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In the current college environment, facilities planning for higher education campuses can be volatile. Campus leaders are navigating fluctuating enrollment numbers, budget cuts, aging facilities, legislative changes, and more. For campuses to flourish, facilities planners must re-evaluate their budgets and optimize space utilization, reimagine a more collaborative campus community, and prioritize the safety of students and employees. As campuses change, key and access control need to evolve with them.



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Editor's Letter

JANUARY 2023

Happy 2023!

What an exciting time. Many of us will look at the new year with plans and resolutions lined up, waiting for us to hit the start button. Most of us will start strong, but soon some of us will feel the pull of comfort wanting us to go back to what we are used to. I, like maybe some of you, am a creature of comfort. I like my routine; one might even say I will move mountains to keep things the same.

Yes, I know that I cannot go back to what I did before and expect different results; I am familiar with that loose definition of insanity. With that being the case, I will choose to endure short term discomfort for long term reward. This endurance is, to me, the very definition of discipline. While such discipline is usually not pleasant, it is the best way to move forward.

If I am honest, I can almost guarantee that I am going to break these resolutions and promises to myself sooner or later. At that point, I could ask myself why I even tried. I do know, however, that I have changed my behavior and habits in the past for long term goals, and I am still doing these new behaviors today. I bet the same can be said for you.

When we are beginning to beat ourselves up over a slip up or a little less than perfect attention to our goals and resolutions, let's all try giving ourselves grace and say, "Today is a new day to start again"—even if it is January 3rd, February 23rd, or even August 31st. I heard someone say once that we cannot let perfect be the reason that we do not accept the good. Even if you only made it a day before the resolution gave way, just determine to start it again. Every time we try, we make it a little further toward our desired goal—and we accept our progress even if we did not achieve perfection.

I am very excited about what 2023 will bring our way—the adventure awaits! I am also enthralled by the possibilities of goodness to anticipate. We here at *Private University Products and News* look forward to continuing to help you with facility information and practical application features. We also look forward to hearing about the good things that you will be accomplishing across your campuses.

Until next time, wishing a happy and a prosperous new year from all of us to all of you!

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Excellence in Aviation at Florida Memorial University

BY CYNTHIA MWENJA, PhD

Albert Douglas, Jr., Assistant Professor in the Department of Aviation and Safety at Florida Memorial University, brings a wealth of experience and a lifetime of knowledge to his campus work. Having become an air traffic controller in the United States Air Force, he rose to the highest levels at the Federal Aviation Administration (FAA) by the time he retired; he continues his energetic engagement with the field as a subject matter expert to the FAA as well as teaching all air traffic control courses at FMU.

Douglas began his career as an air traffic controller in the United States Air Force, where he earned his first FAA certifications in air traffic control. He worked in a variety of positions within the FAA, ultimately achieving the highest rank by moving into the Senior Executive Service (SES) at FAA headquarters. As the Office of Personnel Management website states, these “leaders possess well-honed executive skills and share a broad perspective on government and a public service commitment that is grounded in the Constitution. Members of the SES serve in the key positions just below the top Presidential appointees. SES members are the major link between these appointees and the rest of the Federal workforce. They operate and oversee nearly every government activity in approximately seventy-five Federal agencies.” As an SES member, Douglas became Director of the Air Traffic Systems Requirement Service; in this position, “he was responsible for new and existing system requirement definitions, market surveys, system acquisition funding requests and vendor contract selection,” as his faculty bio states Douglas brings this elite experience to his work at FMU.

After this distinguished career in the FAA, Douglas retired in 1998 and began to do some consulting work in the field. In 2010, he met Captain A.J. Tolbert, who was directing FMU’s Department of Aviation and Safety at the time. Tolbert, who passed away in 2018, was a “former Air Force and commercial pilot [who] assisted in turning the aviation program into a premier academic program at the historic Black university,” according to a university press release at the time of his death. Tolbert asked Douglas to help re-establish the aviation program. The two spent the summer revising courses, with Douglas bringing the program up to date to ensure that it met—and would continue to meet—current FAA standards.

Douglas began teaching all air traffic control courses at FMU in the fall of 2011, and he remains committed to making the program ever more successful. He says that the transition from his previous work within the FAA to adjunct instructor—now Assistant Professor—was easy for him. In the FAA, Douglas held many different positions, one of which involved training controllers. To prepare for his move into that particular position, he had gone to the academy for

trainers, so he had already learned how to be an instructor for air traffic controllers before joining the faculty at FMU. Additionally, of course, he came to FMU with vast knowledge of all aspects of air traffic control, and he had managed air traffic control at some of the busiest airports in the country, including the John F. Kennedy International Airport, Andrews Air Force Base, Philadelphia International Airport, and Washington National Airport.

Last summer—in the culmination of one of the initiatives Douglas has pursued to further strengthen FMU’s aviation program—FMU was certified by the FAA to be part of the Air Traffic-Collegiate Training Initiative (AT-CTI). According to the FAA’s website, “The AT-CTI program is designed to provide qualified candidates for developmental air traffic control specialist positions.” Jorge Guerra, Director of Aviation and Safety at FMU, says that Douglas had been petitioning the FAA for ten years to include FMU on this elite list. As Douglas points out, only thirty-four institutions of higher education have this designation, and FMU is the third HBCU to attain this achievement. The



AT-CTI puts FMU students on an even stronger path to careers in air traffic control.

Douglas says that he is proud to have been able to contribute in this way to support FMU's aviation program mission of producing students who are competitive in aviation fields. The AT-CTI designation demonstrates that instruction within the program fully meets FAA standards. As both Guerra and Douglas point out, this achievement is a draw for potential students; as the FAA website states, graduates of the program can "bypass Air Traffic Basics Course, which is the first five weeks of qualification training at the FAA Academy in Oklahoma City. Students must successfully complete all required training at the FAA Academy to continue employment with FAA." The FAA says that "collegiate aviation is considered a critical hiring source to meet the FAA's need for air traffic controllers now and in the future." In fact, Douglas says, depending on position availability, the FAA at times only opens hiring to CTI graduates—so graduates of FMU's program will be in this small, select pool of applicants.

Guerra says that FMU is "really fortunate" to have Douglas as part of the team because of his vast experience and knowledge he has gained from the number of roles he has played. Guerra says that Douglas was one of the pioneers of the satellite GPS tracking of aircraft. Previously, aircraft had been tracked using radar, but the move to satellite provided more accurate data, leading to better safety. Guerra says that Douglas got the idea for satellite tracking of aircraft when watching the U.S. military using satellite-guided missiles during the first Gulf war. As an air traffic controller, he immediately saw the possibilities for using the technology to improve air traffic control.

Douglas pitched the idea with the FAA and was part of the FAA's Next Generation Air Transportation System (NextGen) program from the beginning. According to Guerra, satellite tracking has been a "game changer" for air traffic control; it provides more accuracy in tracking, which allows for more planes in the sky. According to the FAA's website, The NextGen program has grown into "one of the most ambitious infrastructure projects in U.S. history

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In 2010, Albert Douglas, Jr. met Captain A.J. Tolbert, who was directing FMU's Department of Aviation and Safety at the time. Tolbert, who passed away in 2018, was a "former Air Force and commercial pilot [who] assisted in turning the aviation program into a premier academic program at the historic Black university," according to a university press release at the time of his death. Tolbert asked Douglas to help re-establish the aviation program. The two spent the summer revising courses, with Douglas bringing the program up to date to ensure that it met—and would continue to meet—current FAA standards.



