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Facilities & Services

Letter from the Associate Vice Chancellor and Executive Director

When you imagine the U of I campus landscape, what do you picture? Many might think of the Main Quad, or perhaps University Housing and internationally renowned athletics facilities. Maybe the Bardeen Quad and its access to the Grainger College of Engineering and the Boneyard Creek brings you memories. The Illini Grove provides an escape from the urban environment on campus. Whatever your vision of the university, the campus and its landscape are ever-changing.

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In 2019, the Resilient Grounds Strategy Advisory Committee recommended the development of a comprehensive Campus Landscape Master Plan (CLMP) to create and maintain a resilient, sustainable, functional, accessible, and inclusive campus landscape. To achieve that, a Core Planning Committee that includes representatives from across the campus was formed to guide this effort, in partnership with Design Workshop, a reputable Chicago-based architectural landscape firm that was engaged to support the UIUC community to develop our first CLMP. The Core Planning Committee and Design Workshop conducted extensive consultation with many stakeholders through multiple public input sessions that includes 17 stakeholders interviews, one student forum, three student design reviews, two community surveys, tours and on-site workshops, and a public forum. The Core Planning Committee developed eight core principles for the CLMP:

- Define a shared vision of a sustainable campus landscape,
- Define a cohesive landscape aesthetic to reinforce branding and identity,
- Re-center the stories of native people within the landscape,
- Honor the legacy of the historic landscape design,
- Define strategies that value rainwater as a precious resource,
- Provide design guidance to address maintenance considerations,
- Define ways to leverage the landscape for learning, research, and mental health, and
- Define clear funding responsibilities to guide all future development decisions

So, on the Main Quad, identifying some former 'thru' areas as more 'go-to' destinations will add seating and gathering areas to different sections of the quad, including Centennial Court (south of Noyes Lab), Anniversary Plaza (south of Illini Union), and connecting walkways to Nevada Street, home of cultural houses to the east. To see some early concepts, you can view the public presentation here: **http://fs.illinois.edu/services/capital-programs/campus-master-planning**.

As this process nears substantial completion this summer, we look forward to concrete solutions for this brilliant campus landscape. So get outside, take a deep breath, and imagine your future at Illinois.

Dr. Ehab Kamarah
Associate Vice Chancellor and Executive Director, Facilities & Services

EFE Student Program Showcases F&S Work to Area Students

Local high school students toured F&S crafts and trades in June.

The "Education for Employment System (EFE) #330" showcased F&S tradespeople like mill workers, roofers, and elevator mechanics. Foreperson and supervisors explained why they value the work and how the next generation can fill these vital positions.

Early exposure to this type of work may help students understand the path to F&S shops, and addresses goals in the F&S Strategic Plan "Foundations for the Future," to invest in the people of F&S by growing and training the next generation. The EFE #330 program directs state and federal funds for career and technical education programs at schools in Champaign, Ford, Piatt, and Douglas counties.

Here Comes the Sun

Photo credit: James Baltz

"The university is devoted to sustainability."

Morgan White, F&S associate director of Sustainability, presented information about Illinois' power efforts in "Decarbonizing Enterprise Real Estate with Large-Scale Renewables," a talk coordinated by the Illinois Green Alliance. There, White discussed how the University of Illinois Urbana-Champaign plans to use 140 MWH/year of clean energy by 2025, a goal specified in the Illinois Climate Action Plan (iCAP).

Roofs at places like the Electrical & Computer Engineering (ECE) Building, Business Instructional Facility, Wassaja Hall, even a shed at the President's House and many others, have added solar panels.

Solar panels on the roof of the ECE Building

"We can't just make sustainable choices, and just pat ourselves on the back," said White. "They're on campus and there for students and the academic community to engage with. The ECE building has a section of its roof array designed in relation to the elevator so people can see it. It was *built in* as a teaching and research space."

And they help, but large-scale production is the only way to accomplish goals for a campus of 50,000 students and more than 20 million square feet of buildings.

