

2017-2018 ANNUAL REPORT

IN FACT  
**A UNIVERSITY**  
SHOULD NOT  
BE A HOUSE BUT A  
**VILLAGE**



Facilities Management







BUILD

SERVE

INNOVATE

PROUD  
TO

STEWARD

DISCOVER

COLLABORATE



# I INTRODUCTION AND ACCOLADES

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**ON THE COVER**  
“In fact, [a] University should not be [a] house but a village.” — Thomas Jefferson

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

At the University of Virginia Facilities Management, our 1,200 employees work to support the University’s mission 24 hours a day, seven days a week. From shoveling snow off sidewalks to repairing burst pipes within operating rooms, our teams show up at all hours of the day and night to ensure the University is up and running for students, patients and staff.

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.

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

Facilities Management has a long tradition of giving back to our community. In addition to supporting many important events and fundraisers, our employees spend countless hours organizing food drives and litter clean-ups, supporting volunteer rescue squads and fire departments and offering their trades expertise to improve local homes.

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.

## NO. 1 HOSPITAL IN VIRGINIA

Facilities Management staff work tirelessly to support the everyday operations of the University Medical Center, which was named the No. 1 hospital in Virginia by the U.S. News & World Report for the third year in a row. Facilities Management executes the Health System’s well-established maintenance programs, ensures consistent utilities distribution and oversees the planning and engineering of capital projects.

## 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. Most recently, Matador Network put the University atop its “Most Beautiful Colleges” list in 2018 and Times Higher Education ranked UVA as one of the 10 Most Beautiful Universities in the U.S. in 2017.

## LEADING THE WAY

Established in 1982, the UVA Facilities Management Apprenticeship Program was the first of its kind to be established by a state agency in Virginia and has been a model for other programs across the state and the country.

## ADVANCING SUSTAINABILITY

The University of Virginia was named a 2018 Gold Medal recipient of the Governor’s Environmental Excellence Award for “its demonstrated commitment to the stewardship of Virginia’s natural resources” through its comprehensive sustainability programs. The award honors the Office for Sustainability’s work to foster a culture of environmental sustainability, highlighting recent accomplishments related to reducing the University’s environmental footprint and maintaining a commitment to future sustainability-oriented actions.

## COMMITMENT TO SAFETY

Facilities Management’s leader, Associate Vice President and Chief Facilities Officer Don Sundgren, was honored by the Campus Safety, Health, and Environmental Management Association (CSHEMA) with the Campus Leaders Who Care Award. This award was created by CSHEMA to recognize institutional leaders who are advancing a culture of safety at their university. In the last five years, Sundgren has empowered staff to create a robust safety program by engaging employees to actively contribute to safety programs, create training, serve on safety committees and focus teams, and honor individual contributions, all embracing the goal of becoming the safest place to work in higher education.





## DISCOVERING THE PAST

### SURPRISES UNDERGROUND

East Range archaeological excavations unearth the unexpected

Archaeological excavations during the past year have exposed an early well, revealed more about how enslaved African-Americans lived during the early years of the University of Virginia, and how the University's hotels operated.

The archaeology work was conducted in anticipation of a stormwater drainage project, which will install drains and detention structures to capture runoff. The land east of the Lawn slopes steeply downward and has had ongoing drainage issues. Sarita Herman, historic preservation project manager for Facilities Planning & Construction, said that workers will install pipes underneath the alley road surfaces on the East Range and will add curbs to the alleys to help manage stormwater. In preparation for the drainage excavation, Rivanna Archaeological Services explored several areas on the East Range – part of the Thomas Jefferson-designed Academical Village, which dates back to the early 19th century – including a well next to Pavilion IV, underneath what had been some boxwood plantings. There, archaeologists found a round, brick-lined hole, about four feet in diameter. While initially uncertain of its purpose, they believe it to be the first well to be located on Grounds.

Archaeologist Benjamin Ford of Rivanna Archaeological Services said documentary evidence has been found that supports the idea of a well at that site. A notation in Proctor Arthur S. Brockenbrough's papers indicates that pump contractor Andrew Ziegler presented a bill on Dec. 28, 1833, for \$17 for the repair of a pump near Pavilion IV, with the services including cleaning the well and replacing 16 feet of wooden pipe.

Along with Facilities Management staff, archaeologists also explored a closed 26-foot-by-14-foot room underneath the dormitory rooms south of, and adjacent to, Hotel D.

Project Services masons working on the exterior of the basement wall first identified the nearly inaccessible room. The room had a blocked northern doorway that formerly linked it with the basement level of Hotel D. Two small windows allowed air and light to enter the space. One of the windows had been bricked up, and the other has been used as an access hatch into the space for many years. The room contained a dry laid-brick floor.

"There is a room in the basement that we believe was used by enslaved people at the University at some point," Ford said. "We have archival evidence that suggests that it was occupied or used as part of the broader functions of the hotel." In Jefferson's original design, the hotels had kitchens in the basement, and some of the basement space may have been used as residential space for slaves.

"I am constantly surprised at the degree of preservation of cultural features and deposits within the core of the Academical Village, despite the necessary and continuous need to upgrade the facilities and landscape," Ford said.

"Archaeological research continues to contribute to our knowledge of the history and physical development of the University, and to approach a greater understanding of the people who lived there and the way in which it functioned as a community of free and enslaved, whites and blacks, and students, faculty and hotelkeepers."

### THE HOTELS

The hotels and student rooms along the East Range of the Academical Village have been subject to water intrusion since original construction. Early records indicate that hotel residents found water issues on the East Range troubling from the very early days of the University.

Over the last 200 years, the University has engaged in numerous site improvement projects in the East Range area. While some of these projects have made incremental stormwater management improvements, others have contributed to worsening drainage issues. Flooding continues in the East Range basements and crawl-spaces, while damp conditions afflict the spaces above.

The East Range Stormwater Management Project aims to reduce water intrusion in the East Range buildings. The project includes waterproofing building envelopes, addressing stormwater management by increasing the capacity of underground storm infrastructure, and improving the overall aesthetic of alleys and parking courts with unified curbing, paving and plantings.



## MAKEOVER FOR OLD COLUMNS

Some of the Tuscan columns on UVA's famed Lawn have been stripped so they can breathe.

The nearly 200-year-old columns have a brick core topped by a lime-and-sand mixture. Through the years, they were repaired with cement-based render and coated with repeated layers of paint. These materials trapped moisture inside the columns, accelerating their decay and hiding their true shape.

Trapped moisture became a medium for salts that erode the original bricks. The moisture also freezes in cold weather, breaking apart elements within the columns.

The rehabilitation of the Lawn's Tuscan columns has been a continuing effort to remove old coatings and repairs and preserve the original brick columns with lime render.

This past summer, the Project Services historic masonry team – Robby Kolb, Zack Mays, Lance Rothgeb and Tim Proffitt – carefully removed the outer layers and old repairs of 14 pillars between Pavilions VIII and X, allowing moisture to evaporate before recoating them with a render much like the original “recipe.”

“Render is essentially plaster without the white coat and was sometimes simply referred to as plaster,” said Mark Kutney, a conservator with Facilities Management.

Early lime plaster was typically made up of multiple layers of a “brown coat” – composed of lime, sand and oftentimes, hair – followed by one or more layers of a “white coat,” composed of lime and a much finer additive, Kutney said.

The masonry crew carefully preserved the original render on the column shafts where it survives and filled in with a traditional lime render to make the new and the old material compatible and breathable.

A section of 15 columns between Pavilions VI and VIII was restored in the summer of 2017, and the remaining 51 columns on the east colonnade will be restored in small groups by the spring of 2019.



## RECREATING JEFFERSON'S FLAT ROOFS

When Thomas Jefferson designed the Academical Village, he envisioned flat roofs over the student rooms.

“Jefferson liked flat roofs, so he designed a serrated roof covered with a deck,” said James D.W. Zehmer, historic preservation project manager with Facilities Planning & Construction. “The water was supposed to run through the deck boards and into the valleys of the wood roofs.”

“Unfortunately, it leaked within 10 years.”

In the 1830s, University carpenters installed pitched slate roofs over the Jeffersonian roofs, which had two effects: They stopped the leaks, and they covered and preserved the originals. Nearly two centuries later, Project Services crews worked this summer between

West Lawn's Pavilions III and V to restore the appearance of Jefferson's original design with contemporary materials, while continuing to protect the original materials.

