



# Shop Talk

# Facilities Management

Duke University

Creating Tomorrow's Duke Today

March 2018

## Message from the VP

This winter of 2018 proved to be difficult and I am so glad it is behind us, and the red-bud and azalea blooms are ahead of us. A new record was set for consecutive hours at or below freezing, followed by 10 inches of snow at one time, the most since 2000. In spite of the record breaking cold and snow, we were able to provide Duke with the best possible service: including providing heating and electricity our buildings, keeping them maintained and clean, and promptly removing snow and ice from the streets and sidewalks. It was a tremendous amount of work and many of you sacrificed time away from your family to sleep near campus in order to ensure that Duke campus remained operational during and after the storm. I, along with the rest of the Duke community, am so appreciative of the effort put forth and the teamwork demonstrated by our staff.

I know you will continue to focus on keeping the campus in top form as we support events such as Reunion Weekend, Last Day of Classes (LDOC), and Commencement. The work of Facilities Management never stops, and I am proud that in addition to the daily work necessary to keep the campus running, our department is on the forefront of innovative ways of doing business. This issue highlights a few of the projects that makes us a leader in the field: the WaterHub, LED lighting in the Krzyzewski Center for Athletic Excellence, Tree Campus USA, and the recently completed construction projects are just a fraction of the cutting-edge work our department is know for nation-wide.

John J. Noonan  
Vice President for Facilities



The reward for long-hours of sidewalk clearing.

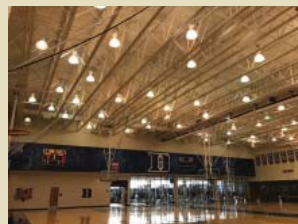
## BRINGING COACH K CENTER UP TO NCAA STANDARDS

The Coach K Center for Excellence houses two basketball courts so the men and women's teams can practice in privacy. Like most gyms, the courts were lit with High Intensity Discharge (HID) lamps, which make a loud buzzing sound, are expensive to maintain, and have poor color rendering. The lights must remain on, even if the courts were unoccupied, because they can take up to 15 minutes to warm up. In addition, once the light is turned off, it has to cool down before it can be turned back on, which can take another 15 minutes. Keeping the lights on all the time is expensive.

This year Energy Engineer Abhi Bathula teamed up with the electrical shop to replace the lights and bring the courts up to NCAA standards. The 85 HID lamps were replaced with LED lights. It took two electricians about 45 minutes to change each fixture, and the work had to be scheduled so it didn't interfere with basketball practices. The LED lights have a life expectancy of over 17 years. They also do not need to be warmed up, and can be turned on immediately after being turned off. LED bulbs use 55% less electricity, and provide lighting levels that meet the NCAA standards. The project was a win/win: the University will enjoy a yearly savings of \$30,570; the Electrical Shop will have more time to devote to other projects; and the players' practice court is now beautifully lit.



Justin Rook and Tommy Huff use a lift to change the lights.



Before: HID lamps



After: LED lights



## THE RUBY IS A GEM

The Rubenstein Arts Center, known as The Ruby, held its grand opening on February 3, 2018. The building is located on the corner of Anderson Street and Campus Drive, across from the Nasher Art Museum.



The building includes 10 multipurpose studios, the offices for the Dance department, a 200-seat theater that allows for flexible seating configurations, a 100-seat film theater, a co-lab maker-space with 3D printers, dance rehearsal spaces, and the Ruby Lounge – a hangout/study room by day and a performance venue/practice studio by night.

Project Manager Ray Walker shares these facts about the new space. Take the time to walk through the building this spring!!

- 1. It is the home of WXDU, which is on the air 24/7. The Radio station is sound proof and there is a double ceiling between the radio station and the dance floor above.
- 2. The building is named for former Chair of the Duke Board of Trustees David Rubenstein, who made the founding gift and who has been the subject of a 60 Minutes story about his philanthropy.



3. Sliding barn doors are used on the studio spaces so that each studio can incorporate the public space or the outdoors as part of the studio as needed.

- 4. The acoustics were designed so that there is separation between spaces.
- 5. There are total black out shades as well as heat abatement louvers for the large glass curtain wall overlooking Campus Drive.



- 6. The film theater has 5 different projectors – one is digital, and the other four are for different size films.
- 7. The building is designed for LEED Silver certification.



- 8. Six of the rooms have springy floors made for dancing.
- 9. The design concept of the building is the inverse of the Nasher. All spaces look to the outside, while all the spaces at the Nasher focus on the interior of the building.
- 10. The logo was inspired by the conduit in the building, which was left exposed to highlight the fact that craftsmanship is art.



## Fun Fact:

The new alumni center is named after Bruce and Martha Karsh, who donated \$50 million dollars to Duke for a permanent endowment to support need-based financial aid for undergraduate students. The frame, made out of glued laminated timber, or glulam, is pound for pound stronger than steel. This frame is made out of Southern Yellow Pine. The building is expected to be complete in the summer of 2019.



