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NOVEMBER 2025
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Editor's Letter

NOVEMBER 2025

As the air turns crisp and the trees trade their green for gold, it can only mean one thing—construction season is winding down and reflection season is upon us. That makes November the perfect time for our Annual Construction Issue, where we take a closer look at the building, renovating, and reimagining taking place across private college and university campuses nationwide.

If there's one thing that never slows down in higher education, it's progress. From new residence halls that feel more like boutique hotels, to updated science centers equipped for next-generation research, to athletic complexes that rival professional facilities—campuses are investing in their futures in big ways. The blueprints may differ, but the goals are the same: to create environments where students can thrive, faculty can excel, and communities can come together.

In this issue, you'll read about some truly inspiring projects—colleges that are blending sustainability with style, and universities that are finding creative ways to fund expansions that meet the needs of today's learners while preparing for tomorrow's growth. The excitement and vision that drive these projects remind us that every beam, every brick, and every idea built into these campuses represents a commitment to the next generation.

And as we enter Thanksgiving season, that's something to be thankful for. This is the time of year to pause—between the construction schedules and the semester deadlines—and reflect on what we have. Whether it's the dedicated teams that keep our campuses running, the students who inspire us daily, or the continued partnerships that make this publication possible, we have plenty of reasons for gratitude.

So as you gather with friends and family this month, we hope you'll take a moment to appreciate the incredible transformation happening across private higher education. These projects aren't just about buildings—they're about creating spaces that embody learning, innovation, and community.

From all of us at Private University Products and News, thank you for letting us be part of your year-round progress and success. We wish you a safe, joyful, and restful holiday filled with good company, good food, and renewed inspiration for the work ahead.

Happy Thanksgiving!

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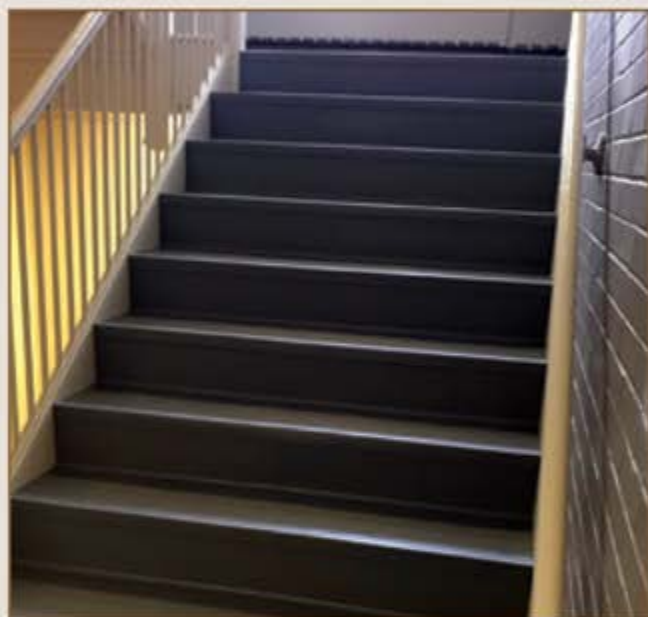


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A Commitment to Real Relationships at New England College

BY CYNTHIA MWENJA, PhD

Carrie Colbert, professor of Business Administration at New England College (NEC)—affectionately known as “Dr. C” on campus—continually shows a vital interest in everyone around her, and her students and campus colleagues bloom in response. She also draws on her extensive real-world marketing experience—paired with her trademark energetic style—to deliver innovative lessons which encourage students to learn a great deal, even as they’re having fun in her classes.

At NEC, Colbert teaches marketing, business, and leadership classes in addition to overseeing the Marketing major. Prior to entering academia, Colbert worked in marketing and data analytics positions at Dole, Nielsen, and Nestlé, but when she moved overseas as a military spouse, she began teaching Marketing online. When she returned to the States and took another corporate job, she realized that she had enjoyed teaching and thought that she might make a more significant impact there.

One student in particular convinced Colbert that she belonged in the classroom. The student was a woman who had attended class faithfully but seemed tired and unengaged the whole time. Once the term was over, the student emailed Colbert to let her know how much she had enjoyed the class. She revealed her cancer diagnosis and said that her chemo treatment made it a real struggle to attend—but she appreciated Colbert’s classes so much that she made every effort to be present. Colbert says that email meant more to her than any accomplishment she had

achieved in her corporate jobs—any major meeting or big client; that email “touched her soul.” As a result, Colbert thought, “Maybe I am doing something important,” even though teaching didn’t feel like a job to her; it just felt like sharing the knowledge she had developed through her years in the field. That student showed Colbert the power of her classroom methods. Charlie Mason—the head men’s basketball coach at NEC—explains her appeal for students like this one, stating that “Dr. C makes others better with that simple superpower: investment in real relationship.” He confirms that her “genuine interest in others is real.”

Committed Student Mentor

As Colbert interacts with students, both in the classroom and beyond, she focuses on each one’s individual needs. Patricia Corbett, vice president of Academic Affairs (VPAA) at NEC, notes that students go to Colbert for help because they see that “every student matters to her—every one is special, meaningful. She cares about their future, their careers, their in-class success, everything

about them.” Gina Sciortino, graduate assistant in Management at NEC, is one such student. She is thankful for the mentorship Colbert provided for two significant projects during her undergraduate years at NEC. In one, she started the NEC Morgan’s Message Club, which focuses on helping people facing mental health challenges. In the other, Sciortino participated in a student showcase competition akin to Shark Tank, pitching a business which would prepare female athletes to take on corporate executive roles. Sciortino remarks that Colbert was a “rock” in her enthusiastic and consistent support for both projects.

Colbert also provides student mentorship in her role as the faculty advisor for the men’s basketball team. Mason provides one example of the way Dr. C shows up for the players. He remembers that the team was playing in its first-ever NCAA tournament in 2018, and the first game was a three- to four-hour drive away. On the day of the game, the biggest Nor’easter of the season blew in. Mason’s own family did not make the drive, but Dr. C and



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her family weathered the storm to show up for the team—and they were some of the very few who made the effort. This memory shows how Colbert is “all in” for the athletes, in Mason’s words.