The project also included replacing the Chinese railings on the elevated walkway over the student rooms. The original railings were replaced with a cast iron system that remained in place until they were changed in preparation for the nation's bicentennial in 1976. That system is still in place atop the majority of the Lawn colonnades but has deteriorated to the point of necessary replacement.

The colonnade walkway's ceiling in the same area was restored as well. Using traditional methods, plasterers installed lath, then three layers of lime plaster — mixed by hand — with the addition of goat hair as a binder.

### HISTORIC PRESERVATION PROJECT MANAGER

# SARITA HERMAN

#### What project have you enjoyed working on the most this year and why?

It has been such a huge honor to work as the project manager for the Memorial to Enslaved Laborers this year.

#### What aspect of your role do you enjoy the most?

I have the most fun when I get to work with the supremely talented historic preservation tradespeople in Project Services and Central Grounds Zone. I learn so much just from talking to them and getting to watch them work.

#### Your favorite spot on Grounds?

The pathways around The Dell and University Cemetery. I like to bird watch.





# III BUILDING THE FUTURE



## EXPANDING CARE

The University Hospital Expansion project – managed by Facilities Planning & Construction’s Health System Division staff – will build an 11-story addition directly east of the existing hospital that will allow for expanded services to better serve the community. The addition will include an expanded emergency department on the first floor with 77 exam rooms and three resuscitation rooms, an interventional area on the second floor for surgery and procedures, and a patient tower that will consist of three finished floors, each with 28 ICU rooms, along with three unfinished floors allowing for future growth.

The project – which includes approximately 440,000 square feet of new construction and nearly 95,000 square feet of renovations to the existing hospital – broke ground in June 2016 and the expanded emergency department is expected to open in the summer of 2019 with the tower opening in 2020.

In addition to overseeing the planning, design and construction of the University Hospital Expansion

### ACCREDITATION ASSISTANCE

This past fiscal year, Health System Physical Plant (HSPP) staff members aided with the on-site survey portion of the Joint Commission’s re-accreditation of UVA’s patient care facilities. UVA must undergo an on-site survey by a Joint Commission team at least every three years to maintain accreditation.

During the commission’s spring survey, HSPP Deputy Director Chuck Parker and Health System Engineer Bill Rockwell assisted the on-site Life Safety team in reviewing the University Hospital construction, while HSPP Deputy Director Derek Wilson was quick to respond to surveyors’ requests for information. Staff members from HSPP Renovations, Zone

project, Facilities Management staff members provide both emergency and preventative maintenance of the Health System’s almost six million square feet.

With Health System facilities in use 24/7, renovations of existing spaces must be completed in phases abiding by strict Infection Control Risk Assessment (ICRA) guidelines to ensure patients are not affected by fumes, noise or any other contaminants. Over the past year, the Health System Physical Plant Renovations group led by Supervisor Senior Otis Hackett – which includes carpenters, electricians, plumbers, masons, plasterers and painters – worked to refurbish 140 patient rooms, which is approximately half of the main hospital’s total rooms.

The teams performed a complete patch and paint refurbishment, repairing cabinetry and fixtures, replacing lighting and ceiling tiles, and replacing shower and bathroom floors. Additional improvements to the rooms were designed by a Medical Center Occupational Therapy team aimed at reducing patient fall risk and include recessed trash cans and hampers, improved lighting and switches, and higher toilets.

1 and Zone 3 also helped, performing on-the-spot repairs and adjustments.

In August 2018, the commission announced its full accreditation of the UVA Health System, following the initial on-site survey in February and a follow-up survey in August.



The University Hospital Expansion project includes 327 miles of electrical work. The structure is made up of 4,000 tons of steel and 17,632 cubic yards of concrete.



The expansion will have a solar hot water array and is reducing roughly 40 percent of lighting energy by using automated sensors and LED lights, in addition to a rain water collection tank that will supply the nearby East Chiller Plant.



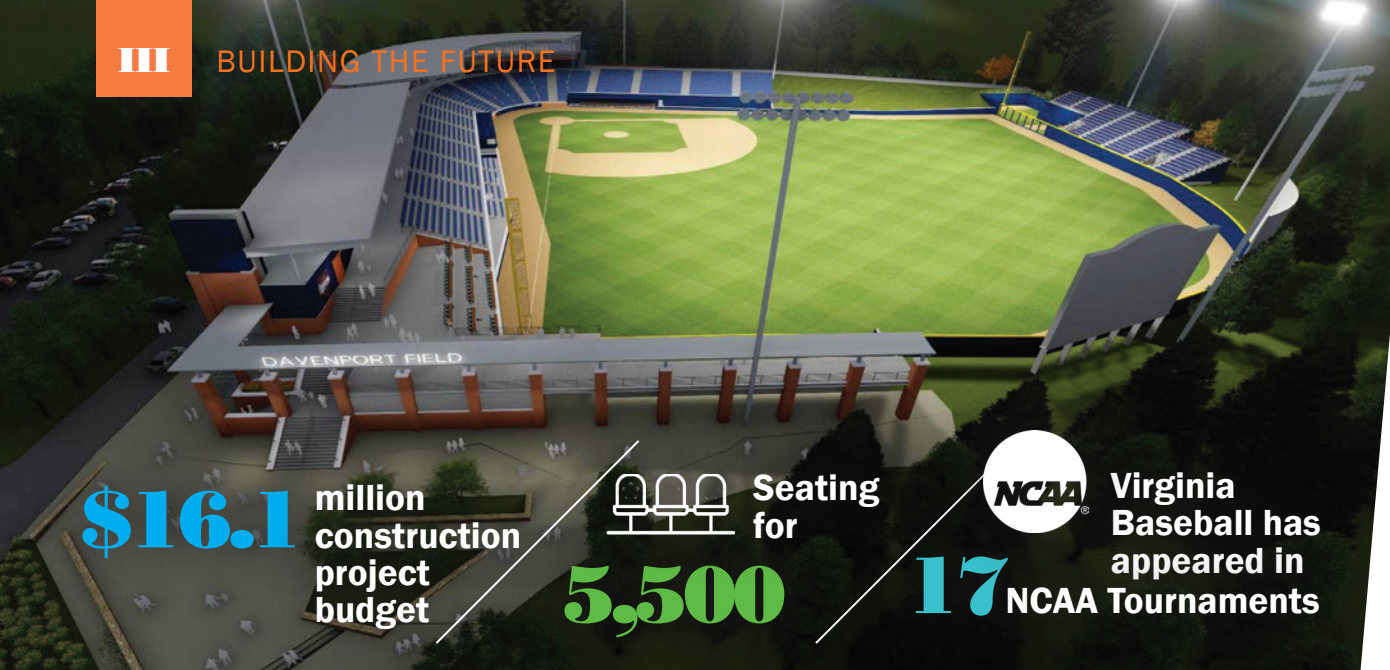
The building’s façade is made up of 10,000 square feet of stone, 45,000 square feet of metal panel and 85,000 square feet of thermally broken curtain wall, with high performance glass coatings and exterior shading devices to manage solar heat gain and glare while preserving views.



The project is estimated to cost around \$400 million. The architect is Perkins + Will and Skanska USA Building, Inc. is the construction manager. The Facilities Planning & Construction project team includes Senior Construction Administration Manager Chris Pouncey, Supervisory Senior Construction Administration Manager Chris Hoy, Construction Administration Manager Mark Humbertson and Project Coordinator Rachelle Kolesar.







**\$16.1** million  
construction  
project  
budget

Seating  
for  
**5,500**

**17** NCAA Tournaments  
Virginia  
Baseball has  
appeared in

## BOOSTING THE GAME-DAY EXPERIENCE

The University of Virginia's existing baseball stadium recently underwent an extensive renovation and reopened as Davenport Field at Disharoon Park. Facilities Planning & Construction staff oversaw the project, which was completed at the start of baseball season in February 2018. The expansion enhances the game-day experience for fans through the addition of a new grand entrance, expansion of the concourse along right field and center field, new concessions and restrooms and field level club with seating for 140 fans. Extensive safety improvements include two paved parking lots and a new crosswalk and sidewalk from the U-Hall parking lot to the stadium. The project created space to be used in the future for coaching staff offices and a future center for pitching development.

### PROJECT TEAM

**Taryn Spence Harrison**  
Facilities Planning &  
Construction Senior Project  
Manager

**Keith Payne**  
Facilities Planning &  
Construction Senior  
Construction Administration  
Manager

DLR Group of Omaha, Neb.  
Martin Horn of  
Charlottesville



### HSPP PLUMBER STEAMFITTER

## REGGIE ROSE

**How long have you worked for Facilities Management?**

30 years

**Your favorite spot on Grounds?**

The UVA Bookstore – I do a lot of shopping there.