[which] aims to increase the safety, efficiency, capacity, predictability, and resiliency of American aviation. Through research and collaboration, NextGen contributes to defining new standards and further advancing our global leadership in aviation.” As his faculty bio states, Douglas continues to work as “a consultant and subject matter expert to the FAA and contractors in support of the FAA Next Generation Air Transportation System (NextGen) programs and projects.”

Douglas has been a vital part of several influential organizations. One such group is the Organization of Black Aerospace Professionals (OBAP), which is—according to its website—“a nonprofit organization dedicated to the encouragement and advancement of minorities in all aviation and aerospace careers.” Additionally, Douglas was involved with the National Black Coalition of Federal Aviation Employees (NBCFAE), a group whose mission is to “promote equal opportunities for African Americans, other minorities, and female FAA employees; improve employee management relations; and provide an effective liaison among FAA employees, management, and the community.” The work Douglas does at FMU parallels many of the initiatives, attitudes, and strategies employed by both OBAP and NBCFAE.

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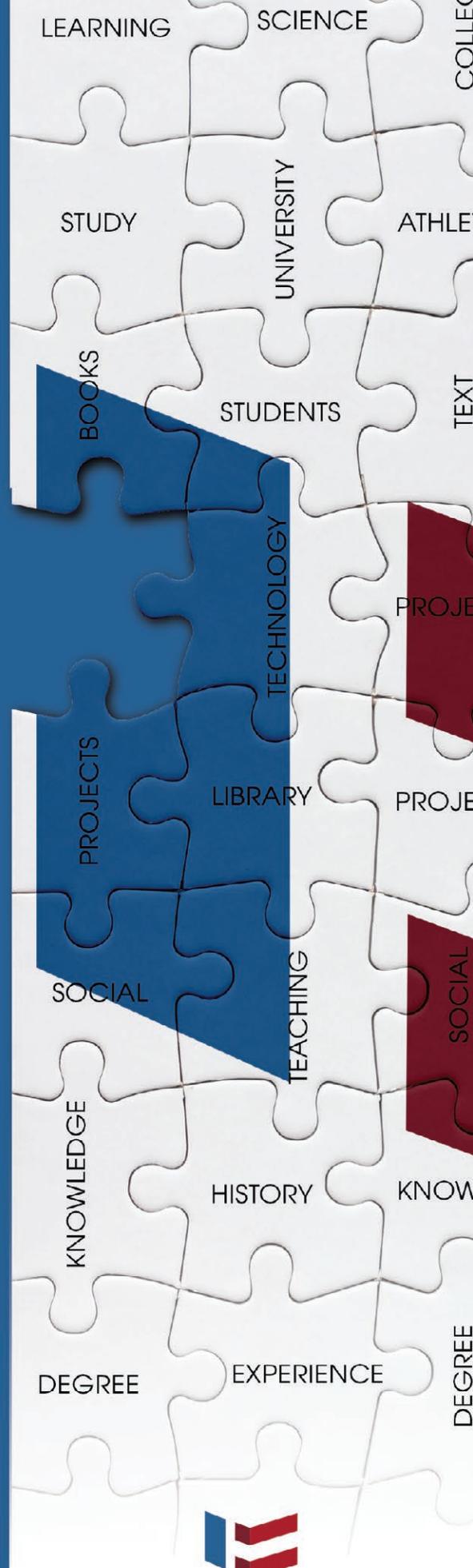
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FMU—the only Historically Black College or University (HBCU) in South Florida—was founded in 1879 as the Florida Baptist Institute. After a series of developments and relocations, it was established in its current Dade County location in 1968, becoming a university in 2004. Throughout its history and across all disciplines, FMU has focused on its mission “to instill in our students the values of leadership, character, and service to enhance their lives and the lives of others.” On its small, beautiful campus in south Florida, FMU provides a well-established aviation program with the highest level of instruction. Students in the Department of Aviation and Safety can earn a Bachelor of Science degree in either Aviation Management or Aeronautical Science; within Aeronautical Science, they can concentrate in Air Traffic Control or Flight Education. The air traffic control program’s graduates find positions as air traffic controllers all over the country, with many of them working in one of the several airports in the Miami area. While enrolled, students in the program tour different area airports, including Miami International. This term, Douglas reports, the program has more than eighty students enrolled across the various degree programs.

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The aviation program at FMU was established in 1984, with funding for the aviation building provided by the FAA. The campus is situated “just across the fence” from the Opa-Locka Airport, where the flight school is housed. According to Douglas, graduates of the program are very competitive for hire throughout the aviation industry, including within the Traffic Safety Administration (TSA). One recent graduate is both an adjunct within the program and a member of the Coast Guard who flies out of Opa-Locka. The aviation building at FMU has a control tower and a radar simulation lab that duplicates the FAA’s training facilities. Because of these resources, students graduate having already become familiar with what happens in real-world aviation settings. The program also partners with American Airlines, Miami International Airport, Lauderdale/Hollywood International Airport, and Spirit Airlines to provide students with internship and mentorship opportunities. Flight Education students are required to earn a commercial pilot’s license along with their degrees from FMU. Earning a commercial pilot’s license is quite costly; several major airlines, however, offer programs to help graduates attain the needed flight hours. These programs, Douglas points out, also give students a chance to move up in the ranks at the airlines.

Douglas has influenced every aspect of FMU’s Department of Aviation and Safety; the school, his colleagues, and his students all benefit from Douglas’ commitment to excellence within air traffic control and aviation more broadly. He is “such a wonderful guy—you can’t describe him in just a few minutes,” Guerra says, adding that he is “conscientious,” “meticulous,” and “loves his students—he’s a great professional who goes out of his way to help them.” Douglas, however, describes himself much more humbly and simply: “Once you’re an air traffic controller, you’re always an air traffic controller.” With this key faculty hire, FMU leads the way in showing how private colleges and universities can draw on the expertise of seasoned professionals from outside of academia to continue strengthening established campus programs.

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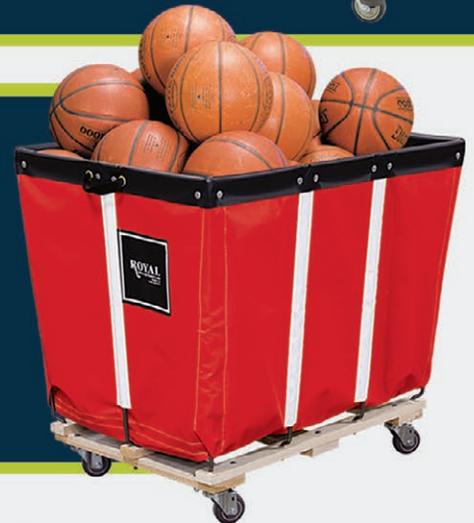
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SUSTAINABILITY &
GREEN INITIATIVES

Compost Topdressing: One Step toward Campus Sustainability

BY KEITH SCHULER

Topdressing—the application of any product on the top of any surface, such as sand on a street, salt on a parking lot, fertilizer on a lawn, and compost on a sports field—is unique as a maintenance practice because it closes the loop in the ecological cycle of sustainability.