Active and Inspiring Teacher

Colbert’s gift for connecting with students is most clearly revealed in her classroom practices. She intentionally takes time at the beginning of each class period to check in with each student—and they start reciprocating by checking in with her as the semester goes on. She demonstrates her interest in her students’ lives outside of the classroom by attending their games and theatrical presentations and becoming familiar with their personal interests. Sciortino appreciates the way Colbert engages with her classes on a personal level, as well as how she helps students to see the many professional opportunities available with the degrees they’re earning.

Colbert likes to do “fun things” in class to make her students think. Sciortino loves this

aspect of Colbert’s approach to teaching; she reports that “there’s no boring lesson. Dr. C brings in real life examples, and she’s entertaining and personable.” In one example of Colbert’s innovative teaching, she discusses an exercise in which students partner up in her selling class. They stand back to back, one facing the board, and the other looking at a picture. The one with the picture has to describe it, and the partner draws it. This exercise really gets across to the students how well they need to communicate with the people they’re working with.

VPAA Corbett points out that students also see that Colbert “knows everything about her subject matter.” Every part of each lesson is well-developed, and she understands effective pedagogical approaches. Rather than simply lecturing, Corbett says, Dr. C has the students participate in group work and experiential learning. Corbett offers the example of Colbert taking a class to Dark Woods, a local haunted house, to prepare the students for developing marketing materials for the venue.

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Another example Colbert gives of the type of compelling learning experiences she offers comes from her Leadership across Borders and Cultures class, in which they discuss trade. After a brief lecture on the topic, she introduces her students to a trading game. Each team represents a country and is given “resources.” The resources for developing countries are ten pieces of paper and two pencils. Emerging countries get a ruler, pencils, and four pieces of paper, while developed countries get pencils, scissors, rulers, and one piece of paper. The goal is to cut a variety of specific shapes and sell them to the banker—Dr. C. She will buy based on the market, so they need to think about diversifying their shapes to maximize their profits; the whole goal is to make as much money as possible.

As the students realize that they need to make deals to trade access to tools with access to paper, they start to ask questions about

the guidelines: “Can we ...?” “How do we get more ...?” Colbert says that they begin to understand how the processes of trading, renting, and negotiating work while they’re also getting to know each other. They also learn that they need to be exact—the shapes need to match the given templates. If the shape isn’t quite right, the students learn to bargain for what they can get for imperfect wares. The experience helps the students to viscerally understand negotiation, trading, and how to get access to more resources. Colbert notes that the trading game is really “two weeks of lecture rolled into one class.”

To develop such innovative classroom activities, Colbert thinks carefully about how she can present dense content in engaging ways. She remembers her own school experiences, such as when she was asked to write a 10-page paper outlining marketing strategies for Coca-Cola. She dismisses the paper as a waste of her time—she and her classmates wouldn’t

have an opportunity to pitch their plans at Coca-Cola in the near future.

By contrast, she develops real-world connections for her students by asking local businesses if they would like free marketing plans. She then partners with local businesses that her students can relate to. Representatives of the companies visit the class to discuss their corporate identities, and then she teaches the students how to develop individualized plans. The companies give feedback as the plans are developed, and the students learn to shape their ideas to each company and its marketing budget. In learning to work with a small business, Colbert points out, the students acquire many skills and applications, making them career-ready and giving them real-life experience to put on their resumes. Developing these plans with real companies is not busywork, like the Coca-Cola paper was, and the students also learn to build relationships in the process.



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Sciortino, who enjoyed being Colbert's student for three years as an undergraduate, appreciates that Colbert is just as supportive and engaging in the wholly online graduate program. Even though the classes are completely asynchronous, Colbert interacts with her students—and has them interact with each other—in two online discussions each week. Colbert's responses to the threads advance the conversation, and her questions spur the students to express additional insights.

VPAA Corbett began her career as an elementary school teacher, so she knew that educators could make a difference in the lives of young children. She has now come to appreciate how professors in higher education also inspire students and ignite a passion for learning, and she admires how that Colbert does just that with her students by "setting the classroom on fire." Corbett's son is an NEC

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graduate who was Colbert's student; Corbett remarks that he could be a "hard nut to crack as a student." He looked forward to attending Colbert's classes, however, and "took in every second" due to her dynamic style. VPAA Corbett affirms that Dr. C inspires students to get excited about learning because "she puts every inch of herself into what she does," and the students keenly appreciate her unwavering interest and support.

VPAA Corbett notes that Colbert interacts with the students as whole people, making sure to find out who each one is as an individual, then addressing each one's individual needs. Corbett reports that she still sees the results of Colbert's teaching in her son—the confidence he developed, along with the knowledge he gained—and she continues to be thankful for how his experience as Colbert's student built him into a successful career person. Mason confirms Corbett's impressions, stating that Colbert's "belief in her students provides confidence in themselves; this presents a return that serves a lifetime...her impact goes beyond the students' collegiate experience."

Award-Winning Educator

Colbert's skills as an educator have garnered well-deserved recognition. Last year, she was presented with the Accreditation of Business Schools and Programs (ACBSP) Teaching Excellence Award for excellence in teaching in a bachelor's or master's degree program. This year, she was recognized at NEC's graduation ceremony as the 2025 Robert A. Kilgore Faculty of the Year. Recipients of this prestigious award are nominated by students, faculty, and staff, for demonstrating "outstanding quality of work presented in the classroom, use of creative/innovative strategies to enhance student learning, high academic standards, involvement in the college outside of the classroom, and keep[ing] current in their field," according to the campus newspaper. This year, Colbert earned recognition for her research, as well; her presentation, "Beyond Misunderstandings: The Impact of Perception and Memory," was recognized as the Accreditation of Business Schools and Programs (ACBSP) Best of Region 1.