The 75-acre Solar Farm 2.0 produces 12.3 Megawatt direct current. The farm holds 31,122 bifacial monocrystalline panels in 399 rows. The construction was 'zero waste,' a tracking system rotates the panels as the sun moves (and pollinator-friendly plants populate the ground under them), and a landscape ecology buffer separates the farm from residential neighbors.

Combined with Solar Farm 1.0 and other clean power purchase agreements (PPAs), the university hit about 27,000 MWH/year of clean power production through on-site renewable energy production. The Illinois Climate Action Plan (iCAP) goal for 2025 is to have 140,000 of clean power. That goal can be accomplished either through on-site production or with new PPAs for the acquisition of more clean energy.

White says future PPAs could draw energy from sustainable sources across the region and gain the necessary renewable energy certificates, which gives Illinois the right to claim the use of clean energy. For more energy benchmarks in the iCAP, visit: **https://icap.sustainability.illinois.edu/project/carbon-neutral-energy-campus**.

ABOVE AND BEYOND:

F&S Helps Save Energy at Iconic Arena

The State Farm Center (SFC) is avoiding energy costs thanks to F&S Utilities & Energy Services (UES) performing retrocommissioning (RCx) work. RCx strives to improve the mechanical systems already in place while increasing occupant comfort through their work. At SFC, that's a tall (and wide) task.

The famous, long-time home to Illini men's and women's basketball and other premier events measures in at more than 315,000 square feet. It's 400 feet in diameter and 125 feet high, big enough for large events, concerts, and even former All-American 7-foot center Kofi Cockburn.

A collection of methods, some of which are detailed below, helped SFC avoid about $214,000 in energy costs thanks to a partnership with F&S. View the full Report at **https://go.fs.illinois.edu/RCx-SFC**.

The RCx team collaborated with the Division of Intercollegiate Athletics (DIA) to discover the best methods to bring SFC up to more efficient standards. The Revolving Loan Fund (RLF) was the financing source, a program used for utilities conservation projects with less than ten-year payback periods, including steam, electricity, chilled water, or water reduction projects. Projects are selected based on reduction of greenhouse gas emissions, community visibility, and other factors; this one fit the budget and ability to hit metrics and benchmarks. The RLF is managed by F&S and the savings from utility costs are paid back annually to replenish the fund.

Said Brett Stillwell, DIA senior associate athletics director, capital projects and facilities: "This collaboration with F&S has been great. The cost avoidance here will have a huge impact on our athletic department as well as the whole campus.

"SFC is an iconic building on this campus," said Stillwell. "To be able to bring it into the 21st century with high quality mechanical systems and retrofitting like this to be state of the art is vital."

"F&S brought their expertise and helped us trouble-shoot parts of the challenges that we face with operating 26 air handling units in one building," said Tom Divan, assistant director of athletics, State Farm Center. "They went above and beyond what was asked in the project and helped us out in a lot of ways. We'll see the benefits of that for years to come."

F&S helped the iconic State Farm Center avoid $214,000 in energy costs.

Here are a few of the changes made, as described by Andy Robinson, management engineer.

Pressurization

Building sensors were installed to slightly pressurize the building with conditioned air. Since this building holds thousands who enter and exit at the same times—including people at public entrances and massive equipment through the loading dock—this requires more than just a one-time air balance. This method allows the system to bring in more outside air when needed, but also reduce exhaust.

The air in the building is continuously monitored for carbon dioxide. Sensors open up outdoor air dampers and fans ramp up quickly when people stream in for a concert or game.

AHU Optimization

The four main air handling units (AHUs) are some of the largest on campus and are the size of two semi-trailers stacked on top of each other. There are advanced energy recovery wheels inside that bring in maximum fresh air but do not send out all of the conditioned air; goals are established in accordance with ASHRAE standards and CDC guidelines. This greatly reduces heating and cooling costs, but does require some fairly advanced control sequences and calibration.

These AHUs previously operated for hours, regardless of building use. Now, they turn off at 6 p.m. and only run to 12 a.m. when overridden for an evening event. Two of the four main units and half of the concourse ring can be kept off in mild weather running at 30% fan speed and can ramp up if there is an event or space demand.