Compost topdressing takes the product compost, once part of the waste stream, and applies it to the soil as an amendment. This process improves the soil structure while significantly reducing maintenance input costs associated with expensive fertilizer, continuous irrigation schedules, and soil compaction problems necessitating pesticide applications as well as large physical renovations. The campus soil is a natural asset that should be included and managed in order to reduce expenses and maximize profits.

How Topdressing Works

Though fertilizing is technically a topdressing, a distinction must be made between the main objectives of topdressing versus fertilizing. The main objective of fertilizing is to provide

plant nutrients in order to produce growth, whereas the main objective of topdressing is to improve the soil's structure. Each of these practices can have an impact on the other in application. For example, compost has amendments to the soil structure as well as nutritional benefits that also feed the plant like a fertilizer. To better understand how compost topdressing is an asset, people should view it as an amendment practice to a soil structure.

Soil structure is comprised of four basic materials: sand, silt, clay, and organic matter (OM). From a topdressing amendment point of view, topdressing materials then are sand, silt, clay and OM (compost) or any blends of these materials. Sand topdressing is used

in leveling surfaces, improving soil porosity, covering up the roots of warm season grasses, and supporting the grass blade stand. This application is performed on sports fields, golf greens, and warm season lawns. Silt and clay topdressings are often components to various blends in order to repair drainage issues or for specific purposes, such as the clay used on baseball diamonds and pitching mounds. Compost topdressing, on the other hand, is used for the management of OM in the soil in order to preserve soil health. This application is used in agriculture and horticulture, on crop fields, lawns, sports fields and golf courses.

The basic three components of sand, silt, and clay make up the twelve soil classifications, and each soil classification has varying characteristics with inherent limitations. The unique OM component and its inherent adhesive property can make any soil type healthy and productive. OM is better understood as the process of decomposition of biomass that ends in humus formation, the asset in all soil types.

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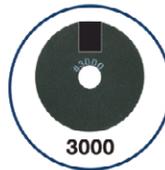
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The OM percentage in a soil greatly improves the soil pH and cation exchange capacity (CEC); these elements are like the soil system's horsepower. Though the OM percentage in the soil structure analysis is small in comparison to the three other components, the benefits are significant.

When the appropriate percentage—5-10%—of OM is preserved in a soil, the soil is healthy and strong in terms of energy, yet it is quite fragile when exposed to extreme weather conditions and human impacts such as sporting activities. The OM level in the soil is the microbial habitat and sustenance,

serving as the soil's protective buffer against stress caused by activities and routine horticultural practices. For example, the best mowing practice has established the one-third cut rule, but when common circumstances lead to that rule being broken, the OM buffer in the soil can provide food energy to the grass plant via the microbe. Mowing always causes stress on the grass plant that must be recovered from; mowing also reduces the photosynthesis leaf surface, the leaf's energy production chamber. Therefore, the management of OM is like an asset balancing out normal activities.

Reducing Costs And Maximizing Soil Assets

While compost topdressing is not a cure-all, it is a valuable tool for preserving and increasing the OM level in a soil. It would be an enormous task, however, to increase OM levels by compost topdressing alone, taking nearly twenty tons of good compost just to raise the level by 1% on a one-acre field. Compost topdressing implementation should be a routine maintenance toward sustainability; studies have found that light monthly compost applications had far better results than fewer heavier applications. New root growth is the best way to increase soil OM, and compost is a great medium for germinating seed. New grass roots are also excellent compacted soil aerators, serving as nature's way to produce and maintain OM in the soil. Every spring and fall, many plants go to seed, dropping their leaves to serve as topdressing amendments. Routine over-seeding, combined with compost topdressing, can build the soil asset.

Ultimately, compost topdressing will greatly reduce input costs and maximize the soil assets. The only things increased by poor OM management are costly problems due to increasing bulk soil density. Most importantly, compost topdressing can become the key that closes the cycle of sustainability.



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With each passing year, prospective and current students alike are making sustainability and cleaner living priorities in their daily lives. Students' wants and needs have inspired institutions of higher education to lead the way in adopting sustainable principles. The broader goal is to do whatever may be possible to help mitigate damage to the warming earth. Sustainable strategies are designed to look at natural resources with the goal of using them while not depleting them. With sustainability as a governing priority in higher education, colleges and universities have sought to ensure that their use of natural resources doesn't harm the environment; that their practices don't facilitate the use of more resources than necessary; and that they educate students, faculty, staff, and the local community on what can be done to ensure sustainability on and off campus.

Efforts to achieve sustainability have extended to on-campus fitness and recreation centers. In many cases, this endeavor begins with nutrition; these social spaces often serve as educational spaces in which students, faculty, and staff learn how altering food preferences and eating behaviors benefit not only one's personal health but also the health of local economies and the agriculture ecosystem. Another vital strategy for addressing fitness-related sustainability includes exercise equipment that can be environmentally friendly and actually lower operational costs. With the technology to convert human power to electricity, SportsArt offers numerous options for transforming fitness and recreation centers into sustainable spaces that meet the needs of campus-based communities. Active participants in the fitness-oriented movement of sustainability include the University of Michigan (U-M) and the University of South Florida (USF). Both have found an ally in SportsArt, a leader in the market of sustainable fitness solutions.

SportsArt—Transforming Human Exertion into Usable Electricity

SportsArt has spent over forty years refining its innovative designs and offering manufacturing excellence that has advanced fitness industry standards. SportsArt is sold in over seventy countries worldwide and has won industry awards for its unwavering support of commercial fitness dealers. With its culture of excellence, SportsArt has positioned itself as one of the most visionary manufacturers of fitness equipment.

The cardio line at SportsArt includes treadmills, ellipticals, cycles, and cross trainers. The equipment makes possible major cost savings on energy expenses, thereby providing a sound investment in the long term. Even if an institution lacks the budget to replace all cardio machines with greener models, SportsArt offers an energy generating attachment. This device harnesses human work, feeding it back into the grid as usable energy. An example is a DIY-installed generator that fits on the rear tire of most bikes and uses a grid-tied inverter to translate pedal power into energy. Remarkably, this power can charge phones, power lights, or feed the grid. The faster the user pedals, the more power is generated. Also available are eco-friendly options for non-electronic gym equipment. For instance, weight-adjustable dumbbell sets save money and space but also aid in resource conservation; they do so by eliminating the need to manufacture multiple dumbbells of varying weights. Another sustainable fitness option comes in the form of rubber gym flooring rolls and mats that are made from reclaimed crumb rubber. What follows is an interview with representatives of the University of Michigan and the University of South Florida, respectively. In both cases, we learn about the increasing demand for sustainable fitness equipment as well as SportsArt's role in meeting these demands.