In addition to her exemplary commitment to working with students, Corbett affirms

that Colbert is "all in" as a faculty member, checking in regularly via text with colleagues across campus, taking an active role in the campus welfare committee, and showing up for many athletics events in addition to basketball. In everything she takes on, Colbert demonstrates the joy that stems from playing with innovative learning opportunities, as well as the myriad exciting possibilities that can emerge in connecting authentically with others.



ABOUT THE AUTHOR: Dr. Cynthia Mwenja teaches Composition and Rhetoric at the University of Montevallo.

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FACILITIES & MAINTENANCE

Montbello's Odyssey: Crafting a Comfortable, Accessible Space for Every Performer and Guest

BY ANNIE THELEN

Just a stone's throw away from the gorgeous Rocky Mountain Arsenal National Wildlife Refuge in Denver, Colorado, you can find Montbello High School. Home of the Warriors, Montbello High School is committed to creating leaders by preparing their students to enact positive change in the world. This includes leaders of all kinds, like those who change the world through art.

In order to give their students the best environment possible to achieve their goals, Montbello High School needs top-notch facilities, to allow the students to shine. This was the goal when the building of the brand new Montbello High School Auditorium took place, which needed to include stunning and comfortable seating to go along with the spacious, unique theater.

The high school wasn't just looking for standard auditorium chairs. Montbello needed auditorium seating that was dynamic, being both remarkably comfortable and complementary to the design of the facility itself. Most importantly, it also needed to be accessible for all guests. So, when it came time to install the new seating, Montbello partnered

with Kotobuki Seating International to create a unique and stunning facility that would fulfill all their needs.

Comfort was one of the top priorities Montbello cited when designing the new auditorium. Without this vital consideration, guests can be distracted during the performance by the lackluster chair and not focus on what's important. A comfortable seat is a surefire way to please guests, as well as keep them coming back to performances. There's no better way to ensure that visitors to your facility are welcomed properly than with comfort awaiting them.

Another consideration Montbello had to make was the need for accessibility. Every

visitor should feel welcome in your auditorium, a factor that any facility takes seriously. To achieve this, not only should seating specifically for accessibility be installed, but other considerations such as appropriate lighting need to be taken into account. Comfort can make an impact on accessibility as well; yet another reason why it should be on your list of priorities.

So, when all these concerns were brought up during the building of Montbello's auditorium, the Odyssey was chosen as the perfect chair to suit all the high school's requirements. A plush, stylish chair that is top of the line when it comes to quality, the Odyssey is specifically designed for auditoriums that want both luxury for their audience and peace of mind for their staff.

The 756 chairs in the Montbello High School auditorium that fill the floor and balcony are both functional and aesthetically pleasing. There's no need to choose form over function, as the Odyssey is built to satisfy audience members with its superior comfort,

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and staff with its incredible durability and high-quality materials. Montbello specifically chose a natural tan color to match the interior architecture of their auditorium, making the chairs stand out without taking too much attention away from the stage.

Included in the installation are several ADA accessible seats, for everyone to feel comfortable and welcome in the auditorium. Many of the aisle seats are also accessible, with arm rests that rise and lower to make getting in and out of the seat a breeze. These aforementioned considerations are vital to

the auditorium to ensure that no guest feels unwelcome in the space. Not only will those with accommodation needs enjoy coming to the auditorium, but so will their friends and family. By having a great time at the Montbello High School auditorium thanks to its extensive accessibility accommodations, not only are people more likely to come back, but they'll also spread the word.

Another feature Montbello chose to include was aisle lights. Although it's not a noticeable upgrade when the house lights are up, when they go down these lights make a huge difference. Navigation down the aisles is much easier with the lights allowing better vision and helps prevent hazards such as tripping or crowding. Aisle lights may be small, but they make a big impact in aesthetics and safety, as Montbello High School can attest to.

Now, with a stunning facility that's suited for everyone, the Montbello High School performing arts are enjoying a space that's better than ever. Audience members can take their seats in a chair that allows them to focus on what's really important: the performance. The best chair is the one that guests don't think about, and that's just what Montbello High School has created in their auditorium with help from Kotobuki Seating International.

A good seat for your guests is more than just a chair. It allows them to kick back, relax, and enjoy what they come for, whether that's watching their favorite team or being captivated by a performance. Kotobuki is your partner for everything seating, to help you create a bold and bright future for your facility.

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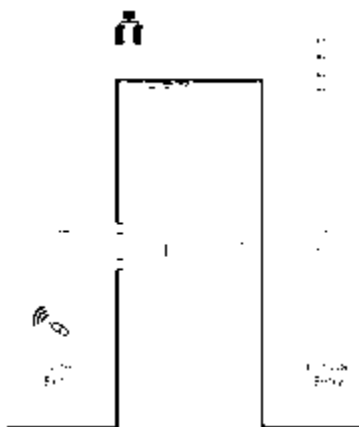


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AGING POOL?

HOW UNIVERSITIES CAN MODERNIZE WITHOUT BREAKING THE BANK

BY NATARE CORPORATION

For colleges and universities, campus aquatics centers are more than places to swim—they are dynamic spaces for athletic training, student recreation, wellness, and community engagement. These facilities are central to campus life, yet as construction costs continue to rise, administrators increasingly ask: when does renovation make more sense than new construction? Understanding the key factors that drive successful pool renovation projects helps universities and colleges make smart decisions that balance fiscal responsibility with long-term facility performance.

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Establishing Renovation Priorities

The decision to renovate should start with a complete facility assessment that evaluates current conditions against institutional needs, considering both immediate requirements and long-term goals.

Safety Compliance and Risk Mitigation

Safety forms the foundation of any renovation project. Universities face unique liability concerns due to diverse user populations—from competitive swimmers to recreational users and children in youth programs.

Start with drain covers and grates. Federal law requires anti-entrapment systems that prevent swimmers from becoming trapped by suction outlets. For aging facilities, installing compliant covers represents both a legal requirement and a fundamental safety priority.

Structural problems demand immediate attention. Cracks in pool shells and foundations worsen over time through freeze-thaw cycles and continuous water exposure. Traditional repairs—patching, painting, or replastering—often provide only temporary solutions that require frequent reapplication.

