAINED 878 EMPLOYEES IN WORKDAY

OCCUPATIONAL HEALTH & SAFETY

completed 139 safety surveys, including 4,704 observations, with 338 hazards identified

AND CORRECTED

66 PEER-AWARDED SAFETY STARS

FM RECOGNIZED 17 SAFETY CHAMPIONS

CAMPUS SAFETY, HEALTH, AND
ENVIRONMENTAL MANAGEMENT ASSOCIATION
AWARD FOR 12 POSTERS PRODUCED BY SAFETY
COMMITTEES IN 2019

8 SAFETY COMMITTEES, 4 ACTIVE FOCUS TEAMS

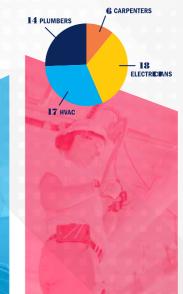
FILLED 2,873 TRAINING SEATS

APPRENTICESHIP

10 APPRENTICES GRADUATED AND 18
APPRENTICES WERE INDUCTED IN 2019

112 ON-THE-JOB TRAINERS

55 TOTAL APPRENTICES IN THE PROGRAM



Facilities PLANNING CONSTRUCTION

CONSTRUCTION WORK-IN-PLACE TOTALED \$258 MILLION

ACTIVE CONSTRUCTION **PROJECTS** **BILLION** IN ONGOING DESIGN

PROJECT SERVICES

CONSTRUCTION **WORK-IN-PLACE** TOTALED

ACTIVE CONSTRUCTION **PROJECTS**

250 VEHICLES & **80 PIECES OF EQUIPMENT** IN THE FM FLEET

BUILDINGS/GROUNDS

17.7 **MILLION SOUARE FEET FOR ALL UVA FACILITIES**

3,270 ACRES OWNED BY THE UNIVERSITY OF VIRGINIA

BUILDINGS IN THE UVA **PORTFOLIO** 6.27 MILES OF UTILITY TUNNELS

49,319 TOTAL ASSETS

An asset is a piece of equipment that is part of a building system.

14.590 Health System Physical Plant

11.122 Housing Facilities

3.929 McCormick Road Zone

5.886 West Grounds Zone

2.145 Newcomb Zone

5.304 Central Grounds Zone

2.127 North Grounds Zone

4.216 Other

See more at www.fm.virginia.edu/about/by-the-numbers/2018-2019

SUSTAINABILITY

THE UVA REUSE STORE DIVERTED 1.800.00 LBS OF SURPLUS PROPERTY

FROM LANDFILLS

SINCE APRIL 2018

2,479 **SOLAR PANELS ON GROUNDS &** 123,800

OFF GROUNDS AT UVA SOLAR FACILITIES

55 LEADERSHIP IN **ENERGY &** ENVIRONMENTAL DESIGN (LEED)-CERTIFIED BUILDINGS

144.797 COMPLETED REACTIVE 54,364 PREVENTATIVE MAINTENANCE 60.269 17% DECREASE IN **GREENHOUSE GAS EMISSIONS**

IN CALENDAR YEAR 2018

COMPARED TO 2009

CORRECTIVE

13,133

GENERAL NUMBERS

OTHER

17.031

WORK ORDERS



A GREAT AND GOOD UNIVERSITY

President Jim Ryan's roadmap for the University of Virginia's future, "A Great and Good University: The 2030 Plan," is built upon four overarching goals and includes 10 major new initiatives to help achieve them. The plan – which was endorsed by the Board of Visitors in June 2019 – aims to strengthen UVA's foundation, cultivate community, enable discoveries that improve lives and make UVA synonymous with service.



In addition to two new residence halls, the Brandon Avenue Green Street district will also include the new Student Health & Wellness Center, which will provide expanded space and programming aimed at boosting students' overall health and well-being. The design team hosted an interactive student feedback session to gather input on the project, which is currently under construction and estimated to be complete in spring 2021. The 169,000-square-foot building will feature upgraded space for health and wellness appointments as well multipurpose instructional spaces and flexible lobby and lounge areas.

TRANSFORMING ALDERMAN

In May 2020, Alderman Library will close to undergo a comprehensive renovation project to bring the library up to contemporary standards of safety, accessibility, usability and service. The project – expected to be complete by 2023 – will build a new 130,000 square foot-addition on roughly the same footprint and renovate 100,000 square feet of the historic building. The renovated library will include space for collections, study areas, reading rooms, staff work areas and spaces for scholarly research and support, in addition to a major new entrance facing University Avenue.



NEW SUSTAINABILITY GOALS

The University of Virginia's leadership role in environmental stewardship and broader social and economic sustainability issues has evolved and expanded over the past 200 years with significant acceleration over the past decade. Building upon successes to date and with a focus on leadership, innovation and alignment with the UVA Strategic Plan, a new 2020-2030 Sustainability Plan is being developed by the UVA Committee on Sustainability that will include new and accelerated goals.





The University of Virginia continues to experience growth with rising enrollment, an increasing number of patients and expanding research grants all contributing to the need for new and improved spaces.

While Facilities Management has responded to this need with a growing employee population, we have also expanded the scope of services we provide to the University. But even as our work has changed, we have always understood that our most important asset is, and has always been, our people. Our work here is successful because of the dedication of our employees who pride themselves on providing the highest quality of service to the University – 24 hours a day, seven days a week, 365 days a year.

Facilities Management has adopted four core initiatives to support our values and the success of our employees: diversity, inclusion and respect; safety; sustainability; and training and development. These initiatives are supported through a combination of established programs and employee-led councils, encouraging active engagement in the shaping of the department's future.

Over the past year, a Facilities Management-wide effort toward continuous improvement involved feedback sessions with employees across all departments. The sessions centered on gathering input on previously-identified focus areas including communication, accountability, teamwork and mentoring. From that effort, a group of 40 Change Champions have been selected to explore projects to address improvement opportunities.

We know our employees are committed to providing outstanding support of the University, and we are committed to supporting them achieve that goal.



Donald E. Sundgren
Associate Vice President and Chief Facilities Officer