Student-Led Sustainability Efforts at U-M and USF

At the University of Michigan in Ann Arbor, David Siegle serves as Senior Assistant Director in the Intramural Sports Building (IMSB) Facility Operations and Student Engagement. Siegle gives us a clear picture of the emergent culture of fitness-related sustainability in higher education. Additionally, Jay Souza—Director of Recreation and Wellness at the University of South Florida—credits the institution's culture for its push to acquire sustainable fitness equipment.

PUPN: Who or what is driving the push for sustainable fitness equipment? Students? University mandates? Your own department?

Siegle: Initially, the first two pieces were a purchase from a student sustainability group. They were interested in raising awareness for the community. Due to the success of those two pieces, we purchased two more this past summer.

Souza: There is a culture of sustainability here supported by the university in general. We don't have mandates but rather a goal to achieve better sustainability when opportunities arise.

PUPN: We've seen that students have requested funds and received them from campus committees outside of the campus rec department to install sustainable fitness equipment. Has this been the case with your university? If so, can you elaborate on how your department was involved in this process?

Siegle: The student group drove the initial decisions. We helped decide where best to place the equipment and any infrastructure needed. Had the student group not been involved, we may have waited until our new facility is completed in 2025.

Souza: We proposed the concept and equipment to the student group here and they supported it, most likely similar to other campuses.

PUPN: What are the biggest challenges you've experienced in implementing green solutions into your recreational facility? Cost? Availability? Space?

Siegle: Our challenge, like all equipment, is space. We don't have the space to accommodate all recreation needs for our campus. We try to offer a variety of equipment to meet the interests of as many individuals as possible. Equipment that is energy efficient or energy producing is no different, other than we continue to squeeze as much equipment as we can into our existing spaces.

Souza: Space—definitely.

PUPN: How have you leveraged sustainable practices and equipment to drive facility usage and/or student engagement? And how has SportsArt's ECO-POWR helped with this?

Siegle: We are still early in the process; however, we have signage near the machines that help drive awareness. The student group is also a partner in helping with the message.

Souza: We have begun to program small events that utilize SportsArt equipment. We plan on running more programs.

PUPN: Aside from innovative technology in ECO-POWR machines, how are the SportsArt machines different from previous equipment?

Siegle: The technology is what sets them apart from other equipment. We don't have any other equipment that supplies energy back to the grid. Along the same row of machines, we have traditional treadmills and ellipticals.



Souza: They're far less complicated!

PUPN: Since implementing sustainable fitness solutions, what changes have you seen in your facility from either student perception and utilization or from an energy standpoint?

Siegle: From a student standpoint, usage of this equipment falls in line with other equipment—but the main point is that students have liked these options. They are hardly the least used pieces of equipment, so that's saying something about demand for more equipment in the future. We've noticed the most usage on the bikes.

PUPN: What future opportunities do you see in terms of sustainability and athletics on your campus?

Siegle: We will continue to seek opportunities to add more ECO-POWR machines as we replace or retire older equipment. We'll also look at the equipment as our brand-new facility opens in 2025.

Souza: Possibly to help energy reduction efforts throughout all facilities—

LED lights, HVAC efficiencies, and so forth.

PUPN: Is there any advice or recommendations you'd like to share with our readers who are considering the implementation of sustainable fitness solutions?

Siegle: The technology has advanced greatly compared to even a few years ago. It's worth taking another look at how these machines can join your offerings to your members. Lean on the students who attend your facility and those who are interested in sustainable options. They can help provide input and potentially funding!

Souza: It's a great first step or enhancement to current sustainable efforts.





REIMAGINING
KEY
CONTROL
FOR THE
EVOLVING
CAMPUS

BY TRICIA BUTLER

In the current college environment, facilities planning for higher education campuses can be volatile. Campus leaders are navigating fluctuating enrollment numbers, budget cuts, aging facilities, legislative changes, and more. For campuses to flourish, facilities planners must re-evaluate their budgets and optimize space utilization, reimagine a more collaborative campus community, and prioritize the safety of students and employees. As campuses change, key and access control need to evolve with them. Anyone responsible for managing access to various areas throughout the campus should ensure the key and access control method they use supports, rather than hinders, campus operations. This article covers three main areas to consider in such planning.



Space Utilization and Secure, Flexible Access

Space and asset utilization has been a challenging aspect of managing a higher education campus since the start of the pandemic. During Covid’s peak activity, campuses remained largely empty, leaving hundreds of square feet unused. Now, as lockdown measures ease, some campuses have packed residence halls and classrooms, while others are dealing with declining enrollment and implementing permanent distance learning programs.

Like the students who have opted for virtual classrooms instead of physical ones, some campus staff workers are transitioning to a permanent hybrid work model, leaving office space underutilized. Now, facilities planners and campus leaders are facing the challenge of predicting how much space is actually necessary, optimizing existing square footage, and adding or updating buildings as needed.

In the 2021 Campus Facilities Inventory Report, more than half of school leaders said they see a need for more flexible staff and faculty offices. Such flexibility means that students, contractors, faculty, and staff all require secure access tailored to their individual needs. To address these access requirements, some campuses use electronic door locks. However, not all institutions have the budget to implement electronic locks on every single door throughout campus, especially if doing so requires retrofitting aging facilities.

How can people have the keys they need without compromising security? Electronic key control systems can help bridge the gap between high-tech access control measures and buildings that use traditional metal keys. Keys—and even fobs and access cards—can be secured in a central location, where authorized users can remove the keys they need, giving them flexible access to campus

spaces. For example, a professor needing access to a lab or office space for which they do not have a permanently assigned key can log in to the system, check out the key they need, and return it when done.

Just as electronic door locks provide an audit trail of door access, key control systems allow those responsible for key control to assign authorized key holders. The system automatically records who has accessed, removed, and returned keys. As the campus evolves, facilities planners should prioritize how they will provide flexible access to campus spaces without compromising security.

Campus-Wide Collaboration and Standardized Policies

One of the unexpected positive outcomes of the pandemic is that it has forced departments across campus to collaborate to solve problems. Now is a perfect opportunity for those

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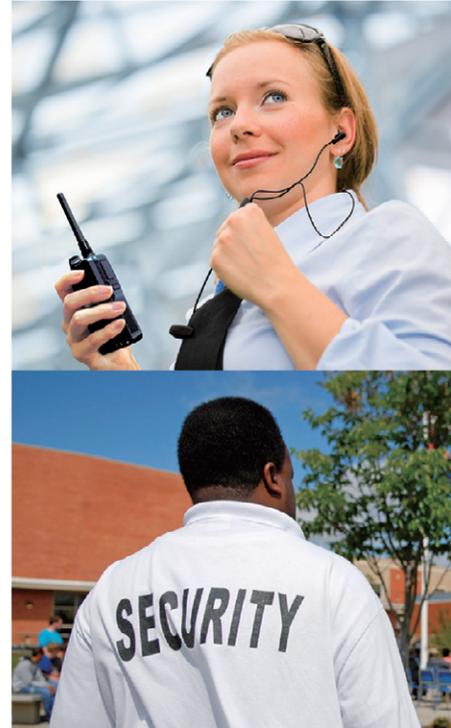
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departments to continue that momentum and work together to create overarching key and access control procedures.