Modern pool lining systems offer a better solution. Reinforced PVC membrane linings create watertight barriers that span existing cracks and defects, effectively creating a new pool shell within the existing structure. This approach resolves leak issues, eliminates ongoing maintenance of traditional coatings, and extends facility lifespan without the cost and disruption of complete reconstruction.

For pools with aging and cracked concrete gutter systems, upgrading to stainless steel gutter systems provides superior durability and corrosion resistance while improving water circulation. Better water flow means improved water quality and reduced chemical needs—directly impacting both operating costs and user experience.

Financial Analysis: Capital Investment and Operating Efficiency

University leaders must evaluate renovation investments as decisions that impact operating budgets for decades. The true cost of facility ownership includes energy consumption, water usage, chemical treatment, maintenance labor, and eventual replacement costs.

Energy and Water Conservation

Operating expenses for university pools typically rank among the highest of any campus building due to extensive energy demands for heating, filtration, ventilation, and lighting.

Modern filtration systems can reduce water consumption by up to 80% compared to traditional pressure filters. These systems use optimized water flow and air-assisted cleaning to minimize the

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Variable speed pumps represent another high-impact upgrade. Unlike single-speed pumps that run at constant maximum capacity, variable speed systems adjust to match real-time needs. This can reduce pump energy consumption by 50-70%, generating substantial utility savings while extending equipment life.

LED lighting offers some of the fastest payback periods of any renovation investment. Modern LED systems provide better light quality while consuming 60-75% less energy than traditional fixtures. For university pools operating extended hours, energy savings can offset installation costs within 2-3 years.

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Maintenance Cost Reduction

Labor costs for pool maintenance represent a significant and growing expense. Renovation decisions that reduce maintenance requirements deliver ongoing benefits through reduced staffing needs, lower chemical usage, and decreased equipment repair expenses.

Non-porous pool lining materials eliminate the microscopic surface texture where algae and bacteria grow. Traditional plaster finishes create rough, porous surfaces that require aggressive brushing, acid washing, and elevated chlorine levels. Smooth membrane linings resist microbial growth and clean easily, dramatically reducing chemical consumption and maintenance labor hours.

Selecting durable materials for pool decks minimizes ongoing refinishing and repair cycles. Advanced deck surfacing systems that install over existing concrete, tile, or other surfaces provide long-lasting solutions that withstand heavy traffic while requiring only routine cleaning.

Grating systems around pools endure harsh conditions—constant moisture, chemicals, and heavy foot traffic. Traditional materials often crack, rust, or fall apart, requiring

frequent replacement. Grating systems constructed from marine-grade polymer resist corrosion, maintain slip resistance, and never require refinishing. While initial costs may be higher, the elimination of ongoing maintenance provides better long-term value.

Maximizing Facility Use Through Flexible Design

For universities managing competing demands for limited pool time, renovation projects offer opportunities to increase capacity without expanding the physical footprint.

The Case for Moveable Bulkheads

Moveable bulkhead systems represent one of the most impactful renovation investments for optimizing pool use. These hydraulically or mechanically operated walls divide pools into separate, independent sections that can accommodate different activities simultaneously.

Consider the programming challenges facing a typical university with a single competition-length pool. Varsity swim teams need dedicated lane space for practice during prime morning and evening hours. Physical education classes need shallow water for instruction. Campus recreation wants to offer

lap swim, water aerobics, and open recreation simultaneously. Club water polo and synchronized swimming teams compete for practice time. Without the ability to section the pool, these activities must be scheduled sequentially, severely limiting participation and forcing programs into less desirable time slots.

A moveable bulkhead transforms this constraint by creating flexible pool configurations that adapt to daily programming needs. During varsity practice, the bulkhead might divide a 50-meter pool into 25-yard and 25-meter sections, allowing both sprint and distance training simultaneously. For recreational programming, it could isolate a shallow area for beginner swimmers while maintaining a deep section for diving. During competition periods, the bulkhead stores against the pool wall, creating the full racing course required for meets.

This flexibility generates measurable returns through increased program revenue, improved space utilization, and enhanced user satisfaction. Universities can expand enrollment in popular programs that previously faced capacity limits, accommodate rental requests from community groups, and eliminate scheduling conflicts.

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From a competitive athletics perspective, bulkheads enable training configurations that support diverse race distances and stroke specializations within single practice sessions. This proves particularly valuable for universities supporting both men's and women's teams or combined varsity and club programs sharing facilities.

Installation requires careful evaluation of existing pool structures. The systems need adequate deck space for storage, structural supports capable of handling water pressure, and compatibility with gutter systems. However, for universities with pools of sufficient size, the programming benefits typically justify the investment.

Long-Term Planning: Building for the Future

Effective renovation projects look beyond immediate needs to position facilities for evolving institutional priorities. This forward-thinking approach recognizes that major renovations occur infrequently—typically once every 20-30 years—and must serve the institution across multiple planning cycles.

Designing for Future Flexibility

Pool programming trends continue to evolve.

Traditional lap swimming and competitive athletics remain important, but universities increasingly recognize aquatic facilities as venues for wellness programs and community and student engagement.

Accessibility features represent both legal requirements and institutional values. Beyond basic compliance, thoughtful renovations incorporate pool lifts, transfer platforms, and sloped access areas that enable inclusive programming and support therapy programs, adaptive physical education, and multigenerational community programs.

Building infrastructure that accommodates future system upgrades—adequate mechanical room space, flexible plumbing configurations, and modern control interfaces—prevents facilities from becoming outdated and enables technology adoption as budgets allow.

Sustainability and Institutional Goals

Most universities have adopted sustainability commitments that impact facility planning. Pool renovations offer substantial opportunities to advance these goals while reducing operating costs.

Solar thermal systems for pool heating

provide emission-free water heating. While initial costs exceed conventional gas heaters, eliminating ongoing fuel costs and minimal maintenance requirements generate attractive payback periods.

Heat recovery systems capture waste heat from refrigeration equipment, data centers, or other campus sources to offset pool heating demands. These systems convert waste streams into valuable energy resources, often with minimal additional cost when incorporated into larger infrastructure projects.