**What aspect of your role do you enjoy the most?**

Working with my fellow employees.

**Do you have a favorite quote?**

Mo' money!

**Best vacation spot you've been to?**

Germany ... it was while I was in service. Was there for three years.

**If you could have one superpower for 24 hours, what would it be?**

Like Superman – I could fly anywhere I would want to fly.

## TESTING OUT THE TOOLS OF THE FUTURE

Facilities Planning & Construction and Project Services staff transformed the 17,000-square-foot second floor of Olsson Hall into the School of Engineering & Applied Science's new Link Lab, which provides researchers space to test out cyber-physical systems, such as driverless cars, "smart" buildings and technology that can assist with surgeries and patient care.

The project to upgrade the space – managed by Facilities Planning & Construction and completed by Project Services trades – was completed in December 2017. The Project Services team demolished the interior of the space, which was formerly used for administrative offices, and installed new mechanical, electrical and plumbing systems, and created new spaces that allow for collaborative learning. The floor now includes student work stations, a hardware lab, open office and gathering spaces and conference rooms as well as upgraded storefronts, lighting fixtures and finishes.

**17,000**  
square feet

**\$2.9M**  
construction  
project budget

**LEED**  
Silver certification  
in pursuit



### PROJECT TEAM

**Amy Eichenberger**  
Facilities Planning & Construction  
Senior Project Manager

**Richard Sergi**  
Facilities Planning & Construction  
Supervisory Senior Construction  
Administration Manager

**Nate Wilson**  
Project Services Construction  
Project Manager Senior

**Brian Tinnell**  
Project Services Construction  
Superintendent

**Shiloka Kachabe**  
Project Services Construction  
Project Coordinator

FP&C Design Group  
Project Services  
2RW



# IV

## COLLABORATIVE COMMUNITY

### CELEBRATING THE UNIVERSITY

In addition to Facilities Management staff supporting annual events such as Final Exercises, Convocation, reunions and Lighting of the Lawn, 2017 included two once-in-a-lifetime events on Grounds – the Concert for Charlottesville in September followed by the University's Bicentennial Celebration kick-off in early October.

Multiple Facilities Management workgroups supported the preparations for the Bicentennial Celebration Launch Weekend in early October 2017, a historic event featuring performances by more than 800 UVA students and faculty and attended by approximately 20,000 people. The Bicentennial event was by far the most complex, demanding and successful public celebration ever held on the Lawn, featuring a large stage and special technology which projected 3-D images onto the Rotunda.

During the weeks before the event, Project Services staff assisted with equipment unloading and setup, and the Central Grounds Zone Maintenance team was instrumental in identifying ways to meet the event's electrical power requirements for its performers, lights, lasers, LED screens, sound systems, projectors, video equipment, metal detectors and caterers. Facilities Management staff set up approximately 6,000 chairs on the Lawn and assisted contractors with the installation of a 60-by-48-foot stage and two 28-by-40-foot wings – the largest stage the group has ever set up.

In addition, the Office for Sustainability helped ensure the celebration was a zero-waste event and the Geospatial Engineering Services team collaborated with colleagues across the University to help create lasting publications of UVA's history.

### LIGHTING OF THE LAWN

Each year, the University community gathers to kick off the holiday season with the Lighting of the Lawn, featuring dancers, a cappella groups and choirs and concluding with the illumination of 560 feet of rope lighting, 2,800 feet of Christmas lights and more than 11,000 highly efficient LED bulbs adorning the Rotunda and the Academical Village.

Central Grounds  
Zone employees  
and students work  
together to install  
and program the  
light show



## AN EASIER WAY TO REQUEST SERVICE

In early 2018, Facilities Management launched a new Customer Portal for UVA customers to request service, view work order status and find building information. The online tool aims to provide customers a single access point to the information they regularly receive from Facilities Management regarding their facilities and customer requests.

The Customer Portal project team included staff from multiple Facilities Management departments including Technology & Innovation, Programs & Informatics, Finance and Systems Engineering. The process also involved surveying customers from across the University for their input.

The website includes a way to quickly and easily submit a request for service, as well as look up information on the facilities maintained by Facilities Management, including contact information for facility coordinators, current/upcoming projects, utility outages and any work order the individual user has submitted for the building.



## JUMPING INTO ACTION

UVA's Main Heat Plant generates steam and hot water that is distributed through 20 miles of underground piping to heat more than 10 million square feet across Grounds. Most of the time, all five of the plant's main boilers are not running at the same time. When temperatures fall into the single digits, all of them are needed to adequately serve the University. In December 2017, one of the plant's main boilers experienced a significant equipment failure. With the holidays approaching and below freezing temperatures in the forecast, staff members from the Heat Plant and Utilities teams worked together to bring a temporary boiler online and repair the failed fan within the main boiler. The teams worked throughout the Christmas and New Year's holidays in extremely low temperatures to perform these urgent and difficult tasks, securing the temporary boiler capacity in the event of an extended boiler outage. Because of the extremely low temperatures, piping for the temporary boiler had to be insulated and the boiler itself was housed within a temporary structure outside the Main Heat Plant.

## FM IN THE CLASSROOM

Facilities Management staff members regularly collaborate with UVA professors and students in the classroom, benefitting students' learning and assisting Facilities Management with its operations.

### Intro to Green Engineering:

Students worked with the Office for Sustainability, Power & Light and Geospatial Engineering Services to inform a rooftop solar PV plan for UVA. Students were provided with a dataset of more than 4,000 roof segments on Grounds to determine the optimal locations for solar panels.

### Solid Waste Management:

Students engaged in hands-on waste audits and strategy work sessions with the Office for Sustainability and Recycling to help inform UVA's Materials and Waste Action Plan with trash-reduction suggestions.



**35**  
students employed  
by Facilities  
Management  
per year

The Office for Sustainability typically hires about 20 student workers; the rest are hired by Technology & Innovation, Geospatial Engineering Services, Facilities Planning & Construction and Energy & Utilities.

The class sorted through trash from three buildings – Thornton, Olsson and Rice halls – to help give a more complete picture of the University's garbage stream.

### Materials and Culture:

Students worked hands-on with Project Services masons and Facilities Planning & Construction Architectural Conservator Mark Kutney (who co-taught the course) during its unit on bricks to study both Jefferson era and modern techniques using hands-on methods.

## CENTRAL GROUNDS ZONE MAINTENANCE SUPERVISOR

# DAVE ROBERTS



### What aspect of your role do you enjoy the most?

I really enjoy meeting with customers here at UVA, hearing about their needs and then figuring out how to fulfill those needs. Also, I really enjoy helping to plan and

execute large events such as graduation, bicentennial and Lighting of the Lawn.

### If you could have one superpower for 24 hours, what would it be?

To go back in time and meet

famous people. Then I could make time speed up so that inside of the 24 hours, I could spend lots of days with these people to know how they made the changes in the world that they had and where they were able to get the courage to do so.



## GREENER AND SAFER RESEARCH LABS

Research labs are an important aspect of UVA's mission but account for over 30 percent of the University's energy use despite accounting for only approximately 16 percent of the square footage. In an effort to promote safer, more efficient working standards under chemical fume hoods, the Office for Sustainability's Green Labs program worked with researchers across Grounds to host its first-ever Shut the Sash competition.

The sash is a moveable window that allows researchers to safely see into the hood while working with hazardous chemicals. When not in use, it is considered best practice to keep the fume hood sash closed, shielding room occupants from unexpected reactions and potentially conserving airflow. To earn points, researchers worked through an informative checklist that included tasks, such as answering educational questions, viewing sustainable research videos, and submitting before and after photos of cleaner hoods displaying a Shut the Sash sticker.

During the Shut the Sash competition months in the Physical and Life Sciences Building

**32%**  
improvement

**\$10,000**  
annual savings

Could result in annual utility savings of \$10,000 in this building alone

## MANAGING THE SPACE ON GROUNDS

Geospatial Engineering Services (GES) provides a variety of services to customers across the University, including utilities damage prevention, mapping and data analysis, and space management support.

This year, the GES team released a new space management system to help faculty and staff better manage the space available within the University's 17 million gross square feet of owned and leased buildings. The system provides access to interactive floor plans and data for all buildings, which includes over 55,000 rooms. Customers now have self-service access to space information to facilitate informed and strategic planning for the needs of students, faculty and staff within their departments.