The Future

SFC staff are trained in building automation and physically walk the entire building each day to check on systems. F&S typically recommends a recommissioning team go back through every 3-5 years to look holistically at the building.

There are always some tweaks to be made in a building with such varying occupancy and uses. This building is operating with an improved level of energy efficiency. Future improvements will update the computerized building automation system with software upgrades, sensor calibrations, and filter changes.

> ***"SFC is an iconic building on this campus. To be able to bring it into the 21st century with high quality mechanical systems and retrofitting like this to be state of the art is vital."***
>
> ~ Brett Stillwell, senior associate athletics director, DIA Capital Projects and Facilities

Summertime Construction

As temperatures increase, so does F&S Capital Programs involvement in projects moving into the construction phase across campus. Many physical improvements to building systems and infrastructure take place while most students are away from the campus. See here for a few high-visibility locations of major work to improve the university's ability to enhance the lives of citizens in Illinois, across the nation, and around the world through leadership in learning, discovery, engagement and economic development.

For the full list of summer construction, visit: https://go.fs.illinois.edu/summerconstruction2022.

- **Central Campus Parking Structures (Remodeling/ Construction)**
  The $21M project will rehabilitate Lot C7 (510 East John St.) and Lot C10 (812 S. Fifth St.) parking structures. The upgrades will include installing supplemental steel beam support systems and repairs to concrete delaminations and spalls. The work will also include restorations to the building façade through the replacement of coping stones and flashing, brick repairs, and protective screening at the top level and all exterior above grade openings. Elevator upgrades, new waterproofing systems, stair repairs, landscaping, sidewalk enhancements, and improvements to mechanical, electrical, and plumbing will also be made. The parking structures shall remain open as much as possible during rehabilitation. The project will also assist the Parking Department with the continued development of a long-term parking strategy for the central campus area.

- **Advanced Computation Building (Deferred Maintenance)**
  Two uninterruptable power systems (UPS) units that serve the Technology Services-managed data center will be upgraded. The replacement of the existing UPS units is necessary to provide the capacity needed for current equipment loads and replace the existing units nearing the end of their useful lives. The existing locations will be reused, requiring a rapid shutdown, removal, installation, and turn-up of the new units. F&S shops and departments will perform the construction work.

- **North Campus Chiller Plant (Utilities)**
  Three new cooling towers will be constructed on the North Campus Chiller Plant roof (305 N. Mathews Ave.) to help provide reliable chilled water service to campus. The new towers will be located on the south side of the roof, and the work will also include mechanical, electrical, and plumbing components and related systems needed for the towers to be installed and functional. A future project will remove the existing towers once they are decommissioned.

- **The Susan and Clint Atkins Baseball Training Center & Rex and Alice A. Martin Softball Training Center (Infrastructure)**
  The new 12,440 GSF Rex and Alice A. Martin Softball Training Center will be constructed adjacent to Eichelberger Field. The center will include a full infield as well as hitting and pitching cages. The facility will also feature an expanded player lounge, new recruiting lobby, and hall of fame area. (See **http://jointheifund.com/martinsoftball.html**) Both of these new facilities will enrich the sports program for Illinois athletes providing greater opportunities for personal and team development.

  The new 23,500 GSF indoor training facility for Illini Baseball will include space for a complete baseball infield, an adjacent player and recruiting lounge, and pitching and batting areas with retractable netting for player development. The Susan and Clint Atkins Baseball Training Center will connect to the existing Illinois Field baseball clubhouse, locker rooms, training rooms, and offices. A new paved parking area and entrance gateway to Illinois Field will be also be added from Kirby Avenue. The facility will give Illini Baseball an around-the-clock training center that will allow athletes to excel at the highest level with the goal of winning Big Ten championships and competing to reach the College World Series and play for national titles. (More at **https://fightingillini.com/facilities/susan-and-clint-atkins-baseball-training-center/41**)

- **Engineering Sciences Building (Remodeling)**
  To provide laboratory spaces for the Grainger College of Engineering's Illinois Quantum Information Science and Technology (IQUIST) Center, infrastructure upgrades will be made to Engineering Sciences Building utilities, environmental controls, and electrical service. Office and collaboration spaces will also be renovated as a part of the work.