Water conservation extends beyond filtration efficiency. Low-flow fixtures in locker rooms, recirculation systems for deck showers, and automated water level controls minimize fresh water consumption—supporting both environmental goals and budget management.

Implementation Considerations for Campus Environments

University pool renovations present unique challenges. Academic calendars, student housing patterns, and competing facility demands require careful project scheduling.

Minimizing Program Disruption

Most universities cannot completely shut down aquatic facilities for extended periods without severely impacting programs. Successful projects require creative approaches that maintain some level of service throughout construction.

Summer break periods offer obvious construction windows, but comprehensive renovations often require multiple seasons. Phased approaches might address one section during summer months, a second section during winter break, and complete remaining work the following summer. While this extends total project duration, it maintains program continuity.

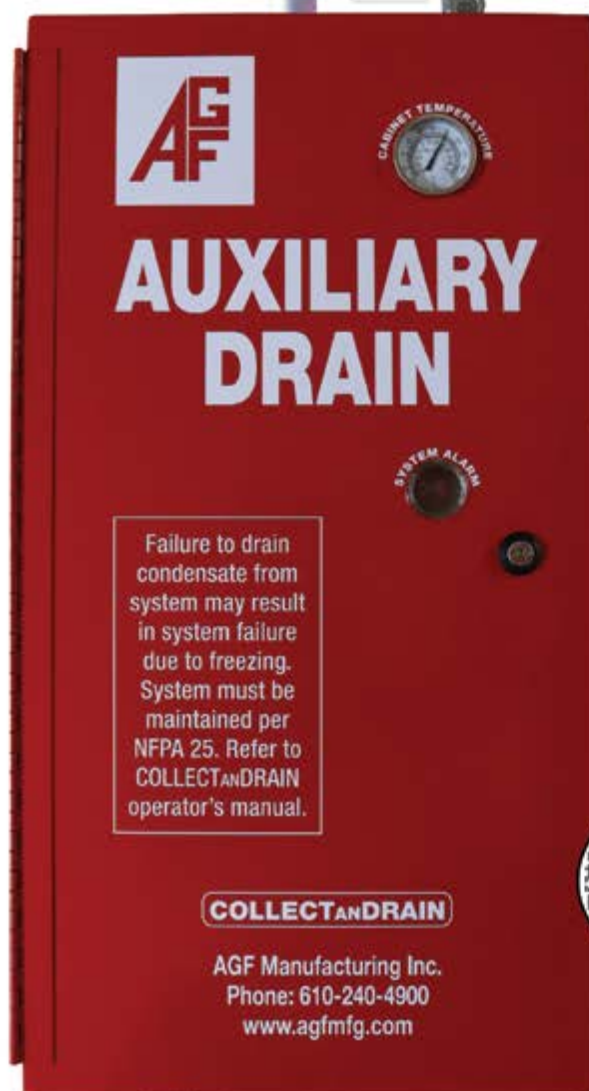
Some renovations can proceed while pools remain partially operational. Mechanical system upgrades and deck renovations might proceed with pools sectioned off but still functional. Work requiring pool drainage—shell repairs, lining installations, or gutter replacements—necessitates complete closure.

Coordination with Campus Planning

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Pool renovations rarely occur in isolation. Effective projects align with improvements to locker rooms, spectator areas, and building systems. Coordinating pool work with HVAC replacements or accessibility improvements maximizes efficiency and minimizes costs.

Making the Decision: Renovation Versus Replacement

Not every ageing pool represents a viable renovation candidate. Leaders must honestly assess whether renovation serves long-term needs or merely postpones inevitable replacement.

Pools with sound structural foundations, adequate size for programming needs, and well-integrated locations into campus typically present strong renovation opportunities. The decision becomes more complex for facilities with fundamental design limitations—insufficient depth, obsolete configurations, or remote locations.

A comprehensive cost-benefit analysis should compare renovation expenses against

new construction costs while accounting for operational differences. New facilities typically incorporate more efficient systems and require less maintenance initially, but renovation leverage existing infrastructure and often proceed more quickly through permitting processes.

Beyond financial analysis, qualitative factors matter. Historic or architecturally significant facilities may warrant preservation. Conversely, pools that have become functionally obsolete may better serve institutional needs through replacement and site repurposing.

University aquatic facilities represent substantial investments serving diverse institutional priorities over many decades. As these facilities age, strategic renovation projects offer pathways to extend useful life, improve efficiency, and adapt to evolving programming needs—often at a fraction of new construction costs.

Successful renovations require comprehensive assessment of safety and compliance

requirements, careful financial analysis balancing capital investment against operational savings, and thoughtful consideration of how design modifications can enhance facility use. Moveable bulkheads, high-efficiency mechanical systems, durable materials, and sustainable technology represent high-impact investment areas that deliver measurable returns.

By approaching pool renovation as a strategic planning process rather than simply a maintenance necessity, university leaders can make informed decisions that optimize limited resources while ensuring aquatic facilities continue serving campus and community needs for generations to come.

ABOUT THE AUTHOR: Natare is a leader in stainless steel pools and aquatic systems, providing innovative, custom-engineered solutions for universities, colleges, commercial pools, resorts, and water parks worldwide—combining decades of expertise, precision design, and unmatched construction quality. Contact Natare Pools at natare@natare.com or visit www.natare.com.



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Breathing Space

RESILIENT AIR-QUALITY PLANNING FOR RESIDENTIAL CAMPUSES

BY ED BAUER

A college's residence halls and communal spaces are more than buildings: they are living ecosystems where students sleep, study, socialize and, increasingly, expect healthy indoor environments. Colleges that treat indoor air quality (IAQ) as a strategic asset are helping to protect student health, reduce absenteeism, improve student satisfaction and retention — and protect the campus building stock itself.

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We took a deeper look at the why and how of achieving healthy IAQ, with concrete strategies, real-world campus examples, and an executable roadmap suited to private colleges and universities.