GES also created a self-service application for the Parking and Transportation department to use to report on the types of parking available around Grounds. This tool provides Parking and Transportation with reports and graphical analysis for maintaining and strategically utilizing the parking inventory.

## STRENGTHENING RELATIONSHIPS

The Housing Facilities team continues to prioritize strong working relationships with Housing & Residence Life. This past year, the two departments made significant progress in aligning services with needs and expectations, strengthening several information-sharing and decision-making processes. The maintenance and custodial teams now work closely together with new leadership in Conference Services to efficiently handle summer turnover and conference operations, and new scheduling and staffing patterns have resulted in sustained operating efficiencies.

Facilities Management staff working in residence halls continue to maintain strong relationships with students. In February 2018, Custodial Services Worker Michael Minor and Custodial Services Worker 1 Joseph Ribero were the guests of honor at a dinner at the Rotunda organized by the resident staff and first-year residents of the Page-Emmet dorms. The dorms' resident staff invited the two Housing Custodial employees to express their appreciation for all they do. "Mike and Joseph are a dear part of our dorm family," said Luke Williams, one of the resident staff. In April 2018, the Student Council Community Service Committee hosted a Custodial Appreciation Luncheon for the Alderman and McCormick Housing Custodial teams, including handwritten cards from students.





## HOUSEKEEPING WORKER 2

MARY  
TAYLOR**What project have you enjoyed working on the most this year?**

Helping out with summer conferences.

**How long have you worked for Facilities Management?**

29 years

**Your favorite spot on Grounds?**

Picnic tables at Alderman Road residences

**Do you have a favorite quote?**

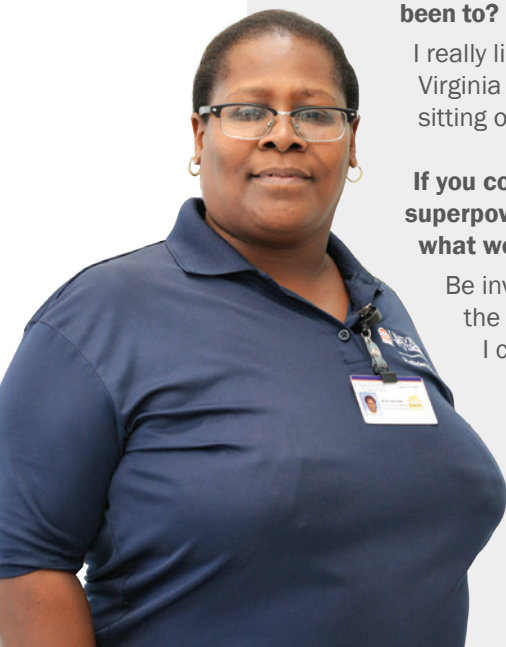
Let's get it done.

**Best vacation spot you've been to?**

I really like going to Virginia Beach and just sitting out on the beach.

**If you could have one superpower for 24 hours, what would it be?**

Be invisible and travel the world to see what I could see.

**WORKING TOGETHER TO REDUCE WASTE**

The Recycling and Custodial Services teams continuously work with faculty, staff and students to encourage awareness of alternatives to landfills. This fiscal year, Recycling Program Coordinator Sarah Smith was hired to help transform UVA's system of recycling to include complete co-location of recycling and landfill bins in all interior spaces. Through these efforts, the team has been able to provide updated bins and signage in 19 buildings to facilitate easier and clearer recycling methods.

In addition, the Custodial Services team has introduced centralized trash collection into 29 buildings (or a total of 843 offices), which removes individual office trash and recycling bins, directing occupants to use bins located in central areas, such as kitchens and hallways. In addition to reducing the use of plastic trash can liners, there is an approximate savings of two minutes per office when occupants manage their own trash, allowing staff to perform value-added tasks or complete major projects within high impact areas.



For every 1,000 office occupants who **retire their regular trash can and cease use of plastic liners**

**\$6,000 saved per year**

**REMEMBERING THOSE WE HAVE LOST**

In the fall of 2017, UVA unveiled the newly-renovated University Remembrance Garden, which is located between Newcomb Hall, Clemons Library and the Special Collections Library. The garden serves as a physical space for the UVA community to commemorate and grieve the lives of lost friends, family members and peers.

The project to upgrade this space — which has been in the works for over 10 years — was completed over the summer of 2017 with the help of multiple Facilities Management work groups and outside contractors Falconer Construction and Fine Concrete. Project Services' construction management team oversaw the project, which included new pavers installed by Project Services masons, additional landscaping by Landscape Services staff and lighting installed by Utilities.

The garden's main feature is a concrete curved "remembrance wall" for written messages in chalk and matching bench seating. Numerous UVA staff and students contributed to the design and planning of the memorial space over the years, including Office of the Architect Sr. Landscape Architect Helen Wilson and alum Daniel McGovern, who is now employed at Fine Concrete.

"While we never want to lose a member of our community, we hope this will be a place for the entire University community — one not only for remembrance but also for thought, reflection, and expression," said Director of Project Services Mark Stanis at the garden's ribbon cutting event in November 2017.

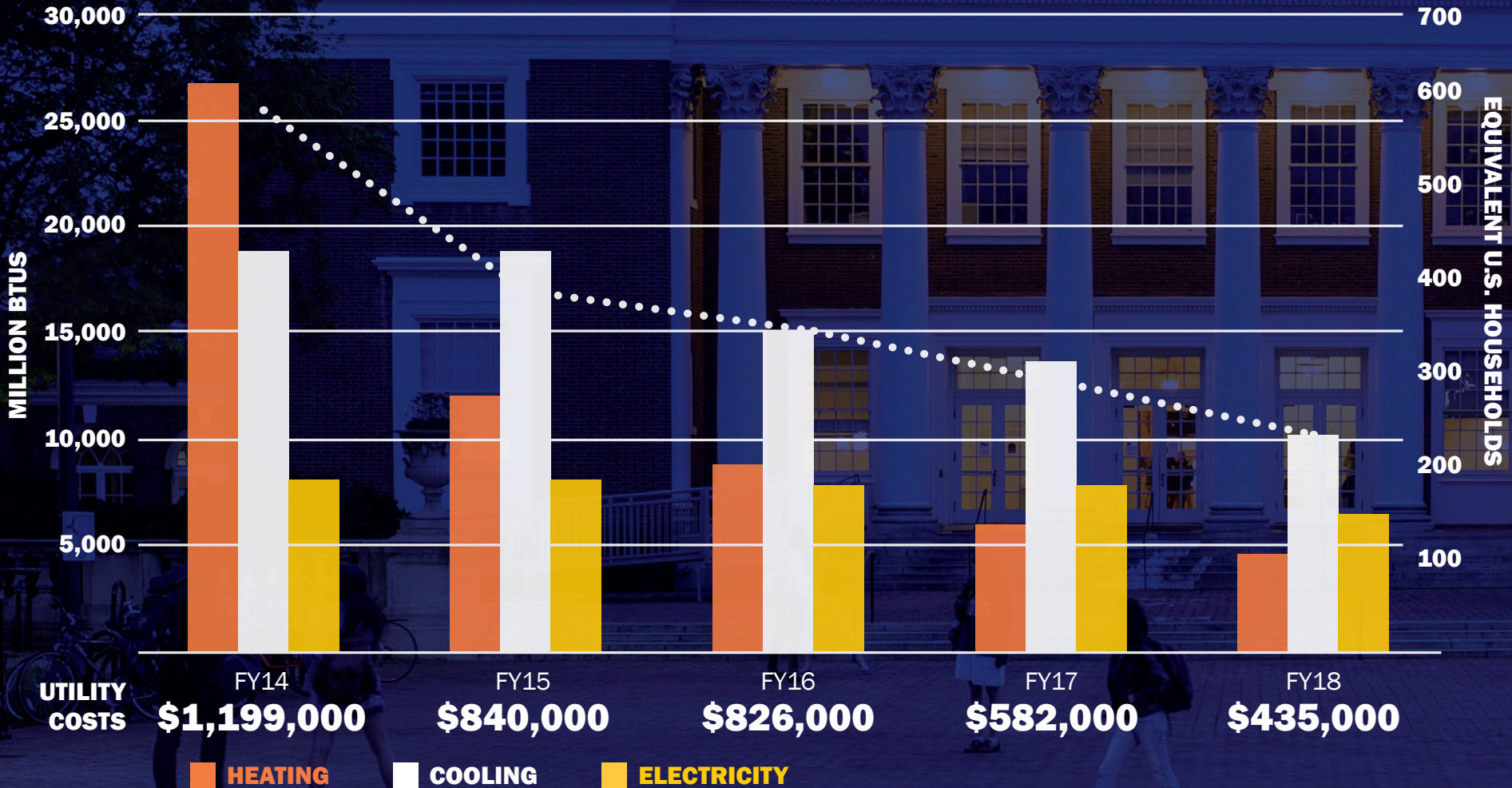






# STEWARDSHIP OUR RESOURCES

## Clark Hall Annual Utility Consumption



## LEED-ING THE WAY

For more than a decade, the University of Virginia has required all major new construction and renovation projects to achieve a minimum of a LEED certified rating upon completion. The Leadership in Energy and Environmental Design (LEED) certification, which is administered by the U.S. Green Building Council, evaluates buildings based on various criteria, including water and energy efficiency, indoor environmental quality and innovation and design.