- **Krannert Center for the Performing Arts (Remodeling)**
  The project will improve accessibility in the Colwell Playhouse and modernize public elevators one and two in the Krannert Center for the Performing Arts (KCPA), which are original to the 1969 construction of the facility. The work will focus on the upgrade of elevator two. Improvements were made to the facility's larger elevator last year. Elevator one will remain in operation and available over the summer. KCPA's design and construction occurred before the Americans with Disabilities Act and the Illinois Accessibility Code. These upgrades will provide improved functionality and an overall better experience for individuals with disabilities while visiting the facility.


North Campus Chiller Plant


Advanced Computation Building


C7 and C10 Parking Structures


Noyes Laboratory of Chemistry


Engineering Sciences Building

Building Emergency Masonry Reconstruction: Deferred Maintenance

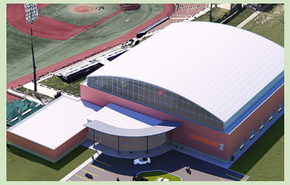
"The Illinois Capital Development Board (CDB) provided emergency funding to address urgent masonry repairs at Noyes Lab, Wohlers Hall, and Madigan Lab. We are grateful for the assistance from the State of Illinois and from CDB for the work they are doing to help address these deferred maintenance issues on our campus."

~ Brad Klein, assistant director of Deferred Maintenance


Wohlers Hall


Krannert Center for the Performing Arts


Madigan Laboratory


Susan and Clint Atkins Baseball Training Center

Rex and Alice A. Martin Softball Training Center

What's in YOUR Safety Toolbox?

Sometimes, you need a rumble strip: A cautioning message to keep up alertness and attention to safety.

Every safety protocol used in hands-on labor is necessary, and Jeremy Neighbors, director of Safety & Compliance, believes precision and care is needed to keep everyone from potential dangers. F&S can help any department, unit, or individual learn tips and tricks to stay safe in the workplace or even at home.

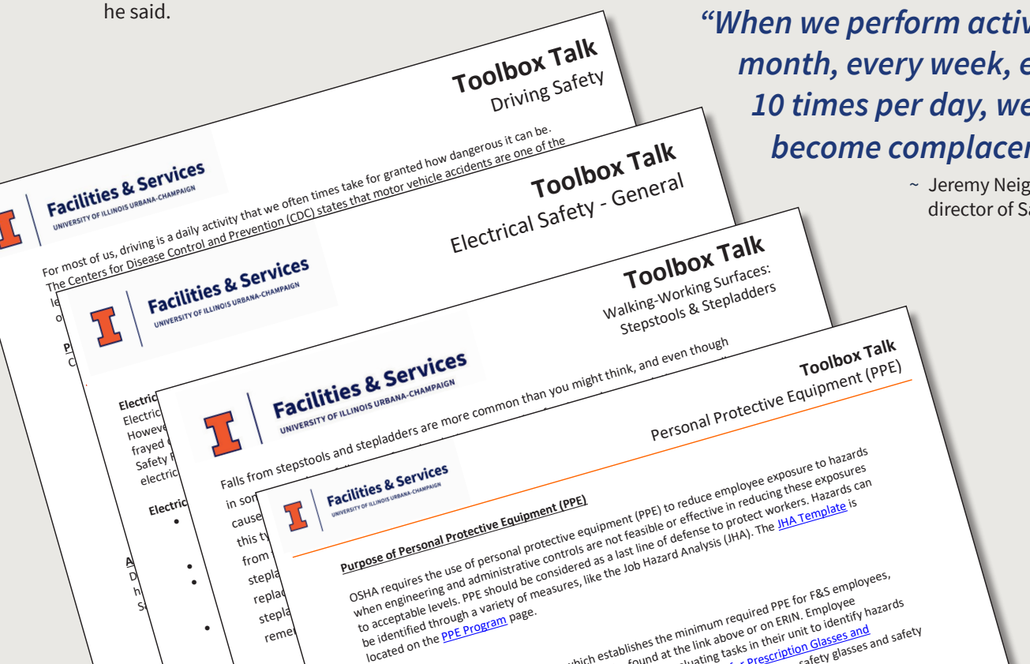
Toolbox Talks (TBT) are documents specific to a safety topic. They are available at **https://fs.illinois.edu/services/safety-and-compliance/employee-safety-health/employee-protection**.