Why Air Quality Matters—to People and Buildings

Poor indoor air quality produces immediate and measurable harms: respiratory irritation, headaches, reduced concentration, and higher rates of absenteeism. Over time, uncontrolled humidity and pollutants accelerate building damage—corrosion of mechanical systems, mold growth in envelopes and finishes, and increased maintenance costs. Conversely, investing in better ventilation, filtration and monitoring returns value across health, academic performance, and asset preservation.

Operationally, IAQ improvements also strengthen institutional resilience. During infectious-disease outbreaks, wildfire smoke

events, or severe pollen seasons, campuses with pre-planned IAQ measures can continue teaching, housing and campus life with far less disruption. Organizations such as ASHRAE emphasize that ventilation and filtration reduce airborne concentrations of pathogens and that disabling HVAC systems is not an advisable strategy. (ASHRAE)

Public health and building science authorities recommend layered strategies (ventilation + filtration + supplemental air cleaning + monitoring) rather than single-technology fixes. Harvard's Healthy Buildings program, for example, recommends prioritizing ventilation, filtration and supplemental cleaning and targeting a combined four to six air changes per hour (ACH) for classrooms through any combination of approaches. These principles apply to residence halls, dining centers and student centers—spaces where students gather for extended periods. (Healthy Buildings+1)

Core Components of an Effective IAQ Plan

An effective IAQ plan for residential colleges includes five interlocking elements: assessment, ventilation, filtration and air cleaning, monitoring and controls, and operations and maintenance (O&M). Below is a practical breakdown for each element.

1) Assessment: baseline and risk mapping

Begin with a campus-wide IAQ assessment. Identify building vintage, HVAC systems (central AHUs, unit ventilators, window ACs), availability of outside air, and spaces with high occupant density (dorm lounges, study rooms, dining halls). Prioritize vulnerable buildings, such as older envelopes prone to moisture, high-occupancy commons, and residence halls with limited mechanical ventilation. A focused assessment should include short-term measurements (CO₂ as a proxy for ventilation, temperature, relative humidity, particulate matter during peak times) and a mechanical

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inventory (filter frames, fan capacities, ability to accept higher MERV filters). The assessment informs which buildings can be upgraded quickly (e.g., filter changes) and which need capital projects (ERVs, new AHUs).

2) Ventilation: Get the air moving

Increase outdoor-air ventilation where feasible and safe. Mechanical ventilation upgrades—sizing and balancing, ensuring outdoor-air dampers are functional, and verifying airflow rates—are first-order actions. Where mechanical ventilation is limited, strategies include demand-controlled ventilation adjustments and administrative measures such as reduced occupancy and scheduled open-window periods where climate permits.

ASHRAE guidance emphasizes maintaining and increasing ventilation. For many campuses, a modest increase in outdoor-air exchange paired with improved filtration delivers outsized health benefits. (ASHRAE+1)

3) Filtration & supplemental air cleaning: practical layers

Upgrading to MERV-13 (or higher, where

AHUs can accommodate the pressure drop) is a widely recommended and cost-effective step. MERV-13 filters capture a large portion of aerosol particles associated with respiratory viruses and remove fine particulate pollution (PM2.5) during wildfire or urban-smoke events. For rooms where central HVAC cannot support higher MERV, portable HEPA air cleaners provide targeted supplemental air cleaning.

Colleges have reported success combining whole-building filter upgrades with portable units in high-risk zones. Cal Poly Pomona completed a campus filter upgrade and rapid deployment of air scrubbers across multiple buildings as part of return-to-campus measures, improving filtration coverage quickly. (Cal Poly Pomona)

UV germicidal irradiation (UVGI)—either in-duct or in upper-room configurations—can inactivate airborne microbes when designed and installed correctly. Several campuses installed UVGI during the pandemic to add another protective layer; Herkimer College and

others fitted HVAC systems with UVGI to complement filtration upgrades. Proper design and commissioning are essential to realize UVGI's benefits and avoid unintended effects. (hvacinsider.com+1)

4) Monitoring and controls: Measure to manage

Continuous monitoring creates situational awareness. CO₂ monitors are inexpensive proxies for ventilation performance; sustained CO₂ above common thresholds (often 800–1,000 ppm, depending on local guidance) signals inadequate fresh-air delivery. Particle counters and PM2.5 sensors help during wildfire smoke events, and VOC sensors indicate indoor source problems.

Combined with building automation system (BAS) integration, monitoring enables automated responses (e.g., increase outdoor air or boost fan speeds when CO₂ rises). Private institutions are increasingly adopting campus CO₂ monitoring platforms to generate building-level dashboards and historical records. (Manx Technology Group)

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5) Operations and maintenance: the human factor

Good IAQ is as much about people as equipment. Regular filter replacement, fan and damper inspections, cleaning coil maintenance, and periodic re-commissioning keep systems functioning at design performance. Training and documented procedures for custodial and HVAC staff—including checklists for wildfire and infectious-disease events—are essential.

Facilities should also update procurement standards to specify minimum filter MERV ratings and define acceptance testing for new equipment. Communications plans—signage about safe ventilation practices, transparent dashboards for students and parents—build trust and set expectations.

Real Campus Examples and Outcomes

Private colleges and public universities around the country invested in IAQ during and after the COVID-19 pandemic; their experiences offer realistic models for private higher-education leadership.

Cal Poly Pomona completed high-performance filter installations across dozens of

campus buildings and deployed air scrubbers to provide added protection as students returned to campus. The initiative emphasized rapid implementation and layered protection. (Cal Poly Pomona)

Michigan State University undertook a campus program deploying UV-C air-purification devices in residence halls as a supplementary measure to their existing ventilation strategy. The effort demonstrated that supplemental technologies can be installed with minimal disruption when coordinated with facilities planning. (Michigan State University)

Pittsburg State University publicly reported installing air-cleaning devices in dorms to “ensure the highest air quality possible” for student living spaces—an example of how institutions communicated investments directly tied to student life. (Pittstate)

Herkimer County Community College installed UVGI in HVAC systems to protect students and staff from airborne pathogens, illustrating that even smaller institutions can

execute targeted IAQ retrofits. hvacinsider.com

These projects show a common pattern: (1) prioritize filter upgrades where possible; (2) use portable or localized technologies where central systems are limited; (3) communicate actions to the campus community; and (4) keep O&M and commissioning budgets in view so benefits persist.