The University has the distinction of being home to the only three LEED-certified buildings that are located within a UNESCO World Heritage Site – the Rotunda, which received LEED Silver certification in 2017 following its two-year renovation, and Pavilion IX and Pavilion X, which received certifications in 2012 and 2015.

The iconic, almost 200-year-old Rotunda received its certification due to an efficient HVAC system, tighter window sealing, LED lighting and a construction waste recycling rate of 95 percent.

Another University building that achieved a distinct LEED certification this year was Clark Hall, which achieved LEED Silver certification, becoming the first existing building project in Virginia, and one of the first in higher education across the country, to be certified under the U.S. Green Building Council’s new LEED version 4 requirements.

In addition to the more stringent certification guidelines, the Clark Hall project is the first the University has pursued under the LEED: Building Operations and Maintenance (LEED O+M) program, which applies guidelines to existing buildings that undergo improvement work with little to no construction.

The Office for Sustainability’s Delta Force team led the initiative within Clark Hall, home to the Department of Environmental Sciences, which involved a coordinated effort among multiple Facilities Management Operations teams. The project included upgrades to energy and water infrastructure, lighting and controls replacements, new recycling and waste collection stations, green cleaning methods and outreach efforts among building occupants involving research lab risk assessments and Green Workplace certification.

A \$2 million investment in Clark Hall will result in over \$700,000 in utility savings each year and a reduction of 30,000 MMBTUs of electricity, heating and cooling use each year.



### THE NEWEST ADDITIONS

UVA currently has 52 LEED-certified buildings. Recent certifications include:

ROTUNDA, LEED-NC SILVER

CLARK HALL, LEED-O+M SILVER

SKIPWITH HALL, LEED-NC GOLD

GOOCH-DILLARD RENOVATIONS, LEED-NC GOLD

WILSON HALL, FLOORS 1 & 2, LEED-CI GOLD

EDUCATION RESOURCE CENTER, LEED-NC SILVER

STUDENT ADVISING CENTER, LEED-CI SILVER



REUSING ITEMS  
DESTINED FOR THE  
LANDFILL

Project Services launched the UVA ReUSE Store this year in an effort to support the University’s sustainability efforts by extending the life cycle of items that may have otherwise been directed to a landfill. The ReUSE Store staff manage the store’s collection and distribution of University-owned and unneeded office furniture and general surplus by supplying items to departments across the University at no cost, offering donations to local non-profits and selling items at affordable prices to the community during designated public sale days.

Since March 2018,  
the ReUSE Store has

**diverted over  
300,000 lbs.**

of surplus items  
**from area  
landfills**



Facilities Management’s new  
Nissan Leaf electric vehicles produce  
**zero emissions**  
while driving, have a range of 150-170  
miles and charge in just seven hours.



USING CLEANER CARS  
AND EQUIPMENT

Facilities Management has added five “green” vehicles to its fleet and multiple pieces of electric landscaping equipment to promote its sustainability goals and reduce environmental impacts to the University community.

Facilities Management’s three 2018 Nissan Leaf 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 an e-Ride Industries electric work vehicle (which produces zero emissions while driving as well) and a work van with XL3 Hybrid Technology, which uses up to 25 percent less fuel, reducing carbon emissions and maintenance costs. Additional electric and hybrid vehicle purchases are planned, including box vans for the Recycling team and utility body trucks for the Energy & Utilities team.

The Landscape Services team has also added an electric mower, leaf blower and hand shears to its supply of Grounds maintenance equipment. Over time, the team plans to replace as many pieces of fuel-burning equipment as possible to reduce noise and eliminate the exhaust and fumes from around classrooms and patient care facilities. Battery-life restrictions currently prevent the team from replacing equipment used for larger areas but as the technology of this equipment improves, more replacements will be possible.

REDUCING THE IMPACT OF OUR BUILDINGS

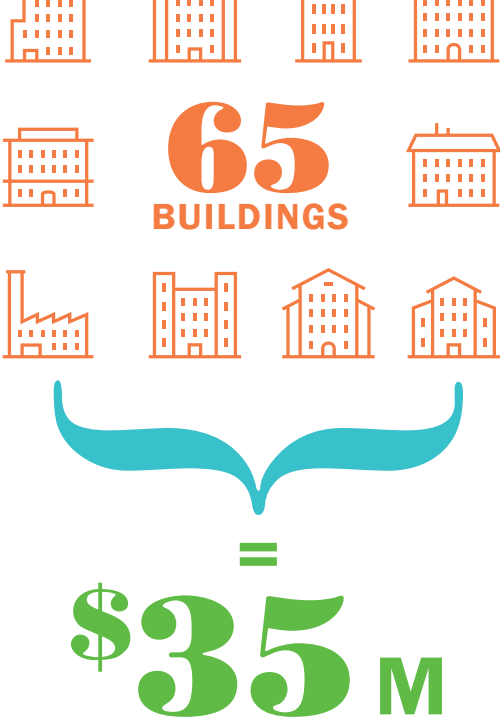
Facilities Management’s Delta Force program aims to upgrade energy-intensive mechanical systems within buildings to newer more efficient ones. The Office for Sustainability identifies opportunities for the improvements and works with Facilities Management’s Zone Maintenance and Automation Services staff and outside contractors to perform the work. The cost of the upgrades is recuperated over time through actual utility savings.

While the Delta Force team continues to implement widely-accepted methods of reducing energy consumption, including replacing bulbs with higher-efficiency LED lights and improving controls, the team works to expand its impact through new, innovative offerings.

The University’s chiller plants – which provide air conditioning to more than 10 million square feet – are UVA’s largest consumers of water. One recent Delta Force project identified a way to reduce this consumption at the chiller plant adjacent to the UVA Aquatics & Fitness Center (AFC). Air conditioning units are constantly removing water out of the humid air within the AFC pool and fitness areas and this water was previously released into the sewer. Now, this water is redirected to the chiller plant located nearby. Since coming online in May 2018, this system has reclaimed over 57,000 gallons of water.

The team has also completed several applications of window film to buildings across Grounds. Nano-ceramic window film provides multiple benefits, including energy savings as the film rejects a significant amount of heat from the sun throughout the cooling season and glare reduction, which both allow occupants to enjoy the natural light with increased comfort. In addition, the UV protection prevents furniture and carpets from fading.

This film has been installed on windows throughout Hereford College, as well as portions of the following buildings: Kellogg House, New Cabell Hall, Rouss-Robertson halls, Ruffin Hall, Monroe Hall, Thorton Hall and the North Grounds Recreation Center.



Since 2009, Delta Force has completed projects  
in 65 buildings resulting in \$35 million  
in avoided utility costs.





## BOOSTING BOILERS' EFFICIENCY

Sometimes construction plans do not always come to fruition, which can result in mechanical systems operating at reduced capacity and, in turn, reduced efficiency. The Massie Road Plant, which serves the heating and cooling needs for John Paul Jones Arena and its surrounding buildings, was originally designed to serve a larger sports complex. With the average efficiency of the plant at only 51 percent, the Energy & Utilities team, including Heat Plants Engineer Peter Kowalzik and Instrumentation Engineering Technician John Antesberger, launched an innovative project to address efficiency issues at the plant by right-sizing boilers, improving controls and pumping and increasing the load on the system.

Sophisticated controls increased performance and enabled staff to identify issues quickly while new high-efficiency and low nitrogen oxide burners also contributed to reducing the plant's nitrogen footprint. Two half-capacity boilers were obtained to hit the capacity "sweet spot" during spring and summer months. In addition, the team identified outdated boilers in smaller, nearby buildings to be removed, increasing the square footage served by the Massie Road Plant. The improvements have resulted in the plant achieving an average efficiency of 85 percent during the past three fiscal years, saving more than \$400,000 in fuel and almost 3,550 MTCDE of avoided carbon emissions.