"When we perform activities every month, every week, every day, 10 times per day, we naturally become complacent," Neighbors said. "It is like not remembering your morning commute, your brain gets you to work without incident…most of the time."

Neighbors notes that F&S employees did suffer a few injuries from slips on snow/ice in the last year. "It just takes one time reaching too far."

TBTs are used to keep everyone's mind on safety tips and warnings for common and timely ways to keep workers out of harm's way. During the summer, Safety & Compliance might promote warnings on indicators of heat stress, while more than 20 other topics cover eye protection, near misses, high visibility clothing, and, yes, ladder safety.

Neighbors equates the TBTs to rumble strips or automatic lane departure notifications during driving. "They're tools that tell our brains to shut off auto-pilot and pay attention," he said.



"When we perform activities every month, every week, every day, 10 times per day, we naturally become complacent."

~ Jeremy Neighbors, director of Safety & Compliance

COVID-19
Back to the Basics

During the worst of the COVID-19 crisis, F&S was there to help.

Throughout the response to the pandemic, building service workers (BSWs) have been on the frontlines, supporting campus operations while adjusting to ever-changing public health protocols and associated university guidelines.

After March 2020, BSWs maintained an increased level of daily classroom and restroom cleaning, particularly when in-person classes came back to campus. Specifically-tailored tasks were carefully chosen to address the concerns of working and learning during the pandemic.

The day after Commencement, the Building Services department returned to standard, pre-pandemic service levels agreements. This transition will help BSWs prioritize regular custodial activities in offices, conference rooms, laboratories, shared spaces, hallways, stairwells, and other building locations.

"Our staff can adjust to whatever strategic decisions are made," said Pete Varney, director of Transportation & Building Services. "Going to pre-pandemic levels will help prepare buildings for the fall semester."

Service Level Agreements (SLAs) are the documents which define work activity done by BSWs in all buildings across campus. Of course, some locations have specific cleaning operations due to sensitive lab equipment or fine art. The SLAs, though, are the backbone to what gets done.

Focus areas over the summer include:

- Returning to weekly cleaning for private offices and multi-cubicle areas
- Maintaining appropriate cleaning levels in research laboratories
- Prioritizing departmental work requests

All colleges, departments, and units can help establish updated BSW priorities for custodial tasks, while also identifying additional opportunities for requested services, such as extra office cleanings or floor work.

F&S Moves with You

How do you get around? Facilities & Services wants to know.

F&S Transportation Demand Management (TDM) measures, controls, promotes, and leads in the planning, developing, and monitoring the transportation network on campus.

A number of recent and future initiatives will enhance active transportation options and shape the future of how people get around an ever-changing campus.

Walkability Audit & Mode Choice Survey

The Walkability Audit 2021-22 project is identifying areas that are ideal for walking and areas that may require improvement. The data from two surveys will paint a picture of walking infrastructure successes and needs.

Based on the preliminary results from the Mode Choice Survey, nearly 85% of UIUC students use active modes of transportation, and almost 40% of them walk as their primary mode of travel. Practically every student (90%) responded that walking is one of their top-3 preferred modes of travel on campus.

In summer 2022, TDM will analyze the data to determine the overall walk score for the campus.

TDM has collaborated with the Department of Urban and Regional Planning and the Student Planning Organization, Disability Resources & Educational Services, Office of Access & Equity, F&S (Grounds, Facilities Information Resources, and Sustainability), the campus landscape architect, and the Transportation iCAP Team at the University of Illinois for this project.