Different areas of a campus often have their own separate key control protocols. However, areas such as residence life, the physical plant,

and campus security are interdependent. One way these departments can team up is by developing a campus-wide key control policy and system. With fewer differences in policies, processes, and technology, people are less likely to make mistakes, especially if staff

members have a reason to use keys in multiple areas of the campus.

Using the same type of systems throughout the institution also helps enforce the key and access control policy. By automatically authenticating users and specifying which user roles are authorized to check out certain keys, people are less likely to remove keys or access areas without authorization. In addition, overdue key alerts will help ensure that people return keys in a timely manner. With these measures in place, campus leaders will be better able to identify, report, and correct safety and security concerns.

When evaluating how the campus manages access in different departments, facilities planners and campus leaders should consider the following questions:

- Is there an overarching access control and key security plan that holds all areas of the university to the same standards?
- Does the policy regulate the creation of master keys and fobs?
- Are all key holders adequately trained on how to handle keys?
- Do all students and staff know how to request a key or access to flexible spaces?
- Is there a routine process for collecting former employees' keys, fobs, and access cards and revoking their access privileges on their last day?

Creating a campus-wide key management plan and process leads to less risk, miscommunication, and confusion.

Risk Management and Key Security

As institutions begin to use space differently and implement technology to accommodate the evolving campus, risk management will also change. However, with limited capital available for facility improvements, campus leaders will have to decide how much risk they're willing to assume and prioritize what solutions to invest in.

Protecting physical keys is an important part of campus risk management and physical security strategy. In a time of shrinking

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Just as electronic door locks provide an audit trail of door access, key control systems allow those responsible for key control to assign authorized key holders. The system automatically records who has accessed, removed, and returned keys. As the campus evolves, facilities planners should prioritize how they will provide flexible access to campus spaces without compromising security.

enrollment and budget, the reputation damage and expensive rekeying costs from a physical security breach would be detrimental.

Electronic key control enforces physical security by:

- Securing keys and any pre-programmed fobs or access cards
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- Creating automatic audit trails of key access
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- Providing vendors with secure, trackable access to keys
- Sending automatic alerts to system administrators if a key is not returned

on time or if a user attempts to remove a key they are not unauthorized to use

While every campus will allocate spending differently, helping staff and students feel safe on campus is always worth the investment. Facilities management is more challenging and dynamic than ever, but electronic key control can help bring calm to the chaos. Campuses will be able to provide secure, flexible access to keys, help departments across campus work together, and mitigate security risks.



ABOUT THE AUTHOR: Tricia Butler is a Senior Field Manager with KeyTrak, Inc. For over two decades, she has helped some of the largest higher education campuses across the western U.S. minimize key management risks and operate more efficiently.

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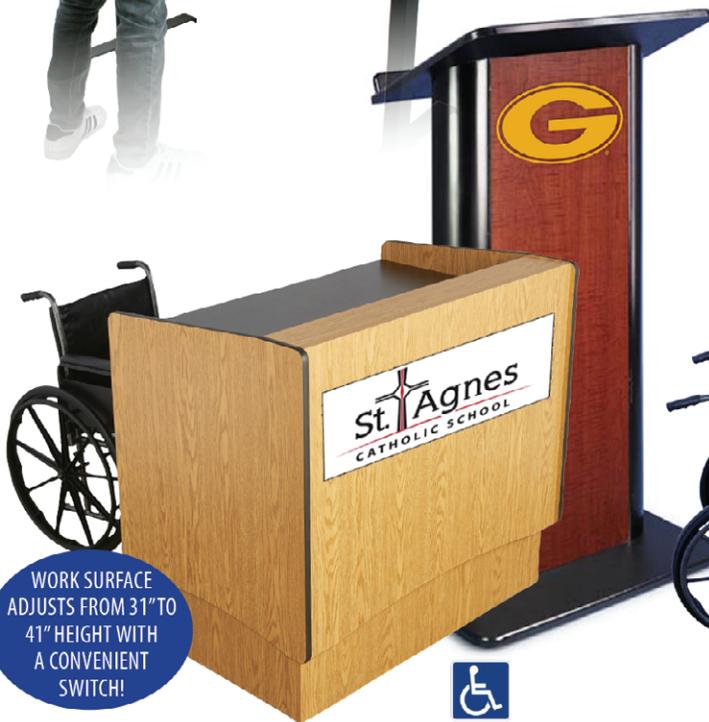
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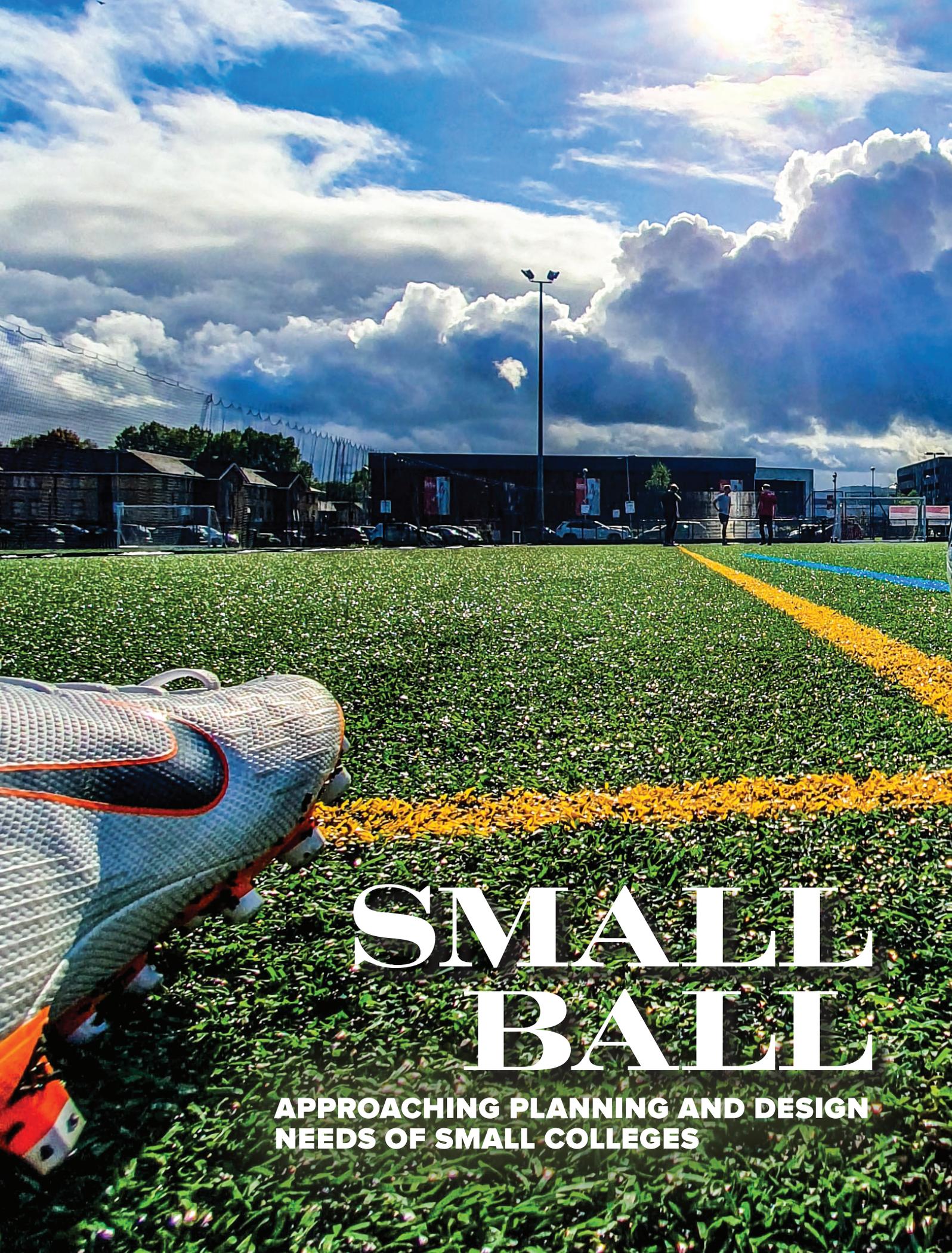