## LANDSCAPE & GROUNDS WORKER 2

# TREVOR PAYTON

### What project have you enjoyed working on the most this year and why?

During football season, I enjoy working around Scott Stadium, making sure everything looks good. The football team is doing really well and there is some incredible energy going around.

### Your favorite spot on Grounds?

I like sitting in the pavilion gardens and imagining what Thomas Jefferson was thinking when he was designing UVA. The gardens are like little time capsules of Jefferson's original thoughts.

### How long have you worked for Facilities Management?

2 1/2 years

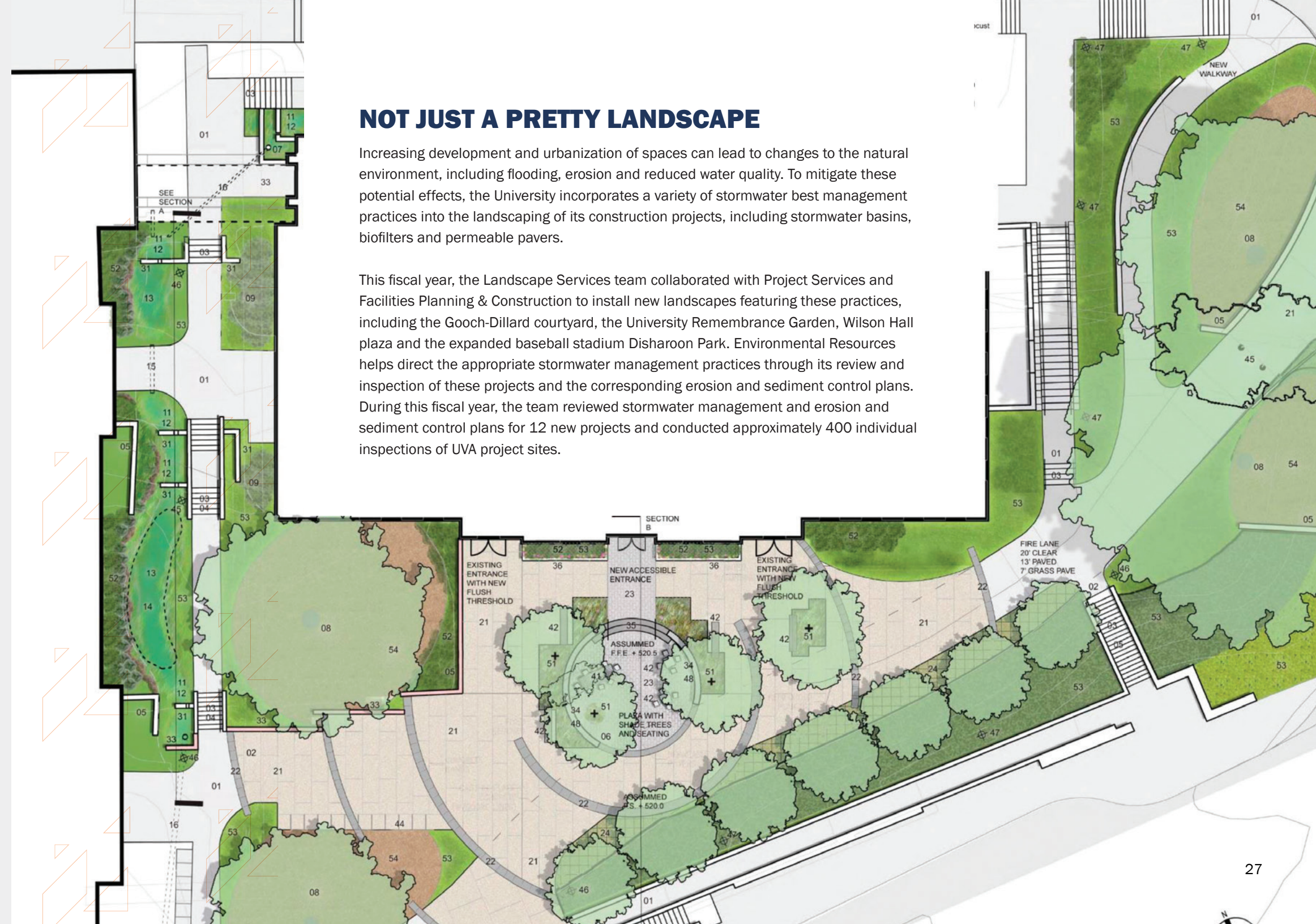
### If you could have one superpower for 24 hours, what would it be?

I have always been jealous of birds ... so, I would like to just lift off and fly.

## NOT JUST A PRETTY LANDSCAPE

Increasing development and urbanization of spaces can lead to changes to the natural environment, including flooding, erosion and reduced water quality. To mitigate these potential effects, the University incorporates a variety of stormwater best management practices into the landscaping of its construction projects, including stormwater basins, biofilters and permeable pavers.

This fiscal year, the Landscape Services team collaborated with Project Services and Facilities Planning & Construction to install new landscapes featuring these practices, including the Gooch-Dillard courtyard, the University Remembrance Garden, Wilson Hall plaza and the expanded baseball stadium Disharoon Park. Environmental Resources helps direct the appropriate stormwater management practices through its review and inspection of these projects and the corresponding erosion and sediment control plans. During this fiscal year, the team reviewed stormwater management and erosion and sediment control plans for 12 new projects and conducted approximately 400 individual inspections of UVA project sites.





# VI

## INNOVATIVE OUTCOMES

### APPLYING THE DATA TO THE DAY-TO-DAY

With approximately 150,000 work orders processed each year, maintenance of the University's facilities results in an array of data – from the lifespan of a building's air handler unit to the amount of time it takes for an employee to replace a lightbulb.

In an effort to better plan and schedule the maintenance work taking place in buildings on Grounds, Facilities Management added a new maintenance coordinator position to each of its five academic Zone Maintenance teams in 2017. Working closely with the zone's technicians, supervisors and managers as well as Programs & Informatics staff, these maintenance coordinators are data experts who use the AiM work order system and data visualization tools such as Tableau and Excel to discover patterns, communicate opportunities and revise work processes. The coordinators also provide better coordination among contractors and customers regarding outages and closures.

Since the coordinators came on board, the zones have increased their preventative maintenance work while decreasing reactive work, resulting in an overall 20 percent decrease in the number of reactive labor hours charged per month. Plus, on-time preventative maintenance work order completion rates have increased by 18 percent since last fiscal year.

In addition, the length of time it takes for staff to respond once a problem has been identified has been decreased significantly in the maintenance coordinator zones, resulting in a 41 percent improvement since the last fiscal year. The zones have found a decrease in the number of customer-identified issues being entered into the work order system, a strong indicator that the impact to customers has been reduced.

The maintenance coordinators have also improved the data quality within the AiM work order system, ensuring all necessary information about a work order is included, such as building, equipment and specific notes documenting the work performed. This allows for more accurate lifecycle costs of equipment and building systems and better estimates of the amount of time it takes to complete different tasks.

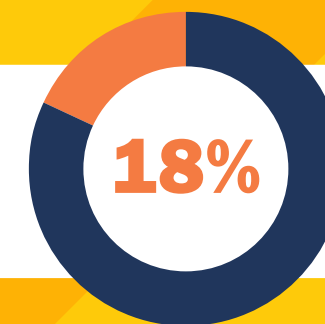
### KEEPING THE LIGHTS ON

If a light bulb is out in a hallway, it is almost immediately noticed by a building's occupants. Not only does responding to reactive lighting calls negatively impact customers, it requires more time per fixture than keeping to a preventive maintenance routine, which ensures bulbs are replaced before they burn out.

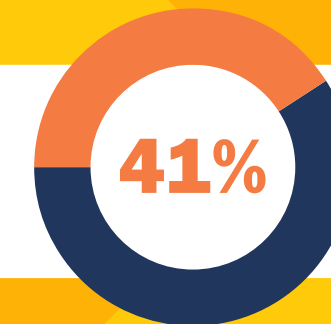
Central Grounds Zone Maintenance Coordinator John Quinn – who transitioned to a new role within Facilities Management in the summer of 2018 – analyzed the lighting work performed in that zone's 80 buildings in an effort to reduce the number of reactive lighting calls. By examining the data, John was able to adjust the scheduled frequency for lighting preventative maintenance in each building to better match each building's actual needs based on the work order history. This resulted in a 35 percent decrease in the number of overall hours spent on light-related service work, improving customer satisfaction and freeing up time for technicians to focus on additional tasks.



decrease in the number of reactive labor hours charged per month



increase in on-time preventative maintenance work order completion rates



improvement in response time to reactive work





### AUTOMATED REPORTING ALLOWS FOR ENHANCED ANALYSIS

This year, Facilities Management's Finance department partnered with UVA Finance, Programs & Informatics and Technology & Innovation to improve its financial reporting capabilities. The transition to UVA's new enterprise reporting system, University Business Intelligence (UBI), enables the team to generate more detailed reports that can be sorted and manipulated for different uses, eliminating the need to manually create multiple reports.