Designing a Campus IAQ Plan—an Actionable Roadmap

Below is a pragmatic, phased roadmap tailored to resource realities on many private campuses.

Phase 0: Executive endorsement & cross-functional team

Secure executive buy-in (risk mitigation, student experience, asset protection). Form a team: facilities leadership, campus health services, procurement, IT (for monitoring integration), and student affairs for communications.

Phase 1: Rapid wins (0–3 months)

- Install or verify MERV-13 filters in AHUs where fan capacity allows.
- Deploy portable HEPA cleaners in high-occupancy common rooms and smaller study spaces.

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- Calibrate and deploy CO₂ monitors in residence hall lounges and large study rooms.
- Publish a simple communications note to students and parents describing measures taken.

These are low-cost, high-impact steps that also demonstrate progress.

Phase 2: Measurement & controls (3–9 months)

- Roll out a campus monitoring dashboard (CO₂, temperature, PM_{2.5} where relevant).
- Integrate alerts into the BAS for automated responses.
- Conduct ventilation balancing and spot airflow testing in priority buildings.

Phase 3: Capital upgrades (9–36 months)

- Plan for ERV/HRV installations in buildings with low outdoor-air capacity.
- Replace obsolete AHUs and design new systems to meet ASHRAE standards for ventilation and infectious-aerosol control

where major renovation is planned.

- Consider in-duct UVGI for central systems, and upper-room UVGI in large commons where appropriate.

Phase 4: Ongoing resilience & policy

- Incorporate IAQ targets into campus sustainability and capital planning.
- Schedule recurring commissioning and include IAQ metrics in annual performance reviews for facilities.
- Create protocols for wildfire smoke events and infectious disease outbreaks that combine monitoring, occupancy limits and supplemental air cleaning.

Budgeting, Procurement and Vendor Considerations

IAQ improvements span operating expenses (filters, HEPA units) and capital expenses (AHU replacement, ERVs). For many private colleges a blended approach works: use operating budgets for immediate mitigation and plan capital investments into multi-year equipment replacement cycles.

When procuring equipment and services:

- Specify performance—not just brand: e.g., require filters to meet MERV-13 nominal efficiency and specify maximum pressure drop.
- Require factory acceptance tests for AHUs and UVGI installs, and clear commissioning deliverables.
- Vet portable air cleaner CADR (clean air delivery rate) relative to room sizes and require third-party safety certifications.
- Consider vendors experienced in educational facilities and with clear O&M training packages.

Facilities teams should also ask vendors for lifecycle cost analyses (energy penalties of higher MERV filters, maintenance intervals) and include those figures in total cost of ownership.

Communication, Privacy and Stakeholder Expectations

Transparency builds trust. Simple dashboards, FAQ pages and visible maintenance actions reassure students and parents. At the same time, when deploying sensors and monitoring, balance transparency with privacy—CO₂ and PM data are aggregate environmental metrics, but avoid pairing occupancy sensors with personally identifiable data without clear policies and consents.

Train residence life and student staff to explain IAQ measures in plain language (e.g., “We have upgraded filters to better capture fine particles and installed CO₂ monitors to ensure rooms are getting enough fresh air.”). Clear messaging reduces rumors and helps students buy into behavioral measures (opening windows when advised, not blocking vents).

Measuring Success—KPIs to Track

Select a mix of short-term and long-term KPIs:

Short term (immediate wins)

- Percentage of AHUs upgraded to MERV-13 or better.
- Number of portable HEPA cleaners deployed in priority spaces.
- Number of CO₂ monitors installed and percent of rooms regularly below target CO₂ threshold.

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Medium/long term (sustained performance)

- ACH or equivalent clean-air delivery in target spaces.
- Trends in PM2.5 during wildfire seasons (reduction observed after measures).
- Student satisfaction scores related to housing comfort and perceived air quality.
- Maintenance backlogs related to moisture/mold complaints — a decline indicates building health improvements.

Common Pitfalls and How to Avoid Them

Pitfall: Installing higher-efficiency filters without checking fan capacity, causing system strain.

Avoidance: Perform pressure-drop calculations; use variable-speed drives or staged upgrades.

Pitfall: Buying portable air cleaners without sizing them to rooms.

Avoidance: Match CADR to room volume

and occupancy; prioritize units with validated performance.

Pitfall: Relying solely on a single technology (e.g., ionizers) with uncertain benefits.

Avoidance: Favor evidence-based measures (ventilation, MERV-13, HEPA, monitored controls) and consult ASHRAE/EPA guidance. ASHRAE+1

Pitfall: Neglecting O&M after initial install.

Avoidance: Budget for recurring filter replacements, calibration and periodic re-commissioning.

Final thoughts: IAQ as operational excellence

For private colleges, excellent air quality is both a student experience differentiator and a risk-management requirement. The best programs combine measurable actions (filtration, ventilation, monitoring) with strong operations practices and transparent

stakeholder communication. The evidence and campus case studies show that reasonable investments—ranging from filter upgrades and HEPA units to strategic capital investment—deliver tangible health and institutional benefits.

Begin with a clear assessment, prioritize immediate high-value goals, and institutionalize IAQ in capital planning. With executive sponsorship, a cross-functional team, and a layered, measurable approach, residential colleges can build indoor environments that support wellness, learning and the longevity of campus assets.

ABOUT THE AUTHOR: Ed Bauer has been in publishing for over twenty years. He worked on the staff at Mount Union College.



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Sloan Releases New Education Solutions Landing Page and Brochure



Sloan, the world's leading manufacturer of commercial plumbing systems, has released its new education solutions landing page and brochure. The landing page and brochure highlight how Sloan's cutting-edge smart water and restroom innovations are enhancing student and faculty wellness and addressing challenges in modern education environments.