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SMALL BALL

**APPROACHING PLANNING AND DESIGN
NEEDS OF SMALL COLLEGES**



BY OLIVER SNIDER

For every Notre Dame or Michigan that builds a sports palace, there are hundreds of smaller colleges that have to adopt different strategies to compete in the facilities arms race. In regard to new construction and renovation projects, small colleges have specific needs—and specific limitations—that affect the way campus administrators and architects must approach planning and design.

PHOTO BY JASON-CHARTERS-10RQSMSSQHO—UNSPLASH



The collective sigh that accompanied the University of Alabama's announcement of Nick Saban's new pay package (\$6.9 million a year for eight seasons) came from the athletics and facilities directors at the several thousand small colleges across the country. How, they wondered, can smaller colleges hope to attract and retain students with a facilities budget that is dwarfed by the annual salary of one Division I-A head football coach, albeit one of the country's best?

It isn't just a collegiate sports world of \$400,000-a-year strength and conditioning coaches; it's a world in which the University of Michigan has roughly \$1.7 billion in construction either in the works or in the planning phase campus-wide, including \$250 million earmarked for non-revenue sports venue renovation and construction projects that were ongoing through 2020. It's a world in which the University of Notre Dame added more than 750,000 square feet in new buildings attached to three sides of its football stadium, at a projected cost of \$400 million.

No comparison can be made between Alabama athletics and its nation's-biggest operating surplus of \$27.2 million during the 2012-13 fiscal year (on \$143.8 million in operating revenue) and how a small college athletic department lives and breathes. The athletics department's dreams in a small college setting need to be weighed against reality in a way that Alabama's and Michigan's don't. But not all the differences revolve around the budget gap.

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The Differences Fall into Four Distinct Areas

Organizational

A large university might employ a university architect who directs all campus planning. Small colleges not only lack this on-campus resource, but they also typically don't have the

levels of bureaucracy or depth of experience, just by virtue of having fewer people on staff, that can be extremely helpful when planning a large capital project. A smaller staff means fewer people who can help with research or manage different aspects of project conceptualization: developing a strategy for getting a

project going, organizing fundraising, planning for the type of programming they might need, and the overall process of getting a building permitted and built. Likely, there is less of a chance that they have someone on staff who has gone through the planning and design process before. They may not have someone solely dedicated to procurement, as a large university does. This organizational shortfall—again, mostly due to the smaller number of people—extends from leadership of a project to lower rungs of management.

Since lack of familiarity with the process can lead to some really costly mistakes, it is especially important for smaller colleges to work with an expert on the building type in question and/or an owner's representative to help direct the project. In terms of the method of project delivery, design-build often suits smaller colleges specifically because this approach requires less management effort on the part of the owner.

While outsiders sometimes criticize design-build for removing the client's "advocate"—the architect—from the mix, employing a design-builder who has a track record of success with similar institutional projects can result in huge gains from everybody being on the same team. The coordination of the disciplines leads to a more streamlined process, removing much of the burden of decision-making from the owner and allowing the team to focus on meeting the owner's goals for the project.

Budgetary

Limited resources affect the building process in several ways, chief among them the construction budget itself, which on far too many building projects is set in wet concrete (as opposed to stone). Other budgetary aspects involve planning for future operational, repair, and maintenance costs. Large universities are cost-sensitive, but they are more likely to have donors interested in constructing a palace and putting their name above the palace door. When constructing a sports and recreation center that includes a competitive arena, the focus is likely to be on naming rights, corporate sponsorships, luxury suites, and incorporating equipment and components that can accommodate large numbers of media operatives and the needs of broadcast television.

Small colleges, by contrast, look at revenue generation from an entirely different

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perspective. Sponsorships and suites may play a role in a small competitive venue, but so will planning and design that is sensitive to the need for renting out spaces, or for accommodating multiple uses of spaces. A smaller operational budget means that it's even more important for smaller college facilities to be "bulletproof," featuring finishes that first and foremost can stand up to wear and tear.

Budgetary constraints are another issue that often lead smaller colleges toward the design-build method of project delivery. Richard E. Wylie, president of Endicott College, recently acknowledged the importance of design-build's fixed-price approach when he said, "The ability to say to my board that the price was guaranteed was huge." Large universities can more easily absorb cost overruns; smaller schools don't have that luxury.

Programmatic

Along with the need for cost certainty, small colleges need cost efficiency; they won't likely have the wherewithal to build five different facilities to meet student life needs. It is thus far more vital to smaller colleges that their buildings be conceived as truly multifunctional facilities, and this focus

will affect dozens of small and large aspects of the planning process.

On smaller campuses, space efficiency—the need to maximize space and resources—sometimes moves the discussion beyond building planning toward campus planning. A large university might feature a fine arts center in one area of the campus and an arena/convocation center in another area of the campus. On a small campus, a new wellness center often becomes the new hub for the campus, rather than one destination building among many. As a result, it is not unusual for planners on small campuses to incorporate, or at least consider adding, components normally associated with a student union, fine arts center, or dining hall, with the rationale being driven as much by the logic of student life as by economics.

That's how the 137,000-square-foot Jane P. Batten Student Center at Virginia Wesleyan College ended up comprising a competition gymnasium, a natatorium and the usual recreational and fitness activity areas, as well as uncommon elements such as Town Square featuring a 7,500-gallon aquarium, the campus dining center (the "Marlin Grille"), the campus bookstore, and the counseling center.

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Aesthetic

All architects think in terms of a new building's sensitivity to the campus context, but the need is more acute on a smaller campus. A new recreation center—or, for that matter, a new dormitory, dining hall, fine arts building, or classroom building—might represent the school's one shot to transform its campus, and the relative paucity of college buildings will give it an outsized impact on the campus aesthetic. Whereas a large campus that already embraces several different building styles over far more acreage might use this new building as an opportunity to try on an entirely new architectural style, a small college risks making its campus look disjointed or losing its identity.

Student life buildings are amenities that are counted on to attract and retain students, and while a state university may have half a dozen such buildings, a small college might have just one. The stakes are higher on a small campus; in other words, getting the building aesthetic "right" carries even more weight than it does at a large university. A large university is more likely to hire a star architect; in fact, the naming donor or high-priced football coach might demand it. In such cases, paying the fees of a high-priced architect is not necessarily problematic because of the extra cost of hiring a "name"—some small colleges are certainly sitting on big endowments—but because star architects are not always versed in the specific functional requirements of sports and recreation buildings.