Facilities Management staff can now easily drill down to the work order level detail within reports comparing budgets to actual costs, analyzing the invoices that make up each month's expenses and track any irregularities. In addition, the team is able to quickly and easily create reports using Tableau, including data for Facilities Planning & Construction, Project Services and the Office of the University Building Official. These reports include Project Services' total volume of billed work as well as the number of hours these departments' staff are recovering against billed projects.

Utilizing these automated data systems eliminates the occurrence of manual data entry errors and allows the Finance team to use the time previously dedicated to manually creating and sorting data within Excel to provide more in-depth analysis of financial trends over time, assisting departments with identifying ways to boost efficiency and reduce expenses.

### PREVENTATIVE MAINTENANCE PROGRAMS MANAGER

**RACHEL  
NELSON**

**What aspect of your role do you enjoy the most?**  
Ample opportunities to learn new things and expand on skills.

**How long have you worked for Facilities Management?**  
Four years.

**Your favorite spot on Grounds?**  
Under that magnificent magnolia tree to the east of the Rotunda.

**Do you have a favorite quote?**  
"Whatever you are, be a good one." – Abraham Lincoln





# VII

## SERVING A GREATER GOOD

### GIRLS DAY

The third annual Girls Day event in June 2018 was expanded to welcome girls from the Charlottesville area and included 80 participants between the ages of 10 and 16. The girls participated in various planned activities to increase young women's interest in and education of construction and the building trades, including behind-the-scenes tours of the Main Heat Plant, the Carr's Hill renovation project site and Facilities Management's trades shops. An afternoon exhibitor fair featured 30 different vendors and UVA groups hosting hands-on activities, including bricklaying, carpentry, welding and building models and games. The event's keynote lunch speaker was UVA Director of Athletics Carla Williams who spoke to the attendees about following their dreams and pursuing careers in traditionally male-dominated fields.

### DAY OF CARING

Every September, more than 120 Facilities Management employees participate in the United Way Day of Caring, sending staff to serve at Camp Holiday Trails, the Senior Center, the Lane Babe Ruth Field and the Ronald McDonald House. At Camp Holiday Trails, employees spend the day completing various maintenance and improvement projects, including cleaning cabins, replacing lights and doors, weeding garden beds and pruning trees as well as performing annual electrical, HVAC and fire safety inspections.

### OFFICE FOR SUSTAINABILITY

The Office for Sustainability helps organize and support events throughout the year to bring the UVA and greater Charlottesville communities together and raise awareness of sustainability practices. This year, the team hosted an event as part of the community's Martin Luther King Day celebration, which featured guest speaker Happy Johnson and artist/activist Candy Chang to explore the intersections of equity, diversity, art and healing through community building. The Sustainability team also partnered with the UVA Alumni Association, the UVA Career Center, UVA Clubs and several others to establish the Sustainability Alumni Network.



**80 girls**  
between the ages of  
10 and 16 participated  
in the third annual  
FM Girls Day.



Members of the UVA Facilities Management  
Apprenticeship Program **visited**  
more than **25 area high**  
**schools** to share information  
about apprenticeship opportunities and their  
experiences as well as answer questions.

In its second decade, the Office for  
Sustainability's Hoos ReUse move out  
donation drive diverted **62,824**  
**pounds of usable**  
**goods from landfills**  
and back into the community.



FACILITIES SERVICES  
COORDINATOR

**JAMES  
PLAKAL**

What aspect of your role do you  
enjoy the most?

Creation of work orders and work  
relationships.

Your favorite spot on Grounds?  
O'Hill mountain

Do you have a favorite quote?

"The boast of heraldry, the pomp  
of pow'r, And all that beauty, all  
that wealth e'er gave, Awaits alike  
th' inevitable hour. The paths of  
glory lead but to the grave." —  
Thomas Gray

If you could have one superpower  
for 24 hours, what would it be?  
A healer.



The Clean Water Working Group and the Office for  
Sustainability **hosted a** Beta Bridge  
Stream **Clean Up** as part of UVA World  
Water. **71** volunteers removed **20** bags of trash,  
**26** bags of recycling and two truckloads  
of bulk waste from local waterways.

Facilities Management employees  
**donated 106**  
**pints of blood**  
to Virginia Blood Services during the  
2017-2018 fiscal year. That's enough  
blood to save up to 318 lives.



**135 FM employees donated**  
**a total of \$24,000** to the Commonwealth of  
Virginia Campaign Charity Donation Drive in 2017. The most popular  
charities employees chose to receive their donations included Hospice of  
the Piedmont, the SPCA of Charlottesville-Albemarle, the Blue Ridge Area  
Food Bank and the Charlottesville Free Clinic.

**124 FM employees** participated in  
the United Way Day of Caring, **completing 55**  
**projects** at Camp Holiday Trails, the Senior Center, the  
Lane Babe Ruth Field and the Ronald McDonald House.

The Office for Sustainability  
**supported nearly**  
**90 events** this fiscal year,  
including 25 during Earth Week attended by  
more than 1,000 participants, seven during  
UVA Sustainability Days and a major partner-  
ship event as part of the community's 2018  
Martin Luther King Day celebration.

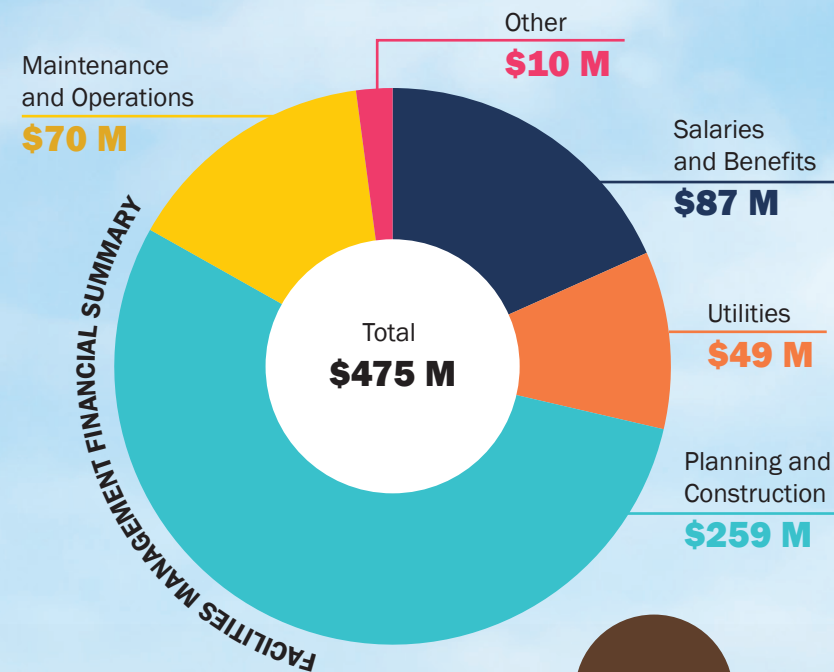


Facilities Management  
**donated**  
**160 toys, two**  
**bikes, one scooter**  
**and \$540**  
to Charlottesville's annual Toy Lift.