"Educational facilities are critical spaces where wellness must be prioritized. Sloan's innovations help ensure students stay healthy, hydrated, and safe in and out of the classroom," said Scott McClelland, Sloan vice president, marketing and product management. "From water-efficient faucets to touch-free bottle fillers, our products are helping deliver practical, forward-thinking solutions for K-12 schools and higher education."

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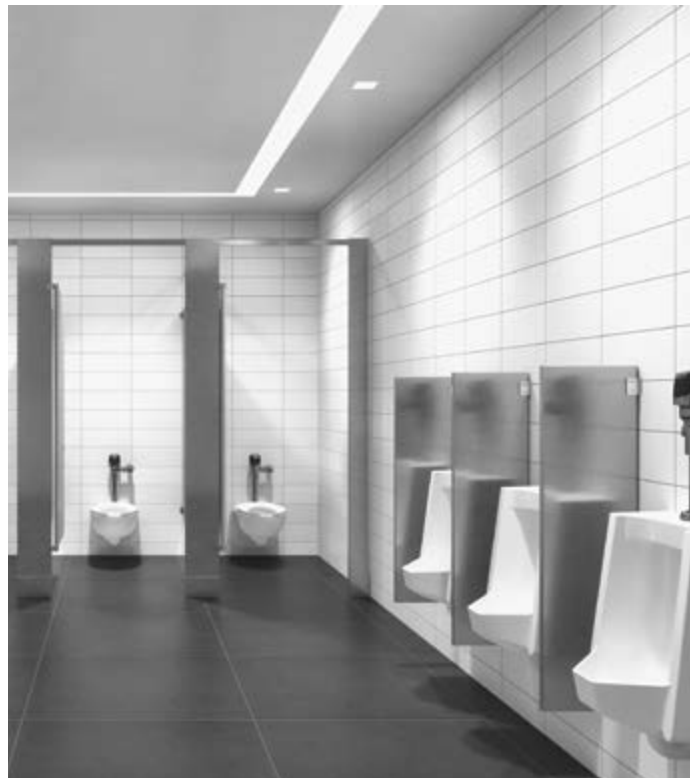
- Reducing germ transmission with touch-free technology
- Promoting hydration and environmental sustainability
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- Finding cost effective solutions that meet facility's need
- Meeting sustainability goals and supporting student wellness

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For more than a century, Hope's has handcrafted the world's finest steel and bronze windows and doors, and we continue to refine the art that makes them the most sought-after and longest lasting windows and doors available. Hope's exclusive hot-rolled steel and solid bronze profiles replicate the traditional aesthetic of historic buildings while providing modern performance and efficiency. Hope's windows and doors are built to last a lifetime and beyond – sustaining their beauty and performance for generations. HopesWindows.com

HOPE'S WINDOWS, INC. — EST. 1912 — JAMESTOWN, NEW YORK

PRODUCTS SHOWN:
University Series™ steel fire-rated and non-rated windows and doors

ARCHITECT: David M. Schwarz Architects, Inc.
PHOTOGRAPHER: Steve Hall, © Hall + Merrick

UNIVERSITY CAMPUS EXPANSION

NASHVILLE, TENNESSEE

At a major university residential expansion project in the Southeast, collaboration and cooperation among the construction management firm, window and door manufacturer, and installation contractor resulted in a several stunning projects recreating the look of the surrounding century-old buildings. All totaled, Hope's Windows, Inc., supplied over 1,200 unique windows made from custom hot-rolled steel profiles and nearly 100 high traffic and fire-rated door assemblies made from 10 and 12 gauge cold-rolled steel.

According to Sean Farrell, senior project manager at Layton Construction, establishing collaborative relationships is key to successful construction projects. One of the best examples of this maxim is a multi-phase university project for which Layton Construction is serving as construction manager. Layton, part of the STO Building Group, is a nationally-ranked commercial contractor with ten offices around the United States. The firm specializes in healthcare, industrial, warehousing, and higher education projects. As construction manager, Layton hires the sub-contractors and manages and oversees the project as part of a team.



“Since we were building windows and doors to make a brand new college, we needed a company with the methodology to produce the product like it was done 100 years ago.”

— Sean Farrell, Sr Project Manager
Layton Construction

Hope's Brian Whalen, Vice President of Sales, acknowledges that the project was a real test of Hope's capabilities. He is especially proud that they Hope's was able to expedite the schedule even in the face of design changes and in the midst of the Covid-19 pandemic. The shop drawing approval process – including preparation of blueprints of windows and doors with all setting conditions, sizes, customized designs, and required testing – took longer than normal. Changes were made along the way that might have pushed back the delivery schedules for some, but Hope's made adjustments during the production process to deliver all materials on time. Whalen gave a nod to Joey Riggan and the team at Alexander Metals, the frame and glass installer team, saying the overall project went extremely smoothly once the frames were on site.

Says Whalen, “It was a fantastic collaboration among all the parties. Hope's worked closely as the manufacturer to fulfill the architect's design vision, and then the installer worked closely with us to make sure everything was installed executed properly.”



HOPE'S®

(716) 665-5124

Hope's® Windows, Inc., is a business based on 100 percent customized work design and manufacturing. Hope's provides a specialized skillset to assist clients in design and production of unique window and door assemblies. Meeting the expectations of Layton Construction in combination with the aesthetic vision of the client and architect was definitely a challenge. The overall experience was a testament to the quality standards of the university and an honor to be a part of. In business since 1912, Hope's had the global experience to make it happen.

Visit [HopesWindows.com](https://www.HopesWindows.com).



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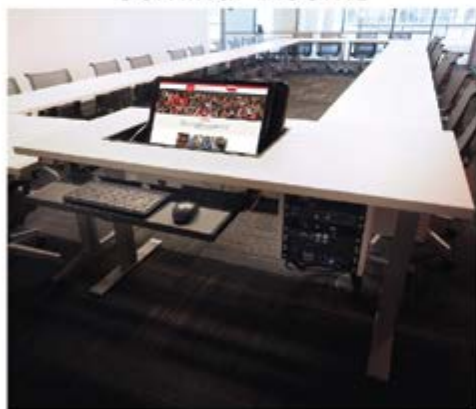
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