Smaller colleges on a shorter financial tether are more likely to choose more program space over architectural flourishes, and the need for multifunctional space practically cries out for an architect with experience in the specific building type.

It's a Small College World after All

Of the roughly 4,600 degree-granting colleges and universities in the United States, only 357 have a student enrollment above 15,000. One of those, the University of Oregon, recently wrapped up a 110,000-square-foot expansion of its existing Student Recreation Center, at a project cost of \$50 million. The vast majority of college sports and recreation administrators live in a different world, where the cost of a new rec center is in the range of \$10 million to \$15 million, and finding the funds to build it requires contacting all living alumni, not just the current football coach.

Getting a building that meets the program's objectives, fits the campus, and matches the budget is the goal of all colleges embarking on a building project. Small colleges, though, are often challenged to a much greater degree than large universities. Administrators at these schools should be heartened to know that, just as they don't have to spend \$50 million to get a building that will transform their campus, they can find design firms that specialize in getting small colleges what they need.

ABOUT THE AUTHOR: Oliver Snider (osnider@stanmar-inc.com) is vice president of business development for Stanmar Inc., a Wayland, Massachusetts-based design-build firm.

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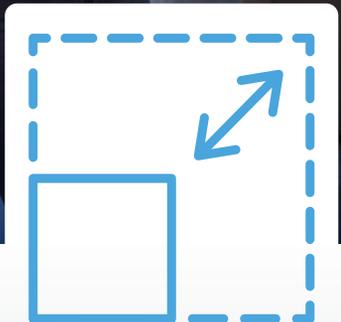
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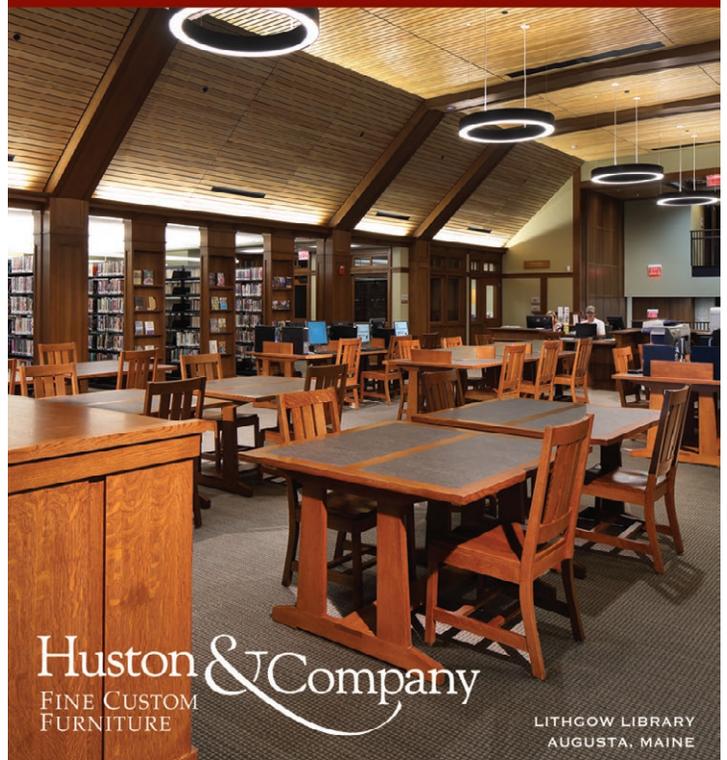