# VIII

## BY THE NUMBERS



## EMPLOYEES

Facilities Management's filled full-time positions totaled

**1,188**

During the 2018 annual Service Awards ceremonies

**122**

**Employees** celebrated **2,160 years** of service



**Reward & Recognition Awards**

totaling \$243,800 issued to 429 different employees

## CONSTRUCTION

FACILITIES PLANNING & CONSTRUCTION

Construction work-in-place  
TOTALLED

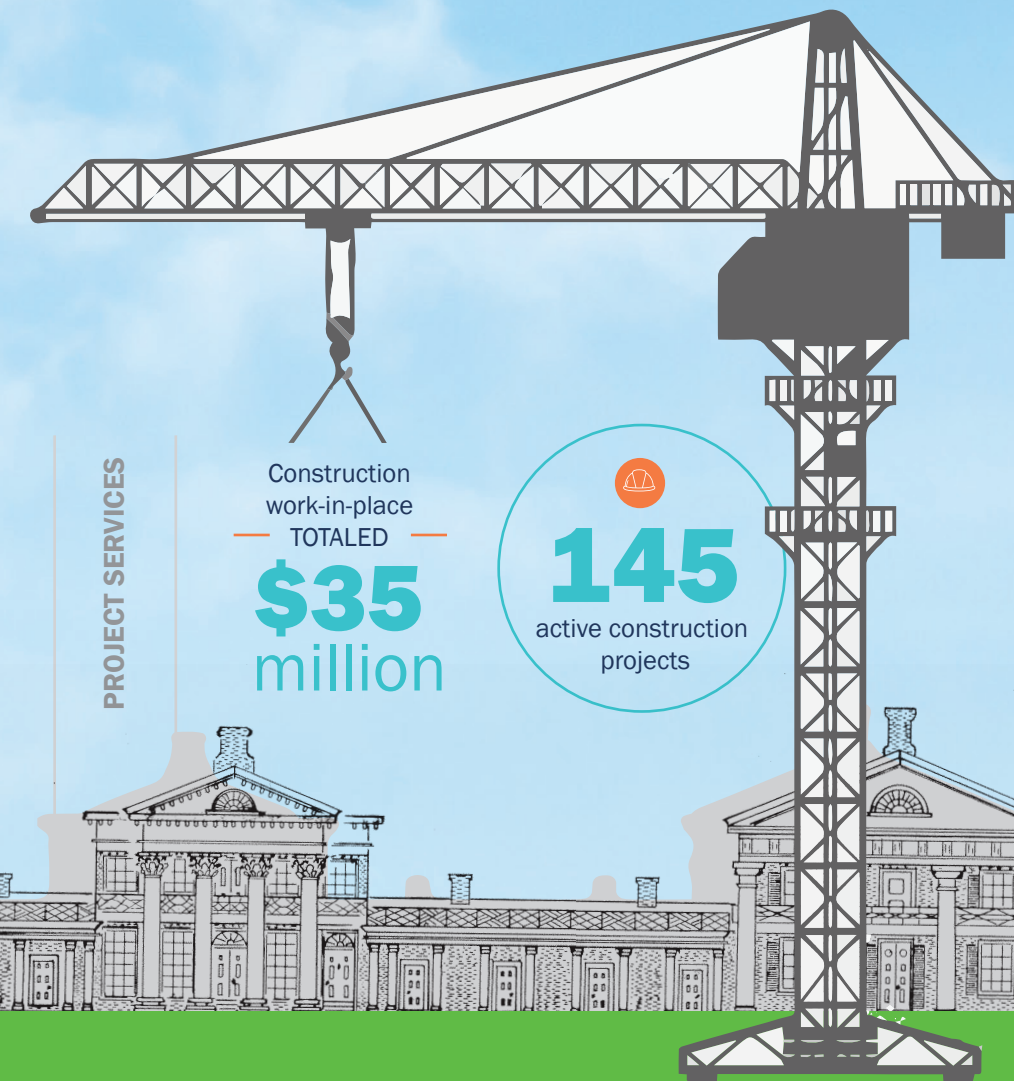
**\$240.1**  
million



PROJECT SERVICES

Construction work-in-place  
TOTALLED

**\$35**  
million



## THE OCCUPATIONAL TRAINING TEAM

organized 60 different training events and sessions attended by a total of

**559**  
employees

**27**

employees recognized for **educational and professional accomplishments**





## BUILDINGS



Over 350 meters were newly installed, upgraded or connected via automation systems for the first time, and there are currently more than 3,000 active University physical and virtual meters in metering and billing information systems



**148,502**  
work orders were processed



More than  
**80,000**  
keyed locks



## BUILDINGS

Gross square footage totals

**17.7 million**

## SAFETY

**8** Safety Committees with 135 members

**6** active Focus Teams with 50 members resulted in 160 action items completed

**800** pairs of Safety Shoes distributed

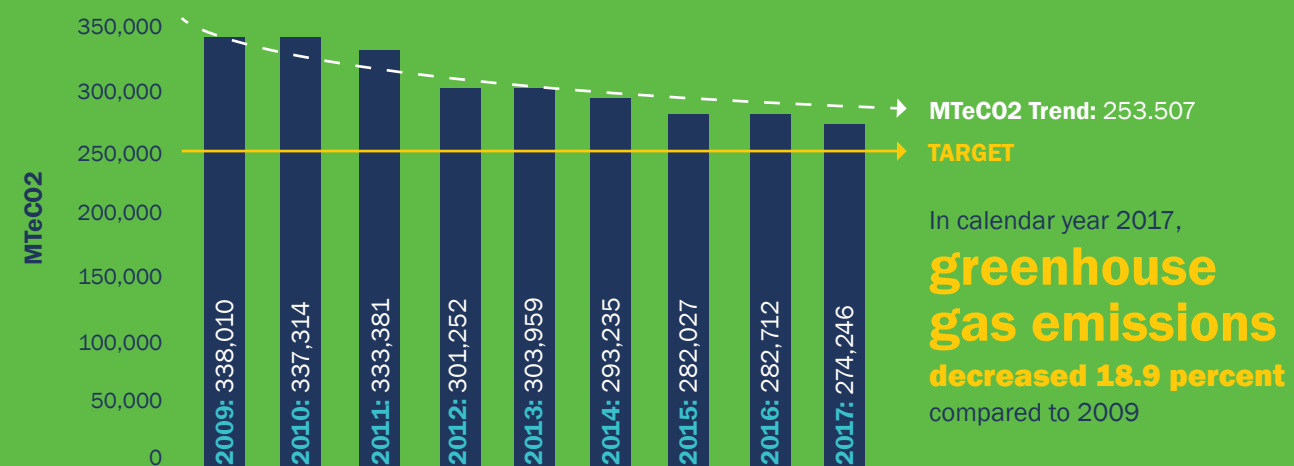
**111** Respiratory Fit Tests conducted

**15** Safety Champions recognized

**60** Safety Stars awarded

## SUSTAINABILITY

UVA reduced its energy use intensity, defined as total energy use divided by total square footage, by 12 percent between 2010 and 2017.





# IX IN THE FUTURE



## HONORING OUR PAST

The University of Virginia will soon break ground on the Memorial to Enslaved Laborers, featuring a circular stone wall east of Brooks Hall and across from the Corner. This “Freedom Ring” will include inscriptions of the names of enslaved laborers who worked to build and sustain the University. Construction is anticipated to begin in late 2018 and will be dedicated in the fall of 2019.

## A VIBRANT COMMUNITY

Multiple projects planned for Brandon Avenue will transform the area into a vibrant, collaborative community for students to live and engage in student activities. A redesigned streetscape will provide an attractive setting for new university buildings, including housing and a new Student Health and Wellness Center. The estimated completion dates for the Upper Class Housing building is June 2019, with the Green Street and Student Health Center following in 2020.

## TRANSFORMING OUR ATHLETICS PROGRAM

UVA’s Athletics Master Plan outlines upgrades to the athletics precinct on North Grounds. Highlights include a new football operations center, a new Olympic sports building, additional practice fields, a new softball stadium, a renovated McCue Center and a promenade for pedestrians. Construction of the new facilities is estimated to begin in 2020 with completion in 2022.

## CONNECTING OUR GROUNDS

The parcel known as the Ivy Corridor – a four-block-long, 14.5 acres between the intersection of Emmet Street and Ivy Road and Copeley Road to the north – is envisioned as the connective tissue between Central Grounds and the schools and institutions on North Grounds, and as a gateway to the broader community at a regional crossroads. A new task force will develop recommendations for how this property can best serve the University of Virginia and the community.





## MESSAGE FROM DON SUNDGREN



The University of Virginia and Facilities Management has experienced continuous growth over the past 20 years. In addition to increasing square footage and a growing employee population, our department has expanded the scope of services we provide to the University.

Our work here is constantly changing as we keep an eye on the future and the needs of generations to come. We now install and maintain building automation systems, provide mapping and utility damage prevention, research and implement sustainability practices, and many more services that were not a part of the department's everyday operations two decades ago.

While 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.

As a department, we have made a commitment to investing in our people. We continue to emphasize a culture of health and safety to sustain an incident- and injury-free work place, we have expanded our training opportunities to promote employee growth and development and we have transformed our work spaces and improved the vehicles, technology and equipment our employees rely on to do their jobs.

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







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