## EAST CAMPUS TEMPORARILY HOUSES JUNIORS

For the last 23 years, East Campus has been an all-freshmen campus. That changed in January when juniors moved in after spending a semester abroad. Since the dorm opened mid-year, and Crowell is closed for renovation, Trinity provided 250 much-needed beds for upper-class students. The dorm will convert back to freshmen in the fall. The building has a full kitchen, ping-pong and pool tables, an arcade and gaming suite, and a 25-seat movie theater which can be used as seminar space or a March Madness magnet. The building is the long-term replacement for Epworth, Jarvis and East Residence Halls, which are some of the oldest buildings on campus.



## CAMERON CRAZIES WALL INSTALLED FOR ALL TO EXPERIENCE

The Craziest Wall, named in honor of Duke's Cameron Craziest fans, was unveiled in mid-January. Project Manager Belle Farish managed the project, which is located in the south end of Cameron Indoor stadium where the ticket office was previously located. The wall includes actual mid-court sections of the floors that Duke won each of its last two National Championships (2010 and 2015), the hand prints and shoes of former Duke players, and digital displays running classic game highlights and commercials featuring Coach K, players, and fans. Fans can measure their height, hand, and shoe size against former Duke players now in the NBA and other program greats, including Coach K and famous assistant coaches through time. The Craziest is open to the public on weekdays starting at 8:00 am and on game-day Saturdays, as is the Duke Basketball Museum and Athletics Hall of Fame in the Schwartz-Butters Building.



## DUKE UNIVERSITY NAMED TREE CAMPUS USA FOR 10 YEARS IN A ROW

Thanks to the work of Landscape Services staff, Duke University has been named a 2018 Tree Campus USA. The program was started in 2008 with only 29 schools receiving the designation. Now there are over 350, and Duke's campus has received the designation every year for the last 10 years.

The program recognizes college and university campuses for their tree management plan and for their work to engage the student population with the school's forestry efforts.

Landscape Services keeps an inventory of trees on campus, noting the number of tree removals, pruning and newly planted trees in a given year. This inventory includes information for more than 14,000 trees on campus.



## WATERHUB PROJECT RECEIVES EARLY APPROVALS

At their February meeting, the Board of Trustees approved the early stages of planning for a WaterHub, a water treatment plant that removes water from the sewer and cleans it to create non-potable reclaimed water that can be used at the chiller plant. Once completed, the WaterHub and the Reclamation Pond can provide 97% of the water needed for the chiller plants, so that the plants will no longer rely on city water. The treatment will take place underground so it will not be smell – in fact the facility will be a showpiece. Researchers and tour groups will visit the WaterHub to see first-hand how Duke is a leader in water conservation. This photo is of the WaterHub at Emory University in Atlanta, the first ever constructed in the United States.



## THE HOLLOW TAKES SHAPE



Project Manager Hector Hernandez took this photo of the Hollows in January. It shows the rebar being placed before the concrete is poured to create the second floor. The building, located on Towerview near Edens and Keohane Quads will house 500 students starting in the fall of 2019.

## FMD EMPLOYEES LOSE IT

This winter 15 employees in Smith Warehouse participated in a weight loss challenge. The challenge lasted 8 weeks and the total weight loss was over 240 pounds!! HVAC Planner **Daryl Barnette** won the challenge. He lost 44 pounds, representing a 19% loss. Other big losers were Tim Young, Ron Hurdle, Rodney Andrews, and Sean Saunders. Congratulations!

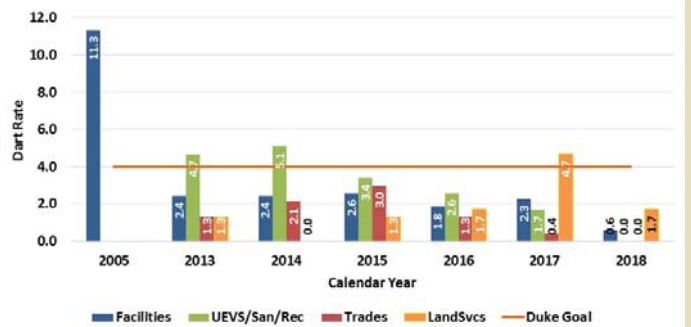
## SAFETY ZONE

Prior to 2017 FMD conducted fall protection training every two years. However, OSHA and ANSI now require this training take place annually. On January 30th, Facilities Management contracted with Guardian Fall Protection to conduct both classroom and practical application training on their demonstration truck.

The Guardian staff also inspected our mechanic's harnesses and lanyards for serviceability. We had a couple of harnesses fail due to fraying and missing tags. We also had approximately 5 lanyards fail due to markings on the gates (aka carabiner, snap hook, or hasp) that weren't current per the updated OSHA standard, and which had not been grandfathered. These harnesses and lanyards were taken out of service—that means they were cut up and thrown away--so they can not be used again.



Facilities Management DART Rate 2005-18



**Our Mission:** To be stewards of Duke University by providing excellence in planning, design, construction, cleanliness, operations and maintenance of facilities, grounds and utilities, for the University Community in a safe, efficient and sustainable manner.