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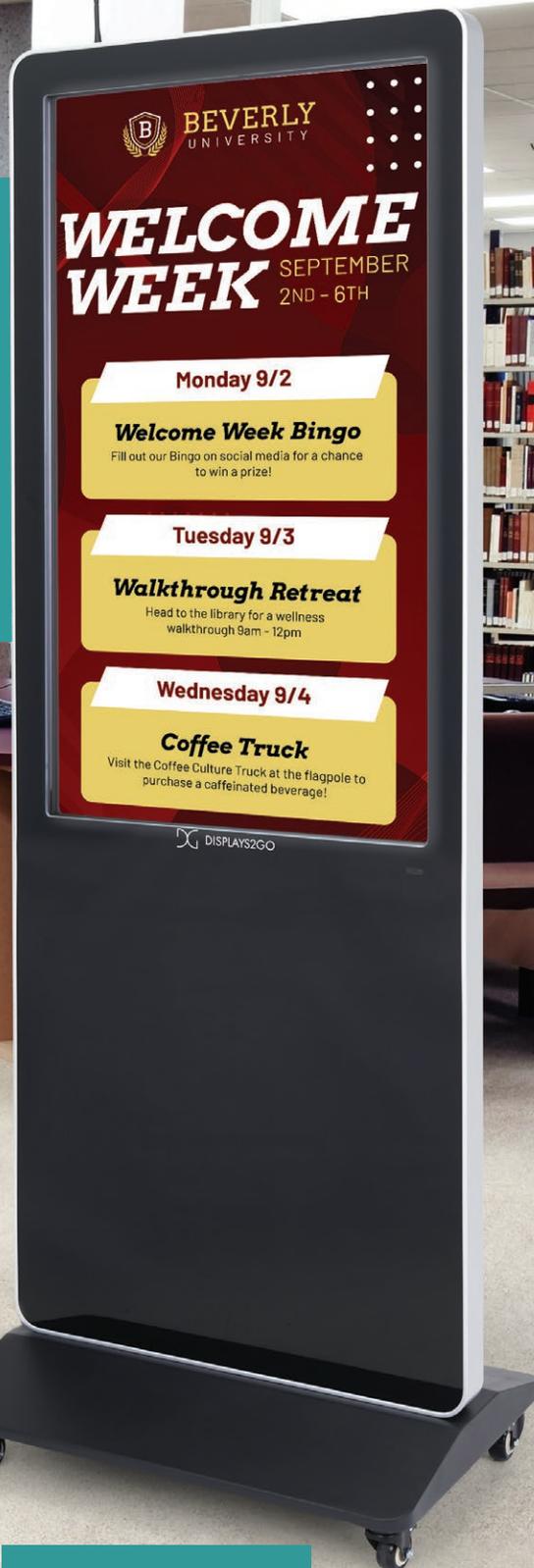
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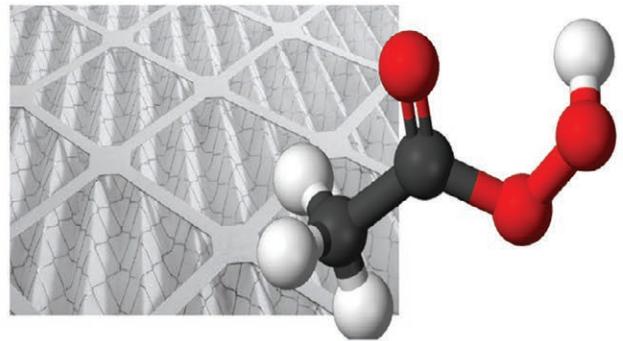
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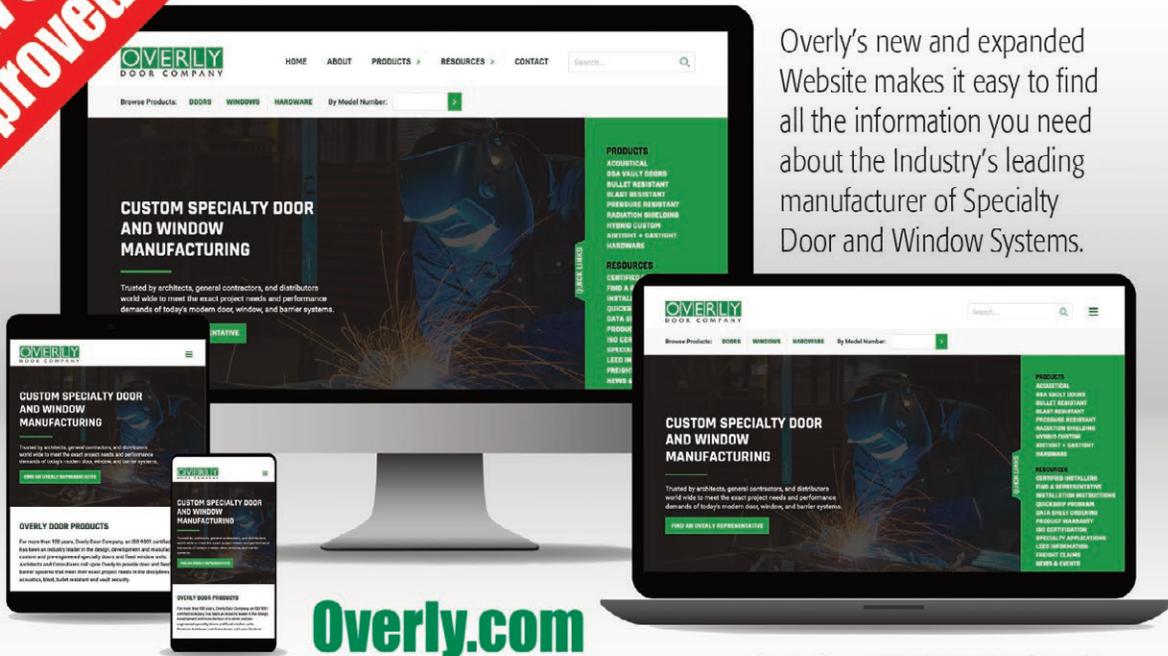
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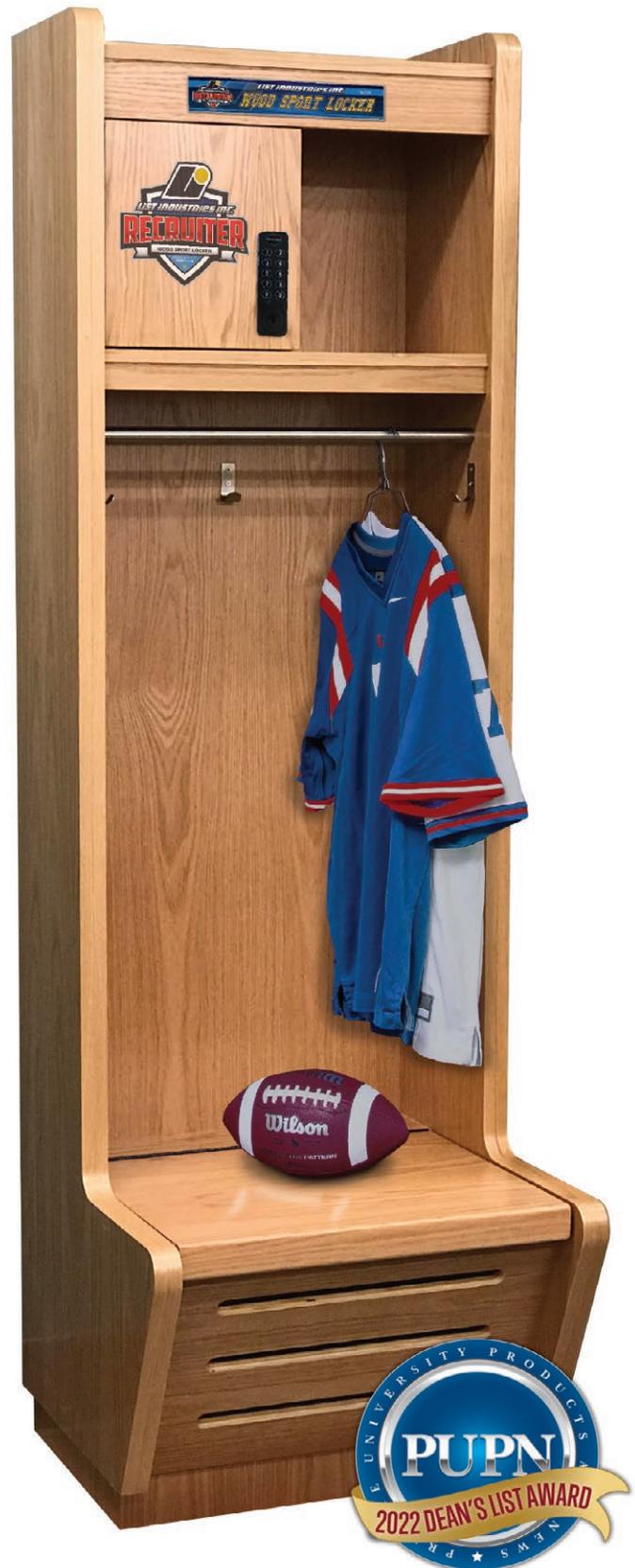
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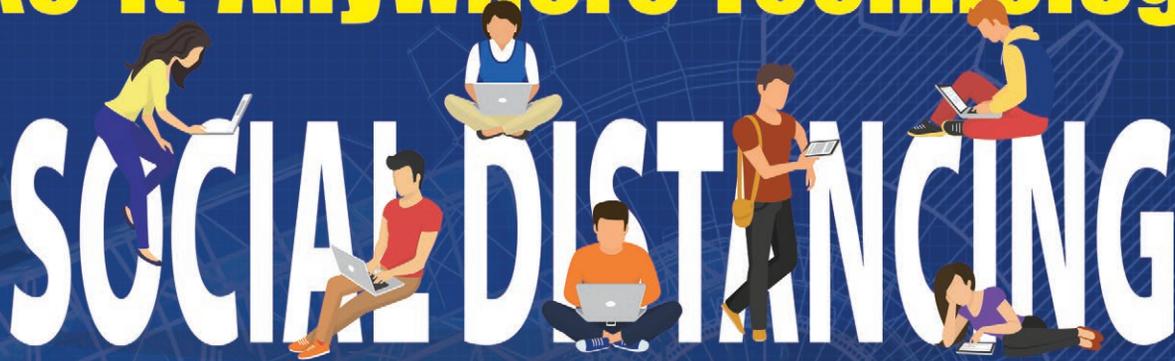




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