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CAMPUS TRANSPORTATION MODE CHOICE SURVEY

UIUC Student Preliminary Results

- ~ 85% use active modes of transportation on campus
- ~ 40% walk as primary mode of travel on campus
- ~ 90% chose walking as a top-3 preferred mode of travel on campus

Bike Week 2022

Following the success of the Bike Day in 2021, TDM, in collaboration with the Bike Month Planning team and Light the Night Planning team, is organizing a Bike Week on-campus in September 2022.

This year's Bike Week will feature the annual Bike to Work Day and Light the Night events as the two main events, with several smaller events spread throughout the week. These events

- Acknowledge and thank regular bicycle commuters and encourage and invite first-time riders
- Use publicity to raise driver awareness
- Educate the public that state law in Illinois requires bicycles to have a front light and rear reflector, at minimum, when riding at night

The annual Bike to Work Day event brings approximately 800 community members committing to ride their bicycles to work on the day. In 2021, there were 16 welcoming stations in Champaign County, including nine on campus, where cyclists could stop by on their morning commute for free snacks and prizes, learn about rules of the road, and meet other bicycle commuters as well as bike advocates, local planners, and others involved in bike infrastructure and enforcement around town.

The annual Light the Night is an annual free bicycle light giveaway, funded by the Campus Area Transportation Study (CATS) agencies: the University of Illinois, Champaign-Urbana Mass Transit District (MTD), the City of Urbana and the City of Champaign. In 2021, 40 volunteers installed nearly 750 light sets (front and rear) at three campus locations!

Bike Week 2022 is intended to be a series of welcoming events for the returning and new students to start the academic year! It will also give the students an opportunity to explore the campus and community on a bike and learn about the bike program at the beginning of the school year.

bike@illinois.edu

It's Your MTD Too!

Facilities & Services collaborates with the MTD to encourage University of Illinois faculty, staff, and students to use the various services provided by MTD. The It's Your MTD Too event is held at least once every year, and is part of the "Know Your U" program. This event consists of a 45-minute presentation and then a 45-minute bus ride to a pre-determined destination. There are survey and comments sections as a part of the event also.

F&S may collaborate with other units to introduce the incoming students to the MTD system.

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Facilities & Services
UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN

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SHOP SPOTLIGHT: GROUNDS

When it comes to planting time on the campus, it's a big job, but the Grounds team can do it.

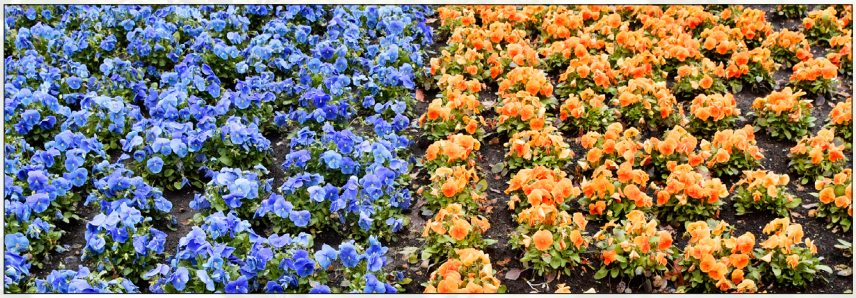
Across 962 acres of grass, trees, flowers, shrubs, and local ecosystems, grounds workers keep it in order.

So, when the days get longer and warmer, 27 full-time and some extra help staff do three plantings in April, May, and June, according to Ryan Welch, Superintendent of Grounds.

In April, 6,000 flowers go in the ground; in May, another 4,000; and finally in June, 9,700 flowers are planted. This all from the same crew that'll clear the sidewalks, pathways, and building entrances when the campus gets covered in snow and ice, and rake away leaves in the late fall.

One grounds worker can prep and plant a 100-foot-square flower bed in 90 minutes, oftentimes in hot, humid conditions. After that, there's approximately 56,900 more square feet of beds, containers, and urns to fill!

And with grass, there's mowing, aerating, and seeding. Trimming, weed control application, and even hand weeding. With trees, there are safety assessments of limbs or the trunk itself, pruning, removal, and even the chipping of those branches or trunks into mulch. About 82 acres of land are dedicated to 'low mow zones,' which require a different maintenance and cutting schedule to support sustainability, increase pollinator support, and decrease maintenance costs.



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